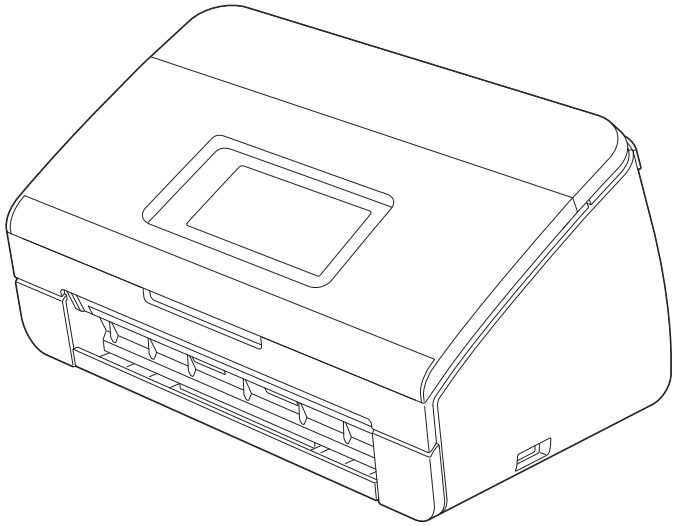
brother

Brother Advanced Document Scanner

SERVICE MANUAL

MODEL:
ADS-2500W/2600W



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

Jul., 2012
SM-PT052
(5)

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CHAPTER 3 DISASSEMBLY/REASSEMBLY

REGULATION

■ Declaration of Conformity (Europe only)

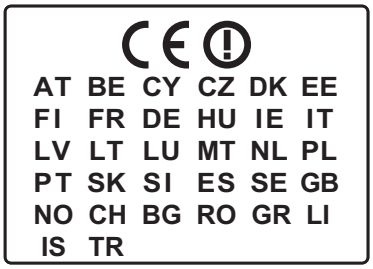
We, Brother Industries, Ltd. of 15-1, Naeshiro-cho, Mizuho-ku, Nagoya 467-8561 Japan declare that this product is in compliance with the essential requirements of Directives 1999/5/EC and 2009/125/EC. (ADS-2600W only)

The Declaration of Conformity (DoC) is available 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.)

■ CE marking for devices with Wireless LAN (ADS-2600W only)



This product supports Wireless LAN.

WARNING

Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

■ Disconnect Device

CAUTION

This product must be installed near an electrical socket that is easily accessible. In case of emergencies, you must disconnect the AC power cord from the electrical socket to shut off power completely.

■ 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 product must be earthed.

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

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

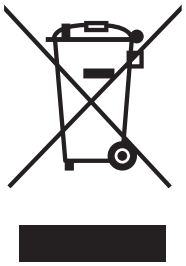
■ LAN Connection

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

■ 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.

■ 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.

■ International ENERGY STAR® Qualification Statement (ADS-2600W only)

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

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

■ 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 product

Product name: ADS-2500W

complies 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.
- A shielded interface cable should be used to ensure compliance with the limits for a Class B digital device.

■ 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.

■ For use in the USA or Canada only

These products are made for use in the USA and Canada only.

We cannot recommend using them overseas because the power requirements of your product 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.

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

Prohibition icons indicate actions that must not be performed.

Electrical Hazard icons alert you to possible electrical shock.

Fire Hazard icons alert you to the possibility of fire.

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

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

■ To use the Machine Safely

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

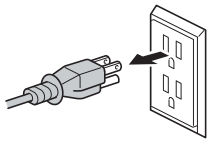
⚠ WARNING

⚠ ELECTRICAL HAZARDS

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

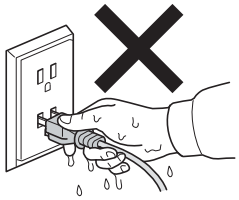
⚠

There are high voltage electrodes inside the product. Before you access the inside of the product, including for routine maintenance such as cleaning, make sure you have unplugged the AC power cord from the AC power outlet, as well as Ethernet (RJ-45) cables (Network models only) from the product. Never push objects of any kind into this product through cabinet slots, since they may touch dangerous voltage points or short out parts.



⚠

DO NOT handle the plug with wet hands.



⚠

DO NOT use this product during an electrical storm.

⚠

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

⚠ ⚠

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

⚠ ⚠

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

AC Power Cord Safety:

- This machine is equipped with a 3-wire grounded plug. This plug will only fit into a grounded power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, call your electrician to replace your obsolete outlet. DO NOT defeat the purpose of the grounded plug.
- Use only the AC power cord supplied with this product.
- DO NOT allow anything to rest on the AC power cord.
- DO NOT place this machine where people can walk on the cord.
- DO NOT place this machine in a position where the cord is stretched or strain is otherwise put on the cord, as it may become worn or fray.
- Brother strongly recommends that you DO NOT use any type of extension cord.

CHAPTER 1
SPECIFICATIONS

CHAPTER 1 SPECIFICATIONS

This chapter lists the specifications of each model.

CONTENTS

1. SPECIFICATIONS LIST

1.1 General

Model			ADS-2500W	ADS-2600W
Scanning Method			Dual CIS	
Resolution From ADF (Optical)			Max 600 x 600 dpi	
Resolution (Interpolated)			Max 1200 x 1200 dpi	
Scanning Speed	One-sided monochrome		24 ppm (2.5 seconds (A4/LTR))	
	One-sided Color		24 ppm (2.5 seconds (A4/LTR))	
	Two-sided monochrome		24 ppm (48 images per min.) (2.5 seconds (A4/LTR))	
	Two-sided Color		24 ppm (48 images per min.) (2.5 seconds (A4/LTR))	
CPU			StarSapphire 400 MHz	
Memory			256 MB	
Interface			USB Hi-Speed 2.0, 10Base-T/100Base-TX	
Power consumption			USA/CANADA Scanning Approx. 20 W Ready Approx. 4.0 W Sleep Approx. 2.0 W Power down Approx. 0.35 W ASIA/Europe Scanning Approx. 20 W Ready Approx. 4.0 W Sleep Approx. 2.0 W Power down Approx. 0.4 W	
Noise level	Sound power	Scanning	62.5 dB	
Environment	Temperature		Operating: 5 to 35°C Storage: 0 to 40°C	
	Humidity		Operating: 20 to 80% Storage: 10 to 90% (without condensation)	
Dimensions (WxDxH)	Carton Size		383 x 291 x 285 mm (15.1" x 11.5" x 11.2")	
	Machine Size		299 x 220 x 179 mm (11.8" x 8.7" x 7.1")	
Weights	without Carton		3.6 kg / 7.9 lb (without AC power cord)	
	with Carton		4.9 kg / 10.8 lb	
LCD	LCD Type/Size		3.7 inch 93.4 mm TFT	
	Touch panel		3.7 inch TP	

Specifications are subject to change without notice.

<Computer requirements>

Computer Platform & Operating System Version		Processor Minimum Speed	Minimum RAM	Recommended RAM	Hard Disk Space to install		Supported PC Interface
					For Drivers	For Applications	
Windows® Operating System	Windows® XP Home (SP2 or greater) *2 Windows® XP Professional (SP2 or greater) *2	Intel® Pentium® II or equivalent	128 MB	256 MB	150 MB	1.5 GB	USB
	Windows Vista® *2	Intel® Pentium® 4 or equivalent 64-bit (Intel® 64 or AMD 64) supported CPU	512 MB	1 GB	500 MB	1.5 GB	
	Windows® 7 *2		1 GB (32-bit) 2 GB (64-bit)	1 GB (32-bit) 2 GB (64-bit)	600 MB	1.5 GB	
Macintosh Operating System	OS X 10.6.x	Intel® Processor	1 GB	2 GB	80 MB	580 MB	USB *1
	OS X 10.7.x	Intel® Processor	2 GB	2 GB			

*1 Third-party USB ports are not supported.

*2 Nuance™ Paper port™ 12SE supports Windows® XP Home (SP3 or greater), XP Professional (SP3 or greater), Windows Vista® (SP2 or greater) and Windows® 7.

Specifications are subject to change without notice.

1.2 Network Connectivity

Model		ADS-2500W	ADS-2600W
Wired network	Network node type	NC-01h	
	Network type	10Base-T/100Base-TX	
	Network security	APOP, POP before SMTP, SMTP-AUTH, SSL/TLS (HTTPS, SMTP), SNMP v3, 802.1x (EAP-MD5, EAP-FAST, PEAP, EAP-TLS, EAP-TTLS), Kerberos	
Wireless network	Network node type	NC-02w	
	Network type	IEEE802.11 b/g/n	
	Network security	APOP, POP before SMTP, SMTP-AUTH, SSL/TLS (HTTPS, SMTP, POP), SNMP v3, 802.1x (LEAP, EAP-FAST, PEAP, EAP-TLS, EAP-TTLS), Kerberos	

Specifications are subject to change without notice.

1.3 Service Information

Part	Approximate Life (pages)
Machine life	100,000 sheets (A4/LTR) or 5 years / 1,000 times Plastic card scan
MTBF	4,000 hours
MTTR	0.5 hours
Maximum monthly volume	10,000 sheets (A4/LTR)

Specifications are subject to change without notice.

1.4 Consumable Parts

Part	ADS-2500W/2600W
Separation Pad	50,000 sheets (A4/LTR) (User replacement parts)
Pick-up Roller	50,000 sheets (A4/LTR) (User replacement parts)

Specifications are subject to change without notice.

1.5 Paper

1.5.1 Paper handling

Model	ADS-2500W	ADS-2600W
ADF Input	50 sheets	
ADF Output	50 sheets	
Duplex (Scan)	Yes	

Specifications are subject to change without notice.

1.5.2 Media specifications

Model		ADS-2500W	ADS-2600W
Paper Input	ADF	Plain Paper, Thin Paper, Thick Paper, Thicker Paper, Recycled Paper, Post Card (JPN), Business Card, Plastic Card	
Media Weight	ADF (multiple paper)	52 to 110 g/m^2	
	ADF (single paper)	52 to 200 g/m^2	
Media Size	ADF (multiple paper)	Width 51 to 215.9 mm, Length 70 to 355.6 mm	
	ADF (single paper)	Width 51 to 215.9 mm, Length 70 to 863.0 mm	

Specifications are subject to change without notice.

1.6 Scanner

Color/Black		Yes/Yes
TWAIN Compliant	Windows®	Windows® XP *1 / Windows Vista® / Windows® 7
	Macintosh	OS X 10.6.x, 10.7.x *2
WIA Compliant	Windows®	Windows® XP *1 / Windows Vista® / Windows® 7
ICA Compliant	Macintosh	OS X 10.6.x, 10.7.x *2
ISIS™ Compliant	Windows®	Windows® XP *1 / Windows Vista® / Windows® 7
Color Depth	Input	30 bit color Processing
	Output	24 bit color Processing
Resolution	Interpolated	Up to 1200 x 1200 dpi
	Optical	Up to 600 x 600 dpi
Scanning Width		Up to 8.34 inch (212 mm)
Gray Scale		256 levels

*1 Windows® XP in this Service Manual includes Windows® XP Home Edition and Windows® XP Professional.

*2 For the latest driver updates for the Mac OS X you are using, visit us at http://solutions.brother.com/.

Specifications are subject to change without notice.

CHAPTER 2
TROUBLESHOOTING

CHAPTER 2 TROUBLESHOOTING

This chapter details error messages and codes which the incorporated self-diagnostic function of the machine will display if any error or malfunction occurs. If any error message appears, refer to this chapter to find which parts should be checked or replaced.

The latter half of this chapter provides sample problems which could occur in the main sections of the machine and related troubleshooting procedures. These will help service personnel identify and repair other similar defective sections.

CONTENTS

1. INTRODUCTION

Troubleshooting is a collection of solution procedures that service personnel should follow if an error or malfunction occurs in the machine. It is difficult to determine troubleshooting procedures for all possible problems that may occur in the future. Therefore, this chapter describes typical problem cases and recovery procedures for these. These will help service personnel identify and repair other similar defective sections.

1.1 Precautions

Be sure to observe the following precautions to prevent any secondary problems occurring during troubleshooting:

(1) Be sure to unplug the AC power cord before removing any covers or PCBs, adjusting the machine, or conducting continuity tests using a tester.

(2) Do not hold the cable when connecting or disconnecting the cable. Be sure to hold the connector.

(3) Static electricity charged in your body may damage electronic parts.
Before handling the PCBs, touch a metal section of the machine to discharge static electricity.
When transporting PCBs, be sure to wrap them in conductive sheets.
When replacing PCBs, wear a grounding wrist band and perform replacement on a conductive mat. Also take care not to touch the conductor sections on the flat cables.

(4) Be sure to always observe all warnings.

(5) After repair is completed, check that the repaired sections operate normally.

1.2 Checks before Commencing Troubleshooting

Check the following items before commencing repairs on the machine.

■ Operating environment

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

(2) The machine is used in a clean environment where the temperature is between 5°C (41°F) and 35°C (95°F) and the relative humidity is maintained between 20% and 80%.

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

(4) Hold the machine level while moving it.

■ Power supply

(1) Power described on the rating label attached on the machine is supplied. Power fluctuation should be within ±10% of the rated voltage.

(2) The AC input power supply is within the regulated value.

(3) The cables and harnesses are connected correctly.

(4) The fuses are not blown.

■ Document

(1) The recommended paper is used for the document. (Refer to "1.5.2 Media specifications" in Chapter 1.)

(2) The document is not damp.

(3) Acid paper is not used.

■ Others

(1) Condensation

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

- Condensation on the surface of optical devices such as the CIS glass and CIS unit may result in poor quality of scanned images.
- Condensation on the pick-up roller or separation pad may cause document feed problems.
  If condensation has formed in the machine, leave the machine for at least two hours until it reaches room temperature.

(2) Low temperature

The motor may not operate normally in a cold environment because too much load is applied to each drive. In this case, raise the room temperature.

■ Cleaning

Use a soft lint-free cloth.

⚠ WARNING

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

2. OVERVIEW

2.1 Cross-section Drawing

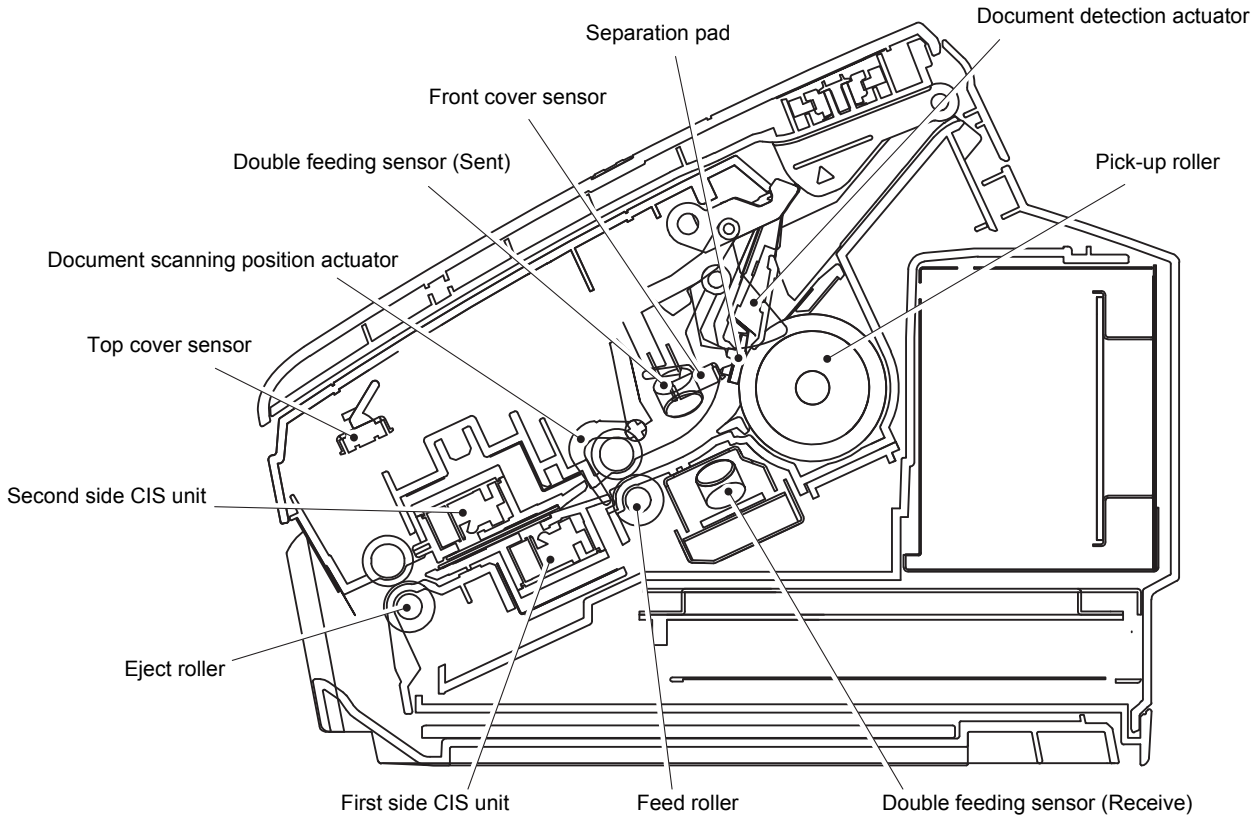


Fig. 2-1

2.2 Paper Feeding

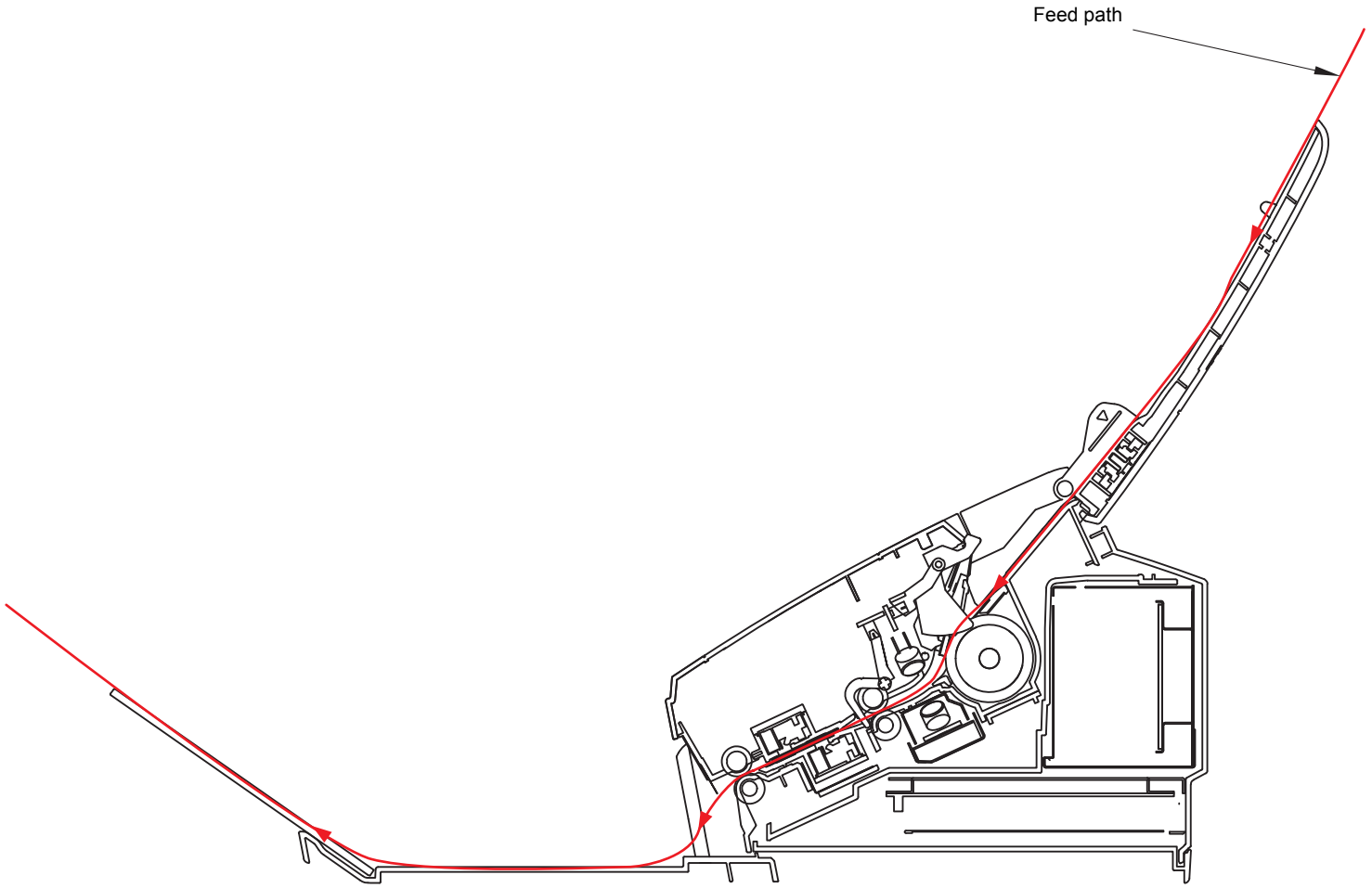


Fig. 2-2

2.3 Operation of Each Part

Part name	Operation
Pick-up roller / Separation pad	Separates documents set in the document tray into single sheets, and feeds them into the machine.
Double feeding sensor	Detects whether multiple documents are fed into the machine.
Feed roller	Feeds the document.
Eject roller	Feeds the document to the output tray.
Document detection sensor	Detects the document set in the document tray. Detects document jams.
Document scanning position sensor	Detects the document scanning start position. Detects document jams.
Front cover sensor	Detects whether the front cover is open or closed.
Top cover sensor	Detects whether the top cover is open or closed.

2.4 Block Diagram

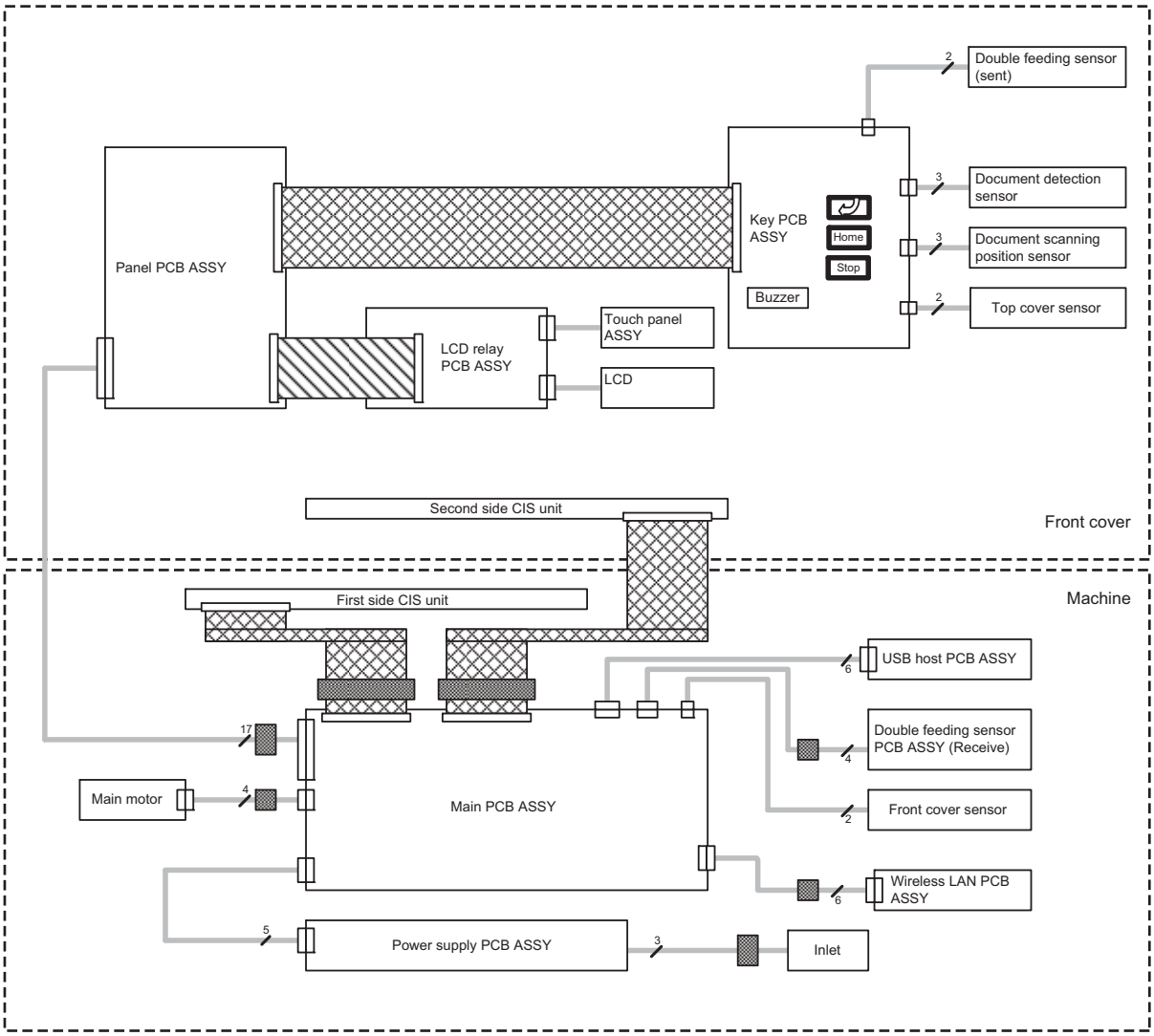


Fig. 2-3

2.5 Main Components

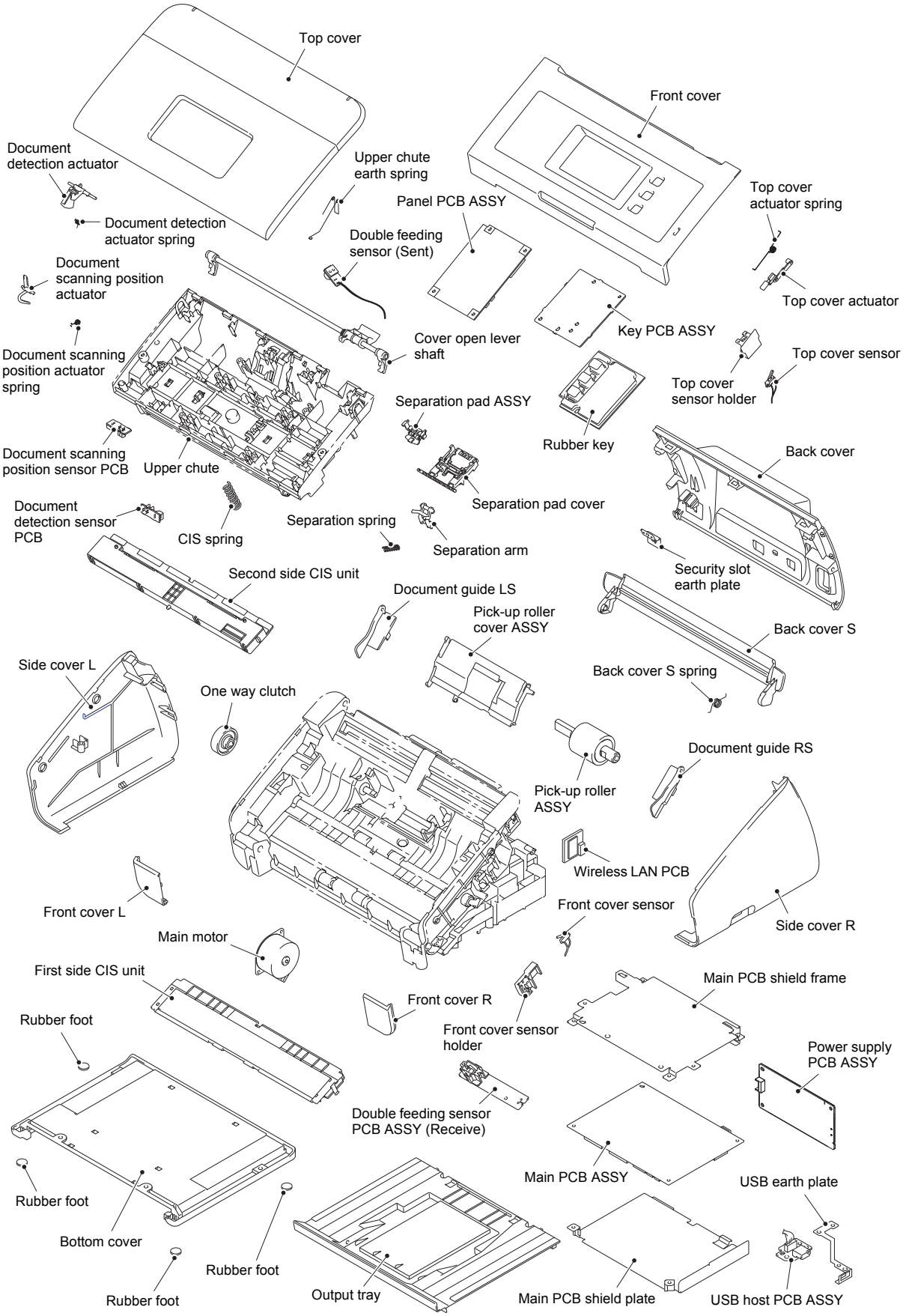


Fig. 2-4

3. ERROR INDICATIONS

The machine is equipped with self-diagnostic function. If the machine does not work normally, it judges that an error has occurred. Then indicates the corresponding error message on the LCD to help service men to quickly find out the problem.

3.1 Error Codes

Errors in the shaded columns do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

Error codes	Problem	Refer to:	Error codes	Problem	Refer to:
0B00	An unidentified error occurred.	2-14	2C00	An unidentified error occurred.	2-14
0C01	An unidentified error occurred.	2-14	2D00	An unidentified error occurred.	2-14
0C02	An unidentified error occurred.	2-14	2E00	An unidentified error occurred.	2-14
0C03	An unidentified error occurred.	2-14	2F00	An unidentified error occurred.	2-14
0C04	An unidentified error occurred.	2-14	3000	An unidentified error occurred.	2-14
0D00	An unidentified error occurred.	2-14	3100	An unidentified error occurred.	2-14
0E00	Communication between the panel PCB and the main PCB cannot be established at machine startup.	2-14	3200	An unidentified error occurred.	2-14
0F00	An unidentified error occurred.	2-14	3300	An unidentified error occurred.	2-14
1000	An unidentified error occurred.	2-14	3400	An unidentified error occurred.	2-14
1100	An unidentified error occurred.	2-14	3500	An unidentified error occurred.	2-14
1200	An unidentified error occurred.	2-14	3600	An unidentified error occurred.	2-14
1600	An unidentified error occurred.	2-14	3700	An unidentified error occurred.	2-14
1700	An unidentified error occurred.	2-14	3800	An unidentified error occurred.	2-14
1800	An unidentified error occurred.	2-14	3900	An unidentified error occurred.	2-14
1900	An unidentified error occurred.	2-14	3A00	An unidentified error occurred.	2-14
1A00	An unidentified error occurred.	2-14	3B00	An error occurred during access to the DRAM in the main PCB.	2-14
1B00	An unidentified error occurred.	2-14	3C00	An unidentified error occurred.	2-15
1C00	An unidentified error occurred.	2-14	3D00	An unidentified error occurred.	2-15
1D00	An unidentified error occurred.	2-14	3E00	An unidentified error occurred.	2-15
1E00	An unidentified error occurred.	2-14	3F00	An unidentified error occurred.	2-15
1F00	An unidentified error occurred.	2-14	4000	An unidentified error occurred.	2-15
2000	An unidentified error occurred.	2-14	4200	An unidentified error occurred.	2-15
2100	An unidentified error occurred.	2-14	4300	An unidentified error occurred.	2-15
2200	An unidentified error occurred.	2-14	4400	An unidentified error occurred.	2-15
2300	An unidentified error occurred.	2-14	4500	An unidentified error occurred.	2-15
2400	An unidentified error occurred.	2-14	4600	An unidentified error occurred.	2-15
2500	An unidentified error occurred.	2-14	4700	An unidentified error occurred.	2-15
2600	An unidentified error occurred.	2-14	4800	An unidentified error occurred.	2-15
2700	An unidentified error occurred.	2-14	4900	An unidentified error occurred.	2-15
2800	An unidentified error occurred.	2-14	4A00	An unidentified error occurred.	2-15
2900	An unidentified error occurred.	2-14	4B00	An unidentified error occurred.	2-15
2A00	An unidentified error occurred.	2-14	4C00	An unidentified error occurred.	2-15
2B00	An unidentified error occurred.	2-14	4D00	An unidentified error occurred.	2-15

Error codes	Problem	Refer to:	Error codes	Problem	Refer to:
4E00	An unidentified error occurred.	2-15	7600	An unidentified error occurred.	2-15
4F00	An unidentified error occurred.	2-15	7800	An unidentified error occurred.	2-15
5000	An unidentified error occurred.	2-15	7A00	An unidentified error occurred.	2-15
5100	An unidentified error occurred.	2-15	7B00	An unidentified error occurred.	2-15
5200	An unidentified error occurred.	2-15	7C00	An unidentified error occurred.	2-15
5300	An unidentified error occurred.	2-15	7D00	An unidentified error occurred.	2-15
5400	An unidentified error occurred.	2-15	7E00	An unidentified error occurred.	2-15
5500	An unidentified error occurred.	2-15	7F00	An unidentified error occurred.	2-15
5600	An unidentified error occurred.	2-15	8000	An unidentified error occurred.	2-15
5700	An unidentified error occurred.	2-15	8100	An unidentified error occurred.	2-15
5800	An unidentified error occurred.	2-15	8200	An unidentified error occurred.	2-15
5900	An unidentified error occurred.	2-15	8300	An unidentified error occurred.	2-15
5A00	An unidentified error occurred.	2-15	8400	An unidentified error occurred.	2-15
5B00	An unidentified error occurred.	2-15	8500	An unidentified error occurred.	2-15
5C00	An unidentified error occurred.	2-15	8600	An unidentified error occurred.	2-15
5D00	An unidentified error occurred.	2-15	8700	An unidentified error occurred.	2-15
5E00	An unidentified error occurred.	2-15	8800	An unidentified error occurred.	2-15
5F00	An unidentified error occurred.	2-15	8900	An unidentified error occurred.	2-15
6000	An unidentified error occurred.	2-15	8A00	An unidentified error occurred.	2-15
6100	An unidentified error occurred.	2-15	8B00	An unidentified error occurred.	2-15
6200	An unidentified error occurred.	2-15	8C00	An unidentified error occurred.	2-15
6300	An unidentified error occurred.	2-15	8D00	An unidentified error occurred.	2-15
6400	An unidentified error occurred.	2-15	8E00	An unidentified error occurred.	2-15
6500	An unidentified error occurred.	2-15	8F00	An unidentified error occurred.	2-15
6600	An unidentified error occurred.	2-15	9000	An unidentified error occurred.	2-15
6700	An unidentified error occurred.	2-15	9100	An unidentified error occurred.	2-15
6800	An unidentified error occurred.	2-15	9200	An unidentified error occurred.	2-15
6900	An unidentified error occurred.	2-15	9300	An unidentified error occurred.	2-15
6A00	An unidentified error occurred.	2-15	9400	An unidentified error occurred.	2-15
6B00	An unidentified error occurred.	2-15	9500	An unidentified error occurred.	2-15
6C00	An unidentified error occurred.	2-15	9600	An unidentified error occurred.	2-15
6D00	An unidentified error occurred.	2-15	9700	An unidentified error occurred.	2-15
6E00	An unidentified error occurred.	2-15	9800	An unidentified error occurred.	2-15
6F00	An unidentified error occurred.	2-15	9900	An unidentified error occurred.	2-15
7000	An unidentified error occurred.	2-15	9A00	An unidentified error occurred.	2-15
7100	An unidentified error occurred.	2-15	9B00	An unidentified error occurred.	2-15
7200	An unidentified error occurred.	2-15	9C00	An unidentified error occurred.	2-15
7300	An unidentified error occurred.	2-15	9D00	An unidentified error occurred.	2-15
7400	An unidentified error occurred.	2-15	9E00	An unidentified error occurred.	2-15
7500	An unidentified error occurred.	2-15	9F00	An unidentified error occurred.	2-15

Error codes	Problem	Refer to:	Error codes	Problem	Refer to:
A000	An unidentified error occurred.	2-15	BD00	A black level not within the standard was scanned when function code 55 was executed.	2-19
A100	An unidentified error occurred.	2-15	BE00	An unidentified error occurred.	2-20
A200	The document scanning position sensor detected that the document length was 40 cm or more while scanning a document.	2-15	BF00	An unidentified error occurred.	2-20
A300	The document scanning position sensor has not detected the top of the document even after the document has been fed for the specified distance.	2-15	C000	An unidentified error occurred.	2-20
A400	The front cover sensor detected an open front cover.	2-16	C100	An unidentified error occurred.	2-20
A500	An unidentified error occurred.	2-16	C200	An unidentified error occurred.	2-20
A600	An unidentified error occurred.	2-16	C300	An unidentified error occurred.	2-20
A700	Color parameter in the ROM does not match the first side or second side CIS.	2-16	C400	An unidentified error occurred.	2-20
A800	An error was detected in the color parameter in the ROM during image processing.	2-16	C500	An unidentified error occurred.	2-20
A900	A scanning error occurred while scanning the image.	2-17	C600	An unidentified error occurred.	2-20
AA00	An unidentified error occurred.	2-17	C700	There is insufficient memory to expand scan data.	2-20
AB00	The double feeding sensor detected multiple documents.	2-17	C800	An unidentified error occurred.	2-20
AC00	An unidentified error occurred.	2-18	C900	An unidentified error occurred.	2-20
AD00	An unidentified error occurred.	2-18	CA00	A USB device not within the specifications is connected to the USB terminal, resulting in overcurrent.	2-20
AE00	An unidentified error occurred.	2-18	CB00	An unidentified error occurred.	2-21
AF00	An unidentified error occurred.	2-18	CC00	An unidentified error occurred.	2-21
B000	The first side or second side CIS flat cable is not connected correctly.	2-18	CD00	An unidentified error occurred.	2-21
B100	An unidentified error occurred.	2-18	CE00	An unidentified error occurred.	2-21
B200	An unidentified error occurred.	2-18	CF00	An unidentified error occurred.	2-21
B300	An unidentified error occurred.	2-18	D000	An error occurred while initializing the touch panel.	2-21
B400	An unidentified error occurred.	2-18	D100	An unidentified error occurred.	2-21
B500	An unidentified error occurred.	2-18	D200	An unidentified error occurred.	2-21
B600	An unidentified error occurred.	2-18	D300	An unidentified error occurred.	2-21
B700	An unidentified error occurred.	2-18	D400	An unidentified error occurred.	2-21
B800	The voltage value was below the lower limit during scanning.	2-18	D500	An unidentified error occurred.	2-21
B900	The white level does not increase during scanning although the light intensity was increased.	2-18	D600	An unidentified error occurred.	2-21
BA00	An unidentified error occurred.	2-19	D700	An unidentified error occurred.	2-21
BB00	A white level not within the standard was scanned when function code 55 was executed.	2-19	D800	An unidentified error occurred.	2-21
BC00	An unidentified error occurred.	2-19	D900	An unidentified error occurred.	2-21

Error codes	Problem	Refer to:	Error codes	Problem	Refer to:
DA00	An unidentified error occurred.	2-21	E900	An unidentified error occurred.	2-24
DB00	An unidentified error occurred.	2-21	EA00	An unidentified error occurred.	2-24
DC00	An unidentified error occurred.	2-21	EB00	An unidentified error occurred.	2-24
DD00	An unidentified error occurred.	2-21	EC00	An unidentified error occurred.	2-24
DE00	An unidentified error occurred.	2-21	ED00	Communication between the wireless LAN PCB and the main PCB cannot be established at machine startup.	2-24
DF00	An unidentified error occurred.	2-21	EE00	Detected communication failure after communication between the wireless LAN PCB and the main PCB was established.	2-24
E000	An error occurred in the ROM check sum.	2-21	EF00	An unidentified error occurred.	2-24
E001	The capacity of machine memory reached its maximum when installing the firmware.	2-22	F000	An unidentified error occurred.	2-24
E002	Designated folder could not be found in USB flash memory when installing the firmware.	2-22	F100	An unidentified error occurred.	2-24
E003	Firmware file could not be found in USB flash memory when installing the firmware.	2-22	F200	An unidentified error occurred.	2-24
E004	Firmware in USB flash memory could not be accessed when installing the firmware.	2-22	F300	An unidentified error occurred.	2-24
E005	Firmware file in USB flash memory was broken when installing the firmware.	2-22	F400	An unidentified error occurred.	2-24
E006	The length of firmware file name exceeded the limit when installing the firmware.	2-22	F500	An unidentified error occurred.	2-24
E007	The machine detected uninstallable DJF file when installing the firmware.	2-22	F600	An unidentified error occurred.	2-24
E008	Firmware can not be installed as other function is running.	2-23	F800	An unidentified error occurred.	2-24
E100	Program error	2-23	F900	The country code was not entered correctly.	2-24
E200	An unidentified error occurred.	2-23	FA00	An unidentified error occurred.	2-25
E300	An unidentified error occurred.	2-23	FB00	An unidentified error occurred.	2-25
E400	An unidentified error occurred.	2-23	FC00	An unidentified error occurred.	2-25
E600	Write error in the EEPROM of the main PCB	2-23	FD00	An unidentified error occurred.	2-25
E700	An unidentified error occurred.	2-24	FE00	An unidentified error occurred.	2-25
E800	An unidentified error occurred.	2-24	FF00	An unidentified error occurred.	2-25

3.2 Error Messages

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

Error Message	Description	Error codes	Refer to:
Cover is Open	The front cover sensor detected an open front cover.	A400	2-16
Document Jam	The document scanning position sensor detected that the document length was 40 cm or more.	A200	2-15
	The document scanning position sensor has not detected the top of the document even after the document has been fed for the specified distance.	A300	2-15
File Name Cannot be Used	Serial number available for file name has run out while running Scan to USB.	E001	2-22
Insufficient USB Storage	The capacity of USB flash memory reached its maximum while running Scan to USB.	E001	2-22
Machine Error	The country code was not entered correctly.	F900	2-24
Multifeed	The double feeding sensor detected multiple documents.	AB00	2-17
No Certificate	Digital signature does not exist or was broken though signed PDF is set as file format.	E005	2-22
No Document	Scanning was started when no document set in the ADF.	—	2-32
Out of Memory	The scanned data has exceeded the built-in memory capacity.	C700	2-20
Replace Pad	The page counter for the separation pad has reached the limit.	—	2-36
Replace Parts	The page counters for both the separation pad and the pick-up roller have reached the limit.	—	2-36
Replace Roller	The page counter for the pick-up roller has reached the limit.	—	2-36
Scanner Error	The first side or second side CIS flat cable is not connected correctly (This problem occurs only in maintenance mode).	B000 B800 B900 BB00 BD00	2-18 2-18 2-18 2-19 2-19
Too Many Files on USB	Scan to USB was executed when USB flash memory reached its maximum file number was connected.	E001	2-22
Unusable Device	A USB device not within the specifications is connected to the USB terminal, resulting in overcurrent.	CA00	2-20
Unable to Scan	An error occurred while scanning the image.	3B00 A700 A900 E000 E100 E600	2-14 2-16 2-17 2-21 2-23 2-23
Unable to Update	An error occurred while updating firmware.	E001 E002 E003 E004 E005 E006 E007 E008	2-22 2-22 2-22 2-22 2-22 2-22 2-22 2-23
Unusable USB Device	A USB device not within the specifications is connected to the USB terminal.	CA00	2-20

Error Message	Description	Error codes	Refer to:
USB Access Error	USB flash memory was disconnected while running Scan to USB.	—	2-36
USB Flash Memory Not Inserted	Scan to USB was executed when no USB media was connected.	—	2-36
USB Hub Not Supported	A USB device with a built-in hub is connected to the USB terminal.	CA00	2-20
USB Write-protected	Scan to USB was executed when write-protected USB flash memory is connected.	—	2-36
Wrong Password	Different value were entered on password setting screen and the subsequent verifying screen when trying to start scanning while Secure PDF is set as file format.	—	2-36

4. TROUBLESHOOTING

4.1 Error Cause and Remedy

■ Error code 0B00 to 0D00

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code 0E00

```
---
```

Communication between the panel PCB and the main PCB cannot be established at machine startup.

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

■ Error code 0F00 to 3A00

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code 3B00

```
Unable to Scan 3B
See Troubleshooting in User's Guide.
```

An error occurred during access to the DRAM in the main PCB.

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

■ Error code 3C00 to A100

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code A200

```
Document Jam/too Long
See Troubleeshooting in Use's Guide.
```

The document scanning position sensor detected that the document length was 40 cm or more while scanning a document.

<User Check>

• Set the document length within the standard.

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

■ Error code A300

```
Document Jam/too Long
See Troubleeshooting in Use's Guide.
```

The document scanning position sensor has not detected the top of the document even after the document has been fed for the specified distance.

<User Check>

• Set the document in the ADF correctly.

Step	Cause	Remedy
1	Document scanning position actuator coming off	Reattach the document scanning position actuator.
2	Document scanning position sensor failure	Replace the document scanning position sensor PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code A400

```
Cover is Open
Close the front cover.
```

The front cover sensor detected an open front cover.

<User Check>

• Close the front cover correctly.

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

■ Error code A500 and A600

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code A700

```
Unable to Scan A7
See Troubleshooting in User's Guide.
```

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

Step	Cause	Remedy
1	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code A800

```
---
```

An error was detected in the color parameter in the ROM during image processing.

Step	Cause	Remedy
1	Program malfunction	Reinstall the latest firmware.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code A900

```
Unable to Scan A9
See Troubleshooting in User's Guide.
```

A scanning error occurred while scanning the image.

Step	Cause	Remedy
1	Program malfunction	Reinstall the latest firmware.
2	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code AA00

This error does not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code AB00

```
Multifeed
Press Stop and reinsert the document.
```

The double feeding sensor detected multiple documents.

<User Check>

- Check that the thickness of the paper is within the standard.
- Check that the number of documents set in each tray is within the standard.

Step	Cause	Remedy
1	Incorrect double feeding sensor threshold setting	Reset the double feeding sensor threshold.
2	Double feeding sensor (Sent/ Receive) failure	Replace the double feeding sensor (Sent/ Receive).
3	Key PCB failure	Replace the key PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

■ Error code AC00 to AF00

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

An unidentified error occurred.

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

■ Error code B000

The first side or second side CIS flat cable is not connected correctly.

Step	Cause	Remedy
1	Connection failure of the first side or second side CIS flat cable	Reconnect the first side or second side CIS flat cable.
2	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code B100 to B700

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

An unidentified error occurred.

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

■ Error code B800

The voltage value was below the lower limit during scanning.

Error code B900

The white level does not increase during scanning although the light intensity was increased.

Step	Cause	Remedy
1	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code BA00

This error does not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

An unidentified error occurred.

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

■ Error code BB00

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

Step	Cause	Remedy
1	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code BC00

This error does not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

An unidentified error occurred.

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

■ Error code BD00

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

Step	Cause	Remedy
1	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code BE00 to C600

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code C700

```
Out of Memory
Press Stop
```

There is insufficient memory to expand scan data.

<User Check>

• Delete scan data stored in the memory.

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

■ Error code C800 and C900

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code CA00

```
Unusable Device
Remove USB device. Turn the machine off and then back on again. Retry using a
USB flash memory drive.
```

A USB device not within the specifications is connected to the USB terminal, resulting in overcurrent.

<User Check>

• Disconnect the USB device not within the specifications.

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

■ Error code CB00 to CF00

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

An unidentified error occurred.

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

■ Error code D000

An error occurred while initializing the touch panel.

Step	Cause	Remedy
1	Connection failure of the touch panel PCB harness	Reconnect the touch panel PCB harness.
2	Touch panel PCB failure	Replace the touch panel PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code D100 to DF00

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

An unidentified error occurred.

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

■ Error code E000

An error occurred in the ROM check sum.

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

■ Error code E001

```
Unable to Update 0001
Check the firmware update file and try again.
```

The capacity of machine memory reached its maximum when installing the firmware.

Error code E002

```
Unable to Update 0002
Check the firmware update file and try again.
```

Designated folder could not be found in USB flash memory when installing the firmware.

Error code E003

```
Unable to Update 0003
Check the firmware update file and try again.
```

Firmware file could not be found in USB flash memory when installing the firmware.

Error code E004

```
Unable to Update 0004
Check the firmware update file and try again.
```

Firmware in USB flash memory could not be accessed when installing the firmware.

Error code E005

```
Unable to Update 0005
Check the firmware update file and try again.
```

Firmware file in USB flash memory was broken when installing the firmware.

Error code E006

```
Unable to Update 0006
Check the firmware update file and try again.
```

The length of firmware file name exceeded the limit when installing the firmware.

Error code E007

```
Unable to Update 0007
Check the firmware update file and try again.
```

The machine detected uninstallable DJF file when installing the firmware.

<User Check>

- Disconnect and connect the AC power cord.

Step	Cause	Remedy
1	USB flash memory data failure	Replace the USB flash memory data to uncorrupted one.
2	USB flash memory failure	Replace the USB flash memory.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code E008

```
Unable to Update E008
```

Firmware can not be installed as other function is running.

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

■ Error code E100

```
---
```

Program error

Step	Cause	Remedy
1	Firmware installation failure	Reinstall the latest firmware.
2	Main PCB failure	Replace the main PCB ASSY.

■ Error code E200 to E400

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code E600

```
Unable to Scan E6
See Troubleshooting in User's Guide.
```

Write error in the EEPROM of the main PCB

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

■ Error code E700 to EC00

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code ED00

```
Print Unable ED
```

Communication between the wireless LAN PCB and the main PCB cannot be established at machine startup.

Step	Cause	Remedy
1	Connection failure of the wireless LAN PCB harness	Check the connection of the wireless LAN PCB harness, and reconnect it if necessary.
2	Wireless LAN PCB failure	Replace the wireless LAN PCB ASSY.
3	Main PCB failure	Replace the main PCB ASSY.

■ Error code EE00

```
Print Unable EE
```

Detected communication failure after communication between the wireless LAN PCB and the main PCB was established.

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

■ Error code EF00 to F800

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

```
---
```

An unidentified error occurred.

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

■ Error code F900

```
---
```

The country code was not entered correctly.

Step	Cause	Remedy
1	The country code was not entered correctly.	Reenter the country code. (Refer to "1.3.13 Setting by country (function code: 74)" in Chapter 5.)

■ Error code FA00 to FF00

These errors do not usually occur during normal use. The possible causes are noise around the installation site, fluctuation of the power supply voltage, and failures in the software.

- - -

An unidentified error occurred.

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

4.2 Troubleshooting for Image Defects

4.2.1 Defect examples

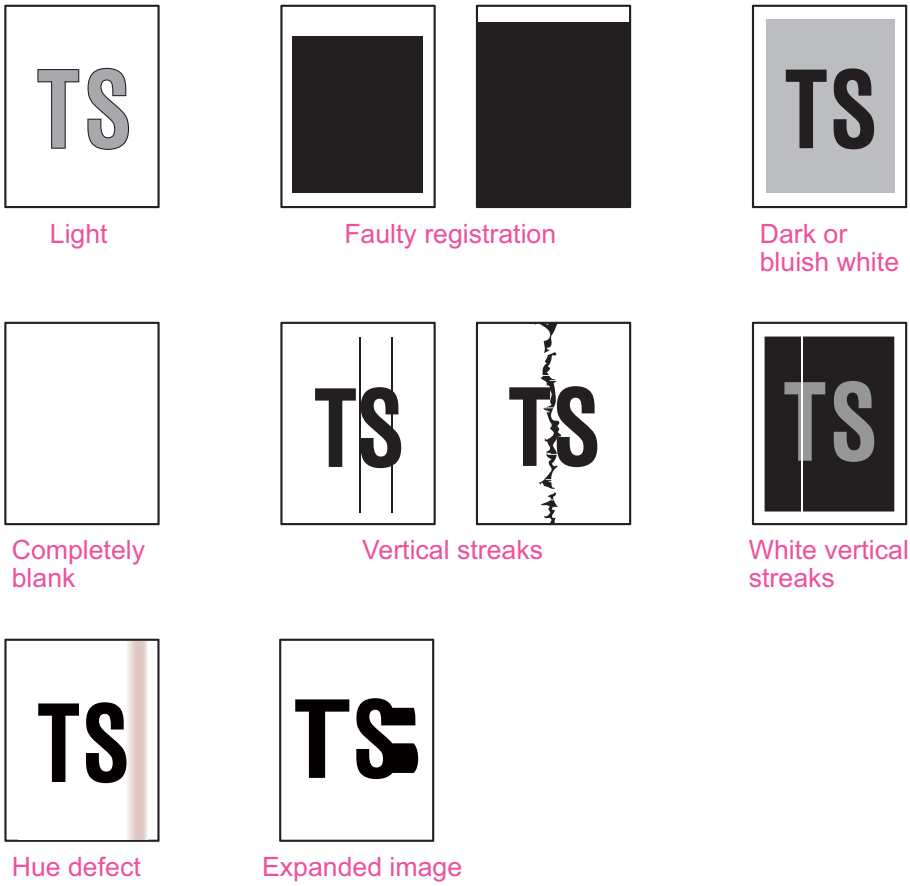
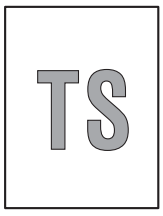


Fig. 2-5

4.2.2 Troubleshooting according to image defect

■ Light

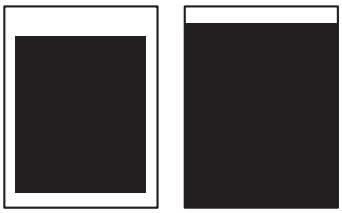


<User Check>

- Check that the contrast setting is not too light.
- Clean the CIS glass.

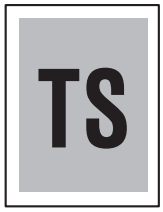
Step	Cause	Remedy
1	Incorrect white level correction data	Execute the maintenance mode function "Acquire white level data and set CIS scan area".
2	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Faulty registration



Step	Cause	Remedy
1	Document scanning position actuator caught in sections of the machine	Reattach the document scanning position actuator.

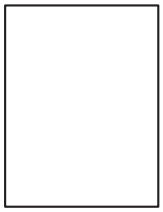
■ Dark or bluish white



<User Check>
- Check that the contrast setting is not too dark.

Step	Cause	Remedy
1	Incorrect white level correction data	Execute the maintenance mode function "Acquire white level data and set CIS scan area".
2	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

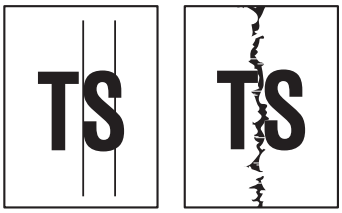
■ Completely blank



<User Check>
- Check that the document is not reversed.
- Check that the document is set in the document tray correctly.

Step	Cause	Remedy
1	Incorrect white level correction data	Execute the maintenance mode function "Acquire white level data and set CIS scan area".
2	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

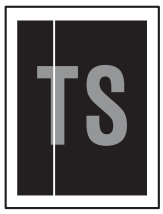
■ Vertical streaks



<User Check>
- Clean the CIS glass.
- Clean the document pressure bar.

Step	Cause	Remedy
1	First side or second side CIS unit failure	Replace the first side or second side CIS unit.

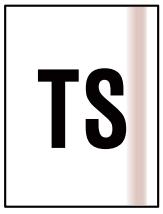
■ White vertical streaks



<User Check>
- Clean the CIS glass.
- Clean the document pressure bar.

Step	Cause	Remedy
1	First side or second side CIS unit failure	Replace the first side or second side CIS unit.

■ Hue defect



Step	Cause	Remedy
1	Color parameter failure	Execute the maintenance mode function "Acquire white level data and set CIS scan area".
2	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
3	Main PCB failure	Replace the main PCB ASSY.

■ Expanded image

Step	Cause	Remedy
1	The maintenance mode function "Acquire white level data and set CIS scan area" are not set.	Execute the maintenance mode function "Acquire white level data and set CIS scan area". (Refer to "1.3.11" in Chapter 5.)
2	The firmware is outdated	Install the latest version firmware. (Refer to "1.1" in Chapter 4.)
3	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
4	Main PCB failure	Replace the main PCB ASSY.

4.3 Troubleshooting for Document Paper Feeding Problems

4.3.1 Multiple documents are fed

<User Check>

- Check that paper used for the document is not thinner than the standard. If it is too thin, use a carrier sheet.
- Check that the document is not damp. If it is damp, dry it or use a carrier sheet.
- Check that the machine is not scanning a glossy paper used in magazines and others.

Step	Cause	Remedy
1	Incorrect double feeding sensor threshold setting	Reset the double feeding sensor threshold.
2	Connection failure of the double feeding sensor harness	Reconnect the double feeding sensor harness.
3	Separation spring coming off	Reattach the separation spring.
4	Separation arm coming off	Reattach the separation arm.
5	Abrasion of the separation pad	Replace the separation pad.
6	Abrasion of the pick-up roller	Replace the pick-up roller ASSY.
7	Deformed front plate spring	Replace the separation pad cover.
8	Bent or broken separation spring	Replace the separation spring.
9	Separation arm failure	Replace the separation arm.
10	Double feeding sensor failure	Replace the double feeding sensor.

4.3.2 Document becomes wrinkled

<User Check>

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

Step	Cause	Remedy
1	Abrasion of the pick-up roller	Replace the pick-up roller ASSY.

4.3.3 Document becomes jammed

<User Check>

- Check that the document size is within the standard. If it is too small, use a carrier sheet.
- Check that the document is not wrinkled. If wrinkled, use a carrier sheet.
- Check that the document is not torn. If torn, use a carrier sheet.
- Check that the front cover is closed correctly.
- Check that the document is not damp. If it is damp, dry it or use a carrier sheet.
- Check that paper used for the document is not thinner than the standard. If it is too thin, use a carrier sheet.

Step	Cause	Remedy
1	Document scanning position actuator caught in sections of the machine	Reattach the document scanning position actuator.
2	Output tray attachment failure	Reattach the output tray.
3	Attachment failure of the two CIS units	Reattach the two CIS units.
4	Attachment failure of the gears in the feeding system	Reattach the gears in the feeding system.
5	Separation pad failure	Replace the separation pad ASSY.
6	Misalignment or bending of the pick-up roller support film	Replace the pick-up roller cover ASSY.
7	Deformation of, or burrs on, the output tray	Replace the output tray.
8	One way clutch failure	Replace the one way clutch.
9	Main motor failure	Replace the main motor.

4.3.4 Document is not picked up and fed

<User Check>

- Check that paper used for the document is not thinner than the standard. If it is too thin, use a carrier sheet.
- Check that the front cover is closed correctly.
- Check that the separation pad cover is closed correctly.

Step	Cause	Remedy
1	Document detection actuator coming off	Reattach the document detection actuator.
2	Connection failure of the document detection sensor harness	Reconnect the document detection sensor harness.
3	Connection failure of the top cover sensor harness	Reconnect the top cover sensor harness.
4	Connection failure of the front cover sensor harness	Reconnect the front cover sensor harness.
5	Connection failure of the main motor harness	Reconnect the main motor harness.
6	Attachment failure of the gears in the feeding system	Reattach the gears in the feeding system.
7	Top cover sensor failure	Replace the top cover sensor.
8	Front cover sensor failure	Replace the front cover sensor.
9	Document detection sensor failure	Replace the document detection sensor PCB.
10	One way clutch failure	Replace the one way clutch.
11	Deformed front plate spring	Replace the separation pad cover.
12	Main motor failure	Replace the main motor.
13	Main PCB failure	Replace the main PCB ASSY.

4.4 Troubleshooting for Software Problems

End users can solve problems related to software, for instance, scanning is not possible from a computer although scanning can be performed from the machine, as long as they follow the User Check items. If the problem still cannot be solved, follow each procedure according to the step number in the tables below.

4.4.1 Does not respond to operation from a computer

<User Check>

- Check that the USB cable is not damaged.
- When using an interface switch, check that the correct machine is selected.
- Check the relevant section in the User's Guide.
- Check the driver settings.
- Reset the machine to the default settings. (Refer to the User's Guide.)
- Unplug the AC power cord and then plug the AC power cord again into the outlet.

Step	Cause	Remedy
1	Program malfunction	Reinstall the firmware.
2	Connection failure of the front cover sensor harness	Reconnect the front cover sensor harness.
3	Connection failure of the top cover sensor harness	Reconnect the top cover sensor harness.
4	Rubber key attachment failure	Reattach the rubber key.
5	Front cover sensor failure	Replace the front cover sensor ASSY.
6	Top cover sensor failure	Replace the top cover sensor ASSY.
7	Main PCB failure	Replace the main PCB ASSY.

4.4.2 Cannot read data

<User Check>

- Check the relevant section in the User's Guide.
- Unplug the AC power cord and then plug the AC power cord again into the outlet.

Step	Cause	Remedy
1	Connection failure of the front cover sensor harness	Reconnect the front cover sensor harness.
2	Connection failure of the top cover sensor harness	Reconnect the top cover sensor harness.
3	Front cover sensor failure	Replace the front cover sensor ASSY.
4	Top cover sensor failure	Replace the top cover sensor ASSY.
5	First side or second side CIS unit failure	Replace the first side or second side CIS unit.
6	Main PCB failure	Replace the main PCB ASSY.

4.5 Troubleshooting for Control Panel Problems

4.5.1 Nothing is displayed on the LCD

<User Check>

- Check that the AC power cord is connected correctly.

Step	Cause	Remedy
1	AC power cord failure	Replace the AC power cord.
2	Connection failure of the key PCB harness	Reconnect the key PCB harness.
3	Connection failure of the panel PCB harness	Reconnect the panel PCB harness.
4	Connection failure of the LCD flat cable	Reconnect the LCD flat cable.
5	Connection failure of the top cover sensor harness	Reconnect the top cover sensor harness.
6	Top cover sensor failure	Replace the top cover sensor ASSY.
7	Key PCB failure	Replace the key PCB ASSY.
8	Power supply PCB failure	Replace the power supply PCB ASSY.
9	Main PCB failure	Replace the main PCB ASSY.

4.5.2 Control panel is inoperable

<User Check>

- Check that the function lock is not set.

Step	Cause	Remedy
1	Key PCB attachment failure	Reattach the key PCB.
2	Connection failure of the key PCB harness	Reconnect the key PCB harness.
3	Connection failure of the front cover sensor harness	Reconnect the front cover sensor harness.
4	Front cover sensor failure	Replace the front cover sensor ASSY.
5	Rubber key failure	Replace the rubber key.
6	Key PCB failure	Replace the key PCB ASSY.
7	Power supply PCB failure	Replace the power supply PCB ASSY.
8	Main PCB failure	Replace the main PCB ASSY.

4.5.3 Touch panel is inoperable

Step	Cause	Remedy
1	Key PCB attachment failure	Reattach the key PCB.
2	Connection failure of the key PCB harness	Reconnect the key PCB harness.
3	Connection failure of the touch panel sensor FPC	Reconnect the touch panel sensor FPC.
4	Connection failure of the front cover sensor harness	Reconnect the front cover sensor harness.
5	Front cover sensor failure	Replace the front cover sensor ASSY.
6	Key PCB failure	Replace the key PCB ASSY.
7	Touch panel sensor failure	Replace the touch panel sensor.
8	Power supply PCB failure	Replace the power supply PCB ASSY.
9	Main PCB failure	Replace the main PCB ASSY.

4.6 Troubleshooting for Network Problems

4.6.1 Cannot scan via network connection

<User Check>

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

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

4.7 Troubleshooting for Other Problems

4.7.1 Machine does not turn ON

<User Check>

- Connect the AC power cord correctly.

Step	Cause	Remedy
1	Connection failure of the panel PCB harness	Reconnect the panel PCB harness.
2	Connection failure of the top cover sensor harness	Reconnect the top cover sensor harness.
3	Top cover sensor failure	Replace the top cover sensor ASSY.
4	Panel PCB failure	Replace the panel PCB ASSY.
5	Power supply PCB failure	Replace the power supply PCB ASSY.
6	Main PCB failure	Replace the main PCB ASSY.

4.7.2 Unusual noise is coming from the machine

<User Check>

- Check that the front cover is closed correctly.

Step	Cause	Remedy
1	Possible cause differs depending on the location. Identify the location with the problem.	When the location with the problem is identified, check if there is a foreign object around that location.
2	Insufficient grease on parts	Re-grease the parts.
3	Bent or defective part	Replace the part.

4.7.3 Cannot save data in USB flash memory

<User Check>

- Check that the USB flash memory is inserted into the USB terminal correctly.
- Replace the USB flash memory and try saving data again.
- Check that the USB flash memory is not write-protected.

Step	Cause	Remedy
1	Rubber key attachment failure	Reattach the rubber key.
2	Rubber key failure	Replace the rubber key.
3	Panel PCB failure	Replace the panel PCB ASSY.
4	Main PCB failure	Replace the main PCB ASSY.

4.7.4 Cannot reset counters for periodic replacement parts

Step	Cause	Remedy
1	Counter reset failure	Reset counter again.
2	Main PCB failure	Replace the main PCB ASSY.

CHAPTER 3
DISASSEMBLY/REASSEMBLY

CHAPTER 3 DISASSEMBLY/REASSEMBLY

This chapter describes procedures for disassembling and reassembling the machine with related notes. The provided disassembly order flow enables you to take in the disassembly procedure of related part at a glance.

At the start of disassembling, you can check the disassembly order flow which guides you through a shortcut to get to the part.

This chapter also covers screw tightening torques and lubrication points where the specified lubrication should be applied when the machine is assembled.

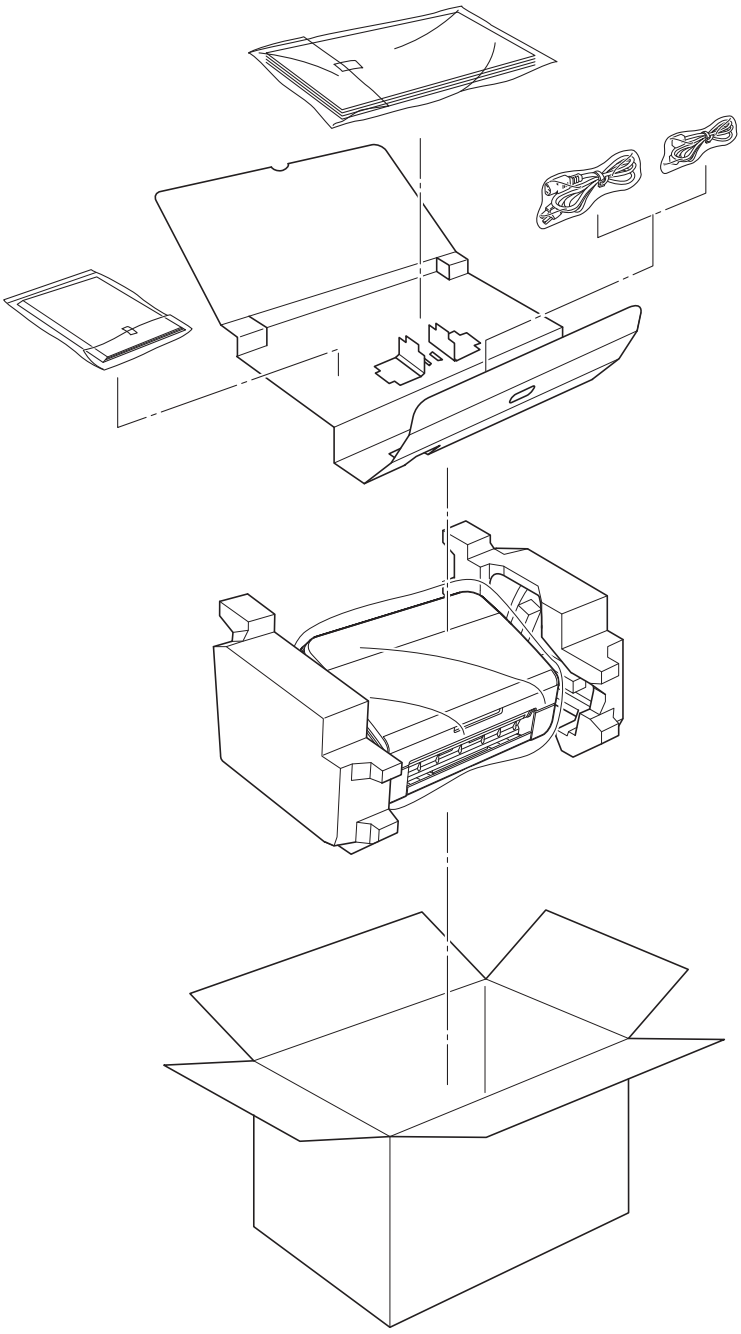
CONTENTS

1. SAFETY PRECAUTIONS

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

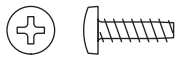
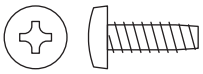
- Be careful not to lose screws, washers, or other parts removed.
- Be sure to apply grease to applicable positions specified in this chapter.
- When using soldering irons or other heat-generating tools, take care not to accidentally damage parts such as wires, PCBs and covers.
- Static electricity charged in your body may damage electronic parts. When transporting PCBs, be sure to wrap them in conductive sheets.
- When replacing the PCB and all the other related parts, put on a grounding wrist band and perform the job on a static mat. Also take care not to touch the conductor sections on the flat cables or on the wire harnesses.
- After disconnecting flat cables, check that each cable is not damaged at its end or short-circuited.
- When connecting flat cables, do not insert them at an angle. After insertion, check that the cables are not at an angle.
- When connecting or disconnecting harnesses, hold the connector body, not the cables. If the connector is locked, release it first.
- After a repair, check not only the repaired portion but also harness treatment. Also check that other related portions are functioning properly.
- After assembly, it is recommended to conduct dielectric test and continuity test.

2. PACKING

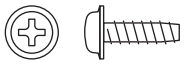


3. SCREW CATALOGUE

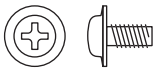
Taptite bind B

Taptite bind B M3x10	
Taptite bind B M4x12	

Taptite cup B

Taptite cup B M3x10	

Taptite cup S

Taptite cup S M3x6	

Screw pan (S/P washer)

Screw pan (S/P washer) M3x6DA	
Screw pan (S/P washer) M3.5x6	

4. SCREW TORQUE LIST

Note:
- To check the shape of each screw, refer to "3. SCREW CATALOGUE" in this chapter.

Location of screw		Screw type	Q'ty	Tightening torque N · m (kgf · cm)
Bottom cover		Taptite cup B M3x10	4	0.5±0.1 (5±1)
Side cover L		Taptite cup B M3x10	1	0.5±0.1 (5±1)
Side cover R		Taptite cup B M3x10	1	0.5±0.1 (5±1)
Main PCB shield plate		Taptite cup S M3x6	1	0.7±0.1 (7±1)
	Earth harness (BL)		1	0.7±0.1 (7±1)
Main PCB ASSY		Taptite cup S M3x6	2	0.7±0.1 (7±1)
USB host PCB ASSY		Taptite bind B M4x12	2	0.7±0.1 (7±1)
Earth harness (BK)	Main PCB shield frame	Taptite bind B M3x10	1	0.5±0.1 (5±1)
Earth harness (YW)		Taptite bind B M3x10	1	0.5±0.1 (5±1)
Earth harness (WH)		Taptite bind B M3x10	1	0.5±0.1 (5±1)
Panel ASSY		Taptite bind B M3x10	2	0.5±0.1 (5±1)
Panel PCB shield		Taptite cup S M3x6	2	0.4±0.1 (4±1)
		Taptite bind B M3x10	2	0.5±0.1 (5±1)
Panel PCB ASSY		Taptite cup S M3x6	2	0.4±0.1 (4±1)
Key PCB ASSY		Taptite cup S M3x6	1	0.4±0.1 (4±1)
LCD hold plate		Taptite bind B M3x10	6	0.5±0.1 (5±1)
Top cover sensor holder		Taptite bind B M3x10	1	0.5±0.1 (5±1)
Upper chute earth spring		Taptite cup S M3x6	1	0.7±0.1 (7±1)
Double feeding sensor holder		Taptite bind B M3x10	2	0.5±0.1 (5±1)
Pinch roller support plate		Taptite bind B M3x10	2	0.5±0.1 (5±1)
Back cover		Taptite cup B M3x10	4	0.5±0.1 (5±1)
Security slot earth plate		Taptite cup B M3x10	1	0.5±0.1 (5±1)
Power supply unit		Taptite bind B M3x10	4	0.5±0.1 (5±1)
Power supply earth harness		Screw pan (S/P washer) M3.5x6	1	0.5±0.1 (5±1)
Power supply PCB ASSY		Taptite cup S M3x6	3	0.4±0.1 (4±1)
Earth harness (YW)		Taptite cup S M3x6	1	0.4±0.1 (4±1)
Lower frame		Taptite cup B M3x10	4	0.5±0.1 (5±1)
Main motor		Screw pan (S/P washer) M3x6DA	1	0.5±0.1 (5±1)
Front cover sensor holder		Taptite cup B M3x10	1	0.5±0.1 (5±1)
Double feeding sensor upper shield		Taptite bind B M3x10	2	0.5±0.1 (5±1)

5. LUBRICATION

Lubrication oil type (Maker name)	Lubrication point		Quantity of lubrication
FLOIL GE-676 (Kanto Kasei)	One way clutch	1 place	1.5 mm dia. ball

■ **One way clutch**

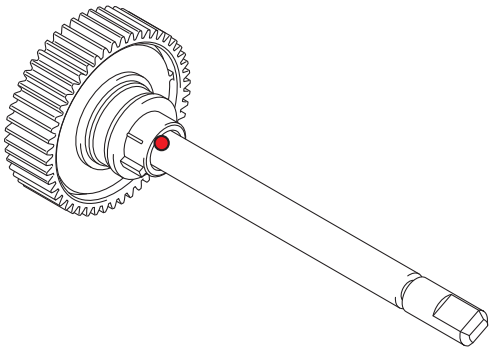
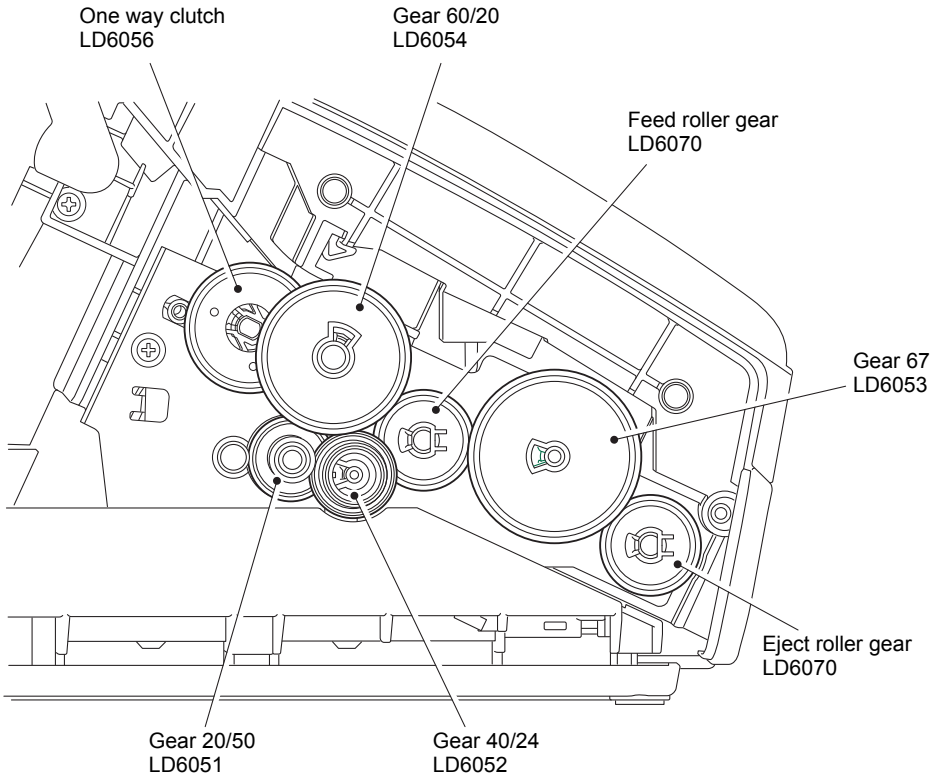


Fig. 3-1

6. OVERVIEW OF GEARS

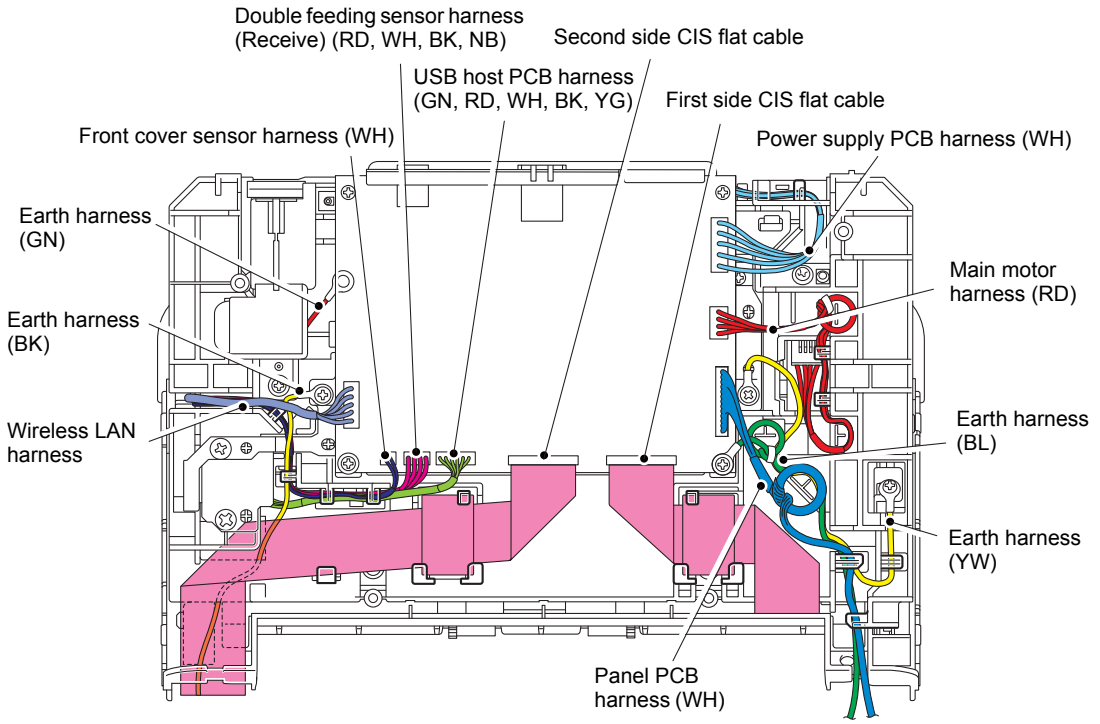


*** Part codes of these gears are subject to change without notice.**

Fig. 3-2

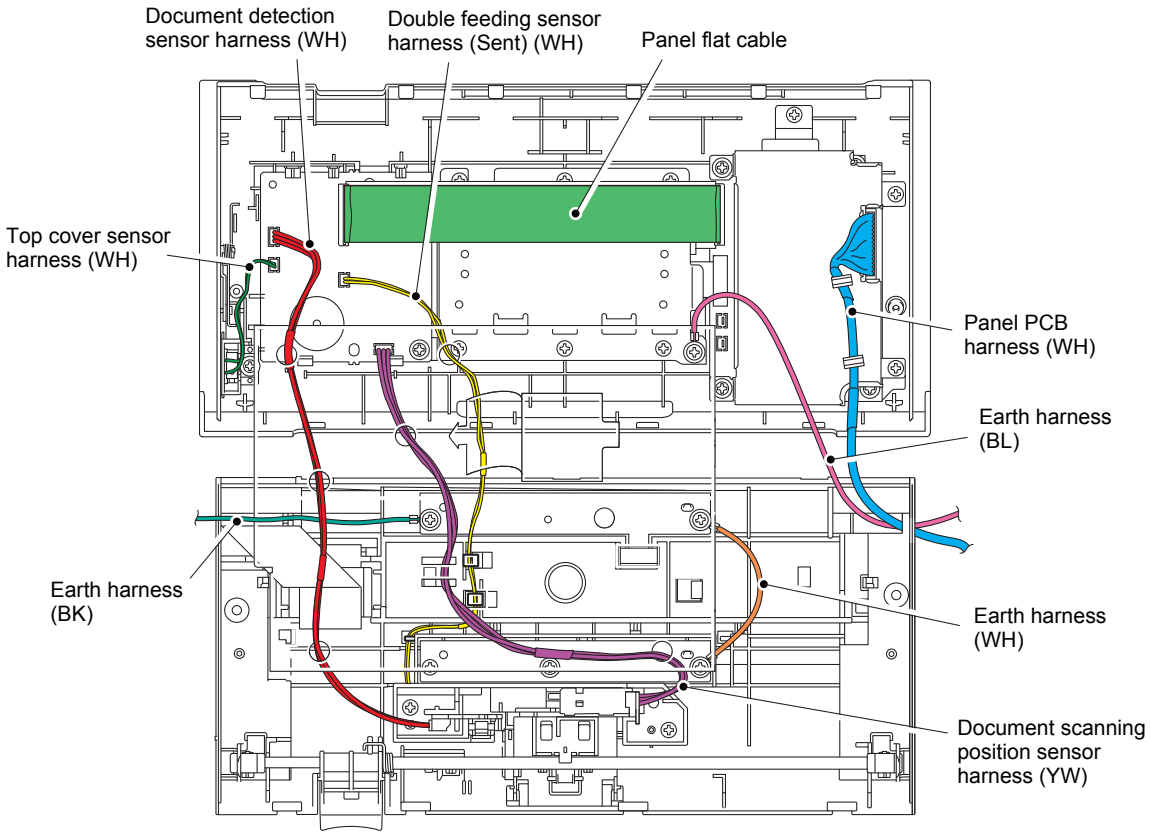
7. HARNESS ROUTING

1 Main PCB ASSY

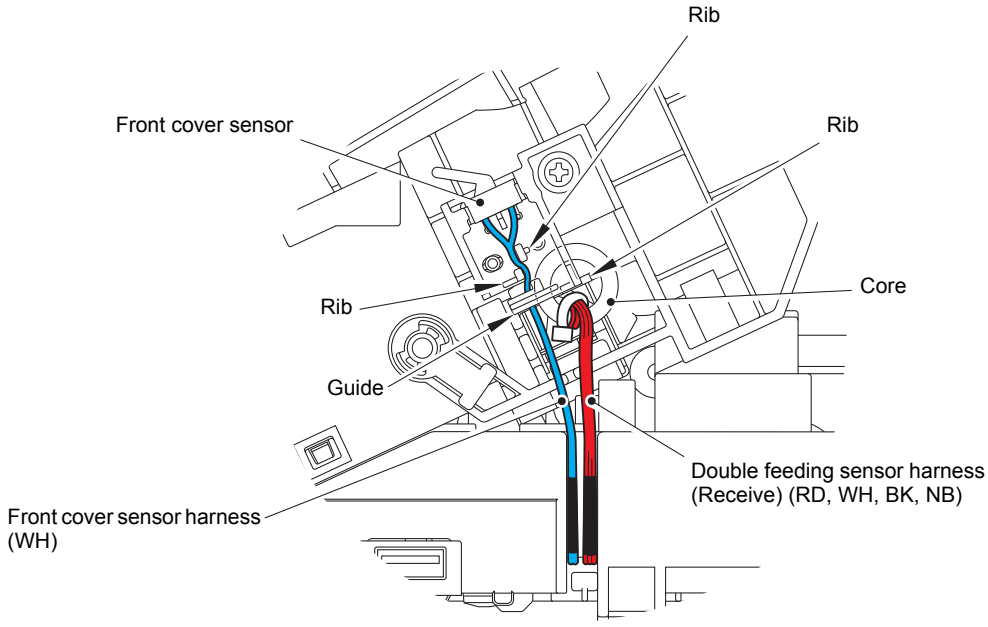


Harness colors are subject to change for some reason.

2 Panel PCB ASSY

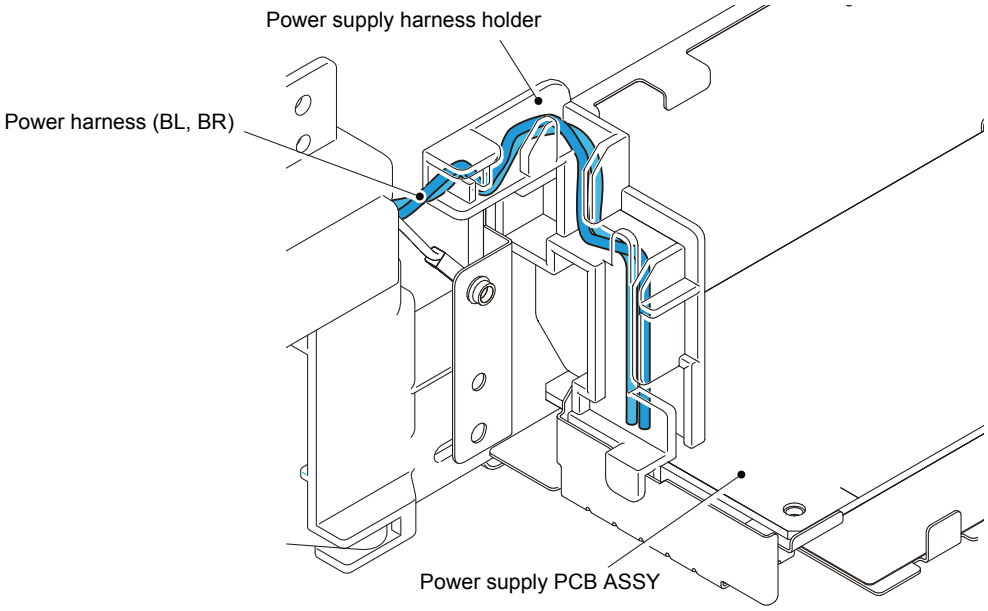


3 Frame R

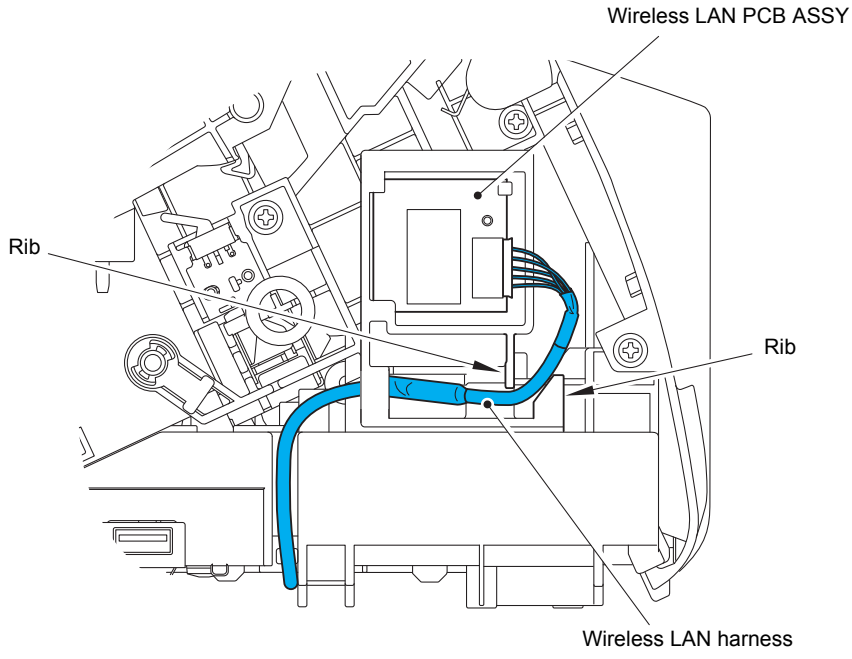


Harness colors are subject to change for some reason.

4 Power supply unit



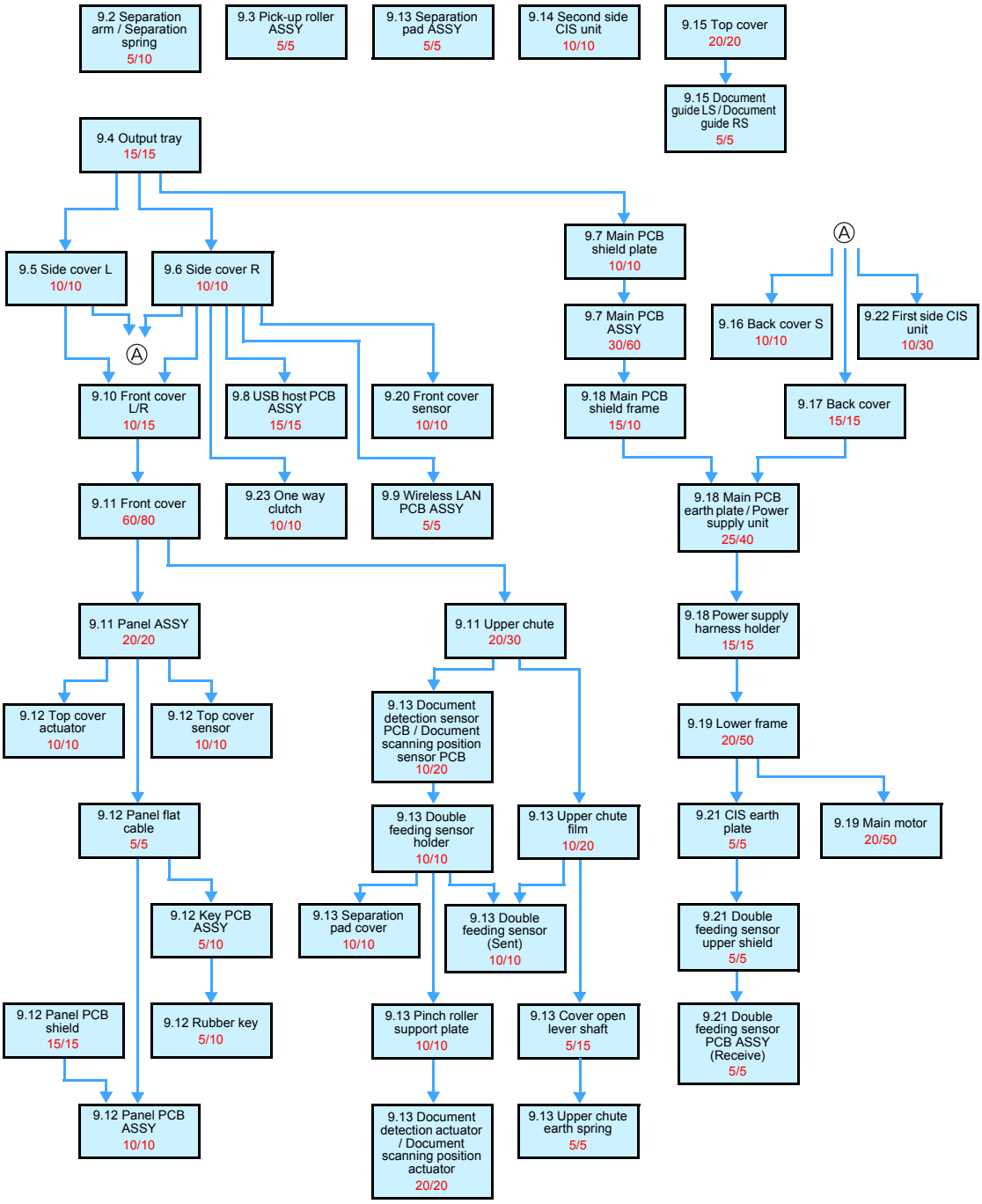
5 Wireless LAN PCB ASSY



Harness colors are subject to change for some reason.

8. DISASSEMBLY FLOW CHART

Disassembly / Re-Assembly (second)



9. DISASSEMBLY PROCEDURE

9.1 Preparation

■ Disconnecting Cables and Removing Accessories

Prior to proceeding with the disassembly procedure,

(1) Disconnect the following:

- AC power cord
- USB cable (if connected)
- LAN cable (if connected)

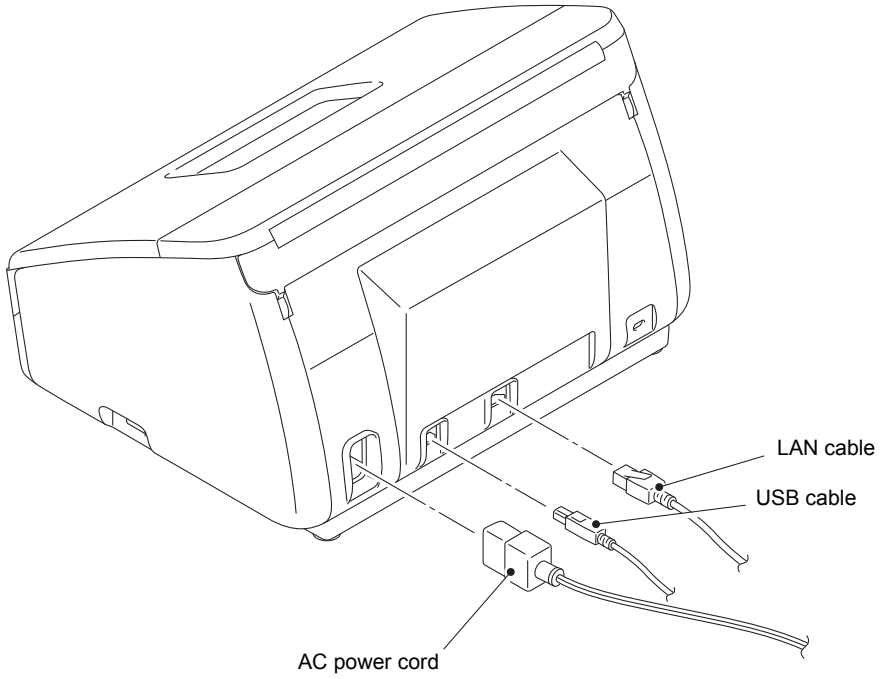


Fig. 3-3

9.2 Separation pad ASSY

(1) Open the top cover, and push the cover release lever to open the front cover.

(2) Push the two hooks on the separation pad cover inward to open it.

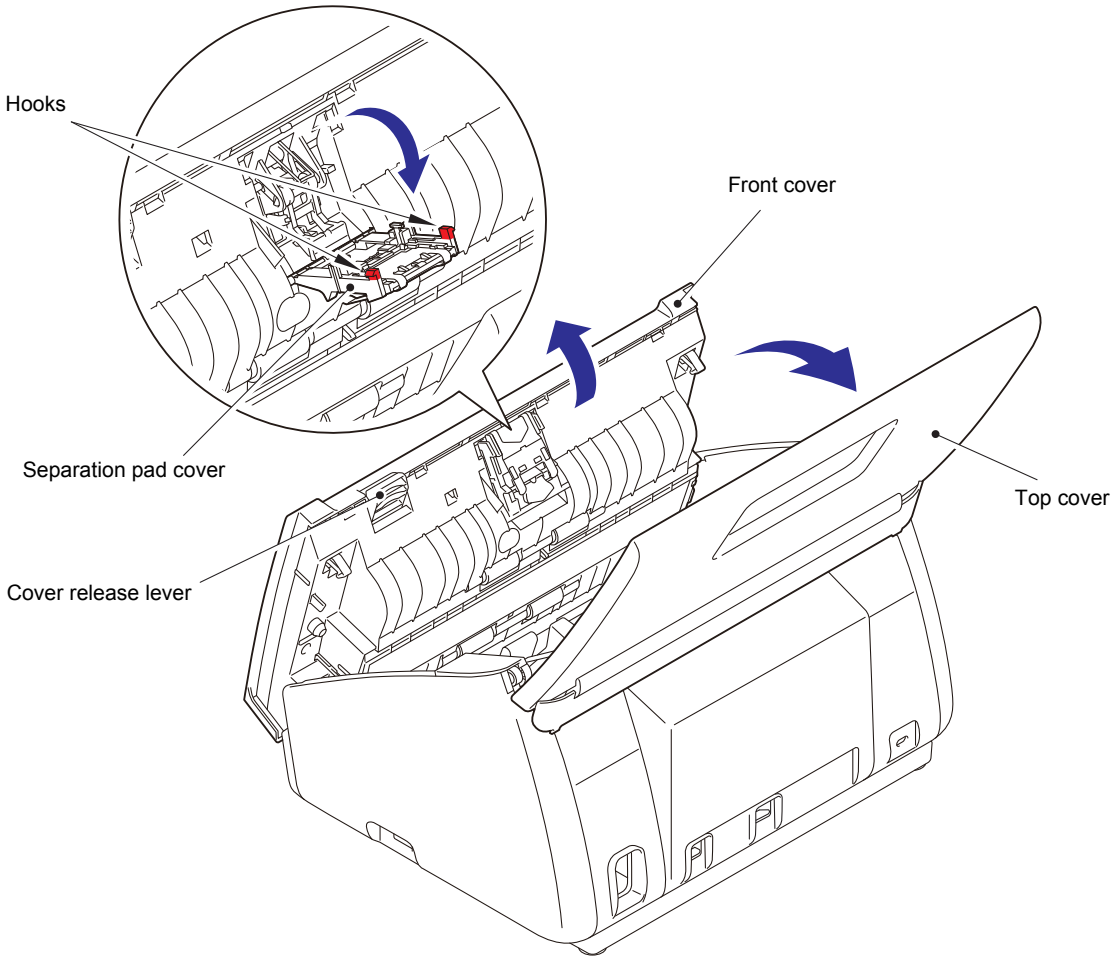


Fig. 3-4

(3) Push the two hooks on the separation arm inward to open the separation arm, and remove the separation spring from the front cover.

Note:

- Be careful not to damage the separation arm by opening it too much.
- Do not close the front cover when the separation arm is opened to prevent the separation arm to be damaged.

(4) Push the two hooks on the front cover outward. Remove the two bosses on the separation arm, and remove the separation arm from the front cover.

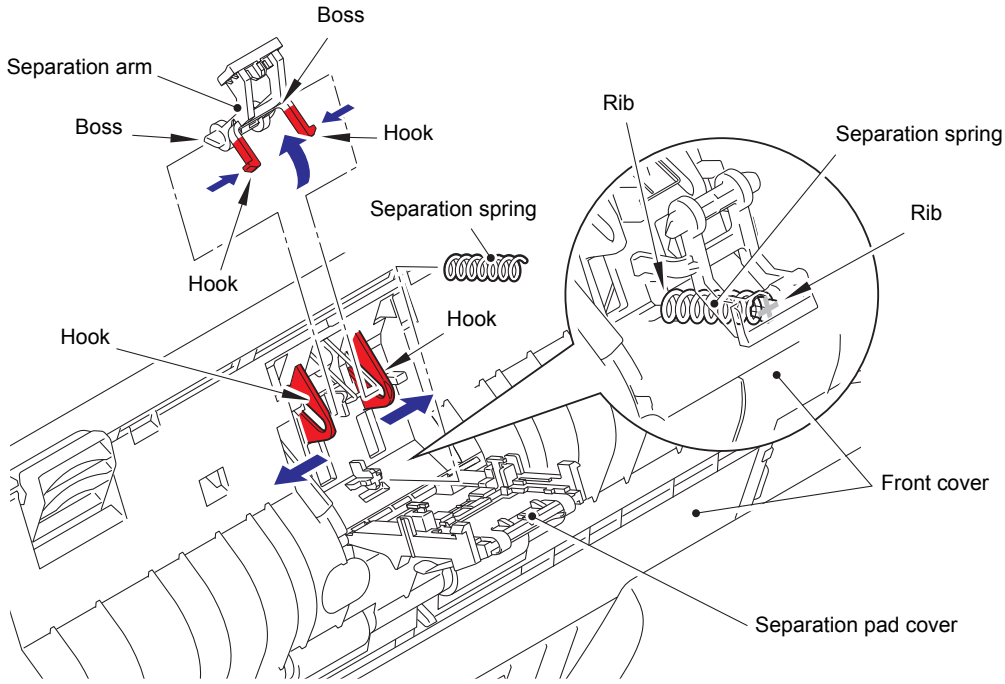


Fig. 3-5

(5) Close the separation pad cover.

Assembling Note:

- When assembling the separation spring, engage it with ribs on the front cover and separation pad cover.

9.3 Pick-up roller ASSY

(1) Slide the document guide L and R outward.

(2) Push the two hooks inward to open the pick-up roller cover ASSY. Slide the pick-up roller cover ASSY in the direction of arrow 2a to remove the boss A, and in the direction of arrow 2b to remove the boss B. Then remove the pick-up roller cover ASSY from the machine.

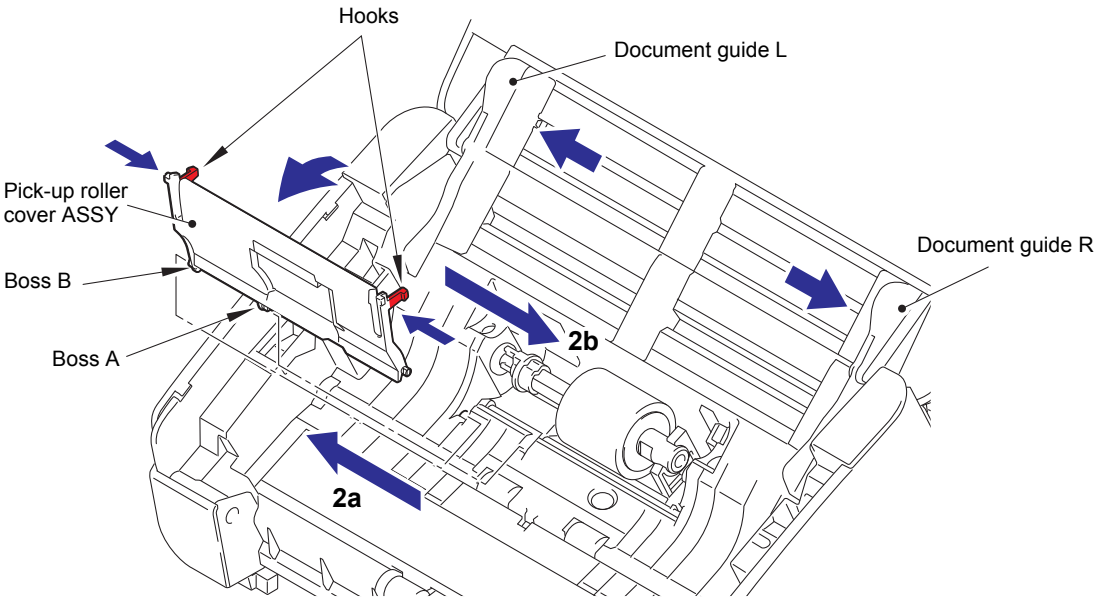


Fig. 3-6

(3) Slide the pick-up roller ASSY in the direction of the arrow, engage the two shaft cutout surfaces on the pick-up roller ASSY with the two notches on the pick-up roller bushing, and then remove the pick-up roller ASSY from the machine.

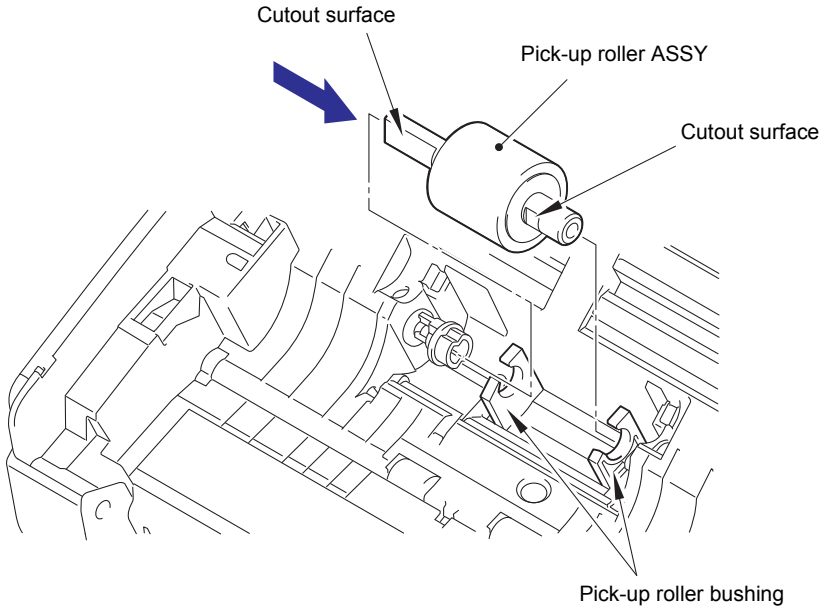


Fig. 3-7

(4) Close the front cover and the top cover.

9.4 Output tray

(1) Turn over the machine to pull out the output tray.

> **Note:**
> • When turning over the machine, spread a sheet to prevent the top cover to be scratched.

(2) Remove the four taptite cup B M3x10 screws, and remove the bottom cover from the machine.

(3) Remove the output tray from the bottom cover.

(4) Remove the four rubber foots from the bottom cover.

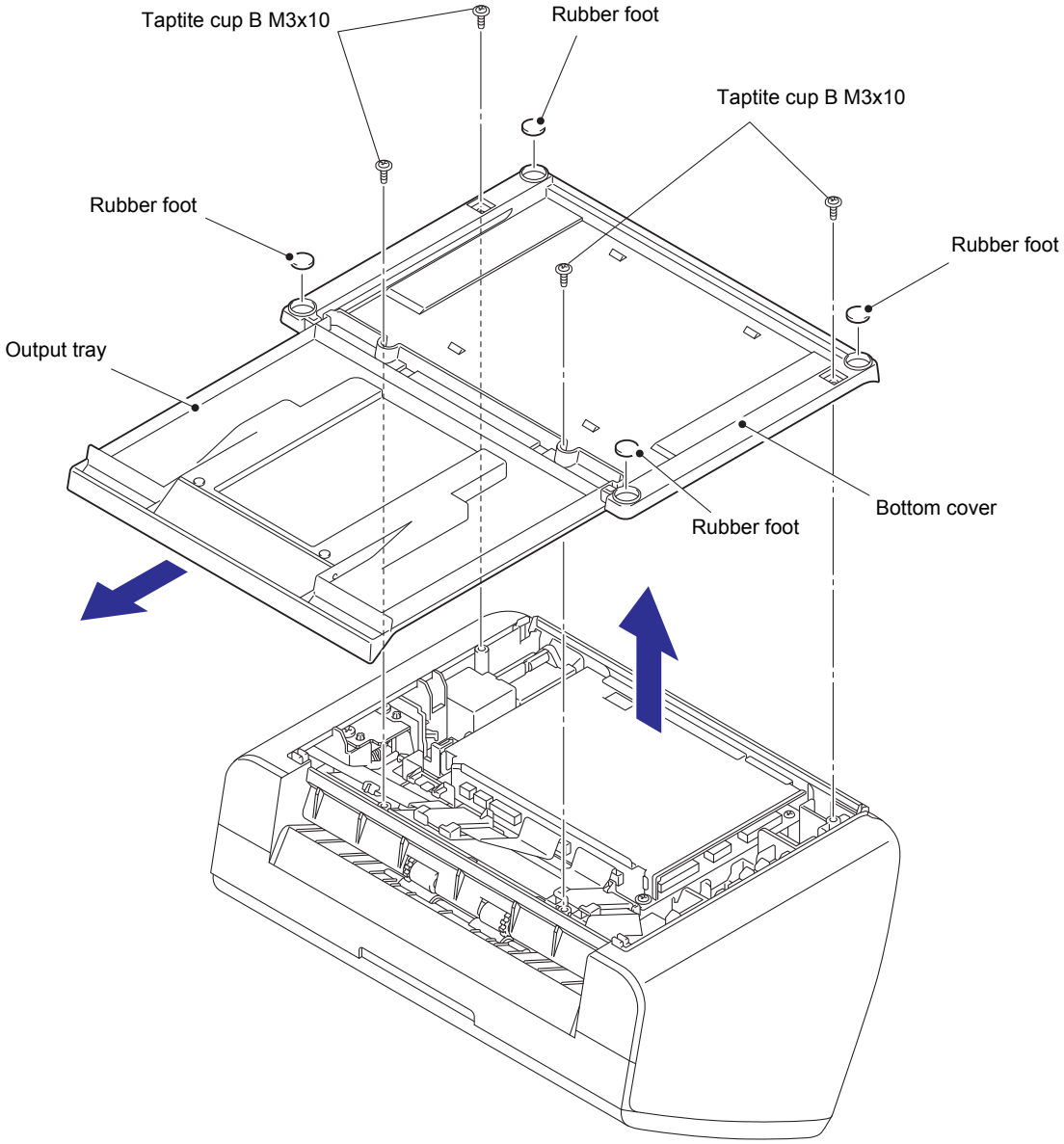


Fig. 3-8

9.5 Side cover L

(1) Turn over the machine and open the top cover. Push the cover release lever to open the front cover.

(2) Remove the taptite cup B M3x10 screw, and release the hook A to open the bottom. Release the remaining four hooks by swinging the side cover L in the direction of the arrow, and remove the side cover L from the machine.

(3) Remove the top cover shaft from the machine.

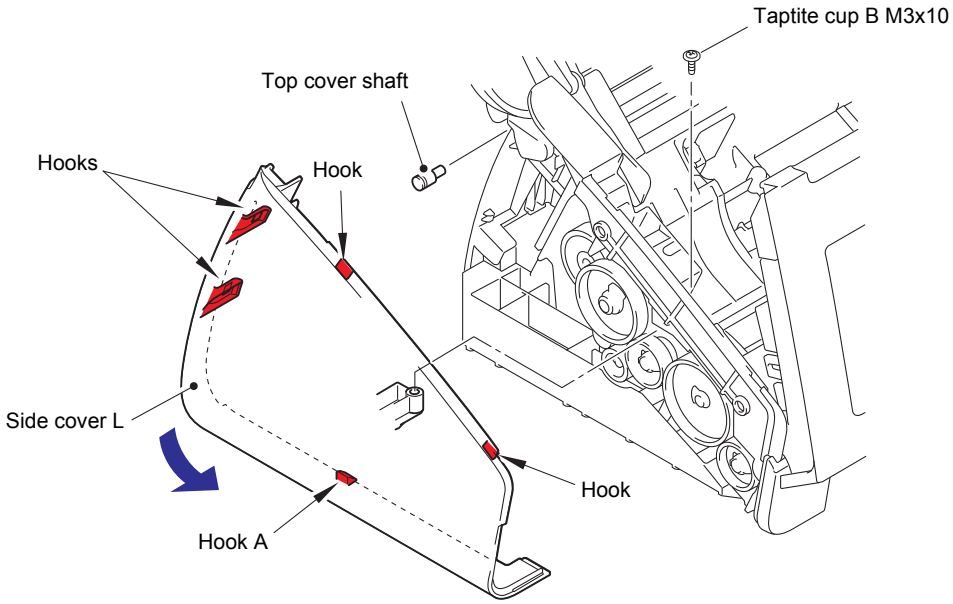


Fig. 3-9

9.6 Side cover R

(1) Remove the taptite cup B M3x10 screw, and release the hook A to open the bottom. Release the remaining four hooks by swinging the side cover R in the direction of the arrow, and remove the side cover R from the machine.

(2) Remove the top cover shaft from the machine.

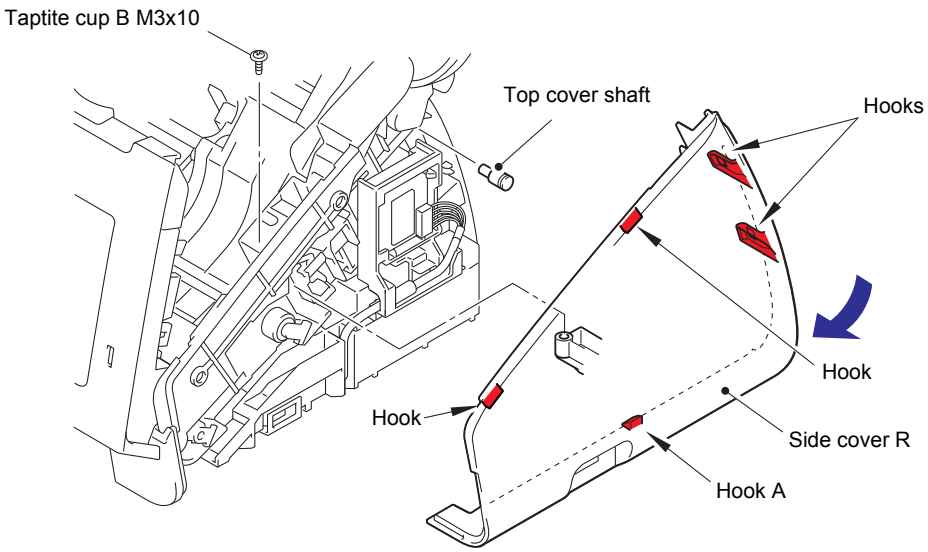


Fig. 3-10

(3) Close the front cover and the top cover.

9.7 Main PCB ASSY

(1) Turn over the machine. Remove the two taptite cup S M3x6 screws, and remove the earth harness (BL) and the main PCB shield plate.

Note:
- When turning over the machine, spread a sheet to prevent top cover to be scratched.

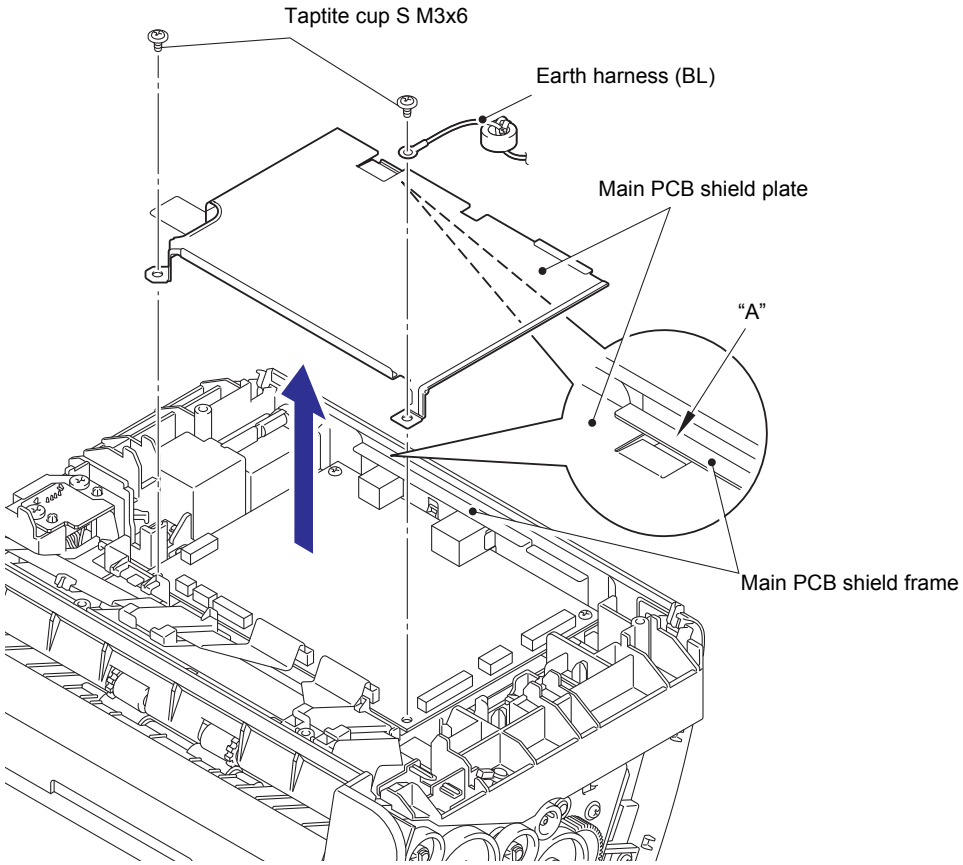


Fig. 3-11

HARNESS ROUTING: Refer to "1. Main PCB ASSY".

Assembling Note:
- Attach "A" on the main PCB shield plate to be under the main PCB shield frame.

(2) Disconnect all harnesses and flat cables connected to the main PCB ASSY.

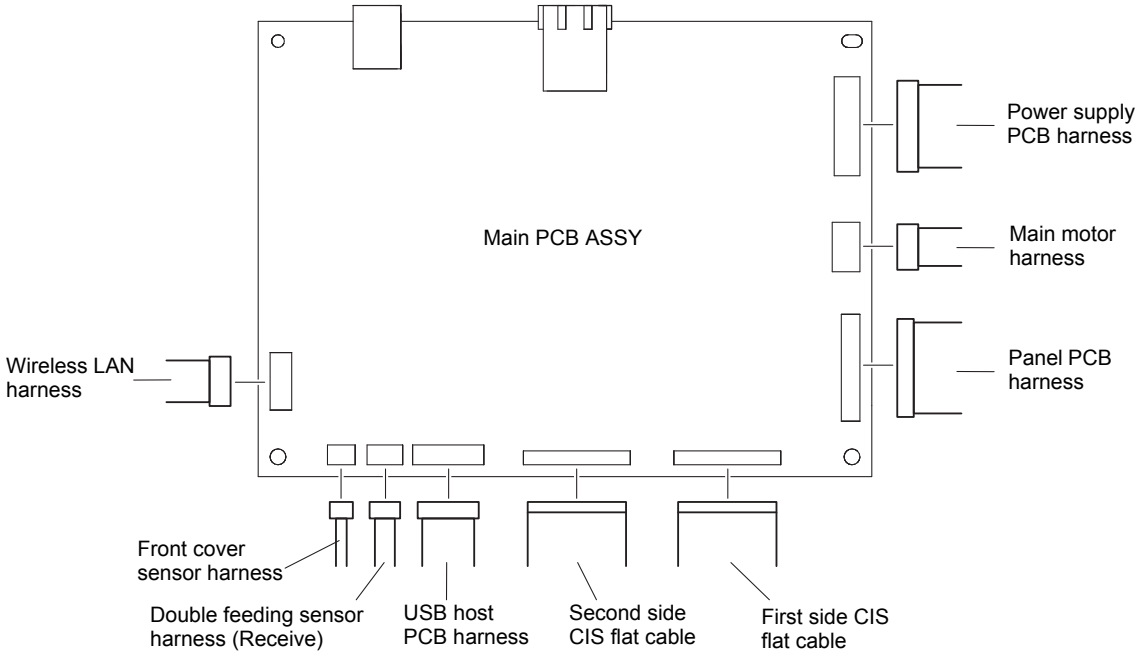


Fig. 3-12

HARNESS ROUTING: Refer to "1. Main PCB ASSY".

(3) Remove the two taptite cup S M3x6 screws to remove the main PCB ASSY from the machine.

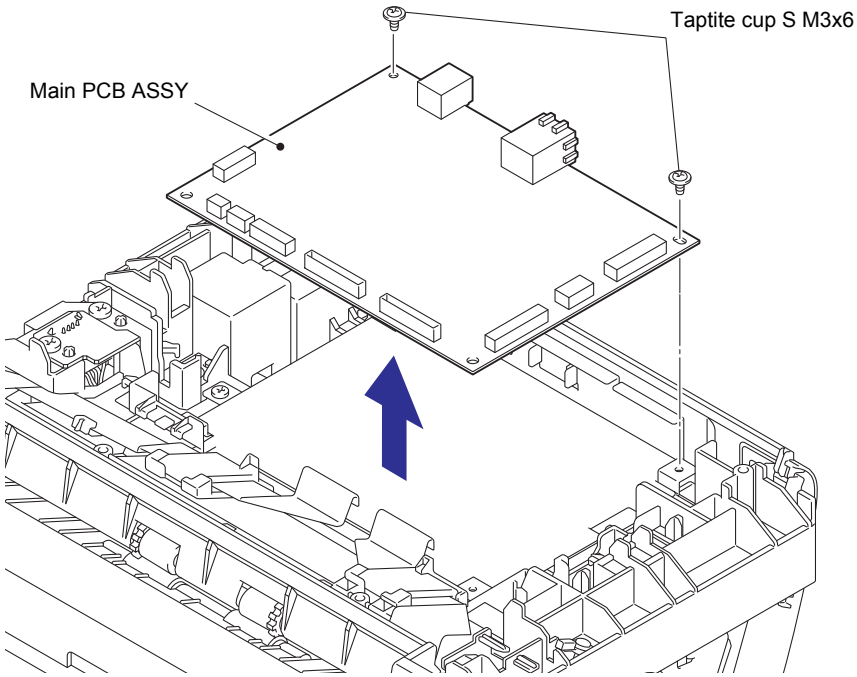


Fig. 3-13

9.8 USB host PCB ASSY

(1) Remove the taptite bind B M3x10 screw to remove the earth harness (BK).

(2) Release the USB host PCB harness, the front cover sensor harness, the double feeding sensor harness (Receive), and the earth harness (BK) from the securing fixtures.

(3) Remove the two taptite bind B M4x12 screws. Lift the USB earth plate to remove the USB host PCB ASSY from the machine.

Note:
- Be careful not to deform the USB earth plate.

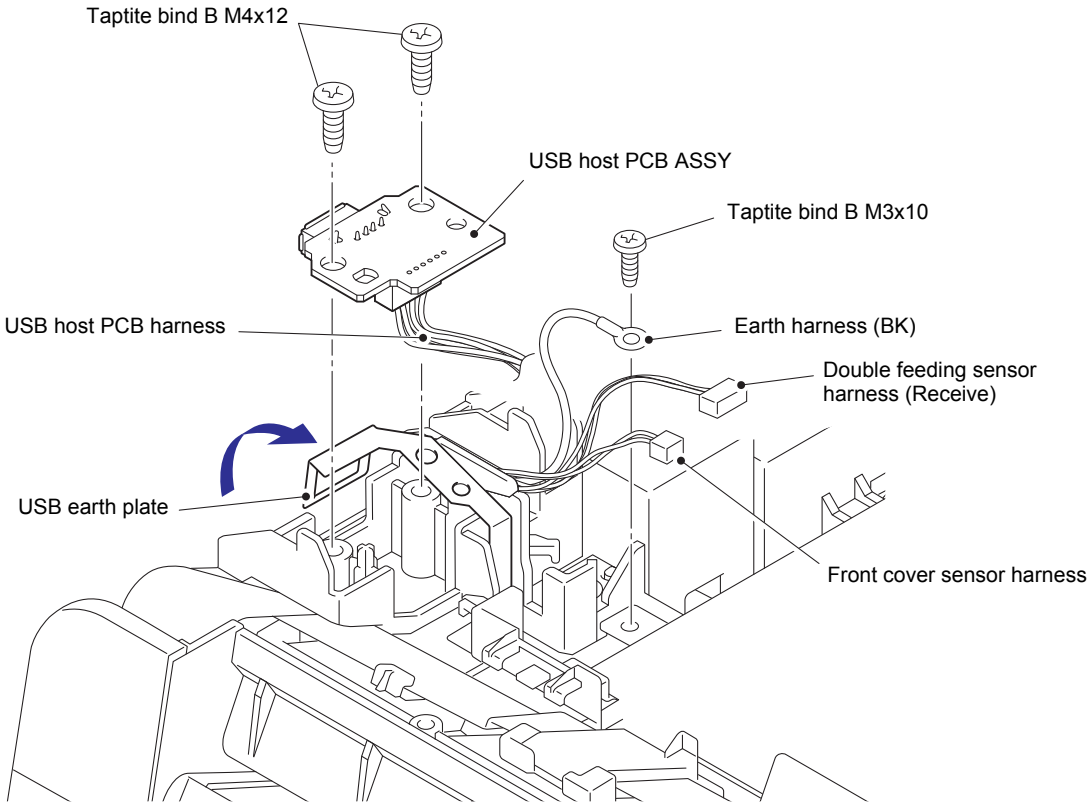


Fig. 3-14

HARNESS ROUTING: Refer to “1. Main PCB ASSY” and “3. Frame R”.

9.9 Wireless LAN PCB ASSY

(1) Release the hook to remove the wireless LAN PCB ASSY.

(2) Disconnect the wireless LAN harness from the wireless LAN PCB ASSY.

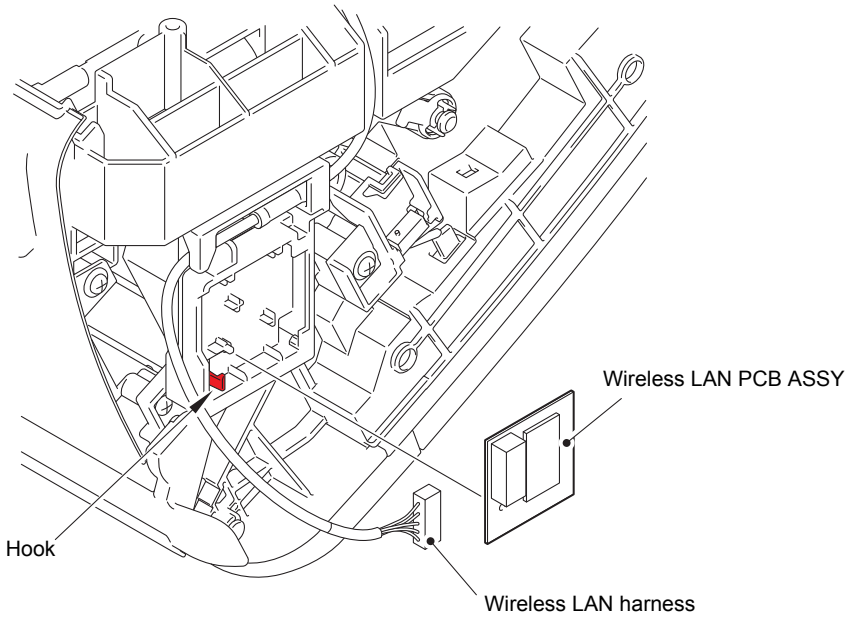


Fig. 3-15

HARNESS ROUTING: Refer to “5. Wireless LAN PCB ASSY”.

9.10 Front cover L/R

(1) Slide the front cover L in the direction of arrow 1a. Engage the rib on the front cover L with the notch on the machine to pull out and remove the front cover L from the machine in the direction of arrow 1b.

(2) Slide the front cover R in the direction of arrow 2a. Engage the rib on the front cover R with the notch on the machine to pull out and remove the front cover R from the machine in the direction of arrow 2b.

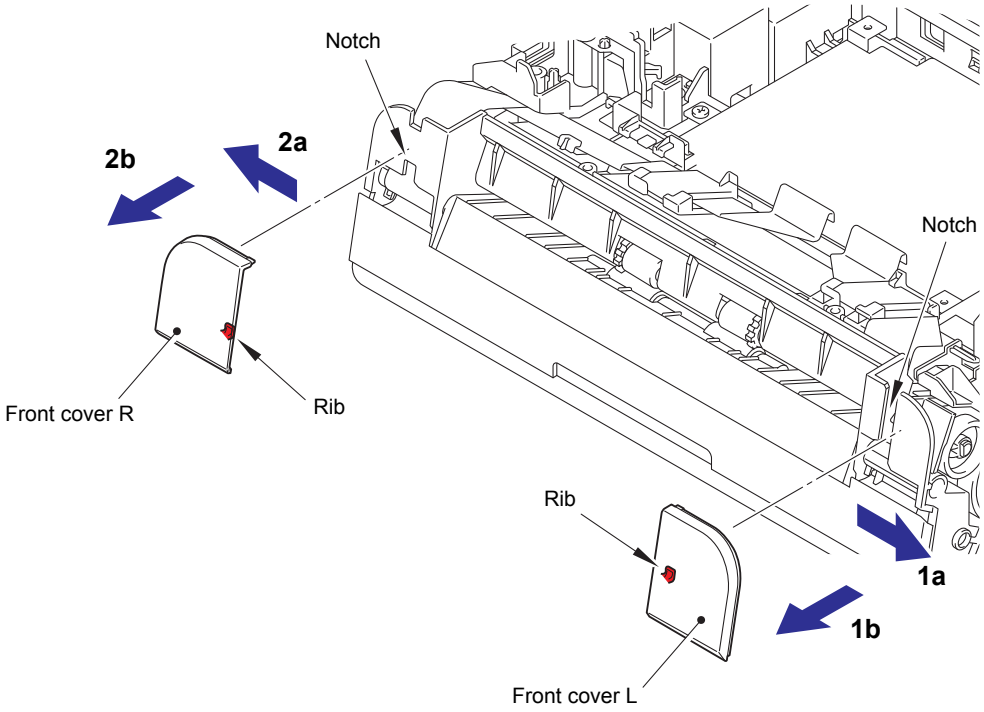


Fig. 3-16

9.11 Panel ASSY

(1) Remove the taptite bind B M3x10 screw, then remove the earth harness (YW).

(2) Release the hook to remove the core of the second side CIS flat cable from the machine, then release the second side CIS flat cable, the panel PCB harness, the earth harness (BL), and the earth harness (YW) from the securing fixtures.

(3) Pull out the core from the second side CIS flat cable. Then pull out the second side CIS flat cable and the earth harness (BK) from the hole on the machine.

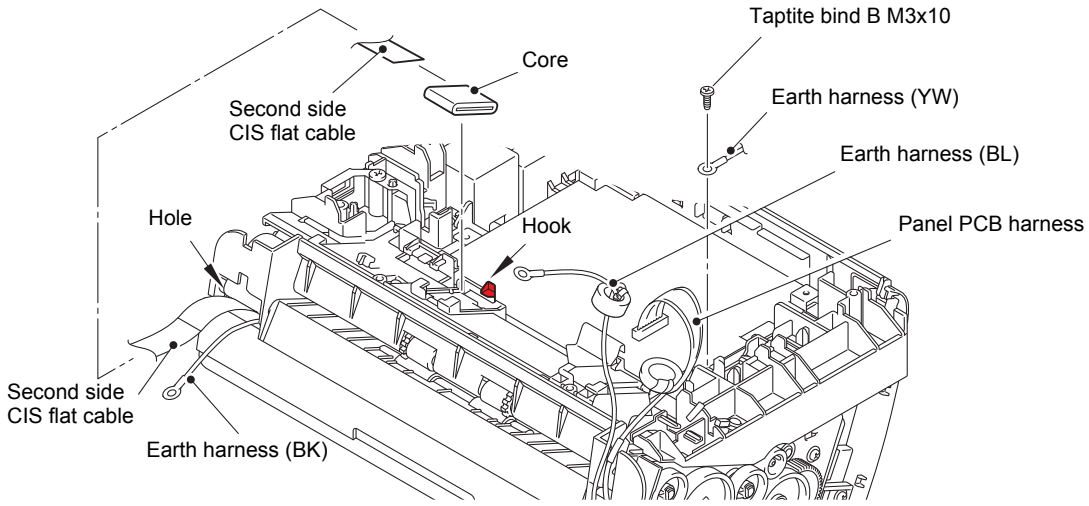


Fig. 3-17

HARNESS ROUTING: Refer to “1. Main PCB ASSY”.

(4) Turn over the machine and open the top cover. Push the cover release lever to open the front cover.

Note:

- Be careful not to drop the main PCB shield frame and the USB earth plate as they are not secured.

(5) Push the front cover in the direction of arrow 5a to remove the boss A, and in the direction of arrow 5b to remove the boss B. Then remove the front cover from the machine.

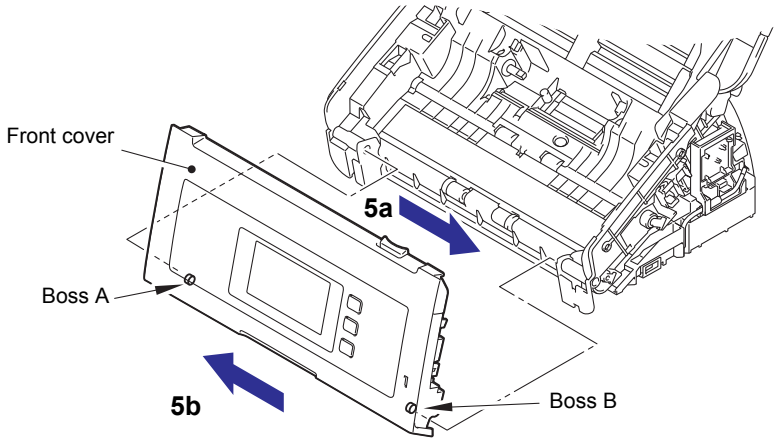


Fig. 3-18

(6) Remove the two taptite bind B M3x10 screws, and release the four hooks. Slide the upper chute in the direction of the arrow and release the six tabs from the upper chute.

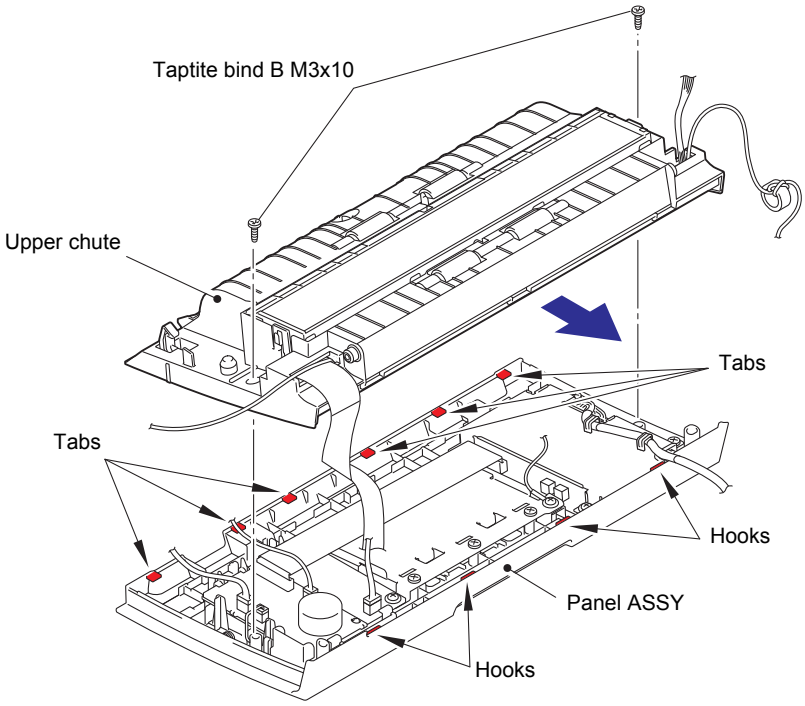


Fig. 3-19

Note:

- Be careful not to pull any harness.

(7) Open the upper chute from the panel ASSY.

(8) Remove the taptite cup S M3x6 screw to remove the earth harness (BL), and then pull out the earth harness (BL) from the hole on the upper chute.

(9) Remove the two panel harness holders, and disconnect the panel PCB harness from the panel PCB ASSY, and then pull out the panel PCB harness from the hole on the upper chute.

(10) Disconnect the document detection sensor harness, the document scanning position sensor harness and the double feeding sensor harness (Sent) from the key PCB ASSY.

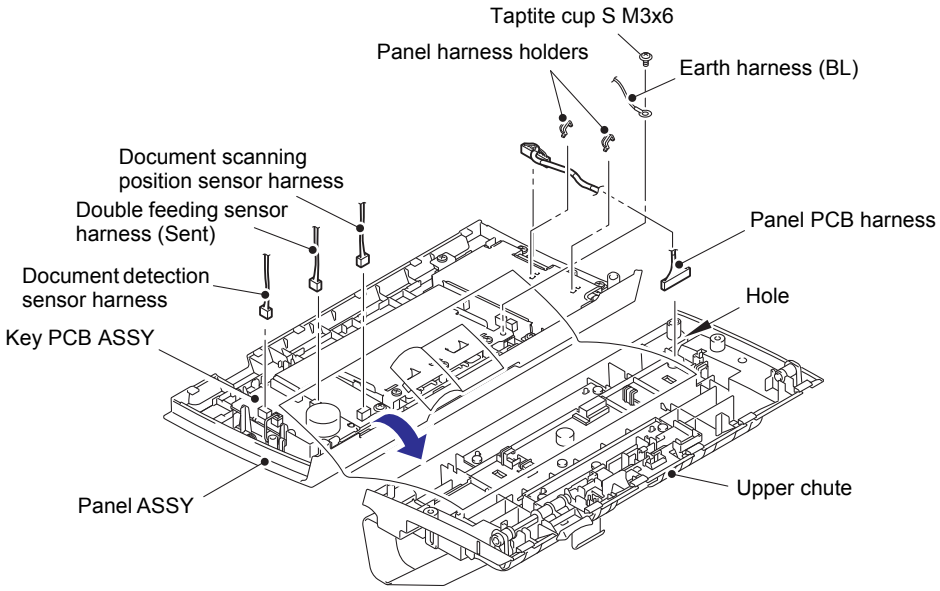


Fig. 3-20

HARNESS ROUTING: Refer to “2. Panel PCB ASSY”.

Assembling Note:

- Make sure that there is no slack in the panel PCB harness when reconnecting it.

9.12 Panel PCB ASSY / Key PCB ASSY / Rubber key / Top cover sensor / Top cover actuator

(1) Disconnect the panel flat cable from the panel PCB ASSY and the key PCB ASSY.

(2) Remove the two taptite cup S M3x6 screws and the two taptite bind B M3x10 screws to remove the panel PCB shield.

(3) Release the lock of connector on the panel PCB assy, and disconnect the LCD relay PCB flat cable.

(4) Remove the two taptite cup S M3x6 screws, and remove the panel PCB ASSY.

(5) Disconnect the top cover sensor harness from the key PCB ASSY.

(6) Remove the taptite cup S M3x6 screw, and release the three hooks to remove the key PCB ASSY.

(7) Remove the rubber key from the panel ASSY.

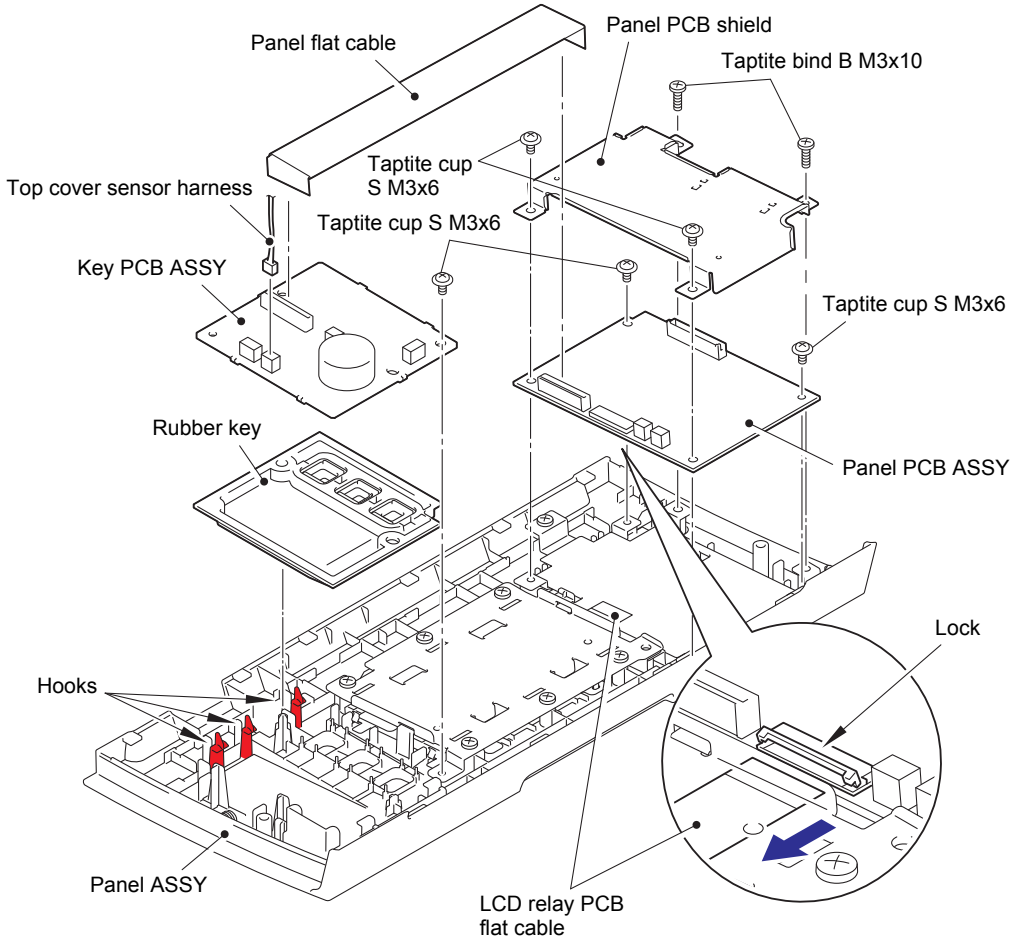


Fig. 3-21

(8) Remove the taptite bind B M3x10 screw to remove the top cover sensor holder from the panel ASSY.

(9) Release the two hooks to remove the top cover sensor from the top cover sensor holder.

(10) Lift the top cover actuator and remove it from the boss on the panel ASSY along with the top cover actuator spring.

(11) Remove the top cover actuator spring from the top cover actuator.

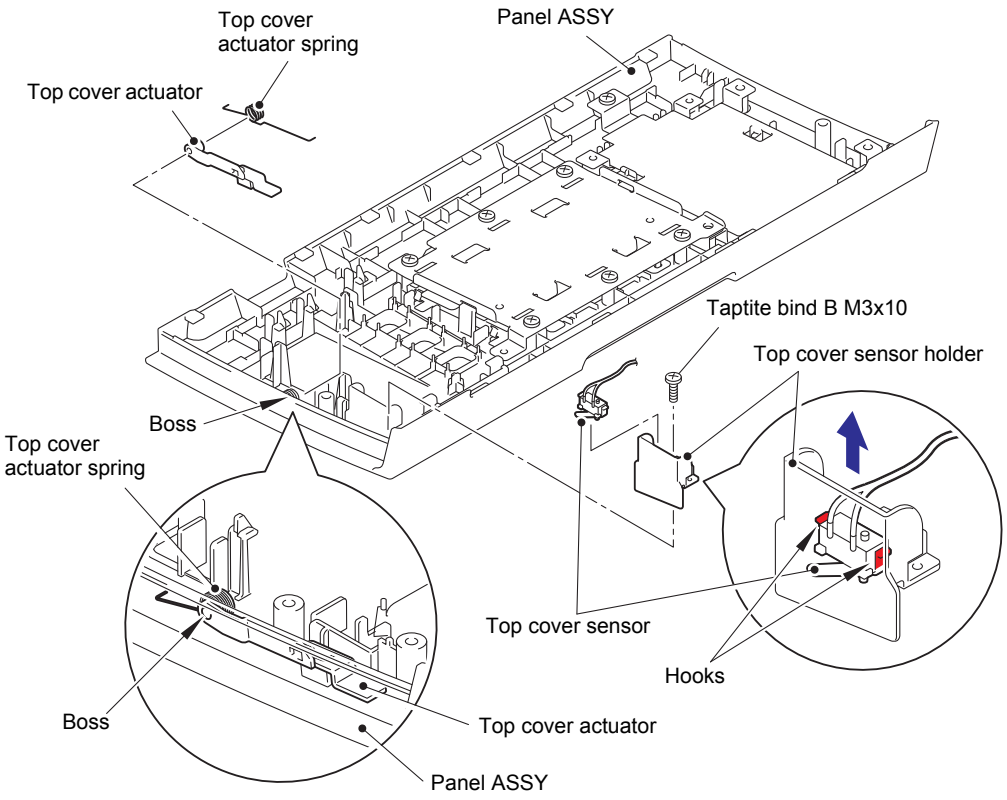


Fig. 3-22

HARNESS ROUTING: Refer to “2. Panel PCB ASSY”.

Assembling Note:

- Attach the top cover actuator spring on the position described in the illustration above.

9.13 Document detection sensor PCB / Document detection actuator / Document scanning position sensor PCB / Document scanning position actuator / Double feeding sensor (Sent) / Separation pad ASSY

(1) Remove the document detection sensor harness, the document scanning position sensor harness, and the double feeding sensor harness (Sent) from the upper chute film, and release the upper chute film from the two hooks on the upper chute.

(2) Push the rib in the direction of the arrow to remove the document detection sensor PCB from the upper chute.

(3) Disconnect the document detection sensor harness from the document detection sensor PCB.

(4) Release the hook A, and remove the document scanning position sensor PCB from the upper chute.

(5) Disconnect the document scanning position sensor harness from the document scanning position sensor PCB.

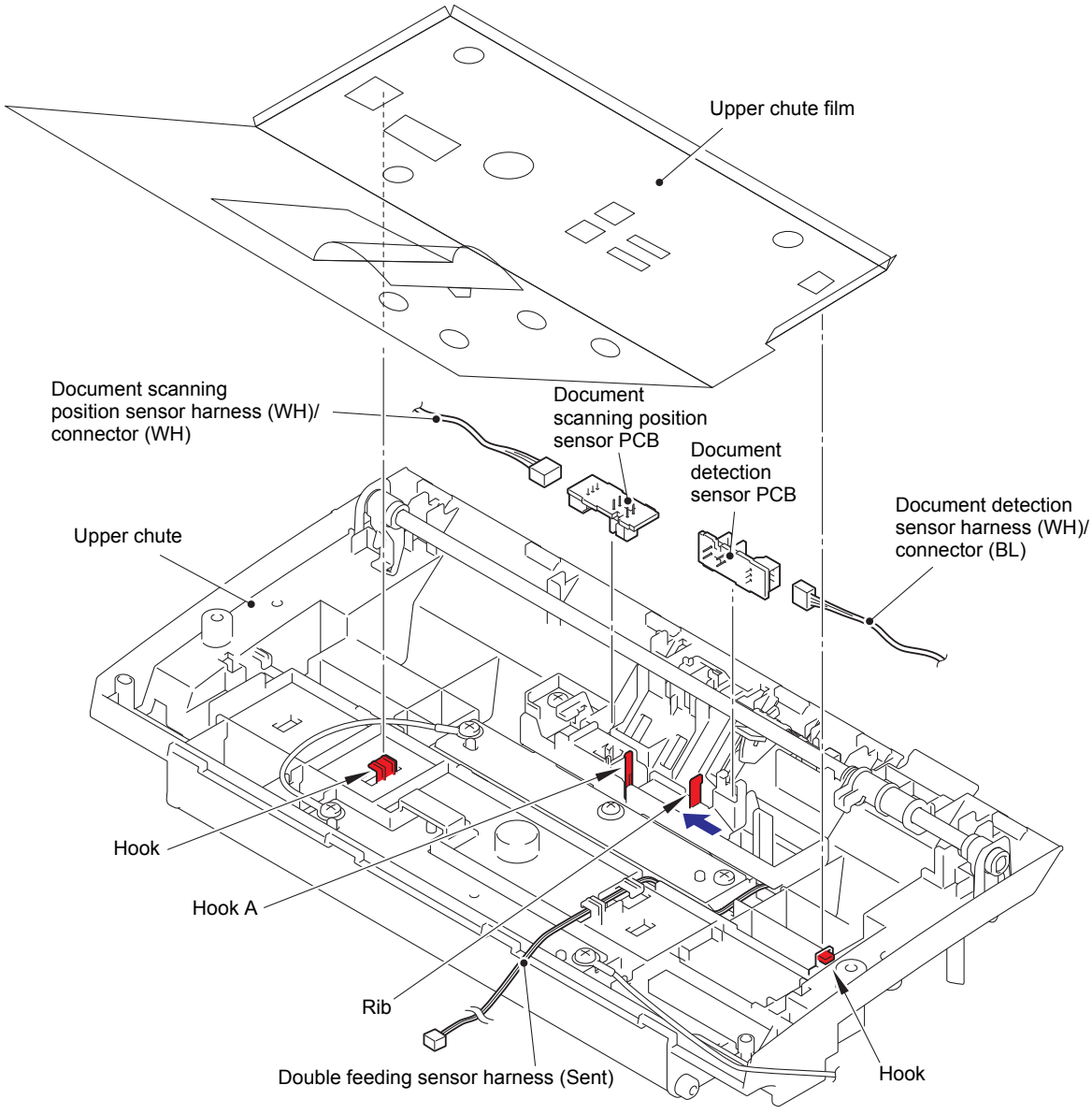


Fig. 3-23

HARNESS ROUTING: Refer to “2. Panel PCB ASSY”.

(6) Remove the taptite cup S M3x6 screw, and lift the upper chute earth spring.

(7) Push the two hooks on the upper chute outward, and remove the cover open lever shaft from the upper chute.

(8) Remove the upper chute earth spring from the upper chute.

(9) Remove the two taptite bind B M3x10 screws, and remove the double feeding sensor holder from the upper chute.

(10) Release the double feeding sensor harness (Sent) from the securing fixture, and remove the double feeding sensor (Sent) from the upper chute.

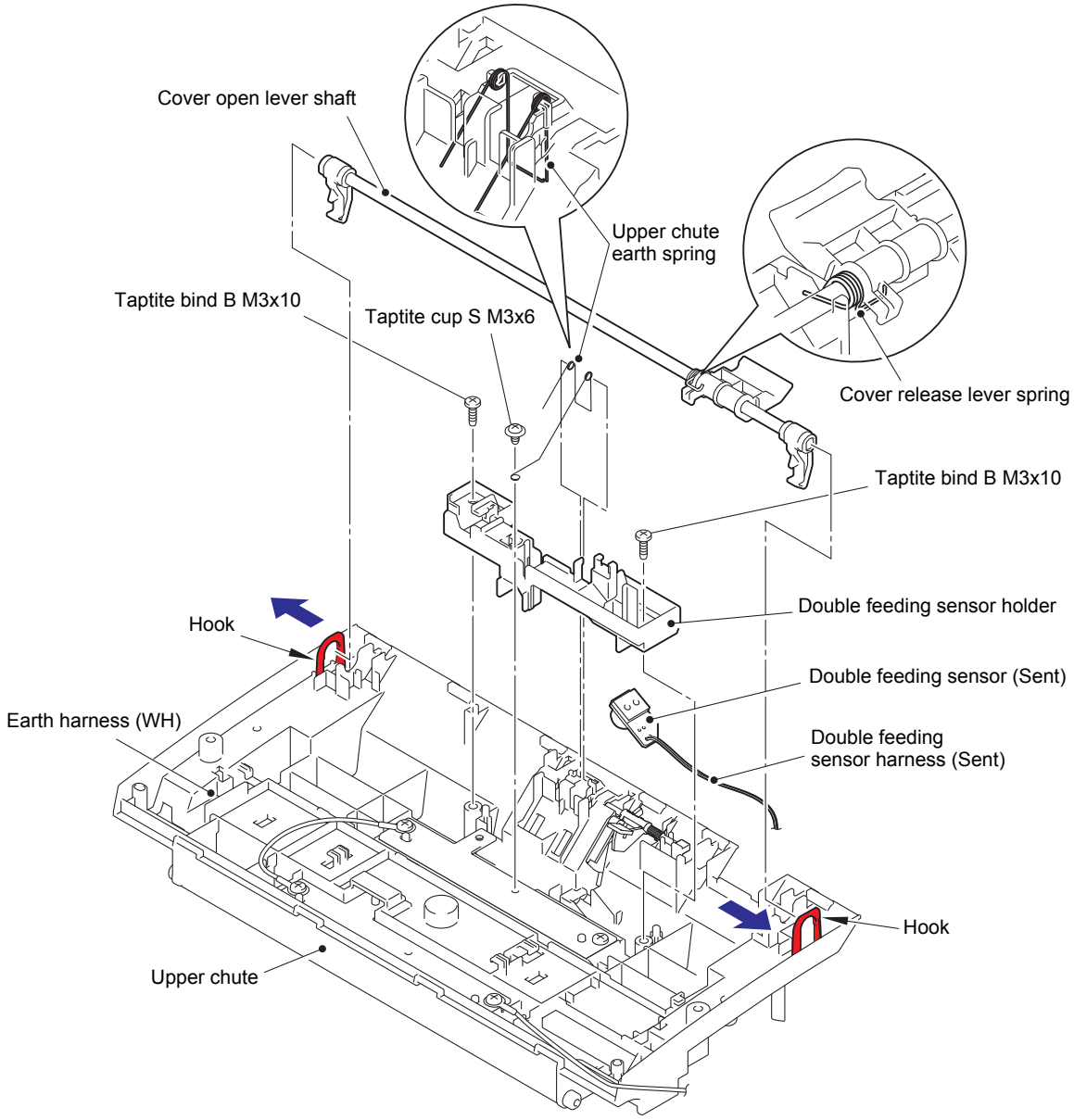


Fig. 3-24

HARNESS ROUTING: Refer to “2. Panel PCB ASSY”.

Assembling Note:

- Attach the upper chute earth spring and the cover release lever spring on the position described in the illustration above.
- Attach the upper chute earth spring under the cover open lever shaft.

(11) Push the two hooks on the separation pad cover inward to open the separation pad cover.

(12) Engage the separation pad cover with the groove on the upper chute, and slide it in the direction of arrow 12b while pulling its shaft in the direction of arrow 12a using spring peg or other tools. Remove the slit section on the separation pad cover shaft from the rib on the upper chute. Then remove the shaft on the left side of the separation pad cover to remove it from the upper chute in the direction of arrow 12c.

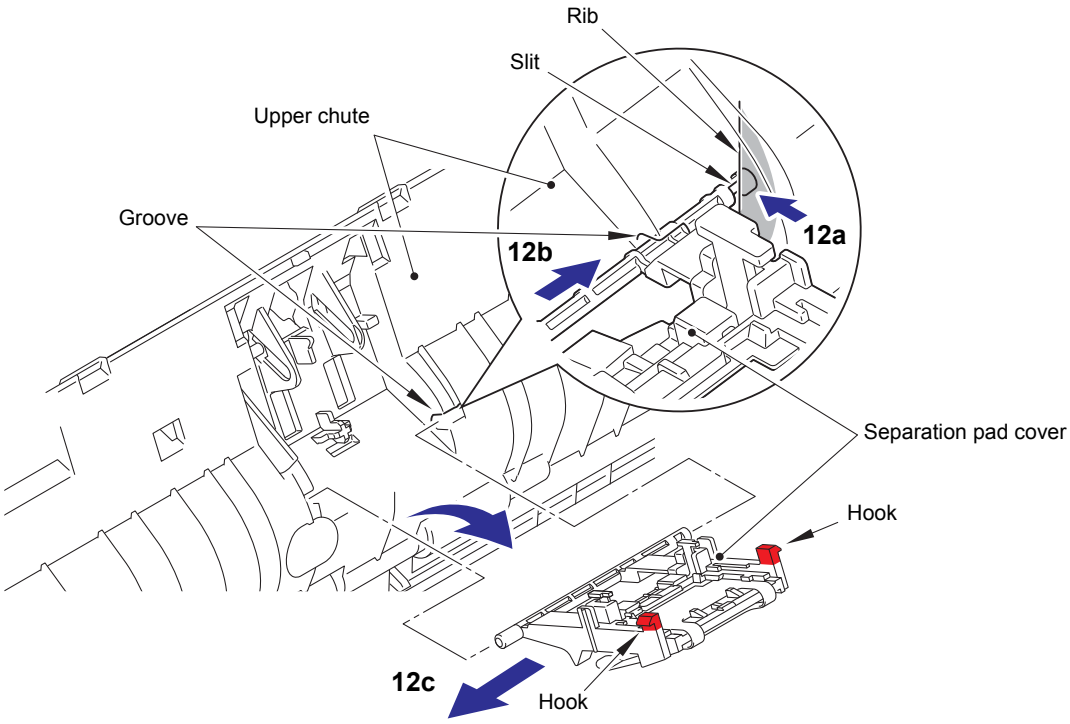


Fig. 3-25

(13) Push both of the two hooks on the separation pad ASSY inward, and remove the separation pad ASSY from the separation pad cover.

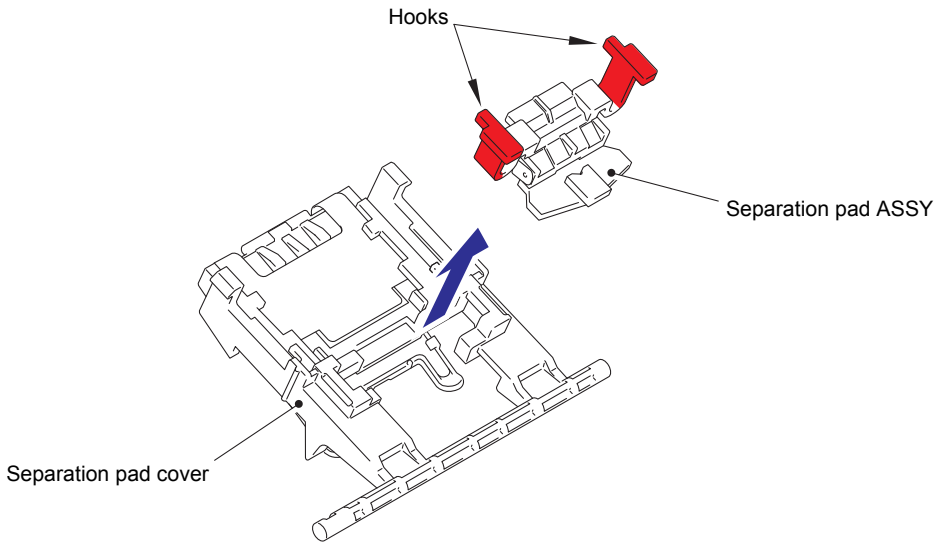


Fig. 3-26

(14) Release the hook, then remove the document detection actuator and the document detection actuator spring from the upper chute.

(15) Remove the document detection actuator spring from the document detection actuator.

(16) Remove the two taptite bind B M3x10 screws. Then remove the earth harness (WH) and the pinch roller support plate from the upper chute.

(17) Remove the document scanning position actuator and the document scanning position actuator spring from the upper chute.

(18) Remove the document scanning position actuator spring from the document scanning position actuator.

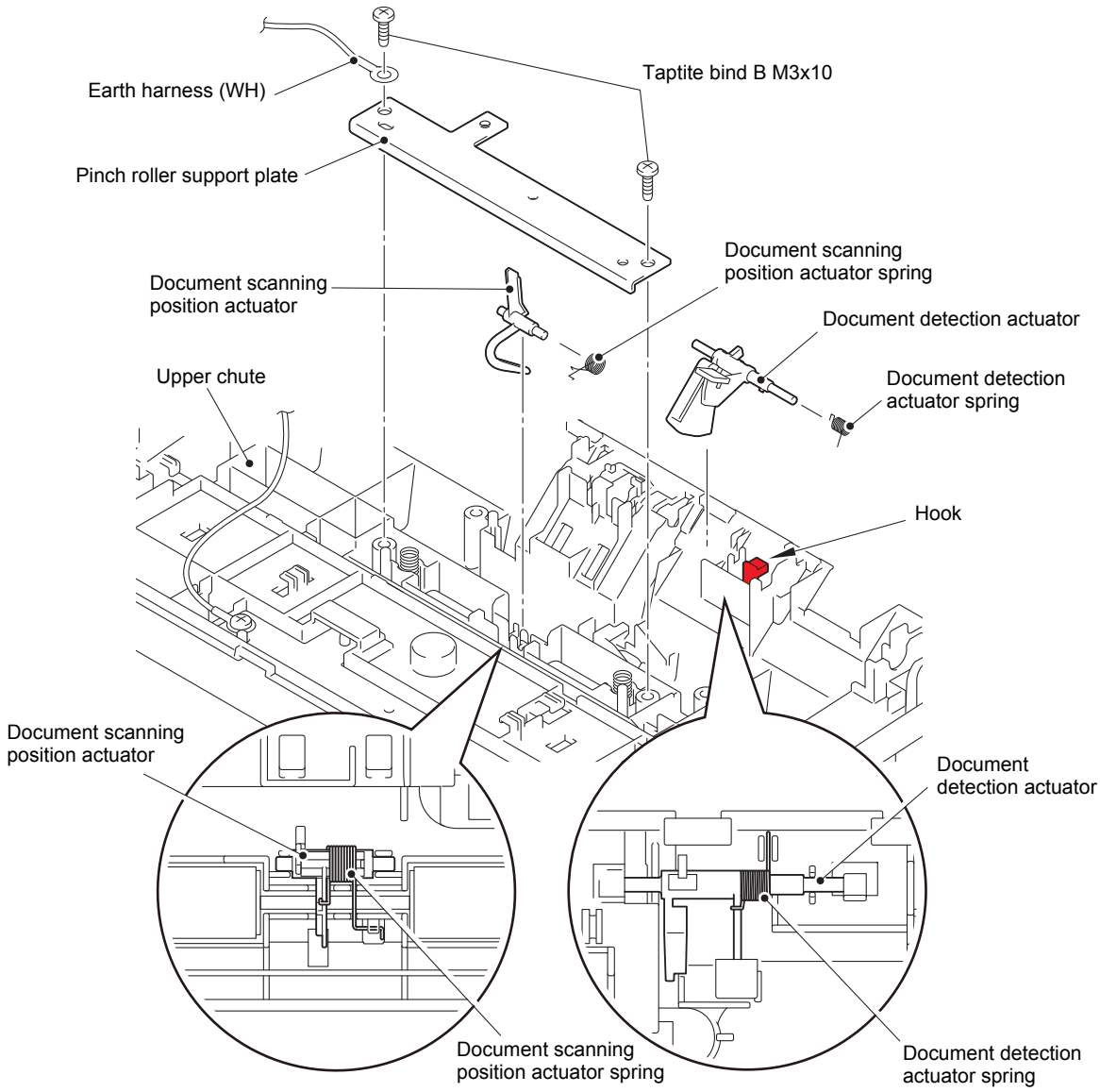


Fig. 3-27

HARNESS ROUTING: Refer to "2. Panel PCB ASSY".

Assembling Note:

- Attach the document detection actuator spring on the position described in the illustration above.
- Attach the document scanning position actuator spring on the position described in the illustration above.

(19) Remove the double feeding sensor earth spring from the upper chute.

(20) Remove the two pinch roller springs to remove the pinch roller shaft from the upper chute.

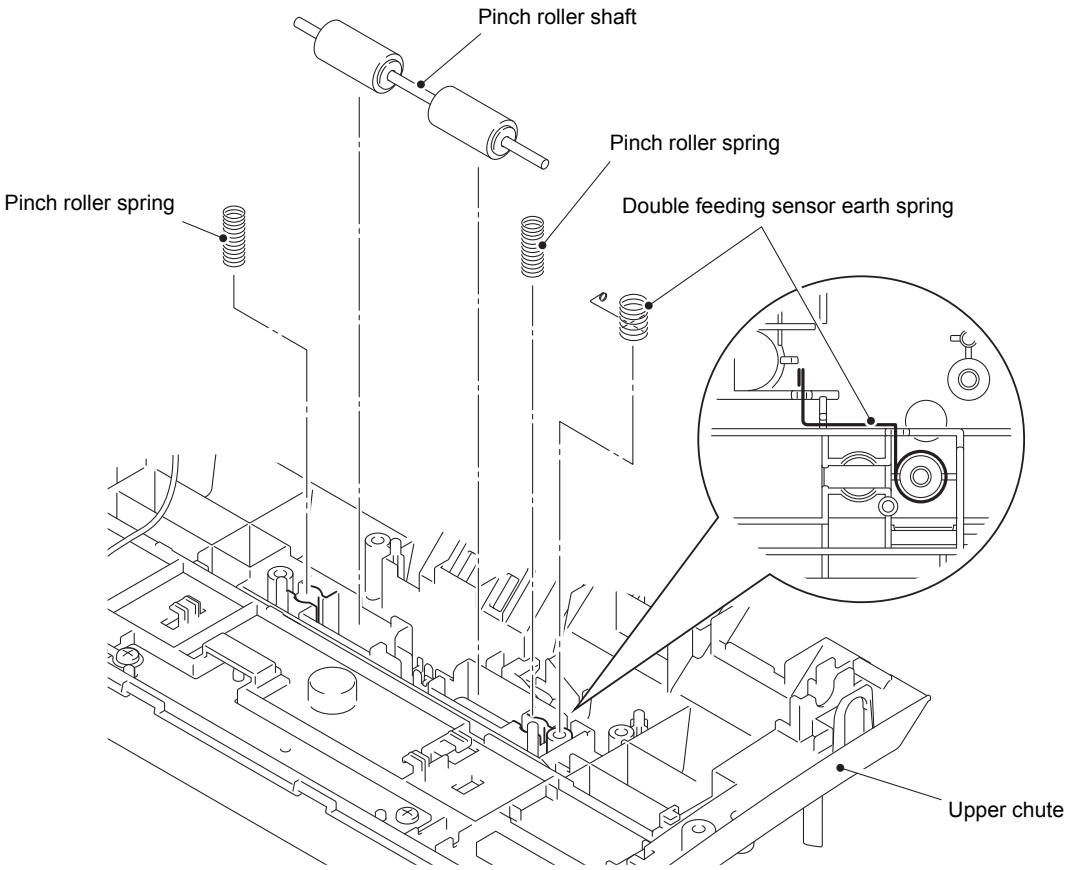


Fig. 3-28

Assembling Note:

- Attach the double feeding sensor earth spring on the position described in the illustration above.

9.14 Second side CIS unit

(1) Turn over the upper chute.

(2) Release the two hooks, lift the second side CIS unit, and disconnect the second side CIS flat cable from it.

(3) Pull out the second side CIS flat cable from the hole on the upper chute.

(4) Remove the CIS spring from the upper chute.

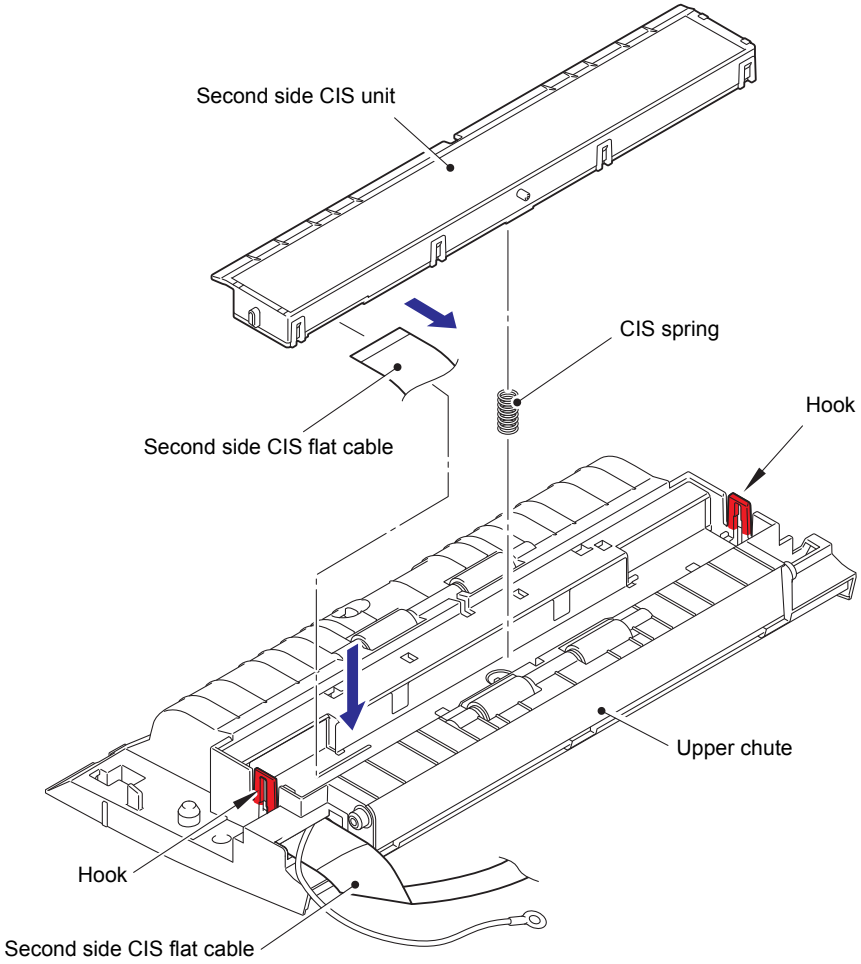


Fig. 3-29

9.15 Top cover / Document guide LS / Document guide RS

(1) Slide the document guide L and R inward.

(2) Remove the boss on the left side of the top cover, the hook on the document guide L, the hook on the document guide R, and the boss on the right side of the top cover in this order, then remove the top cover from the machine.

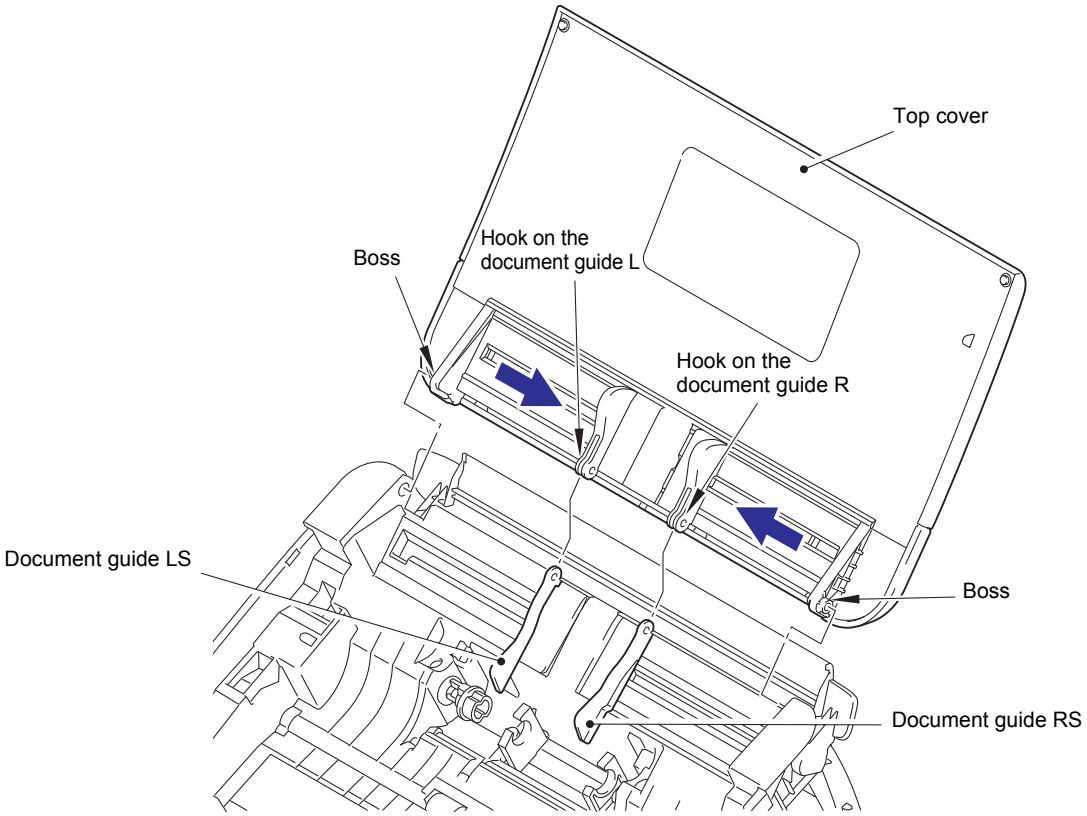


Fig. 3-30

(3) Slide the document guide LS to the left edge and RS to the right edge to remove them from the machine.

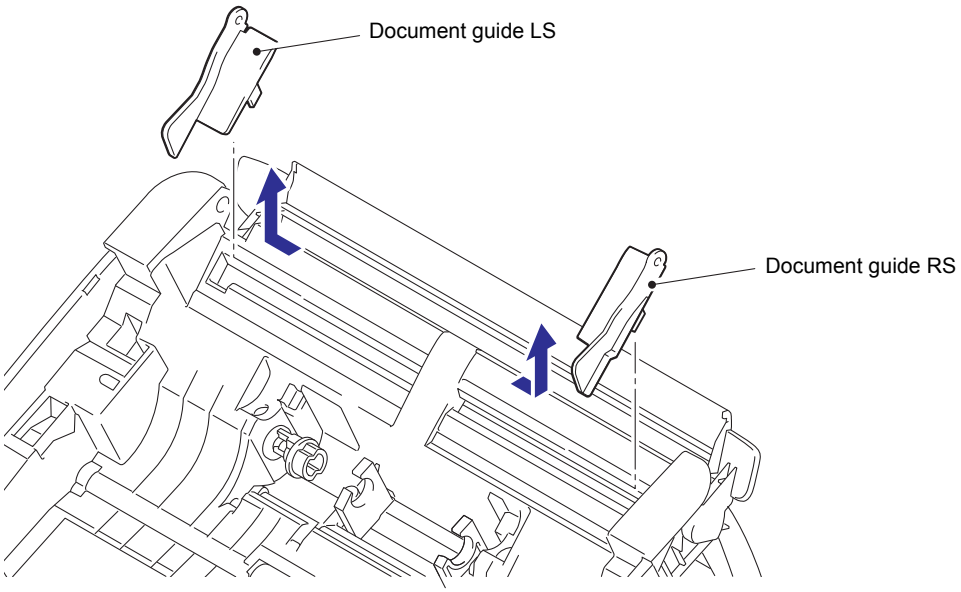


Fig. 3-31

9.16 Back cover S

(1) Push both arms of the back cover S outward to remove them from the both bosses, and remove the back cover S from the machine.

(2) Remove the back cover S spring from the back cover S.

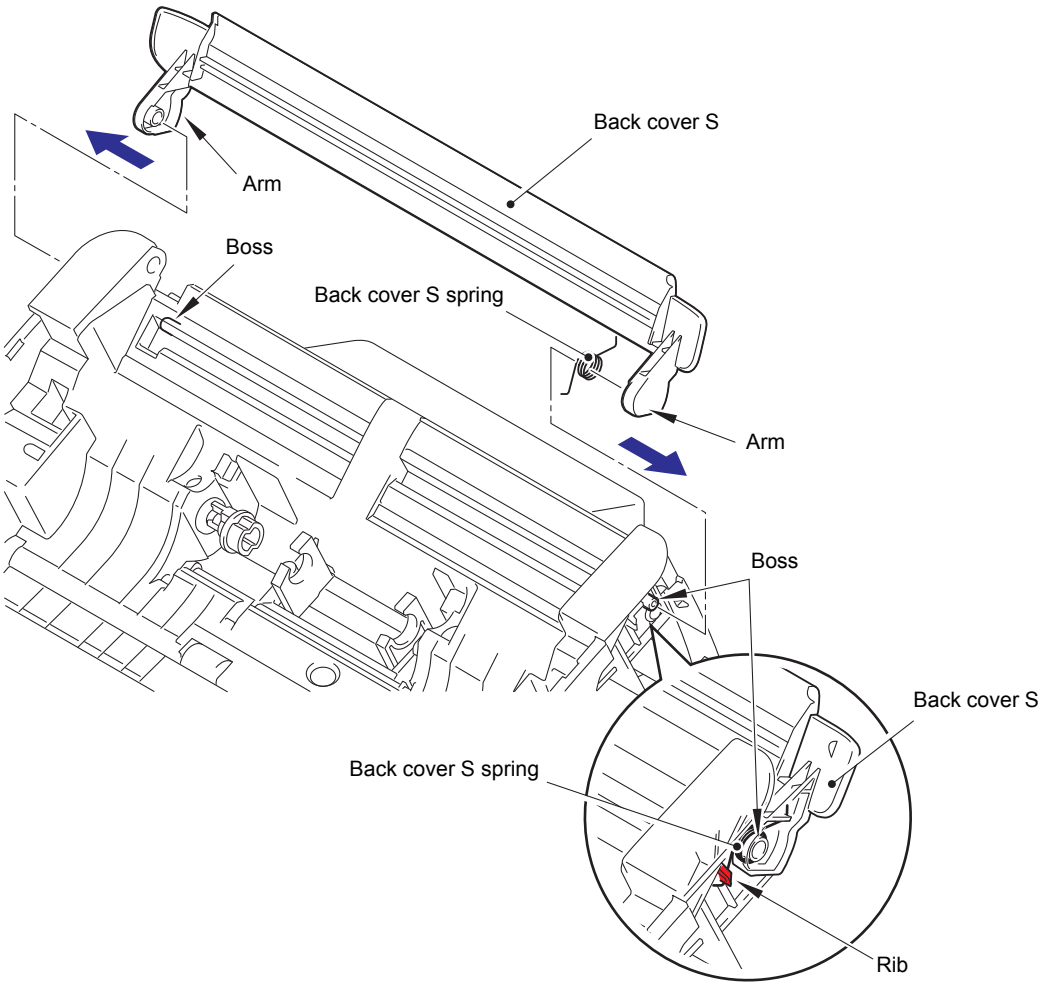


Fig. 3-32

Assembling Note:

- Attach the back cover S spring on the position described in the illustration above.

9.17 Back cover

(1) Remove the four taptite cup B M3x10 screws, and release the two hooks A to open the bottom. Then release the upper three hooks from the three ribs to remove the back cover from the machine.

(2) Remove the taptite cup B M3x10 screw, and remove the security slot earth plate from the back cover.

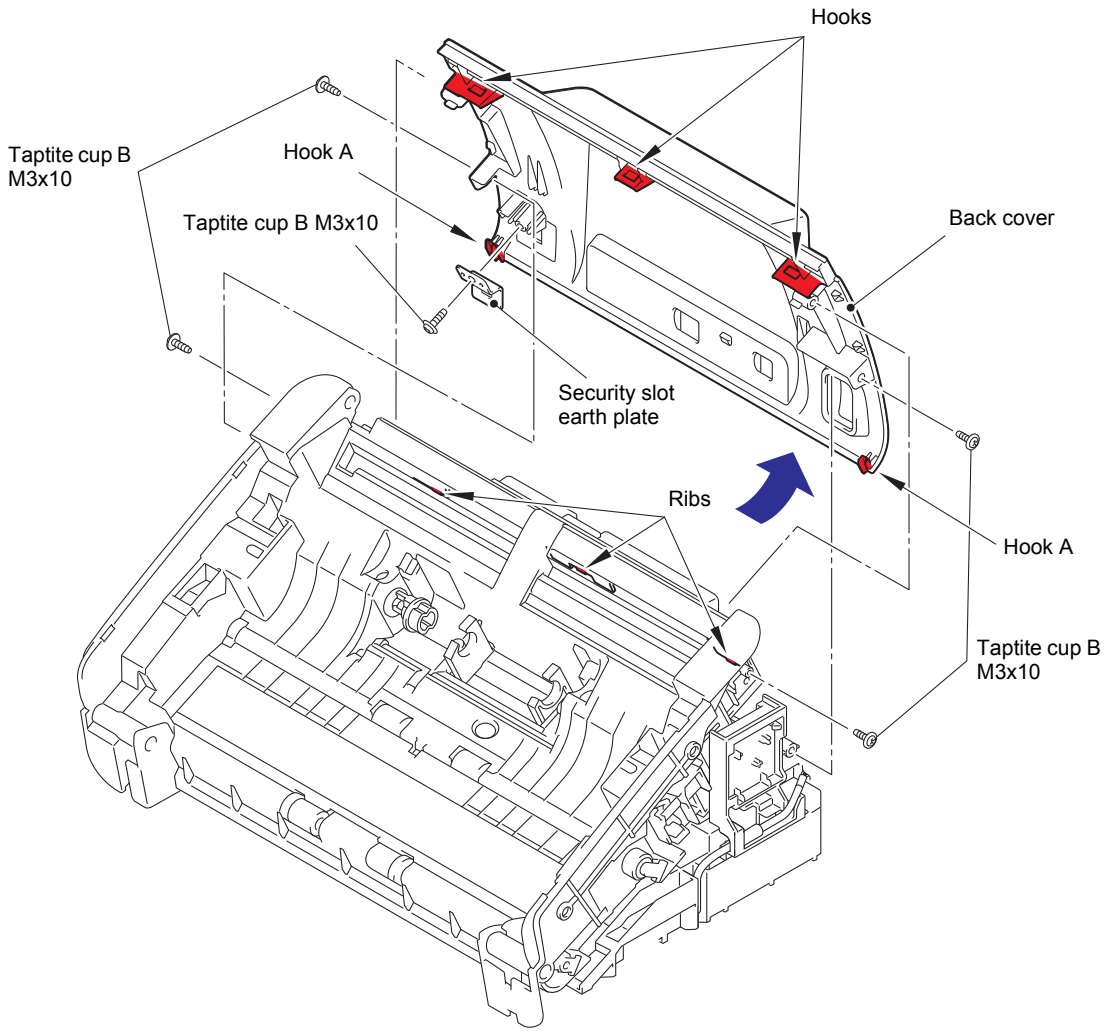


Fig. 3-33

9.18 Power supply PCB ASSY

(1) Turn over the machine to remove the main PCB shield frame and the USB earth plate from it.

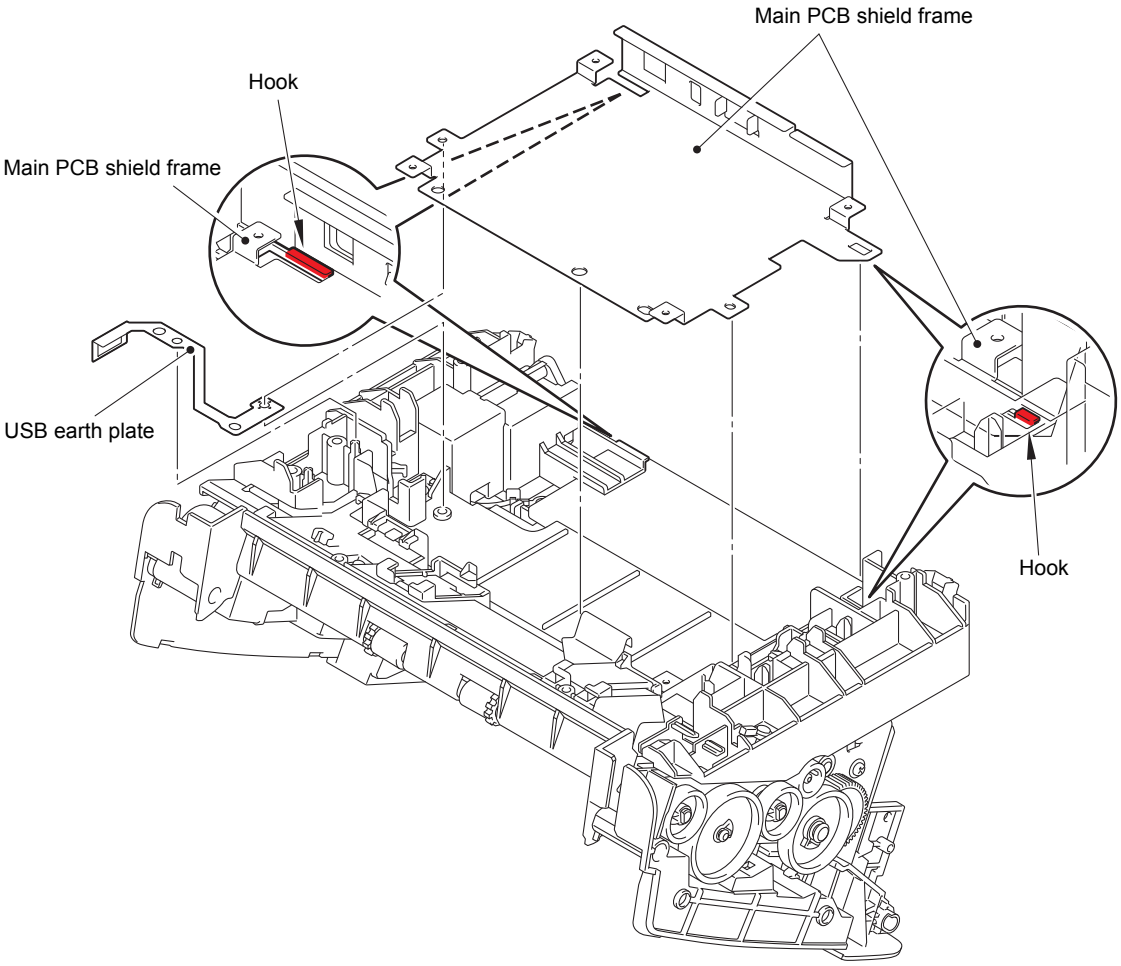


Fig. 3-34

Assembling Note:

- Engage the two hooks on the machine with the main PCB shield frame when attaching.

(2) Disconnect the power supply PCB harness from the guide behind the machine, and pull it out from the hole on the machine.

(3) Remove the screw pan (S/P washer) M3.5x6 screw and the four taptite bind B M3x10 screws to remove the power supply earth harness, the main PCB earth plate, and the power supply unit from the machine.

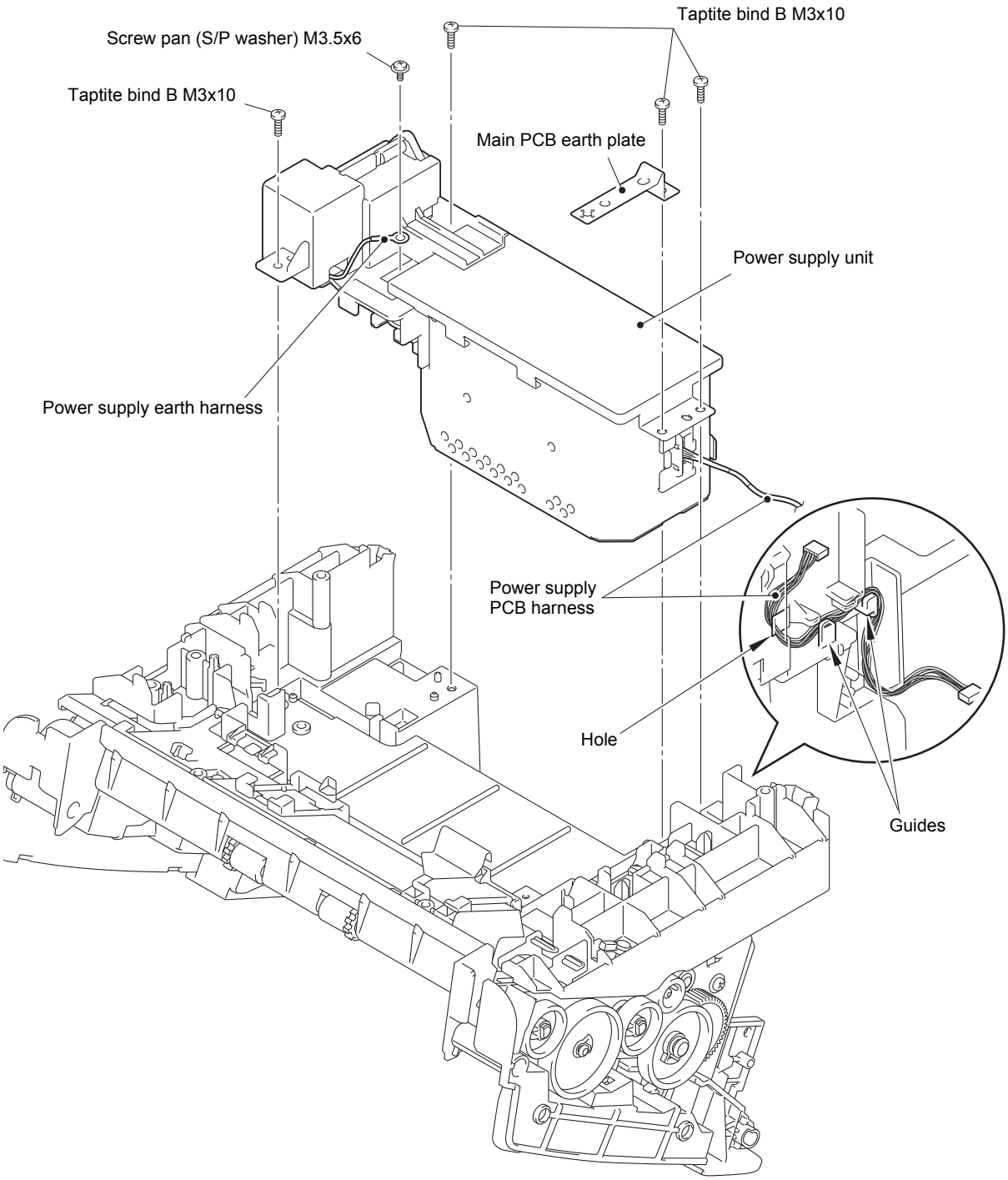


Fig. 3-35

(4) Remove the power supply harness guide while pushing the hook. Disconnect the power supply PCB harness from the power supply PCB ASSY, and remove the power supply upper frame from the power supply lower frame.

(5) Release the power harness from the securing fixture, and remove the power supply harness holder.

(6) Remove the three taptite cup S M3x6 screws to remove the power supply PCB ASSY from the power supply lower frame.

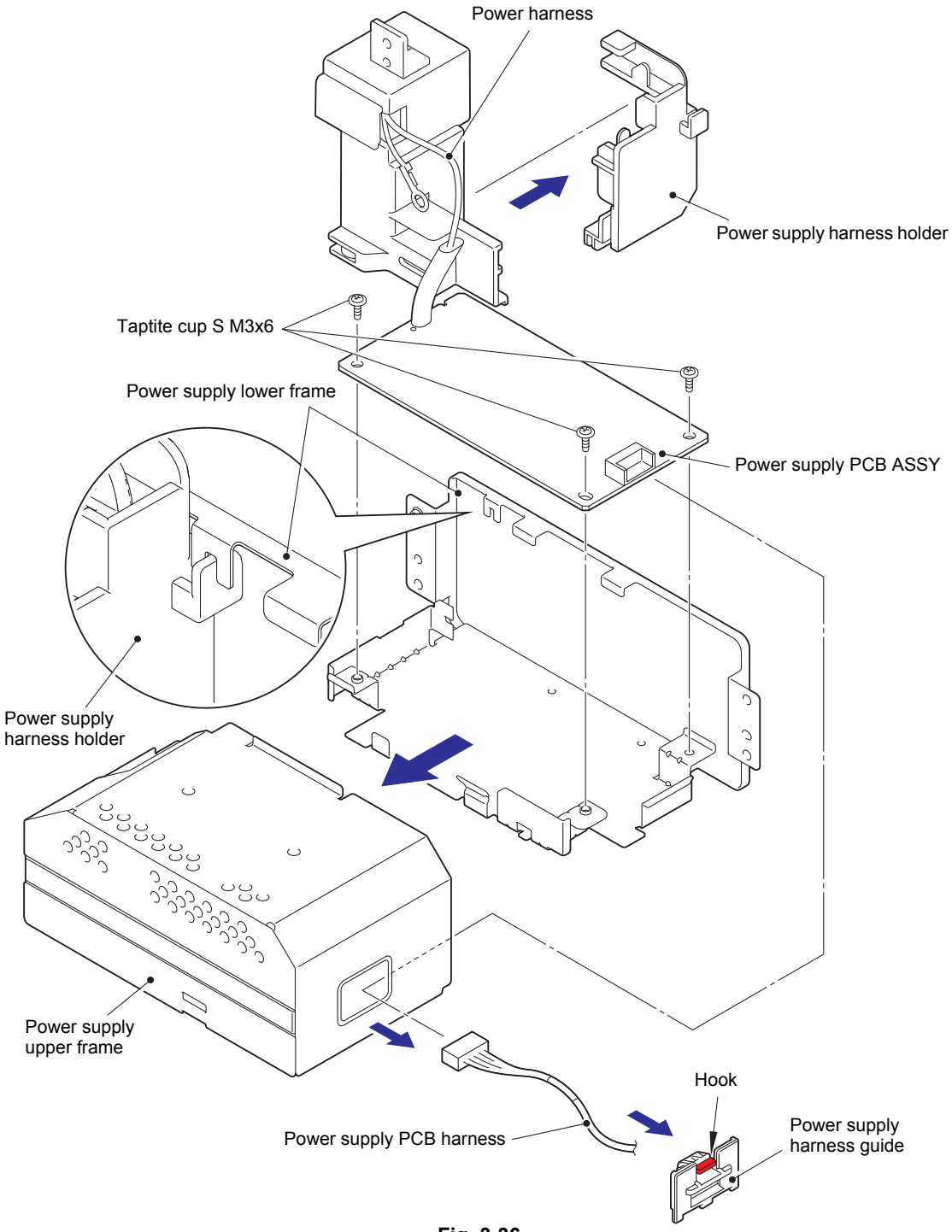


Fig. 3-36

HARNESS ROUTING: Refer to "4. Power supply unit".

Assembling Note:

- Check that the harness was not flawed when the inlet holder edge was attached to the ferrite core.

9.19 Main motor

(1) Remove the taptite cup S M3x6 screw to remove the earth harness (YW).

(2) Release the main motor harness from the securing fixtures, and pull it out from the main motor.

(3) Release the hook to remove the core of the first side CIS flat cable from the lower frame.

(4) Remove the four taptite cup B M3x10 screws to remove the lower frame from the lower chute ASSY.

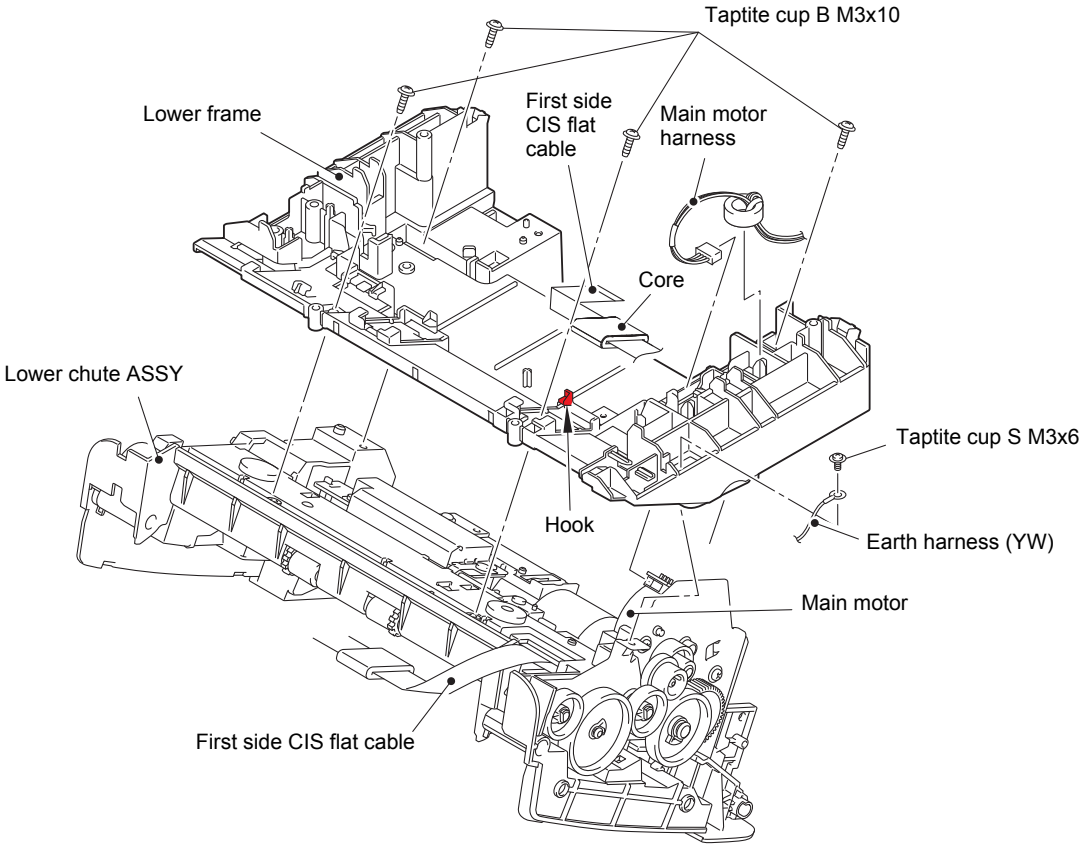


Fig. 3-37

HARNESS ROUTING: Refer to “1. Main PCB ASSY”.

(5) Remove the screw pan (S/P washer) M3x6DA screw. Turn the main motor in the direction of the arrow to release it from the hook, and remove it from the lower chute ASSY.

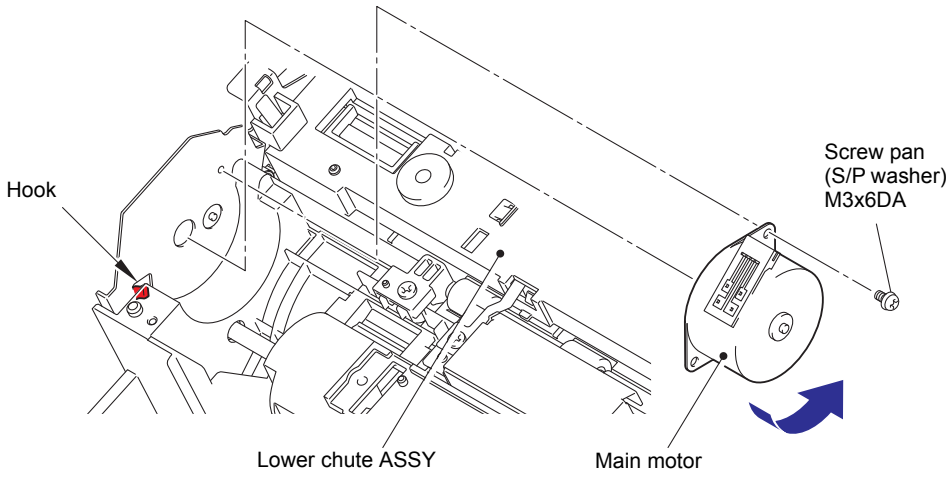


Fig. 3-38

9.20 Front cover sensor

(1) Remove the taptite cup B M3x10 screw to remove the front cover sensor holder from the lower chute ASSY.

(2) Release the two hooks to remove the front cover sensor from the front cover sensor holder.

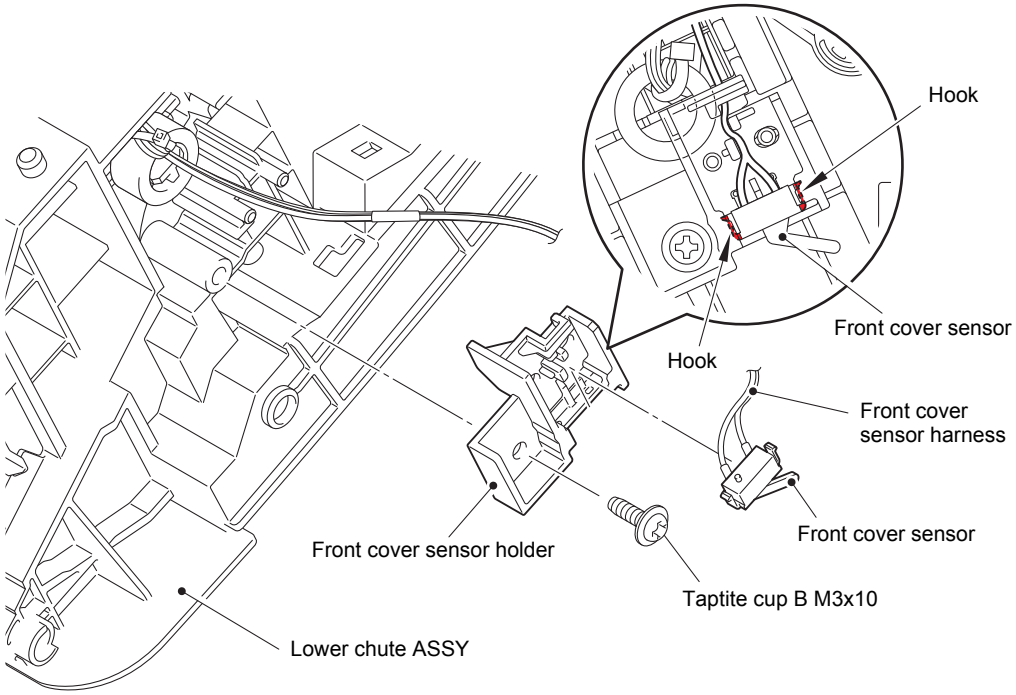


Fig. 3-39

9.21 Double feeding sensor PCB ASSY (Receive)

(1) Remove the two taptite bind B M3x10 screws to remove the CIS earth plate and the double feeding sensor upper shield from the lower chute ASSY.

(2) Remove the double feeding sensor PCB ASSY (Receive), and pull out the double feeding sensor harness (Receive) from the hole on the lower chute ASSY.

(3) Remove the double feeding sensor lower shield from the lower chute ASSY.

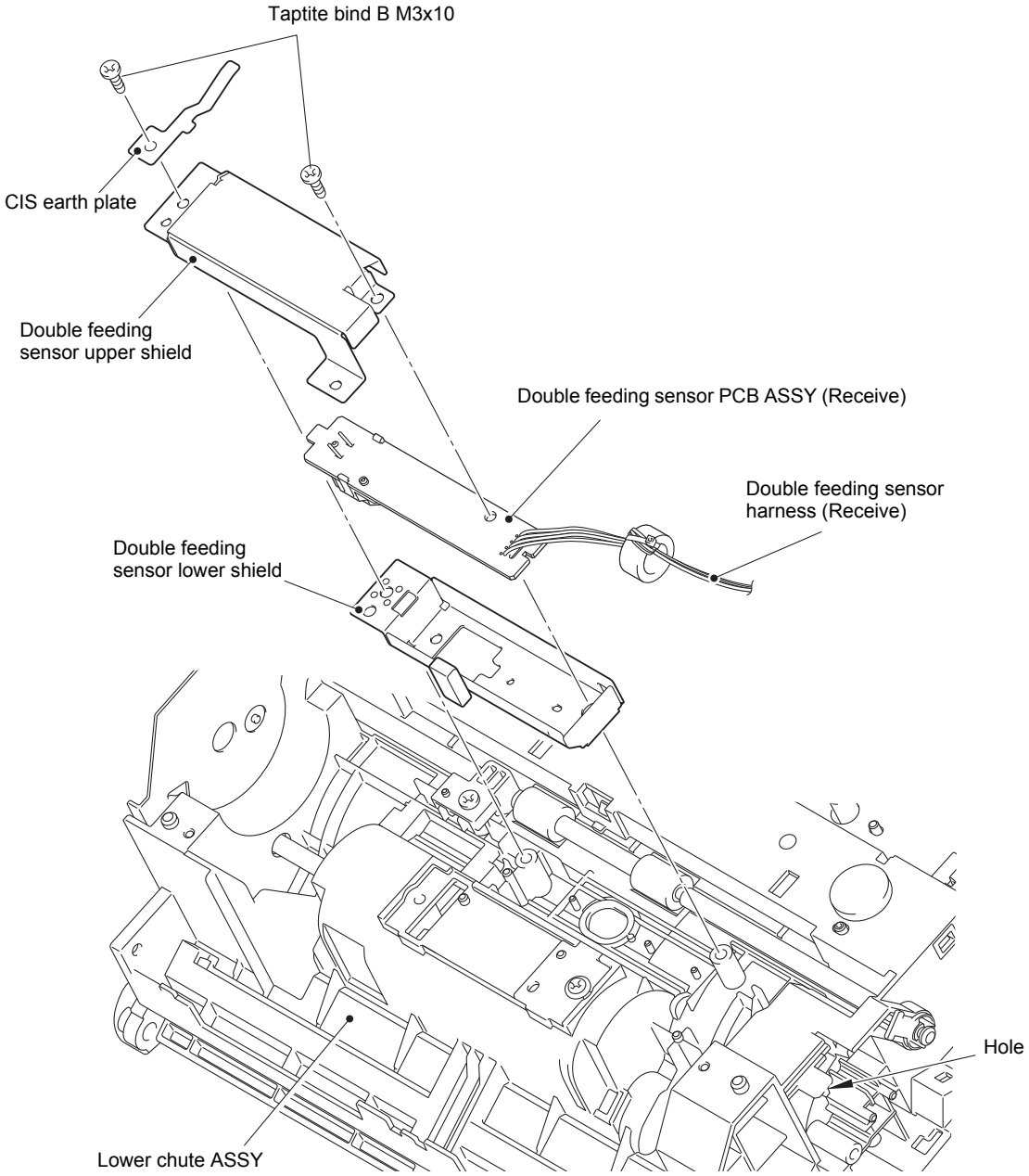


Fig. 3-40

9.22 First side CIS unit

(1) Turn over the lower chute ASSY. Release the hook from the hole on the lower chute ASSY, and remove the first side CIS unit from the lower chute ASSY while lifting and pulling it in the direction of the arrow. Then, pull out the first side CIS flat cable from the hole on the lower chute ASSY.

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

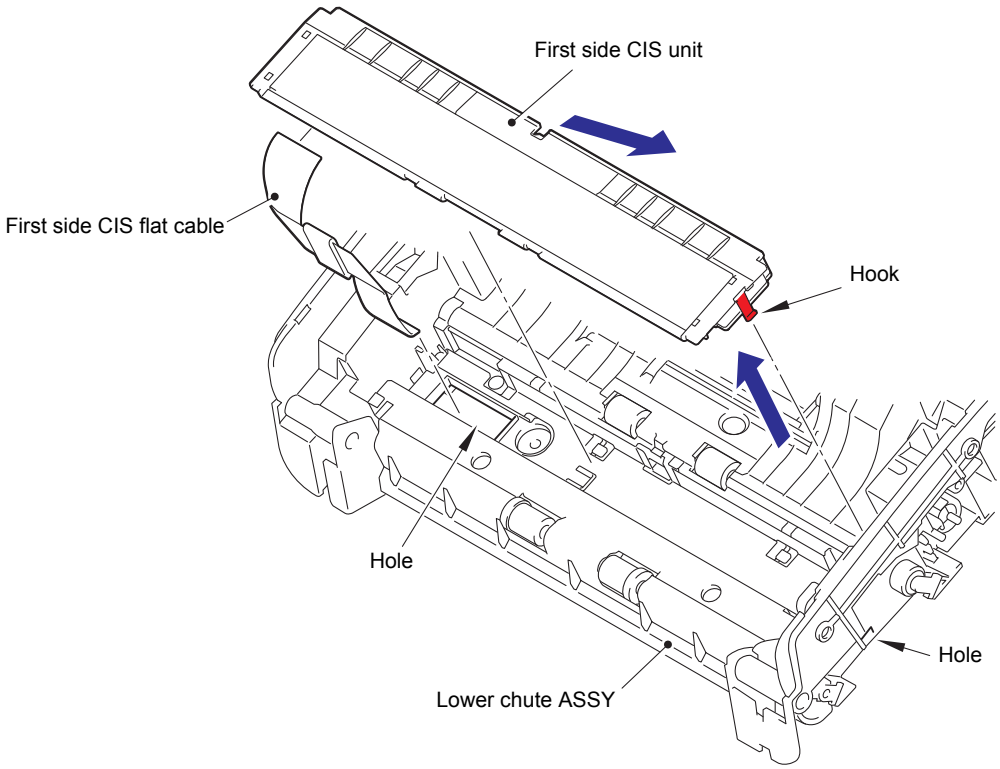


Fig. 3-41

9.23 One way clutch

(1) Release the hook to remove the gear 60/20 from the lower chute ASSY.

(2) Release the hook to remove the one way clutch from the lower chute ASSY.

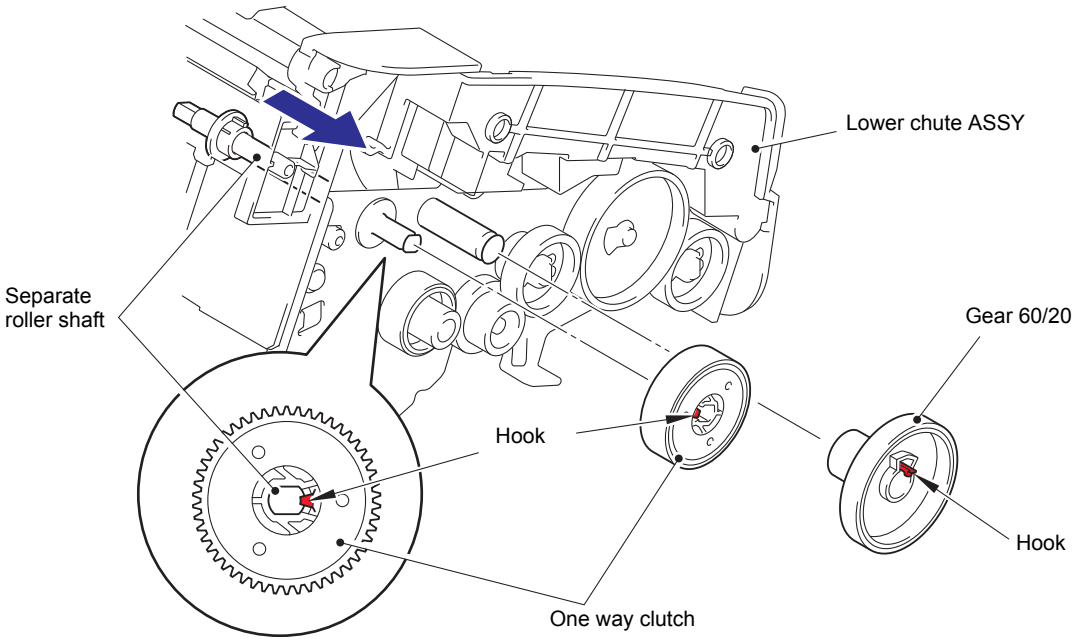


Fig. 3-42

Assembling Note:

- When attaching the one way clutch, engage the separate roller shaft with the hole on the gear, and push the shaft in the direction of the arrow.

CHAPTER 4

ADJUSTING AND UPDATING SETTINGS AS REQUIRED AFTER PARTS REPLACEMENT

CHAPTER 4 ADJUSTING AND UPDATING SETTINGS AS REQUIRED AFTER PARTS REPLACEMENT

This chapter describes adjustments and updating of settings, which are required if the main PCB ASSY and some other parts have been replaced.

CONTENTS

1. IF YOU REPLACE THE MAIN PCB ASSY

<What to do after replacement>

- Installing firmware (Panel Main Firm / Main Firm)
- Setting by country
- Initializing the EEPROM of the main PCB ASSY
- Setting serial number
- Acquiring white level data
- Setting double feeding sensor threshold
- Checking operation after repair

■ What you need to prepare

(1) One USB cable

(2) Create a temporary folder on the C drive of the computer (Windows® XP or higher).

(3) Service setting tool (brusbsn.zip)
Copy this file into the temporary folder created on the C drive.

(4) Download utility (Filedg32.exe)
Copy this file into the temporary folder created on the C drive.

(5) Maintenance driver (MaintenanceDriver.zip)
When the maintenance driver is not installed on the computer to be used, copy this file into the temporary folder created on the C drive, and extract the copied file. Refer to "APPENDIX 3 INSTALLING MAINTENANCE DRIVER" for the installation procedure.

(6) Firmware

Main firmware: (E.g.) LZXXXX_$.upd	LZXXXX : First six digits of the part number of the firmware $: Alphabetic character representing the revision version of the firmware
Panel main firmware: (E.g.) LZXXXX_$.upd	LZXXXX : First six digits of the part number of the firmware $: Alphabetic character representing the revision version of the firmware

(7) Sheet for double feeding sensor threshold setting (LD6340001)

(8) Double feeding sensor threshold setting tool (BrADSmt1.exe)
Copy this file into the temporary folder created on the C drive.

(9) USB flash memory

(10) Test chart (Test chart TC-027, Color test chart CTC-001, Contrast chart TC-023)

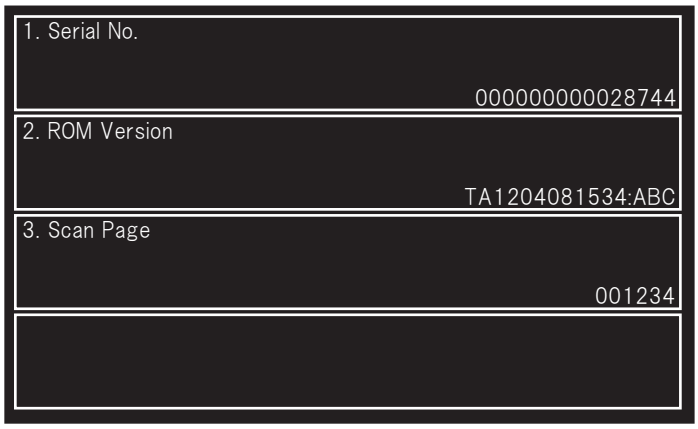
1.1 Installing Firmware

1.1.1 Checking firmware version

Check whether the firmware installed on the main PCB is the latest version. If it is the latest version, there is no need to install the firmware.
If it is not, be sure to install the firmware to the main PCB as described in "1.1.2 Installing firmware" in this chapter.

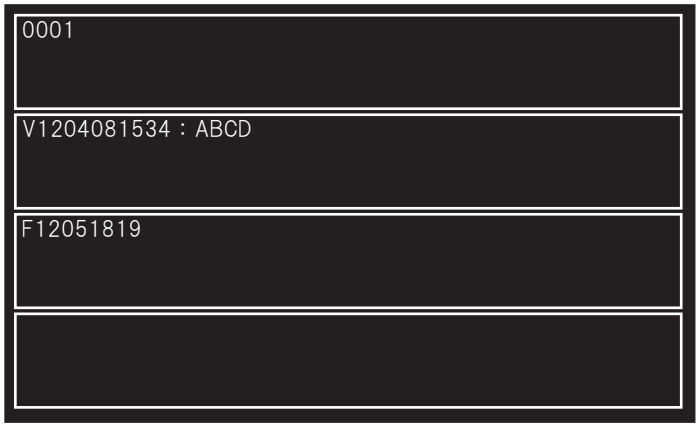
<How to check firmware version>

(1) Press and hold the button. The following screen appears on the LCD.



The main firmware version is displayed in the second box.

(2) Click the second box. The following screen appears on the LCD.



The panel firmware version is displayed in the third box.

1.1.2 Installing firmware

(1) Press and hold the [×] and [⌂] buttons, and plug the AC power cord into the outlet. Check that the Back LED is lit, and release these two buttons.

(2) Press the [⌂], and then the [×] button. The Home LED light, and "■■■■■■■■■■■" is displayed on the LCD. The machine enters firmware installing mode.

(3) Connect the machine to your computer using the USB cable.

(4) Turn ON the power switch of the computer.

(5) Open the temporary folder and double-click "Filedg32.exe" to start it, then select the "Brother Maintenance USB Printer".

(6) Drag and drop the panel main firmware (LZXXXX_$.upd) in the same folder onto the "Brother Maintenance USB Printer" icon. The firmware file is loaded to the machine, and installing to the flash ROM starts.

(7) All LED flash randomly during installing. When installing is completed, the machine restarts and returns to the ready state automatically. Do not disconnect the USB cable or turn OFF the power switch of the computer until installing is completed.

(8) Disconnect the USB cable, and unplug the AC power cord of the machine.

(9) Press and hold the [×] and [⌂] buttons, and plug the AC power cord into the outlet. Check that the Back LED is lit, and release these two buttons.

(10) Press the [⌂], and then the [×] button. The Home LED light, and "■■■■■■■■■■■" is displayed on the LCD. The machine enters firmware installing mode.

(11) Connect the machine to your computer using the USB cable.

(12) Open the temporary folder and double-click "Filedg32.exe" to start it, then select the "Brother Maintenance USB Printer".

(13) Drag and drop the main firmware (LZXXXX_$.upd) in the same folder onto the "Brother Maintenance USB Printer" icon. The firmware file is loaded to the machine, and installing to the flash ROM starts.

(14) All LED flash randomly during installing. When installing is completed, the machine restarts and returns to the ready state automatically. Do not disconnect the USB cable or turn OFF the power switch of the computer until installing is completed.

(15) Unplug the AC power cord of the machine, and disconnect the USB cable.

1.2 Setting by Country

(1) Check the country code to set in the country code table on page "5-15".

(2) Press the [7], and then the [4] key in the maintenance mode. The country code is displayed on the LCD.

(3) Enter the country code checked in (1).

(4) Press the [Start] key. The country code is set, and the machine returns to the initial state of maintenance mode.

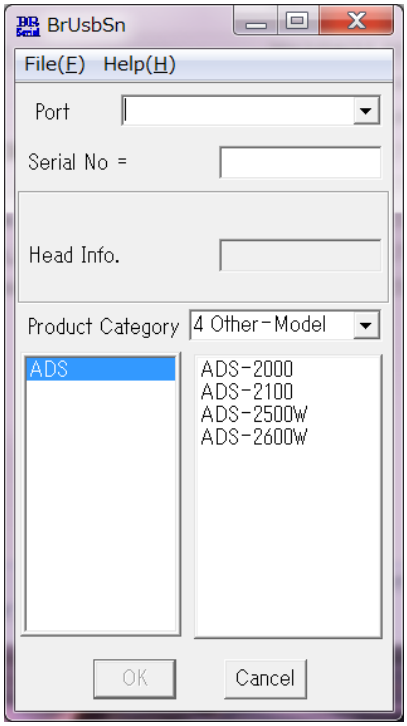
1.3 Initializing the EEPROM of the Main PCB ASSY

(1) Press the [0], and then the [1] key in the initial state of maintenance mode. "PARAMETER INIT" is displayed on the LCD, and the EEPROM is initialized. The machine returns to the initial state of maintenance mode.

1.4 Setting Serial Number

(1) Connect the machine to your computer using the USB cable in the initial state of maintenance mode.

(2) Double-click "brusbsn.exe" file that was copied into the temporary folder to start it.



(3) In the [Product Category] field, select the [4 Other-Model].

(4) In the [Port] field, select the port number assigned to the Brother Maintenance USB Printer.
If the port number is unknown, follow the steps below to check it.

1) Click [Start], [Settings], and [Printers and Faxes]. The Printers and Faxes window appears.
2) Right-click the "Brother Maintenance USB Printer" icon.
3) Click [Properties]. The Brother Maintenance USB Printer Properties window appears.
4) Click the [Ports] tab. The Brother Maintenance USB Printer port number is displayed.

(5) Enter the serial number (15 digits) of the machine in the [Serial No] field.

(6) Click the [OK] button. The [CHECK] box is displayed.

(7) Click the [Yes(Y)] button. The serial number is written to the machine.

(8) Disconnect the USB cable.

1.5 Acquiring White Level Data

(1) Press the [5] key twice in the initial state of maintenance mode.

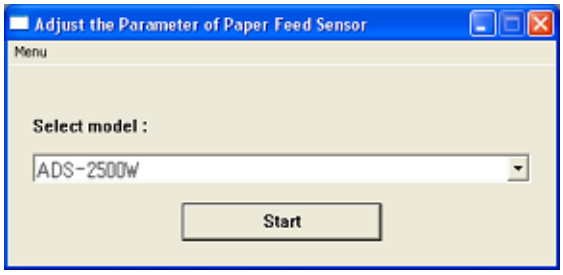
(2) Press the [Start] key. "SCANNER AREA SET" is displayed on the LCD, and white level data is acquired. The machine returns to the initial state of maintenance mode.

1.6 Setting Double Feeding Sensor Threshold

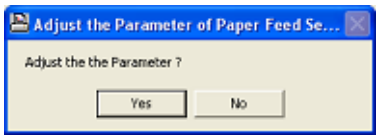
(1) Connect the machine to your computer using the USB cable in the initial state of maintenance mode.

(2) Double-click "BrADSmt1.exe" that was saved into the computer to start it.

(3) Select the model name in the [Select model:] box, and click the [Start] button. The double feeding sensor threshold is reset.

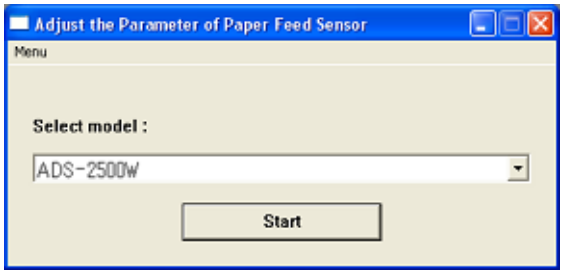


(4) After the following screen is appeared, set the sheet for double feeding sensor threshold setting in the ADF, and execute the maintenance mode function "Check ADF".
Refer to "1.3.2 ADF performance test (function code: 08)" in Chapter 5.

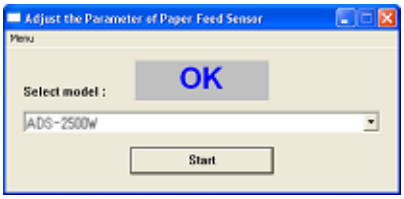


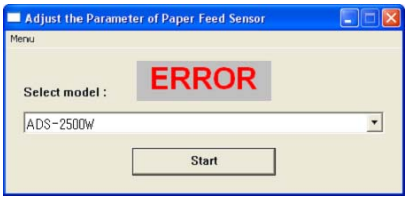
(5) Execute the maintenance mode function "Acquire white level data and set CIS scan area".
Refer to "1.3.11 Acquire white level data and set CIS scan area (function code: 55)" in Chapter 5.

(6) Click the [Yes] button on the screen of step (4). The double feeding sensor threshold is calculated and stored in the EEPROM of the main PCB.



When the setting is completed normally, "OK" is displayed on the screen.
If any error is detected during setting, "ERROR" is displayed on the screen.





(7) Unplug the AC power cord of the machine.

1.7 Checking Operation after Repair

Perform the steps below to check the machine's condition after repair or adjustment.

(1) Prepare some test chart sheets (Test chart TC-027, Color test chart CTC-001, Contrast chart TC-023), and set them in the document tray.

(2) Insert the USB flash memory into the USB terminal.

(3) Click the ▷ key to display the [Scan to USB] key on the screen.

(4) Press the [Scan to USB] key.

(5) Press the [Start] key to begin scanning.
Check that sheets are picked up and fed one sheet at a time.
When an error occurs, refer to the troubleshooting procedure to repair the machine.

(6) When scanning is completed, remove the USB flash memory and connect it to the computer. Check the scanned data on the computer. If the image is distorted, refer to the troubleshooting procedure to repair the machine.

2. IF YOU REPLACE THE CIS UNIT

<What to do after replacement>

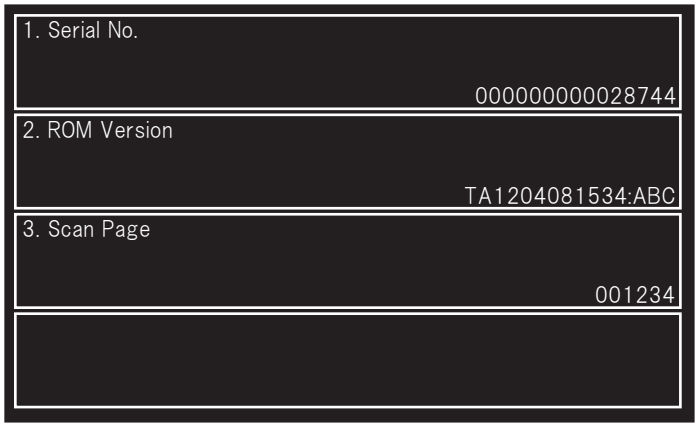
- Checking firmware version
- Acquiring white level data (function code: 55)
- Checking operation after repair

2.1 Checking Firmware Version

Check whether the firmware installed on the main PCB is the F version or later. If it is the F version or later, there is no need to install the firmware. If it is not, be sure to install the firmware to the main PCB as described in "1.1.2 Installing firmware" in this chapter.

<How to check firmware version>

(1) Press and hold the button. The following screen appears on the LCD.



The main firmware version is displayed in the second box.

2.2 Acquiring White Level Data (function code: 55)

(1) Press the [5] key twice in the maintenance mode. "Press START" is displayed on the LCD.

(2) Press the [Start] key. "SCANNER AREA SET" is displayed on the LCD, and white level data is acquired. The machine returns to initial state of maintenance mode.

2.3 Checking Operation after Repair

Perform the steps below to check the machine's condition after repair or adjustment.

(1) Prepare some test chart sheets (Test chart TC-027, Color test chart CTC-001, Contrast chart TC-023), and set them in the document tray.

(2) Insert the USB flash memory into the USB terminal.

(3) Click the ▷ key to display the [Scan to USB] key on the screen.

(4) Press the [Scan to USB] key.

(5) Press the [Start] key to begin scanning.
Check that sheets are picked up and fed one sheet at a time.
When an error occurs, refer to the troubleshooting procedure to repair the machine.

(6) When scanning is completed, remove the USB flash memory and connect it to the computer. Check the scanned data on the computer. If the image is distorted, refer to the troubleshooting procedure to repair the machine.

3. IF YOU REPLACE THE DOUBLE FEEDING SENSOR

<What to do after replacement>

- Setting double feeding sensor threshold
- Checking double feeding function

■ What you need to prepare

(1) Sheet for double feeding sensor threshold setting (LD6340001)

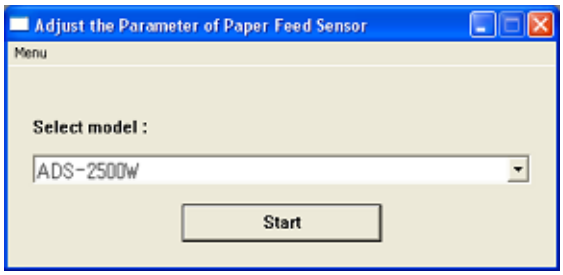
(2) Double feeding sensor threshold setting tool (BrADSmt1.exe)
Copy this file into the temporary folder created on the C drive.

3.1 Setting Double Feeding Sensor Threshold

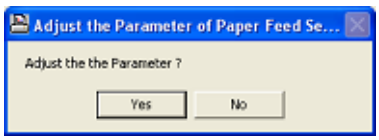
(1) Connect the machine to your computer using the USB cable in the initial state of maintenance mode.

(2) Double-click "BrADSmt1.exe" that was copied into the temporary folder to start it.

(3) Select the model name in the [Select model:] box, and click the [Start] button. The double feeding sensor threshold is reset.

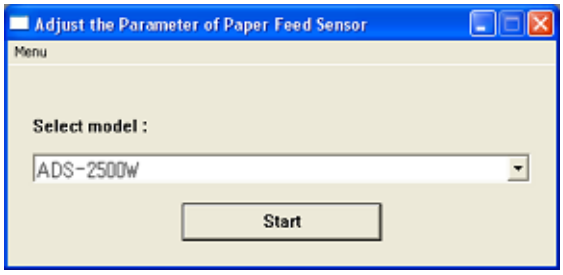


(4) After the following screen is appeared, set the sheet for double feeding sensor threshold setting in the ADF, and execute the maintenance mode function "Check ADF".
Refer to "1.3.2 ADF performance test (function code: 08)" in Chapter 5.

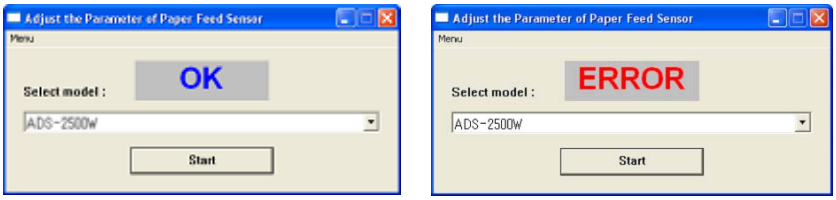


(5) Execute the maintenance mode function "Acquire white level data and set CIS scan area".
Refer to "1.3.11 Acquire white level data and set CIS scan area (function code: 55)" in Chapter 5.

(6) Click the [Yes] button on the screen of step (4). The double feeding sensor threshold is calculated and stored in the EEPROM of the main PCB.



When the setting is completed normally, "OK" is displayed on the screen.
If any error is detected during setting, "ERROR" is displayed on the screen.



(7) Unplug the AC power cord of the machine.

3.2 Checking Double Feeding Sensor Operation

Perform the steps below to check the machine's condition after repair or adjustment.

(1) Set the sheet for double feeding sensor threshold setting in the ADF, and execute the maintenance mode function "Check ADF" (function code: 08). (To check that a normal document is ejected correctly.)

4. IF YOU REPLACE THE PANEL ASSY

<What to do after replacement>

- Adjusting touch panel (function code: 61)
- Checking LCD operation (function code: 12)
- Checking control panel operation (function code: 13)

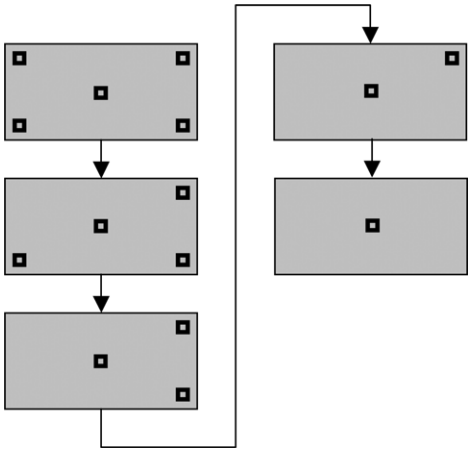
■ What you need to prepare

(1) Touch panel stylus

4.1 Adjusting Touch Panel

(1) Press the [6], and then the [1] key in the initial state of maintenance mode. The following adjustment screen appears on the LCD.

(2) Use the touch panel stylus and touch the mark in the upper left corner of the screen. When the touched mark has disappeared, touch the next mark. Touching sequence: upper left, lower left, lower right, upper right and center.
When the center (5th mark) is touched, [OK] is displayed if the specified area was adjusted correctly. The following screen appears consecutively, and the machine returns to the initial state of maintenance mode in three seconds.



4.2 Checking LCD Operation

(1) Press the [1], and then the [2] key in the initial state of maintenance mode. The LCD check display appears on the LCD. Refer to "1.3.4 Check LCD operation (function code: 12)" in Chapter 5.

(2) The LCD display changes each time the  button is pressed.
Check that there is no problem on the LCD display.

(3) Press the  button, and the machine returns to the initial state of maintenance mode.

4.3 Checking Control Panel Operation

(1) Press the [1], and then the [3] key in the initial state of maintenance mode. "00" is displayed on the LCD.

(2) Press the buttons on the control panel according to the numbers provided on the figure in "1.3.5 Check control panel button operation (function code: 13)" in Chapter 5.

(3) If the button operation is normal, the machine returns to the initial state of maintenance mode when the last button is pressed.

(4) Press the [9] key twice to return the machine to the ready state.

5. IF YOU REPLACE THE PICK-UP ROLLER / SEPARATION PAD

<What to do after replacement>

- Resetting pick-up roller / separation pad counters

5.1 Resetting Pick-up Roller / Separation Pad Counters

Refer to the User's Guide to reset the pick-up roller and separation pad counters.

CHAPTER 5
SERVICE FUNCTIONS

CHAPTER 5 SERVICE FUNCTIONS

This chapter describes the maintenance mode which is exclusively designed for the purpose of checking the settings and adjustments using the buttons on the control panel. This chapter also covers not-disclosed-to-users function menus, which activate settings and functions or reset the parts life.

CONTENTS

1. MAINTENANCE MODE

Maintenance mode is exclusively designed for checking, setting, and adjusting the machine using the buttons on the control panel.

These buttons allow you to execute sensor operation check, test printing, log information and error code display, or worker switch (WSW) setting.

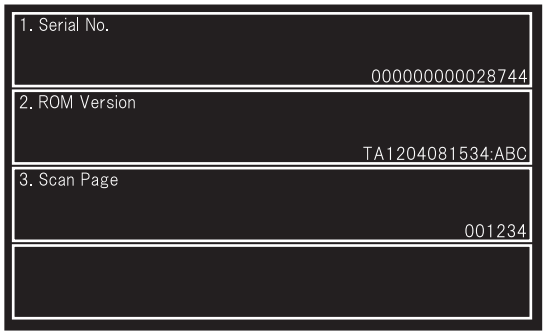
1.1 How to Enter Maintenance Mode

1.1.1 Method of entering end-user accessible maintenance mode

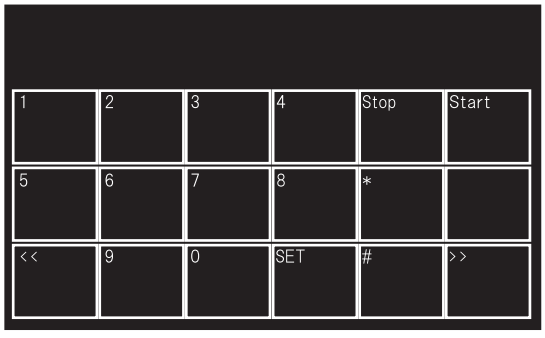
The maintenance mode functions should only be accessed by service personnel. However, end users are allowed to use some of these functions under the guidance of service personnel over the phone. End users can only use the functions shaded in the table on the "5-3". (function code: 10, 12, 18, 25, 45, 54, 61, 80, 82, 91)

<Operating Procedure>

(1) While the machine is in the ready state, press and hold the button. The following display appears on the LCD.



(2) Press and hold the 4th box with no display. The following display appears on the LCD.



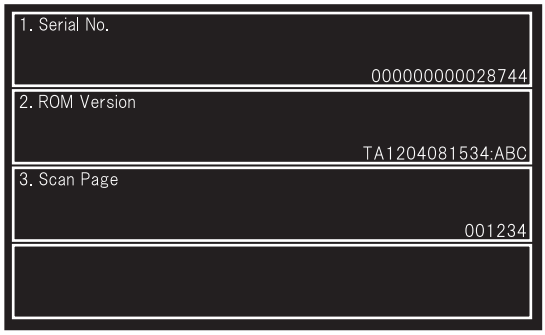
(3) Press the [*], [0], and [#] keys on the LCD in this order. The machine enters to the ready state to accept function code entry, so press the function code you want to execute.

(4) Each time the selected maintenance mode function is completed, the machine returns to the ready state automatically.

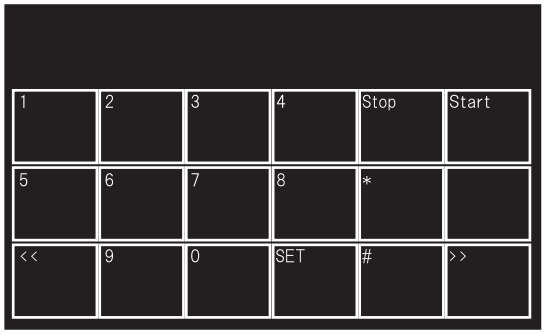
1.1.2 Method of entering maintenance mode for service personnel

<Operating Procedure>

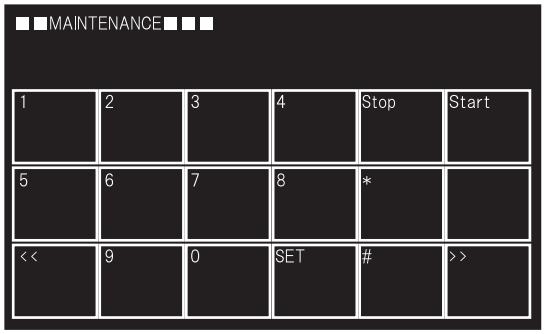
(1) While the machine is in the ready state, press and hold the button. The following display appears on the LCD.



(2) Press and hold the 4th box with no display. The following display appears on the LCD.



(3) Press the [*], [2], [8], [6], and [4] keys on the LCD in this order. The following display appears on the LCD, and the machine enters into maintenance mode.



(4) To select any of the maintenance mode functions shown in the list on the next page, use the keypad to enter the maintenance mode function code to be executed.

1.2 List of Maintenance Mode Functions

Function code	Function	Refer to:
01	Initialize EEPROM parameters	5-4
08	ADF performance test	5-5
10	Set worker switches (WSW)	5-6
12	Check LCD operation	5-7
13	Check control panel button operation	5-8
18	Save NetConfig data	5-8
25	Display software version	5-9
32	Check sensor operation	5-10
45	Change USB No. return value / Adjust left-end print start position on second side when duplex printing	5-11
54	Fine-tune scanning position	5-12
55	Acquire white level data and set CIS scan area	5-13
61	Adjust touch panel	5-14
74	Setting by country	5-15
80	Display machine log information	5-16
82	Display machine error code	5-17
91	Initialize EEPROM parameters	5-4
99	Quit maintenance mode	—

The maintenance mode functions shaded in the table can be used by end users.

1.3 Details of Maintenance Mode Functions

1.3.1 Initialize EEPROM parameters (function code: 01, 91)

<Function>

This function is used to initialize the setting values for operation parameters, user switches, and worker switches (WSW) registered in the EEPROM. Entering function code 01 initializes most EEPROM areas. Entering function code 91 initializes only the specified areas as shown in the table below.

Function code / Data item	01	91
Counter information	Areas not to be initialized	Areas not to be initialized
Error history		
MAC address		
Worker switches	Areas to be initialized	Areas to be initialized
User switches (items initialized when "Factory Reset" is executed)		
Function settings except user switches (settings not subject to "Factory Reset")		
LAN setting		

<Operating Procedure>

(1) Press the [0] and [1] keys in this order in the initial state of maintenance mode to display "Maintenance 01" (or press the [9] and [1] keys as appropriate to display "Maintenance 91") on the LCD.

(2) Press the [SET] key. "PARAMETER INIT" is displayed on the LCD.

(3) When initializing parameters is completed, the machine returns to the initial state of maintenance mode.

1.3.2 ADF performance test (function code: 08)

<Function>

This function is used to test the performance of the automatic document feeder (ADF). The scanned pages of documents fed by the ADF are counted and the result is displayed on the LCD.

<Operating Procedure>

(1) Set the documents in the ADF unit. "DOC. READY" is displayed on the LCD.

(2) Press the [0], and then the [8] key in the initial state of maintenance mode.
"ADF CHECK P.**" is displayed on the LCD, and the documents are ejected while the scanned pages are counted. (** indicates the current count of the scanned pages.)

(3) When the  button is pressed, the machine returns to the initial state of maintenance mode.

Note:

- If the front cover is open, "Close the ADF cover" is displayed on the LCD. Close the front cover, and perform this function again.
- If no document is set in ADF, "NO DOCUMENT" is displayed on the LCD and the machine returns to the ready state of maintenance mode.

1.3.3 Set worker switches (WSW) (function code: 10)

<Function>

Worker switches shown in the table below can be used to set functions to satisfy various requirements. The switch setting can be changed using the buttons on the control panel.

Worker switches are factory set to conform with the laws and regulations of the country the machine is shipped to. Do not change these settings unless necessary.

List of worker switches

WSW No.	Function
WSW17	Clock setting 1
WSW28	Setting resolution for when flex memory is used depends on memory size
WSW32	Resolution/contrast home position
WSW43	Remote maintenance auto start setting
WSW44	Available correction time before scanning
WSW46	Dust removal/waiting time for scanning
WSW47	Switching between high- and full-speed USB
WSW48	USB setup latency
WSW56	ON/OFF setting for wireless LAN and CPU sleep function
WSW59	ON/OFF setting for USB serial number (SN) sending function
WSW60	Setting touch panel repeat start time and its interval
WSW63	Clock setting 2
WSW64	Language setting
WSW79	Reboot suppression for when touch panel was found operable
WSW82	Blank paper removal/auto color number detection
WSW83	Size detection and skew correction

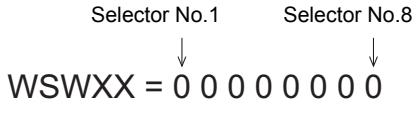
* Refer to the separate manual for details of worker switches.

* Worker switches not on the list can be typed but nothing happens even if the value is changed.

<Operating Procedure>

(1) Press the [1], and then the [0] key in the initial state of maintenance mode. "WSW00" is displayed on the LCD.

(2) Enter the worker switch number that you want to change the setting.
The display shown below appears on the LCD. The "Selector No.1" flashes.



(3) Press the [◀] or [▶] key to flash the desired selector, and change the setting by pressing the [1] or [0] key.

(4) When changing the setting is completed, press the [SET] key. The new selector setting value is stored in the EEPROM, and the LCD returns to the ready state for worker switch number entry ("WSW00").

(5) When all switch setting is completed, press the ✕ button to return the machine to the initial state of maintenance mode.

Note:

- To cancel operation and return to the initial state of maintenance mode, press the ✕ button.
- If there is no entry for one minute or longer on the 2-digits firmware switch number selection, the machine returns to the initial state of maintenance mode automatically.

1.3.4 Check LCD operation (function code: 12)

<Function>

This function is used to check that the LCD on the control panel is operating normally.

<Operating Procedure>

(1) Press the [1], and then the [2] key in the initial state of maintenance mode. Displays shown in the table below appear on the LCD.

(2) Pressing the button switches the display A to B. Each press of the button cycles through the displays as shown in the table below.

When the button is pressed on display 7, the LCD returns to display 1.

(3) When the button is pressed, the machine returns to the initial state of maintenance mode, regardless of the display status.

<Display A-1> Complete white		<Display B-1> Gradation white	
<Display A-2> Complete black		<Display B-2> Gradation red	
<Display A-3> Complete red		<Display B-3> Gradation green	
<Display A-4> Complete green		<Display B-4> Gradation blue	
<Display A-5> Complete blue		<Display B-5> Image data screen	
<Display A-6> Complete gray		<Display B-6> Gray/Color pattern 1 Bright spot 1	
<Display A-7> Stroke detection screen		<Display B-7> Gray/Color pattern 1 Bright spot 2	

1.3.5 Check control panel button operation (function code: 13)

<Function>

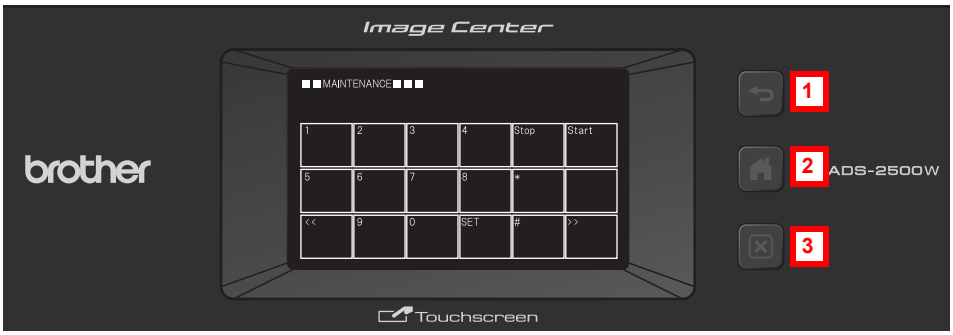
This function is used to check that the buttons on the control panel operate normally.

<Operating Procedure>

(1) Press the [1], and then the [3] key in the initial state of maintenance mode. "00" is displayed on the LCD.

(2) Press the buttons on the control panel according to the numbers provided in the figure below.
Each time the button is pressed, the corresponding number is displayed on the LCD in decimal notation. Check that the number displayed on the LCD matches the number assigned to the button that has been pressed. If the buttons are pressed in the incorrect order, "INVALID OPERATE" is displayed on the LCD. Press the ✕ button, and then press the correct button.

(3) If the button operation is normal, the machine returns to the initial state of maintenance mode when the last button is pressed. To cancel the operation and return to the initial state of maintenance mode, press the ✕ button.



1.3.6 Save NetConfig data (function code: 18)

<Function>

This function is used to save NetConfig data to the USB flash memory.

<Operating Procedure>

(1) Press the [1], and then the [8] key in the initial state of maintenance mode. "MAINTENANCE 18" is displayed on the LCD.

(2) Insert the USB flash memory into the USB terminal.

(3) Press the [SET] key. "NETCONFIG" is displayed on the LCD.

(4) Press the [SET] key. "SAVE TO USB" is displayed on the LCD.

(5) Press the [SET] key. "USB SAVING" is displayed on the LCD, and NetConfig data is saved to the USB flash memory.

(6) "MAINTENANCE" is displayed on the LCD, and the machine returns to the ready state of maintenance mode.

Create a folder named "NetConfig" in the USB flash memory and save the file as txt file.

1.3.7 Display software version (function code: 25)

<Function>

This function is used to check the firmware creation date and check sum information.

<Operating Procedure>

(1) Press the [2], and then the [5] key in the initial state of maintenance mode. The firmware version is displayed on LCD as "TOTAL:Ver*".

(2) Pressing the [Start] key changes the display as shown in the table below.

(3) When the  button is pressed, the machine returns to the ready state.

LCD	Description
TOTAL:Ver T	Main Firm Version information
NET :Ver1.00	Network Version information
PANEL:U08102319	TouchPanel Main Firmware Version information
PNL B:110050615	Panel Boot Firmware Version information
i0612312359:1234	I-FAX Version information
B0612312359:1234	Boot Firm creation date
U0612312359:1234	Main Firm creation date
ROM Check Sum	Calculate Check Sum of BOOT and MAIN. When the check sum matches to the one at the end of part ROM area, "OK" is displayed on the LCD. When the check sum does not match, "NG" is displayed.

1.3.8 Check sensor operation (function code: 32)

<Function>

This function is used to check that sensors are operating normally.

<Operating Procedure>

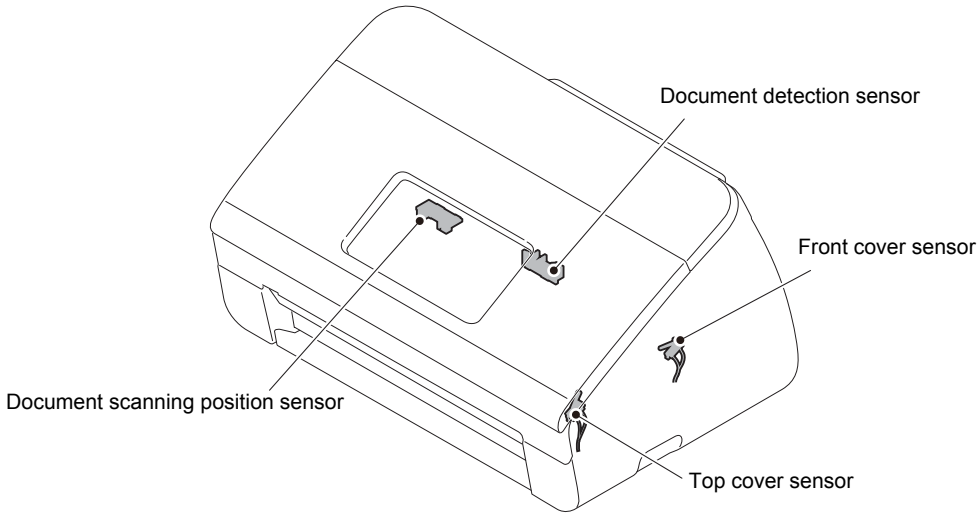
(1) Press the [3], and then the [2] key in the initial state of maintenance mode. The sensor operating conditions defined in the table below are applied, and "DFDRACTC" is displayed on the LCD.

The table below summarizes the displays on the LCD, sensor names and detection status.

LCD	Sensor name	Detection status (displayed / not displayed)
DF	Document detection sensor	No document / Document set
DR	Document scanning position sensor	No document / Document set
AC	Front cover sensor	Front cover closed / Front cover open
TC	Top cover sensor	Top cover closed / Top cover open

(2) Change the conditions subject to sensor detection and check that the display on the LCD changes depending on the sensor status. For example, feed the paper through the document detection sensor, or open the top/front cover.

(3) When the [×] button is pressed, this operation is finished, and the machine returns to the initial state of maintenance mode.



1.3.9 Change USB No. return value / Adjust left-end print start position on second side when duplex printing (function code: 45)

■ Change USB No. return value

<Function>

When the operating system (OS) installed on the computer is Windows Vista®, and the machine is connected to this computer using USB2.0FULL, the OS may not be able to obtain the USB device serial number depending on the computer and USB device. If the serial number cannot be obtained, the number of devices increases each time the device is connected to the computer. To avoid this problem, setting this function to "USBNo.=ON" can fix the USB No. return value to "0".

LCD	Description
USBNo. = ON	Returns the serial number of the machine. (Default)
USBNo. = OFF	Returns "0".

The setting currently selected is marked with "*" at the end of the display.

<Operating Procedure>

(1) Press the [4], and then the [5] key in the initial state of maintenance mode. "USBNo." is displayed on the LCD.

(2) Press the [SET] key. "USBNo.=ON*" is displayed on the LCD.

(3) Press the [▲] or [▼] key to display "USBNo.=OFF" when fixing the serial number return value to "0" or "USBNo.=ON" when not fixing it.

(4) Press the [SET] key. "Accepted" is displayed on the LCD, and the machine returns to the initial state of maintenance mode.

(5) Turn OFF the power switch.

Note:
- The setting is applied after the power switch is turned OFF and then ON again.

■ Adjust left-end print start position on second side when duplex printing

<Function>

In the event that the left-end print start position deviates on the second side when duplex printing, use this function to adjust the position left/right.

The adjustable range is -100 to 750 (unit: 300 dpi). (Shifted to left when the value is negative)

<Operating Procedure>

(1) Press the [4], and then the [5] key in the initial state of maintenance mode. "USBNo." is displayed on the LCD.

(2) Press the [▲] or [▼] key to display "DX.XAdjust" on the LCD.

(3) Press the [SET] key. "DX.XAdjust=**" is displayed on the LCD.
(The value currently set is displayed for **.)

(4) To shift the writing start position to the left, press the [▼] key to decrease the value. To shift the position to the right, press the [▲] key to increase the value.

(5) Press the [SET] key. "Accepted" is displayed on the LCD, and the machine returns to the initial state of maintenance mode.

1.3.10 Fine-tune scanning position (function code: 54)

<Function>

This function is used to adjust the scanning start/end positions.

<Operating Procedure>

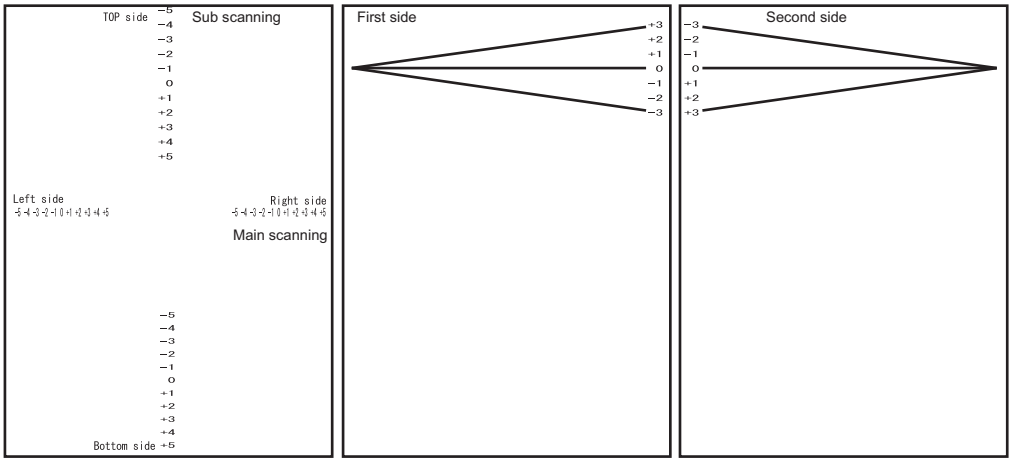
(1) Press the [5], and then the [4] key in the initial state of maintenance mode.
"SCAN ADJ SELECT" is displayed on the LCD.
After two seconds, "SUB" is displayed on the LCD.

(2) To adjust the sub scanning, press the [▲] or [▼] key to display "SUB" on the LCD, and press the [SET] key.
To adjust the main scanning, press the [▲] or [▼] key to display "MAIN" on the LCD, and press the [SET] key.
To adjust the skew scanning, press the [▲] or [▼] key to display "SKEW" on the LCD, and press the [SET] key.

(3) "▲ : FRONT ▼ : BACK" is displayed on the LCD.
Press [▼] key to adjust the first side.
Press [▲] key to adjust the second side.

(4) Press the [▲] key to adjust the compensation level in the positive direction or press the [▼] key to adjust it in the negative direction.
(Compensation levels for sub scanning can be adjusted in 101 levels from +50 to -50.)
(Compensation levels for main scanning can be adjusted in 61 levels from +30 to -30.)
(Compensation levels for skew scanning can be adjusted in 41 levels from +20 to -20.)

(5) When adjusting is completed, press the [SET] key. "Accepted" is displayed on the LCD, and the machine returns to the initial state of maintenance mode.



1.3.11 Acquire white level data and set CIS scan area (function code: 55)

<Function>

This function is used to obtain the white level of the CIS scanner, and store this data and the scan area in the EEPROM of the main PCB.

<Operating Procedure>

(1) Press the [5] key twice in the initial state of maintenance mode.
If any error found in the machine, "ME STATE STOP" is displayed on the LCD.
Press the [1], [9], [3], and [7] keys in this order.
If no error found in the machine, it starts next procedure automatically.

(2) "Press START" is displayed on the LCD. Press the [Start] key.

(3) "SCANNER AREA SET" is displayed on the LCD, and white level data is acquired.

(4) After several seconds, white level data/scan width compensation is saved in EEPROM, and the machine returns to the initial state of maintenance mode.
If any error detected during this operation, error message is displayed on the LCD.

In this case, press the  button to return the machine to the initial state of the maintenance mode, and start again from (1) after recovery.

1.3.12 Adjust touch panel (function code: 61)

<Function>

This function is used to adjust the detection area on the touch panel.

Note:

- This adjustment requires a touch panel stylus with a thin tip. A commercially available stylus designed for electronic dictionaries or personal digital assistance (PDA) can be used. If one is not available at hand, order a "STYLUS" from Brother's parts list.

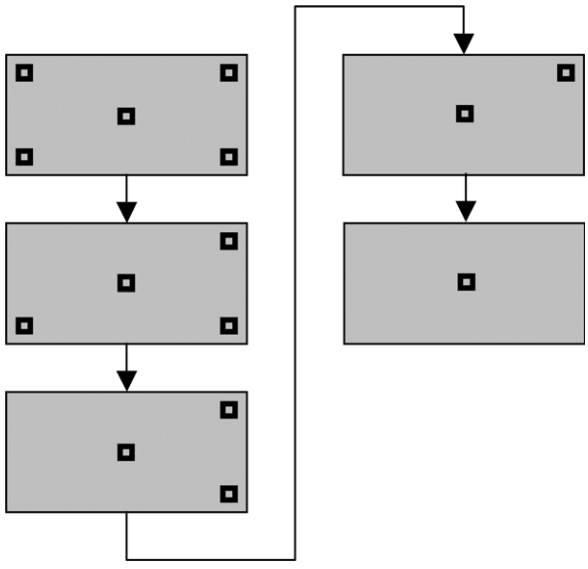
<Operating Procedure>

(1) Press the [6], and then the [1] key in the initial state of maintenance mode. The adjustment screen shown below appears on the LCD.

(2) Use a touch panel stylus and touch the mark at the upper left corner of the screen. The mark disappears when touched, then touch the mark at the lower left. Similarly touch the mark at the lower right, upper right, and center.

Note:

- Do not use any tools other than a touch panel stylus. In particular, never use a pointed tool (e.g. screwdriver). Using such a tool will damage the touch panel.
- Do not touch the touch panel with your fingers. The contact area of a finger is too large to adjust the touch panel precisely.
- If no operation is performed for one minute or the ✕ button is pressed, the machine returns to the initial state of maintenance mode.



(3) When the center (5th mark) is touched, [OK] is displayed if the specified area was adjusted correctly. The machine returns to initial state of maintenance mode.

Note:

- If "NG" is still displayed even after this operation is repeated two to three times, replace the panel ASSY.

1.3.13 Setting by country (function code: 74)

<Function>

This function is used to customize the machine according to language, function settings, and worker switch settings.

<Operating Procedure>

(1) Press the [7], and then the [4] key in the initial state of maintenance mode. The country code currently set is displayed on the LCD.

(2) Enter the country code you want to set.

(3) Press the [Start] key. The new setting is saved, and the machine returns to the initial state of maintenance mode.

When the ✕ button is pressed during setting, the machine returns to the initial state of maintenance mode without saving any changes that have been made.

Note:

- If there is no entry for one minute or longer, the machine returns to the initial state of maintenance mode automatically, regardless of the display status.

<Country code list>

Country	ADS-2500W	ADS-2600W	Country	ADS-2500W	ADS-2600W
U.S.A.	0001	—	Portugal	—	0103
Canada	0001	—	China	—	0020
Brazil	0042	—	Philippine	—	0121
Argentina	0042	—	Turkey	—	0141
Mexico	0001	—	Sweden	—	0103
Germany	—	0103	New Zealand	—	0106
U.K.	—	0104	Slovakia	—	0103
France	—	0103	Bulgaria	—	0103
Australia	—	0106	Romania	—	0103
Norway	—	0103	Czech Republic	—	0103
Belgium	—	0103	Hungary	—	0103
Netherlands	—	0103	Poland	—	0103
Switzerland	—	0103	Gulf	—	0141
Finland	—	0103	UAE	—	0141
Austria	—	0103	Korea	—	0121
Denmark	—	0103	Russia	—	0148
Spain	—	0103	GENERAL	—	0103
Italy	—	0103			

This code list is current as of July 2012. Please contact Brother for the latest information.

1.3.14 Display machine log information (function code: 80)

<Function>

This function is used to display the log information on the LCD.

<Operating Procedure>

(1) Press the [8], and then the [0] key in the initial state of maintenance mode.
"00:00 22:36 OK" is displayed on the LCD.

(2) Pressing the [▼] key displays the next item.
Pressing the [▲] key returns to the previous item.

(3) When the  button is pressed, the machine returns to the initial state of maintenance mode.

Display information

LCD	Description
USB:000G8J000166	Machine serial number *1
MAC:008077112233	MAC address
PCB:911309123456	Main PCB serial number
CF:0000000000000	First side CIS serial number
CR:0000000000000	Second side CIS serial number
POWER:00000375	Total power distribution time
PWRCNT:00000000	The number of times that the power has been turned ON
MACERR_01:0000	Machine error log (last ten errors)
ADTL_PG:00000000	Total pages scanned
ADSX_PG:00000000	Total pages single scanned
ADDX_PG:00000000	Total pages duplex scanned
ADSX_JAM:000000	Paper jams that have occurred in single scanning
ADDX_JAM:000000	Paper jams that have occurred in duplex scanning
AD_MF:000000	The number of times that double feeding has been detected
DEVSTATUS__01:00	Log for design status

*1 The serial number can be changed according to the steps below.

1) While the serial number is displayed, press the [9], [4], [7], and [5] keys in this order. The cursor appears on the first digit of the serial number and edit mode is entered.
2) Use the keypad to enter the first digit of the serial number. The cursor moves to the second digit. Enter the second digit to the 15th digit similarly.

<Entry method of alphanumeric characters>

See the table below and press the corresponding key until the desired character is displayed.

Keypad	Assigned characters
2	2 → A → B → C
3	3 → D → E → F
4	4 → G → H → I
5	5 → J → K → L
6	6 → M → N → O
7	7 → P → Q → R → S
8	8 → T → U → V
9	9 → W → X → Y → Z

3) Press the [Start] key to save the new serial number. The machine returns to the initial state of maintenance mode.

1.3.15 Display machine error code (function code: 82)

<Function>

This function is used to display the latest error code on the LCD.

<Operating Procedure>

(1) Press the [8], and then the [2] key in the initial state of maintenance mode.
"MACHINE ERR XXXX" is displayed on the LCD.

(2) When the  button is pressed, the machine returns to the initial state of maintenance mode.

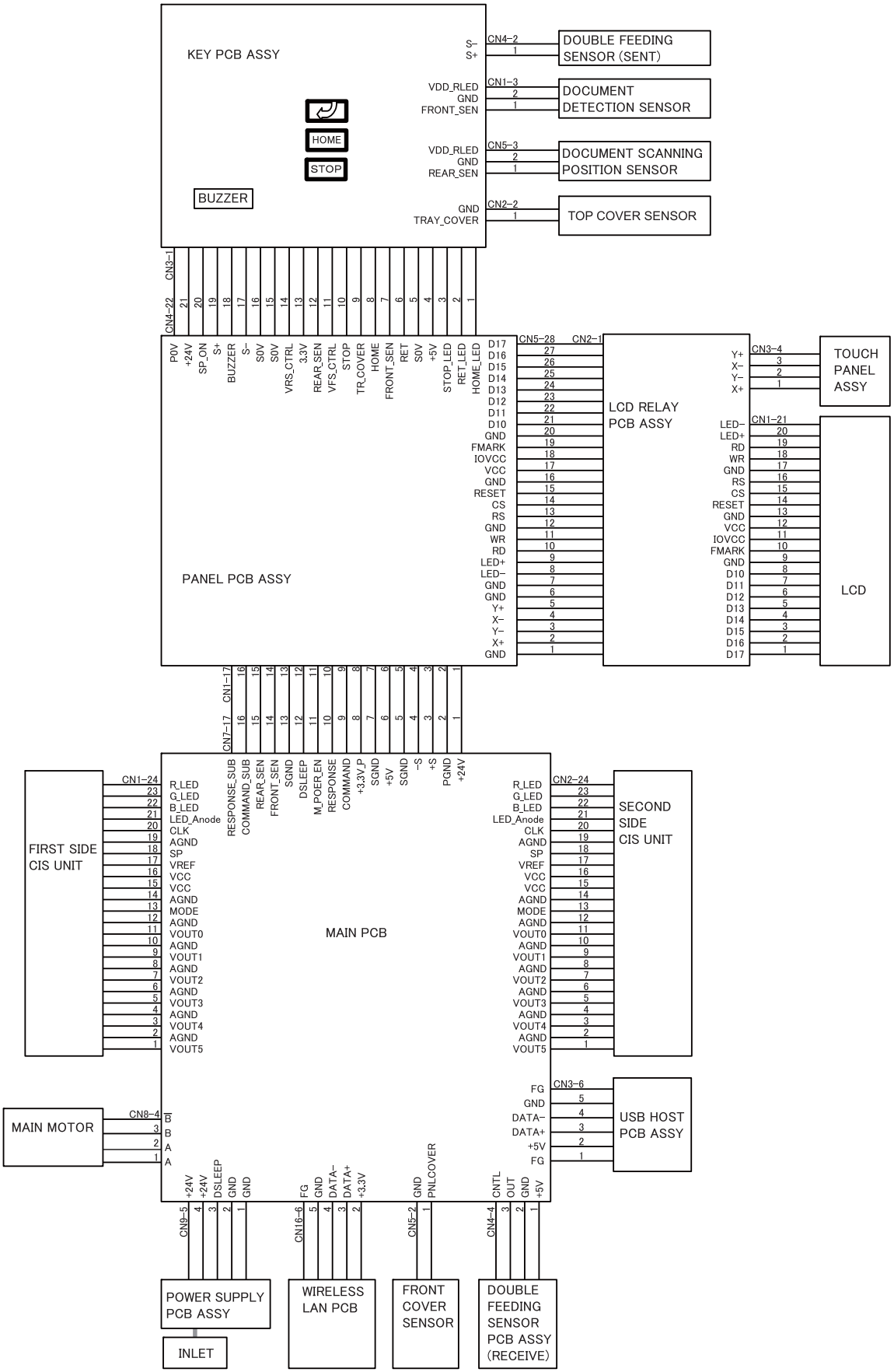
CHAPTER 6
WIRING DIAGRAM

CHAPTER 6 WIRING DIAGRAM

This chapter provides the wiring diagram for the connections of the PCBs.

CONTENTS

1. WIRING DIAGRAM



CHAPTER 7
PERIODICAL MAINTENANCE

CHAPTER 7 PERIODICAL MAINTENANCE

CONTENTS

1. PERIODICAL MAINTENANCE PARTS

There are no parts that must be replaced periodically.

APPENDIX 1
SERIAL NUMBERING SYSTEM

APPENDIX 1 SERIAL NUMBERING SYSTEM

■ Serial number label (1 location)

<How to Read>

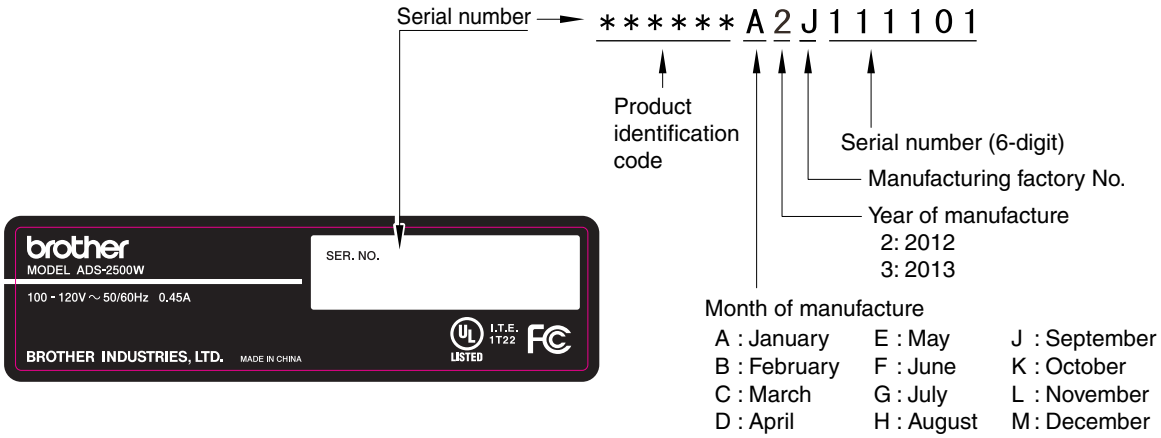


Fig. App. 1-1

<Location>

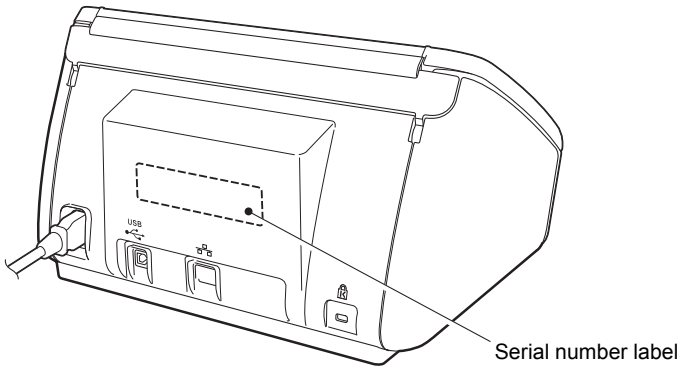


Fig. App. 1-2

APPENDIX 2
DELETING USER SETTING INFORMATION

This appendix provides instructions on how to delete user setting information recorded in the machine.

APPENDIX 2 DELETING USER SETTING INFORMATION

Initializes setting values registered in EEPROM including operation parameter and user switch.

<Operation Procedure>

(1) Press the  key.

(2) Press the [▲] or [▼] key to display "Initial Setup" on the LCD, and press the [Initial Setup] box.

(3) Press the [Reset] box.

(4) Press the [All Settings] box.

(5) Press the [Yes] key.

(6) Press and hold the [Yes] key again. The EEPROM is initialized, and the machine returns to the ready state.

APPENDIX 3
INSTALLING MAINTENANCE DRIVER

APPENDIX 3 INSTALLING MAINTENANCE DRIVER

To identify multiple terminals connected to the computer via USB, the computer needs to configure the corresponding number of virtual USB devices using a driver or software. If you connect multiple machines to your computer, the same number of virtual USB devices will be automatically configured on your computer. To prevent an unlimited number of virtual USB devices from being configured, use the unique driver installation procedure described below to enable your computer to identify multiple terminals via one single virtual USB device.

<Operating Procedure>

(1) Check that the AC power cord of the machine is unplugged. When the machine is connected to the computer, disconnect the USB cable.

(2) Turn ON the power switch of the computer.

(3) Press and hold the  button. The four boxes appear on the LCD.

(4) Press and hold the 4th box with no display. The display of numeric keys and others appear on the LCD.

(5) Press the [*], [2], [8], [6], and [4] keys on the LCD in this order. The machine enters into the initial state of maintenance mode.

(6) Double-click "maintenance.exe" for the maintenance driver stored in the temporary folder to execute it.

(7) The Device Driver Installation Wizard startup window appears. Click [Next].

(8) The WHQL alert window appears three times. Click [Continue Anyway] on each window to continue installation.

(9) The Device Driver Installation Wizard completion window appears. Click [Finish].

(10) Connect the machine to your computer using the USB cable.

(11) The Found New Hardware Wizard startup window appears. Select "Install the software automatically" and click [Next].

(12) The WHQL alert window appears. Click [Continue Anyway].

(13) When the driver is installed successfully, the Found New Hardware Wizard completion window appears. Click [Finish].

(14) Repeat steps (11) to (13) three times to complete the unique driver installation procedure.

(15) Disconnect the USB cable, and unplug the AC power cord of the machine.