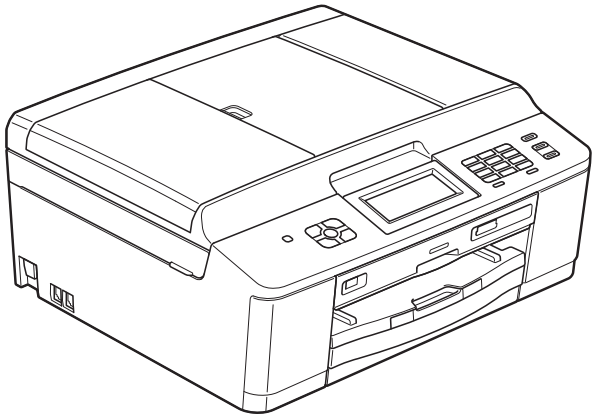
Inkjet DCP/MFC

SERVICE MANUAL

DCP-J525W/J725DW/J925DW
MFC-J280W/J425W/J430W/J435W
MFC-J625DW/J825DW/J835DW



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

April 2011
SM-FAX124
8CAM05 (4)

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

Model	DCP-J525W	DCP-J725DW	DCP-J925DW	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
LCD	1.9-inch color		3.3-inch color	1.9-inch color			
Touch panel	√	√	√	√	---	---	---
Wired LAN	---	---	√	---	---	---	---
Wireless LAN	√	√	√	√	√	√	√
PhotoCapture Center	---	√	√	---	---	---	---
PictBridge/ USB flash memory drive	---	√	√	---	---	---	---
ADF	---	√	√	---	√	√	√
Disc print	---	---	√	---	---	---	---
Duplex print	---	√	√	---	---	---	---
Home key	√	√	√	√	---	---	---
Main PCB	B57U082		B57U081	B57U082			
Speaker	---	---	√	√	√	√	√

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
LCD	1.9-inch color	3.3-inch color	
Touch panel	√	√	√
Wired LAN	---	√	√
Wireless LAN	√	√	√
PhotoCapture Center	√	√	√
PictBridge/ USB flash memory drive	√	√	√
ADF	√	√	√
Disc print	---	√	√
Duplex print	√	√	√
Home key	√	√	√
Main PCB	B57U082	B57U081	
Speaker	√	√	√

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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.

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

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

declares, that the products
Product Name: MFC-J280W/J425W/J430W/J625DW/J825DW/J835DW
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.
- Call the dealer or an experienced radio/TV technician for help.
- 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.

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■ Industry Canada Compliance Statement (Canada only)

This Class B digital apparatus complies with Canadian ICES–003.

Cet appareil numérique de la classe B est conforme à la norme NMB–003 du Canada.

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.

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.

■ 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.

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■ 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 compliance with the essential requirements of Directives 1999/5/EC and 2009/125/EC.

The Declaration of Conformity (DoC) is on our Website.

Please go to http://solutions.brother.com/

-> choose region (eg. Europe)
-> choose country
-> choose your model
-> choose "Manuals"
-> choose Declaration of Conformity (Select Language when required.)

■ Wiring information (U.K. only)

If you need to replace the plug fuse, fit a fuse that is approved by ASTA to BS1362 with the same rating as the original fuse. Always replace the fuse cover. Never use a plug that does not have a cover. If in any doubt, call a qualified electrician.

Warning - This machine must be earthed.

The wires in the mains lead are colored in line with the following code:

- Green and Yellow: Earth
- Blue: Neutral
- Brown: Live

■ 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 m in length.

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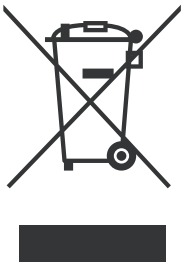
■ Recycling information in accordance with the WEEE (2002/96/EC) and Battery (2006/66/EC) Directives



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.

For products with user replaceable batteries please refer to the users guide for replacement instructions.

■ 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 injuries.

CAUTION

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

IMPORTANT

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

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

Electrical Hazard icons alert you to possible electrical shock.

Improper Setup icons alert you to devices and operations that are not compatible with the machine.

Fire Hazard icons alert you to the possibility of fire.

Follow all warnings and instructions marked on the machine.

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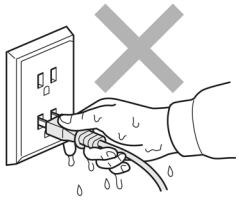
To use the machine safely

WARNING

If the machine has been dropped or the cabinet has been damaged, unplug this machine from the power outlet to avoid a risk of an electrical short or fire.

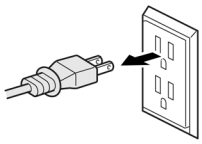
To reduce the risk of fire, electrical shock and injury to people;

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



  Always make sure the plug is fully inserted.

- There are high voltage electrodes inside the machine. Before you clean the inside of the machine, make sure you have unplugged the telephone line cord first and then the power cord from the AC power outlet. Doing this will prevent 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 pull on the middle of the AC power cord. Doing this might cause an electrical shock.

Never push objects of any kind into this machine through cabinet slots, since they may touch dangerous voltage points or short out parts resulting in the risk of fire or electric shock. If metal objects, water or other liquids get inside the machine, immediately unplug the machine from the AC power outlet.

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 fire or electrical shock.

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DO NOT put the machine in a location where any slot or opening in the machine is obstructed or blocked. These slots and openings are provided for ventilation. Blocking the machine's ventilation could create a risk of overheating and/or fire. Instead:

- Place the machine on a solid surface.
- Do not place this machine near or over a radiator or heater.
- Do not place this machine in a “built-in” installation unless adequate ventilation is provided.

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

If an extension cord is used with this machine, make sure that the total ampere ratings on the machines plugged into the extension cord DO NOT exceed the extension cord ampere rating. Also, make sure that the total of all machines plugged into the AC power outlet does not exceed 15 amperes (USA only).

Never spill liquid of any kind on the machine. Never spill liquid of any kind and put metal objects on the plug.

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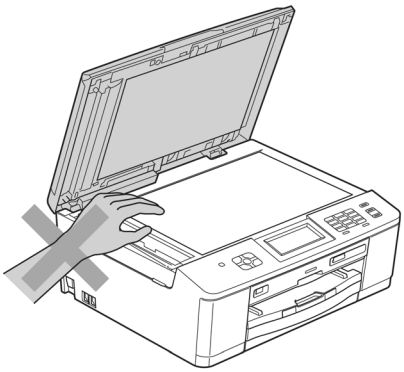
⚠ CAUTION

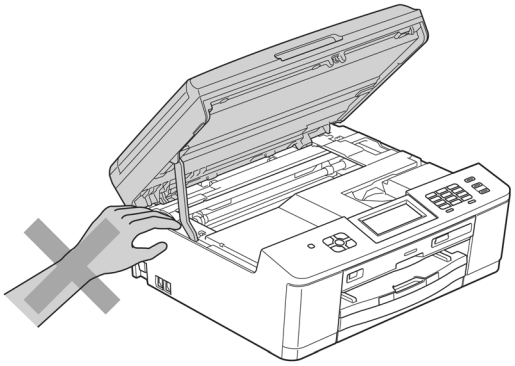
Choosing a location

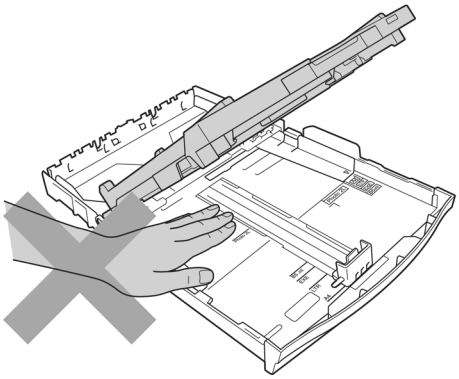
Put your machine on a flat, stable surface that is free of vibration and shocks, such as a desk. Put the machine near a telephone wall jack and a standard AC power outlet. Choose a location where the temperature remains between 50 °F and 95 °F (10 °C and 35 °C) and the humidity is between 20% to 80% (without condensation).

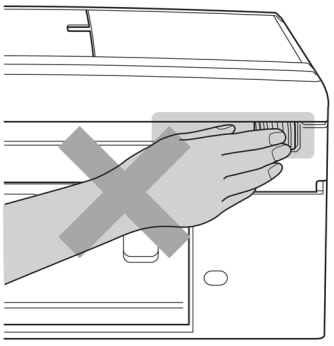
If the machine becomes hot, releases smoke, or generates any strong smells, immediately unplug the machine from the AC power outlet.

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









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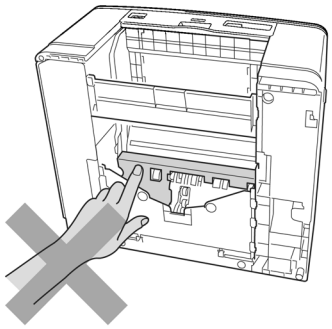
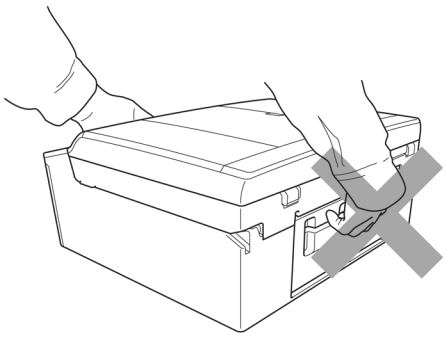
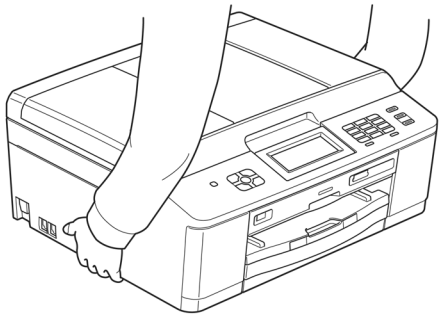
DO NOT touch the area shaded in the illustration. Doing this may cause injury to your fingers by cutting them on the edge of the machine.



DO NOT carry the machine by holding the scanner cover or the Jam Clear Cover. Doing this may cause the machine to slip out of your hands. Only carry the machine by placing your hands under the entire machine.





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IMPORTANT

- Disruption of power can wipe out information in the machine's memory.
- DO NOT put objects on top of the machine.
- DO NOT tip the machine, or place it on any tilted surface. Doing this may cause ink spillage and internal damage to your machine.

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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

DCP-J525W/J725DW/J925DW

Model	DCP-J525W	DCP-J725DW	DCP-J925DW
Print Head	BH11		
Minimum Droplet Size	BK: 3 pl CMY: 1.5 pl		
Scanning Method	CIS		
CPU Speed	RISC 192 MHz		
Backup Clock	Yes		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Print Head	BH11			
Minimum Droplet Size	BK: 3 pl CMY: 1.5 pl			
Scanning Method	CIS			
CPU Speed	RISC 192 MHz			
Backup Clock	Yes			

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
Print Head	BH11		
Minimum Droplet Size	BK: 3 pl CMY: 1.5 pl		
Scanning Method	CIS		
CPU Speed	RISC 192 MHz		
Backup Clock	Yes		

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1.2 Media Specifications

DCP-J525W/J725DW/J925DW

<table>
<tr><th colspan="2">Model</th><th>DCP-J525W</th><th>DCP-J725DW</th><th>DCP-J925DW</th></tr>
<tr><td rowspan="8">Media Sizes</td><td>Standard Tray</td><td colspan="3">A4, LTR, LGL*1, EXE,
JIS B5*2, A5, A6,
Photo (102x152 mm/4x6"),
Indexcard (127x203 mm/5x8"),
Photo-2L (127x178 mm/5x7"),
Post Card 1*2
(100x148 mm/3.9x5.8"),
Post Card 2*2 (Double) (148x200 mm/5.8x7.9"),
C5 Envelope, Com-10,
DL Envelope, Monarch</td></tr>
<tr><td>Photo Tray</td><td>N/A</td><td colspan="2">Photo (102 x 152 mm / 4 x 6"),
Photo-L (89 x 127 mm / 3.5 x 5")</td></tr>
<tr><td>Lower Tray</td><td colspan="3">N/A</td></tr>
<tr><td>Duplex</td><td>N/A</td><td colspan="2"><PC Print>
A4/LTR/EXE/A5/A6
<Copy>
Letter/A4/A5</td></tr>
<tr><td>Disc Tray</td><td colspan="2">N/A</td><td>120 mm</td></tr>
<tr><td>ADF
(width/length)</td><td>N/A</td><td colspan="2">148/148 mm to 215.9/355.6 mm (5.8/5.8" to 8.5/14.0")</td></tr>
<tr><td>Scanner Glass
(width/length)</td><td colspan="3">Up to 215.9/297 mm (up to 8.5/11.7")</td></tr>
<tr><td rowspan="5">Media Weights</td><td>Standard Tray</td><td colspan="3">64-220 g/m^2 (17-58 lb.)</td></tr>
<tr><td>Photo Tray</td><td>N/A</td><td colspan="2">64-220 g/m^2 (17-58 lb.)</td></tr>
<tr><td>Lower Tray</td><td colspan="3">N/A</td></tr>
<tr><td>Duplex</td><td>N/A</td><td colspan="2">64-105 g/m^2 (17-28 lb.)</td></tr>
<tr><td>ADF</td><td>N/A</td><td colspan="2">64-90 g/m^2 (17-24 lb.)</td></tr>
<tr><td rowspan="6">Media Types</td><td>Standard Tray</td><td colspan="3">Plain, Inkjet, Glossy (cast/resin coated), Transparency</td></tr>
<tr><td>Photo Tray</td><td>N/A</td><td colspan="2">Plain, Inkjet, Glossy (cast/resin coated)</td></tr>
<tr><td>Lower Tray</td><td colspan="3">N/A</td></tr>
<tr><td>Duplex</td><td>N/A</td><td colspan="2">Plain</td></tr>
<tr><td>Disc Tray</td><td colspan="2">N/A</td><td>CD-R/RW
DVD-R/RW
Blu-ray</td></tr>
<tr><td>ADF</td><td>N/A</td><td colspan="2">Plain</td></tr>
</table>

*1 Not supported in the EU.
*2 User defined.

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MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Media Sizes	Standard Tray	A4, LTR, LGL[*1], EXE, JIS B5[*2], A5, A6, Photo (102x152 mm/4x6"), Indexcard (127x203 mm/5x8"), Photo-2L (127x178 mm/5x7"), Post Card 1[*2] (100x148 mm/3.9x5.8"), Post Card 2[*2] (Double) (148x200 mm 5.8x7.9"), C5 Envelope, Com-10, DL Envelope, Monarch			
	Photo Tray	N/A			
	Lower Tray	N/A			
	Duplex	N/A			
	Disc Tray	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			
	Lower Tray	N/A			
	Duplex	N/A			64-105 g/m^2 (17-28 lb.)
	ADF	N/A	64-90 g/m^2 (17-24 lb.)		
Media Types	Standard Tray	Plain, Inkjet, Glossy (cast/resin coated), Transparency			
	Photo Tray	N/A			
	Lower Tray	N/A			
	Duplex	N/A			
	Disc Tray	N/A			
	ADF	N/A	Plain		

*1 Not supported in the EU.
*2 User defined.

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Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Media Sizes	Standard Tray	A4, LTR, LGL[*1], EXE, JIS B5[*2], A5, A6, Photo (102x152 mm/4x6"), Indexcard (127x203 mm/5x8"), Photo-2L (127x178 mm/5x7"), Post Card 1[*2] (100x148 mm/3.9x5.8"), Post Card 2[*2] (Double) (148x200 mm 5.8x7.9"), C5 Envelope, Com-10, DL Envelope, Monarch		
	Photo Tray	Photo (102 x 152 mm / 4 x 6"), Photo-L (89 x 127 mm / 3.5 x 5")		
	Lower Tray	N/A		
	Duplex	<PC Print> A4/LTR/EXE/A5/A6 <Copy> Letter/A4/EXE[*3]/A5		
	Disc Tray	N/A	120 mm	
	ADF (width/length)	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	64-220 g/m^2 (17-58 lb.)		
	Lower Tray	N/A		
	Duplex	64-105 g/m^2 (17-28 lb.)		
	ADF	64-90 g/m^2 (17-24 lb.)		
Media Types	Standard Tray	Plain, Inkjet, Glossy (cast/resin coated), Transparency		
	Photo Tray	Plain, Inkjet, Glossy (cast/resin coated)		
	Lower Tray	N/A		
	Duplex	Plain		
	Disc Tray	N/A	CD-R/RW DVD-R/RW Blu-ray	
	ADF	Plain		

*1 Not supported in the EU.
*2 User defined.
*3 US models only.

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1.3 Paper Handling

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
Paper Input (sheets)	Standard Tray	100 (80 g/m^2)		
	Photo Tray	N/A	20 sheets (thickness: 0.25 mm)	
	Lower Tray	N/A		
	ADF	N/A	Base : 15 Conditional : 20*	
Output Paper Capacity (sheets)		50 (80 g/m^2)		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Paper Input (sheets)	Standard Tray	100 (80 g/m^2)			
	Photo Tray	N/A			
	Lower Tray	N/A			
	ADF	N/A	Base : 15 Conditional : 20*		
Output Paper Capacity (sheets)		50 (80 g/m^2)			

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Paper Input (sheets)	Standard Tray	100 (80 g/m^2)		
	Photo Tray	20 sheets (thickness: 0.25 mm)		
	Lower Tray	N/A		
	ADF	Base : 15 Conditional : 20*		
Output Paper Capacity (sheets)		50 (80 g/m^2)		

* Temperature: 68-78.8°F (20-26°C)
Humidity: 40-50% without condensation
Paper: BP60MP plain paper / Xerox4200 20 lb.

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1.4 LCD/Panel

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
LCD	Size & Type	1.9" STN		3.3" TFT
	Touch-Panel	3.3" TP		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
LCD	Size & Type	1.9" STN			
	Touch-Panel	3.3" TP	N/A		

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
LCD	Size & Type	1.9" STN	3.3" TFT	
	Touch-Panel	3.3" TP		

1.5 Memory

DCP-J525W/J725DW/J925DW

Model	DCP-J525W	DCP-J725DW	DCP-J925DW
Memory Capacity (physical: megabytes)	40 MB	64 MB	
Memory Backup (with internal flash memory)	N/A		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Memory Capacity (physical: megabytes)	40 MB			
Memory Backup (with internal flash memory)	N/A			

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
Memory Capacity (physical: megabytes)	64 MB		
Memory Backup (with internal flash memory)	N/A	Yes	

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1.6 Interface

DCP-J525W/J725DW/J925DW

Model	DCP-J525W	DCP-J725DW	DCP-J925DW
Host Interface	USB 2.0 Hi-Speed		
LAN	N/A		Yes
Wireless LAN	Yes		
Bluetooth	N/A		
IrSimple	N/A		
PictBridge	N/A	Yes	
USB Flash Memory	N/A	Yes	
Acceptable Media (Type & Size) / Media Card	N/A	Memory Stick/ Memory Stick Duo: 16-128 MB Memory Stick Pro: 256 MB - 16 GB (MagicGate: YES if not use MG function) SD Memory Card: 16 MB - 2 GB (miniSD, miroSD with adapter) SDHC Memory Card: 4-32 GB (miniSDHC, miroSDHC with adapter) SDXC Memory Card: 48-64 GB Multi Media Card: 32 MB - 2 GB MultiMedia Card plus: 128 MB - 4 GB MultiMedia Card mobile:64 MG - 1 GB (with adapter)	

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Host Interface	USB 2.0 Hi-Speed			
LAN	N/A			
Wireless LAN	Yes			
Bluetooth	N/A			
IrSimple	N/A			
PictBridge	N/A			
USB Flash Memory	N/A			
Acceptable Media (Type & Size) / Media Card	N/A			

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
Host Interface	USB 2.0 Hi-Speed		
LAN	N/A	Yes	
Wireless LAN	Yes		
Bluetooth	N/A		
IrSimple	N/A		
PictBridge	Yes		
USB Flash Memory	Yes		
Acceptable Media (Type & Size) / Media Card	Memory Stick/ Memory Stick Duo: 16-128 MB Memory Stick Pro: 256 MB - 16 GB (MagicGate: YES if not use MG function) SD Memory Card: 16 MB - 2 GB (miniSD, miroSD with adapter) SDHC Memory Card: 4-32 GB (miniSDHC, miroSDHC with adapter) SDXC Memory Card: 48-64 GB Multi Media Card: 32 MB - 2 GB MultiMedia Card plus: 128 MB - 4 GB MultiMedia Card mobile: 64 MG - 1 GB (with adapter)		

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1.7 Others

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
Operating Environment Temperature (Best Print Quality)		10-35 (20-33) degrees centigrade		
Operating Environment Humidity (Best Print Quality)		20-80% (20-80%)		
Power Consumption*1 Approx. (Copy Mode*2/ Ready Mode/ Sleep Mode/OFF)	U.S.A./ Taiwan	19/5/1.2/0.2 W	N/A	
	Europe/ Asia*3/ Oceania/ Argentina/ Chile	18/5/1.2/0.15 W	18/5.5/1.3/0.15 W	24/6.5/2.5/0.15 W
	China/ Indonesia	N/A	19/5.5/2/0.45 W	N/A
Sound Pressure Level (Operating)		50 dBA (Maximum)		
Machine Dimensions		405 mm (W) 378 mm (D) 160 mm (H)	405 mm (W) 378 mm (D) 180 mm (H)	
Machine Weight		8.7 kg (19.2 lb.)	9 kg (19.8 lb.)	9.3 kg (20.5 lb.)

*1 Measured when the machine is connected to a USB interface.

*2 The measuring conditions differ depending upon the model.

*3 Except China/Taiwan/Indonesia.

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MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Operating Environment Temperature (Best Print Quality)		10-35 (20-33) degrees centigrade			
Operating Environment Humidity (Best Print Quality)		20-80% (20-80%)			
Power Consumption*1 Approx. (Copy Mode*2/ Ready Mode/ Sleep Mode/OFF)	U.S.A./ Taiwan	19/5.5/2/0.2 W			
	Europe/ Asia*3/ Oceania/ Argentina/ Chile	N/A	19/5.5/2/0.15 W		
	China/ Indonesia	N/A	20/6/2.5/0.45 W		
Sound Pressure Level (Operating)		50 dBA (Maximum)			
Machine Dimensions		405 mm (W) 378 mm (D) 160 mm (H)	409 mm (W) 375 mm (D) 180 mm (H)	405 mm (W) 378 mm (D) 180 mm (H)	409 mm (W) 375 mm (D) 180 mm (H)
Machine Weight		8.7 kg (19.2 lb.)	9 kg (19.8 lb.)		

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Operating Environment Temperature (Best Print Quality)		10-35 (20-33) degrees centigrade		
Operating Environment Humidity (Best Print Quality)		20-80% (20-80%)		
Power Consumption*1 Approx. (Copy Mode*2/ Ready Mode/ Sleep Mode/OFF)	U.S.A./ Taiwan	19/5.5/2/0.2 W	23/6/2.5/0.2 W	
	Europe/ Asia*3/ Oceania/ Argentina/ Chile	19/6/2/0.15 W	24/6.5/2.5/0.15 W	
	China/ Indonesia	20/6/2.5/0.45 W	24/6.5/3/0.45 W	
Sound Pressure Level (Operating)		50 dBA (Maximum)		
Machine Dimensions		405 mm (W) 378 mm (D) 180 mm (H)		409 mm (W) 375 mm (D) 180 mm (H)
Machine Weight		9 kg (19.8 lb.)	9.3 kg (20.5 lb.)	

*1 Measured when the machine is connected to a USB interface.
*2 The measuring conditions differ depending upon the model.
*3 Except China/Taiwan/Indonesia.

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2 TELEPHONE

DCP-J525W/J725DW/J925DW

Model	DCP-J525W	DCP-J725DW	DCP-J925DW
Handset	N/A		
Digital Cordless Phone	N/A		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Handset	N/A			
Digital Cordless Phone	N/A			

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
Handset	N/A		
Digital Cordless Phone	N/A		

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3 FAX

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
Modem Speed		N/A		
Transmission Speed		N/A		
ITU-T Group		N/A		
Color FAX	Document (Send/Receive)	N/A		
	Memory (Send/Receive)	N/A		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Modem Speed		14,400 bps (FAX)			
Transmission Speed		Approx. 7 seconds (ITU-T Test Chart #1, MMR)			
ITU-T Group		G3			
Color FAX	Document (Send/Receive)	Yes/Yes (ITU-T color FAX)			
	Memory (Send/Receive)	No/Yes (ITU-T color FAX)			

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Modem Speed		14,400 bps (FAX)	33,600 bps (FAX)	
Transmission Speed		Approx. 7 seconds (ITU-T Test Chart #1, MMR)	Approx. 3 seconds (ITU-T Test Chart #1, MMR)	
ITU-T Group		G3	Super G3	
Color FAX	Document (Send/Receive)	Yes/Yes (ITU-T color FAX)		
	Memory (Send/Receive)	No/Yes (ITU-T color FAX)		

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4 PRINTER

DCP-J525W/J725DW/J925DW

Model	DCP-J525W	DCP-J725DW	DCP-J925DW
Print Speed ESAT (mono/color) (based on ISO/IEC 24734)	10 / 8.0 ipm	12 / 10 ipm	
Draft Print Speed (mono/color) *time calculated including paper feeding	33 / 26 ppm	35 / 27 ppm	
Resolution (horizontal x vertical)	Up to 1,200 x 6,000 dpi		
Auto Duplex Print	N/A	Yes	

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Print Speed ESAT (mono/color) (based on ISO/IEC 24734)	10 / 8.0 ipm			
Draft Print Speed (mono/color) *time calculated including paper feeding	33 / 26 ppm			
Resolution (horizontal x vertical)	Up to 1,200 x 6,000 dpi			
Auto Duplex Print	N/A			

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
Print Speed ESAT (mono/color) (based on ISO/IEC 24734)	12 / 10 ipm		
Draft Print Speed (mono/color) *time calculated including paper feeding	35 / 27 ppm		
Resolution (horizontal x vertical)	Up to 1,200 x 6,000 dpi		
Auto Duplex Print	Yes		

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5 COPY

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
Copy Speed ESAT (based on ISO/IEC 24735) *This spec is for ADF model only		N/A	6.0 / 6.0 ipm (600 x 600 dpi)	
Draft Copy Speed (A4/LTR) *time calculated including paper feeding **EU's default is calculated by "normal mode" speed		22 / 20 cpm	23 / 20 cpm	
Resolution (horizontal x vertical)	Mono	Print: Maximum 1,200 x 1,200 dpi Scan: Maximum 1,200 x 1,200 dpi		
	Color	Print: Maximum 1,200 x 1,200 dpi Scan: Maximum 1,200 x 1,200 dpi		
Duplex Copy		N/A	Yes	

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Copy Speed ESAT (based on ISO/IEC 24735) *This spec is for ADF model only		N/A	5.0 / 5.0 ipm (600 x 600 dpi)		
Draft Copy Speed (A4/LTR) *time calculated including paper feeding **EU's default is calculated by "normal mode" speed		22 / 20 cpm			
Resolution (horizontal x vertical)	Mono	Print: Maximum 1,200 x 1,200 dpi Scan: Maximum 1,200 x 1,200 dpi			
	Color	Print: Maximum 1,200 x 1,200 dpi Scan: Maximum 1,200 x 1,200 dpi			
Duplex Copy		N/A			

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Copy Speed ESAT (based on ISO/IEC 24735) *This spec is for ADF model only		6.0 / 6.0 ipm (600 x 600 dpi)		
Draft Copy Speed (A4/LTR) *time calculated including paper feeding **EU's default is calculated by "normal mode" speed		23 / 20 cpm		
Resolution (horizontal x vertical)	Mono	Print: Maximum 1,200 x 1,200 dpi Scan: Maximum 1,200 x 1,200 dpi		
	Color	Print: Maximum 1,200 x 1,200 dpi Scan: Maximum 1,200 x 1,200 dpi		
Duplex Copy		Yes		

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6 SCANNER

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
Scan Speed (Mono/Color) *@100 dpi		A4: 3.37 seconds / 4.83 seconds LTR: 3.17 seconds / 4.54 seconds		A4: 3.37 seconds / 3.37 seconds LTR: 3.17 seconds / 3.17 seconds
Resolution (horizontal x vertical)	Optical	FB: 1,200 x 2,400 dpi ADF: 1,200 x 600 dpi		FB: 2,400 x 2,400 dpi ADF: 2,400 x 1,200 dpi
	Interpolated	For XP/Vista/Windows 7, up to 19,200 x 19,200 dpi with Scanner Utility		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Scan Speed (Mono/Color) *@100 dpi		A4: 3.37 seconds / 4.83 seconds LTR: 3.17 seconds / 4.54 seconds			
Resolution (horizontal x vertical)	Optical	FB: 1,200 x 2,400 dpi ADF: 1,200 x 600 dpi			
	Interpolated	For XP/Vista/Windows 7, up to 19,200 x 19,200 dpi with Scanner Utility			

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Scan Speed (Mono/Color) *@100 dpi		A4: 3.37 seconds / 4.83 seconds LTR: 3.17 seconds / 4.54 seconds	A4: 3.37 seconds / 3.37 seconds LTR: 3.17 seconds / 3.17 seconds	
Resolution (horizontal x vertical)	Optical	FB: 1,200 x 2,400 dpi ADF: 1,200 x 600 dpi	FB: 2,400 x 2,400 dpi ADF: 2,400 x 1,200 dpi	
	Interpolated	For XP/Vista/Windows 7, up to 19,200 x 19,200 dpi with Scanner Utility		

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7 SOFTWARE

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
Support OS Version	Windows	2000/XP/XP Professional x64/Vista/7 Server 2003/2003 x64/2003 R2/2003 R2 x64/2008/2008 R2		
	Macintosh	Mac OS X 10.4.11, 10.5.x, 10.6.x		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Support OS Version	Windows	2000/XP/XP Professional x64/Vista/7 Server 2003/2003 x64/2003 R2/2003 R2 x64/2008/2008 R2			
	Macintosh	Mac OS X 10.4.11, 10.5.x, 10.6.x			

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Support OS Version	Windows	2000/XP/XP Professional x64/Vista/7 Server 2003/2003 x64/2003 R2/2003 R2 x64/2008/2008 R2		
	Macintosh	Mac OS X 10.4.11, 10.5.x, 10.6.x		

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8 NETWORK

8.1 Network

DCP-J525W/J725DW/J925DW

Model	DCP-J525W	DCP-J725DW	DCP-J925DW
Internet FAX (Firmware)	N/A		
Web Connection	N/A		Yes

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Internet FAX (Firmware)	N/A			
Web Connection	N/A			

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
Internet FAX (Firmware)	N/A		
Web Connection	N/A	Yes	

8.2 Wired

DCP-J525W/J725DW/J925DW

Model	DCP-J525W	DCP-J725DW	DCP-J925DW
Model Name (Ethernet)	N/A		Embedded (NC-250h)
Network Connection (Ethernet)	N/A		Ethernet 10/100BASE-TX Auto Negotiation

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Model Name (Ethernet)	N/A			
Network Connection (Ethernet)	N/A			

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
Model Name (Ethernet)	N/A	Embedded (NC-250h)	
Network Connection (Ethernet)	N/A	Ethernet 10/100BASE-TX Auto Negotiation	

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8.3 Wireless

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
Model Name (Wireless)		Embedded (NC-260w)		
Network Connection (Wireless)		IEEE 802.11 b/g/n		
Wireless Security		SSID (32 chr), WEP 64/128 bit, WPA-PSK (TKIP: AES), WPA2-PSK (AES) **NO LEAP**		
WiFi Certification		WiFi b, g and n		
WCN (Windows Connect Now)		N/A		
Setup Support Utility	AOSS	Yes		
	WPS (WiFi Protected Setup)	Yes		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Model Name (Wireless)		Embedded (NC-260w)			
Network Connection (Wireless)		IEEE 802.11 b/g/n			
Wireless Security		SSID (32 chr), WEP 64/128 bit, WPA-PSK (TKIP: AES), WPA2-PSK (AES) **NO LEAP**			
WiFi Certification		WiFi b, g and n			
WCN (Windows Connect Now)		N/A			
Setup Support Utility	AOSS	Yes			
	WPS (WiFi Protected Setup)	Yes			

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Model Name (Wireless)		Embedded (NC-260w)		
Network Connection (Wireless)		IEEE 802.11 b/g/n		
Wireless Security		SSID (32 chr), WEP 64/128 bit, WPA-PSK (TKIP: AES), WPA2-PSK (AES) **NO LEAP**		
WiFi Certification		WiFi b, g and n		
WCN (Windows Connect Now)		N/A		
Setup Support Utility	AOSS	Yes		
	WPS (WiFi Protected Setup)	Yes		

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9 SUPPLIES/OPTIONS

DCP-J525W/J725DW/J925DW

Model		DCP-J525W	DCP-J725DW	DCP-J925DW
Ink Cartridge Yield (@ISO pattern/ normal)	Bundled Cartridges	Approx. 80% of supply standard cartridges		
	Supply Standard Cartridges	BK: 300 pages CL: 300 pages		
	Supply High Yield Cartridges	BK: 600 pages CL: 600 pages		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model		MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Ink Cartridge Yield (@ISO pattern/ normal)	Bundled Cartridges	Approx. 80% of supply standard cartridges			
	Supply Standard Cartridges	BK: 300 pages CL: 300 pages			
	Supply High Yield Cartridges	BK: 600 pages CL: 600 pages			

Model		MFC-J625DW	MFC-J825DW	MFC-J835DW
Ink Cartridge Yield (@ISO pattern/ normal)	Bundled Cartridges	Approx. 80% of supply standard cartridges		
	Supply Standard Cartridges	BK: 300 pages CL: 300 pages		
	Supply High Yield Cartridges	BK: 600 pages CL: 600 pages		

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10 SERVICE INFORMATION

DCP-J525W/J725DW/J925DW

Model	DCP-J525W	DCP-J725DW	DCP-J925DW
Monthly Volume	2,500 pages		
Machine Life	30,000 pages or 5 years		
Parts Life (Document scanner unit)	30,000 pages (Total in flat-bed and ADF scanning)		
MTBF (Mean Time Between Failures)	4,000 hours		
MTTR (Mean Time To Be Repaired)	30 minutes		

MFC-J280W/J425W/J430W/J435W/J625DW/J825DW/J835DW

Model	MFC-J280W	MFC-J425W	MFC-J430W	MFC-J435W
Monthly Volume	2,500 pages			
Machine Life	30,000 pages or 5 years			
Parts Life (Document scanner unit)	30,000 pages (Total in flat-bed and ADF scanning)			
MTBF (Mean Time Between Failures)	4,000 hours			
MTTR (Mean Time To Be Repaired)	30 minutes			

Model	MFC-J625DW	MFC-J825DW	MFC-J835DW
Monthly Volume	2,500 pages		
Machine Life	30,000 pages or 5 years		
Parts Life (Document scanner unit)	30,000 pages (Total in flat-bed and ADF scanning)		
MTBF (Mean Time Between Failures)	4,000 hours		
MTTR (Mean Time To Be Repaired)	30 minutes		

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11 PAPER

11.1 Paper Specifications

Paper type and size for each operation

Paper Type	Paper Size		Usage			
			Fax	Copy	Photo Capture	Printer
Cut Sheet	Letter	215.9 x 279.4 mm (8 1/2 x 11 inches)	Yes	Yes	Yes	Yes
	A4	210 x 297 mm (8.3 x 11.7 inches)	Yes	Yes	Yes	Yes
	Legal	215.9 x 355.6 mm (8 1/2 x 14 inches)	Yes	Yes	--	Yes
	Executive	184 x 267 mm (7 1/4 x 10 1/2 inches)	--	Yes	--	Yes
	JIS B5	182 x 257 mm (7.2 x 10.1 inches)	--	--	--	User defined
	A5	148 x 210 mm (5.8 x 8.3 inches)	--	Yes	--	Yes
	A6	105 x 148 mm (4.1 x 5.8 inches)	--	--	--	Yes
Cards	Photo	10 x 15 cm (4 x 6 inches)	--	Yes	Yes	Yes
	Photo L	89 x 127 mm (3 1/2 x 5 inches)	--	--	--	Yes
	Photo 2L	13 x 18 cm (5 x 7 inches)	--	--	Yes	Yes
	Index Card	127 x 203 mm (5 x 8 inches)	--	--	--	Yes
	Postcard 1	100 x 148 mm (3.9 x 5.8 inches)	--	--	--	User defined
	Postcard 2 (Double)	148 x 200 mm (5.8 x 7.9 inches)	--	--	--	User defined
Envelopes	C5 Envelope	162 x 229 mm (6.4 x 9 inches)	--	--	--	Yes
	DL Envelope	110 x 220 mm (4.3 x 8.7 inches)	--	--	--	Yes
	COM-10	105 x 241 mm (4 1/8 x 9 1/2 inches)	--	--	--	Yes
	Monarch	98 x 191 mm (3 7/8 x 7 1/2 inches)	--	--	--	Yes
	Y4 Envelope	105 x 235 mm (4.1 x 9.3 inches)	--	--	--	Yes
Transparencies	Letter	215.9 x 279.4 mm (8 1/2 x 11 inches)	--	Yes	--	Yes
	A4	210 x 297 mm (8.3 x 11.7 inches)	--	Yes	--	Yes
	Legal	215.9 x 355.6 mm (8 1/2 x 14 inches)	--	Yes	--	Yes
	A5	148 x 210 mm (5.8 x 8.3 inches)	--	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 *2
	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 inches	Up to 58 lb. (Up to 220 g/m^2)	Up to 10 mil (Up to 0.25 mm)	20
	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. (75 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 BP71 69 lb. (260 g/m^2) paper is especially designed for Brother inkjet machines.

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*Recommended print media

To get the best print quality, we suggest using Brother paper. (See the table below.)
We recommend using "3M Transparency Film" when you print on transparencies.

Paper Type	Item
Premium Plus Glossy Photo - Letter - 4 x 6 inches	 BP71GLTR BP71GP
Premium Glossy Photo - Letter - 4 x 6 inches	 BP61GLL (USA only) BP61GLP (USA only)
Matte Inkjet (Letter)	BP60ML (USA only)
Plain Inkjet - Letter	 BP60PL100 (USA only)
A4 Plain	BP60PA
A4 Glossy Photo	BP71GA4
A4 Inkjet (Matte)	BP60MA
10 x 15 cm Glossy Photo	BP71GP

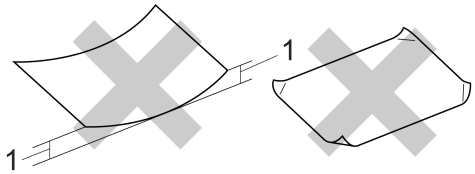
Handling and using print media

- 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 photo paper. Load photo paper with the shiny side facing down.
- Avoid touching either side of transparencies 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.
- You can only print on both sides of the paper with PC printing using Windows.

IMPORTANT

DO NOT use the following kinds of paper:

- Damaged, curled, wrinkled, or irregularly shaped paper



1 0.08 inches (2 mm) or greater curve may cause jams to occur

- Extremely shiny or highly textured paper
- Paper that cannot be arranged uniformly when stacked
- Paper made with a short grain

Paper capacity of the output paper tray cover

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

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

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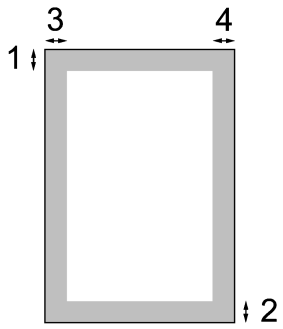
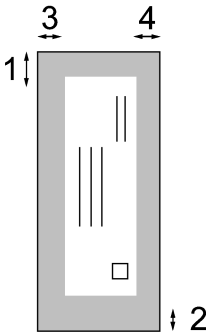
11.2 Printable Area on Paper

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



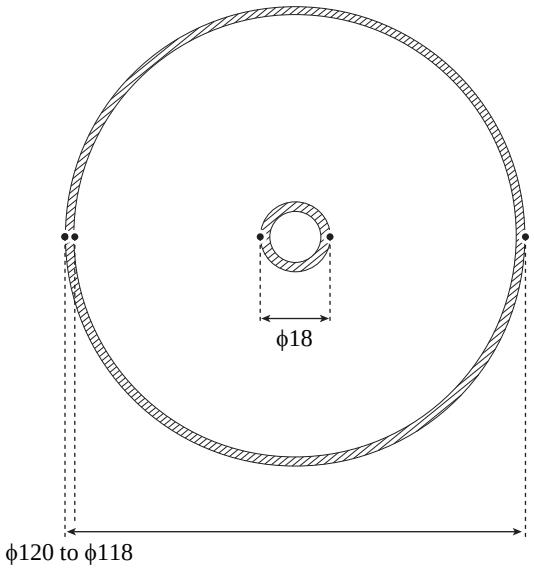
	Top (1)	Bottom (2)	Left (3)	Right (4)
Cut Sheet	3 mm (0.12 inches)	3 mm (0.12 inches)	3 mm (0.12 inches)	3 mm (0.12 inches)
Envelopes	22 mm (0.86 inches)	22 mm (0.86 inches)	3 mm (0.12 inches)	3 mm (0.12 inches)

Note

The Borderless feature is not available for envelopes.

11.3 Printable Area on Disc

The figure below shows the unprintable areas on a disc. The machine cannot print in the hatched areas on a disc.



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CHAPTER 2 ERROR INDICATION AND TROUBLESHOOTING

1 INTRODUCTION

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

1.1 Precautions

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

WARNING

DO NOT use flammable substances or organic solvent such as alcohol, benzine, thinner or any type of spray to clean the inside or outside of the machine. Doing this may cause a fire or electrical shock.

Always unplug the AC power cord from the outlet when removing the covers and PCBs, adjusting the mechanisms, or conducting continuity testing with a circuit tester.

(1) When disconnecting the connectors, do not pull the lead wires but hold the connector housings.

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

(3) Be sure to observe the warnings.

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

1.2 Initial Check

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

Environmental conditions

Check that:

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

(2) The machine is used in a clean environment at or near normal room temperature (10°C to 35°C) with normal relative humidity (20 to 80%).

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

Power requirements

Check that:

(1) The power supply specified on the rating plate on the machine is used. The supply voltage stays within the rating ±10%.

(2) All cables and harnesses are firmly connected.

(3) The fuses are not blown.

Recording paper

Check that:

(1) A recommended type of recording paper is used. (Refer to Chapter 1, Section 11 "PAPER.")

(2) The recording paper is not dampened.

Ink cartridges

(1) Check that all of four ink cartridges are loaded.

Head/carriage unit

(1) Repeat the purge operation (Function code 76) several times. (Refer to Chapter 5, Section 1.4.28.)

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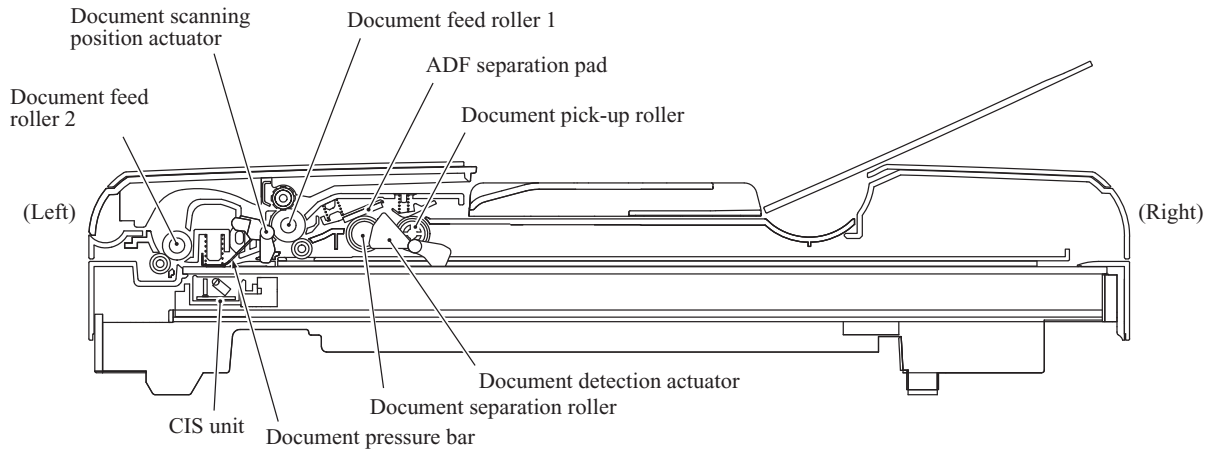
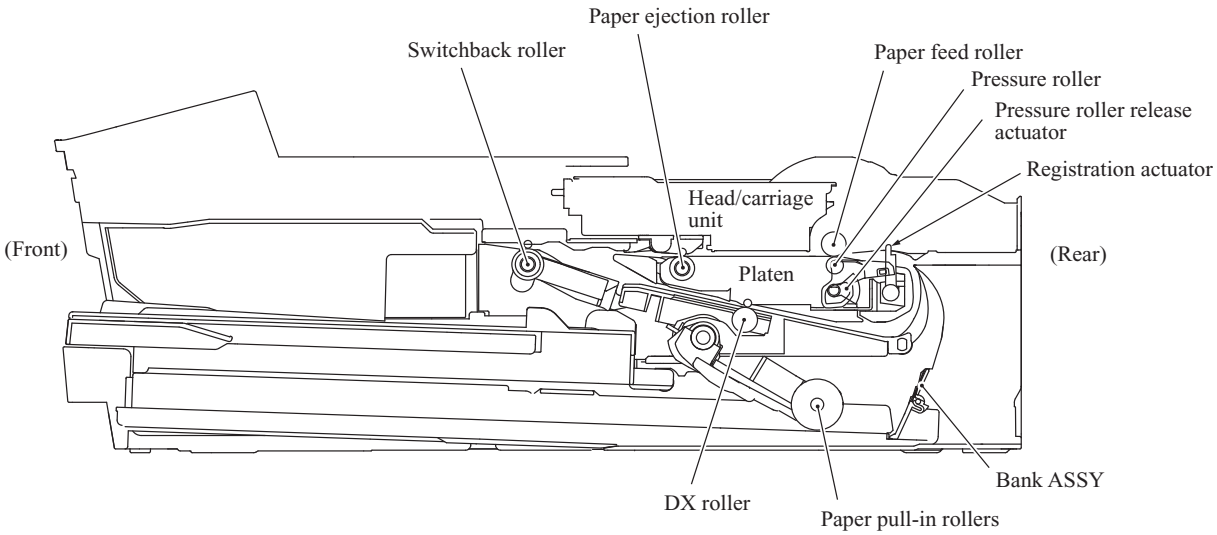
2 OVERVIEW

2.1 Cross-section Drawings and Components

■ Document scanning and feeding mechanisms



■ Printing and paper feeding mechanisms



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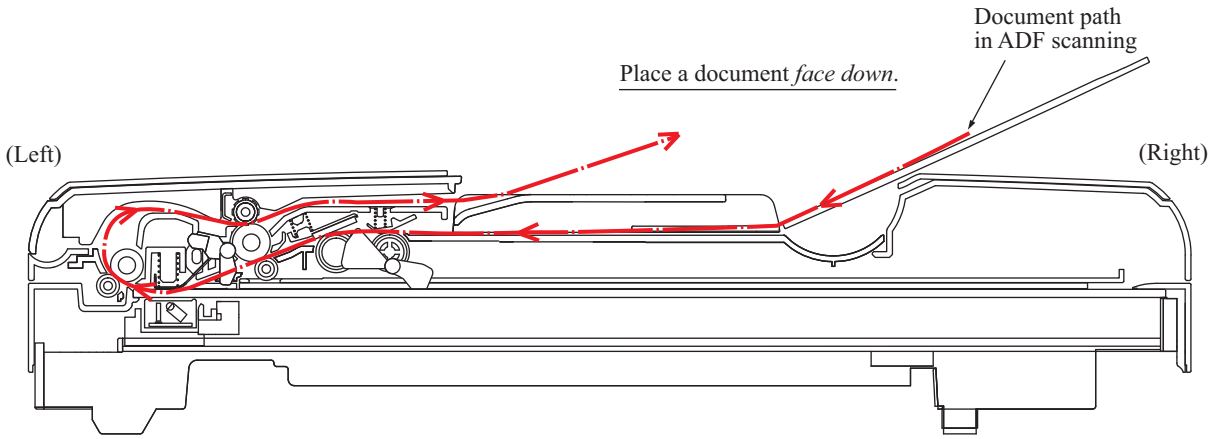
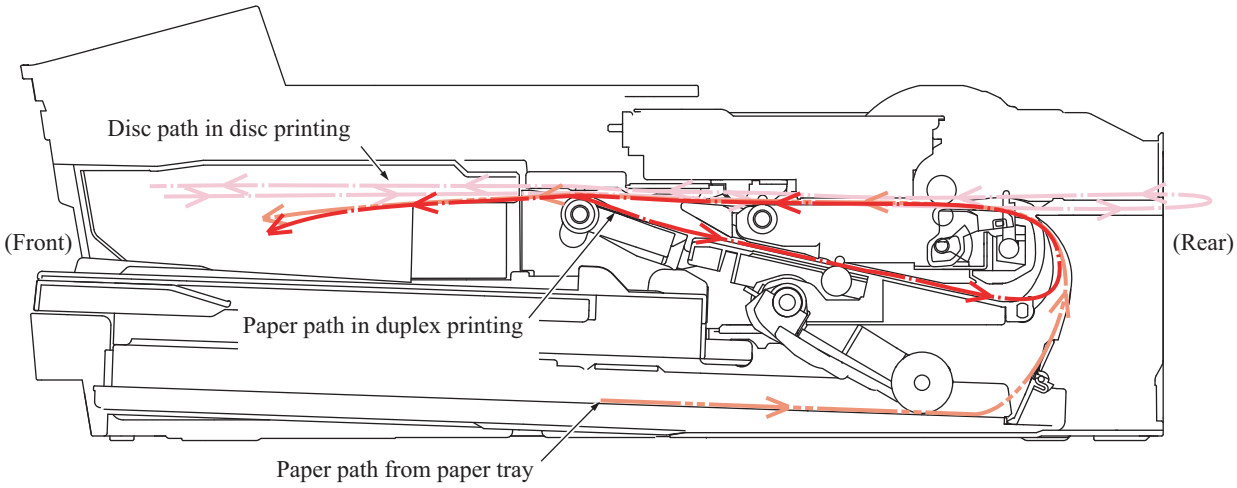
2.2 Paper Path for Documents and Recording Paper

■ Document path in ADF scanning



■ Recording paper path



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2.3 Parts Names and Functions

■ Document scanning and feeding

Names	Functions
Document detection actuator	This detects whether documents are set on the document tray.
Document pick-up roller	This pulls documents loaded in the document tray into the ADF.
Document separation roller and separation rubber	These feed document pages (drawn in by the document pick-up roller) one at a time to the document feed roller 1.
Document feed roller 1	This feeds a document to the scanning start position. It also ejects the scanned document onto the document cover.
Document scanning position actuator	This detects the leading edge of document pages, indicating the scanning start position. This also detects paper jams in the ADF.
Document feed roller 2	This feeds the scanned document to the document feed roller 1.

■ Printing and paper feeding

Names	Functions
Paper pull-in rollers	These rollers pull in recording paper from the paper tray.
Registration actuator	This detects the leading and trailing edges of recording paper for indicating the printing start position and for judging the paper size, respectively. In disc printing, this actuator detects the disc tray position. This actuator also detects paper jams in the rear section of the machine.
Paper feed roller	This stops its rotation so that the leading edge of recording paper comes into contact with the roller for alignment (registration). After registration, this roller rotates to feed the recording paper to the printing start position. In disc printing, this roller feeds the disc tray.
Pressure roller release actuator	In disc printing or in printing on glossy paper, post card, inkjet paper, or OHP film, this detects whether the pressure roller is released.
Paper ejection roller	This feeds printed recording paper to the switchback roller. In disc printing, this roller feeds and ejects the disc tray.
Switchback roller	This ejects recording paper to the paper ejection tray. In duplex printing, after feeding recording paper printed on its first side by the specified amount, this roller reverses to feed the paper to the DX chute.
DX roller	In duplex printing, this roller feeds recording paper passing through the DX chute, to the paper feed roller.

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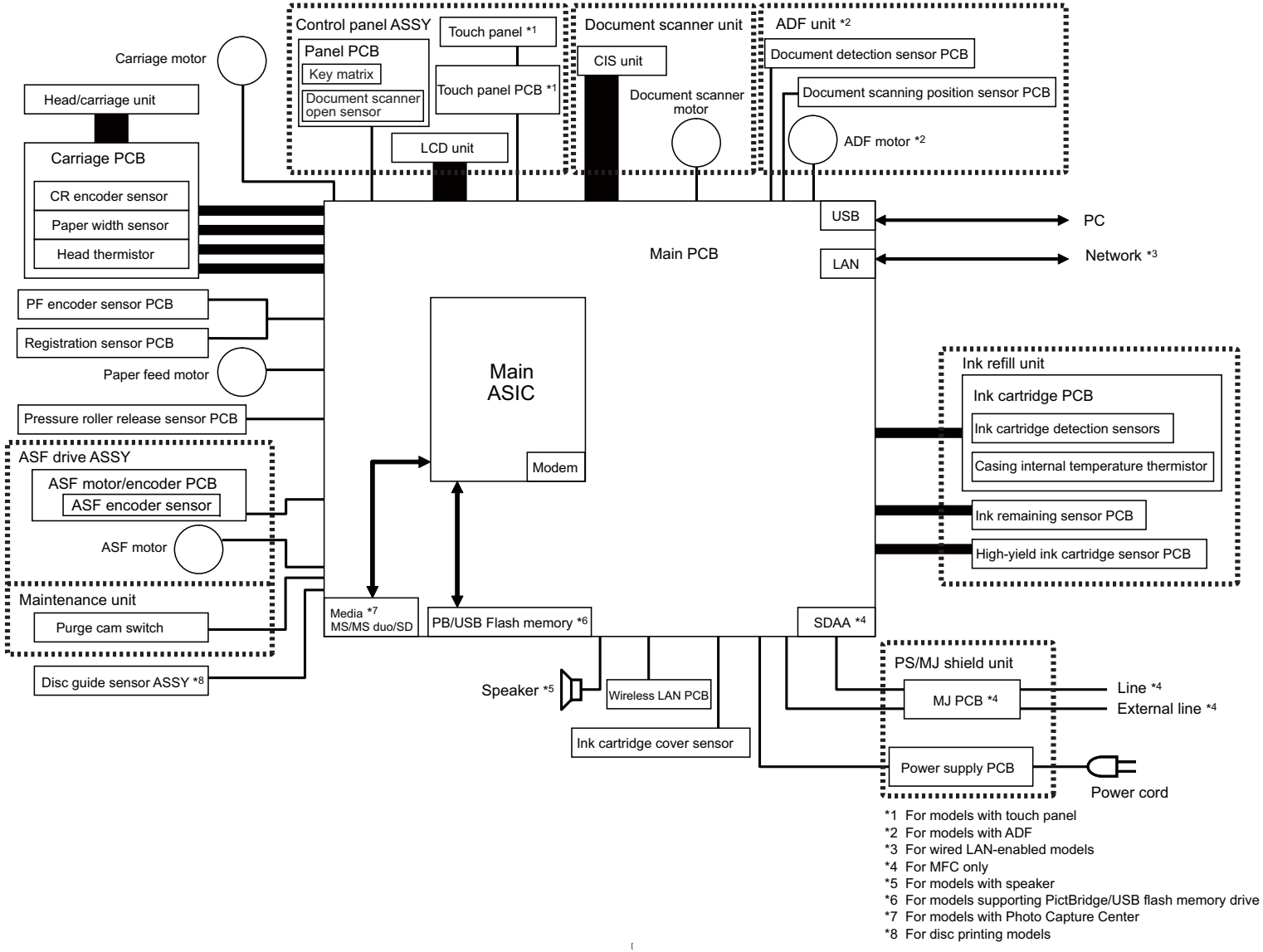
2.4 Block Diagram



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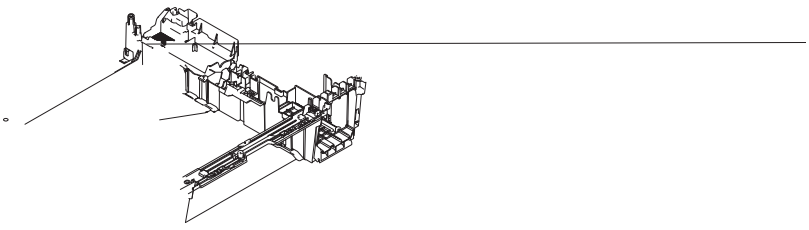
2.5 Components



3 ERROR INDICATION

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

3.1 Error Codes

Error Code	Contents	Refer to page:
0E	In duplex printing, a sensor error has occurred during printing on the second side. (During switchbacking, the registration sensor outputs an unexpected signal.)	2-21
17	Recording paper size error. (Duplex PC print/Duplex copy) (Detected by the paper width sensor or registration sensor)	2-22
18	In switchbacking of paper for printing on the second side, a recording paper jam has occurred. (The registration sensor does not come ON within the specified paper feeding amount.)	2-22
20	Cannot identify a black ink cartridge. Or noncompliant ink cartridge loaded.	2-23
21	Cannot identify a yellow ink cartridge. Or noncompliant ink cartridge loaded.	2-23
22	Cannot identify a cyan ink cartridge. Or noncompliant ink cartridge loaded.	2-23
23	Cannot identify a magenta ink cartridge. Or noncompliant ink cartridge loaded.	2-23
24	An ink cartridge of wrong color is loaded. (A color ink cartridge is loaded in the black ink cartridge slot.)	2-24
26	The service life of the black ink cartridge will be expired soon. (Detected by the black ink remaining sensor)	2-25
27	The service life of the yellow ink cartridge will be expired soon. (Detected by the yellow ink remaining sensor)	2-25
28	The service life of the cyan ink cartridge will be expired soon. (Detected by the cyan ink remaining sensor)	2-25
29	The service life of the magenta ink cartridge will be expired soon. (Detected by the magenta ink remaining sensor)	2-25
2A	No black ink cartridge loaded. (Detected by the ink cartridge detection sensor)	2-26
2B	No yellow ink cartridge loaded. (Detected by the ink cartridge detection sensor)	2-26
2C	No cyan ink cartridge loaded. (Detected by the ink cartridge detection sensor)	2-26
2D	No magenta ink cartridge loaded. (Detected by the ink cartridge detection sensor)	2-26
2F	Ink cartridge cover opened.	2-27

Error Code	Contents	Refer to page:
30	Carriage does not move. (Detected by the CR encoder sensor)	2-28
31	Cannot detect the origin of the carriage. (Detected by the CR encoder sensor)	2-29
32	Capping load large.	2-29
35	Abnormal stop of head/carriage unit. (Error caused by any problem except a paper jam when the print head is not jetting out ink)	2-30
38	Abnormal stop of head/carriage unit during printing. (Error caused by a paper jam when the print head is not jetting out ink)	2-30
3B	Abnormal stop of head/carriage unit during printing. (Error caused by any problem except a paper jam when the print head is jetting out ink).	2-31
3C	Abnormal stop of head/carriage unit during printing. (Error caused by a paper jam when the print head is jetting out ink)	2-31
3E	Any abnormality in the carriage motor, ASF motor, or paper feed motor.	2-32
3F	Carriage does not stop.	2-32
40	Casing internal thermistor defective. (Detects -20ºC or below or 80ºC or higher)	2-33
42	Head drive voltage dropped below the lower limit.	2-33
43	Head thermistor defective. (Detects -20ºC or below or 80ºC or higher when the power is turned on)	2-33
44	Abnormal temperature of the print head driver.	2-34
46	Purge counter or flushing counter overflown.	2-34
48	Head flexible cable halfway inserted.	2-34
49	Abnormal head drive voltage. (Does not rise to the specified level)	2-35
4F	The head drive voltage has dropped from the high to low level in an abnormally short period.	2-35
50	Purge cam switch does not come ON.	2-35
52	Failed to detect the origin of the purge cam. (Failed to detect the longest OFF domain of the purge cam)	2-36
5A	Abnormal stop of purge cam being driven.	2-37
5B	Abnormal stop of pump in the maintenance unit.	2-37
5D	Driver IC overcurrent protection activated when the purge cam was being driven.	2-38
5E	Driver IC overcurrent protection activated when the pump was in operation.	2-38
6C	Driver IC overcurrent protection activated during running of the ASF motor.	2-39
6F	ASF motor does not stop. (Keeps rotating for 15 seconds or more)	2-40
75	Head capping failed.	2-40
76	Head uncapping failed.	2-41

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Error Code	Contents	Refer to page:
7A	Abnormal stop of purge cam during head capping. (When being driven in the capping direction)	2-41
7B	Abnormal stop of purge cam during head uncapping. (When being driven in the uncapping direction)	2-41
7D	Motor driver IC overcurrent protection activated during head capping.	2-42
7E	Head property data not entered.	2-42
80	Recording paper size error. (During fax/list printing) (The paper size not suitable for recording fax was detected by the paper width sensor or registration sensor.)	2-43
81	Recording paper size error. (Except during fax/list printing) (The paper width sensor has detected that the paper width is less than the specified one.)	2-44
82	Recording paper jam in paper feeding. (The paper width sensor has failed to detect the leading edge of paper.)	2-44
84	Recording paper jam in paper ejecting. (The registration sensor sticks to ON even after completion of paper ejection.)	2-45
89	Paper width sensor has failed to detect the origin defined on the paper feed roller.	2-45
8A	PF encoder sensor cannot detect the rotation of the paper feed roller.	2-46
8B	PF encoder sensor detects an abnormal stop of the paper feed roller.	2-46
8C	Driver IC overcurrent protection activated during running of the paper feed motor.	2-47
8F	Paper feed motor cannot stop.	2-47
90	Disc tray collided against an obstacle in the rear of the machine.	2-48
91	Pressure roller has failed to be released.	2-48
92	Pressure roller has failed to be depressed.	2-49
93	Disc size error. Or no disc is loaded on the disc tray.	2-49
A1	Document scanner unit opened.	2-50
A2	During ADF scanning, a document of 90 cm or longer is detected.	2-50
A3	During ADF scanning, the document scanning position sensor does not come ON.	2-51
A5	Detected abnormal level data in the CIS scanning result during fax sending (1st time).	2-51
A6	Detected abnormal level data in the CIS scanning result during fax sending (retry).	2-51
A7	Mismatch between actual CIS type and EEPROM data.	2-52
A8	Color parameter matching error. (Used for debugging at the factory.)	2-52
AF	CIS positioning error. (Home positioning failed)	2-53

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Error Code	Contents	Refer to page:
BD	Black level data error in scanning.	2-53
DF	SDAA failure.	2-54
E0	Cannot start up the modem normally even after resetting it.	2-54
E2	Wired LAN MAC address not registered.	2-54
E3	Failed to get a wireless LAN MAC address.	2-54
E6	EEPROM write error.	2-55
EA	Document removed at phase B. (Detected by the document detection sensor)	2-55
EC	LCD connection failure.	2-55
ED	Touch panel initialization failed	2-56
F0	Flash file system error.	2-56
FE	ROM data acquisition error.	2-56

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3.2 Error Messages

Error Message	Contents	Error Code	Refer to:
B&W Print Only Replace Ink	One or more of the color ink cartridges have reached the end of their life. Replace the color ink cartridge(s).		Chapter 2, Section 4.10.8
BT Call Sign On (U.K. only)	BT Call Sign is set to ON, so the Receive Mode cannot be changed.	-	Chapter 2, Section 4.9.5
Cannot Detect	Cannot detect an ink cartridge correctly.	20, 21, 22, 23 24	p. 2-23 p. 2-24
Cannot Print Replace Ink	The service life of any ink cartridge has expired.	26, 27, 28, 29	p. 2-25
Check for a Printable Disc	Disc size error. Or no disc is loaded on the disc tray.	93	p. 2-49
Comm.Error	Fax communication error.	-	Chapter 2, Section 4.9
Connection Fail	Failed to connect to the other end during FAX sending or receiving.	-	Chapter 2, Section 4.9
Cover is Open	Any cover is opened.	2F A1	p. 2-27 p. 2-50
Data Remaining	Memory full so that data processing is impossible.	-	Chapter 2, Section 4.10.5
Disc Guide is Open	Disc guide opened.	-	Chapter 2, Section 4.10.9
Disc Jam [Front]	Disc tray jammed (in the front of the machine).	31 38 3C 84	p. 2-29 p. 2-30 p. 2-31 p. 2-45
Disc Jam [Rear]	Disc tray jammed (in the rear of the machine).		
Disc Tray hits at the back	Disc tray collided against an obstacle in the rear of the machine.	90	p. 2-48
Disconnected	Remote FAX machine on the other end of the communications line, stopped its operation.	-	Chapter 2, Section 4.9
Document Jam/ Too long	Document jam or too long document in the ADF.	A2 A3 EA	p. 2-50 p. 2-51 p. 2-55
DR Mode in Use	The Distinctive Ringing mode is ON so that the Receive Mode cannot be changed.	-	Chapter 2, Section 4.9.5
High Temperature	The room temperature is high.	40	p. 2-33
Hub is Unusable.	A USB hub or a hub built-in USB device is connected.	-	Chapter 2, Section 4.10.3

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Error Message	Contents	Error Code	Refer to:
Image Too Long.	Image too long to correct or trim.	-	Chapter 2, Section 4.10.4
Image Too Small.	Image too small to correct or trim.	-	Chapter 2, Section 4.10.4
Ink Absorber Full	Purge counter or flushing counter overflown.	46	p. 2-34
Low Temperature	The room temperature is low.	40	p. 2-33
Media Error	The memory card or USB flash memory is corrupted or improperly formatted.	-	Chapter 2, Section 4.10.3
Media is Full.	The memory card or USB flash memory loaded in the media slot is full or contains 999 or more files.	-	Chapter 2, Section 4.10.5
No Caller ID	No caller ID information has been received.	-	Chapter 2, Section 4.9.6
Disc Tray did not Feed	No disc tray loaded in the disc guide.	93	p. 2-49
No File	No printable files in the memory card or USB flash memory drive.	-	Chapter 2, Section 4.10.3
No Ink Cartridge	No ink cartridge is loaded.	2A, 2B, 2C, 2D	p. 2-26
No Paper Fed	No paper is loaded in the paper tray(s).	-	Chapter 2, Section 4.2.1
No Response/Busy	The number dialed does not answer or is busy.	-	Chapter 2, Section 4.9
Not Registered	Speed Dial number not registered.	-	Chapter 2, Section 4.9.2
Out of Memory	The machine’s memory is full.	-	Chapter 2, Section 4.10.5
Out of Fax Memory	Data stored in the memory by Memory Send/ Receive operation has exceeded the allowable memory space.	-	Chapter 2, Section 4.10.5
Paper Jam	Recording paper is jammed in the machine.	0E 18 31 38 3C 82 84	p. 2-21 p. 2-22 p. 2-29 p. 2-30 p. 2-31 p. 2-44 p. 2-45

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Error Message	Contents	Error Code	Refer to:
Touchscreen initialization failed	The touch screen was pressed before completion of power-on initialization.	ED	p. 2-56
Unusable Device Disconnect device from front connect or & turn machine off & then on	The connected USB device could be broken.	-	Chapter 2, Section 4.10.3
Unusable Device Please Disconnect USB Device.	A USB device not supported by the machine is connected.	-	Chapter 2, Section 4.10.3
Wrong Ink Color	A color ink cartridge is loaded in the black ink cartridge slot.	24	p. 2-24
Wrong Paper Size	Recording paper that differs from the setting in size is loaded in the paper tray.	17 80 81	p. 2-22 p. 2-43 p. 2-44

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3.3 Communications Error Codes

Code 1	Code 2	Cause	Refer to:
10	08	Wrong number called.	Chapter 2, Section 4.9.4
11	01	No dial tone detected before start of dialing.	
11	02	Busy tone detected before dialing.	
11	03	2nd dial tone not detected.	
11	05	No loop current detected.*1	
11	06	Busy tone detected after dialing or called.	
11	07	No response from the remote station in sending.	
11	10	Unobtainable tone detected after dialing.	
17	07	No response from the calling station in receiving.	
20	01	Unable to detect a flag field.	
20	02	Carrier was OFF for 200 milliseconds or longer.	
20	03	Abort detected ("1" in succession for 7 bits or more).	
20	04	Overrun detected.	
20	05	A frame for 3 seconds or more received.	
20	06	CRC error in answerback.	
20	07	Echo command received.	
20	08	Invalid command received.	
20	09	Command ignored once for document setting or for dumping-out at turn-around transmission.	
20	0A	T5 time-out error.	
20	0B	CRP received.	
20	0C	EOR and NULL received.	

*1 Available in German models only.

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Code 1	Code 2	Cause	Refer to:
32	01	Remote terminal only with V.29 capability in 2,400 or 4,800 bps transmission.	Chapter 2, Section 4.9.4
32	02	Remote terminal not ready for polling.	
32	10	Remote terminal not equipped with password function or its password switch OFF.	
32	11	Remote terminal not equipped with or not ready for confidential mailbox function.	
32	12	Remote terminal not equipped with or not ready for relay function.	
32	13	No confidential mail in the remote terminal.	
32	14	The available memory space of the remote terminal is less than that required for reception of the confidential or relay broadcasting instruction.	
32	18	Remote terminal not equipped with color function.	
40	02	Illegal coding system requested.	
40	03	Illegal recording width requested.	
40	05	ECM requested although not allowed.	
40	06	Polled while not ready.	
40	07	No document to send when polled.	
40	10	Nation code or manufacturer code not coincident.	
40	13	Polled by any other manufacturers' terminal while waiting for secure polling.	
40	17	Invalid resolution selected.	
40	20	Invalid full-color mode requested.	
50	01	Vertical resolution capability changed after compensation of background color.	
63	01	Password plus "lower 4 digits of telephone number" not coincident.	
63	02	Password not coincident.	
63	03	Polling ID not coincident.	
74		DCN received.	
80	01	Fallback impossible.	
90	01	Unable to detect video signals or commands within 6 seconds after CFR is transmitted.	
90	02	Received PPS containing invalid page count or block count.	

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Code 1	Code 2	Cause	Refer to:
A0	03	Error correction sequence not terminated even at the final transmission speed for fallback.	Chapter 2, Section 4.9.4
A0	11	Receive buffer empty. (5-second timeout)	
A0	12	Receive buffer full during operation except receiving into memory.	
A0	13	Decoding error continued on 500 lines or more.	
A0	14	Decoding error continued for 15 seconds or more.	
A0	15	Timeout: 13 seconds or more for one-line transmission.	
A0	16	RTC not found or carrier OFF signal detected for 6 seconds.	
A0	17	RTC found but no command detected for 60 seconds or more.	
A0	19	No image data to be sent.	
A8	01	RTN, PIN or ERR received at the calling terminal.*1	
A9	01	RTN, PIN or ERR received at the called terminal.*1	
AA	18	Receive buffer full during receiving into memory.	
B0	02	Unable to receive the next-page data.	
B0	03	Unable to receive polling even during turn-around transmission due to call reservation.	
B0	04	PC interface error.	
BF	01	Communication canceled by pressing the **Stop/Exit** key *before* establishment of FAX communication*2.	
BF	02	Communication canceled by pressing the **Stop/Exit** key *after* establishment of FAX communication*2.	
BF	03	Transmission canceled due to a scanning error caused by no document or document feed problem in ADF scanning in real time transmission.	

*1 Available in German models only.

*2 Establishment of FAX communication
FAX communication is established when the calling station receives a DIS (reception capability) signal from the called station and the called station receives an NSS or DCS (communications test) signal from the calling station.

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Code 1	Code 2	Cause	Refer to:
C0	01	No common modulation mode or polling failed.	Chapter 2, Section 4.9.4
C0	02	Unable to detect JM.	
C0	03	Unable to detect CM.	
C0	04	Unable to detect CJ.	
C0	10	V. 34 negotiation or training not finished.	
C0	11	Modem error detected during V. 34 negotiation or training.	
C0	20	Modem error detected during sending of commands.	
C0	21	Modem error detected during receiving of commands.	
C0	22	Control channel connection timeout.	
C0	30	Modem error detected during sending of image signals.	
C0	31	Modem error detected during receiving of image signals.	
E0	01	Failed to detect 1,300 Hz signal in burn-in operation.	
E0	02	Failed to detect PB signals in burn-in operation.	
FF	XX	Equipment error. (For X X, refer to Chapter 2, Section 3.1 "Error Codes.")	

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3.4 Status Monitor Errors

Error Message	Contents	Error Code	Refer to:
Cover is Open	Any cover opened.	2F A1	p. 2-27 p. 2-50
Disc Guide is Open	Disc guide opened.		Chapter 2, Section 4.10.9
Document Jam	Document jam detected in the ADF.	A2 A3 EA	p. 2-50 p. 2-51 p. 2-55
High Temperature	The room temperature is high.	40	p. 2-33
Ink Absorber Full	Purge counter or flashing counter overflown.	46	p. 2-34
Ink low	The service life of any ink cartridge will be expired soon.	-	
Low Temperature	The room temperature is low.	40	p. 2-33
No Ink Cartridge	No ink cartridge loaded.	2A, 2B, 2C, 2D	p. 2-26
No Paper Fed	No paper loaded in paper tray.	-	Chapter 2, Section 4.2.1
Offline	Machine offline.	-	
Out of Memory	The memory is full.	-	Chapter 2, Section 4.10.4
Paper Jam	Recording paper jam.	0E 18 31 38 3C 82 84	p. 2-21 p. 2-22 p. 2-29 p. 2-30 p. 2-31 p. 2-44 p. 2-45
Printer Locked.	Printer function locked.		Chapter 2, Section 4.10.7
Replace Ink	The service life of any ink cartridge has expired.	26, 27, 28, 29	p. 2-25
Unable to Print 3X	Errors around the head/carriage unit.	30 to 3F	p. 2-28 to p. 2-32
Unable to Print 5X	Errors around the maintenance unit.	50 to 5E	p. 2-35 to p. 2-38
Unable to Print 7X		75 to 7E	p. 2-40 to p. 2-42
Unable to Scan AX	Errors around the scanner.	A2 to AF	p. 2-50 to p. 2-53

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Error Message	Contents	Error Code	Refer to:
Unable to Print XX	Errors other than 3X, 5X, 7X, and AX.	Codes other than 3X, 5X, 7X and AX	p. 2-33 to p. 2-56
Wrong Paper Size	Recording paper that differs from the setting in size is loaded in the paper tray. In duplex printing, recording paper not allowed for duplex printing is loaded.	17 80 81	p. 2-22 p. 2-43 p. 2-44

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4 TROUBLESHOOTING

4.1 Error Cause and Solutions

First see the user check items. If it cannot recover the machine, proceed to the troubleshooting table exclusive to service personnel.

■ Error Code 0E

Paper Jam	LCD

In duplex printing, a sensor error has occurred during printing on the second side. (During switchbacking, the registration sensor outputs an unexpected signal.)

User Check

- Remove the jammed paper.
- Check whether the recording paper being used is within the specification.
- Check that the recording paper is not curled..

Step	Cause	Solution
1	Registration actuator caught on the surrounding parts	Check and reposition the registration actuator.
2	Registration sensor defective	Replace the registration sensor PCB ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 17

Wrong Paper Size	LCD

Recording paper size error. (Duplex PC print/Duplex copy) (Detected by the paper width sensor or registration sensor)

User Check

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

Step	Cause	Solution
1	Registration actuator caught on the surrounding parts	Check and reposition the registration actuator.
2	CR encoder strip stained	Replace the CR encoder strip.
3	PF encoder disc stained	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
4	Registration sensor defective	Replace the registration sensor PCB ASSY.
5	Paper feed motor defective	Replace the paper feed motor ASSY.
6	Paper width sensor defective	Replace the carriage PCB ASSY.
7	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 18

Paper Jam	LCD

In switchbacking of paper for printing on the second side, a recording paper jam has occurred. (The registration sensor does not come ON within the specified paper feeding amount.)

User Check

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

Step	Cause	Solution
1	Foreign materials in the duplex print paper path	Remove foreign materials.
2	Registration actuator caught on the surrounding parts	Check and reposition the registration actuator.
3	Main PCB defective	Replace the main PCB ASSY.

Note: Loading a standard ink cartridge sold separately into the machine before an initial operation causes an error--Error code 20, 21, 22, or 23.

■ Error Code 20

Cannot Detect	LCD

Cannot identify a black ink cartridge. Or noncompliant ink cartridge loaded.

Error Code 21

Cannot Detect	LCD

Cannot identify a yellow ink cartridge. Or noncompliant ink cartridge loaded.

Error Code 22

Cannot Detect	LCD

Cannot identify a cyan ink cartridge. Or noncompliant ink cartridge loaded.

Error Code 23

Cannot Detect	LCD

Cannot identify a magenta ink cartridge. Or noncompliant ink cartridge loaded.

User Check

- Check whether a noncompliant ink cartridge is loaded.
- Reload the ink cartridge.
- Replace the ink cartridge.

Step	Cause	Solution
1	Connection failure of flat cables related to the ink refill ASSY	Check the connection and reconnect the flat cables.
2	Ink cartridge detection sensor defective	Replace the ink cartridge detection sensor PCB ASSY.
3	Ink remaining sensor or high-yield ink cartridge sensor defective	Replace the ink refill ASSY.
4	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 24

Wrong Color INK	LCD

An ink cartridge of wrong color is loaded. (A color ink cartridge is loaded in the black ink cartridge slot.)

User Check

- Load the ink cartridge into the correct slot.
- Replace the ink cartridge.

Step	Cause	Solution
1	Ink cartridge detection sensor defective	Replace the ink cartridge detection sensor PCB ASSY.
2	Ink remaining sensor or high-yield ink cartridge sensor defective	Replace the ink refill ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 26

Ink Low Black	LCD

The service life of the black ink cartridge will be expired soon. (Detected by the black ink remaining sensor)

Error Code 27

Ink Low Yellow	LCD

The service life of the yellow ink cartridge will be expired soon. (Detected by the yellow ink remaining sensor)

Error Code 28

Ink Low Cyan	LCD

The service life of the cyan ink cartridge will be expired soon. (Detected by the cyan ink remaining sensor)

Error Code 29

Ink Low Magenta	LCD

The service life of the magenta ink cartridge will be expired soon. (Detected by the magenta ink remaining sensor)

User Check

- Replace the ink cartridge.

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

■ Error Code 2A

No Ink Cartridge Black	LCD

No black ink cartridge loaded. (Detected by the ink cartridge detection sensor)

Error Code 2B

No Ink Cartridge Yellow	LCD

No yellow ink cartridge loaded. (Detected by the ink cartridge detection sensor)

Error Code 2C

No Ink Cartridge Cyan	LCD

No cyan ink cartridge loaded. (Detected by the ink cartridge detection sensor)

Error Code 2D

No Ink Cartridge Magenta	LCD

No magenta ink cartridge loaded. (Detected by the ink cartridge detection sensor)

User Check

- Reload the ink cartridge.
- Replace the ink cartridge.

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

■ Error Code 2F

Cover is Open / Close Ink Cover	LCD

Ink cartridge cover opened.

User Check

- Close the ink cartridge cover.

Step	Cause	Solution
1	Connection failure of the ink cartridge cover sensor harness	Check the connection and reconnect the harness.
2	Broken boss on the ink cartridge cover, working as an actuator for the ink cartridge cover sensor	Replace the ink cartridge cover.
3	Ink cartridge cover sensor failure	Replace the ink cartridge cover sensor ASSY.
4	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 30

Unable to Print 30	LCD

Carriage does not move. (Detected by the CR encoder sensor)

User Check

- Remove the jammed paper.

Step	Cause	Solution
1	CR timing belt or pulley out of place	Set the CR timing belt or the pulley into place.
2	Foreign materials on the CR timing belt or around the head/ carriage unit	Remove foreign materials.
3	Carriage motor harness connection failure	Check the connection and reconnect the harness.
4	Leveler roller (LR) ASSY not mounted correctly on the head/ carriage unit	Set the LR ASSY into place, using the LR jigs (LR positioning jig and LR fitting jig).
5	CR encoder strip out of place	Set the CR encoder strip into place.
6	CR encoder strip stained	Replace the CR encoder strip.
7	CR encoder sensor failure	Replace the carriage PCB ASSY.
8	Carriage motor defective	Replace the carriage motor.
9	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 31

Paper Jam / Disc Jam	LCD

Cannot detect the origin of the carriage. (Detected by the CR encoder sensor)

User Check

- Remove foreign materials.

Step	Cause	Solution
1	Foreign materials on the CR timing belt or around the head/ carriage unit	Remove foreign materials.
2	Switching lever guide out of place	Reposition the switching lever guide.
3	CR encoder strip stained	Replace the CR encoder strip.
4	Switching lever guide defective	Replace the switching lever guide.
5	Maintenance unit defective	Clean the maintenance unit or replace it.
6	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 32

Unable to Clean 32	LCD

Capping load large.

User Check

- Remove the jammed paper.

Step	Cause	Solution
1	Switching lever guide out of place	Reposition the switching lever guide.
2	Leveler roller (LR) ASSY not mounted correctly on the head/ carriage unit	Set the LR ASSY into place, using the LR jigs (LR positioning jig and LR fitting jig).
3	Switching lever guide defective	Replace the switching lever guide.
4	Maintenance unit defective	Clean the maintenance unit or replace it.

■ Error Code 35

Unable to Print 35	LCD

Abnormal stop of head/carriage unit. (Error caused by any problem except a paper jam when the print head is not jetting out ink)

Step	Cause	Solution
1	Foreign materials on the CR timing belt or around the head/ carriage unit	Remove foreign materials.
2	Switching lever guide out of place	Reposition the switching lever guide.
3	Leveler roller (LR) ASSY not mounted correctly on the head/ carriage unit	Set the LR ASSY into place, using the LR jigs (LR positioning jig and LR fitting jig).
4	CR encoder strip stained	Replace the CR encoder strip.
5	Maintenance unit defective	Clean the maintenance unit or replace it.

■ Error Code 38

Paper Jam / Disc Jam	LCD

Abnormal stop of head/carriage unit during printing. (Error caused by a paper jam when the print head is not jetting out ink)

User Check

- Remove the jammed paper.

Step	Cause	Solution
1	Foreign materials in the recording paper path or around the head/ carriage unit	Remove foreign materials.
2	Maintenance unit defective	Clean the maintenance unit or replace it.

■ Error Code 3B

Unable to Print 3B	LCD

Abnormal stop of head/carriage unit during printing. (Error caused by any problem except a paper jam when the print head is jetting out ink).

Step	Cause	Solution
1	Foreign materials on the CR timing belt or around the head/ carriage unit	Remove foreign materials.
2	Switching lever guide out of place	Reposition the switching lever guide.
3	Leveler roller (LR) ASSY not mounted correctly on the head/ carriage unit	Set the LR ASSY into place, using the LR jigs (LR positioning jig and LR fitting jig).
4	CR encoder strip stained	Replace the CR encoder strip.

■ Error Code 3C

Paper Jam / Disc Jam	LCD

Abnormal stop of head/carriage unit during printing. (Error caused by a paper jam when the print head is jetting out ink)

User Check

- Remove the jammed paper.

Step	Cause	Solution
1	Foreign materials in the recording paper path or around the head/ carriage unit	Remove foreign materials.
2	Leveler roller (LR) ASSY not mounted correctly on the head/ carriage unit	Set the LR ASSY into place, using the LR jigs (LR positioning jig and LR fitting jig).

■ Error Code 3E

Unable to Print 3E	LCD

Any abnormality in the carriage motor, ASF motor, or paper feed motor.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Foreign materials in the maintenance unit	Remove foreign materials.
3	Foreign materials on the CR guide rail	Remove foreign materials.
4	Maintenance unit defective	Replace the maintenance unit.
5	Engine unit defective	Replace the engine unit.
6	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 3F

Unable to Print 3F	LCD

Carriage does not stop.

Step	Cause	Solution
1	Carriage motor harness connection failure	Check the connection and reconnect the harness.
2	CR encoder strip out of place	Set the CR encoder strip into place.
3	CR encoder strip stained	Replace the CR encoder strip.
4	Carriage motor defective	Replace the carriage motor.
5	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 40

Unable to Init. 40	LCD

Casing internal thermistor defective. (Detects -20ºC or below or 80ºC or higher)

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

■ Error Code 42

Unable to Print 42	LCD

Head drive voltage dropped below the lower limit.

User Check

- This error may occur when the ambient temperature is low. Increase the ambient temperature for use of the machine.

Step	Cause	Solution
1	Connection failure of the head flexible cable or carriage flat cables	Check the connection and reconnect the corresponding cable(s).
2	Print head defective	Replace the head/carriage unit.
3	Power supply PCB defective	Replace the power supply PCB ASSY.
4	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 43

Unable to Print 43	LCD

Head thermistor defective. (Detects -20ºC or below or 80ºC or higher when the power is turned on)

Step	Cause	Solution
1	Head temperature thermistor defective	Replace the carriage PCB ASSY.
2	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 44

Unable to Print 44	LCD

Abnormal temperature of the print head driver.

Step	Cause	Solution
1	Ink insufficient in the print head	Turn the power off and on, then perform an initial purge.
2	Print head defective	Replace the head/carriage unit.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 46

Unable to Print 46	LCD

Purge counter or flushing counter overflown.

Step	Cause	Solution
1	Ink absorber box and flushing box full of drained ink	Replace the ink absorber box and flushing box, then reset their counts. *

*For the resetting procedures of the purge and flushing counts, refer to Chapter 4, Section 4.1.

■ Error Code 48

Unable to Init. 48	LCD

Head flexible cable halfway inserted.

Step	Cause	Solution
1	Connection failure of the head flexible cable or carriage flat cables	Check the connection and reconnect the corresponding cable(s).
2	Print head defective	Replace the head/carriage unit.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 49

Unable to Print 49	LCD

Abnormal head drive voltage. (Does not rise to the specified level)

Error Code 4F

Unable to Print 4F	LCD

The head drive voltage has dropped from the high to low level in an abnormally short period.

Step	Cause	Solution
1	Connection failure of the head flexible cable or carriage flat cables	Check the connection and reconnect the corresponding cable(s).
2	Carriage PCB defective	Replace the carriage PCB ASSY.
3	Print head defective	Replace the head/carriage unit.
4	Power supply PCB defective	Replace the power supply PCB ASSY.
5	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 50

Unable to Clean 50	LCD

Purge cam switch does not come ON.

Step	Cause	Solution
1	Foreign materials in the maintenance unit or around the paper feed roller	Remove foreign materials.
2	Purge cam switch harness connection failure	Check the connection and reconnect the harness.
3	ASF switching gear A or B broken	Replace the ASF switching gear A or B.
4	Paper feed motor defective	Replace the paper feed motor.
5	ASF drive ASSY defective	Replace the ASF drive ASSY.
6	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 52

Unable to Clean 52	LCD

Failed to detect the origin of the purge cam. (Failed to detect the longest OFF domain of the purge cam)

Step	Cause	Solution
1	Foreign materials in the maintenance unit	Remove foreign materials.
2	ASF drive ASSY defective	Replace the ASF drive ASSY.
3	Maintenance unit defective	Replace the maintenance unit.
4	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 5A

Unable to Clean 5A	LCD

Abnormal stop of purge cam being driven.

User Check

- Check whether the disc guide is closed with the disc tray being loaded.

Error Code 5B

Unable to Clean 5B	LCD

Abnormal stop of pump in the maintenance unit.

Step	Cause	Solution
1	Foreign materials in the maintenance unit or around the paper feed roller	Remove foreign materials.
2	PF encoder disc stained	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
3	PF encoder sensor PCB defective	Replace the PF encoder sensor PCB ASSY.
4	Ink supply tubes bent	Replace the ink refill ASSY.
5	Main drain tube bent	Replace the main drain tube.
6	ASF switching gear A or B broken	Replace the ASF switching gear A or B.
7	Paper feed motor defective	Replace the paper feed motor.
8	Maintenance unit defective	Replace the maintenance unit.
9	Engine unit defective	Replace the engine unit.
10	Power supply PCB defective	Replace the power supply PCB ASSY.
11	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 5D

Unable to Clean 5D	LCD

Driver IC overcurrent protection activated when the purge cam was being driven.

Error Code 5E

Unable to Clean 5E	LCD

Driver IC overcurrent protection activated when the pump was in operation.

Step	Cause	Solution
1	Foreign materials in the maintenance unit or around the paper feed roller	Remove foreign materials.
2	Main drain tube bent	Replace the main drain tube.
3	Ink supply tubes bent	Replace the ink refill ASSY.
4	ASF switching gear A or B broken	Replace the ASF switching gear A or B.
5	Maintenance unit defective	Replace the maintenance unit.
6	Engine unit defective	Replace the engine unit.
7	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 6C

Unable to Print 6C	LCD

Driver IC overcurrent protection activated during running of the ASF motor.

Step	Cause	Solution
1	Foreign materials in the maintenance unit or engine unit	Remove foreign materials.
2	Main drain tube bent	Replace the main drain tube.
3	PF encoder sensor PCB defective	Replace the PF encoder sensor PCB ASSY.
4	Ink supply tubes bent	Replace the ink refill ASSY.
5	ASF switching gear A or B broken	Replace the ASF switching gear A or B.
6	ASF motor defective	Replace the ASF drive ASSY.
7	Maintenance unit defective	Replace the maintenance unit.
8	Engine unit defective	Replace the engine unit.
9	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 6F

Unable to Print 6F	LCD

ASF motor does not stop. (Keeps rotating for 15 seconds or more)

Step	Cause	Solution
1	Paper feed motor harness connection failure	Check the connection and reconnect the harness.
2	Carriage motor harness connection failure	Check the connection and reconnect the harness.
3	ASF motor harness connection failure	Check the connection and reconnect the harness.
4	PF encoder disc stained	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
5	ASF switching gear A or B broken	Replace the ASF switching gear A or B.
6	Paper feed motor defective	Replace the paper feed motor.
7	Carriage motor defective	Replace the carriage motor.
8	ASF motor defective	Replace the ASF drive ASSY.
9	Maintenance unit defective	Replace the maintenance unit.
10	Engine unit defective	Replace the engine unit.
11	Power supply PCB defective	Replace the power supply PCB ASSY.
12	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 75

Unable to clean 75	LCD

Head capping failed.

Step	Cause	Solution
1	Foreign materials in the maintenance unit	Remove foreign materials.
2	Foreign materials in the engine unit	Remove foreign materials.
3	Carriage motor defective	Replace the carriage motor.
4	ASF motor defective	Replace the ASF drive ASSY.
5	Maintenance unit defective	Replace the maintenance unit.
6	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 76

Unable to clean 76	LCD

Head uncapping failed.

Step	Cause	Solution
1	CR encoder strip out of place	Set the CR encoder strip into place.
2	Foreign materials in the maintenance unit	Remove foreign materials.
3	ASF motor defective	Replace the ASF drive ASSY.
4	Maintenance unit defective	Replace the maintenance unit.
5	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 7A

Unable to clean 7A	LCD

Abnormal stop of purge cam during head capping. (When being driven in the capping direction)

Error Code 7B

Unable to clean 7B	LCD

Abnormal stop of purge cam during head uncapping. (When being driven in the uncapping direction)

Step	Cause	Solution
1	Foreign materials in the maintenance unit	Remove foreign materials.
2	ASF motor defective	Replace the ASF drive ASSY.
3	Maintenance unit defective	Replace the maintenance unit.
4	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 7D

Unable to clean 7D	LCD

Motor driver IC overcurrent protection activated during head capping.

Step	Cause	Solution
1	Foreign materials in the maintenance unit	Remove foreign materials.
2	ASF motor defective	Replace the ASF drive ASSY.
3	Paper feed motor defective	Replace the paper feed motor.
4	Maintenance unit defective	Replace the maintenance unit.
5	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 7E

MACHINE ERROR 7E	LCD

Head property data not entered.

Step	Cause	Solution
1	Head property data not entered	Enter the head property data. Refer to Chapter 5, Section 1.4.23.
2	Head calibration data not written	Perform head calibration with Function code 02. (Refer to Chapter 5, Section 1.4.2.)
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 80

Wrong Paper Size	LCD

Recording paper size error. (During fax/list printing) (The paper size not suitable for recording fax was detected by the paper width sensor or registration sensor.)

User Check

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

Step	Cause	Solution
1	Registration actuator caught on the surrounding parts	Check and reposition the registration actuator.
2	CR encoder strip stained	Replace the CR encoder strip.
3	PF encoder disc stained	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
4	Registration sensor defective	Replace the registration sensor PCB ASSY.
5	Carriage motor defective	Replace the carriage motor.
6	Paper feed motor defective	Replace the paper feed motor.
7	Paper width sensor defective	Replace the carriage PCB ASSY.
8	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 81

Wrong Paper Size	LCD

Recording paper size error. (Except during fax/list printing) (The paper width sensor has detected that the paper width is less than the specified one.)

User Check

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

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

■ Error Code 82

Paper Jam	LCD

Recording paper jam in paper feeding. (The paper width sensor has failed to detect the leading edge of paper.)

User Check

- Remove the jammed paper.
- Check whether the recording paper being used is within the specification.
- Check that dark recording paper is not used.
- Check that the paper tray is fully inserted.
- Check that the jam clear cover is properly closed.

Step	Cause	Solution
1	Foreign materials inside the engine unit	Remove foreign materials.
2	Chute cover not mounted correctly	Reposition the chute cover.
3	Paper width sensor defective	Replace the carriage PCB ASSY.
4	Paper pull-in rollers worn out or stained	Replace the paper pull-in roller holder ASSY.
5	ASF motor defective	Replace the ASF drive ASSY.
6	Paper feed roller worn out	Replace the engine unit.
7	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 84

Paper Jam / Disc Jam	LCD

Recording paper jam in paper ejecting. (The registration sensor sticks to ON even after completion of paper ejection.)

User Check

- Remove the jammed paper.

Step	Cause	Solution
1	Registration actuator caught on the surrounding parts	Check and reposition the registration actuator.
2	Registration sensor defective	Replace the registration sensor PCB ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 89

Unable to Print 89	LCD

Paper width sensor has failed to detect the origin defined on the paper feed roller.

Step	Cause	Solution
1	Paper width sensor defective	Replace the carriage PCB ASSY.
2	PF encoder disc stained	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
3	Engine unit defective	Replace the engine unit.
4	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 8A

PRINTER JAM	LCD

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

Error Code 8B

PRINTER JAM	LCD

PF encoder sensor detects an abnormal stop of the paper feed roller.

User Check

- Check whether recording paper is jammed.

Step	Cause	Solution
1	Foreign materials inside the engine unit	Remove foreign materials.
2	Paper feed motor harness connection failure	Check the connection and reconnect the harness.
3	Connection failure of the PF encoder sensor harness	Check the connection and reconnect the harness.
4	PF encoder disc defective	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
5	PF encoder sensor PCB defective	Replace the PF encoder sensor PCB ASSY.
6	Pressure roller release sensor defective	Replace the pressure roller release sensor PCB ASSY.
7	Paper feed motor defective	Replace the paper feed motor.
8	Engine unit defective	Replace the engine unit.
9	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 8C

PRINTER JAM	LCD

Driver IC overcurrent protection activated during running of the paper feed motor.

User Check

- Check whether recording paper is jammed.

Step	Cause	Solution
1	Foreign materials inside the engine unit	Remove foreign materials.
2	PF encoder disc defective	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
3	PF encoder sensor PCB defective	Replace the PF encoder sensor PCB ASSY.
4	Paper feed motor defective	Replace the paper feed motor.
5	Engine unit defective	Replace the engine unit.
6	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 8F

Unable to Print 8F	LCD

Paper feed motor cannot stop.

Step	Cause	Solution
1	Paper feed motor harness connection failure	Check the connection and reconnect the harness.
2	Paper feed motor defective	Replace the paper feed motor.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 90

Disc Tray hits at the back	LCD

Disc tray collided against an obstacle in the rear of the machine.

User Check

- Leave at least 10 cm (4 inches) of free space behind the machine.
- Clear any obstacles from the rear of the machine.
- Clear any obstacles from the surroundings of the jam clear cover.
- Check that the jam clear cover is properly closed.
- Remove recording paper from the paper path.

Step	Cause	Solution
1	Disc tray worn out	Replace the disc tray.
2	Foreign materials inside the engine unit	Remove foreign materials.
3	Chute cover not mounted correctly	Reposition the chute cover.
4	PF encoder disc defective	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
5	PF encoder sensor PCB defective	Replace the PF encoder sensor PCB ASSY.
6	Paper feed motor defective	Replace the paper feed motor.

■ Error Code 91

Unable to Init. 91	LCD

Pressure roller has failed to be released.

Step	Cause	Solution
1	Foreign materials inside the engine unit	Remove foreign materials.
2	Switching lever guide out of place	Reposition the switching lever guide.
3	CR encoder strip stained	Replace the CR encoder strip.
4	Switching lever guide defective	Replace the switching lever guide.
5	Pressure roller release sensor defective	Replace the pressure roller release sensor PCB ASSY.
6	CR encoder sensor defective	Replace the carriage PCB ASSY.
7	ASF drive ASSY defective	Replace the ASF drive ASSY.
8	Engine unit defective	Replace the engine unit.
9	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 92

Unable to Init. 92	LCD

Pressure roller has failed to be depressed.

User Check

- Check that no recording paper is jammed in the engine unit.

Step	Cause	Solution
1	Switching lever guide defective	Replace the switching lever guide.
2	ASF drive ASSY defective	Replace the ASF drive ASSY.
3	Engine unit defective	Replace the engine unit.
4	Main PCB defective	Replace the main PCB ASSY.

■ Error Code 93

Check for a Printable Disc.	LCD

Disc size error. Or no disc is loaded on the disc tray.

User Check

- Load a disc on the disc tray.
- Check whether the disc loaded is within the specification.

Step	Cause	Solution
1	Paper width sensor defective	Replace the carriage PCB ASSY.
2	Main PCB defective	Replace the main PCB ASSY.

■ Error Code A1

Cover is Open	LCD

Document scanner unit opened.

User Check

- Close the document scanner unit.

Step	Cause	Solution
1	Document scanner open actuator out of place	Set the document scanner open actuator into place.
2	Panel harness connection failure	Check the connection and reconnect the harness.
3	Panel PCB defective	Replace the panel PCB ASSY.
4	Rubber key defective	Replace the rubber key.
5	Document scanner open actuator defective	Replace the control panel ASSY.
6	Broken boss on the document scanner unit, which presses the document scanner open actuator	Replace the document scanner unit.
7	Main PCB defective	Replace the main PCB ASSY.

■ Error Code A2

DOCUMENT JAM	LCD

During ADF scanning, a document of 90 cm or longer is detected.

User Check

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

Step	Cause	Solution
1	Document scanning position actuator caught on the surrounding parts	Check and reposition the document scanning position actuator.
2	Document scanning position sensor defective	Replace the document scanning position sensor PCB ASSY.
3	ADF motor defective	Replace the ADF motor.
4	ADF unit defective	Replace the ADF unit.
5	Main PCB defective	Replace the main PCB ASSY.

■ Error Code A3

DOCUMENT JAM	LCD

During ADF scanning, the document scanning position sensor does not come ON.

User Check

- Remove the jammed document.

Step	Cause	Solution
1	Foreign materials in the ADF document path	Remove foreign materials.
2	Document scanning position actuator out of place	Set the document scanning position actuator into place.
3	Document scanning position sensor harness connection failure	Check the connection and reconnect the harness.
4	Document scanning position sensor defective	Replace the document scanning position sensor PCB ASSY.
5	ADF motor defective	Replace the ADF motor.
6	ADF unit defective	Replace the ADF unit.
7	Main PCB defective	Replace the main PCB ASSY.

■ Error Code A5

Unable to Scan A5	LCD

Detected abnormal level data in the CIS scanning result during fax sending (1st time).

Error Code A6

Unable to Scan A6	LCD

Detected abnormal level data in the CIS scanning result during fax sending (retry).

Step	Cause	Solution
1	White level data failure	Use Function code 55. Refer to Chapter 5, Section 1.4.16.
2	CIS unit defective	Replace the CIS unit.
3	White reference film stained	Replace the document scanner unit.
4	Main PCB defective	Replace the main PCB ASSY.

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■ Error Code A7

Unable to Scan A7	LCD

Mismatch between actual CIS type and EEPROM data.

Step	Cause	Solution
1	CIS type data mismatch	Specify the CIS type with Function code 59. Refer to Chapter 5, Section 1.4.18.
2	Main PCB defective	Replace the main PCB ASSY.

■ Error Code A8

Unable to Init. A8	LCD

Color parameter matching error. (Used for debugging at the factory.)

Step	Cause	Solution
1	Program malfunctioning	Reload firmware to the main PCB. Refer to Chapter 4, Section 2.1.
2	Main PCB defective	Replace the main PCB ASSY.

■ Error Code AF

Unable to Scan AF	LCD

CIS positioning error. (Home positioning failed)

Step	Cause	Solution
1	Document scanner motor harness connection failure	Check the connection and reconnect the harness.
2	CIS flat cable connection failure	Check the connection and reconnect the flat cable.
3	CIS unit defective	Replace the CIS unit.
4	Document scanner unit defective	Replace the document scanner unit.
5	Main PCB defective	Replace the main PCB ASSY.

■ Error Code BD

Unable to Scan BD	LCD

Black level data error in scanning.

Step	Cause	Solution
1	Black level data failure	Use Function code 55. Refer to Chapter 5, Section 1.4.16.
2	CIS unit defective	Replace the CIS unit.
3	White reference film stained	Replace the document scanner unit.
4	Main PCB defective	Replace the main PCB ASSY.

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■ Error Code DF

Lightning damage often causes this error. Check whether the power supply PCB or MJ PCB has burn marks.

Unable to Init. DF	LCD

SDAA failure.

Error Code E0

Unable to Init. E0	LCD

Cannot start up the modem normally even after resetting it.

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

■ Error Code E2

MACHINE ERROR E2	LCD

Wired LAN MAC address not registered.

Error Code E3

MACHINE ERROR E3	LCD

Failed to get a wireless LAN MAC address.

Step	Cause	Solution
1	Wireless LAN PCB harness connection failure	Check the connection and reconnect the harness.
2	Wireless LAN PCB defective	Replace the wireless LAN PCB ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code E6

Unable to Init. E6	LCD

EEPROM write error.

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

■ Error Code EA

DOCUMENT JAM	LCD

Document removed at phase B. (Detected by the document detection sensor)

User Check

- Send a fax again.

Step	Cause	Solution
1	Document detection actuator out of place	Set the document detection actuator into place.
2	Document detection sensor defective	Replace the document detection sensor PCB ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code EC

Unable to Init. EC	LCD

LCD connection failure.

Step	Cause	Solution
1	LCD flat cable connection failure	Check the connection and reconnect the flat cable.
2	LCD defective	Replace the LCD unit.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code ED

Unable to Init. ED	LCD

Touch panel initialization failed

User Check

- Check that nothing is placed on the touch panel.

Step	Cause	Solution
1	Touch panel harness connection failure	Check the connection and reconnect the harness.
2	Touch panel defective	Replace the LCD unit.
3	Main PCB defective	Replace the main PCB ASSY.

■ Error Code F0

Unable to Init. F0	LCD

Flash file system error.

Step	Cause	Solution
1	Program malfunctioning	Reload firmware. Refer to Chapter 4, Section 2.1.
2	Main PCB defective	Replace the main PCB ASSY.

■ Error Code FE

Unable to Init. FE	LCD

ROM data acquisition error.

Step	Cause	Solution
1	Program malfunctioning	Reload firmware. Refer to Chapter 4, Section 2.1.
2	Main PCB defective	Replace the main PCB ASSY.

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4.2 Recording Paper or Disc Tray Feeding Problems

Problems related to recording paper or disc tray feeding are end user recoverable by following the User Check items. If the problem persists, follow each procedure in the order of the number described in the Step column in the tables below.

4.2.1 Recording paper not fed from paper tray (Error code 82, etc.)

User Check

- Check that recording paper is loaded correctly in the paper tray.
- Check that paper tray is set.
- Check that the jam clear cover is closed.
- Check that the recording paper weight is within the allowable range of each paper type.
- Check that the disc guide is closed.
- Clean the paper feed roller.

Step	Cause	Solution
1	ASF motor harness connection failure	Check the connection and reconnect the harness.
2	Registration actuator defective	Check and reposition the registration actuator.
3	Paper tray defective	Replace the paper tray.
4	CR encoder strip stained	Replace the CR encoder strip.
5	Paper pull-in rollers worn out or paper pull-in roller holder defective	Replace the paper pull-in roller holder ASSY.
6	Registration sensor defective	Replace the registration sensor PCB ASSY.
7	ASF motor defective	Replace the ASF drive ASSY.
8	Engine unit defective	Replace the engine unit.
9	Main PCB defective	Replace the main PCB ASSY.

4.2.2 Disc tray not fed in (Error code 91)

User Check

- Insert the disc tray fully.

Step	Cause	Solution
1	Disc tray worn out, deformed, or broken	Replace the disc tray.
2	Foreign materials inside the engine unit	Remove foreign materials.
3	Paper feed motor harness connection failure	Check the connection and reconnect the harness.
4	Switching lever guide defective	Replace the switching lever guide.
5	CR encoder strip stained	Replace the CR encoder strip.
6	CR encoder sensor defective	Replace the carriage PCB ASSY.
7	Disc guide sensor defective	Replace the disc guide sensor ASSY.
8	Pressure roller release sensor defective	Replace the pressure roller release sensor PCB ASSY.
9	Maintenance unit defective	Clean the maintenance unit or replace it.
10	Engine unit defective	Replace the engine unit.
11	Main PCB defective	Replace the main PCB ASSY.

4.2.3 Two or more sheets of paper fed at a time

User Check

- Check that recording paper is loaded correctly in the paper tray.
- Check that the recording paper weight is within the allowable range of each paper type.
- Fan the stack of recording paper well and reload it into the paper tray.
- Clean the paper feed roller.

Step	Cause	Solution
1	Bank ASSY worn out	Replace the bank ASSY.
2	Base pad worn out	Replace the base pad.

4.2.4 Recording paper jam

■ Paper jam in paper tray (Error code 82, 84)

User Check

- Check that recording paper is loaded correctly in the paper tray.
- Adjust the paper guide to match the recording paper size.
- Check if too much paper is loaded in the paper tray.
- Check that the jam clear cover is closed.
- Check that the reccording paper weight is within the allowable range of each paper type.
- Clean the paper feed roller.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Paper feed motor harness connection failure	Check the connection and reconnect the harness.
3	ASF motor defective	Replace the ASF drive ASSY.
4	Paper feed motor defective	Replace the paper feed motor.
5	Registration sensor defective	Replace the registration sensor PCB ASSY.
6	Paper width sensor defective	Replace the carriage PCB ASSY.
7	Main PCB defective	Replace the main PCB ASSY.

■ Paper jam around the platen (Error code 31, 38, 3C, 84)

User Check

- Adjust the paper guide to match the recording paper size.
- Check that the number of sheets of recording paper ejected onto the ejection tray does not exceed the maximum allowable number.
- Check that the reccording paper weight is within the allowable range of each paper type.
- Clean the paper feed roller.

Step	Cause	Solution
1	Foreign materials in the recording paper path or around the maintenance unit	Remove foreign materials.
2	Registration actuator caught on the surrounding parts	Check and reposition the registration actuator.
3	CR encoder strip stained	Replace the CR encoder strip.
4	Pressure roller release sensor defective	Replace the pressure roller release sensor PCB ASSY.
5	Paper feed roller worn out	Replace the engine unit.
6	Inner chute defective	Replace the inner chute ASSY.
7	Engine unit defective	Replace the engine unit.
8	Main PCB defective	Replace the main PCB ASSY.

■ Paper jam around paper ejection parts (Error code 84)

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Registration actuator caught on the surrounding parts	Check and reposition the registration actuator.
3	Paper ejection roller worn out	Replace the engine unit.
4	Main PCB defective	Replace the main PCB ASSY.

■ Paper jam during duplex printing (Error code 0E, 18)

User Check

- Adjust the paper guide to match the recording paper size.
- Check that the reccording paper weight is within the allowable range of each paper type.

Step	Cause	Solution
1	Foreign materials in the recording paper path	Remove foreign materials.
2	Inner chute defective	Replace the inner chute ASSY.
3	Engine unit defective	Replace the engine unit.
4	Main PCB defective	Replace the main PCB ASSY.

4.2.5 **Disc tray jam** (Error code 31, 38, 3C, 84, 90)

User Check

- Remove foreign materials from the surroundings of the jam clear cover.
- Check that the jam clear cover is properly closed.

Step	Cause	Solution
1	Disc tray worn out, deformed, or broken	Replace the disc tray.
2	Foreign materials in the recording paper path or around the maintenance unit	Remove foreign materials.
3	Chute cover not mounted correctly	Reposition the chute cover.
4	Registration actuator caught on the surrounding parts	Check and reposition the registration actuator.
5	CR encoder strip stained	Replace the CR encoder strip.
6	Engine unit defective	Replace the engine unit.
7	Main PCB defective	Replace the main PCB ASSY.

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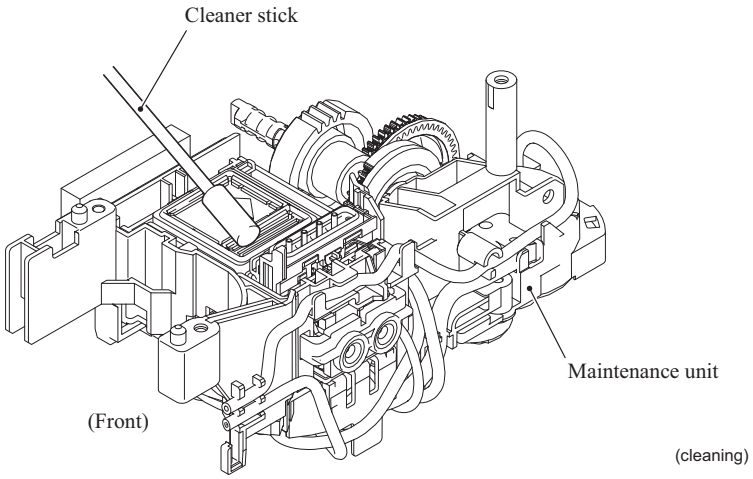
4.2.6 Recording paper stained

User Check

- Check that recording paper is loaded correctly in the paper tray.
- Print on blank paper several times to clean the rollers.
- Clean the paper feed roller.
- Clean the platen.
- Perform head cleaning.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit (see below).
2	Leveler roller (LR) stained	Clean the leveler roller ASSY with Function code 70. Refer to Chapter 5, Section 1.4.25.
3	Paper pull-in rollers heavily contaminated	Replace the paper pull-in roller holder ASSY.
4	Other related rollers heavily contaminated	Replace the engine unit.



4.2.7 Disc tray stained

User Check

- Check whether a stained disc tray is used.
- Make sure that the disc is placed with print side face up.
- Check that the disc is placed correctly on the disc tray.
- Print on several sheets of blank paper to clean the rollers.
- Clean the platen.
- Perform head cleaning.
- Clean the disc tray.
- Check the setting of the disc print area.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	CR encoder strip stained	Replace the CR encoder strip.
3	Engine unit defective	Replace the engine unit.

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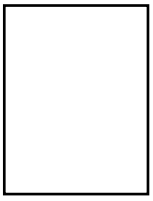
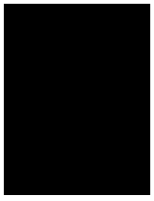
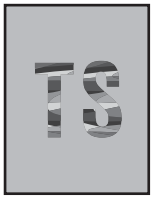
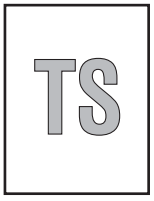
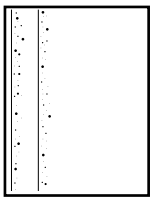
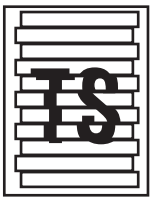
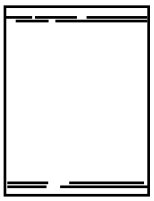
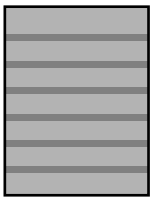
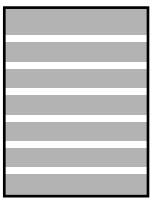
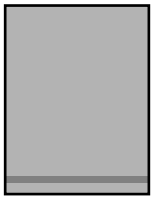
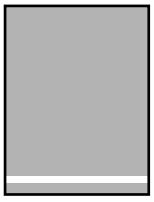
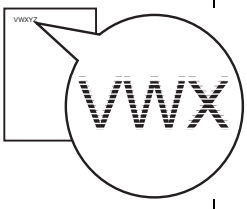
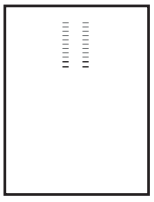
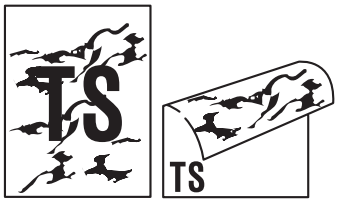
4.3 Print-image Problems

4.3.1 Defective images

Examples of defective images

Completely blank 	All black 	Random color 	Light 	Dark
Straight vertical stripes	Blurred vertical stripes	White vertical streaks	Ink splash 	Ink splash
Print edges not aligned 	Random missing dots	White horizontal streaks	Stained leading edge of 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 having shadows (ghost) 	Traces of paper pull-in rollers 
Dirt on the paper 		Random horizontal stains		

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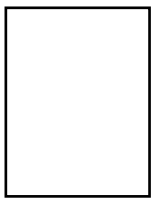
4.3.2 Troubleshooting from image defect

■ Completely blank



User Check

- Check that ink remaining is sufficient.
- Perform head cleaning.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Head property data incorrect	Enter correct head property data. Refer to Chapter 5, Section 1.4.23.
3	Connection failure of the head flexible cable or carriage flat cables	Check the connection and reconnect the cables.
4	Ink supply tubes bent	Replace the ink refill ASSY.
5	Main drain tube bent	Replace the main drain tube.
6	Carriage PCB defective	Replace the carriage PCB ASSY.
7	Maintenance unit defective	Replace the maintenance unit.
8	Print head defective	Replace the head/carriage unit.
9	Main PCB defective	Replace the main PCB ASSY.

■ All black

User Check

- Check whether ink cartridges are properly loaded into the correct color slots.

Step	Cause	Solution
1	"Printing with black ink only" enabled with Function code 88	Set selector 3 on AMS04 to "0" with Function code 88, referring to Chapter 5, Section 1.4.33.
2	Carriage PCB defective	Replace the carriage PCB ASSY.
3	Print head defective	Replace the head/carriage unit.
4	Main PCB defective	Replace the main PCB ASSY.

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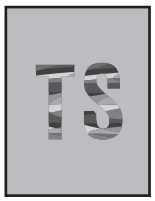
■ Random color

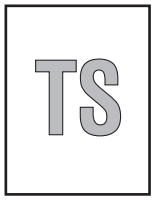


User Check

- Check that ink cartridges are loaded in the correct color slots.
- Perform head cleaning.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Head property data incorrect	Enter the correct head property data. Refer to Chapter 5, Section 1.4.23.
3	Head calibration data not written	Perform head calibration with Function code 02. Refer to Chapter 5, Section 1.4.2.
4	Connection failure of the head flexible cable or carriage flat cables	Check the connection and reconnect the cables.
5	Carriage PCB defective	Replace the carriage PCB ASSY.
6	Maintenance unit defective	Replace the maintenance unit.
7	Print head defective	Replace the head/carriage unit.
8	Main PCB defective	Replace the main PCB ASSY.

■ Light



User Check

- Check whether the recording paper being used is within the specification.
- Check whether the paper type setting is correct.
- Replace the ink cartridge(s).
- Perform head cleaning.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Head property data incorrect	Enter the correct head property data. Refer to Chapter 5, Section 1.4.23.
3	Head calibration data not written	Perform head calibration with Function code 02. 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	Print head defective	Replace the head/carriage unit.
7	Power supply PCB defective	Replace the power supply PCB ASSY.
8	Main PCB defective	Replace the main PCB ASSY.

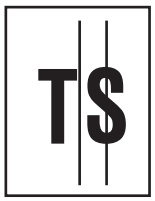
■ Dark

User Check

- Check whether the paper type setting is correct.
- Perform head cleaning.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Head property data incorrect	Enter the correct head property data. Refer to Chapter 5, Section 1.4.23.
3	Head calibration data not written	Perform head calibration with Function code 02. 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	Print head defective	Replace the head/carriage unit.
7	Power supply PCB defective	Replace the power supply PCB ASSY.
8	Main PCB defective	Replace the main PCB ASSY.

■ Straight vertical stripes



User Check

- Check whether the recording paper being used is thicker than the specified limit.
- Perform head cleaning.
- Print on several sheets of blank paper to clean the related rollers.
- Clean the platen.

Step	Cause	Solution
1	Recording paper path contaminated	Clean the recording paper path.
2	CR guide rail dented	Replace the engine unit.

■ Blurred vertical stripes

User Check

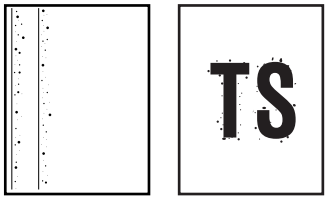
- Check whether the recording paper being used is thicker than the specified limit.
- Perform head cleaning.
- Print on several sheets of blank paper to clean the related rollers.
- Clean the platen.

Step	Cause	Solution
1	Recording paper path contaminated	Clean the recording paper path.
2	Carriage rail dented	Replace the engine unit.

■ White vertical streaks

Step	Cause	Solution
1	CR encoder strip stained or scratched	Replace the CR encoder strip.
2	Carriage rail dented	Replace the engine unit.

■ Ink splash

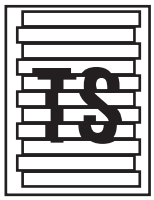


User Check

- Perform head cleaning.
- If ink is old, replace the ink cartridge(s).

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Head property data incorrect	Enter the correct head property data. Refer to Chapter 5, Section 1.4.23.
3	Carriage PCB defective	Replace the carriage PCB ASSY.
4	Maintenance unit defective	Replace the maintenance unit.
5	Print head defective	Replace the head/carriage unit.
6	Power supply PCB defective	Replace the power supply PCB ASSY.
7	Main PCB defective	Replace the main PCB ASSY.

■ Print edges not aligned



User Check

- Check whether the recording paper being used is thicker than the specified limit.

Step	Cause	Solution
1	Vertical print lines not aligned	Adjust vertical print lines with Function code 65. Refer to Chapter 5, Section 1.4.21.
2	Inclination of head not adjusted	Adjust the inclination of the head/carriage unit. Refer to Chapter 4, Section 1.4.
3	CR encoder strip stained	Replace the CR encoder strip.
4	Print 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.

■ Random missing dots

User Check

- Check that ink remaining is sufficient.
- Perform head cleaning.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Carriage PCB defective	Replace the carriage PCB ASSY.
3	Maintenance unit defective	Replace the maintenance unit.
4	Print 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.

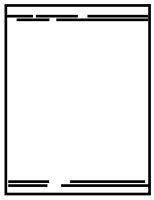
■ White horizontal streaks

User Check

- Check whether the Draft mode is selected.
- Check that ink remaining is sufficient.
- Perform head cleaning.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Inclination of head not adjusted	Adjust the inclination of the head/carriage unit. Refer to Chapter 4, Section 1.4.
3	Head calibration data not written	Perform head calibration with Function code 02. Refer to Chapter 5, Section 1.4.2.
4	Paper feeding correction value not updated	Update the paper feeding correction value with Function code 58. Refer to Chapter 5, Section 1.4.17.
5	PF encoder disc stained or scratched	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
6	Carriage PCB defective	Replace the carriage PCB ASSY.
7	Maintenance unit defective	Replace the maintenance unit.
8	Print head defective	Replace the head/carriage unit.
9	Main PCB defective	Replace the main PCB ASSY.

■ Stained leading edge of recording paper

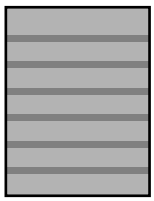


User Check

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

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Paper feeding correction value not updated	Update the paper feeding correction value with Function code 58. Refer to Chapter 5, Section 1.4.17.
3	Head/carriage unit not mounted correctly	Reposition the head/carriage unit.
4	Print head defective	Replace the head/carriage unit.

■ Overlapping lines over the whole page

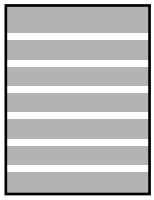


User Check

- Perform head cleaning.

Step	Cause	Solution
1	Inclination of the head not adjusted	Adjust inclination of the head. Refer to Chapter 4, Section 1.4.
2	Head calibration data not written	Perform head calibration with Function code 02. Refer to Chapter 5, Section 1.4.2.
3	Paper feeding correction value not updated	Update the paper feeding correction value with Function code 58. Refer to Chapter 5, Section 1.4.17.
4	PF encoder disc stained or scratched	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
5	Print head defective	Replace the head/carriage unit.
6	Main PCB defective	Replace the main PCB ASSY.

■ Separated lines over the whole page

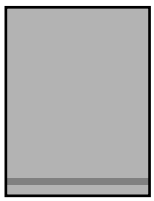


User Check

- Perform head cleaning.

Step	Cause	Solution
1	Inclination of head not adjusted	Adjust inclination of the head. Refer to Chapter 4, Section 1.4.
2	Head calibration data not written	Perform head calibration with Function code 02. Refer to Chapter 5, Section 1.4.2.
3	Paper feeding correction value not updated	Update the paper feeding correction value with Function code 58. Refer to Chapter 5, Section 1.4.17.
4	PF encoder disc stained or scratched	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
5	Print head defective	Replace the head/carriage unit.
6	Main PCB defective	Replace the main PCB ASSY.

■ Overlapping lines at the trailing edge of the recording paper

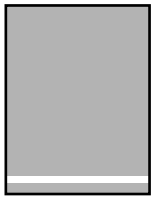


User Check

- Perform head cleaning.

Step	Cause	Solution
1	Paper feeding correction value not updated	Update the paper feeding correction value with Function code 58. Refer to Chapter 5, Section 1.4.17.
2	PF encoder disc stained or scratched	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
3	Engine unit defective	Replace the engine unit.
4	Main PCB defective	Replace the main PCB ASSY.

■ Separated lines at the trailing edge of the recording paper

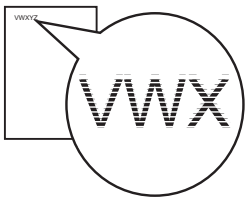


User Check

- Perform head cleaning.

Step	Cause	Solution
1	Paper feeding correction value not updated	Update the paper feeding correction value with Function code 58. Refer to Chapter 5, Section 1.4.17.
2	PF encoder disc stained or scratched	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
3	Engine unit defective	Replace the engine unit.
4	Main PCB defective	Replace the main PCB ASSY.

■ Characters having shadows (ghost)

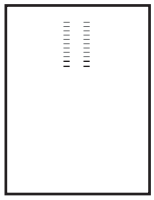


User Check

- Perform head cleaning.

Step	Cause	Solution
1	Paper feeding correction value not updated	Update the paper feeding correction value with Function code 58. Refer to Chapter 5, Section 1.4.17.
2	Vertical print lines not aligned	Align vertical print lines with Function code 65. Refer to Chapter 5, Section 1.4.21.
3	PF encoder disc stained or scratched	Replace the PF encoder disc and clean the flushing guide. Refer to Chapter 3, Section 1.
4	Print head defective	Replace the head/carriage unit.
5	Main PCB defective	Replace the main PCB ASSY.

■ Traces of paper pull-in rollers

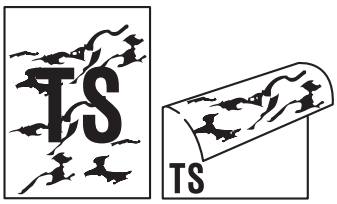


User Check

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

Step	Cause	Solution
1	Paper pull-in rollers defective	Replace the paper pull-in roller holder ASSY.

■ Dirt on the paper



User Check

- Check whether the recording paper being used is not folded.
- Check that recording paper is loaded correctly in the paper tray.
- Perform head cleaning.
- Print on several sheets of blank paper to clean the related rollers.
- Clean the platen.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Leveler roller (LR) stained	Clean the leveler roller ASSY with Function code 70. Refer to Chapter 5, Section 1.4.25.
3	Rollers heavily contaminated	Replace the engine unit.

■ Random horizontal stains

User Check

- Check whether the recording paper being used is within the specification.
- Check that recording paper is loaded correctly in the paper tray.
- Print on several sheets of blank paper to clean the related rollers.
- Clean the platen.

Step	Cause	Solution
1	Maintenance unit contaminated	Clean the maintenance unit. Refer to Chapter 2, Section 4.2.6.
2	Leveler roller (LR) stained	Clean the leveler roller ASSY with Function code 70. Refer to Chapter 5, Section 1.4.25.
3	Rollers heavily contaminated	Replace the engine unit.

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4.4 Software-related Problems

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

4.4.1 Cannot print data

User Check

- Check that the USB cable, LAN cable, USB hub, LAN hub or LAN router is not damaged.
- Check that the correct machine is selected if you have an interface switching device.
- Check the descriptions of the software setting in the user's guide.
- Revert the settings to the factory defaults. (Refer to the user's guide.)
- Check the driver settings.
- Check whether the machine is connected to the LAN with the straight connection.

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

4.5 Network Problems

4.5.1 Cannot make a print through network connection

User Check

- Check the descriptions in the network user's guide.
- Reset the network settings. (Refer to the user's guide.)

Step	Cause	Solution
1	Wireless LAN PCB defective	Replace the wireless LAN PCB ASSY.
2	Main PCB defective	Replace the main PCB ASSY.

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4.6 Document Feeding Problems

4.6.1 Cannot feed documents

User Check

- Set documents fully into the document tray.
- Limit the number of documents to be set in the ADF to a maximum of 15 sheets.

Step	Cause	Solution
1	Document pull-in rollers stained	Clean the document pull-in rollers.
2	Document scanning position actuator out of place	Set the document scanning position actuator into place.
3	ADF motor harness connection failure	Check the connection and reconnect the harness.
4	Document detection sensor harness connection failure	Check the connection and reconnect the harness.
5	Document detection sensor defective	Replace the document detection sensor PCB ASSY.
6	Document separation roller defective	Replace the document separation roller ASSY.
7	ADF motor defective	Replace the ADF motor.
8	Main PCB defective	Replace the main PCB ASSY.

4.6.2 Document double feeding

User Check

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

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

4.6.3 Document jam

■ **Document jam in the ADF cover** (Error code A2, A3, EA)

User Check

- Check if paper particles such as broken document are jammed around the document slot.

Step	Cause	Solution
1	Foreign materials around and inside the ADF cover	Remove foreign materials.
2	Document scanning position sensor harness connection failure	Check the connection and reconnect the harness.
3	Document scanning position sensor defective	Replace the document scanning position sensor PCB ASSY.
4	ADF motor defective	Replace the ADF motor.
5	Main PCB defective	Replace the main PCB ASSY.

■ **Document jam inside the ADF and in document ejection area** (Error code A2, A3, EA)

User Check

- Check whether the document scanned is 148 mm or shorter in length.

Step	Cause	Solution
1	Foreign materials inside the ADF.	Remove foreign materials.
2	Document scanning position actuator caught on the surrounding parts	Check and reposition the document scanning position actuator.
3	Document pressure bar out of place	Set the document pressure bar into place.
4	Document scanning position sensor defective	Replace the document scanning position sensor.
5	Document feed roller ASSY defective	Replace the document feed roller ASSY .
6	ADF drive gears broken	Replace the ADF unit.
7	Main PCB defective	Replace the main PCB ASSY.

4.6.4 Wrinkles on documents

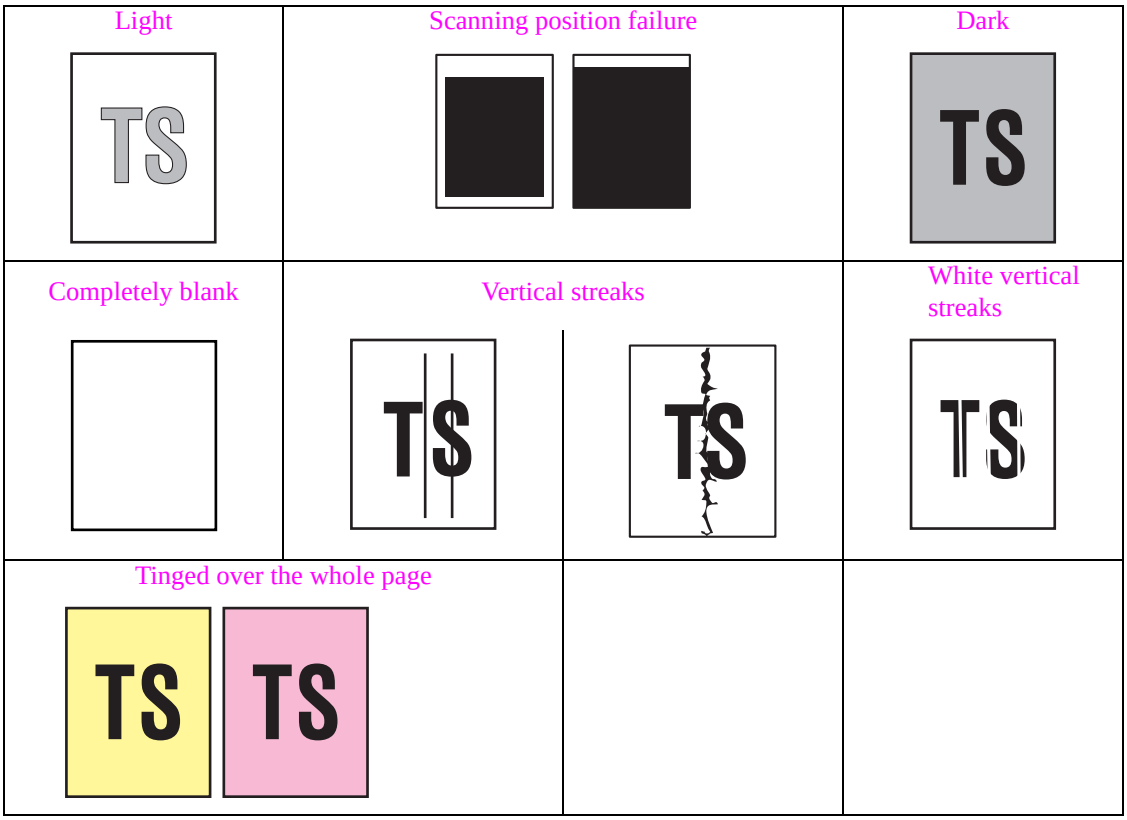
User Check

- Check that documents are loaded correctly in the ADF unit.
- Check that the document guides match the document size.
- Check that documents are not curled.

Step	Cause	Solution
1	Document separation roller worn out	Replace the document separation roller ASSY.
2	Document feed rollers worn out	Replace the document feed rollers.

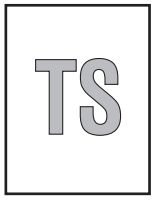
4.7 Scanned-image Problems

4.7.1 Defective images



4.7.2 Troubleshooting from image defect

■ **Light**



User Check

- Check if the contrast is set to "Light."
- Clean the scanner glass or ADF glass.

Step	Cause	Solution
1	White level data defective	Obtain the white level data with Function code 55. Refer to Chapter 5, Section 1.4.16.
2	CIS unit defective	Replace the CIS unit.
3	Main PCB defective	Replace the main PCB ASSY.

■ Scanning position failure

User Check

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

(1) ADF

Step	Cause	Solution
1	Scanning start position out of alignment	Adjust the scanning start position with Function code 54. Refer to Chapter 5, Section 1.4.15.
2	Document scanning position actuator caught on the surrounding parts	Check and reposition the document scanning position actuator.

(2) Document cover

Step	Cause	Solution
1	Scanning start position out of alignment	Adjust the scanning start position with Function code 54. Refer to Chapter 5, Section 1.4.15.
2	CIS unit defective	Replace the CIS unit.

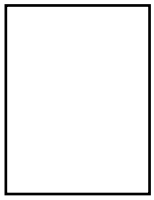
■ Dark

User Check

- Check if the contrast is set to "Dark."
- Avoid placing the machine in an environment where it will be subjected to direct sunlight.

Step	Cause	Solution
1	White level data defective	Obtain the white level data with Function code 55. Refer to Chapter 5, Section 1.4.16.
2	CIS unit defective	Replace the CIS unit.
3	Main PCB defective	Replace the main PCB ASSY.

■ Completely blank

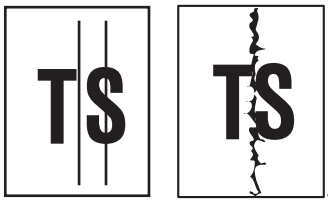


User Check

- Check whether documents are loaded upside down.
- Check that documents are loaded correctly in the ADF.

Step	Cause	Solution
1	White level data defective	Obtain the white level data with Function code 55. Refer to Chapter 5, Section 1.4.16.
2	CIS unit defective	Replace the CIS unit.
3	Main PCB defective	Replace the main PCB ASSY.

■ Vertical streaks



User Check

- Check whether the ADF glass or scanner glass is stained.

Step	Cause	Solution
1	CIS unit defective	Replace the CIS unit.

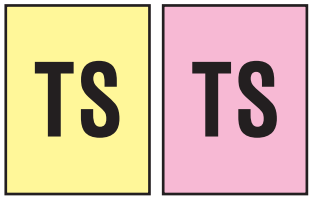
■ White vertical streaks

User Check

- Check whether the ADF glass or scanner glass is stained.

Step	Cause	Solution
1	CIS unit defective	Replace the CIS unit.
2	White reference film stained	Replace the document scanner unit.

■ **Tinged over the whole page**



User Check

- Check whether the ADF glass or scanner glass is stained.

Step	Cause	Solution
1	White level data defective	Obtain the white level data with Function code 55. Refer to Chapter 5, Section 1.4.16.
2	CIS unit defective	Replace the CIS unit.
3	Main PCB defective	Replace the main PCB ASSY.

4.7.3 Other scanning problems

■ CIS unit in the document scanner unit does not move

Step	Cause	Solution
1	Document scanner motor harness connection failure	Check the connection and reconnect the harness.
2	CIS unit not set in place	Reposition the CIS unit.
3	Document scanner motor defective	Replace the document scanner unit.
4	Main PCB defective	Replace the main PCB ASSY.

■ Abnormal noise from document scanner unit

Step	Cause	Solution
1	CIS unit not set in place	Reposition the CIS unit.
2	Document scanner unit defective	Replace the document scanner unit.

■ Abnormal noise from ADF unit

Step	Cause	Solution
1	Abnormal noise generated by the document pick-up roller	Set selector 2 on AMS04 to "1" with Function code 88, referring to Chapter 5, Section 1.4.33.
2	Document separation roller and document pick-up roller, out of grease or not lubricated during reassembly	Apply the specified grease to the document separation roller and document pick-up roller. Refer to Chapter 3, Section 5.
3	ADF drive gears broken	Replace the ADF unit.

■ ADF scanning impossible

Step	Cause	Solution
1	Document scanner motor harness connection failure	Check the connection and reconnect the harness.
2	CIS unit not set in place	Reposition the CIS unit.
3	CIS unit defective	Replace the CIS unit.
4	Document scanner motor defective	Replace the document scanner unit.
5	ADF unit defective	Replace the ADF unit.
6	Main PCB defective	Replace the main PCB ASSY.

4.8 Control Panel Problems

4.8.1 LCD shows nothing

User Check

- Check if the power switch is OFF.
- Load the latest firmware.

Step	Cause	Solution
1	AC cord defective	Replace the AC cord. (Europe/Asia/Oceania only)
2	LCD flat cable connection failure	Check the connection and reconnect the flat cable.
3	Power supply harness connection failure	Check the connection and reconnect the harness.
4	LCD defective	Replace the LCD unit.
5	Power supply PCB defective	Replace the power supply PCB ASSY.
6	Main PCB defective	Replace the main PCB ASSY.

4.8.2 Control panel inoperative

User Check

- Load the latest firmware.

Step	Cause	Solution
1	Rubber key(s) not set in place	Reposition the control panel ASSY.
2	Panel harness connection failure	Check the connection and reconnect the harness.
3	Touch panel alignment off	Adjust the touch panel with Function code 78. Refer to Chapter 5, Section 1.4.30.
4	Rubber key(s) defective	Replace the rubber key(s).
5	Panel PCB defective	Replace the panel PCB ASSY.
6	Main PCB defective	Replace the main PCB ASSY.

4.8.3 Lamps on the control panel do not light

Step	Cause	Solution
1	Rubber key(s) not set in place	Reposition the control panel ASSY.
2	Panel harness connection failure	Check the connection and reconnect the harness.
3	Rubber key(s) defective	Replace the rubber key(s).
4	Panel PCB defective	Replace the panel PCB ASSY.
5	Main PCB defective	Replace the main PCB ASSY.

4.8.4 Touch panel inoperative (For models with touch panel)

Step	Cause	Solution
1	Touch panel alignment off (For models with touch panel)	Adjust the touch panel with Function code 78. Refer to Chapter 5, Section 1.4.30.
2	Touch panel harness connection failure	Check the connection and reconnect the harness.
3	Touch panel defective	Replace the LCD unit.
4	Main PCB defective	Replace the main PCB ASSY.

4.8.5 Display defect on the LCD

Step	Cause	Solution
1	LCD flat cable connection failure	Check the connection and reconnect the harness.
2	LCD defective	Replace the LCD unit.
3	Main PCB defective	Replace the main PCB ASSY.

4.9 Fax Problems

4.9.1 No faxes can be sent

User Check

- Check if the appropriate telephone cord is used or it is plugged in the socket.
- Check the dial mode settings again.

Step	Cause	Solution
1	Connection failure of the MJ (LINE) harness	Check the connection and reconnect the harness.
2	Rubber key(s) defective	Replace the rubber key(s).
3	Panel PCB defective	Replace the panel PCB ASSY.
4	MJ PCB defective	Replace the MJ PCB ASSY.
5	CIS unit defective	Replace the CIS unit.
6	Main PCB defective	Replace the main PCB ASSY.

4.9.2 Speed dialing will not work

User Check

- Check if speed dial or one-touch dial numbers are correctly registered.
- Check if the appropriate telephone cord is used or it is plugged in the socket.
- Check the dial mode settings again.

Step	Cause	Solution
1	Rubber key(s) defective	Replace the rubber key(s).
2	Panel PCB defective	Replace the panel PCB ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

4.9.3 No faxes can be received

User Check

- Check the receive mode setting again.
- Check that recording paper is loaded correctly in the paper tray.
- Check if the appropriate telephone cord is used or it is plugged in the socket.
- Check the machine is off-hook.

Step	Cause	Solution
1	Connection failure of the MJ (LINE) harness	Check the connection and reconnect the harness.
2	MJ PCB defective	Replace the MJ PCB ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

4.9.4 A communications error occurs

User Check

- Check if the telephone cord that comes with the machine is used.

Step	Cause	Solution
1	MJ PCB defective	Replace the MJ PCB ASSY.
2	Main PCB defective	Replace the main PCB ASSY.

4.9.5 Receive mode cannot be changed

User Check

- Turn the BT Call Sign mode OFF.
- Turn the Distinctive ring mode OFF.

Step	Cause	Solution
1	Rubber key connection failure	Replace the rubber key.
2	Panel PCB defective	Replace the panel PCB ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

4.9.6 Caller ID not displayed

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

4.10 Other Problems

4.10.1 The machine cannot be powered on or nothing appears on the LCD

Step	Cause	Solution
1	AC cord defective	Replace the AC cord. (Europe/Asia/Oceania only)
2	Panel harness connection failure	Check the connection and reconnect the harness.
3	LCD flat cable connection failure	Check the connection and reconnect the flat cable.
4	LCD defective	Replace the LCD unit.
5	Panel PCB defective	Replace the panel PCB ASSY.
6	Power supply PCB defective	Replace the power supply PCB ASSY.
7	Main PCB defective	Replace the main PCB ASSY.

4.10.2 When the power is on, the scanner crackles

Step	Cause	Solution
1	CIS flat cable connection failure	Check the connection and reconnect the flat cable.
2	Leveler roller (LR) ASSY not mounted correctly on the head/ carriage unit	Set the LR ASSY into place, using the LR jigs (LR positioning jig and LR fitting jig).
3	CIS unit not set in place	Reposition the CIS unit.
4	CR encoder strip stained	Replace the CR encoder strip.
5	Main PCB defective	Replace the main PCB ASSY.
6	Document scanner unit defective	Replace the document scanner unit.

4.10.3 Memory card/PictBridge does not function

User Check

- Check that the USB cable is not damaged.
- Check the insertion direction of the memory card.
- Check whether the file data or memory card is supported.
- Use any other memory card to check if the memory card functions.
- Check whether a memory card not supported is inserted to the USB flash memory drive.
- Turn the power off and on.
- Format the memory card.
- Load the latest firmware.

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

4.10.4 Cannot read data from memory card loaded in the media slot

User Check

- Check whether the file data is supported.
- Check whether the size of data in the memory card is out of specification.
- Turn the power off and on.
- Format the memory card.
- Load the latest firmware.

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

4.10.5 Internal memory errors

User Check

- Delete the stored data.
- Turn the power off and on.

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

4.10.6 Cannot load firmware

User Check

- Check that the USB cable or LAN cable is not damaged.

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

4.10.7 Secure Function Lock related problems

User Check

- Ask the administrator of the machine to unlock the secure function.

Step	Cause	Solution
1	Cannot unlock the secure function since the user forgot his/her password.	Reset the password with Function code 01. Refer to Chapter 5, Section 1.4.1.
2	Main PCB defective	Replace the main PCB ASSY.

4.10.8 Problems with "Printing with black ink only"

User Check

- Replace ink cartridge(s) that has run out of ink.

Step	Cause	Solution
1	"Printing with black ink only" enabled with Function code 88	Set selector 3 on AMS04 to "0" with Function code 88, referring to Chapter 5, Section 1.4.33.
2	Ink remaining sensor defective	Replace the ink refill ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

4.10.9 Status monitor error "Disc Guide is Open" appears

User Check

- Close the disc guide.

Step	Cause	Solution
1	Disc guide sensor harness connection failure	Check the connection and reconnect the harness.
2	Disc guide sensor defective	Replace the disc guide sensor ASSY.
3	Main PCB defective	Replace the main PCB ASSY.

CHAPTER 3 DISASSEMBLY AND ASSEMBLY

This chapter details procedures for disassembling and reassembling the machine together with related notes. The disassembly order flow provided enables you to see at a glance the quickest way to get to component(s) involved.

At the start of a disassembly job, you check the disassembly order flow that guides you through a shortcut to the target components.

This chapter also covers screw tightening torques and lubrication points to which the specified lubricants should be applied during reassembly jobs.

1 SAFETY PRECAUTIONS AND HANDLING NOTES

To prevent the creation of secondary problems by mishandling, observe the following precautions during maintenance work.

> **WARNING**
>
> Before replacing parts or units, unplug the power cord and telephone line*.
>
> 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 or MJ PCB*, make sure that both the power cord and telephone line* are unplugged from the electrical outlet.
>
> *For MFC only

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

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

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

Before handling the PCBs, touch a metal portion of the machine to discharge static electricity charged in your body. When transporting PCBs, be sure to wrap them in conductive sheets.

When replacing the 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.

(4) Be sure to reinsert self-tapping screws correctly, if removed.

(5) Tighten screws to the torque values listed on page 3-5.

(6) When connecting or disconnecting cable connectors, hold the connector bodies not the wires. If the connector has a lock, always slide the connector lock to unlock it.

(7) Before reassembly, apply the specified lubricant to the specified points. (Refer to Section 5 in this chapter.)

(8) After repairs, check not only the repaired portion but also that the connectors and other related portions function properly before operation checks.

(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.

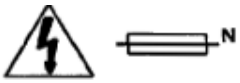
(10) After disconnecting flat cables, check that each cable is not damaged at its end or short-circuited.

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

(11) 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.

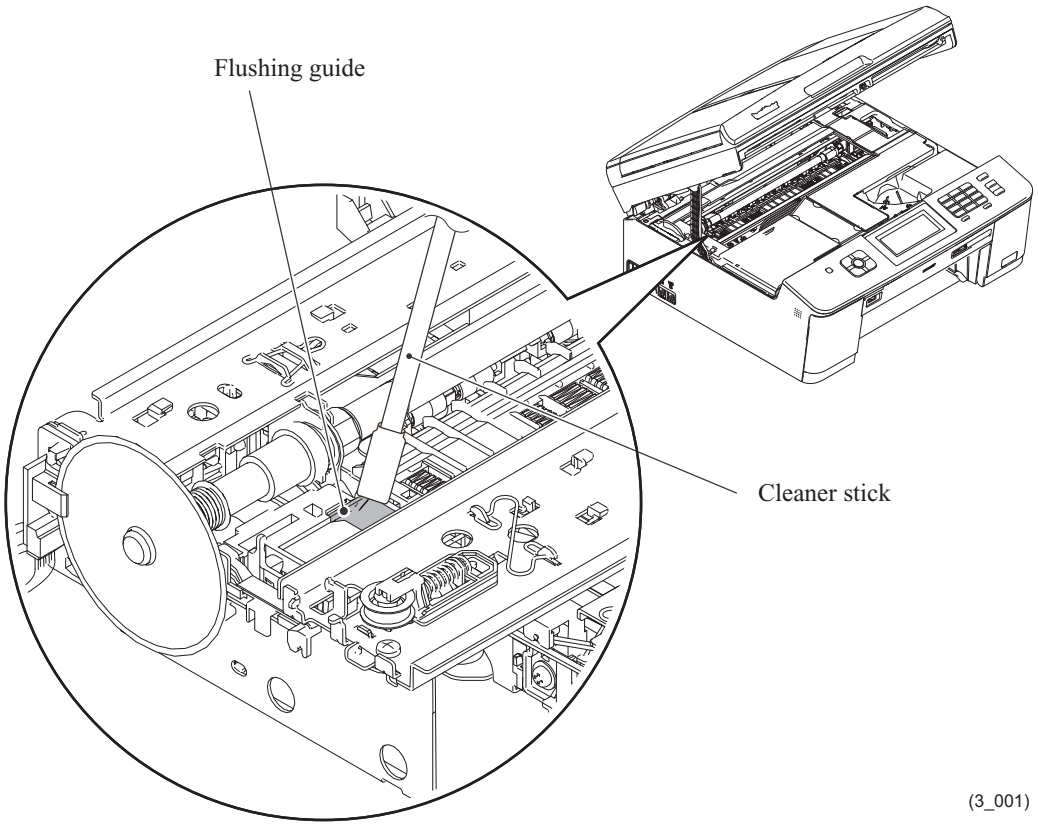
(12)



CAUTION
DOUBLE POLE/NEUTRAL FUSING

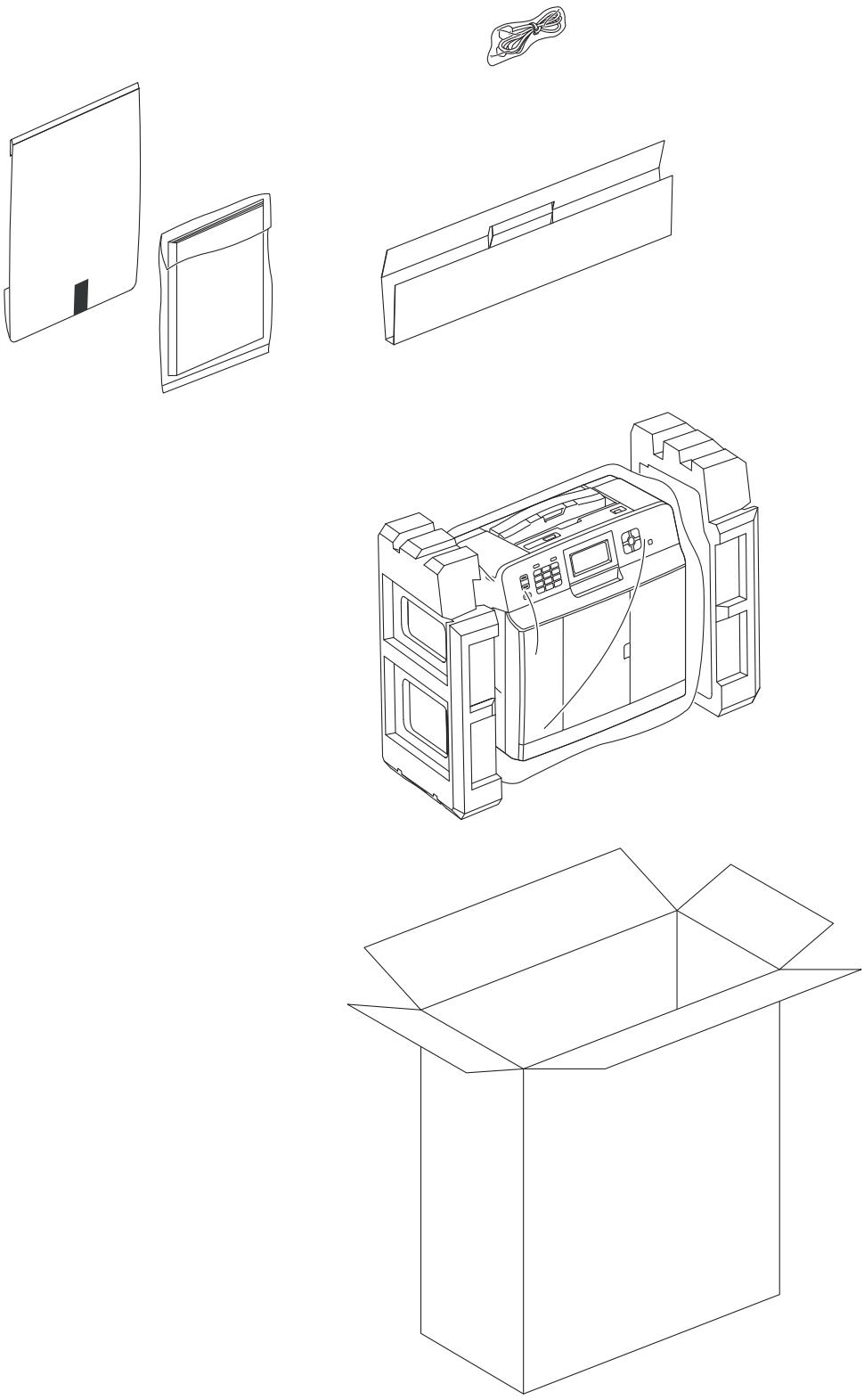
(13) After completion of reassembly, it is recommended that the dielectric voltage withstand test and continuity test be conducted.

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



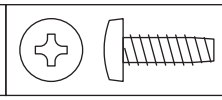
(3_001)

2 PACKING

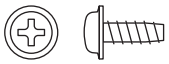
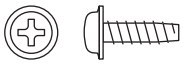


3 SCREW CATALOGUE

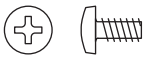
Taptite, bind B

Taptite, bind B M4x12	

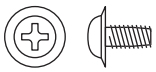
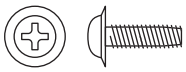
Taptite, cup B

Taptite, cup B M3x8	
Taptite, cup B M3x10	

Screw, bind

Screw, bind M3x6	
Screw, bind M2.6x4	
Screw, bind M2x12	

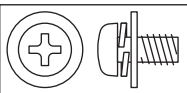
Taptite, cup S

Taptite, cup S M3x6	
Taptite, cup S M3x10	

Screw pan (S/P washer)

Screw pan (S/P washer) M3x6	

Screw pan (washer)

Screw pan (washer) M4x8 DB	

Confidential

4 SCREW TORQUE LIST

Note: For the shape of screws, refer to Section 3 in this chapter.

Page	Location of screw	Screw type	Q'ty	Tightening torque N•m (kgf•cm)
3-49	Grounding wire (for ADF drive unit) *1	Taptite, cup S M3x6	1	0.35±0.05 (3.5±0.5)
3-52	Scanner hinge (onto the upper cover)	Taptite, bind B M4x12 (black)	2	0.80±0.10 (8±1)
3-53	Scanner hinge (onto the document scanner unit)	Taptite, bind B M4x12	5	0.80±0.10 (8±1)
3-63	ADF*1 & document cover ASSY (Together with document reinforcement plate by 2 screws)	Taptite, cup B M3x10	5	0.50±0.10 (5±1)
3-64	Scanner hinge support	Taptite, cup B M3x10	3	0.60±0.10 (6±1)
3-67	Grounding wire (for ADF drive unit)*1	Screw pan (s/p washer) M3x6	1	0.40±0.10 (4±1)
3-69	ADF drive unit*1	Taptite, cup B M3x10	3	0.50±0.10 (5±1)
3-70	Document roller holder	Taptite, cup B M3x8	1	0.50±0.10 (5±1)
3-71	Control panel ASSY	Taptite, cup B M3x10	3	0.40±0.10 (4±1)
	Grounding wire (for touch panel)*2	Taptite, cup S M3x6	1	0.35±0.05 (3.5±0.5)
3-76	LCD unit	Taptite, cup B M3x8	2	0.40±0.05 (4±0.5)
3-78	Front cover (Together with upper cover)	Taptite, bind B M4x12	1	0.85±0.05 (8.5±0.5)
3-79	Upper cover	Taptite, bind B M4x12	4	0.85±0.05 (8.5±0.5)
3-83	Main PCB shield	Taptite, cup S M3x6	4/3*3	0.35±0.05 (3.5±0.5)
3-85	Main PCB	Taptite, cup S M3x6	1/3*4	0.35±0.05 (3.5±0.5)
	Main PCB frame (Together with PS/MJ shield unit)	Screw, bind M3x6	2	0.35±0.05 (3.5±0.5)
3-86	PS/MJ shield unit	Screw, bind M3x6	2	0.40±0.10 (4±1)
3-88	Power supply PCB	Taptite, cup S M3x6	3	0.40±0.10 (4±1)
	MJ shield	Screw, bind M3x6	1	0.40±0.10 (4±1)
	MJ PCB*5	Taptite, cup S M3x6	1	0.40±0.10 (4±1)
	Grounding wire (for AC power cord)*6	Screw, pan (washer), M4x8DB	1	0.60±0.10 (6±1)
3-97	Ink cartridge detection sensor PCB	Taptite, cup B M3x8	1	0.50±0.10 (5±1)
3-103	Engine unit	Taptite, cup B M3x10	4	0.40±0.10 (4±1)
3-108	Maintenance unit	Taptite, cup B M3x10	3	0.60±0.10 (6±1)
		Taptite, cup S M3x6	1	0.80±0.10 (8±1)
3-109	ASF drive ASSY	Taptite, cup B M3x10	1	0.60±0.10 (6±1)
3-110	Carriage motor	Screw, bind M3x6	2	0.60±0.10 (6±1)
3-113	Pressure roller release sensor PCB ASSY	Screw, bind B M2.6x8	1	0.30±0.05 (3±0.5)
3-114	PF encoder sensor PCB ASSY	Screw, bind M2x12	1	0.15±0.05 (1.5±0.5)
3-116	Disc guide cover*7	Taptite, bind B M4x12	2	0.80±0.10 (8±1)

*1 For models with ADF
*2 For models with touch panel
*3 Main PCB B57U081: 4 screws
B57U082: 3 screws
*4 Main PCB B57U081: 1 screw
B57U082: 3 screws
*5 For MFC only
*6 For 200 V series
*7 For disc printing models

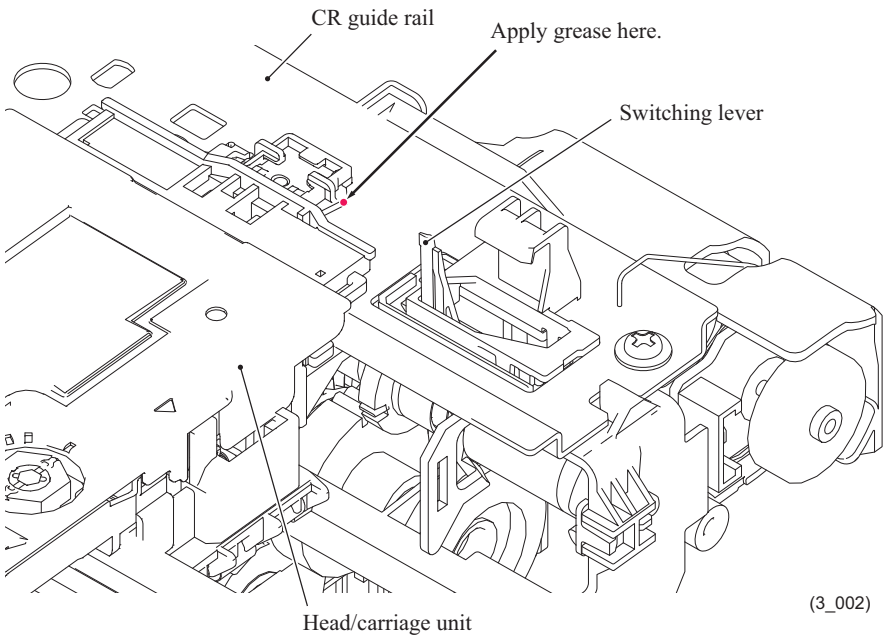
5 LUBRICATION

Apply the specified lubricants to the lubrication points as shown below.

Lubricant type (Manufacturer)	Lubrication points		Lubricant amount per point
Permalub BAN-5 (Nippon Koyu)	Head/carriage unit	1	1.5 mm diameter ball
	Switching lever guide	1	3 mm diameter ball
FLOIL BG1319 (Kanto Kasei)	Leveller roller (LR) ASSY	2	1 mm diameter ball
	CR guide rail (top face)	36	2 mm diameter ball (Total of 116±36 mg)
	CR frame (top face)	36	2 mm diameter ball (Total of 116±36 mg)
	CR frame (inner side of the rear upright edge)	46	2 mm diameter ball (Total of 148±46 mg)
	(inner side of the front upright edge)	46	2 mm diameter ball (Total of 148±46 mg)
	CR guide rail (bottom face)	6	1 mm diameter ball
Molykote EM-30LP (Dow Corning)	Document pick-up roller	2	2 mm diameter ball
	Document separation roller	2	2 mm diameter ball
	Paper pull-in roller L	2	1 mm diameter ball
	Disc guide cover (slideway for the disc guide)	4	1 mm diameter ball
	Outer paper guide (joint with the switchback roller shaft)	2	1 mm diameter ball

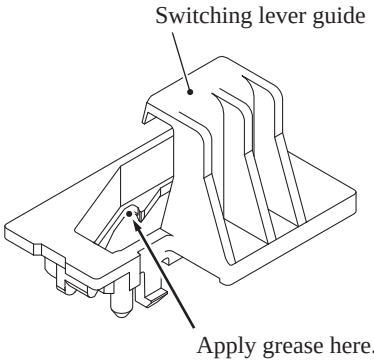
■ Head/carriage unit

Apply a 1.5 mm diameter ball of grease (Permalub BAN-5) to the contact point between the head/carriage unit and the switching lever.



■ **Switching lever guide**

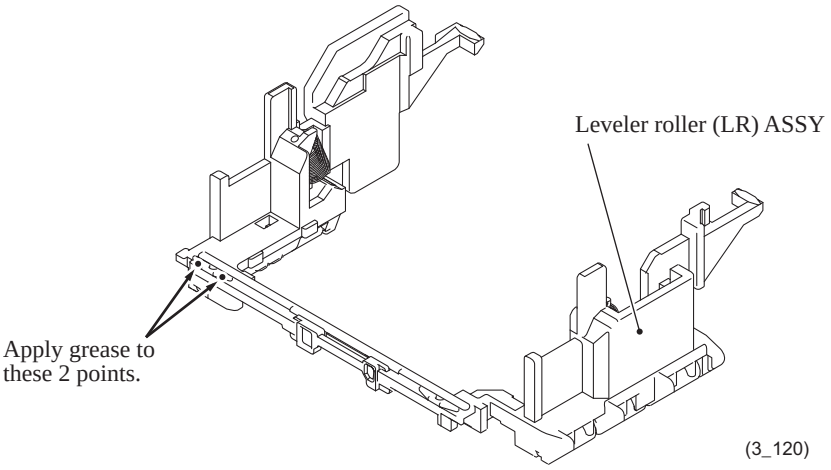
Apply a 3 mm diameter ball of grease (Permalub BAN-5) to the lubrication point below.



(3_117)

■ **Leveller roller (LR) ASSY**

Apply a 1 mm diameter ball of grease (FLOIL BG1319) to each of the lubrication points below.



(3_120)

■ **CR guide rail and CR frame (top face)**

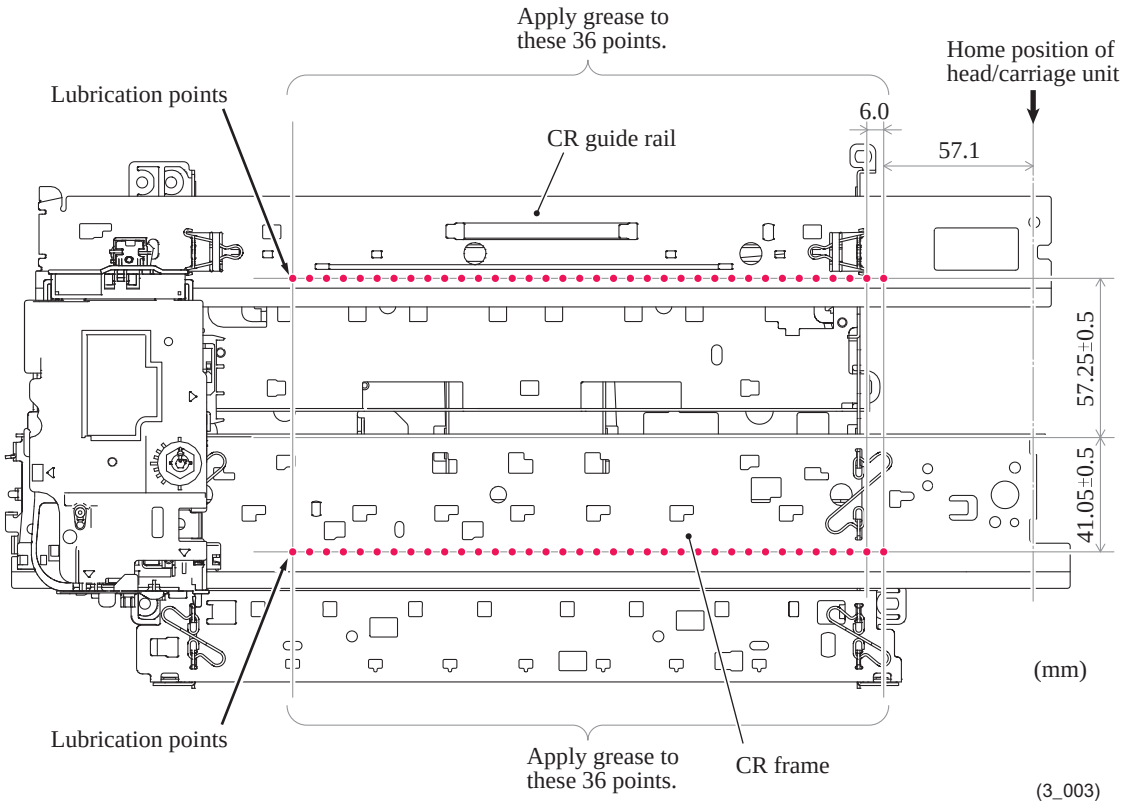
Apply a 2 mm diameter ball of grease (FLOIL BG1319) to each of the 72 lubrication points below.

Lubrication procedure

(1) Move the head/carriage unit to the left end of its travel.

(2) Before applying grease, wipe dust or dirt off the lubrication area with an alcohol soaked cloth.

(3) Move the head/carriage unit from the left to the right ends of its travel to spread the applied grease on the CR guide rail and CR frame.



Confidential

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

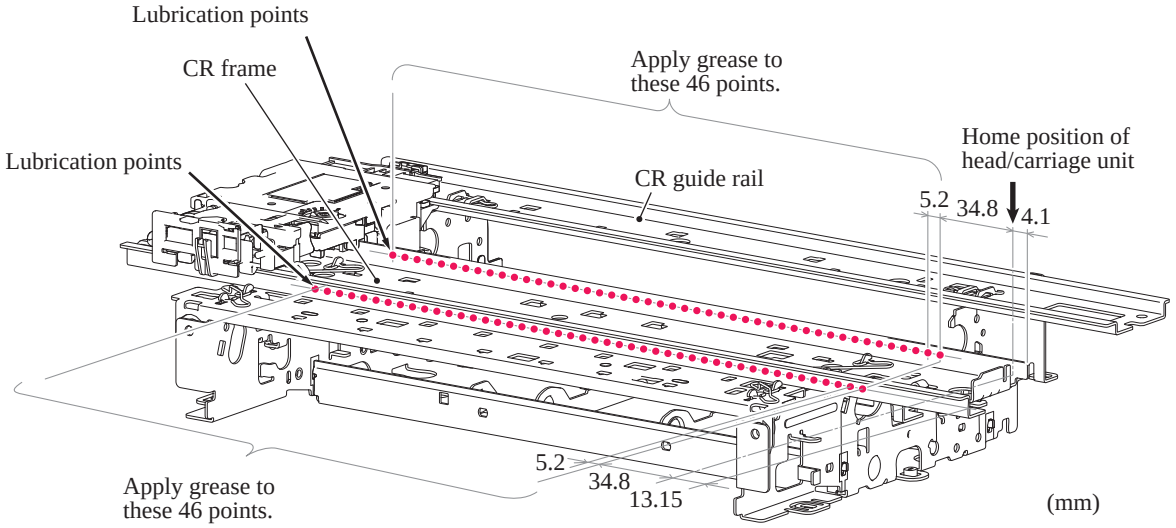
Apply a 2 mm diameter ball of grease (FLOIL BG1319) to each of the 92 lubrication points below.

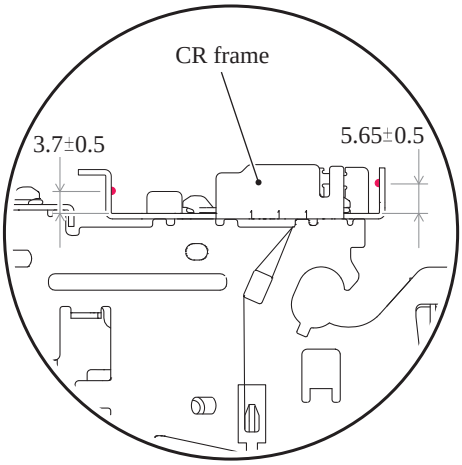
Lubrication procedure

(1) Move the head/carriage unit to the left end of its travel.

(2) Before applying grease, wipe dust or dirt off the lubrication area with an alcohol soaked cloth.

(3) Move the head/carriage unit from the left to the right ends of its travel to spread the applied grease on the CR frame.



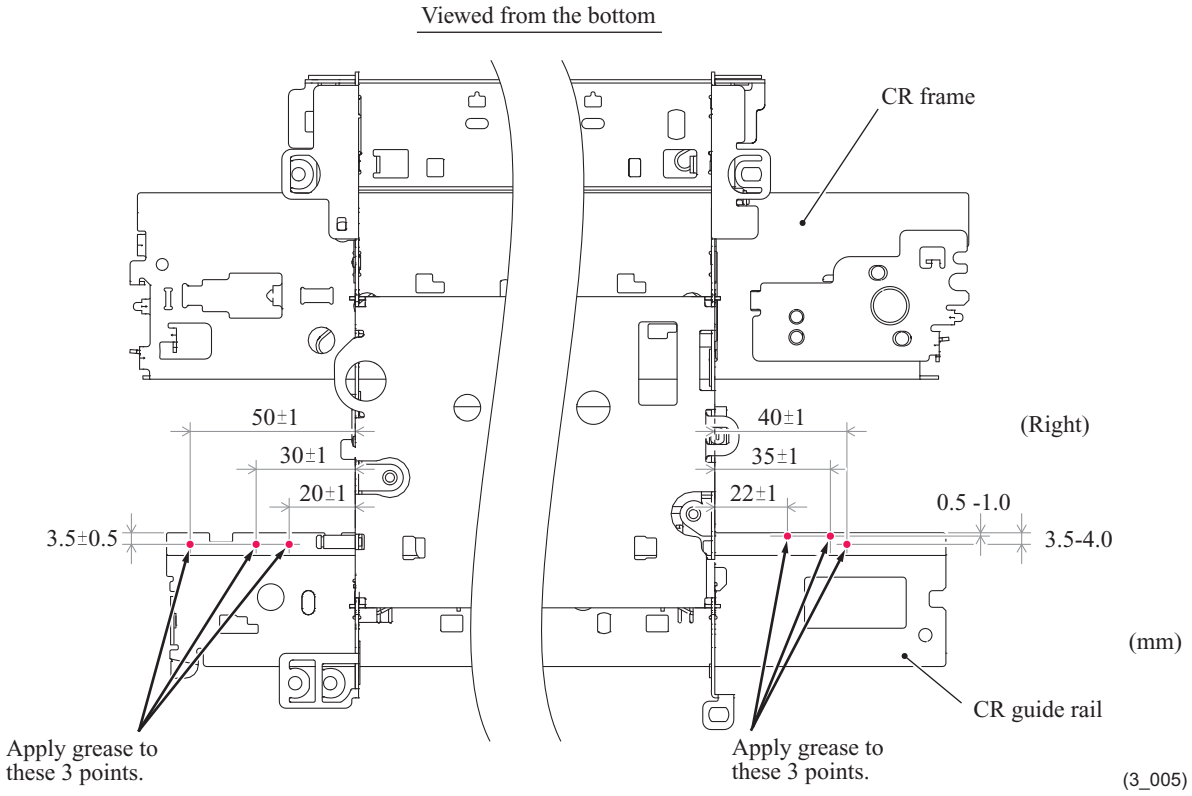


(3_004)

Confidential

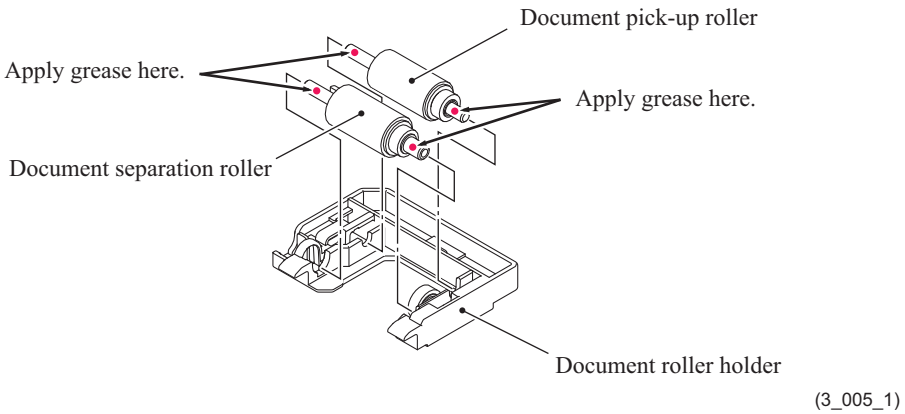
■ CR guide rail (bottom face)

Apply a 1 mm diameter ball of grease (FLOIL BG1319) to each of the lubrication points below.



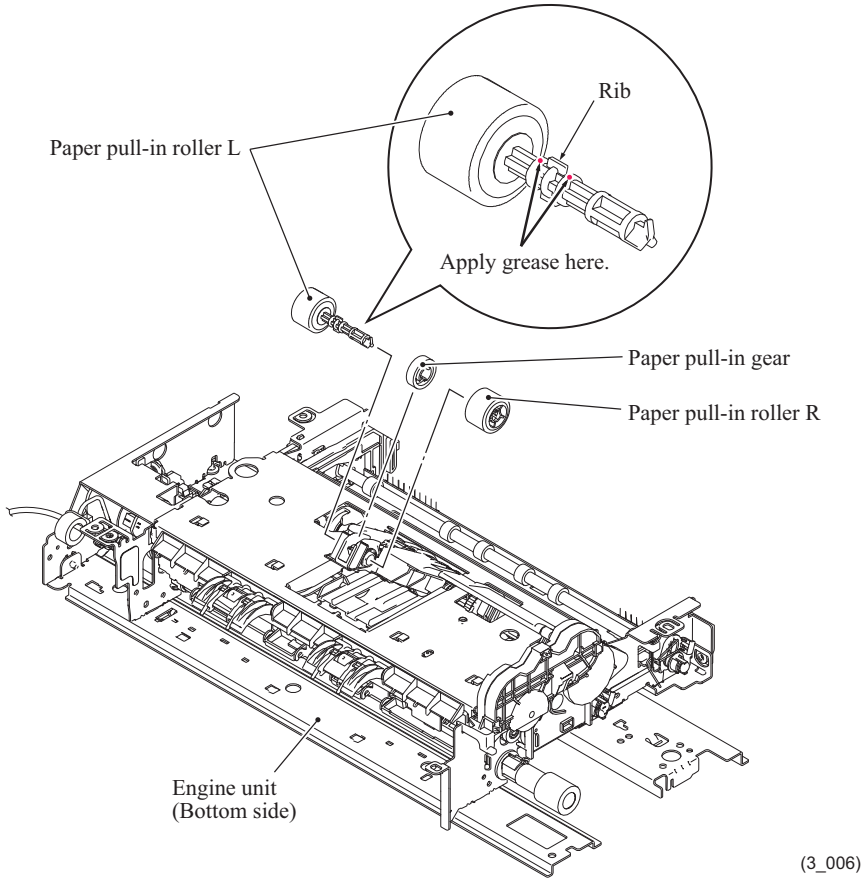
■ Document pick-up roller and document separation roller

Apply a 2 mm diameter ball of grease (Molykote EM-30LP) to each of the lubrication points below.



■ Paper pull-in roller L

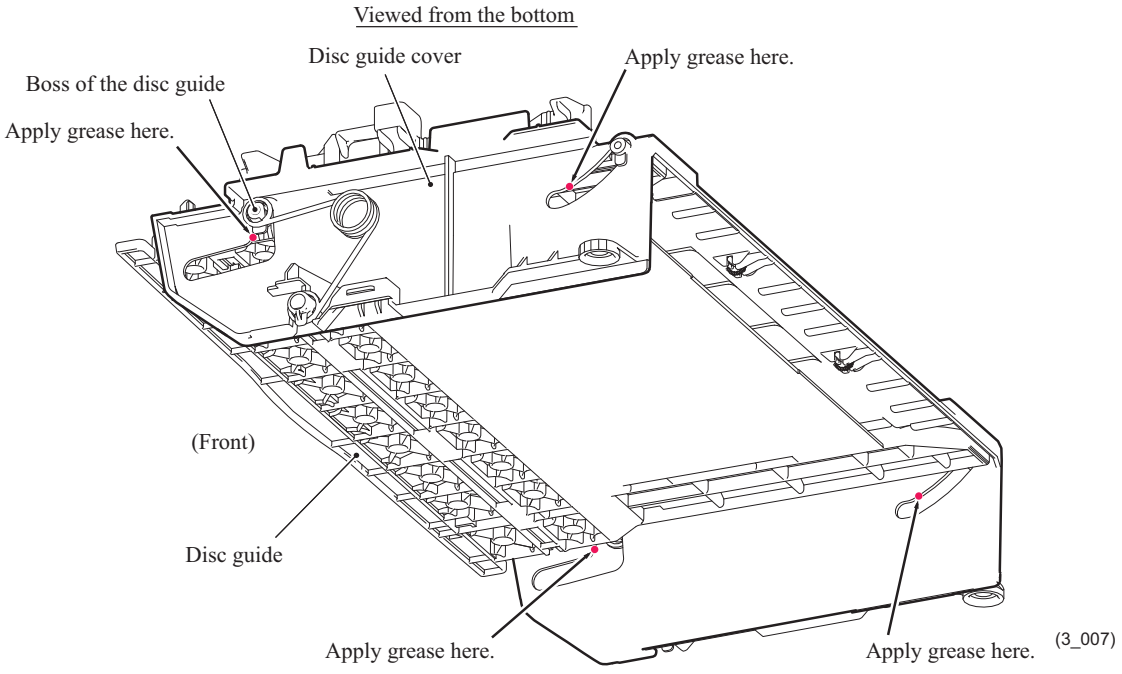
Apply a 1 mm diameter ball of grease (Molykote EM-30LP) to each of the lubrication points below.



(3_006)

■ Disc guide cover

Apply a 1 mm diameter ball of grease (Molykote EM-30LP) to each of the grooves through which the bosses of the disc guide slide.

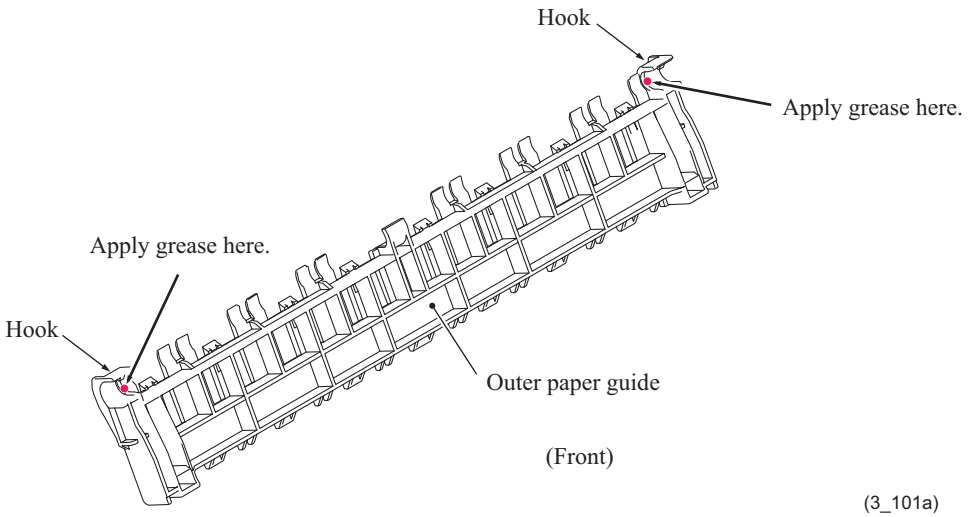


(3_007)

Confidential

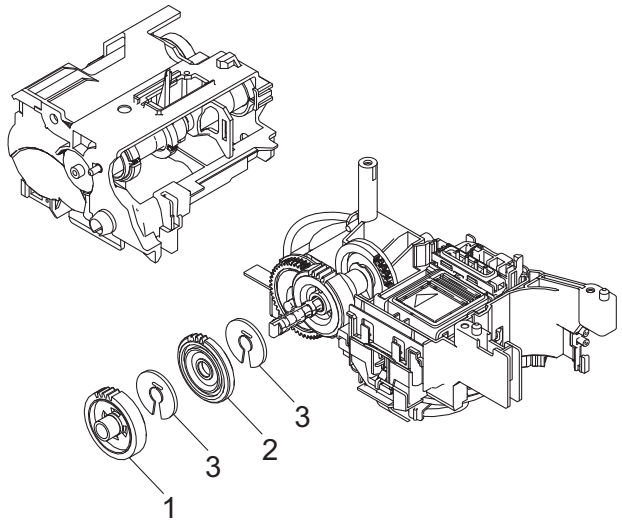
■ Outer paper guide

Apply a 1 mm diameter ball of grease (Molykote EM-30LP) to each of the joints between the outer paper guide and the switchback roller shaft.



6 OVERVIEW OF GEARS

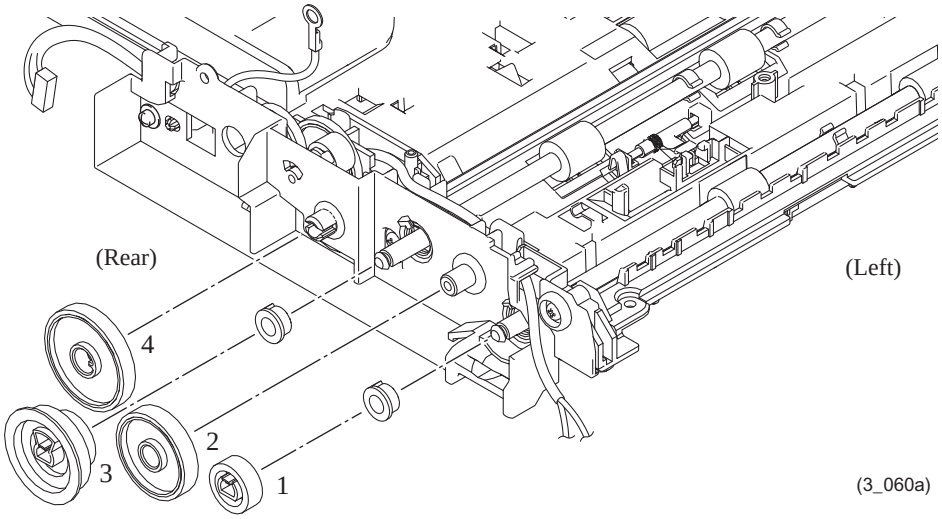
■ Maintenance unit



<Name of gears>

1	LX6797	ASF SWITCHING GEAR A
2	LX3420	ASF SWITCHING GEAR B
3	LX3421	GEAR RETAINING RING

■ ADF drive unit



<Name of gears>

1	LP1419	Gear 31
2	LX7448	Idle gear 56
3	LX7447	Gear 36/54
4	LX7446	Separation roller gear (Outer)

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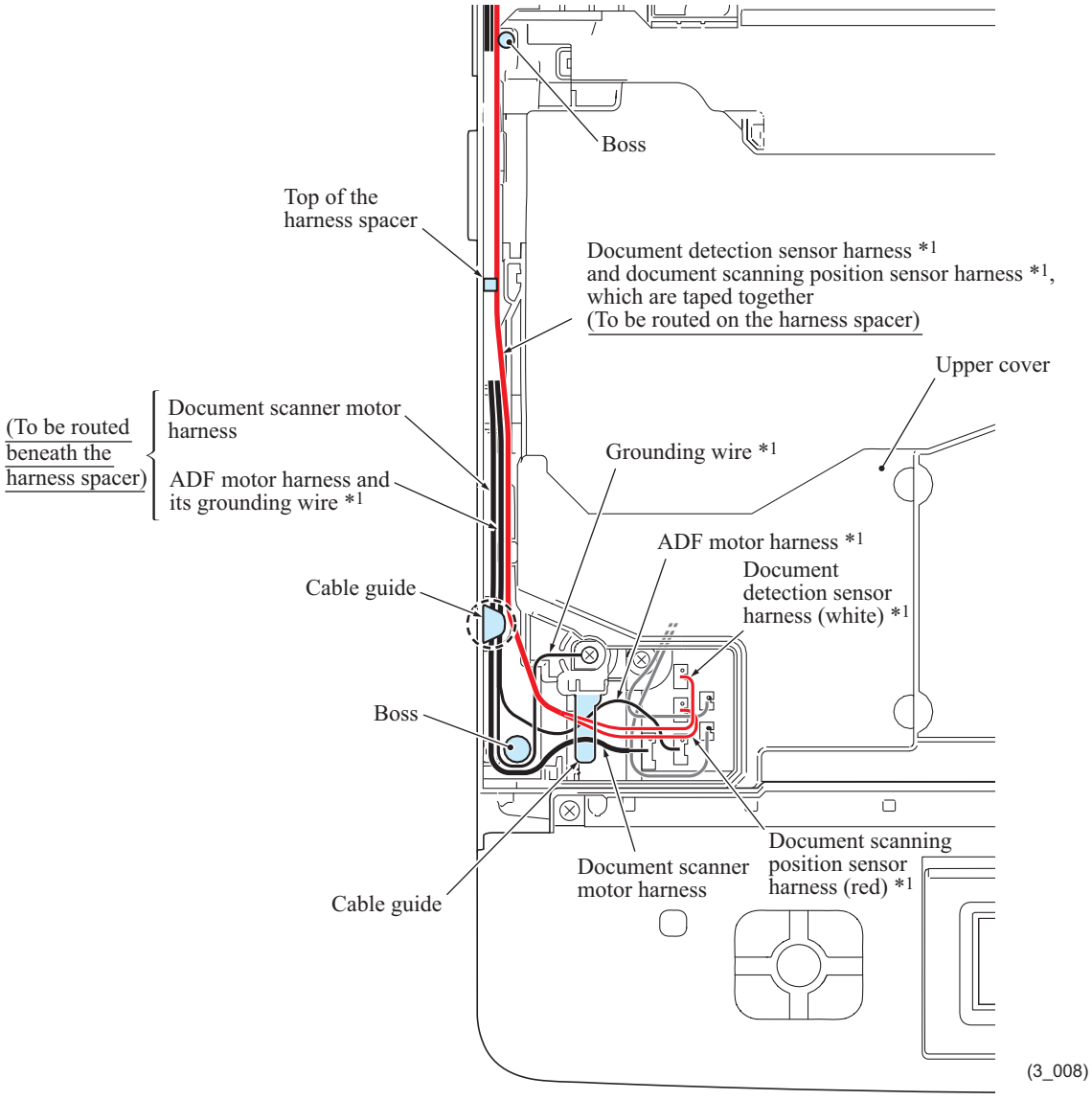
7 ROUTING OF HARNESSES, FLAT CABLES and INK SUPPLY TUBES

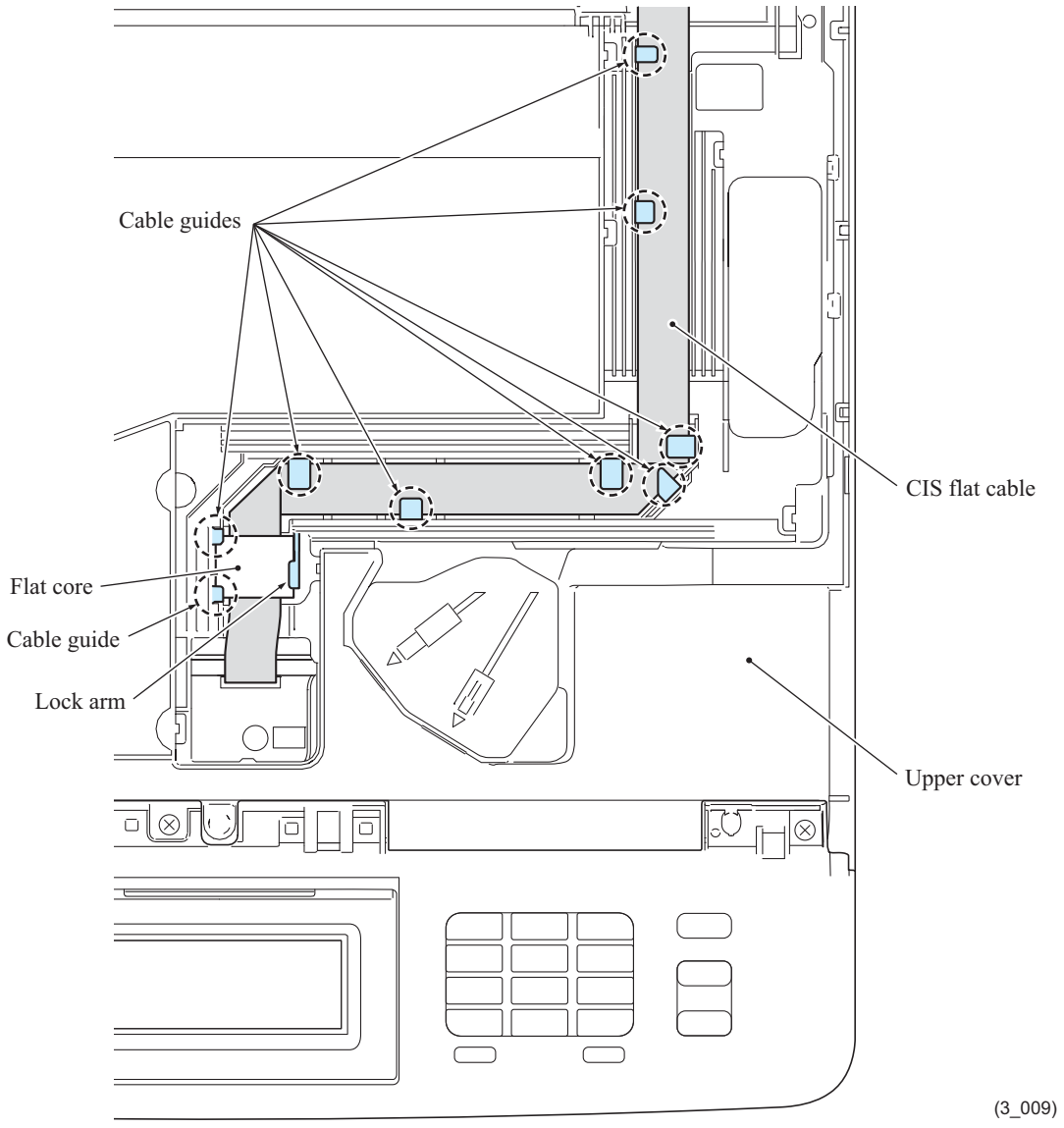
1	**Upper cover:** Document scanner motor harness, ADF motor harness*1 and grounding wire*1, Document detection sensor harness*1, and Document scanning position sensor harness*1

*1 For models with ADF



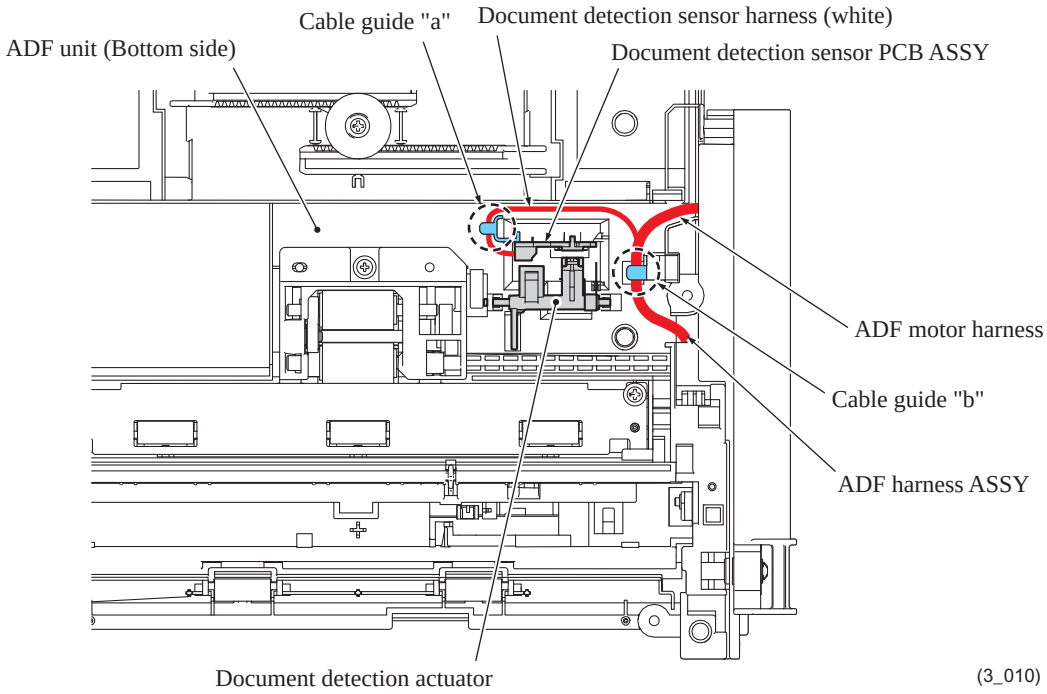
Confidential

2 CIS flat cable



3	**Underside of the ADF unit:** Document detection sensor harness*1 and ADF motor harness*1

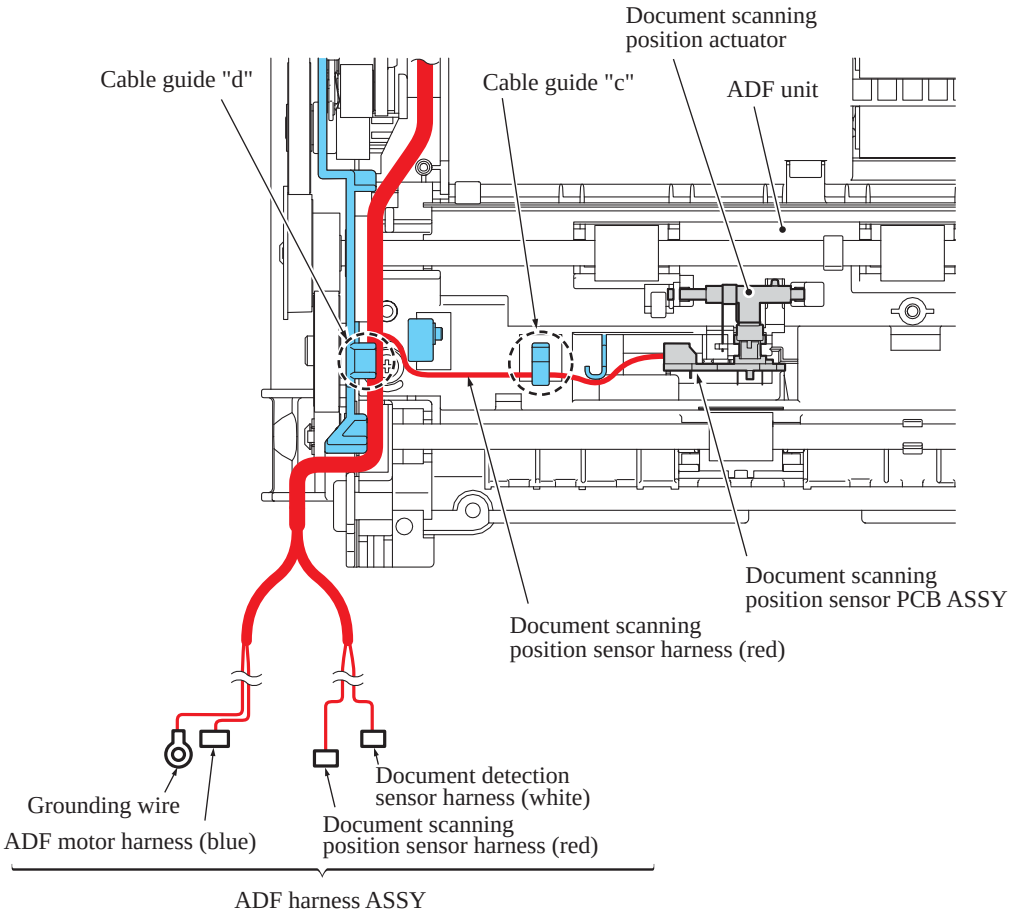
*1 For models with ADF



Confidential

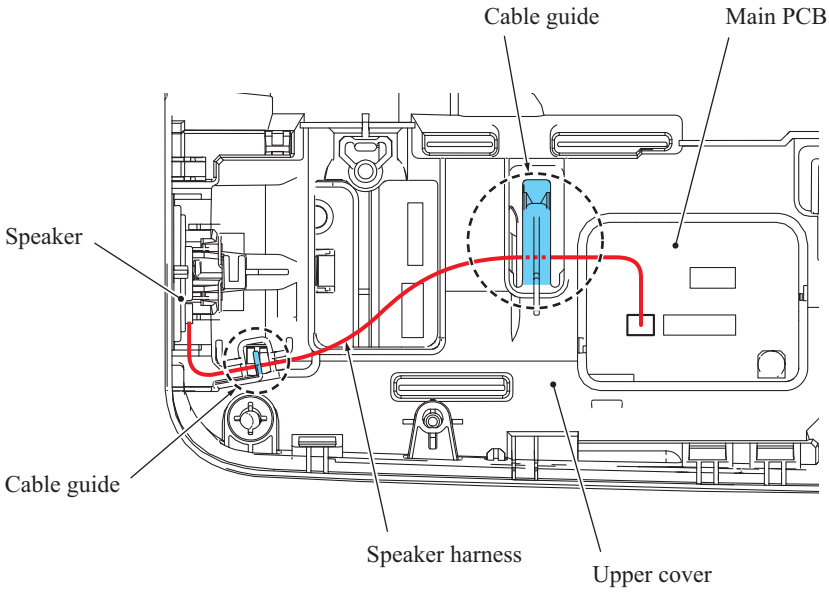
4	**Top side of the ADF unit:** ADF harness ASSY (consisting of ADF motor harness and grounding wire, document detection sensor harness and document scanning position sensor harness)

*1 For models with ADF



Confidential

5	**Upper cover:** Speaker harness

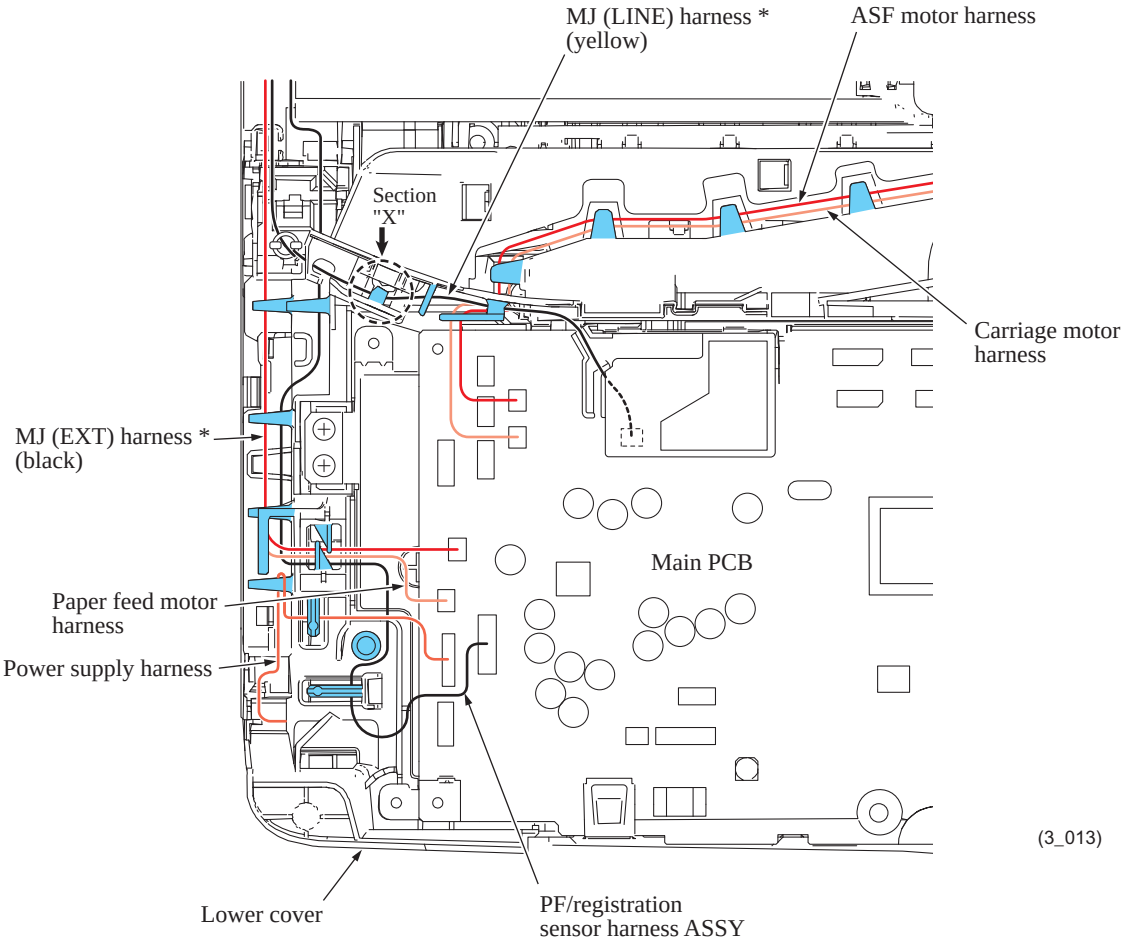


(3_012)

Confidential

6	**Top left side of the lower cover:** ASF motor harness, Carriage motor harness, Paper feed motor harness, Power supply harness, MJ (LINE) harness* and MJ (EXT) harness*

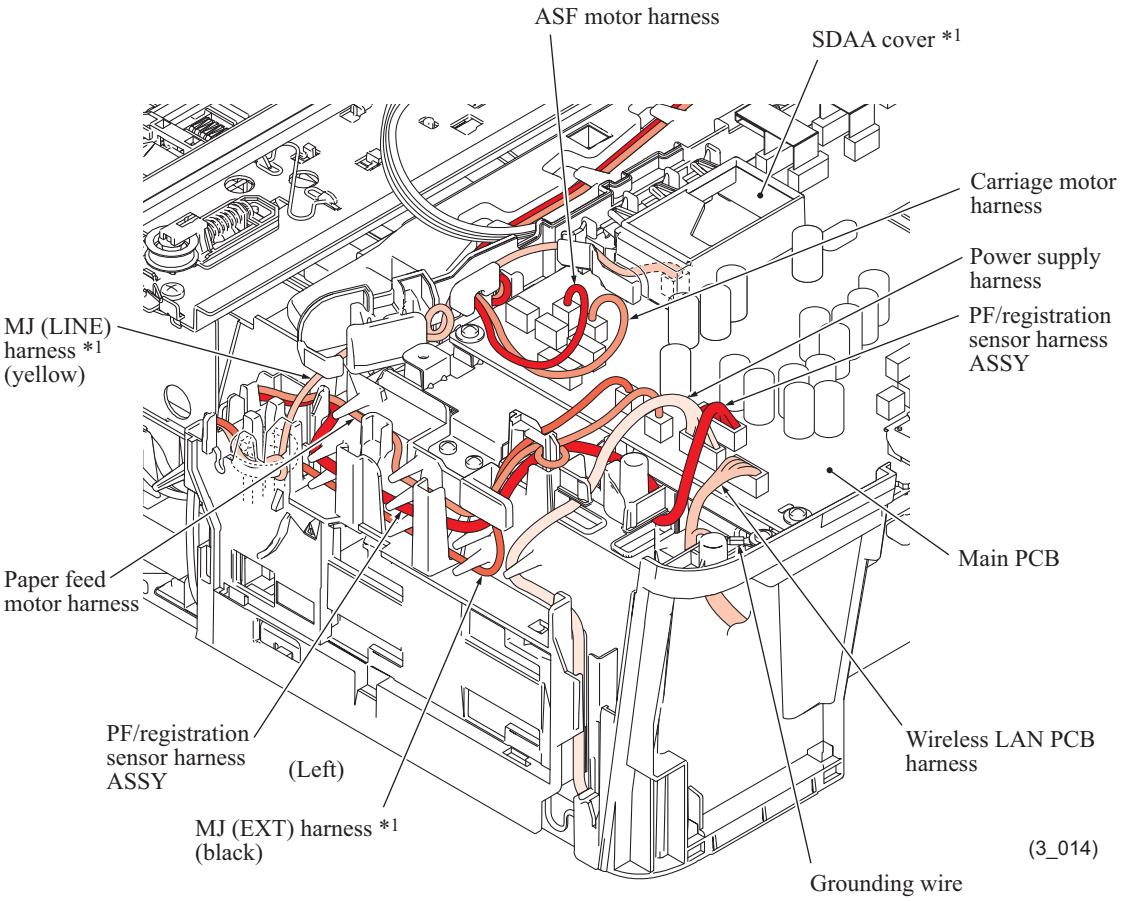
* For MFC only



Note: Gather the slack of the MJ (LINE) harness* around section "X" shown above.

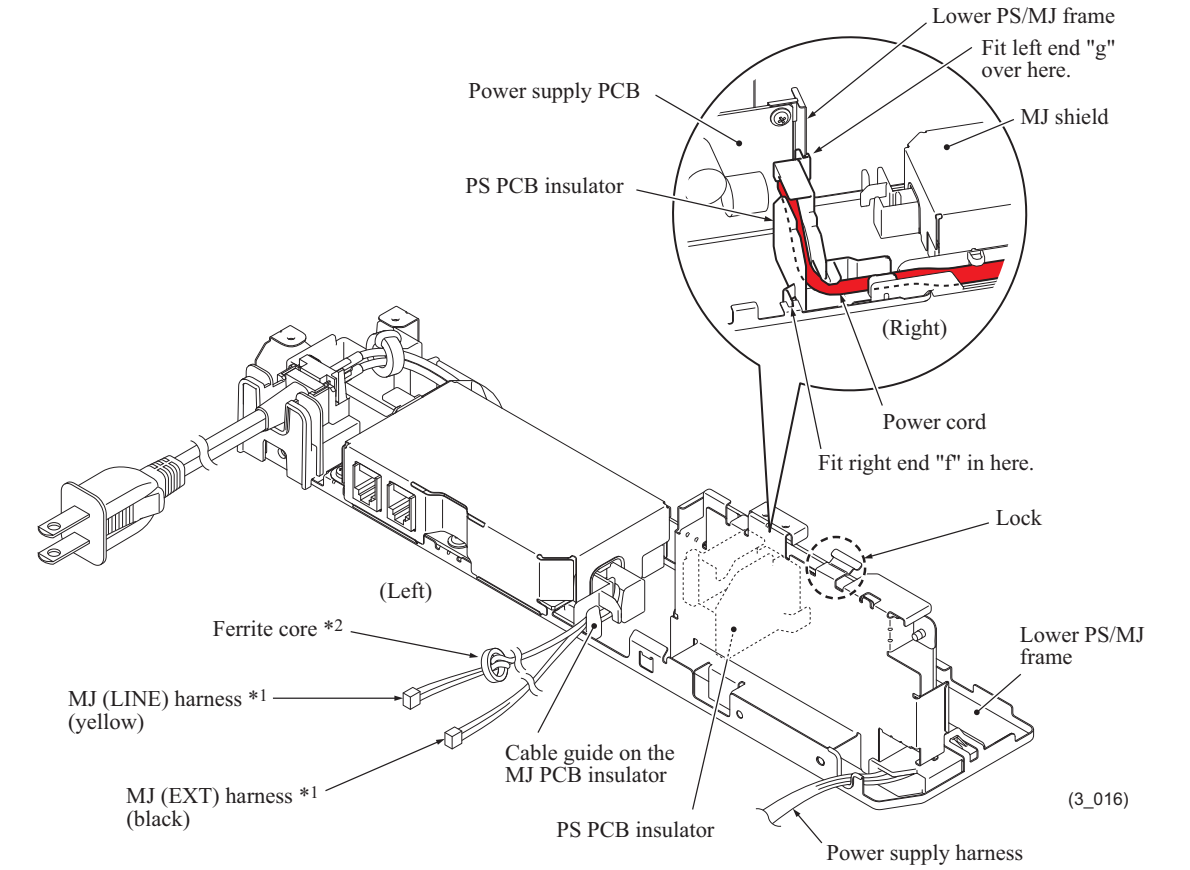
7	**Front left corner of the lower cover:** Wireless LAN PCB harness, PF/registration sensor harness ASSY, Power supply harness, Carriage motor harness, ASF motor harness, Paper feed motor harness, MJ (LINE) harness* and MJ (EXT) harness*

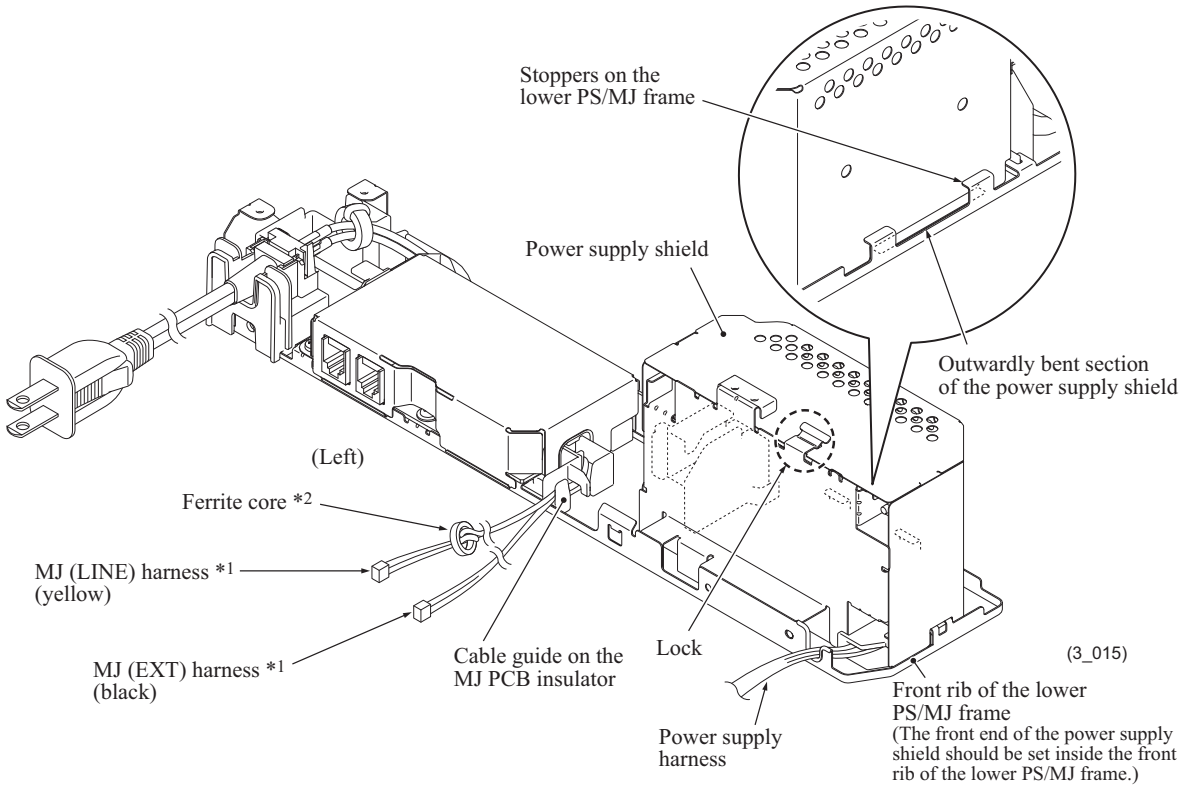
* For MFC only



8 PS/MJ shield unit: MJ (LINE) harness*1, MJ (EXT) harness*1 and Power supply harness

*1 For MFC only
*2 For models with main PCB B57U082

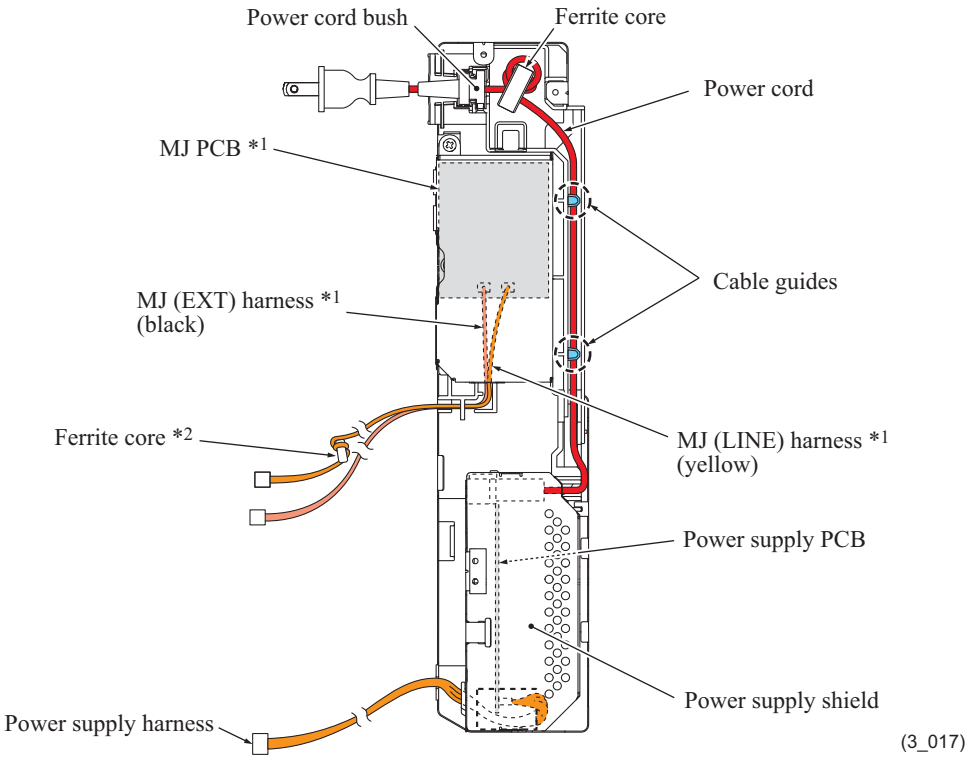




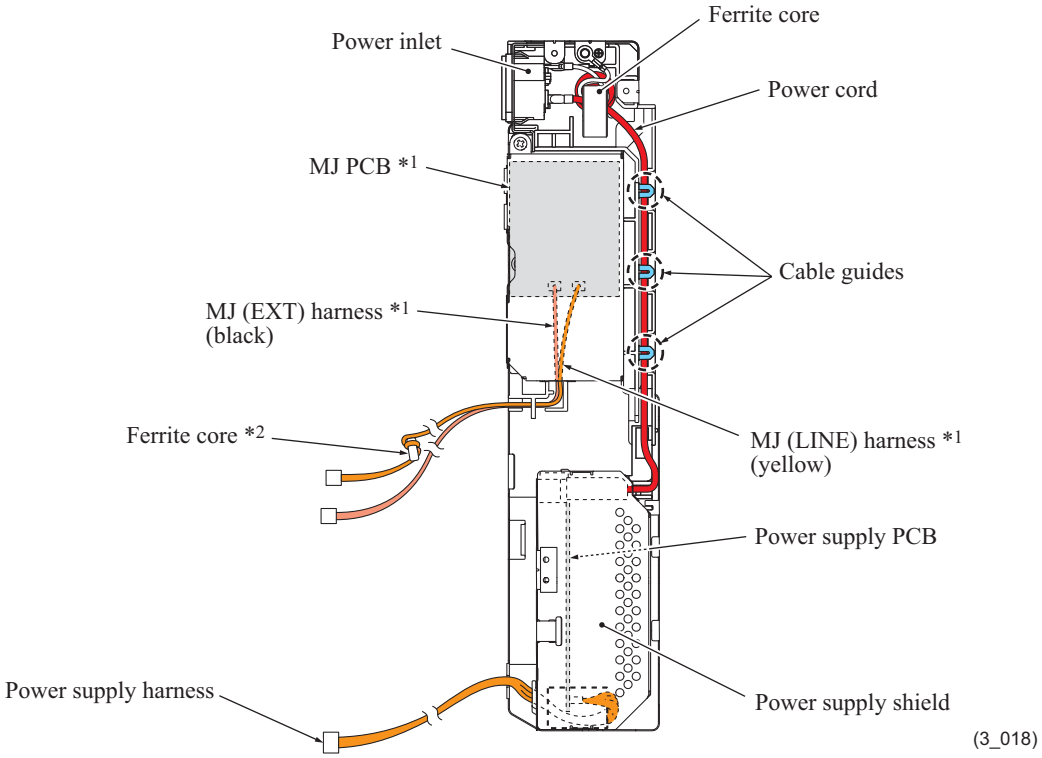
Confidential

*1 For MFC only
*2 For models with main PCB B57U082

100 V series

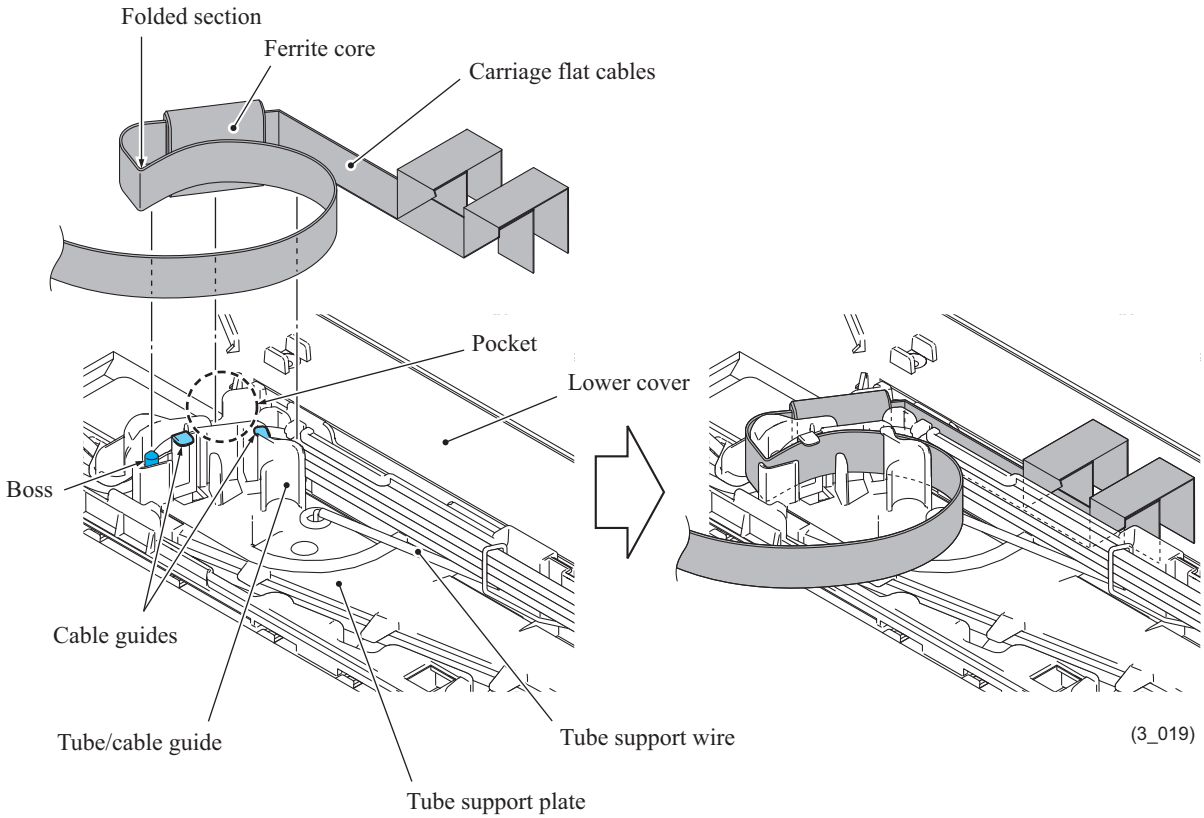


200 V series



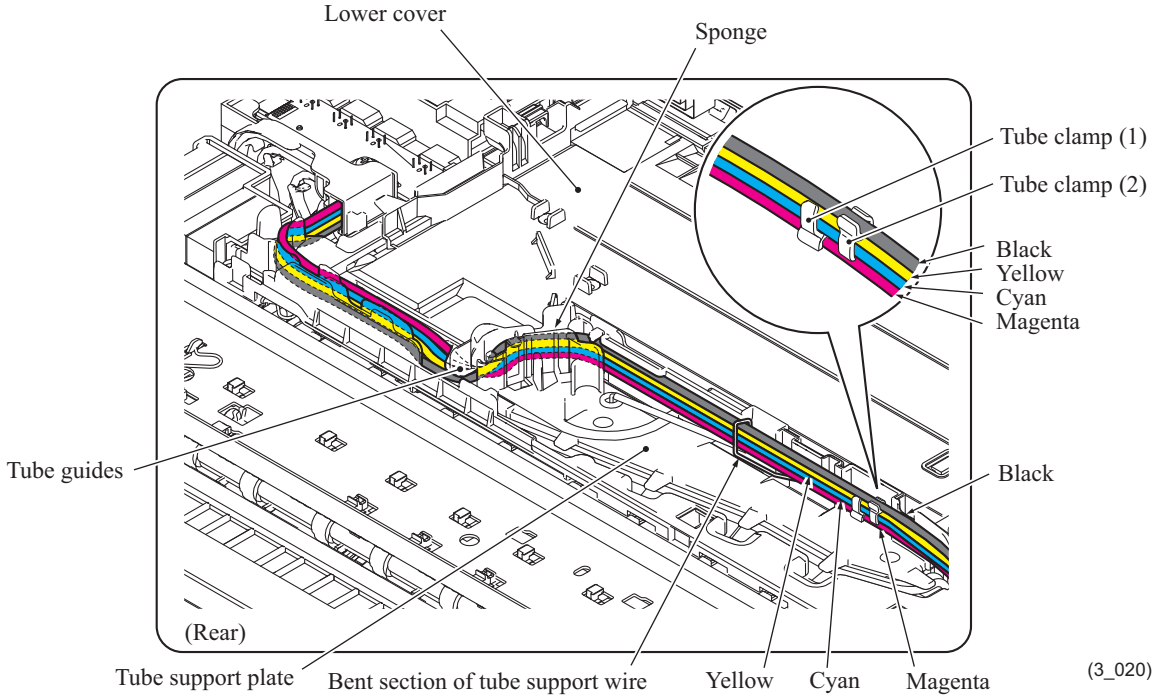
Confidential

9	**On the tube support plate:** Carriage flat cables

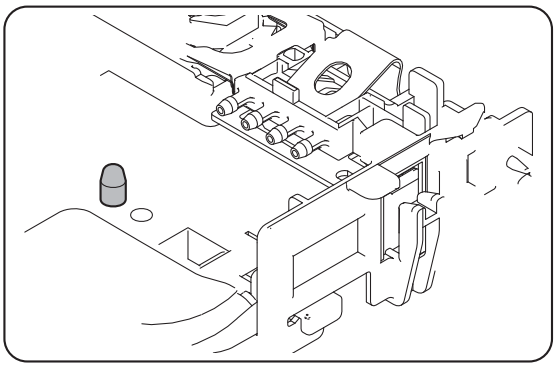


Confidential

10	**On the tube support plate and head/carriage unit:** Ink supply tubes

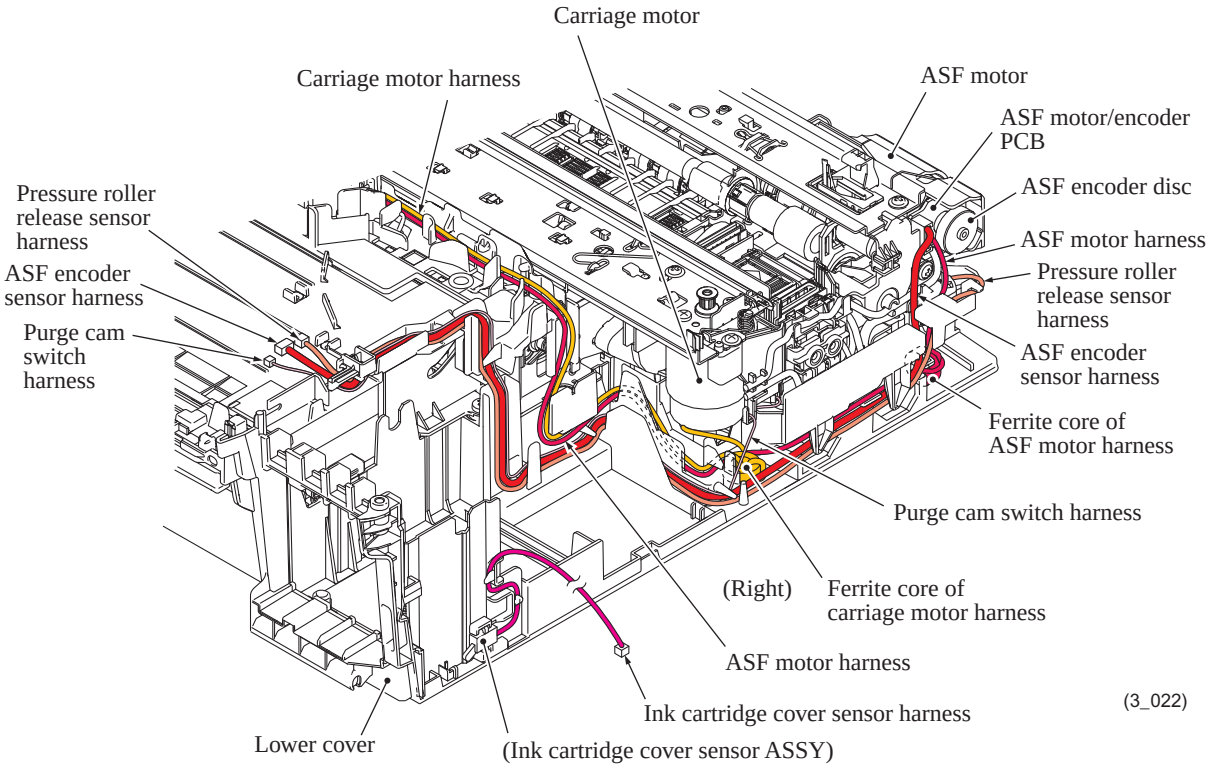


Note: Bind ink supply tubes with two tube clamps. As shown above, align four ink supply tubes in the order of Magenta, Cyan, Yellow, and Black from bottom to up. Set tube clamp (1) on magenta, cyan, and yellow ink tubes from the bottom, and tube clamp (2) on black, yellow, and cyan ink tubes from the top.



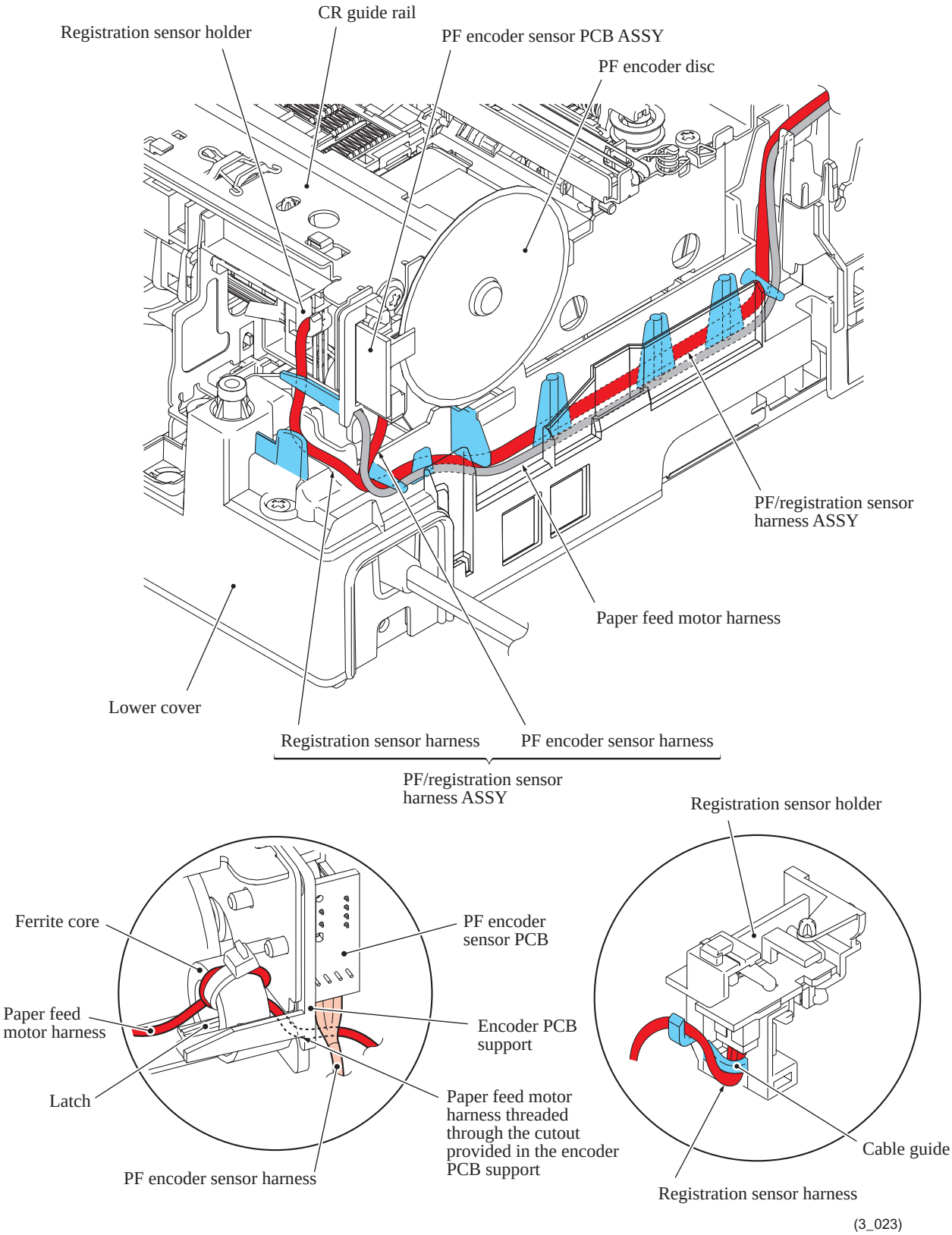
Note: Make sure that all of the four ink supply tubes are routed in front of the guide boss as shown above.

11 Around the right side of the lower cover



Confidential

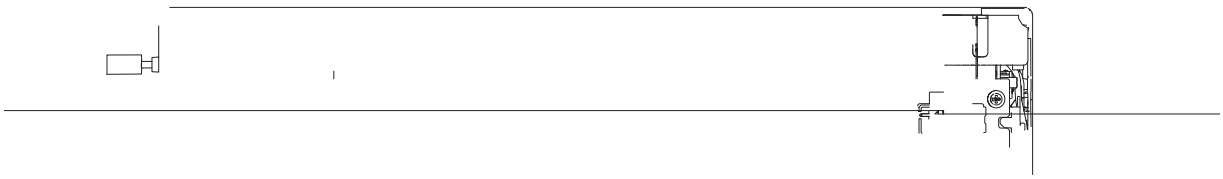
12	**Rear left corner of the lower cover:** PF/registration sensor harness ASSY (consisting of PF encoder sensor harness and registration sensor harness) and Paper feed motor harness



(3_023)

Confidential

13	Whole of the lower cover



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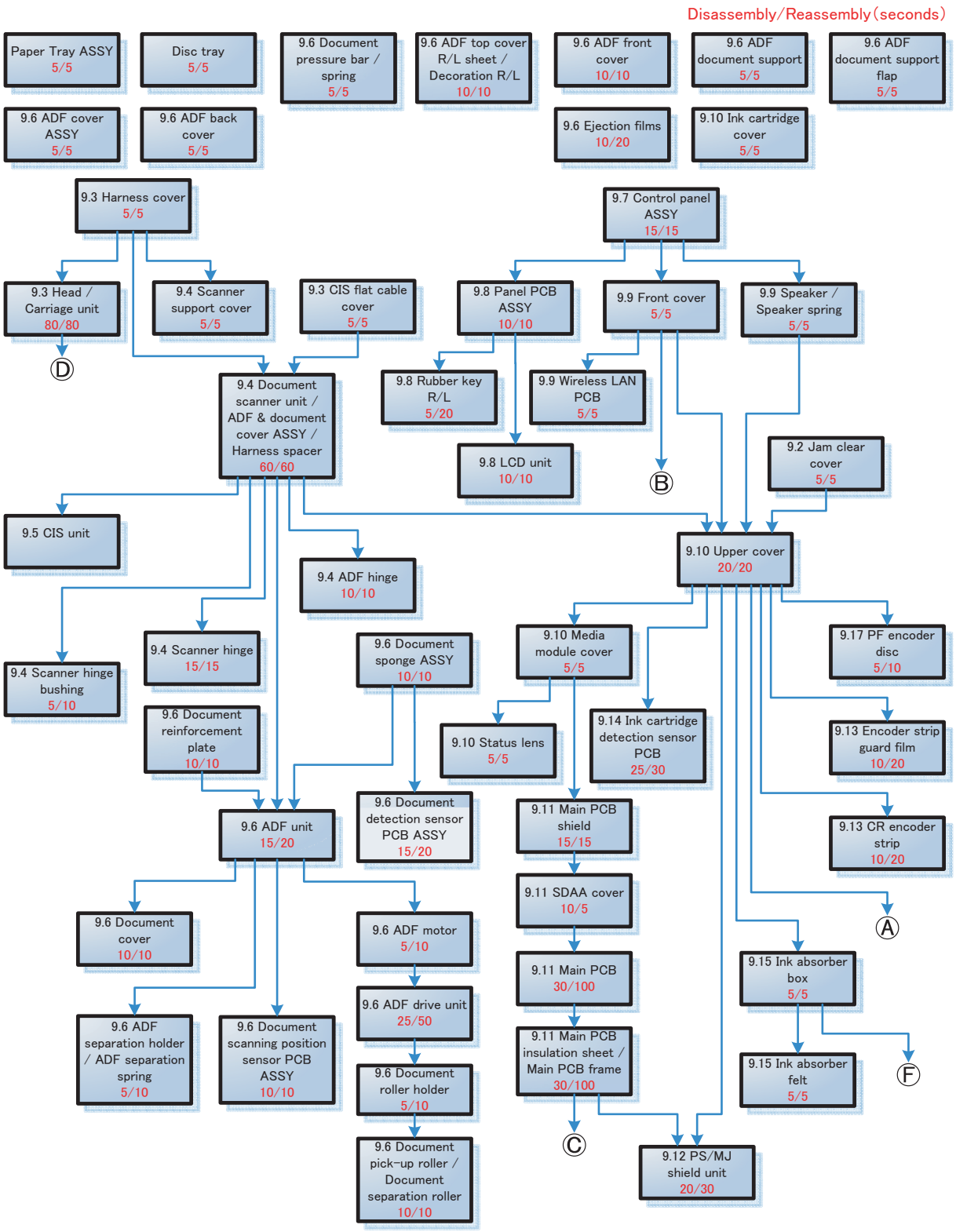
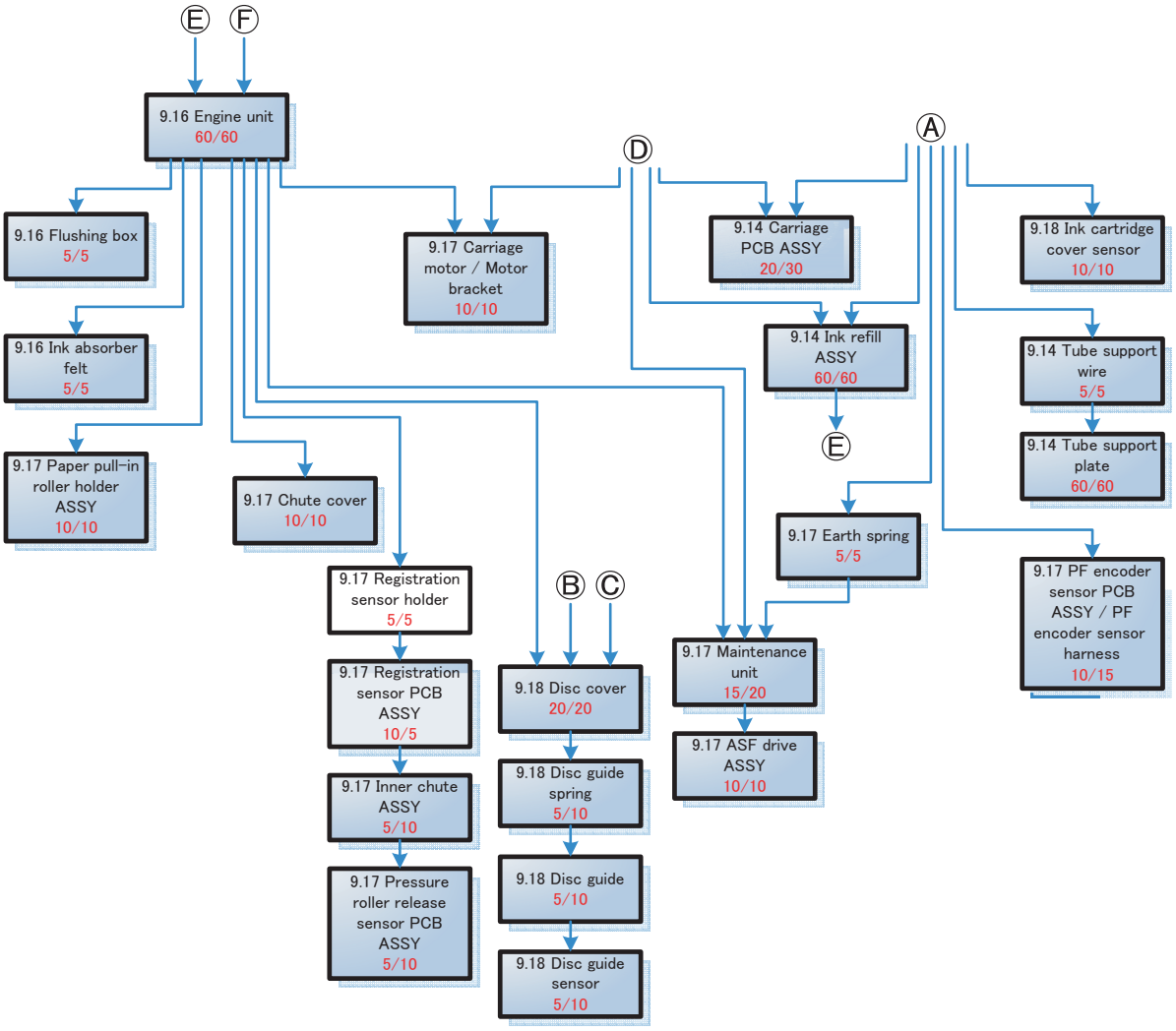
8 DISASSEMBLY FLOW



Confidential



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9 DISASSEMBLY PROCEDURE

9.1 Preparation

[1] Transferring Received FAX Data

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

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

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

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

Transferring faxes to another fax machine

■ **Operating Procedure**

(1) Press the **Stop/Exit** key to interrupt the error (if displayed) temporarily.

(2) Press the **Menu** key.

(3) Press the ▲ or ▼ key to choose "Service."

(4) Press the **OK** key.

TIP: For models with touch panel, you may press the **Service** key.

(5) Press the ▲ or ▼ key to choose "Data Transfer."

(6) Press the **OK** key.

TIP: For models with touch panel, you may press the **Data Transfer** key.

(7) Press the ▲ or ▼ key to choose "Fax Transfer."

(8) Press the **OK** key.

TIP: For models with touch panel, you may press the **Fax Transfer** key.

(9) If "No Data" appears on the LCD, there are no faxes left in the machine’s memory. Then press the **Stop/Exit** key.

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

(10) Press the **Black Start** (**Mono Start**) key.

Transferring faxes to a PC

■ Operating Procedure

The following procedure uses the fax machine and your PC.

(1) Press the **Stop/Exit** key to interrupt the error (if displayed) temporarily.

(2) Press the **Menu** key.

(3) Press the ▲ or ▼ key to choose "Fax."

(4) Press the **OK** key.

TIP: For models with touch panel, you may press the **Fax** key.

(5) Press the ▲ or ▼ key to choose "Setup Receive."

(6) Press the **OK** key.

TIP: For models with touch panel, you may press the **Setup Receive** key.

(7) Press the ▲ or ▼ key to choose "Memory Receive."

(8) Press the **OK** key.

TIP: For models with touch panel, you may press the **Memory Receive** key.

(9) Press the ▲ or ▼ key to choose "PC Fax Receive."

(10) Press the **OK** key.

TIP: For models with touch panel, you may press the **PC Fax Receive** key.

(11) If the "Run PC-Fax on your computer." appears on the LCD, press the **OK** key.

(12) Click **Start** | **All Programs** | **Brother** | **MFC-XXXX** | **PC-FAX Receiving** | **Receive**.

Wait for the **PC-Fax Receiving** dialog box to appear. Confirm the message and click **OK**.

The PC-FAX icon appears in your PC task tray.

(13) Press the ▲ or ▼ key to choose "<USB>" or the PC you run in step (12).

(14) Press the **OK** key.

TIP: For models with touch panel, you may press the **<USB>** key.

(15) Press ▲ or ▼ key to choose "Backup Print: On" or "Backup Print: Off."

(16) Press the **OK** key.

TIP: For models with touch panel, you may press the "Backup Print: On" or "Backup Print: Off."

NOTE: Choosing "Backup Print: On" prints the fax.

(17) Press the **Stop/Exit** key.

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[2] Backing up Machine Information

Before starting repair, the service personnel should back up the following machine information and user setting information into an external memory (memory card or USB flash memory).

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

Note that the following information cannot be backed up.

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

■ Operating Procedure

Refer to Chapter 5, Section 1.4.12 "Backup of Machine Information (Function code 46) (User-accessible)."

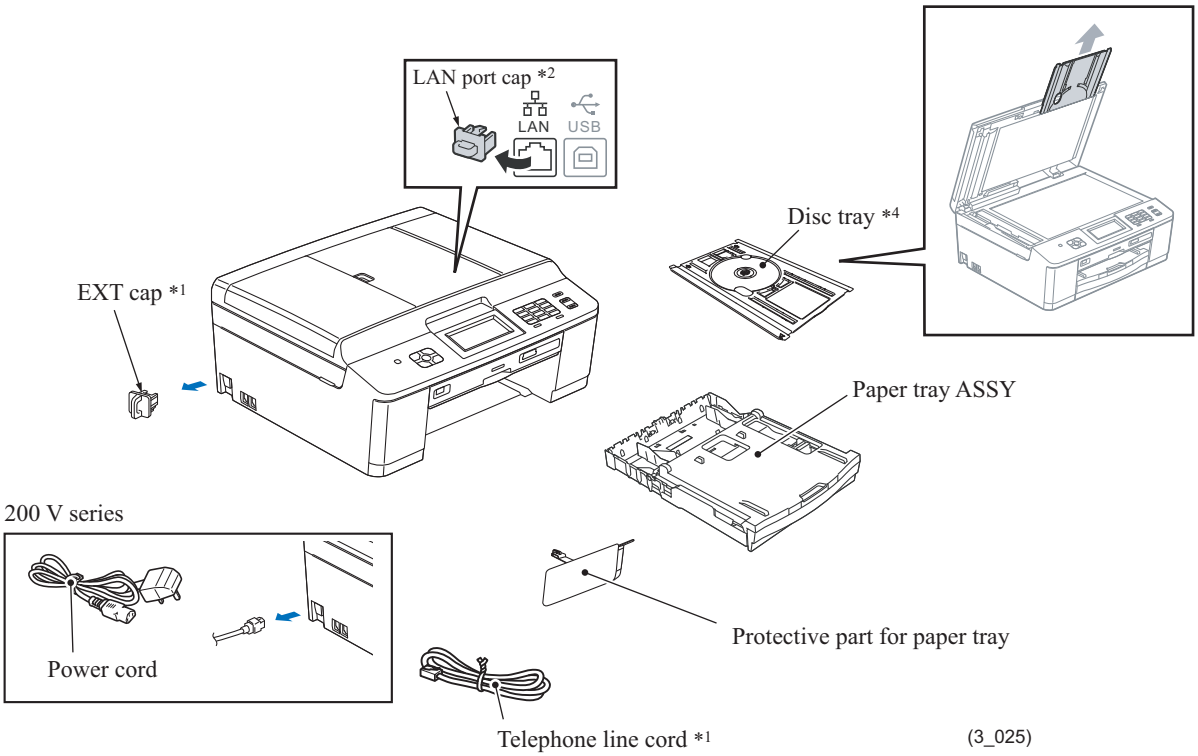
[3] Disconnecting Cables and Removing Accessories

(1) Disconnect the following:
- Power cord from the electrical outlet (or from the machine in the case of 200 V models)
- Modular jack of the telephone line*1
- USB cable, if connected
- LAN cable*2, if connected (if not connected, remove the LAN port cap*2)
- USB digital camera cable or USB flash memory drive*3, if connected
- Modular jack of the external telephone set from the external telephone line jack*1, if connected (if not connected, remove the EXT cap*1)

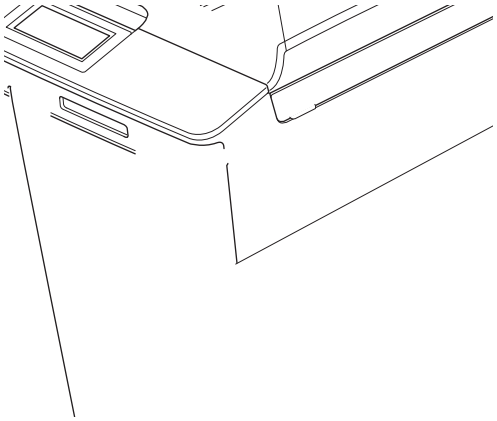
(2) Remove the protective part (for paper tray) and the paper tray ASSY.

(3) Remove the disc tray*4 and memory cards*5 if inserted in the machine, then store them.

*1 For MFC only
*2 For wired LAN-enabled models
*3 For models supporting PictBridge/USB flash memory drive
*4 For disc printing models
*5 For models with PhotoCapture Center



(4) Open the ink cartridge cover, remove all four ink cartridges, and set the protective part instead. Check that the right-hand latch fits in the hole provided in the ink refill ASSY.



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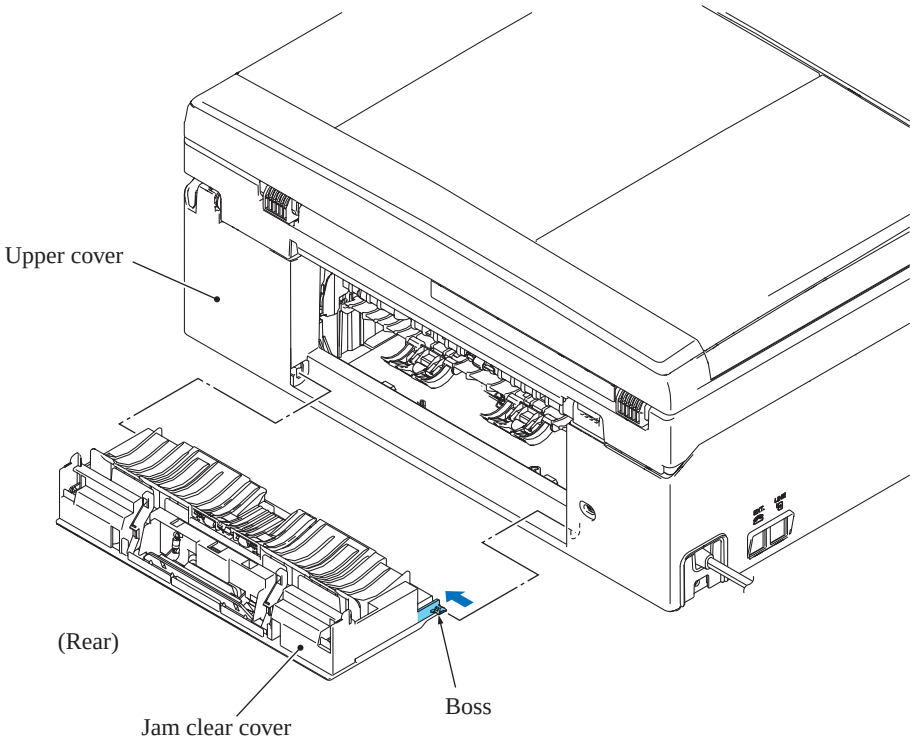
9.2 Jam Clear Cover

(1) Open the jam clear cover.

(2) Lightly press the right-hand end (viewed from the rear) of the jam clear cover inwards to release the boss, then remove the jam clear cover.



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9.3 Head/Carriage Unit

During disassembly jobs, except when removing the ink refill ASSY or engine unit (including the maintenance unit), leave the head/carriage unit in the machine.

Before removing the head/carriage unit, ink refill ASSY or engine unit, you need to remove all four ink cartridges and set the protective part instead (see page 3-34). Be sure to insert the protective part into place to prevent ink remaining in the ink supply tubes from leaking and the machine from getting stained with leaked ink. (Check that the right-hand latch fits in the hole provided in the ink refill ASSY.)

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.

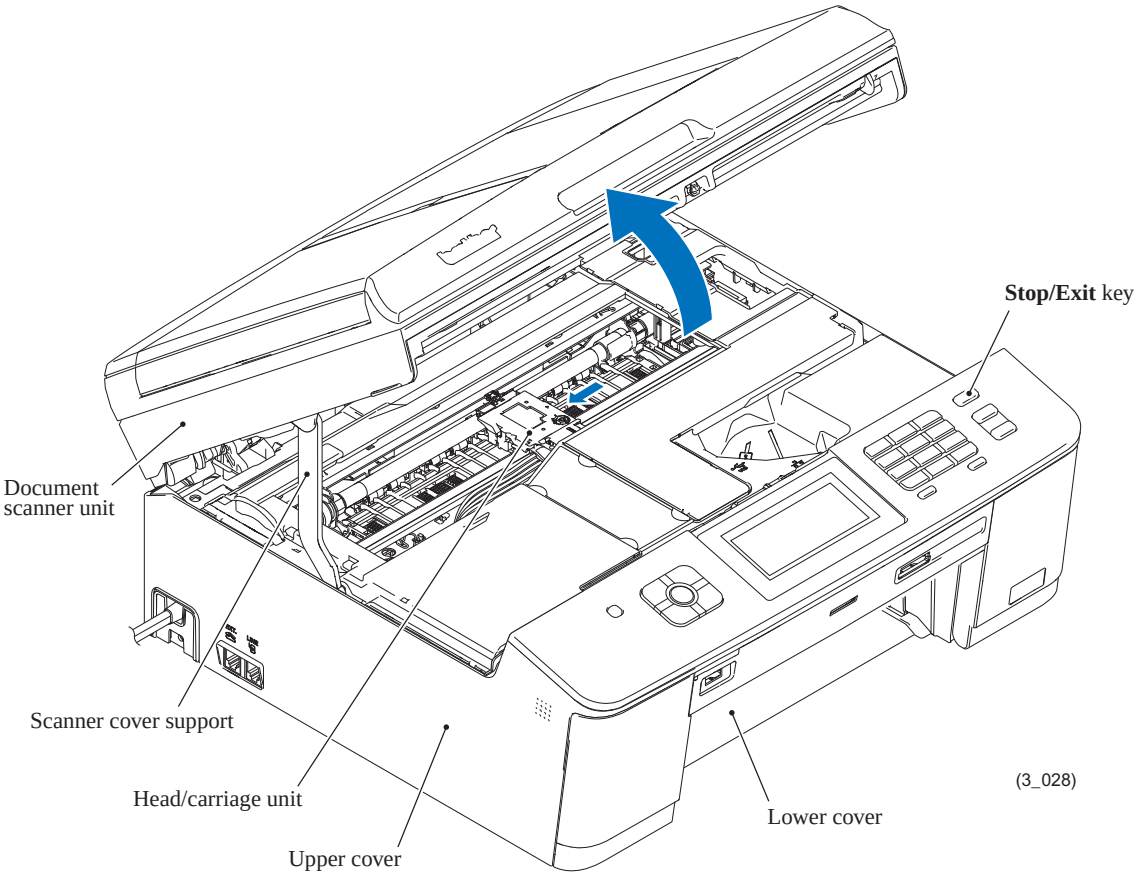
Note: During the removal or installation job for the head/carriage unit, take care not to contaminate the CR encoder strip or PF encoder disc with ink or grease.

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

(2) Open the document scanner unit until it locks.

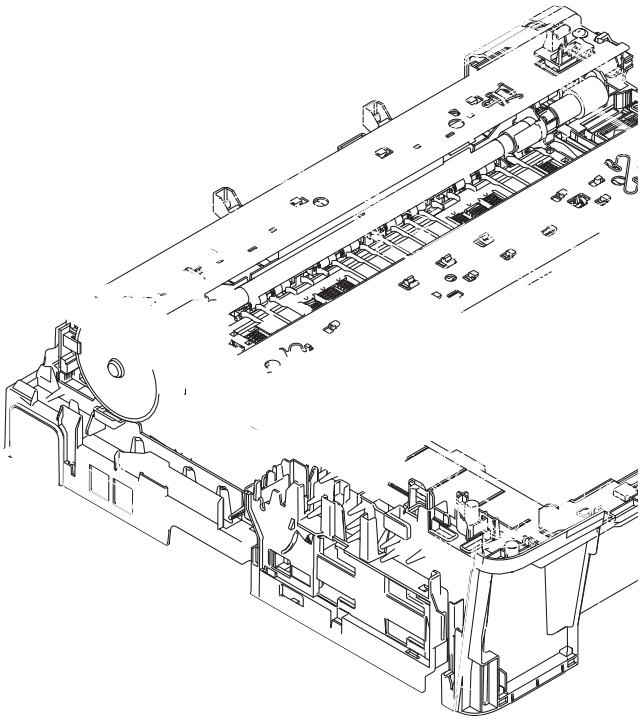
The "Cover is Open." message appears on the LCD.

(3) Hold down the **Stop/Exit** key to move the head/carriage unit to the center of its travel.



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

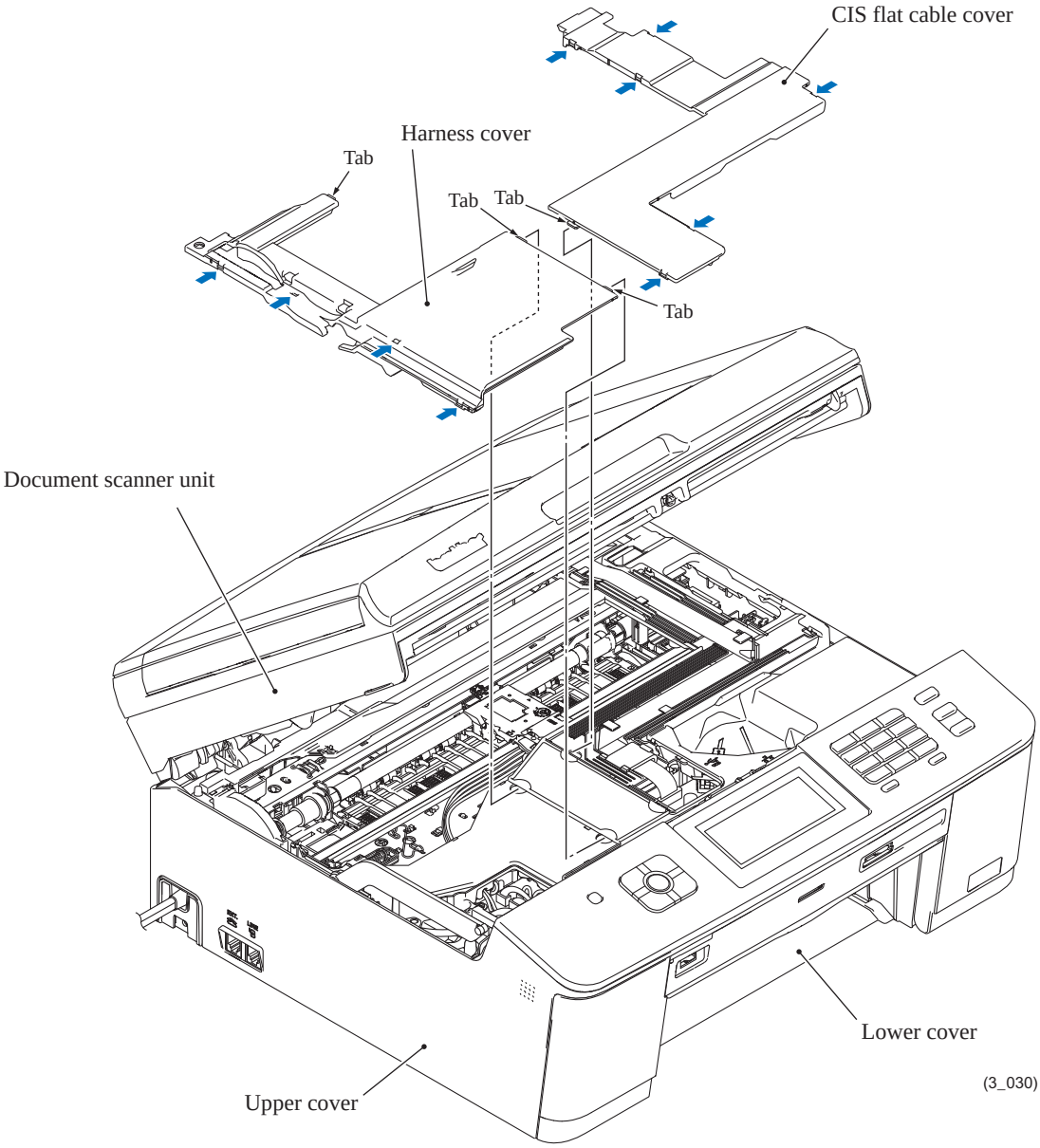
(5) Slightly close the document scanner unit so that the scanner cover support comes to be almost upright. As shown below, press the rib of the section outwards in which the top of the scanner cover support is fitted in order to widen the section, and pull out the boss provided on the top left of the support to the right and towards you.



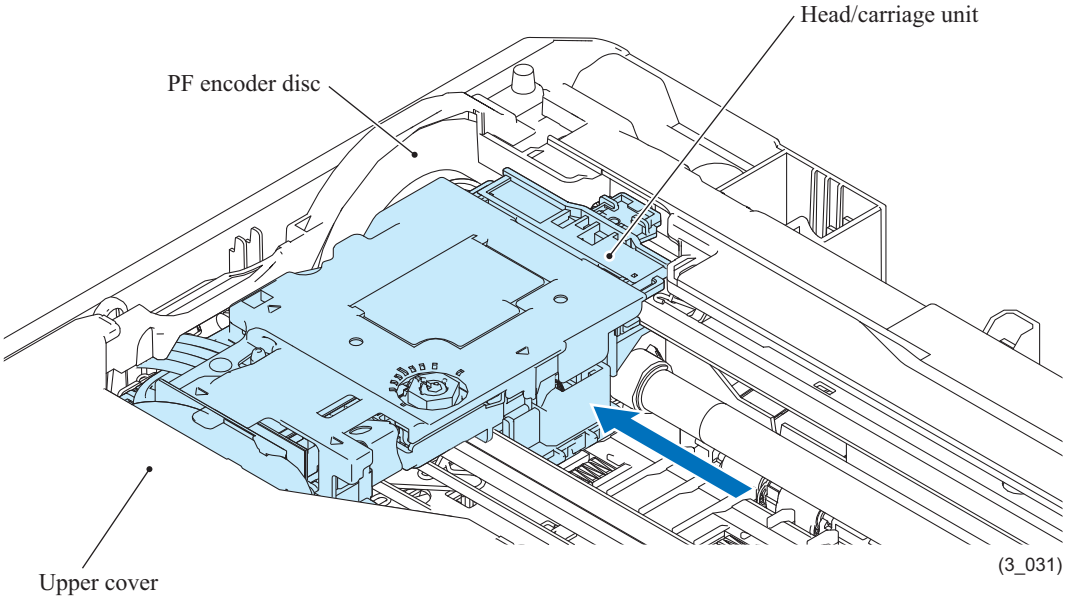
Assembling Note: When setting the top of the scanner cover support into place, press the rib provided on the underside of the document scanner unit outwards as shown above.

(6) Remove the CIS flat cable cover and the harness cover by inserting the tip of a flat screwdriver into the slots (indicated by arrows in the figure below) and lifting up those covers. For easier removal, start from the rear and finally pull out the tabs.

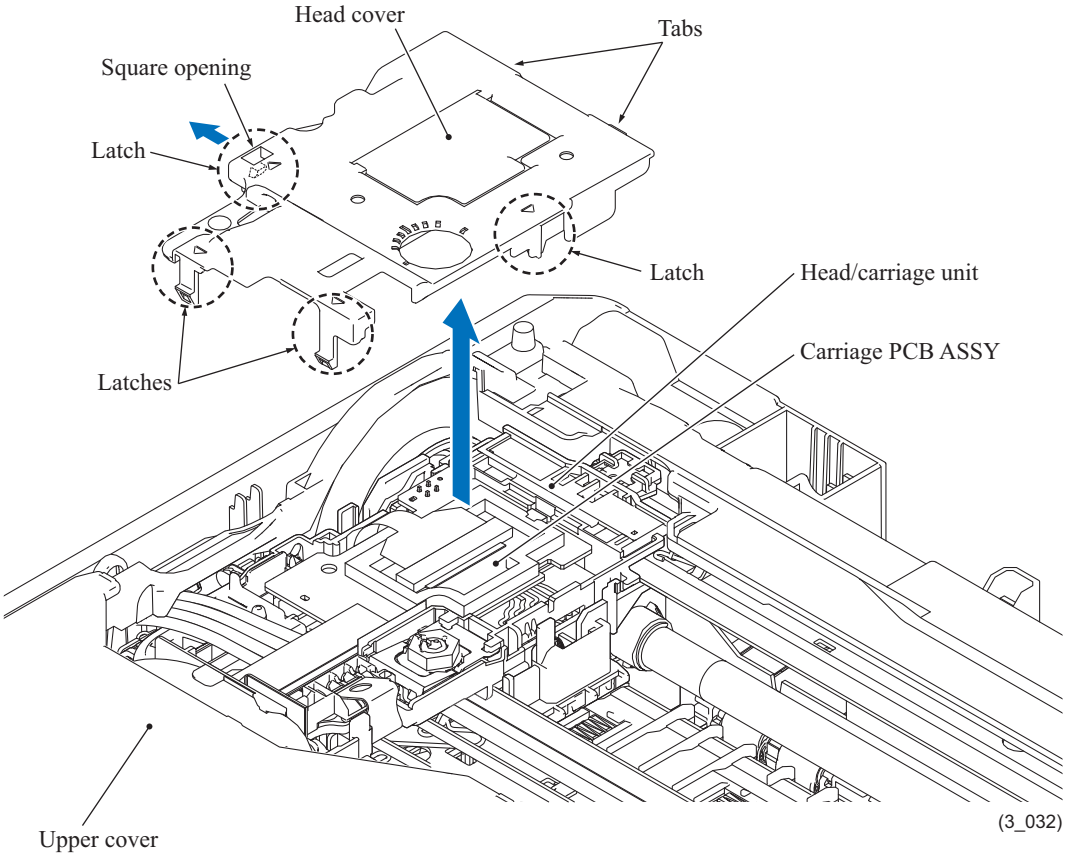
Note: When removing the harness cover, turn the scanner cover support upright for easier removal.



(7) Move the head/carriage unit to the left end of its travel (to the place where the whole of the head/carriage unit can be seen) by hand.



(8) Insert the tip of a flat screwdriver into the square hole provided in the head cover to release the latch in the direction of the arrow, then release other three latches and lift up the head cover.

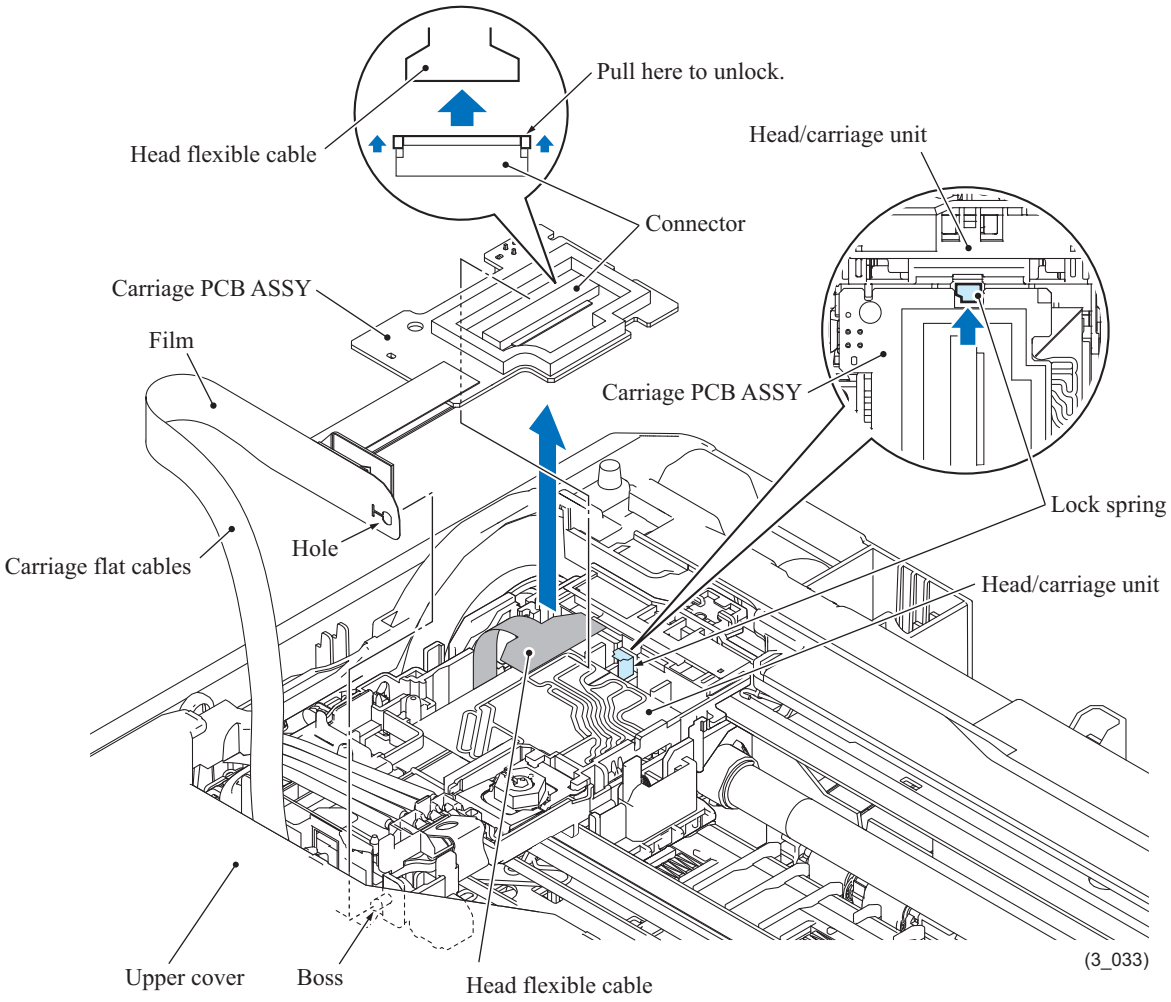


(9) Unlock the connector on the carriage PCB and disconnect the head flexible cable.

Note: After disconnecting the flexible cable, check that it is not damaged at its end or short-circuited. When connecting the flexible cable, do not insert it at an angle. After insertion, check again that it is not at an angle and then lock the connector.

(10) Release the lock spring and slightly pull up the front end of the carriage PCB. Then take the carriage flat cables out of the cable guide (shown on page 3-48) on the head/carriage unit and release the hole provided in the film from the boss shown below.

(11) 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.



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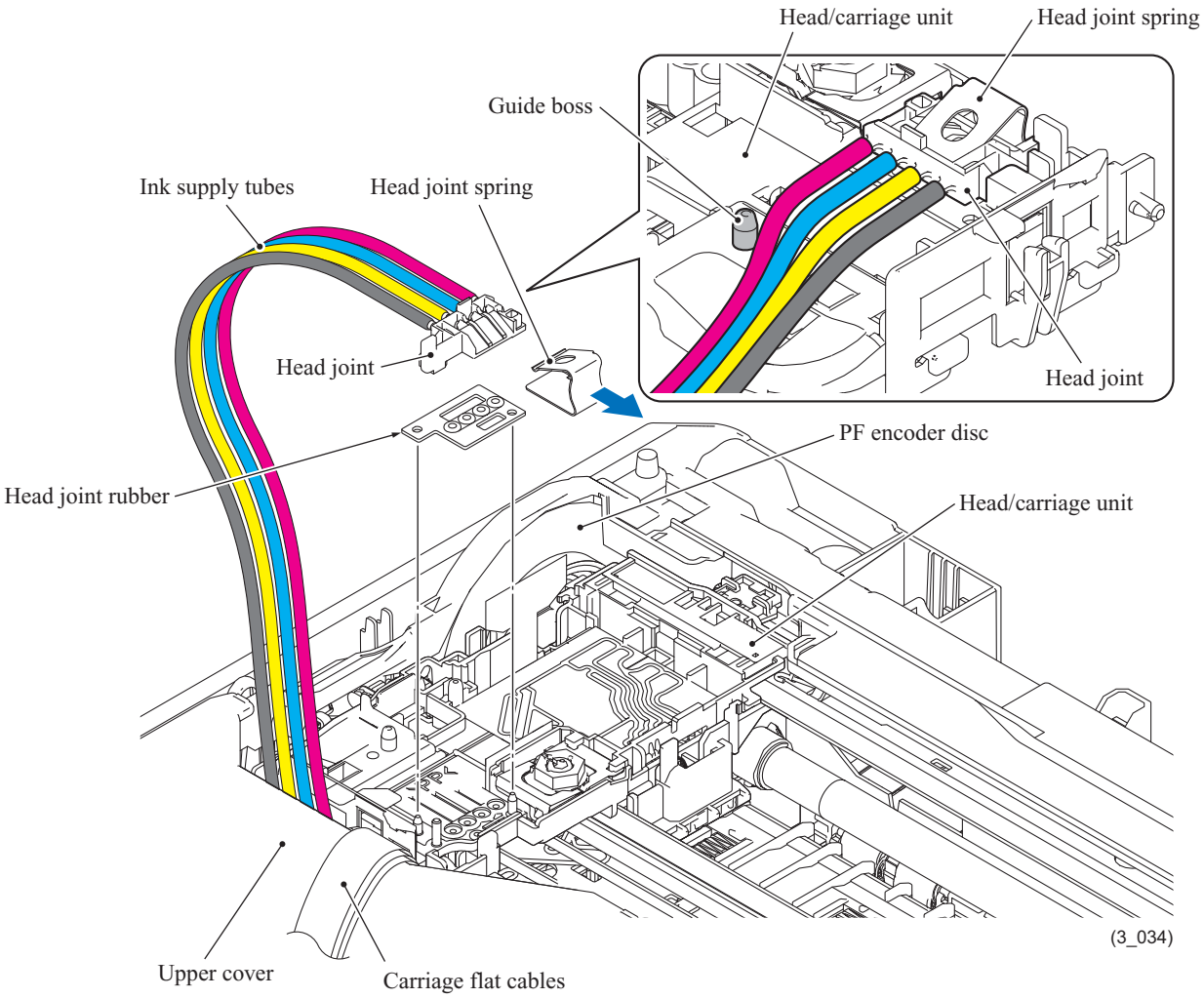
(12) Pull out the head joint spring to the right.

(13) 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 supply tubes 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.

(14) 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.



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

(15) Move the head/carriage unit slightly to the right as shown below, then set the LR (Leveler Roller) positioning jig so that its bottom boss fits in the hole provided in the engine chassis.

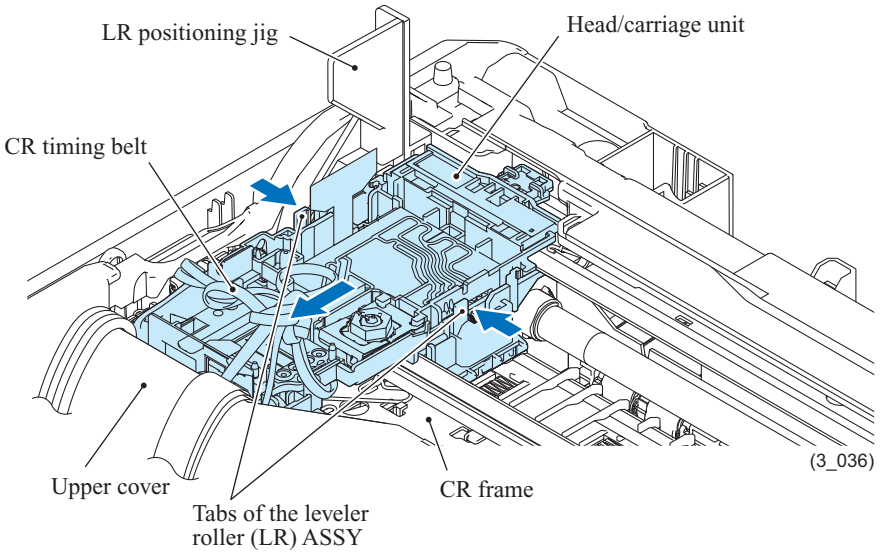
(16) While pressing the idle pulley holder to the right, remove the CR timing belt from the carriage motor pulley and the idle pulley.

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.

(17) Loosely tie the CR timing belt in a bundle on the head/carriage unit as shown below.

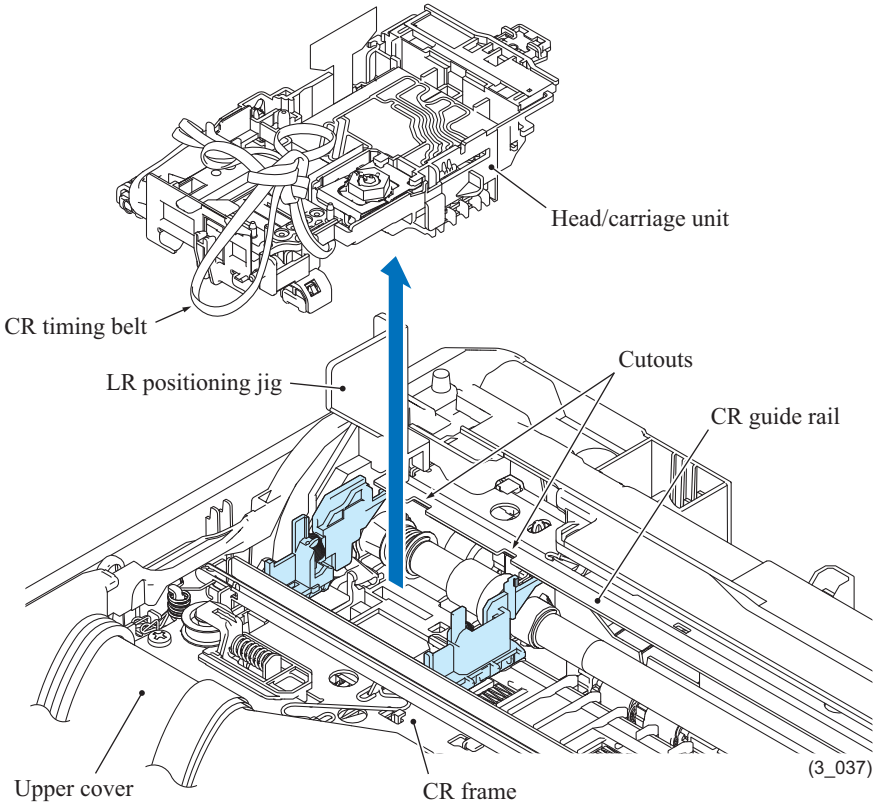
(18) Move the head/carriage unit to the left end of its travel by hand.

(19) Press the right and left tabs of the leveler roller (LR) ASSY inwards and pull the ASSY towards you to release it downwards from the head/carriage unit.



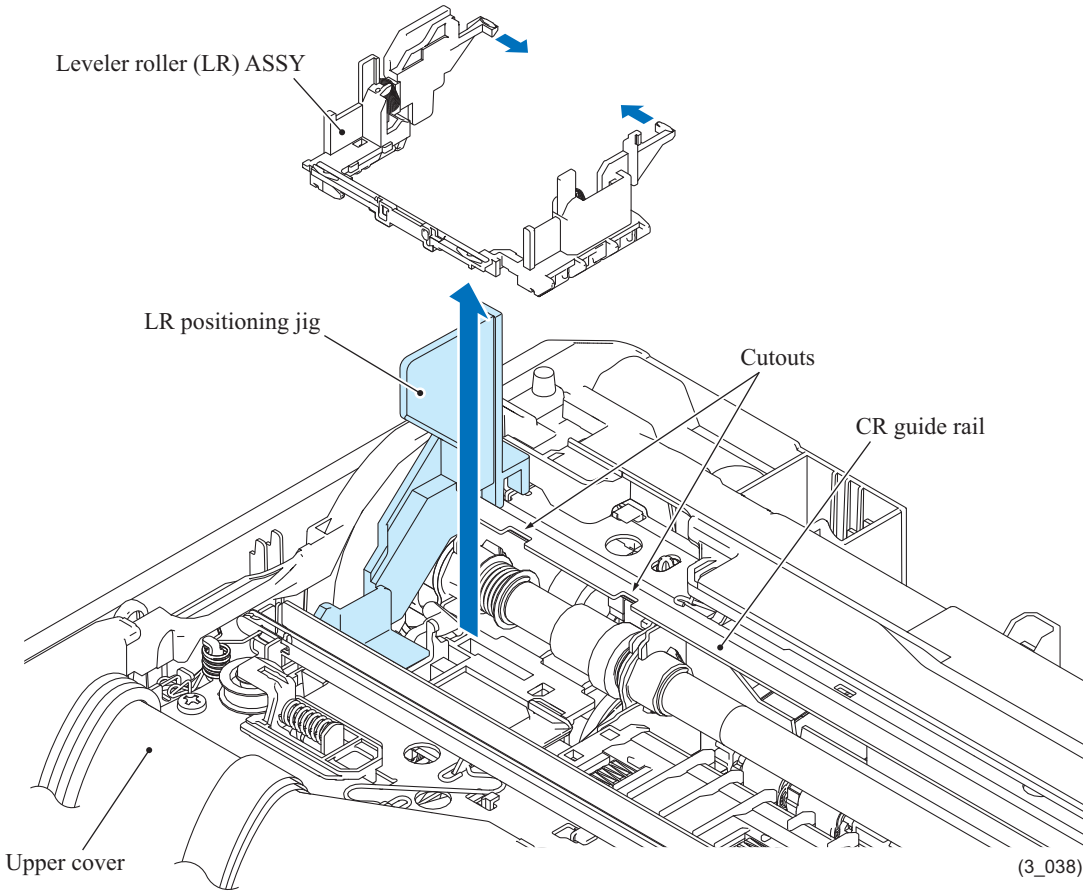
(20) Slightly lift up the rear end of the head/carriage unit to release it from the CR guide rail (through the two cutouts), then release the front end from the CR frame and take the head/carriage unit up and out of the machine.

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 do touch them though, clean them.



(21) Remove the CR timing belt from the head/carriage unit.

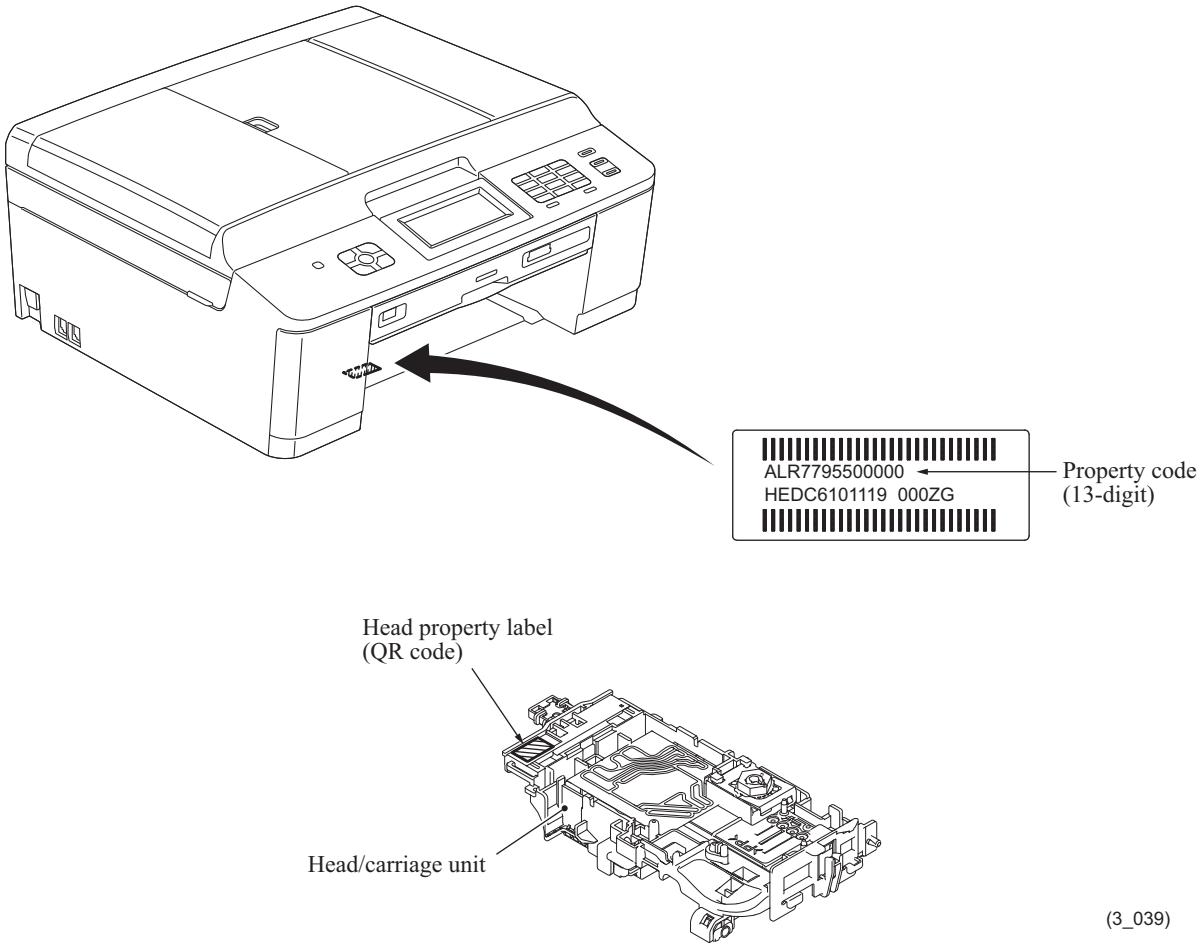
(22) Press the rear ends of the leveller roller (LR) ASSY inwards and take them out through the two cutouts provided in the CR guide rail.



(23) A head/carriage unit is assigned a property code that represents the properties unique to that head/carriage unit. The property code is printed on head property labels--bar code label and QR code label, each of which is attached to the lower cover and head/carriage unit, respectively.

When you remove the head/carriage unit and store it separately from the machine, remove the property label (bar code label) from the lower cover and store it together with the head/carriage unit.

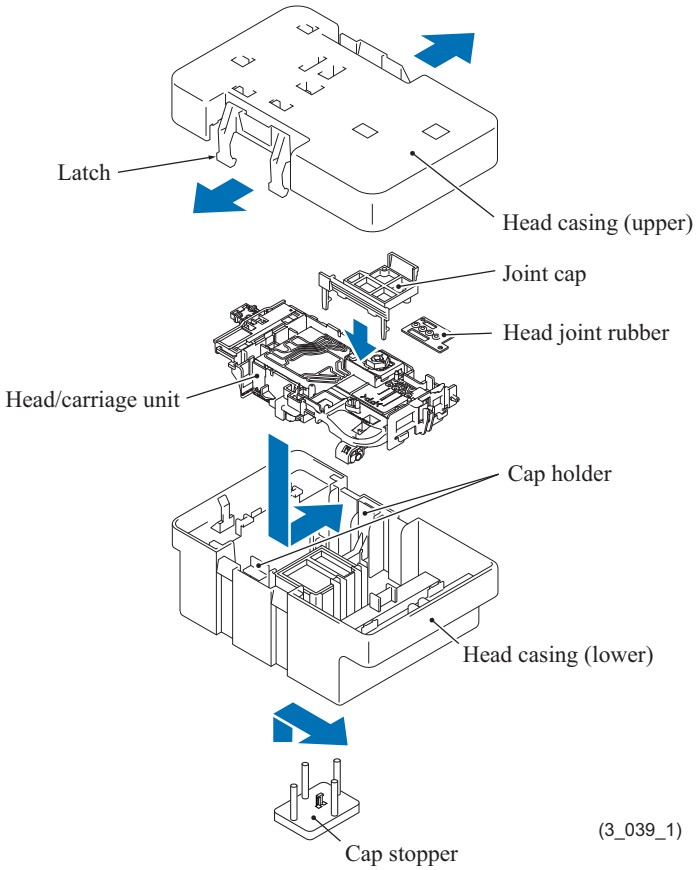
If you replace the head/carriage unit, attach the property label (bar code label) that comes with the new head/carriage unit to the lower cover as shown below.



Note: When storing the removed head/carriage unit for a long period, put it in the head casing correctly using the following steps. Leaving it out of the casing causes the head nozzles and ink supply ports to dry up so that the head/carriage unit can no longer provide the original performance.

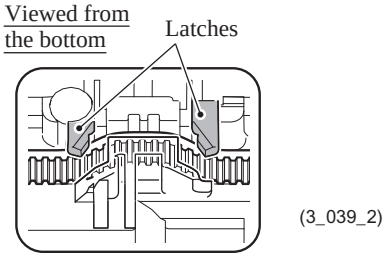
When taking the head/carriage unit out of the casing, reverse the storage order.

1) Set the head/carriage unit in the lower head casing and slide it to the right.
2) Release the latch of the cap holder and use it to press the head to seal up the head nozzles.
3) Set the joint cap on the head joint rubber.
4) Mount the upper head casing.
5) Fit the cap stopper into the lower head casing and slide it towards you to secure the head/carriage unit.



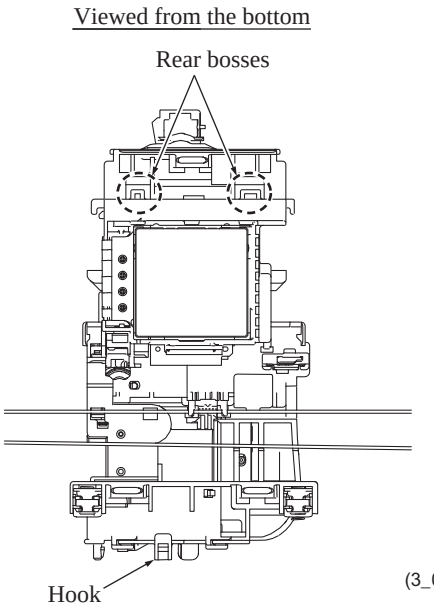
Assembling Note: Mount the head/carriage unit, using the following steps.

1) Set the leveler roller ASSY on the engine unit. (See page 3-44.)
2) When mounting a new head/carriage unit, apply the specified lubricant to the specified points on the unit, referring to Section 5.
3) When mounting the CR timing belt, insert it into the slit provided in the head/carriage unit so that the toothed side faces inwards as shown below. Make sure that the belt is fully inserted inside the latches.

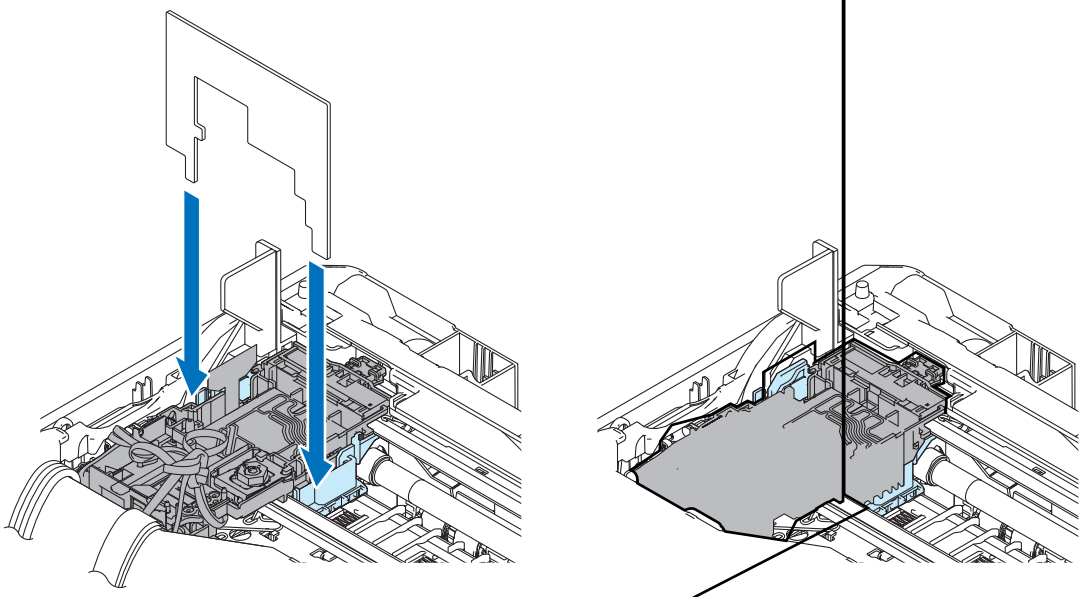


4) First fit the front end of the head/carriage unit over the CR frame and then set the rear end onto the CR guide rail.

   Make sure that the hook (see below) provided on the bottom of the head/carriage unit catches the front edge of the CR frame and the two rear bosses are fitted in the two cutouts (shown on page 3-44) in the CR guide rail.



5) Set the LR (Leveler Roller) fitting jig on the head/carriage unit vertically and then tilt it towards you, as shown below. This pushes the leveler roller (LR) ASSY rearwards and upwards, fitting it over the head/carriage unit.



6) Slide the head/carriage unit by hand to check that it moves smoothly. If it does not move smoothly, the leveler roller (LR) ASSY is not in place. Go back to step 5).

7) Remove the LR fitting jig and LR positioning jig.

8) Untie the CR timing belt loosely tied. First, at the left end, set the belt on the idle pulley. Next, press the idle pulley holder to the right and at the right end, set the belt on the carriage motor pulley. (See page 3-42.)

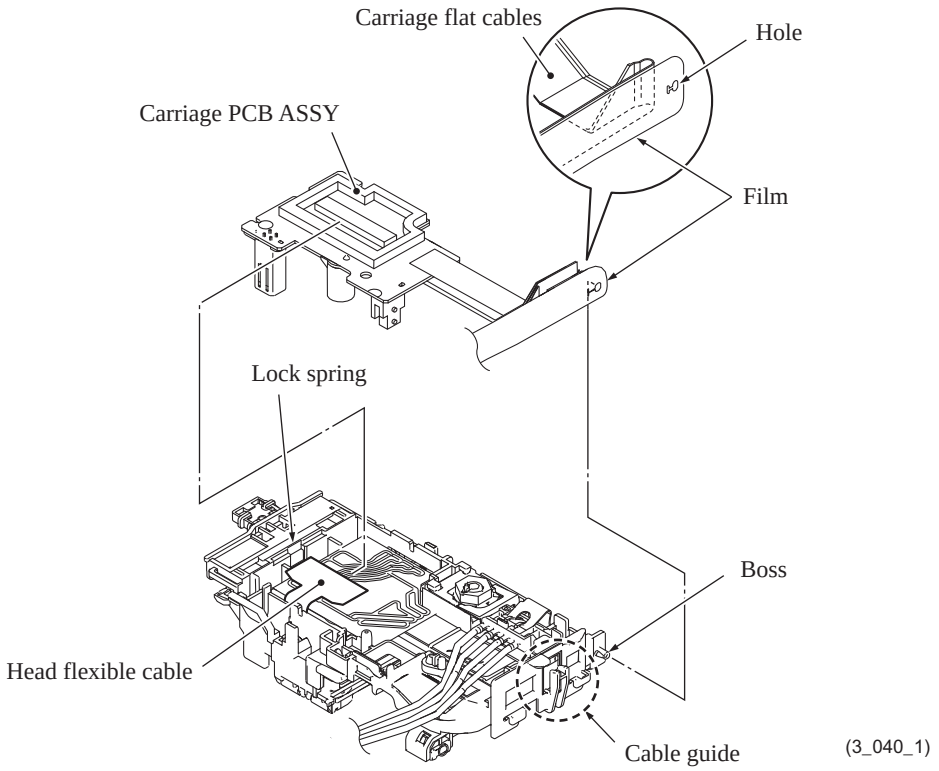
9) Slide the head/carriage unit by hand to check that it smoothly moves to the right and left ends of its travel.

10) Set the head joint rubber on the head/carriage unit and secure the head joint to the head/carriage unit with the head joint spring. (See page 3-41.)

11) Mount the carriage PCB ASSY on the head/carriage unit, route the carriage flat cables through the cable guide, and fit the hole provided in the film over the boss on the head/carriage unit as shown below.

    Make sure that the head/carriage unit is secured with the lock spring.

12) Connect the head flexible cable to the connector on the carriage PCB and then lock the connector.



13) Set the head cover into place.

14) If a new head/carriage unit is mounted, apply the specified lubricant to the specified points on the sliding surface of the CR guide rail and CR frame, referring to Section 5.

15) Check that the CR encoder strip and PF encoder disc are free of grease and ink. If they are stained with grease or ink, replace them.

16) Slide the head/carriage unit by hand to check that it smoothly moves to the right and left ends of its travel. At the same time, check that the ink supply tubes and carriage flat cables are not twisted.

17) If a new head/carriage unit is mounted, make adjustments specified in Chapter 4, Section 4.1.

9.4 Document Scanner Unit, Scanner Cover Support, and Document Cover ASSY (For models without ADF)

The document scanner unit should be removed together with the ADF & document cover ASSY (for models with ADF) or the document cover ASSY (for models without ADF). The removal procedure of the ASSY from the document scanner unit is given in this section. The disassembly of the ADF & document cover ASSY (for models with ADF) is detailed in Section 9.6.

(1) Disconnect the CIS flat cable from the main PCB. Press the lock arm on the upper cover to the right and take the flat core up and out of the upper cover. Remove the flat core from the CIS flat cable.

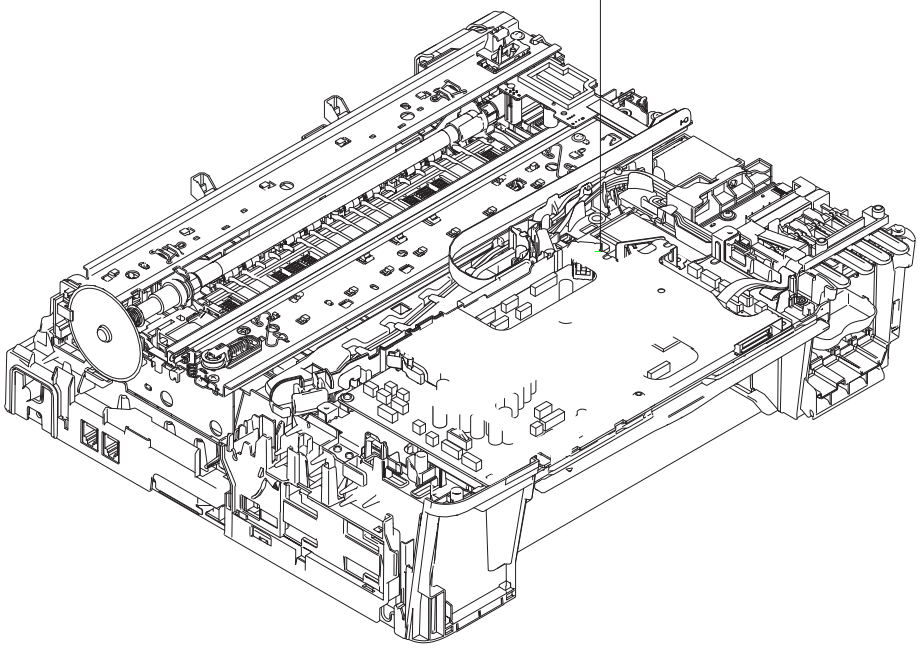
Note: After disconnecting the flat cable, check that the cable is not damaged at its end or short-circuited. When connecting the flat cable, do not insert it at an angle. After insertion, check again that it is not at an angle.

(2) Release the CIS flat cable from the cable guides.

(3) Release the grounding wire*1 by removing the screw*1.

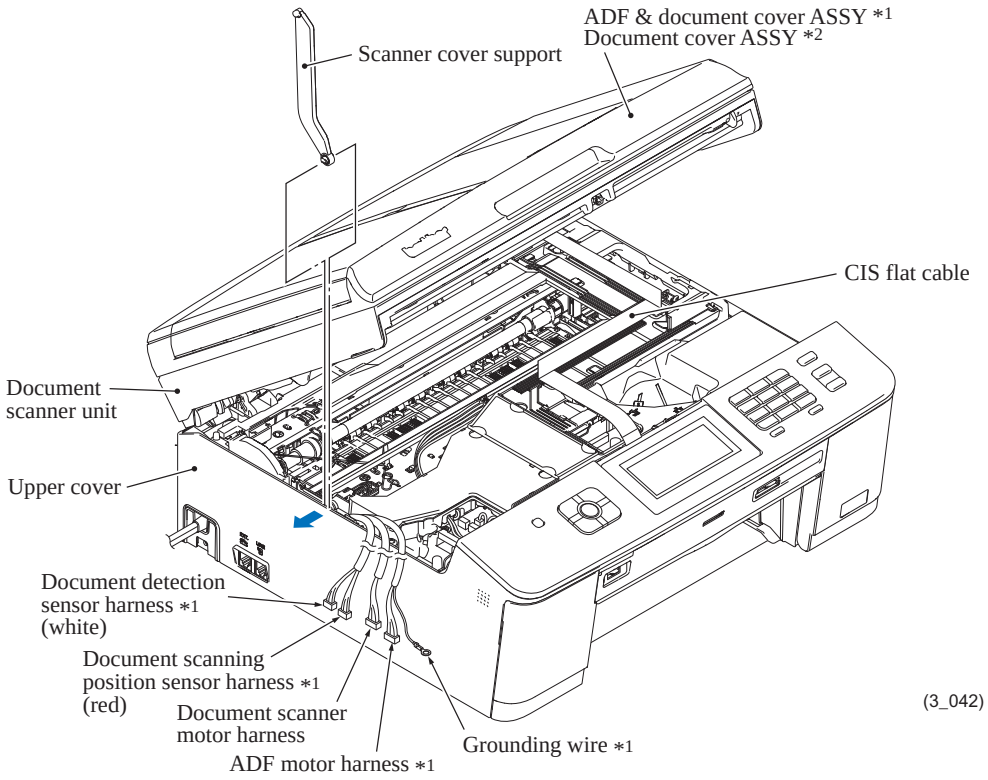
(4) Disconnect the following harnesses from the main PCB.
- ADF motor harness (4-wire)*1
- Document scanning position sensor harness (3-wire)*1
- Document detection sensor harness (3-wire)*1
- Document scanner motor harness (4-wire)

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



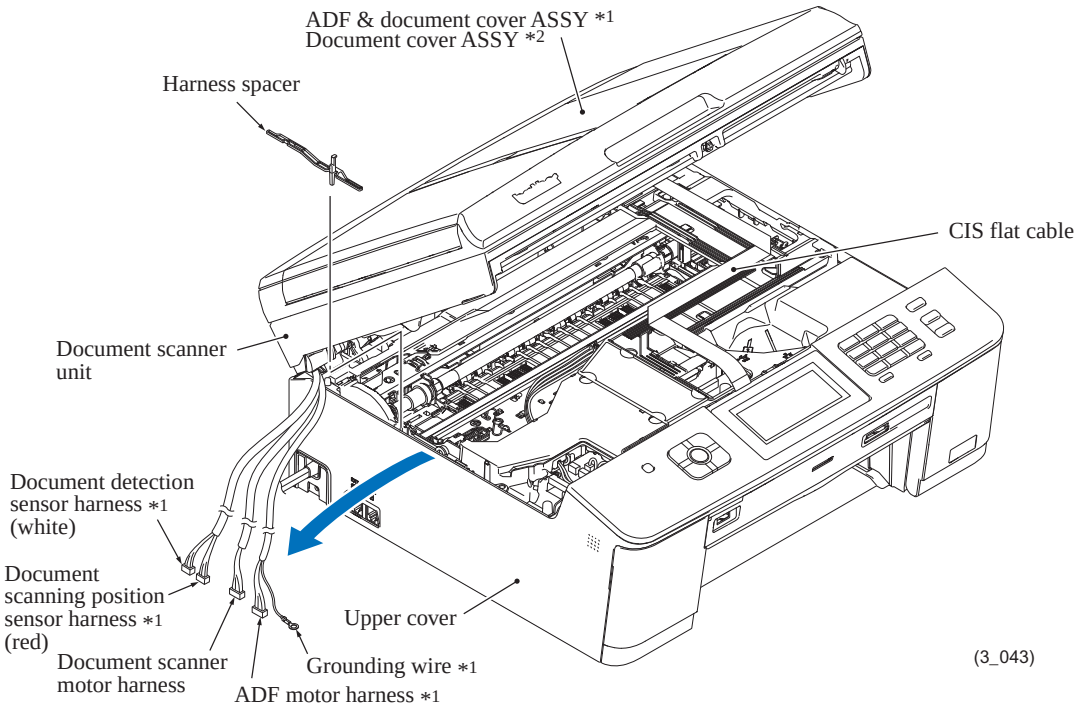
(5) Slightly tilt the scanner cover support towards you, press the upper cover outwards and pull out the scanner cover support.

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



(6) **Models with ADF** Take the document detection sensor harness*1 and document scanning position sensor harness*1 out of the cable guides provided on the left inside of the upper cover.

(7) Remove the harness spacer and take the document scanner motor harness, ADF motor harness*1 and its grounding wire*1 out of the upper cover.



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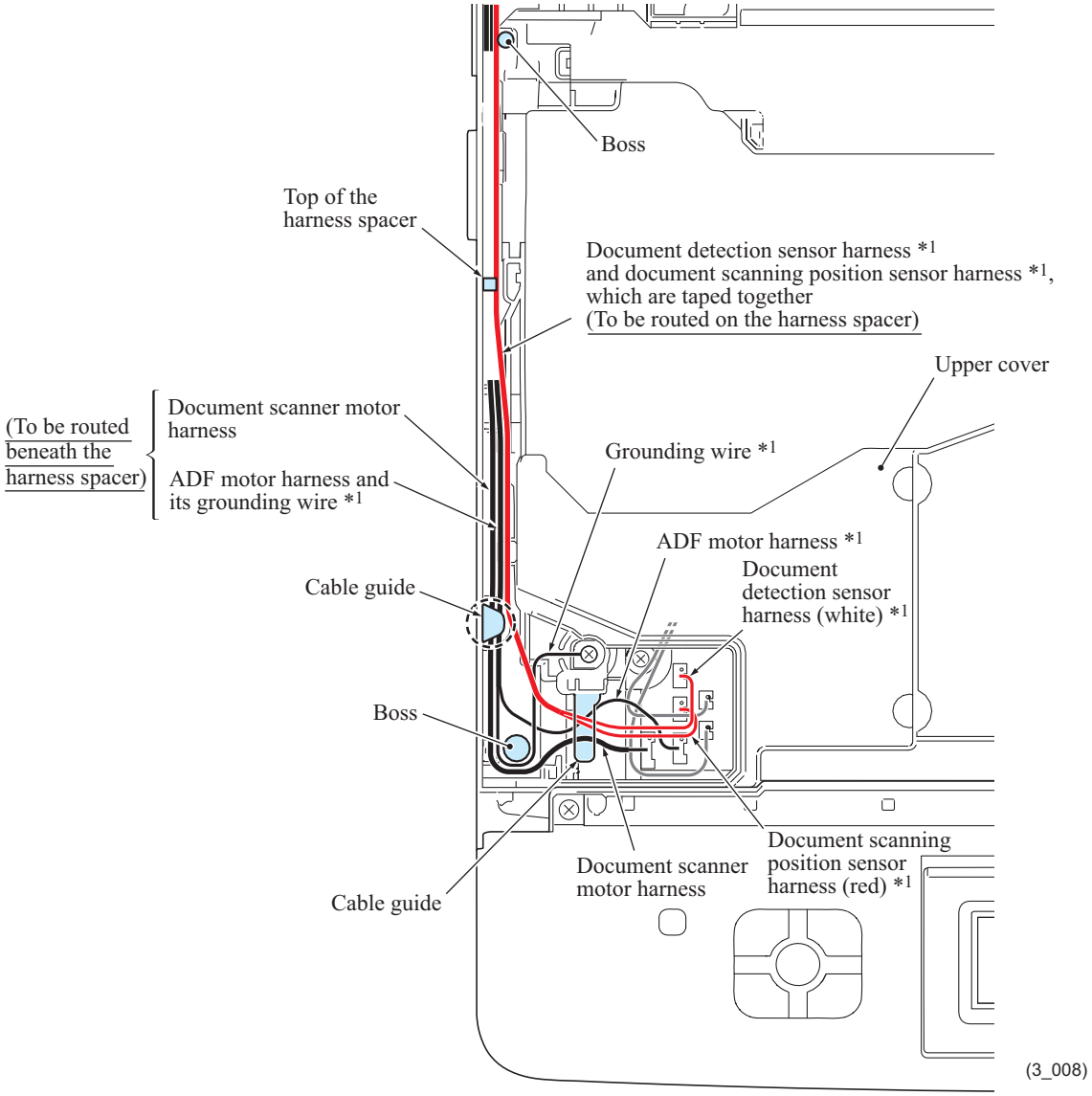
Assembling Notes:

- **Models with ADF** As shown below, route the document scanner motor harness, ADF motor harness*1 and its grounding wire*1, then set the harness spacer. Next, route the document detection sensor harness*1 and document scanning position sensor harness*1 (which are taped together).
- **Models without ADF** As shown below, route the document scanner motor harness and then set the harness spacer.

*1 For models with ADF



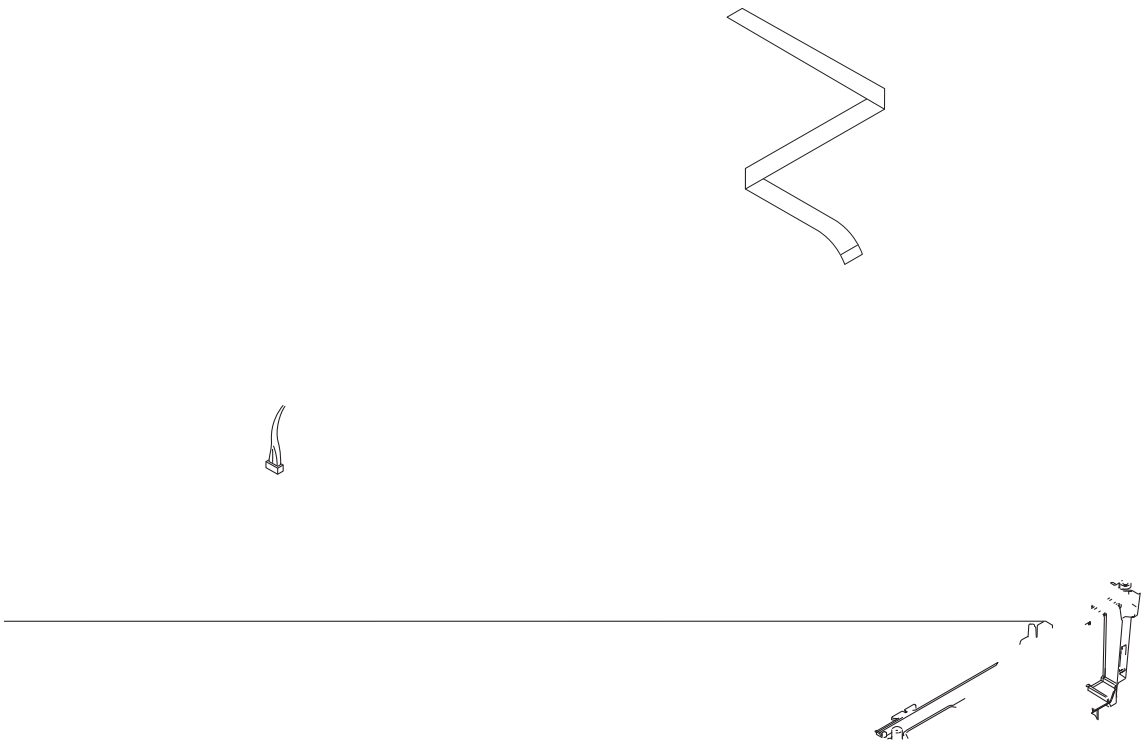
(8) At the rear of the machine, remove the screw (black) that secures the scanner hinge.

(9) Open the document scanner unit fully, turn up the front end of the scanner hinge bushing, and pull the document scanner unit up and out of the machine.

Note: Pulling up the document scanner unit without fully opening it opens the scanner hinges suddenly and unexpectedly with great force. It is DANGEROUS!

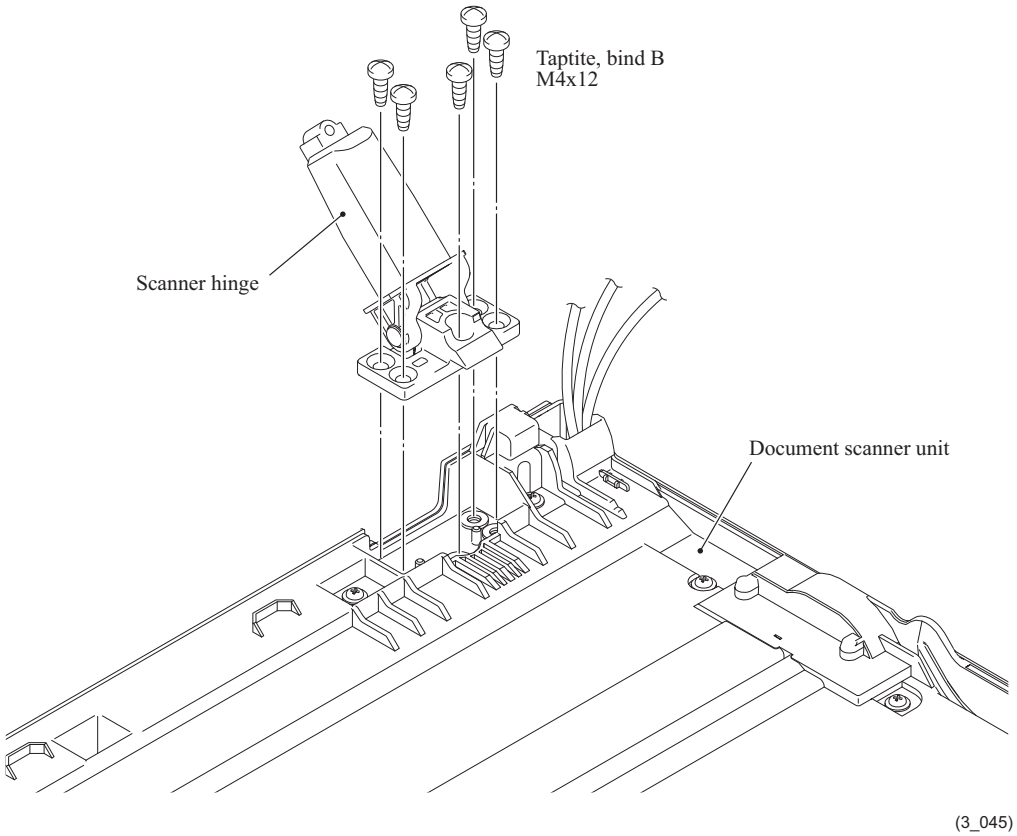
Hinweis: Wird die Scannerabdeckung nach oben gezogen, ohne sie zuvor vollständig geöffnet zu haben, schnellen die Scannerscharniere plötzlich und unerwartet mit großer Kraft nach oben. Dies ist GEFÄHRLICH!

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



Assembling Note: If you replace the document scanner unit, acquire the white level data and set the CIS scanner area (Function code 55), referring to Chapter 5, Section 1.4.16.

(10) Remove the five screws from the scanner hinge and take it off the document scanner unit.

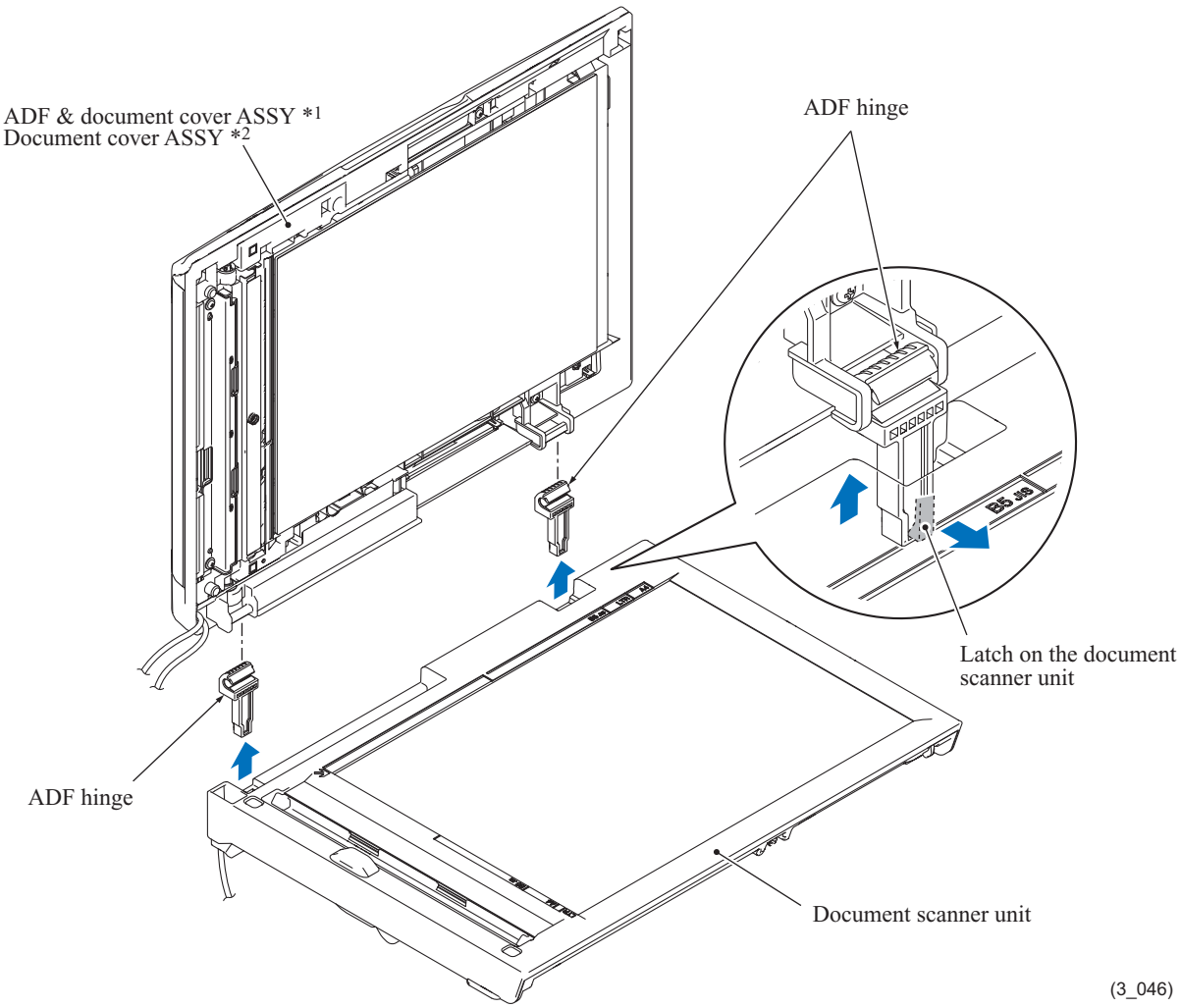


(11) Turn the ADF & document cover ASSY*1 or document cover ASSY*2 upright and slightly lift it up.

(12) At each of the ADF hinges, insert the tip of a flat screwdriver into the slit provided at the front of the ADF hinge and push the latch on the document scanner unit to the front to release the latch from the ADF hinge, then pull the ADF & document cover ASSY*1 or document cover ASSY*2 up and out of the document scanner unit.

(13) Slightly turn the ADF hinges and remove them from the ADF & document cover ASSY*1 or document cover ASSY*2.

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



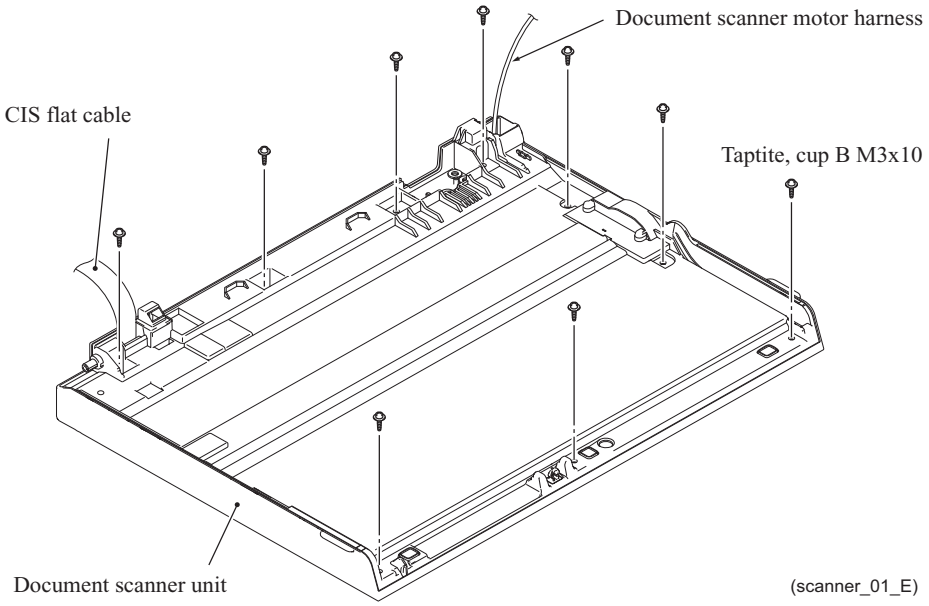
Assembling Note: When mounting the ADF & document cover ASSY*1 or document cover ASSY*2 on the document scanner unit, put a magazine or a stack of paper about one inch (2 to 3 cm) thick between them to secure room for looseness of harnesses. Do not use the one that may scratch or contaminate the scanner glass.

9.5 CIS Unit

Note: Replacement of the CIS unit should be made in a dust-free, clean environment.

(1) Turn the document scanner unit upside down.

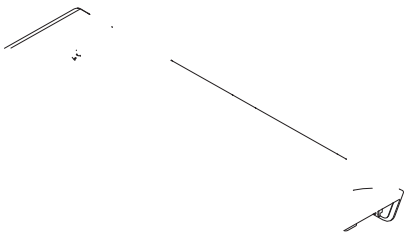
(2) Remove the nine screws.



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

(4) Remove the document scanner top cover.

(5) Remove the CIS roller holder Assembly. (scanner_02_E)



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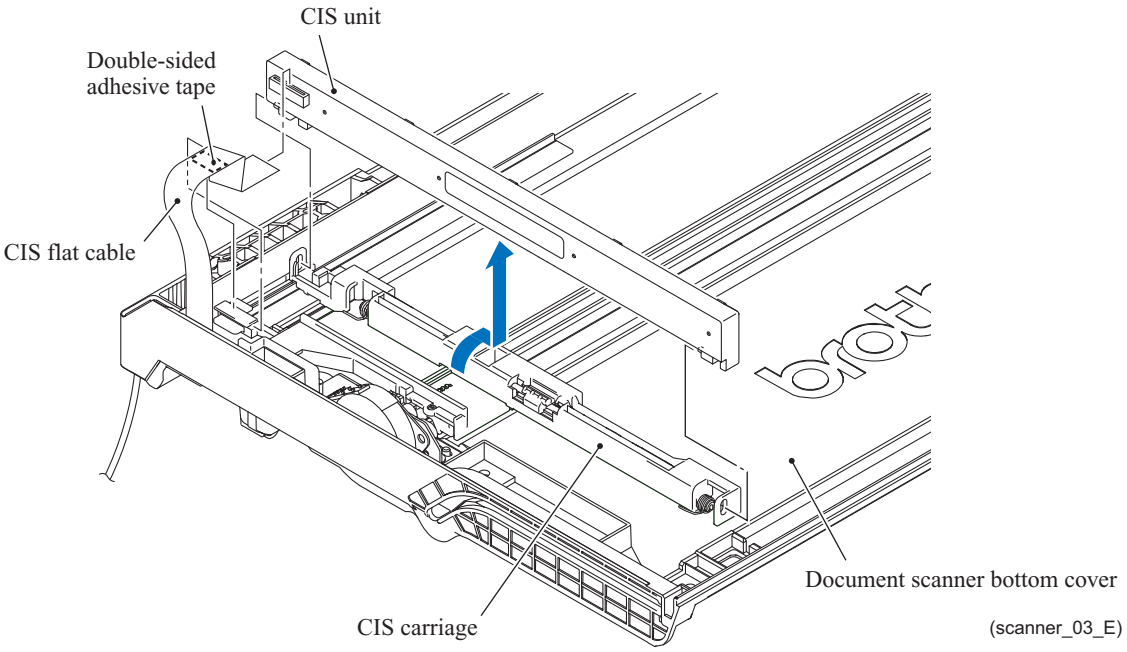
(6) Peel off the flat cable fixing film (shown on the next page). Next, peel off the double-sided adhesive tape that secures the CIS flat cable to the CIS carriage, then disconnect the CIS flat cable from the CIS unit.

Note: Once removed, the flat cable fixing film and double-sided adhesive tape will become unusable and new ones will have to be put back in.

(7) Turn the CIS unit 90° clockwise, pull it towards you slightly to release two bosses from the CIS carriage, and lift it up.



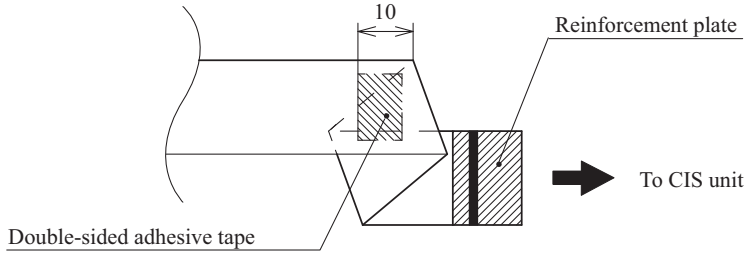
(scanner_03_E)

Assembling Note:

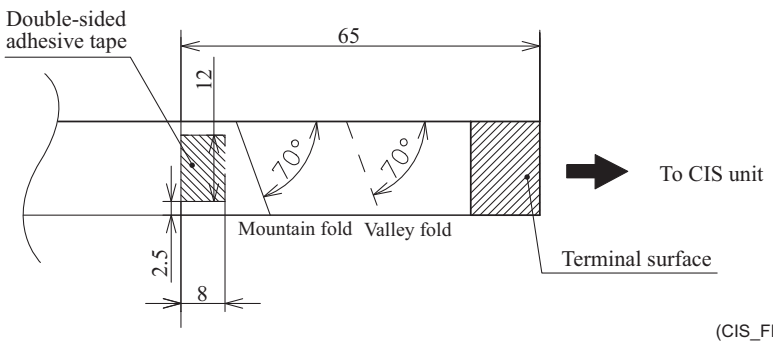
- Mount the CIS unit, using the following steps

1) Remove the remaining double-sided adhesive tape from the CIS flat cable and apply a new one as specified below.

・CIS flat cable folded



・CIS flat cable unfolded



(CIS_FFC_E)

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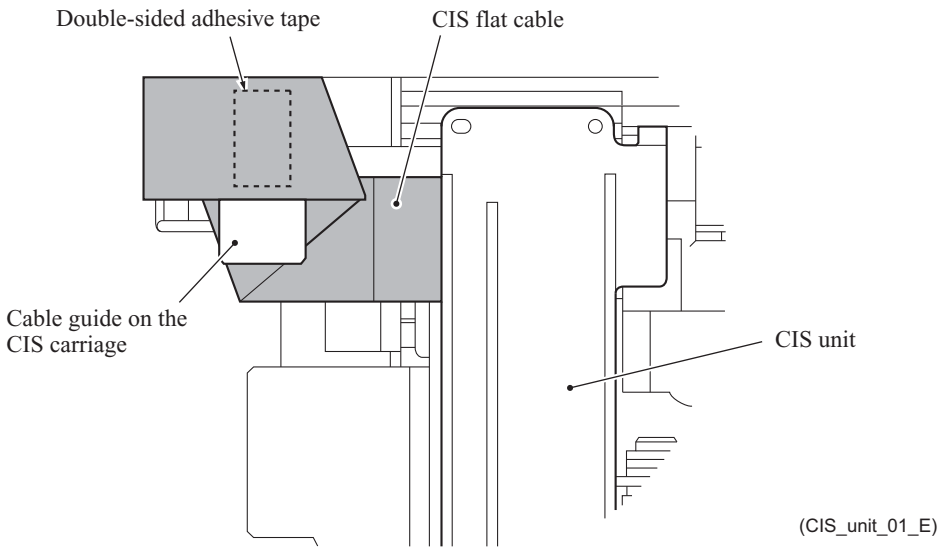
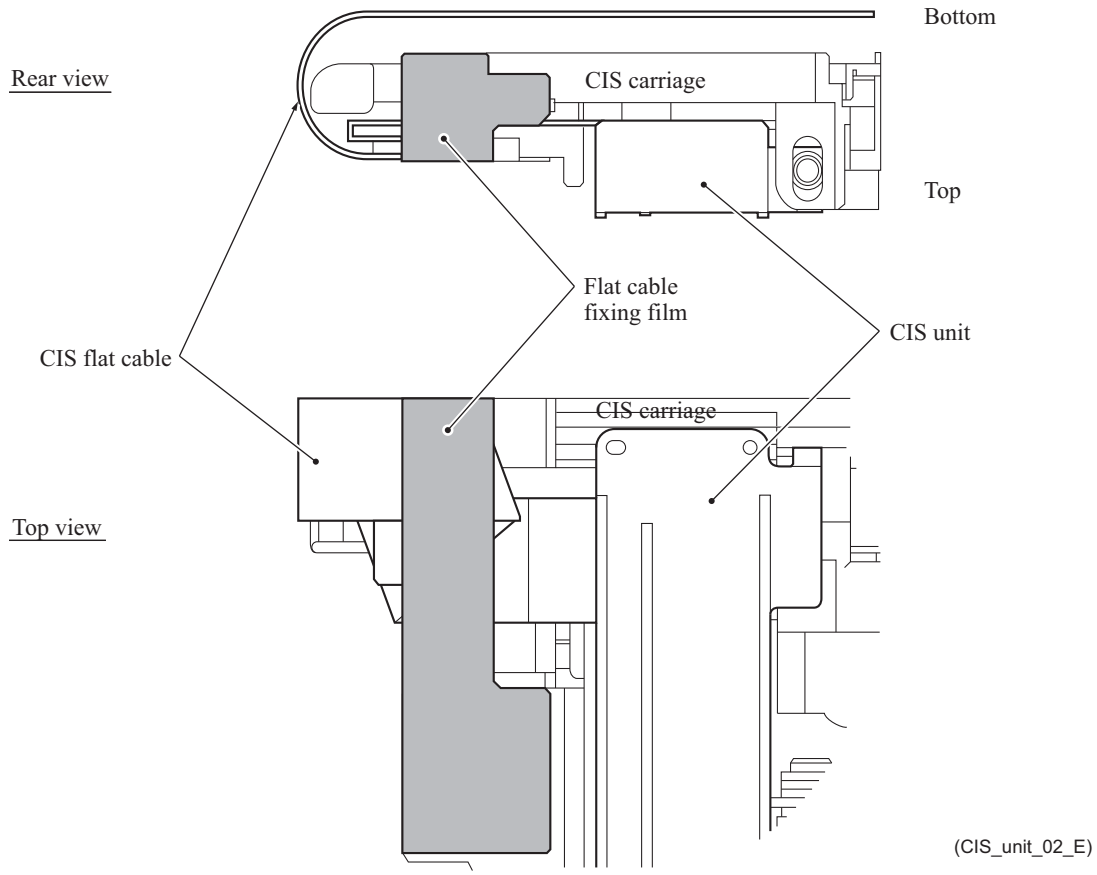
2) Mount the CIS unit being turned 90° clockwise in the same way as removing it.

3) Connect the CIS flat cable to the CIS unit and then route it along the cable guide as shown below.



4) Attach a new flat cable fixing film as shown below.



- Acquire the white level data and set the CIS scanner area (Function code 55), referring to Chapter 5, Section 1.4.16.

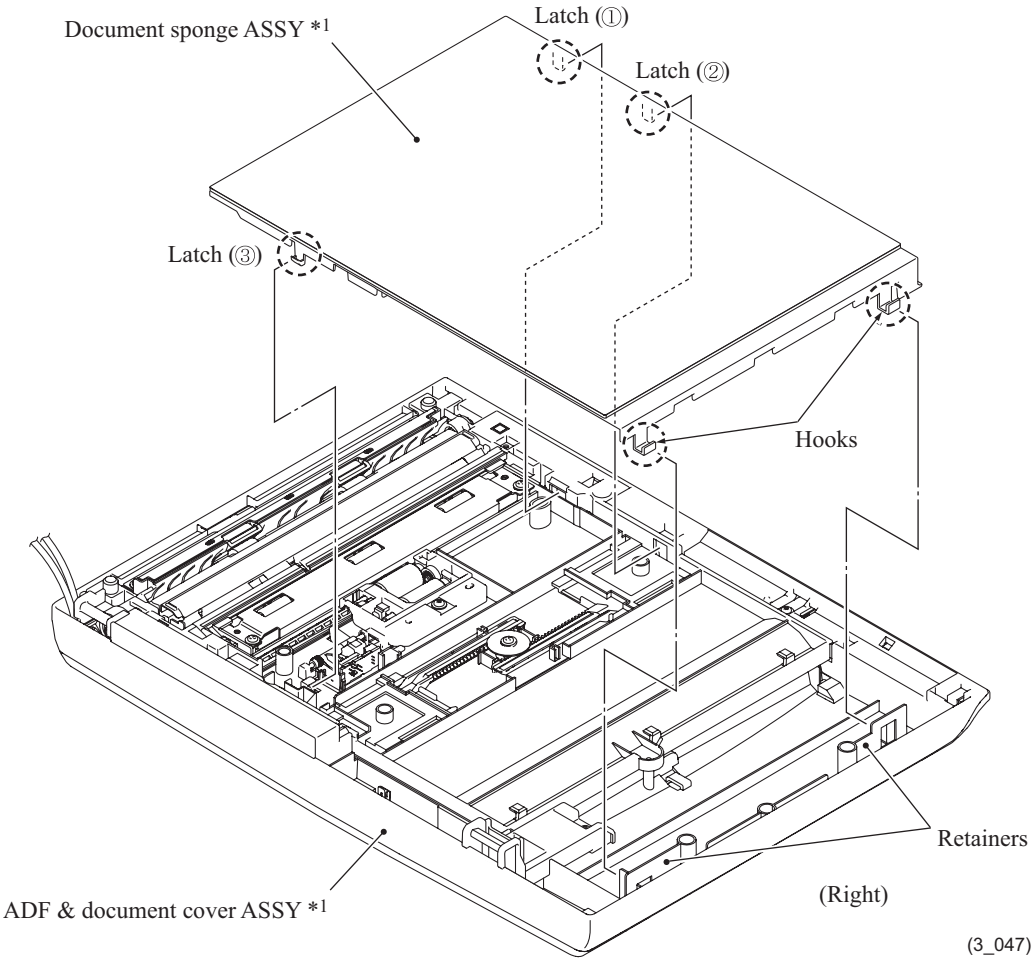
9.6 ADF & Document Cover ASSY (For models with ADF)

(1) Turn the ADF & document cover ASSY*1 upside down.

(2) Using the tip of a flat screwdriver, lightly press the three latches on the document sponge ASSY*1 inwards in the order of ① to ③ to release them.

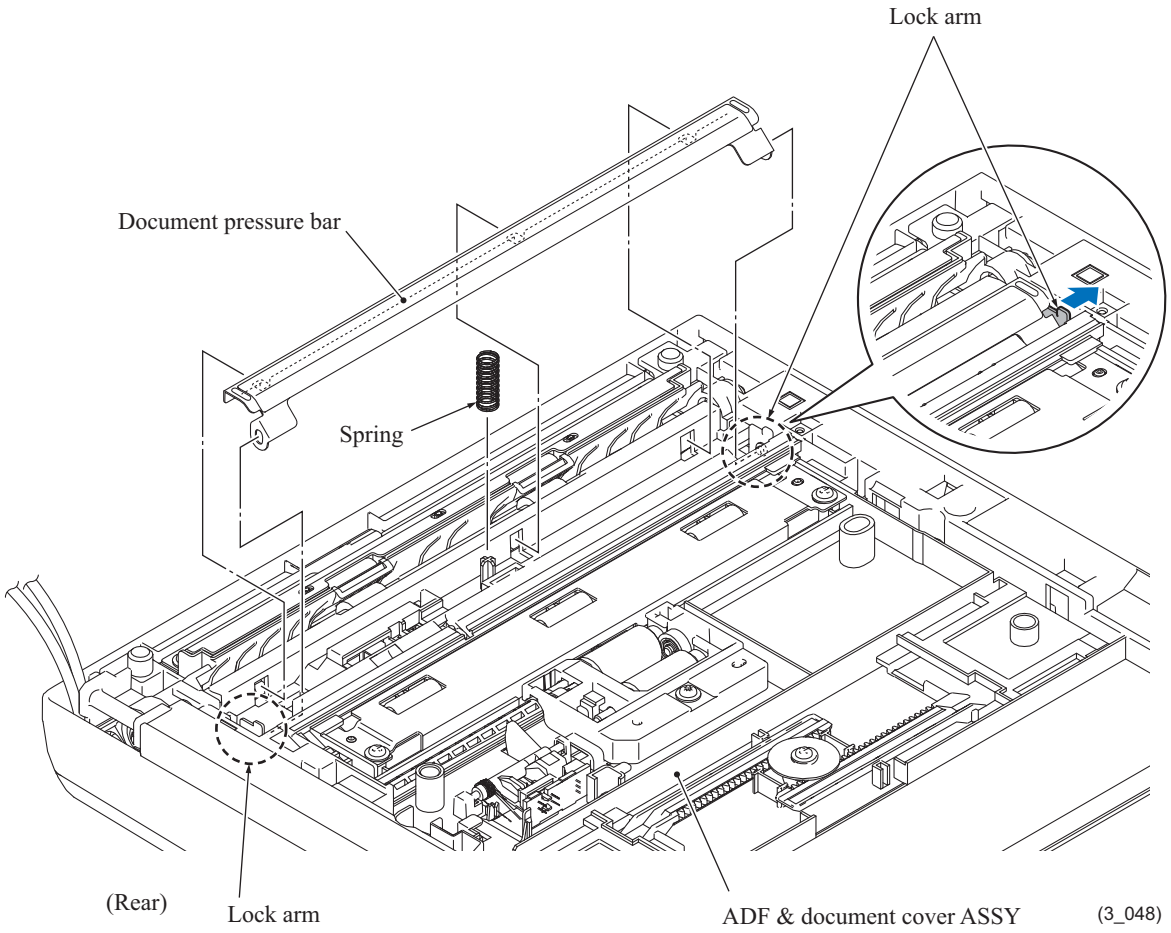
(3) Remove the two hooks of the document sponge ASSY*1 from the retainers of the ADF & document cover ASSY*1 to separate the document sponge ASSY.

*1 For models with ADF



Document pressure bar

(4) At the front and rear ends of the document pressure bar, pull the lock arms outwards to release the document pressure bar. The spring also comes off.



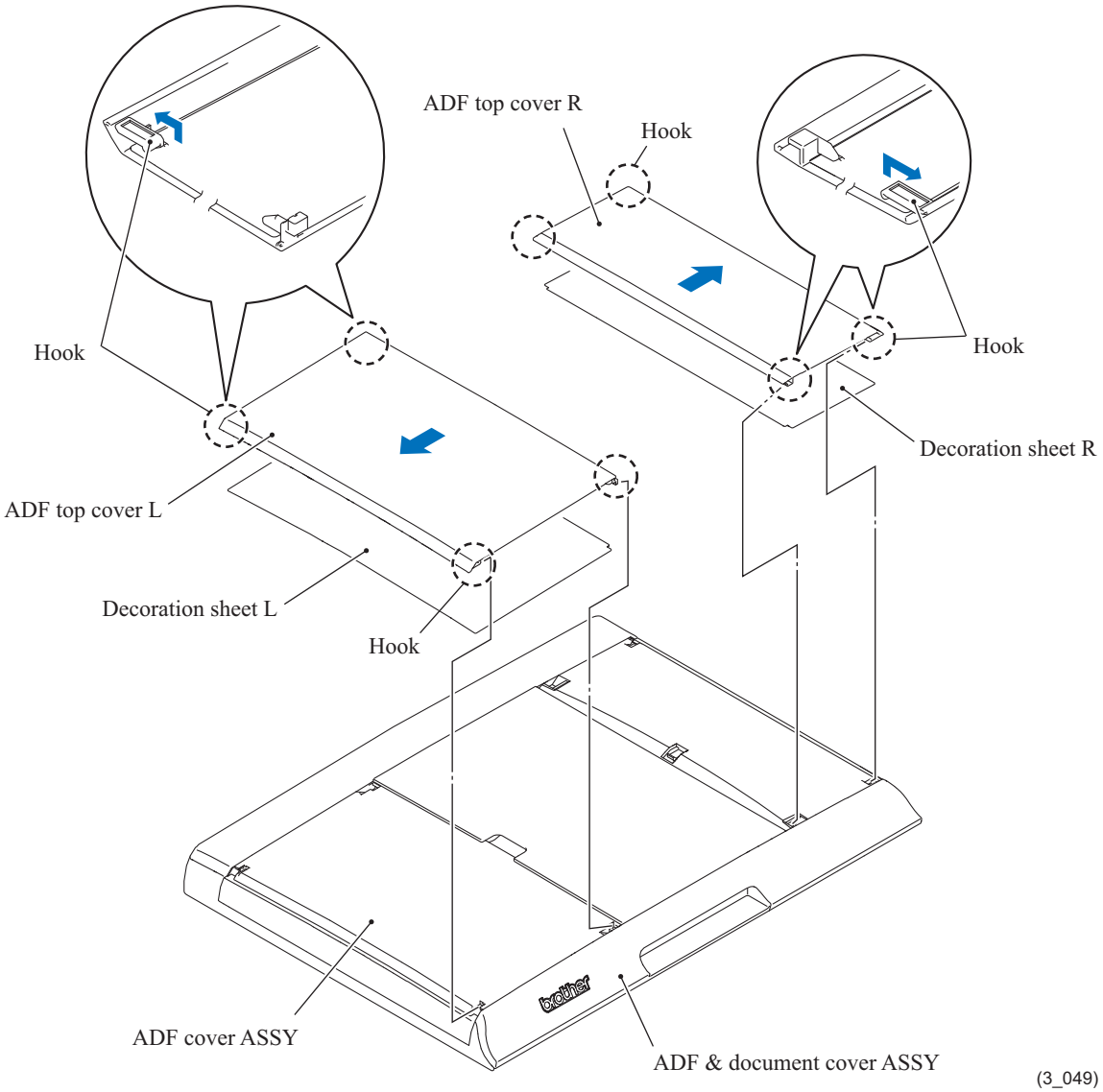
Note: When handling the document pressure bar, be careful not to stain or scratch the white reference film on the bar.

ADF top covers and decoration sheets

(5) Turn the ADF & document cover ASSY right side up.

(6) Slide the ADF top cover R outwards to release the hooks from the ADF & document cover ASSY. The decoration sheet R also comes off.

(7) Slide the ADF top cover L outwards to release the hooks from the ADF & document cover ASSY. The decoration sheet L also comes off.

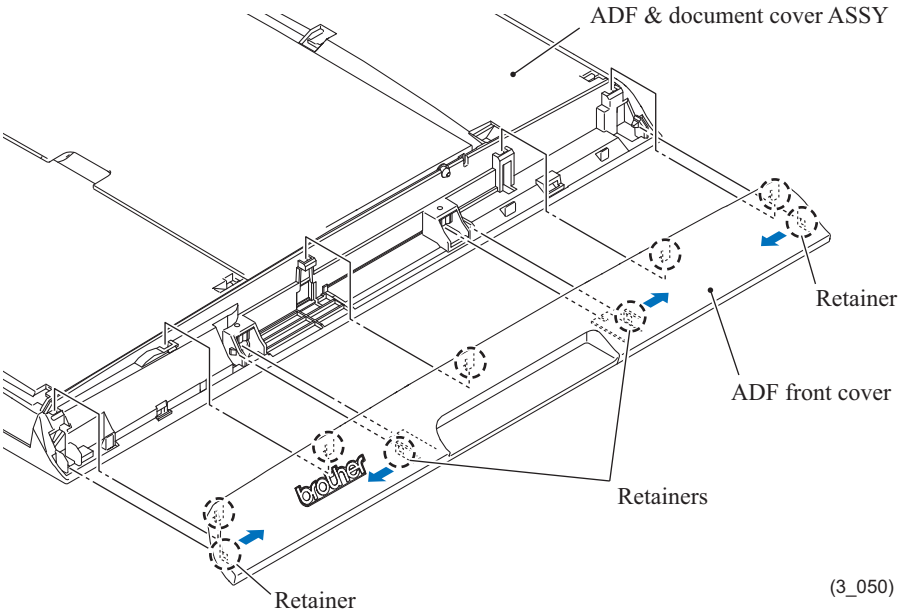


Confidential

ADF front cover and ADF document support

(8) Turn the ADF & document cover ASSY upside down.

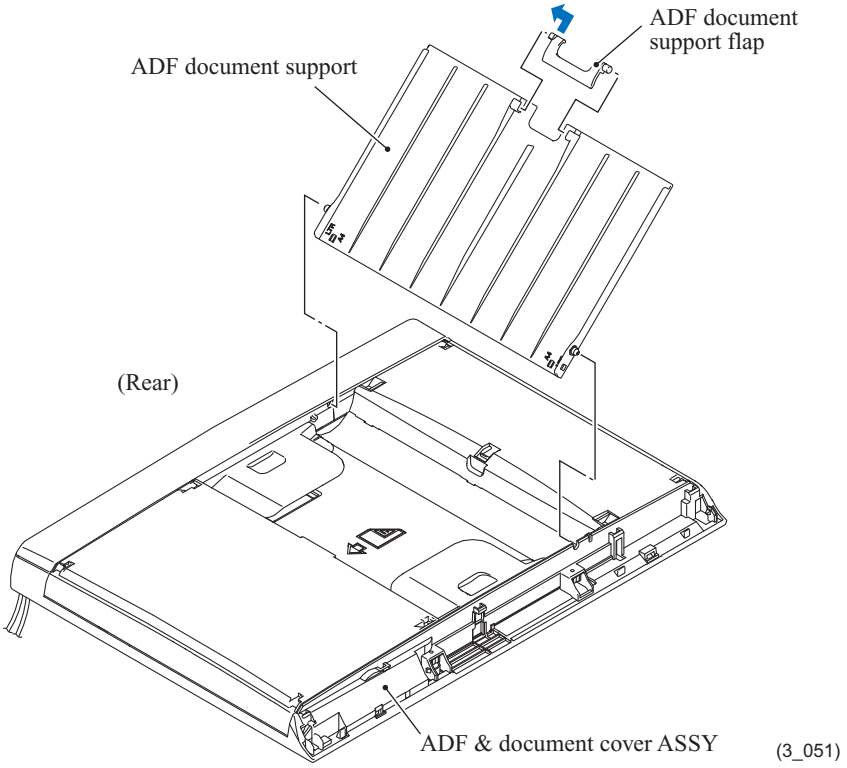
(9) Remove the ADF front cover while releasing the four retainers in the direction of the arrows shown below using a flat screwdriver.



(10) Turn the ADF & document cover ASSY right side up.

(11) Remove the ADF document support.

(12) With the ADF document support flap being closed, first pull out the rear boss and then release the front one.



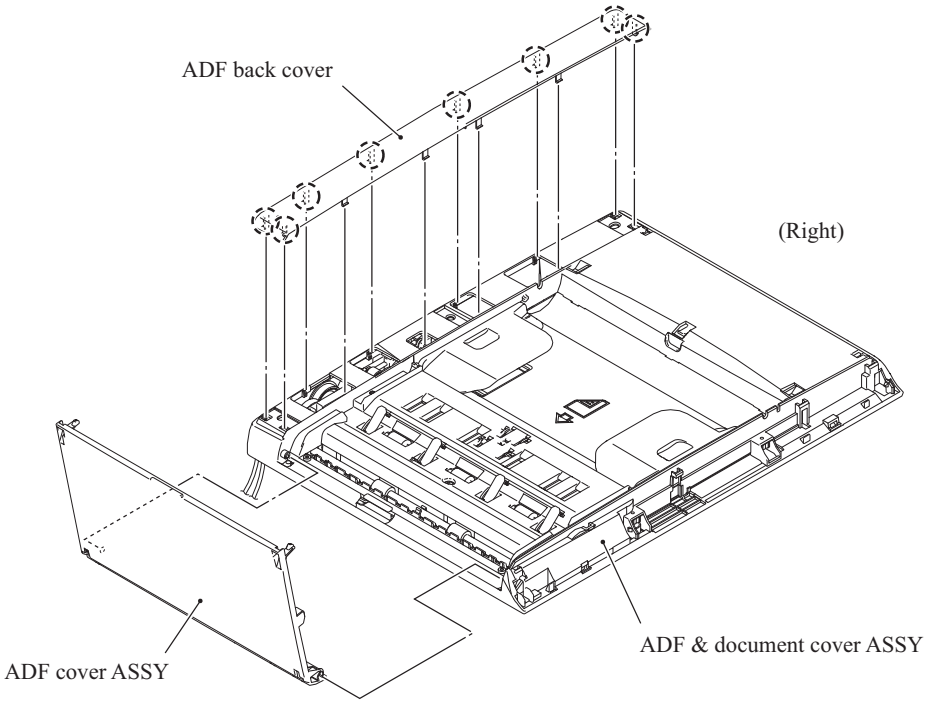
Assembling Note: When setting the ADF document support flap into place, first fit the front boss into the ADF document support and then slide the rear one into it.

ADF back cover and ADF cover ASSY

(13) Turn the ADF & document cover ASSY upside down.

(14) At the rear end of the ADF & document cover ASSY, release the latches provided on the ADF back cover, starting from the right end, with a flat screwdriver and then remove the ADF back cover.

(15) Remove the ADF cover ASSY.



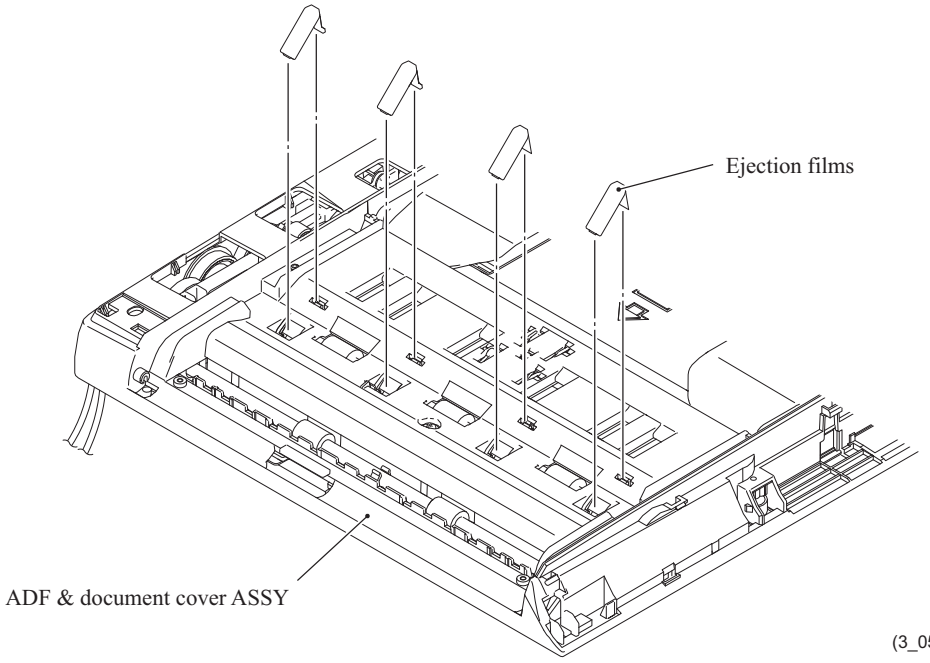
(3_052)

Ejection films

(16) Turn the ADF & document cover ASSY right side up.

(17) Remove the four ejection films.

Note: Once removed, the ejection films will become unusable and new ones will have to be put back in.



(3_053)

Confidential

ADF unit

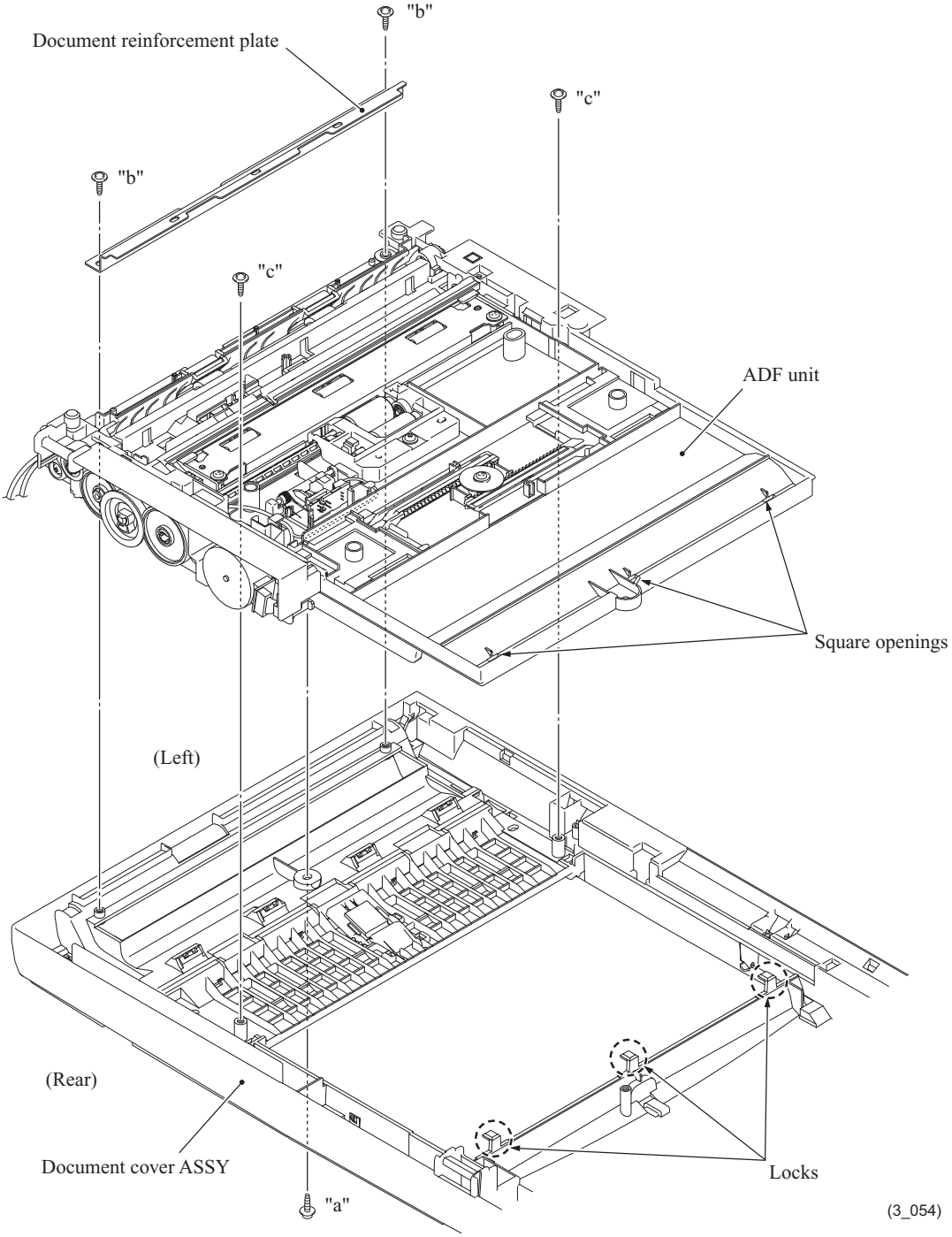
(18) Remove screw "a."

(19) Turn the ADF & document cover ASSY upside down.

(20) Remove two screws "b" (that secure the document reinforcement plate and ADF unit together to the document cover ASSY) and the document reinforcement plate.

(21) Remove two screws "c."

(22) Slightly lift up the left end of the ADF unit, slide it to the left to align the square openings with the locks of the document cover ASSY, and take the ADF unit up and off the document cover ASSY.



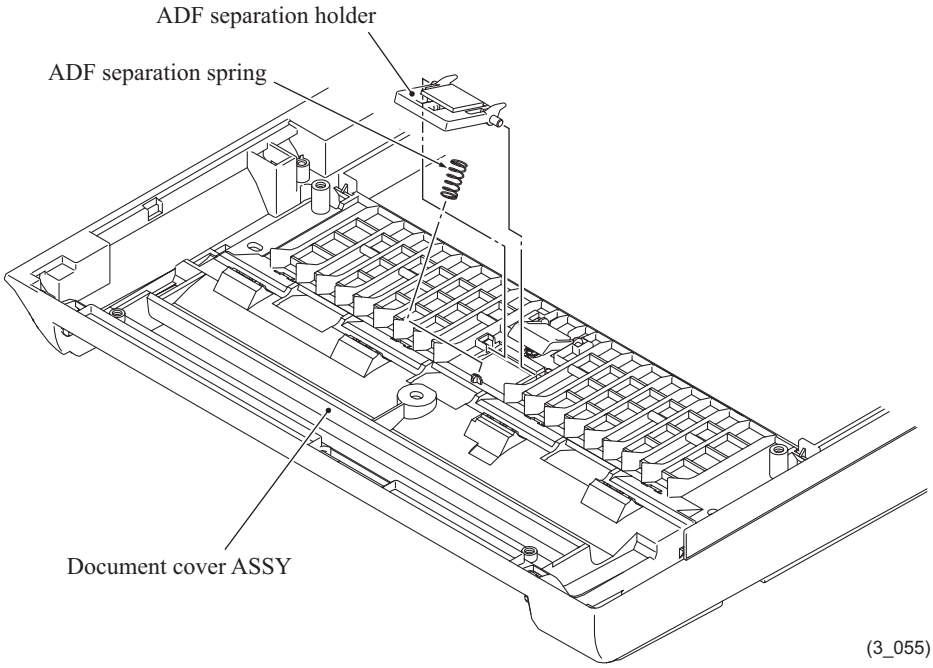
"a," "b" and "c": Taptite, cup B M3x10

Confidential

ADF separation holder

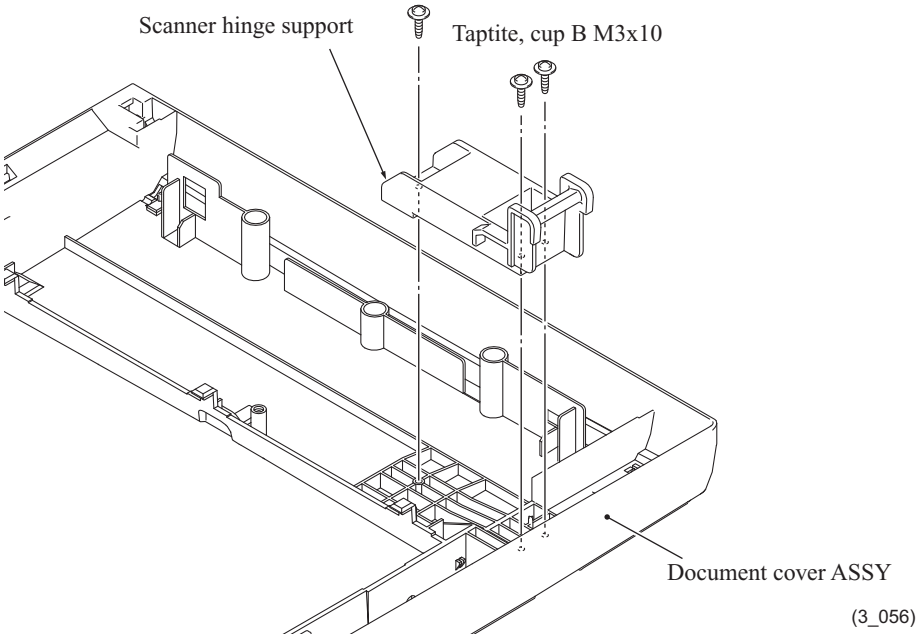
(23) Remove the ADF separation holder and its spring.

Note: When removing the ADF separation holder, take care not to let the spring bounce off.



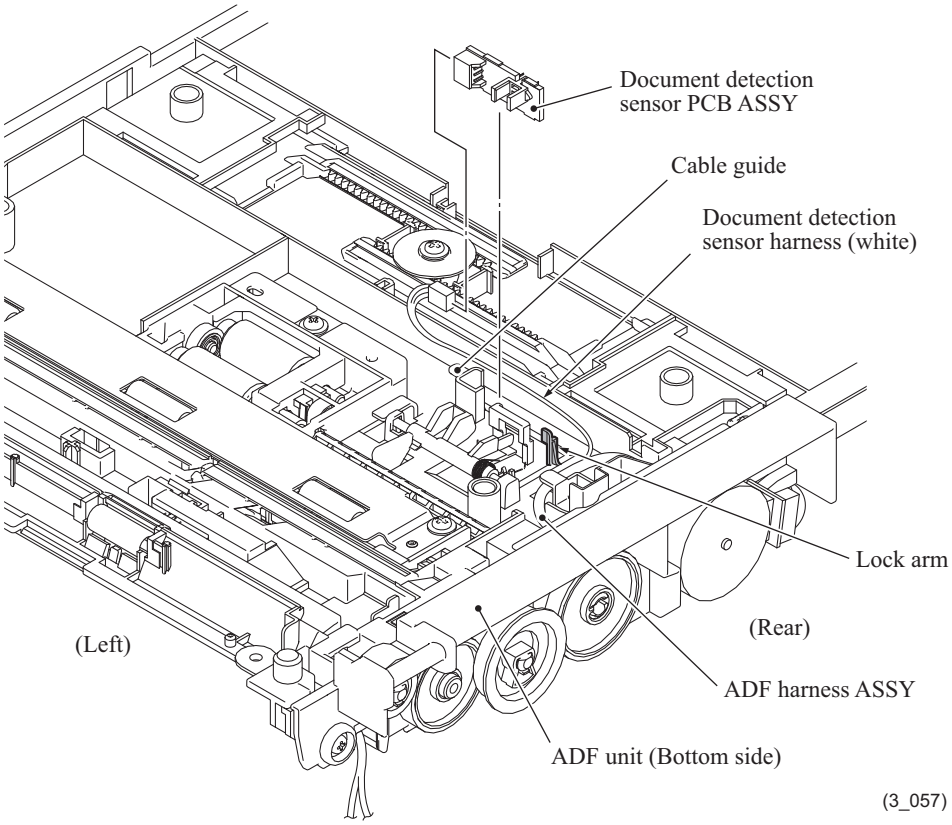
Scanner hinge support

(24) Remove the three screws and take the scanner hinge support off the document cover ASSY.

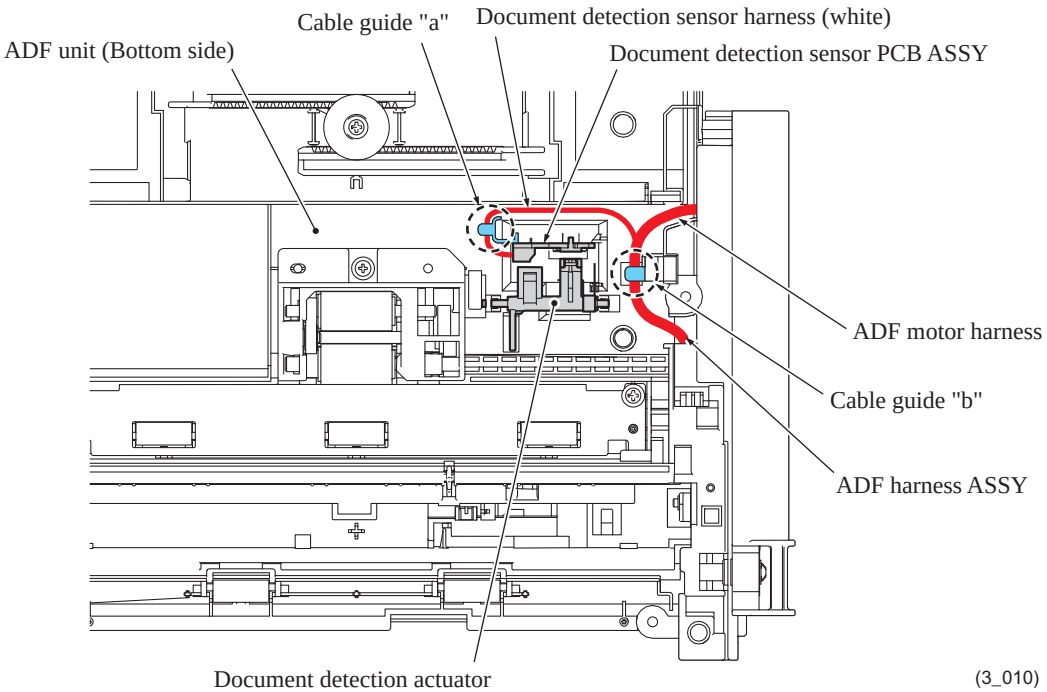


Document detection sensor PCB ASSY

(25) Press the lock arm to the rear to release the rear end of the document detection sensor PCB and remove the PCB ASSY. Then disconnect the document detection sensor harness from the PCB and release the harness from the cable guide provided on the ADF unit.



Assembling Note: As shown below, route the document detection sensor harness through cable guide "a." After taped together with the ADF motor harness, it is called ADF harness ASSY. Further route the harness ASSY through cable guide "b."

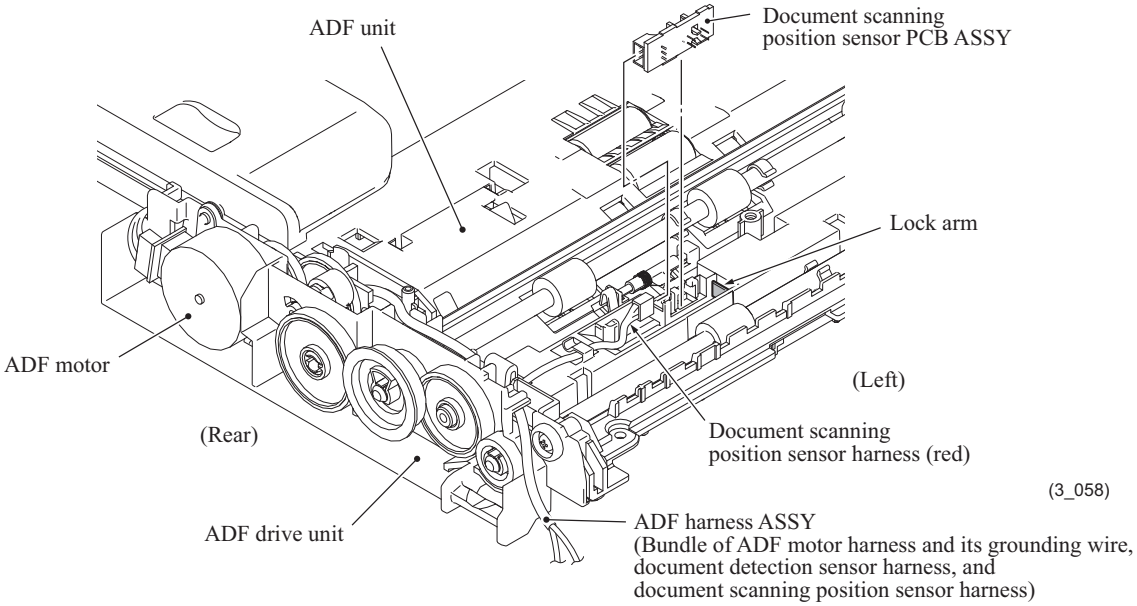


Confidential

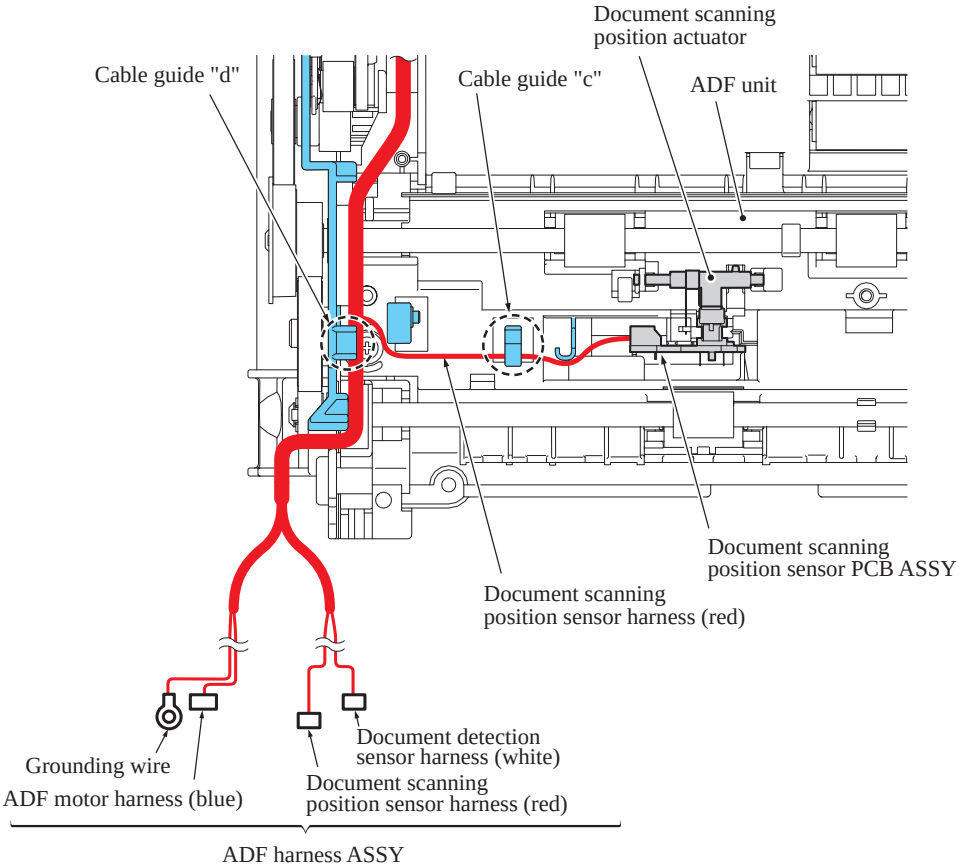
Document scanning position sensor PCB ASSY

(26) Turn the ADF unit right side up.

(27) Press the lock arm to the front to release the front end of the document scanning position sensor PCB and remove the PCB ASSY. Then disconnect the document scanning position sensor harness from the PCB and release the harness from the cable guide provided on the ADF unit



Assembling Note: As shown below, route the document scanning position sensor harness through cable guide "c." After taped together with the ADF harness ASSY, further route it through cable guide "d."

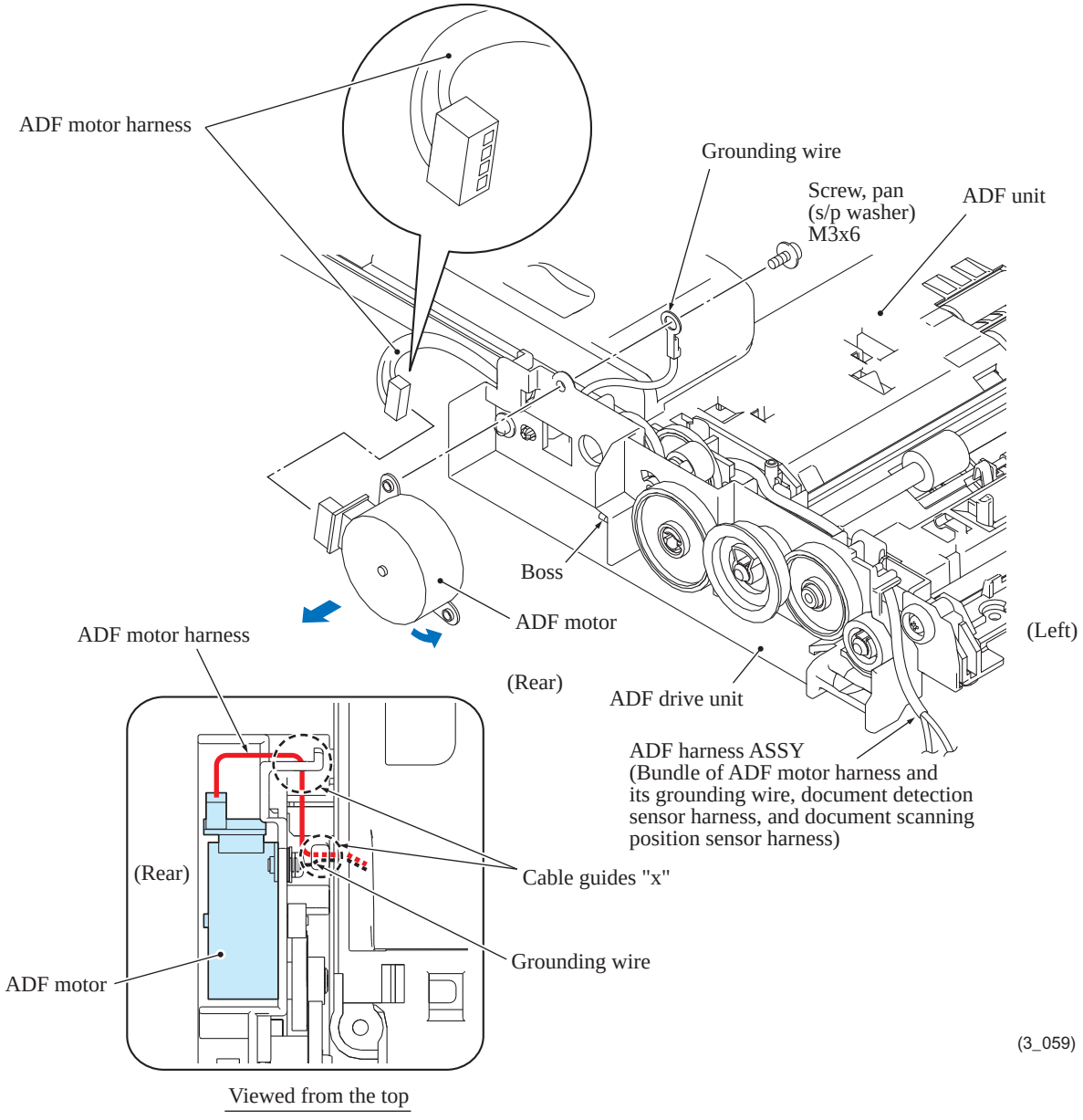


Confidential

ADF motor

(28) Remove the screw (that secures the ADF motor together with the grounding wire), slightly rotate the ADF motor counterclockwise to release it from the boss on the ADF drive unit, and remove the ADF motor.

(29) Disconnect the ADF motor harness from the motor.



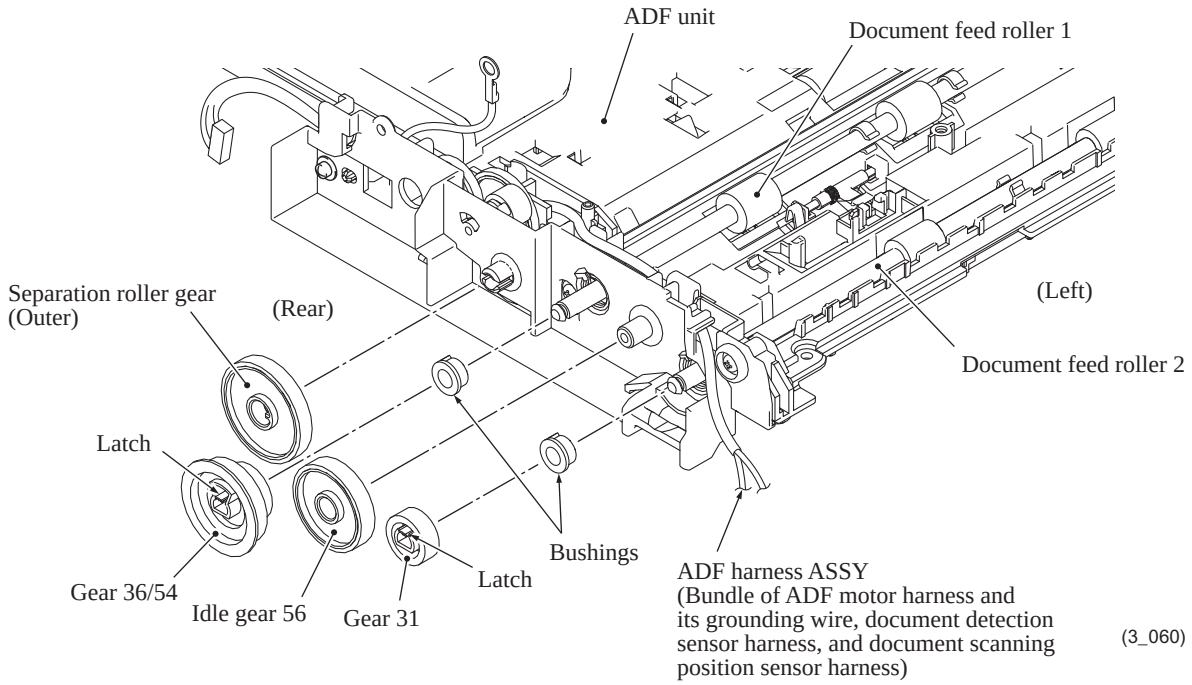
Assembling Note: Connect the ADF motor harness to the motor and route it through two cable guides "x" as shown above. Secure the ADF motor together with the grounding wire to the ADF drive unit with the screw.

ADF drive unit

(30) Remove gear 36/54 by releasing its latch, then remove the separation roller gear (outer) and idle gear 56.

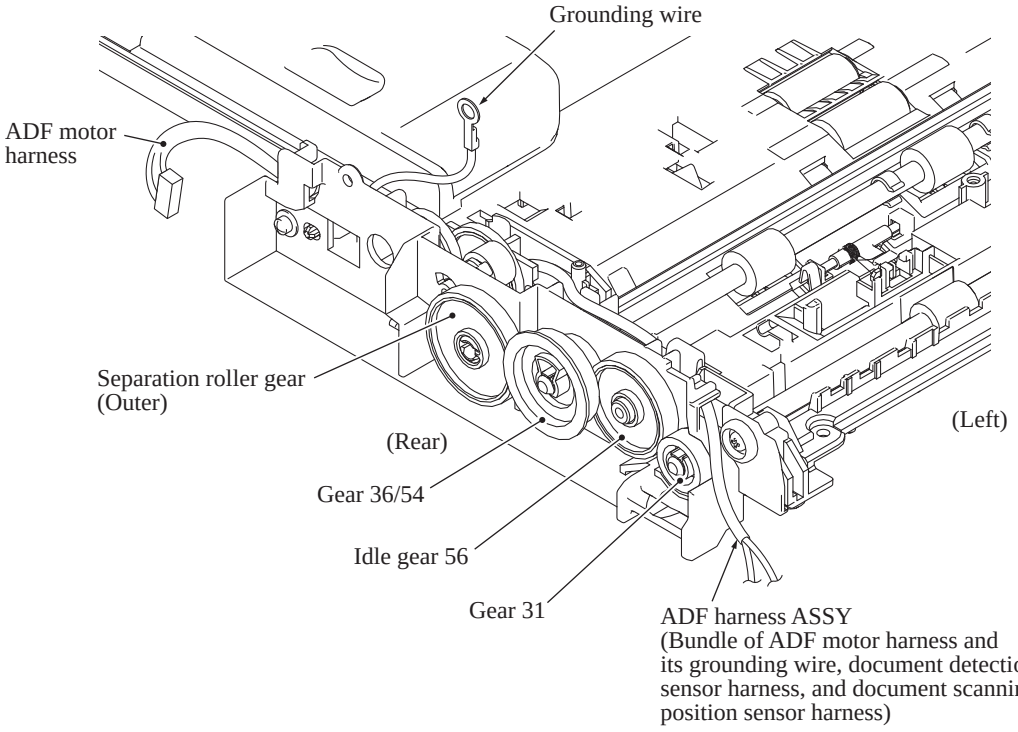
(31) Remove gear 31 by releasing its latch.

(32) Remove the bushing from each of the document feed roller shafts 1 and 2.



(3_060)

Assembling Note: Set the ADF-related gears into place as shown below.

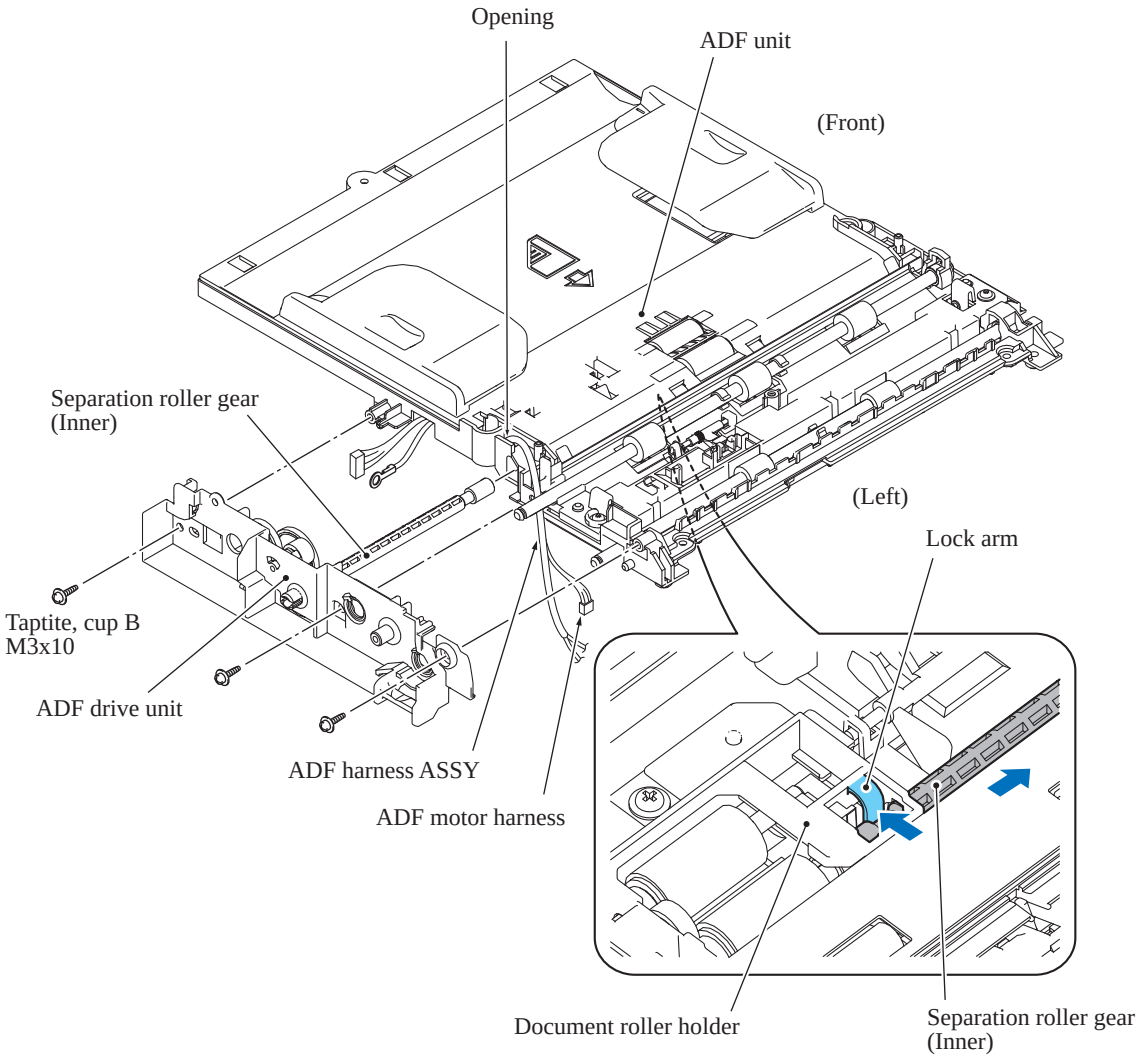


(3_061)

(33) Remove the three screws from the ADF drive unit.

(34) On the underside of the ADF drive unit, press the lock arm to release the separation roller gear (inner), and pull the ADF drive unit off the ADF unit.

(35) Remove the ADF motor harness from the ADF unit.



(3_062)

Assembling Note: Before mounting the ADF drive unit on the ADF unit, pass the ADF harness ASSY through the opening (see above) provided in the ADF unit and route it through cable guide "b" (shown on page 3-65) on the underside of the ADF unit.

When mounting the ADF drive unit, route the ADF motor harness and its grounding wire through cable guides "x" (shown on page 3-67).

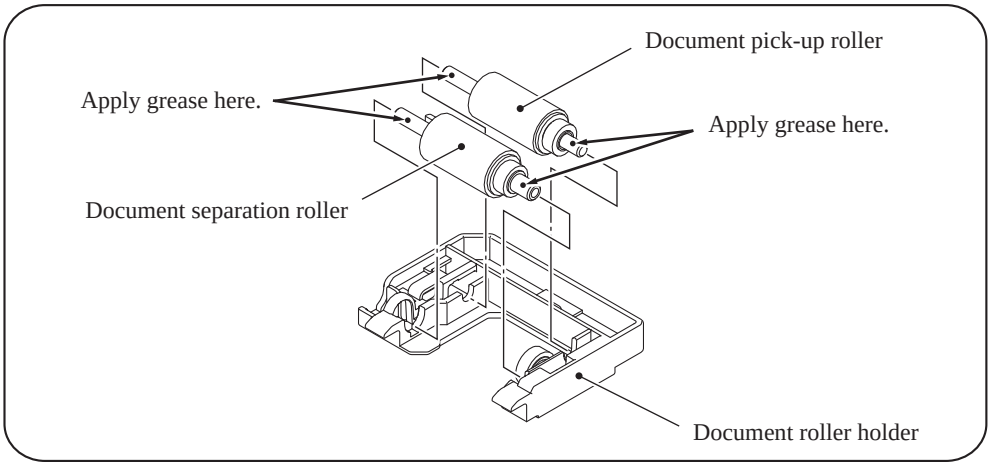
Document pick-up roller and document separation roller

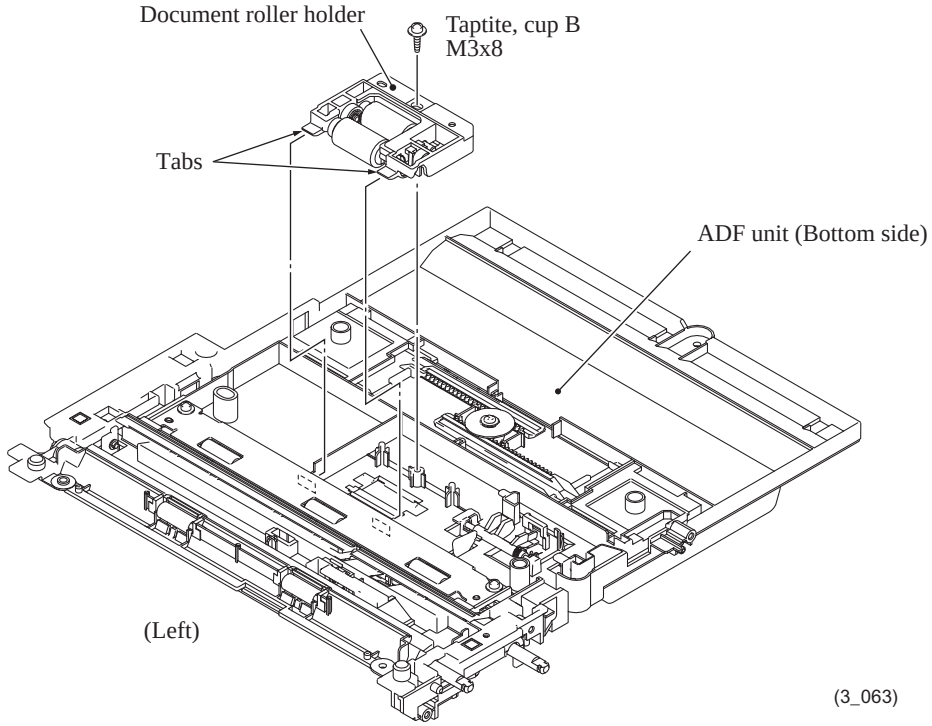
(36) Turn the ADF unit upside down.

(37) Remove the screw from the document roller holder.

(38) Release the two tabs on the document roller holder from the ADF unit and take up the holder.

(39) Remove the document pick-up roller and document separation roller from the document roller holder.





Assembling Note: Before mounting the document roller holder on the ADF unit, apply the specified lubricant to the roller shafts, referring to Section 5 in this chapter.

9.7 Control Panel ASSY

*1 For models with touch panel

(1) Remove three screws "a" from the control panel ASSY.

(2) Slightly pull up the rear end of the control panel ASSY and press the front end to the rear to separate the ASSY from the upper cover.

Note: Do not pull the control panel ASSY away from the machine since it is connected to the machine with harnesses.

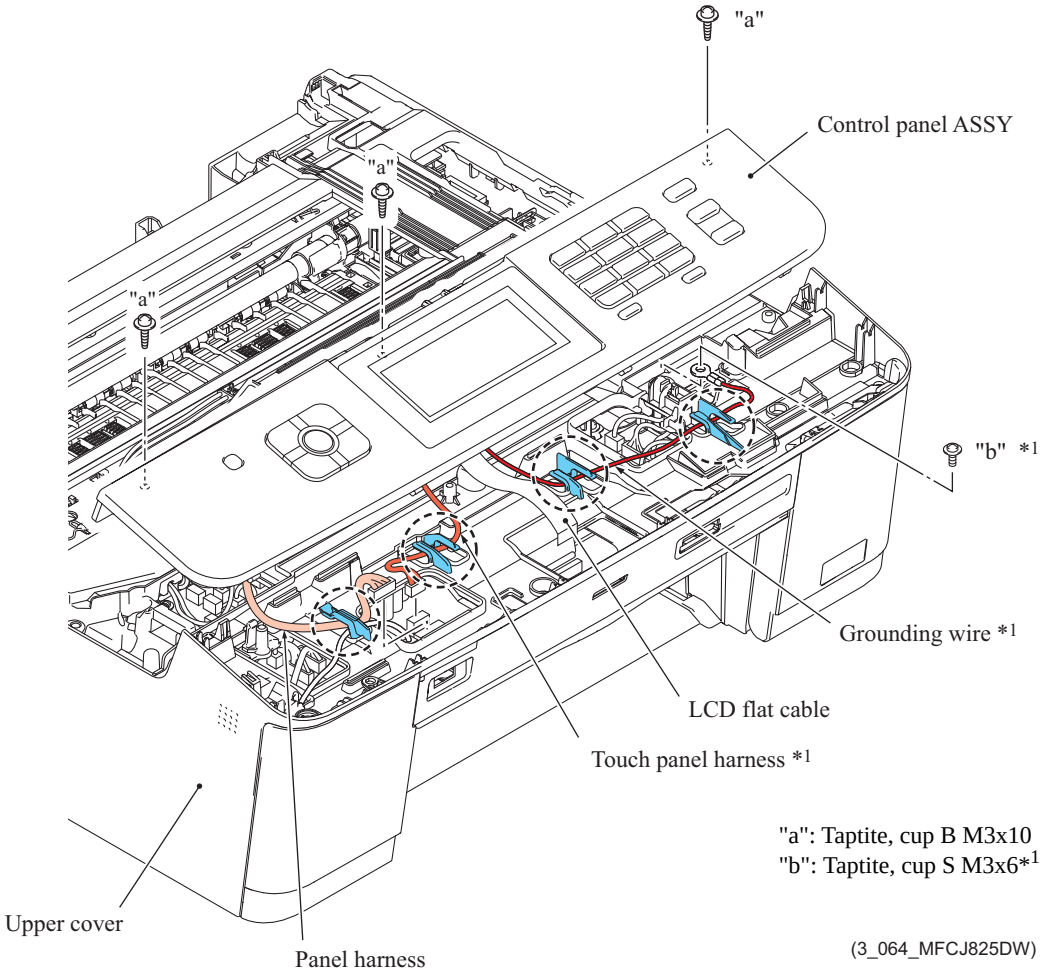
(3) Slightly lift up the control panel ASSY, disconnect the panel harness and touch panel harness*1 from the main PCB, and release them from their cable guides.

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

Note: After disconnecting the flat cable, check that it is not damaged at its end or short-circuited. When connecting the flat cable, do not insert it at an angle. After insertion, check again that it is not at an angle.

(5) **Models with touch panel** Release the grounding wire*1 by removing screw "b"*1 and remove it from the cable guides.

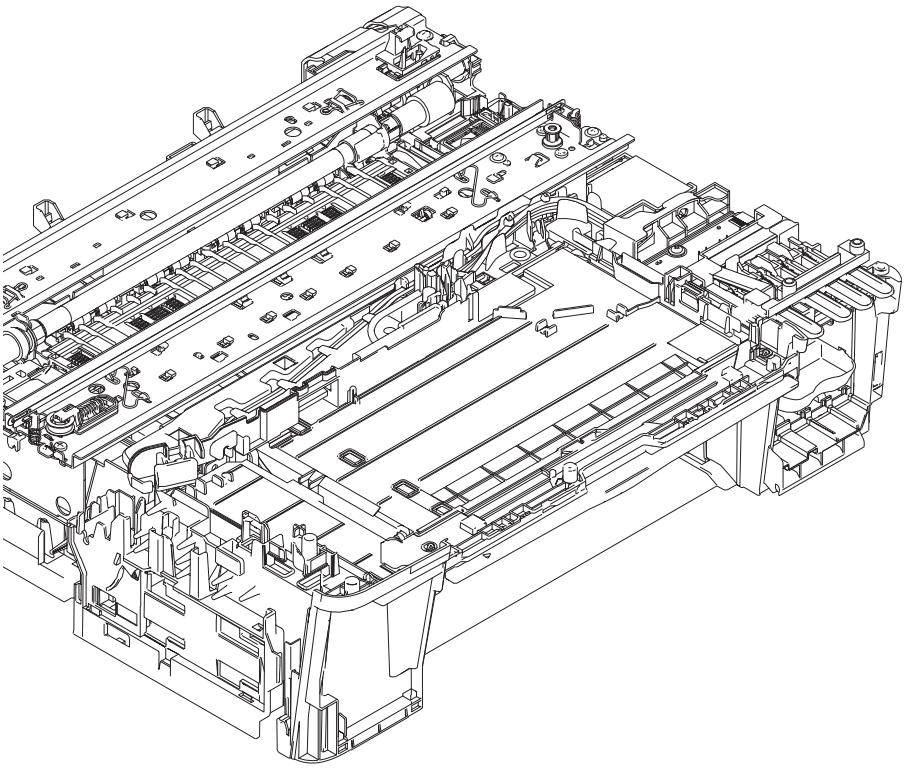
MFC with touch panel



Assembling Notes:

- Route the panel harness, touch panel harness*1 and grounding wire*1 through cable guides (circled with a dashed line).
- After mounting the control panel ASSY, check that there is no gap between the front end of the control panel ASSY and that of the upper cover.

MFC without touch panel



(3_064_MFCJ430W)

DCP

*1 For models with touch panel

9.8 Disassembly of Control Panel ASSY

(The control panel ASSY contains the document scanner open actuator.)

(1) Turn the control panel ASSY upside down.

(2) **Models with touch panel & 1.9-inch LCD** Disconnect the LED harness from the panel PCB.

(3) **MFC** Release the five latches (three "x" and two "y" latches).
DCP Release the three or two "x" latches.

Then remove the panel PCB ASSY.

(4) **MFC** Remove the two rubber keys.
DCP Remove the rubber key.

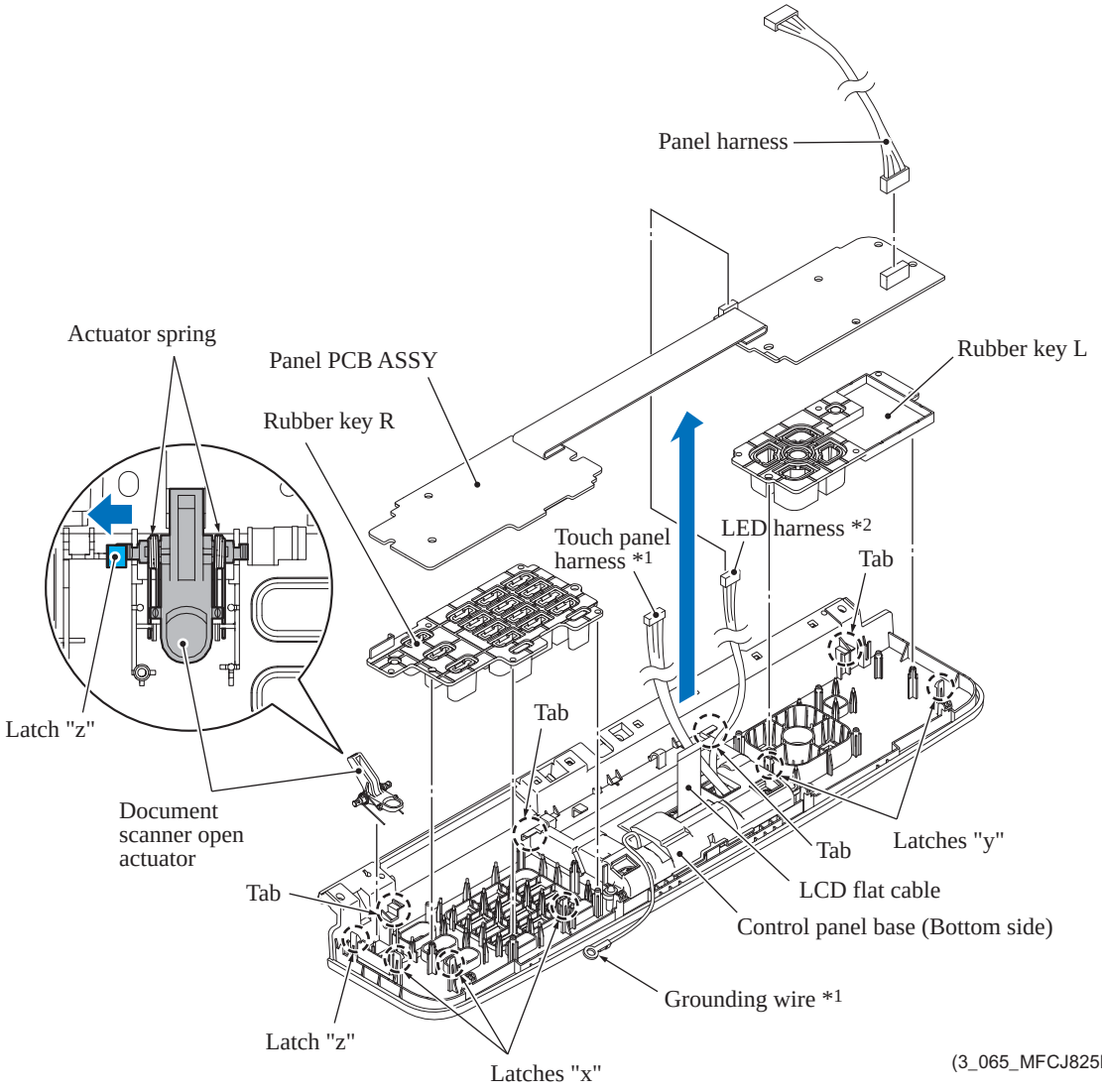
(5) Release latch "z" provided on the control panel base and remove the document scanner open actuator together with its spring.

(6) **MFC without touch panel** Remove the LCD and flat core.

(7) **DCP** Remove the EX panel plate.

MFC with touch panel

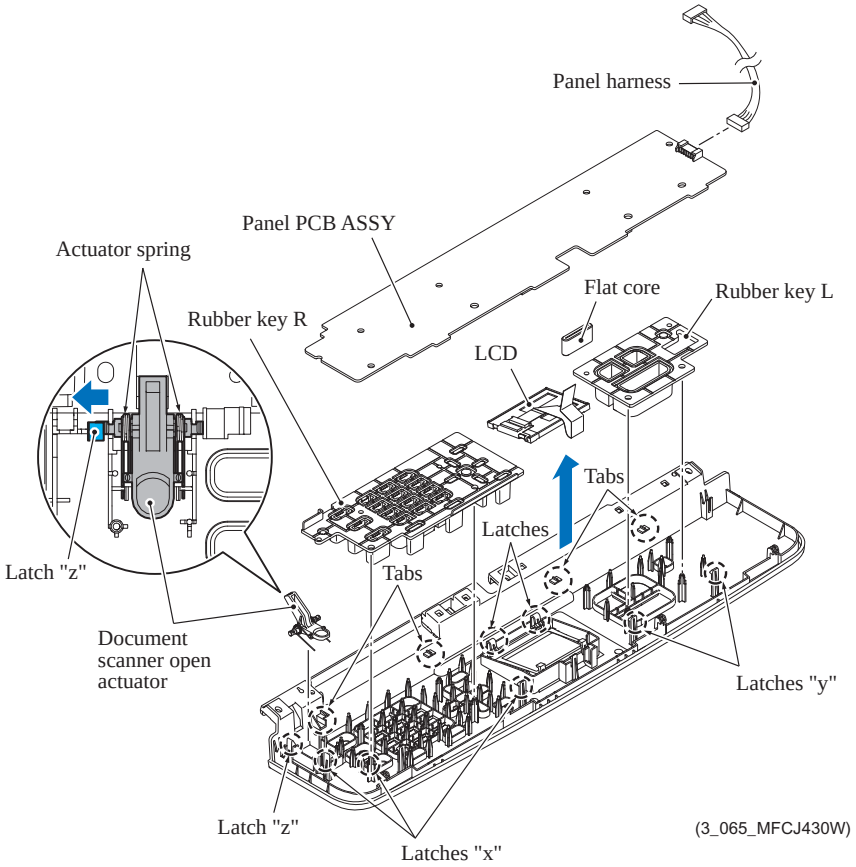
*1 For models with touch panel
*2 For models with touch panel & 1.9-inch LCD



(3_065_MFCJ825DW)

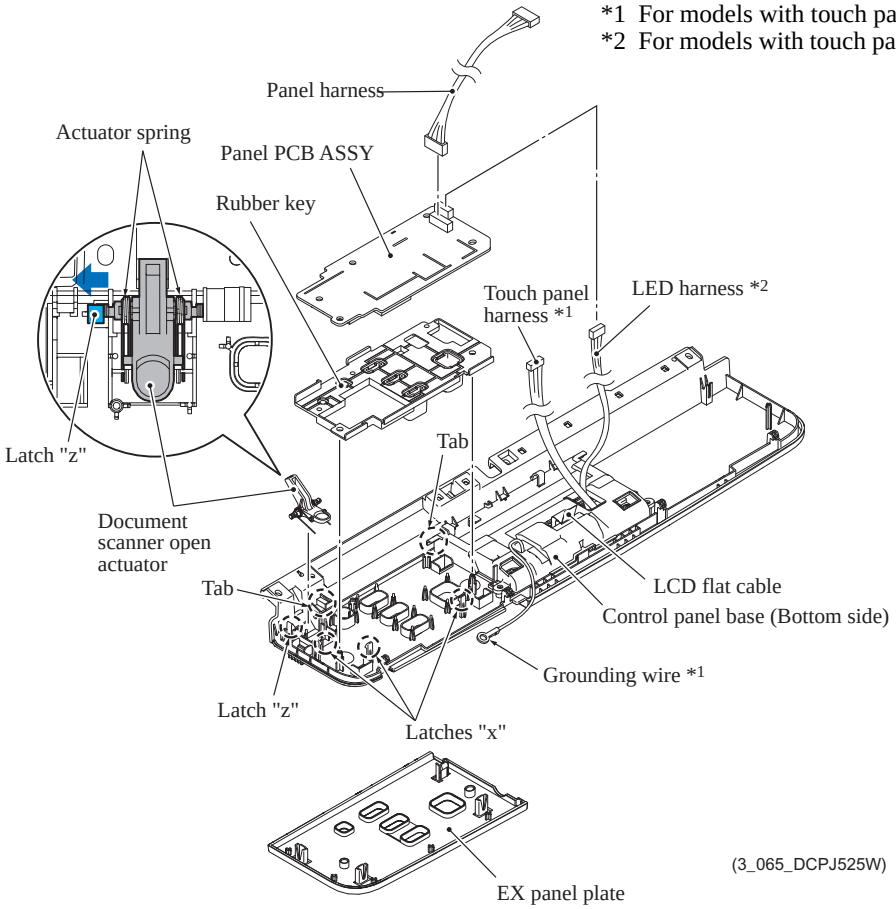
Confidential

MFC without touch panel



DCP

*1 For models with touch panel
*2 For models with touch panel & 1.9-inch LCD



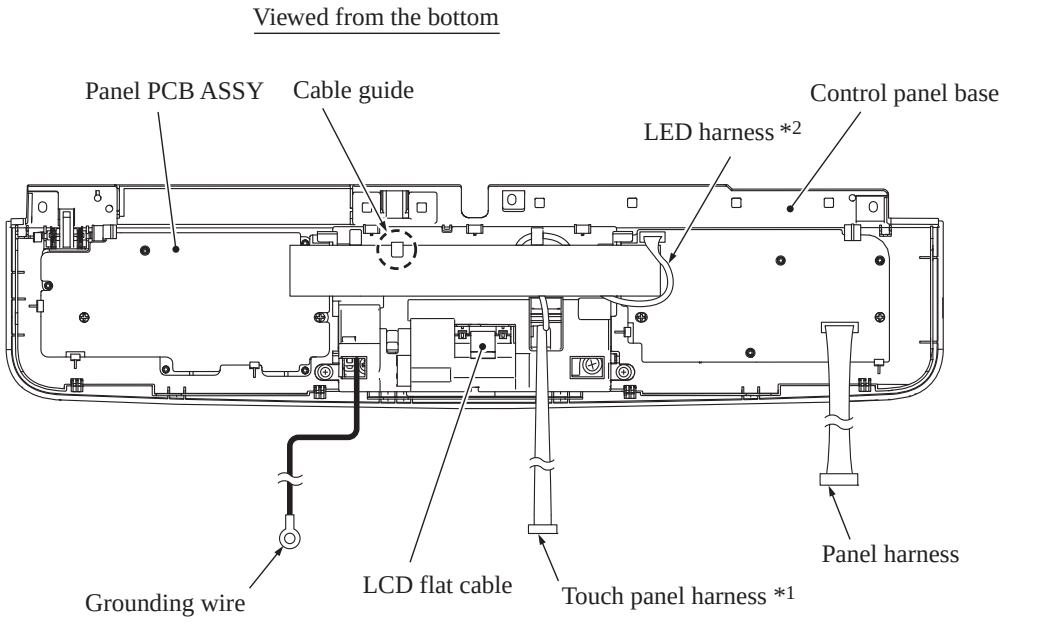
Confidential

Assembling Notes:

- After mounting the document scanner open actuator, check that the actuator springs back if pressed with a finger.
- When mounting the control panel PCB ASSY, first fit it below the four tabs on the control panel base and then secure it with the four latches (see the previous page). Make sure that the cable linking the two PCBs is threaded through the cable guide as shown below.

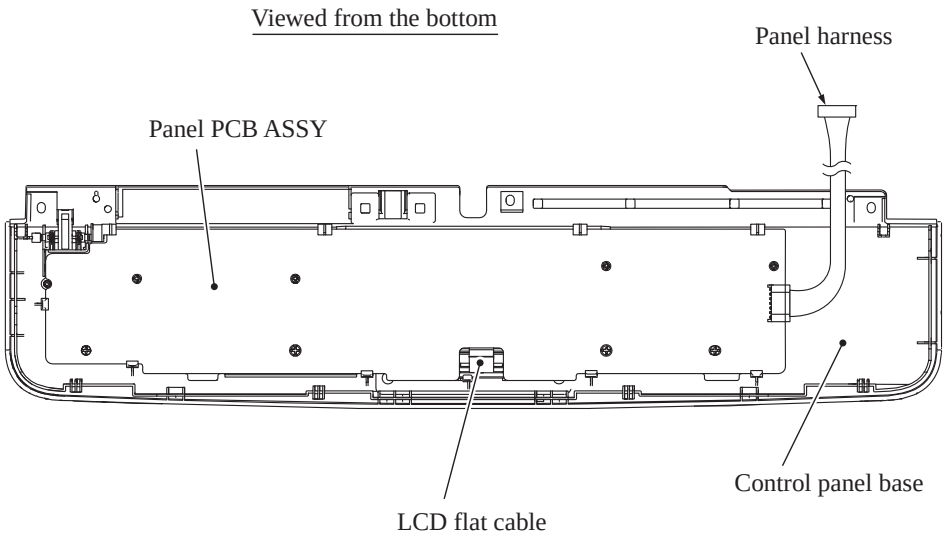
MFC with touch panel

*1 For models with touch panel
*2 For models with touch panel & 1.9-inch LCD



(3_066_MFCJ825DW)

MFC without touch panel



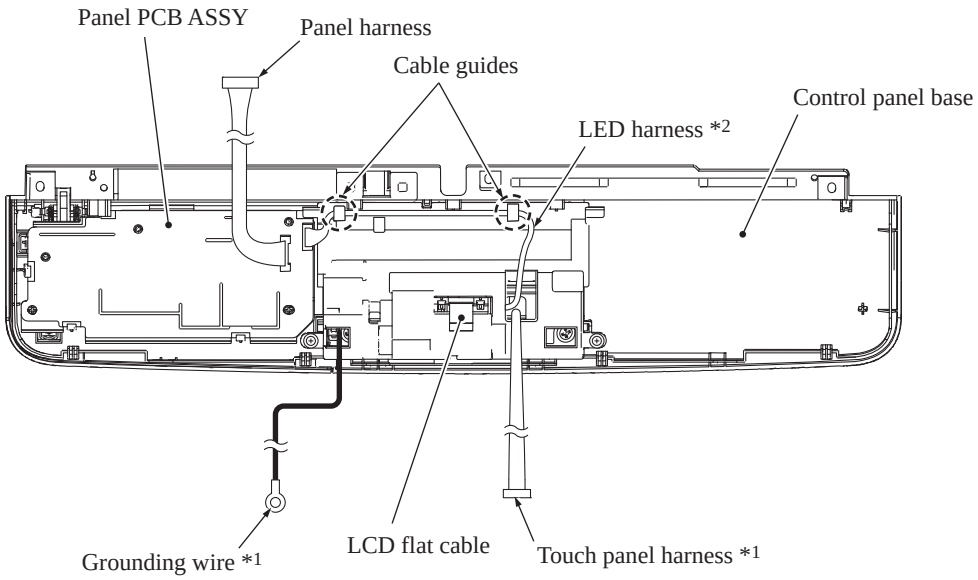
(3_066_MFCJ430W)

Confidential

DCP

*1 For models with touch panel
*2 For models with touch panel & 1.9-inch LCD

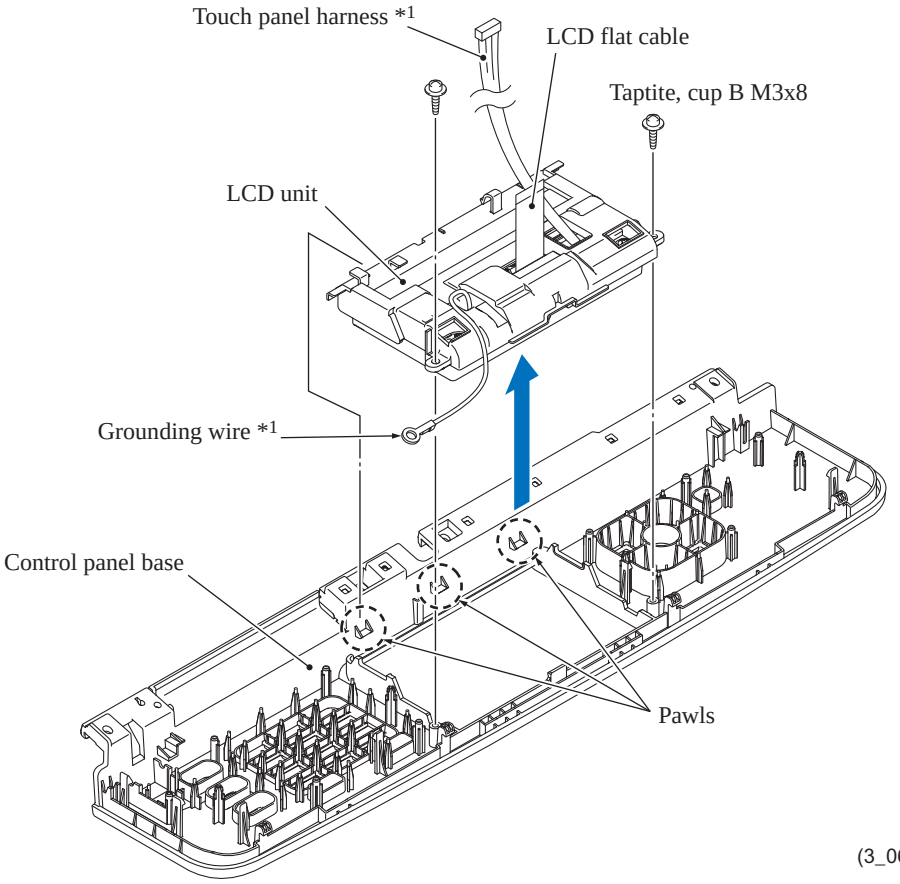
Viewed from the bottom



(3_066_DCPJ525W)

(8) **Models with touch panel** Remove the two screws and take the LCD unit out of the control panel base.

*1 For models with touch panel



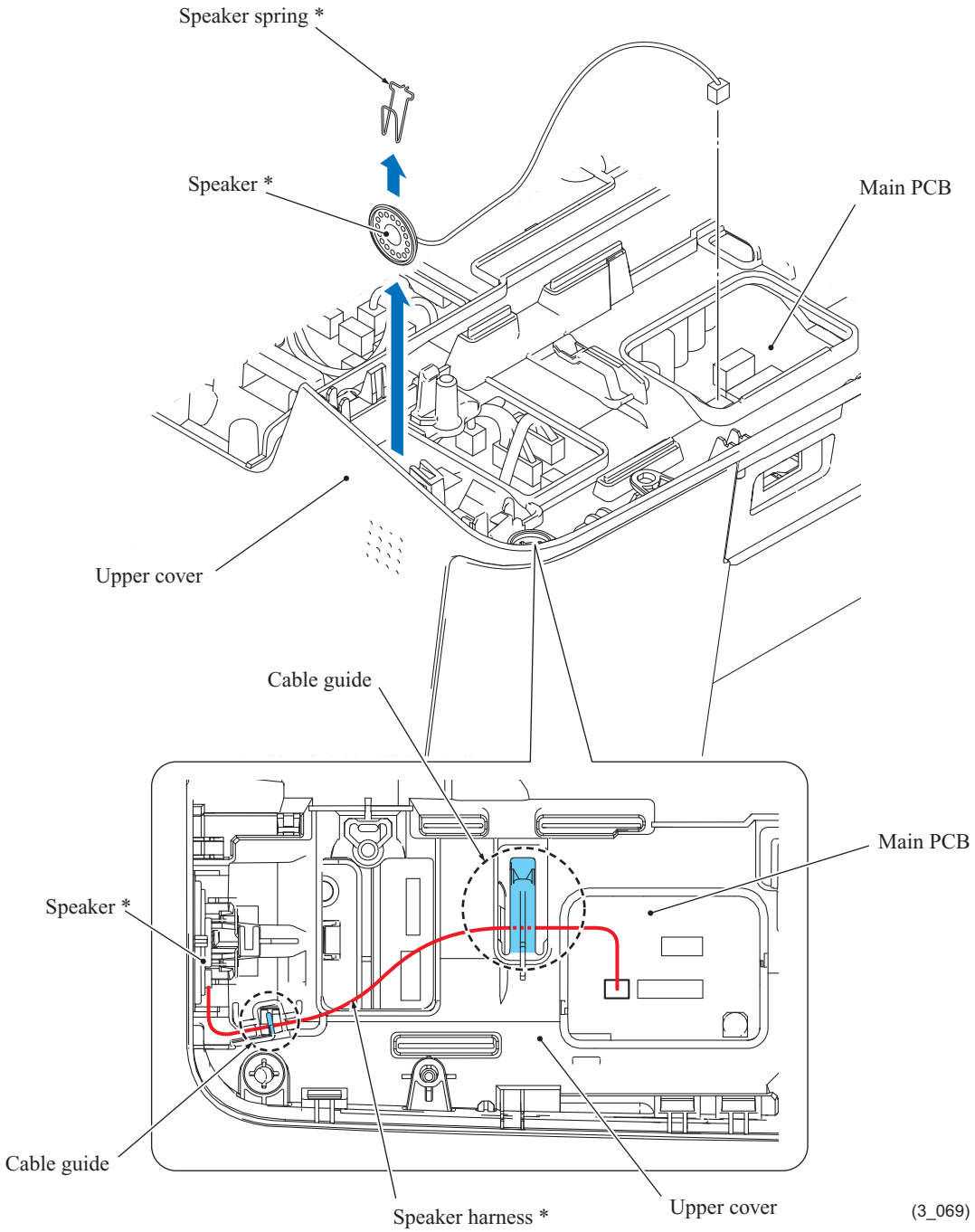
(3_067)

9.9 Speaker*, Front Cover and Wireless LAN PCB

(1) Disconnect the speaker harness* from the main PCB and release it from the cable guides provided on the upper cover.

(2) Pull out the speaker spring (wire spring)* and take the speaker* out of the pocket provided on the upper cover.

* For models with speaker

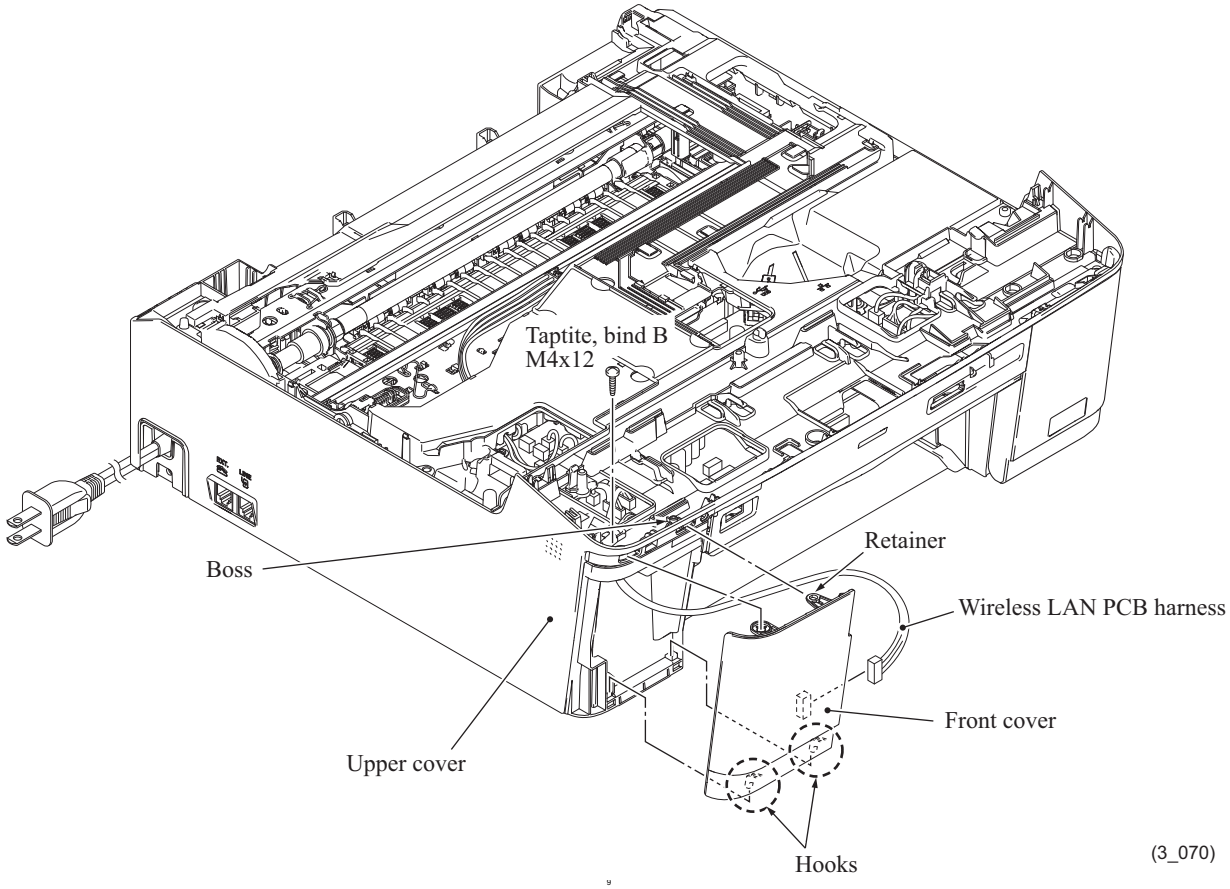


Assembling Note: After mounting the speaker* and its spring* into the pocket provided on the upper cover, route the speaker harness* through the cable guides on the upper cover as shown above.

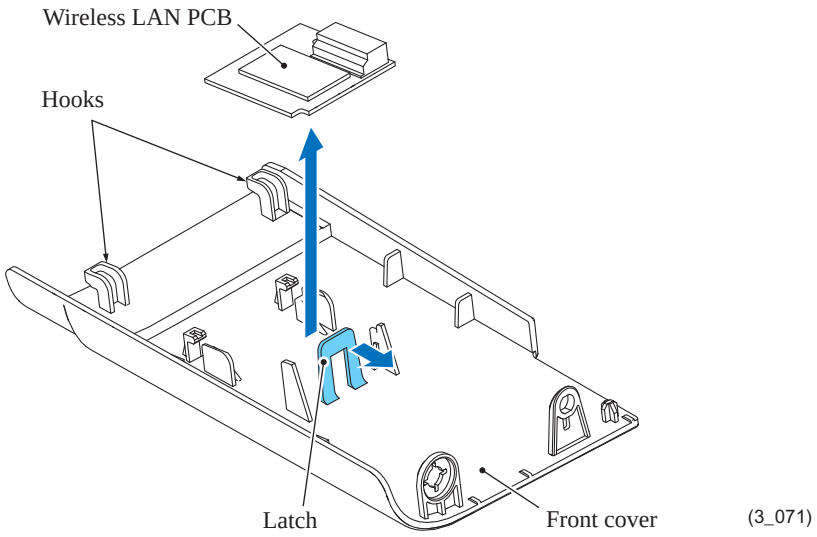
(3) Remove the screw (that secures the front cover and upper cover together to the lower cover).

(4) On the inside of the front cover, lightly pull up the retainer to release it from the boss on the upper cover, slightly pull the front cover up and towards you to remove the front cover together with the wireless LAN PCB.

(5) Disconnect the harness from the wireless LAN PCB.



(6) Release the latch on the front cover and remove the wireless LAN PCB.



Assembling Note: When mounting the front cover, route the wireless LAN PCB harness through the upper opening provided in the lower cover, fit the two hooks into the lower openings, and set the front cover into place while lifting it up slightly.

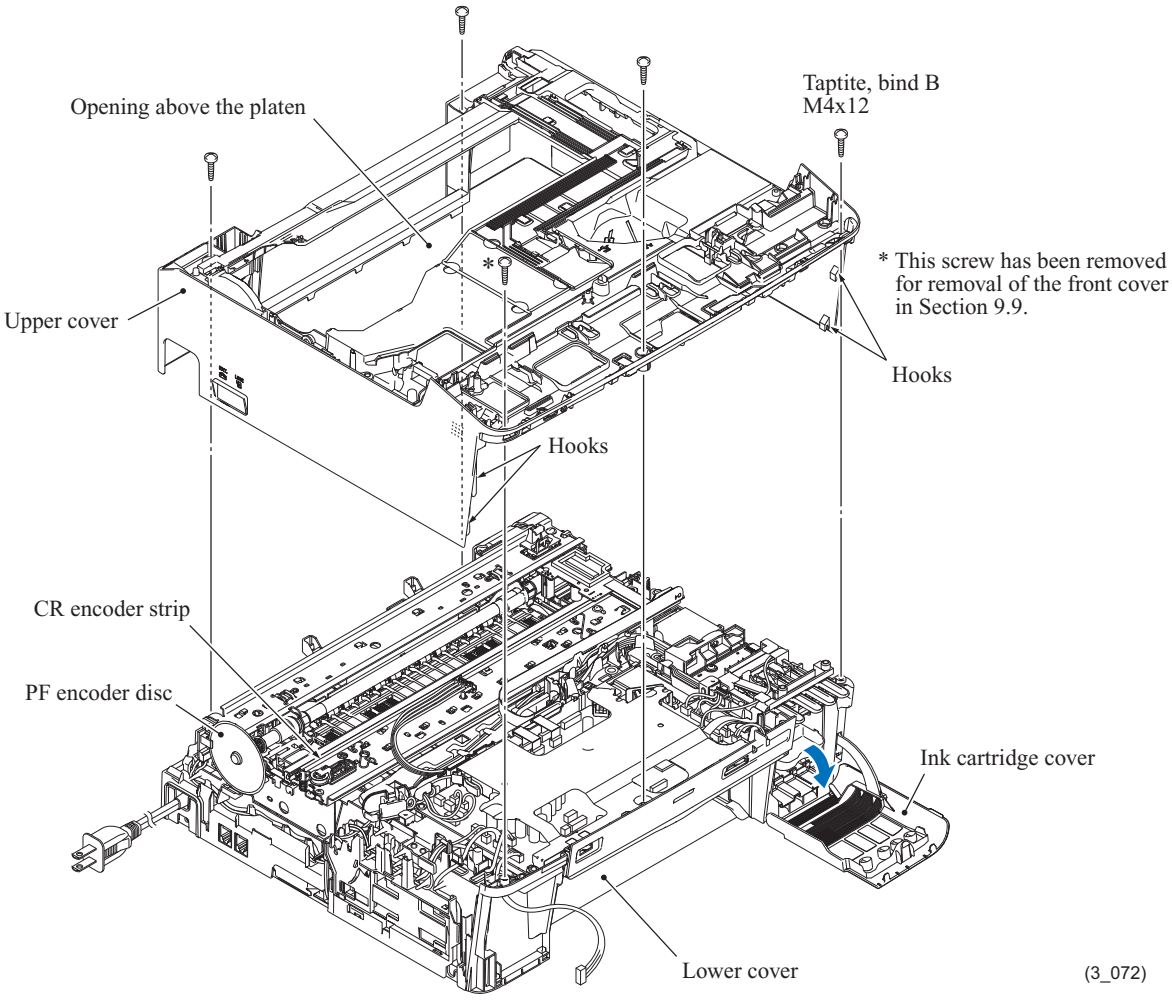
9.10 Upper Cover, Ink Cartridge Cover and Media Module Cover

(1) Open the ink cartridge cover.

(2) Remove the five screws (four screws if the front cover has been removed in the previous section) from the upper cover.

(3) Hold the right and left sides of the upper cover and lift it up and off the lower cover.

Note: Do not put your hands into the opening above the platen (shown below). Doing so may damage or stain the CR encoder strip inside.



Assembling Notes:

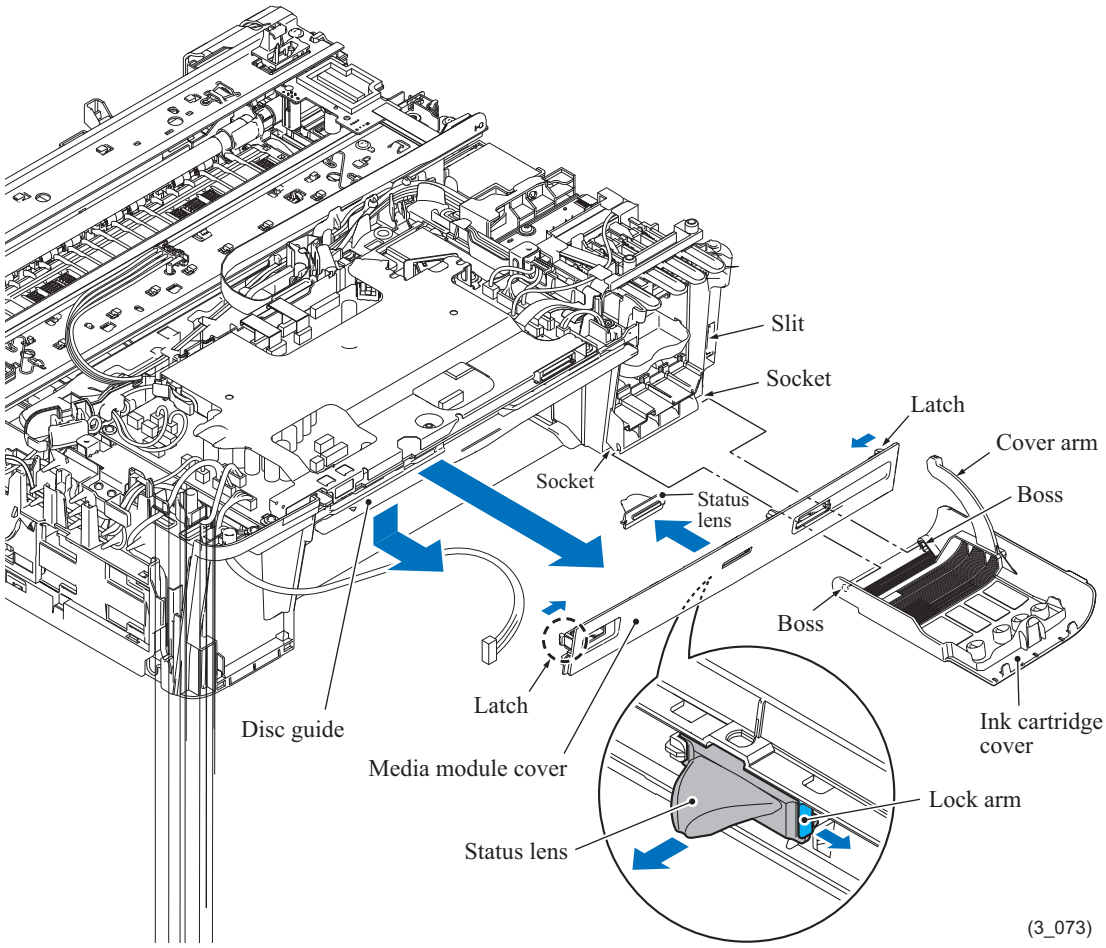
- When mounting the upper cover:
  - Make sure that the ink cartridge cover is opened.
  - Make sure that the head/carriage unit is placed in the head capping position (home position). This prevents the ink supply tubes from getting crushed between the upper and lower covers.
    (If the head/carriage unit remains removed in Section 9.3, take care not to crush the ink supply tubes or carriage flat cables between the upper and lower covers.)
  - Take care not to deform the PF encoder disc.
  - Be sure to fit the hooks provided on the inside of the upper cover into the groove in the lower cover.
- After mounting the upper cover, check that the PF encoder disc is not bent or deformed.

(4) Slightly lift up the front end of the lower cover, open the ink cartridge cover fully, warp the cover arm downwards to release it from the slit in the lower cover, and then remove the right and left bosses on the ink cartridge cover downwards from the lower cover.

(5) <u>For disc printing models</u> Push down the disc guide and pull it towards you.

(6) Release the latches on the media module cover from the lower cover and pull it out to the front.

(7) Pull the lock arm of the media module cover outwards and remove the status lens.



Assembling Note: When mounting the ink cartridge cover, hold it in a fully opened position, fit the right and left bosses into the sockets in the lower cover from bottom up, and insert the cover arm into the slit while warping it down.

9.11 Main PCB

Caution: Before replacement of the main PCB, back up the machine information and user setting information (refer to Chapter 5, Section 1.4.12 "Backup of Machine Information (Function code 46) (User-accessible)" and the head calibration data (refer to Chapter 5, Section 1.4.23 "Updating of Head Property Data and Backup/Restoration of Head Calibration Data (Function code 68)." After replacement, restore the backed up information to the new PCB. Failure to do so requires replacing also the ink absorber box and flushing box after replacement of the main PCB.

Caution: Before accessing the main PCB, make sure that the power cord is unplugged from the electrical outlet and the telephone line (MFC only) is disconnected; otherwise, an electric shock could occur.

Vorsicht: Bevor Sie auf das Mainboard zugreifen, stellen Sie sicher, dass der Netzstecker aus der Netzsteckdose gezogen und das Telefonkabel entfernt ist. Andernfalls kann es zu einem Stromschlag kommen.

Caution: At the time of removal of the main PCB, untightening screws should be preceded by disconnection of the harnesses and flat cables, and at the time of installation, connection of the harnesses and flat cables, by tightening of screws. Observing this sequence prevents harnesses and flat cables from getting crushed or damaged by screws or screwdrivers.

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

Caution: Do not remove the screws from the main PCB before disconnecting harnesses and flat cables.

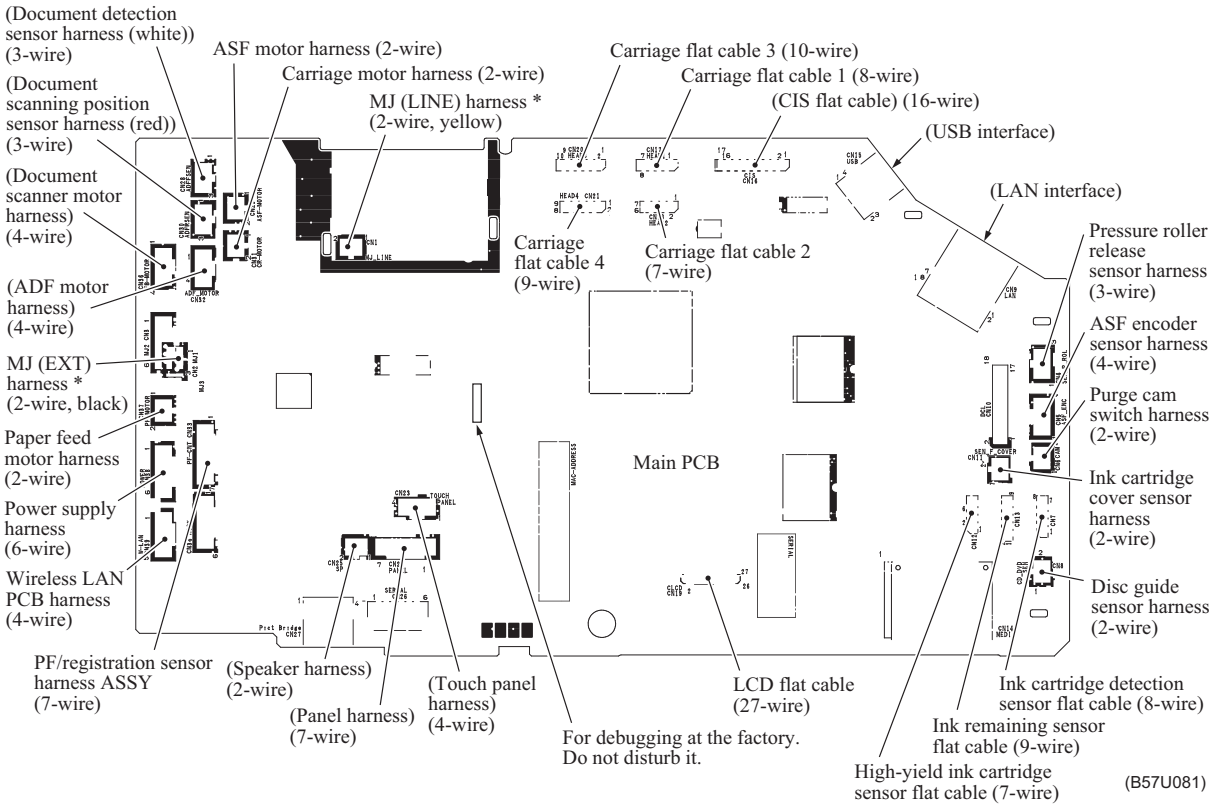
Note: After disconnecting the flat cables, check that each cable is not damaged at its end or short-circuited. When connecting the flat cables, do not insert them at an angle. After insertion, check again that they are not at an angle.

- Disc guide sensor harness (2-wire)*1
- High-yield ink cartridge sensor flat cable (7-wire)
- Ink remaining sensor flat cable (9-wire)
- Ink cartridge detection sensor flat cable (8-wire)
- Ink cartridge cover sensor harness (2-wire)
- Purge cam switch harness (2-wire)
- ASF* encoder sensor harness (4-wire) (*Auto Sheet Feeder)
- Pressure roller release sensor harness (3-wire)
- Carriage flat cable 4 (9-wire)
- Carriage flat cable 3 (10-wire)
- Carriage flat cable 2 (7-wire)
- Carriage flat cable 1 (8-wire)
- Carriage motor harness (2-wire)
- ASF* motor harness (2-wire)
- MJ (EXT) harness (2-wire)*2
- Paper feed motor harness (2-wire)
- PF/registration sensor harness ASSY (7-wire)
- Power supply harness (6-wire)
- Wireless LAN PCB harness (4-wire)

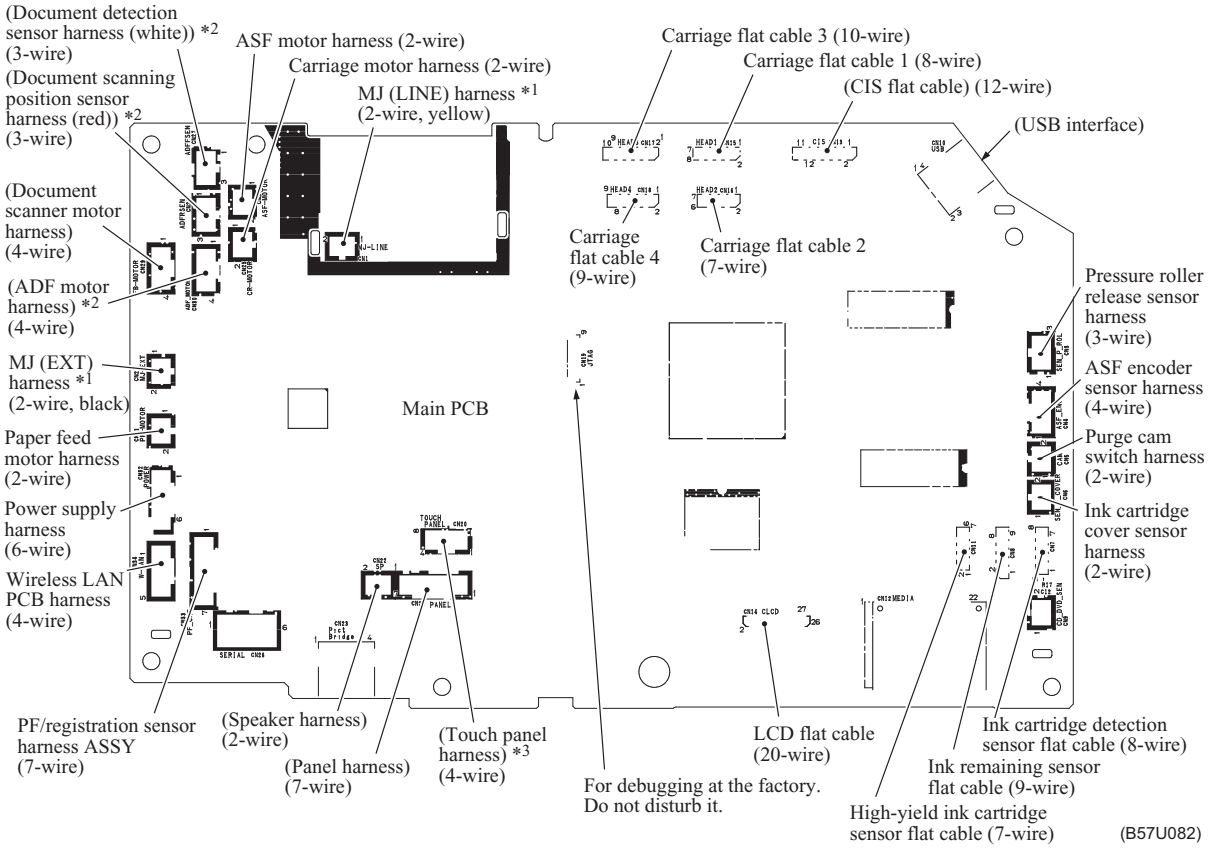
*1 For disc printing models
*2 For MFC only

Main PCB B57U081

* For MFC only



Main PCB B57U082



*1 For MFC only
*2 For models with ADF
*3 For models with touch panel

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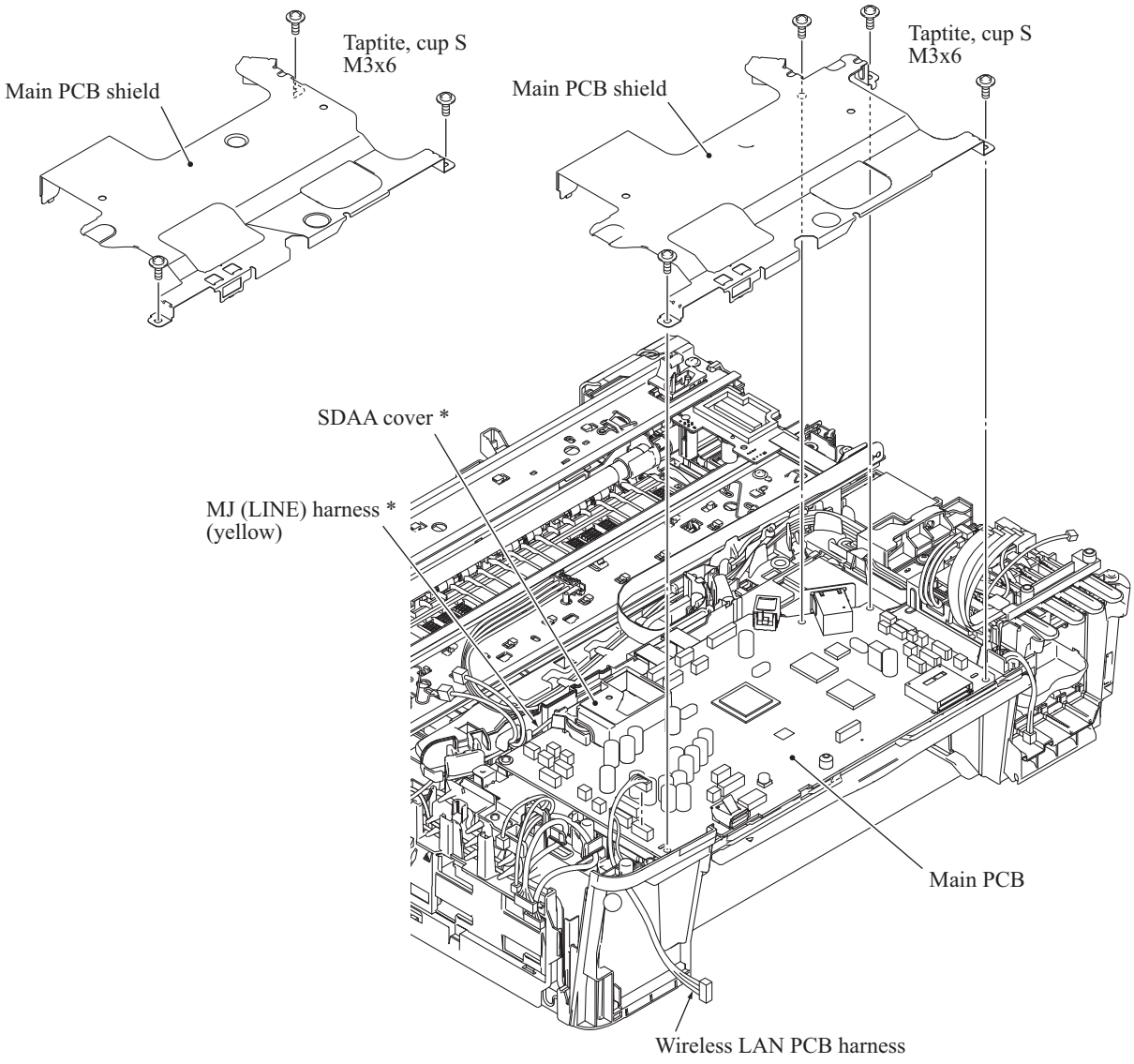
(2) Remove the four screws (main PCB B57U081) or three screws (main PCB B57U082) and take the main PCB shield up and off the main PCB.

(3) Unlatch the SDAA cover by pinching its right and left sides and remove it from the main PCB.

(4) Disconnect the MJ (LINE) harness (2-wire, yellow)* from the main PCB and remove it from the cable guide on the SDAA cover*.

* For MFC only



(3_074)

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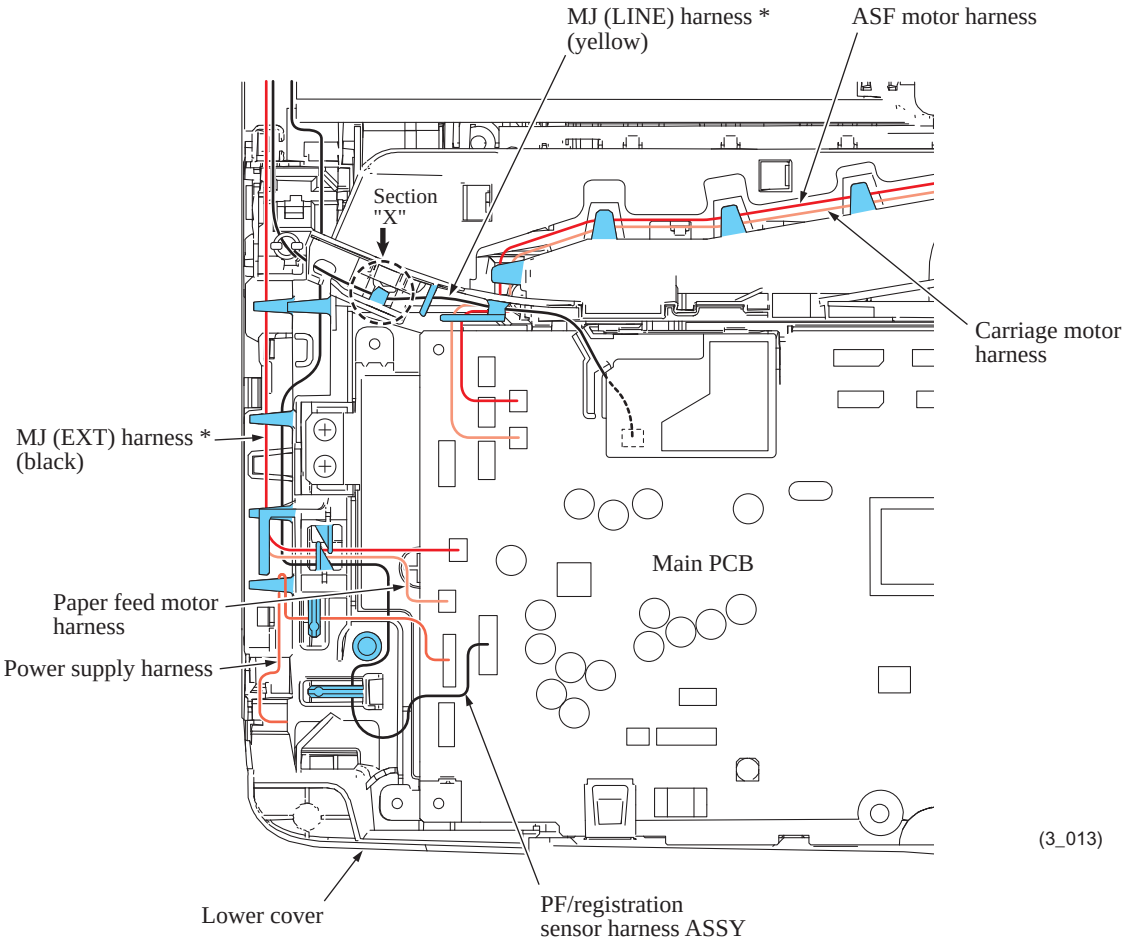
Assembling Note: Before securing the main PCB shield, route the harnesses on the top of the lower cover as shown below. Make sure that the MJ (LINE) harness* is routed through the SDAA cover*. Gather the slack of the MJ (LINE) harness* around section "X" shown below. (See the illustration given on page 3-87 for the routing of those harnesses on the left side of the lower cover.)

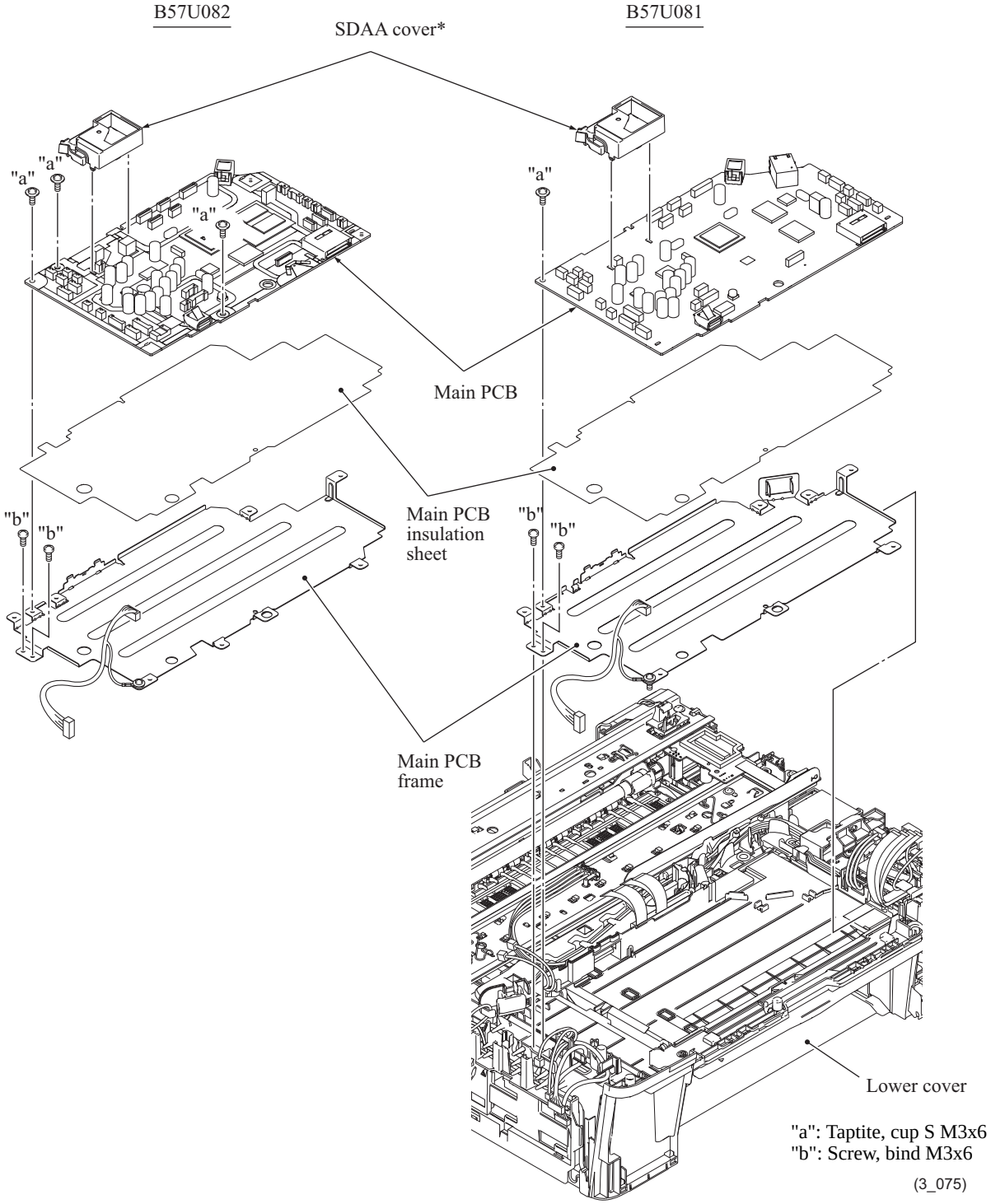
* For MFC only



(5) Remove one screw "a" (main PCB B57U081) or three screws "a" (main PCB B57U082) from the main PCB, then lift up the PCB and its insulation sheet.

(6) Remove two screws "b" (that secure the PS/MJ shield unit together) from the main PCB frame, then lift it up.

* For MFC only



Assembling Note: If you replace the main PCB, you need to load programs onto the flash ROM, restore the machine information and head calibration data that have been backed up in an external memory, and make specified adjustments of various settings (refer to Chapter 4, Section 2 "IF YOU REPLACE THE MAIN PCB"). Before starting, make sure that the head/ carriage unit is mounted.

9.12 PS/MJ Shield Unit (MJ PCB*1 and Power Supply PCB)

*1 For MFC only
*2 For models with main PCB B57U082

(1) If the main PCB frame has not been removed, disconnect the power supply harness, MJ (LINE) harness*1 and MJ (EXT) harness*1 from the main PCB, then remove two screws "b" (shown on the previous page) from the main PCB frame.

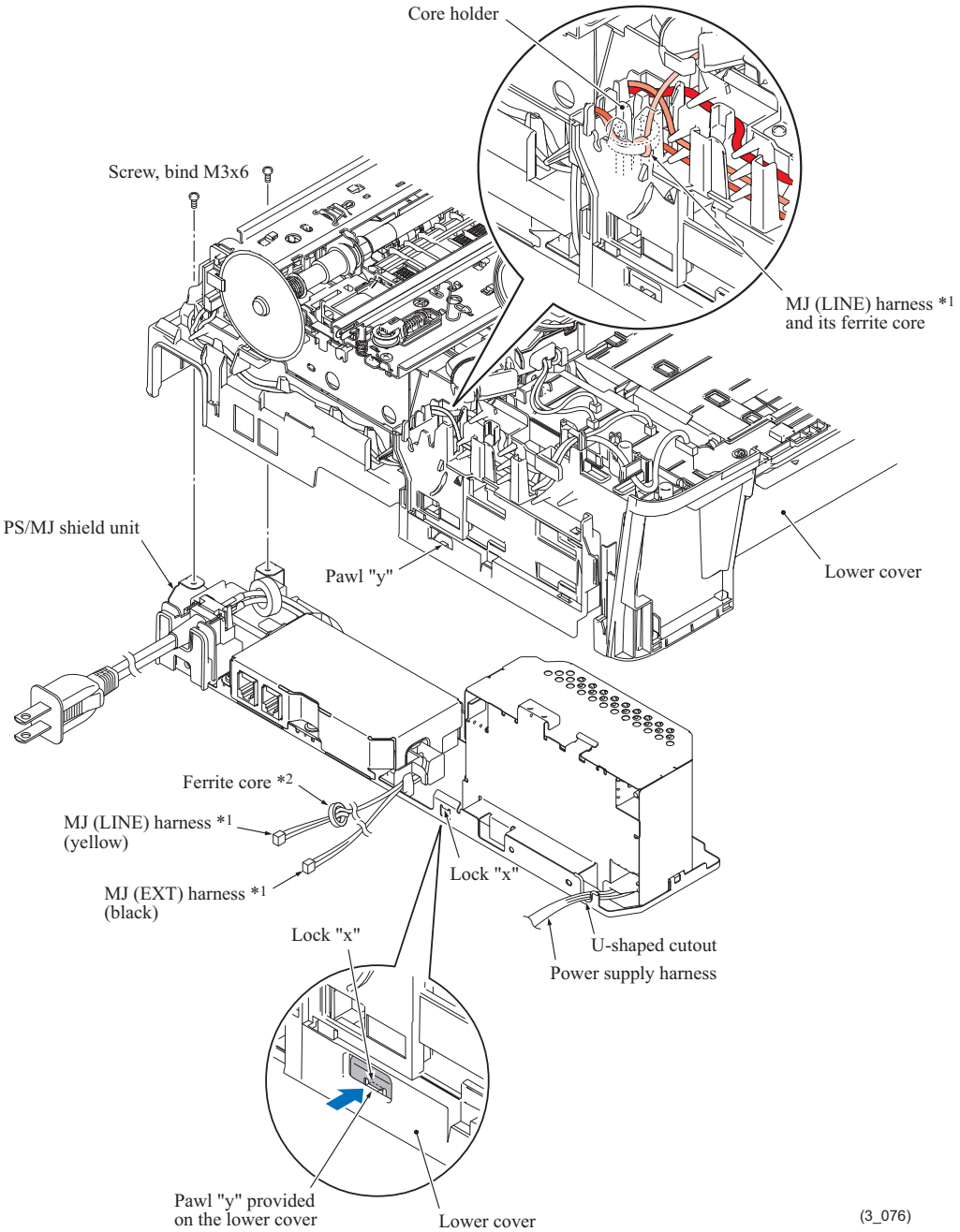
(2) Remove the two screws shown below.

(3) Pull the ferrite core of the MJ (LINE) harness*1 out of the core holder.

Note: If the ferrite core is secured to the lower cover with a band instead of a core holder, cut it off and release the MJ (LINE) harness.

(4) Release the power supply harness, MJ (LINE) harness*1 and MJ (EXT) harness*1 from the cable guides on the lower cover.

(5) As shown below, press lock "x" on the PS/MJ shield unit to release it from pawl "y" on the lower cover, then remove the PS/MJ shield unit from the bottom of the lower cover.



(3_076)

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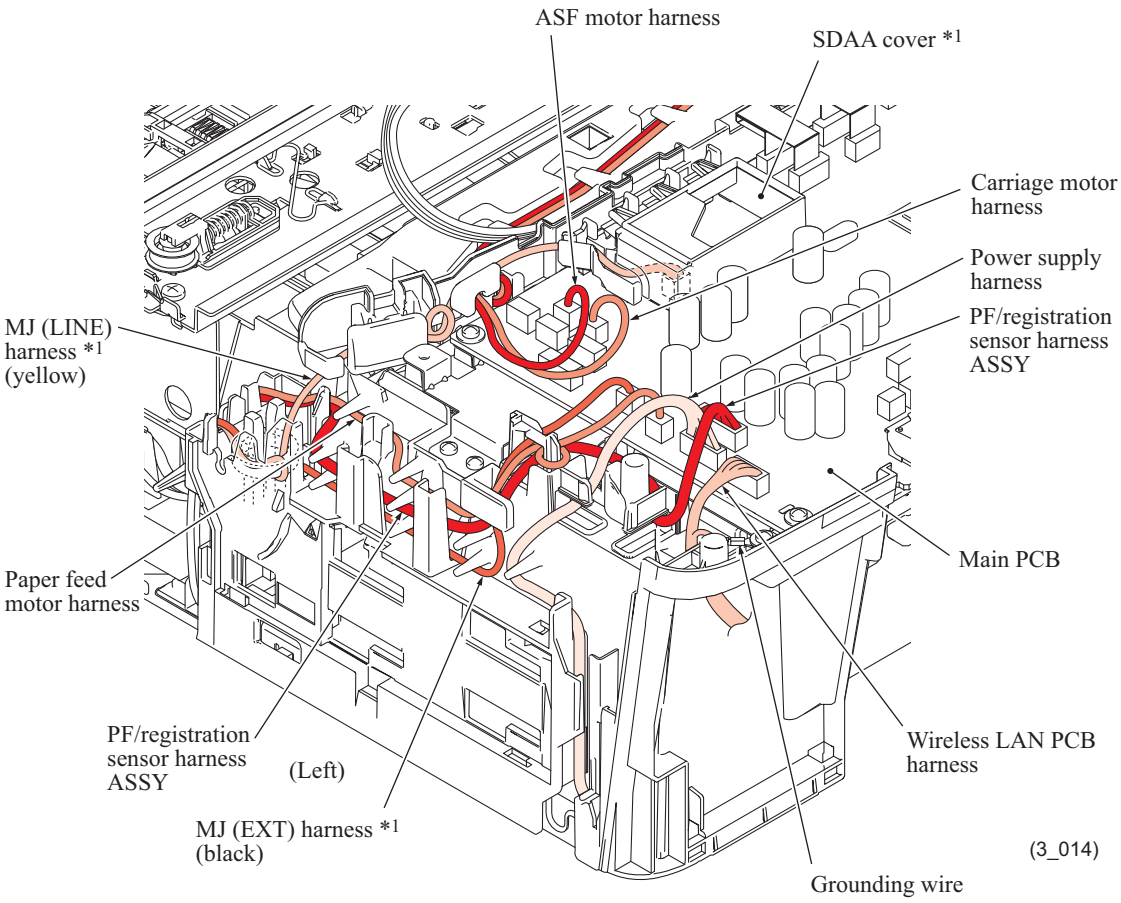
Assembling Notes:

- Before mounting the PS/MJ shield unit on the lower cover, pass the power supply harness through the U-shaped cutout (shown on the previous page) provided in the lower PS/MJ frame.
- After mounting the PS/MJ shield unit on the lower cover, check that lock "x" is caught on pawl "y" provided on the lower cover.
- After mounting the PS/MJ shield unit, route the power supply harness, MJ (LINE) harness*1 and MJ (EXT) harness*1 through the cable guides as shown below.
- If the ferrite core of the MJ (LINE) harness*1 had been secured to the lower cover with a band and the band was cut off, use a new band to secure the ferrite core.

*1 For MFC only



(6) **For models with main PCB B57U082** Release the latch of the core cover and pull up the cover to the rear.

(7) **For 100 V series** As shown below, unlatch the power cord bush and pull it up from the AC cord holder. Then release the power cord from the cable guides provided on the AC cord holder (shown on page 3-90).

(8) Release the power supply shield from the lock and two stoppers on the lower PS/MJ frame and pull it up.

(9) Disconnect the power supply harness from the power supply PCB.

(10) Remove three screws "c," take the power supply PCB and PS PCB insulator off the lower PS/MJ frame, and then remove the power supply harness from the lower PS/MJ frame.

(11) **For 100 V series** Remove screw "a" and take the MJ shield off the lower PS/MJ frame.

For 200 V series Remove screw "a" (that secures the MJ shield and power inlet) and screw "d" (that secures the grounding wire). Then take the MJ shield and power inlet off the lower PS/MJ frame.

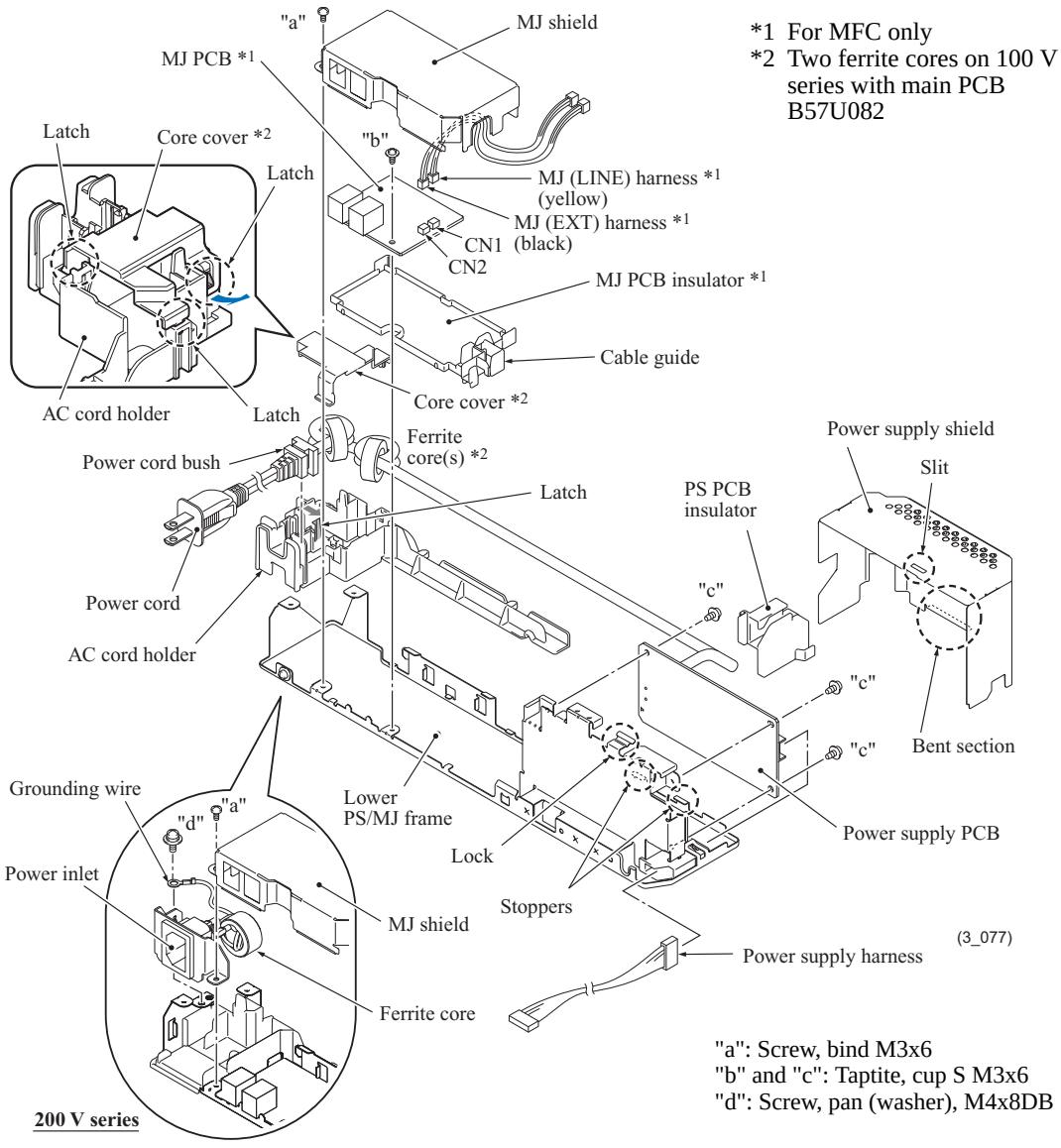
Note: If the EXT cap has not been removed, remove it beforehand.

(12) Remove the AC cord holder.

Note: If the AC cord holder has a band, cut it off.

(13) Disconnect the MJ (LINE) harness*1 and MJ (EXT) harness*1 from the MJ PCB*1 and release them from the cable guide on the MJ PCB insulator.

(14) Remove screw "b" and take the MJ PCB*1 and MJ PCB insulator off the lower PS/MJ frame.



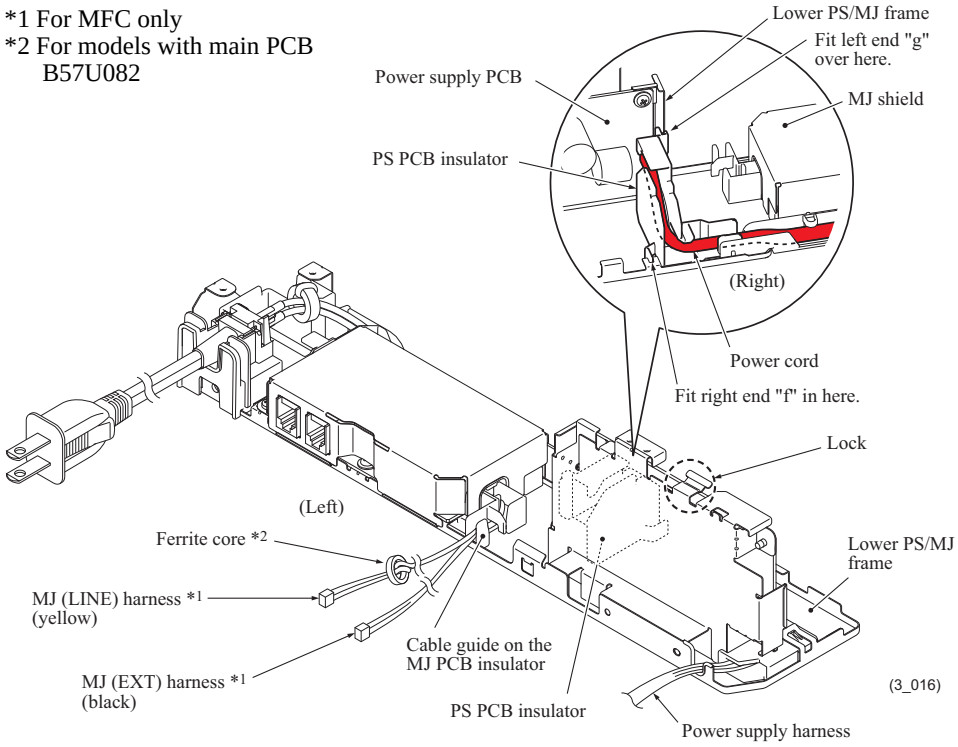
*1 For MFC only
*2 Two ferrite cores on 100 V series with main PCB B57U082

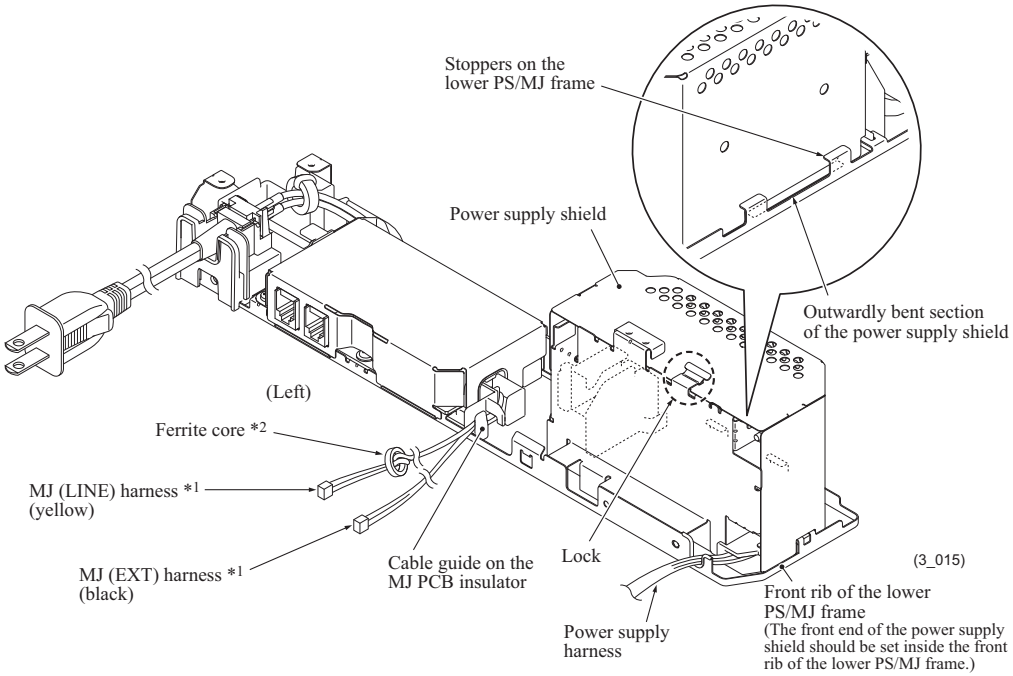
"a": Screw, bind M3x6
"b" and "c": Taptite, cup S M3x6
"d": Screw, pan (washer), M4x8DB

Assembling Notes:

- Before mounting the MJ shield, route the MJ (LINE) harness*1 and MJ (EXT) harness*1 through the cable guides on the MJ PCB insulator as shown on the next page.
- When setting the PS PCB insulator back into place, first pass the power cord through the insulator, fit the right end "f" into the cutout provided in the lower MJ/PS frame and fit the left end "g" over the edge of the lower PS/MJ frame.
- When mounting the power supply shield on the lower PS/MJ frame, set the outwardly bent section of the right edge under the stoppers on the frame, set the front edge inside the front rib on the frame, and fit the shield under the lock of the frame so that the lock secures the slit in the top of the shield.
- **<u>For AC cord holders having a band</u>** After putting the power cord into the AC cord holder, set a band into place.

*1 For MFC only
*2 For models with main PCB
B57U082

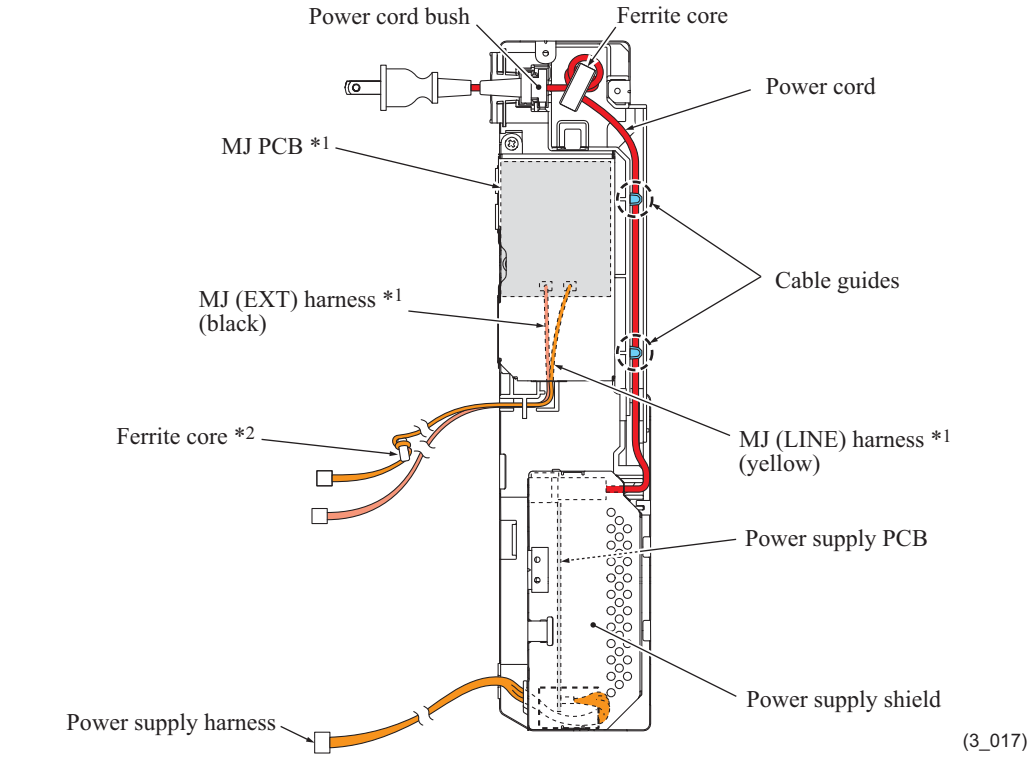




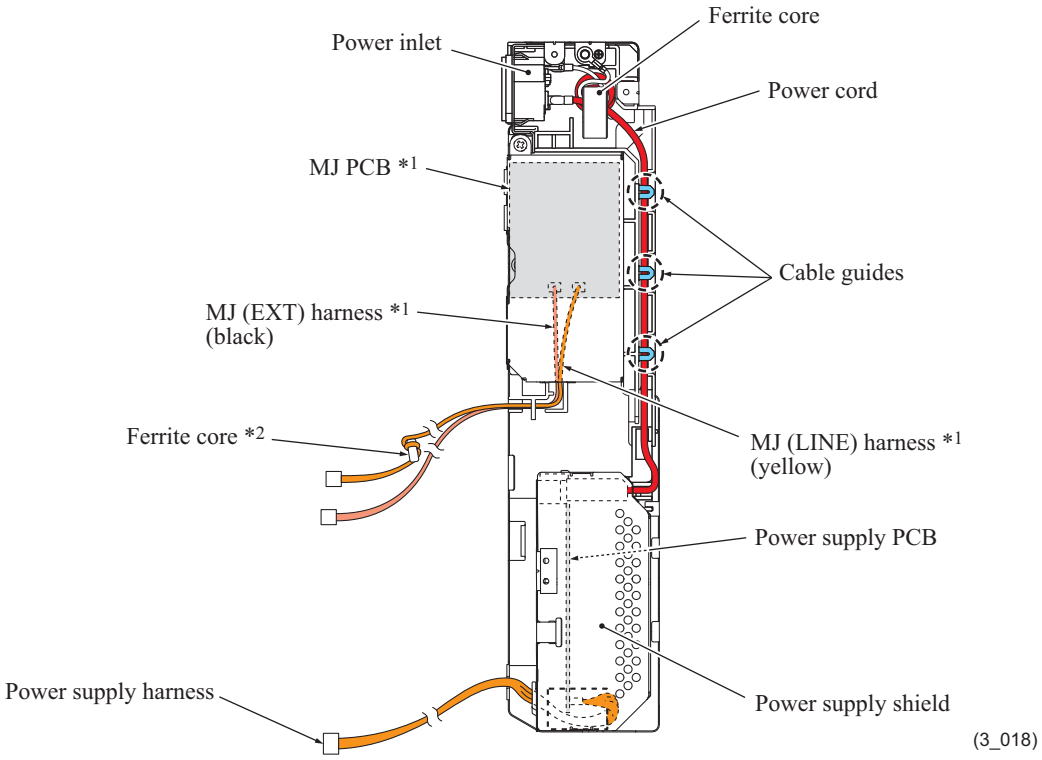
Confidential

*1 For MFC only
*2 For models with main PCB B57U082

100 V series



200 V series



Note for models with a power inlet having a built-in fuse

If the fuse built in the power inlet has blown, the power supply PCB could also be damaged. Be sure to replace the whole power supply PCB ASSY, not just the fuse. Never use any substitute or short-circuit the fuse terminals with conductors. Using a power inlet with an unauthorized fuse will cause a fire or accident.

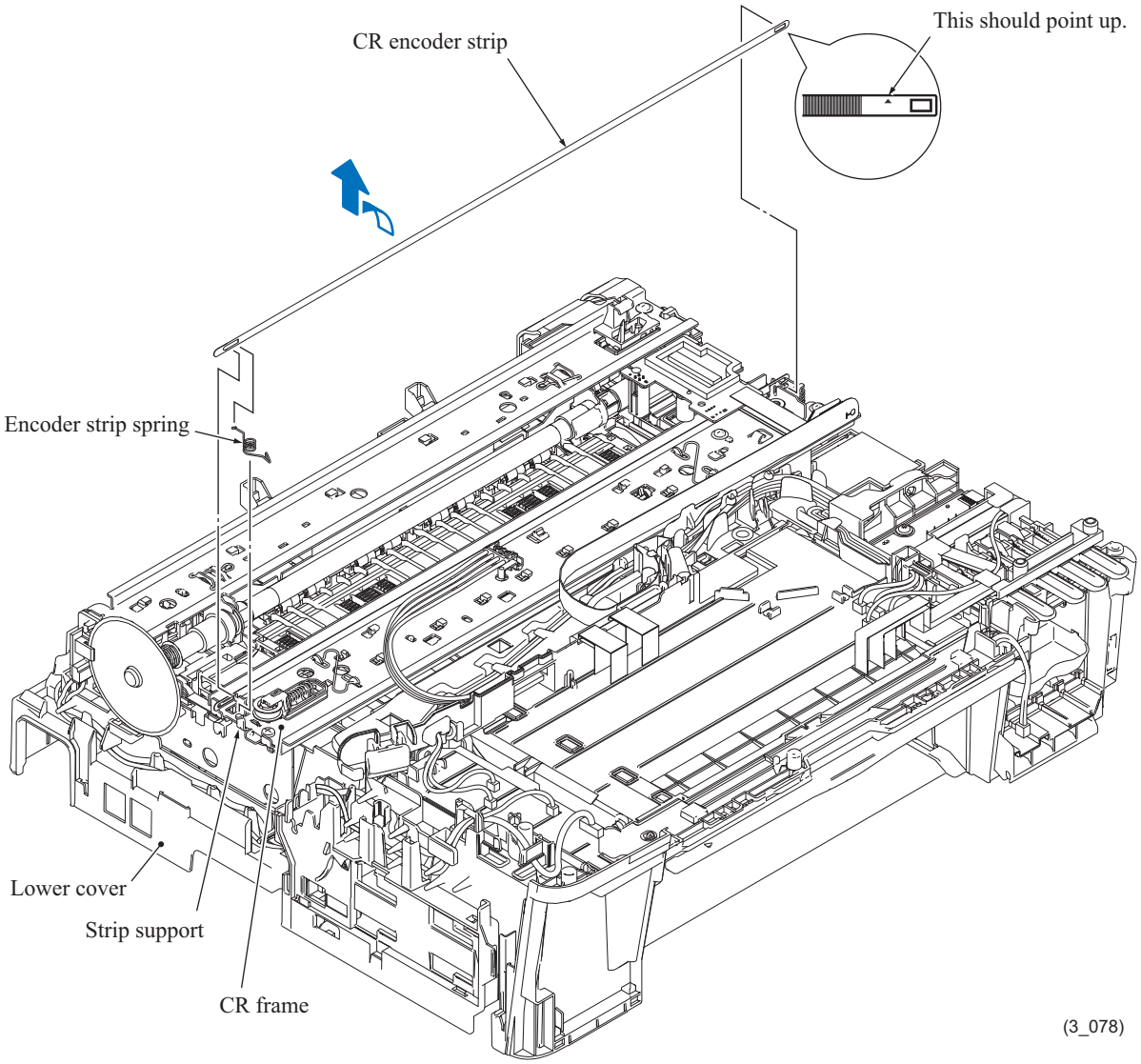
9.13 CR Encoder Strip and its Guard Film

CR encoder strip

(1) At the left end of the CR frame, push the rear end of the encoder strip spring inwards, unhook the left end of the CR encoder strip from the spring, and then unhook the right end from the CR frame.

(2) Turn the CR encoder strip in the direction of the arrow shown below, align the rectangular hole in the left end of the strip with the boss of the strip support and take the strip off. Remove the encoder strip spring.

Note: Take care not to scratch or damage the encoder strip. If it is stained or damaged, replace it.

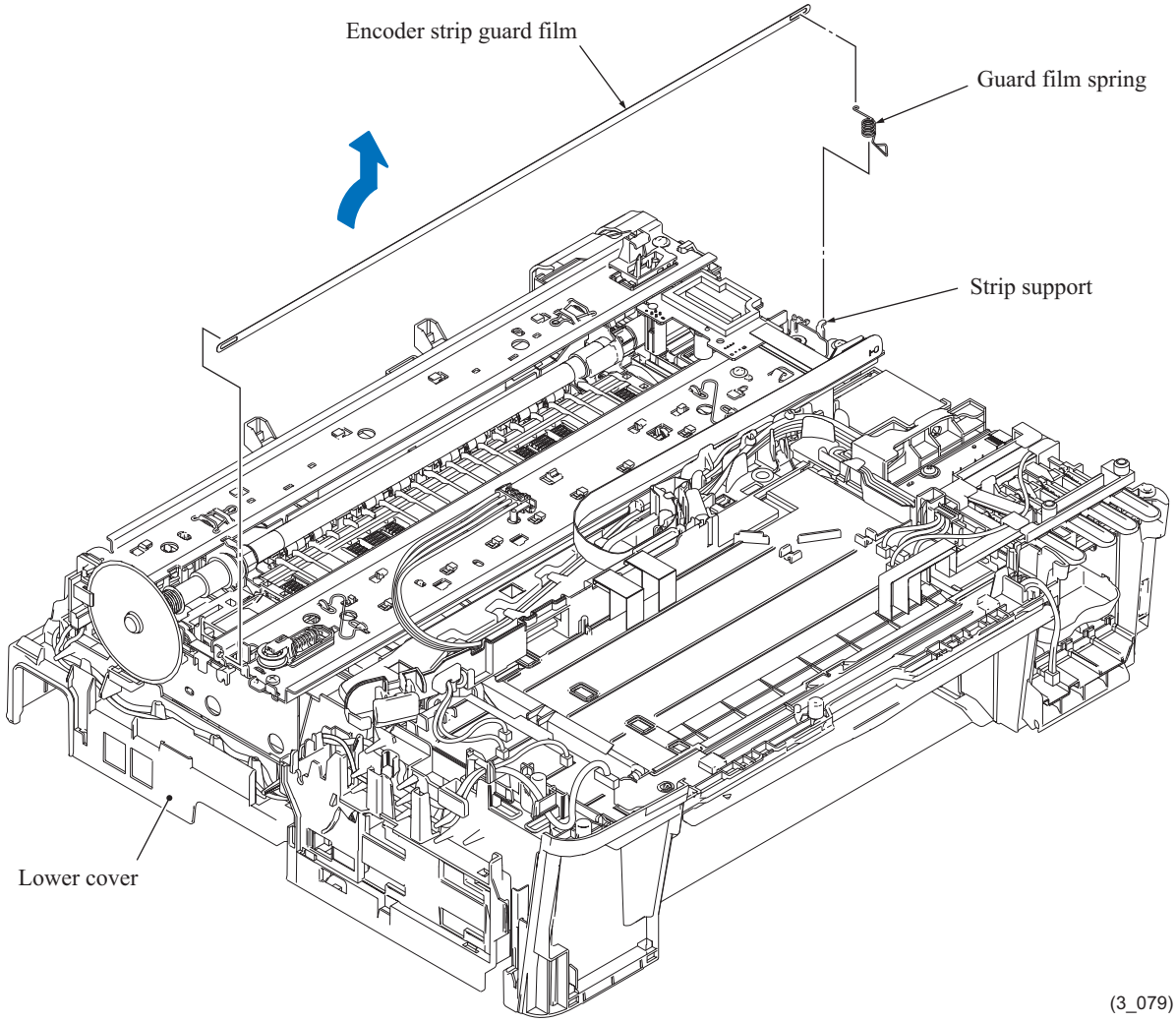


Assembling Note: Set the CR encoder strip so that the ▲-marked end is to the right (carriage motor side) and the mark ▲ points upwards as shown above.

Encoder strip guard film

(3) At the right end of the CR frame, push the rear end of the guard film spring inwards, unhook the right end of the encoder strip guard film from the spring, and then unhook the left end from the CR frame.

(4) Turn the encoder guard film in the direction of the arrow shown below, align the rectangular hole in the right end of the film with the boss of the strip support and take the film off. Remove the guard film spring.



(3_079)

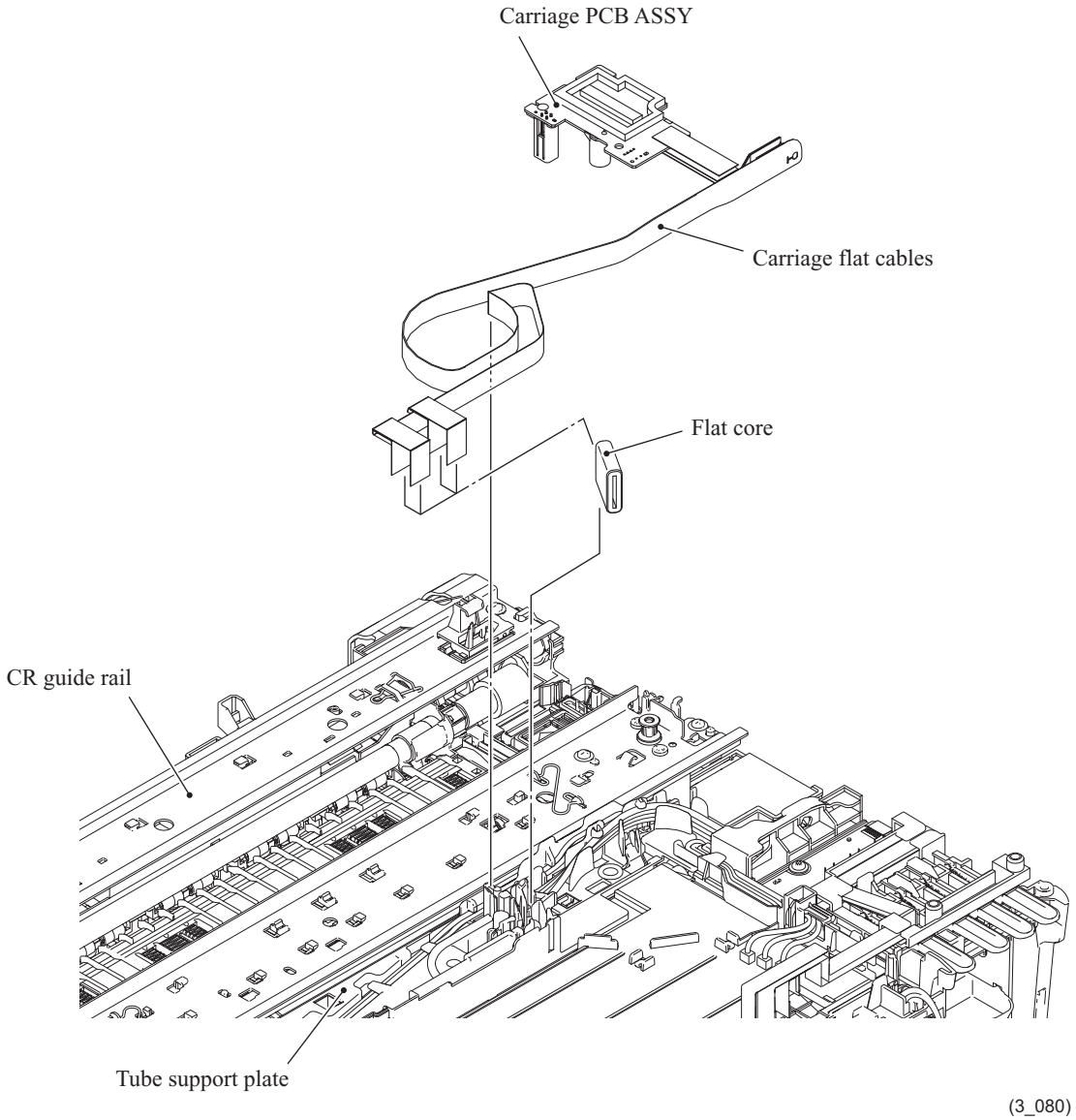
9.14 Carriage PCB ASSY, Ink Refill ASSY and Ink Cartridge Detection Sensor PCB

Carriage PCB ASSY (Carriage PCB with carriage flat cables)

(1) Remove the carriage PCB ASSY from the head/carriage unit, by performing steps (7) through (11) in Section 9.3 "Head/Carriage Unit."

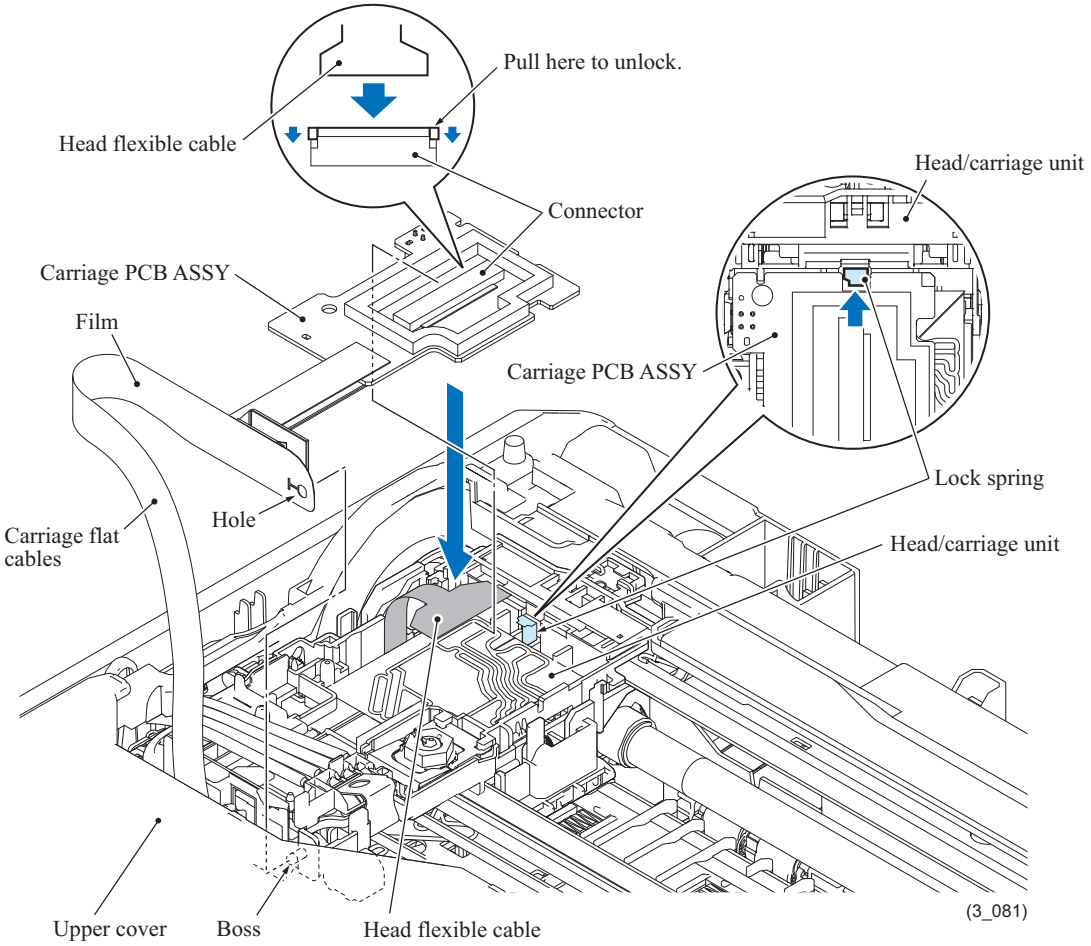
(2) Release the carriage flat cables from the cable guides on the tube support plate and take them out together with the flat core.

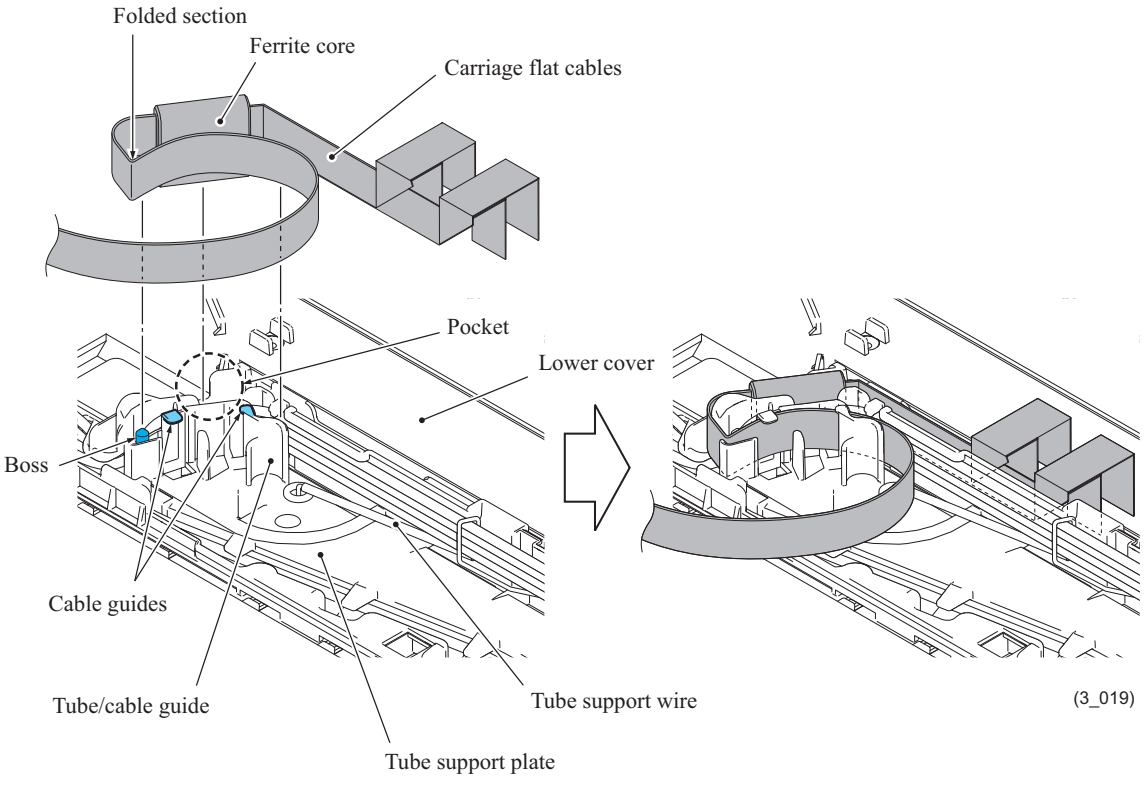
Note: When replacing the carriage PCB ASSY, remove the flat core from the old carriage flat cables and set it to the new ones.



(3_080)

Assembling Note: When mounting the carriage PCB ASSY, route the carriage flat cables as shown below.





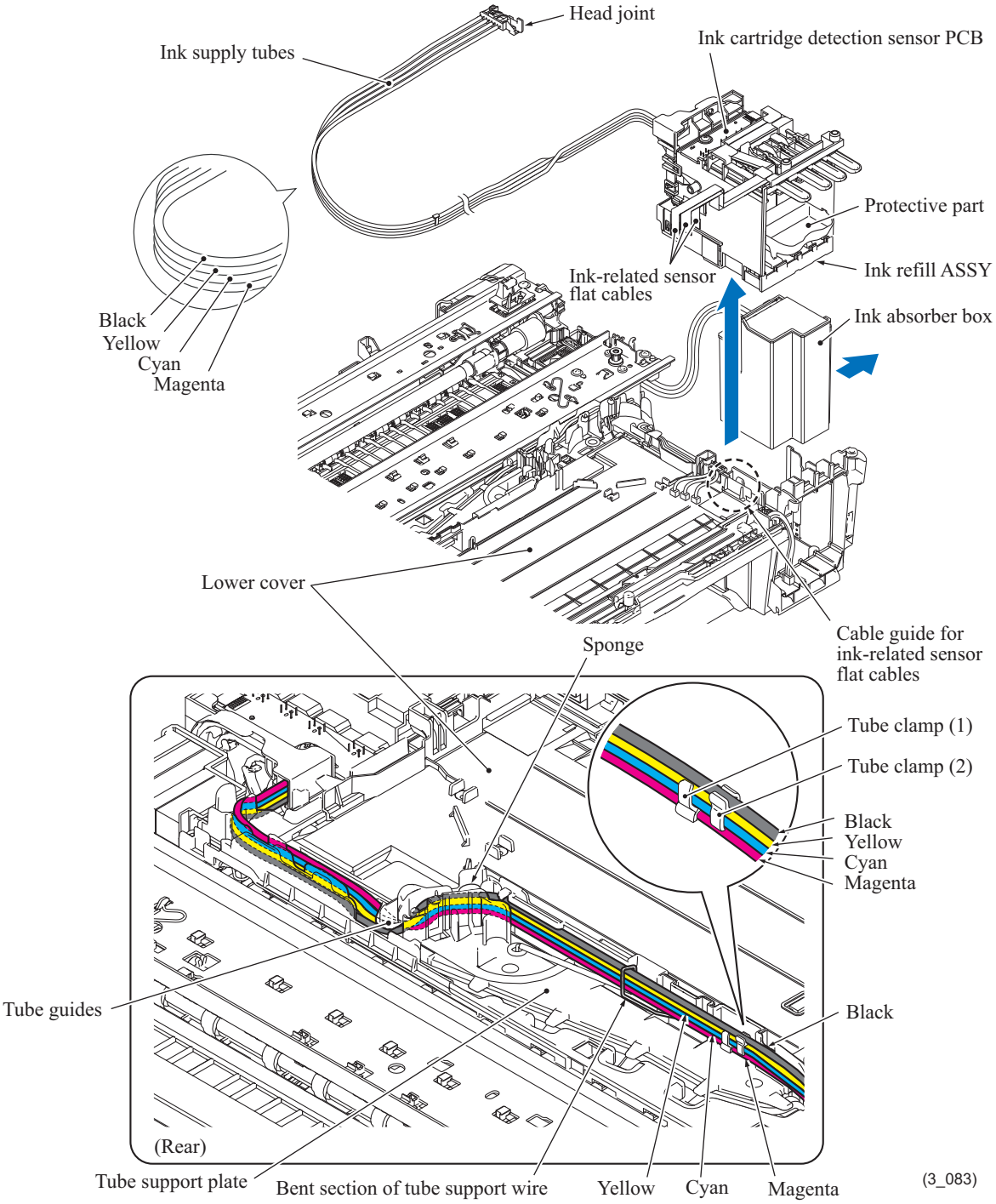
Ink refill ASSY and ink cartridge detection sensor PCB

(3) Remove the ink supply tubes from the head/carriage unit, by performing steps (12) through (14) in Section 9.3 "Head/Carriage Unit."

(4) Release the four ink supply tubes from the tube guides on the tube support plate, remove the sponge, and then release them from the tube support wire.

(5) Take the ink absorber box out of the lower cover.

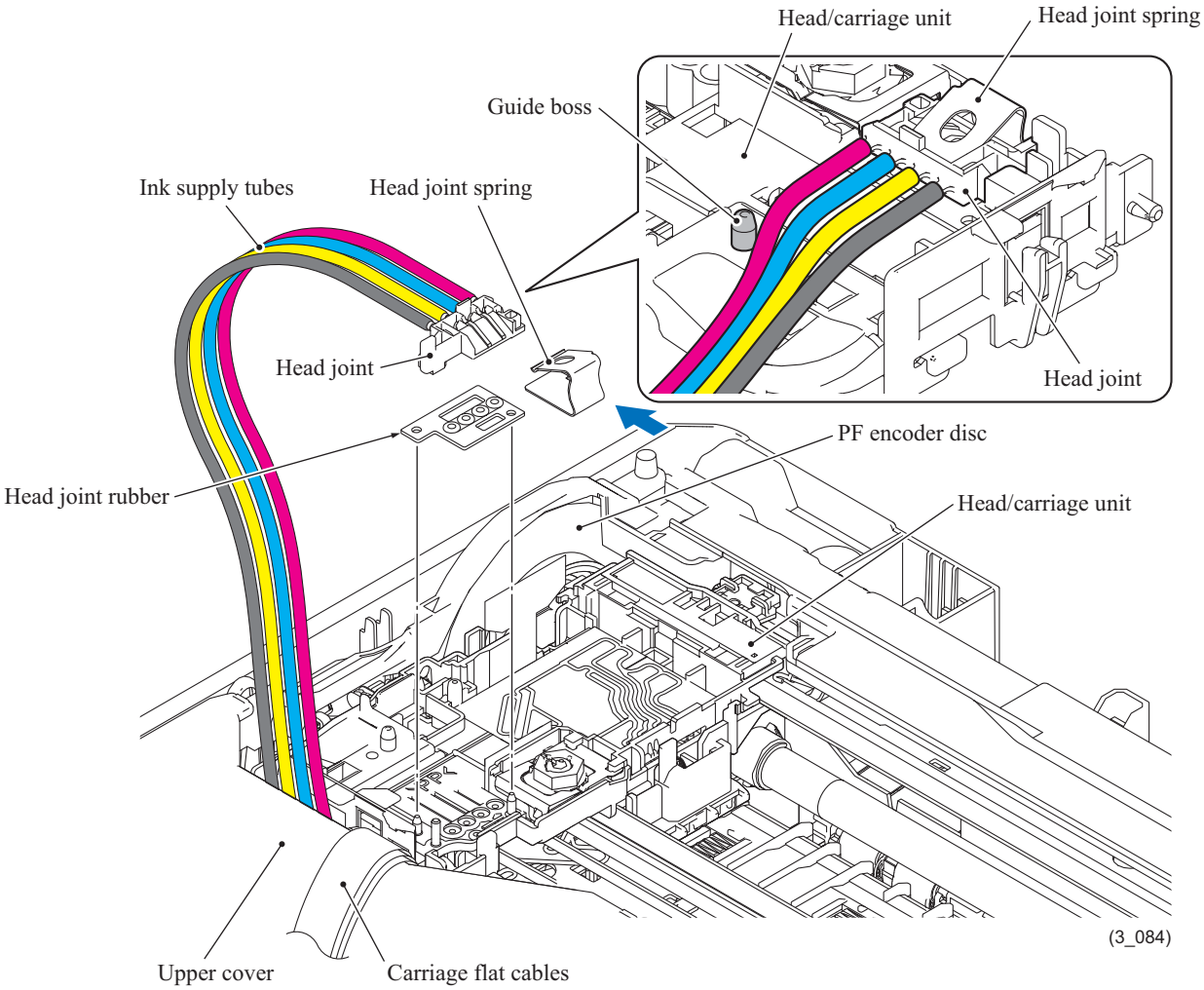
(6) If the main PCB has not been removed, disconnect the three ink-related sensor flat cables (ink cartridge detection sensor, high-yield ink cartridge sensor and ink remaining sensor flat cables) from the main PCB.



Assembling Notes:

- When binding ink supply tubes with two tube clamps, align four ink supply tubes in the order of Magenta, Cyan, Yellow, and Black from bottom to up, as shown on the previous page.

  Fit tube clamp (1) (right-side one viewed from the front) over the magenta ink tube and bind the cyan and yellow ones with the tube clamp and then fit tube clamp (2) (left-side one) over the black ink tube and bind the yellow and cyan ones with the tube clamp so that those tube clamps come to the recess of the tube support plate shown on the previous page.
- After mounting the ink refill ASSY, route all of the four ink supply tubes through the tube guides on the tube support plate, aligning the four colors in the order shown on the previous page, without overlapping each other. Next, put the sponge into place and pass the ink supply tubes through the bent section of the tube support wire.
- When securing the head joint to the head/carriage unit with the head joint spring, route all of the four ink supply tubes in front of the guide boss as shown below.



(7) Release the three ink-related sensor flat cables from the cable guide (shown on page 3-95) on the lower cover.

(8) Lift the ink refill ASSY up and out of the lower cover.

Note: Do not remove the protective part under the current state. Doing so causes ink in the ink supply tubes to flow out.

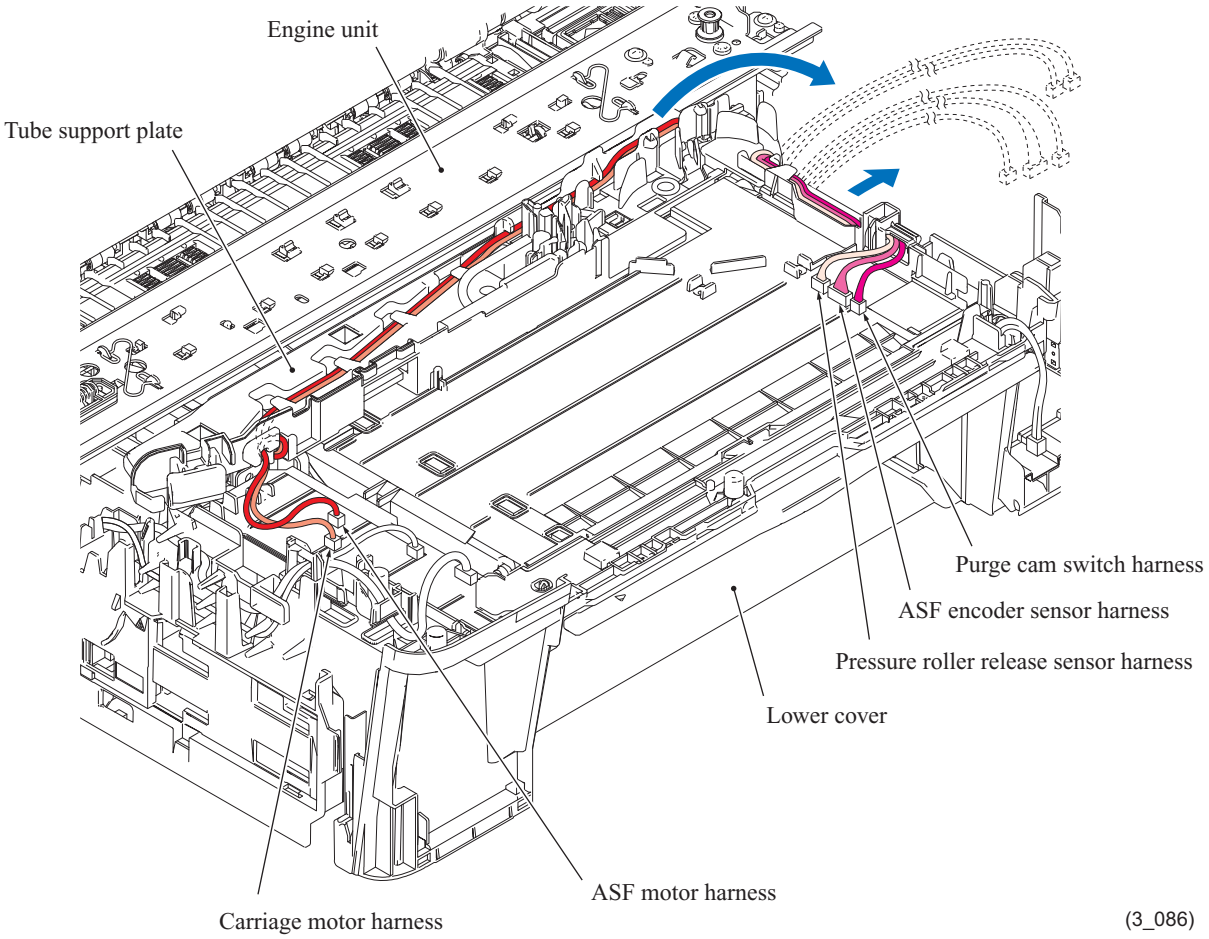
Note: On the bottom of the ink refill ASSY is an ink absorber felt (for ink refill ASSY) that may be stained with ink. If it is excessively stained, replace it.

(9) Remove the screw and take the ink cartridge detection sensor PCB up and off the ink refill ASSY.

Assembling Note: When replacing the ink cartridge detection sensor PCB ASSY, bend its flat cable as specified below.

Tube support plate and tube support wire

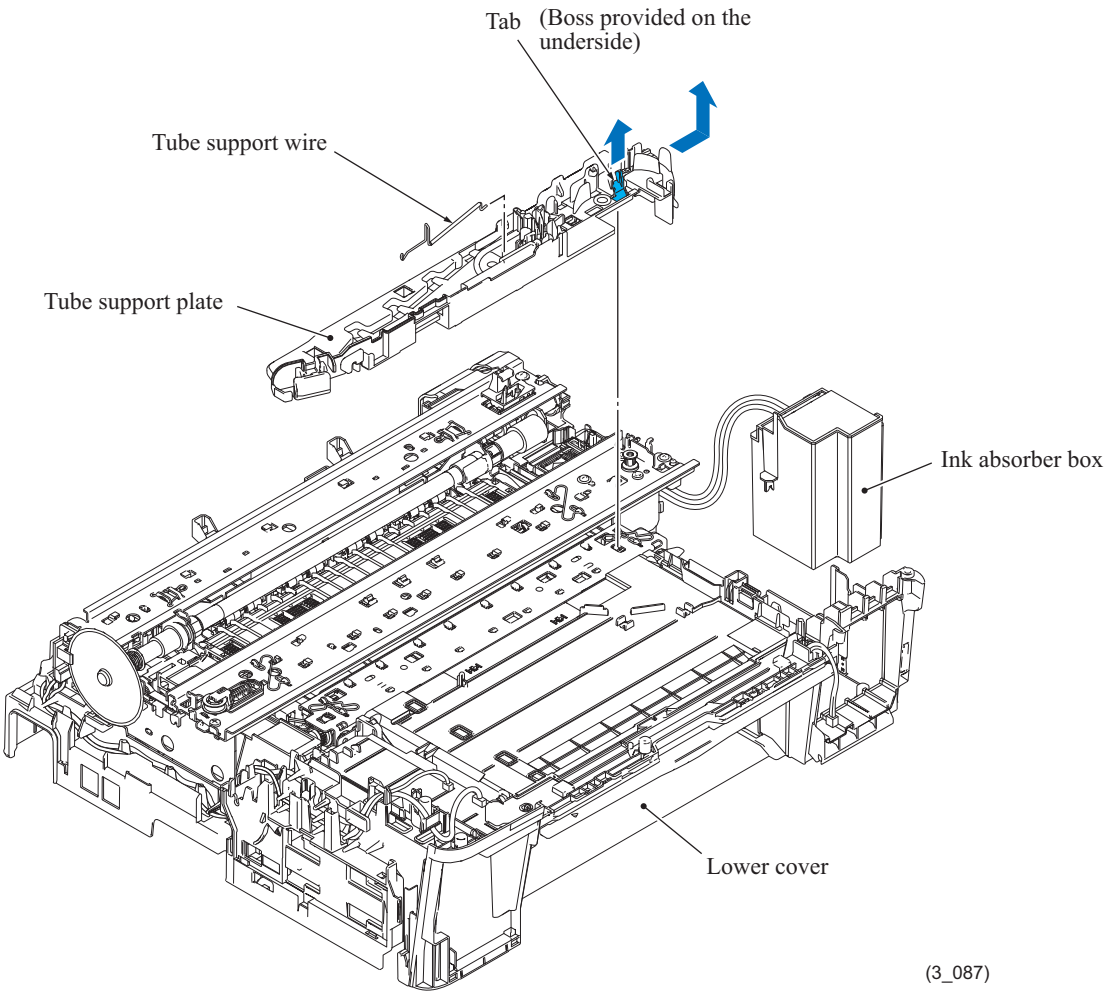
(10) Release the five harnesses (carriage motor harness, ASF motor harness, pressure roller release sensor harness, ASF encoder sensor harness and purge cam switch harness) routed on the tube support plate from the cable guides on the plate.



(3_086)

(11) Pull up the tab on the tube support plate to release the boss on the underside from the lower cover, slide the plate to the right, and take it up and off the lower cover together with the tube support wire.

(12) Remove the tube support wire from the tube support plate.



9.15 Ink Absorber Box and Ink Absorber Felt (for Ink Refill ASSY)

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

Note: If the main drain tube and air vent tube are disconnected from the ink absorber box for replacement of the ink absorber box, they are reusable only one time by trimming their ends vertically 10 mm with scissors clear and free of oil. Check that their cut surfaces are free of oil.

(1) Pull out the main drain tube and air vent tube from the ink absorber box. If it is the first time for those tubes to be disconnected, trim their ends to make them reusable. If it is the second time, those tubes need to be replaced.

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

Note: Do not place those tubes that have been pulled out on the main PCB. If the PCB is stained with leaked ink, wipe it off with a dry cloth.

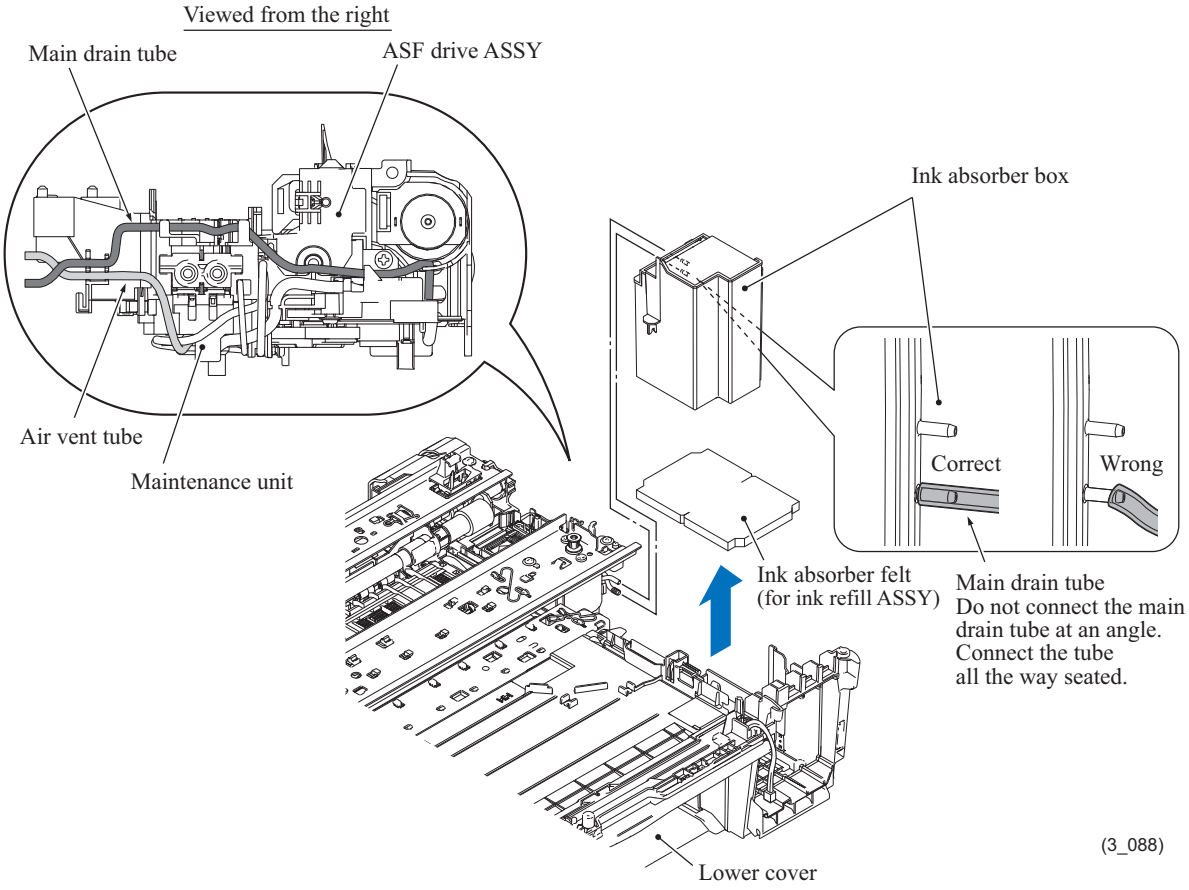
(2) Remove the ink absorber box from the lower cover and immediately set a new one.

(3) To use the current tubes again, connect them (trimmed in step (1)) to the new ink absorber box.

To replace those tubes, pull them off the joints on the rear of the maintenance unit and connect new tubes to the joints and new ink absorber box.

Note: If the ink absorber box or its surroundings are stained with ink, wipe them off with a cloth.

(4) Take the ink absorber felt (for ink refill ASSY) out of the lower cover.



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Assembling Notes:

- Connect the main drain tube to the lower port of the ink absorber box and the air vent tube, to the upper port. If those tubes are wrongly connected, a large amount of ink may flow out when a purge is performed.
- When connecting the main drain tube and air vent tube to the ink absorber box, take care not to connect them at an angle. Tubes connected at an angle come off easily, resulting in ink leakage. After connection, check that there is no ink leakage.
- If you replace the ink absorber box (without replacing the main PCB), reset the purge count, referring to Chapter 4, Section 4.

  It is also recommended that the flushing box be replaced and the flushing count be reset as necessary since the flushing count may approach the upper limit.

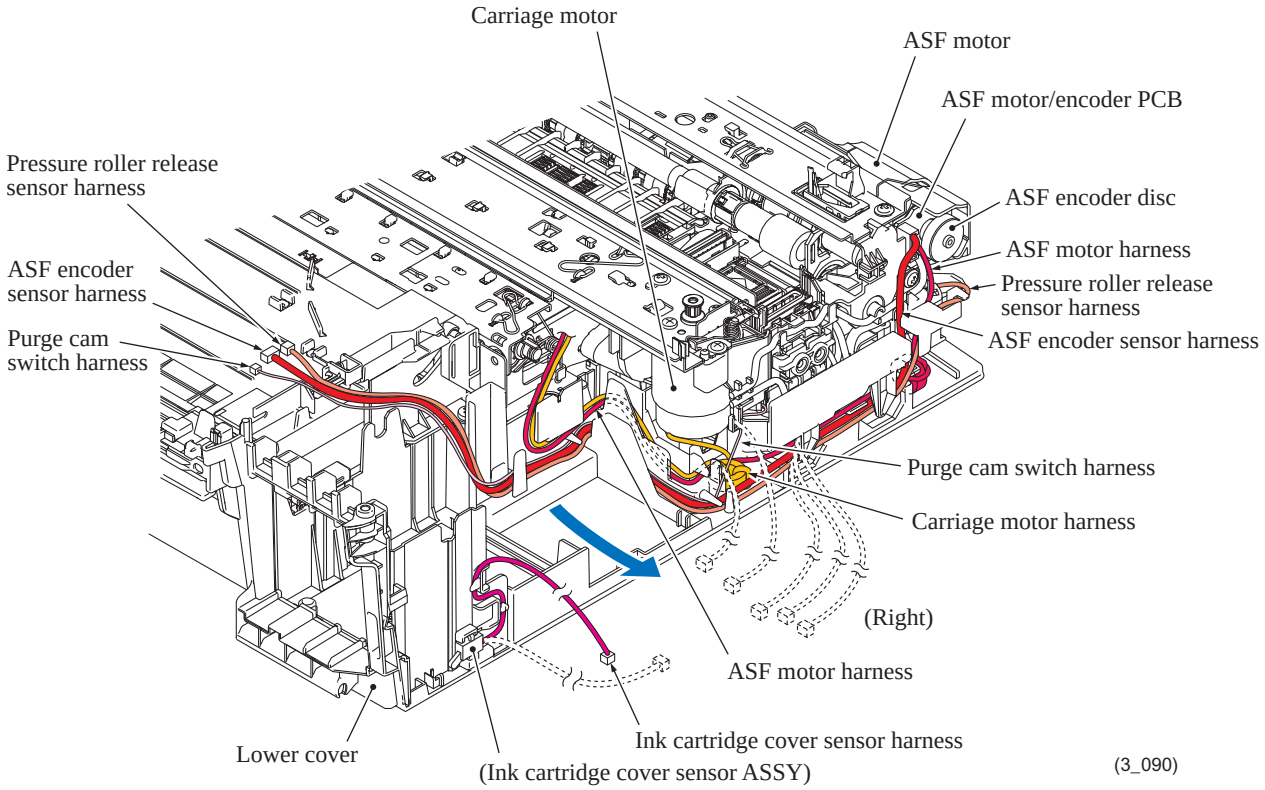
9.16 Engine Unit and Flushing Box

During disassembly jobs, except when removing the ink refill ASSY or engine unit (including the maintenance unit), leave the head/carriage unit in the machine.

When removing the head/carriage unit, ink refill ASSY or engine unit, you need beforehand to remove all four ink cartridges and set the protective part instead (see page 3-34).

(1) If the PS/MJ shield unit has not been removed, you need to remove two screws shown on page 3-86.

(2) On the right end of the lower cover, release the six harnesses (carriage motor harness, ASF motor harness, ASF encoder sensor harness, pressure roller release sensor harness, purge cam switch harness and ink cartridge cover sensor harness) from the cable guides.



(3) On the left end of the lower cover, release the two harnesses (paper feed motor harness and PF/registration sensor harness ASSY) from the cable guides.

(4) Remove the four screws from the engine unit.

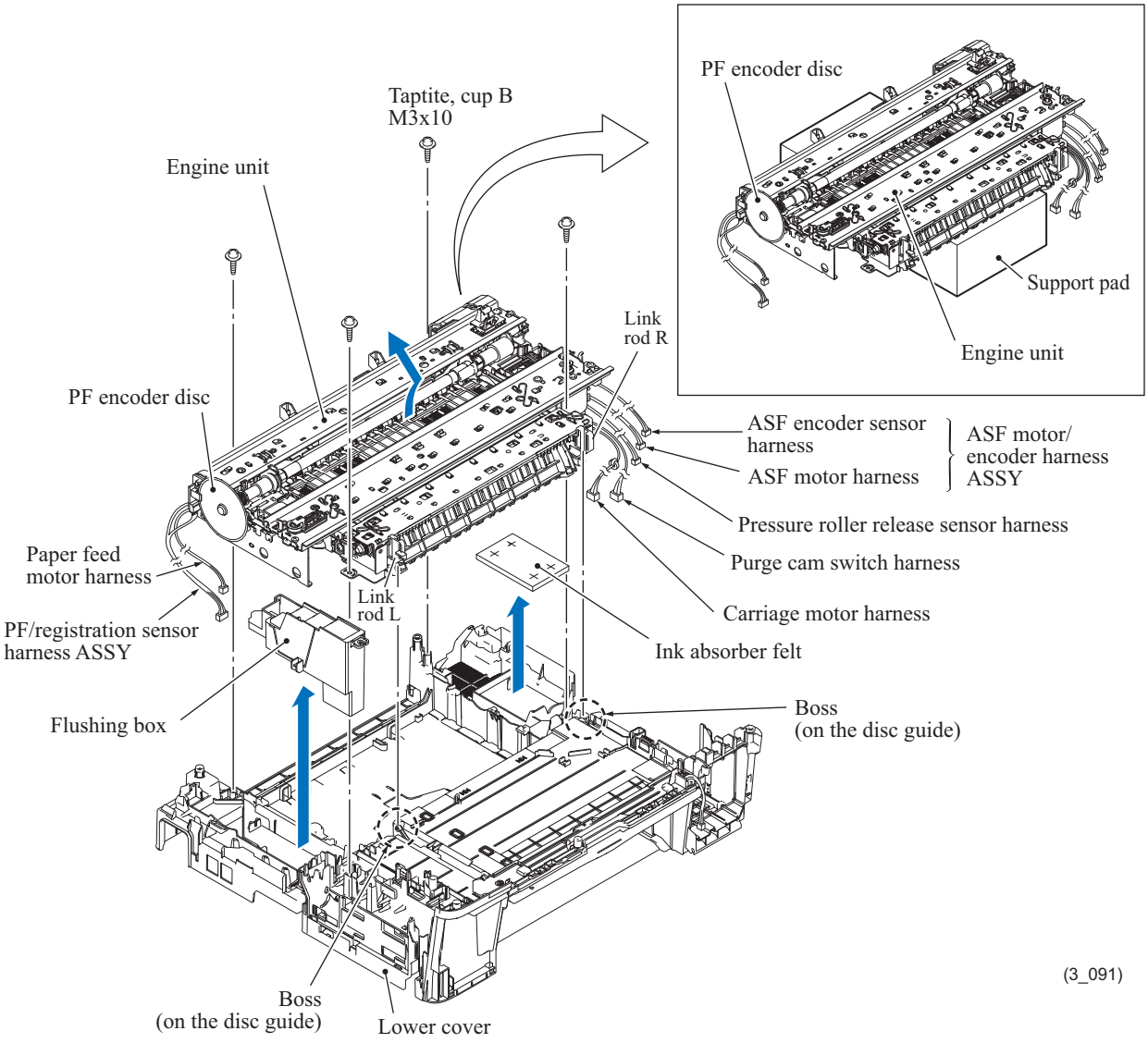
(5) Hold the inner chute located beneath the CR guide rail, lift up the rear end of the engine unit slightly, and then take it up and out of the lower cover.

Note: Do not hold the CR guide rail.

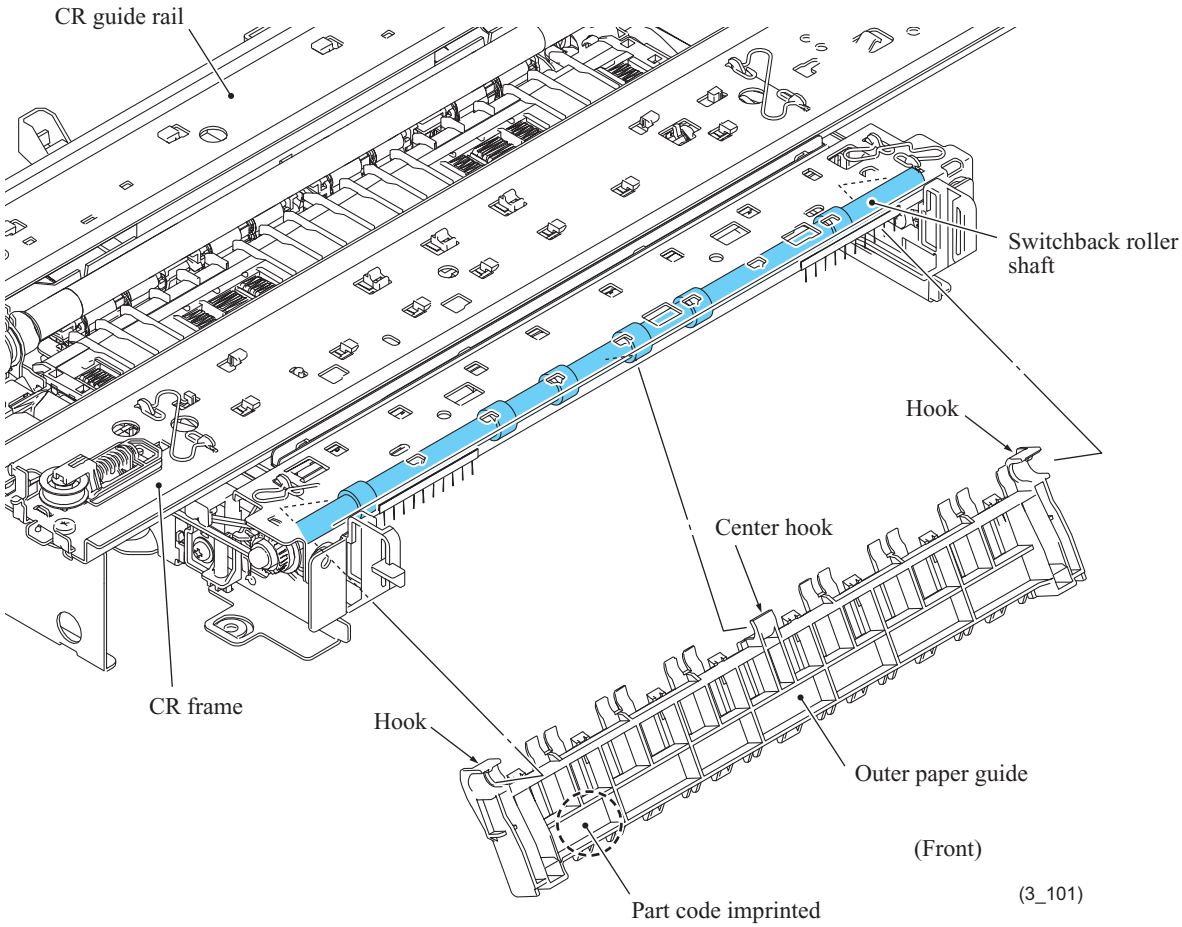
Note: Take care not to touch the PF encoder disc.

Note: If the ink absorber box does not need to be replaced, be sure to take it out of the lower cover together with the engine unit. If the main drain tube and air vent tube are disconnected from the ink absorber box, they are reusable only one time by trimming their ends vertically 10 mm with scissors clear and free of oil. Check that their cut surfaces are free of oil. If it is the second time for those tubes to be disconnected, they need to be replaced.

Note: Do not place the engine unit directly on a flat surface; doing so may break the PF encoder disc and gears. Be sure to place a support pad under the engine unit as shown below.



(6) Remove the outer paper guide from the switchback roller shaft, starting from either one of the right and left ends.

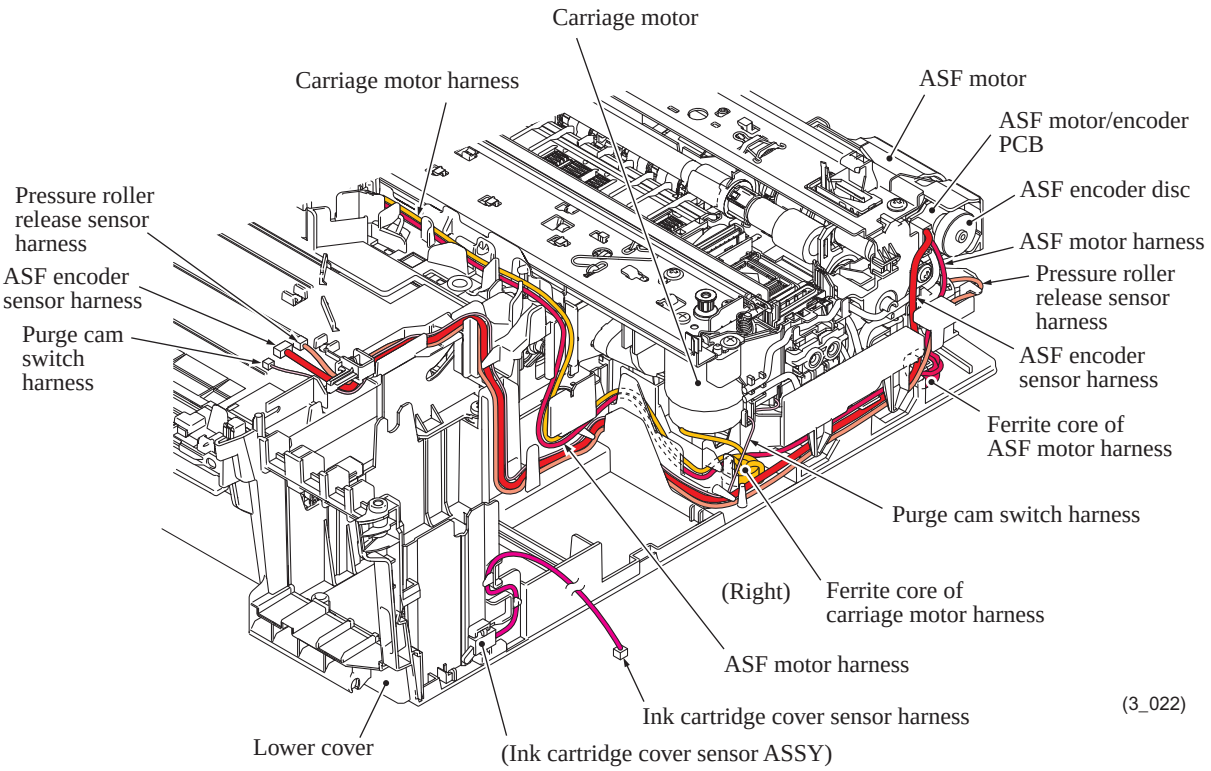


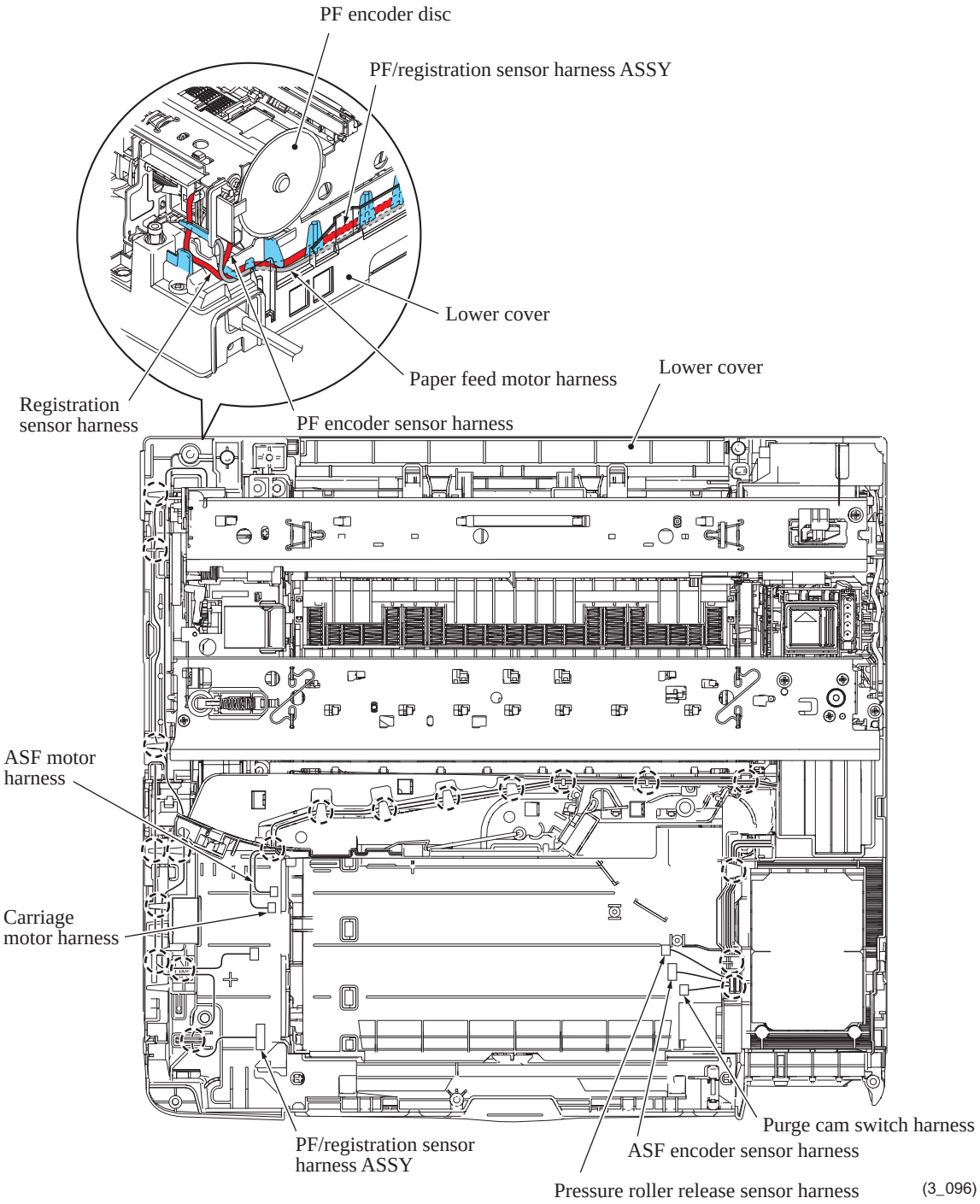
(7) Take the flushing box and ink absorber felt (for maintenance unit) out of the lower cover.

Assembling Notes:

- When mounting the outer paper guide, fit it over the switchback roller shaft, starting from either one of the right and left hooks, so that the right and left hooks face up and the center one faces down, that is, the part code imprinted faces up.
- When mounting the engine unit on the lower cover, first make sure that the disc guide is closed, then slightly tilt the engine unit to the front, fit the grooves provided in the inside of the link rods R and L (white parts) over the bosses on the disc guide (see the previous page), slide the engine unit down, press the front end against the lower cover and lower the rear end.
- After mounting the engine unit, route the harnesses through the cable guides on the right and left ends of the lower cover. (See the figure below and the next page.)
- If you replace the flushing box (without replacing the main PCB), reset the flushing count, referring to Chapter 4, Section 4.

  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.
- If you replace the engine unit, make adjustments specified in Chapter 4, Section 1.





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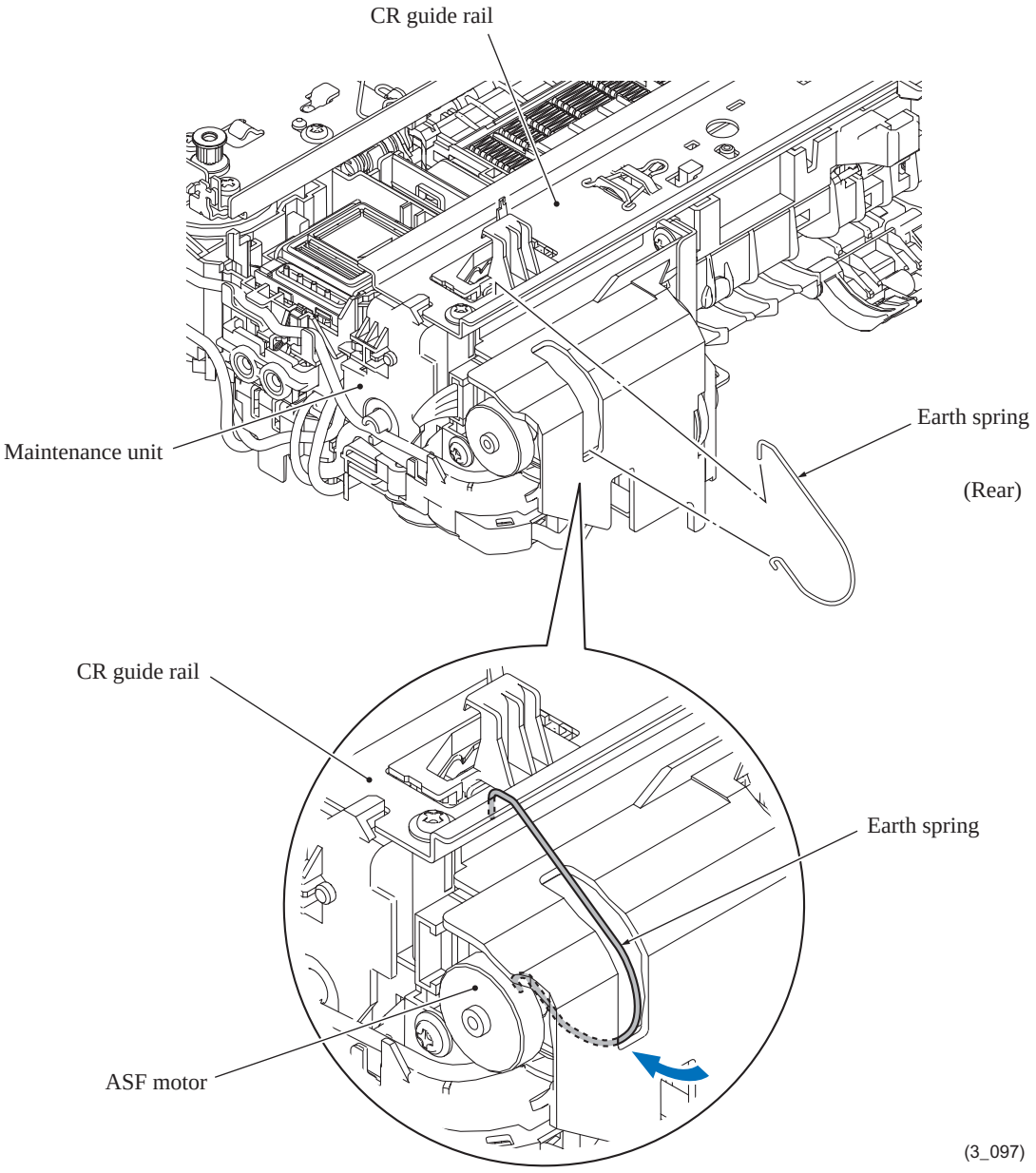
9.17 Components on the Engine Unit

(Earth spring, Maintenance unit, Carriage motor, Outer paper guide, Chute cover, Registration sensor PCB ASSY, Inner chute ASSY, Pressure roller release sensor PCB ASSY, PF encoder disc, PF encoder sensor PCB ASSY and PF/registration sensor harness ASSY)

Earth spring

(1) Release the upper and lower ends of the earth spring from the CR guide rail and the ASF motor, respectively.



Assembling Note: When mounting the earth spring, take care not to contaminate it with grease.

First insert the lower end of the spring underneath the ASF motor, and the spring winds around the ASF motor by spring force. Then hook the upper end on the CR guide rail.

Maintenance unit

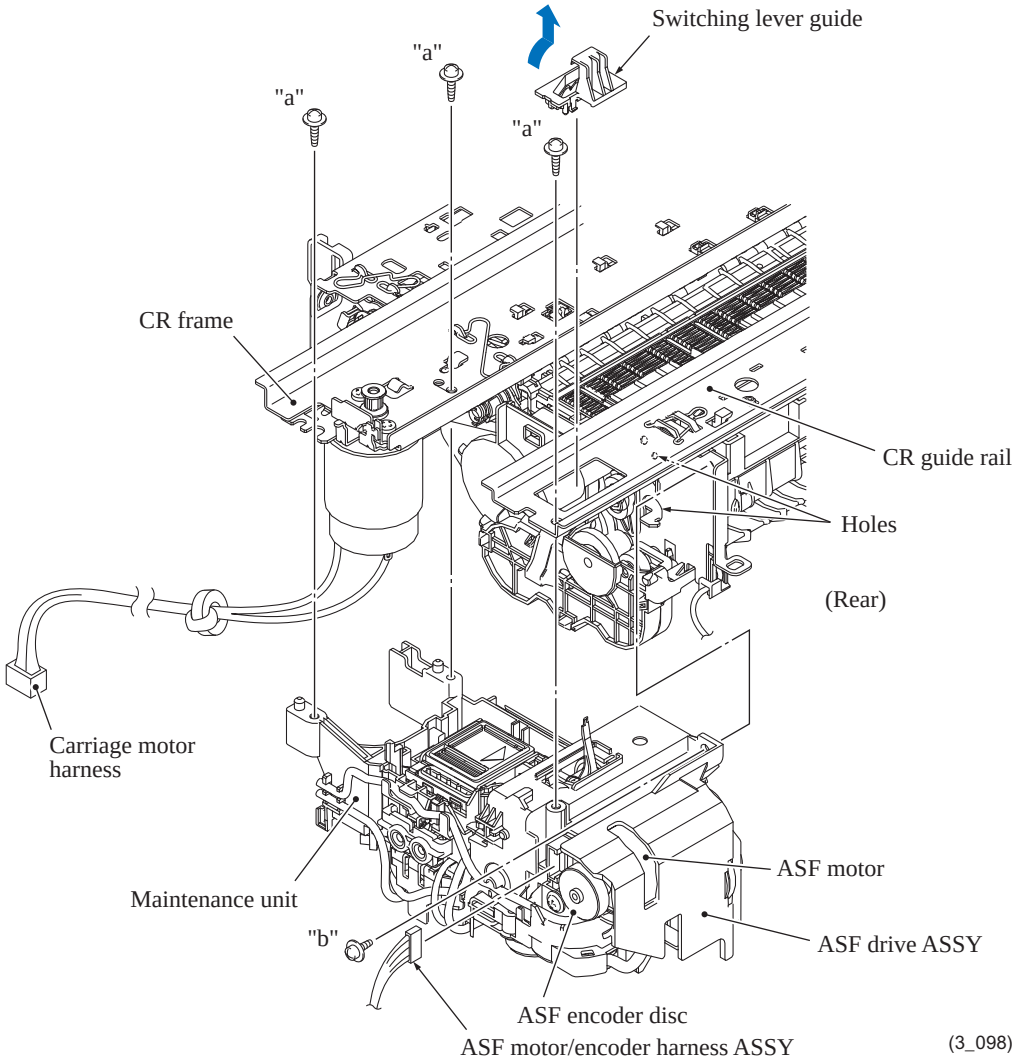
(2) Release the left end of the switching lever guide from the maintenance unit (viewed from the rear) and remove the guide.

(3) If the ink absorber box has not been removed, pull out the main drain tube and air vent tube from the ink absorber box.

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

Note: If the main drain tube and air vent tube are disconnected from the ink absorber box, they are reusable only one time by trimming their ends vertically 10 mm with scissors clear and free of oil. Check that their cut surfaces are free of oil. If it is the second time for those tubes to be disconnected, they need to be replaced.

(4) Remove the four screws (three "a" screws and one "b" screw) and detach the maintenance unit from the engine unit.



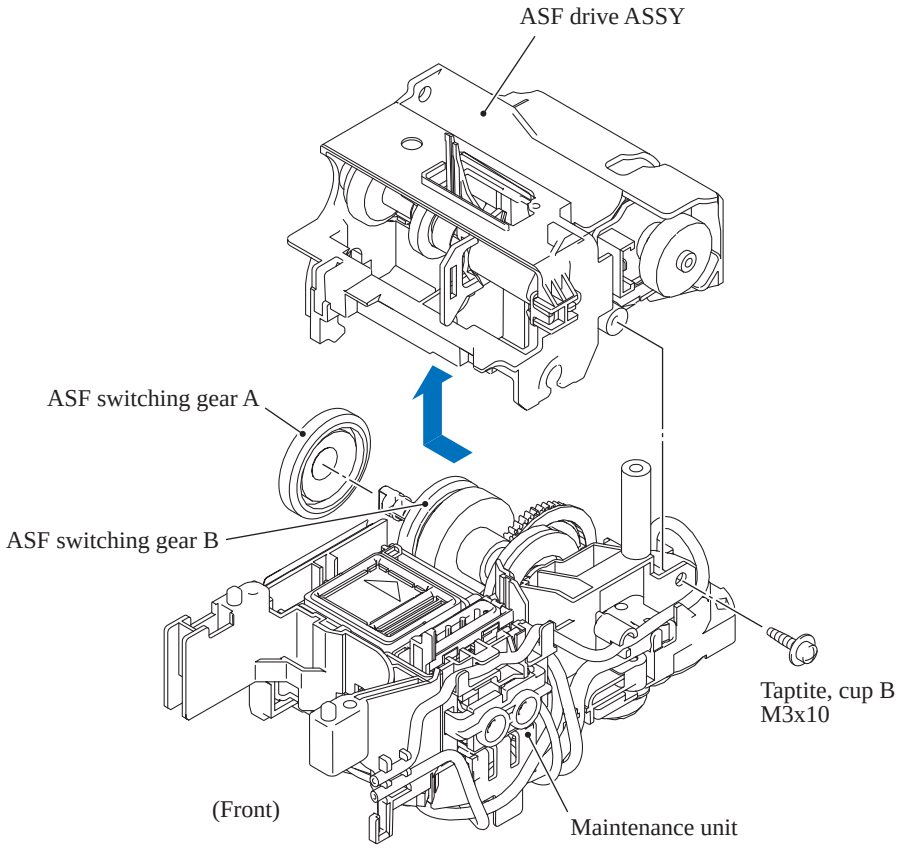
"a": Taptite, cup B M3x10
"b": Taptite, cup S M3x6

Assembling Notes:

- Before setting the switching lever guide back into place, apply the specified lubricant to the specified point, referring to Section 5 in this chapter.
- When mounting the switching lever guide on the maintenance unit, put it over the square opening in the CR guide rail and then lightly push it down.
- When mounting the maintenance unit on the engine unit, fit the two bosses of the shaft holder (on the left side of the maintenance unit) into the two holes under the CR guide rail.

(5) Remove the screw from the maintenance unit, slightly slide the ASF drive ASSY to the left and lift it up to detach it from the maintenance unit.

(6) Remove the ASF switching gears A and B.



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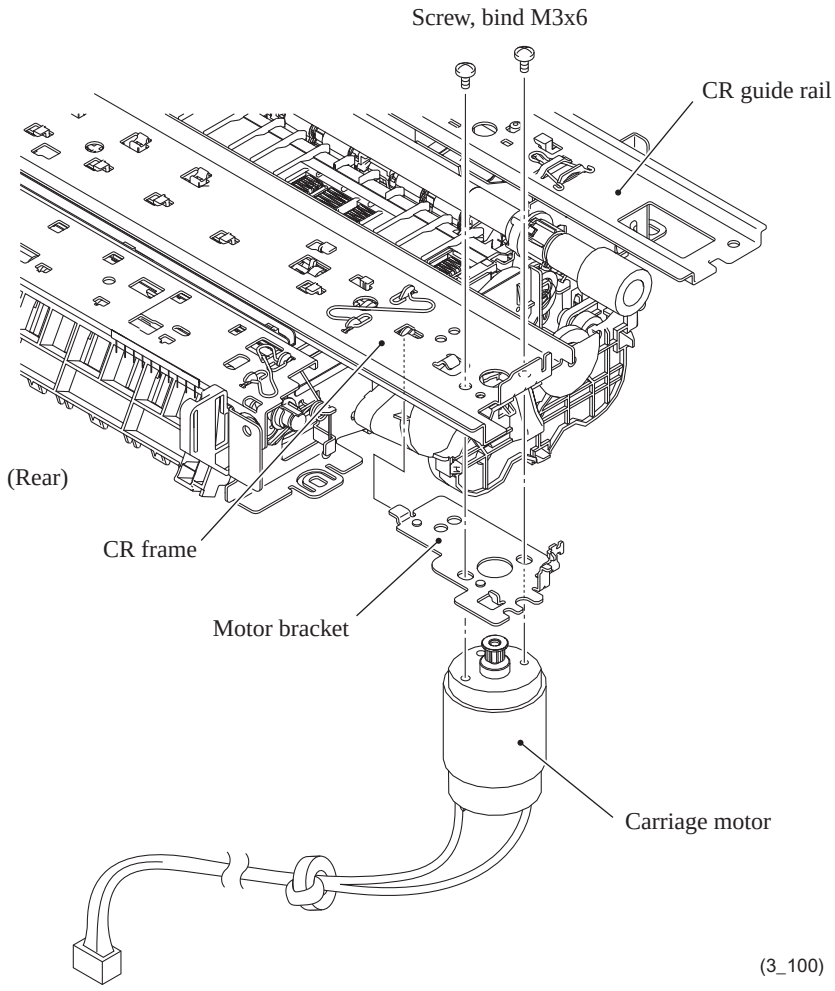
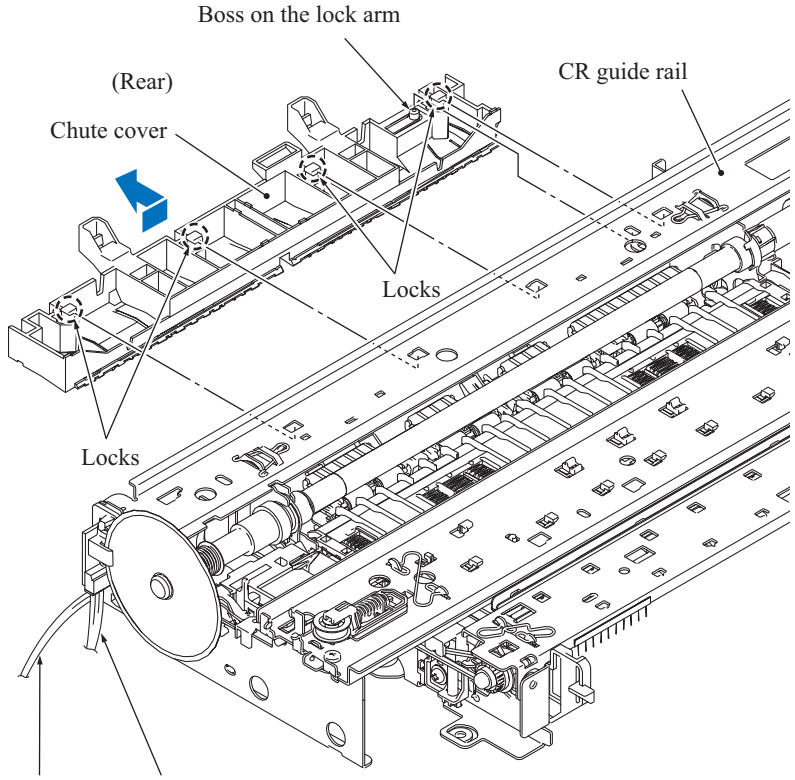
Carriage motor

(7) Remove the two screws from the CR frame and detach the carriage motor and its bracket.



Chute cover, registration sensor PCB ASSY, inner chute ASSY and pressure roller release sensor PCB ASSY

(8) Push down the boss on the lock arm of the chute cover to release it from the hole provided in the CR guide rail, slide the chute cover to the right (to the left viewed from the rear) to release the four locks, and then remove the chute cover.



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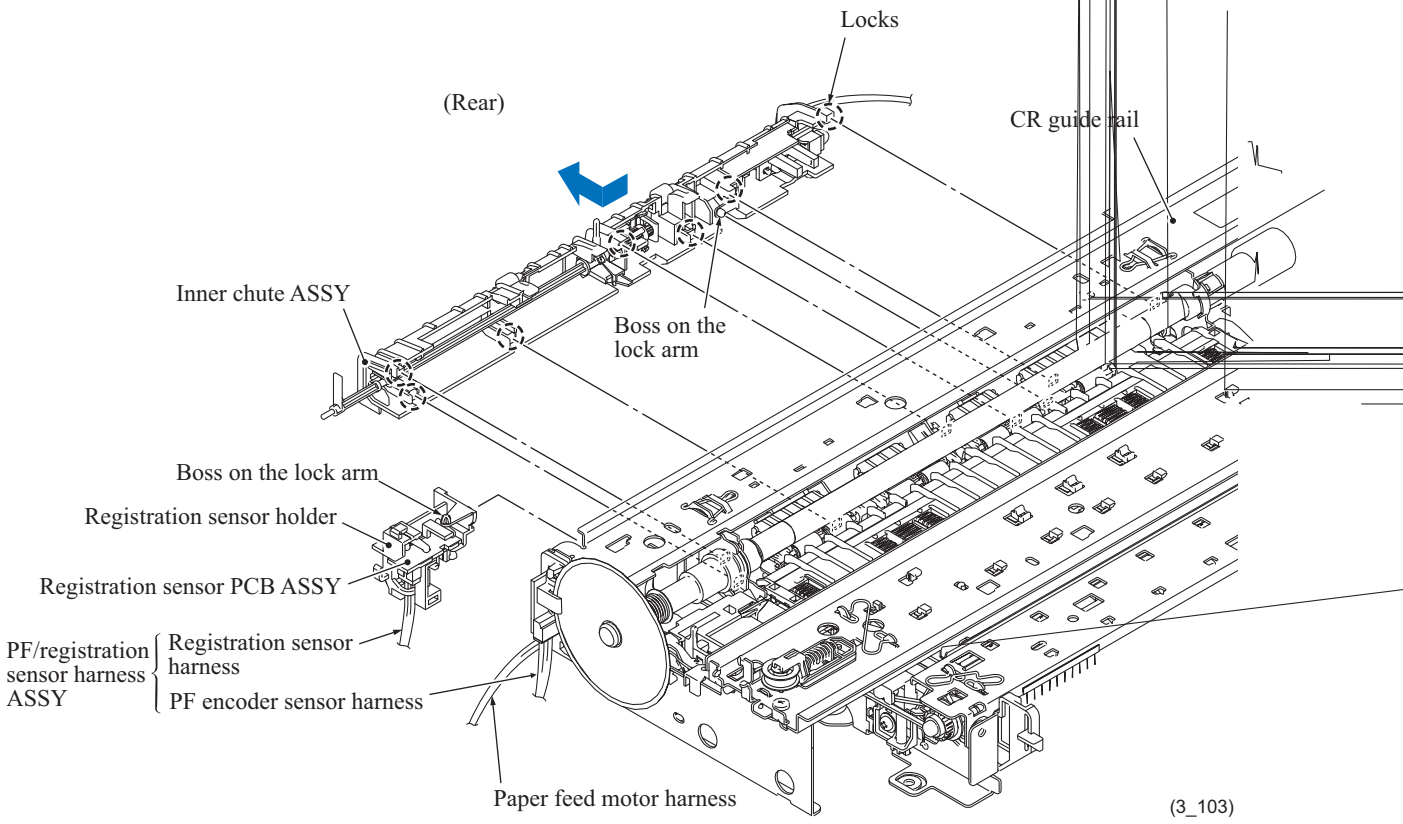
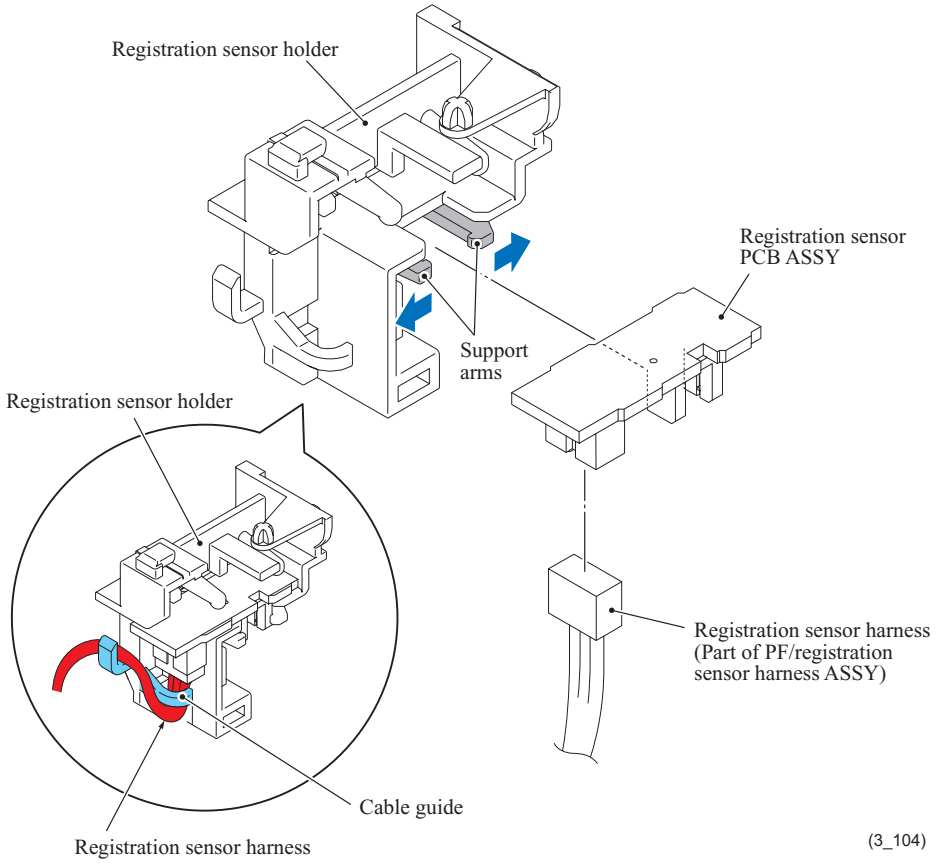
(9) Push down the boss on the lock arm of the registration sensor holder (on which the registration sensor PCB ASSY is mounted) to release it from the hole provided in the CR guide rail, then remove the holder outwards.

As shown on the next page, pull the support arms on the registration sensor holder outwards, remove the registration sensor PCB ASSY, and disconnect the registration sensor harness from the PCB.

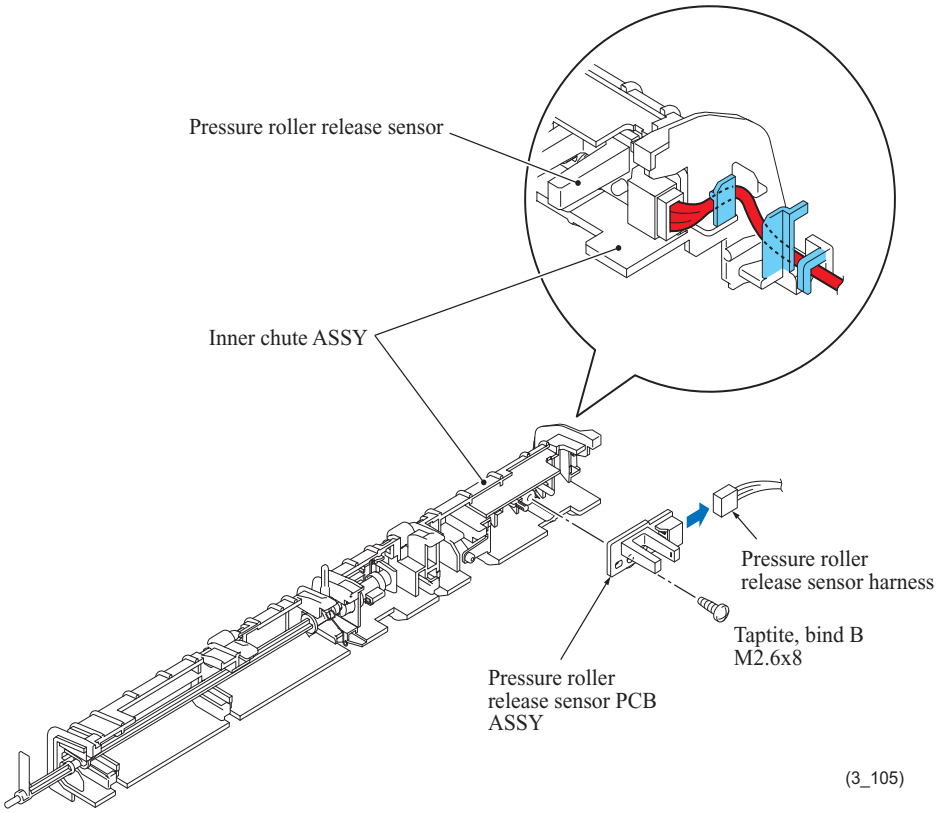
Note: The registration sensor harness is a part of the PF/registration sensor harness ASSY. To completely separate the ASSY from the engine unit, disconnect the PF encoder sensor harness from the PF encoder sensor PCB, referring to step (13) later.

(10) Using a spring hook from the rear, pull the lock arm of the inner chute ASSY to the rear to release the boss on the lock arm from the hole provided in the main chassis, slide the inner chute ASSY to the left (to the right viewed from the rear) to release the seven locks, and take the inner chute ASSY off the engine unit.





(11) Remove the screw and take the pressure roller release sensor PCB ASSY out of the inner chute ASSY. Disconnect the harness from the PCB.



PF encoder disc, PF encoder sensor PCB ASSY and PF/registration sensor harness ASSY*

* The PF/registration sensor harness ASSY consists of a PF encoder sensor harness and registration sensor harness.

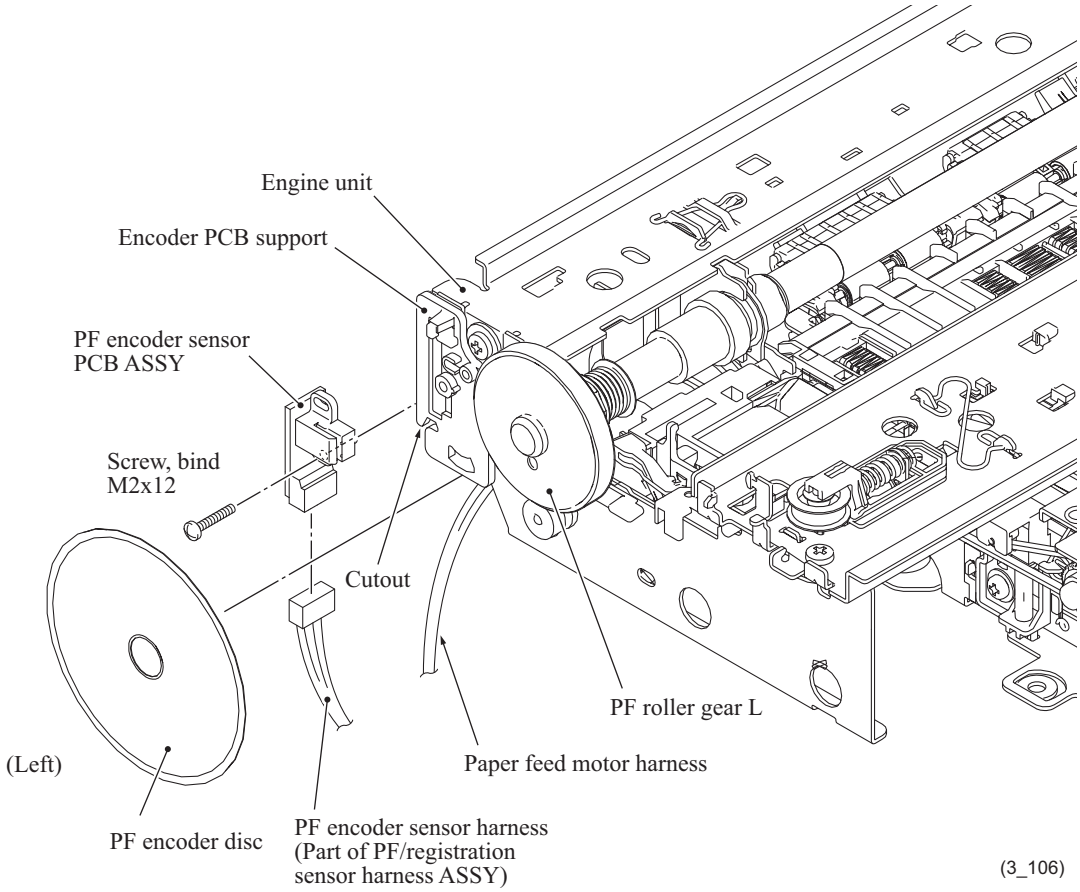
(12) If the PF encoder disc needs to be replaced, peel it off from the PF roller gear L.

Note: Once removed, the PF encoder disc will become unusable and a new disc will have to be put back in.

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

(13) Remove the screw and take the PF encoder sensor PCB ASSY off the engine unit.

If the PF encoder sensor harness has not been disconnected from the PCB in step (9) above, disconnect it to completely separate the ASSY from the engine unit.

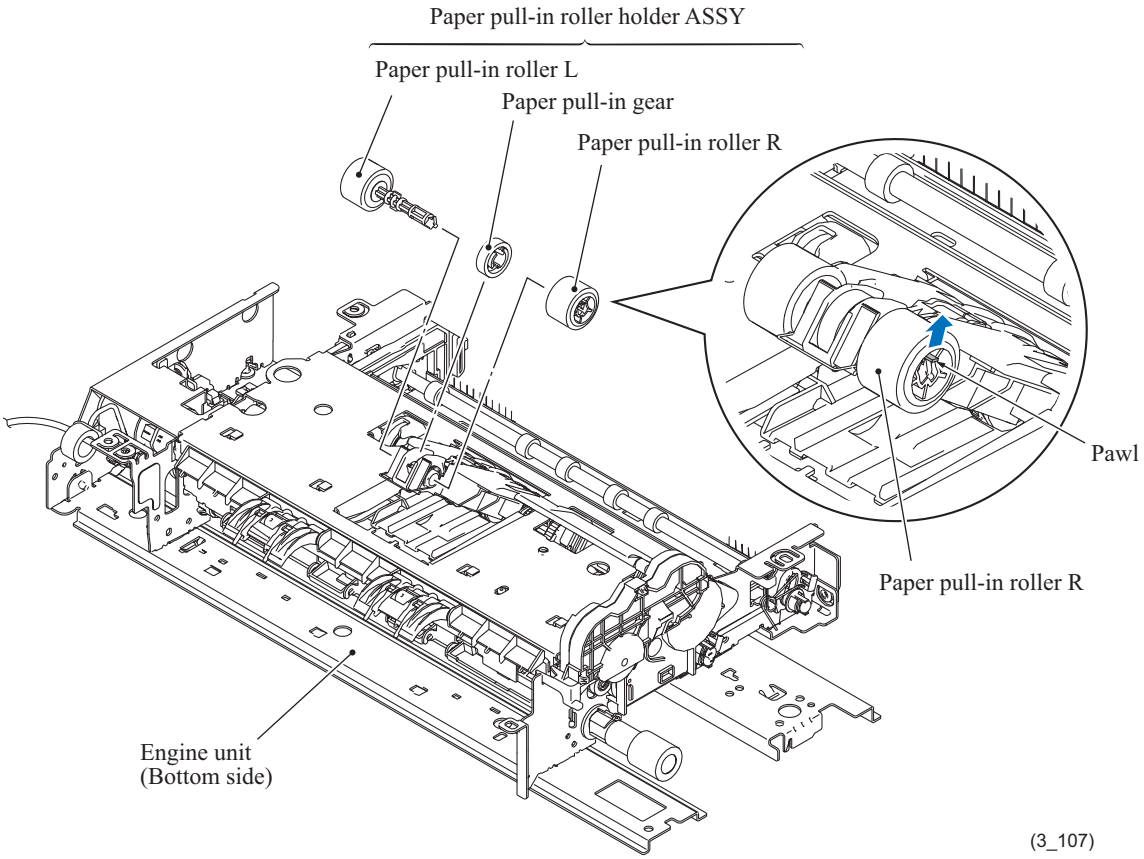


Assembling Note: When attaching the PF encoder disc to the PF roller gear L, using a spatular tool makes the job easier. Put on clean gloves to protect the disc surface from dust or fingerprints.

Paper pull-in roller holder ASSY

(14) Pull the pawl on the paper pull-in roller R outwards and remove the roller R, then pull out the paper pull-in roller L while rotating it.

(15) Remove the paper pull-in gear.

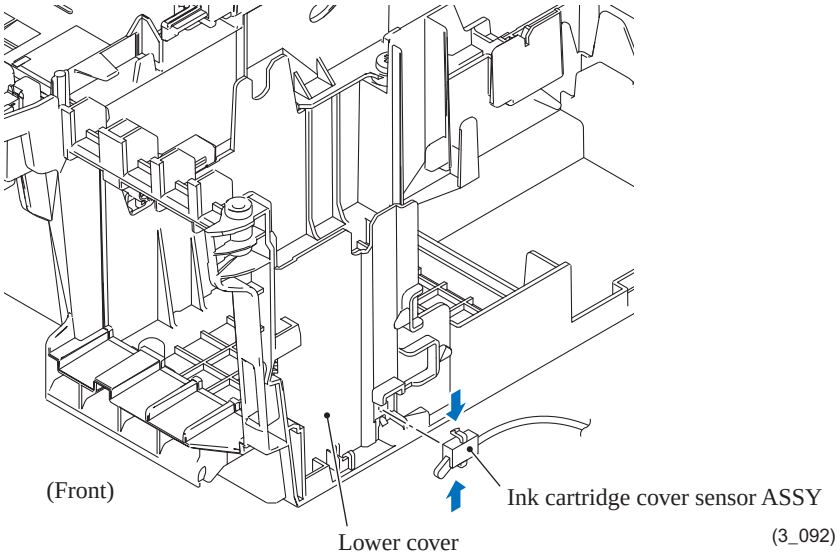


Assembling Note: Before mounting the paper pull-in roller L, apply the specified lubricant to the specified points on its shaft, referring to Section 5.

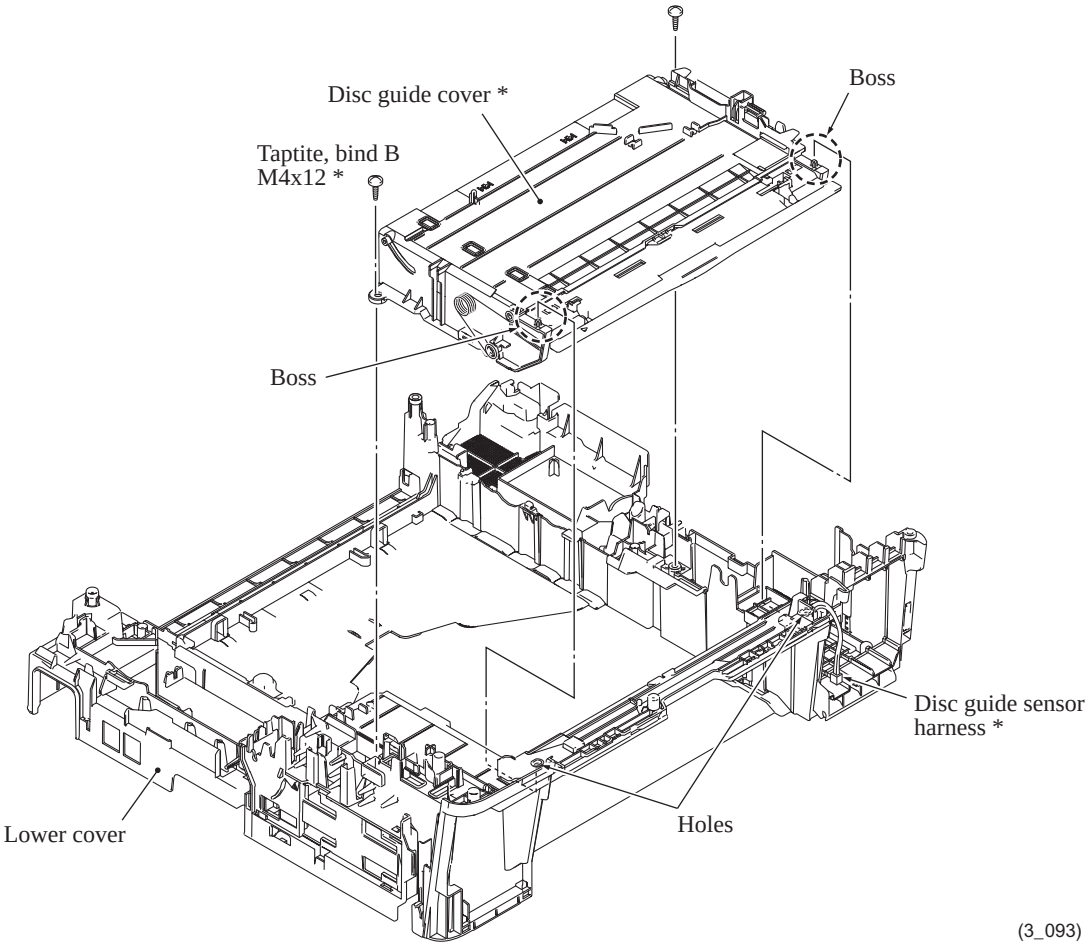
9.18 Ink Cartridge Cover Sensor ASSY, Disc Guide Cover*, Disc Guide* and Disc Guide Sensor ASSY*

* For disc printing models

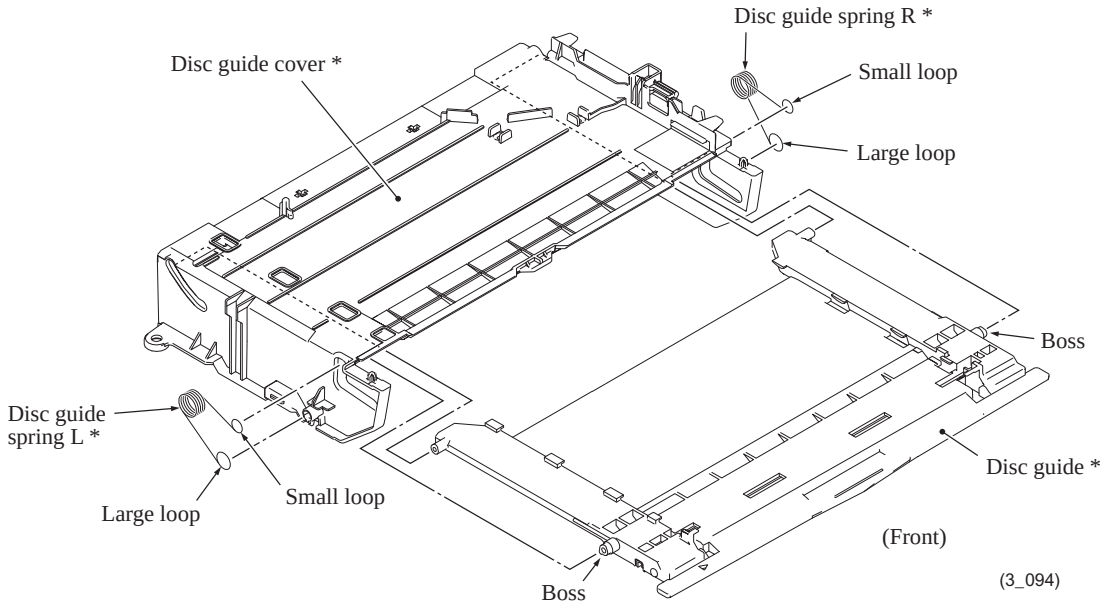
(1) Remove the ink cartridge cover sensor ASSY from the front right side of the lower cover as shown below.



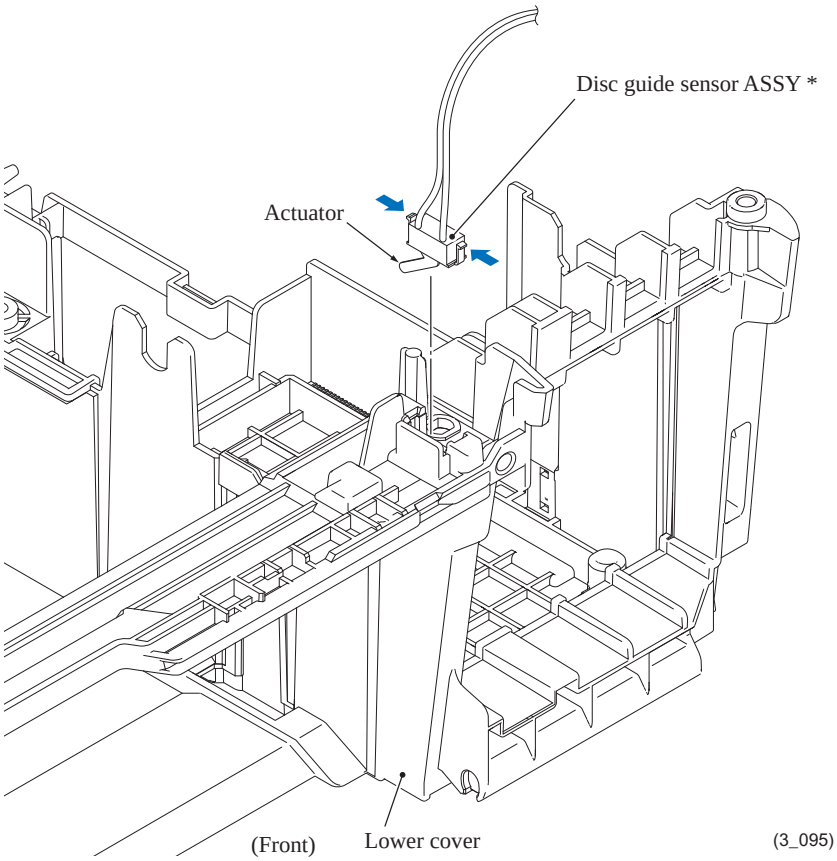
(2) Remove the two screws* from the disc guide cover*, lift up its rear end to release the two bosses from the holes provided in the lower cover, and remove the disc guide cover* to the rear.



(3) Remove the disc guide springs (R and L)* and separate the disc guide* from the disc guide cover*.



(4) Remove the disc guide sensor ASSY* from the top right of the lower cover as shown below.



Assembling Notes:

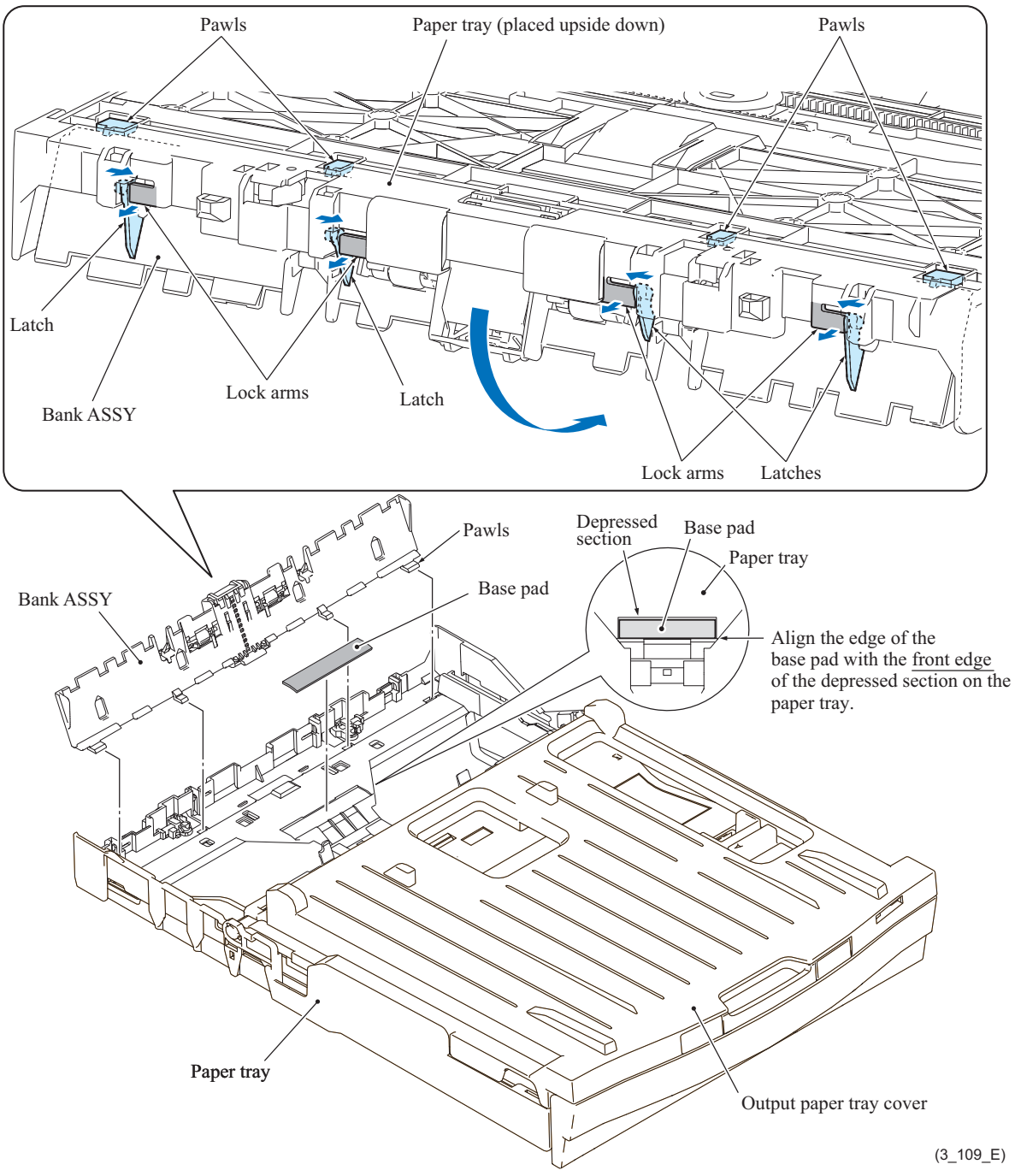
- Mount the disc guide sensor ASSY* to the lower cover so that the actuator points to the rear as shown above.
- The disc guide springs R and L* are not the same parts. Be careful with the orientation of each spring. Fit each spring over the bosses on the disc guide* and its cover*, with the small loop facing upward and inward.

9.19 Bank ASSY and Base Pads on the Paper Tray ASSY

(1) Pull the four lock arms on the rear of the paper tray ASSY outwards to release the four latches of the bank ASSY, and separate the bank ASSY from the paper tray.

(2) If the base pad needs to be replaced, peel it off the bottom of the paper tray.

Note: Once removed, the base pad will become unusable and a new pad will have to be put back in.

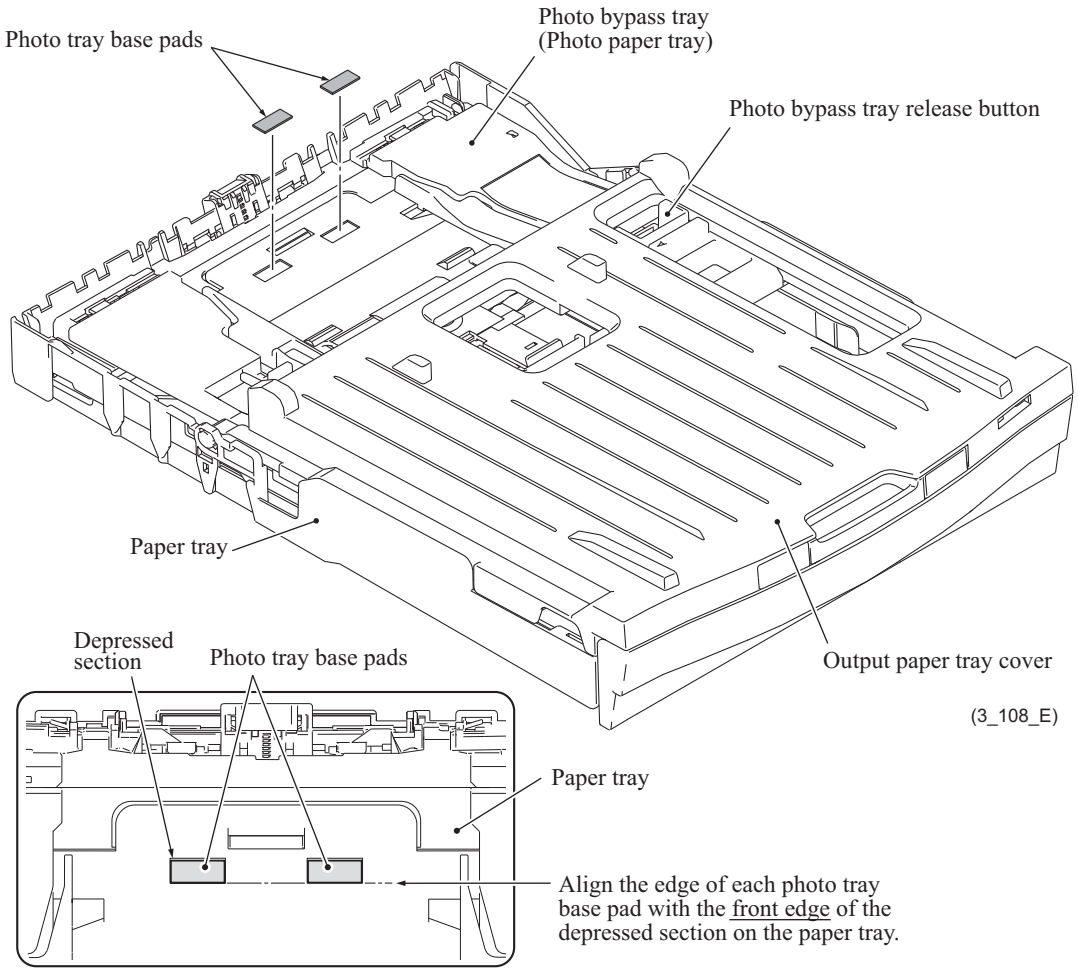


Assembling Notes:

- When attaching a new base pad to the paper tray, align the front edge of the pad with that of the depressed section on the paper tray and center the pad widthways as shown above.
- When mounting the bank ASSY, first insert the four pawls into the openings in the paper tray and then press the inside of the bank ASSY to the rear so that the four latches snap into place.

(3) If the photo tray base pads need to be replaced, squeeze the photo bypass tray release button, push the photo bypass tray forward until it clicks into the photo printing position shown below, and peel the base pads off the bottom of the photo bypass tray.

Note: Once removed, the photo tray base pads will become unusable and new pads will have to be put back in.



Assembling Notes:

- When attaching a new photo tray base pad to the photo bypass tray, align the front edge of the pad with that of the depressed section on the tray and center the pad widthways as shown above.

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

This chapter details adjustments and updating of settings, which are required if the head/carriage unit, main PCB and some other parts have been replaced.

Note: Use the latest versions of tools.

1 IF YOU REPLACE THE HEAD/CARRIAGE UNIT OR ENGINE UNIT

<Operations>

1.1 Update the head property data stored in the EEPROM on the main PCB*

1.2 Clean the new head/carriage unit (Function code 76)

1.3 Print out a nozzle test pattern (Function code 09)

1.4 Adjust the inclination of the head/carriage unit

1.5 Update the paper feeding correction value (Function code 58)

1.6 Align vertical print lines in monochrome (Function code 65)

1.7 Adjust margins in borderless printing (Function code 66)

1.8 Create head calibration data and write it into flash ROM (Function code 02)

1.9 Check the operation of the pressure roller (Function code 63)

1.10 Print out a total quality check pattern

1.11 Switch back to standby

1.12 Replace the ink cartridges with the protective part

1.13 Obtain machine information at the user site (Instruction to the end user)

*Updating not required when the engine unit only is replaced

<Requirements>

(1) USB cable (one piece)

(2) PC (Windows® XP/2000 or later)

(3) Service setting tool (BrUsbSn.exe)

(4) Download utility (filedg32.exe)

(5) Maintenance driver (MaintenanceDriver.zip), if not installed

(6) Data files of print patterns

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1.1 Update the head property data stored in the EEPROM on the main PCB*

* Updating not required when the engine unit only is replaced

Tip: Updating can also be done with Function code 68. (Refer to Chapter 5, Section 1.4.23.)

(1) Make sure that the machine's power cord is unplugged from an electrical outlet.
If the machine is connected to a PC, unplug the USB cable.

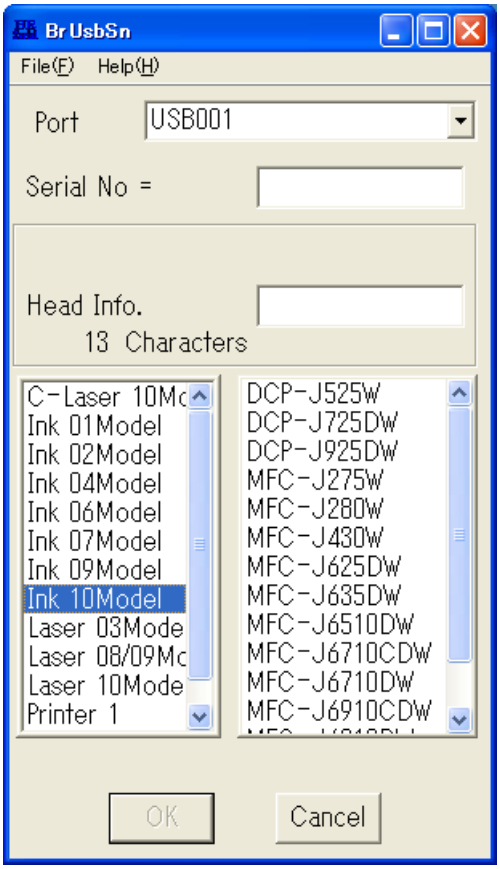
(2) Switch on the PC.

(3) Plug the machine's power cord into an electrical outlet.

(4) Switch the machine to the maintenance mode. (Refer to Chapter 5.)

(5) Connect the machine to the PC using a USB cable.

(6) On the PC, run the Service setting tool (BrUsbSn.exe) in the created folder to display the following window.

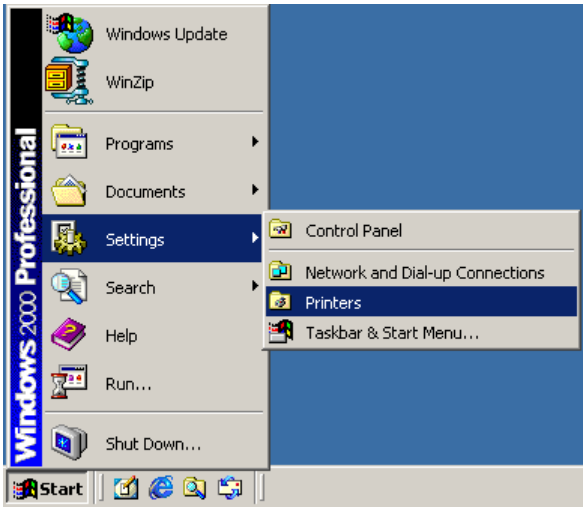


(7) On the model menu, click **Ink 10Model**.

(8) In **Port** on the BrUsbSn screen, select the port number assigned to the Brother Maintenance USB Printer.

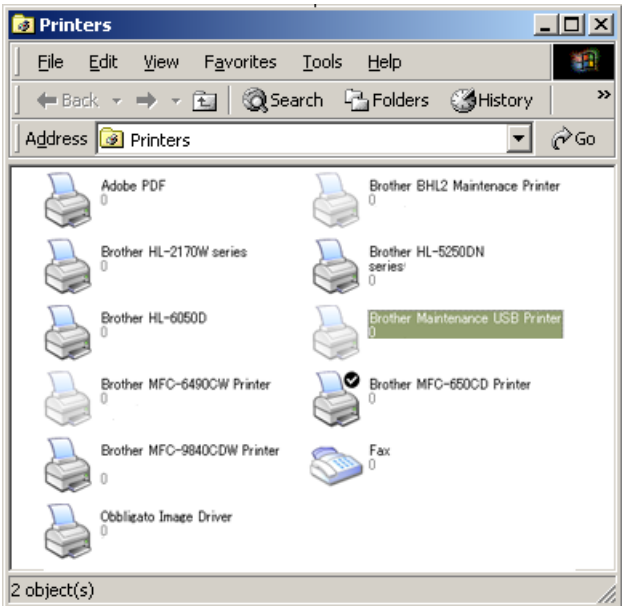
If the port number is unknown, follow steps 1) through 4) below.

1) Click **Start** | **Settings** | **Printers**.

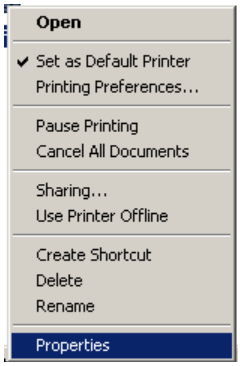


The Printers window appears as shown below.

2) Right-click the Brother Maintenance USB Printer driver icon.



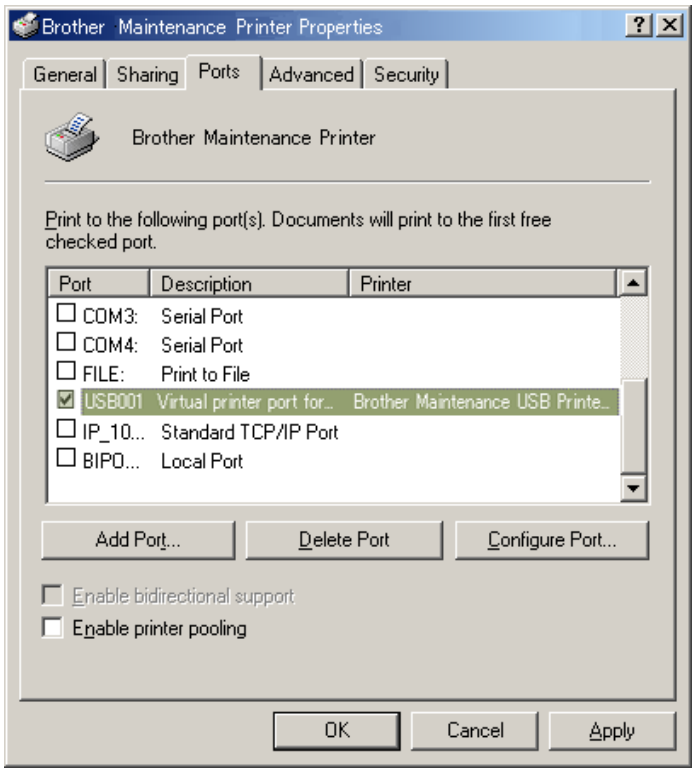
3) Click **Properties**.



Confidential

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 USB001.

(9) In the **Head Info.** box on the BrUsbSn screen (page 4-2), type the 13-digit property code (e.g., ALR7795500000) which is printed on the bar code label attached to the lower cover. Click the **OK** key.

(10) To check that the entered head property code is correct, use Function code 68 (in Chapter 5, Section 1.4.23) as follows.

-- Checking procedure --

Press the **6** and **8** keys in this order and then press the **2**, **5**, **8**, and **0** keys in this order.

The LCD shows the current head property code (13-digit code) stored in the EEPROM on the main PCB.

(11) Check that the character string entered in step (9) appears.

If it is OK, press the **Stop/Exit** key.

If something other than that appears, check the connection between the PC and machine and go back to step (6).

1.2 Clean the new head/carriage unit (Function code 76)

(1) Open the ink cartridge cover, set comparatively-new ink cartridges (having sufficient ink) into the ink refill ASSY, and close the ink cartridge cover.

(2) Carry out a purge operation (with function code 76) using the steps below. (See Chapter 5, Section 1.4.28.)

Press the **7** and **6** keys in this order.

The machine displays "CLEANING ALL" on the LCD and enters the purge mode.

Press the **4** and **Black Start** (**Mono Start**) keys in this order to start an initial purge.

The machine starts an initial purge that refills the ink supply tubes and the print head with fresh ink.

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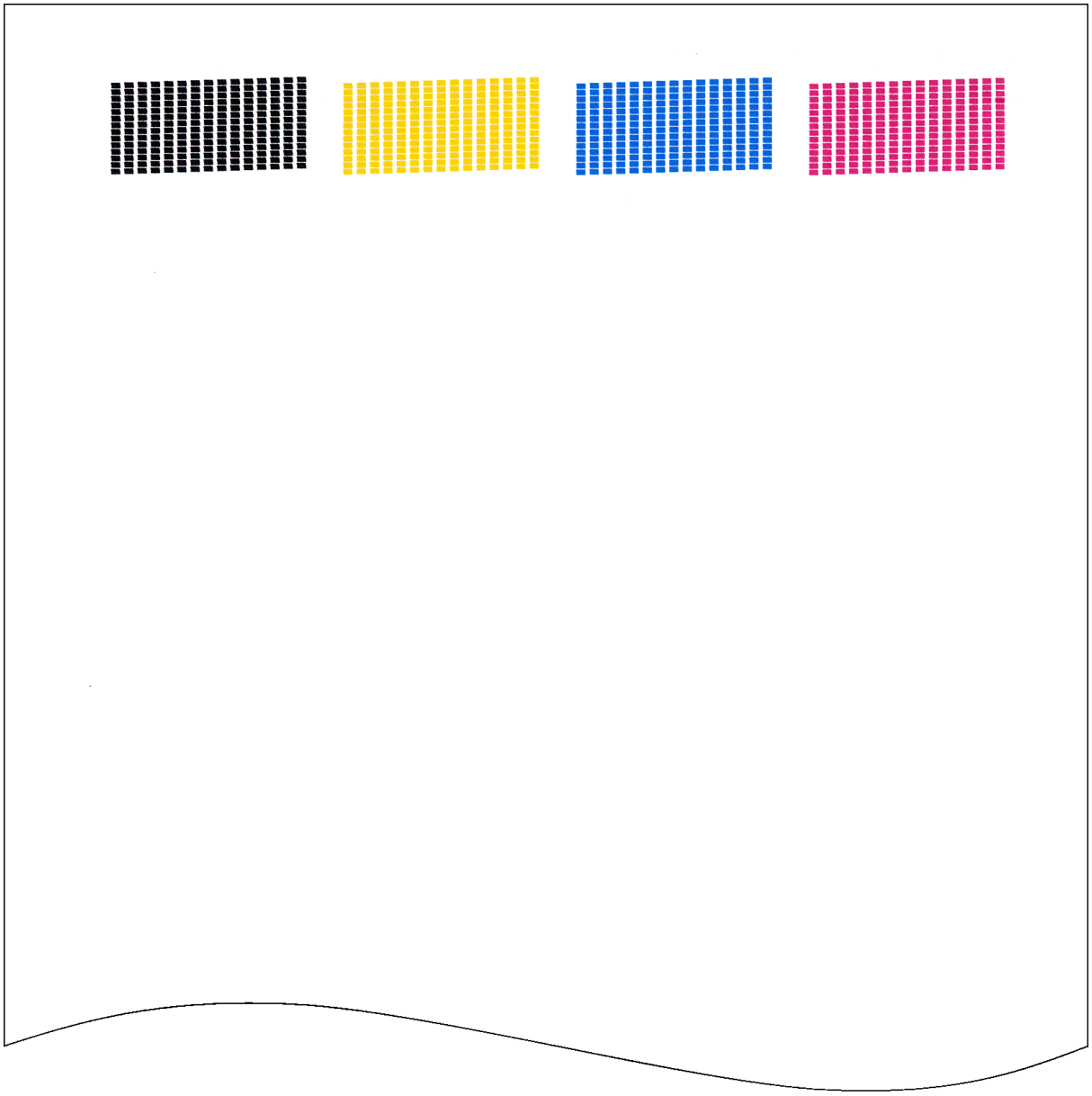
1.3 Print out a nozzle test pattern (Function code 09)

To check that the head/carriage unit normally sprays ink droplets from *all* head nozzles, print out a test pattern with Function code 09 (see Chapter 5, Section 1.4.5) with the following steps.

Before starting the operation below, be sure to set letter- or A4-size paper in the paper tray for printing test patterns.

(1) Press the **0** and **9** keys in this order.

(2) If dot missing or any other print quality problem is found, use Function code 76 to perform an appropriate purge operation (refer to Chapter 5, Section 1.4.28).



Nozzle Test Pattern

Confidential

1.4 Adjust the inclination of the head/carriage unit

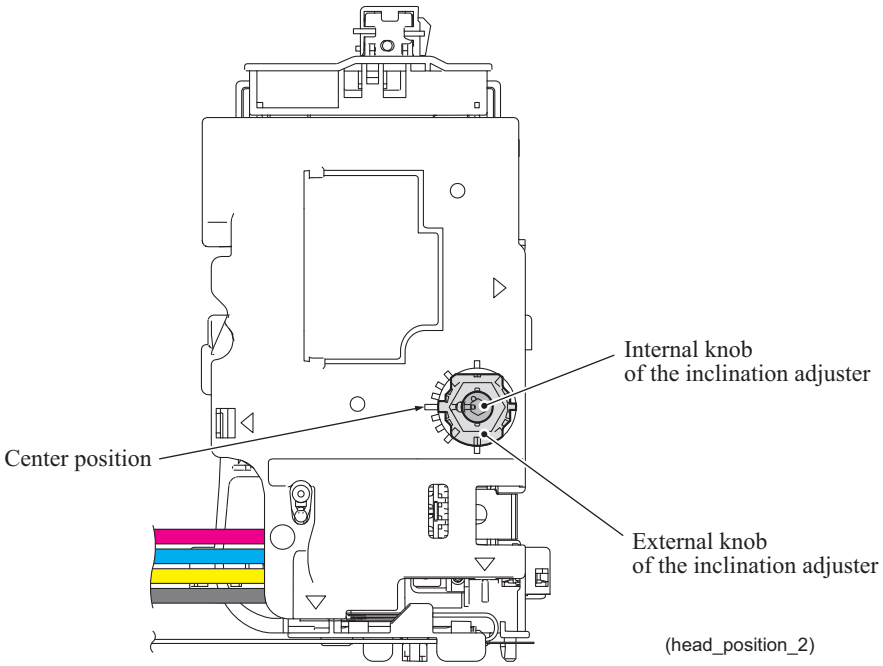
Before starting the operation below, be sure to set recording paper in the paper tray for printing check patterns.

(1) Move the head/carriage unit to the adjustment position in the maintenance mode (Function code 63), referring to Chapter 5, Section 1.4.20.

(2) Open the document scanner unit.

(3) Turn both the external and internal knobs of the inclination adjuster to the center position with a spanner and a hexagonal wrench as shown below.

Note: Adjustment should be made with the head/carriage unit placed at the left end of its travel; otherwise, the CR frame may be warped.



(4) Close the document scanner unit.

(5) Drag and drop the "incline_mini11.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

The machine displays the "Receiving Data" on the LCD and prints out the head inclination test pattern "CR-INCLINE EXIT adjust check" (see page 4-9 for a sample printout).

Tip: The head inclination test pattern can also be printed with Function code 61 (refer to Chapter 5, Section 1.4.19). After printing with a memory card, be sure to remove the card before proceeding to the following step.

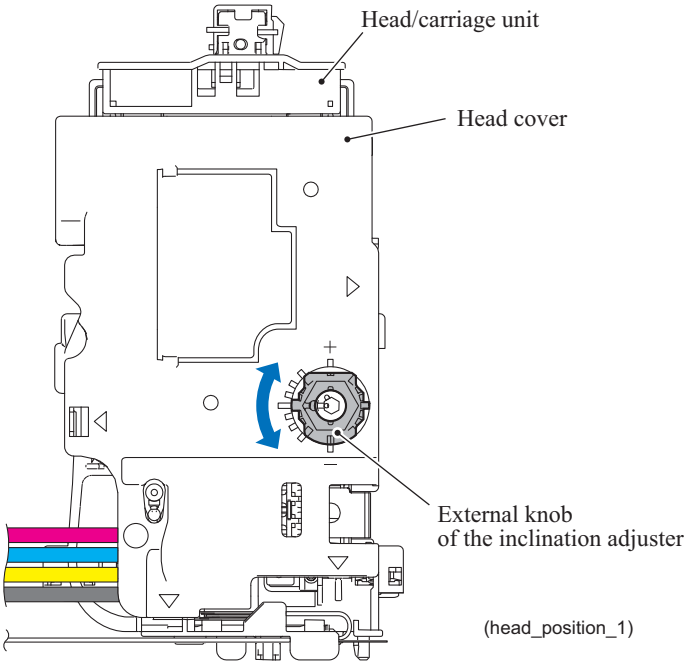
(6) On the test pattern, check the upper single row of blocks and select the block that is the least uneven print.

(7) Adjust the inclination of the head/carriage unit using the procedure below.

If the least uneven block number in the *upper* single row is "0":

1) Check the *center* two rows of blocks and select the block that is the least uneven print. Turn the external knob of the inclination adjuster with a spanner by the selected block number of the scale marks.

   For example, if the block that is the least uneven print is +1, turn the external knob clockwise by one scale mark. If it is -1, turn it counterclockwise by one scale mark.



2) After adjustment, proceed to step (8).

If the least uneven block number in the *upper* single row is other than "0":

1) Check the *upper* single row of blocks and select the block that is the least uneven print. Turn the internal knob of the inclination adjuster with a hexagonal wrench by the selected block number of the scale marks.

   For example, if the block that is the least uneven print is +1, turn the internal knob clockwise by one scale mark. If it is -1, turn it counterclockwise by one scale mark.

2) Close the document scanner unit and print the test pattern again in the same way as in step (5).

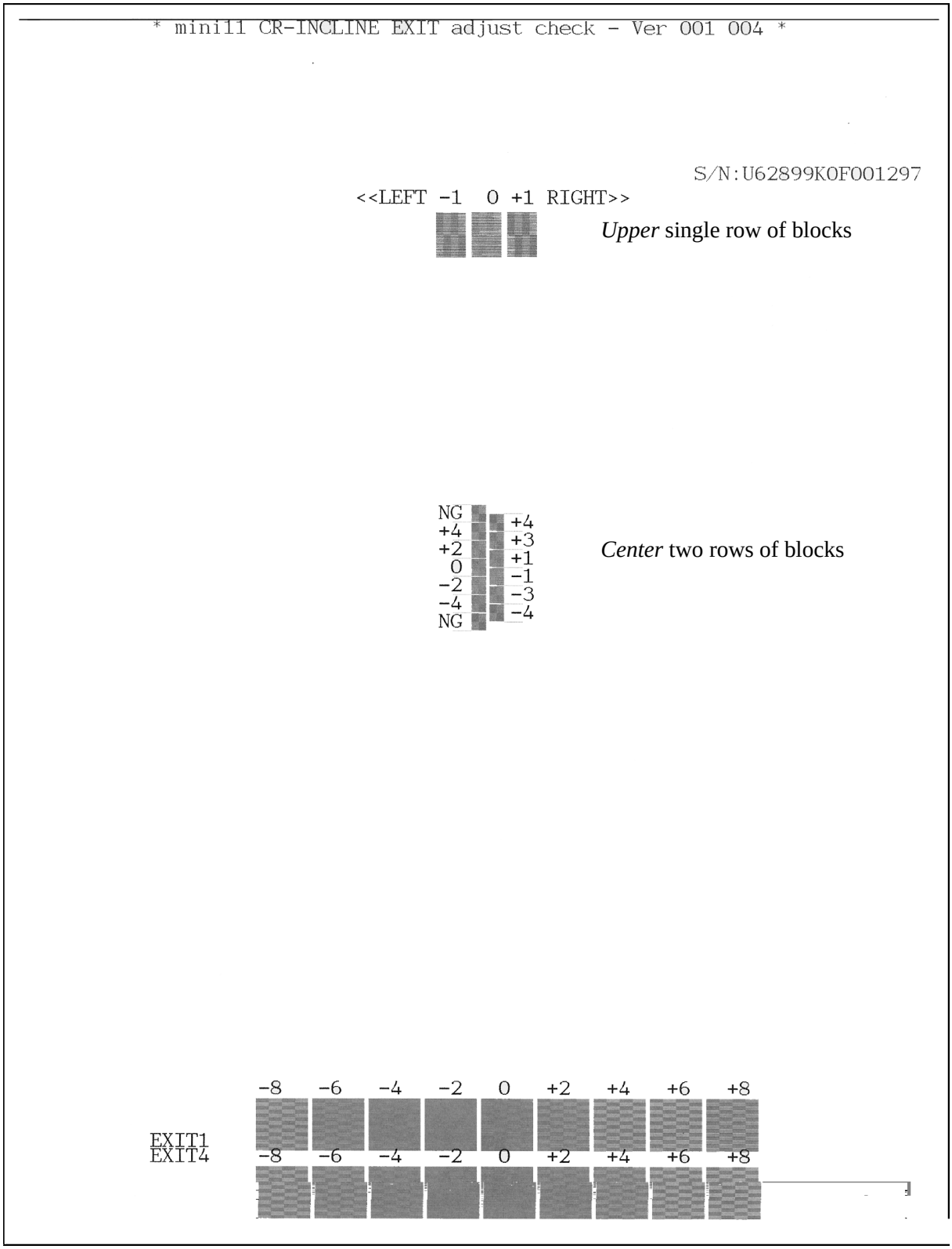
3) Move the head/carriage unit to the adjustment position in the maintenance mode (Function code 63), referring to Chapter 5, Section 1.4.20. Open the document scanner unit.

4) In the *center* two rows of blocks, select the block that is the least uneven print. Turn the external knob with a spanner by the selected block number of the scale marks.

   For example, if the block that is the least uneven print is +1, turn the external knob clockwise by one mark. If it is -1, turn it counterclockwise by one mark.

(8) After adjustment, close the document scanner unit.

The head/carriage unit returns to the home position.



Head Inclination Test Pattern

Confidential

1.5 Update the paper feeding correction value (Function code 58)

Refer to Chapter 5, Section 1.4.17.

1.6 Align vertical print lines in monochrome (Function code 65)

Refer to Chapter 5, Section 1.4.21.

1.7 Adjust margins in borderless printing (Function code 66)

Refer to Chapter 5, Section 1.4.22.

1.8 Create head calibration data and write it into flash ROM (Function code 02)

Refer to Chapter 5, Section 1.4.2.

1.9 Check the operation of the pressure roller (Function code 63)

Refer to Chapter 5, Section 1.4.20.

1.10 Print out a total quality check pattern

Before starting the operation below, be sure to set letter-size paper in the paper tray for printing check patterns.

Tip: The total quality check pattern can also be printed with Function code 61 (refer to Chapter 5, Section 1.4.19). After printing with a memory card, be sure to remove the card before proceeding to the following step.

(1) Drag and drop the "qual_mini11.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

The machine displays the "Receiving Data" on the LCD and prints out the "Total Quality Check Pattern" (see page 4-13 for a sample printout).

Disc printing models

In addition to printing the "Total Quality Check Pattern," the disc printing models need to print a disc printing check pattern.

Drag and drop the "disc.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

The machine displays the "Receiving Data" on the LCD and prints out a disc printing check pattern (see page 4-14 for a sample printout).

(2) Check the printed check pattern(s). If any problem is found, go to the related section and make adjustments again as specified in the table below.

A: Checking of platen height	Check the height of the platen. If any NG block shows the least uneven print, reinstall the engine unit or replace it. **Note:** No platen height adjuster is provided.
B: Adjustment of vertical print lines	Check that vertical print lines are aligned. If any NG block shows the least uneven print, do alignment in the maintenance mode (Function code 65), referring to Chapter 5, Section 1.4.21.
C: Inclination adjustment of the head/carriage unit	Check that the inclination of the head/carriage unit is properly adjusted. If any NG block shows the lightest checkered pattern, go back to Section 1.4 in this chapter.
D: Paper feed roller adjustment	Check that the paper feeding correction value is adjusted. If any block except +2 to -2 blocks shows the lightest checkered pattern, make adjustments in the maintenance mode (Function code 58), referring to Chapter 5, Section 1.4.17.
E: Margin adjustment for borderless printing (600 dpi)	Check that there is no left or right margin in 600 dpi. If any margin is found, adjust margins in the maintenance mode (Function code 66), referring to Chapter 5, Section 1.4.22.
F: Margin adjustment for borderless printing (1,200 dpi)	Check that there is no left or right margin in 1,200 dpi. If any margin is found, adjust margins in the maintenance mode (Function code 66), referring to Chapter 5, Section 1.4.22.
G: Paper ejection roller adjustment	Check that the paper feeding correction value is adjusted. If any block except +4 to -4 blocks shows the lightest checkered pattern, make adjustments in the maintenance mode (Function code 58), referring to Chapter 5, Section 1.4.17.

H: Top margin adjustment (Disc printing models only)	Check that the top margin is correct. On the disc printing check pattern, if the top margin is not within the range from 2.0 to 3.0 mm, adjust the top margin in the maintenance mode (Function code 66), referring to Chapter 5, Section 1.4.22.
I: Right and left margins adjustment (Disc printing models only)	Check that the right and left margins are correct. On the disc printing check pattern, if the right or left margin is not within the range from 0.0 to 1.0 mm, adjust the margins in the maintenance mode (Function code 66), referring to Chapter 5, Section 1.4.22.

(3) Repeat steps (1) and (2) until no problem is found.

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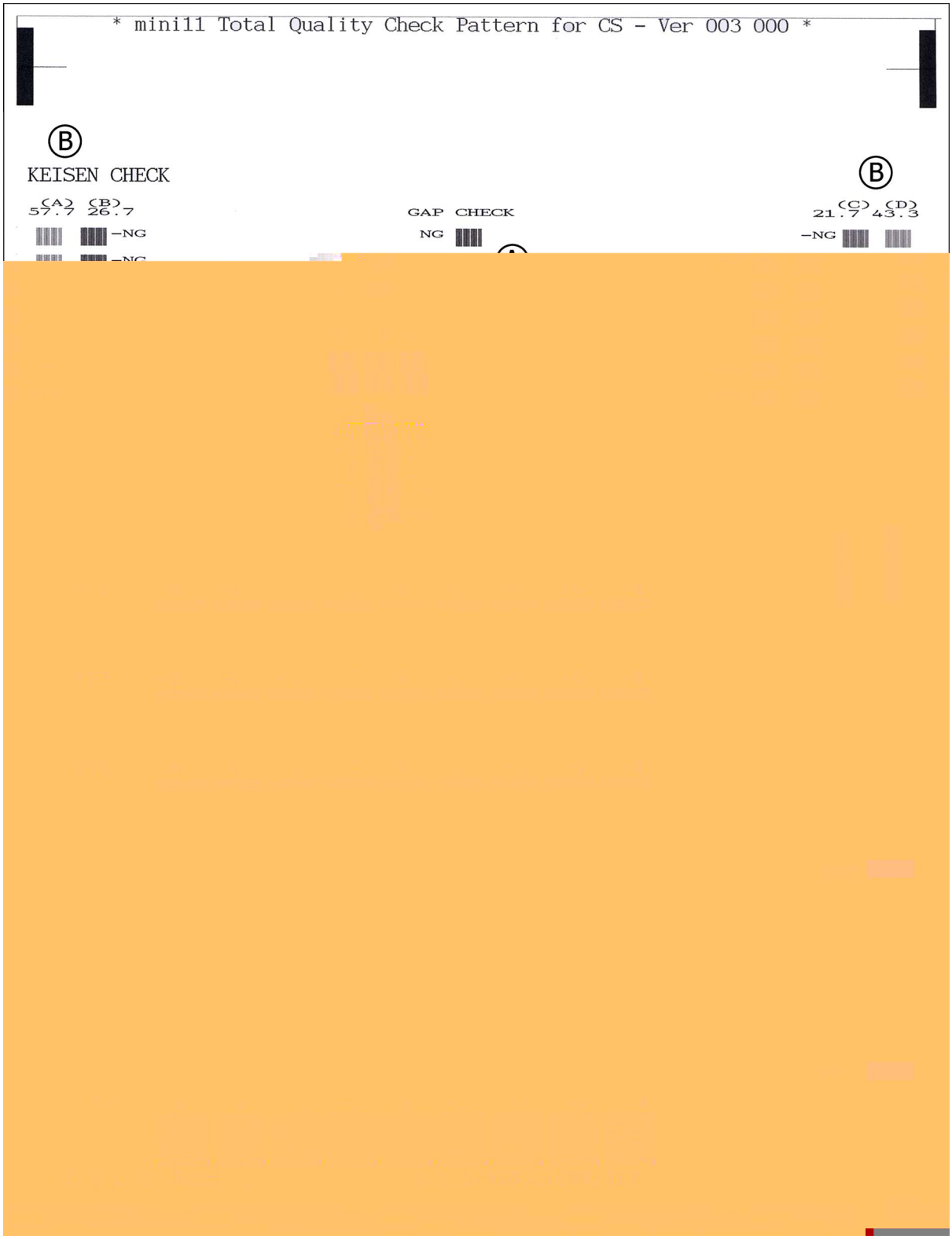
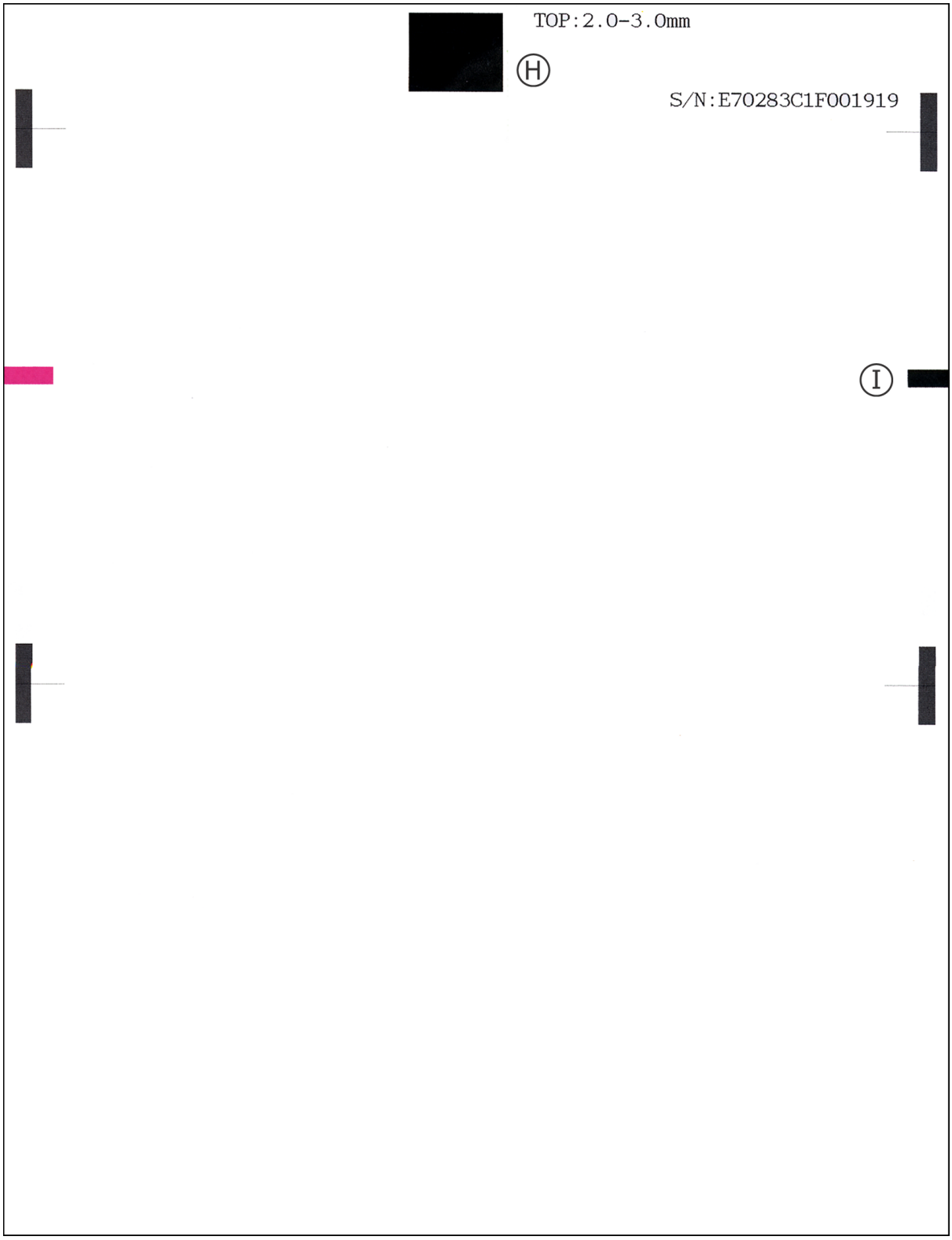


Total Quality Check Pattern

Ⓐ: Checking of platen height
Ⓑ: Adjustment of vertical print lines
Ⓒ: Inclination adjustment of the head/carriage unit
Ⓓ: Paper feed roller adjustment
Ⓔ: Margin adjustment for borderless printing (600 dpi)
Ⓕ: Margin adjustment for borderless printing (1,200 dpi)
Ⓖ: Paper ejection roller adjustment

Confidential



Disc Printing Check Pattern

Ⓗ:Top margin adjustment (Disc printing models only)
Ⓘ:Right and left margins adjustment (Disc printing models only)

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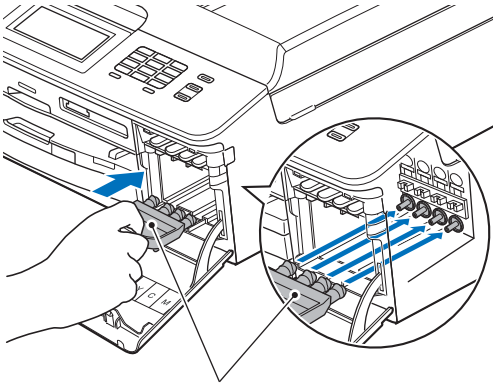
1.11 Switch back to standby

After completion of adjustments, disconnect the USB cable and press the **9** key twice to return to standby.

Note: Be sure to disconnect the USB cable first. Returning to standby without disconnecting the USB cable runs "Found New Hardware Wizard" that starts USB driver installation.

1.12 Replace the ink cartridges with the protective part

Remove all four ink cartridges and set the protective part instead. Check that the right-hand latch fits in the hole provided in the ink refill ASSY.



(3_026)

Protective part

1.13 Obtain machine information at the user site (Instruction to the end user)

When the user receives the repaired machine, he/she needs to obtain the head calibration data into his/her PC at the user site. The service personnel should contact the user to instruct him/her to perform the following procedure.

Windows

(1) On the user computer, click **Start** | **Settings** | **Printers** to display the Printers window.

(2) Right-click the Brother Printer driver icon to display the pull-down menu.

(3) Click **Properties** | **Print Settings** | **Advanced** | **Other print options** | **Retrieve Printer's Color Data**.

(4) Check that the **Use Printer's Color Data** check box is selected.

(5) Click **Retrieve Printer's Color Data**.

(6) Wait for the dialog to appear and click **OK**.

Macintosh

(1) On the user Mac, display the printer list and select the repaired machine.

(2) Select **Open Print Queue** | **Printer Setup** | **Utility** | **Open Printer Utility**.

(3) From the menu bar, select **Control** | **Retrieve Printer's Color Data**.

(4) Wait for the dialog to appear and click **OK**.

2 IF YOU REPLACE THE MAIN PCB

Note: If you replace the main PCB, it is necessary to make a backup of the machine information, user setting information, and head calibration data into an external memory before starting disassembly of the machine. After the completion of reassembling jobs, restore the backup data to the new main PCB. For detailed procedure of the backup and restoration, refer to Chapter 5, Section 1.4.12 "Backup of Machine Information (Function code 46) (User-accessible)" and Chapter 5, Section 1.4.23 "Updating of Head Property Data and Backup/Restoration of Head Calibration Data (Function code 68)."

Note: For this series of machines, load programs onto the main PCB *twice* for basic programs and local programs. That is, after replacement of the main PCB, load basic programs, customize the EEPROM for the destination with Function code 74, and then load local programs.

If the machine information is successfully restored in Section 2.6 in this chapter, it is not necessary to perform operations given in Sections 2.10 to 2.13 and 2.17.

<Operations>

2.1 Load update programs/data

2.2 Customize the EEPROM on the main PCB (Function code 74)

2.3 Initialize the EEPROM on the main PCB (Function code 01)

2.4 Specify the CIS type (Function code 59)

2.5 Load local programs

2.6 Restore machine information (Function code 46)

2.7 Restore head calibration data (Function code 68)

2.8 Check the sensor operation (Function code 32)

2.9 Set an ID code (change the serial number) and update the head property data

2.10 Acquire white level data and set CIS scanner area (Function code 55)

2.11 Update the paper feeding correction value (Function code 58)

2.12 Align vertical print lines (Function code 65)

2.13 Adjust margins in borderless printing (Function code 66)

2.14 Create head calibration data and write it into flash ROM (Function code 02)

2.15 Print out an ADF copy chart and make a copy of that chart in ADF scanning

2.16 Print out a total quality check pattern

2.17 Adjust the touch panel (Function code 78) (For models with touch panel)

2.18 Switch back to standby

<Requirements>

(1) USB cable (one piece)
(2) PC (Windows® XP/2000 or later)
(3) Service setting tool (BrUsbSn.exe)
(4) Download utility (filedg32.exe)
(5) Maintenance driver (MaintenanceDriver.zip), if not installed
(6) Data files of print patterns

2.1 Load update programs/data

This procedure writes firmware to the main PCB or updates it.

2.1.1 If the main PCB is replaced with a new one

■ Load firmware using an SD memory card

(1) Turn the machine on to display "■ CheckerVer*. *x■" (where *.*x denotes the version) on the LCD.

(2) Insert an SD memory card into a PC holding a target firmware file (e.g., lz00001_a.pmu) and copy the file into the SD memory card.

Note: Copy only a single firmware file into an SD memory card. Copying two or more files may result in loading of an improper file.

Note: Always copy a firmware file designed for the corresponding model to an SD memory card. No model identification is possible in loading firmware using an SD memory card; therefore, the machine loads a copied file even if it is designed for any other model.

Note: Be sure to use an SD card. Using any other memory card does not start loading.

(3) Insert the SD memory card into the memory card slot in the machine.

The LCD momentarily shows "Receiving: SDcard" and changes to "Updating: SDcard" and firmware loading starts.

Upon completion of loading, the machine automatically reboots and switches to standby.

■ Load firmware using a PC

[A] .pjl firmware file

(1) Turn the machine on to display "■ CheckerVer*. *x■" (where *.*x denotes the version) on the LCD. With the version being displayed, connect the machine to your PC using a USB cable.

The PC shows "Brother Maintenance USB Printer (Copy 1)" newly copied. (This does not occur if it was copied.)

(2) On the PC, run "filedg32.exe."

The Filedrgs window appears.

(3) Drag and drop the target firmware (e.g., lz00001_a.pjl) onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

Note: To use a firmware file, extract it beforehand by double-clicking. It is a self-extracting file having the extension .exe.

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

(4) On the machine, display the version of the installed firmware on the LCD by pressing the ***** and **#** keys simultaneously (for models with numerical keypad) or by pressing the and **Stop/Exit** keys simultaneously (for models without numerical keypad).

Sample version number shown on the LCD: 0A810060953:4B69
(The top line shows the version number.) P0601242005:4123
B0601242005:1C8D

If the displayed version number is identical with the firmware version you installed, the loading operation has been successfully finished.

Note: If loading operation ends abnormally, turn the machine off and on. Wait for the machine to emit a long beep and automatically enter the firmware loading mode, and then perform the loading procedure above again.

[B] .pmu firmware file

Unplug the power cord of the machine from the electrical outlet and disconnect the USB cable that connects the machine with your PC.

(1) On the machine, follow the steps below to enter the firmware loading mode.

Models with numerical keypad

1) Plug the power cord into an electrical outlet with the **0** key held down and keep holding it down until the following appears on the LCD.

2) Hold down the **1** key until the following appears on the LCD.

3) Hold down the **2** key until the following appears on the LCD.

4) Hold down the **3** key until the following appears on the LCD.

Models without numerical keypad

1) Plug the power cord into an electrical outlet with the and **Color Start** keys held down and keep holding it down until the following appears on the LCD.

2) Hold down the **Black Start** (**Mono Start**) key until the following appears on the LCD.

3) Hold down the **Color Start** key until the following appears on the LCD.

4) Hold down the **Black Start** (**Mono Start**) key until the following appears on the LCD.

When the black and white pattern shown above is displayed, the machine is ready to receive programs or data for firmware installation from the connected PC.

Note: Pressing a wrong key or no key within the specified time in steps 1) through 4) above causes an error. If it happens, unplug the power cord and go back to step 1).

(2) Connect the machine to your PC using a USB cable.

(3) On the PC, run "filedg32.exe."

The Filedrgs window appears.

(4) Drag and drop the firmware (e.g., lz0023_a.pmu) onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

Note: To use a firmware file, extract it beforehand by double-clicking. It is a self-extracting file having the extension .exe.

After approx. 2 to 5 minutes, the loading operation is complete and the machine automatically reboots and returns to standby.

(5) On the machine, display the version of the installed firmware on the LCD by pressing the ***** and **#** keys simultaneously.

Sample version number shown on the LCD: 0A810060953:4B69
(The top line shows the version number.) P0601242005:4123
B0601242005:1C8D

If the displayed version number is identical with the firmware version you installed, the loading operation has been successfully finished.

Note: If loading operation ends abnormally, turn the machine off and on. Wait for the machine to emit a long beep and automatically enter the firmware loading mode, and then perform the loading procedure above again.

2.1.2 If the main PCB loaded with programs is used (Updating existing programs)

A main PCB used for any other machine has been loaded with programs. If the current main PCB is replaced with such a used PCB, update existing programs using the procedure given below.

■ Load firmware using an external memory

Load firmware in the maintenance mode (Function code 28), referring to Chapter 5, Section 1.4.10.

Loading firmware with this procedure inherits fax data stored in the main PCB.

■ Load firmware using a PC

[A] .pjl firmware file

Loading firmware with this procedure inherits fax data stored in the main PCB.

(1) Turn the machine on and switch it to the maintenance mode (refer to Chapter 5).

(2) On the PC, run "filedg32.exe."

The Filedrgs window appears.

(3) Drag and drop the target firmware (e.g., lz00001_a.pjl) onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

Note: To use a firmware file, extract it beforehand by double-clicking. It is a self-extracting file having the extension .exe.

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

(4) On the machine, display the version of the installed firmware on the LCD by pressing the ***** and **#** keys simultaneously (for models with numerical keypad) or by pressing the and **Stop/Exit** keys simultaneously (for models without numerical keypad).

Sample version number shown on the LCD: 0A810060953:4B69
(The top line shows the version number.) P0601242005:4123
B0601242005:1C8D

If the displayed version number is identical with the firmware version you installed, the loading operation has been successfully finished.

Note: If loading operation ends abnormally, turn the machine off and on. Wait for the machine to emit a long beep and automatically enter the firmware loading mode, and then perform the loading procedure above again.

[B] .pmu firmware file

Loading firmware with the following procedure deletes fax data stored in the main PCB.

Unplug the power cord of the machine from the electrical outlet and make sure that the machine is connected to your PC with a USB cable.

(1) **Models with numerical keypad** While holding down the **5** key, plug the power cord into an electrical outlet.

Models without numerical keypad While holding down the and **Stop/Exit** keys simultaneously, plug the power cord into an electrical outlet.

When the black and white pattern shown above is displayed, the machine is ready to receive programs or data for firmware installation from the connected PC.

(2) On the PC, run "filedg32.exe."

The Filedrgs window appears.

(3) Drag and drop the target firmware (e.g., lz0023_a.pmu) onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

Note: To use a firmware file, extract it beforehand by double-clicking. It is a self-extracting file having the extension .exe.

After approx. 2 to 5 minutes, the loading operation is complete and the machine automatically reboots and returns to standby.

(4) On the machine, display the version of the installed firmware on the LCD by pressing the ***** and **#** keys simultaneously (for models with numerical keypad) or by pressing the and **Stop/Exit** keys simultaneously (for models without numerical keypad).

Sample version number shown on the LCD: 0A810060953:4B69
(The top line shows the version number.) P0601242005:4123
B0601242005:1C8D

If the displayed version number is identical with the firmware version you installed, the loading operation has been successfully finished.

Note: If loading operation ends abnormally, turn the machine off and on. Wait for the machine to emit a long beep and automatically enter the firmware loading mode, and then perform the loading procedure above again.

2.2 Customize the EEPROM on the main PCB (Function code 74)

Refer to Chapter 5, Section 1.4.26.

Note: Once this procedure is carried out, it is necessary to write the corresponding language data, so be sure to write local programs, referring to Section 2.5 below.

2.3 Initialize the EEPROM on the main PCB (Function code 01)

Refer to Chapter 5, Section 1.4.1.

2.4 Specify the CIS type (Function code 59)

Refer to Chapter 5, Section 1.4.18.

2.5 Load local programs

Note: This procedure is not required when no EEPROM customizing has been performed with Function code 74 in Section 2.2 in this chapter.

Reload local program, referring to Section 2.1.2 "If the main PCB loaded with programs is used (Updating existing programs)."

2.6 Restore machine information (Function code 46)

Restore the machine information and user setting information that have been backed up in an external memory, referring to Chapter 5, Section 1.4.12.

If the machine information is successfully restored, it is not necessary to perform operations given in Sections 2.10 to 2.13 and 2.17.

If the machine has failed to back up the machine information into an external memory at the start of repair, replace the ink absorber box and flushing box, and then reset each of the purge and flushing counts with the following procedure.

(1) Switch the machine to the maintenance mode. (Refer to Chapter 5.)

(2) Press the **8** and **0** keys in this order.

(3) Press the **Black Start** (**Mono Start**) key several times until the purge (or flushing) count appears on the LCD.

(4) Press the **2**, **7**, **8** and **3** keys in this order to reset the purge (or flushing) count.

(5) Press the **Stop/Exit** key to return to the initial stage of the maintenance mode.

2.7 Restore head calibration data (Function code 68)

Restore head calibration data that has been backed up, referring to Chapter 5, Section 1.4.23.

If restoring head calibration data ends successfully, it is not necessary to perform operations given in Section 2.14.

2.8 Check the sensor operation (Function code 32)

Refer to Chapter 5, Section 1.4.11.

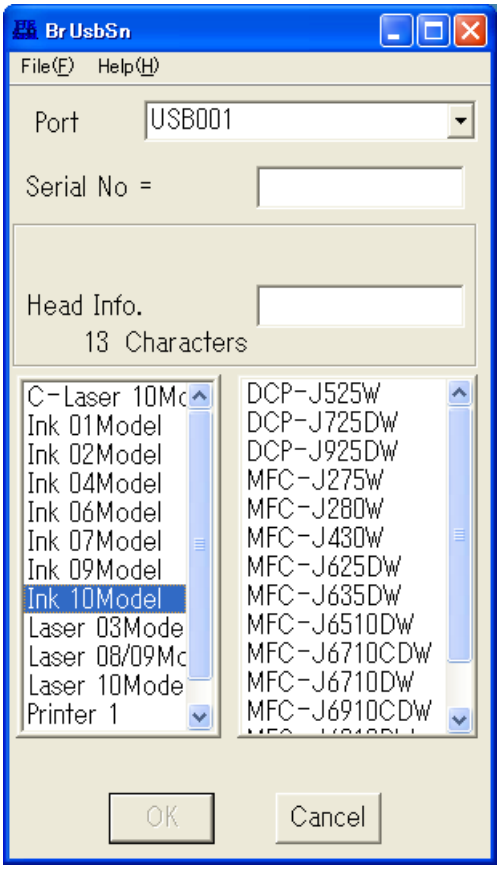
2.9 Set an ID code (change the serial number) and update the head property data

Note: Make sure that the Brother Maintenance USB Printer driver has been installed to your PC. To do it, click **Start | Settings | Printers** to call up the Printers window and confirm that the Brother Maintenance USB Printer icon (shown on the sample window on page 4-3) is displayed. If the driver has not been installed, install it.

(1) Make sure that your PC is turned off, then connect the machine to your PC using a USB cable.

(2) Switch the PC on.

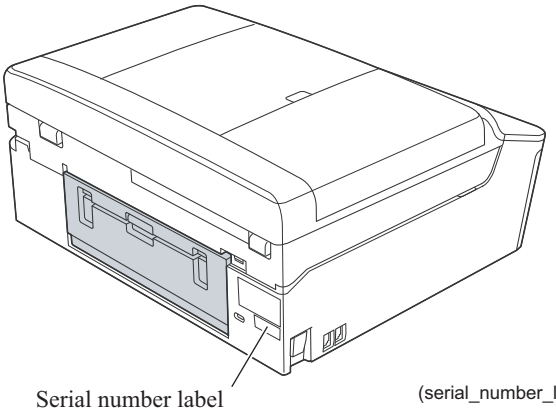
(3) On the PC, run the Service setting tool (BrUsbSn.exe) to display the following window.



(4) On the model menu, click **Ink 10Model**.

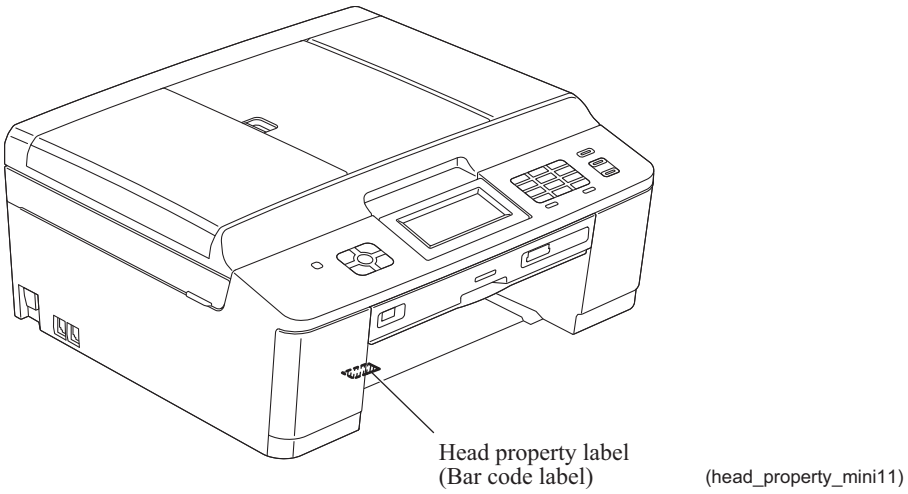
(5) In **Port** on the BrUsbSn screen, select the port number assigned to the Brother Maintenance USB Printer. If the port number is unknown, follow the instructions given in Section 1.1, step (8).

(6) In the **Serial No** box on the BrUsbSn screen, type the 15-digit serial number (e.g., U62663C0F000136) printed on the nameplate labeled to the machine as an ID code.



Tip: The serial number can also be changed with Function code 80. (Refer to Chapter 5, Section 1.4.31.)

(7) In the **Head Info.** box, type the 13-digit property code (e.g., ALR7795500000) which is printed on the bar code label attached to the lower cover. Click the **OK** key.



Tip: The head property code can also be entered with Function code 68. (Refer to Chapter 5, Section 1.4.23.)

(8) Check whether the entered character strings (ID code and head property code) are correct with the following procedure.

In the initial stage of the maintenance mode, press the **8** and **0** keys in this order to call up the log information on the LCD.

Press the **Black Start** (**Mono Start**) key several times to display "S/N" on the LCD, then press **OK** key. Check that the displayed code is that string entered in step (6).

Next, press the **Black Start** (**Mono Start**) key once to display the head property code. Check that the displayed code is the string entered in step (7).

(9) If both are OK, proceed to Section 2.11.

If something wrong is displayed, check the connection between the PC and machine and go back to step (2).

If restoring machine information ends successfully in Section 2.6, it is not necessary to perform operations given in Sections 2.10 to 2.13 and 2.17.

2.10 Acquire white level data and set CIS scanner area (Function code 55)

Refer to Chapter 5, Section 1.4.16.

2.11 Update the paper feeding correction value (Function code 58)

Refer to Chapter 5, Section 1.4.17.

2.12 Align vertical print lines (Function code 65)

Refer to Chapter 5, Section 1.4.21.

2.13 Adjust margins in borderless printing (Function code 66)

Refer to Chapter 5, Section 1.4.22.

2.14 Create head calibration data and write it into flash ROM (Function code 02)

Refer to Chapter 5, Section 1.4.2.

If restoring head calibration data ends successfully in Section 2.7 above, this procedure is not required.

2.15 Print out an ADF copy chart and make a copy of that chart in ADF scanning

Refer to Section 3.1.

2.16 Print out a total quality check pattern

Refer to Section 1.10.

2.17 Adjust the touch panel (Function code 78) (For models with touch panel)

Refer to Chapter 5, Section 1.4.30.

2.18 Switch back to standby

Refer to Section 1.11.

3 IF YOU REPLACE THE ADF OR ADF-RELATED PARTS

3.1 Print out an ADF copy chart and make a copy of that chart in ADF scanning

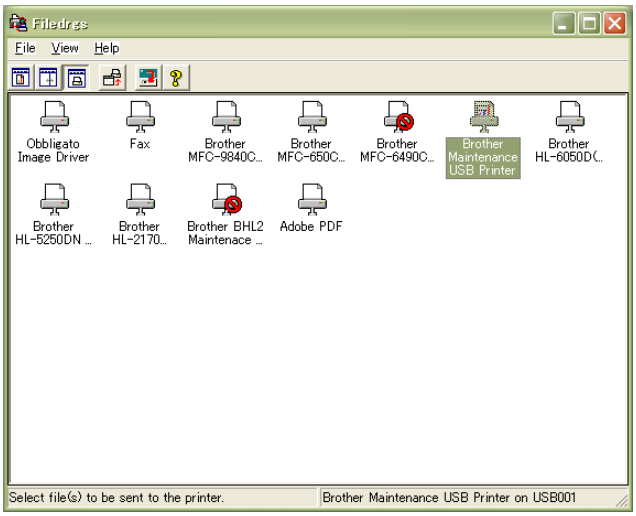
(1) Switch the machine to the maintenance mode. (Refer to Chapter 5.)

Before starting the operation below, be sure to set letter-size paper in the paper tray for printing and making a copy of the check pattern. To get the accurate print data, we suggest using the Brother genuine plain paper BP60 or other higher quality one (DO NOT USE glossy paper).

(2) Connect the machine to your PC with a USB cable.

(3) On the PC, run "filedg32.exe" in the folder created.

The Filedrgs window appears as shown below.



(4) Drag and drop the "chart.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window shown above.

The machine displays the "Receiving Data" on the LCD and prints out the "ADF COPY CHART" (see page 4-28 for a sample printout).

Note: If the print quality on the ADF COPY CHART is poor, perform head cleaning and then print it again.

Tip: The print pattern can also be printed with Function code 61 (refer to Chapter 5, Section 1.4.19). After printing with a memory card, be sure to remove the card before proceeding to the following step.

(5) Press the **9** key twice to return to standby.

Wait for the printed chart to dry well.

(6) Fully insert the top edge of the printed "ADF COPY CHART" ***facing down*** into the ADF, then fit the document guides to the document size.

Press the **Copy** key, set the copy quality mode to "**Best**" and press the **Color Start** key to make a copy.

Note: Check that the document does not skew.

Note: During copying, do not touch the document to prevent printed images from displacement.

(7) Check the copied chart, referring to the "Check Items on the ADF COPY CHART" given below.

If any problem is found, remove the newly mounted ADF unit or ADF-related parts once and set it (them) into place, or check and correct the connection of ADF-related harnesses.

Check Items on the ADF COPY CHART

Check that the copied chart has none of the following defects.

A: Contrast chart 1

- Black or white vertical streaks
- Patchy color
- Missing dots

B: Color blocks

- Patchy color
- In the second row, black block printed in yellow or red
- Area expansion of block(s)
- In the third row, blocks printed too dim to see
- Frames of white blocks missing or discolored

Note: Vertical streaks in color blocks are negligible.

C: Contrast chart 2

- Vertical streaks in 0.3 to 0.5 charts
  (Vertical streaks only in 0.2 chart are negligible.)
- Patchy color in 0.3 to 0.5 charts
  (Patchy color only in 0.2 chart is negligible.)
- Missing dots in 0.2 to 0.5 charts

D: Resolution chart

- Overlapping lines (diagonal or horizontal) in 4 to 6 mm charts
- Curved lines in 4 to 6 mm charts
- Black or color vertical streaks in 4 to 6 mm charts
- Discoloration in 4 to 6 mm charts

E: Whole page

- Ghost (image printed on the blank area)
- Color horizontal streaks
- Black vertical band

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ADF Copy Chart

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4 IF YOU REPLACE THE INK ABSORBER BOX OR FLUSHING BOX

4.1 Reset each of the purge and flushing counts

(1) Switch the machine to the maintenance mode. (Refer to Chapter 5.)

(2) Press the **8** and **0** keys in this order.

(3) Press the **Black Start (Mono Start)** key several times until the purge (or flushing) count appears on the LCD.

(4) Press the **2**, **7**, **8**, and **3** keys in this order to reset the purge (or flushing) count.

(5) Press the **Stop/Exit** key to return to the initial stage of the maintenance mode.

(6) Press the **9** key twice to exit from the maintenance mode.

Tip: This machine counts all purge 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. An initial purge, for example, advances the count by 537.

When the purge or flushing count approaches 10,750 or 660,336,587, 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.

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5 IF YOU REPLACE THE CONTROL PANEL ASSY, PANEL PCB OR LCD UNIT

5.1 Adjust the touch panel (Function code 78) (For models with touch panel)

Refer to Chapter 5, Section 1.4.30.

Note: This operation is not required when only the panel PCB is replaced.

5.2 Check LCD operation (Function code 12)

Refer to Chapter 5, Section 1.4.7.

Note: This operation is not required when only the panel PCB is replaced.

5.3 Check the operation of the panel PCB (Function code 13)

Refer to Chapter 5, Section 1.4.8.

Note: This operation is not required when only the LCD unit is replaced.

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6 IF YOU REPLACE THE DOCUMENT SCANNER UNIT OR CIS UNIT

6.1 Specifying of CIS Type (Function code 59)

Refer to Chapter 5, Section 1.4.18.

6.2 Acquire white level data and set CIS scanner area (Function code 55)

Refer to Chapter 5, Section 1.4.16.

6.3 Print out an ADF copy chart and make a copy of that chart in ADF scanning

Refer to Section 3.1 in this chapter.

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CHAPTER 5 SERVICE FUNCTIONS

This chapter describes the maintenance mode and other service functions, which are exclusively designed for the purpose of checks, settings and adjustments of the machine and can be triggered by the keys on the control panel*.

* For key operations, refer to Section 1.2 in this chapter.

1 MAINTENANCE MODE

In the maintenance mode, you can update memory (EEPROM: electrically erasable programmable read-only memory) contents for optimizing the drive conditions of the head/carriage unit and paper feed roller/paper ejection roller in the engine unit, if those units have been replaced, or for setting the CIS scanner area, for example. You can also customize the EEPROM according to the shipment destination of the machine concerned. In addition, you can perform operational checks of the LCD, panel PCB or sensors, perform a print test, display the log information or error codes, and configure firmware switches (WSW).

1.1 Entry to the Maintenance Mode

1.1.1 How to Enter the End User-accessible Maintenance Mode

Basically, the maintenance-mode functions listed in Section 1.3 in this chapter 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 in Section 1.3. Function code 10 accesses the firmware switches, each of which has eight selectors. You should not allow end users to access all of those selectors, but you can allow them to access user-accessible selectors which are *shaded* in the firmware switch tables in the "Firmware Switches (WSW)" document separately issued.

The service personnel should instruct end users to follow the procedure given below.

(1) Press the **Stop/Exit** or key to switch the machine to standby.

(2) **Models with key**

Press the and **Black Start** (**Mono Start**) keys simultaneously. Then press the **Black Start** (**Mono Start**) and keys in this order.

Models without key

Press the **Menu**, **Black Start** (**Mono Start**) and **Menu** keys in this order.

Tip: Either of the following operations also makes the machine enter the maintenance mode.

- Press the **Menu**, **Black Start** (**Mono Start**), and **0** keys in this order, in the same way as conventional models.
- While holding down the **Color Start** key, plug the power cord into an electrical outlet.

(3) Wait for the machine to display "0 ▮▮ MAINTENANCE ▮" on the LCD, indicating that the machine is ready to accept entry from the keys. Enter the desired function code.

(4) To quit the maintenance mode operation in midway and switch to standby, press the **Stop/Exit** key. When each of the user-accessible functions is completed, the machine automatically returns to standby.

Note: The operating procedure of the user-accessible maintenance mode may differ slightly depending upon machine models.

1.1.2 How to Enter the Maintenance Mode Exclusive to Service Personnel

(1) Press the **Stop/Exit** or key to switch the machine to standby.

(2) **Models with key**

Press the and **Black Start** (**Mono Start**) keys simultaneously. Press the **Black Start** (**Mono Start**) key, then press the **Color Start** key *four times*.

Models without key

Press the **Menu** and **Black Start** (**Mono Start**) keys in this order, then press the ▲ key four times.

Tip: Either of the following operations also makes the machine enter the maintenance mode.
- Press the **Menu**, *****, **2**, **8**, **6** and **4** keys in this order, in the same way as conventional models.
- While holding down the **Black Start** (**Mono Start**) key, plug the power cord into an electrical outlet.

(3) Wait for the machine to beep for approx. one second (only MFC) and display "▮▮ MAINTENANCE ▮▮▮" on the LCD, indicating that the machine is ready to accept entry from the keys. Enter the desired function code.

(4) To quit the maintenance mode operation in midway and switch to the initial stage of the maintenance mode, press the **Stop/Exit** key. When each of the maintenance mode functions is completed, the machine automatically returns to the initial stage of the maintenance mode.

1.2 Key Operation in Maintenance Mode

Keys to be used in the maintenance mode differ depending upon the model's control panel specification.

1.2.1 Entering a Desired Function Code at the Initial Stage of the Maintenance Mode

Models with numerical keypad

Use the numerical keypad to enter the corresponding 2-digit function code.

(Example) To select Function code 80, press the **8** and **0** keys in this order.

Models without numerical keypad

Use the numerical keypad (software keypad) on the touch panel to enter the corresponding 2-digit function code.

(Example) To select Function code 80, press the **8** and **0** keys on the touch panel in this order.

The details of each maintenance-mode function are described in Section 1.4 in this chapter.

Notes
- To exit from the maintenance mode and switch to standby, press the **9** key twice in the initial stage of the maintenance mode.
- Pressing the **Stop/Exit** key after entering only one digit restores the machine to the initial stage of the maintenance mode.
- If an invalid function code is entered, the machine resumes the initial stage of the maintenance mode.

1.2.2 Keys to be Used in the Maintenance Mode

This chapter provides the operating procedure for base models, that is, models with numerical keypad and without touch panel. For other models, see the table below.

Base models Models with numerical keypad/ without touch panel	Models with both numerical keypad and touch panel	Models without numerical keypad
#, *****, and **0** to **9**		#, *****, and **0** to **9** (on touch panel)
▲	**▲ (on touch panel)**	
▼	**▼ (on touch panel)**	
Black Start (Mono Start)		
Stop/Exit		
OK	**Set (on touch panel)**	
Clear	**CLR (on touch panel)**	
▶	**▶ (on touch panel)**	
◀	**◀ (on touch panel)**	

TIP: Using the >> and << keys on the touch panel switches the software keypads between the numerical and function keypads.

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1.3 List of Maintenance-mode Functions

Maintenance-mode Functions

Function Code	Function	Reference Section (Page)
01	EEPROM Parameter Initialization	1.4.1 (5-5)
02	Creating of Head Calibration Data and Writing it into Flash ROM	1.4.2 (5-6)
05	Printout of Scanning Compensation Data	1.4.3 (5-9)
08	ADF Performance Test	1.4.4 (5-11)
09	Printout of Nozzle Test Pattern	1.4.5 (5-12)
10	Firmware Switch Setting	1.4.6 (5-14)
11	Printout of Firmware Switch Data	1.4.6 (5-15)
12	Operational Check of LCD	1.4.7 (5-17)
13	Operational Check of Panel PCB (Check of Keys)	1.4.8 (5-18)
17	EEPROM Dump and Log Information Transfer	1.4.9 (5-20)
28	Updating of Firmware Using an External Memory	1.4.10 (5-21)
32	Sensor Operational Check	1.4.11 (5-22)
46	Backup of Machine Information	1.4.12 (5-24)
52	Setting of Country/Language	1.4.13 (5-26)
53	Transfer of Received FAX Data and Log Information	1.4.14 (5-27)
54	Fine Adjustment of Scanning Position	1.4.15 (5-30)
55	Acquisition of White Level Data and CIS Scanner Area Setting	1.4.16 (5-31)
58	Updating of Paper Feeding Correction Value	1.4.17 (5-32)
59	Checking of CIS Travel and Specifying of CIS Type	1.4.18 (5-39)
61	Printout of PRN/JPEG Files in Memory Card	1.4.19 (5-40)
63	Travel Check of the Head/Carriage Unit and Operational Check of Pressure Roller	1.4.20 (5-41)
65	Alignment of Vertical Print Lines in Monochrome	1.4.21 (5-42)
66	Margin Adjustment in Borderless Printing	1.4.22 (5-44)
68	Updating of Head Property Data and Backup/Restoration of Head Calibration Data	1.4.23 (5-49)
69	Traveling Speed Check of Head/Carriage Unit	1.4.24 (5-51)
70	Cleaning of Leveler Roller (LR) ASSY	1.4.25 (5-52)
74	EEPROM Customizing	1.4.26 (5-53)
75	Travel of Head/Carriage Unit (for removing paper particles and dust accumulated on the maintenance unit)	1.4.27 (5-57)
76	Purge Operation	1.4.28 (5-58)
77	Print of the Equipment's Log	1.4.29 (5-61)
78	Adjustment of Touch Panel	1.4.30 (5-64)
80	Display of the Equipment's Log	1.4.31 (5-66)
82	Equipment Error Code Indication	1.4.32 (5-71)
88	Assurance Mode Switch Setting	1.4.33 (5-71)
91	EEPROM Parameter Initialization (except the telephone number storage area)	1.4.1 (5-5)
99	Exit from the Maintenance Mode	------ (5-2)
(Menu + **#**, **2**, **7**, **9**, **0**, **0)**	Cancellation of the Pin TX Lock Mode (Not applicable to Japanese and U.S.A. models)	2.1 (5-79)

: A function that the end user can use. (Refer to Section 1.1.1.)

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1.4 Detailed Description of Maintenance-mode Functions

1.4.1 EEPROM Parameter Initialization (Function code 01, 91)

■ Function

The machine initializes the parameters, user switches, firmware switches and assurance mode switch settings registered in the EEPROM, to the initial values. Entering function code 01 initializes almost all of the EEPROM areas, but entering 91 does not initialize some areas, as listed below.

<table>
<tr><th>Data item \ Function code</th><th>01</th><th>91</th></tr>
<tr><td>Maintenance-mode functions
User switches
Firmware switches
Remote activation code
Assurance mode switch settings</td><td rowspan="2">All of these will be initialized.</td><td>These will be initialized.</td></tr>
<tr><td>Activity report
Station ID data
Outside line number
Telephone function registration
Speed dialing
Group dialing
Call transfer data</td><td>These will not be initialized.</td></tr>
<tr><td>EEPROM customizing code (4-digit)</td><td colspan="2">This 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.)</td></tr>
</table>

■ Operating Procedure

(1) Press the **0** and **1** keys (or the **9** and **1** keys according to your need) in this order in the initial stage of the maintenance mode.

The "SELECT 01?" ("SELECT 91?") appears on the LCD.

(2) Press the **Black Start** (**Mono Start**) key.

The "PARAMETER INIT" appears on the LCD.

(3) Upon completion of parameter initialization, the machine returns to the initial stage of the maintenance mode.

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1.4.2 Creating of Head Calibration Data and Writing it into Flash ROM (Function code 02)

■ Function

This procedure scans the "Print pattern for creating head calibration data" sheet (see page 5-8) placed on the scanner glass of the document cover, creates the head calibration data using the scanning result, and writes it into the flash ROM on the main PCB.

■ Operating Procedure

Notes • Before proceeding to the procedure given below, use Function code 55, referring to Section 1.4.16 in this chapter. If not, this function may fail to create head calibration data correctly.

- Make sure that both the document scanner unit and document cover are closed.
- For higher precision of uneven printing correction, 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) Drag and drop the "head_calib.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

The machine displays the "Receiving Data" on the LCD and prints out "Print pattern for creating head calibration data" (see page 5-8 for a sample printout).

Tip: The print pattern can also be printed with Function code 61 (refer to Section 1.4.19 in this chapter). After printing with a memory card, be sure to remove the card before proceeding to the following step.

Note: Make sure that the USB cable is disconnected.

(2) Set the print pattern on the scanner glass of the document cover.

Note: If the print pattern has been printed on A4-size paper, set the paper approximately 3 mm to the front from the document guidelines. Improper setting results in an error (Error code 01).

(3) Press the **0** and **2** keys in this order in the initial stage of the maintenance mode.

The "MAINTENANCE 02" and "Set Sheet on FB?" appear on the LCD in this order.

Note: Pressing the **Stop/Exit** key immediately returns the machine to the initial stage of the maintenance mode without creating head calibration data.

(4) Press the **Black Start** (**Mono Start**) key.

The machine displays the "Scanning" on the LCD and starts scanning the "Print pattern for creating head calibration data" placed on the scanner glass.

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 "Complete" appears. Press the **Stop/Exit** key to return to the initial stage of the maintenance mode.

Note: If an error occurs, the machine beeps and displays "Error No **" on the LCD. Press the **Stop/Exit** key to return to the initial stage of the maintenance mode and then recover the machine from the error state, following the table given on the next page. Then go back to step (2).

Error code	The following error has occurred.	Do the following:
01	Failed to detect the external frame.	• Clean the scanner glass. • Reposition a document along the document guides on the document cover. • Go back to step (1) and print out "Print pattern for creating head calibration data" again.
02	Internal image inclined.	
03	Failed to detect position.	
04	Failed to write head calibration data.	• Clean the scanner glass. • Reposition a document along the document guides on the document cover. • Restart the machine and perform the function again. • Replace the main PCB.
05	The uneven printing correction function for upper and lower ends of the nozzle is disabled with Function code 88.	• Set selector 1 on AMS05 to "0" with Function code 88, referring to Section 1.4.33 in this chapter.
06	Cannot get memory space.	• Delete stored data including fax data. • Stop any other function if being used. • Replace the main PCB.
07	The document scanner unit is open.	• Close the document scanner unit. • Reconnect the panel harness. • Reposition the document scanner open actuator. • Replace the rubber keypad(s). • Replace the panel PCB. • Replace the document scanner unit. • Replace the main PCB.
09	Other scanning errors	• Use Function code 55, referring to Section 1.4.16 in this chapter.
10	A media is inserted and also the USB cable or LAN cable is connected.	• Disconnect the USB cable.

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Print Pattern for Creating Head Calibration Data

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1.4.3 Printout of Scanning Compensation Data (Function code 05)

■ Function

The machine prints out the white and black level data for scanning compensation.

■ Operating Procedure

Do not start this function merely after powering on the machine but start it after carrying out a sequence of scanning operation. Unless the machine has carried out any scanning operation, this function cannot print out correct scanning compensation data. This is because at the start of scanning operation, the machine initializes white and black level data and takes in the scanning compensation reference data.

NOTE: If this function is used after monochrome scanning, only the green data is valid.

NOTE: Be sure to disconnect the USB cable from the machine before proceeding to the procedure below.

(1) Press the **0** and **5** keys in this order in the initial stage of the maintenance mode.
The "DUMP 0:GRA 1:ALL" appears on the LCD.

(2) Press the **0** key to print out a) through k) of the scanning compensation data list detailed below and shown on the next page; press the **1** key to print out all of a) through o).
During printing, the "PRINTING" is displayed on the LCD.

The scanning compensation data list contains the following:

a) Black/white data graph
b) LED light intensity PWM data for color image (1 byte)
c) LED light intensity PWM data for monochrome image (1 byte)
d) LED light intensity pulse data for green image (2 bytes)
e) LED light intensity pulse data for blue image (2 bytes)
f) LED light intensity pulse data for red image (2 bytes)
g) LED light intensity pulse data for monochrome image (2 bytes)
h) AFE RLCV[*1] data (1 byte)
i) AFE offset data (1 byte)
j) AFE gain data (1 byte)
k) Background color compensation data[*2] (1 byte)
l) Black level data[*3]
m)White level data for red image[*3]
n) White level data for green image[*3]
o) White level data for blue image[*3]

*1 AFE: Analog Front End
RLCV: Reset Level Clamp Voltage
*2 Data for background color compensation (filtering out background color) to be performed in monochrome copying of a document printed on colored paper.
*3 Data differs depending upon the CIS type

(3) Upon completion of printing of the compensation data list, the machine returns to the initial stage of the maintenance mode.

NOTE: If any data is abnormal, its code will be printed in inline style.

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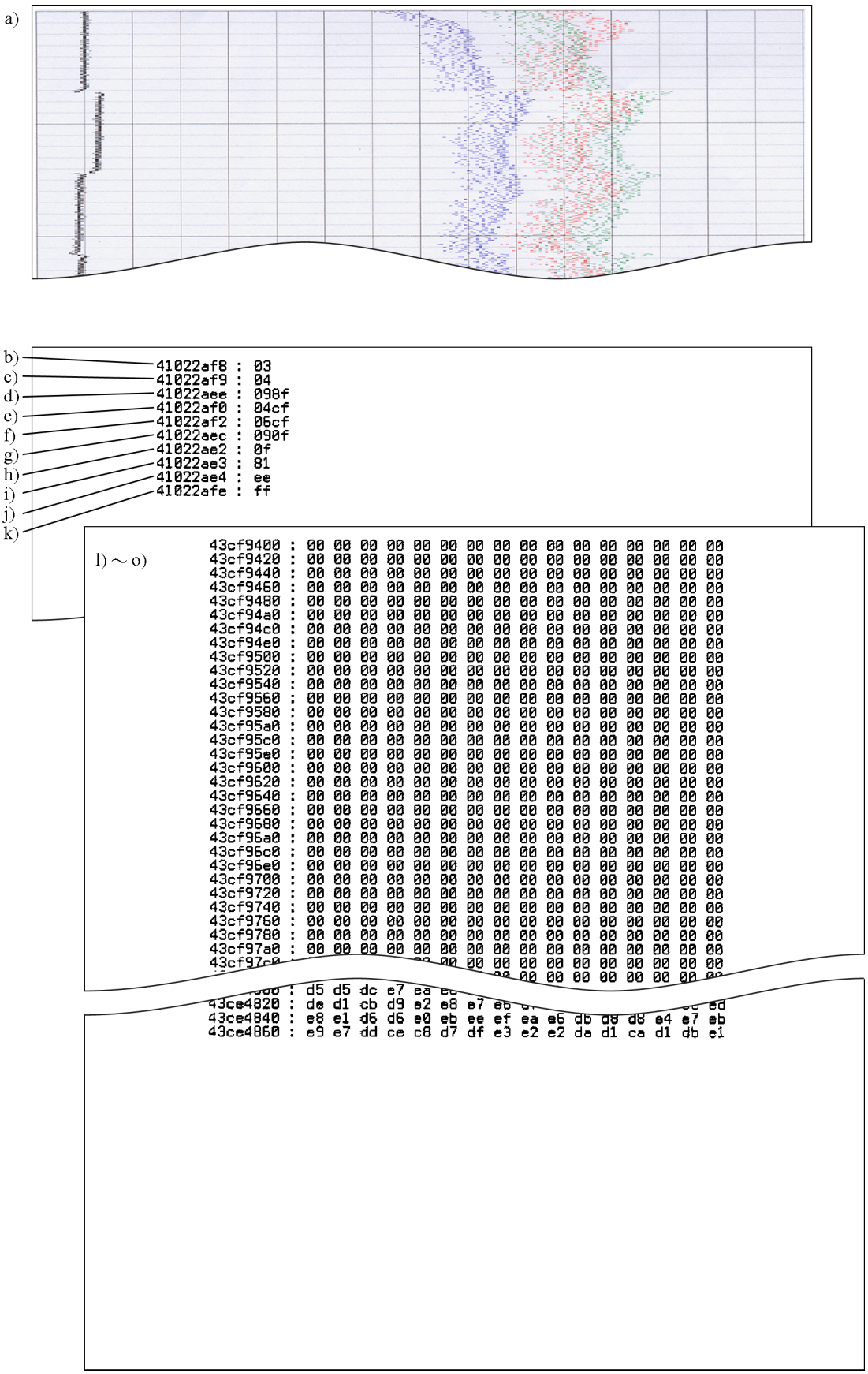


Scanning Compensation Data List

Confidential

1.4.4 **ADF Performance Test** (Function code 08)

■ Function

The machine counts the documents fed by the automatic document feeder (ADF) and displays the count on the LCD for checking the ADF performance.

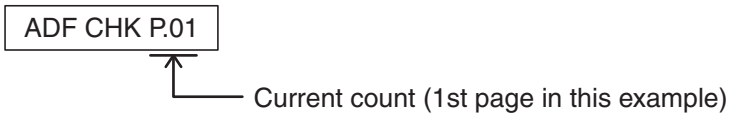
■ Operating Procedure

(1) Set documents. (Allowable up to the ADF capacity.)

The "DOC. READY 0" appears on the LCD.

(2) Press the **0** and **8** keys in this order in the initial stage of the maintenance mode.

The machine feeds the documents in and out while counting them and displaying the current count on the LCD as shown below.



(3) After counting all documents, the machine shows the final count. To return the machine to the initial stage of the maintenance mode, press the **Stop/Exit** key.

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1.4.5 **Printout of Nozzle Test Pattern** (Function code 09)

■ Function

This function prints out a nozzle test pattern (Print Quality Check sheet) to allow the service personnel to check the print quality.

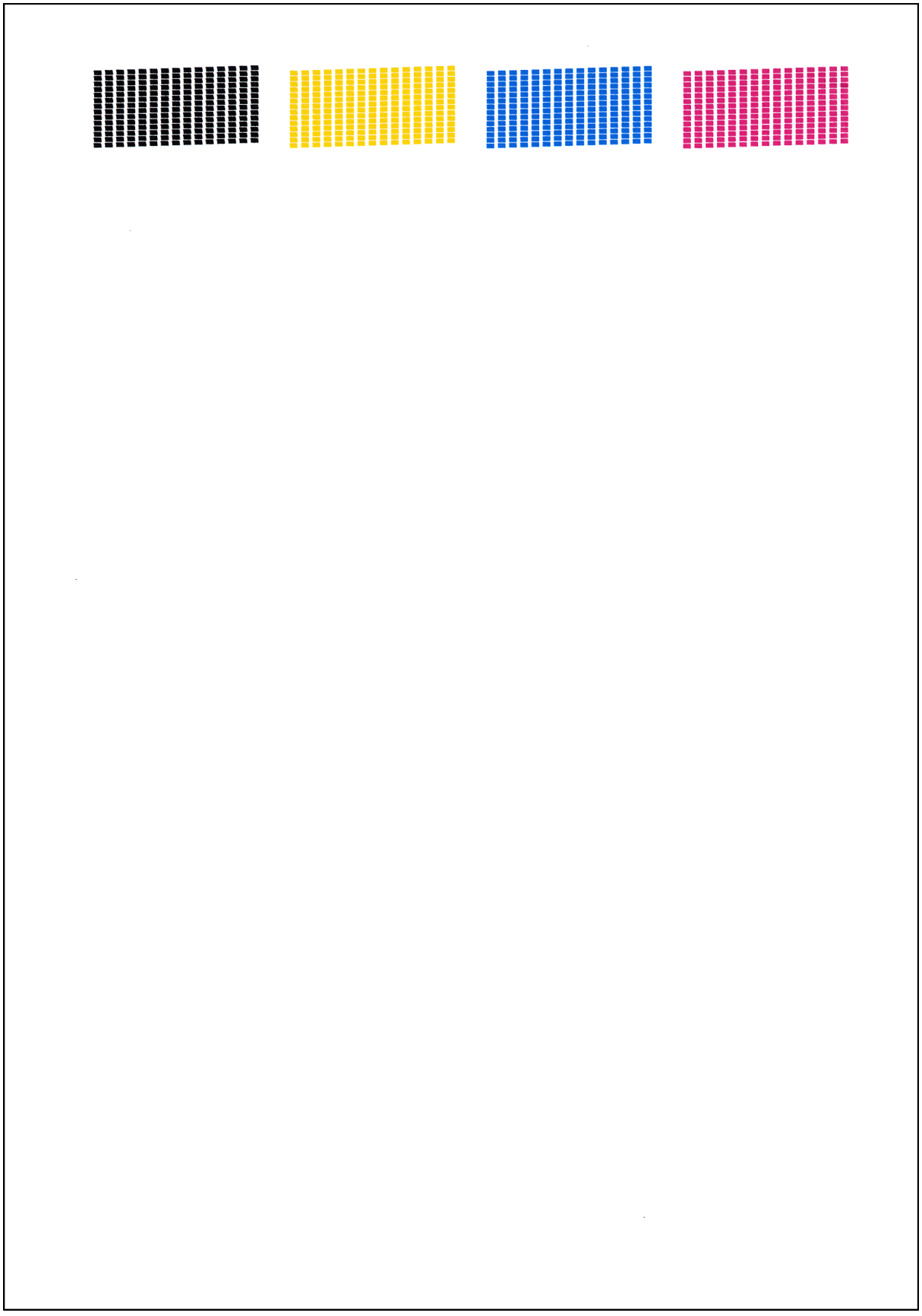
If any print quality problem is found, perform an appropriate purge operation, referring to Section 1.4.28 "Purge Operation (Function code 76) (User-accessible)" in this chapter.

■ Operating Procedure

Before starting the operation below, be sure to set letter- or A4-size paper in the paper tray for printing test patterns.

Press the **0** and **9** keys in this order in the initial stage of the maintenance mode.

The figure on the next page shows a test pattern which is printed on the Print Quality Check sheet.



Nozzle Test Pattern

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1.4.6 **Firmware Switch Setting and Printout** (Function codes 10 and 11) (User-accessible)

[A] Firmware switch setting

■ **Function**

The machine incorporates the firmware switch functions which can be activated with the procedures using the control panel keys.

For details about the firmware switches, refer to the "Firmware Switches (WSW)" document separately issued.

The firmware switches have been configured at the factory in conformity to the communications standards and codes of each country. Do not disturb them unless necessary. Some firmware switches may not be applicable in some versions. The firmware switch data list indicates "Not used." for those inapplicable switches.

■ **Operating Procedure**

(1) Press the **1** and **0** keys in this order in the initial stage of the maintenance mode.

The machine displays the "WSW00" on the LCD and becomes ready to accept a firmware switch number.

(2) Enter the desired number from the firmware switch numbers (01 through 60).

The following appears on the LCD:

```
                Selector 1      Selector 8
                    ↓               ↓
WSWXX = 0 0 0 0 0 0 0 0
```

(3) Use the ◄ and ► keys to move the cursor to the selector position to be modified.

(4) Enter the desired number using the **0** and **1** keys.

(5) Press the **OK** key. This operation saves the newly entered selector values onto the EEPROM and readies the machine for accepting a firmware switch number.

NOTE: Pressing the **Stop/Exit** key instead of the **OK** key returns the machine to the initial stage of the maintenance mode without saving new setting.

(6) Repeat steps (2) through (5) until the modification for the desired firmware switches is completed.

(7) Press the **Stop/Exit** key to return the machine to the initial stage of the maintenance mode.

NOTE: 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.

[B] Printout of firmware switch data

■ Function

The machine prints out the setting items of the firmware switches and their contents specified.

■ Operating Procedure

(1) Press the **1** key twice in the initial stage of the maintenance mode.

The machine shows "PRINTING" on the LCD and prints out the configuration list as shown on the next page.

Upon completion of printing, the machine returns to the initial stage of the maintenance mode.

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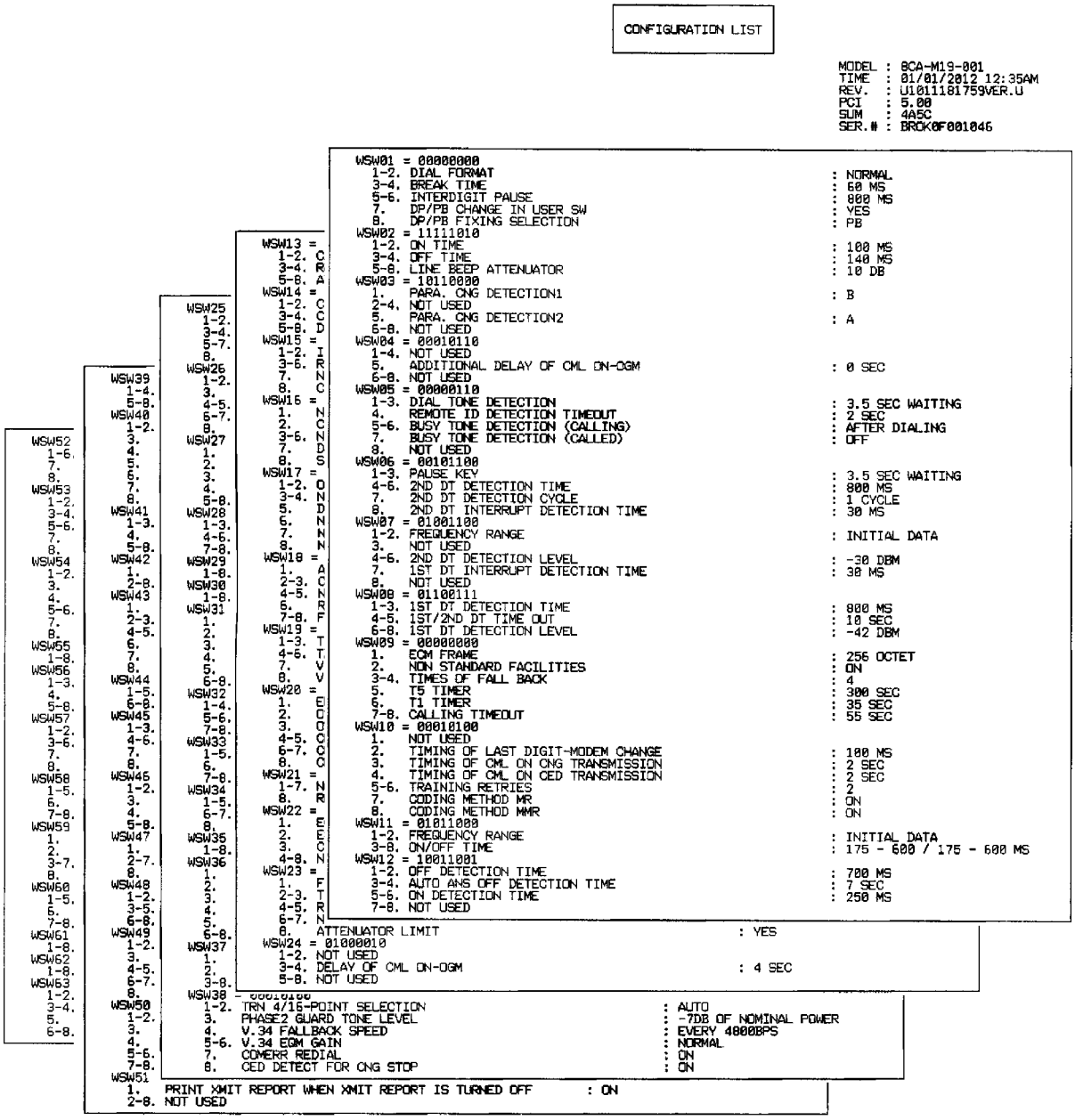


Configuration List

Confidential

1.4.7 **Operational Check of LCD** (Function code 12) (User-accessible)

■ Function

This function allows you to check whether the LCD works normally.

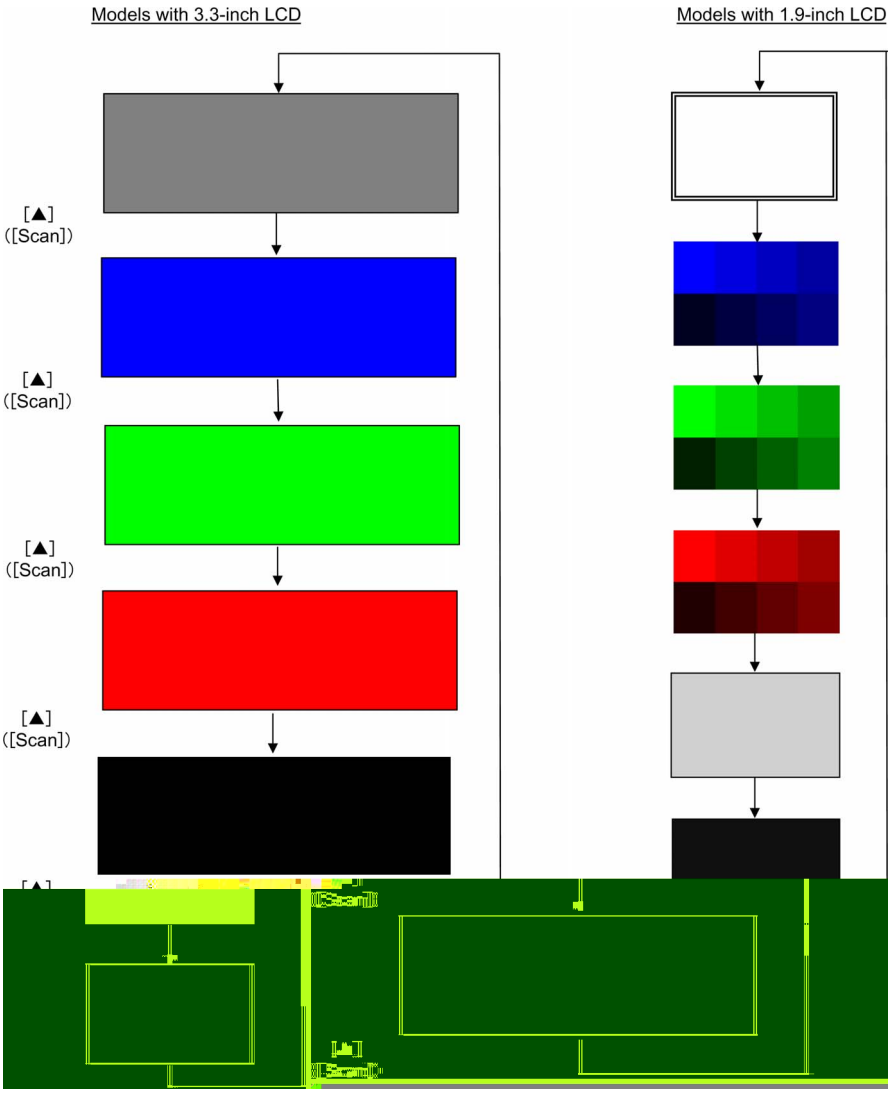
■ Operating Procedure

Checking the display state of the LCD

(1) Press the **1** and **2** keys in this order in the initial stage of the maintenance mode.

(2) Press the ▲ key.

Each time you press the ▲ key, the LCD cycles through the displays as shown below.



(3) Press the **Stop/Exit** key in any process of the above display cycle. The machine returns to the initial stage of the maintenance mode.

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1.4.8 Operational Check of Panel PCB (Function code 13)

■ Function

This function allows you to check the panel PCB for normal operation.

■ Operating Procedure

(1) Press the **1** and **3** keys in this order in the initial stage of the maintenance mode.

The "00 " will appear on the LCD.

(2) Press the keys in the order designated in the illustration shown below.

The LCD shows the corresponding number in decimal notation each time a key is pressed. Check that the displayed number is correct by referring to the illustration below.

If a key is pressed out of order, the machine beeps and displays the "INVALID OPERATE" on the LCD. To return to the status ready to accept key entry for operational check, press the **Stop/Exit** key.

(3) After the last number key is pressed, the machine beeps and returns to the initial stage of the maintenance mode.

To terminate this operation, press the **Stop/Exit** key. The machine returns to the initial stage of the maintenance mode.

DCP-J525W/J725DW/J925DW

MFC-J280W

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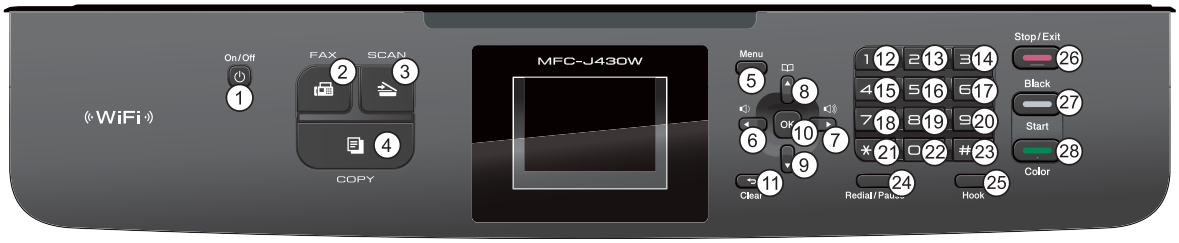
MFC-J430W/J432W



MFC-J625DW/J825DW

Key Entry Order

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1.4.9 **EEPROM Dump and Log Information Transfer** (Function code 17) (User-accessible)

■ Function

The EEPROM dump function transfers the EEPROM settings made in the machine to another fax machine as fax data.

The log information transfer function outputs user's log information (e.g., panel operation) and machine's operation log information to a USB flash memory to save it as a CSV file.

■ Operating Procedure

EEPROM dumping

(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) Press the **1** and **7** keys in this order.
   3) Press the **1** key.

   The machine starts transferring the EEPROM settings to the destination machine as fax data.

Log information transfer

Instruct the end user to:

(1) Switch his/her machine to the end user-accessible maintenance mode.

(2) Press the **1** and **7** keys in this order.

(3) To output the log information into a USB flash memory, insert a USB flash memory to his/her machine and press the **1** key.

   The machine saves the log information in the USB flash memory as a CSV file.

1.4.10 Updating of Firmware Using an External Memory (Function code 28)

■ Function

This function updates firmware stored in the flash ROM on the main PCB using an external memory (memory card or USB flash memory). It enables updating of firmware without connecting the machine to a PC.

TIP: For instructions on how to update firmware when the main PCB has been replaced or for operations using a PC, refer to Chapter 4, Section 2.1.

■ Operating Procedure

(1) Switch your PC ON and insert an external memory.

(2) Create a folder named "BROTHER" in the top layer of the external memory's directory and copy the firmware file having the extension .pjl into that folder.

Note: Before copying, check that the file name of the firmware matches with your machine. Be sure to save only one firmware file having the extension .pjl in the "BROTHER" folder. Otherwise, the firmware cannot be updated correctly.

Tip: If a firmware file not matching the machine is used, the firmware cannot be updated, but note that you can superficially continue the operation until step (5) below without any error.

Tip: For instructions on how to obtain the firmware file, refer to Chapter 4, Section 2.1.

(3) Remove the external memory from the PC and insert it into the machine in the initial stage of the maintenance mode.

Note: Do not insert more than one external memory at a time.

Note: When performing this procedure for any other machine with the same external memory, delete the data previously stored in the external memory.

(4) On the machine, press the **2** and **8** keys in this order.

The file name ********.pjl appears on the LCD. Check that ******** is identical with the file name that has been copied into the external memory.

(5) Press the **Black Start** (**Mono Start**) key to start updating.

The "Receiving Data" appears on the LCD, and after a while, it changes to "Program Updating."

Note: Pressing the **Color Start** key in this step does not start updating.

Note: Never remove the external memory from the machine when updating is in progress.

(6) Updating will complete in a few minutes, and the machine automatically restarts and returns to the standby state.

Remove the external memory from the machine and store it in a safe place.

Note 1: If any of the error messages listed below appears, press the **Stop/Exit** key, and the machine returns to the initial stage of the maintenance mode.

Error Message	Cause
Card is used	The external memory is being used by another operation.
Insert Card	No external memory is inserted.
No file	Invalid file name
Too many files	There is more than one file having the extension .pjl in the folder.
Card Error	External memory defective

Note 2: After the completion of firmware updating, a file named "mfu-send.log" (which stores the execution log) is created in the layer right below the "BROTHER" folder.

1.4.11 **Sensor Operational Check** (Function code 32)

■ Function

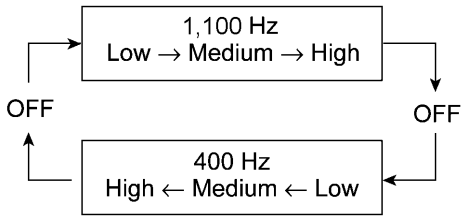
This function allows you to check the following:

- Document detection sensor (For models with ADF)
- Document scanning position sensor (For models with ADF)
- Document scanner open sensor
- Registration sensor
- Ink cartridge cover sensor
- Purge cam switch
- Ink cartridge detection sensors (black, yellow, cyan, and magenta)
- Ink remaining sensors (black, yellow, cyan, and magenta)
- High-yield ink cartridge sensors (black, yellow, cyan, and magenta)
- Pressure roller release sensor
- Disc guide sensor (For disc printing models)

■ Operating Procedure

(1) Press the **3** and **2** keys in this order in the initial stage of the maintenance mode.

The machine sounds 1,100 Hz and 400 Hz tones cyclically through the following volumes for testing the speaker:



NOTE: To stop beeping, press the **Menu** or **OK** key.

If the sensing statuses are as listed on the next page, the LCD shows "DFDRCVRSCCP1∗∗∗∗" and "IKIYICIMEKEYECEM," or "SKSYSCSMORCD∗∗∗∗" and "∗∗∗∗∗∗∗∗VT∗∗T1T2," which can be switched by pressing the **Black Start** (**Mono Start**) key.

Given below is the relationship between the LCD indication, sensor name and sensor status.

LCD	Sensors	Sensing status for display on the LCD
DF	Document detection sensor*1	No document detected.
DR	Document scanning position sensor*1	No document detected.
CV	Document scanner open sensor	Document scanner unit closed.
RS	Registration sensor	No recording paper detected.
CC	Ink cartridge cover sensor	Ink cartridge cover closed.
P1	Purge cam switch	Purge cam in any of the cam driving positions
IK	Black ink cartridge detection sensor	Black ink cartridge loaded.
IY	Yellow ink cartridge detection sensor	Yellow ink cartridge loaded.
IC	Cyan ink cartridge detection sensor	Cyan ink cartridge loaded.
IM	Magenta ink cartridge detection sensor	Magenta ink cartridge loaded.
EK	Black ink remaining sensor	Black ink remaining.
EY	Yellow ink remaining sensor	Yellow ink remaining.
EC	Cyan ink remaining sensor	Cyan ink remaining.
EM	Magenta ink remaining sensor	Magenta ink remaining.
SK	Black high-yield ink cartridge sensor	Black high-yield ink cartridge loaded.
SY	Yellow high-yield ink cartridge sensor	Yellow high-yield ink cartridge loaded.
SC	Cyan high-yield ink cartridge sensor	Cyan high-yield ink cartridge loaded.
SM	Magenta high-yield ink cartridge sensor	Magenta high-yield ink cartridge loaded.
OR	Pressure roller release sensor	Pressure roller depressed
CD	Disc guide sensor*2	Disc guide closed
VT	Head thermistor (for print head)	Normal temperature detected.
T1	High temperature detector 1 in the complex IC (for main PCB)	Normal temperature detected.
T2	High temperature detector 2 in the complex IC (for carriage and ASF)	Normal temperature detected.

*1 For models with ADF
*2 For disc printing models

(2) Change the detecting conditions (e.g., open the document scanner unit or insert paper through the registration sensor or remove the ink cartridges), and then check that the indication on the LCD changes according to the sensor states.

(3) To stop this operation and return the machine to the initial stage of the maintenance mode, press the **Stop/Exit** key.

1.4.12 **Backup of Machine Information** (Function code 46) (User-accessible)

■ Function

This procedure backs up the following machine information and user setting information into an external memory (memory card or USB flash memory) and restores it when necessary.

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

Note that the following information cannot be backed up.

- Serial number of the machine
- MAC address
- Call and caller ID records
- Activity report
- Fax data to be sent (by delayed-timer, redialing, and polling)
- Head calibration data

Note: The user can use the backup and restoration (given on the next page) procedures, except "Import all" in the restoration procedure.

Note: An external memory (memory card or USB flash memory) for backup should have a free space larger than the RAM size of the machine.

Note: When performing this procedure for any other machine with the same external memory, delete the data previously stored in the external memory.

Note: Do not use a Memory Stick; using it may fail to transfer data correctly.

■ Backup Procedure

(1) On the PC, create a "Brother" folder in an external memory to be used for saving backup data.

(2) Insert the external memory into the slot of the machine in the initial stage of the maintenance mode.

The "**** Active" appears on the LCD. (**** shows the name of the external memory inserted.)

Note: Do not insert more than one external memory at a time.

Note: If the external memory inserted already contains backup data of the same model, the existing data will be overwritten with new data.

(3) Press the **4** and **6** keys in this order.

The "Export to Card" appears on the LCD.

(4) Press the **Black Start** (**Mono Start**) key.

The "********.msd" appears on the LCD. The "********" is unique to each model.

(5) Press the **Black Start** (**Mono Start**) key.

The "Export to Card" appears again on the LCD.

(6) Press the **Black Start** (**Mono Start**) key.

The "Please wait" appears on the LCD.

Note: Never remove the external memory from the machine when the exporting is in progress.

Note: If this procedure has been started with the user-access (see Section 1.1.1), the machine returns to the standby state after showing the "Please wait" on the LCD.

(7) Wait for the machine to automatically return to the initial stage of the maintenance mode and show "**** Active" on the LCD.

Remove the external memory from the machine and keep it in a safe place.

Note: If any of the error messages listed below appears, press the **Stop/Exit** key, and the machine returns to the initial stage of the maintenance mode.

Error Message	Cause
Card is used	The external memory is being used by another operation.
Insert Card	No external memory is inserted.
No file	Invalid file name
Card Error	Failed to open the file.
Machine ID Error	Mismatch of serial numbers between the machine and the backup data (which is detected only in data restoration).
Write Error	Writing to an external memory failed due to insufficient capacity.

■ Restoration Procedure

(1) Insert the external memory containing the backup data into the slot of the machine in the initial stage of the maintenance mode.

The "**** Active" appears on the LCD.

Note: Do not insert more than one external memory at a time.

Note: If the serial number in the backup data stored in the external memory does not match that of the machine, data restoration cannot be performed.

(2) Press the **4** and **6** keys in this order.

The "Export to Card" appears on the LCD.

(3) Press the ▲ or ▼ key until the desired item, any of the following, appears on the LCD.

"Import from Card" for restoring only user setting information

"Import all" for restoring all backup data including machine information

(4) Press the **Black Start** (**Mono Start**) key.

The "********.msd" appears on the LCD. The "********" is unique to each model.

(5) Press the **Black Start** (**Mono Start**) key.

The "Import from Card" or "Import all" appears again on the LCD.

(6) Press the **Black Start** (**Mono Start**) key.

The "Please wait" appears on the LCD.

Note: Never remove the external memory from the machine when the importing is in progress.

(7) Wait for the machine to automatically return to the initial stage of the maintenance mode and show "**** Active" on the LCD.

Remove the external memory from the machine and keep it in a safe place.

Note: If any of the error messages shown above appears, press the **Stop/Exit** key, and the machine returns to the initial stage of the maintenance mode.

1.4.13 Setting of Country/Language (Function code 52) (User-accessible)

■ Function

Machines have been customized for their destination countries with the corresponding EEPROM customizing codes (see Section 1.4.26, Function code 74). However, some customizing codes are shared by two or more destination countries as listed below, so the machines customized by these codes require further specifying individual destination countries or languages.

Usually, the user specifies the destination country or language on the LCD screen called up automatically when turning the machine on first after purchase. In the same way, the service personnel also specifies it if the main PCB is replaced; however, if he/she does not specify the destination country or language at that timing, be sure to perform the procedure given below.

EEPROM Customizing Code	Countries
**53	Germany and Austria
**54	Czech, Hungary, Poland, Rumania, and Bulgaria
**55	France, Belgium, and Netherlands
**56	Australia and New Zealand
**57	Norway, Sweden, Finland, and Denmark
**65	Spain, Portugal, and Andorra

■ Operating Procedure

(1) Press the **5** and **2** keys in this order in the initial stage of the maintenance mode.

The "Set Country" or "Select Language" appears on the LCD.

Note: If an EEPROM customizing code other than those listed above has been specified, the machine automatically returns to the initial stage of the maintenance mode without displaying the country/language menu.

Note: The messages shown during this procedure are in US English.

(2) Use the ▲ and ▼ keys to display the desired country or language.

Note: For selectable countries and languages, refer to the tables shown above.

(3) Press the **OK** key.

The "*****? 1.Yes 2.No." appears on the LCD.

***** : Selected country

(4) Press the **1** key.

The machine displays "ACCEPTED" on the LCD, saves the new setting, and returns to the initial stage of the maintenance mode. This completes the setting procedure.

1.4.14 Transfer of Received FAX Data and Log Information (Function code 53) (User-accessible)

■ Function

This function transfers received FAX data and log information to another machine. It is useful when the machine cannot print received data due to the printing mechanism defective.

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

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

Tip: If using this function results also in an error, use Function code 46 to save received FAX data into an external memory. (Refer to Section 1.4.12 in this chapter.)

■ Operating Procedure

(1) Press the **5** and **3** keys in this order in the initial stage of the maintenance mode.
The "FAX TRANSFER" appears on the LCD.

(2) To check the number of received files, press the **1** key.
The "1.NO. OF JOBS" appears on the LCD.
Press the **OK** key to display the number of received files, just as "NO. OF JOBS: 10."
Press the **Stop/Exit** key to return the machine to the "FAX TRANSFER" state.

(3) Select data to transfer as follows.

To transfer the activity report only, press the **2** key.
The "2.ACTIVITY" appears.

To transfer received files (together with the activity report), press the **3** key.
The "3.DOCUMENTS" appears. Note that if there is no received file, the "NO DOCUMENTS" appears.

To transfer the communication list for the latest communication, press the **4** key.
The "4.COM.LIST (NEW)" appears.

To transfer the communication list for the last three errors, press the **5** key.
The "5.COM.LIST (ERR3)" appears.

To transfer the equipment's log, press the **6** key.
The "6.MNT77 LIST" appears.

To transfer the user setting information, press the **7** key.
The "7.USER SETTINGS" appears.

To transfer the caller ID history, press the **8** key.
The "8.CALLER ID HIST" appears.

To transfer the outgoing call history, press the **9** key.
The "9.OUTGOING CALL" appears.

To transfer the wireless LAN data, press the **0** key.
The "0.WLAN DATA" appears.

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(4) With the item being displayed in step (3), press the **OK** key.

The "ENTER NO. &OK" appears.

(5) Enter the telephone number of the receiver machine and press the **OK** key again.

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.

The machine displays the "ACCEPTED" for approx. two seconds and starts dialing to transfer data.

No station ID will be attached. A cover page and end page as shown on the next page will be automatically attached, instead.

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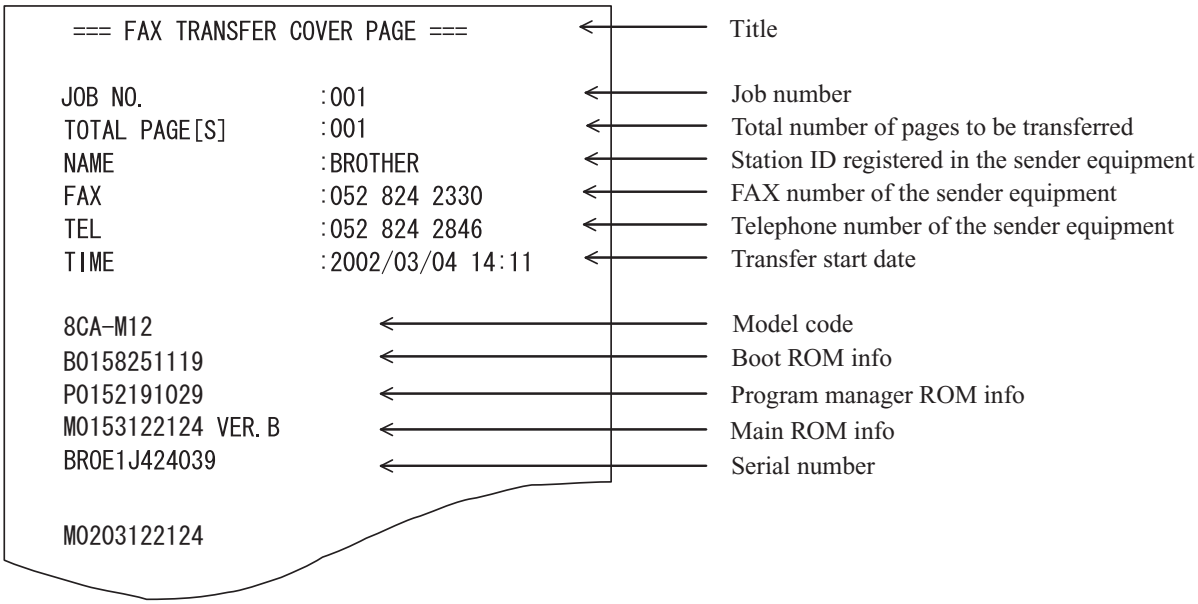
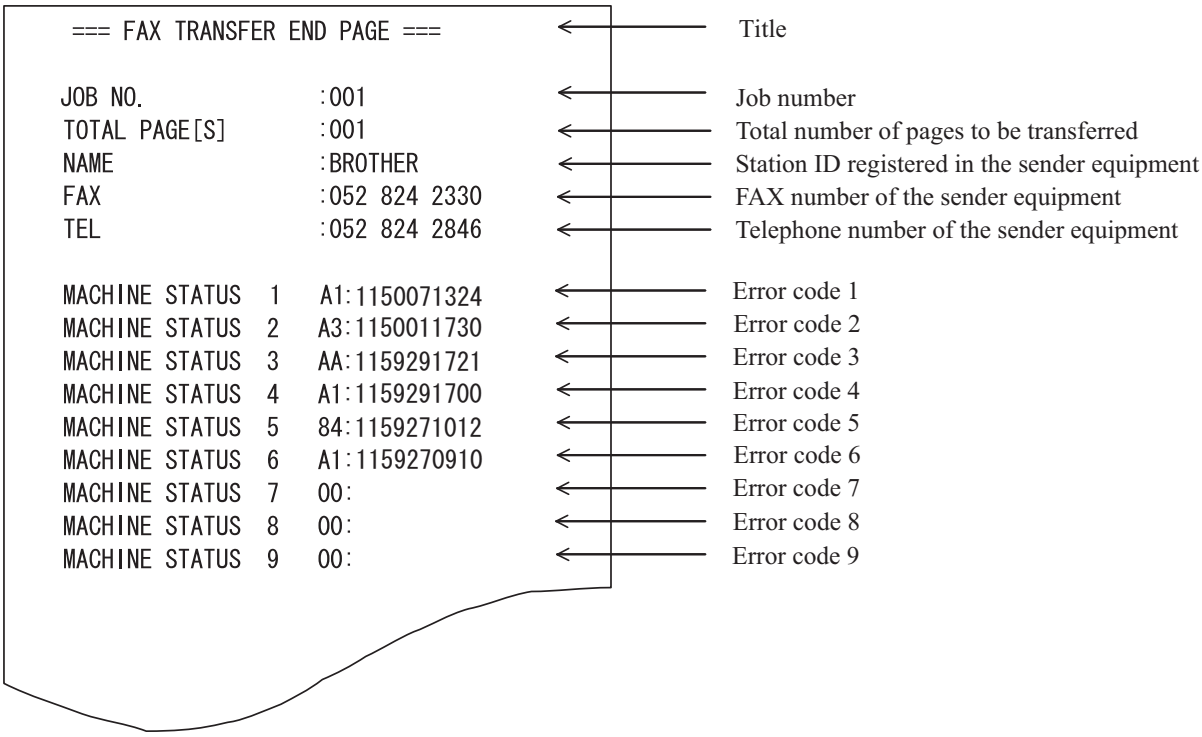
Cover page sample



End page sample



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1.4.15 Fine Adjustment of Scanning Position (Function code 54)

■ Function

This function allows you to adjust the scanning position.

■ Operating Procedure

(1) Press the **5** and **4** keys in this order in the initial stage of the maintenance mode.

The "SCAN ADJ SELECT" appears on the LCD.

(2) To adjust horizontal scanning (right and left edges), press the **0** key.
The "RL EDGE *" appears on the LCD.

To adjust vertical scanning (top edge), press the **1** key.
The "TOP EDGE *" appears on the LCD.

To adjust vertical scanning (bottom edge), press the **2** key.
The "BOTM EDGE *" appears on the LCD.

An asterisk (*) in the above messages denotes the current scanning position correction value.

NOTE: Pressing a key except **0** to **2** keys sounds a rejection beep.

(3) Enter the correction value (in units of 0.1 mm) multiplied by 10.

To increase the value by 10 (1.0 mm), press the ▲ key; to decrease it, press the ▼ key. To increase the value by 1 (0.1 mm), press the ► key; to decrease it, press the ◄ key.

NOTE: Pressing the **Clear** key cancels the newly entered value.

NOTE: Pressing the **Stop/Exit** key returns the machine to the initial stage of the maintenance mode without making changes of the correction value.

(4) Press the **OK** key.

The machine displays the "ACCEPTED" on the LCD and returns to the initial stage of the maintenance mode.

1.4.16 Acquisition of White Level Data and CIS Scanner Area Setting (Function code 55)

■ Function

This procedure allows the machine to obtain white level data for the CIS scanner and save it together with the CIS scanner area into the EEPROM on the main PCB.

■ Operating Procedure

(1) Press the **5** key twice in the initial stage of the maintenance mode.

The "SCANNER AREA SET" appears on the LCD.

The machine automatically obtains white level data.

(2) If this operation completes normally, the machine returns to the initial stage of the maintenance mode.

If any error is detected, the "SCANNER ERROR" appears on the LCD. To return the machine to the initial stage of the maintenance mode, press the **Stop/Exit** key.

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1.4.17 Updating of Paper Feeding Correction Value (Function code 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 value stored in the EEPROM on the main PCB.

If you replace the engine unit or head/carriage unit, you need to update the paper feeding correction value according to the procedure given here.

■ Operating Procedure

Before starting the procedure below, be sure to set letter-size paper in the paper tray for printing check patterns

For the paper feed roller adjustment

(1) On your PC, drag and drop the "pfadj.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

The machine displays the "RECEIVING DATA" on the LCD and prints out "PF-EXIT adjust check" pattern on paper fed from the paper tray (see page 5-34 for a sample printout).

Tip: The check pattern can also be printed with Function code 61 (refer to Section 1.4.19 in this chapter). After printing with a memory card, be sure to remove the card before proceeding to the following step.

(2) On the machine, press the **5** and **8** keys in this order.

The "Select 58?" appears on the LCD.

(3) Press the **Black Start** (**Mono Start**) key.

The "1.PF 2.EXIT" appears on the LCD.

(4) To select the paper feed roller adjustment, press the **1** key.

The "PF1 ADJ NO. +0" appears on the LCD.

(5) On the "PF-EXIT adjust check" pattern printed in step (1) (see page 5-34), check each of PF1 through PF6 rows sequentially. First, on PF1 row, select the block that is the least uneven print and enter the number of the least uneven block.

For example, if the number of the least uneven block is +4, press the **4** key while the "PF1 ADJ NO. +0" is displayed on the LCD. If the number is -4, press the ▼ key to display the "PF1 ADJ NO. -0" and press the **4** key.

If it is difficult to judge which block is the least uneven print between the adjacent two blocks, e.g., between +2 and +4 blocks, enter the number (+3 in this case) between them.

Then press the **OK** key.

(6) In the same way as in step (5), enter the number of the least uneven block for each of PF2 through PF6.

For the paper ejection roller adjustment

(1) On your PC, drag and drop the "exitadj.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

The machine displays the "Receiving Data" on the LCD and prints out "EXIT adjust check" patterns 1 to 3 (see pages 5-35 to 5-37 for a sample printout).

(2) On the machine, press the **5** and **8** keys in this order.
The "Select 58?" appears on the LCD.

(3) Press the **Black Start** (**Mono Start**) key.
The "1.PF 2.EXIT" appears on the LCD.

(4) To select the paper ejection roller adjustment, press the **2** key.
The "EXIT ADJ NO. +0" appears on the LCD.

(5) On the "EXIT adjust check" patterns 1 to 3 (see pages 5-35 through 5-37), check EXIT1 through EXIT6 rows.
First, on the EXIT1 row, select the block that is the least uneven print and enter the number of the least uneven block. For the entry method, refer to the paper feed roller adjustment procedure, step (5).
If it is difficult to judge which block is the least uneven print between the adjacent two blocks, e.g., between +2 and +4 blocks, enter the number (+3 in this case) between them.
Press the **OK** key.

(6) In the same way as in step (5), enter the number of the least uneven block for each of EXIT2 through EXIT6.

For adjustment of horizontal streaks

(1) On your PC, drag and drop the "LF300adj.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.
The machine displays the "Receiving Data" on the LCD and prints out "KEISEN2 & LF300 & EXIT ADJUST PATTERN" (see page 5-38 for a sample printout).
Tip: The check pattern can also be printed with Function code 61 (refer to Section 1.4.19 in this chapter). After printing with a memory card, be sure to remove the card before proceeding to the following step.

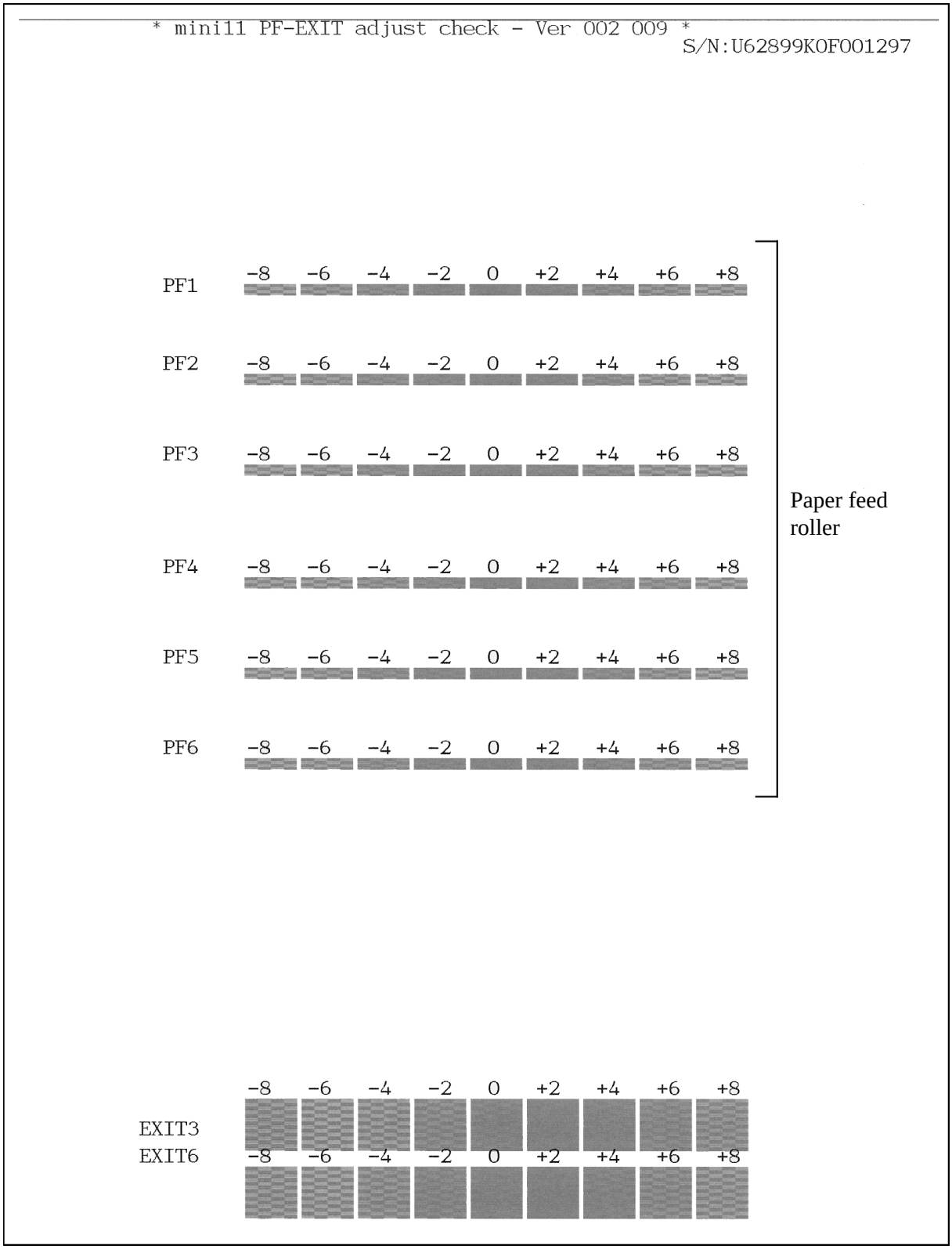
(2) On the machine, press the **5** and **8** keys in this order.
The "Select 58?" appears on the LCD.

(3) Press the **Black Start** (**Mono Start**) key.
The "1.PF 2.EXIT" appears on the LCD.

(4) Press the ▶ key several times to display the "1.LF300" on the LCD.

(5) Press the **1** key to display the "LF300 ADJ No. +0."

(6) Check the LF300 ADJUST pattern (see page 5-38), select the block that has the least white and black streaks, and enter the number of that block. For the entry method, refer to the paper feed roller adjustment procedure, step (5).



PF-EXIT Adjust Check Pattern

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EXIT Adjust Check Pattern 1

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EXIT Adjust Check Pattern 2

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EXIT Adjust Check Pattern 3

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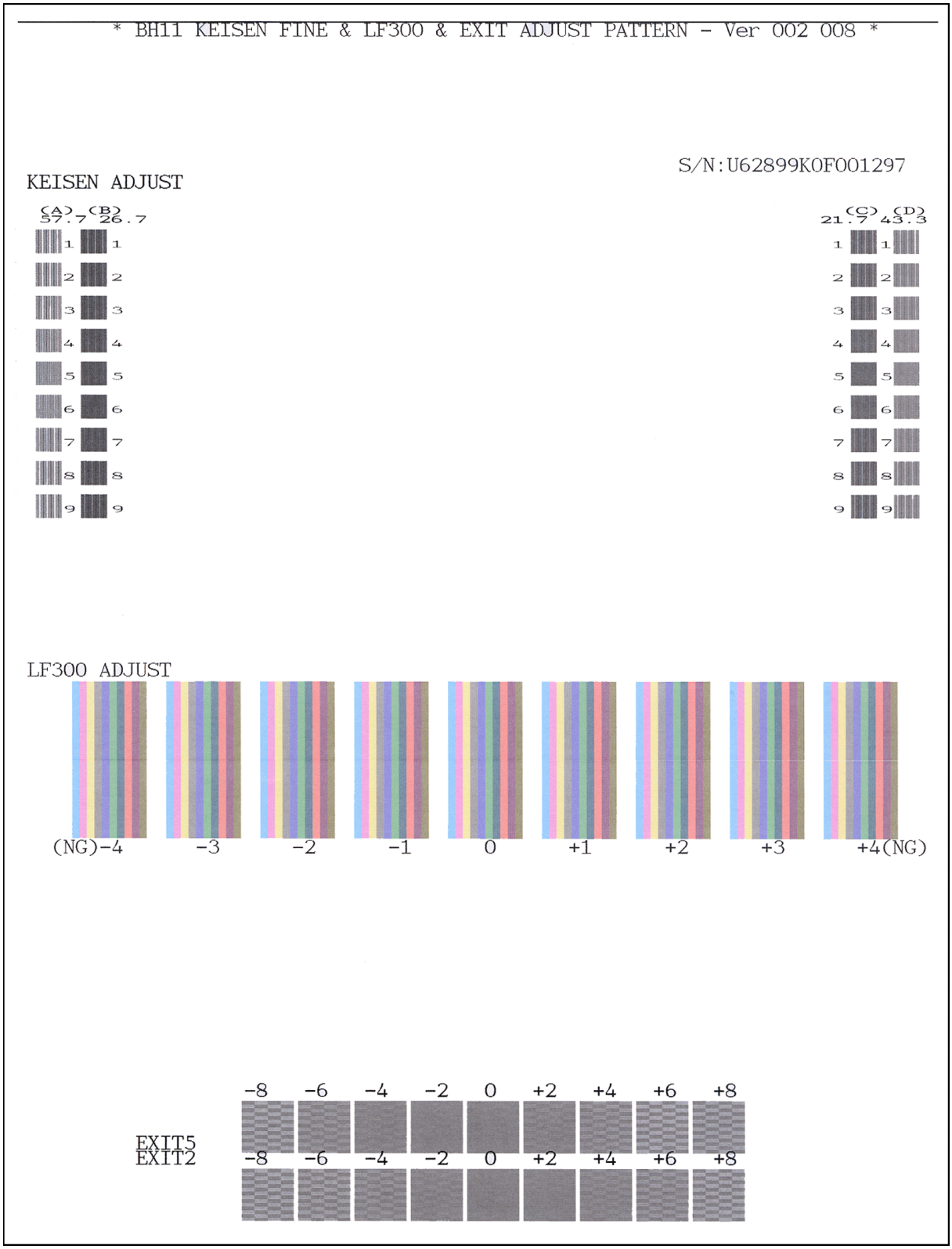

KEISEN2 & LF300 & EXIT ADJUST PATTERN

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1.4.18 Checking of CIS Travel and Specifying of CIS Type (Function code 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 on the main PCB. If you replace the main PCB, you need to specify the CIS type according to the procedure given below.

■ Operating Procedure

-- Check the movement of the CIS unit --

(1) Press the **5** and **9** keys in this order in the initial stage of the maintenance mode.
The "1:MO 2:CO 3:CHG?" appears on the LCD.

(2) To call up the CIS travel menu, press the **1** key.
(The "2:CO" is for checking scanning clocks at the factory, so do not access it.)
The "RESO TYPE SET 1" appears on the LCD.

(3) Press the **OK** key.
The "LED PWM : **" appears on the LCD.

(4) Press the **OK** key.
The "G PULSE : ****" appears on the LCD.

(5) Press the **OK** key.
The "1:WHT 2:FRT 3:MV" appears.

(6) Press the **3, 1,** or **2** key, then press the **OK** key.
The CIS unit moves to the scanning end position, white reference film position, or scanning start position, respectively.

(7) Press the **Stop/Exit** key, and the CIS unit returns to the home position.
The machine returns to the initial stage of the maintenance mode.

-- Specify the CIS type --

(1) Press the **5** and **9** keys in this order in the initial stage of the maintenance mode.
The "1:MO 2:CO 3:CHG?" appears on the LCD.

(2) To specify the CIS type, press the **3** key.
The machine automatically specifies the CIS type and displays the "PLS UPDATE PROG" on the LCD for two seconds.
(The "1:MO" is for checking the CIS travel, as described above. The "2:CO" is for checking scanning clocks at the factory, so do not access it.)

(3) Load the latest firmware to the machine.
If "PLS UPDATE PROG" does not appear in step (2), it is not necessary to load the latest firmware.

1.4.19 Printout of PRN/JPEG Files in Memory Card (Function code 61)

■ Function

This procedure prints PRN files and JPEG files stored in a memory card supported by PhotoCapture Center.

The following four print modes are available.

- Printing the specified file *once*
- Printing the specified file *repeatedly*
- Printing all PRN/JPEG files *once*
- Printing all PRN/JPEG files *repeatedly*

File name requirements

PRN file: Maximum of 16 characters consisting of alphanumerics, underline "_" and parentheses "( )", including the extension .prn

JPEG file: Maximum of 16 characters consisting of alphanumerics, underline "_" and parentheses "( )", including the extension .jpg

The maximum number of files is 999.

■ Operating Procedure

(1) Press the **6** and **1** keys in this order in the initial stage of the maintenance mode.

The "MAINTENANCE 61" appears on the LCD.

(2) To print a PRN file(s), press the **#** key; to print a JPEG file(s), press the ***** key.

Files of the selected type appear on the LCD.

(3) To print the specified file once, select the target file with the ▲/▼ keys and press the **4** key.

To print the specified file repeatedly, select the target file with the ▲/▼ keys and press the **6** key.

To print all files of the selected type once, press the **7** key.

To print all files of the selected type repeatedly, press the **9** key.

The machine starts printing. Upon completion of printing, the machine returns to the initial stage of the maintenance mode.

Pressing the **Stop/Exit** key halfway through printing immediately stops printing and goes back to the state of step (1) above.

1.4.20 Travel Check of the Head/Carriage Unit and Operational Check of the Pressure Roller (Function code 63)

■ Function

This procedure moves the head/carriage unit to the adjustment position (Function code 63 + *****).

It also checks releasing and depressing of the pressure roller provided on disc printing models (Function code 63 + #).

■ Operating Procedure

(1) Press the **6** and **3** keys in this order in the initial stage of the maintenance mode.

The "SELECT 63?" appears on the LCD.

(2) Press the **Black Start** (**Mono Start**) key.

The "START 63" appears on the LCD.

(3) To move the head/carriage unit to the adjustment position, press the ***** key.

The machine moves the head/carriage unit to the adjustment position and displays "HEAD ADJ?" on the LCD.

After completion of head replacement or adjustment, press the **Stop/Exit** key. The machine moves the head/carriage unit back to the home position, locks it, and returns to the initial stage of the maintenance mode.

(4) To make an operational check of the pressure roller, perform steps (1) and (2) again and then press the **#** key.

The machine displays the "PF ROLL RELEASE" on the LCD and releases the pressure roller.

After checking of the pressure roller, press the **Stop/Exit** key. The machine depresses the pressure roller, moves the head/carriage unit back to the home position, locks it, and returns to the initial stage of the maintenance mode.

If the machine fails to release or depress the pressure roller, it returns to the initial stage of the maintenance mode and displays Error 91 or 92.

1.4.21 Alignment of Vertical Print Lines in Monochrome (Function code 65)

■ Function

This procedure aligns vertical lines printed in the forward and backward directions of the head/carriage unit.

If the head/carriage unit, main PCB, engine unit, or carriage motor is replaced, you need to make the adjustment given in this section.

Note: If the head/carriage unit or the engine unit is replaced, you need also to adjust the inclination of the head/carriage unit (refer to Chapter 4, Section 1.4).

■ Operating Procedure

Before starting the procedure below, be sure to set letter-size or A4-size paper in the paper tray for printing check patterns.

(1) Press the **6** and **5** keys in this order in the initial stage of the maintenance mode. Then press the **1** key in succession.

The machine displays the "PRINTING" on the LCD and prints the vertical alignment check pattern of A to D rows (see the next page for a sample printout). Each of A to D rows consists of #1 through #9 blocks.

The "A No. (1-9)" appears on the LCD.

(2) Check the A row, find which number block shows most indistinct vertical lines, and then enter that block number.

The "B No. (1-9)" appears on the LCD.

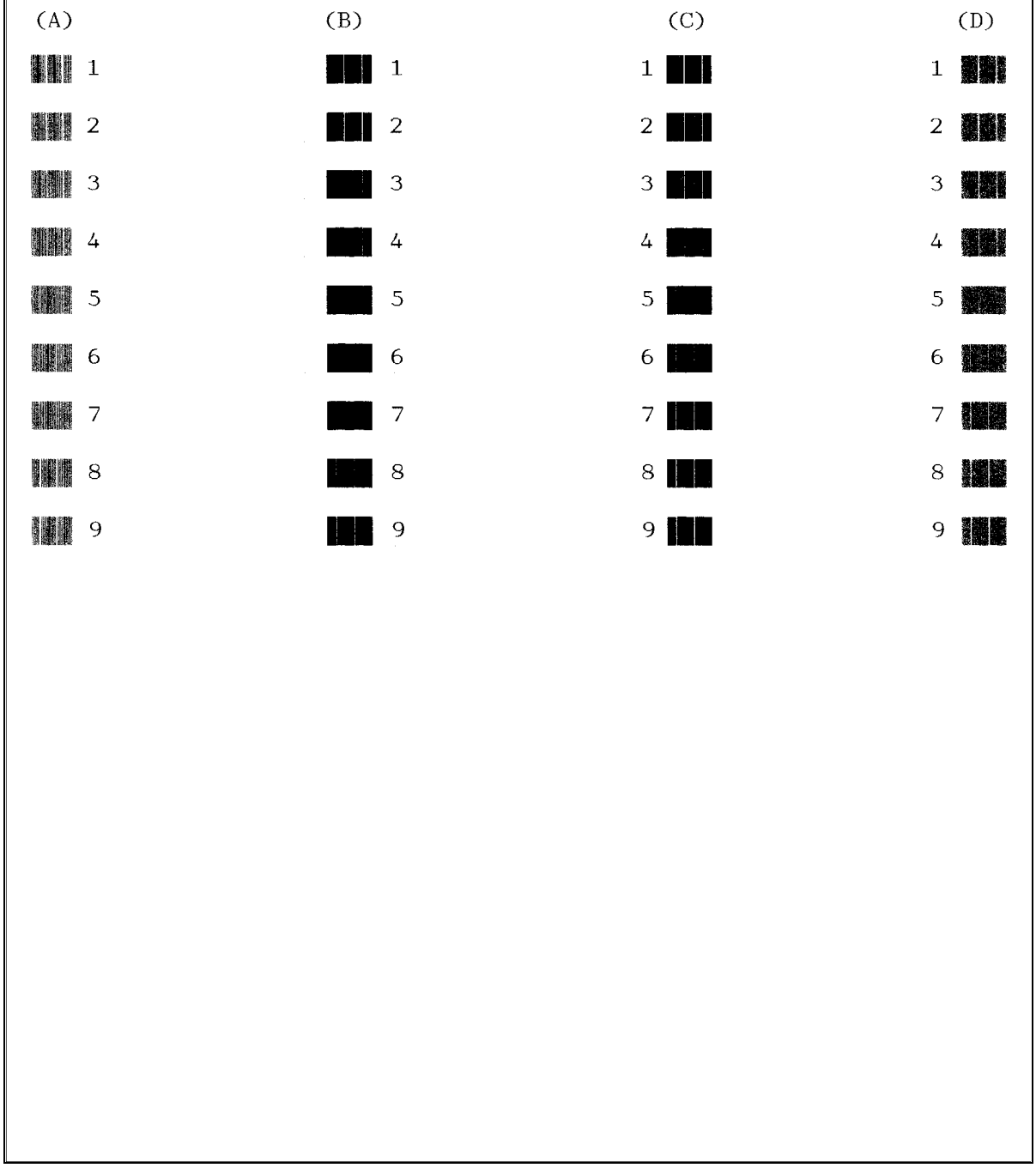
(3) Check the B row, find which number block shows most indistinct vertical lines, and then enter that block number.

The "C No. (1-9)" appears on the LCD.

(4) In the same way, enter the block number of most indistinct vertical lines for the C and D rows.

The machine automatically returns to the initial stage of the maintenance mode.

Note: If the **1** or **9** key is pressed in any of steps (2) to (4) above, the machine shows "PRINTING" on the LCD and prints the vertical alignment check pattern again. Go back to step (2) and make adjustments again.



Vertical Alignment Check Pattern

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1.4.22 **Margin Adjustment in Borderless Printing** (Function code 66) (User-accessible)

■ Function

This procedure adjusts the left, right, top and bottom margins for borderless printing. Print out a margin check pattern, measure each margin, and enter the correction values.

■ Operating Procedure

Before starting the procedure below, be sure to set letter-size paper in the paper tray for printing check patterns.

Printing the left, right, top and bottom margin check pattern

(1) Switch the machine to the maintenance mode.

(2) Connect the machine to your PC with a USB cable.

(3) On your PC, drag and drop the "mediaadj_disc_mini11.prn" onto the Brother Maintenance USB Printer driver icon in the Filedrgs window.

The machine displays the "Receiving Data" on the LCD and prints out the "MEDIA CHECK" pattern (see pages 5-47 and 5-48 for a sample printout).

Tip: The check pattern can also be printed with Function code 61 (refer to Section 1.4.19 in this chapter). After printing with a memory card, be sure to remove the card before proceeding to the following step.

Tip: For models not supporting disc printing, the "mediaadj_mini11.prn" can also be used instead of "mediaadj_disc_mini11.prn."

Adjusting the top, left and right margins

(1) Measure the top margin on the printed check pattern 2 and 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 middle row, for printing in 1,200 dpi, and the lower row, for disc printing.

(Example) Top margin: 2.7 mm*

	Upper row in 600 dpi	Middle row in 1,200 dpi	Lower row in disc printing*
Left margin:	2.8 mm	2.9 mm	3.0 mm
Right margin:	3.1 mm	3.2 mm	3.3 mm

*For disc printing models

If all the top, left and right margins are within the range from 2.9 to 3.1 mm, no adjustment is required. If not, go to step (2).

(2) If either one of the top, left and right margins is out of the specified range, press the **6** key twice.

The "Select 66?" appears on the LCD.

(3) Press the **Black Start** (**Mono Start**) key.

The "MEDIA SENSOR ADJ" appears on the LCD.

(4) Press the ***** key.

Disc printing models Wait for "TOP :30" to appear on the LCD and go to step (5).

Other models Wait for "LEFT1 :30" to appear on the LCD and go to step (6).

(5) To adjust the top margin, enter the measured top value (in units of 0.1 mm) multiplied by 10.

In this example, the top margin measured in step (1) is 2.7 mm, so press the **2**, **7**, and **OK** keys in this order.

The "LEFT1 :30" appears on the LCD.

(6) To adjust the left margin in 600 dpi, enter the measured left margin value (in units of 0.1 mm) multiplied by 10.

In this example, the left margin measured in step (1) is 2.8 mm, so press the **2**, **8**, and **OK** keys in this order.

The "RIGHT1 :30" appears on the LCD.

(7) To adjust the right margin in 600 dpi, enter the measured right margin value (in units of 0.1 mm) multiplied by 10.

In this example, the right margin measured in step (1) is 3.1 mm, so press the **3**, **1**, and **OK** keys.

The "LEFT2 :30" appears on the LCD.

(8) To adjust the left margin in 1,200 dpi, enter the measured left margin value (in units of 0.1 mm) multiplied by 10.

In this example, the left margin measured in step (1) is 2.9 mm, so press the **2**, **9**, and **OK** keys in this order.

The "RIGHT2 :30" appears on the LCD.

(9) To adjust the right margin in 1,200 dpi, enter the measured right margin value (in units of 0.1 mm) multiplied by 10.

In this example, the right margin measured in step (1) is 3.2 mm, so press the **3**, **2**, and **OK** keys.

The "LEFT3 :30" appears on the LCD.

Note: Models not supporting disc printing return to the initial stage of the maintenance mode. Go to step (12).

(10) Disc printing models To adjust the left margin in 1,200 dpi for disc printing, enter the measured left margin value (in units of 0.1 mm) multiplied by 10.

In this example, the left margin measured in step (1) is 3.0 mm, so press the **3**, **0**, and **OK** keys in this order.

The "RIGHT3 :30" appears on the LCD.

(11) Disc printing models To adjust the right margin in 1,200 dpi for disc printing, enter the measured right margin value (in units of 0.1 mm) multiplied by 10.

In this example, the right margin measured in step (1) is 3.3 mm, so press the **3**, **3**, and **OK** keys in this order.

The machine returns to the initial stage of the maintenance mode.

(12) Go back to Printing the left, right, top and bottom margin check pattern, step (3) and print out the check pattern again (see pages 5-47 and 5-48 for a sample printout).

(13) Measure the top, left and right margins on the printed pattern.

If all the top, 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 check pattern 1 printed in Printing the left, right, top and bottom margin check pattern, step (3).

(Example) Bottom margin: 3.2 mm

If it is within the range from 2.9 to 3.1 mm, no adjustment is required. If not, go to step (2).

(2) If the bottom margin is out of the specified range, press the **6** key twice.

The "Select 66?" appears on the LCD.

(3) Press the **Black Start** (**Mono Start**) key.

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 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 press the **3**, **2**, and **OK** keys.

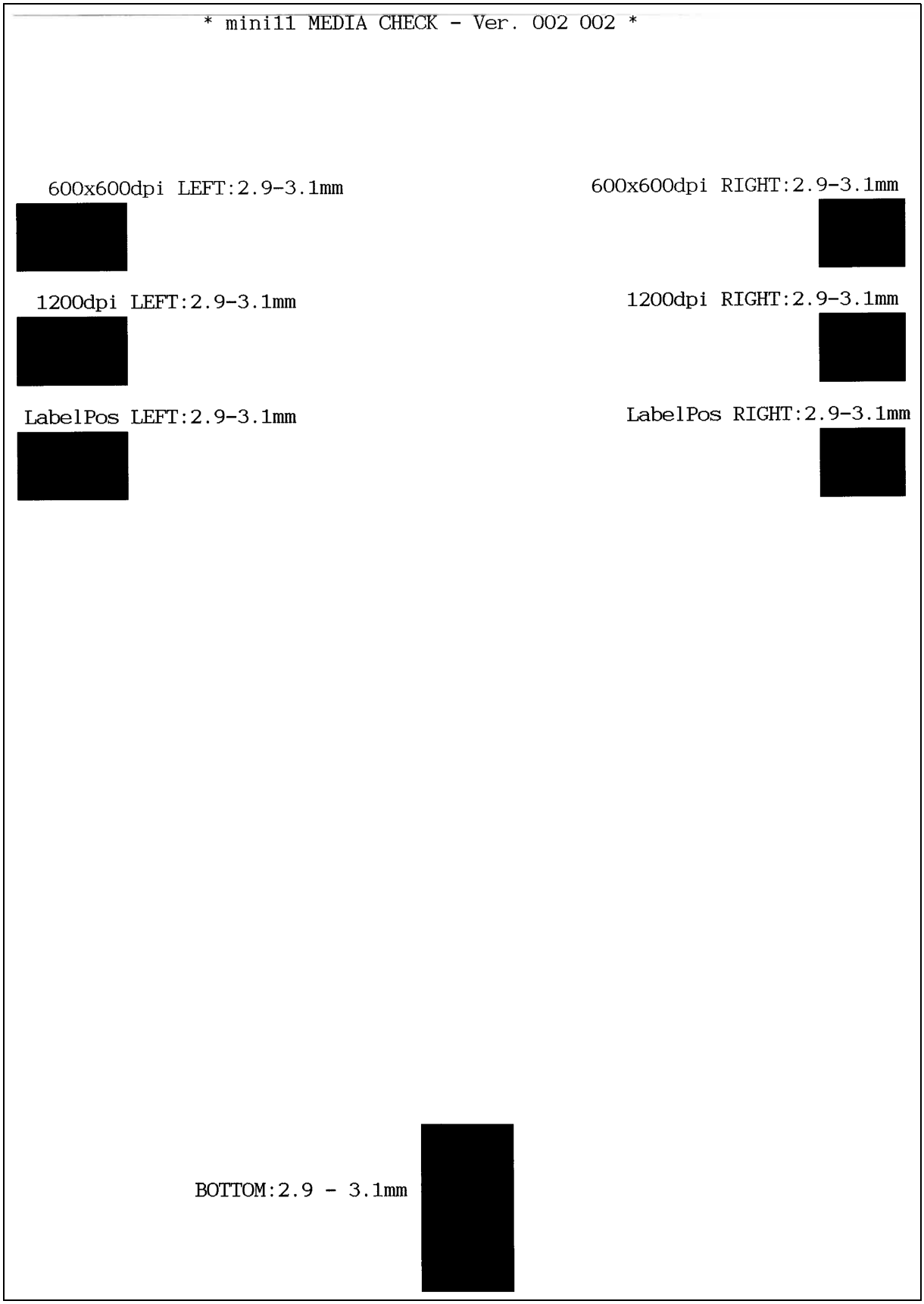
The machine returns to the initial stage of the maintenance mode.

(6) Go back to Printing the left, right, top and bottom margin check pattern, step (3) and print out the check pattern again.

(7) Measure the bottom margin on the printed pattern.

If it is within the range from 2.9 to 3.1 mm, the adjustment is completed.

Note: To reset the correction values newly entered in the above procedure, press the **6**, **6**, **Black Start** (**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.



Left, Right, Top and Bottom Margin Check Pattern 1

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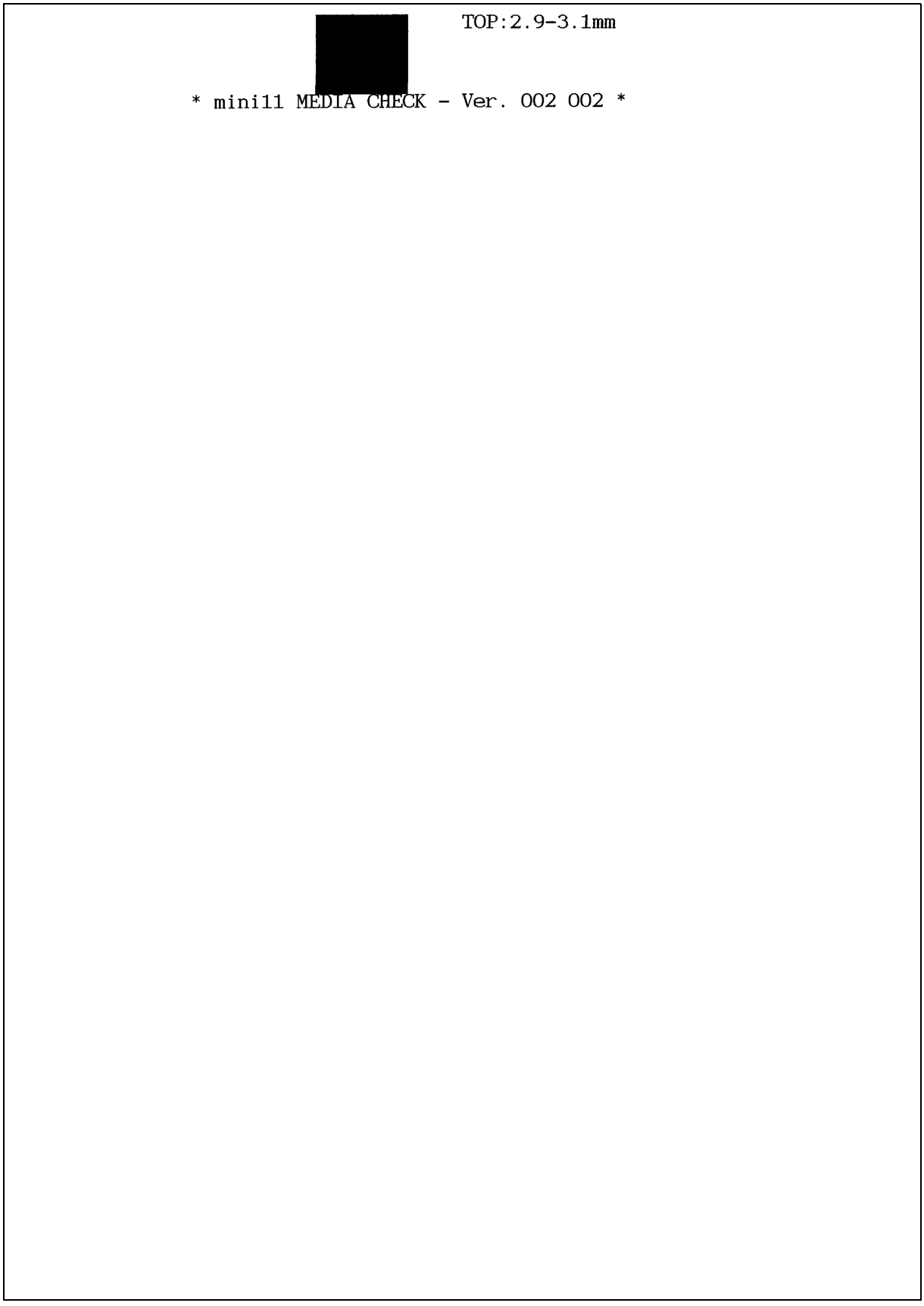

Left, Right, Top and Bottom Margin Check Pattern 2

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1.4.23 Updating of Head Property Data and Backup/Restoration of Head Calibration Data (Function code 68)

■ Function

Function code 68 provides two types of procedures--one for updating the head property data and the other for backing up the head calibration data and restoring it.

Updating the head property data

To keep the print quality, the machine optimizes the drive conditions of individual head/carriage units according to the head property data.

The property data is stored in the EEPROM on the main PCB and its property code is printed on the property labels attached to the machine and the head/carriage unit.

If you replace the head/carriage unit, you need to enter its property code printed on the property label (that comes with the new spare part) and replace the old property label on the machine (see Appendix 1 for the label location) with the new one. If the old part may be used in future, store the old property label also with the old part.

Backing up the head calibration data and restoring it

This procedure backs up the head calibration data into an external memory (memory card or USB flash memory) and restores it to the machine.

■ Head Property Data Updating Procedure

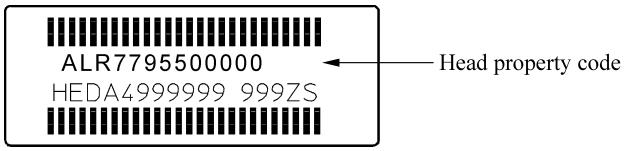
(1) Press the **6** and **8** keys in this order in the initial stage of the maintenance mode.

(2) Press the **2**, **5**, **8**, and **0** keys in this order.

The current property data stored in the EEPROM appears on the LCD and the machine is ready for entry.

(3) Check the property label that comes with a new head/carriage unit and then enter the property code.

The code to be entered is 10 digits excluding the heading alphabets.



Models with numerical keypad on the control panel

To enter letters "A" through "F," press the **1** through **6** keys while holding down the **#** key, respectively.

(4) Press the **OK** key.

The machine beeps, shows the "Input Accepted" on the LCD, and writes the entered property code into the EEPROM. Then it returns to the initial stage of the maintenance mode.

NOTE: If the entered data contains any checksum error, the machine beeps, shows the "Input Error" and becomes ready to accept entry. Go back to step (3).

■ Head Calibration Data Backup/Restoration Procedures

Backup procedure

(1) Press the **6** and **8** keys in this order in the initial stage of the maintenance mode.

(2) Press the **0**, **6**, **2**, and **6** keys in this order.

The "Write Head Calib" appears on the LCD.

(3) Insert an external memory into the memory slot.

(4) Use the ◄ and ► keys to display "Head Calib->Media" on the LCD and then press the **OK** key.

The machine displays "Now Saving" on the LCD and starts the backup operation.

Note: If no external memory is inserted into the memory slot in step (3), the machine sounds a short beep three times and displays "No Media Error" on the LCD.

Upon completion of the backup operation, the machine beeps for one second, displays "Head Calib.data" on the LCD, and then returns to the initial stage of the maintenance mode.

Restoration procedure

(1) Press the **6** and **8** keys in this order in the initial stage of the maintenance mode.

(2) Press the **0**, **6**, **2**, and **6** keys in this order.

The "Write Head Calib" appears on the LCD.

(3) Insert the external memory holding the head property data into the memory slot.

(4) Use the ◄ and ► keys to display "Media->Head Calib" on the LCD and then press the **OK** key.

The machine displays "Now Loading" on the LCD and starts the restoration operation.

Note: If no external memory is inserted into the memory slot in step (3), the machine sounds a short beep three times and displays "No Media Error" on the LCD.

Note: If the external memory inserted in step (3) holds no head calibration data, the "Can’t Open File" appears on the LCD.

Upon completion of the restoration operation, the machine beeps for one second, displays "Complete" on the LCD, and then returns to the initial stage of the maintenance mode.

1.4.24 Traveling Speed Check of Head/Carriage Unit (Function code 69)

■ Function

This procedure checks whether the traveling speed of the head/carriage unit is within the specified range.

Be sure to perform this procedure if you replace the head/carriage unit, carriage motor or CR encoder strip, loosen the CR timing belt, or apply lubricant.

■ Operating Procedure

(1) Press the **6** and **9** keys in this order in the initial stage of the maintenance mode.

The machine shows "CR AGING" on the LCD and starts aging of the head/carriage unit.

In each of travel speeds of 57.7, 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 four traveling speeds are within the specified range, the "57O 43O 27O 21O" appears on the LCD
- If any one is out of the range, the machine shows some message, e.g., "57O 43O 27O 21X" on the LCD. This sample message indicates that the speed variation is within the allowable range when the head/carriage unit travels at 57.7, 43.3 and 26.7 inches/second; however, it is out of the range at 21.7 inches/second.

(2) Press the **Stop/Exit** key to return the machine to the initial stage of the maintenance mode.

1.4.25 Cleaning of Leveler Roller (LR) ASSY (Function code 70)

■ Function

This procedure clears ink sticking to the leveler roller (LR) ASSY.

■ Operating Procedure

(1) Fold a sheet of A4- or letter-size recording paper in half in a longitudinal direction, unfold it, and set it in the empty paper tray with the valley fold facing up as shown below.

(2) Press the **7** and **0** keys in this order in the initial stage of the maintenance mode.

The "1.A4 2.LTR" appears on the LCD.

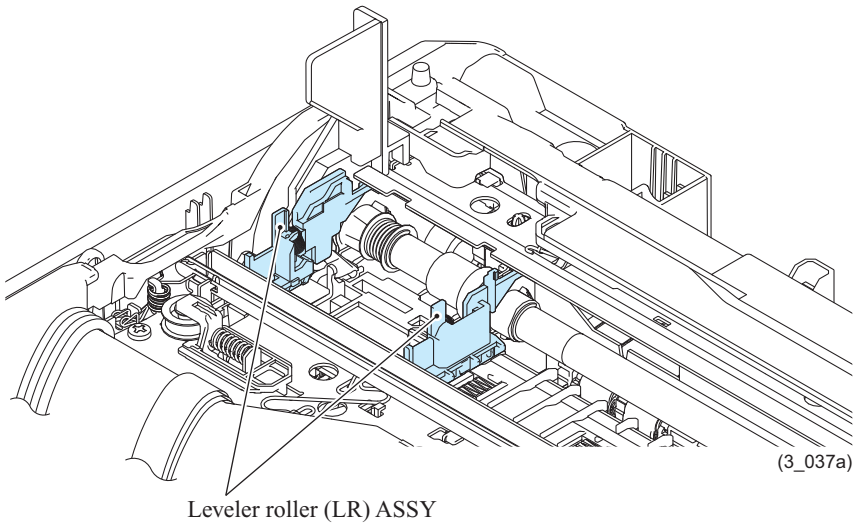
(3) To use an A4-size paper, press the **1** key; to use a letter-size one, press the **2** key.

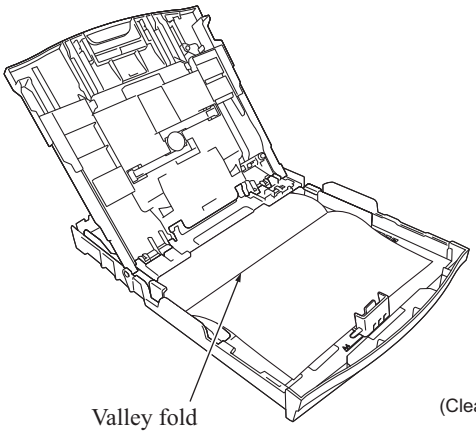
The machine shows "LRS CLEANING" on the LCD and starts cleaning the leveler roller (LR) ASSY.

(4) Wait for the cleaning to complete (it takes approximately four minutes) and for the "PUSH STOP KEY" to appear on the LCD.

(5) Press the **Stop/Exit** key.

The machine ejects the recording paper and returns to the initial stage of the maintenance mode.





1.4.26 EEPROM Customizing (Function code 74)

■ Function

This procedure customizes the EEPROM according to language, function settings, and firmware switch settings.

Notes:
- If you replace the main PCB, be sure to carry out this procedure.
- Once this procedure is carried out, it is necessary to write the corresponding language data, so be sure to write local programs (refer to Chapter 4, Section 2.1.2).

■ Operating Procedure

(1) Press the **7** and **4** keys in this order in the initial stage of the maintenance mode.
The "SELECT 74?" appears on the LCD.

(2) Press the **Black Start** (**Mono Start**) key, and the current customizing code appears.

(3) Enter the desired customizing code. (See the following pages.)
The newly entered code appears.
NOTE: *If a wrong 4-digit code is entered, the machine will malfunction.*

(4) Press the **Black Start** (**Mono Start**) key.
The "Please DL ROM" appears on the LCD.

(5) With the "Please DL ROM" displayed, connect the machine to your PC.

(6) On the PC, run "filedg32.exe" to display the Filedrgs window. Drag and drop the target firmware onto the Brother Maintenance USB Printer driver icon in that window.

If you press the **Stop/Exit** key or no keys are pressed for one minute in the above procedure, the machine stops the procedure and returns to the initial stage of the maintenance mode.

■ EEPROM Customizing Codes List

Destination	US	Can	UK	Ger	Fra
	US, Mexico	Canada	UK	Germany	France, French Polynesia, Ivory Coast, Morocco, Algeria, Monaco, New Caledonia, Reunion, Senegal, Tunisia
Country code	01	02	04	03	05
DCP-J525W	---	---	0004	0053 (0003/0014)	0055 (0005/0008/0009/0004)
DCP-J725W	---	---	0004	0053 (0003/0014)	0055 (0005/0008/0009/0004)
DCP-J925W	---	---	0004	0053 (0003/0014)	0055 (0005/0008/0009/0004)
MFC-J280	0001	0002	---	---	---
MFC-J425W	0101	0102	---	---	---
MFC-J430W	0001	0002	0004	0003	0005
MFC-J435W	0301	0302	---	---	---
MFC-J625DW	0001	0002	0004	0003	0005
MFC-J825DW	0001	0002	0004	0003	0005
MFC-J835DW	0101	0102	---	---	---

Destination	Ita	Spa	Port	Ibe	Swi	Hol
	Italy, San Marino, Vatican	Spain	Portugal	Spain, Portugal, Andorra	Switzerland, Liechtenstein	Netherlands
Country code	16	15	18	65	10	09
DCP-J525W	0016	0015	0018	0065 (0015/0018)	---	---
DCP-J725W	---	0015	0018	0065 (0015/0018)	0004	---
DCP-J925W	0016	0015	0018	0065 (0015/0018)	0004	---
MFC-J280	---	---	---	---	---	---
MFC-J430W	0016	0015	0018	0065 (0015/0018)	0010	0009
MFC-J625DW	0016	0015	0018	0065 (0015/0018)	---	0009
MFC-J825DW	0016	0015	0018	0065 (0015/0018)	0010	0009

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	Bel	Pan Nordic for Elkjop	Aus	General	Israel
Destination	Belgium, Luxemburg	Norway, Sweden, Finland, Denmark, Iceland	Austria	Czech Republic, Hungary, Poland, Bulgaria, Montenegro, Serbia, Slovak Republic, Slovenia, Croatia, Romania, Macedonia, Albania, Bosnia and Herzegovina, Moldova, Greece, Malta, Cyprus, Estonia, Latvia, Lithuania	Israel
Country code	08	57	14	88	17
DCP-J525W	---	0057 (0007)	0014	0054	---
DCP-J725W	---	0057 (0007)	0014	0054	---
DCP-J925W	---	0057 (0007)	0014	0054	---
MFC-J280	---	---	---	---	---
MFC-J430W	0008	0057 (0007/0026/0012/0013)	0014	0054	0054
MFC-J625DW	0008	0057 (0007/0026/0012/0013)	0014	0054	0004
MFC-J825DW	0008	---	0014	---	0004

	Russia	Sin/Gulf	Turkey
Destination	Russia, Belarus, Kazakhstan, Ukraine, Armenia, Uzbekistan, Kyrgyz Republic, Georgia, Tajikistan, Turkmenistan, Moldova	Singapore, Thailand, Malaysia, Philippines, Vietnam, Indonesia, India, UAE, Afghanistan, Angola, Azerbaijan, Bahrain, Bangladesh, Botswana, Brunei, Cambodia, Congo, Djibouti, Egypt, Ethiopia, Ghana, Iran, Iraq, Jordan, Kenya, Kuwait, Laos, Lebanon, Lesotho, Libya, Macao, Madagascar, Malawi, Maldives, Mauritius, Myanmar, Mozambique, Namibia, Nepal, Nigeria, Oman, Pakistan, Qatar, Saudi Arabia, Seychelles, Somalia, Sri Lanka, Sudan, Swaziland, Syria, Tanzania, Uganda, Yemen, Zambia, Zimbabwe	Turkey
Country code	48	40	25
DCP-J525W	0048	---	0054
DCP-J725W	---	0004	0054
DCP-J925W	---	---	0054
MFC-J280	---	---	---
MFC-J430W	0048	0040	0054
MFC-J625DW	---	0040	0054
MFC-J825DW	0048	0040	---

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Destination	HK	Oceania	Korea	Taiwan	China
	Hong Kong	Australia, New Zealand, Papua New Guinea, Rarotonga, Fiji, Samoa, Tonga, Vanuatu	Korea	Taiwan	China
Country code	28	56	44	23	20
DCP-J525W	---	0004	---	---	---
DCP-J725W	---	0004	---	---	---
DCP-J925W	---	0004	---	---	---
MFC-J280	---	---	---	---	---
MFC-J430W	0028	0056 (0006/0027)	0044	0023	0020
MFC-J432W	---	0256 (0006/0027)	---	---	---
MFC-J625DW	0028	0056 (0006/0027)	0044	0023	0020
MFC-J825DW	0028	0056 (0006/0027)	0044	0023	0020

Destination	Brazil	Argentina	Chile	Poland	Indonesia
	Brazil	Argentina, Uruguay, Paraguay	Chile, Peru, Bolivia	Poland	India, Indonesia
Country code	42	31	36	39	29
DCP-J525W	---	---	---	0054	0004
DCP-J725W	---	---	---	0054	---
DCP-J925W	---	---	---	0054	---
MFC-J280	---	---	---	---	---
MFC-J430W	0042	0040	0040	0039	--
MFC-J625DW	---	---	---	0039	0040
MFC-J825DW	---	0040	0040	0039	--

The above information is as of April 2011. The up-to-date information is available from your local Brother Customer Service.

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1.4.27 Travel of Head/Carriage Unit (for removing paper particles and dust accumulated on the maintenance unit) (Function code 75) (User-accessible)

■ 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) Press the **7** and **5** keys in this order in the initial stage of the maintenance mode.

The "PLS OPEN COVER" appears on the LCD.

(2) Open the document scanner unit.

The head/carriage unit moves to the center of its travel.

(3) Remove the paper particles and dust accumulated.

(4) Close the document scanner unit.

The head/carriage unit moves back to the home position and the machine returns to the initial stage of the maintenance mode.

TIP: Holding down the **Stop/Exit** key with the document scanner unit opened for more than five seconds can also move the head/carriage unit in the same manner as above.

1.4.28 **Purge Operation** (Function code 76) (User-accessible)

■ 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.

TIP: The purge types and their details are described on the next page.

■ Operating Procedure

(1) Press the **7** and **6** keys in this order in the initial stage of the maintenance mode.

The machine displays the "CLEANING ALL" on the LCD and enters the purge mode.

(2) Press the ◄ and ► key to display the target color for purge.

Each time the ◄ or ► key is pressed, the "CLEANING ALL," "CLEANING BLACK," "CLEANING MAGENTA," "CLEANING CYAN," or "CLEANING YELLOW" appears cyclically.

"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 the **Black Start** (**Mono Start**) key.

The LCD displays "Cleaning."

Upon completion of purging, the machine automatically returns to the initial stage of the maintenance mode.

Purge types, ink usage, purge counts, and purge codes

Purge Types	Description	Ink Usage	Purge Counts	Purge Codes (In the maintenance mode, Function code 76)
Normal purge	This purge operation removes dried ink sticking to the head nozzles.	Black: 0.240 ml Per color: 0.217 ml	All: 42 Black: 11 3 colors: 31	**1**
Periodical reset purge	This purge operation removes air bubbles that have accumulated in the ink supply tubes.	Black: 0.520 ml Per color: 0.463 ml	All: 72 Black: 23 3 colors: 66	**2**
Power purge	More powerful than a periodical reset purge, this purge operation is for removing stubborn clogging from the head nozzles and ink supply tubes.	Black: 0.680 ml Per color: 0.541 ml	All: 88 Black: 30 3 colors: 74	**3**
Initial purge	When the user loads ink cartridges for the first time, this purge operation automatically runs to refill the ink supply tubes and print head with fresh ink.	Black: 3.460 ml Per color: 2.930 ml	All: 537 Black: 156 3 colors: 398	**4**
User reset purge	This purge operation should be performed if the print quality problem persists after a user has performed the purge operation repeatedly by pressing the **Ink (Ink Management)** key.	Black: 0.650 ml Per color: 0.503 ml	All: 81 Black: 29 3 colors: 69	**5**
Engine setup purge	This purge operation refills the ink supply tubes with ink when there is no ink in those tubes.	Black: 3.460 ml Per color: 2.930 ml	All: 537 Black: 156 3 colors: 398	**6**

The above information is as of April 2011.

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. An initial purge, for example, advances by 537.

When the purge or flushing count approaches 10,750 or 660,336,587, respectively, the "Unable to Clean 46" appears, and further purge or flushing operations are prohibited. Replace the ink absorber box or flushing box, and then reset the corresponding count. (Refer to the next page for the reset procedure.)

■ Resetting purge or flushing count

1) Switch the machine to the maintenance mode.
2) Press the **8** and **0** keys in this order in the initial stage of the maintenance mode to call up the machine's log information. (Function code 80. Refer to Section 1.4.31 in this chapter.)
3) Press the **Black Start** (**Mono Start**) key several times until the purge or flushing count appears on the LCD.
4) Press the **2**, **7**, **8**, and **3** keys in this order to reset the purge or flushing count.
5) Press the **Stop/Exit** key to return the machine to the initial stage of the maintenance mode.
6) Press the **9** key twice to return to the standby state.

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1.4.29 Print of the Equipment's Log (Function code 77)

■ Function

The machine prints out its log information or saves it into an external memory.

■ Operating Procedure

Printing

(1) Press the **7** key twice in the initial stage of the maintenance mode.

The machine displays "MAINTENANCE 77" on the LCD and prints out the equipment's log as shown below.

Upon completion of the printing, the machine returns to the initial stage of the maintenance mode.

Saving into an external memory

(1) Insert an external memory into the machine in the initial stage of the maintenance mode.

"**** Active" appears on the LCD (where "****" is the name of the inserted external memory).

(2) Press the **7** key twice to display "Print out."

(3) Use the ▲ and ▼ keys to change the display to "Save data."

(4) Press the **Black Start** (**Mono Start**) key.

The LCD shows "********.csv" (where "********" is "Model name + Lower 9 digits of the machine's serial number").

Upon completion of the saving, "********.csv" disappears and the machine returns to the initial stage of the maintenance mode.

```
①RTC          OK                                  ⑥MAIN FIRM          0U 1011181759:4A5C CE89
②00:11 00:28 OK                                   ⑦PROGRAM MANAGER       1009241713:ED65
                                                  ⑧BOOT LOADER           1009241712:8F92
③MODEL        8CA-M19-001                         ⑨S/N                U62901K0F001046
④COUNTRY      0001                                ⑩HEAD               ALR776550000D/00
⑤SWITCH       71                                  ⑪CISF/ENGINE/LCD    04/14/01
⑫PICTBRIDGE                 BROTHER/MFC-J825DW/3.0/BR000079/1.0
⑬DOT COUNT(BK/YL/CY/MZ)     0000000000/0000000000/0000000000/0000000000
⑭SENSOR DOT(BK/YL/CY/MZ)    0000000000/0000000000/0000000000/0000000000
⑮PLATEN DOT(BK/YL/CY/MZ)    0000000000/0000000000/0000000000/0000000000
⑯LIFE COUNT(BK/YL/CY/MZ)    0000001754800/0000003741721/0000003751787/0000003760247
⑰INK CHANGE(BK/YL/CY/MZ)    00000/00000/00000/00000 00000/00000/00000/00000
                            00000/00002/00002/00002 00002/00000/00000/00000
⑱INK CHANGE MISS(BK/YL/CY/MZ) 00002/00002/00002/00002
⑲TOTAL PAGE/PRINT JAM       0000000002/00000
⑳TOTAL SIZE//A3//OTHERS(BK/CL) 00001/00001//00000/00000//00001/00001
㉑PAGE COUNT(PC//COPY//FAX&LIST(BK/CL/ALL)) 00000/00000/00000//00000/00000/00000//00000/00000/00000
              (MEDIA//TEST PRINT) 00000//00002
㉒PAPER SIZE(A3/A4/4x6/L)    00000-00000-00000/00002-00000-00000/00000-00000-00000/00000-00000-00000
㉓DUPLEX PAGE/JAM/CLEANING   0000000002/00000/000
㉔DUPLEX PAGE COUNT(COPY(CL/BK)//PC) 00000/00000//00000
㉕DUPLEX PAPER SIZE(A3/A4/4x6) 00000/00000/00000-00000-00000
㉖LABEL PAGE/LABEL JAM       00000/00000
㉗ADF/FB PAGE/ADF JAM/FAX/SCANNER  0000000000/0000000000/0000000000/00000/00000
㉘HP ERR/ERR LOG             00/00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
㉙PURGE/WIPE/FLUSH           02120/00002/0002181172
㉚PURGE KIND(BK):AUTO/MANU   eIP:000/000 uIP:000/004  RP:000/000 SRP:000/000  SP:000/000 RP2:000/000
                              CP:000/000  NP:000/000 RP3:000/001  PP:000/001 QPP:000/000
   PURGE KIND(CL):AUTO/MANU  eIP:000/000 uIP:000/004  RP:000/000 SRP:000/000  SP:000/000 RP2:000/000
                              CP:000/000  NP:000/001 RP3:000/000  PP:000/001 QPP:000/000 tFL:00000
㉛POWER ON TIME(HOUR)        0000000002
㉜MAC ERR(1st-3rd)           23:1201010021:23/22:1201010021:23/21:1201010021:23
   MAC ERR(4th-6th)          20:1201010021:23/A1:1201010017:24/23:1201010000:22
   MAC ERR(7th-9th)          22:1201010000:22/21:1201010057:22/20:1201010057:22
㉝COM ERROR 1/2/3            00000000:           /00000000:           /00000000:
㉞INITIAL PURGE LOG          FF/0505/00/02/0A/07/01/0505
                             0039/0055/0066/0078/008B/009E/00CC/00DD/00EE/011F
㉟BACKUP DATA VERSION        a
㊱SENSOR STATUS              DF:1   DR:1   CV:1   RS:1   CC:1   P1:1
                             TK:1   IY:1   IC:1   IM:1   EK:1   EY:1   EC:1   EM:1
                             SK:1   SY:1   SC:1   SM:1   OR:1   CD:1
                             VT:1   T1:1   T2:1
㊲INK CARTRIDGE TYPE          K:4   Y:3   C:3   M:3
㊳EXECUTED MAINTEN           64 FC 00 08 80 00 0F 11 48 04 00 00 18
㊴EXECUTED SP_MAINTEN        00 00 02 00 00 00 00 00 00 00 00 00 00     026E
㊵CLCDDRV ERR                T:00 E:0133 1390 0112 008B 1500 R:0000 0000 0000 0000 0000
㊶RESET HISTORY              000/0000000000
```


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① Real-time clock (RTC) check result
② RTC backup check result (not required for servicing)
③ Model code
④ Country code (See Section 1.4.26 in this chapter.)
⑤ Checksum of WSW, PSW, USW, and FSW (not required for servicing)
⑥ Version and production date of main firmware
⑦ Version and production date of sub firmware
⑧ Version and production date of boot firmware
⑨ Serial number of the machine
⑩ Head property code
⑪ CIS type/Engine type/LCD type
⑫ PictBridge information
(shown only on models supporting PictBridge/USB flash memory drive)
⑬ Ink drop count, indicating how many droplets have been jetted out from each of the current ink cartridges (including droplets used for purging)
⑭ Ink drop count after detection of "Ink Low," indicating how many droplets have been jetted out from each of the current ink cartridges after detection of "Ink Low"
⑮ Ink drop count, indicating how many droplets have been jetted out onto the platen in borderless printing
⑯ Total ink drop count, indicating how many droplets the machine has jetted out from each of the ink cartridges since produced (excluding droplets used for purging)
⑰ Ink cartridge change count
Upper left: Standard-yield, color ink cartridge
Upper right: Standard-yield, black ink cartridge
Lower left: High-yield, color ink cartridge
Lower right: High-yield, black ink cartridge
(The BK/YL/CY/MZ on the printed equipment's log indicate the slot positions in the ink refill ASSY.)
⑱ Ink cartridge detection failure count, indicating how many times an undetectable cartridge has been inserted
⑲ Total printed page count/Total jam count
⑳ Print history for paper sizes and types
Total printed page count (black/color)/A3 and ledger (black/color)/Other sizes (black/color)
㉑ Printed page count for PC print, copy, fax & list & report, memory card, and test print
㉒ Printed page count for paper size and paper type
Plain paper/Inkjet paper/Glossy paper
㉓ Total page count in duplex printing/Jam count in duplex printing/Paper feed roller cleaning count in duplex printing (The cleaning count is not required for servicing.)
㉔ Total copy page count in duplex printing//Total PC print count in duplex printing
㉕ Printed page count for paper size and paper type in duplex printing
A3, A4: Plain paper only
4 x 6: Plain paper - inkjet paper - glossy paper
㉖ Total printed label count/Total label jam count (Always 0 on models not supporting label printing)

㉗ ADF scanning page count/Flat-bed scanning page count/ADF paper jam count/FAX scanning count/Scanner count

㉘ Home positioning error code of the CIS unit/Home positioning detection log data (See Function code 80. Refer to Section 1.4.31 in this chapter.)

㉙ Purge count/Wiper count/Flushing count

㉚ Purge count by purge type (automatic/manual)

eIP: Engine setup purge count
uIP: Initial purge count
RP: Periodical reset purge count
SRP: Small reset purge count
SP: Periodical suction purge count
RP2: Periodical vent purge count
CP: Ink cartridge replacement purge count
NP: Normal purge count
RP3: User reset purge count
PP: Power reset purge count
QPP: Power purge count
tFL: Periodical flushing count (only after color printing)

㉛ Total power-ON time

㉜ Machine error history (Error code : Date and time of occurrence : Machine temperature at the time of occurrence)

㉝ Communications error history (Error code : Date and time of occurrence)

㉞ Initial purge log (FF: Normal end)

㉟ Machine information backup file version

㊱ Sensor status (See Function code 32 for sensor names.)

㊲ Ink cartridge type loaded in each slot

0: No cartridge loaded
1: Standard-yield, color ink cartridge
2: Standard-yield, black ink cartridge
3: High-yield color ink cartridge
4: High-yield black ink cartridge
*: Unidentifiable ink cartridge

㊳ Not required for servicing

㊴ Not required for servicing

㊵ Timing info and damage info when Error EC has occurred

T: Timing info
(0: No error, 1: Error at the start of operation, 2: Error during usual operation)
E: Expected value of information read
R: Damaged value of information read

㊶ Reset count*/Power-ON duration at the time of last reset

*Excluding the resets triggered by the following
Function codes 01 and 91
Function code 80 (Resetting the purge and flushing counts)

1.4.30 Adjustment of Touch Panel (Function code 78)

■ Function

This function adjusts the detection area on the touch panel.

NOTE: The adjustment procedure requires a stylus with a thin tip. A commercially available stylus designed for electronic dictionaries or personal digital assistance (PDA) can be used. If you do not have it on hand, order the "TOUCH PEN" from the Brother's parts list.

■ Operating Procedure

(1) Press the **7** and **8** keys in this order in the initial stage of the maintenance mode.

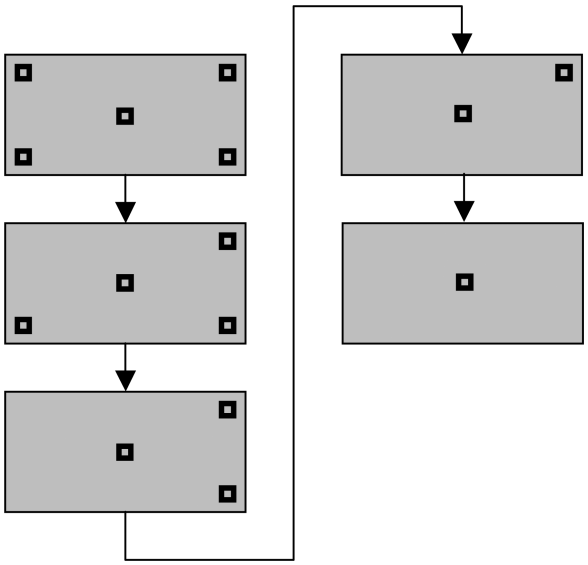
The adjustment screens shown below appear on the LCD.

(2) Touch the symbols on the touch panel with a stylus in the order of top-left, bottom-left, bottom-right, top-right, and the center. After a symbol touched disappears, touch the next one.

NOTE: Do not use tools other than a pen designed for touch panels. Especially, never use a pointed one, e.g., a screwdriver. Using such a tool damages the touch panel.

NOTE: Do not touch the touch panel with fingers. The contact area of a finger is too large to adjust the touch panel precisely.

NOTE: If no keys are pressed for one minute in the above procedure or you press the **Stop/ Exit** key, the machine stops the procedure and returns to the initial stage of the maintenance mode.



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After the fifth symbol (center) is pressed, the "OK" appears if the adjustment is normally completed. After approx. three seconds, the machine returns to the initial stage of the maintenance mode.

NOTE: If the touch panel is improperly pressed or a wrong point is pressed, the "NG" appears on the LCD. After approx. three seconds, the screen returns to the state in step (2). Start pressing the five symbols again from the first one (top-left).

If the "NG" appears, repeat this procedure two or three times. If the "NG" persists even after that, check the touch panel harness for a contact failure, breakage, or short-circuit. If the "NG" continues to be displayed without any of such problems, replace the LCD unit.

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1.4.31 Display of the Equipment's Log (Function code 80) (User-accessible)

■ Function

The machine can display its log information on the LCD.

■ Operating Procedure

(1) Press the **8** and **0** keys in this order in the initial stage of the maintenance mode.

The calendar clock appears on the LCD.

(2) Press the **Black Start** (**Mono Start**) key to call up the following log information items on the LCD, one by one.

Tip: Resetting the purge and flushing counts (Items in the shaded fields in the table below)
When one of the log items in the shaded fields is displayed, pressing the **2**, **7**, **8**, and **3** keys in this order resets the displayed log information to zero.

00:00 00:00 OK	RTC backup check (not required for servicing)
8CA***	Model code
COUNTRY:	Country code (See Section 1.4.26 in this chapter.)
SWITCH:	Checksum of WSW, PSW, USW, and FSW (not required for servicing)
MAIN:	Version and production date of main firmware
********	Checksum of main firmware
P****	Version and production date of sub firmware
B****	Version and production date of boot firmware
S/N:*1	Serial number of the machine
ALR****	Head property code
CISF:	CIS type (Function code 59)
ENGINE:	Engine type (not required for servicing)
PICTBRIDGE:*2	PictBridge information (Shown only on models supporting PictBridge/USB flash memory drive)
DOT K:*3	Ink drop count, indicating how many droplets have been jetted out from each of the current ink cartridges (including droplets used for purging)
SEN K:*3	Ink drop count after detection of "Ink Low," indicating how many droplets have been jetted out from each of the current ink cartridges after the ink remaining sensor detects "Ink Low."
PLA K:*3	Ink drop count, indicating how many droplets have been jetted out onto the platen in borderless printing
LK:*3	Total ink drop count, indicating how many droplets the machine has jetted out from each of the ink cartridges since produced (excluding droplets used for purging)
INK CH BK:*3	Ink cartridge change count (Standard-yield, color ink cartridge) (The BK/YL/CY/MZ on the LCD indicate the slot positions in the ink refill ASSY.)
INK CH2 BK:*3	Ink cartridge change count (Standard-yield, black ink cartridge) (The BK/YL/CY/MZ on the LCD indicate the slot positions in the ink refill ASSY.)
INK CH3 BK:*3	Ink cartridge change count (High-yield, color ink cartridge) (The BK/YL/CY/MZ on the LCD indicate the slot positions in the ink refill ASSY.)

INK CH4 BK:[*3]	Ink cartridge change count (High-yield, black ink cartridge) (The BK/YL/CY/MZ on the LCD indicate the slot positions in the ink refill ASSY.)
CHGMISS_BK:[*3]	Ink cartridge detection failure count, indicating how many times an undetectable cartridge has been inserted
PAGE:[*4]	Total printed page count, indicating how many pages have been printed since the machine was produced
JAM:	Jam count, indicating how many times a paper jam has occurred.
PC:[*5]	PC print page count, indicating how many pages the machine has printed as an output device of the connected PC
COPY:[*5]	Total number of copies
FAX:[*5]	Total number of fax/list/report prints
MEDIA:	Memory card print page count, indicating how many pages have been printed from the memory card data (On models without PhotoCapture Center, this counter is always fixed at "0.")
TEST PRINT:	Total number of test prints
A3P:[*6]	Print history for paper sizes and types
DX_P:	Total page count in duplex printing, indicating how many pages have been printed in duplex printing since the machine was produced
DX_JAM:	Jam count in duplex printing
DX_CLEAN:	Paper feed roller cleaning count in duplex printing (not required for servicing)
DX_PC:	PC print page count in duplex printing, indicating how many pages the machine has printed as an output device of the connected PC
DX_CLCOPY:	Color copy page count in duplex printing, indicating how many copies have been made in color
DX_MNCOPY:	Black copy page count in duplex printing, indicating how many copies have been made in monochrome
DX_A3P:[*7]	Total A4 page count in duplex printing, indicating how many A4 pages have been printed since the machine was produced
CD PAGE:	Total disc printed page count
CD JAM:	Total jam count in disc printing
PURGE:	Purge count, indicating how many times the purge operation has been carried out
eIP_BK:[*8]	Purge history for purge types of black ink
eIP_CL:[*8]	Purge history for purge types of color inks
WIPE:	Wiper count, indicating how many times the wiper operation has been carried out
FLUSH:	Flushing count, indicating how many times the flushing operation has been carried out
POWER:	Total power-ON time
MACHINE_ERR_1[*9]	Machine error history
ADF_JAM:	ADF paper jam count, indicating how many times a paper jam has occurred (Shown on models with ADF)
FB:[*10]	Flat-bed page count, indicating how many documents have been scanned
HP_ERR_CODE:[*11]	Home positioning error code of CIS unit (Latest error)
HP_LOG1:[*12]	Home positioning detection log data (Byte 0 to 3 of 16 bytes)
COMERR1:[*13]	Communications error history
BACKUP VER:	Backup data file version of machine information (Function code 46)
RESET COUNT[*14]	Reset count

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After all of the log information items above are displayed, pressing the **Black Start** (**Mono Start**) key returns the screen to the calendar clock in step (1) above.

(3) To stop this operation and return the machine to the initial stage of the maintenance mode, press the **Stop/Exit** key.

*1 With the S/N being displayed, pressing the **OK** key toggles between the following two indications.

S/N:	Serial number information
**********	Serial number of the machine

The serial number of the machine can be changed with the following procedure.

1) With the serial number being displayed, press the **OK** key and then press the **9**, **4**, **7** and **5** keys in this order.
   The uppermost digit of the current serial number flashes.
2) Enter the uppermost digit of the desired serial number with numerical keys, then press the ▶ key to move the cursor to the next lower digit. In the same way, enter the remaining 14 digits.

   Entry of alphabet letters
   To enter an alphabet letter, press the corresponding numerical key repeatedly until the target alphabet letter appears.

Numerical keys	Letters supported
2	2 → A → B → C
3	3 → D → E → F
4	4 → G → H → I
5	5 → J → K → L
6	6 → M → N → O
7	7 → P → Q → R → S
8	8 → T → U → V
9	9 → W → X → Y → Z

3) Upon completion of entry of all digits, press the **OK** key.

   The machine saves the newly entered setting and returns to the initial stage of the maintenance mode.

   To cancel the entry of a serial number halfway through the above procedure, press the **Stop/ Exit** key. The machine returns to the initial stage of the maintenance mode.

*2 With the PictBridge information being displayed, pressing the **OK** key cycles through the following items.

PICTBRIDGE:	PictBridge information
BROTHER	Vendor name
-**	Model name
/	Profile version/DPS version (not required for servicing)
BR0000**	PictBridge serial number (not required for servicing)

*3 With the log information being displayed, pressing the **OK** key cycles through black, yellow, cyan, and magenta.

*4 With the page information being displayed, pressing the **OK** key cycles through the following items.

PAGE:	Total printed page count, indicating how many pages have been printed since the machine was produced
TOTAL_BK	Total number of printed pages (in monochrome)
TOTAL_CL	Total number of printed pages (in color)
A3_BK	Number of printed A3-/Ledger pages (in monochrome)
A3_CL	Number of printed A3-/Ledger pages (in color)
OTHERS_BK	Number of printed pages except A3-/Ledger pages (in monochrome)
OTHERS_CL	Number of printed pages except A3-/Ledger pages (in color)

*5 With the log information being displayed, pressing the **OK** key toggles between black and color.

*6 With the total page count of the paper size and type being displayed, pressing the **OK** key cycles through the following items.

A3P	Total printed page count of A3 plain paper
A3I	Total printed page count of A3 inkjet paper
A3G	Total printed page count of A3 glossy paper
A4P	Total printed page count of A4 plain paper
A4I	Total printed page count of A4 inkjet paper
A4G	Total printed page count of A4 glossy paper
46P	Total printed page count of 4 x 6 inch and postcard plain paper
46I	Total printed page count of 4 x 6 inch and postcard inkjet paper
46G	Total printed page count of 4 x 6 inch and postcard glossy paper
L P	Total printed page count of Photo L plain paper
L I	Total printed page count of Photo L inkjet paper
L G	Total printed page count of Photo L glossy paper

*7 With the total page count of the paper size and type in duplex printing being displayed, pressing the **OK** key cycles through the following items.

DX_A3P:	Total printed page count on A3-size, plain paper in duplex printing
DX_A4P	Total printed page count on A4-size, plain paper in duplex printing
DX_46P	Total printed page count on 4 x 6 plain paper in duplex printing
DX_46I	Total printed page count on 4 x 6, inkjet paper in duplex printing
DX_46G	Total printed page count on4 x 6, glossy paper in duplex printing

*8 With a purging count being displayed, pressing the **OK** key cycles through the following items.

eIp_	Engine setup purge count (automatic/manual)
uIP_	Initial purge count (automatic/manual)
RP_	Periodical reset purge count (automatic/manual)
SRP_	Small reset purge count (automatic/manual)
SP_	Periodical suction purge count (automatic/manual)
RP2_	Periodical vent purge count (automatic/manual)
CP_	Ink cartridge replacement purge count (automatic/manual)

NP_	Normal purge count (automatic/manual)
RP3_	User reset purge count (automatic/manual)
PP_	Power reset purge count (automatic/manual)
QPP_	Power purge count (automatic/manual)
t_FLS	Periodical flushing count (only after printing in color)

*9 With a machine error code being displayed, pressing the **OK** key cycles through recent nine errors that have occurred.

Pressing the ▶ key toggles between the following two indications.

TIME:	Date when the error occurred
TEMP:	Ambient temperature when the error occurred

*10 With the FB page count being displayed, pressing the **OK** key cycles through the following items.

FB:	Flat-bed page count, indicating how many documents have been scanned
ADF	ADF page count, indicating how many pages the ADF has fed
FAX_COUNT	Fax scanning count
SCAN_COUNT	Scanning count

*11 Displays the following home positioning error codes of the CIS unit.

E1:	Vertical scanning rough detection error
E2:	Horizontal scanning rough detection error
E3:	Vertical scanning edge detection error
E4:	Horizontal scanning edge detection error
00:	No error detected

*12 Displays 16 bytes of white reference film data detected.

HP_LOG1:	Home positioning detection log data (Byte 0 to 3 of 16 bytes)
HP_LOG2:	Home positioning detection log data (Byte 4 to 7 of 16 bytes)
HP_LOG3:	Home positioning detection log data (Byte 8 to 11 of 16 bytes)
HP_LOG4:	Home positioning detection log data (Byte 12 to 15 of 16 bytes)

*13 With a communications error code being displayed, pressing the **OK** key cycles through the latest error, 2nd latest error, and 3rd latest error.

*14 Excluding the resets triggered by the following
Function codes 01 and 91
Function code 80 (Resetting the purge and flushing counts)

With the reset count displayed, pressing the OK key displays the following.

POWER:	Power-ON duration at the time of last reset

1.4.32 **Equipment Error Code Indication** (Function code 82) (User-accessible)

■ Function

This function displays an error code of the last error on the LCD.

■ Operating Procedure

(1) Press the **8** and **2** keys in this order in the initial stage of the maintenance mode.

The LCD shows the "MACHINE ERROR X X."

Tip: If two or more errors have occurred, press the **Black Start** (**Mono Start**) key to cycle through the error codes.

(2) To stop this operation and return the machine to the initial stage of the maintenance mode, press the **Stop/Exit** key.

1.4.33 **Assurance Mode Switch Setting** (Function code 88) (User-accessible)

■ Function

The machine incorporates five assurance mode switches (AMS01 through AMS05) that are firmware switches just as the ones described in Section 1.4.6 in this chapter.

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 user is allowed to access the assurance mode switches under the guidance of service personnel (e.g., by telephone).

The details about AMS01 through AMS05 are described on the following pages.

■ Operating Procedure

(1) Press the **8** key twice in the initial stage of the maintenance mode.

The machine displays "AMS00" on the LCD and becomes ready to accept an assurance mode switch number.

(2) Enter the desired number from the assurance mode switch numbers (01 through 05).

The following appears on the LCD:

Selector 1 Selector 8
↓ ↓
AMSXX = 0 0 0 0 0 0 0 0

(3) Use the ◄ and ► keys to move the cursor to the selector position to be modified.

(4) Enter the desired number (0 or 1) using the **0** and **1** keys.

(5) Press the **OK** key. This operation saves the newly entered selector values onto the EEPROM and readies the machine for accepting an assurance mode switch number.

(6) Repeat steps (2) through (5) until the modification for the desired assurance mode switches is completed.

(7) Press the **Stop/Exit** key to return the machine to the initial stage of the maintenance mode.

Notes:
- To cancel this operation and return the machine to the initial stage of the maintenance mode during the above procedure, press the **Stop/Exit** key.
- If there is a pause of more than one minute after a single-digit number is entered for double-digit assurance mode switch numbers, the machine will automatically return to the initial stage of the maintenance mode.
- Initializing the EEPROM with Function code 01 or 91 initializes the AMS switch settings.

AMS01 (Printing assurance 1)

Selector No.	Function	Setting and Specifications
1	Prevention of stains on back side of leading edge of paper in borderless printing	0: Disable (default) 1: Enable
2	Ink stains reduction mode in printing received faxes, various reports and lists.	0: Disable (default) 1: Enable
3 4	Protection of platen from no-paper printing to prevent stains (Functional restriction on the paper width sensor)	No. 3 4 0 0 : Enable (Determine the sensor function depending upon the print resolution selected) (default) 0 1 : Enable (Detect the leading edge plus right and left edges of paper) 1 0 : Enable (Detect the leading edge of paper) 1 1 : Disable (No paper detection)
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 jam detection (Functional restriction on the paper width sensor)	No. 7 8 0 0 : Detect both the leading edge and width of paper (default) 0 1 : Detect both the leading edge and width of paper 1 0 : Detect only the leading edge of paper 1 1 : No detection

- **Selector 1: Prevention of stains on back side of leading edge of paper in borderless printing**

  Setting this selector to "1" reduces the protruding amount of the leading edge of recording paper to the platen groove to minimize stains that could be caused by ink mist on the back side of the leading edge. Enabling this function reduces the throughput than disabling it.

- **Selector 2: Ink stains reduction mode in printing received faxes, various reports and lists**

  When the print density of received faxes, various reports and lists is high in printing, ink can adhere to the paper feed related rollers, resulting in stains on printed paper. If this happens, enable this ink stains reduction mode to lower the print resolution for reducing the adherence of ink.

- **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 to save the sensing time for higher throughput.

- **Selectors 5 and 6: Assurance print 1 and 2**

  Enabling assurance print 1 or 2 causes the machine to mix black ink (pigment-based) and a little of cyan ink (dye-based) to use in monochrome copy or in monochrome FAX reception and list output, respectively.

  If black ink is not jetted out normally, cyan ink can be substituted for black ink in printing. This ensures that in list printing (in which data once printed will be deleted) the data will be preserved as a printout.

- **Selectors 7 and 8: Workaround for false jam detection (Functional restriction on the paper width sensor)**

  The setting made by these selectors applies to the list and 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 2	Not used.	
3 | 5	Paper feed amount compensation (for preventing banding at the leading edge of recording paper fed from the photo tray)	No. 3 4 5 0 0 0: Enable for 4 x 6 postcards (default) 1 0 0: Enable for Photo L-size paper in Japan Others: Disable
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

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- **Selectors 3 to 5: Paper feed amount compensation (for preventing banding at the leading edge of recording paper fed from the photo tray)**

  This compensation function is usually enabled for preventing banding (horizontal streaks) from occurring at the leading edge of recording paper fed from the photo tray.

  When postcards or small size paper are fed from the standard paper tray, however, this compensation function can be counterproductive. If so, disable the function, and the print quality may be improved.

- **Selector 6: Registration time offset to slipping in plain paper feeding**

  Enabling the registration time offset with this selector increases the registration time (during which the paper feed roller rotates in the reverse direction), avoiding the occurrence of a paper feeding timeout error even if the paper cannot reach the registration sensor actuator within the predetermined registration time due to slipping of the paper pull-in rollers against paper in the paper tray.

  Selecting the "Fast" print quality disables the registration time offset even if it is enabled with this selector.

  NOTE: Selecting the "Glossy paper" automatically enables the registration time offset.

- **Selector 7: Unidirectional print for higher print quality**

  The machine prints bidirectionally by default. To get higher print quality, set this selector to "1" to switch to the unidirectional print mode in which printing is performed only when the head/carriage unit travels from left to right. Note that the unidirectional print mode sacrifices the print speed.

Print object	Unidirectional print
Print FAX message received	Yes
Copy	Yes
Print from PC	No
Print from memory cards or via PictBridge	Yes
Print memory card index or PictBridge index	Yes
Print a list	Yes
Print a test pattern	No

- **Selector 8: Improvement of paper feeding reliability**

  Setting this selector to "1" improves the paper feeding reliability, sacrificing the print speed.

AMS03 (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. 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.

AMS04 (Maintenance assurance 2)

Selector No.	Function	Setting and Specifications
1	Not used.	
2	ADF speed	0: Normal (default) 1: Slow
3	Black ink print mode	0: Printable with black ink only for a certain amount after detection of "Replace Ink" 1: Printable with black ink only regardless of color ink remaining
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 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 2: ADF speed**

  If the ADF-related rollers generate noise during ADF operation, set this selector to "1" to slow down the ADF speed for noise suppression.

- **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. (A color FAX message will be printed in monochrome.)
Printing from a PC	Monochrome printing only possible.
Copying	Monochrome printing only possible. The **Black Start** (**Mono Start**) key is enabled, but the **Color Start** key is disabled.
Printing from memory cards	No printing possible.
Printing via PictBridge	No printing possible.
Printing lists	Monochrome printing only possible.
Purge operation	Purge operation possible for black ink only, not possible for all-color or any specific color.

*For the MFC only

TIP: Difference between selector 3 on AMS04 and selector 8 on WSW49 (For details, refer to the "Firmware 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 prescribed below.

  Within 180 days from replacement of ink cartridges
  Periodical reset purge (black and color) at 60-day intervals
  Periodical suction purge (black) at 30-day intervals

  After 180 days from replacement of ink cartridges
  Periodical suction purge (black) at 30-day intervals
  Periodical suction purge (color) at 60-day intervals
  Periodical discharge purge (black and color) at 90-day 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 for upper and lower ends of the nozzle	0: ON (default) 1: OFF
2	Switching of jam prevention mode for duplex printing	0: Jam prevention mode (Top and bottom margins: 22 mm) 1: Standard margin print mode (Top and bottom margins: 3 mm)
3 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 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 2: Switching of jam prevention mode for duplex printing**

  If a print margin is small for printing on large size paper in duplex printing, a jam may occur during switchback of the recording paper. To prevent such a jam, set this selector to "0" to make the print margin 22 mm. This function is available only in duplex copying.

- **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.

2 OTHER SERVICE FUNCTIONS

2.1 Cancellation of the Pin TX Lock Mode (Not applicable to Japanese and U.S.A. models)

■ Function

This procedure cancels the Pin TX lock mode. Use this procedure if the user forgets his/her password entered when setting the Pin TX lock mode so as not to exit from the mode.

Note: Carrying out this procedure loses passwords previously entered but retains FAX messages received in the Pin TX lock mode.

■ Operating Procedure

(1) Models without touch panel

When the PIN TX LOCK is displayed on the LCD, press the **Menu** and **#** keys *at the same time*. Within two seconds, start to press the **2**, **7**, **9**, **0**, and **0** keys.

Models with touch panel

When the PIN TX LOCK is displayed on the LCD, press the **Copy** and **#** keys *at the same time*. Within two seconds, start to press the **2**, **7**, **9**, **0**, and **0** keys.

The Pin TX lock mode will be canceled and the machine returns to the calendar clock screen.

2.2 Displaying the Firmware Version

Pressing the combination of the following keys simultaneously displays the firmware version.

Models with numerical keypad Press the ***** and **#** keys simultaneously.
Models without numerical keypad Press the and **Stop/Exit** keys simultaneously.

2.3 Moving the Head/Carriage Unit

Holding down the **Stop/Exit** key with the document scanner unit opened for more than five seconds moves the head/carriage unit to the center of its travel.

2.4 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) Switch your PC on.

(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.

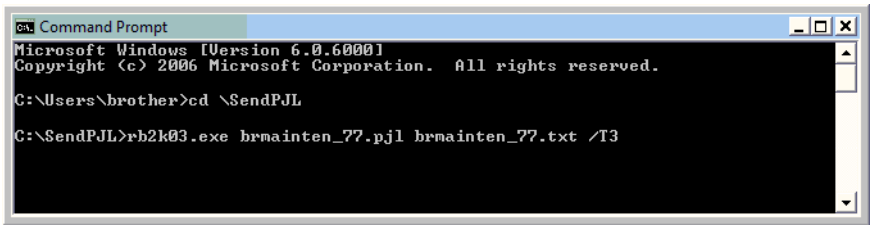
Note: The rb2k03.exe is available only in Windows XP.

(3) Switch the machine to the maintenance mode. (Refer to Section 1.1 in this chapter.)

(4) Connect the machine to the 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.

Note: 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.

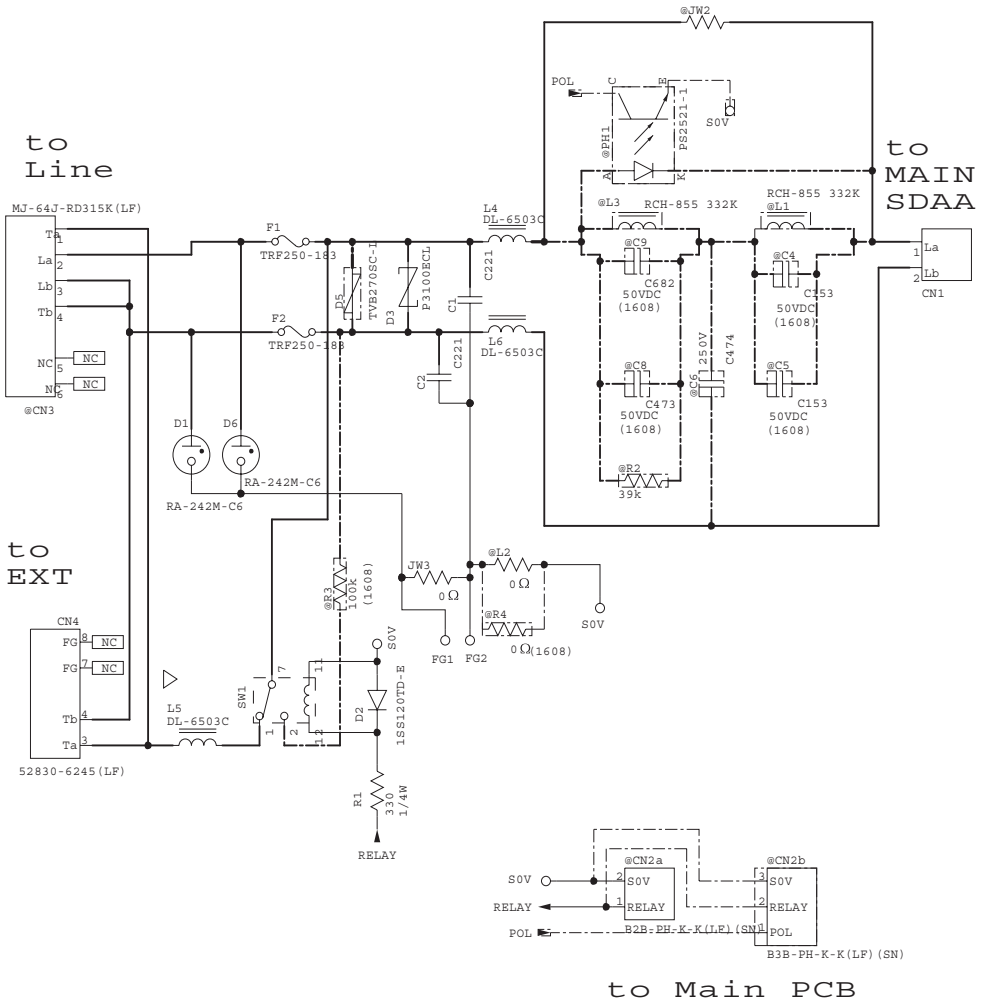
`brmainten_77.txt` is created in the arbitrary folder.

(7) In Excel, open the created header/footer and delete texts added by the PJL stipulation.

CHAPTER 6 CIRCUIT DIAGRAMS AND WIRING DIAGRAMS

■ MJ PCB

U.S.A., Canadian, Asian, and Oceanian models



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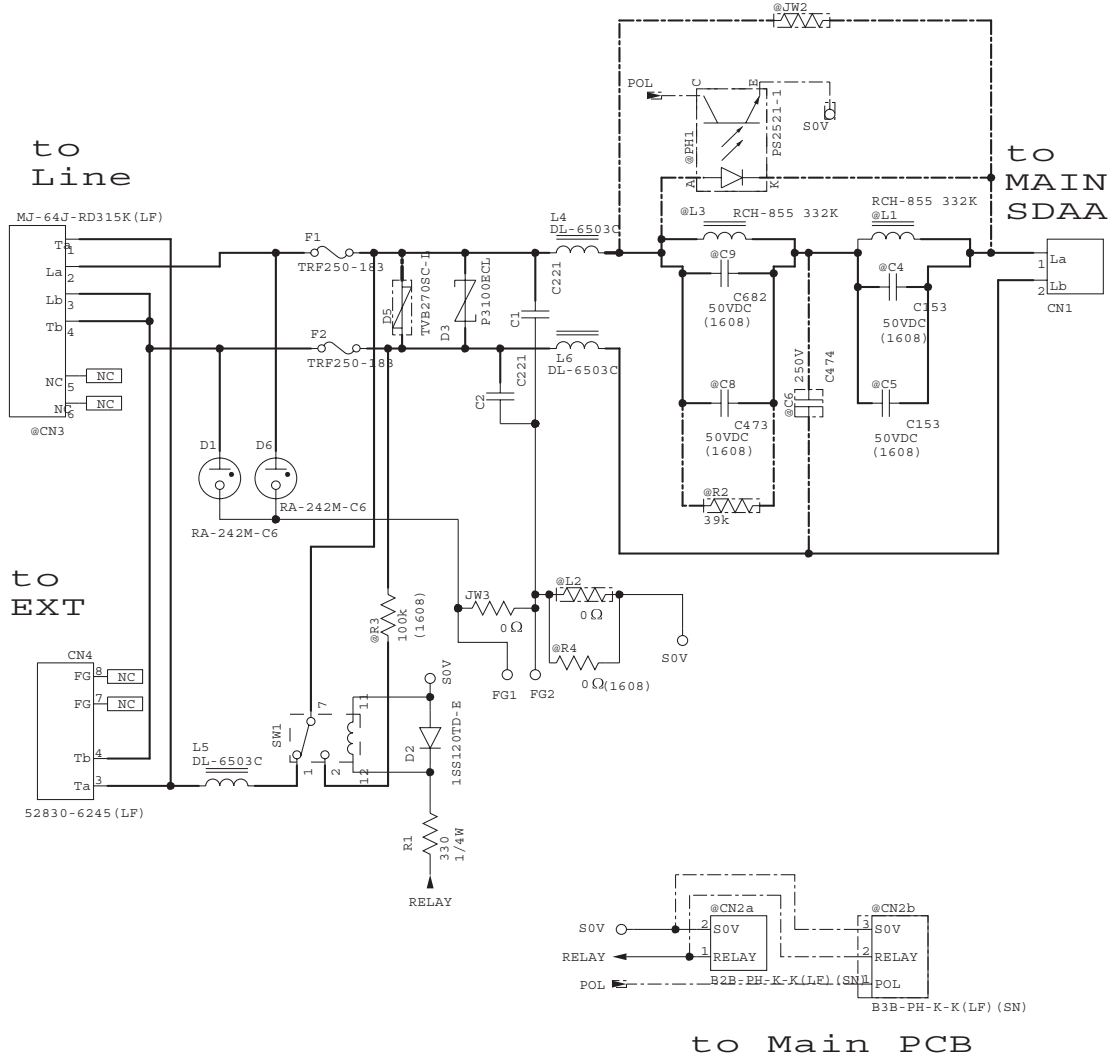
■ **MJ PCB**

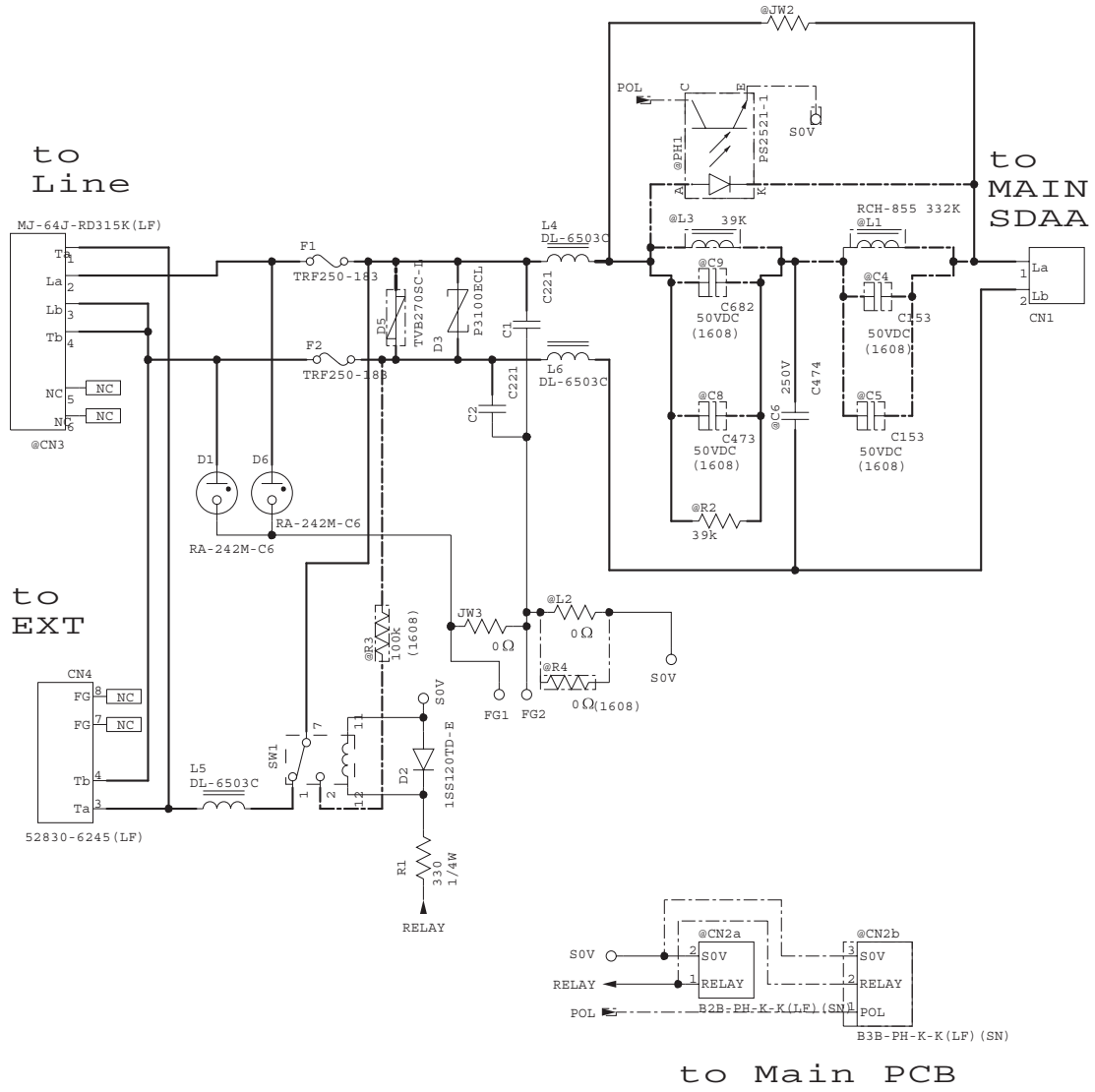
European models



Confidential

■ **MJ PCB**

S. African models



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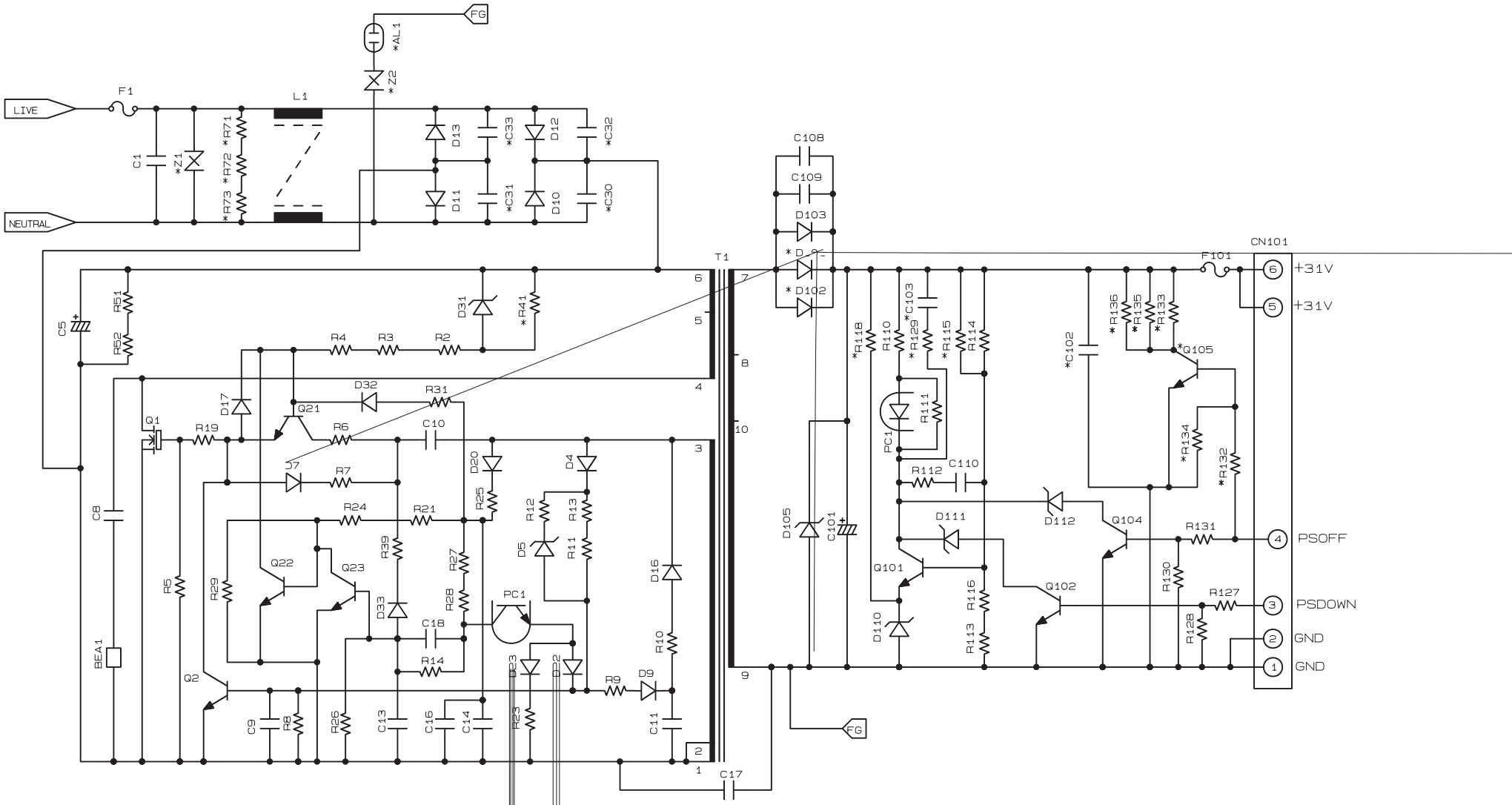
■ **Power supply PCB, 100 V series**



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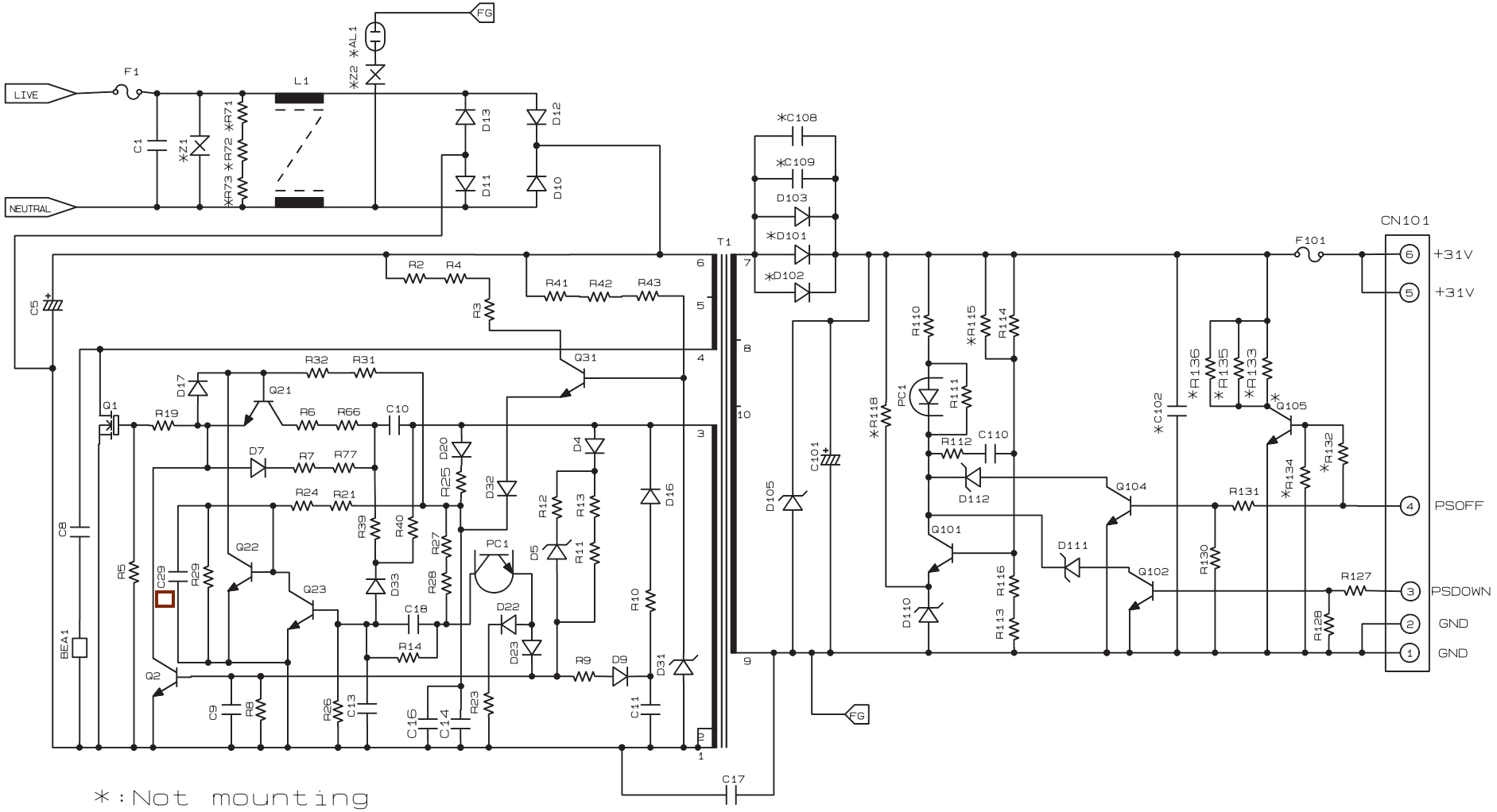
■ Power supply PCB, 200 V series



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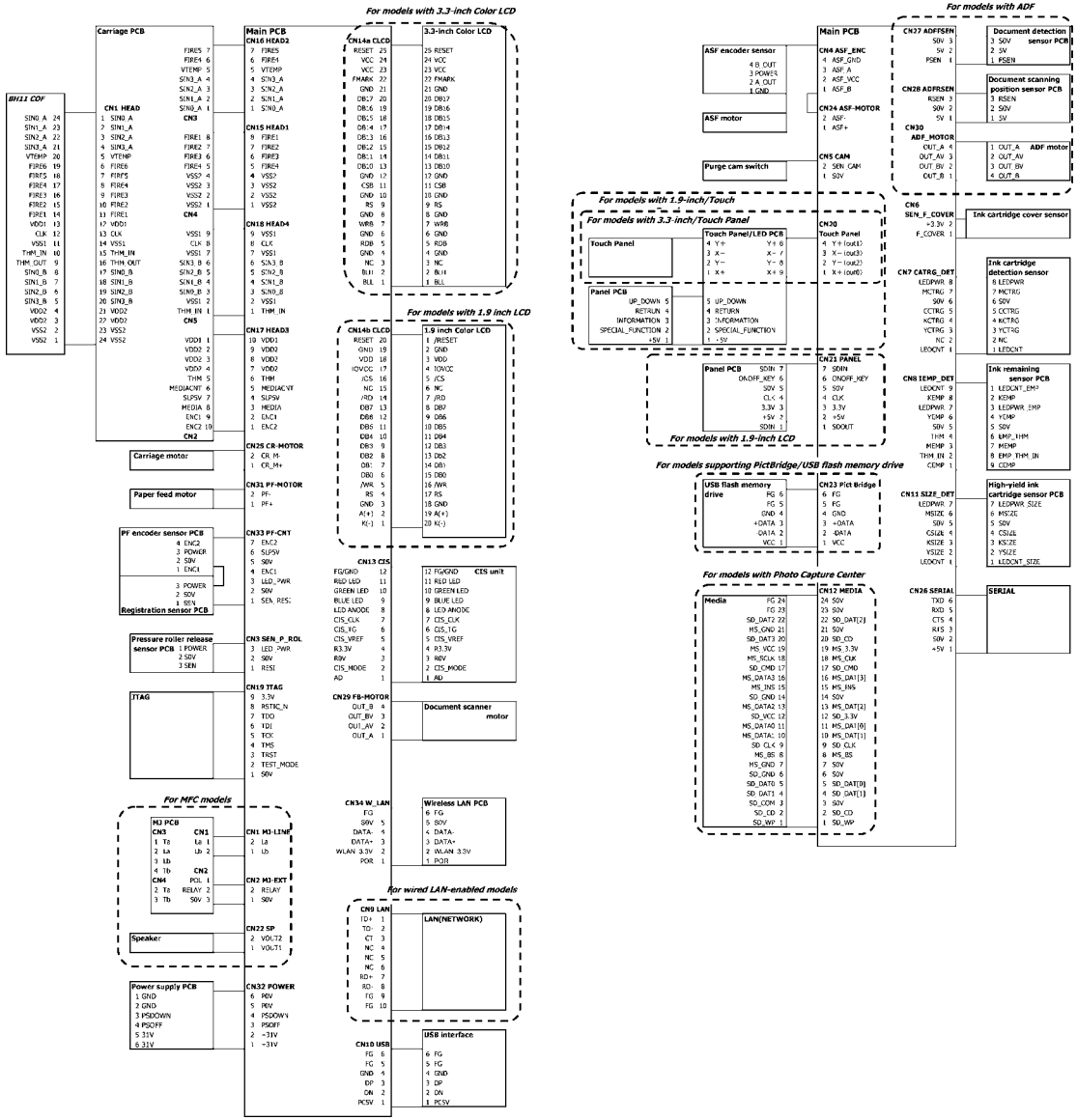
■ Wiring diagrams



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CHAPTER 7 PERIODICAL MAINTENANCE

1 PERIODICAL REPLACEMENT PARTS

There are no parts to be replaced periodically.

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APPENDIX 1. SERIAL NUMBERING SYSTEM

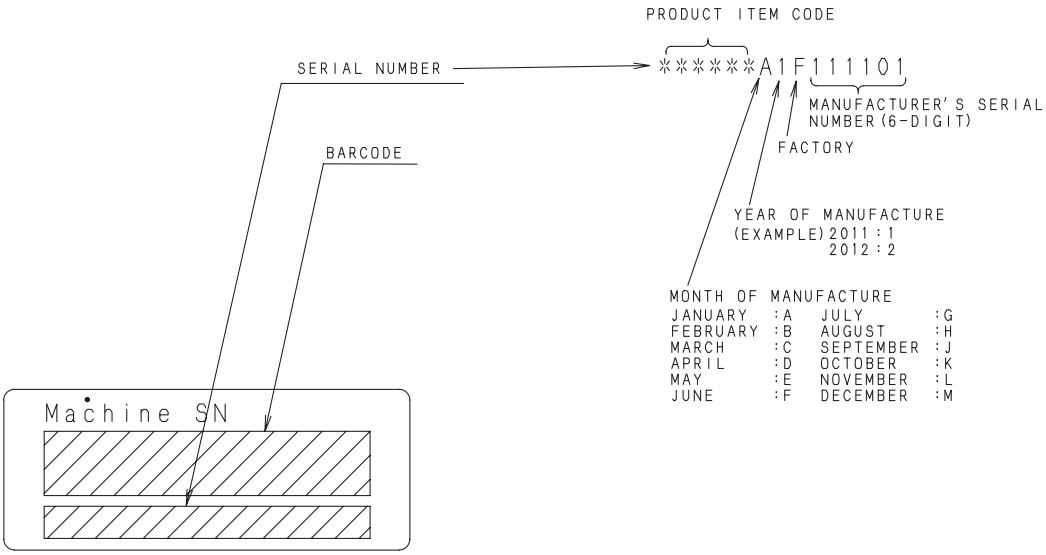
This appendix shows the location of labels put on some parts and describes the coding information for serial number and head property data.

Reading Labels

An individual machine has a "serial number label" for the machine itself and "property labels" for the head/carriage unit.

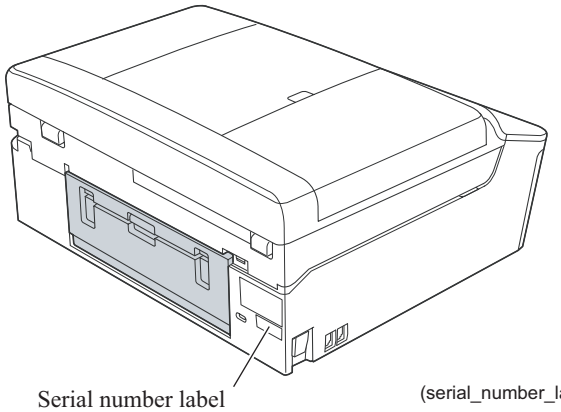
This section lists the coding information for those serial number and head property data.

(1) Serial number label for the machine itself



(app01a)

Location



(serial_number_label_mini11)

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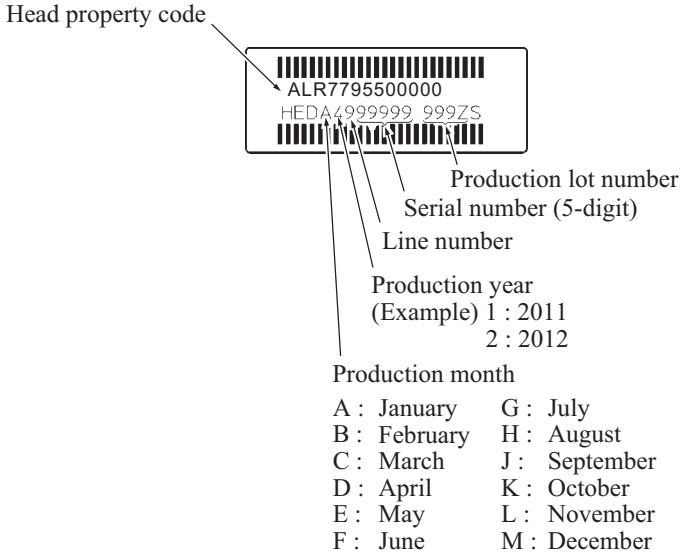
(2) Head property labels

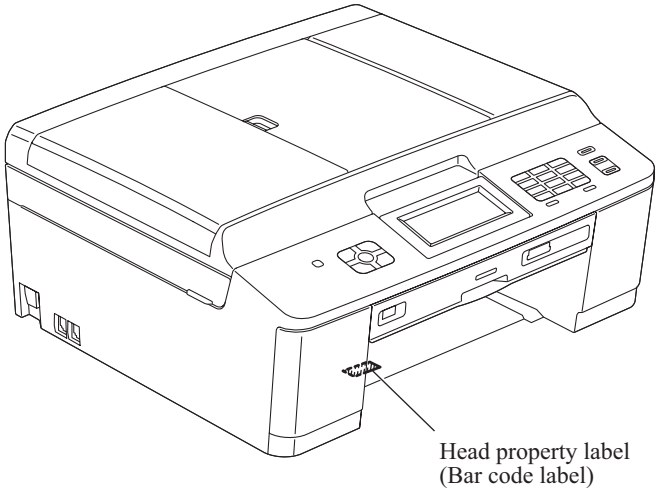
The property code of the head/carriage unit is printed on head property labels--bar code label and QR code label, each of which is attached to the lower cover and the head/carriage unit, respectively.

■ On the lower cover



(bar_code_label)

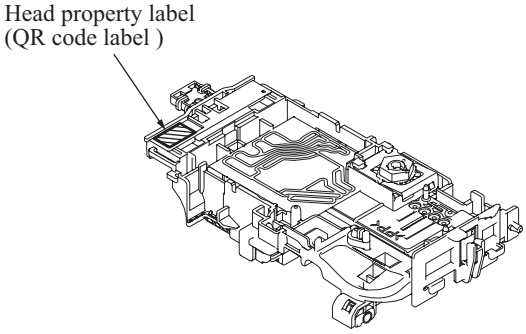
Location



(head_property_mini11)

■ On the head/carriage unit

Location



(head_property_label_M11)

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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 Deleting User Setting Info from the Machine

The following user setting information in the machine is recorded in the EEPROM on the main PCB. It can be deleted with the operating procedure given below.

- User's name and telephone number
- Speed dialing
- Group dialing
- Dial record (stored for redialing)
- Receiver info for fax transfer (The transfer setting will also be canceled.)
- Data stored in the memory (Received data and voice messages will also be deleted.)
- Fax preview
- Fax data not yet transferred in PC-Fax receiving (Fax data already transferred to the PC will not be deleted.)
- Fax data waiting to be sent in polling
- Receiver info for timer faxing
- Receiver info for broadcasting or batch transmission
- Caller ID history
- Activity report
- Passwords assigned by the secure function lock (for models with secure function lock)
- Favorite copy settings (for models with touch panel)
- Network settings (e-mail addresses, server settings, account settings, etc.)

■ Operating Procedure

(1) Press the **Menu** key.

(2) Press the ▲ or ▼ to choose **Initial Setup**.

Press the **OK** key.
TIP: In models with touch panel, press **Initial Setup**.

(3) Press the ▲ or ▼ to choose **Reset**.

Press the **OK** key.
TIP: In models with touch panel, press **Reset**.

(4) Press ▲ or ▼ to choose **All Settings**.

Press the **OK** key.
TIP: In models with touch panel, press **Yes**.

(5) Press the **1** key twice to reboot the machine.

TIP: In models with touch panel, press **Yes**.

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APPENDIX 3. INSTALLING THE MAINTENANCE PRINTER DRIVER

To identify machines connected via USB direct interface, the PC requires the corresponding driver for the virtual USB device. If you connect any number of machines to your PC, the same number of virtual USB devices will be automatically configured on your PC. To prevent many virtual USB devices from being configured, use the unique driver installation procedure described below that enables your PC to identify terminals via one single virtual USB device.

NOTE: 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.

Windows 2000/Windows XP

(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) Plug the power cord of the machine into an electrical outlet.

(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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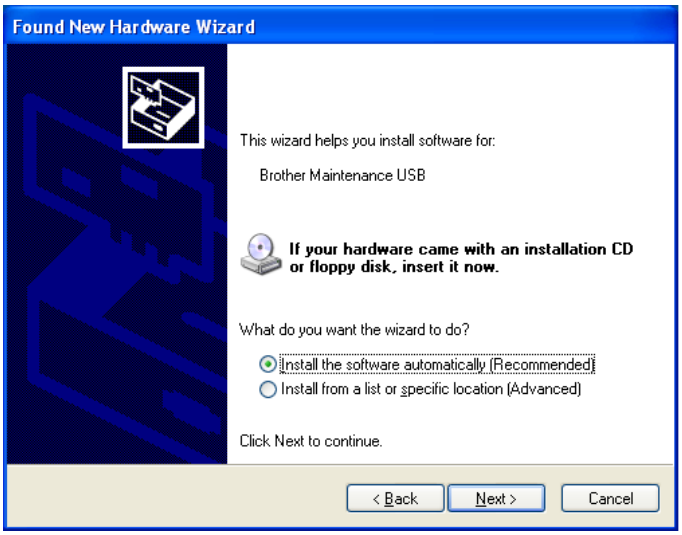
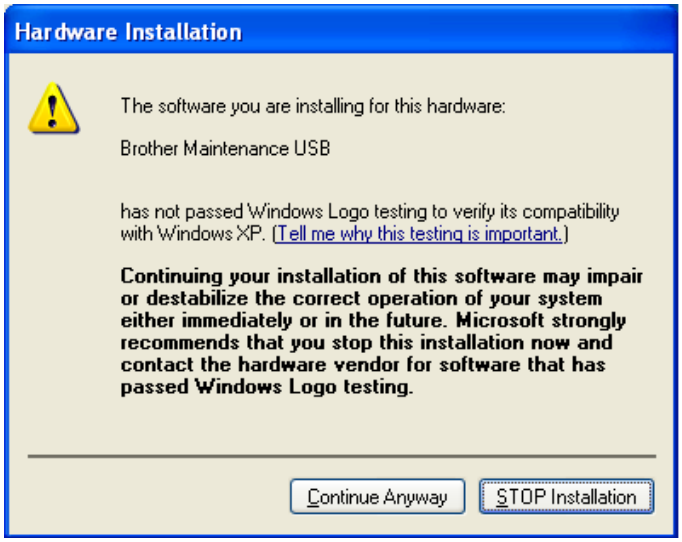
(7) Select "Install the software automatically (Recommended)" and click **Next**.



(8) Alert warning message of WHQL appears. Click **Continue Anyway** to proceed.



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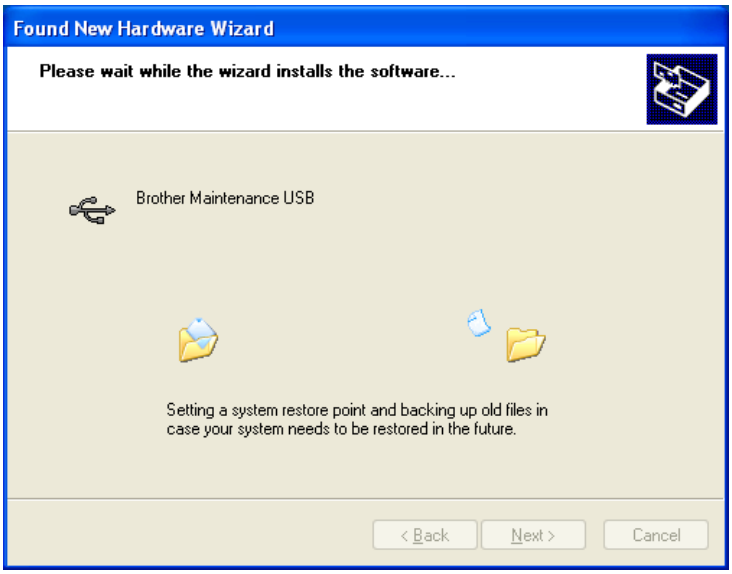

(9) Repeat steps (6) to (8) three times to complete installation.

(10) If the Brother Maintenance USB Printer driver is successfully installed, the following message screen appears. Click **Finish** to return.

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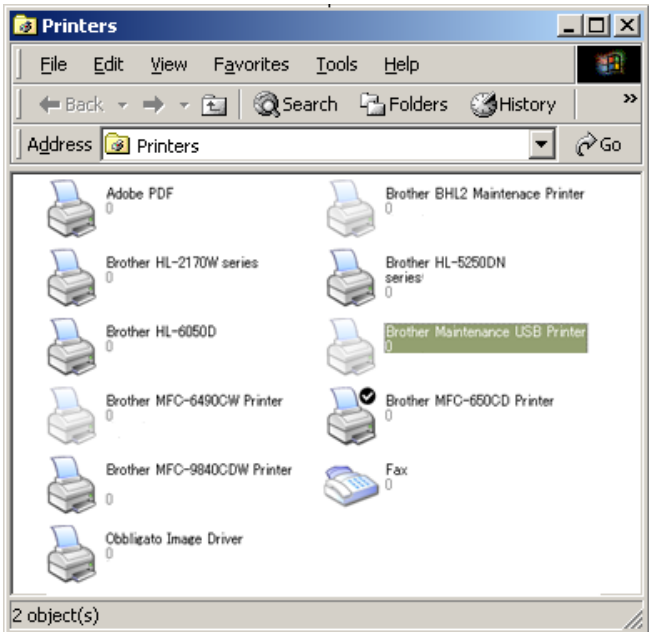
NOTE: In order to check whether the printer driver is successfully installed, click **Start** | **Settings** | **Printers** to select the Printers window. Then, check that the Brother Maintenance USB Printer icon is shown.



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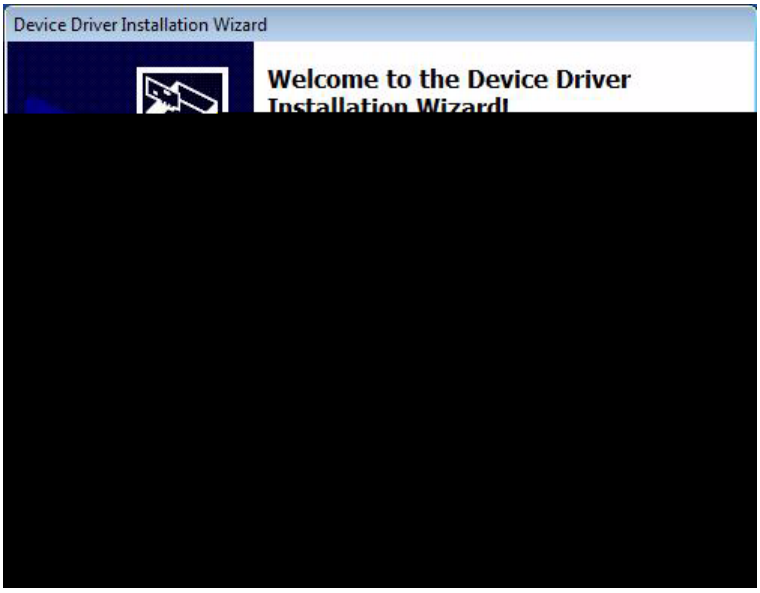
Windows Vista/Windows 7

(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.

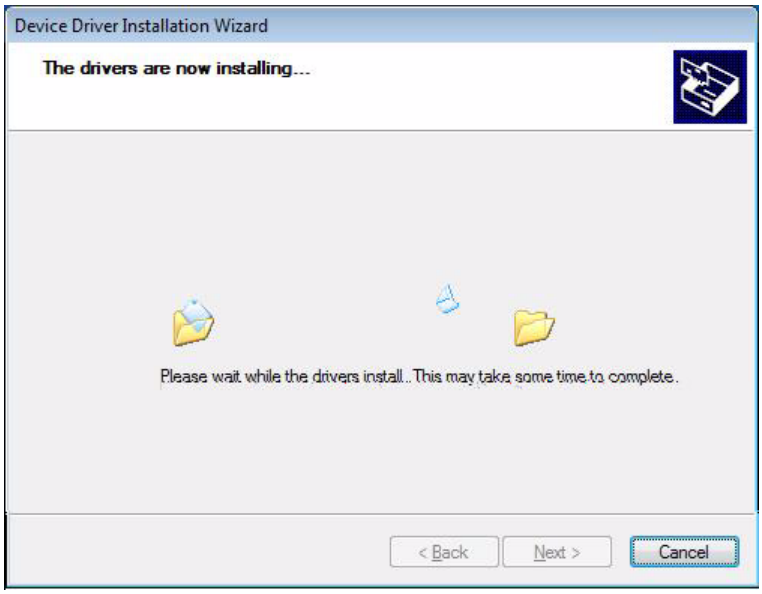
(2) Turn on your PC.

(3) Click the Setup.exe in the Brother Maintenance USB Printer held in an arbitrary folder.

(4) Wait for the following screen to appear and click **Next**.



The following screen is displayed during installation.



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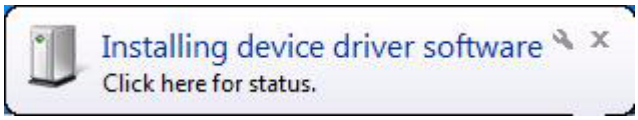
(5) Wait for the following screen to appear and click **Finish**.

(6) Plug the power cord of the machine into an electrical outlet.

(7) Switch the machine to the maintenance mode. (Refer to Chapter 5.)

(8) Connect the machine to your PC using a USB cable.
The following window is displayed during installation.



If the following window appears, the installation is completed.

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