



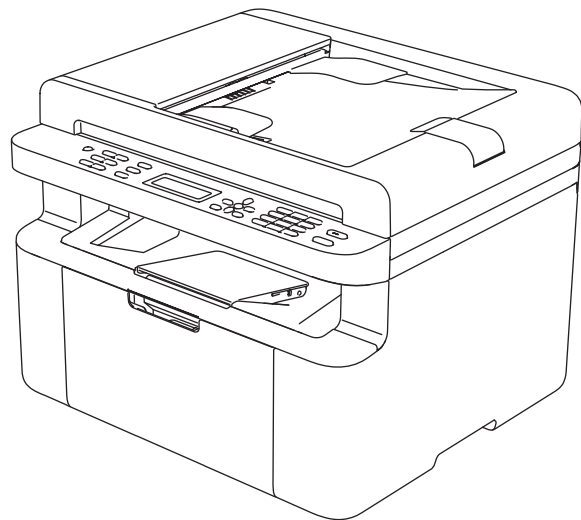
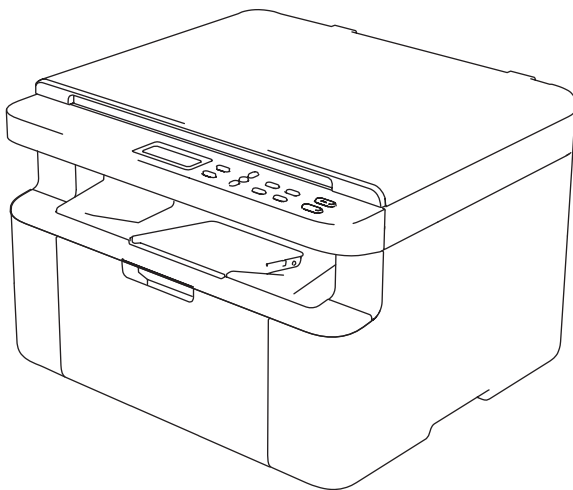
# Brother Laser MFC

# **SERVICE MANUAL**

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**MODEL:**  
**DCP-1510/1511/1512/1518**  
**MFC-1810/1811/1813/1815/1818**



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

May 2013  
SM-FAX146  
8C5G\*

The function comparative table below is for models described in this Service Manual.

|                          | DCP-1510                   | DCP-1511                   | DCP-1512                   | DCP-1518   |
|--------------------------|----------------------------|----------------------------|----------------------------|--|
| LCD                      | 16 characters<br>x 2 lines | 16 characters<br>x 2 lines | 16 characters<br>x 2 lines | 10 characters<br>x 2 lines (2byte)<br>20 characters<br>x 2 lines (1byte) |
| Wired/ Wireless LAN      | N/A                        | N/A                        | N/A                        | N/A  |
| Scanner                  | One-sided                  | One-sided                  | One-sided                  | One-sided  |
| ADF                      | N/A                        | N/A                        | N/A                        | N/A  |
| Capacity<br>(Paper tray) | 150 sheets                 | 150 sheets                 | 150 sheets                 | 150 sheets   |
| Speaker                  | N/A                        | N/A                        | N/A                        | N/A  |
| Ten-key pad              | N/A                        | N/A                        | N/A                        | N/A  |
| FAX                      | N/A                        | N/A                        | N/A                        | N/A  |
| Handset                  | N/A                        | N/A                        | N/A                        | N/A  |

|                          | MFC-1810                   | MFC-1811                   | MFC-1813   | MFC-1815                   |
|--------------------------|----------------------------|----------------------------|--|----------------------------|
| LCD                      | 16 characters<br>x 2 lines | 16 characters<br>x 2 lines | 10 characters<br>x 2 lines (2byte)<br>20 characters<br>x 2 lines (1byte) | 16 characters<br>x 2 lines |
| Wired/ Wireless LAN      | N/A                        | N/A                        | N/A  | N/A                        |
| Scanner                  | One-sided                  | One-sided                  | One-sided  | One-sided                  |
| ADF                      | ✓                          | ✓                          | ✓  | ✓                          |
| Capacity<br>(Paper tray) | 150 sheets                 | 150 sheets                 | 150 sheets   | 150 sheets                 |
| Speaker                  | ✓                          | ✓                          | ✓  | ✓                          |
| Ten-key pad              | ✓                          | ✓                          | ✓  | ✓                          |
| FAX                      | ✓                          | ✓                          | ✓  | ✓                          |
| Handset                  | N/A                        | N/A                        | N/A  | ✓                          |

|                          | MFC-1818   |
|--------------------------|--|
| LCD                      | 10 characters<br>x 2 lines (2byte)<br>20 characters<br>x 2 lines (1byte) |
| Wired/ Wireless LAN      | N/A  |
| Scanner                  | One-sided  |
| ADF                      | ✓  |
| Capacity<br>(Paper tray) | 150 sheets   |
| Speaker                  | ✓  |
| Ten-key pad              | ✓  |
| FAX                      | ✓  |
| Handset                  | ✓  |

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## **APPENDIX 1 SERIAL NUMBERING SYSTEM**

## **APPENDIX 2 DELETING USER SETTING INFORMATION**



## REGULATION

### ■ Declaration of Conformity (Europe only)

We, Brother Industries, Ltd.

15-1, Naeshiro-cho, Mizuho-ku, Nagoya 467-8561 Japan

declare that this product is in conformity with the essential requirements of all relevant directives and regulations applied within the European Community.

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

→ select “Europe”

→ select your country

→ select your model

→ select “Manuals” and your language, then click “Search”

→ select Declaration of Conformity

→ click “Download”.

Your Declaration will be downloaded as a PDF file.

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

We, Brother Industries, Ltd.

15-1, Naeshiro-cho, Mizuho-ku, Nagoya 467-8561 Japan

declare that these products are in conformity with the provisions of the R&TTE Directive 1999/5/EC. A copy of the Declaration of Conformity can be downloaded by following the instructions in the Declaration of Conformity (Europe only) section.


### ■ IEC60825-1:2007 Specification (For 220-240V Models only)

This product is a Class 1 laser product as defined in IEC60825-1:2007 specifications. The label shown below is attached in countries where required.




**Internal Laser radiation**

Wave Length: 770 - 800 nm  
Output: 25 mW max.  
Laser Class: Class 3B

|   |
|---|
|  <b>WARNING</b>  |
| Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. |

■ **Disconnect Device**

|   |
|---|
|  <b>CAUTION</b>  |
| This product must be installed near an electrical socket that is easily accessible. In case of emergencies, you must disconnect the power cord from the electrical socket to shut off power completely. |

■ **Radio Interference**

This product complies with EN55022 (CISPR Publication 22)/Class B.

■ **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**

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.



## 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.

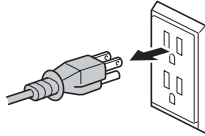
### **WARNING**

#### **ELECTRICAL HAZARDS**

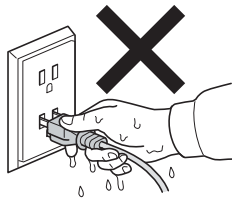
Failure to follow the warnings in this section may create the risk of an electrical shock. In addition, you could create an electrical short, which may create the risk of a fire.



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 telephone line cord first (MFC only) and then the power cord from the AC power outlet, as well as any telephone (RJ-11) (MFC 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 not be used around standing water, including a bath tub, sink, or swimming pool; around appliances containing water, including a refrigerator; or in a wet basement.



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. If you are not sure what kind of power source you have, contact a qualified electrician.

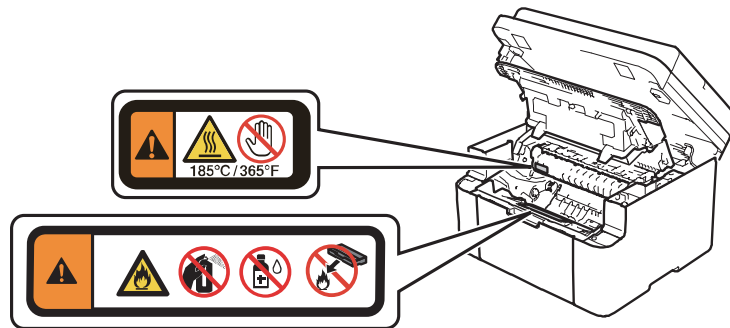


#### POWER CORD SAFETY:

- Use only the power cord supplied with this product.
- DO NOT allow anything to rest on the power cord. DO NOT place this product where people can walk on the cord.
- DO NOT place this product in a position where the cord is stretched or strain is otherwise put on the cord. Doing so may cause the cord to become worn or frayed.
- Brother strongly recommends that you DO NOT advise using an extension cord.



- DO NOT put a toner cartridge and drum unit assembly into a fire. It could explode, resulting in injuries.
- DO NOT use flammable substances, any type of spray, or an organic solvent/liquid containing alcohol or ammonia to clean the inside or outside of the product. Doing so could cause a fire or electrical shock. Instead, use only a dry, lint-free cloth.



DO NOT attempt to operate this product with a paper jam or with stray pieces of paper inside the product. Prolonged contact of the paper with the drum unit could cause a fire.

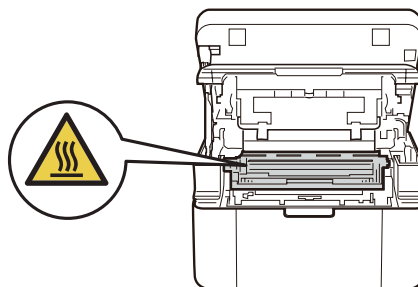


DO NOT use a vacuum cleaner to clean up scattered toner. Doing this might cause the toner dust to ignite inside the vacuum cleaner, potentially starting a fire. Please carefully clean the toner dust with a dry, lint-free soft cloth and dispose of it according to local regulations.



#### HOT SURFACE

After you have just used the product, some internal parts of the product will be extremely hot. Wait at least 15 minutes for the product to cool down before you touch the internal parts of the product.



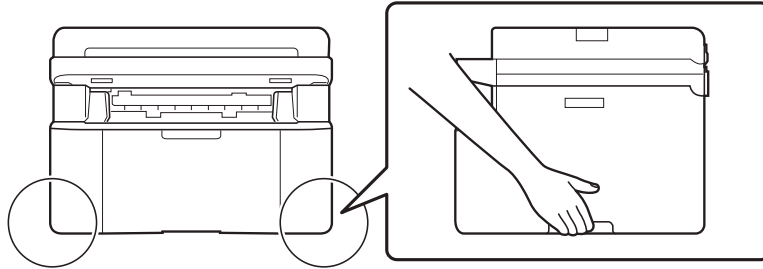


(MFC only)

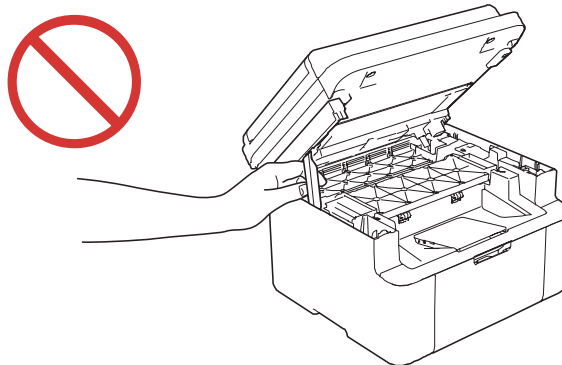
Use caution when modifying telephone lines. Never touch exposed telephone wiring or terminals unless the telephone line has been unplugged at the wall socket. Never fit telephone wiring during an electrical storm. Never fit a telephone wall socket in a wet location. Doing this might cause an electrical shock.



When moving the product, hold it by grasping the handholds at the bottom firmly from the front of the product.



To prevent injuries, be careful not to put your finger in the areas shown in the illustration.



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

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

SAVE THESE INSTRUCTIONS



(MFC only)

To reduce the risk of shock or fire, use only a No. 26 AWG or larger telecommunication line cord.

**! CAUTION**

Lightning and power surges can damage this product! We recommend that you use a quality surge protection device on the AC power line, or unplug the machine during a lightning storm.

Violently closing the top cover without mounting the toner cartridge and the drum unit can damage this product.

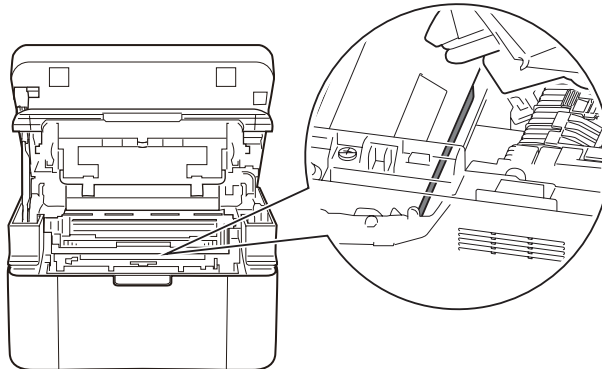
■ **Caution for Laser Product (WARNHINWEIS für Laser drucker)**

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

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

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

<Location of the laser beam window>



■ **Additional Information**

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

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



## ■ Unlawful use of Copying Equipment

It is an offence to make reproductions of certain items or documents with the intent to commit fraud. The following is a non-exhaustive list of documents which it may be unlawful to produce copies of. We suggest you check with your legal adviser and/or the relevant legal authorities if in doubt about a particular item or document:

- Currency
- Bonds or other certificates of debt
- Certificates of Deposit
- Armed forces service or draft papers
- Passports
- Postage stamps (canceled or uncanceled)
- Immigration papers
- Welfare documents
- Cheques or drafts drawn by governmental agencies
- Identifying badges or insignias

In addition, driving licenses and/or Certificates of Title to motor vehicles may not be copied under certain national laws.

Copyrighted works cannot be copied lawfully, subject to the “fair dealing” exception relating to sections of a copyrighted work. Multiple copies would indicate improper use. Works of art should be considered the equivalent of copyrighted works.



## ■ Troubleshooting/Disassembling/Assembling Notes

- 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 manual.
- 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 PCBs and all the other related parts, put on a grounding wrist band and perform the job on a static mat. Also take care not to touch the conductor sections on the flat cables or on the wire harness.
- After disconnecting flat cables, check that each cable is not damaged at its end or short-circuited.
- When connecting flat cables, do not insert them at an angle. After insertion, check that the cables are not inserted 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.
- Forcefully closing the joint cover or top cover without mounting the toner cartridge and the drum unit can damage the machine.
- After assembly, it is recommended to conduct a dielectric test and continuity test.
- Be sure to unplug the AC cord before removing any covers or PCBs, adjusting the machine, or conducting continuity tests using a tester.
- The insulation sheet should not be damaged.

# CHAPTER 1 TROUBLESHOOTING

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## 1. INTRODUCTION

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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 problems and recovery procedures for these. These will help service personnel identify and repair other similar defective sections.

Be sure to observe the [Troubleshooting/Disassembling/Assembling Notes](#) during maintenance work for troubleshooting.

### 1.1 Checks before Commencing Troubleshooting

#### ■ 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 10°C (50°F) to 32.5°C (90.5°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  $\pm 10\%$  of the rated voltage.
- (2) The AC input power supply is within the regulated value.
- (3) The cables and harnesses are connected correctly.
- (4) The fuses are not blown.

#### ■ Paper

- (1) The recommended type of paper is being used.
- (2) The document is not damp.
- (3) Short-grained paper or acid paper is not used.

#### ■ Consumable parts

- (1) The drum unit (including toner cartridge) is set correctly.

## ■ 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 lens, reflecting mirror and protection glass may cause light print image.
- If the exposure drum is cold, the electrical resistance of the photosensitive layer is increased, making it impossible to obtain the correct print density.
- Condensation on the charge unit may cause corona charge leakage, resulting in image defects.
- Condensation on the plate may cause paper feed problems.

If condensation has formed in the machine, leave the machine for at least two hours until it reaches room temperature.

If the drum unit is unpacked soon after it is moved to a warm room from a cold location, condensation may occur inside the unit which may cause printing failure.

Leave the drum unit for one or two hours until it reaches room temperature, and then unpack it.

### (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, increase the room temperature.

## ■ Cleaning

Use a soft lint-free cloth.

 **WARNING**

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



# 2. OVERVIEW

## 2.1 Cross-section Drawing

### 2.1.1 Printer part

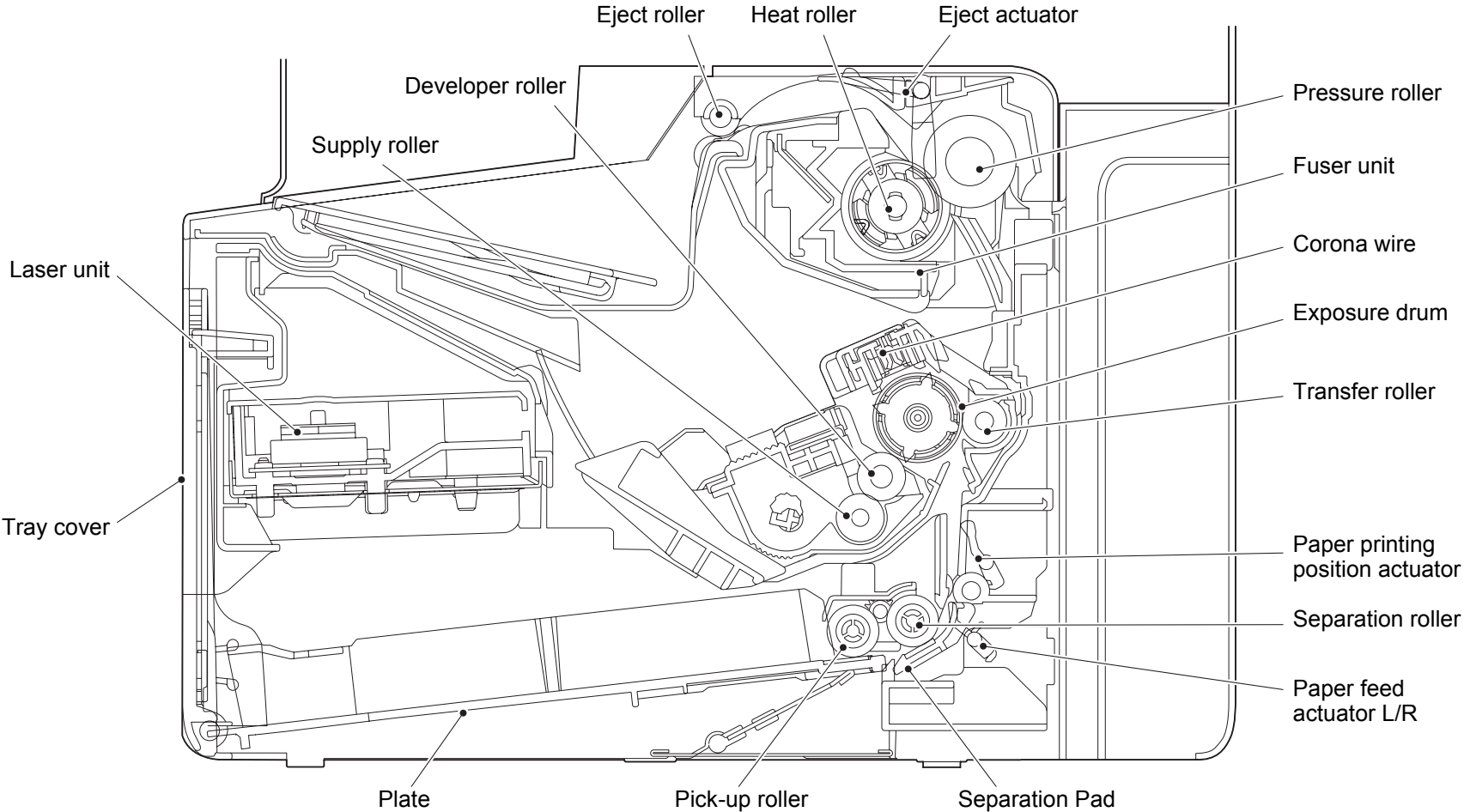


Fig. 1-1

## 2.1.2 Scanner part

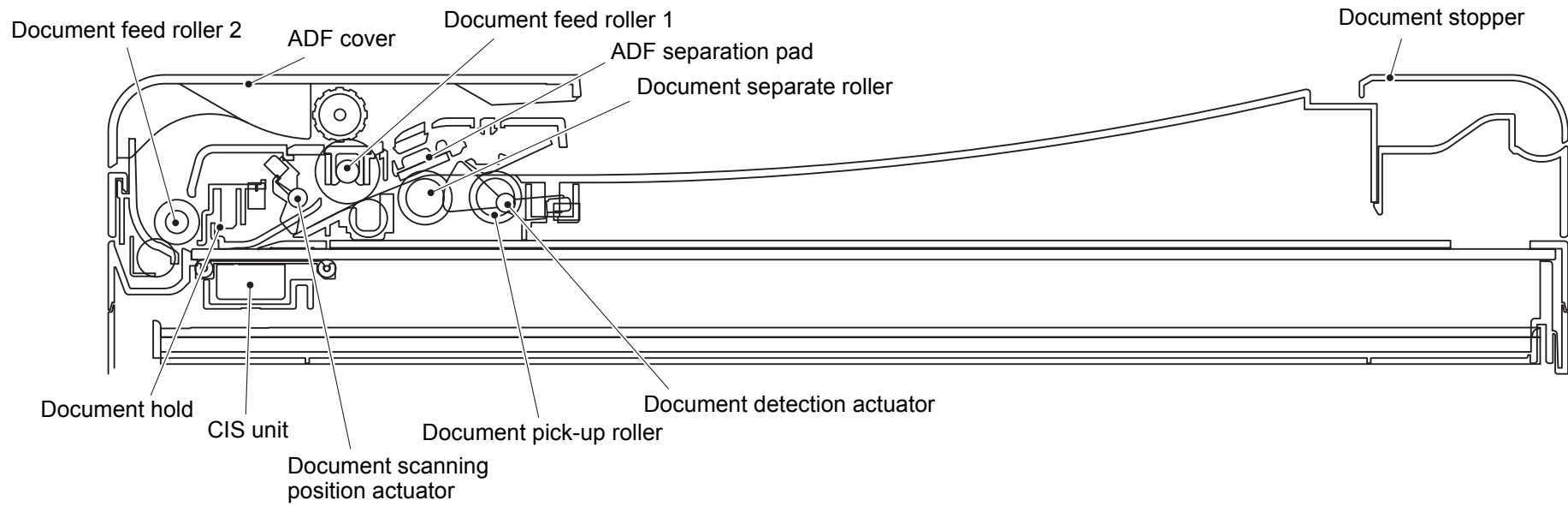
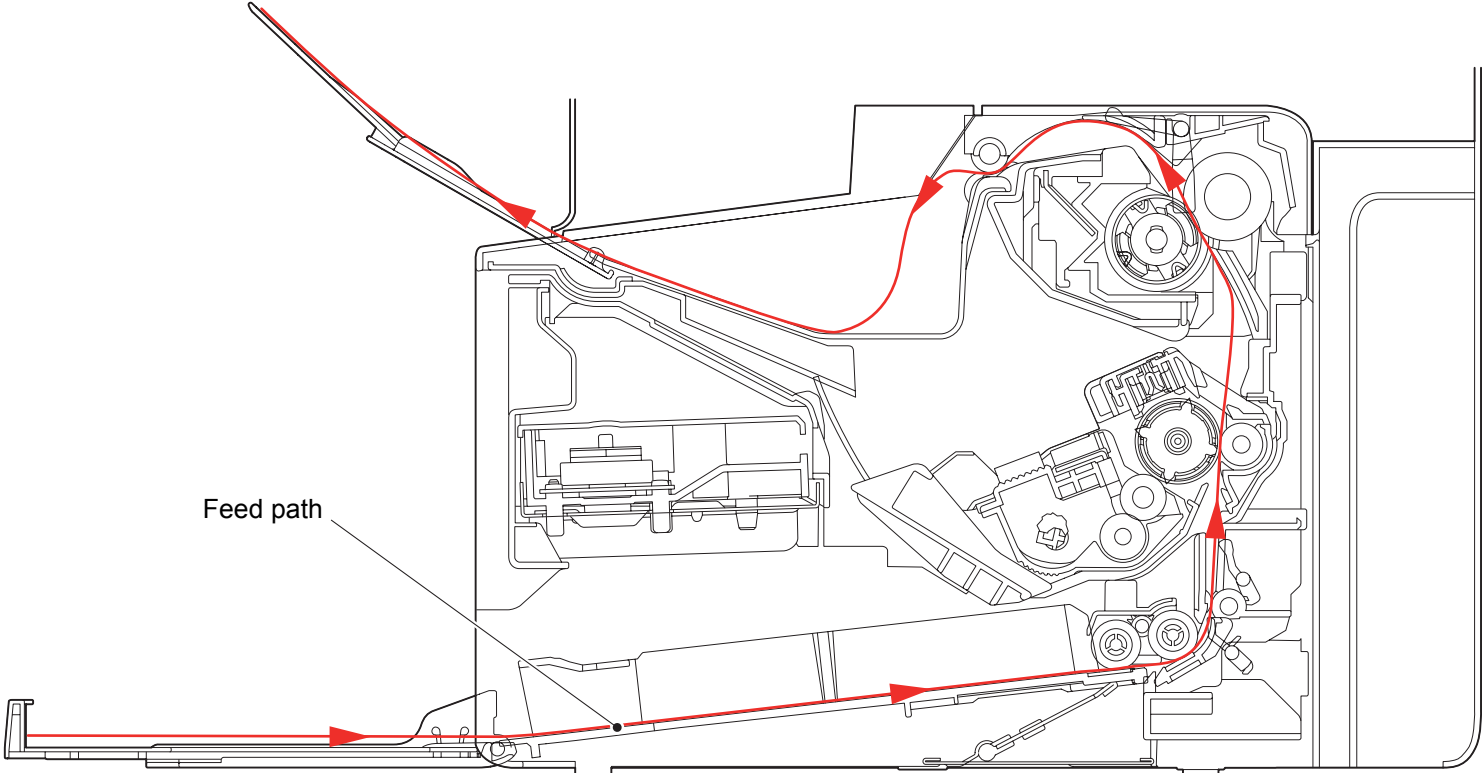


Fig. 1-2

**2.2 Paper Feeding**

**2.2.1 Printer part**



**Fig. 1-3**

2.2.2 Scanner part

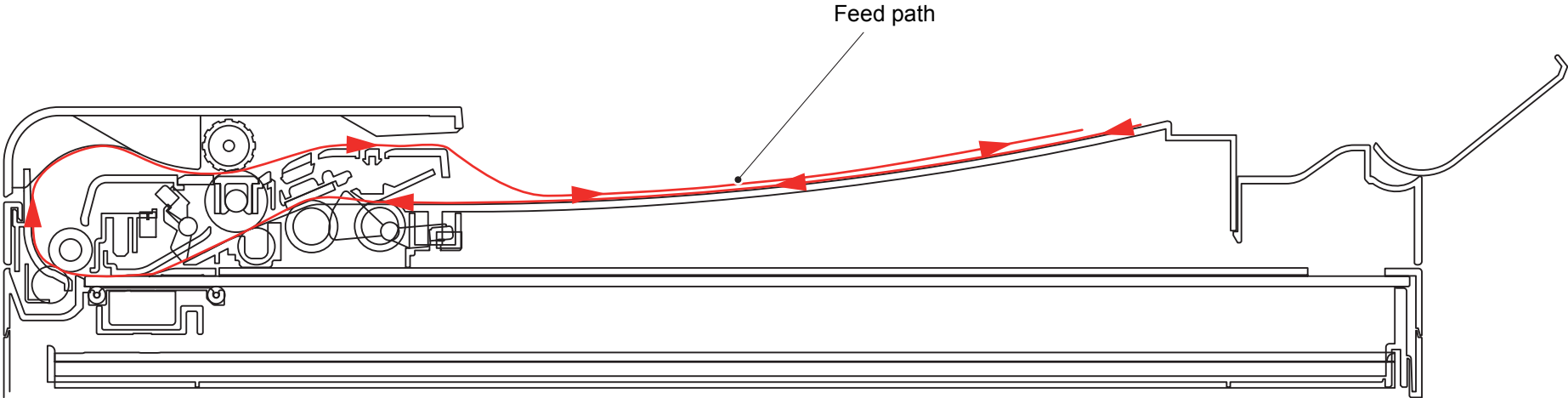


Fig. 1-4

## 2.3 Operation of Each Part

| Part name   | Operation  |
|---|--|
| Pick-up roller  | Feeds paper from the paper tray.   |
| Separation roller / Separation pad                                | Separates paper fed from paper tray into single sheets.  |
| Paper feed actuator L/R (Paper feed sensor L/R)                   | Determines if the sheet of paper is of printable size.<br>Detects paper jams in the front section of the machine.  |
| Paper printing position actuator (Paper printing position sensor) | Detects the front edge of paper to adjust the paper printing position.<br>Detects paper jams in the center section of the machine.<br>Detects the front and rear edges of paper to determine the paper size. |
| Heat roller<br>Pressure roller                                    | Fuses the toner transferred to paper by heat and pressure, and feeds paper to the eject roller.  |
| Eject actuator (Eject sensor)                                     | Determines whether paper is ejected from the fuser unit.<br>Detects paper jams in the rear section of the machine.   |
| Eject roller  | Feeds the paper ejected from the fuser unit to the output tray.  |
| Document pick-up roller   | Feeds document from the document tray.   |
| Document separate roller / ADF separation pad                     | Separates the document fed from the document tray into single sheets.  |
| Document detection sensor   | Detects whether a document is set in the ADF.  |
| Document scanning position sensor                                 | Detects the document scanning start position.<br>Detects a document jam in the ADF.  |
| Document feed roller  | Feeds the document to the ADF scanner part.<br>Feeds the document to the output tray.  |



## 2.4 Block Diagram

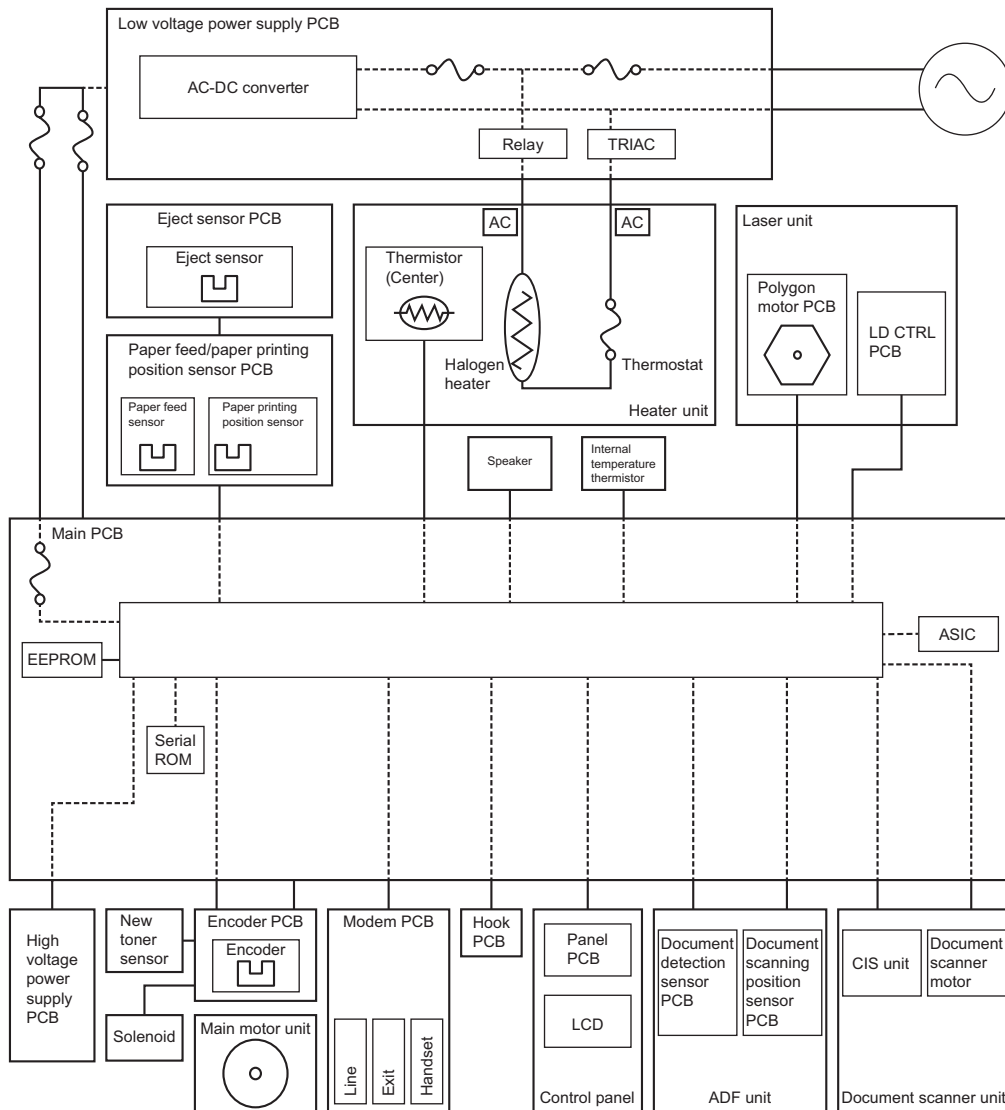


Fig. 1-5

## 2.5 Main Components

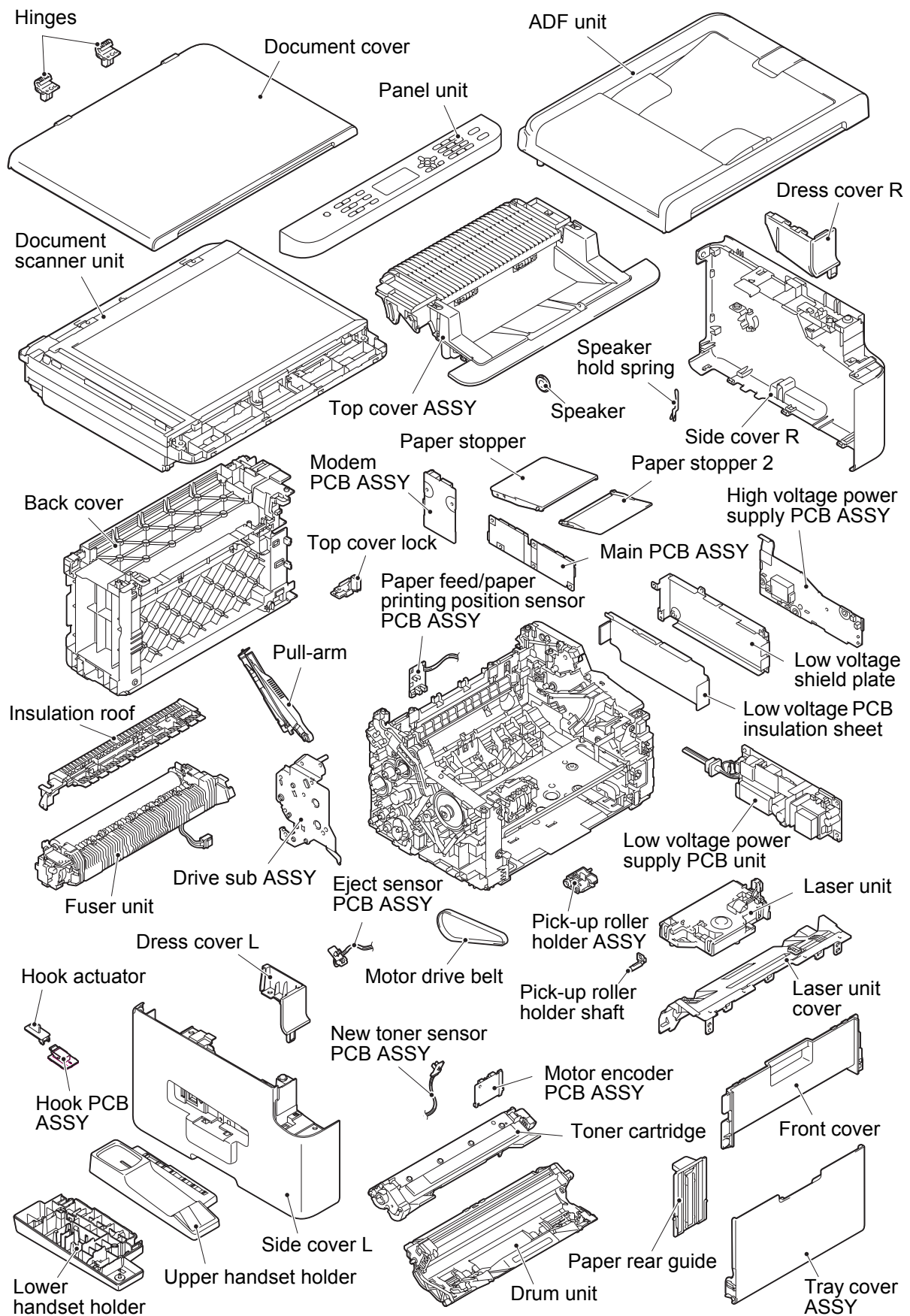


Fig. 1-6

## 3. ERROR INDICATIONS

### 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: |
|-------------|--|-----------|-------------|--|-----------|
| 0100        | —  |           | 0501        | The center thermistor of the fuser unit has not reached the specified temperature within the specified time.   | 1-24      |
| 0201        | Cannot detect the synchronized signal of the main motor. The speed of the main motor does not stabilize within the specified time. | 1-23      | 0502        | The center thermistor has not reached the specified temperature within the specified time after the fuser unit has reached to a certain temperature. | 1-24      |
| 0202        | —  |           | 0503        | The center thermistor of the fuser unit detected a temperature higher than the specified value.  | 1-24      |
| 0203        | —  |           | 0504        | After the heat unit was heated normally, the center thermistor of the fuser unit detected a temperature lower than the specified value.              | 1-24      |
| 0204        | —  |           | 0505        | The center thermistor of the fuser unit detected a temperature rise greater than the specified value within the specified time.                      | 1-24      |
| 0205        | —  |           | 0506        | The center thermistor of the fuser unit detected a temperature fall greater than the specified value within the specified time.                      | 1-24      |
| 0206        | —  |           | 0507        | —  |           |
| 0207        | —  |           | 0508        | —  |           |
| 0208        | —  |           | 0509        | —  |           |
| 0209        | —  |           | 050A        | The hardware detected that the center thermistor of the fuser unit indicated a temperature error.  | 1-25      |
| 0300        | Cannot detect the Lock signal from the document scanner motor.   | 1-23      | 050B        | —  |           |
| 0401        | Cannot detect the synchronized signal of the polygon motor for the laser unit.   | 1-23      | 050C        | —  |           |
| 0402        | —  |           | 050D        | Operated 100% heating for longer than the specified time in the fuser unit while printing.   | 1-25      |

| Error codes | Problem   | Refer to: | Error codes | Problem | Refer to: |
|-------------|---|-----------|-------------|---------|-----------|
| 050F        | Detected an unknown error in the fuser unit.  | 1-25      | 2104        | —       |           |
| 0700        | —   |           | 2105        | —       |           |
| 0800        | —   |           | 2201        | —       |           |
| 0900        | Detected irregular power supply more than 100 times.  | 1-26      | 2202        | —       |           |
| 0A01        | —   |           | 2203        | —       |           |
| 0A02        | —   |           | 2204        | —       |           |
| 0B01        | An error occurred in the high voltage power supply PCB ASSY while operating.                        | 1-26      | 2205        | —       |           |
| 0B02        | An error occurred in the high voltage power supply PCB ASSY when the machine is in the ready state. | 1-26      | 2206        | —       |           |
| 0C00        | —   |           | 2207        | —       |           |
| 0D01        | —   |           | 2301        | —       |           |
| 0D02        | —   |           | 2302        | —       |           |
| 0D03        | —   |           | 2401        | —       |           |
| 0D04        | —   |           | 2402        | —       |           |
| 0E00        | —   |           | 2403        | —       |           |
| 1001        | —   |           | 2404        | —       |           |
| 1002        | —   |           | 2405        | —       |           |
| 1003        | —   |           | 2408        | —       |           |
| 1004        | —   |           | 2409        | —       |           |
| 1100        | —   |           | 2501        | —       |           |
| 1200        | —   |           | 2502        | —       |           |
| 1300        | —   |           | 2503        | —       |           |
| 1400        | —   |           | 2504        | —       |           |
| 1C00        | —   |           | 2601        | —       |           |
| 1D01        | —   |           | 2602        | —       |           |
| 1D02        | —   |           | 2603        | —       |           |
| 1D03        | —   |           | 2604        | —       |           |
| 1D04        | —   |           | 2605        | —       |           |
| 1E01        | —   |           | 2701        | —       |           |
| 1E02        | —   |           | 2702        | —       |           |
| 2001        | —   |           | 2703        | —       |           |
| 2002        | —   |           | 2801        | —       |           |
| 2003        | —   |           | 2802        | —       |           |
| 2004        | —   |           | 2803        | —       |           |
| 2005        | —   |           | 2804        | —       |           |
| 2006        | —   |           | 2805        | —       |           |
| 2101        | —   |           | 2806        | —       |           |
| 2102        | —   |           | 2901        | —       |           |
| 2103        | —   |           | 2902        | —       |           |

| Error codes | Problem | Refer to: | Error codes | Problem  | Refer to: |
|-------------|---------|-----------|-------------|--|-----------|
| 2903        | —       |           | 3401        | —  |           |
| 2904        | —       |           | 3402        | —  |           |
| 2905        | —       |           | 3501        | —  |           |
| 2906        | —       |           | 3601        | —  |           |
| 2A01        | —       |           | 3701        | —  |           |
| 2A02        | —       |           | 3702        | —  |           |
| 2A03        | —       |           | 3703        | —  |           |
| 2B01        | —       |           | 3801        | —  |           |
| 2B02        | —       |           | 3802        | —  |           |
| 2C01        | —       |           | 3A00        | —  |           |
| 2C02        | —       |           | 4000        | The number of rotations of the drum unit is reaching the upper limit.  | 1-27      |
| 2D01        | —       |           | 4001        | —  |           |
| 2E01        | —       |           | 4002        | —  |           |
| 2E02        | —       |           | 4003        | —  |           |
| 2E03        | —       |           | 4004        | —  |           |
| 2E04        | —       |           | 4200        | The number of rotations of the drum unit has reached the upper limit.  | 1-27      |
| 2E05        | —       |           | 4201        | —  |           |
| 2E06        | —       |           | 4202        | —  |           |
| 2E07        | —       |           | 4203        | —  |           |
| 2E08        | —       |           | 4204        | —  |           |
| 2E0A        | —       |           | 4208        | —  |           |
| 2F01        | —       |           | 4300        | —  |           |
| 2F02        | —       |           | 4400        | —  |           |
| 2F03        | —       |           | 4408        | —  |           |
| 2F04        | —       |           | 4500        | —  |           |
| 2F05        | —       |           | 4600        | —  |           |
| 2F06        | —       |           | 4700        | —  |           |
| 2F07        | —       |           | 4800        | —  |           |
| 2F08        | —       |           | 4900        | —  |           |
| 2F0A        | —       |           | 4A00        | —  |           |
| 3001        | —       |           | 4B01        | Dot counter or developer roller counter of the toner is reaching the upper limit (when setting toner stop mode). | 1-27      |
| 3002        | —       |           | 4B02        | —  |           |
| 3003        | —       |           | 4B03        | —  |           |
| 3102        | —       |           | 4B04        | —  |           |
| 3202        | —       |           | 4C01        | Dot counter or developer roller counter of the toner has reached the upper limit (when setting toner stop mode). | 1-27      |
| 3301        | —       |           | 4C02        | —  |           |
| 3302        | —       |           | 4C03        | —  |           |

| Error codes | Problem  | Refer to: | Error codes | Problem  | Refer to: |
|-------------|--|-----------|-------------|--|-----------|
| 4C04        | —  |           | 5B02        | —  |           |
| 4C05        | —  |           | 5C02        | —  |           |
| 4D01        | Dot counter or developer roller counter of the toner is reaching the upper limit (when setting continue mode). | 1-28      | 6001        | The eject sensor detected that the top cover was open.   | 1-29      |
| 4E01        | Dot counter or developer roller counter of the toner has reached the upper limit (when setting continue mode). | 1-28      | 6002        | —  |           |
| 4F01        | New toner sensor in the toner cartridge could not detect the new toner cartridge correctly.                    | 1-28      | 6003        | —  |           |
| 4F02        | —  |           | 6004        | —  |           |
| 4F03        | —  |           | 6007        | Detected that the top cover was open by BD error.  | 1-29      |
| 4F04        | —  |           | 6101        | The new toner sensor detected that the toner cartridge was not set.  | 1-29      |
| 5001        | —  |           | 6102        | —  |           |
| 5002        | —  |           | 6103        | —  |           |
| 5003        | —  |           | 6104        | —  |           |
| 5004        | —  |           | 6200        | Detected that the drum unit was not set by GRID current error.   | 1-30      |
| 5005        | —  |           | 6201        | —  |           |
| 5100        | —  |           | 6202        | —  |           |
| 5200        | —  |           | 6203        | —  |           |
| 5301        | —  |           | 6204        | —  |           |
| 5302        | —  |           | 6208        | —  |           |
| 5401        | —  |           | 6209        | —  |           |
| 5402        | —  |           | 620A        | —  |           |
| 5406        | —  |           | 6300        | —  |           |
| 5502        | —  |           | 6400        | —  |           |
| 5602        | —  |           | 6602        | —  |           |
| 5702        | —  |           | 6701        | —  |           |
| 5801        | —  |           | 6801        | The internal temperature thermistor detected a temperature higher than the specified value.  | 1-31      |
| 5802        | —  |           | 6802        | —  |           |
| 5902        | —  |           | 6901        | An error occurred in the fuser unit when the power switch was turned ON or sleep mode was ended.   | 1-31      |
| 5A02        | —  |           | 6902        | Rechecking the error after the power switch was turned OFF and then ON again because an error was detected in the fuser unit. (This message is displayed for approximately 15 minutes when the machine is restarted after error code 6901 has occurred.) | 1-31      |

| Error codes | Problem   | Refer to: | Error codes | Problem   | Refer to: |
|-------------|---|-----------|-------------|---|-----------|
| 6A00        | Detected discharge that may be attributable to dirty corona wire on the drum unit.  | 1-32      | 7501        | —   |           |
| 6B01        | —   |           | 7502        | —   |           |
| 6B02        | —   |           | 7601        | —   |           |
| 6B03        | —   |           | 7602        | —   |           |
| 6B04        | —   |           | 7700        | —   |           |
| 6B0A        | —   |           | 7701        | —   |           |
| 6C01        | —   |           | 7702        | —   |           |
| 6C02        | —   |           | 7703        | —   |           |
| 6C03        | —   |           | 7704        | —   |           |
| 6C04        | —   |           | 7705        | —   |           |
| 6D00        | —   |           | 7801        | —   |           |
| 6E00        | —   |           | 7802        | —   |           |
| 6F00        | Detected irregular power supply less than 100 times.  | 1-32      | 7900        | —   |           |
| 7000        | The eject sensor does not detect paper pass after the paper printing position sensor detected the paper pass.                   | 1-33      | 7C00        | —   |           |
| 7001        | —   |           | 7D00        | When the power switch was turned ON, the eject sensor detected paper pass. (Cannot determine whether the top cover is open or whether it is a paper jam.) | 1-36      |
| 7002        | —   |           | 7E00        | Detected that multiple paper is fed five times in a row during receiving fax or printing list/report.   | 1-36      |
| 7003        | —   |           | 8401        | —   |           |
| 7004        | —   |           | 8402        | —   |           |
| 7100        | The eject sensor remains ON (paper pass detected) even after the paper printing position sensor detected the end of paper pass. | 1-34      | 8501        | —   |           |
| 7101        | —   |           | 8502        | —   |           |
| 7102        | —   |           | 8503        | —   |           |
| 7103        | —   |           | 8504        | —   |           |
| 7104        | —   |           | 8505        | —   |           |
| 7105        | —   |           | 8506        | —   |           |
| 7106        | —   |           | 8507        | —   |           |
| 7200        | —   |           | 8508        | —   |           |
| 7300        | The paper feed sensor does not detect paper pass even after the paper has been fed for the specified time.                      | 1-35      | 8601        | —   |           |
| 7301        | —   |           | 8602        | —   |           |
| 7400        | —   |           | 8603        | —   |           |
| 7401        | —   |           | 8604        | —   |           |

| Error codes | Problem   | Refer to: | Error codes | Problem   | Refer to: |
|-------------|---|-----------|-------------|---|-----------|
| 8701        | —   |           | 9303        | —   |           |
| 8702        | —   |           | 9304        | —   |           |
| 8703        | —   |           | 9305        | —   |           |
| 8801        | —   |           | 9306        | —   |           |
| 8802        | —   |           | 9307        | Detected that paper has run out during receiving fax or printing list/report.             | 1-38      |
| 8901        | —   |           | 9401        | —   |           |
| 8902        | —   |           | 9402        | —   |           |
| 8903        | —   |           | 9403        | —   |           |
| 8904        | —   |           | 9404        | —   |           |
| 8A01        | —   |           | 9501        | —   |           |
| 8A02        | —   |           | 9502        | —   |           |
| 8C00        | —   |           | 9503        | —   |           |
| 8D01        | —   |           | 9504        | —   |           |
| 8D02        | —   |           | 9505        | —   |           |
| 8E01        | —   |           | 9601        | The paper feed sensor detected that the paper width was narrower than A4 size.            | 1-39      |
| 8E02        | Detected that the size of paper set in the paper tray was over 10 mm shorter than letter size during receiving fax or printing list/report. | 1-37      | 9608        | The paper feed sensor detected that the paper length was shorter than the specified size. | 1-39      |
| 8E03        | —   |           | 9701        | —   |           |
| 8F01        | —   |           | 9702        | —   |           |
| 8F02        | —   |           | 9703        | —   |           |
| 8F03        | —   |           | 9704        | —   |           |
| 9001        | —   |           | 9705        | —   |           |
| 9002        | When printing from the paper tray, the size of paper set in the paper tray does not match the size specified by the driver.                 | 1-37      | 9801        | —   |           |
| 9003        | —   |           | 9802        | —   |           |
| 9004        | —   |           | 9803        | —   |           |
| 9005        | —   |           | 9804        | —   |           |
| 9102        | —   |           | 9901        | —   |           |
| 9103        | —   |           | 9902        | —   |           |
| 9104        | —   |           | 9903        | —   |           |
| 9105        | —   |           | 9A01        | —   |           |
| 9200        | —   |           | 9A02        | —   |           |
| 9301        | —   |           | 9A03        | —   |           |
| 9302        | When printing from the paper tray, the paper feed sensor detected that there was no paper set in the paper tray.                            | 1-38      | 9A04        | —   |           |



| Error codes | Problem   | Refer to: | Error codes | Problem   | Refer to: |
|-------------|---|-----------|-------------|---|-----------|
| 9C01        | —   |           | B800        | —   |           |
| 9C02        | —   |           | B900        | The white level does not increase during scanning although the light intensity was increased. | 1-42      |
| 9C03        | —   |           | BA00        | CIS received an external light from somewhere other than the CIS during scanning.             | 1-42      |
| 9C06        | —   |           | BB00        | A white level not within the standard was scanned when function code 55 was executed.         | 1-42      |
| 9C07        | —   |           | BC00        | —   |           |
| A000        | —   |           | BD00        | A black level not within the standard was scanned when function code 55 was executed.         | 1-43      |
| A200        | The document scanning position sensor detected that the document length was 90 cm or more while scanning a document.  | 1-39      | BE00        | —   |           |
| A300        | The document scanning position sensor has not detected the document passing even after the document has been fed for the specified distance.                        | 1-40      | BF00        | —   |           |
| A400        | —   |           | C001        | —   |           |
| A500        | When scanning the fax, white or black correction data for the CIS was not within the correct range.   | 1-40      | C002        | —   |           |
| A600        | Although operation was retried due to error A500 that occurred while scanning the fax, white or black correction data for the CIS was not within the correct range. | 1-40      | C003        | —   |           |
| A700        | Color parameter in the ROM does not match the CIS.  | 1-40      | C004        | —   |           |
| A800        | An error was detected in the color parameter in the ROM during scanned image processing.  | 1-41      | C700        | There is insufficient memory to expand PC print data.   | 1-43      |
| A900        | —   |           | C800        | —   |           |
| AA00        | —   |           | C900        | —   |           |
| AB00        | —   |           | CA00        | —   |           |
| AC00        | —   |           | D100        | An error occurred while initializing the modem.   | 1-43      |
| AD00        | Image processing cannot be completed correctly because the number of pixels required for image processing is insufficient in the scanned data.                      | 1-41      | D200        | Detected that the modem PCB is not connected.   | 1-43      |
| AF00        | Home position is still being detected even after the CIS was moved.   | 1-41      | D800        | —   |           |
| B000        | Detected that CIS flat cable is not connected.  | 1-42      | D900        | —   |           |
| B300        | —   |           | DA00        | —   |           |
| B400        | —   |           | DB00        | —   |           |
| B700        | —   |           | E000        | An error occurred in the ROM check sum.   | 1-44      |

| Error codes | Problem   | Refer to: | Error codes | Problem | Refer to: |
|-------------|---|-----------|-------------|---------|-----------|
| E100        | Program error   | 1-44      | FB06        | —       |           |
| E400        | —   |           | FB07        | —       |           |
| E500        | An error occurred during access to the DRAM in the main PCB ASSY. | 1-44      | FB08        | —       |           |
| E600        | Write error in the EEPROM of the main PCB ASSY.                   | 1-44      | FB09        | —       |           |
| E700        | —   |           | FB0A        | —       |           |
| E900        | —   |           | FB0B        | —       |           |
| EC00        | —   |           | FB0C        | —       |           |
| F900        | The country code was not entered correctly.                       | 1-44      | FB0D        | —       |           |
| FA01        | —   |           | FB0E        | —       |           |
| FA02        | —   |           | FB0F        | —       |           |
| FA03        | —   |           | FC01        | —       |           |
| FB01        | —   |           | FC02        | —       |           |
| FB02        | —   |           | FC03        | —       |           |
| FB03        | —   |           | FC04        | —       |           |
| FB04        | —   |           | FC05        | —       |           |
| FB05        | —   |           |             |         |           |

## 3.2 Error Messages

| First line      | Second line   | Description   | Refer to:    |
|-----------------|---|---|--------------|
| Cartridge Error | Put the Toner Cartridge back in   | The new toner sensor could not detect the new toner cartridge correctly.  | 4F01         |
| Cooling Down    | Wait for a while  | Cooling down the machine to protect the inside of the machine.  | 6801         |
| Cover is Open   | Close the Top Cover.  | The top cover sensor detected that the top cover was open.  | 6001         |
| Document Jam    | Clear the scanner jam, then press the Stop Key.   | The document is too long or cannot be fed.  | A200<br>A300 |
| Drum !          | Open the Scanner Cover and Top Cover and slide the green tab across the Drum Unit several times.            | Detected discharge that may be attributable to dirty corona wire on the drum unit.  | 6A00         |
| Drum End Soon   | —   | The number of pages printed with the drum unit is reaching the life limit.  | 4000         |
| Jam Inside 1    | Open the Scanner Cover and Top Cover, pull out the Drum Unit and remove the jammed paper, then press Start. | The eject sensor does not detect paper pass after the paper printing position sensor detected the paper pass.   | 7000         |
| Jam Inside 2    | Open the Scanner Cover and remove the jammed paper, then press Start.                                       | The eject sensor remains ON (paper pass detected) even after the paper printing position sensor detected the end of paper pass.                           | 7100         |
| Jam Inside 3    | Remove the jammed paper, then press Start.  | When the power switch was turned ON, the eject sensor detected paper pass. (Cannot determine whether the top cover is open or whether it is a paper jam.) | 7D00         |
| Jam Tray        | Remove the jammed paper from Tray then press Start.   | The paper feed sensor does not detect paper pass even after the paper has been fed for the specified time.  | 7300         |
| No Drum         | Open the Scanner Cover and Top Cover, then install the Drum Unit.   | Detected that the drum unit was not set by GRID current error.  | 6200         |
| No Paper        | Load paper, then press Start.   | When printing from the paper tray, the paper feed sensor detected that there was no paper set in the paper tray.  | 9302         |
| No Toner        | Open the Scanner Cover and Top Cover, then install the Toner Cartridge.                                     | The new toner sensor terminal detected that the toner cartridge was not set by the terminal conduction failure.   | 6101         |
| Out of Memory   | Press Stop Key  | There is insufficient memory to expand PC print data.   | C700         |
| Replace Drum    | —   | The number of rotations of the drum unit has reached the life limit.  | 4200         |

| First line       | Second line   | Description  | Refer to:                    |
|------------------|---|--|------------------------------|
| Replace Toner    | Open the Scanner Cover and Top Cover, replace Toner Cartridge.  | Dot counter or developer roller counter of the toner has reached the upper limit (when setting toner stop mode).   | 4C01                         |
|                  | Received faxes are also stored in memory until the toner cartridge is replaced or the memory is full. | Dot counter or developer roller counter of the toner is reaching the upper limit (when setting continue mode).   | 4D01                         |
| Scanner Error    | —   | An error occurred in the scanner unit.   | B900<br>BA00<br>BB00<br>BD00 |
| Self-Diagnostic  | Turn the power off, then on again. Leave the machine for 15 min.                                      | An error occurred in the fuser unit when the power switch was turned ON or sleep mode was ended.   | 6901                         |
|                  | Will Automatically Restart within 15 minutes.   | Rechecking the error after the power switch was turned OFF and then ON again because an error was detected in the fuser unit. (This message is displayed for approximately 15 minutes when the machine is restarted after error code 6901 has occurred.) | 6902                         |
| Size Mismatch    | Reload correct paper, then press Start.   | The size of paper set in the paper tray does not match the size specified by the driver.   | 8E02<br>9002                 |
| Toner Ended      | Open the Scanner Cover and Top Cover, replace Toner Cartridge.  | Dot counter or developer roller counter of the toner has reached the upper limit (when setting continue mode).   | 4E01                         |
| Toner Low        | Prepare New Toner Cartridge.  | Dot counter or developer roller counter of the toner is reaching the upper limit.  | 4B01                         |
| Wrong Paper Type | Reload with A4, Letter, Legal or Folio paper, and press Start.  | The paper feed sensor detected that the paper was shorter than the specified size.   | 9601<br>9608                 |

### 3.3 Connection Error

| Code 1 | Code 2 | Cause   | Refer to. |
|--------|--------|---|-----------|
| 10     | 07     | No document set when calling.   | 4.12.1    |
| 10     | 08     | Wrong fax number called.  | 4.12.1    |
| 11     | 01     | No dial tone detected before dialing.   | 4.12.1    |
| 11     | 02     | Busy tone detected before dialing.  | 4.12.1    |
| 11     | 03     | No 2nd dial tone detected.  | 4.12.1    |
| 11     | 05     | No loop current detected.   | 4.12.1    |
| 11     | 06     | Busy tone detected after dialing or called.   | 4.12.1    |
| 11     | 07     | No response from the remote station in sending.   | 4.12.1    |
| 11     | 10     | No tone detected after dialing.   | 4.12.1    |
| 11     | 11     | No acknowledgement signal returned after Fax2 net command was sent.   | 4.12.1    |
| 13     | 12     | Error signal received after Fax2 net command was sent.  | 4.12.1    |
| 16     | 09     | No Cipher registration.   | 4.12.1    |
| 17     | 07     | No response from the remote station in receiving.   | 4.12.2    |
| 20     | 01     | Unable to detect flag field.  | 4.12.1    |
| 20     | 02     | Carrier was OFF for 200 ms or longer.   | 4.12.1    |
| 20     | 03     | Abort detected ("1" in succession for seven bits or more).  | 4.12.1    |
| 20     | 04     | Overrun detected.   | 4.12.1    |
| 20     | 05     | A frame received for three seconds or more.   | 4.12.1    |
| 20     | 06     | CRC error in answer back.   | 4.12.1    |
| 20     | 07     | Echo command received.  | 4.12.1    |
| 20     | 08     | Invalid command received.   | 4.12.1    |
| 20     | 09     | Command ignored once for document setting or for damping-out at turn-around transmission.   | 4.12.1    |
| 20     | 0A     | T5 time-out error   | 4.12.1    |
| 20     | 0B     | CRP received.   | 4.12.1    |
| 20     | 0C     | EOR or NULL received.   | 4.12.1    |
| 20     | 0D     | Corresponding command not received although the FIF command sending bit is ON.  | 4.12.1    |
| 20     | 0E     | EOR command received.   | 4.12.1    |
| 32     | 01     | Remote terminal only with V.29 capability in 2,400 or 4,800 bps transmission.   | 4.12.1    |
| 32     | 02     | Remote terminal not ready for polling.  | 4.12.1    |
| 32     | 10     | Remote terminal not equipped with password function or its password switch is OFF.  | 4.12.1    |
| 32     | 11     | Remote terminal not equipped with or not ready for confidential mailbox function.   | 4.12.1    |
| 32     | 12     | Remote terminal not equipped with or not ready for relay broad-casting function.  | 4.12.1    |
| 32     | 13     | No confidential mail in the remote terminal.  | 4.12.1    |
| 32     | 14     | Available memory space of the remote terminal is less than that required for reception of confidential mail or relay broad-casting instruction. | 4.12.1    |
| 32     | 15     | Remote terminal not equipped with Cipher receiving function.  | 4.12.1    |
| 32     | 16     | Remote terminal not equipped with SEP function.   | 4.12.1    |

| Code 1 | Code 2 | Cause  | Refer to. |
|--------|--------|--|-----------|
| 32     | 17     | Remote terminal not equipped with SUB function.  | 4.12.1    |
| 32     | 18     | Remote terminal not equipped with color function.  | 4.12.1    |
| 40     | 02     | Illegal coding system requested.   | 4.12.1    |
| 40     | 03     | Illegal recording width requested.   | 4.12.1    |
| 40     | 05     | ECM requested although not allowed.  | 4.12.1    |
| 40     | 06     | Polled while not ready.  | 4.12.1    |
| 40     | 07     | No document to be sent when polled.  | 4.12.1    |
| 40     | 08     | No data in the box number specified for F code transmission.   | 4.12.1    |
| 40     | 10     | Nation code or manufacturer code not correct.  | 4.12.1    |
| 40     | 11     | Group number not registered for relay broad-casting was specified or the number of addressees specified exceeded the maximum allowable number. | 4.12.1    |
| 40     | 12     | Retrieval attempted while not ready for retrieval.   | 4.12.1    |
| 40     | 13     | Polled by any other manufacturers' terminal while waiting for secure polling.  | 4.12.1    |
| 40     | 14     | Common key not registered although it needs to be used.  | 4.12.1    |
| 40     | 15     | Black/Red data reception is requested when Black/Red receiving function is disabled.   | 4.12.1    |
| 40     | 16     | Cipher transmission is requested when Cipher receiving function is disabled.   | 4.12.1    |
| 40     | 17     | Invalid resolution selected.   | 4.12.1    |
| 40     | 18     | Remote retrieval is requested when the remote retrieval for F code is disabled.  | 4.12.1    |
| 40     | 19     | Remote registration is requested when the remote registration for F code is disabled.  | 4.12.1    |
| 40     | 20     | Invalid full color mode selected.  | 4.12.1    |
| 50     | 01     | Vertical resolution capability changed after compensation of background color.   | 4.12.1    |
| 74     | XX     | DCN received.  | 4.12.1    |
| 80     | 01     | Fallback impossible.   | 4.12.1    |
| 90     | 01     | Unable to detect video signals or commands within six seconds after CFR is transmitted.  | 4.12.1    |
| 90     | 02     | Received PPS containing invalid page count or block count.   | 4.12.1    |
| A0     | 03     | Error correction sequence not terminated even at final transmission speed after fallback.  | 4.12.1    |
| A0     | 11     | Receive buffer empty (five-second time-out)  | 4.12.1    |
| A0     | 12     | Receive buffer full during operation except receiving into memory.   | 4.12.1    |
| A0     | 13     | Decoding error continued on 500 lines or more.   | 4.12.1    |
| A0     | 14     | Decoding error continued for 15 seconds or more.   | 4.12.1    |
| A0     | 15     | Time-out: 13 seconds or more for one-line transmission.  | 4.12.1    |
| A0     | 16     | RTC not found or carrier OFF detected for six seconds.   | 4.12.1    |
| A0     | 17     | RTC found but no command detected for 60 seconds or more.  | 4.12.1    |
| A0     | 19     | No image data to be sent.  | 4.12.1    |
| A0     | 20     | Cannot continue receiving color fax (remaining ink low).   | 4.12.1    |
| A8     | 01     | RTN, PIN, or ERR received (sending terminal).  | 4.12.1    |
| A9     | 01     | RTN, PIN, or ERR received (receiving terminal).  | 4.12.1    |

| Code 1 | Code 2 | Cause   | Refer to. |
|--------|--------|---|-----------|
| AA     | 18     | Receive buffer full during receiving data into memory.                                  | 4.12.2    |
| B0     | 01     | Polarity reversion detected.  | 4.12.1    |
| B0     | 02     | Unable to receive the next-page data.   | 4.12.1    |
| B0     | 03     | Unable to receive polling even during turn-around transmission due to call reservation. | 4.12.1    |
| B0     | 04     | PC interface error.   | 4.12.1    |
| E0     | 01     | Failed to detect 1,300 Hz signal in burn-in operation.                                  | 4.12.1    |
| E0     | 02     | Failed to detect PB signals in burn-in operation.                                       | 4.12.1    |
| E0     | 03     | Unable to detect commands in burn-in operation when RS232C is used.                     | 4.12.1    |

## 4. TROUBLESHOOTING

### 4.1 Error Cause and Remedy

#### ■ Error code 0201

|   |
|---|
| Print Unable 02<br>Turn the power off and then back on again. |
|---|

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

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Connection failure of the main motor harness           | Reconnect the main motor harness.              |
| 2    | Connection failure of the motor encoder PCB flat cable | Reconnect the motor encoder PCB flat cable.    |
| 3    | Low voltage power supply PCB failure                   | Replace the low voltage power supply PCB unit. |
| 4    | Main PCB failure                                       | Replace the main PCB ASSY.                     |

#### ■ Error code 0300

|   |
|---|
| Print Unable 03<br>Turn the power off and then back on again. |
|---|

Cannot detect the Lock signal of the document scanner motor.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Connection failure of the document scanner motor harness | Reconnect the document scanner motor harness.  |
| 2    | Document scanner motor failure                           | Replace the document scanner unit.             |
| 3    | Low voltage power supply PCB failure                     | Replace the low voltage power supply PCB unit. |
| 4    | Main PCB failure   | Replace the main PCB ASSY.                     |

#### ■ Error code 0401

|   |
|---|
| Print Unable 04<br>Turn the power off and then back on again. |
|---|

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

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Connection failure of the polygon motor harness | Reconnect the polygon motor harness.           |
| 2    | Polygon motor failure                           | Replace the laser unit.                        |
| 3    | Low voltage power supply PCB failure            | Replace the low voltage power supply PCB unit. |
| 4    | Main PCB failure                                | Replace the main PCB ASSY.                     |



■ **Error code 0501**

Print Unable 05  
Turn the power off and then back on again.

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

**Error code 0502**

Print Unable 05  
Turn the power off and then back on again.

The center thermistor has not reached the specified temperature within the specified time after the fuser unit has reached to a certain temperature.

**Error code 0503**

Print Unable 05  
Turn the power off and then back on again.

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

**Error code 0504**

Print Unable 05  
Turn the power off and then back on again.

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

**Error code 0505**

Print Unable 05  
Turn the power off and then back on again.

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

**Error code 0506**

Print Unable 05  
Turn the power off and then back on again.

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

**<User Check>**

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

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

■ **Error code 050A**

|   |
|---|
| Print Unable 05<br>Turn the power off and then back on again. |
|---|

The hardware detected that the center thermistor of the fuser unit indicated a temperature error.

**Error code 050D**

|   |
|---|
| Print Unable 05<br>Turn the power off and then back on again. |
|---|

Operated 100% heating for longer than the specified time in the fuser unit while printing.

**Error code 050F**

|   |
|---|
| Print Unable 05<br>Turn the power off and then back on again. |
|---|

Detected an unknown error in the fuser unit.

**<User Check>**

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

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

■ **Error code 0900**

Print Unable 09  
Turn the power off and then back on again.

Detected irregular power supply more than 100 times.

**<User Check>**

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

| Step | Cause                                | Remedy  |
|------|--------------------------------------|---|
| 1    | Low voltage power supply PCB failure | Replace the low voltage power supply PCB unit. Reset the irregular power supply detection counter after replacement. (Refer to "4. IF YOU REPLACE THE LOW VOLTAGE POWER SUPPLY PCB UNIT" in Chapter 3.) |
| 2    | Main PCB failure                     | Replace the main PCB ASSY.  |

**Note:**

- The irregular power supply detection error (error code: 0900) occurs when there is a large distortion in the power supply voltage supplied to the machine. In this case, if the same power supply is used, the same error may occur even when the low voltage power supply PCB unit is replaced. Ask the user to review the installation environment.

■ **Error code 0B01**

Print Unable 0B  
Turn the power off and then back on again.

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

**Error code 0B02**

Print Unable 0B  
Turn the power off and then back on again.

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

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

■ **Error code 4000**

Drum End Soon

The number of rotations of the drum unit is reaching the upper limit.

■ **Error code 4200**

Replace Drum

The number of rotations of the drum unit has reached the life limit. (Printing does not stop.)

**<User Check>**

- Prepare a new drum unit.

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

■ **Error code 4B01**

Toner Low  
Prepare New Toner Cartridge.

Dot counter or developer roller counter of the toner is reaching the upper limit (when setting toner stop mode).

**<User Check>**

- Prepare a new toner cartridge.
- If the error display is not cleared after the toner cartridge has been replaced with a new one, follow the procedures below.

| Step | Cause  | Remedy                                      |
|------|--|---|
| 1    | Connection failure of the new toner sensor PCB harness | Reconnect the new toner sensor PCB harness. |
| 2    | Connection failure of the motor encoder PCB flat cable | Reconnect the motor encoder PCB flat cable. |
| 3    | New toner sensor PCB failure                           | Replace the new toner sensor PCB ASSY.      |
| 4    | Motor encoder PCB failure                              | Replace the motor encoder PCB ASSY.         |
| 5    | Main PCB failure                                       | Replace the main PCB ASSY.                  |

■ **Error code 4C01**

Replace Toner  
Open the Scanner Cover and Top Cover, replace Toner Cartridge.

Dot counter or developer roller counter of the toner has reached the upper limit (when setting toner stop mode).

**<User Check>**

- Replace the toner cartridge with a new one.

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

■ **Error code 4D01**

Replace Toner  
 Received faxes are also stored in memory until the toner cartridge is replaced or the memory is full.

Dot counter or developer roller counter of the toner is reaching the upper limit (when setting continue mode).

**<User Check>**

- Prepare a new toner cartridge.

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

■ **Error code 4E01**

Toner Ended  
 Open the Scanner Cover and Top Cover, replace Toner Cartridge.

Dot counter or developer roller counter of the toner has reached the upper limit (when setting continue mode).

**<User Check>**

- Replace the toner cartridge with a new one.

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

■ **Error code 4F01**

Cartridge Error  
 Put the Toner Cartridge back in

New toner sensor in the toner cartridge could not detect the new toner cartridge correctly.

**<User Check>**

- Reset the toner manually under the guidance of service personnel. Refer to [“2.1 Manual Toner Reset Functions”](#) in Chapter 4.

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

■ **Error code 6001**

Cover is Open  
Close the Top Cover.

The eject sensor detected that the top cover was open.

**<User Check>**

- Close the top cover.

| Step | Cause   | Remedy  |
|------|---|---|
| 1    | Eject actuator caught in sections of the machine                          | Reattach the eject actuator.                                    |
| 2    | The rib inside the top cover (which presses the eject actuator) is broken | Replace the top cover ASSY.                                     |
| 3    | Eject sensor failure  | Replace the eject sensor PCB ASSY.                              |
| 4    | Paper feed/paper printing position sensor PCB failure                     | Replace the paper feed/paper printing position sensor PCB ASSY. |
| 5    | Main PCB failure  | Replace the main PCB ASSY.                                      |

■ **Error code 6007**

Cover is Open BD

Detected that the top cover was open by BD error.

**<User Check>**

- Close the top cover.

| Step | Cause  | Remedy  |
|------|--|---|
| 1    | Connection failure of the laser unit flat cable                              | Reconnect the laser unit flat cable.                            |
| 2    | The rib inside the top cover (which presses the laser shutter arm) is broken | Replace the top cover ASSY.                                     |
| 3    | Paper feed/paper printing position sensor PCB failure                        | Replace the paper feed/paper printing position sensor PCB ASSY. |
| 4    | Faulty laser shutter arm of the laser unit                                   | Replace the laser unit.   |
| 5    | Main PCB failure   | Replace the main PCB ASSY.                                      |

■ **Error code 6101**

No Toner  
Open the Scanner Cover and Top Cover, then install the Toner Cartridge.

The new toner sensor detected that the toner cartridge was not set.

**<User Check>**

- Set the toner cartridge correctly.

| Step | Cause  | Remedy                                      |
|------|--|---|
| 1    | Connection failure of the motor encoder PCB flat cable | Reconnect the motor encoder PCB flat cable. |
| 2    | Connection failure of the new toner sensor PCB harness | Reconnect the new toner sensor PCB harness. |
| 3    | Motor encoder PCB failure                              | Replace the motor encoder PCB ASSY.         |
| 4    | New toner sensor failure                               | Replace the new toner sensor PCB ASSY.      |
| 5    | Main PCB failure                                       | Replace the main PCB ASSY.                  |

■ **Error code 6200**

No Drum  
 Open the Scanner Cover and Top Cover, then install the Drum Unit.

Detected that the drum unit was not set by GRID current error.

**<User Check>**

- Set the drum unit correctly.
- Clean the electrodes of the drum unit.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Dirt on the electrodes of the drum unit               | Clean the electrodes of the drum unit. (Refer to Fig. 1-7.)            |
| 2    | Dirt on the high voltage power supply PCB terminal    | Clean the high voltage power supply PCB terminal. (Refer to Fig. 1-8.) |
| 3    | Connection failure of the high voltage PCB flat cable | Reconnect the high voltage PCB flat cable.                             |
| 4    | High voltage power supply PCB failure                 | Replace the high voltage power supply PCB ASSY.                        |
| 5    | Main PCB failure                                      | Replace the main PCB ASSY.   |

■ **Electrodes location of the toner cartridge and drum unit**

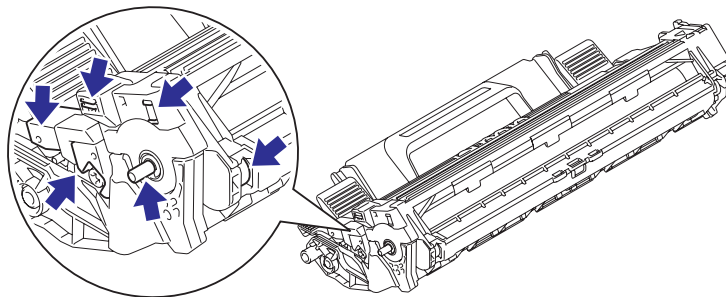


Fig. 1-7

■ **Electrodes location of the machine**

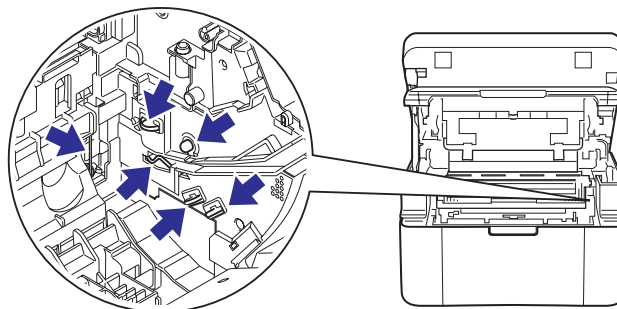


Fig. 1-8

■ **Error code 6801**

Cooling Down  
Wait for a while

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

**<User Check>**

- Lower the room temperature.
- Keep the machine away from heating appliances.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Connection failure of the internal temperature thermistor harness | Reconnect the internal temperature thermistor harness. |
| 2    | Internal temperature thermistor failure                           | Replace the Internal temperature thermistor.           |
| 3    | Main PCB failure  | Replace the main PCB ASSY.                             |

■ **Error code 6901**

Self-Diagnostic  
Turn the power off, then on again. Leave the machine for 15 min.

An error occurred in the fuser unit when the power switch was turned ON or sleep mode was ended.

**Error code 6902**

Self-Diagnostic  
Will Automatically Restart within 15 minutes.

Rechecking the error after the power switch was turned OFF and then ON again because an error was detected by the fuser unit.

(This message is displayed for approximately 15 minutes when the machine is restarted after error code 6901 has occurred.)

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Connection failure of the fuser unit harnesses | Reconnect each harness of the fuser unit.      |
| 2    | Fuser unit failure                             | Replace the fuser unit.                        |
| 3    | Low voltage power supply PCB failure           | Replace the low voltage power supply PCB unit. |
| 4    | Main PCB failure                               | Replace the main PCB ASSY.                     |

**Note:**

- Turn OFF the power switch. After the fuser unit has cooled sufficiently, turn ON the power switch again and leave the machine for ten minutes. This problem may then be cleared.



■ **Error code 6A00**

Drum !  
 Open the Scanner Cover and Top Cover and slide the green tab across the Drum Unit several times.

Detected discharge that may be attributable to dirty corona wire on the drum unit.

**<User Check>**

- Slide the green tag of the drum unit left and right two or three times to clean the corona wire.
- Clean the electrodes of the drum unit.
- Replace the drum unit.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Dirt on the electrodes of the drum unit               | Clean the electrodes of the drum unit. (Refer to Fig. 1-7.)            |
| 2    | Dirt on the high voltage power supply PCB terminal    | Clean the high voltage power supply PCB terminal. (Refer to Fig. 1-8.) |
| 3    | Connection failure of the high voltage PCB flat cable | Reconnect the high voltage PCB flat cable.                             |
| 4    | High voltage power supply PCB failure                 | Replace the high voltage power supply PCB ASSY.                        |
| 5    | Main PCB failure                                      | Replace the main PCB ASSY.   |

■ **Error code 6F00**

Print Unable ZC  
 Turn the power off and then back on again.

Detected irregular power supply less than 100 times.

**<User Check>**

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

| Step | Cause                                | Remedy   |
|------|--------------------------------------|--|
| 1    | Low voltage power supply PCB failure | Replace the low voltage power supply PCB unit. |
| 2    | Main PCB failure                     | Replace the main PCB ASSY.                     |

■ **Error code 7000**

Jam Inside 1  
 Open the Scanner Cover and Top Cover, pull out the Drum Unit and remove the jammed paper, then press Start.

The eject sensor does not detect paper pass after the paper printing position sensor detected the paper pass.

**<User Check>**

- Remove the jammed paper.
- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180 degrees.
- Check that the thickness of the paper is within the standard.
- Flip through the paper and reset it in the paper tray.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Foreign object inside the machine   | Remove the foreign object.   |
| 2    | Eject actuator coming off or caught in sections of the machine                  | Reattach the eject actuator.   |
| 3    | Connection failure of the paper feed/paper printing position sensor PCB harness | Reconnect the paper feed/paper printing position sensor PCB harness. |
| 4    | Connection failure of the eject sensor PCB harness                              | Reconnect the eject sensor PCB harness.                              |
| 5    | Paper feed/paper printing position sensor PCB failure                           | Replace the paper feed/paper printing position sensor PCB ASSY.      |
| 6    | Eject sensor failure  | Replace the eject sensor PCB ASSY.                                   |
| 7    | Main PCB failure  | Replace the main PCB ASSY.   |

■ **Error code 7100**

Jam Inside 2  
 Open the Scanner Cover and remove the jammed paper, then press Start.

The eject sensor remains ON (paper pass detected) even after the paper printing position sensor detected the end of paper pass.

**<User Check>**

- Remove the jammed paper.
- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180 degrees.
- Check that the thickness of the paper is within the standard.
- Flip through the paper and reset it in the paper tray.

| Step | Cause   | Remedy  |
|------|---|---|
| 1    | Foreign object in the rear of the machine             | Remove the foreign object.                                      |
| 2    | Eject actuator caught in sections of the machine      | Reattach the eject actuator.                                    |
| 3    | Paper feed/paper printing position sensor PCB failure | Replace the paper feed/paper printing position sensor PCB ASSY. |
| 4    | Eject sensor failure                                  | Replace the eject sensor PCB ASSY.                              |
| 5    | Main PCB failure                                      | Replace the main PCB ASSY.                                      |

■ **Error code 7300**

Jam Tray  
Remove the jammed paper from Tray, then press Start.

The paper feed sensor does not detect paper pass even after the paper has been fed for the specified time.

**<User Check>**

- Remove the jammed paper.
- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180 degrees.
- Check that the thickness of the paper is within the standard.
- Check that the size of the paper is within the standard.
- Flip through the paper and reset it in the paper tray.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Foreign object in the front of the machine             | Remove the foreign object.                     |
| 2    | Gears around the plate up plate coming off             | Reattach gears around the plate up plate.      |
| 3    | Attachment failure of the motor drive belt             | Reattach the motor drive belt.                 |
| 4    | Attachment failure of the laser shutter arm            | Reattach the laser shutter arm.                |
| 5    | Connection failure of the main motor harness           | Reconnect the main motor harness.              |
| 6    | Connection failure of the motor encoder PCB flat cable | Reconnect the motor encoder PCB flat cable.    |
| 7    | Connection failure of the pick-up solenoid harness     | Reconnect the pick-up solenoid harness.        |
| 8    | Motor drive belt failure                               | Replace the motor drive belt.                  |
| 9    | Motor encoder PCB failure                              | Replace the motor encoder PCB ASSY.            |
| 10   | Low voltage power supply PCB failure                   | Replace the low voltage power supply PCB unit. |
| 11   | Laser unit failure                                     | Replace the laser unit.                        |
| 12   | Main PCB failure                                       | Replace the main PCB ASSY.                     |

■ **Error code 7D00**

Jam Inside 3  
Remove the jammed paper, then press Start.

When the power switch was turned ON, the eject sensor detected paper pass.  
(Cannot determine whether the top cover is open or whether it is a paper jam.)

**<User Check>**

- Close the top cover.
- Remove the jammed paper.

| Step | Cause   | Remedy  |
|------|---|---|
| 1    | Eject actuator caught in sections of the machine      | Reattach the eject actuator.                                    |
| 2    | Paper feed/paper printing position sensor PCB failure | Replace the paper feed/paper printing position sensor PCB ASSY. |
| 3    | Eject sensor failure                                  | Replace the eject sensor PCB ASSY.                              |
| 4    | Main PCB failure                                      | Replace the main PCB ASSY.                                      |

■ **Error code 7E00**

Jam Tray  
Remove the jammed paper from Tray, then press Start.

Detected that multiple paper is fed five times in a row during receiving fax or printing list/report.

**<User Check>**

- Remove the jammed paper.
- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set in the paper tray.
- Check that the thickness of the paper is within the standard.
- Check that the size of the paper is within the standard.
- Flip through the paper and reset it in the paper tray.

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

■ **Error code 8E02**

Size mismatch  
 Reload correct paper, then press Start.

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

**<User Check>**

- Select A4 or letter size in the paper setting.

| Step | Cause  | Remedy  |
|------|--|---|
| 1    | Paper printing position actuator caught in sections of the machine | Reattach the paper printing position actuator.                  |
| 2    | Paper feed/paper printing position sensor failure                  | Replace the paper feed/paper printing position sensor PCB ASSY. |
| 3    | Main PCB failure   | Replace the main PCB ASSY.                                      |

■ **Error code 9002**

Size Mismatch  
 Reload correct paper, then press Start.

When printing from the paper tray, the size of paper set in the paper tray does not match the size specified by the driver.

**<User Check>**

- Change the driver setting to match the size of the paper set in the paper tray.

| Step | Cause  | Remedy  |
|------|--|---|
| 1    | Paper printing position actuator caught in sections of the machine | Reattach the paper printing position actuator.                  |
| 2    | Paper feed/paper printing position sensor failure                  | Replace the paper feed/paper printing position sensor PCB ASSY. |
| 3    | Main PCB failure   | Replace the main PCB ASSY.                                      |

■ **Error code 9302**

No Paper  
Load paper, then press Start.

When printing from the paper tray, the paper feed sensor detected that there was no paper set in the paper tray.

**<User Check>**

- Remove the jammed paper.
- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set in the paper tray.
- Check that the thickness of the paper is within the standard.
- Check that the size of the paper is within the standard.
- Flip through the paper and reset it in the paper tray.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Foreign object in the pick-up roller.   | Remove the foreign object.   |
| 2    | Connection failure of the paper feed/paper printing position sensor PCB harness | Reconnect the paper feed/paper printing position sensor PCB harness. |
| 3    | Paper feed actuator L/R caught in sections of the machine                       | Reattach the paper feed actuator L/R.                                |
| 4    | Paper feed sensor failure   | Replace the paper feed/paper printing position sensor PCB ASSY.      |
| 5    | Main PCB failure  | Replace the main PCB ASSY.   |

■ **Error code 9307**

No Paper  
Load paper, then press Start.

Detected that paper has run out during receiving fax or printing list/report.

**<User Check>**

- Set paper in the paper tray.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Connection failure of the paper feed/paper printing position sensor PCB harness | Reconnect the paper feed/paper printing position sensor PCB harness. |
| 2    | Paper feed actuator L/R coming off  | Reattach the paper feed actuator L/R.                                |
| 3    | Paper feed sensor failure   | Replace the paper feed/paper printing position sensor PCB ASSY.      |
| 4    | Main PCB failure  | Replace the main PCB ASSY.   |

■ **Error code 9601**

Wrong Paper Type  
 Reload with A4, Letter, Legal or Folio paper, and press Start.

The paper feed sensor detected that the paper width was narrower than A4 size.

**Error code 9608**

Wrong Paper Type  
 Reload with A4, Letter, Legal or Folio paper, and press Start.

The paper feed sensor detected that the paper length was shorter than the specified size.

**<User Check>**

- Set A4/letter size paper or bigger.

| Step | Cause                              | Remedy  |
|------|------------------------------------|---|
| 1    | Paper feed actuator L/R coming off | Reattach the paper feed actuator L/R.                           |
| 2    | Paper feed sensor failure          | Replace the paper feed/paper printing position sensor PCB ASSY. |
| 3    | Main PCB failure                   | Replace the main PCB ASSY.                                      |

■ **Error code A200**

Document Jam  
 Clear the scanner jam, then press the Stop Key.

The document scanning position sensor detected that the document length was 90 cm or more while scanning a document.

**<User Check>**

- Use A4 size paper or smaller.
- Remove the jammed document.

| 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  
Clear the scanner jam, then press the Stop Key.

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

**<User Check>**

- Remove the jammed document.

| 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 A500**

Scan Unable A5  
Remove the original document. Turn the power off, then on again

When scanning the fax, white or black correction data for the CIS was not within the correct range.

**Error code A600**

Scan Unable A6  
Turn the power off and then back on again.

Although operation was retried due to error A500 that occurred while scanning the fax, white or black correction data for the CIS was not within the correct range.

**Error code A700**

Print Unable A7  
Turn the power off and then back on again.

Color parameter in the ROM does not match the CIS.

| Step | Cause                                    | Remedy                        |
|------|--|-------------------------------|
| 1    | Incorrect correction data for CIS unit   | Execute function code 55.     |
| 2    | Connection failure of the CIS flat cable | Reconnect the CIS flat cable. |
| 3    | CIS unit failure                         | Replace the CIS unit.         |
| 4    | Main PCB failure                         | Replace the main PCB ASSY.    |

■ **Error code A800**

Print Unable A8  
See Troubleshooting and routine maintenance chapter in User's Guide.

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

| Step | Cause                                    | Remedy                        |
|------|--|-------------------------------|
| 1    | Incorrect correction data for CIS unit   | Execute function code 55.     |
| 2    | Connection failure of the CIS flat cable | Reconnect the CIS flat cable. |
| 3    | CIS unit failure                         | Replace the CIS unit.         |
| 4    | Main PCB failure                         | Replace the main PCB ASSY.    |

■ **Error code AD00**

Scan Unable AD  
Remove the original document. Turn the power off, then on again

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

| Step | Cause                                    | Remedy                        |
|------|--|-------------------------------|
| 1    | Incorrect correction data for CIS unit   | Execute function code 55.     |
| 2    | Connection failure of the CIS flat cable | Reconnect the CIS flat cable. |
| 3    | CIS unit failure                         | Replace the CIS unit.         |
| 4    | Main PCB failure                         | Replace the main PCB ASSY.    |

■ **Error code AF00**

Scan Unable AF  
Turn the power off and then back on again.

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

| Step | Cause  | Remedy  |
|------|--|---|
| 1    | Dust on the CIS rail                                     | Remove the dust on the CIS rail.              |
| 2    | CIS drive belt coming off                                | Reattach the CIS drive belt.                  |
| 3    | Connection failure of the document scanner motor harness | Reconnect the document scanner motor harness. |
| 4    | CIS unit failure   | Replace the CIS unit.                         |
| 5    | Document scanner motor failure                           | Replace the document scanner unit.            |
| 6    | Main PCB failure   | Replace the main PCB ASSY.                    |

■ **Error code B000**

|                  |
|------------------|
| SCANNER ERROR FB |
|------------------|

Detected that the CIS flat cable is not connected.

| Step | Cause                                 | Remedy                     |
|------|---------------------------------------|----------------------------|
| 1    | Connection failure of the CIS harness | Reconnect the CIS harness. |
| 2    | CIS unit failure                      | Replace the CIS unit.      |
| 3    | Main PCB failure                      | Replace the main PCB ASSY. |

■ **Error code B900**

|               |
|---------------|
| Scanner Error |
|---------------|

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

| Step | Cause                  | Remedy                     |
|------|------------------------|----------------------------|
| 1    | CIS unit failure       | Replace the CIS unit.      |
| 2    | Dirt on the white tape | Replace the scanner unit.  |
| 3    | Main PCB failure       | Replace the main PCB ASSY. |

■ **Error code BA00**

|               |
|---------------|
| Scanner Error |
|---------------|

CIS received an external light from somewhere other than the CIS during scanning.

**<User Check>**

- Check that the light is not applied directly to the scanner unit.
- Close the scanner cover.

| Step | Cause                | Remedy                     |
|------|----------------------|----------------------------|
| 1    | CIS unit failure     | Replace the CIS unit.      |
| 2    | Damaged ADF unit     | Replace the ADF unit.      |
| 3    | Damaged scanner unit | Replace the scanner unit.  |
| 4    | Main PCB failure     | Replace the main PCB ASSY. |

■ **Error code BB00**

|               |
|---------------|
| Scanner Error |
|---------------|

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

| Step | Cause            | Remedy                     |
|------|------------------|----------------------------|
| 1    | CIS unit failure | Replace the CIS unit.      |
| 2    | Main PCB failure | Replace the main PCB ASSY. |

■ **Error code BD00**

|               |
|---------------|
| Scanner Error |
|---------------|

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

**<User Check>**

- Remove the paper jammed inside the machine.

| Step | Cause            | Remedy                     |
|------|------------------|----------------------------|
| 1    | CIS unit failure | Replace the CIS unit.      |
| 2    | Main PCB failure | Replace the main PCB ASSY. |

■ **Error code C700**

|                                 |
|---------------------------------|
| Out of Memory<br>Press Stop Key |
|---------------------------------|

There is insufficient memory to expand PC print data.

**<User Check>**

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

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

■ **Error code D100**

|   |
|---|
| Print Unable D1<br>Turn the power off and then back on again. |
|---|

An error occurred while initializing the modem.

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

■ **Error code D200**

|   |
|---|
| Machine Error<br>Unplug machine, then call Brother. |
|---|

Detected that the modem PCB is not connected.

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

■ **Error code E000**

Print Unable E0  
Turn the power off and then back on again.

An error occurred in the ROM check sum.

**Error code E100**

Print Unable E1  
Turn the power off and then back on again.

Program error

**<User Check>**

- Install the latest firmware.

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

■ **Error code E500**

Print Unable E5  
Turn the power off and then back on again.

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

**Error code E600**

Print Unable E6  
Turn the power off and then back on again.

Write error in the EEPROM of the main PCB ASSY.

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

■ **Error code F900**

Machine Error F9

The country code was not entered correctly.

| Step | Cause   | Remedy                     |
|------|---|----------------------------|
| 1    | The power is turned OFF while function code 74 was running. | Reenter the country code.  |
| 2    | Main PCB failure  | Replace the main PCB ASSY. |

## 4.2 Troubleshooting for Paper Feeding Problems

End users can solve problems related to paper feeding as long as they follow the User Check items.

If the problem still cannot be solved, implement each procedure according to the step numbers in the tables below.

### 4.2.1 No paper is fed from the paper tray.

#### <User Check>

- Check that the paper is set in the paper tray correctly.
- Check that there is not too much paper set in the paper tray.
- Flip over the paper in the paper tray or rotate the paper 180 degrees.
- Check that the thickness of the paper is within the standard.
- Check that the size of the paper is within the standard.
- Flip through the paper and reset it in the paper tray.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Foreign object inside the machine                      | Remove the foreign object.                     |
| 2    | Gears around the plate up plate coming off             | Reattach gears around the plate up plate.      |
| 3    | Attachment failure of the motor drive belt             | Reattach the motor drive belt.                 |
| 4    | Attachment failure of the laser shutter arm            | Reattach the laser shutter arm.                |
| 5    | Connection failure of the main motor harness           | Reconnect the main motor harness.              |
| 6    | Connection failure of the motor encoder PCB flat cable | Reconnect the motor encoder PCB flat cable.    |
| 7    | Connection failure of the pick-up solenoid harness     | Reconnect the pick-up solenoid harness.        |
| 8    | Motor drive belt failure                               | Replace the motor drive belt.                  |
| 9    | Motor encoder PCB failure                              | Replace the motor encoder PCB ASSY.            |
| 10   | Low voltage power supply PCB failure                   | Replace the low voltage power supply PCB unit. |
| 11   | Laser unit failure                                     | Replace the laser unit.                        |
| 12   | Main PCB failure                                       | Replace the main PCB ASSY.                     |

### 4.2.2 Paper becomes wrinkled

#### <User Check>

- Check that the paper is set in the paper tray correctly.
- Flip over the paper in the paper tray or rotate the paper 180 degrees.
- Adjust the paper guide according to the paper size.
- Check that the thickness of the paper is within the standard.
- Check that the paper is not damp.
- Check that there is no dust on the fuser unit.
- Check whether the paper type is appropriate.

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

### 4.2.3 Paper is curled

#### <User Check>

- Select "Reduce Paper curl mode" in the driver.
- Check that the thickness of the paper is within the standard.

### 4.2.4 Paper is jammed

#### ■ Paper is jammed in the paper tray section

#### <User Check>

- Rotate the paper 180 degrees in the paper tray.
- Flip through the paper and reset it in the paper tray.
- Check that the thickness of the paper is within the standard.
- Check that there is no label stuck in the paper feed path.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Foreign object in the front of the machine                                      | Remove the foreign object.<br>Check for labels stuck on the side or bottom of parts. |
| 2    | Paper feed actuator L/R coming off or caught in sections of the machine         | Reattach the paper feed actuator L/R.  |
| 3    | Connection failure of the paper feed/paper printing position sensor PCB harness | Reconnect the paper feed/paper printing position sensor PCB harness.                 |
| 4    | Paper feed/paper printing position sensor PCB failure                           | Replace the paper feed/paper printing position sensor PCB ASSY.                      |
| 5    | Main PCB failure  | Replace the main PCB ASSY.   |

#### ■ Paper is jammed in the paper eject path

#### <User Check>

- Rotate the paper 180 degrees in the paper tray.
- Check that the thickness of the paper is within the standard.
- Check that there is no label stuck in the paper feed path.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Top cover is not closed   | Close the top cover.   |
| 2    | Foreign object in the rear of the machine                                       | Remove the foreign object.<br>Check for labels stuck on the side or bottom of parts. |
| 3    | Eject actuator caught in sections of the machine                                | Reattach the eject actuator.   |
| 4    | Connection failure of the eject sensor PCB harness                              | Reconnect the eject sensor PCB harness.  |
| 5    | Eject sensor failure  | Replace the eject sensor PCB ASSY.   |
| 6    | Connection failure of the paper feed/paper printing position sensor PCB harness | Reconnect the paper feed/paper printing position sensor PCB harness.                 |
| 7    | Paper feed/paper printing position sensor PCB failure                           | Replace the paper feed/paper printing position sensor PCB ASSY.                      |
| 8    | Develop joint link failure  | Replace the develop joint link.  |
| 9    | Fuser unit failure  | Replace the fuser unit.  |
| 10   | Main PCB failure  | Replace the main PCB ASSY.   |

### 4.3 Image Defects

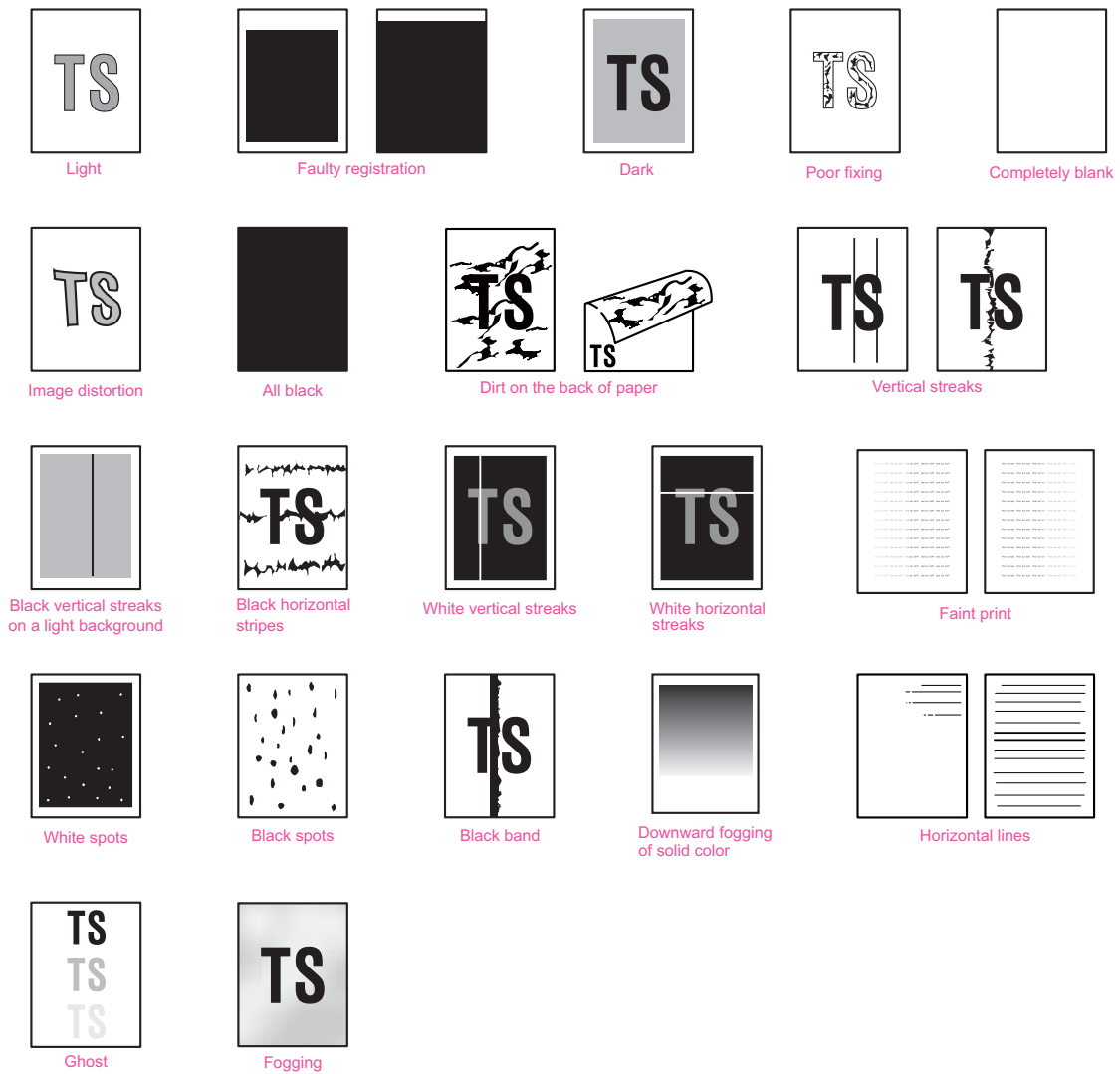


Fig. 1-9



## 4.4 Troubleshooting According to Image Defect

End users can solve problems related to image defects as long as they follow the User Check items. If the problem still cannot be solved, implement each procedure according to the step numbers in the tables below.

### 4.4.1 Light



#### <User Check>

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- If the whole page is light, toner save mode may be ON. Turn OFF the toner save mode.
- Adjust the density using the Density Adjustment.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine            | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 2    | Toner type determination failure when a new toner cartridge is detected | Reset the toner manually. (Refer to "2.1 Manual Toner Reset Functions" in Chapter 4.)            |
| 3    | Fuser unit failure  | Replace the fuser unit.  |
| 4    | High voltage power supply PCB failure                                   | Replace the high voltage power supply PCB ASSY.  |
| 5    | Laser unit failure  | Replace the laser unit.  |
| 6    | Main PCB failure  | Replace the main PCB ASSY.   |

### 4.4.2 Faulty registration



#### <User Check>

- Check that the appropriate paper type is selected in the driver.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Adjusted value of the laser unit is incorrect.                     | Refer to "2.1 Entering Adjusted Value of Laser Unit" in Chapter 3, and enter the adjusted value of the laser unit again. |
| 2    | Paper printing position actuator caught in sections of the machine | Reattach the paper printing position actuator.   |
| 3    | Laser unit failure   | Replace the laser unit.  |

### 4.4.3 Dark



**<User Check>**

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Clean the corona wire of the drum unit.
- If a new toner cartridge has been set, check that it was not replaced with a used toner cartridge.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 2    | High voltage power supply PCB failure                        | Replace the high voltage power supply PCB ASSY.  |
| 3    | Laser unit failure   | Replace the laser unit.  |
| 4    | Main PCB failure   | Replace the main PCB ASSY.   |

### 4.4.4 Poor fixing



**<User Check>**

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Clean the corona wire of the drum unit.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

| Step | Cause                                 | Remedy  |
|------|---------------------------------------|---|
| 1    | Fuser unit failure                    | Replace the fuser unit.                         |
| 2    | High voltage power supply PCB failure | Replace the high voltage power supply PCB ASSY. |
| 3    | Laser unit failure                    | Replace the laser unit.                         |
| 4    | Main PCB failure                      | Replace the main PCB ASSY.                      |
| 5    | Low voltage power supply PCB failure  | Replace the low voltage power supply PCB unit.  |

#### 4.4.5 Completely blank



**<User Check>**

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

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine, and dirt on ground wire. | Clean the electrodes of the drum unit and those of the machine, and the grounding wire. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 2    | Laser unit attachment failure  | Reattach the laser unit.   |
| 3    | Connection failure of the laser unit flat cable  | Reconnect the laser unit flat cable.   |
| 4    | Connection failure of the high voltage PCB flat cable                                  | Reconnect the high voltage PCB flat cable.   |
| 5    | Disconnection of the laser unit flat cable   | Replace the laser unit flat cable.   |
| 6    | Laser unit failure   | Replace the laser unit.  |
| 7    | High voltage power supply PCB failure  | Replace the high voltage power supply PCB ASSY.  |
| 8    | Main PCB failure   | Replace the main PCB ASSY.   |

#### 4.4.6 Image distortion



| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Laser unit attachment failure                                   | Reattach the laser unit, and firmly tighten the screws.          |
| 2    | Dirt on high-voltage electrodes and electrodes of the machine   | Clean the high-voltage electrodes and electrodes of the machine. |
| 3    | Laser unit FG plate attachment failure (not grounded correctly) | Retighten the screws to secure the laser unit FG plate.          |
| 4    | Laser unit failure  | Replace the laser unit.  |
| 5    | Main PCB failure  | Replace the main PCB ASSY.                                       |

#### 4.4.7 All black



**<User Check>**

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

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine    | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 2    | Connection failure of the laser unit flat cable                 | Reconnect the laser unit flat cable.   |
| 3    | Laser unit FG plate attachment failure (not grounded correctly) | Check the contact of the laser unit FG plate, and retighten the screws.                          |
| 4    | High voltage power supply PCB failure                           | Replace the high voltage power supply PCB ASSY.  |
| 5    | Laser unit failure  | Replace the laser unit.  |
| 6    | Main PCB failure  | Replace the main PCB ASSY.   |

#### 4.4.8 Dirt on the back of paper

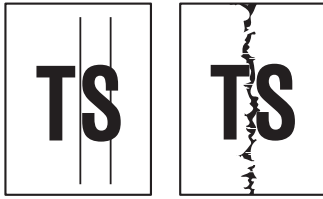


**<User Check>**

- This problem may disappear after printing multiple sheets of paper.
- Replace the toner cartridge with a new one.

| Step | Cause                     | Remedy                  |
|------|---------------------------|-------------------------|
| 1    | Dirt on paper feed system | Wipe off the dirt.      |
| 2    | Dirt on the fuser unit    | Replace the fuser unit. |

#### 4.4.9 Vertical streaks



##### <User Check>

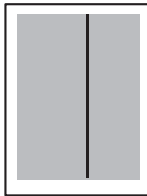
- Clean the inside of the machine and the corona wire of the drum unit.
- Return the corona wire cleaning tab to the “▲” position.
- This problem may disappear after printing multiple sheets of paper.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Attachment failure of the FG harness or FG plate (not grounded correctly) | Retighten the screws to secure the FG harness or FG plate. |
| 2    | Scratch or dirt on the heat unit  | Replace the fuser unit.                                    |

##### Note:

- If the machine prints the same pattern continuously, especially a pattern including vertical streaks, black vertical streaks may appear on the paper because the electrostatic performance of the exposure drum has lowered temporarily.

#### 4.4.10 Black vertical streaks on a light background



##### <User Check>

- Clean the inside of the machine and the corona wire of the drum unit.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

| Step | Cause                            | Remedy                  |
|------|----------------------------------|-------------------------|
| 1    | Dirt on paper feed system        | Wipe off the dirt.      |
| 2    | Scratch or dirt on the heat unit | Replace the fuser unit. |
| 3    | Foreign object in the laser unit | Replace the laser unit. |

#### 4.4.11 Black horizontal stripes



##### <User Check>

- Clean the inside of the machine and the corona wire of the drum unit.
- This problem may disappear after printing multiple sheets of paper.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine              | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.)       |
| 2    | Dirt on electrodes of the toner cartridge and those of the machine        | Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 3    | Attachment failure of the FG harness or FG plate (not grounded correctly) | Retighten the screws to secure the FG harness or FG plate.   |
| 4    | Scratch or dirt on the heat unit  | Replace the fuser unit.  |
| 5    | High voltage power supply PCB failure                                     | Replace the high voltage power supply PCB ASSY.  |
| 6    | Main PCB failure  | Replace the main PCB ASSY.   |

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

| Part name        | Diameter | Pitch at which defects appear in the image |
|------------------|----------|--|
| Developer roller | ø 13 mm  | 26.0 mm                                    |
| Transfer roller  | ø 13 mm  | 38.0 mm                                    |
| Exposure drum    | ø 24 mm  | 75.4 mm                                    |
| Heat roller      | ø 25 mm  | 78.5 mm                                    |
| Pressure roller  | ø 25 mm  | 78.5 mm                                    |

#### 4.4.12 White vertical streaks



##### <User Check>

- Check that there is no dust in the gap between the toner cartridge and the drum unit.
- Replace the toner cartridge with a new one.
- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Check that the paper is not damp.
- Leave the machine for a while before printing again.
- Replace the drum unit with a new one.

| Step | Cause              | Remedy                  |
|------|--------------------|-------------------------|
| 1    | Laser unit failure | Replace the laser unit. |

#### 4.4.13 White horizontal streaks



**<User Check>**

- This problem may disappear after printing multiple sheets of paper. When the machine has not been used for long periods of time, try printing several sheets of paper.
- Replace the drum unit with a new one.
- Replace the toner cartridge with a new one.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine       | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.)       |
| 2    | Dirt on electrodes of the toner cartridge and those of the machine | Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 3    | High voltage power supply PCB failure                              | Replace the high voltage power supply PCB ASSY.  |

#### 4.4.14 Faint print



**<User Check>**

- Check that the machine is positioned on a level surface.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.

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

#### 4.4.15 White spots

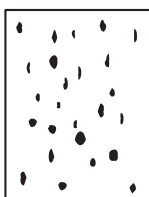


##### <User Check>

- Turn ON the power switch, then open the top cover. Leave the machine for a while to remove condensation.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine       | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.)       |
| 2    | Dirt on electrodes of the toner cartridge and those of the machine | Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 3    | High voltage power supply PCB failure                              | Replace the high voltage power supply PCB ASSY.  |
| 4    | Main PCB failure   | Replace the main PCB ASSY.   |

#### 4.4.16 Black spots



##### <User Check>

- This problem may disappear after printing multiple sheets of paper. When the machine has not been used for long periods of time, try printing several sheets of paper.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine       | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.)       |
| 2    | Dirt on electrodes of the toner cartridge and those of the machine | Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 3    | Scratch or dirt on the heat unit, or dirt on the pressure roller   | Replace the fuser unit.  |
| 4    | High voltage power supply PCB failure                              | Replace the high voltage power supply PCB ASSY.  |
| 5    | Main PCB failure   | Replace the main PCB ASSY.   |



#### 4.4.17 Black band



**<User Check>**

- This problem may disappear after printing multiple sheets of paper. When the machine has not been used for long periods of time, try printing several sheets of paper.
- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine       | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.)       |
| 2    | Dirt on electrodes of the toner cartridge and those of the machine | Clean the electrodes of the toner cartridge and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 3    | Scratch or dirt on the heat unit or, dirt on the pressure roller   | Replace the fuser unit.  |
| 4    | Main PCB failure   | Replace the main PCB ASSY.   |

#### 4.4.18 Downward fogging of solid color

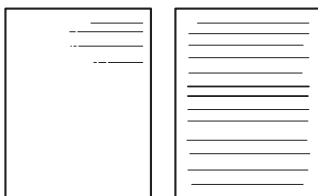


**<User Check>**

- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.

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

#### 4.4.19 Horizontal lines



**<User Check>**

- Replace the toner cartridge with a new one.
- Replace the drum unit with a new one.

| Step | Cause              | Remedy                  |
|------|--------------------|-------------------------|
| 1    | Fuser unit failure | Replace the fuser unit. |
| 2    | Laser unit failure | Replace the laser unit. |

#### 4.4.20 Ghost



**<User Check>**

- Check the usage environment of the machine. Using the machine in hot-humid or cold-dry conditions can cause this problem.
- Check that the appropriate paper type is selected in the driver.
- Replace the drum unit with a new one.
- Turn the “Improve Toner Fixing” setting of the “Improve Print Output” ON in the driver.

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

#### 4.4.21 Fogging



**<User Check>**

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

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

**Note:**

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

## 4.5 Troubleshooting for Software Problems

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

### 4.5.1 Cannot print data

#### <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.)

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

\* Check the Product ID on a Macintosh according to the following procedure:

- (1) Select "About This Mac" from the "Apple" menu.
- (2) Press the "More Info..." button in the "About This Mac" dialog box.
- (3) Select "USB" at the bottom of "Hardware" in the "Content" on the left side of the screen.
- (4) Select "DCP-XXXX" or "MFC-XXXX" in the "USB Device Tree".
- (5) Check the Product ID under "DCP-XXXX" or "MFC-XXXX".

Product ID (hexadecimal)

- DCP-1510 : 02D0h
- MFC-1810 : 02D1h

## 4.6 Troubleshooting for Control Panel Problems

### 4.6.1 Nothing is displayed on the LCD

| Step | Cause   | Remedy   |
|------|---|--|
| 1    | Main firmware discrepancy                       | Install the latest main firmware.              |
| 2    | Connection failure of the panel flat cable      | Reconnect the panel flat cable.                |
| 3    | Connection failure of the LCD harness           | Reconnect the LCD harness.                     |
| 4    | LCD failure                                     | Replace the LCD.                               |
| 5    | Panel PCB failure                               | Replace the panel PCB ASSY.                    |
| 6    | AC cord or low voltage power supply PCB failure | Replace the low voltage power supply PCB unit. |
| 7    | Main PCB failure                                | Replace the main PCB ASSY.                     |

### 4.6.2 Control panel is inoperable

#### <User Check>

- Check that the function lock is not set.

| Step | Cause                                      | Remedy   |
|------|--|--|
| 1    | Panel unit attachment failure              | Reattach the panel unit.                       |
| 2    | Connection failure of the panel flat cable | Reconnect the panel flat cable.                |
| 3    | Rubber key attachment failure              | Reattach the rubber key.                       |
| 4    | Rubber key failure                         | Replace the rubber key.                        |
| 5    | Panel PCB failure                          | Replace the panel PCB ASSY.                    |
| 6    | Low voltage power supply PCB failure       | Replace the low voltage power supply PCB unit. |
| 7    | Main PCB failure                           | Replace the main PCB ASSY.                     |

## 4.7 Troubleshooting for Toner and Drum Problems

### 4.7.1 Replaced the toner cartridge with a new one but still seeing error message prompting toner cartridge replacement.

#### <User Check>

- Check that a new (not used) toner cartridge is set.

| Step | Cause  | Remedy                                      |
|------|--|---|
| 1    | Connection failure of the motor encoder PCB flat cable | Reconnect the motor encoder PCB flat cable. |
| 2    | Connection failure of the new toner sensor PCB harness | Reconnect the new toner sensor PCB harness. |
| 3    | Motor encoder PCB failure                              | Replace the motor encoder PCB ASSY.         |
| 4    | New toner sensor failure                               | Replace the new toner sensor PCB ASSY.      |
| 5    | Main PCB failure                                       | Replace the main PCB ASSY.                  |

### 4.7.2 Toner cartridge cannot be detected

#### <User Check>

- Set the toner cartridge correctly.

| Step | Cause  | Remedy                                      |
|------|--|---|
| 1    | Connection failure of the motor encoder PCB flat cable | Reconnect the motor encoder PCB flat cable. |
| 2    | Connection failure of the new toner sensor PCB harness | Reconnect the new toner sensor PCB harness. |
| 3    | Motor encoder PCB failure                              | Replace the motor encoder PCB ASSY.         |
| 4    | New toner sensor failure                               | Replace the new toner sensor PCB ASSY.      |
| 5    | Main PCB failure                                       | Replace the main PCB ASSY.                  |

### 4.7.3 Failed to detect toner cartridge

| Step | Cause   | Remedy  |
|------|---|---|
| 1    | The power switch was turned OFF or the top cover was opened while a new toner cartridge was being detected. | Reset the toner manually. (Refer to <a href="#">“2.1 Manual Toner Reset Functions”</a> in Chapter 4.) |
| 2    | Main PCB failure  | Replace the main PCB ASSY.  |

#### 4.7.4 Drum error

##### <User Check>

- Clean the corona wire of the drum unit.
- Replace the drum unit with a new one, and reset the drum counter.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 2    | Connection failure of the high voltage PCB harness           | Reconnect the high voltage PCB harness.  |
| 3    | High voltage power supply PCB failure                        | Replace the high voltage power supply PCB ASSY.  |
| 4    | Main PCB failure   | Replace the main PCB ASSY.   |

#### 4.7.5 Drum unit cannot be detected.

##### <User Check>

- Set the drum unit correctly.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Dirt on electrodes of the drum unit and those of the machine | Clean the electrodes of the drum unit and those of the machine. (Refer to Fig. 1-7 or Fig. 1-8.) |
| 2    | Connection failure of the high voltage PCB harness           | Reconnect the high voltage PCB harness.  |
| 3    | High voltage power supply PCB failure                        | Replace the high voltage power supply PCB ASSY.  |
| 4    | Main PCB failure   | Replace the main PCB ASSY.   |

#### 4.7.6 Replace drum unit (replaced the drum unit with a new one but still seeing LED display prompting toner cartridge replacement)

##### <User Check>

- Replace the drum unit with a new one, and reset the drum counter.

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

## 4.8 Troubleshooting for Fuser Unit Problems

### 4.8.1 Fuser unit failure

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

**Note:**

- Turn the power switch OFF and then back ON again. Leave the machine for approximately 15 minutes to cool the heater. This problem may have then been solved.

## 4.9 Troubleshooting for Laser Unit Problems

### 4.9.1 Laser unit failure

**<User Check>**

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

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

## 4.10 Troubleshooting for Document Paper Feeding Problems

### 4.10.1 No document is fed

#### <User Check>

- Set the document properly and check that the display on the LCD changes.
- Check that the number of documents set is within the standard.

| Step | Cause  | Remedy  |
|------|--|---|
| 1    | Document detection actuator coming off           | Reattach the document detection actuator.         |
| 2    | ADF bevel gear ASSY attachment failure           | Reattach the ADF bevel gear ASSY.                 |
| 3    | Connection failure of the ADF sensor PCB harness | Reconnect the ADF sensor PCB harness.             |
| 4    | Document separate roller failure                 | Replace the document separate roller holder ASSY. |
| 5    | ADF sensor failure                               | Replace the ADF sensor PCB ASSY.                  |
| 6    | Main PCB failure                                 | Replace the main PCB ASSY.                        |

### 4.10.2 Multiple documents are fed

#### <User Check>

- Check that paper used for the document is not thinner than the standard.

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

### 4.10.3 Document becomes jammed

#### ■ Document jam in the ADF cover

#### <User Check>

- Check that paper used for the document is not thinner than the standard.
- Check that paper used for the document is not shorter than the standard.
- Check that the number of documents set is within the standard.

| Step | Cause  | Remedy  |
|------|--|---|
| 1    | Foreign object in the document chute.            | Remove the foreign object.                        |
| 2    | Document scanning position actuator coming off   | Reattach the document scanning position actuator. |
| 3    | Document pinch roller coming off                 | Reattach the document pinch roller.               |
| 4    | Connection failure of the ADF sensor PCB harness | Reconnect the ADF sensor PCB harness.             |
| 5    | Document scanning position sensor failure        | Replace the ADF sensor PCB ASSY.                  |
| 6    | Abrasion of the document feed roller             | Replace the ADF unit.                             |
| 7    | Main PCB failure                                 | Replace the main PCB ASSY.                        |



■ **Document jam inside the ADF**

**<User Check>**

- Check that paper used for the document is not thinner than the standard.
- Check that paper used for the document is not shorter than the standard.

| Step | Cause  | Remedy  |
|------|--|---|
| 1    | Foreign object inside the ADF                    | Remove the foreign object.                        |
| 2    | Document scanning position actuator coming off   | Reattach the document scanning position actuator. |
| 3    | Document hold coming off                         | Reattach the document hold.                       |
| 4    | Document exit film coming off                    | Reattach the document exit film.                  |
| 5    | Connection failure of the ADF sensor PCB harness | Reconnect the ADF sensor PCB harness.             |
| 6    | Damaged ADF bevel gear ASSY                      | Replace the ADF bevel gear ASSY.                  |
| 7    | Document scanning position sensor failure        | Replace the ADF sensor PCB ASSY.                  |
| 8    | Abrasion of the document feed roller             | Replace the ADF unit.                             |
| 9    | Main PCB failure                                 | Replace the main PCB ASSY.                        |

■ **Document jam in the ADF document eject path**

| Step | Cause   | Remedy                                       |
|------|---|--|
| 1    | Foreign object in the ADF document eject path | Remove the foreign object.                   |
| 2    | Document ejection pinch roller coming off     | Reattach the document ejection pinch roller. |
| 3    | Document exit film coming off                 | Replace the document exit film.              |
| 4    | Abrasion of the document ejection roller      | Replace the ADF unit.                        |
| 5    | Main PCB failure                              | Replace the main PCB ASSY.                   |

#### 4.10.4 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 document separate roller | Replace the document separate roller holder ASSY. |
| 2    | Abrasion of the document feed roller     | Replace the ADF unit.                             |

#### 4.10.5 Document size is not detected correctly

**<User Check>**

- Check that the document size is within the standard.

| Step | Cause   | Remedy  |
|------|---|---|
| 1    | Document scanning position actuator caught in sections of the machine | Reattach the document scanning position actuator. |
| 2    | Damaged ADF bevel gear ASSY   | Replace the ADF bevel gear ASSY.                  |
| 3    | Main PCB failure  | Replace the main PCB ASSY.                        |

## 4.11 Troubleshooting for Scanned Image Defects

### 4.11.1 Defect examples

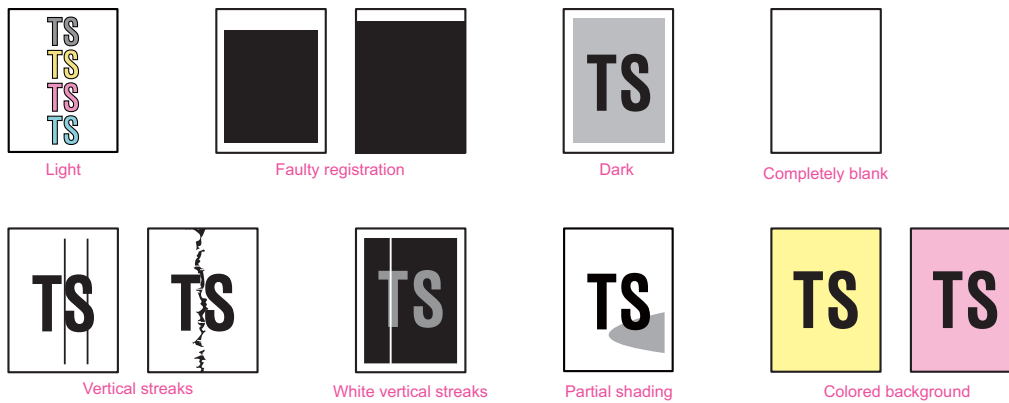


Fig. 1-10

### 4.11.2 Troubleshooting according to image defect

#### ■ Light



#### <User Check>

- Check that the contrast setting is not too light.
- Clean the document glass or the ADF glass.
- Clean the document hold.

| Step | Cause                    | Remedy  |
|------|--------------------------|---|
| 1    | White level data failure | Acquire white level data again. (Refer to "1.3.16" in chapter 4.) |
| 2    | CIS unit failure         | Replace the CIS unit.   |
| 3    | Main PCB failure         | Replace the main PCB ASSY.  |

■ **Faulty registration**



(1) ADF

| Step | Cause   | Remedy  |
|------|---|---|
| 1    | Deviation of the scanning start position                              | Adjust the scanning start position by executing function code 54. |
| 2    | Document scanning position actuator caught in sections of the machine | Reattach the document scanning position actuator.                 |
| 3    | Main PCB failure  | Replace the main PCB ASSY.  |

(2) Document scanner unit

| Step | Cause                                    | Remedy  |
|------|--|---|
| 1    | Deviation of the scanning start position | Adjust the scanning start position by executing function code 54. |
| 2    | CIS unit failure                         | Replace the CIS unit.   |
| 3    | Main PCB failure                         | Replace the main PCB ASSY.  |

■ **Dark**



**<User Check>**

- Check that the contrast setting is not too dark.

| Step | Cause                    | Remedy  |
|------|--------------------------|---|
| 1    | White level data failure | Acquire white level data again. (Refer to "1.3.16" in chapter 4.) |
| 2    | CIS unit failure         | Replace the CIS unit.   |
| 3    | Main PCB failure         | Replace the main PCB ASSY.  |

■ **Completely blank**



**<User Check>**

- Check that the document is not reversed.

| Step | Cause                    | Remedy  |
|------|--------------------------|---|
| 1    | White level data failure | Acquire white level data again. (Refer to "1.3.16" in chapter 4.) |
| 2    | CIS unit failure         | Replace the CIS unit.   |
| 3    | Main PCB failure         | Replace the main PCB ASSY.  |

■ **Vertical streaks**



**<User Check>**

- Clean the document glass or the ADF glass.

| Step | Cause                          | Remedy                                  |
|------|--------------------------------|---|
| 1    | Dirt inside the document glass | Clean the inside of the document glass. |
| 2    | CIS unit failure               | Replace the CIS unit.                   |
| 3    | Scratch on the document glass  | Replace the document scanner unit.      |

■ **White vertical streaks**



**<User Check>**

- Clean the document glass or the ADF glass.

| Step | Cause                          | Remedy                                  |
|------|--------------------------------|---|
| 1    | Dirt inside the document glass | Clean the inside of the document glass. |
| 2    | CIS unit failure               | Replace the CIS unit.                   |
| 3    | Scratch on the document glass  | Replace the document scanner unit.      |

■ **Partial shading**

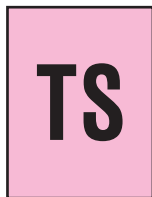


**<User Check>**

- Clean the document glass or the ADF glass.

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

■ **Colored background**



**<User Check>**

- Clean the document glass or the ADF glass.

| Step | Cause                    | Remedy  |
|------|--------------------------|---|
| 1    | White level data failure | Acquire white level data again. (Refer to "1.3.16" in chapter 4.) |
| 2    | CIS unit failure         | Replace the CIS unit.   |
| 3    | Main PCB failure         | Replace the main PCB ASSY.  |

## 4.12 Troubleshooting for FAX/Phone Problems

### 4.12.1 Fax cannot be sent

#### <User Check>

- Check that the line cord is inserted into the socket correctly.
- Check that the dial function setting (tone/pulse) is correct.
- Check that the telephone line is connected correctly.
- Check that the document is set in the document scanner unit or ADF unit correctly.
- Check that the handset cord is connected correctly.
- Check that the dial numbers are saved in the phone book correctly.
- Check that the remote terminal's equipment is working normally or equipped with required function.
- Check if there is any irregular background noise around the machine by moving it to another place.
- Check that the handset is placed in the handset holder correctly.

| Step | Cause  | Remedy                              |
|------|--|-------------------------------------|
| 1    | Connection failure of the modem PCB flat cable | Reconnect the modem PCB flat cable. |
| 2    | Connection failure of the CIS flat cable       | Reconnect the CIS flat cable.       |
| 3    | Rubber key failure                             | Replace the rubber key.             |
| 4    | Hook PCB failure                               | Replace the hook PCB ASSY.          |
| 5    | Panel PCB failure                              | Replace the panel PCB ASSY.         |
| 6    | Modem PCB failure                              | Replace the modem PCB ASSY.         |
| 7    | CIS unit failure                               | Replace the CIS unit.               |
| 8    | Main PCB failure                               | Replace the main PCB ASSY.          |

### 4.12.2 Fax cannot be received

#### <User Check>

- Check that the line cord is inserted into the socket correctly.
- Check that the receiving mode setting is correct.
- Check that the handset is placed in the handset holder correctly.
- Check if there is any irregular background noise around the machine by moving it to another place.

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

### 4.12.3 Ringtone does not sound

#### <User Check>

- Check that "0" is not set for the number of rings.
- Check that "0" is not set for the ringtone volume.

| Step | Cause                                     | Remedy                         |
|------|---|--------------------------------|
| 1    | Connection failure of the speaker harness | Reconnect the speaker harness. |
| 2    | Modem PCB failure                         | Replace the modem PCB ASSY.    |
| 3    | Main PCB failure                          | Replace the main PCB ASSY.     |

### 4.12.4 Telephone communication is unavailable

#### <User Check>

- Check that the line cord is inserted into the socket correctly.
- Check that the dial function setting (tone/pulse) is correct.
- Check that the telephone line is connected correctly.
- Check that the handset cord is connected correctly.
- Check that the dial numbers are saved in the phone book correctly.
- Check that the remote terminal's equipment is working normally.
- Check if there is any irregular background noise around the machine by moving it to another place.

| Step | Cause  | Remedy                              |
|------|--|-------------------------------------|
| 1    | Connection failure of the modem PCB flat cable | Reconnect the modem PCB flat cable. |
| 2    | Rubber key failure                             | Replace the rubber key.             |
| 3    | Hook PCB failure                               | Replace the hook PCB ASSY.          |
| 4    | Panel PCB failure                              | Replace the panel PCB ASSY.         |
| 5    | Modem PCB failure                              | Replace the modem PCB ASSY.         |
| 6    | Main PCB failure                               | Replace the main PCB ASSY.          |

### 4.12.5 Communication error occurs

#### <User Check>

- Check whether there is a noise source near the machine.

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Connection failure of the modem PCB flat cable | Reconnect the modem PCB flat cable correctly.            |
| 2    | Connection failure of the modem PCB FG harness | Retighten the screws to secure the modem PCB FG harness. |
| 3    | Modem PCB failure                              | Replace the modem PCB ASSY.                              |
| 4    | Main PCB failure                               | Replace the main PCB ASSY.                               |



## 4.13 Troubleshooting for Other Problems

### 4.13.1 Machine does not turn ON

**<User Check>**

- Plug the AC cord into a socket.

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

### 4.13.2 Main motor failure

| Step | Cause  | Remedy   |
|------|--|--|
| 1    | Connection failure of the main motor harness | Reconnect the main motor harness.              |
| 2    | Low voltage power supply PCB failure         | Replace the low voltage power supply PCB unit. |
| 3    | Main PCB failure                             | Replace the main PCB ASSY.                     |

### 4.13.3 Unusual noise is coming from the machine

**<User Check>**

- Check that the covers are closed.

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

### 4.13.4 Memory failure

**<User Check>**

- Print the print data stored in the memory.
- Reduce the complexity or resolution of the data.
- Divide the print data and print them separately.

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

#### 4.13.5 Print failure

**<User Check>**

- Check that the maximum printable page number has not been exceeded.
- Reduce the complexity or resolution of the data.

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

# CHAPTER 2 DISASSEMBLY/REASSEMBLY

Be sure to observe [Troubleshooting/Disassembling/Assembling Notes](#) during disassembly and assembly work.

## 1. PACKING

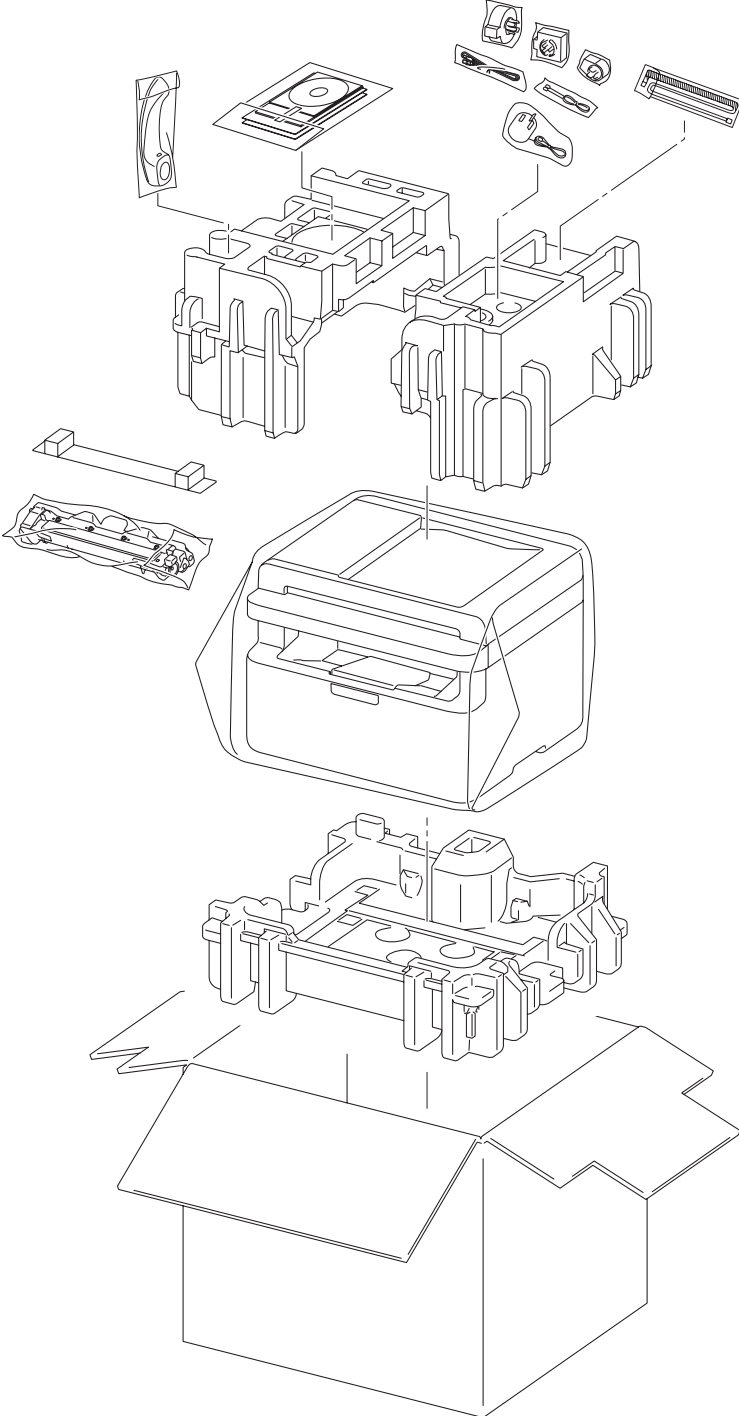


Fig. 2-1

## 2. TIGHTENING TORQUE LISTS

| Location of screw  |                     | Part name                        | Q'ty | Tightening torque<br>N·m (kgf·cm) |
|--|---------------------|----------------------------------|------|-----------------------------------|
| Side cover R   |                     | Taptite bind B M4x12             | 2    | 0.8±0.1(8±1)                      |
| Dress cover R  |                     | Taptite bind B M4x12             | 1    | 0.8±0.1(8±1)                      |
| Ground harness (ADF sensor harness)                          |                     | Taptite cup S M3x8 SR            | 1    | 0.6±0.1(6±1)                      |
| ADF unit (hinge)   |                     | Taptite bind B M4x12             | 2    | 0.8±0.1(8±1)                      |
| Handle cover   |                     | Taptite bind B M3x10             | 1    | 0.5±0.1(5±1)                      |
| Lower chute support plate                                    |                     | Taptite bind B M3x10             | 2    | 0.5±0.1(5±1)                      |
| Lower document chute ASSY                                    |                     | Taptite bind B M3x10             | 4    | 0.5±0.1(5±1)                      |
| Document sponge  |                     | Taptite bind B M3x10             | 1    | 0.5±0.1(5±1)                      |
| Document separate roller holder ASSY                         |                     | Taptite bind B M3x10             | 1    | 0.5±0.1(5±1)                      |
| Panel unit   |                     | Taptite bind B M4x12             | 2    | 0.8±0.1(8±1)                      |
| Document cover (hinge)<br>(only for models without ADF unit) |                     | Taptite pan B M4x14              | 2    | 0.8±0.1(8±1)                      |
| Scanner top cover<br>ASSY                                    | (with ADF unit)     | Taptite bind B M4x12             | 2    | 0.8±0.1(8±1)                      |
|  | (without ADF unit)  | Taptite bind B M4x12             | 4    | 0.8±0.1(8±1)                      |
| Low voltage shield plate                                     |                     | Taptite bind B M4x12             | 4    | 0.8±0.05(8±0.5)                   |
|  |                     | Taptite cup S M3x8 SR            | 2    | 0.6±0.1(6±1)                      |
|  |                     | Screw pan (S/P washer)<br>M3.5x6 | 1    | 0.45±0.05(4.5±0.5)                |
| Ground harness<br>(Low voltage power supply PCB unit)        |                     | Screw pan (S/P washer)<br>M3.5x6 | 1    | 0.45±0.05(4.5±0.5)                |
| High voltage power supply PCB ASSY                           |                     | Taptite bind B M4x12             | 2    | 0.8±0.1(8±1)                      |
| Upper modem shield plate<br>(only for models with modem PCB) |                     | Taptite pan B M4x12 DA           | 1    | 0.8±0.1(8±1)                      |
|  |                     | Taptite cup S M3x8 SR            | 1    | 0.6±0.1(6±1)                      |
| Lower modem shield plate<br>(only for models with modem PCB) |                     | Screw pan (S/P washer)<br>M3.5x6 | 2    | 0.45±0.05(4.5±0.5)                |
| SDAA shield plate<br>(only for models with modem PCB)        |                     | Screw pan (S/P washer)<br>M3.5x6 | 1    | 0.45±0.05(4.5±0.5)                |
|  |                     | Taptite bind B M4x12             | 1    | 0.8±0.1(8±1)                      |
| Modem PCB ASSY<br>(only for models with modem PCB)           |                     | Taptite cup S M3x8 SR            | 2    | 0.6±0.1(6±1)                      |
| Main PCB ASSY  | (with modem PCB)    | Taptite cup S M3x8 SR            | 4    | 0.6±0.1(6±1)                      |
|  | (without modem PCB) | Taptite cup S M3x8 SR            | 5    | 0.6±0.1(6±1)                      |
| Main shield plate  |                     | Taptite bind B M4x12             | 2    | 0.8±0.1(8±1)                      |
| Top cover lock   |                     | Taptite cup B M3x8               | 1    | 0.5±0.1(5±1)                      |
| Side cover L   |                     | Taptite bind B M4x12             | 3    | 0.8±0.1(8±1)                      |
| Dress cover L  |                     | Taptite bind B M4x12             | 1    | 0.8±0.1(8±1)                      |
| Handset holder<br>(only for models with handset)             |                     | Taptite bind B M4x12             | 3    | 0.8±0.1(8±1)                      |
| Lower handset holder<br>(only for models with handset)       |                     | Taptite cup B M3x8               | 1    | 0.5±0.1(5±1)                      |
| Fuser unit   |                     | Taptite pan B M4x14              | 2    | 0.8±0.1(8±1)                      |
| Insulation roof  |                     | Taptite pan B M3x8               | 1    | 0.4±0.05(4±0.5)                   |
| Back cover   |                     | Taptite bind B M4x12             | 4    | 0.8±0.1(8±1)                      |
| Front cover  |                     | Taptite bind B M4x12             | 4    | 0.8±0.1(8±1)                      |
| Laser unit   |                     | Taptite cup S M3x8 SR            | 3    | 0.8±0.1(8±1)                      |
| Paper feed/paper printing position<br>sensor PCB ASSY        |                     | Taptite bind B M3x10             | 1    | 0.5±0.1(5±1)                      |
| Drive sub ASSY   |                     | Taptite bind B M4x12             | 4    | 0.8±0.1(8±1)                      |

### 3. LUBRICATION

There are no parts that require lubrication.

### 4. OVERVIEW OF GEARS

■ Frame L

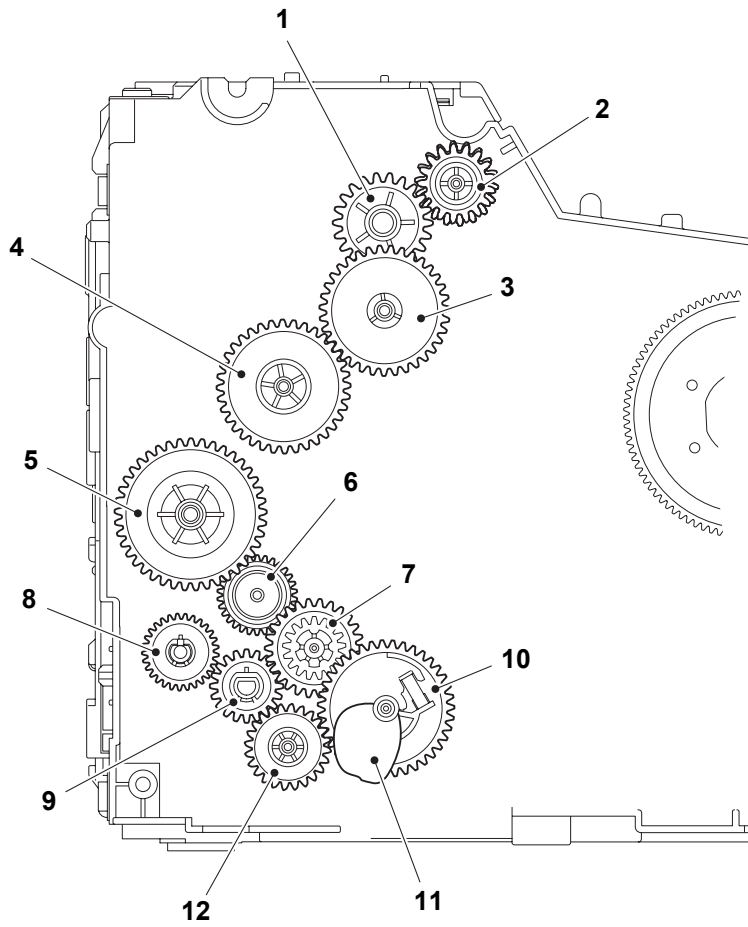


Fig. 2-2

<Name of gears>

|   |        |                           |    |        |                      |
|---|--------|---------------------------|----|--------|----------------------|
| 1 | LY8038 | Fuser gear 22             | 7  | LY8066 | Feeder gear 17/32/26 |
| 2 | LY8039 | Ejector gear 17/18        | 8  | LY8079 | Feeder gear 29       |
| 3 | LY8050 | Fuser gear 20/35 pendulum | 9  | LY8080 | T1 gear 20           |
| 4 | LY8055 | Fuser gear 36             | 10 | LY8063 | T1 gear sector       |
| 5 | LY8067 | Drum gear 18/41           | 11 | LY8065 | Plate down cam       |
| 6 | LY8068 | Feeder gear 30 pendulum   | 12 | LY8062 | T1 idle gear         |

■ ADF

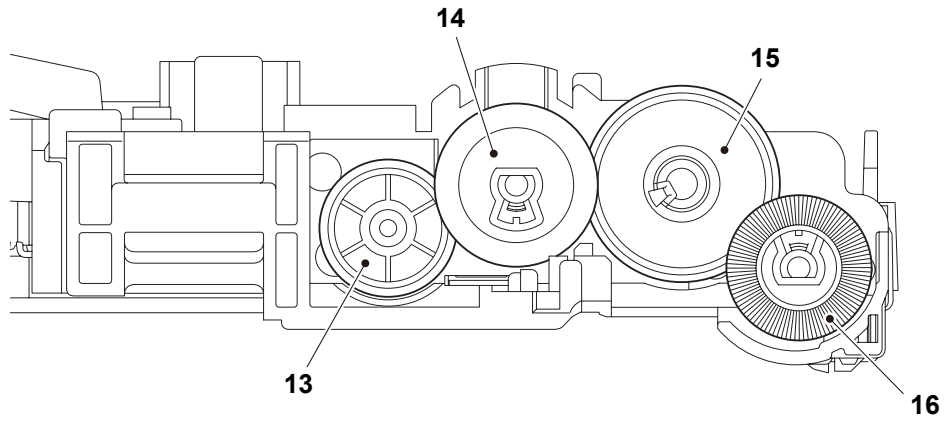


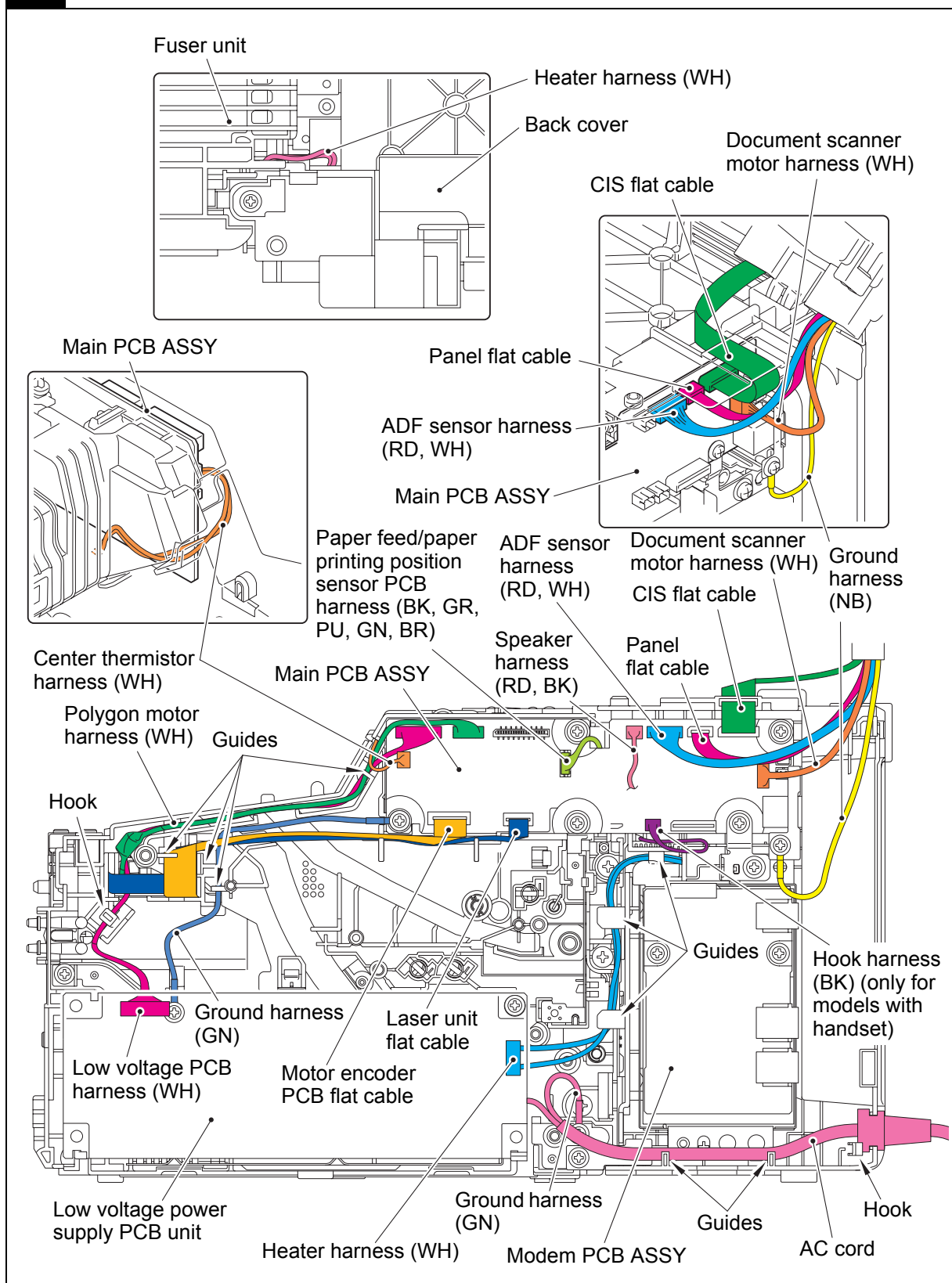
Fig. 2-3

<Name of gears>

|    |        |                         |    |        |                 |
|----|--------|-------------------------|----|--------|-----------------|
| 13 | LEH086 | Separate roller gear 42 | 15 | LEH087 | Gear 61         |
| 14 | LEH085 | LF1 roller gear 44      | 16 | LEH084 | LF2 roller gear |

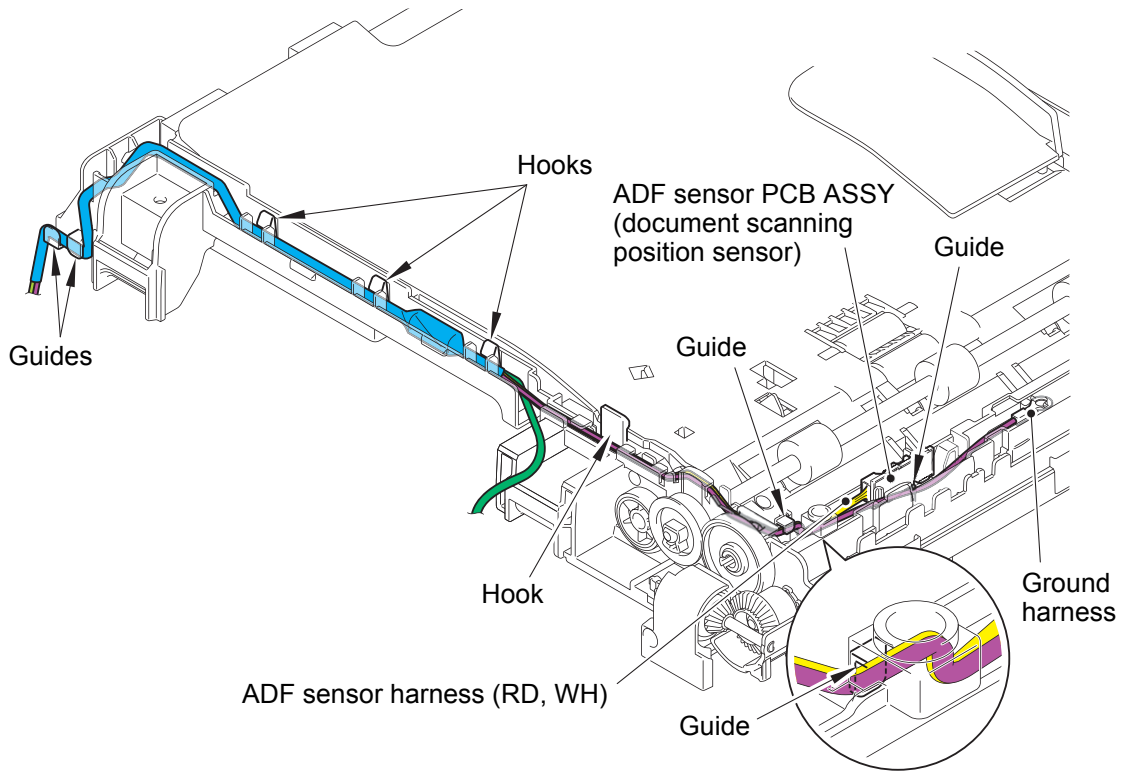
# 5. HARNESS ROUTING

## 1 Frame R / main PCB ASSY / low voltage power supply PCB unit / fuser unit

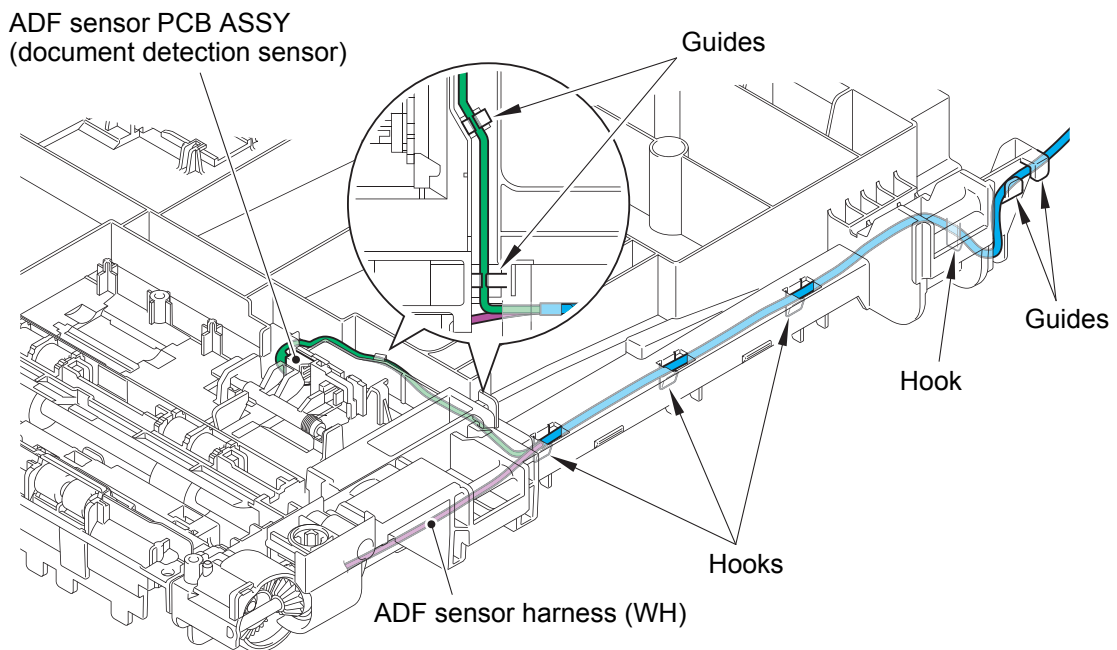


Harness colors are subject to change for some reason.

**2** ADF sensor harness (document scanning position sensor)



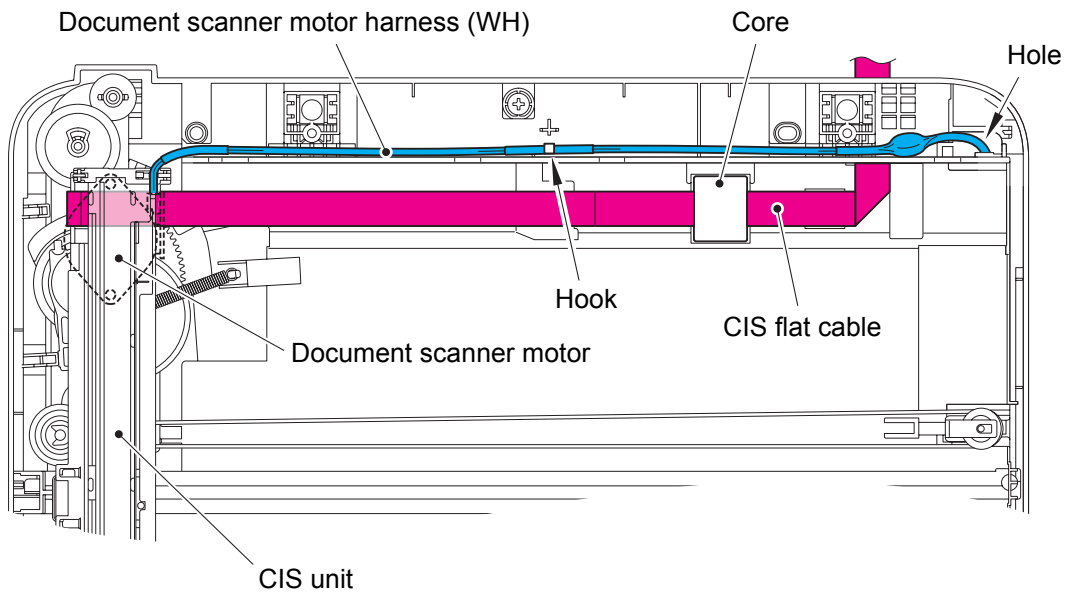
**3** ADF sensor harness (document detection sensor)



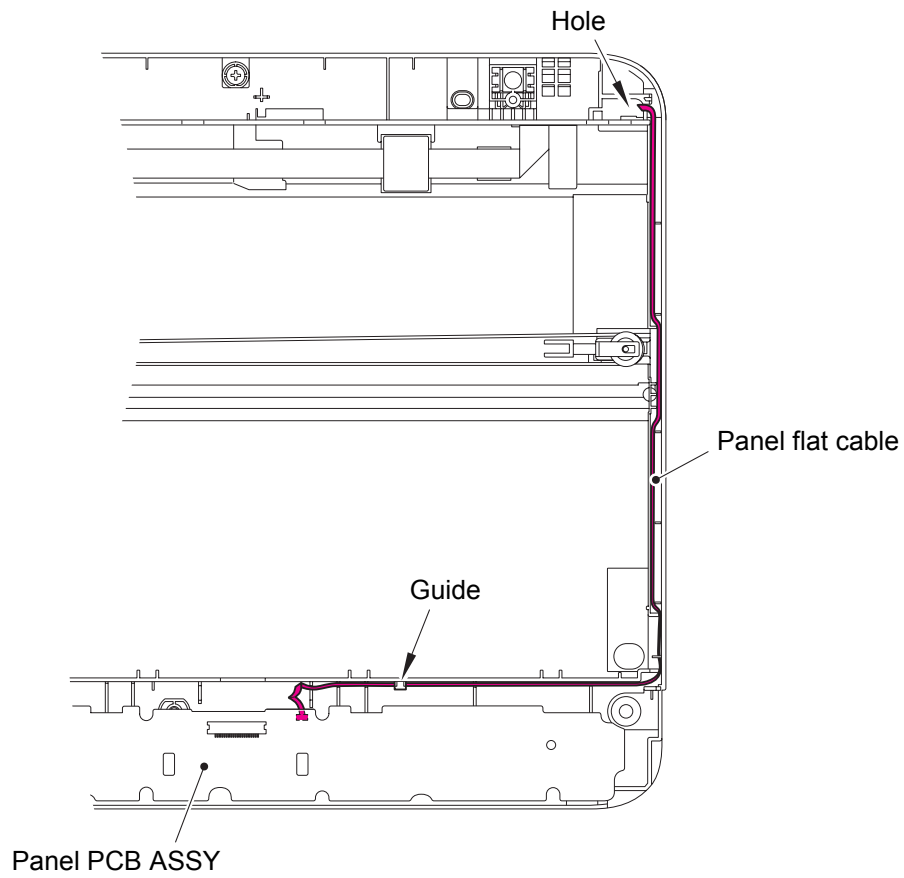
Harness colors are subject to change for some reason.



**4** Document scanner unit

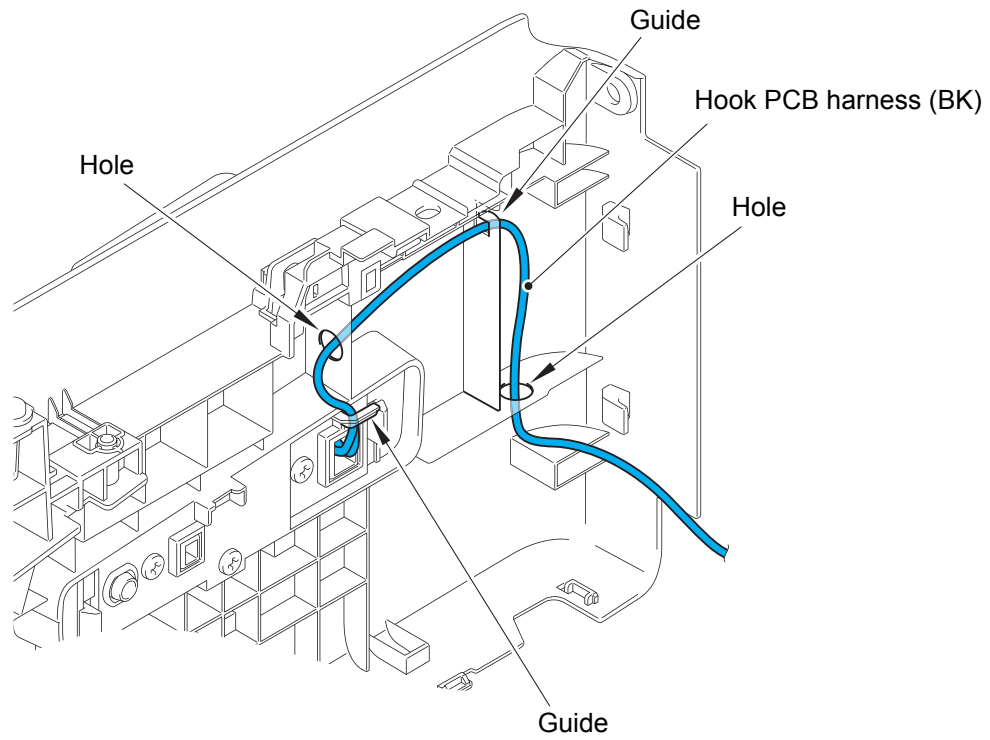


**5** Panel flat cable

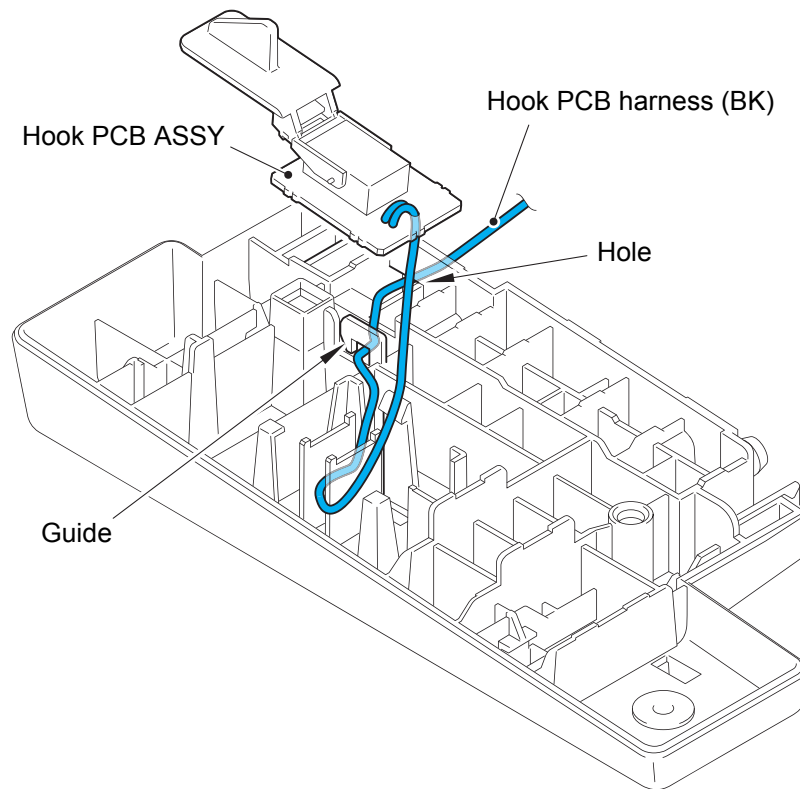


Harness colors are subject to change for some reason.

**6** Hook PCB harness (only for models with handset) (side cover L)

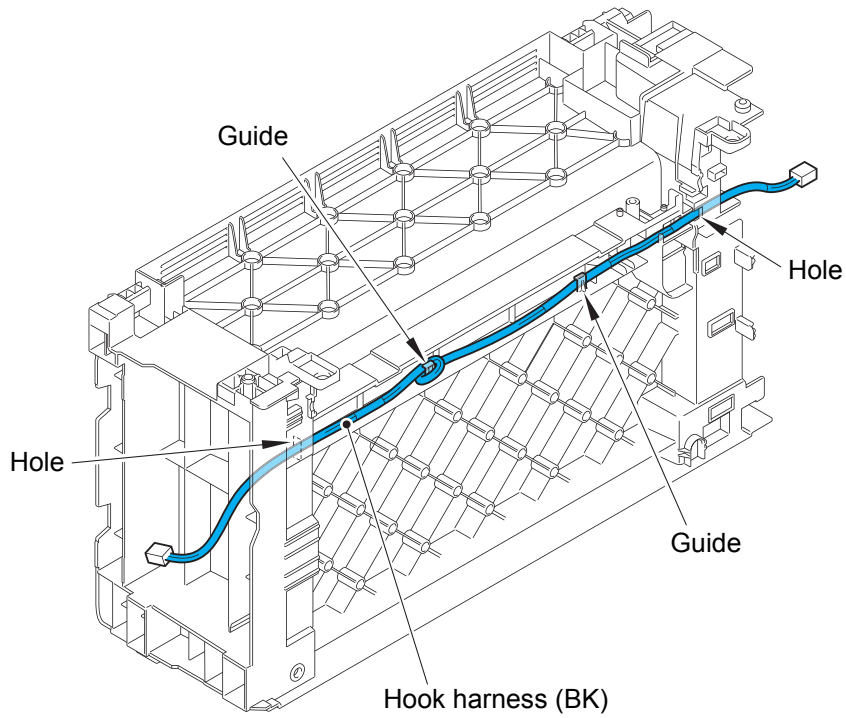


**7** Hook PCB harness (only for models with handset) (lower handset holder)

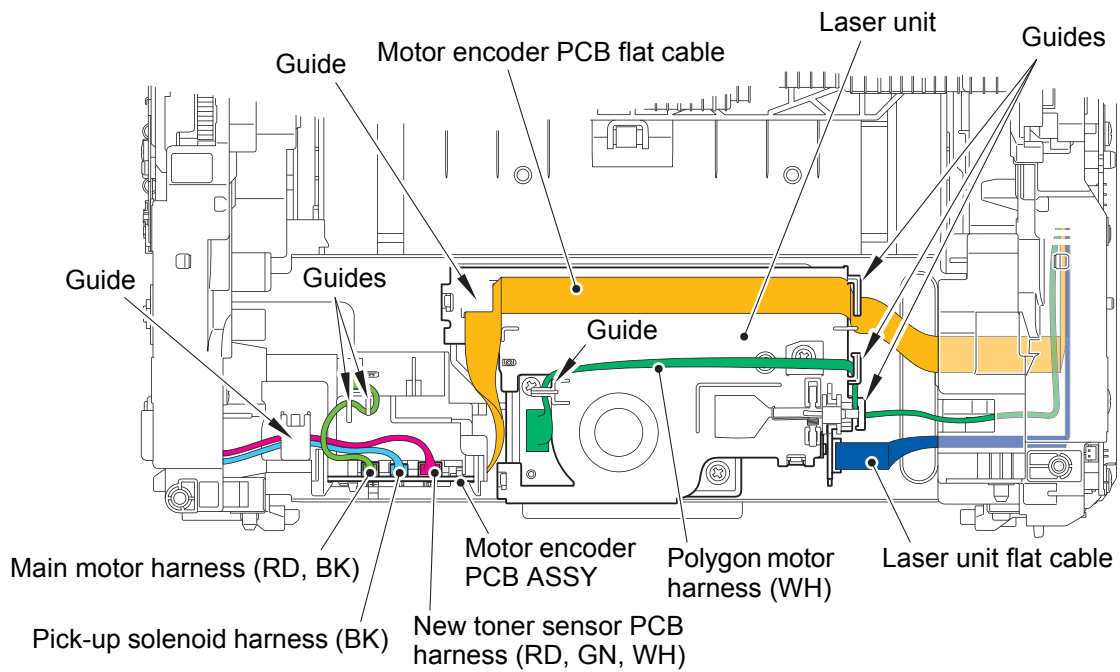


Harness colors are subject to change for some reason.

**8** Hook harness (only for models with handset) (back cover)

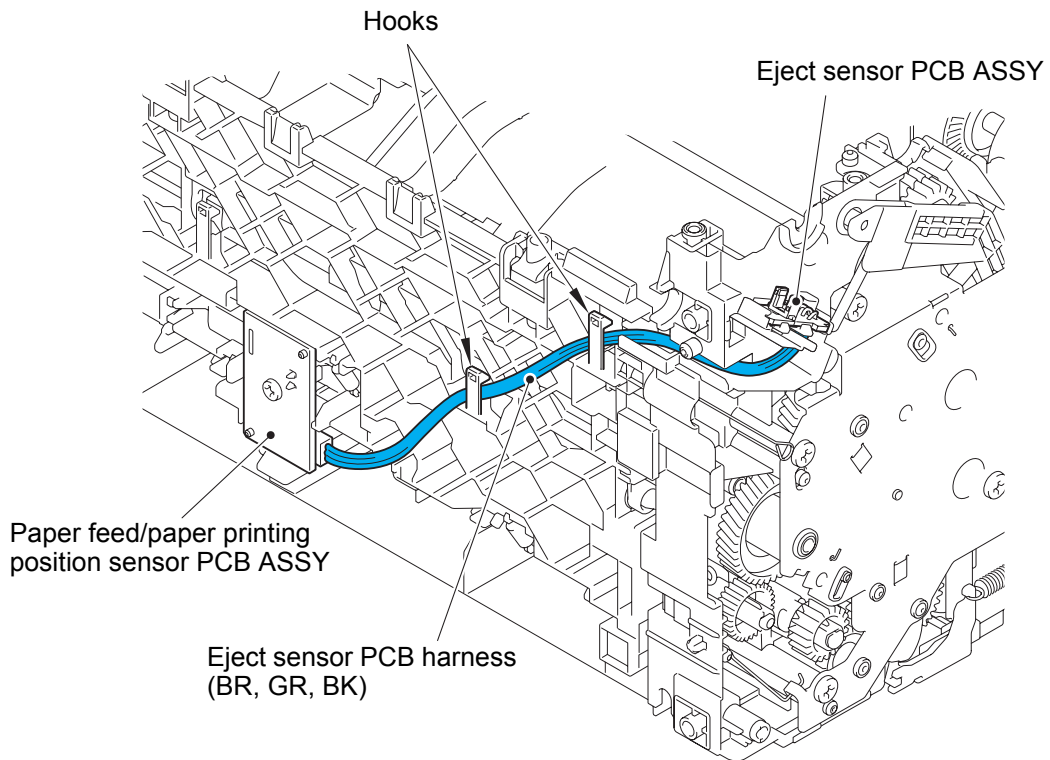


**9** Laser unit / motor encoder PCB ASSY

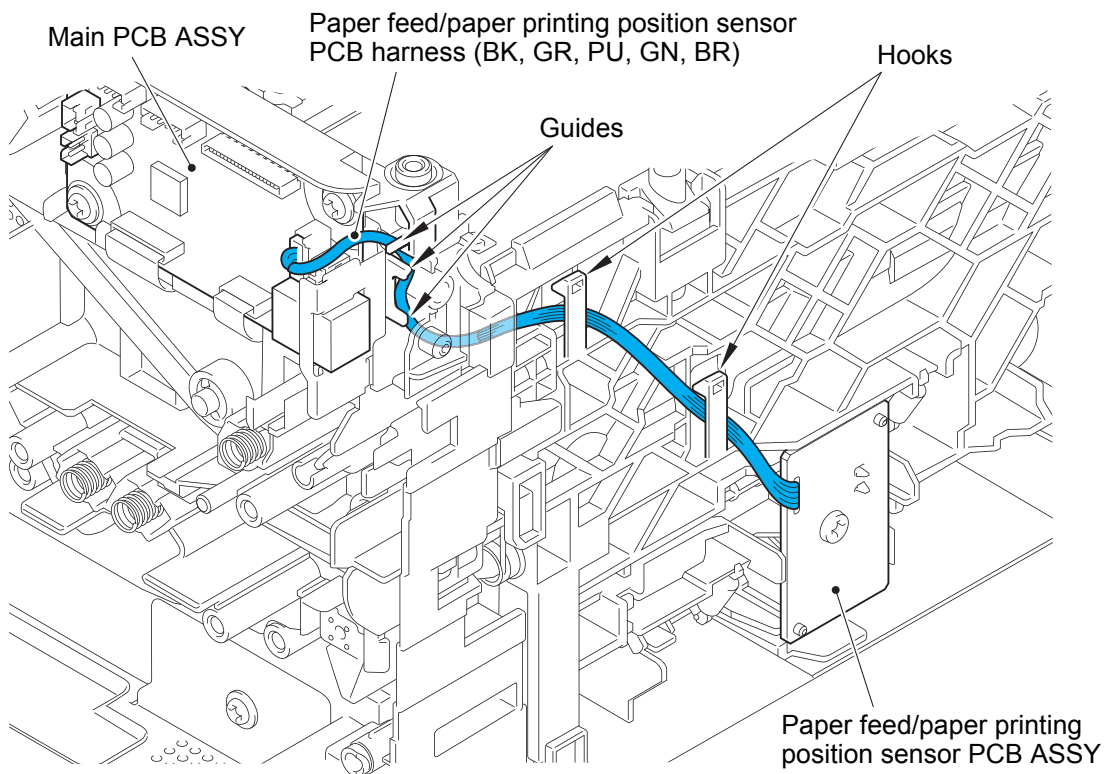


Harness colors are subject to change for some reason.

**10** Eject sensor PCB ASSY

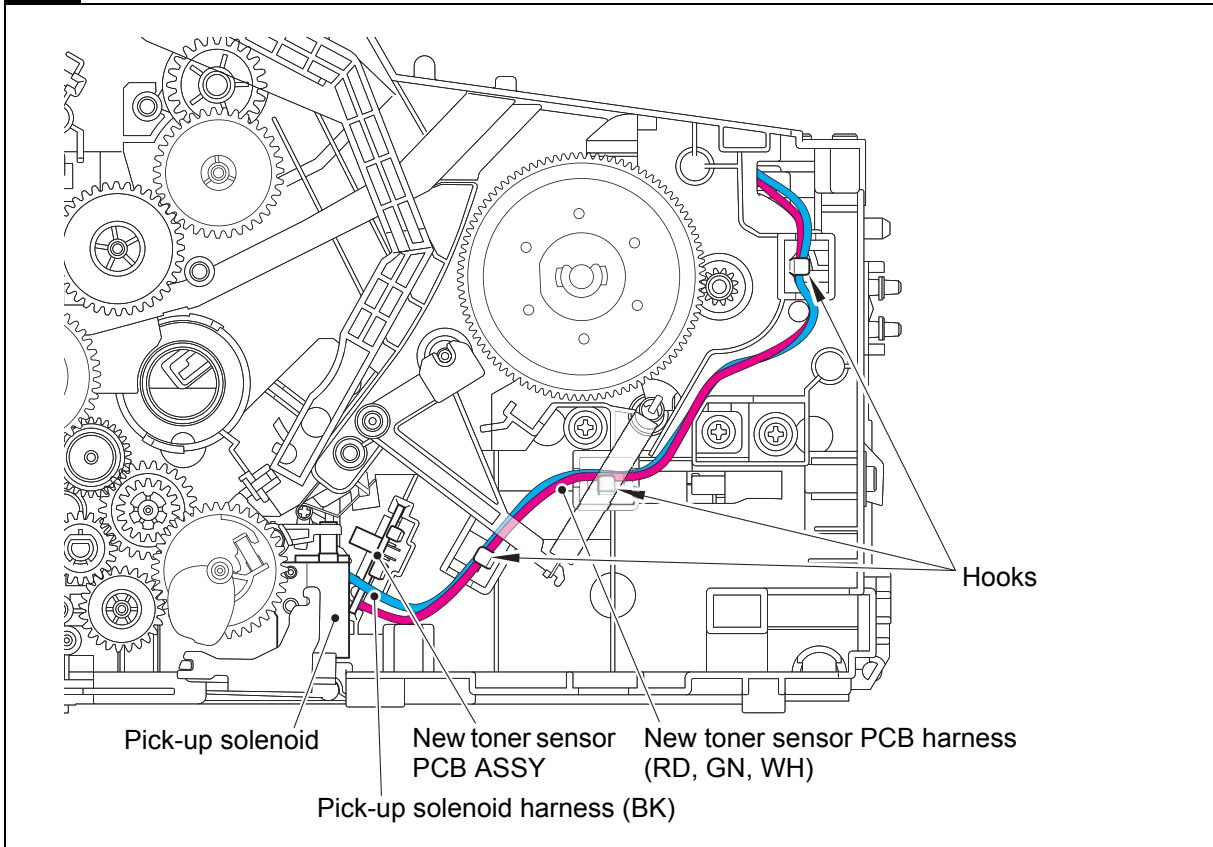


**11** Paper feed/paper printing position sensor PCB ASSY



Harness colors are subject to change for some reason.

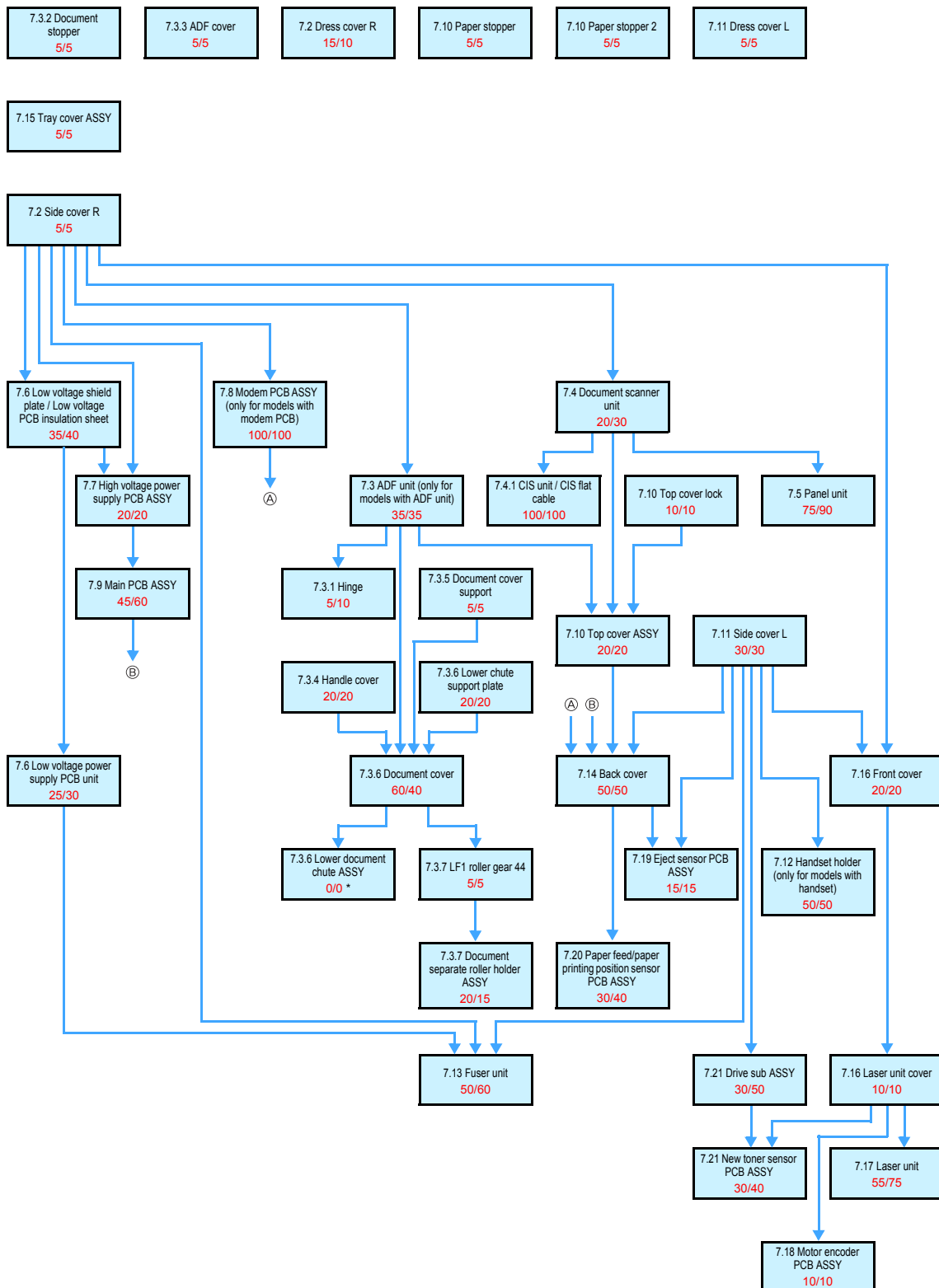
**12** New toner sensor PCB ASSY / pick-up solenoid



Harness colors are subject to change for some reason.

# 6. DISASSEMBLY FLOW CHART

Disassembly / Reassembly (second)



\* The lower document chute ASSY and the document cover can be removed at once. Therefore, it shows "0/0".

# 7. DISASSEMBLY PROCEDURE

## 7.1 Preparation

### ■ Disconnecting Cable and Removing Accessories

Prior to proceeding with the disassembly procedure,

- (1) Disconnect the following:
  - USB cable (if connected)
  - Telephone line
  - Curled cord
- (2) Remove the following:
  - Toner cartridge and drum unit
  - Handset

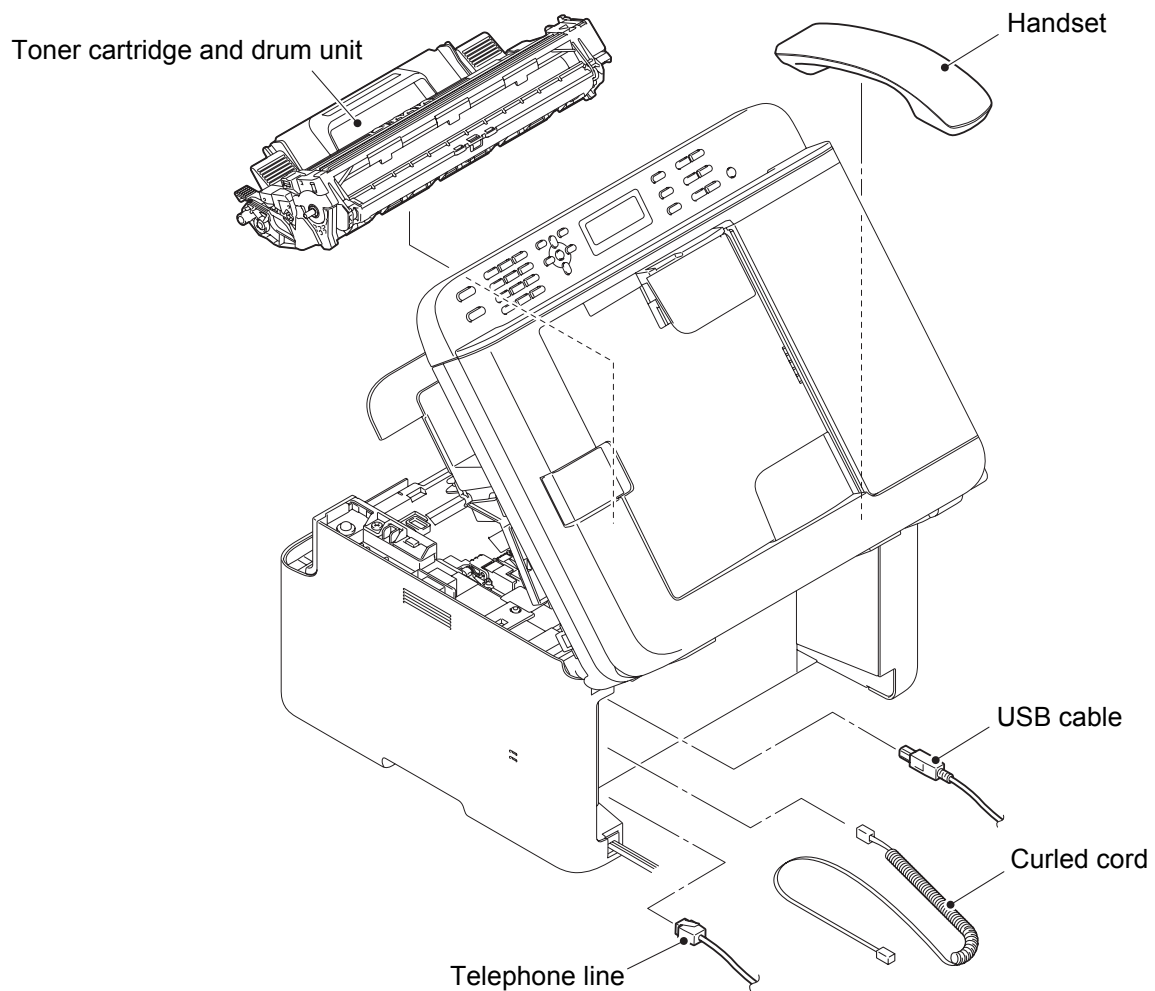


Fig. 2-4

## 7.2 Side cover R

- (1) Remove the two taptite bind B M4x12 screws.
- (2) Remove the three boss bushings of the side cover R. Pull out the three tabs and release the four hooks on the bottom. Disconnect the speaker harness from the main PCB ASSY (only for models with ADF unit), and remove the side cover R from the machine.
- (3) Remove the speaker hold spring from the side cover R (only for models with ADF unit).
- (4) Remove the speaker from the side cover R, and pull out the speaker harness from the hole of the side cover R (only for models with ADF unit).
- (5) Remove the taptite bind B M4x12 screw, and release the hook to remove the dress cover R from the side cover R.

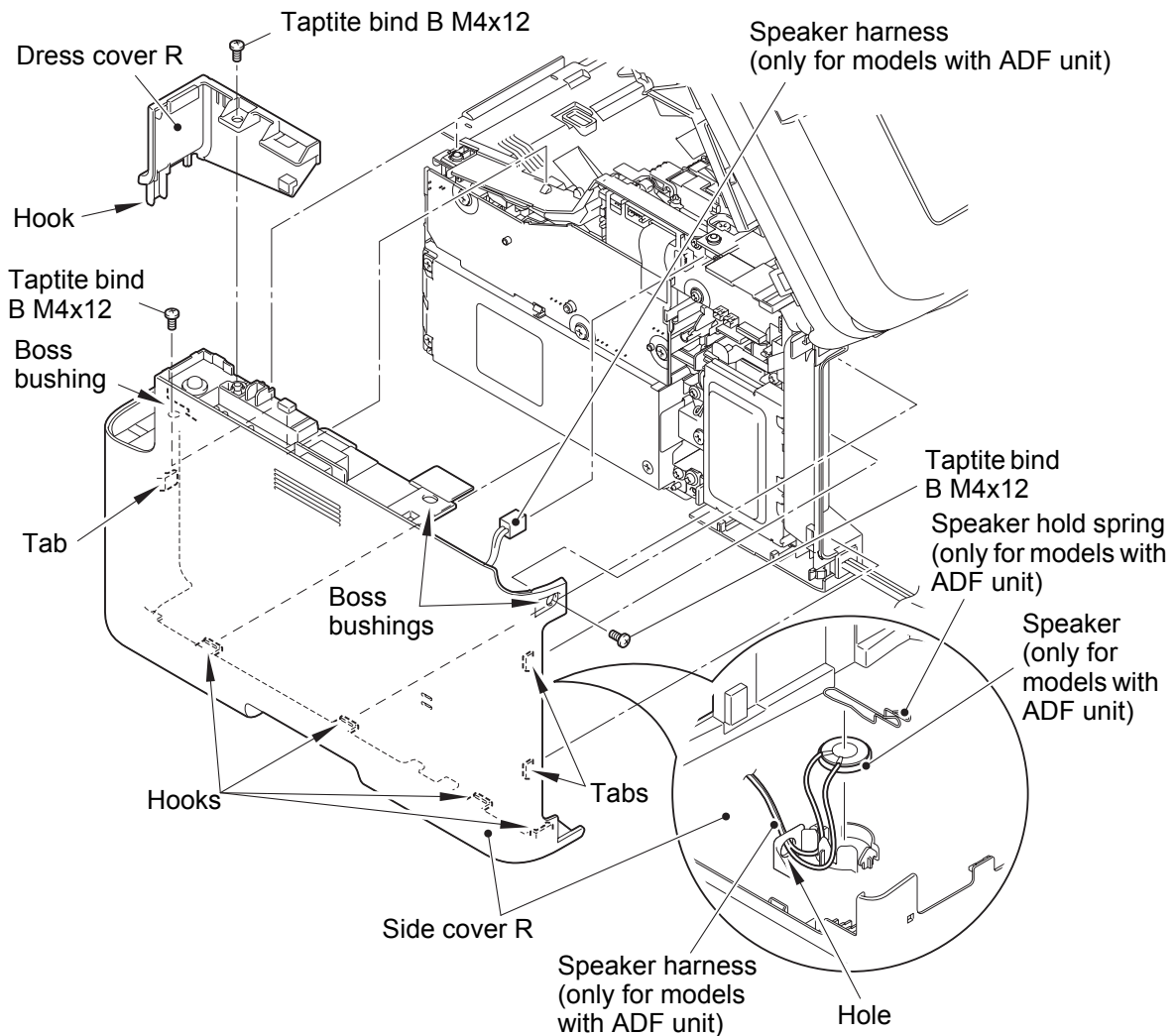


Fig. 2-5

Harness routing: Refer to "1. Frame R / main PCB ASSY / low voltage power supply PCB unit / fuser unit".

- (6) Close the top cover ASSY and the document scanner unit.



### 7.3 ADF unit (only for models with ADF unit)

- (1) Open the ADF unit.
- (2) Disconnect the ADF sensor harness from the main PCB ASSY.
- (3) Remove the taptite cup S M3x8 SR screw to release the ground harness of the ADF sensor harness.
- (4) Pull out the ADF sensor harness from the hole of the machine.
- (5) Remove the two taptite bind B M4x12 screws to remove the ADF unit from the machine.

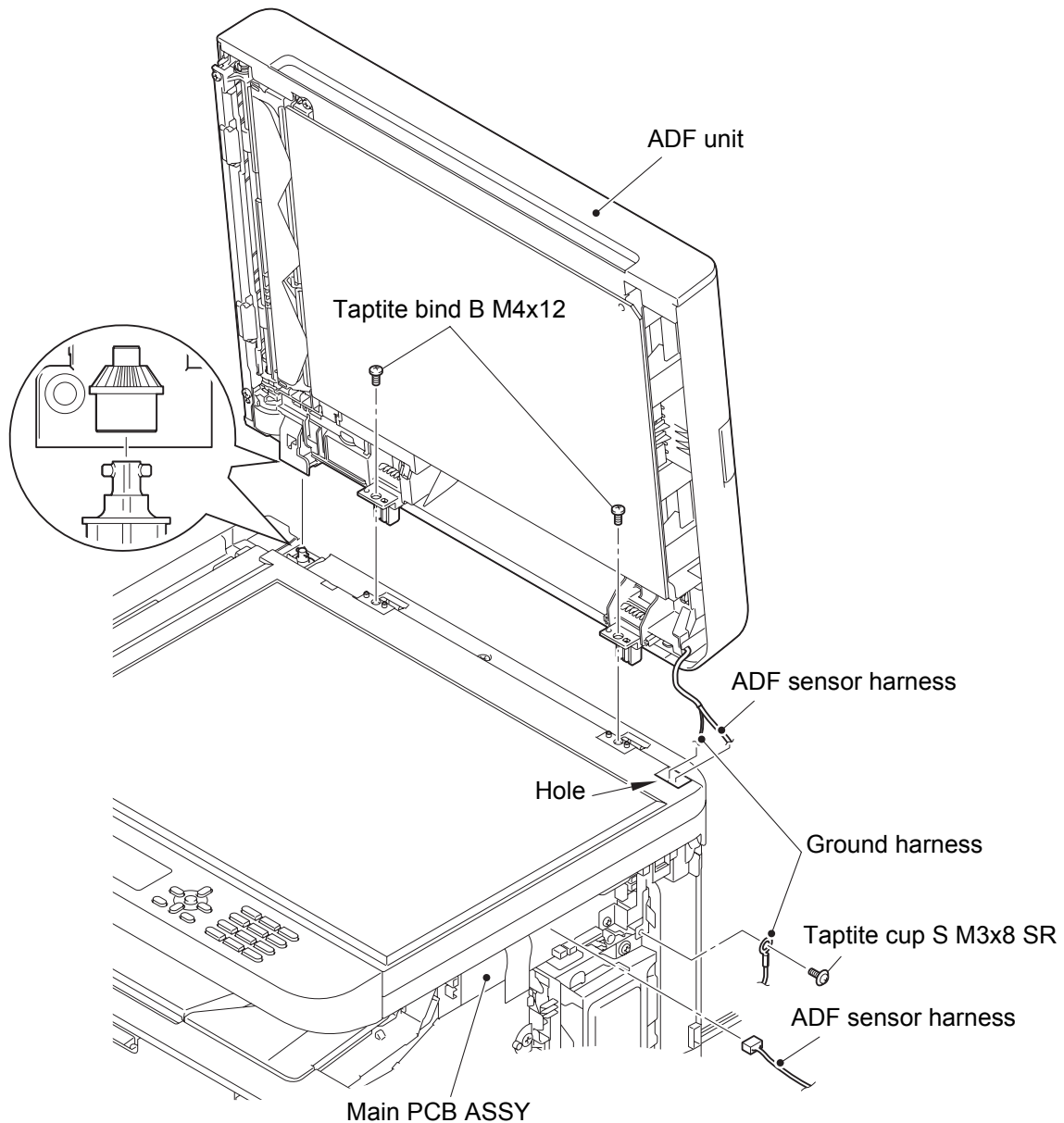


Fig. 2-6

Harness routing: Refer to "1. Frame R / main PCB ASSY / low voltage power supply PCB unit / fuser unit".

### 7.3.1 Hinge

- (1) Remove the hinge by tilting it 120 degrees. (2 locations)

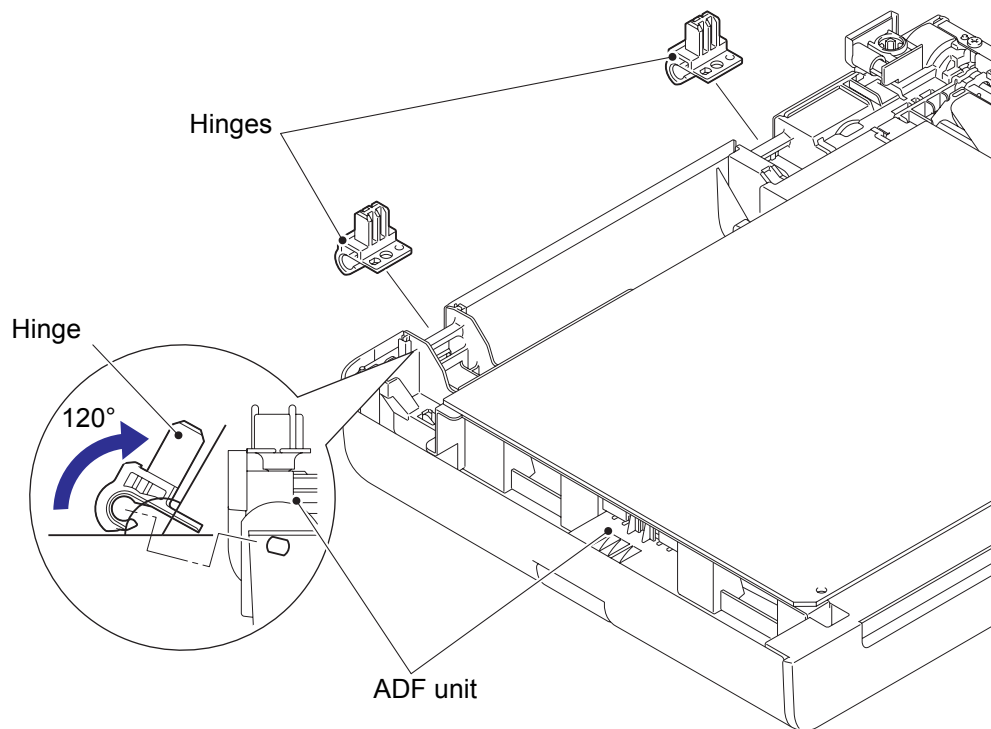


Fig. 2-7

### 7.3.2 Document stopper

- (1) Release the two bosses of the document stopper to remove it from the ADF unit.

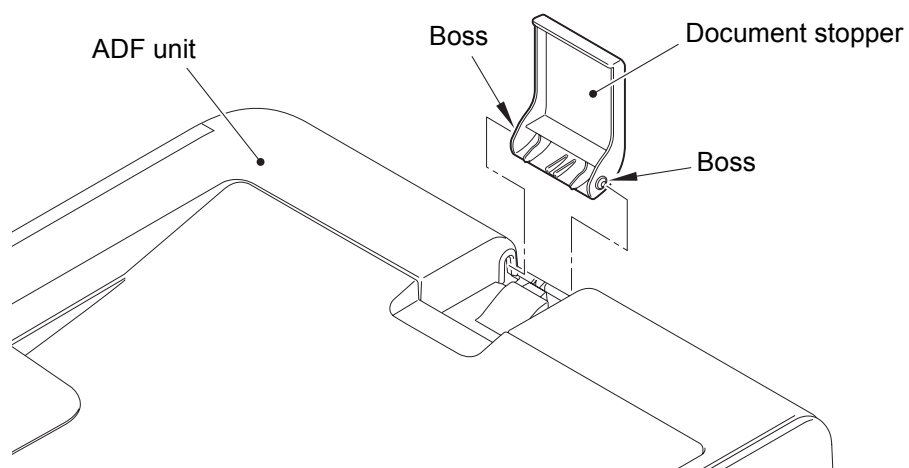


Fig. 2-8

### 7.3.3 ADF cover

- (1) Release the two bosses of the ADF cover to remove it from the ADF unit.

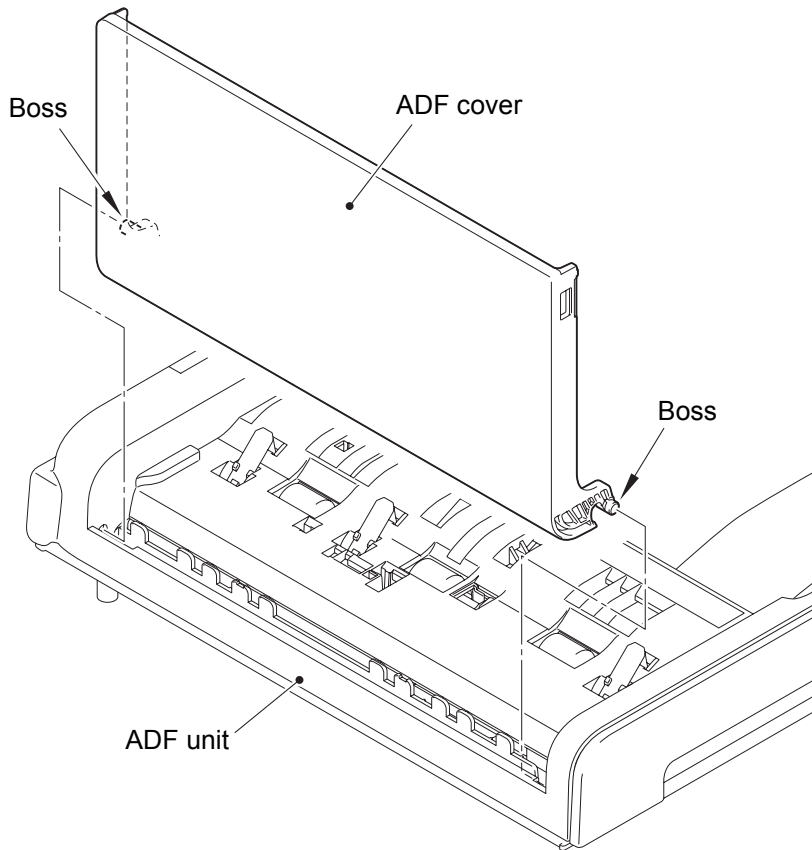


Fig. 2-9

### 7.3.4 Handle cover

- (1) Remove the taptite bind B M3x10 screw from the back side of the ADF unit.
- (2) Release the two hooks to remove the handle cover from the ADF unit.

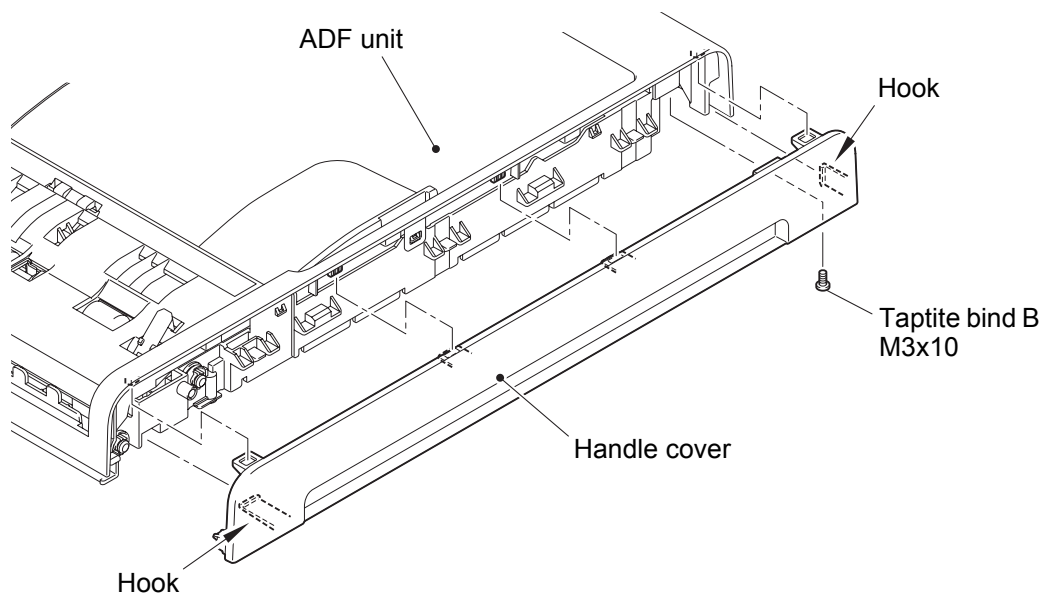


Fig. 2-10

### 7.3.5 Document cover support

- (1) Remove the document cover support from the ADF unit by sliding it to the direction of the arrow.

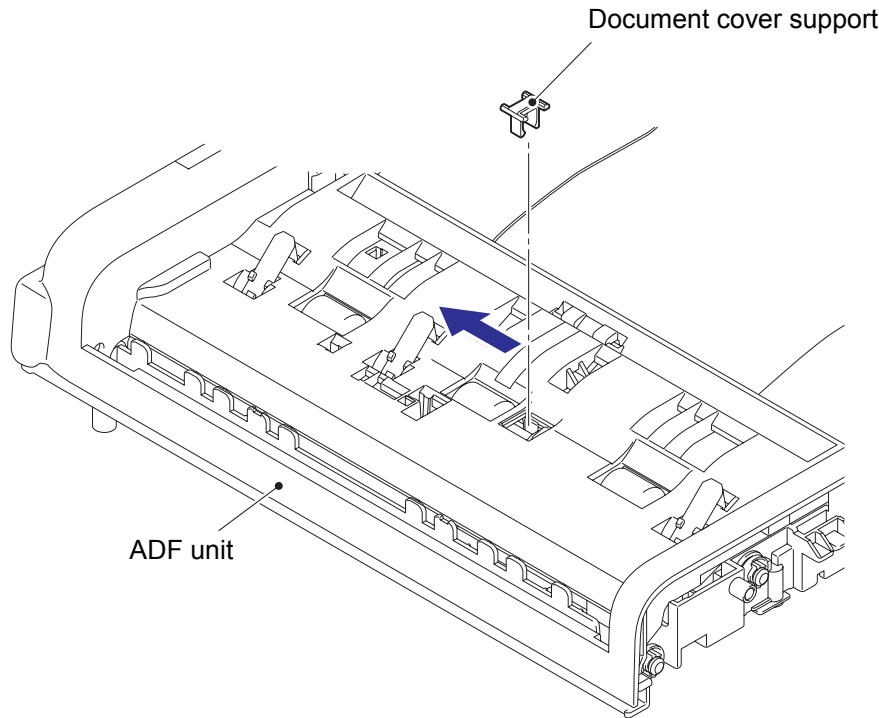


Fig. 2-11

### 7.3.6 Document cover

- (1) Flip over the ADF unit.
- (2) Remove the two Taptite bind B M3x10 screws to remove the lower chute support plate from the ADF unit.
- (3) Release the hook and boss while pushing the arm to the direction of the arrow, and remove the document hold from the ADF unit.

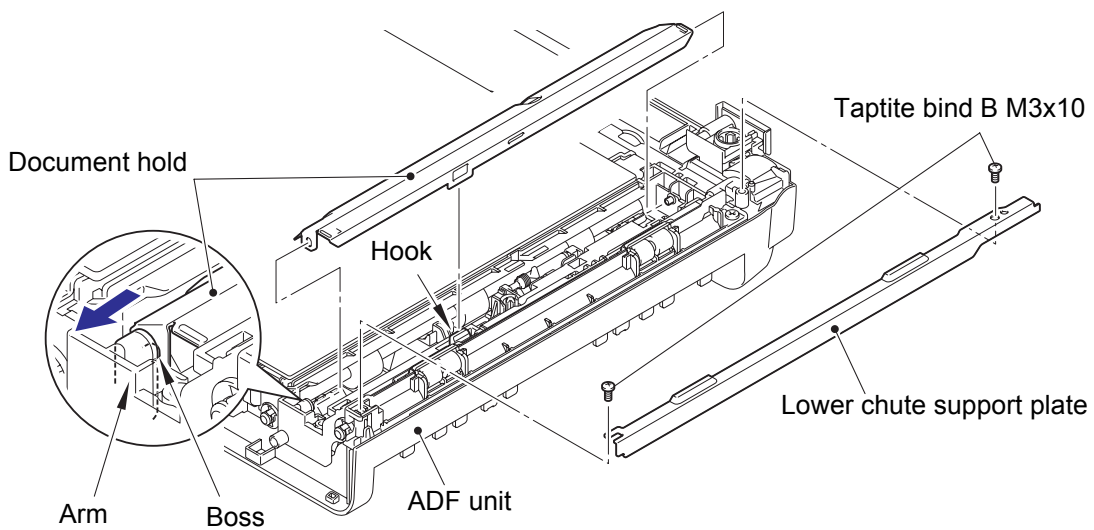


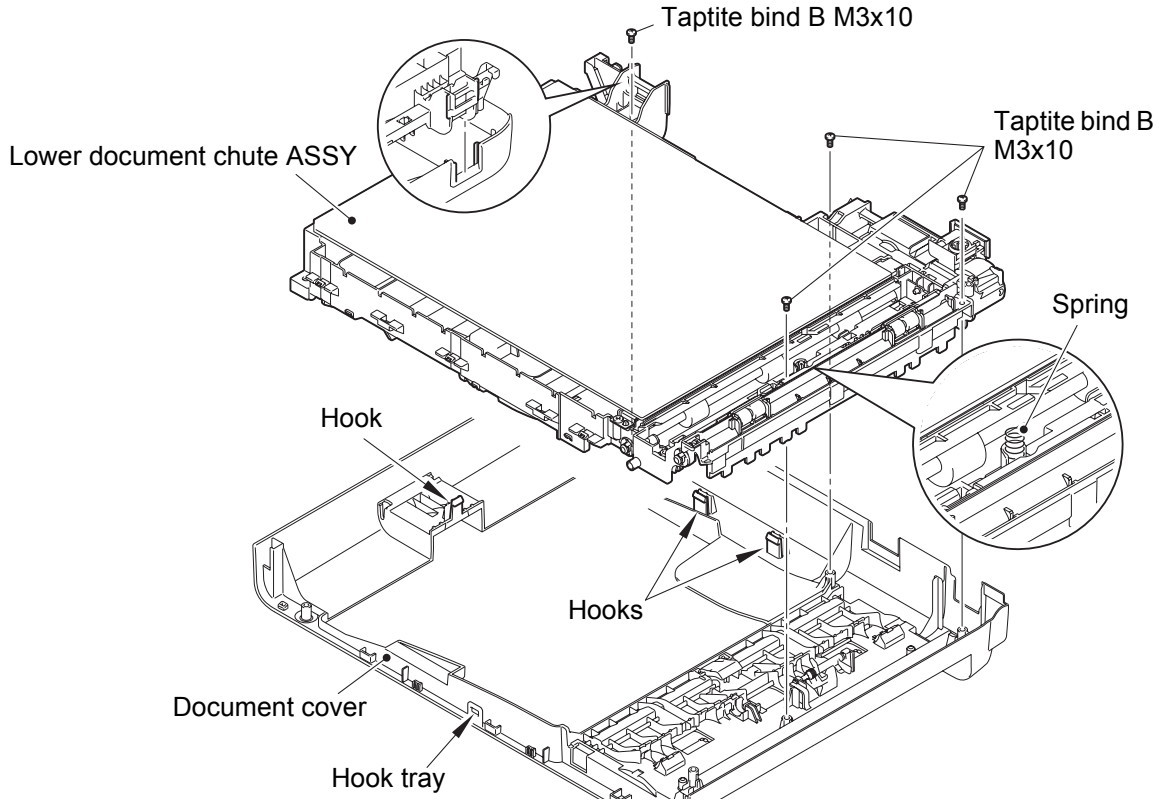
Fig. 2-12

- (4) Remove the four taptite bind B M3x10 screws.

**Assembling Note:**

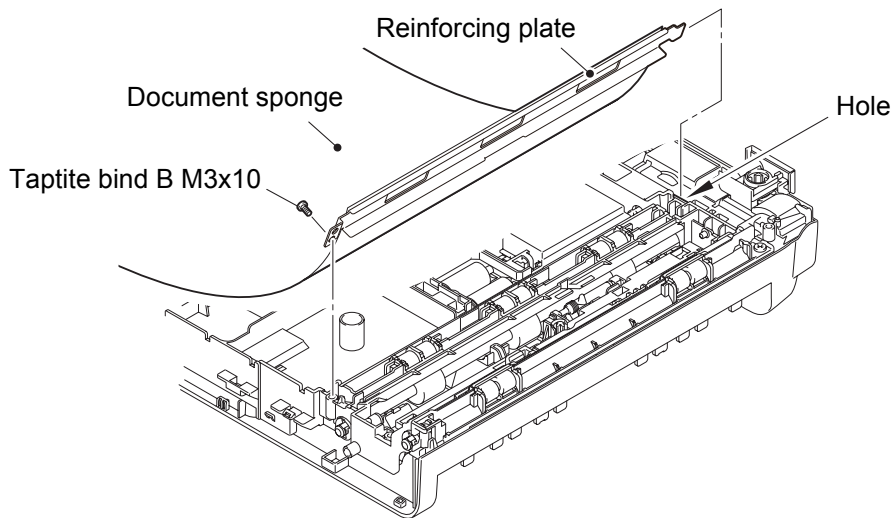
- When removing the document cover, the spring could come off by removing the screw. When reassembling the document cover, make sure that the spring is assembled.

- (5) Release the hook tray and the three hooks to remove the document cover from the lower document chute ASSY.



**Fig. 2-13**

- (6) Remove the taptite bind B M3x10 screw.  
(7) Lift and pull the front side of the reinforcing plate to pull out it from the hole.  
(8) Peel it with the document sponge to the left.



**Fig. 2-14**

### 7.3.7 Document separate roller holder ASSY

- (1) Release the hook to remove the LF1 roller gear 44 from the shaft of the lower document chute ASSY.
- (2) Pull out the separate roller gear 42 while pushing the hook of the document separate roller holder ASSY to the direction of the arrow.
- (3) Remove the taptite bind B M3x10 screw to remove the document separate roller holder ASSY from the lower document chute ASSY.

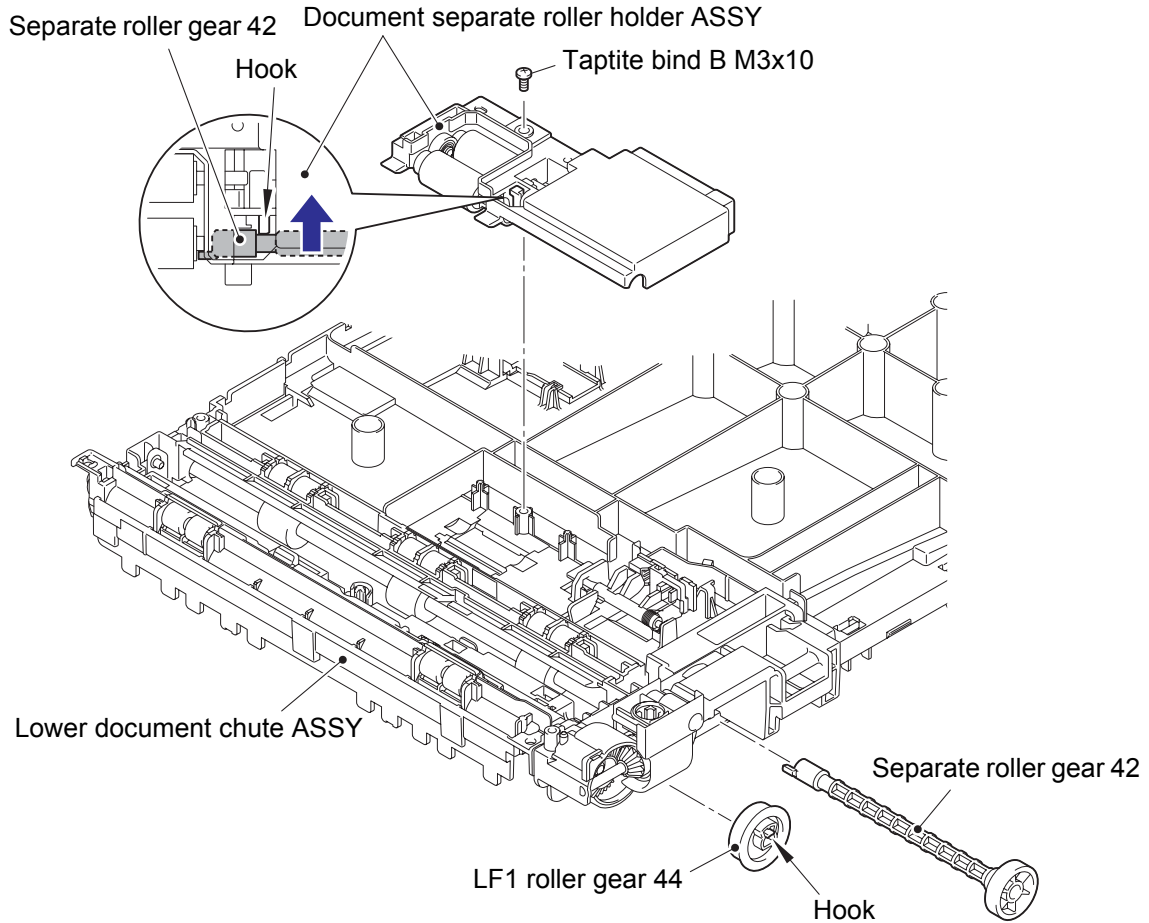


Fig. 2-15

## 7.4 Document scanner unit / Document cover (only for models without ADF unit)

- (1) Open the document scanner unit.
- (2) Disconnect the CIS flat cable, the document scanner motor harness, and the panel flat cable from the main PCB ASSY, then pull out the CIS flat cable from the hole.
- (3) Release the hook of the pull-arm, and remove it from the document scanner unit.
- (4) Open the document scanner unit 90 degrees and remove it by pulling it up.
- (5) Remove the two taptite bind B M4x12 screws. Release the four hooks of the panel unit. Disconnect the panel flat cable from the panel PCB ASSY to remove the panel unit from the document scanner unit.
- (6) Remove the two taptite pan B M4x14 screws to remove the document cover from the document scanner unit (only for models without ADF unit).
- (7) Remove the hinge from the document cover by tilting it 120 degrees (only for models without ADF unit). (2 locations)

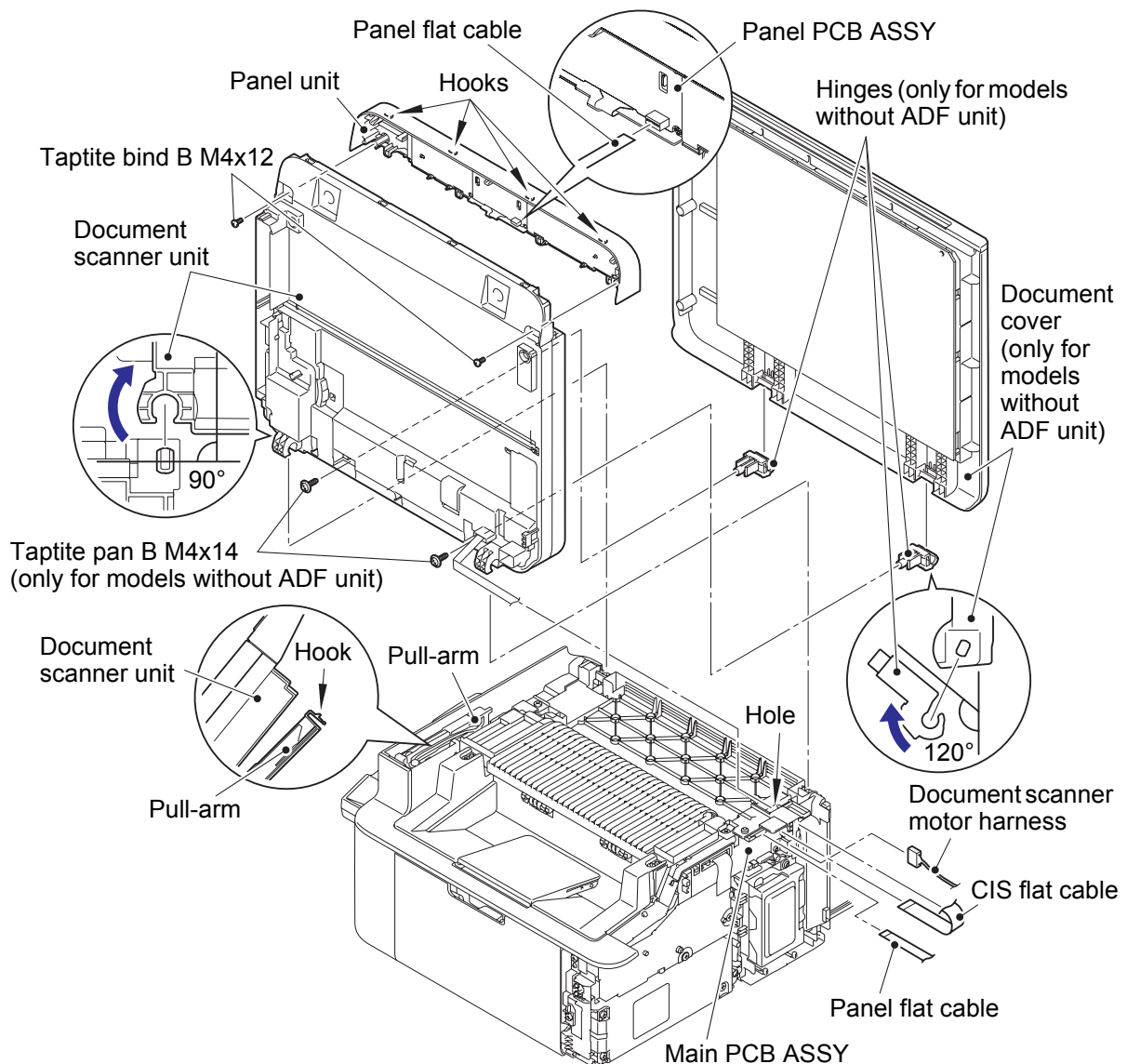


Fig. 2-16

Harness routing: Refer to "1. Frame R / main PCB ASSY / low voltage power supply PCB unit / fuser unit" and "5. Panel flat cable".

### 7.4.1 CIS unit / CIS flat cable

- (1) Remove the two (four for models without ADF unit) taptite bind B M4x12 screws to remove the scanner top cover ASSY from the document scanner unit.
- (2) Remove the CIS roller holder L ASSY and the CIS roller holder R ASSY from the CIS unit.
- (3) Open the CIS unit 130 degrees and slide it to the directions of the arrow 3a and 3b to remove it from the CIS carriage ASSY.
- (4) Disconnect the CIS flat cable from the CIS unit.
- (5) Release the CIS flat cable from the securing fixtures, and remove it from the document scanner unit.

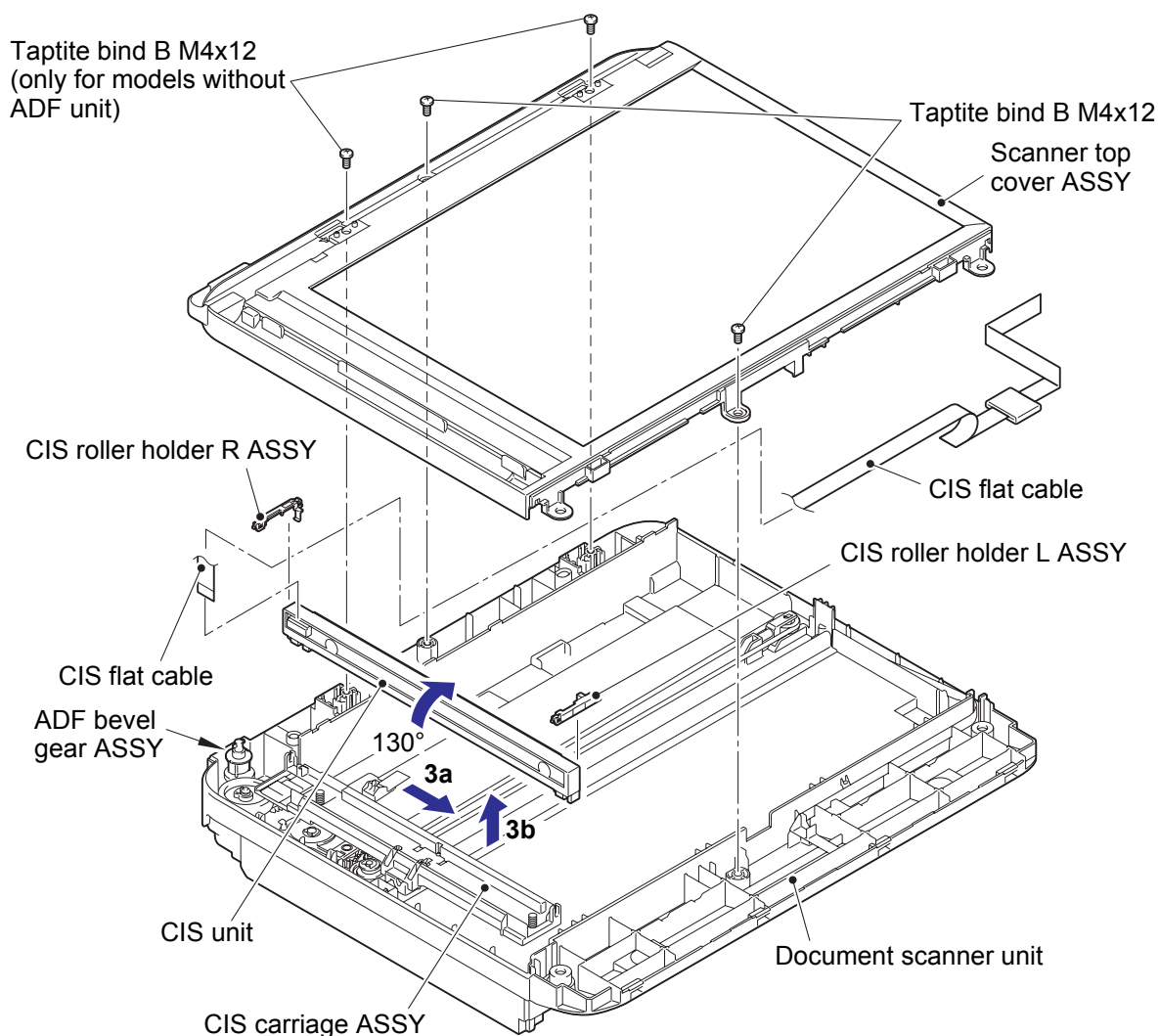


Fig. 2-17

Harness routing: Refer to "4. Document scanner unit" and "5. Panel flat cable".

#### Assembling Note:

- When removing the scanner top cover, ADF bevel gear ASSY will come off. When assembling the scanner top cover, make sure that the ADF bevel gear ASSY is assembled.



**Assembling Note:**

- When reconnecting the CIS flat cable, attach and fold the double-sided tape as shown in the figure below.

■ **Location of the double-sided tape**

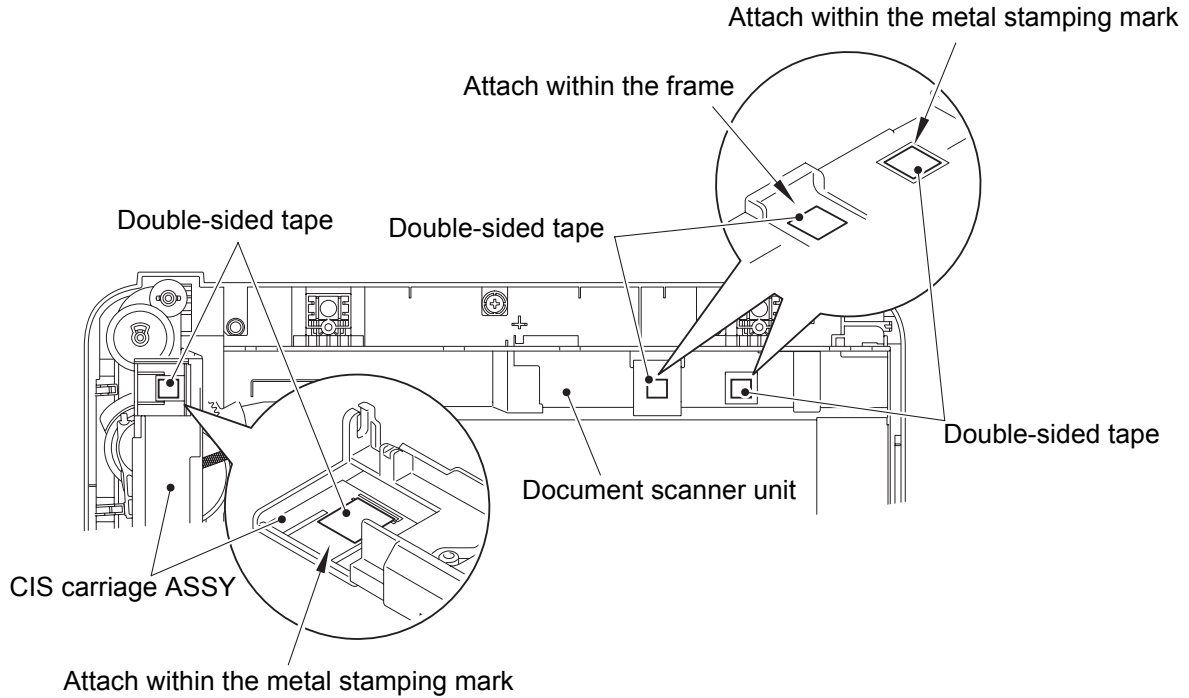


Fig. 2-18

■ **How to fold the CIS flat cable**

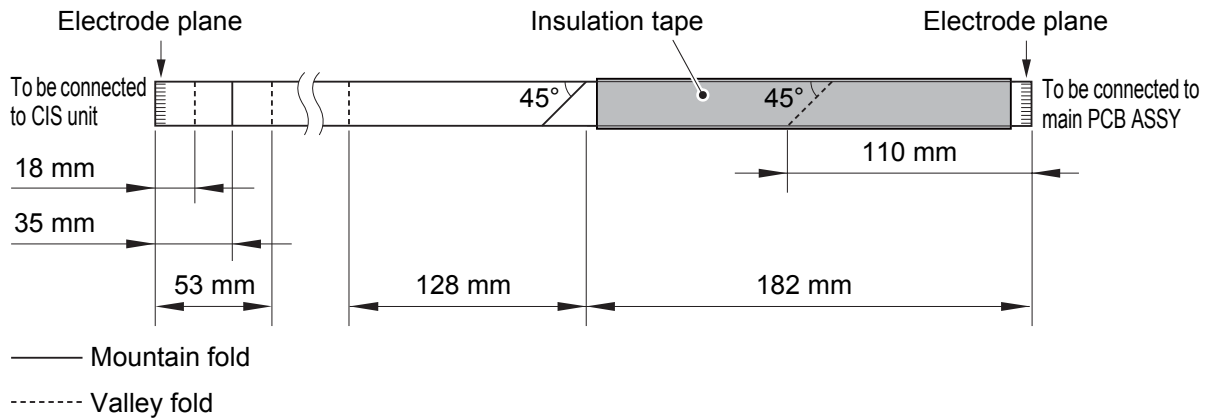


Fig. 2-19

■ CIS flat cable routing

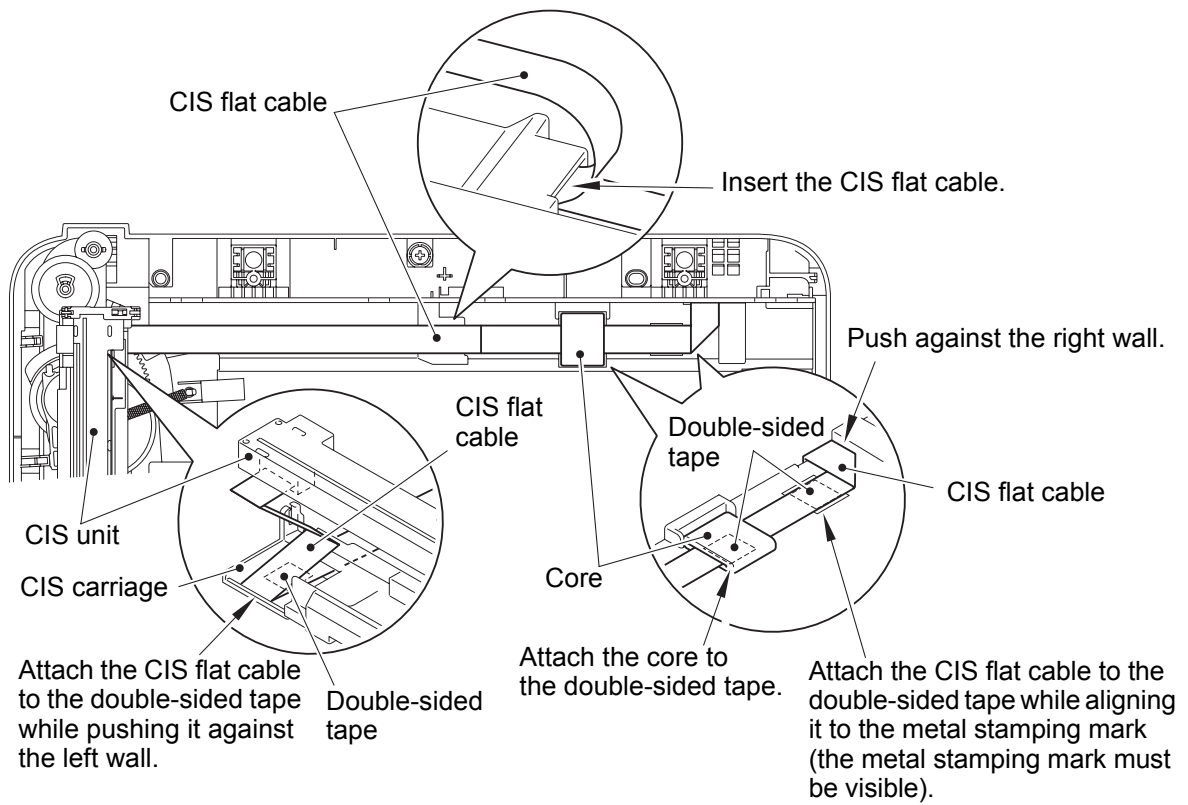


Fig. 2-20

## 7.5 Panel unit

- (1) Release the four (three for models without ADF unit) hooks to remove the panel PCB ASSY from the panel cover.
- (2) Release the connector lock, and disconnect the LCD flat cable from the panel PCB ASSY.
- (3) Remove the rubber key L (only for models with ADF unit) and rubber key R from the panel cover.
- (4) Release the two hooks to remove the LCD cover from the panel cover.
- (5) Release the two hooks to remove the LCD from the LCD cover.
- (6) Remove the LCD sheet from the panel cover.

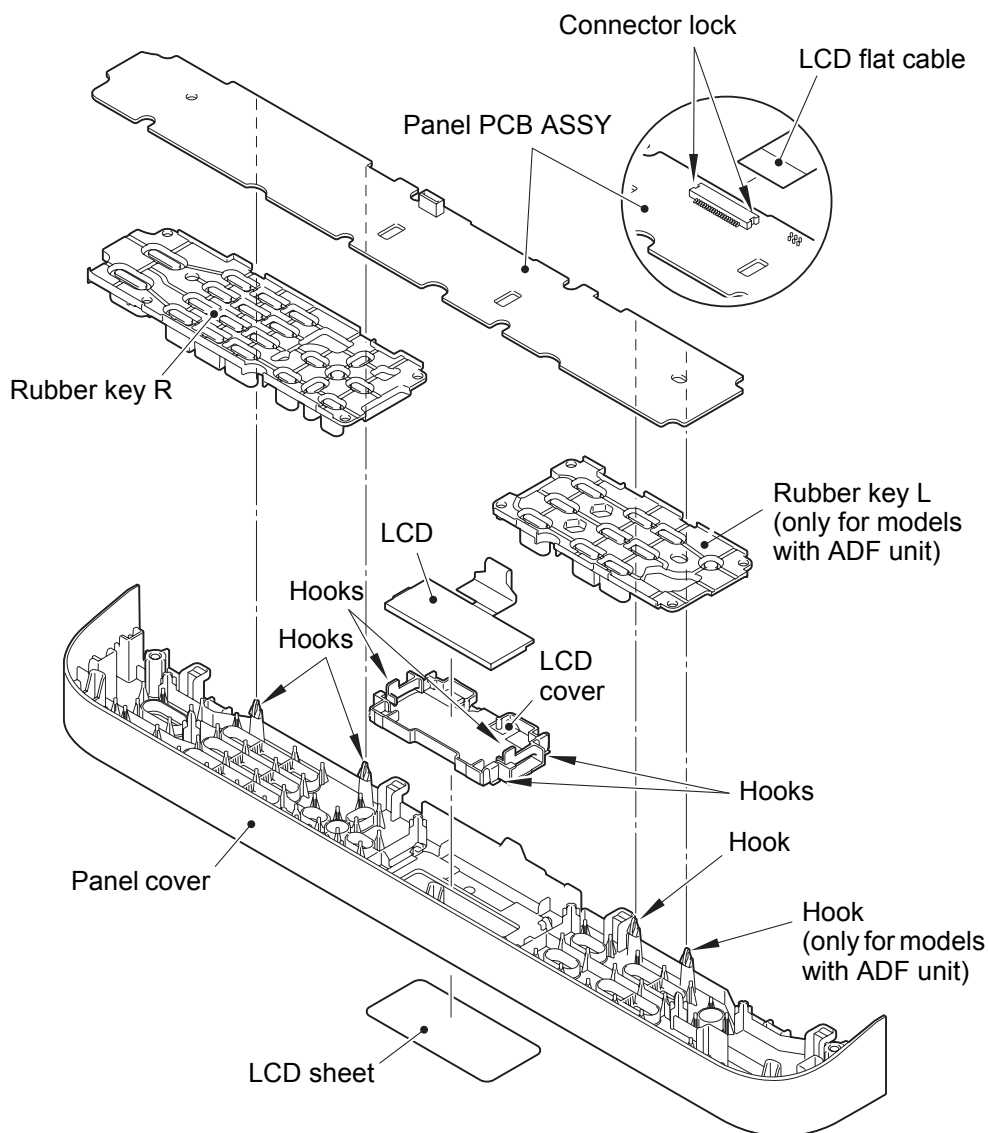


Fig. 2-21

## 7.6 Low voltage power supply PCB unit

**Note:**

- Do not pull out the low voltage PCB harness forcefully, to avoid it coming into contact with the high voltage power supply PCB ASSY. Remove the high voltage power supply PCB ASSY first to avoid it getting damaged.

- (1) Remove the four taptite bind B M4x12 screws, the two taptite cup S M3x8 SR screws, and the screw pan (S/P washer) M3.5x6 screw to remove the low voltage shield plate and the low voltage PCB insulation sheet.

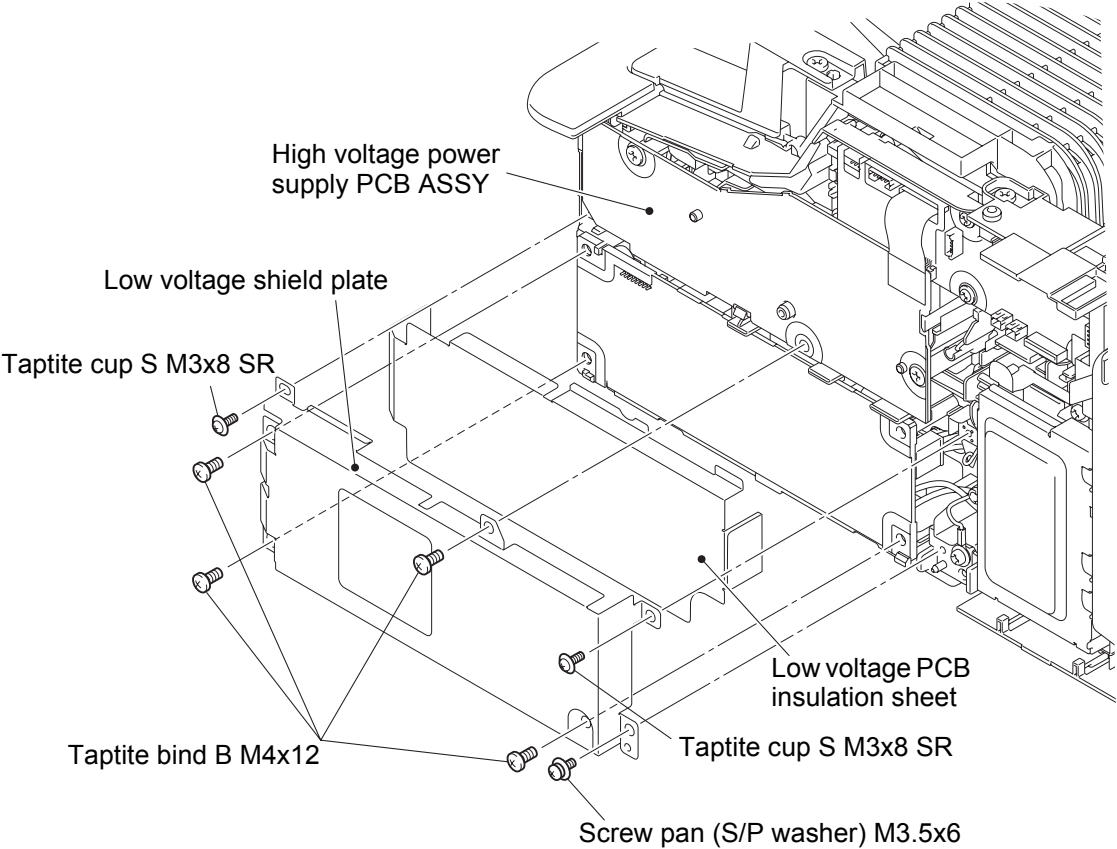


Fig. 2-22

- (2) Remove the screw pan (S/P washer) M3.5x6 screw to release the ground harness.
- (3) Remove the low voltage power supply PCB unit from the machine.
- (4) Disconnect the heater harness and the low voltage PCB harness from the low voltage power supply PCB unit.
- (5) Release the hook to remove the bushing from the machine.

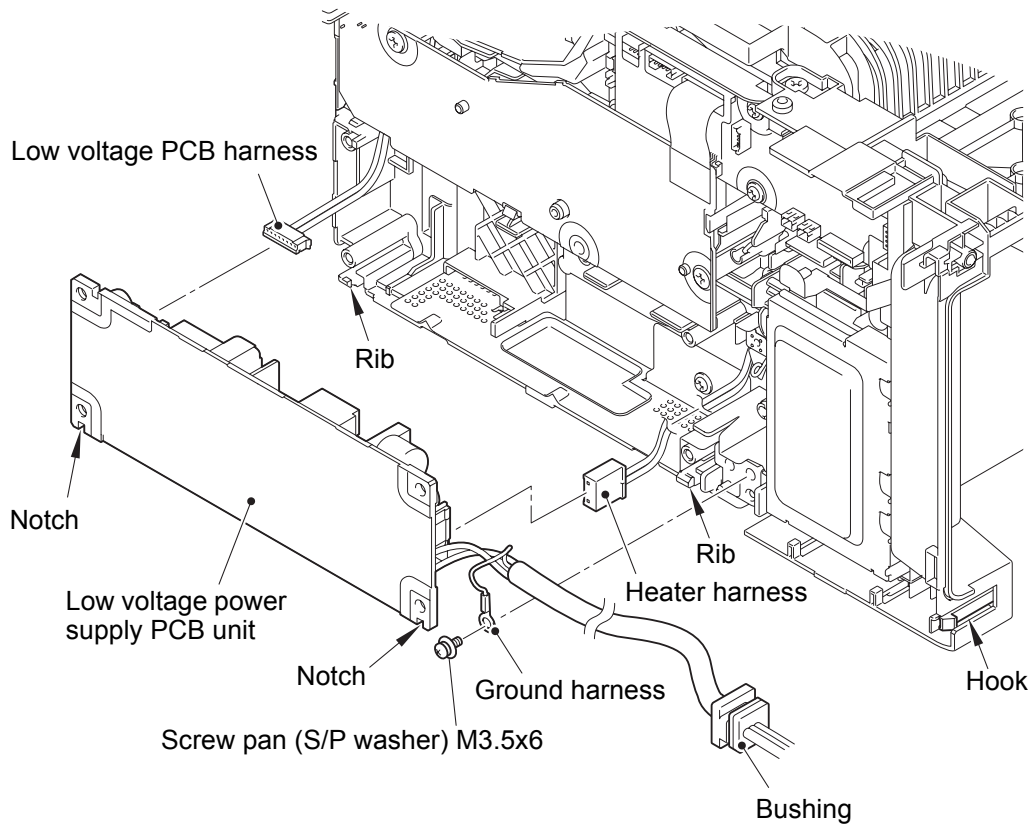


Fig. 2-23

Harness routing: Refer to "1. Frame R / main PCB ASSY / low voltage power supply PCB unit / fuser unit".

**Assembling Note:**

- When assembling the low voltage power supply PCB unit, engage the two notches of the PCB with the two ribs of the machine.
- After the assembly, refer to "4. IF YOU REPLACE THE LOW VOLTAGE POWER SUPPLY PCB UNIT" in chapter 3 to configure each setting.

## 7.7 High voltage power supply PCB ASSY

- (1) Disconnect the high voltage PCB flat cable from the main PCB ASSY.

**Note:**

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

- (2) Remove the two taptite bind B M4x12 screws.
- (3) Remove the two hooks to remove the high voltage power supply PCB ASSY from the machine.

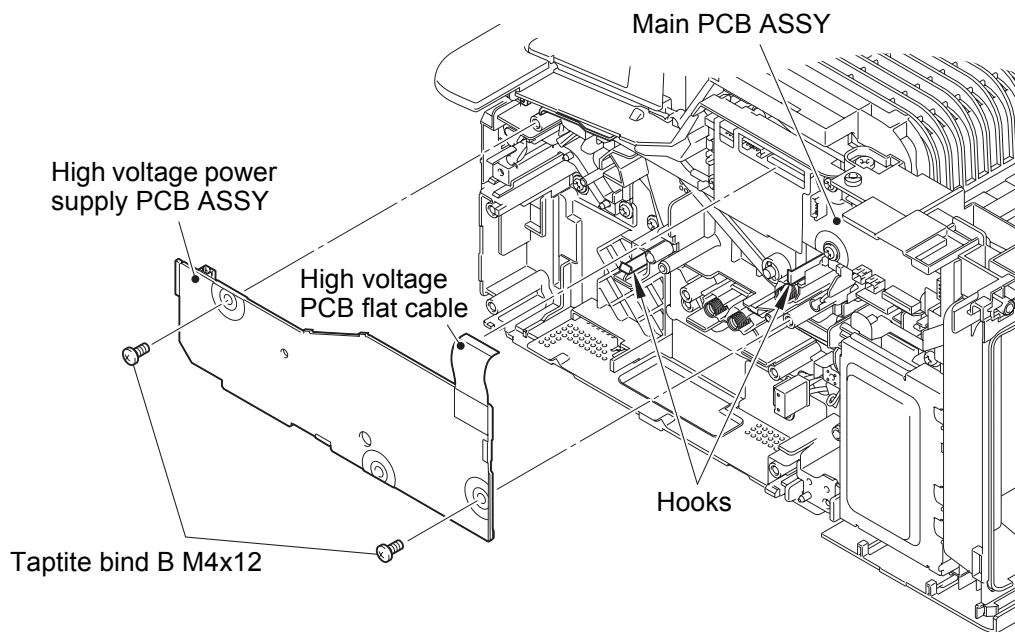


Fig. 2-24

**Assembling Note:**

- When removing the high voltage power supply PCB ASSY, electrode or electrode springs will come off. When assembling the high voltage power supply PCB ASSY, make sure that the electrode and electrode springs are assembled.
- Attach it by engaging the slits of the electrode with the ribs of the machine.
- Make sure that the spring is inserted fully into the end of the electrode.
- When assembling the high voltage power supply PCB ASSY, make sure that the toner cartridge and the drum unit have been removed. They could twist the electrode.

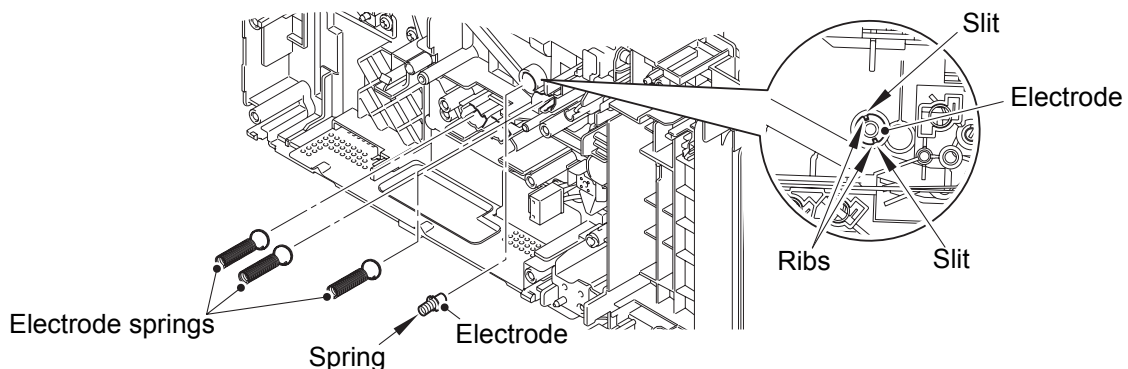


Fig. 2-25

## 7.8 Modem PCB ASSY (only for models with modem PCB)

- (1) Disconnect the modem PCB flat cable from the main PCB ASSY.

**Note:**

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

- (2) Remove the taptite pan B M4x12 DA screw and the taptite cup S M3x8 SR screw to remove the upper modem shield plate from the machine.
- (3) Remove the two screw pan (S/P washer) M3.5x6 screws to remove the lower modem shield plate from the machine.
- (4) Remove the screw pan (S/P washer) M3.5x6 and the taptite bind B M4x12 screw to remove the SDAA shield plate from the machine.
- (5) Remove the SDAA shield cover HS from the SDAA shield plate.
- (6) Remove the two taptite cup S M3x8 SR screws to remove the modem PCB ASSY and the SDAA insulation sheet from the SDAA shield plate.

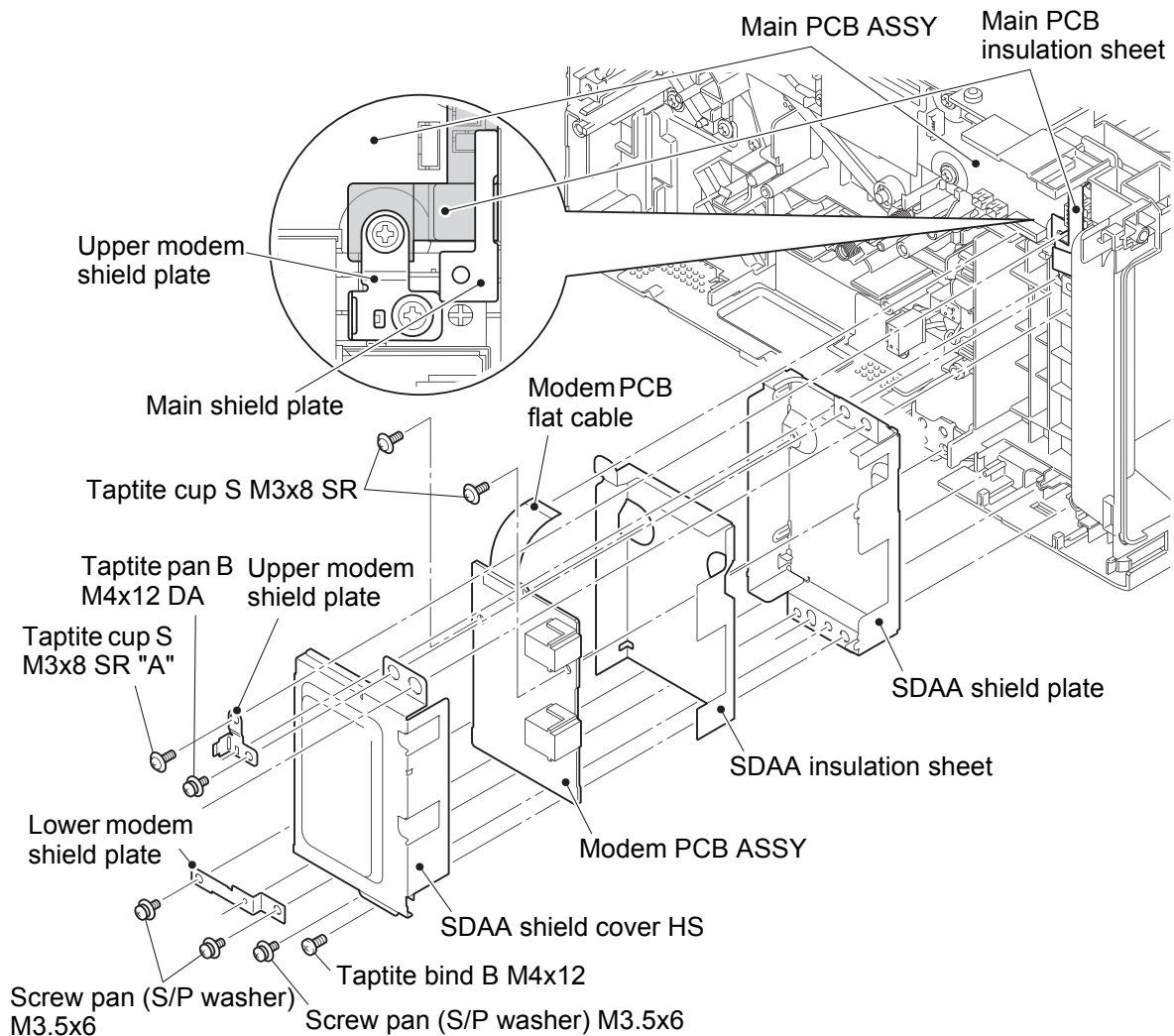


Fig. 2-26

**Assembling Note:**

- Be careful not to assemble with wrong screws.
- Secure the main PCB insulation sheet and the upper modem shield plate with the screw "A".

## 7.9 Main PCB ASSY

- (1) Remove the bottom of the main PCB insulation sheet and peel it.
- (2) Disconnect all harnesses and flat cables from the main PCB ASSY.
- (3) Remove the four (five for models without modem PCB) taptite cup S M3x8 SR screws to remove the ground harness, the main PCB ASSY, and the main PCB insulation sheet from the machine.
- (4) Remove the two taptite bind B M4x12 screws to remove the main shield plate from the machine.

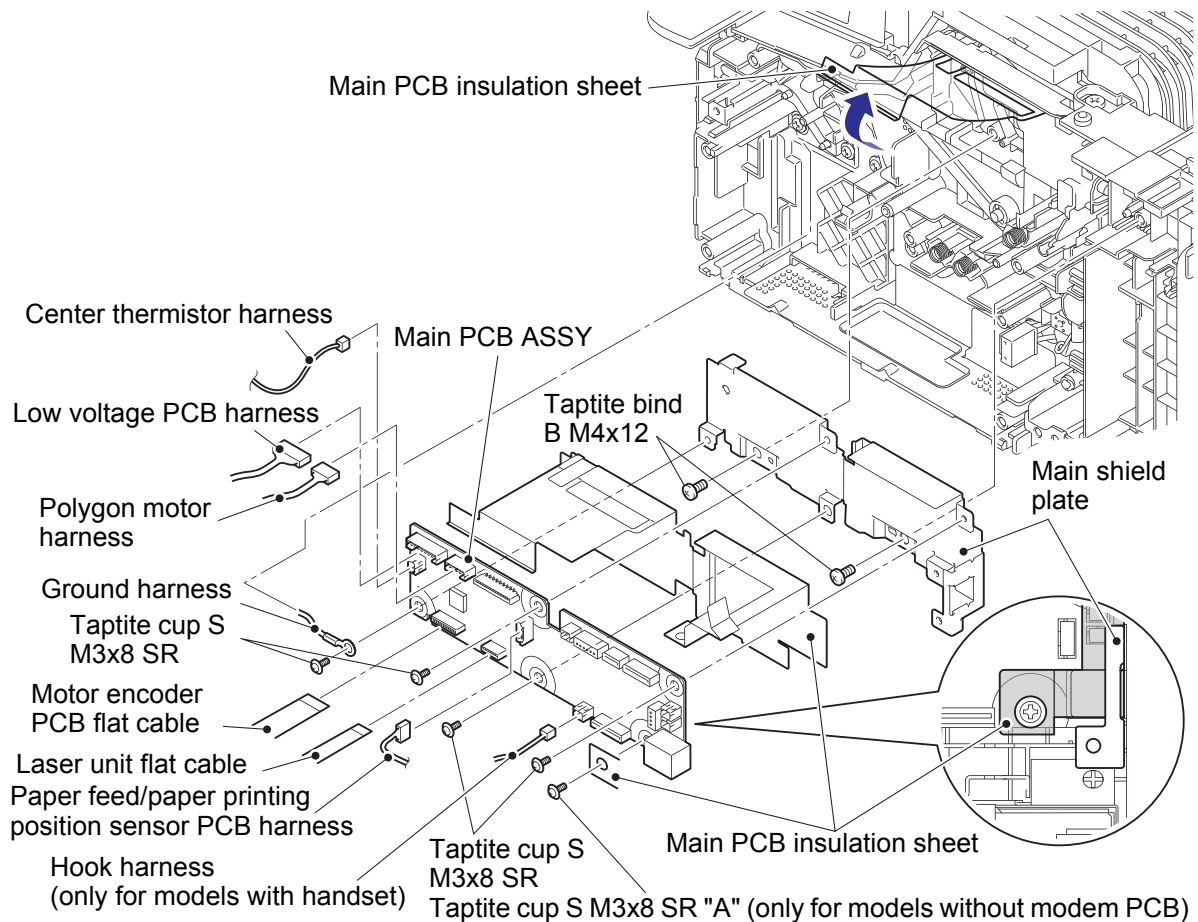


Fig. 2-27

Harness routing: Refer to "1. Frame R / main PCB ASSY / low voltage power supply PCB unit / fuser unit".

### Note:

- Make sure that the main PCB ASSY is secured by screws when connecting or disconnecting harnesses and flat cables.
- After disconnecting the flat cables, check that each cable is not damaged at its end or short-circuited. When connecting the flat cables, do not insert them at an angle. After insertion, check that the cables are not at an angle.

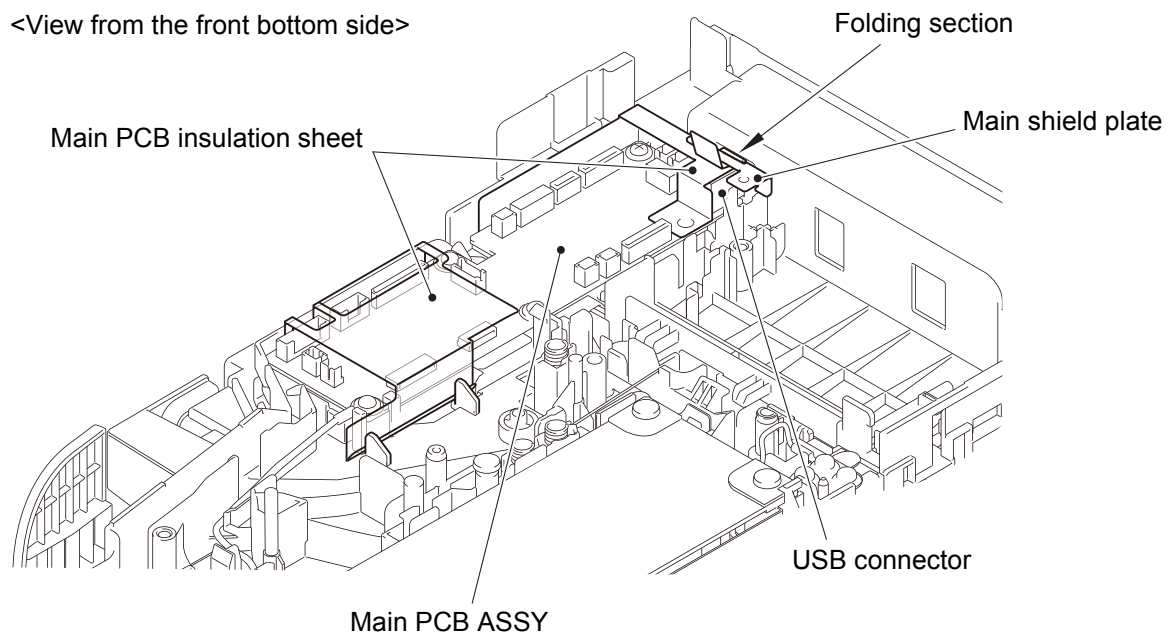
### Assembling Note:

- Attach the main PCB insulation sheet and the main PCB ASSY in the order as shown in the figure above.
- For models without ADF, secure the main PCB insulation sheet and the main PCB ASSY with the screw "A".
- After the assembly, refer to "1. IF YOU REPLACE THE MAIN PCB ASSY" in chapter 3 to configure each setting.



**Assembling Note:**

- Insert the folding section of the main PCB insulation sheet into the gap between the USB connector and the main shield plate.



**Fig. 2-28**

## 7.10 Top cover ASSY

- (1) Remove the taptite cup B M3x8 screw to remove the top cover lock from the machine.
- (2) Open the top cover ASSY.
- (3) Bend the boss bushing on the develop joint link inward to remove it from the guide rail on the top cover ASSY.
- (4) Open the top cover ASSY about 30 degrees and remove the boss on the arm side of the top cover ASSY by pushing it to the direction of the arrow 4a. Slide the top cover ASSY to the direction of the arrow 4b to remove the boss on the other side, and remove it by pulling up.

**Note:**

- Opening top cover ASSY more than 30 degrees could make rib of the top cover ASSY coming in contact with the fuser unit, resulting in damage.

- (5) Remove the paper stopper from the top cover ASSY.
- (6) Remove the paper stopper 2 from the top cover ASSY.

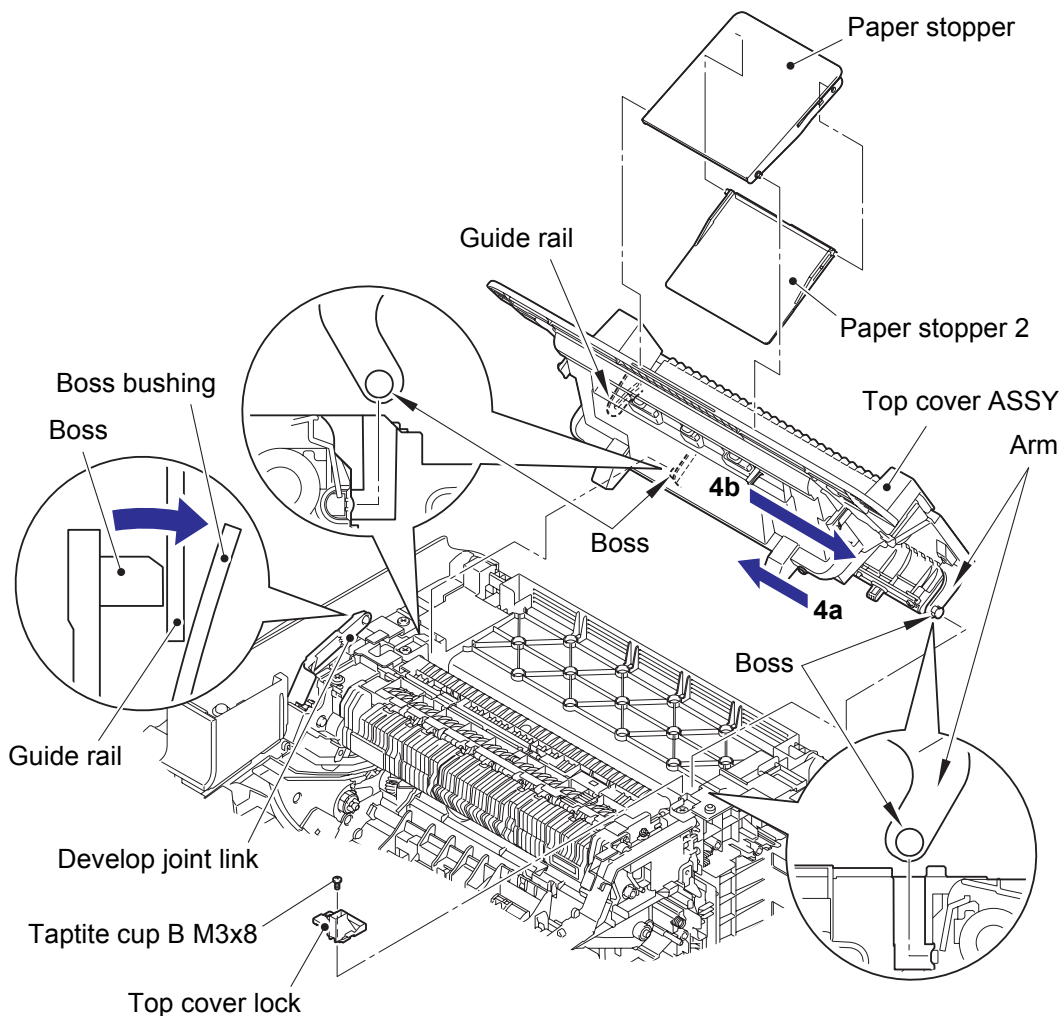


Fig. 2-29

## 7.11 Side cover L

- (1) Open the pull-arm about 135 degrees and pull it up to remove it from the side cover L.
- (2) Remove the three taptite bind B M4x12 screws. Release the three hook bushings of the side cover L. Pull out the three tabs and release the four hooks on the bottom. Disconnect the hook PCB harness from the hook harness (only for models with handset), and remove the side cover L from the machine.
- (3) Remove the taptite bind B M4x12 screw, and release the hook of the dress cover L to remove it from the side cover L.

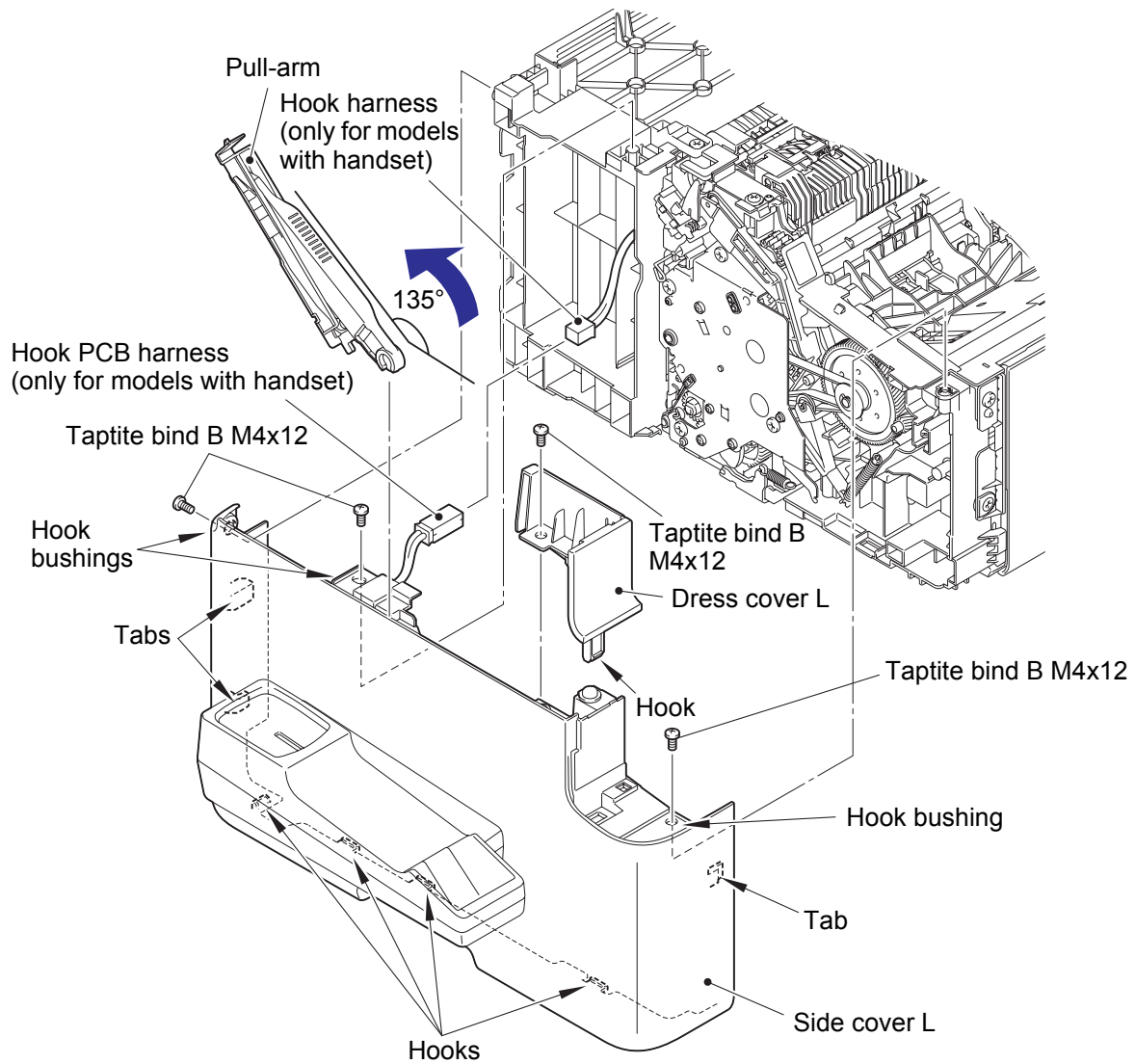


Fig. 2-30

## 7.12 Handset holder (only for models with handset)

- (1) Remove the three taptite bind B M4x12 screws.
- (2) Release the hook PCB harness from the securing fixtures of the side cover L. Release the four hooks to remove the handset holder from the side cover L.
- (3) Remove the taptite cup B M3x8 screw. Release the four hooks to remove the lower handset holder from the upper handset holder.
- (4) Release the hook to remove the hook PCB ASSY from the lower handset holder, and release the hook PCB harness from the securing fixtures.
- (5) Release the two hooks of the hook actuator to remove it from the hook PCB ASSY.

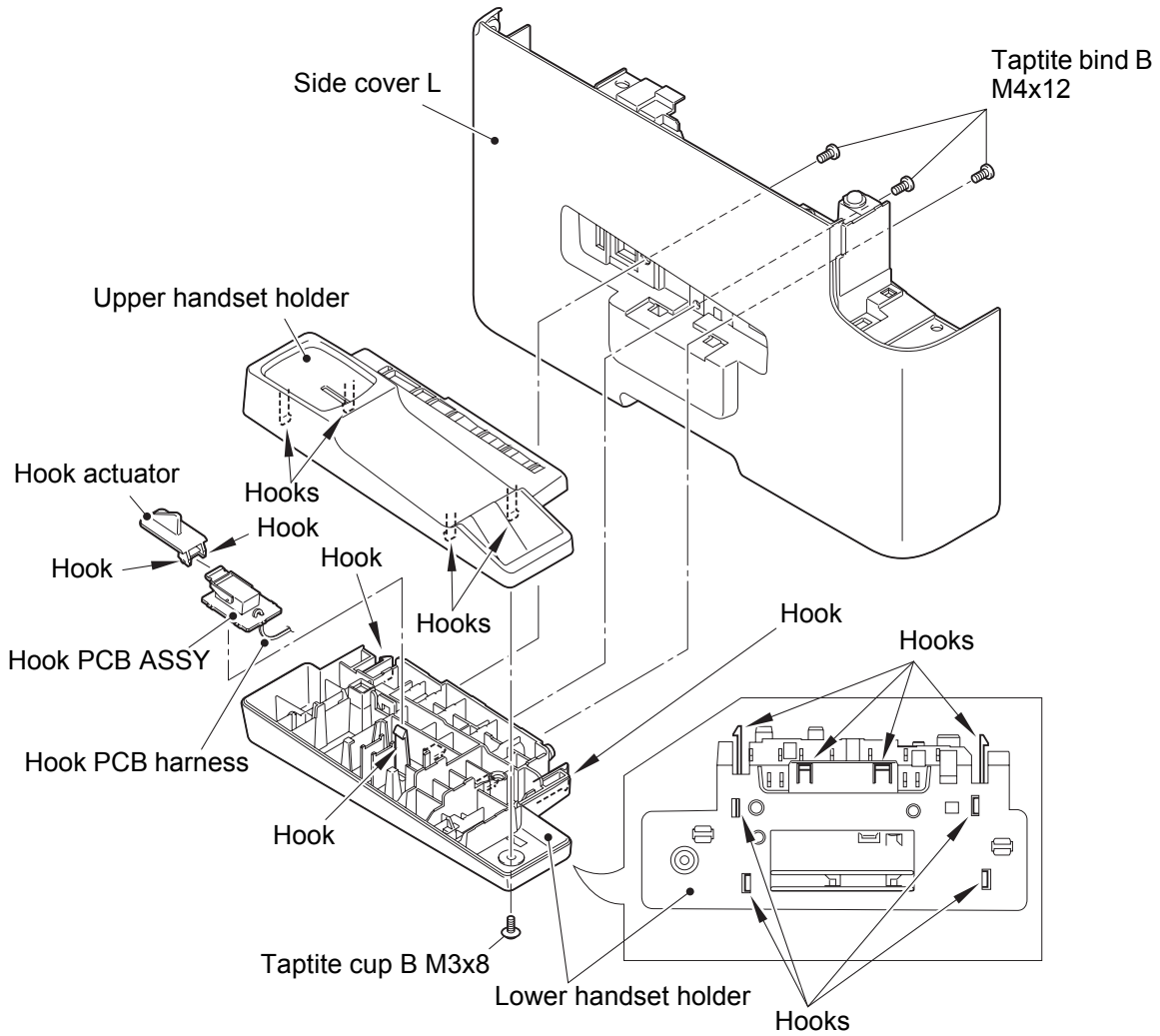
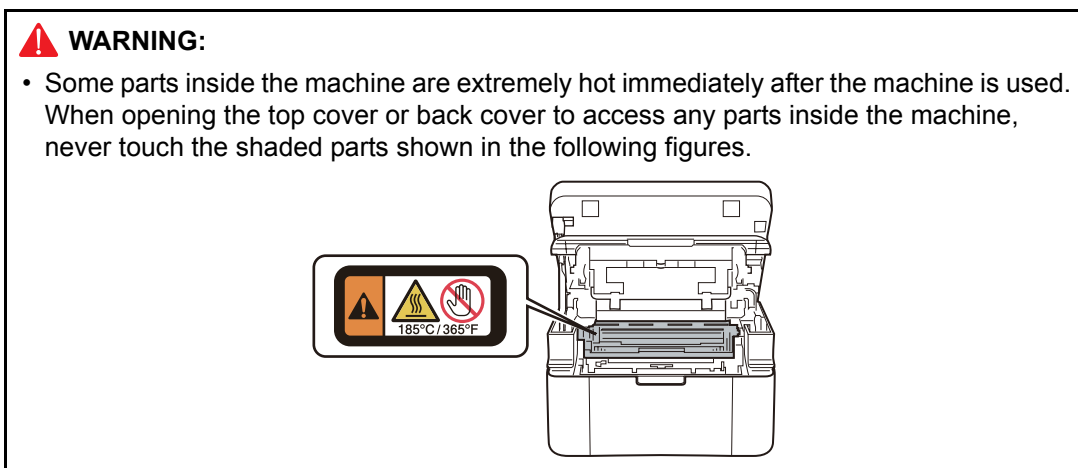


Fig. 2-31

Harness routing: Refer to “6. Hook PCB harness (only for models with handset) (side cover L)” and “7. Hook PCB harness (only for models with handset) (lower handset holder)”.

## 7.13 Fuser unit



- (1) Remove the two taptite pan B M4x14 screws.
- (2) Release the center thermistor harness from the securing fixtures.
- (3) Release the heater harness from the securing fixtures, and remove the fuser unit from the machine.
- (4) Remove the taptite pan B M3x8 screw, and remove the insulation roof from the fuser unit.

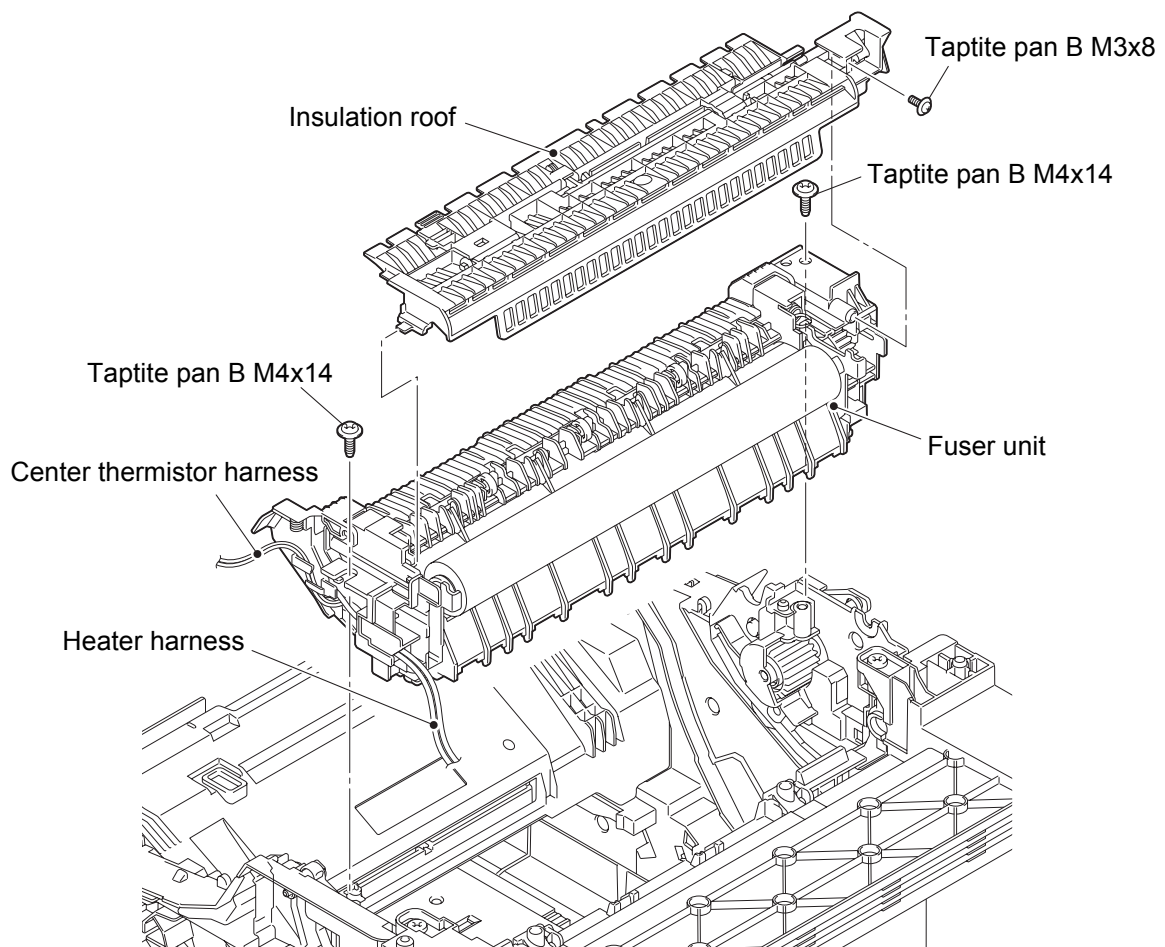


Fig. 2-32

Harness routing: Refer to "1. Frame R / main PCB ASSY / low voltage power supply PCB unit / fuser unit".

## 7.14 Back cover

- (1) Remove the four Taptite bind B M4x12 screws to remove the back cover from the machine.
- (2) Release the hook harness from the securing fixtures of the back cover (only for models with handset).

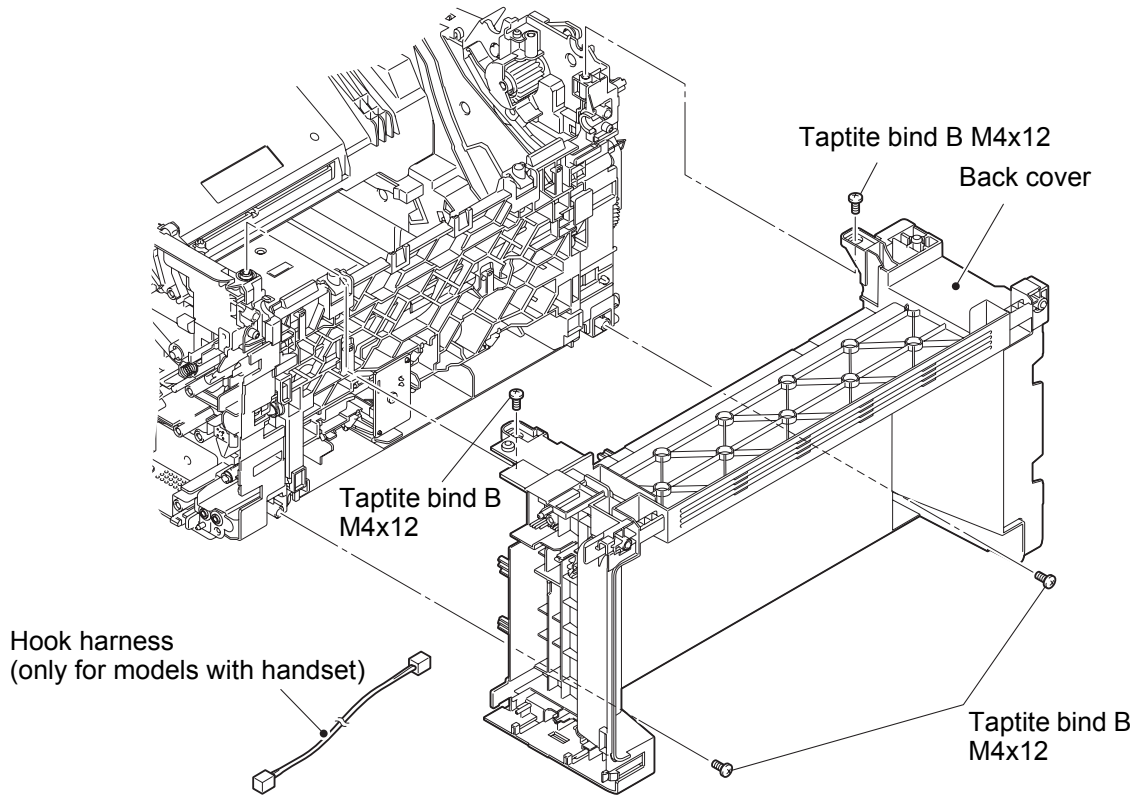


Fig. 2-33

Harness routing: Refer to "8. Hook harness (only for models with handset) (back cover)".

### Assembling Note:

- Connect the hook harness according to the following procedures (refer to the figure below). Engage the hook harness connector to the groove on the back cover. → Put the hook harness through the hole "A" of the back cover. → Hook it to the guide "B". → Loop it around the guide "C" once. → Put it through the hole "D". → Release the hook harness connector from the groove on the back cover.

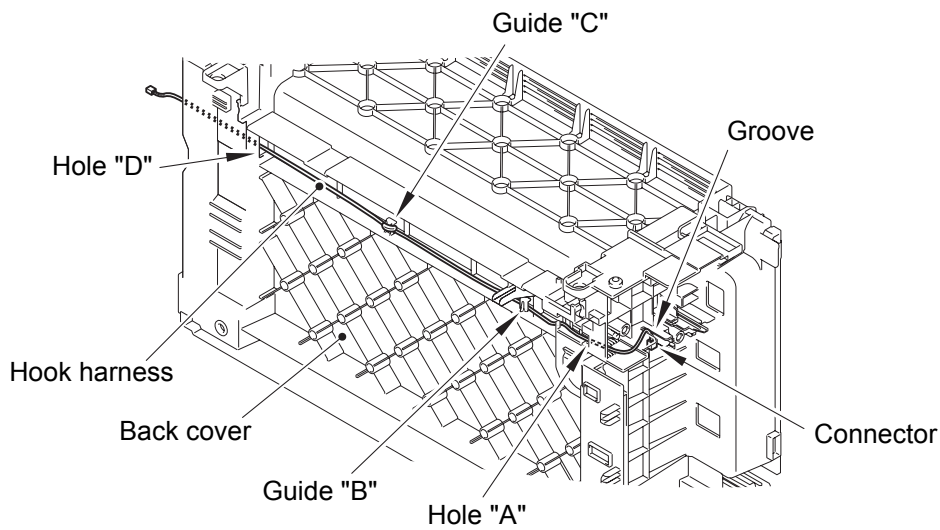


Fig. 2-34

## 7.15 Tray cover ASSY

- (1) Open the tray cover ASSY.
- (2) Bend the tray cover ASSY inward and remove the two bosses from the machine to remove the tray cover ASSY from the machine.
- (3) Remove the paper rear guide from the hook at the center part of the tray cover ASSY and remove it from the machine.

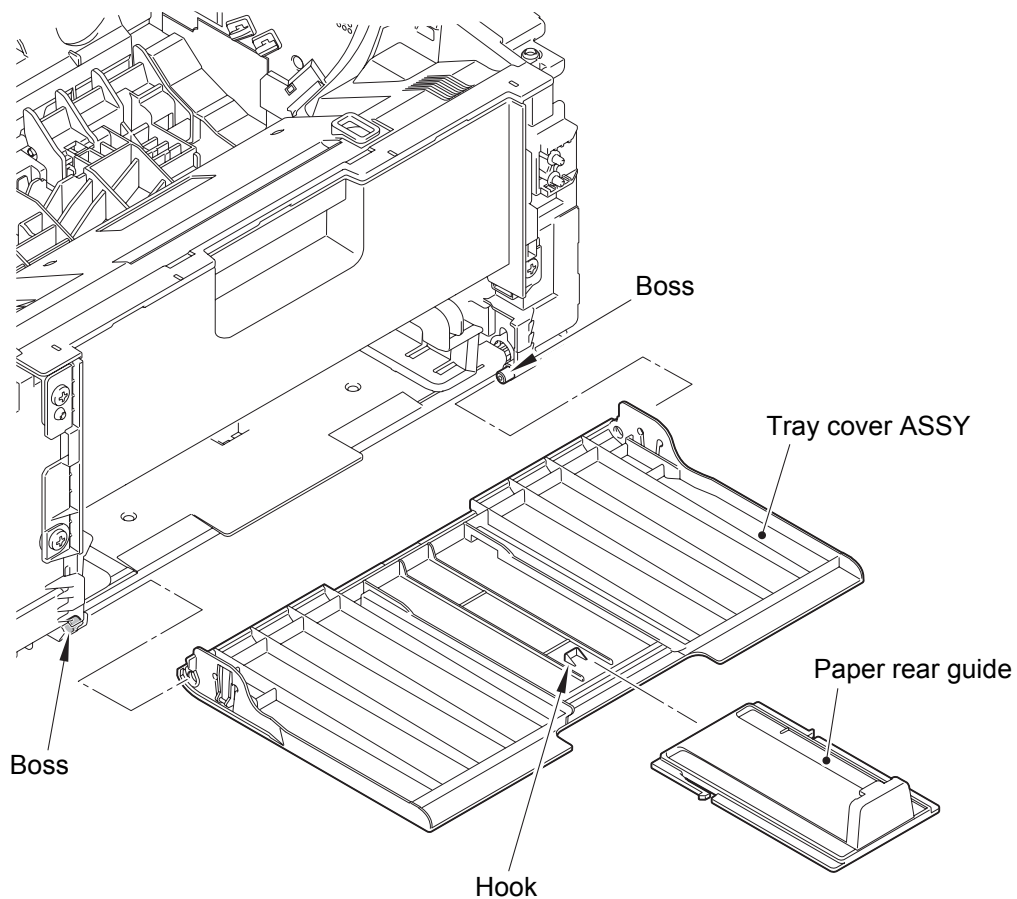
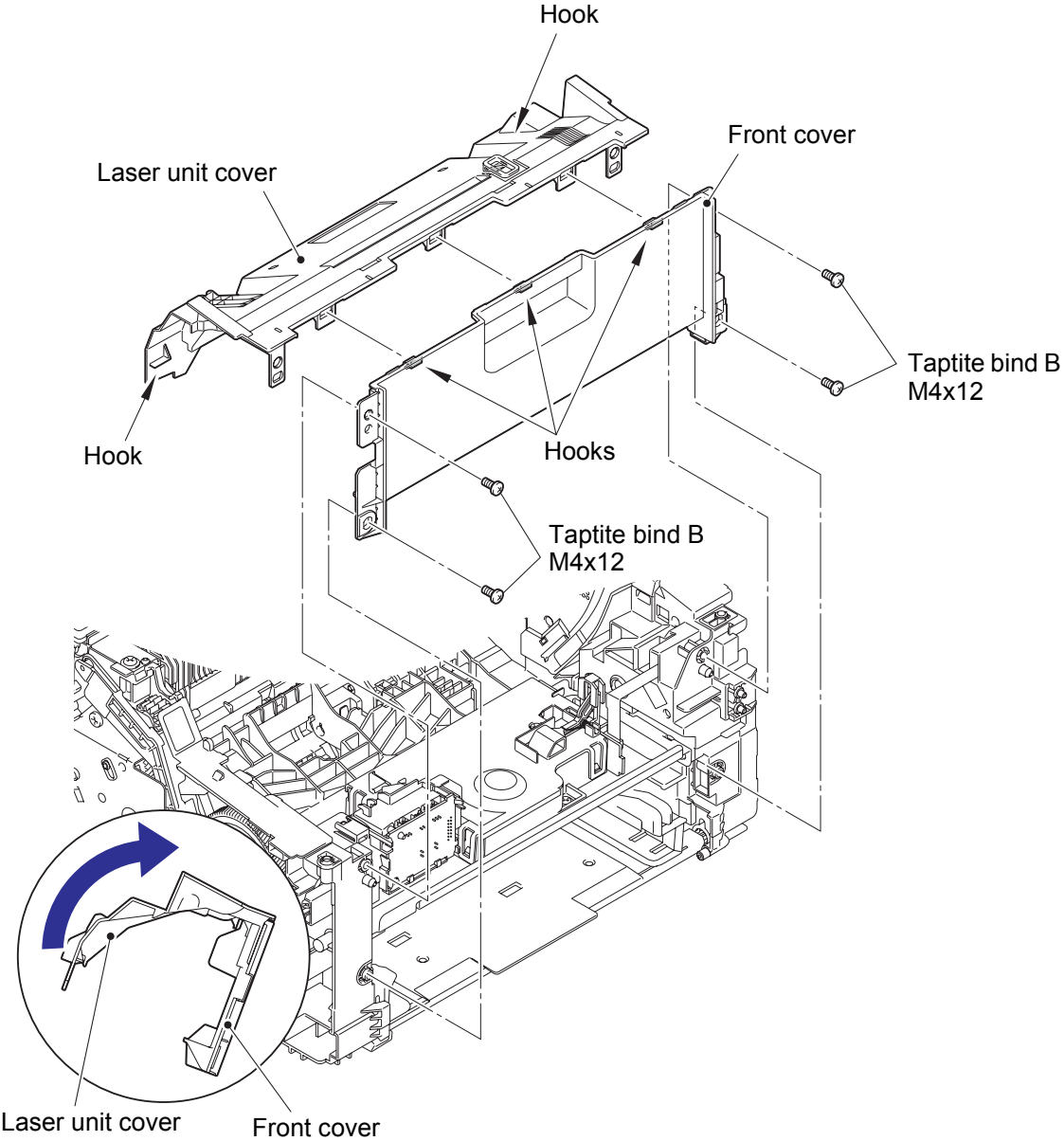


Fig. 2-35

**7.16 Front cover**

- (1) Remove the four taptite bind B M4x12 screws.
- (2) Release the two hooks at the bottom of the laser unit cover. Remove the laser unit cover and the front cover from the machine by turning them to the direction of the arrow.
- (3) Release the three hooks of the front cover to remove it from the laser unit cover.



**Fig. 2-36**



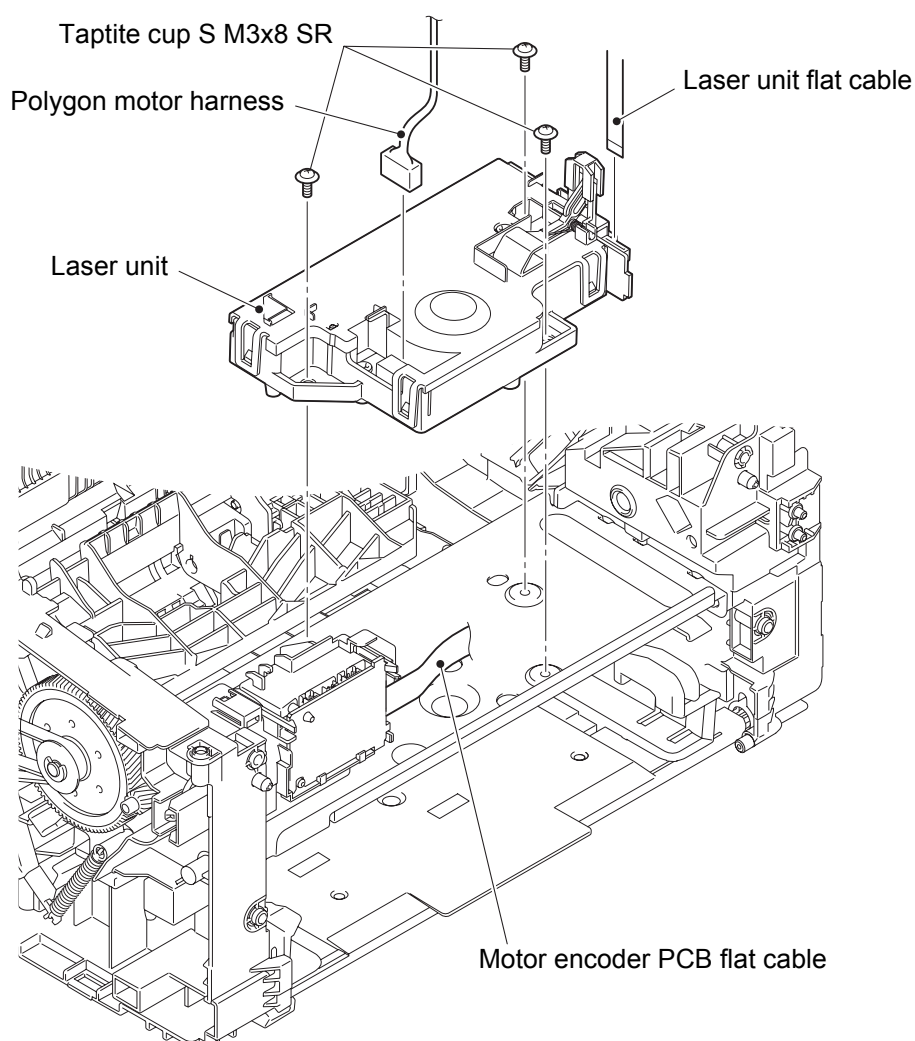
## 7.17 Laser unit

- (1) Release the laser unit flat cable from the securing fixtures, and disconnect it from the laser unit.

**Note:**

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

- (2) Release the polygon motor harness from the securing fixtures, and disconnect it from the laser unit.
- (3) Release the motor encoder PCB flat cable from the securing fixtures.
- (4) Remove the three taptite cup S M3x8 SR screws to remove the laser unit from the machine.

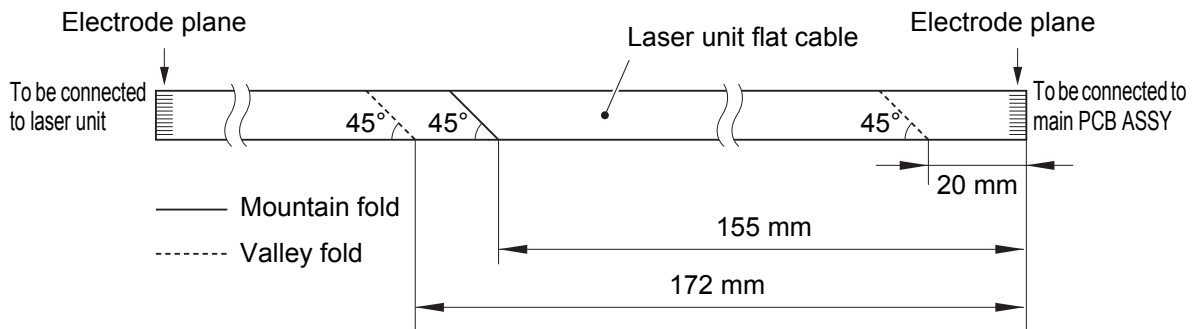


**Fig. 2-37**

Harness routing: Refer to “1. Frame R / main PCB ASSY / low voltage power supply PCB unit / fuser unit” and “9. Laser unit / motor encoder PCB ASSY”.

**Assembling Note:**

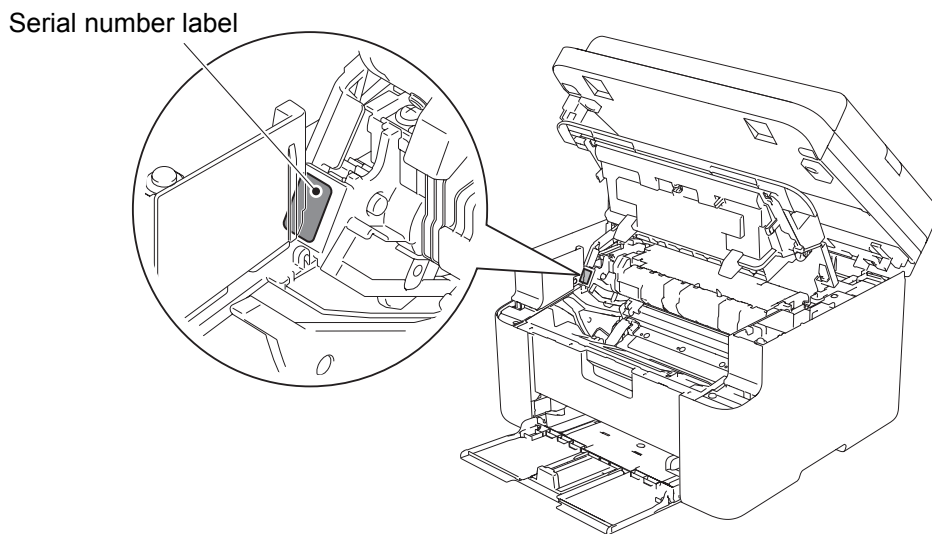
- Fold the laser unit flat cable as shown in the figure below.



**Fig. 2-38**

**Assembling Note:**

- If you replaced the laser unit, attach the serial number label of the laser unit onto the location shown in the figure below.
- After the assembly, refer to **"2. IF YOU REPLACE THE LASER UNIT"** in chapter 3 to enter the adjusted value of the laser unit.



**Fig. 2-39**

## 7.18 Motor encoder PCB ASSY

- (1) Disconnect all harnesses and flat cable from the motor encoder PCB ASSY.

**Note:**

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

- (2) Release the two hooks to remove the motor encoder PCB ASSY from the machine.

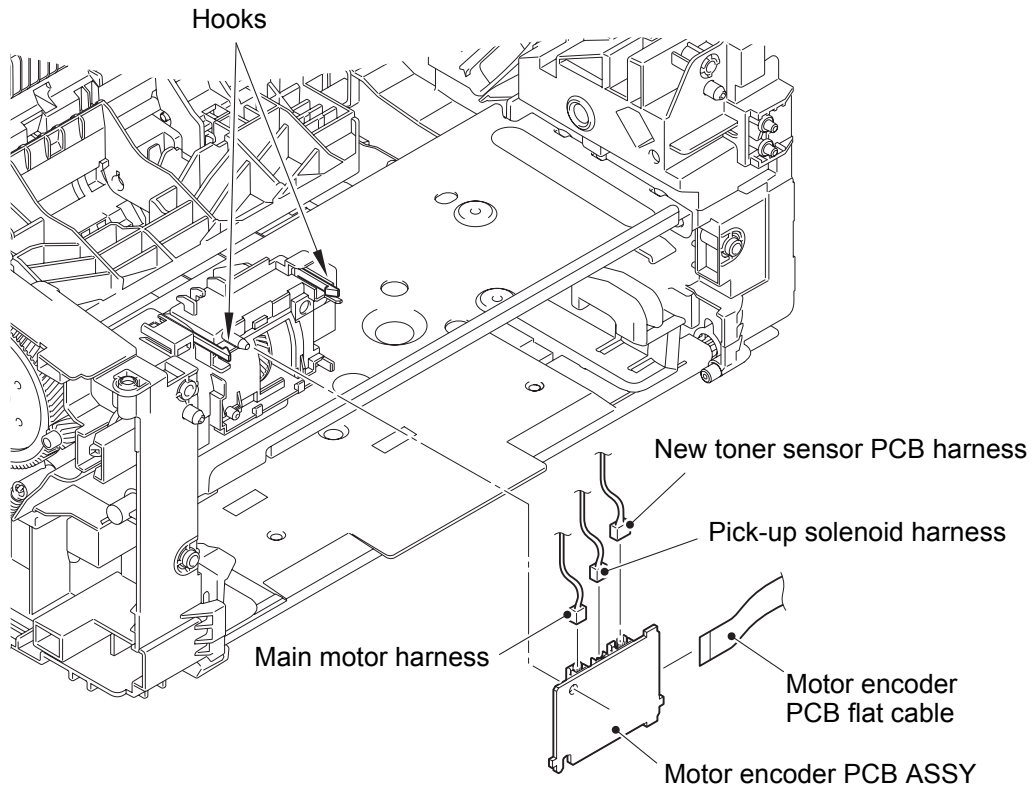


Fig. 2-40

Harness routing: Refer to “9. Laser unit / motor encoder PCB ASSY” and “12. New toner sensor PCB ASSY / pick-up solenoid”.

**Assembling Note:**

- Fold the motor encoder PCB flat cable as shown in the figure below.

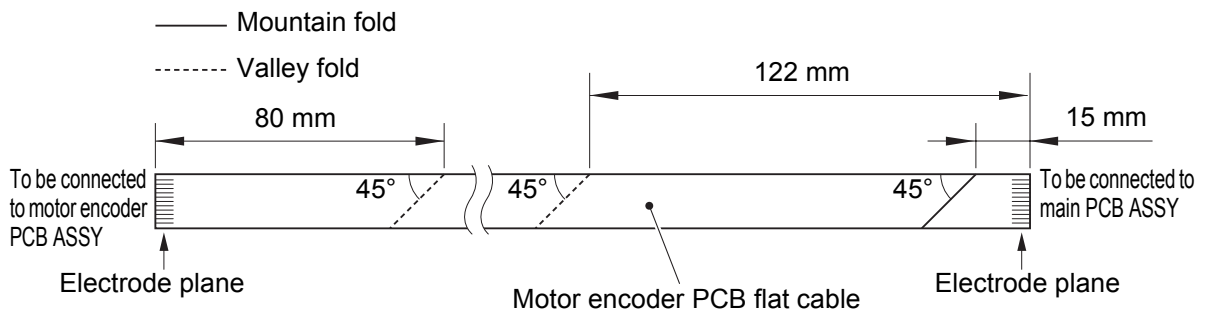


Fig. 2-41

## 7.19 Eject sensor PCB ASSY

- (1) Disconnect the eject sensor PCB harness from the paper feed/paper printing position sensor PCB ASSY, and release it from the securing fixtures.
- (2) Release the two hooks, and remove the eject sensor PCB ASSY from the machine.

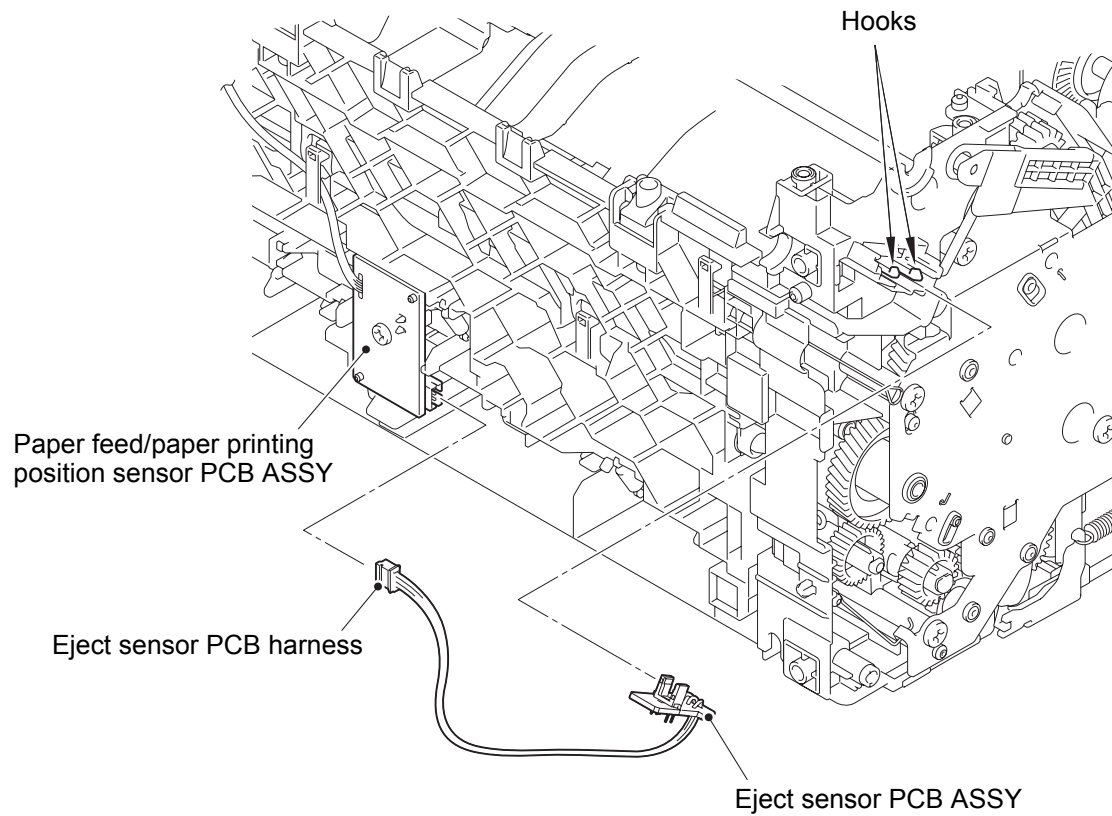


Fig. 2-42

Harness routing: Refer to "10. Eject sensor PCB ASSY".

## 7.20 Paper feed/paper printing position sensor PCB ASSY

- (1) Release the paper feed/paper printing position sensor PCB harness from the securing fixtures.
- (2) Remove the taptite bind B M3x10 screw to remove the paper feed/paper printing position sensor PCB ASSY from the machine.

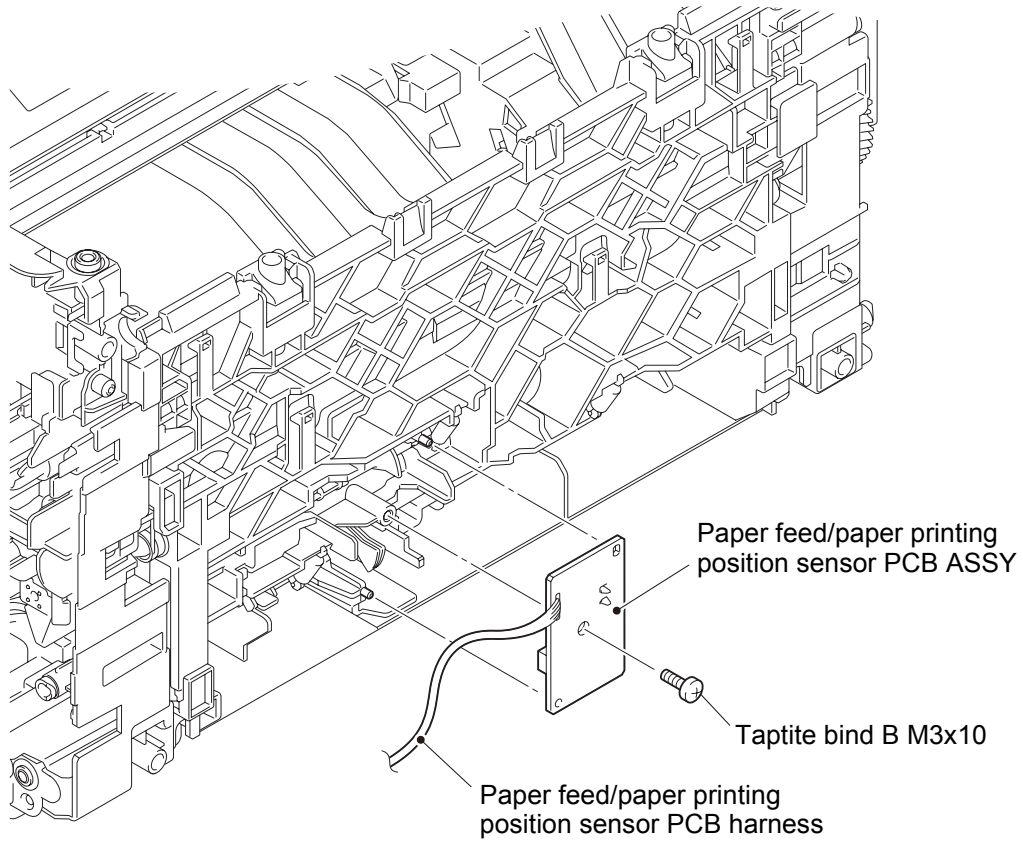


Fig. 2-43

Harness routing: Refer to "11. Paper feed/paper printing position sensor PCB ASSY".

## 7.21 New toner sensor PCB ASSY

**Note:**

- Make sure that the fuser unit is at room temperature to avoid the frame deforming due to heat.

- (1) Turn the machine so that the left side of the machine faces upward.
- (2) Remove the plate up spring from the plate up plate and the drive sub ASSY.

**Note:**

- Be careful not to uncoil the spring.

- (3) Remove the four taptite bind B M4x12 screws.
- (4) Remove the paper feed FG spring from the drive sub ASSY.
- (5) Release the hook, and remove the drive sub ASSY from the machine by bending the chute earth spring inward. Remove the motor drive belt from the develop gear of the drive sub ASSY.
- (6) Release the new toner sensor PCB harness from the securing fixtures.
- (7) Release the two hooks to remove the new toner sensor PCB ASSY.

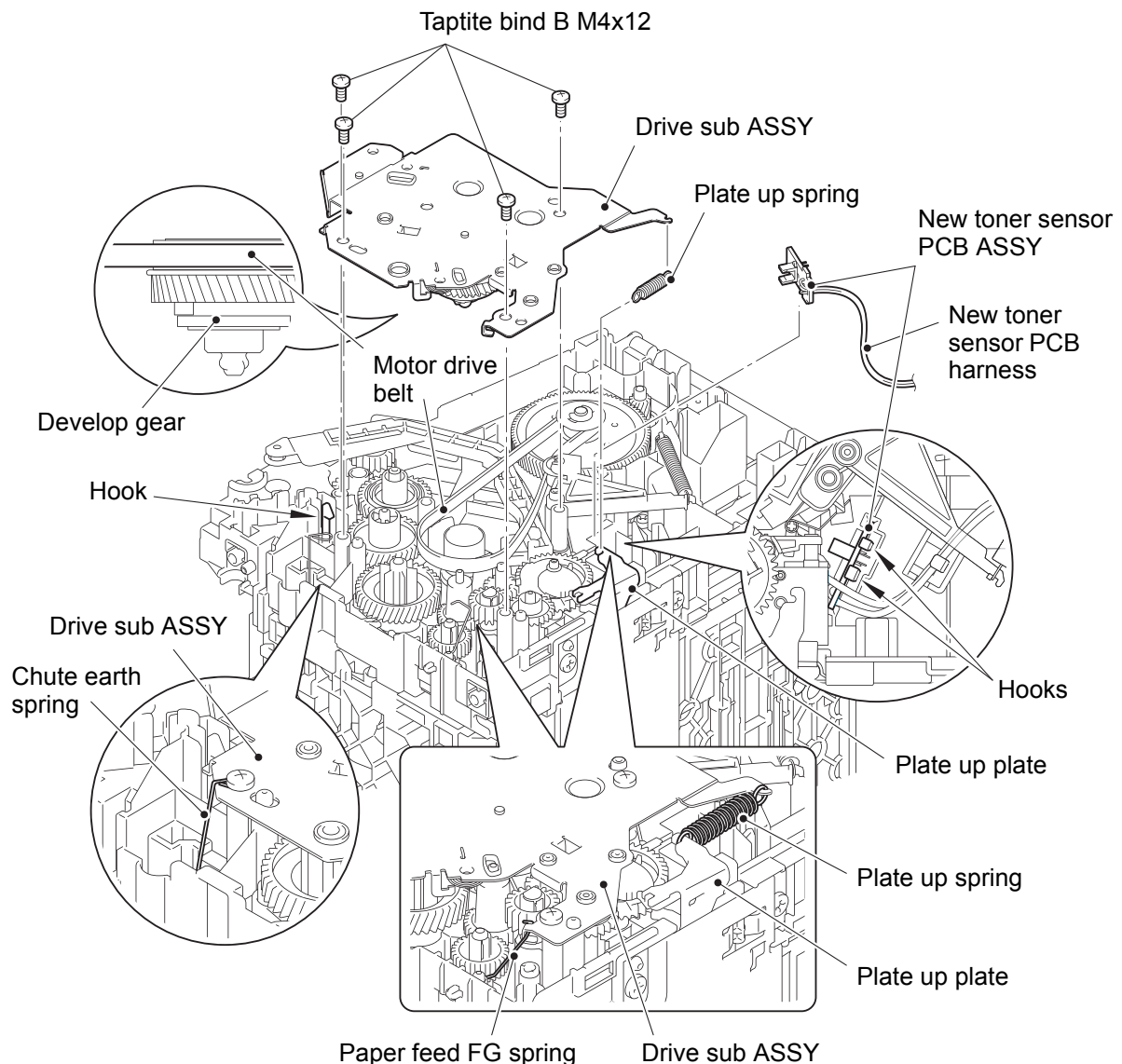


Fig. 2-44

Harness routing: Refer to "12. New toner sensor PCB ASSY / pick-up solenoid".

# CHAPTER 3 ADJUSTING AND UPDATING SETTINGS AS REQUIRED AFTER PARTS REPLACEMENT

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- 1. IF YOU REPLACE THE MAIN PCB ASSY
- 2. IF YOU REPLACE THE LASER UNIT
- 3. IF YOU REPLACE THE DOCUMENT SCANNER UNIT OR CIS UNIT
- 4. IF YOU REPLACE THE LOW VOLTAGE POWER SUPPLY PCB UNIT
- 5. IF YOU REPLACE THE PANEL ASSY

## 1. IF YOU REPLACE THE MAIN PCB ASSY

---

### <What to do after replacement>

- Installing main firmware
- Initializing the EEPROM of the main PCB ASSY (function code: 01)
- Setting by country (function code: 74)
- Installing language firmware (except for Chinese model)
- Setting serial number and entering adjusted value of laser unit
- Acquiring white level data (function code: 55)
- Setting language (function code: 52) (only for CEE model)
- Checking printing and scanning

### ■ What you need to prepare

- (1) One USB cable
- (2) Create a temporary folder on the C drive of the computer (Windows® XP or later).
- (3) Service setting tool (BrUsbsn.zip)  
Copy this file into the temporary folder created on the C drive. Extract the copied file and double-click "BrUsbsn.exe" to start it.
- (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, copy this file into the temporary folder created on the C drive, and extract the copied file.
- (6) Firmware

|  |   |
|--|---|
| Main firmware  | (E.g.) LZXXXX_\$.djf (firmware installation using computer) |
| Language firmware  |   |
| (E.g.) LZXXXX: First six digits of the part number of the firmware<br>\$: Alphabetic character representing the revision version of the firmware |   |

## 1.1 Installing Main Firmware

### 1.1.1 Checking firmware version

Check that the main firmware installed on the main PCB ASSY 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 as described in [“1.1.2 Installing main firmware”](#) in this chapter.

#### <How to check firmware version>

- (1) Press the [Menu] button while the machine is in the ready state. “1 General Setup.” appears on the LCD.
- (2) Press the [▲] or [▼] button to display “4 Machine Info.” on the LCD, and press the [OK] button. “1 Serial No.” appears on the LCD.
- (3) Press the [▲] or [▼] button to display “2 Version” on the LCD, and press the [OK] button. Main firmware version appears on the LCD.

### 1.1.2 Installing main firmware

- (1) Check that the power switch of the machine is OFF. When the machine is connected to the computer, disconnect the USB cable.
- (2) Turn ON the machine to enter maintenance mode.
- (3) Connect the computer to the machine with the USB cable.
- (4) Open the temporary folder and double-click “FILEDG32.EXE” to start it, and select the “Brother Maintenance USB Printer”.
- (5) Drag and drop the required main program file (ex: LZXXXX\_\$.djf) in the same folder onto the “Brother Maintenance USB Printer” icon. The file is loaded to the machine, and installing to the flash ROM starts.
- (6) When installing is completed, the machine restarts and returns to the ready state. Do not disconnect the USB cable or turn OFF the power switch of the computer until installing is completed.
- (7) Turn the machine OFF and disconnect the USB cable.



## 1.2 Initializing the EEPROM of the Main PCB ASSY (function code: 01)

Initialize the EEPROM of the main PCB ASSY as described in “Function code: 01” in Chapter 4.

## 1.3 Setting by Country (function code: 74)

Perform settings for a country as described in “Function code: 74” in Chapter 4.

## 1.4 Installing Language Firmware (except for Chinese model)

This procedure is not required for Chinese model.

- (1) Check that the machine is in the maintenance mode, and connect the computer to the machine with the USB cable.
- (2) Open the temporary folder and double-click “FILEDG32.EXE” to start it, and select the “Brother Maintenance USB Printer”.
- (3) Drag and drop the required language program file (ex: LZXXXX\_\$.djf) in the same folder onto the “Brother Maintenance USB Printer” icon. The file is loaded to the machine, and installing to the flash ROM starts.
- (4) When installing is completed, the machine restarts and returns to the ready state. Do not disconnect the USB cable or turn OFF the power switch of the computer until installing is completed.
- (5) Turn the machine OFF and disconnect the USB cable.

## 1.5 Setting Serial Number and Entering Adjusted Value of Laser Unit

### <Operating Procedure>

- (1) Turn ON the machine to enter maintenance mode. Connect the computer to the machine with the USB cable.
- (2) Double-click the "BrUsbsn.exe" file that was copied to the temporary folder to start it.  
The "BrUsbSn" window shown on the right appears.
- (3) In the "Product Category" field, select "2 Mono-Laser".
- (4) Select "2013 MFC1".
- (5) In the "Port" field on the "BrUsbSn" screen, 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.
- (6) Enter the serial number (15 digits) of the machine in the "Serial No" field.
- (7) Enter the last five digits on the laser serial number label in the "Scanner Video Clk" field.

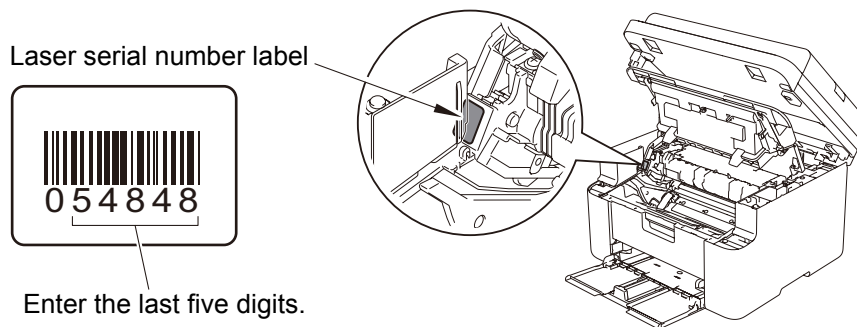
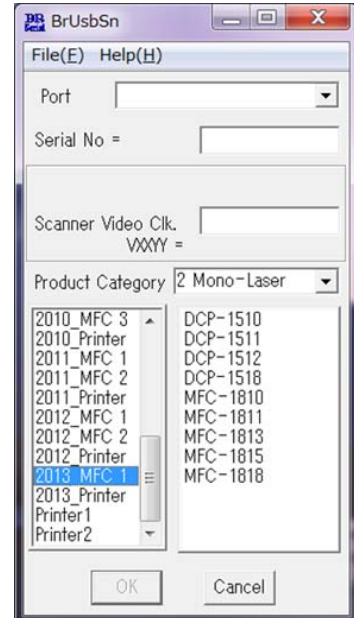


Fig. 3-1

- (8) Click the [OK] button. Confirmation screen appears. Check that the serial number and the adjusted value of the laser unit are correct and click the [Yes] button. The serial number and the adjusted value of the laser unit are written to the machine.

#### Note:

- Entering serial number is operable without a computer. Perform the serial number setting as described in "Function code: 80" in Chapter 4. Refer to "APPENDIX 1 SERIAL NUMBERING SYSTEM" to learn how to check the serial number.

## 1.6 Acquiring White Level Data (function code: 55)

Acquire white label data as described in “Function code: 55” in Chapter 4.

## 1.7 Setting Language (function code: 52) (only for CEE model)

Perform language setting as described in “Function code: 52” in Chapter 4.

## 1.8 Checking Printing and Scanning

### Copying ADF copy chart

We recommend to use BP60 paper (plain paper) supplied by Brother or better paper.  
(Do not use gloss paper)

- (1) Prepare the intensity chart CTC-001.
- (2) Set the ADF copy chart printing side down on the ADF.
- (3) Press the [Copy] button, set the quality to “Standard”, and press the [Start] button to copy the document.

#### **Note:**

- Check that the document is not set at an angle.
- Do not touch the document while copying. It could cause misalignment.

- (4) Check the copied check pattern.

## 2. IF YOU REPLACE THE LASER UNIT

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### <What to do after replacement>

- Entering adjusted value of laser unit

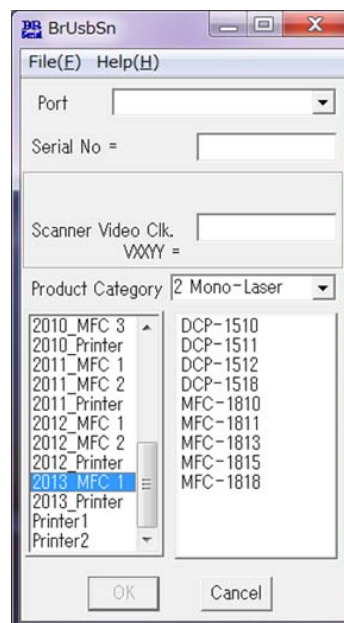
### ■ What you need to prepare

- (1) One USB cable
- (2) Create a temporary folder on the C drive of the computer (Windows® XP or later).
- (3) Service setting tool (BrUsbsn.zip)  
Copy this file into the temporary folder created on the C drive. Extract the copied file and double-click "BrUsbsn.exe" to start it.
- (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, copy this file into the temporary folder created on the C drive, and extract the copied file.

## 2.1 Entering Adjusted Value of Laser Unit

### <Operating Procedure>

- (1) Connect the computer to the machine with the USB cable.
- (2) Double-click the “BrUsbsn.exe” file that was copied to the temporary folder to start it.  
The “BrUsbSn” window shown on the right appears.



- (3) In the “Product Category” field, select “2 Mono-Laser”.
- (4) Select “2013 MFC1”.
- (5) In the “Port” field on the “BrUsbSn” screen, 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.
- (6) Enter the last five digits on the laser serial number label in the “Scanner Video Clk” field.

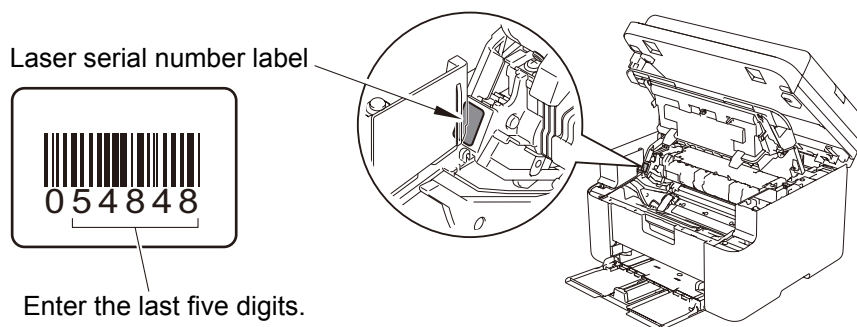


Fig. 3-2

- (7) Click the [OK] button. Confirmation screen appears. Check that the serial number and the adjusted value of the laser unit are correct and click the [Yes] button. The adjusted value of the laser unit is written to the machine.
- (8) Turn OFF the power switch of the machine.

## 3. IF YOU REPLACE THE DOCUMENT SCANNER UNIT OR CIS UNIT

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### <What to do after replacement>

- Acquiring white level data (function code: 55)

### 3.1 Acquiring White Level Data (function code: 55)

Acquire white label data as described in ["Function code: 55" in Chapter 4](#).

## 4. IF YOU REPLACE THE LOW VOLTAGE POWER SUPPLY PCB UNIT

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### <What to do after replacement>

- Resetting irregular power supply detection counter

#### ■ What you need to prepare

- (1) One USB cable
- (2) Create a temporary folder on the C drive of the computer (Windows® XP or later).
- (3) Download utility (FILEDG32.EXE)  
Copy this file into the temporary folder created on the C drive.
- (4) Maintenance driver (MaintenanceDriver.zip)  
When the maintenance driver is not installed on the computer, copy this file into the temporary folder created on the C drive, and extract the copied file.
- (5) Irregular power supply detection counter PJL file (SQWAVE.PJL)

### 4.1 Resetting Irregular Power Supply Detection Counter

The irregular power supply detection counter increases when the machine detects irregular power supply.

When the counter reaches the limit and the irregular power supply detection error is displayed, replace the low voltage power supply PCB unit, which may have been damaged by irregular power supply, and reset the irregular power supply detection counter. In this case, if the same power supply is used, the same error may occur even when the low voltage power supply PCB unit is replaced. Ask the user to review the installation environment to avoid the same error occurring again.

- (1) Enter the maintenance mode.
- (2) Connect the computer to the machine with the USB cable.
- (3) Double-click "FILEDG32.EXE" on the computer to start it, and select the "Brother Maintenance USB Printer".
- (4) Drag and drop the "SQWAVE.PJL" file onto the "Brother Maintenance USB Printer" icon.
- (5) Turn OFF the power switch of the machine.

## 5. IF YOU REPLACE THE PANEL ASSY

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### <What to do after replacement>

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

#### 5.1 Checking LCD Operation (function code: 12)

Check LCD operation as described in ["Function code: 12" in Chapter 4.](#)

#### 5.2 Checking Control Panel Operation (function code: 13)

Check control panel operation as described in ["Function code: 13" in Chapter 4.](#)



# CHAPTER 4 SERVICE FUNCTIONS

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## 1. MAINTENANCE MODE

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

Using maintenance mode functions, you can conduct operational checks of sensors or test printing, display the log information or error codes, and change the worker switches (WSW) etc.

### 1.1 How to Enter Maintenance Mode

#### 1.1.1 Method of entering end-user accessible maintenance mode

The maintenance mode functions should only be accessed by service personnel. However, end users are allowed to use some of these functions under the guidance of service personnel over the phone. End users can only use the functions shaded in the table [1.2 List of Maintenance Mode Functions](#) (function codes [06, 09, 10, 11, 12, 25, 43, 45, 52, 53, 54, 77, 80, 82, 87](#) and [91](#)).

#### <Operating Procedure>

- (1) While the machine is in the ready state, press the [Menu], [Start], and [Menu] buttons in this order. "0" is displayed on the LCD.
- (2) Ten-key pad models  
Use the ten-key pad to enter the maintenance mode function code to be executed.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display the maintenance mode function code to be executed on the LCD and press the [OK] button.
- (3) Enter the maintenance mode function code to be executed.
- (4) Each time the maintenance mode function is completed, the machine returns to the ready state automatically.

#### Note:

- To return to the ready state of maintenance mode during the operation, press the [Stop] button.

## 1.1.2 Method of entering maintenance mode for service personnel

### <Operating Procedure>

- (1) While the machine is in the ready state, press the [Menu], [Start], [▲], [▲], [▲] and [▲] buttons in this order. “■■ MAINTENANCE ■■■” is displayed on the LCD and the machine enters to the initial state of maintenance mode.
- (2) Ten-key pad models  
Use the ten-key pad to enter the maintenance mode function code to be executed.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display the maintenance mode function code to be executed on the LCD and press the [OK] button.
- (3) Enter the maintenance mode function code to be executed.

#### **Note:**

- When the [9] button is pressed twice continuously while the machine is in the initial state of maintenance mode, the machine returns to the ready state.
- When the [Stop] button is pressed after the first digit of the number has been entered, the machine returns to the initial state of maintenance mode.
- When an invalid maintenance code is entered, the machine returns to the initial state of maintenance mode.
- As for the models with a handset, when the handset is not placed on the handset holder, “■■ MAINTENANCE ■■■” is not displayed and “Telephone” is displayed on the LCD.

## 1.2 List of Maintenance Mode Functions

| Function code | Function  | Refer to: |
|---------------|---|-----------|
| 01            | Initialize EEPROM parameters  | 1.3.1     |
| 05            | Print white level / black level data for document scanning compensation | 1.3.2     |
| 06            | Move CIS unit to transportation position                                | 1.3.3     |
| 08            | ADF performance test  | 1.3.4     |
| 09            | Monochrome image quality test pattern                                   | 1.3.5     |
| 10            | Set worker switches (WSW)   | 1.3.6 [1] |
| 11            | Print worker switch (WSW) setting data                                  | 1.3.6 [2] |
| 12            | Check LCD operation   | 1.3.7     |
| 13            | Check control panel button operation                                    | 1.3.8     |
| 25            | Display software version  | 1.3.9     |
| 32            | Check sensor operation  | 1.3.10    |
| 43            | Set PC print functions  | 1.3.11    |
| 45            | Change USB No. return value   | 1.3.12    |
| 52            | Set country / language  | 1.3.13    |
| 53            | Transfer received fax data / log information                            | 1.3.14    |
| 54            | Fine-tune scanning position   | 1.3.15    |
| 55            | Acquire white level data and set CIS scan area                          | 1.3.16    |
| 67            | Print test  | 1.3.17    |
| 69            | Print frame pattern (single-side printing)                              | 1.3.18    |
| 71            | Print test pattern  | 1.3.19    |
| 74            | Setting by country  | 1.3.20    |
| 77            | Print maintenance information   | 1.3.21    |
| 80            | Display machine log information   | 1.3.22    |
| 82            | Display machine error code  | 1.3.23    |
| 87            | Send communication log information to telephone line                    | 1.3.24    |
| 91            | Initialize EEPROM parameters  | 1.3.1     |
| 99            | Quit maintenance mode   | 1.3.25    |

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

## 1.3 Details of Maintenance Mode Functions

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

#### <Function>

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

| Data item \ Function code  | 01                          | 91                          |
|--|-----------------------------|-----------------------------|
| Printer switch (counter information)   | Areas not to be initialized | Areas not to be initialized |
| Error history  |                             |                             |
| MAC address  |                             |                             |
| Password for control panel operation lock  | Areas to be initialized     |                             |
| Secure function lock   |                             |                             |
| Telephone function registration<br>Telephone directory                           |                             |                             |
| Worker switches  |                             |                             |
| User switches (items initialized when "Factory Reset" is executed)               |                             |                             |
| Function settings except user switches (settings not subject to "Factory Reset") | Areas to be initialized     |                             |
| Emulation setting  |                             |                             |

#### <Operating Procedure>

##### (1) Ten-key pad models

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

##### Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 01" (or "MAINTENANCE 91" as appropriate) on the LCD. Press the [OK] button. "PARAMETER INIT" is displayed on the LCD.

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

#### **Note:**

- Function code 01 is for service personnel and function code 91 is for user support.
- When the power switch is turned OFF while "PARAMETER INIT" is displayed on the LCD, initializing the EEPROM is not completed normally. In this case, when the power switch is turned ON, the EEPROM is initialized automatically. When initialization is completed, the machine returns to the initial state of maintenance mode.

### 1.3.2 Print white level / black level data for document scanning compensation (function code: 05)

#### <Function>

This function is used to print the contrast level data for document scanning compensation.

#### <Operating Procedure>

##### Note:

- Be sure not to perform this operating procedure immediately after the power is turned ON, but after performing the document scanning operation at least once. The machine initializes the contrast level data and obtains the standard value for document scanning compensation at the start of scanning the document. Therefore, this function cannot be operated without performing a document scanning operation.

The print result varies depending on whether color scanning or monochrome scanning is performed immediately before this operating procedure. Check the contrast level data you want to print and then implement the procedure below.

- (1) For monochrome scanning, make a monochrome copy of the document. For color scanning, scan the document in color mode.
- (2) Ten-key pad models  
Press the [0] and [5] buttons in this order in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 05" on the LCD and press the [OK] button.
- (3) "PRINTING" is displayed on the LCD, and the contrast level data for document scanning compensation is printed.

##### Note:

- When there is no paper in the paper tray, printing is cancelled.

- (4) When printing is completed, the machine returns to the initial state of maintenance mode.

■ Data to be printed (common to monochrome/color)

|    |   |             |    |  |        |
|----|---|-------------|----|--|--------|
| a) | LED CURRENT DATA  | 1 Byte      | A) | LED pulse data ambient light compensation M300_1 (DOWN) (R)  | 2 Byte |
| b) | LED pulse data 1 (UP) (G)                                   | 2 Byte      | B) | LED pulse data ambient light compensation M300_3 (UP) (G)  | 2 Byte |
| c) | LED pulse data 1 (DOWN) (G)                                 | 2 Byte      | C) | LED pulse data ambient light compensation M300_3 (DOWN) (G)  | 2Byte  |
| d) | LED pulse data 1 (UP) (B)                                   | 2 Byte      | D) | LED pulse data ambient light compensation M300_3 (UP) (B)  | 2 Byte |
| e) | LED pulse data 1 (DOWN) (B)                                 | 2 Byte      | E) | LED pulse data ambient light compensation M300_3 (DOWN) (B)  | 2 Byte |
| f) | LED pulse data 1 (UP) (R)                                   | 2 Byte      | F) | LED pulse data ambient light compensation M300_3 (UP) (R)  | 2 Byte |
| g) | LED pulse data 1 (DOWN) (R)                                 | 2 Byte      | G) | LED pulse data ambient light compensation M300_3 (DOWN) (R)  | 2 Byte |
| h) | LED pulse data 2 (UP) (G)                                   | 2 Byte      | H) | LED pulse data ambient light compensation M600_1 (UP) (G)  | 2 Byte |
| i) | LED pulse data 2 (DOWN) (G)                                 | 2 Byte      | I) | LED pulse data ambient light compensation M600_1 (DOWN) (G)  | 2 Byte |
| j) | LED pulse data 2 (UP) (B)                                   | 2 Byte      | J) | LED pulse data ambient light compensation M600_1 (UP) (B)  | 2 Byte |
| k) | LED pulse data 2 (DOWN) (B)                                 | 2 Byte      | K) | LED pulse data ambient light compensation M600_1 (DOWN) (B)  | 2 Byte |
| l) | LED pulse data 2 (UP) (R)                                   | 2 Byte      | L) | LED pulse data ambient light compensation M600_1 (UP) (R)  | 2 Byte |
| m) | LED pulse data 2 (DOWN) (R)                                 | 2 Byte      | M) | LED pulse data ambient light compensation M600_1 (DOWN) (R)  | 2 Byte |
| n) | REFH data   | 1 Byte      | N) | LED pulse data ambient light compensation C300_1(DOWN)(G)  | 2 Byte |
| o) | Background color compensation data                          | 1 Byte      | O) | LED pulse data ambient light compensation C300_1 (DOWN) (B)  | 2 Byte |
| p) | HP detection black compensation data                        | 2 Byte x 12 | P) | LED pulse data ambient light compensation C300_1 (DOWN) (R)  | 2 Byte |
| q) | LED CURRENT DATA ambient light compensation M300_1          | 1 Byte      | Q) | LED pulse data ambient light compensation C600_1 (DOWN) (G)  | 2 Byte |
| r) | LED CURRENT DATA ambient light compensation M300_3          | 1 Byte      | R) | LED pulse data ambient light compensation C600_1 (DOWN) (B)  | 2 Byte |
| s) | LED CURRENT DATA ambient light compensation M600_1          | 1 Byte      | S) | LED pulse data ambient light compensation C600_1 (DOWN) (R)  | 2 Byte |
| t) | LED CURRENT DATA ambient light compensation C300_1          | 1 Byte      | T) | REFH data ambient light compensation 300dpi  | 1 Byte |
| u) | LED CURRENT DATA ambient light compensation C600_1          | 1 Byte      | U) | REFH data ambient light compensation 600dpi  | 1 Byte |
| v) | LED pulse data ambient light compensation M300_1 (UP) (G)   | 2 Byte      | V) | Black level data ambient light compensation 300dpi   | 1 Byte |
| w) | LED pulse data ambient light compensation M300_1 (DOWN) (G) | 2 Byte      | W) | Black level data ambient light compensation 600dpi   | 1 Byte |
| x) | LED pulse data ambient light compensation M300_1 (UP) (B)   | 2 Byte      | X) | Black level data<br>Based on previous scanning pixel count   |        |
| y) | LED pulse data ambient light compensation M300_1 (DOWN) (B) | 2 Byte      | Y) | White level data (G)<br>Based on previous scanning pixel count   |        |
| z) | LED pulse data ambient light compensation M300_1 (UP) (R)   | 2 Byte      | Z) | White level data (B)<br>Based on previous scanning pixel count<br>White level data (R)<br>Based on previous scanning pixel count |        |



### 1.3.3 Move CIS unit to transportation position (function code: 06)

#### <Function>

This function is used to move the CIS unit of the document scanner unit to the transportation position (left end) immediately before packing and shipping the machine after repair and operation checks.

#### Note:

- Please instruct end users to use this function wherever possible before packing and shipping their machine to a sales agent or a service dealer for repair.  
(For the procedure for end users to operate the maintenance mode, refer to "1.1.1 Method of entering end-user accessible maintenance mode" in this chapter.)

#### <Operating Procedure>

- (1) Ten-key pad models  
Press the [0] and [6] buttons in this order in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 06" on the LCD and press the [OK] button.
- (2) "MAINTENANCE 06" is displayed on the LCD, and the CIS unit moves to the transportation position. When moving is completed, "SCAN LOCKED" is displayed on the LCD.
- (3) When the [Stop/Exit] button is pressed, the machine returns to the initial state of maintenance mode.  
In the event that the CIS unit was unable to move to the transportation position or this function code was executed while a scanning error was current, an error occurs and "SCAN LOCK ERROR" is displayed on the LCD.

### 1.3.4 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) Ten-key pad models  
Press the [0] and [8] buttons in this order in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 08" on the LCD and press the [OK] button.
- (3) "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.)
- (4) When the [Stop/Exit] button is pressed, the machine returns to the initial state of maintenance mode.

#### Note:

- "NO DOCUMENT" is displayed on the LCD and the machine returns to the ready state of maintenance mode when the document is not set in the ADF unit.



### 1.3.5 Monochrome image quality test pattern (function code: 09)

#### <Function>

This function is used to print various monochrome check patterns, to check print quality and whether there are any missing images.

#### <Operating Procedure>

- (1) Ten-key pad models  
Press the [0] and [9] buttons in this order in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display “MAINTENANCE 09” on the LCD and press the [OK] button.
- (2) “PRINTING” is displayed on the LCD, and the monochrome image quality test pattern (refer to the figure below) is printed. When there is no paper in the paper tray, printing is cancelled.
- (3) When printing is completed, the machine returns to the initial state of maintenance mode.

#### ■ Print data

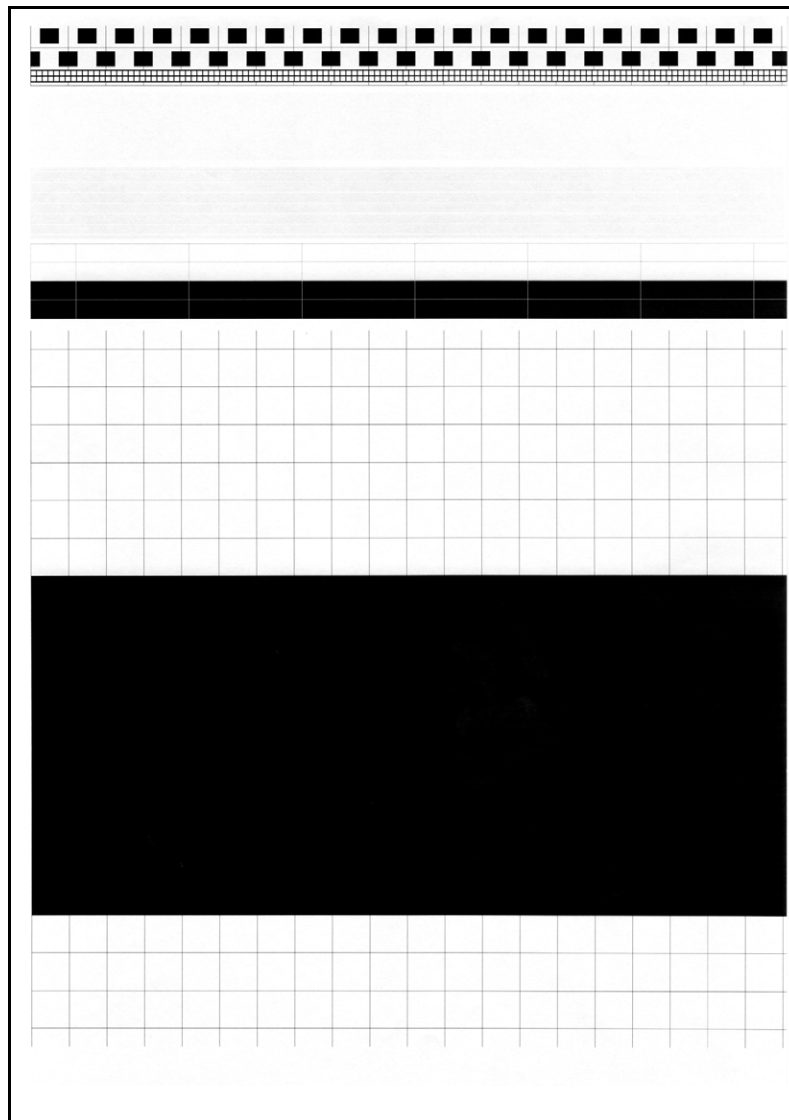


Fig. 4-2

### 1.3.6 Set worker switches (WSW) and print worker switch setting data (function code: 10, 11)

#### [1] Set worker switches (WSW) (function code: 10)

##### <Function>

The 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.

The 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  |
|---------|---|
| WSW01   | Dial pulse setting  |
| WSW02   | Tone signal setting                                       |
| WSW03   | PABX mode setting   |
| WSW04   | Transfer facility setting                                 |
| WSW05   | 1st dial tone and busy tone detection                     |
| WSW06   | [Redial/Pause] button setting and 2nd dial tone detection |
| WSW07   | Dial tone setting 1                                       |
| WSW08   | Dial tone setting 2                                       |
| WSW09   | Protocol definition 1                                     |
| WSW10   | Protocol definition 2                                     |
| WSW11   | Busy tone setting   |
| WSW12   | Signal detection condition setting                        |
| WSW13   | Modem setting   |
| WSW14   | AUTO ANS facility setting                                 |
| WSW15   | Redial facility setting                                   |
| WSW16   | Function setting 1  |
| WSW17   | Function setting 2  |
| WSW18   | Function setting 3  |
| WSW19   | Transmission speed setting                                |
| WSW20   | Overseas communications mode setting                      |
| WSW21   | TAD setting 1   |
| WSW22   | ECM and call waiting caller ID setting                    |
| WSW23   | Communications setting                                    |
| WSW24   | TAD setting 2   |
| WSW25   | TAD setting 3   |
| WSW26   | Function setting 4  |
| WSW27   | Function setting 5  |
| WSW28   | Function setting 6  |
| WSW29   | Function setting 7  |
| WSW30   | Function setting 8  |
| WSW31   | Function setting 9  |
| WSW32   | Function setting 10                                       |
| WSW33   | Function setting 11                                       |
| WSW34   | Function setting 12                                       |
| WSW35   | Function setting 13                                       |

| WSW No. | Function  |
|---------|---|
| WSW36   | Function setting 14   |
| WSW37   | Function setting 15   |
| WSW38   | V.34 transmission setting   |
| WSW39   | V.34 transmission speed setting   |
| WSW40   | V.34 modem setting  |
| WSW41   | ON-duration of the scanning light source  |
| WSW42   | Internet mail settings  |
| WSW43   | Function setting 16   |
| WSW44   | Speeding up scanning-1  |
| WSW45   | Speeding up scanning-2  |
| WSW46   | Monitor of power ON/OFF state and parallel port kept at high  |
| WSW47   | Switching between 2.0 High-Speed and 1.1 Full-Speed USB   |
| WSW48   | USB setup latency   |
| WSW49   | End-of-copying beep   |
| WSW50   | SDAA settings   |
| WSW51   | Function setting 17   |
| WSW52   | Function setting 18   |
| WSW53   | Function setting 19   |
| WSW54   | Function setting 20   |
| WSW55   | Interval of time required for the developing bias voltage correction                                  |
| WSW56   | Function setting 21   |
| WSW57   | Function setting 22   |
| WSW58   | Function setting 23   |
| WSW59   | Function setting 24   |
| WSW60   | Function setting 25   |
| WSW61   | Scanning light intensity to judge to be stable 1  |
| WSW62   | Scanning light intensity to judge to be stable 2  |
| WSW63   | Function setting 26   |
| WSW64   | Setting the language / default paper size   |
| WSW65   | Setting the paper support   |
| WSW66   | Reserved (Change of the setting is prohibited)  |
| WSW67   | Reserved (Change of the setting is prohibited)  |
| WSW68   | Reserved (Change of the setting is prohibited)  |
| WSW69   | Reserved (Change of the setting is prohibited)  |
| WSW70   | Reserved (Change of the setting is prohibited)  |
| WSW71   | Reserved (Change of the setting is prohibited)  |
| WSW72   | Reserved (Change of the setting is prohibited)  |
| WSW73   | Reserved (Change of the setting is prohibited)  |
| WSW74   | ADF stop control  |
| WSW75   | Feed parameter to change the document count for duplex scanning                                       |
| WSW76   | Set the limit for the number of documents to be ejected in reverse order for simplex scanning         |
| WSW77   | Set the limit for the number of documents to be ejected in reverse order for duplex scanning from ADF |
| WSW78   | Recording stop function when the drum reaches the end of life   |
| WSW79   | Function setting 27   |

Refer to the separate manual for details of worker switches.

### <Operating Procedure>

(1) Ten-key pad models

Press the [1] and [0] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 10" on the LCD and press the [OK] button.

(2) "WSW00" is displayed on the LCD.

Ten-key pad models

Enter the worker switch number that you want to change the setting.

Non-ten-key pad models

Press the [▲] or [▼] button to display the worker switch number that you want to set on the LCD and press the [OK] button.

(3) The display shown below appears on the LCD.

Selector No. 1      Selector No. 8  
                    ↓                                  ↓  
WSWXX = 0 0 0 0 0 0 0 0

Ten-key pad models

Press the [◀] or [▶] button to move the cursor to the desired selector, and change the setting by pressing the [1] or [0] button.

Non-ten-key pad models

Press the [◀] or [▶] button to move the cursor to the desired selector, and set the value by pressing the [▲] or [▼] button.

(4) When changing the setting is completed, press the [OK] button. 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 worker switch setting is completed, press the [Stop/Exit] 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 [Stop/Exit] button.
- After entering the first digit of the number, if there is no entry for one minute or longer on the two digits firmware switch number selection, the machine returns to the initial state of maintenance mode automatically.

## [2] Print worker switch (WSW) setting data (function code: 11)

### <Function>

This function is used to print the setting items of the worker switches and the set details.

### <Operating Procedure>

#### (1) Ten-key pad models

Press the [1] button twice in the initial state of maintenance mode.

#### Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 11" on the LCD and press the [OK] button.

(2) "PRINTING" is displayed on the LCD and the CONFIGURATION LIST shown below is printed. When there is no paper in the paper tray, printing is cancelled.

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

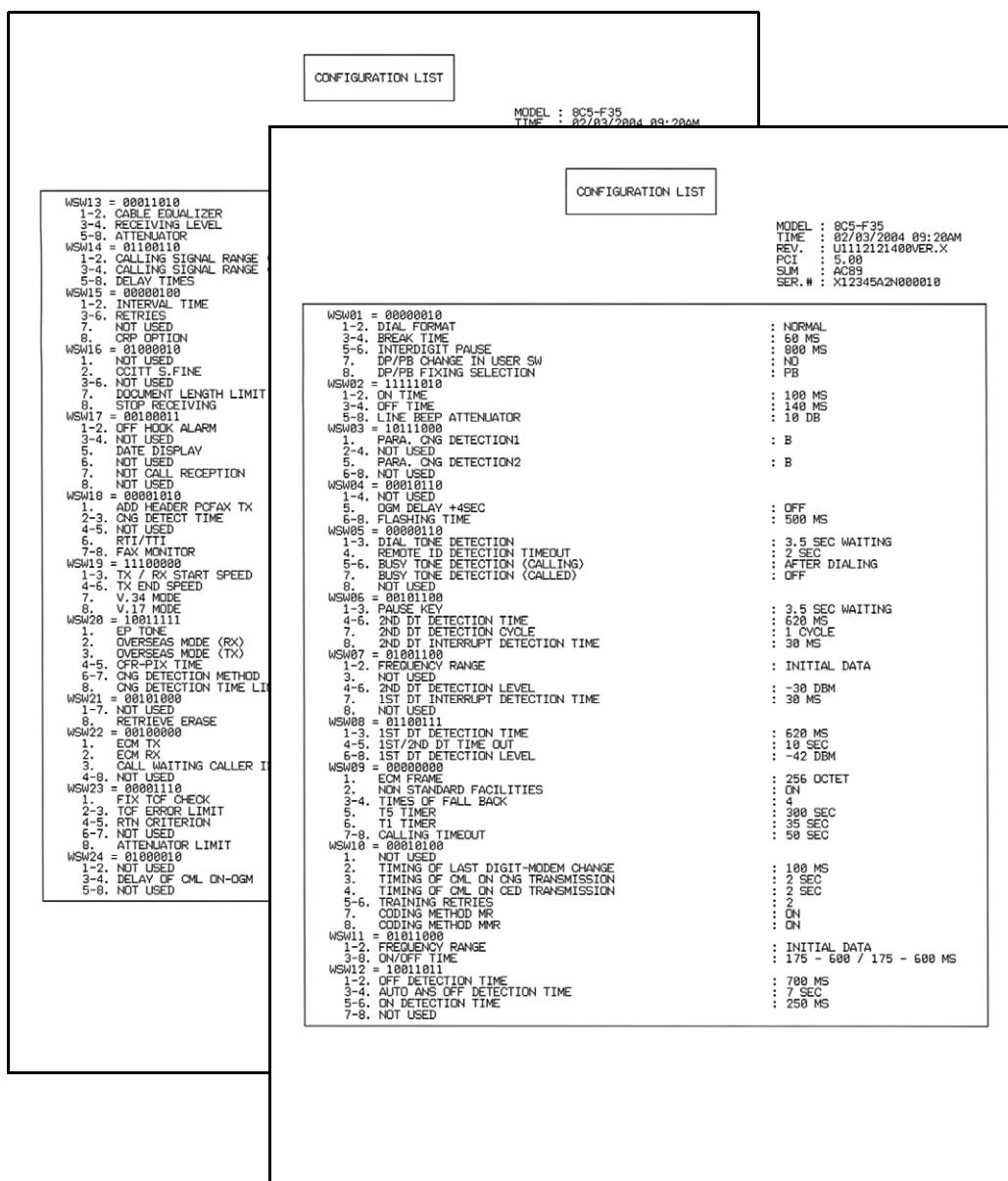


Fig. 4-3

### 1.3.7 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) Ten-key pad models

Press the [1] and [2] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 12" on the LCD and press the [OK] button.

(2) The LCD appears as in the table below. Each press of the [Start] button cycles through the screens as shown in the table below.

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

#### ■ LCD


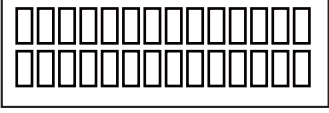
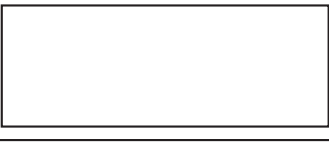
|             |  |
|-------------|--|
| <Display 1> |    |
| <Display 2> |   |
| <Display 3> |  |

Fig. 4-4

### 1.3.8 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) Ten-key pad models

Press the [1] and [3] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display “MAINTENANCE 13” on the LCD and press the [OK] button.

(2) “00” is displayed on the LCD. Press the buttons on the control panel according to the numbers provided on 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 [Stop/Exit] button, and then press the correct button.

(3) When 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 [Stop/Exit] button.

#### ■ DCP-1510/1511/1512/1518

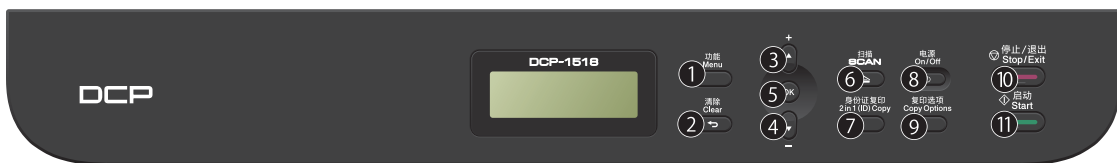


Fig. 4-5

#### ■ MFC-1810/1811/1813/1815/1818

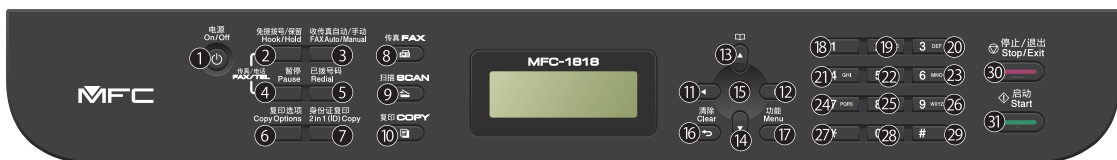


Fig. 4-6

### 1.3.9 Display software version (function code: 25)

#### <Function>

This function is used to check the version information of the firmware or programs, or to check sum information.

#### <Operating Procedure>

- (1) Ten-key pad models  
Press the [2] and [5] buttons in this order in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 25" on the LCD and press the [OK] button.
- (2) "TOTAL: Ver T" is displayed on the LCD. Pressing the [Start] button changes the item which is displayed as shown in the table below.
- (3) When the [Stop/Exit] button is pressed, the machine returns to the initial state of maintenance mode.

| LCD                            | Description  |
|--------------------------------|--|
| TOTAL:Ver A <sup>*1</sup>      | Main firmware version information<br>((A): revision information) |
| ENG :Ver1.00                   | Engine firmware version information                              |
| B1112312359:1234 <sup>*1</sup> | Boot program creation date                                       |
| U1112312359:1234 <sup>*1</sup> | Main firmware creation date                                      |
| L1112312359:1234 <sup>*1</sup> | Language firmware creation date                                  |
| ROM Check Sum                  | Check sum self-diagnosis function <sup>*2</sup>                  |

<sup>\*1</sup> How to display the check sum information

You can check the check sum information by pressing the [SET] button while each version is displayed. When the [SET] button is pressed again, the LCD returns to the version display. Pressing the [Start] button changes the item which is displayed.

<sup>\*2</sup> There are two types of check sum information that can be checked with this function. This function checks if these two types of check sum information match each other. When the [SET] button is pressed while "ROM Check Sum" is displayed, a check is automatically conducted for each ROM of each software part. When the check sum matches, "OK" is displayed on the LCD. When all ROMs result in OK, "ROM Check Sum OK" is displayed at the end, and the operation is finished. When the check sum of any ROM does not match, "NG" is displayed, and the display stops.



### 1.3.10 Check sensor operation (function code: 32)

#### <Operating Procedure>

(1) Ten-key pad models

Press the [3] and [2] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 32" on the LCD and press the [OK] button.

(2) The speaker is tested by vibrating at 400Hz and 100Hz tones repeatedly.

**Note:**

- Press the [OK] button to stop the tone from the speaker.

"CVNTPTPH\*\*\*\*\*" and the state of sensors are displayed on the LCD.

(3) Pressing the [Start] button displays the next item.

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

| LCD | Sensor names                             | Detection status<br>(displayed / not displayed) |
|-----|--|---|
| CV  | Top cover sensor, Eject sensor           | Cover closed, Paper set / Cover open, No paper  |
| NT  | New toner sensor, Toner detection sensor | Toner set / No toner <sup>*1</sup>              |
| PT  | Paper feed sensor                        | No paper / Paper set                            |
| PH  | Paper printing position sensor           | No paper / Paper set                            |
| DF  | Document detection sensor                | No document / Document set                      |
| DR  | Document scanning position sensor        | No document / Document set                      |

**Note:**

- When the sensor is turned OFF, "--" is displayed on the LCD.
- When the function is not mounted or there is no item, "\*\*\*" is displayed on the LCD.

<sup>\*1</sup> New toner sensor is turned ON or OFF depending on the toner types when the new toner cartridge is set, therefore, distinction between new and used is not described.

(4) 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 paper feed/paper printing position sensor, create paper jam at the paper exit, or set the document.

(5) When the [Stop/Exit] button is pressed, this operation is finished, and the machine returns to the initial state of maintenance mode.

### 1.3.11 Set PC print functions (function code: 43)

#### <Function>

This function is used to change the settings of the various print functions summarized in the table below.

#### <Operating Procedure>

- (1) Ten-key pad models  
Press the [4] and [3] buttons in this order in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 43" on the LCD and press the [OK] button.
- (2) "Manual Feed" is displayed on the LCD.  
Press the [▲] or [▼] button to display the function you want to change the setting of, and press the [SET] button.
- (3) For fixed parameters (On/Off, etc.), press the [▲] or [▼] button to display the setting you want to apply, and press the [SET] button.  
Ten-key pad models  
For parameters requiring numerical value entry, use the ten-key pad to enter a numerical value, and press the [OK] button.  
Non-ten-key pad models  
For parameters requiring numerical value entry, press the [◀] or [▶] button to change a value and display the value you want to apply, and press the [OK] button.
- (4) Press the [Stop/Exit] button to return the machine to the initial state of maintenance mode.

#### ■ Setting functions

| LCD             | Description  | Set value   | Default       |
|-----------------|--|---|---------------|
| Manual Feed     | Manual feed setting  | On/Off  | Off           |
| Resolution      | Print resolution   | 300/600/1,200 dpi   | 600 dpi       |
| Toner Save      | Toner save mode setting                                    | On/Off  | Off           |
| Density         | Print density level setting                                | -6 to 6   | 0             |
| JB-Can Time     | Time until host timeout is triggered when job is cancelled | 0 to 225 (s)  | 4 (s)         |
| Page Protection | Page memory setting  | Off/Letter/A4/Legal/Auto  | Off           |
| Emulation       | Emulation (print language) setting                         | Auto/HP/PS  | Auto          |
| Auto I/F Time   | Interface open time setting                                | 1 to 99 (s)   | 5 (s)         |
| Media Type      | Paper type setting   | Thin/Plain/Thick/Thicker/Transparency/Recycled/Bond/Envelopes/EnvThin/EnvThick                | Plain or Thin |
| Paper Size      | Image development area setting                             | Letter/Legal/A4/Executive/ISOB5/JISB5/A5/ISOB6/A6/Monarch/C5/COM10/DL/DLL/A4Long/Hagaki/Folio | Letter or A4  |
| Copies          | Number of copies   | 1 to 99 (copies)  | 1 (copies)    |
| Orientation     | Print direction setting                                    | Portrait/Landscape  | Portrait      |
| P-Pos X-Offset  | Print position offset in X (landscape) direction           | -500 to 500 (1/300 dpi)   | 0 (1/300 dpi) |
| P-Pos Y-Offset  | Print position offset in Y (portrait) direction            | -500 to 500 (1/300 dpi)   | 0 (1/300 dpi) |

| LCD           | Description  | Set value           | Default      |
|---------------|--|---------------------|--------------|
| AutoFF        | Auto form feed setting                               | On/Off              | Off          |
| AutoFF Time   | Timeout period of auto form feed                     | 1 to 99 (s)         | 5 (s)        |
| FF Suppress   | Blank page skip setting                              | On/Off              | Off          |
| Auto LF       | Auto linefeed (LF) setting                           | On/Off              | Off          |
| Auto CR       | Auto carriage return (CR) setting                    | On/Off              | Off          |
| Auto WRAP     | Setting for Auto CRLF at print width                 | On/Off              | Off          |
| Auto Skip     | Setting to skip at back end / tip of paper           | On/Off              | On           |
| Left Margin   | Left margin setting                                  | 0 to 145 (columns)  | 0 (column)   |
| Right Margin  | Right margin setting                                 | 10 to 155 (columns) | 80 (columns) |
| Top Margin    | Top margin setting                                   | 0 to 2.00 (inches)  | 0.5 (inches) |
| Bottom Margin | Bottom margin setting                                | 0 to 2.00 (inches)  | 0.5 (inches) |
| Lines         | Setting of text lines per page                       | 5 to 128 (lines)    | 60 (lines)   |
| Error Print   | Error Print setting in the event of PostScript error | On/Off              | On           |

#### ■ Detailed description

| LCD             | Detail description   |
|-----------------|--|
| Manual Feed     | Valid for printing from the computer, or for printing NetWorkConfig, TestPrint, FontList, or Configuration from the panel. When the tray is selected on the computer, the setting on the computer supersedes the setting on the LCD.   |
| Resolution      | Valid for printing from the computer. When the resolution is set on the computer, the setting on the computer supersedes the setting on the LCD.   |
| Toner Save      | Valid for all types of printing except copy, and the Function Menu setting can also be changed. When Toner Save is set on the computer, the setting on the computer supersedes the setting on the LCD.   |
| Density         | Valid for printing from the computer, or for printing NetWorkConfig, TestPrint, FontList, or Configuration from the panel. Linked with the Toner Save setting, and the density is determined based on both settings. When the density is set on the computer, the setting on the computer supersedes the setting on the LCD. |
| JB-Can Time     | Set the time until the host timeout is triggered when a job is cancelled. The setting unit is on the second time scale.  |
| Page Protection | Set the page memory to be secured for data processing before printing in the computer. As this is a setting in the PCL-Core, this does not affect the memory management of the machine.  |
| Emulation       | Change the print language. The Function Menu setting becomes valid. When the data contains the ENTERLANGUAGE setting, this setting supersedes the setting on the LCD.  |
| Auto I/F Time   | Change the interface open time. This setting becomes valid when PC print is instructed, and becomes invalid when PC-Scan or Remote-SetUp is instructed.  |
| Media Type      | Valid for printing from the computer. When the type of paper is set on the computer, the setting on the computer supersedes the setting on the LCD. The default varies depending on the country setting. "Thin" is the default for China and "Plain" is the default for other countries.                                     |

| LCD            | Detail description  |
|----------------|---|
| Paper Size     | Change the image development area. Set the drawing size for PC print, instead of the setting for Paper Size in the menu. When the paper size is set on the computer, the setting on the computer supersedes the setting on the LCD. The default varies depending on the country setting. "Letter" is the default for the US and Canada and "A4" is the default for other countries. |
| Copies         | Valid for printing from the computer. When the number of copies is set on the computer, the setting on the computer supersedes the setting on the LCD.  |
| Orientation    | Change the printing direction. Valid for printing from the computer.  |
| P-Pos X-Offset | Set the print position offset in the X (landscape) direction. Valid for printing from the computer. When X-Offset is set on the computer, the setting on the computer supersedes the setting on the LCD.  |
| P-Pos Y-Offset | Set the print position offset in the Y (portrait) direction. Valid for printing from the computer. When Y-Offset is set on the computer, the setting on the computer supersedes the setting on the LCD.   |
| AutoFF         | Set ON or OFF for AutoFF (automatic form feed). Valid for printing from the computer.   |
| AutoFF Time    | Set the time when AutoFF is set to ON.  |
| FF Suppress    | Set whether to skip blank pages. Valid for printing from the computer. ON or OFF for the blank data when copying or faxing cannot be changed in this setting.   |
| Auto LF        | Set the auto linefeed.  |
| Auto CR        | Set the auto carriage return. Adds CR to the LF code.   |
| Auto WRAP      | Set the auto CRLF at the print width.   |
| Auto Skip      | Set whether to skip at the backend or tip of paper. Adds a blank space.   |
| Left Margin    | Set the column space at the left side.  |
| Right Margin   | Set the column space at the right side.   |
| Top Margin     | Set the space at the top.   |
| Bottom Margin  | Set the space at the bottom.  |
| Lines          | Set the number of lines in the PCL.   |
| Error Print    | Set the Error Print in the event of a BR-Script 3 error.  |

### 1.3.12 Change USB No. return value (function code: 45)

#### ■ Change USB No. return value

##### <Function>

When the operating system (OS) installed on the computer is Windows Vista<sup>®</sup>, 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  | Return the serial number of the machine. (Default) |
| USBNo. = OFF | Return “0”.  |

The setting currently selected is marked “\*” at the end of the display.

##### <Operating Procedure>

- (1) Ten-key pad models  
Press the [4] and [5] buttons in this order in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display “MAINTENANCE 45” on the LCD and press the [OK] button.
- (2) “USBNo.” is displayed on the LCD. Press the [Start] button.
- (3) “USBNo.=ON” is displayed on the LCD. Press the [▲] or [▼] button to display “USBNo.=ON” when fixing the serial number return value to “0” or “USBNo.=OFF” when not fixing it.
- (4) Press the [Start] button. “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.

### 1.3.13 Set country / language (function code: 52)

#### <Function>

This function is user accessible, and is used to customize the EEPROM's language, function settings, and firmware switch settings.

#### Note:

- This function can be used only in the following nations: France and neighboring countries, Pan-Nordic, East Europe, Oceania, Iberia.

#### <Operating Procedure>

(1) Ten-key pad models

Press the [5] and [2] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 52" on the LCD and press the [OK] button.

- (2) "Set Country" is displayed on the LCD, and names of country in their respective language follow.
- (3) Press the [Start] button if the displayed country is correct. The EEPROM is now customized, and the machine returns to the ready state.

| German<br>Austria | Oceania     | Pan-Nordic | East Europe      |
|-------------------|-------------|------------|------------------|
| Deutschland       | Australia   | Norge      | österreich       |
| österreich        | New Zealand | Suerige    | Cheska republika |
|                   |             | Suomi      | Magyarorazăg     |
|                   |             | Danmark    | Polska           |
|                   |             | Others     | Бългaрия         |
|                   |             |            | Romănia          |
|                   |             |            | Slovensko        |
|                   |             |            | Others           |

### 1.3.14 Transfer received fax data / log information (function code: 53)

#### <Function>

When the machine is unable to print the received fax data due to an error in the printing mechanism, this function is used to transfer the data to another machine. The communication management report, communication list, or machine log information can also be transferred.

#### Note:

- The number of files that can be transferred in one operation is up to 99. When there are 100 or more files, the operating procedure below must be performed several times to transfer all files.
- When there are both color data files and monochrome data files, monochrome data files are transferred first. When the color function is not supported by the receiving machine, color data files cannot be transferred and an error occurs.

#### <Operating Procedure>

- (1) Press the [5] and [3] buttons in this order in the initial state of maintenance mode. "FAX TRANSFER" is displayed on the LCD.
  - To check the number of files received, press the [1] button. "1. NO. OF JOBS" is displayed on the LCD. Press the [SET] button, and the number of files received is displayed, for example, "NO. OF JOBS: 10".
  - To transfer only the communication management report, press the [2] button. "2. ACTIVITY" is displayed on the LCD.
  - To transfer the received data, press the [3] button. (The communication management report is also transferred.) "3. DOCUMENTS" is displayed on the LCD. If there are no received files, "NO DOCUMENTS" is displayed.
  - To transfer the communication list (latest communication information), press the [4] button. "4. COM.LIST (NEW)" is displayed.
  - To transfer the communication list (information for the past three errors), press the [5] button. "5. COM.LIST (ERR3)" is displayed on the LCD.
  - To transfer the maintenance information (list printed by function code 77), press the [6] button. "6. MNT77LIST" is displayed on the LCD.
- (2) Press the [SET] button while "2. ACTIVITY", "3. DOCUMENTS", "4. COM.LIST (NEW)", "5. COM.LIST (ERR3)", or "6. MNT77LIST" is displayed on the LCD. "ENTER NO. & SET" is displayed on the LCD.
- (3) Enter the telephone number of the receiving machine, and press the [SET] button again.
- (4) "Accepted" is displayed for two seconds, and the machine starts dialing to transfer the data.

#### Note:

- Be sure to enter the telephone number using the numerical buttons. One-touch dialing is not allowed in this procedure.
- No station ID will be attached to the data which is transferred. Instead, a cover page and end page as shown on the [next page](#) will be automatically attached.

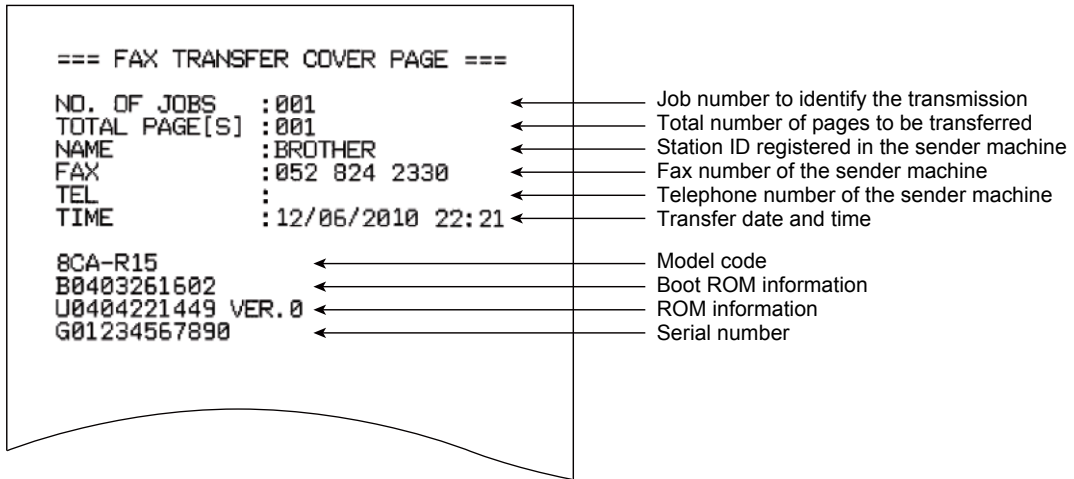


Fig. 4-7

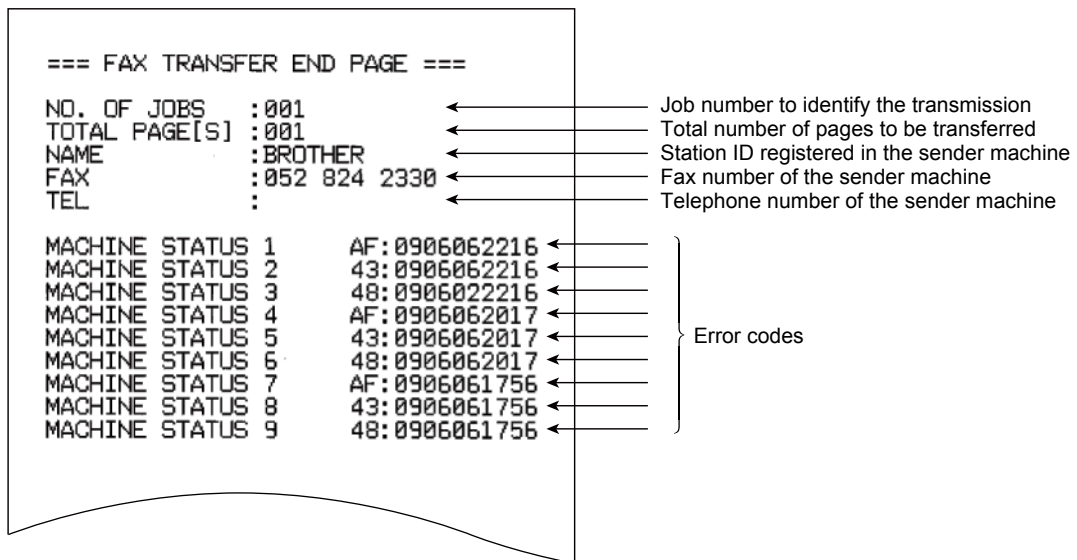


Fig. 4-8



### 1.3.15 Fine-tune scanning position (function code: 54)

#### <Function>

This function is used to adjust the scanning start/end positions for the ADF and the document scanner unit.

#### <Operating Procedure>

- (1) Ten-key pad models  
Press the [5] and [4] buttons in this order in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 54" on the LCD and press the [OK] button.
- (2) "SCAN START ADJ." is displayed on the LCD.  
After two seconds, "▲: ADF ▼: FB" is displayed on the LCD. Select the preferred item to adjust its start position. Press [▲] to select the ADF and [▼] to select the document scanner unit.
- (3) The current scanning position compensation level is displayed on the LCD.  
(Compensation levels can be adjusted in 101 steps from 50 to -50.)
- (4) Press the [▲] button to adjust the compensation level to the positive direction or press the [▼] button to adjust it to the negative direction.
- (5) Press the [OK] button. "Accepted" is displayed on the LCD, and the machine returns to the initial state of maintenance mode.

### 1.3.16 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 unit, and store this data and the scan area in the EEPROM of the main PCB.

#### <Operating Procedure>

- (1) Ten-key pad models  
Press the [5] button twice in the initial state of maintenance mode.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 55" on the LCD and press the [OK] button.
- (2) If an error occurs in the machine, "ME AF STOP" is displayed on the LCD.  
Press [▲], [▼], [▲] and [▼] buttons in this order.  
If there is no error in the machine, proceed to step (3).
- (3) Press the [Start] button. "SCANNER AREA SET" is displayed on the LCD, and the white level data is obtained.  
After several seconds, the compensation value for the white level data/scanning width is stored in the EEPROM, and the machine returns to the initial state of maintenance mode. If any error is detected during this operation, "SCANNER ERROR" is displayed on the LCD.  
In this case, turn the power switch of the machine OFF and do repairs in reference to chapter 1.

### 1.3.17 Print test (function code: 67)

#### <Function>

This function is used to conduct paper feed and eject tests while printing patterns.

#### <Operating Procedure>

(1) Ten-key pad models

Press the [6] and [7] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 67" on the LCD and press the [OK] button.

- (2) "PAPER FEED TEST" is displayed on the LCD and the lattice pattern is printed continuously.
- (3) Press the [Stop/Exit] button to stop printing. Printing of the test pattern is stopped, and the machine returns to the initial state of maintenance mode.

#### ■ Print pattern

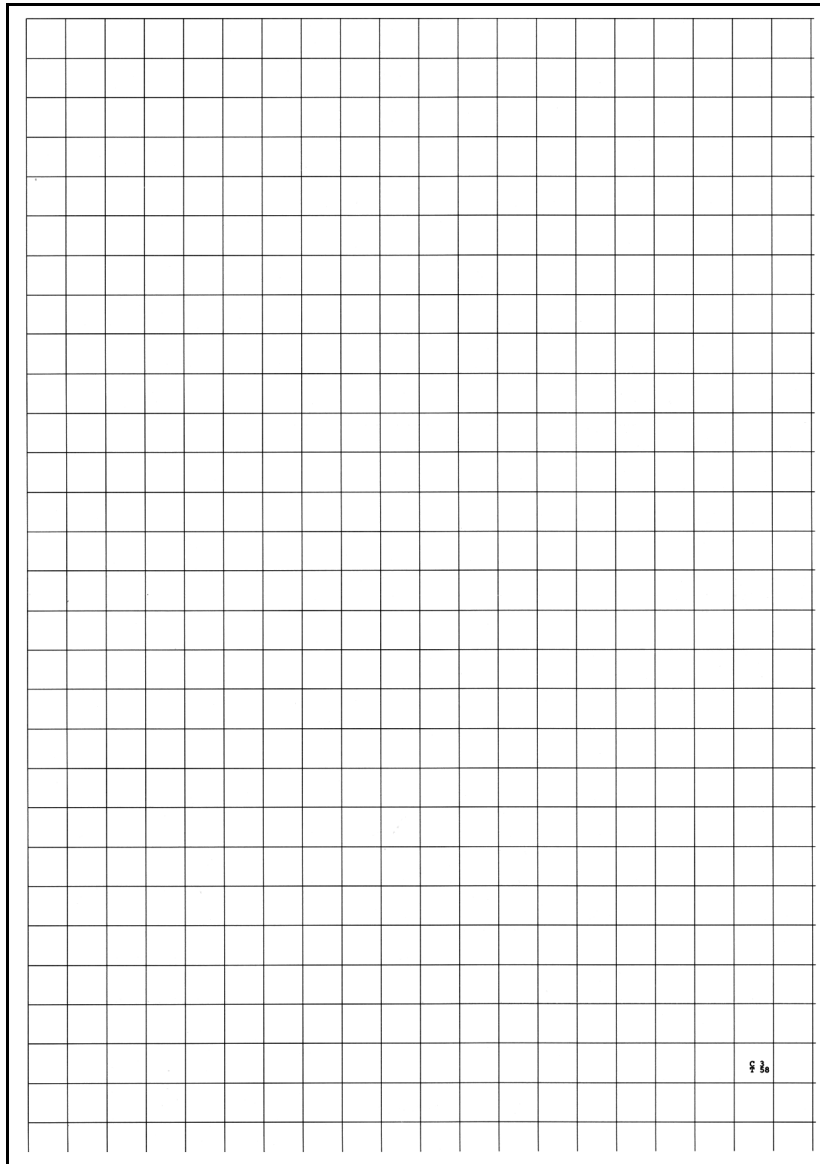


Fig. 4-9

### 1.3.18 Print frame pattern (single-side printing) (function code: 69)

#### <Function>

This function is used to print a frame pattern on a single side of the paper and to check for printing flaws.

#### <Operating Procedure>

Be sure to set letter size paper for test pattern printing before commencing the following procedure.

(1) Ten-key pad models

Press the [6] and [9] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display “MAINTENANCE 69” on the LCD and press the [OK] button.

(2) “PRINTING” is displayed on the LCD, and the frame pattern is printed on a single side of the paper.

When printing is completed, “WAKU SX” is displayed on the LCD.

**Note:**

- If printing fails, printing is stopped and one of the errors shown in the table below is displayed. To retry printing, refer to the “Remedy” in the table below to eliminate the cause of the error, and press the [Start] button.

(3) To print the frame pattern again, press the [Start] button.

(4) When the [Stop/Exit] button is pressed, the machine returns to the initial state of maintenance mode.

#### Error display

| LCD           | Remedy                       |
|---------------|------------------------------|
| TONER EMPTY   | Replace the toner cartridge. |
| Cover is Open | Close the top cover.         |
| No Paper      | Set paper in the paper tray. |
| Jam Tray1     | Remove the jammed paper.     |
| Jam Rear      | Remove the jammed paper.     |

#### ■ Print pattern

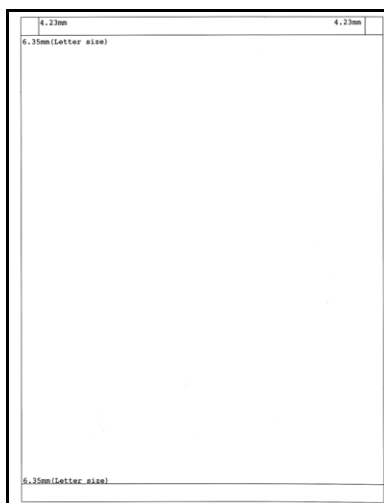


Fig. 4-10

### 1.3.19 Print test pattern (function code: 71)

#### <Function>

This function is used to print a test pattern to check whether the developer roller or exposure drum is dirty or damaged.

#### <Operating Procedure>

(1) Ten-key pad models

Press the [7] and [1] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 71" on the LCD and press the [OK] button.

(2) "PRINTING" is displayed on the LCD, and the 2D3S pattern is printed on a single side of the paper.

When printing is completed, "2D3S K" is displayed on the LCD.

#### Note:

- If printing fails, printing is stopped and one of the errors shown in the table below is displayed. To retry printing, refer to the "Remedy" in the table below to eliminate the cause of the error, and press the [Start] button.

(3) To print the 2D3S pattern again, press the [Start] button.

(4) When the [Stop/Exit] button is pressed, the machine returns to the initial state of maintenance mode.

#### Error display

| LCD           | Remedy                       |
|---------------|------------------------------|
| TONER EMPTY   | Replace the toner cartridge. |
| Cover is Open | Close the top cover.         |
| No Paper      | Set paper in the paper tray. |
| Jam Tray1     | Remove the jammed paper.     |
| Jam Rear      | Remove the jammed paper.     |

#### ■ Print pattern

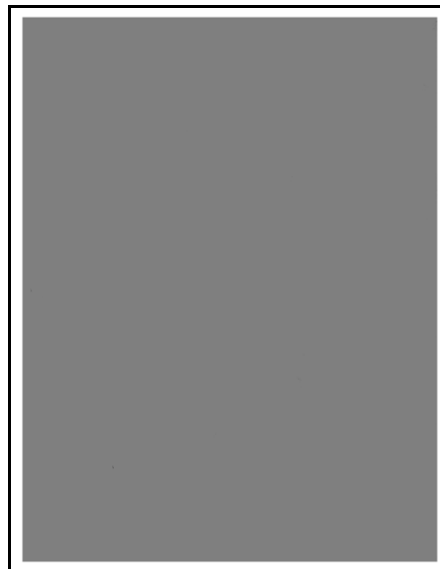


Fig. 4-11

### 1.3.20 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) Ten-key pad models  
Press the [7] and [4] buttons in this order in the initial state of maintenance mode.
- Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 74" on the LCD and press the [OK] button.
- (2) The country code currently set is displayed on the LCD. Enter the country code you want to set.
- (3) Press the [Start] button. The new setting is saved, and "PARAMETER INIT" is displayed on the LCD. Then the machine returns to the initial state of maintenance mode.
- (4) When the [Stop/Exit] 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.

#### ■ Setting by country code list

| Country     |         | DCP-1510       | DCP-1511 | DCP-1512       | DCP-1518 | MFC-1810       | MFC-1811 | MFC-1813 | MFC-1815 | MFC-1818 |
|-------------|---------|----------------|----------|----------------|----------|----------------|----------|----------|----------|----------|
| German      | German  | 0053<br>(0003) | —        | 0153<br>(0103) | —        | 0053<br>(0003) | —        | —        | —        | —        |
|             | Austria | 0053<br>(0014) | —        | 0153<br>(0114) | —        | 0053<br>(0014) | —        | —        | —        | —        |
| UK          |         | 1004           | —        | 1104           | —        | 0004           | —        | —        | —        | —        |
| France      |         | 1004           | —        | 1105           | —        | 0005           | —        | —        | —        | —        |
| Belgium     |         | 1008           | —        | —              | —        | 0008           | —        | —        | —        | —        |
| Netherlands |         | 1004           | —        | —              | —        | 0009           | —        | —        | —        | —        |
| Switzerland |         | 1004           | —        | —              | —        | 0010           | —        | —        | —        | —        |
| Italy       |         | 1004           | —        | 1105           | —        | 0016           | —        | —        | —        | —        |
| Vietnam     |         | —              | 0019     | —              | —        | —              | 0019     | —        | —        | —        |
| China       |         | —              | —        | —              | 0020     | —              | —        | 0020     | —        | 0120     |
| Taiwan      |         | 0023           | —        | —              | —        | —              | —        | —        | 0123     | —        |
| Turkey      |         | —              | 0025     | —              | —        | —              | 0025     | —        | 0125     | —        |
| Indonesia   |         | 0040           | —        | —              | —        | 0040           | —        | —        | 0140     | —        |
| Argentina   |         | —              | —        | 0136           | —        | —              | —        | —        | 0136     | —        |

The above information is as of May 2013. Please confirm the latest firmware information which is available from your local Brother Customer Service.

| Country    |                | DCP-1510 | DCP-1511 | DCP-1512 | DCP-1518 | MFC-1810       | MFC-1811 | MFC-1813 | MFC-1815 | MFC-1818 |
|------------|----------------|----------|----------|----------|----------|----------------|----------|----------|----------|----------|
| Chile      |                | —        | —        | 0136     | —        | —              | —        | —        | —        | —        |
| Poland     |                | 0039     | —        | 0139     | —        | 0039           | —        | —        | —        | —        |
| MENA       |                | 0041     | —        | —        | —        | 0041           | —        | —        | 0141     | —        |
| Brazil     |                | —        | —        | 0142     | —        | —              | —        | —        | —        | —        |
| Korea      |                | 0040     | —        | —        | —        | 0040           | —        | —        | 0140     | —        |
| India      |                | —        | 0045     | —        | —        | —              | 0045     | —        | —        | —        |
| Mexico     |                | —        | —        | 0136     | —        | 0046           | —        | —        | —        | —        |
| Russia     |                | 0048     | —        | 0148     | —        | 0048           | —        | —        | 0148     | —        |
| Oceania    | Australia      | 0006     | —        | —        | —        | 0056<br>(0006) | —        | —        | —        | —        |
|            | New Zealand    | 0006     | —        | —        | —        | 0056<br>(0027) | —        | —        | —        | —        |
| Pan-Nordic |                | 1007     | —        | 1107     | —        | —              | —        | —        | —        | —        |
| CEE        | Czech Republic | 1037     | —        | 1137     | —        | 0088<br>(0037) | —        | —        | —        | —        |
|            | Hungary        | 1037     | —        | 1137     | —        | 0088<br>(0038) | —        | —        | —        | —        |
|            | Bulgaria       | 1037     | —        | 1137     | —        | 0088<br>(0032) | —        | —        | —        | —        |
|            | Romania        | 1037     | —        | 1137     | —        | 0088<br>(0033) | —        | —        | —        | —        |
|            | Slovakia       | 1037     | —        | 1137     | —        | 0088<br>(0030) | —        | —        | —        | —        |
|            | Slovenia       | 1037     | —        | 1137     | —        | 0088<br>(0082) | —        | —        | —        | —        |
|            | Croatia        | 1037     | —        | 1137     | —        | 0088<br>(0081) | —        | —        | —        | —        |
|            | Others         | 1037     | —        | 1137     | —        | 0088<br>(0050) | —        | —        | —        | —        |
| Iberia     | Spain          | 1004     | —        | —        | —        | 0065<br>(0015) | —        | —        | —        | —        |
|            | Portugal       | 1004     | —        | —        | —        | 0065<br>(0018) | —        | —        | —        | —        |
| Malaysia   |                | 0040     | —        | —        | —        | 0040           | —        | —        | 0140     | —        |
| Peru       |                | —        | —        | 0136     | —        | —              | —        | —        | —        | —        |
| UAE        |                | 0041     | —        | —        | —        | 0041           | —        | —        | 0141     | —        |

The above information is as of May 2013. Please confirm the latest firmware information which is available from your local Brother Customer Service.

### 1.3.21 Print maintenance information (function code: 77)

#### <Function>

This function is used to print the maintenance information, such as the remaining amount of consumables, number of replacements, and counter values (refer to the [next page](#)).

#### <Operating Procedure>

(1) Ten-key pad models

Press the [7] button twice in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display “MAINTENANCE 77” on the LCD and press the [OK] button.

(2) Printing maintenance information starts. When printing is completed, the machine returns to the initial state of maintenance mode.

#### ■ Print pattern

```

<<PRINT MAINTENANCE>>

① MFC-1810 series          ② PRINT DATE: 01/01/14
③ 8C5-G33                 ④ 0140 04
⑤ B1210231653            ⑥ ENG: 0.27
⑦ U1210241123          VER.W ⑧ FSEC
⑨ LANG DATA             L1211061409
⑩ RTC                    OK    ⑪ NG 02:30 00:10
⑫ WHOL                   02D1 ⑬ X12345L2J000118
⑭ 55                      OK
⑮ RAM SIZE                16 Mbyte
⑯ 00                      ⑰ 01
⑱ FUNC CHECKER           OK
⑲ HV CHECKER             OK
⑳ MODN_ER: 00          FUSR_ER: 00 ⑳ MTLK_ER: 00          ZRCR_ER: 00
㉑ 00000000000000000000 ㉒ 00000000
    4000000000200000          00000000
㉓ 00000000 000090D0 00000000 00000000
    00000000 00000000 00000000 00000000
    00000000 00000000 00000000 00000000
REMAINING LIFE
㉔ TCENR CARTRIDGE          100%
㉕ DRUM UNIT                9972 (100%)
AVERAGE COVERAGE
㉖ TOTAL                    6.29%
㉗ CURR                     0.00%
㉘ PREVIOUS                 6.29%
DRUM INFORMATION
㉙ PAGE COUNT              0000028
㉚ ROLND COUNT             00000458
㉛ CURR DEVELOPING ROLLER COUNT(TOTAL/PRINT) 00000000/00000000
㉜ PREV DEVELOPING ROLLER COUNT(TOTAL/PRINT) 00000450/00000322
㉝ DEVELOPING BIAS        310V
㉞ TOTAL PAGES PRINTED    0000028
㉟ COPY PAGE COUNT       0000004
㊱ PRINT PAGE COUNT      0000005
㊲ LIST/FAX PAGE COUNT   0000019
TOTAL PAGES PICKUP
㊳ A4+TR/LGL+FDL         0000020/0000000
㊴ OTHERS                0000000
㊵ TOTAL PAPER JAMS      0000000
㊶ T1/INSIDE/REAR       0000000/0000000/0000000
TONER CARTRIDGE
㊷ REPLACE COUNT         001(001)#
㊸ REPLACE DATE          01/01/14
㊹ PAGE COUNT(CURR)      000000
㊺ PAGE COUNT(PREV)     000028
DRUM UNIT
㊻ REPLACE COUNT         000
㊼ REPLACE DATE          00/00/00
㊽ MAC ERROR 1/2        6101:1401010053:0000028/6200:1401010053:0000028
    3/4                6901:1401010039:0000012/0000:0401010000:0000000
    5/6                0000:0401010000:0000000/0000:0401010000:0000000
    7/8                0000:0401010000:0000000/0000:0401010000:0000000
    9/10               0000:0401010000:0000000/0000:0401010000:0000000
㊾ STATUS LOG
    001101 001300 001101 002500 001101
    001101 001101 001101 001101 001101
    0000003/0000002
    0000000
    00000000:0401010000
    00000000:0401010000
    00000000:0401010000
    00/00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
    00000036
    000010
    MN:000000/000000
    RS:000000/000000
    EJ:000000/000000
㊿ First Date PC-Pnn:--/--/-- ㊿ First Date RTC:--/--/--
  
```

Fig. 4-12

|    |   |    |   |
|----|---|----|---|
| 1  | Model name  | 30 | Rotations of the drum   |
| 2  | Printed date  | 31 | Rotations of the developer roller of currently set toner cartridge            |
| 3  | Model code  | 32 | Rotations of the developer roller of previously set toner cartridge           |
| 4  | Country code / Switch check sum   | 33 | Developing bias voltage value   |
| 5  | Boot firmware creation date   | 34 | Total printed pages   |
| 6  | Engine firmware version   | 35 | Total copied pages  |
| 7  | Main firmware creation date / version   | 36 | Total printed PC pages  |
| 8  | Main firmware check sum   | 37 | Total printed List / Fax pages  |
| 9  | Language data creation date   | 38 | Total input papers of A4 size / Letter size / Legal size / Folio size         |
| 10 | Result of RTC check / RTC backup  | 39 | Total input papers other than A4 size / Letter size / Legal size / Folio size |
| 11 | Time before RTC backup / Time after RTC backup  | 40 | Total number of paper jams  |
| 12 | WHQL / USB Product ID   | 41 | Paper jams that have occurred in tray / machine inside / paper eject path     |
| 13 | Serial number   | 42 | The number of times that the toner cartridge has been replaced                |
| 14 | Result of function code 55  | 43 | Toner cartridge replacement date  |
| 15 | ROM size  | 44 | Total printed pages of currently set toner cartridge                          |
| 16 | Toner type of currently set toner cartridge   | 45 | Total printed pages of previously set toner cartridge                         |
| 17 | Toner type of previously set toner cartridge  | 46 | The number of times that the drum unit has been replaced                      |
| 18 | Result of Main PCB inspection   | 47 | Drum unit replacement date  |
| 19 | Result of High-voltage PCB inspection   | 48 | Machine error log   |
| 20 | The number of times of the discharge error / Fuser unit error                                   | 49 | Status log  |
| 21 | Polygon motor error occurred / The number of times of the power supply waveform detection error | 50 | Total copied pages of ADF/ Document scanner unit                              |
| 22 | Not necessary for maintenance   | 51 | Document jams that have occurred in ADF                                       |
| 23 | ADF sensor log  | 52 | Communication error log   |
| 24 | Estimated remaining toner amount  | 53 | Home position detection error / error log                                     |
| 25 | Remaining life of drum unit   | 54 | Total power distribution time   |
| 26 | Accumulated average coverage  | 55 | The number of times that the power has been turned ON                         |
| 27 | Average coverage by the toner cartridge which is currently used                                 | 56 | Sensor operating state <sup>*1</sup>  |
| 28 | Average coverage by the toner cartridge which is previously used                                | 57 | Start date for machine operation (Starting date of PC print)                  |
| 29 | Drum page count   | 58 | Start date for machine operation (Set date of RTC)                            |

<sup>\*1</sup> KO : Paper feed sensor OFF time / Paper feed sensor ON time (This sensor is not provided.)

MN : Paper feed sensor OFF time / Paper feed sensor ON time

RS : Paper printing position sensor OFF time / Paper printing position sensor ON time

EJ : Eject sensor OFF time / Eject sensor ON time



### 1.3.22 Display machine log information (function code: 80)

#### <Function>

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

#### <Operating Procedure>

- (1) Ten-key pad models  
Press the [8] and [0] buttons in this order in the initial state of maintenance mode.
- Non-ten-key pad models  
Press the [▲] or [▼] button to display "MAINTENANCE 80" on the LCD and press the [OK] button.
- (2) "USB:\*\*\*\*\*" is displayed on the LCD. (The machine serial number is displayed for \*\*\*\*\*.)  
Pressing the [▼] button displays the next item.  
Pressing the [▲] button returns to the previous item.
- (3) When the [Stop/Exit] button is pressed, the machine returns to the initial state of maintenance mode.

Display information

| LCD              | Description   |
|------------------|---|
| USB:*****        | Serial number *1  |
| PCB:*****        | Main PCB serial number  |
| KTN_ERM:**%      | Estimated remaining black toner amount based on coverage                          |
| KTN_RRM:**%      | Estimated remaining black toner amount based on the rotations of developer roller |
| DRUM_PG:00000000 | Printed pages for drum  |
| TTL_PG:00000000  | Total printed pages   |
| TTLCOPY:00000000 | Total pages copied  |
| TTLPCPT:00000000 | Total pages printed via PC  |
| TTLFAX:00000000  | Total printed List / Fax pages  |
| KCVRGUSI:*. **%  | Average coverage by the toner cartridge which is currently used                   |
| KCVRGACC:*. **%  | Accumulated average coverage  |
| DRUM:00000000    | Rotations of the drum   |
| KTN_RND:00000000 | Rotations of the developer roller   |
| A4+LTR:00000000  | Printed pages of A4 size and Letter size paper                                    |
| LG+FOL:00000000  | Printed pages of Legal size and Folio size paper                                  |
| OTHER:00000000   | Printed pages of other types of paper   |
| TTL_JAM:00000000 | Total paper jams that have occurred   |
| TR1_JAM:00000000 | Paper jams that have occurred in paper tray 1                                     |
| IN_JAM:00000000  | Paper jams that have occurred in the machine                                      |
| RE_JAM:00000000  | Paper jams that have occurred at the ejecting section or back cover               |
| POWER:00000000   | Total power distribution time   |
| PWRCNT:00000000  | The number of times that the power has been turned ON                             |

| LCD                 | Description  |
|---------------------|--|
| MACERR_01:0000 *2   | Machine error log (past ten errors)                            |
| KTN_CH:0000 *3      | The number of times that the toner cartridge has been replaced |
| DRUM_CH:0000 *3     | The number of times that the drum unit has been replaced       |
| KTN_PG1:00000000    | Pages printed with the current toner cartridge                 |
| KTN_PG2:00000000    | Pages printed with the previous toner cartridge                |
| ADF_PG:00000000     | The number of pages scanned from ADF                           |
| FB_PG:000000        | The number of pages scanned on the document scanner unit       |
| ADF_JAM:000000      | The number of jams that occurred in scanning from ADF          |
| COMERR *4:          | Latest communication error log (past three errors)             |
| KDEV_BIAS:***V      | Black developing bias voltage value                            |
| ENGERR01:000000 *4  | Engine error log (past ten errors)                             |
| HODN_ER:0000        | The number of discharge errors                                 |
| FUSR_ER:0000        | The number of fuser unit errors                                |
| MTLK_ER:00000000    | The number of polygon motor lock errors                        |
| DEVSTATUS__01:00 *5 | Log for design analysis  |

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

1) Ten-key pad models

While the serial number is displayed, press the [9], [4], [7], and [5] buttons in this order.

Non-ten-key pad models

Press the [▲] or [▼] button to display "9" on the LCD and press the [OK] button to enter. Enter the "4", "7" and "5" in this order by using the [▲], [▼] and [OK] buttons similarly.

2) The cursor appears on the first digit of the serial number and the machine enters edit mode.

Ten-key pad models

Use the ten-key pad to enter the first digit of the serial number. The cursor moves to the second digit. Then enter the second digit to the 15th digit similarly.

<Entry method of alphanumeric characters>

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

| Ten-key pad | 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   |

#### Non-ten-key pad models

Press the [▲] or [▼] button to display the first digit of the serial number and press the [OK] button. The cursor moves to the second digit. Then enter the second digit to the 15th digit by using the [▲], [▼] and [OK] buttons similarly.

- 3) Press the [Start] button after the 15 digits is entered and the new serial number is saved. The machine returns to the initial state of maintenance mode.

\*<sup>2</sup> When the [OK] button is pressed while the machine error is displayed, the LCD changes to "PGCNT:\*\*\*\*\*". The total printed pages at the error occurrence is displayed for "\*\*\*\*\*".

\*<sup>3</sup> When the [OK] button is pressed while the number of times the part has been replaced is displayed, the LCD changes to "DATE\_XX:\*\*\*\*\*". The abbreviation of each part is displayed for "XX" and the latest replacement date is displayed for "\*\*\*\*\*".

\*<sup>4</sup> When the [OK] button is pressed while the engine error is displayed, the LCD changes to "TM:\*\*\*\*BT: \*\*\*". The minutes that has passed from the previous error is displayed for "TM", and the number of times that the power has been turned ON is displayed for "BT".

\*<sup>5</sup> When the [OK] button is pressed while the analysis log is displayed, the LCD changes to "PGCNT:\*\*\*\*\*".

The total printed pages at the error occurrence is displayed for "\*\*\*\*\*".

### 1.3.23 Display machine error code (function code: 82)

#### <Function>

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

#### <Operating Procedure>

(1) Ten-key pad models

Press the [8] and [2] buttons in this order in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 82" on the LCD and press the [OK] button.

(2) "MACHINE ERR XXXX" is displayed on the LCD.

When the [Stop/Exit] button is pressed, the machine returns to the initial state of maintenance mode.

### 1.3.24 Send communication log information to telephone line (function code: 87)

#### <Function>

This function is used to send the error list to service personnel at a remote service station when a fax communication problem has occurred in the user's machine. Receiving the error list allows the service personnel to analyze the problem in the user's machine.

#### <Operating Procedure>

- Service side

(1) The service personnel connects the telephone line to the target user.

- User side

(2) While the machine is in the ready state, press the [Menu], [Start] and [Menu] buttons in this order. "0" is displayed on the LCD.

(3) Press the [8] and [7] buttons in this order. "SENDING P.01" is displayed on the LCD, and the error list is sent.

(4) When sending the error list is completed, the machine returns to the ready state.

### 1.3.25 Quit maintenance mode (function code: 99)

#### <Function>

This function is used to quit maintenance mode.

#### <Operating Procedure>

(1) Ten-key pad models

Press the [9] button twice in the initial state of maintenance mode.

Non-ten-key pad models

Press the [▲] or [▼] button to display "MAINTENANCE 99" on the LCD and press the [OK] button.

(2) The machine quits maintenance mode and returns to the ready state.

## 2. OTHER SERVICE FUNCTIONS

---

### 2.1 Manual Toner Reset Functions

This function allows you to manually perform the same operation as when the toner cartridge is replaced with a new one. The purpose of this function is to provide an error resetting method in the event that the toner end display was not cleared because the new toner cartridge was not detected by the machine for some reason.

#### <Operating Procedure>

- (1) Press the [Menu] button and then press the [▲] or [▼] button to display “Machine Info” on the LCD. Press the [OK] button.
- (2) Press the [▲] or [▼] button to display “Reset Drum” on the LCD.
- (3) Press and hold the [OK] button until “1.Reset 2.Exit” is displayed on the LCD.
- (4) Ten-key pad models  
Press the [\*] button and all displays on the LCD are cleared.  
Non-ten-key pad models  
Press the [Start] button and all displays on the LCD are cleared.
- (5) Ten-key pad models  
Use the ten-key pad to enter the allocated value depending on the type of toner.  
Non-ten-key pad models  
Press the [▲] or [▼] button to display the allocated value depending on the type of toner and press the [OK] button.

Input value depending on the toner type

| Toner type     | Input value |
|----------------|-------------|
| Starter Toner  | 10          |
| Standard Toner | 11          |

- (6) “Accepted” is displayed on the LCD and the toner is reset.

### 2.2 Drum Counter Reset Functions (only for ten-key pad model)

This function is used to reset the drum unit counter after the drum unit has been replaced and to change the counter number of the replacement to +1.

#### <Operating Procedure>

- (1) While the machine is in the ready state, press the [3] and [9] buttons simultaneously.
- (2) “Reset Menu / Drum” is displayed on the LCD. Press the [OK] button.
- (3) “1.Reset 2.Exit” is displayed on the LCD. Press the [1] button.
- (4) “Accepted” is displayed on the LCD and the counter is reset. When resetting the counter is completed, the machine returns to the ready state.

## 2.3 Display ROM Version

This function is used to display the ROM version.

### <Operating Procedure>

(1) Ten-key pad models

While the machine is in the ready state, press the [\*] and [#] buttons simultaneously. The Main ROM version, creation date and time, and check sum are displayed on the LCD.

Non-ten-key pad models

While the machine is in the ready state, press the [▲] and [Stop/Exit] buttons simultaneously. The Main ROM version, creation date and time, and check sum are displayed on the LCD.

- (2) Press the [▲] or [▼] button. The PCLPS version is displayed on the LCD. (only for PCLPS model)
- (3) Press the [▲] or [▼] button again. The IFAX ROM creation date and time, and check sum are displayed on the LCD. (Only displayed when the IFAX is downloaded.)
- (4) When the [Stop/Exit] button is pressed, the machine returns to the ready state.

# APPENDIX 1 SERIAL NUMBERING SYSTEM

## ■ Serial number label (1 location)

<How to Read>

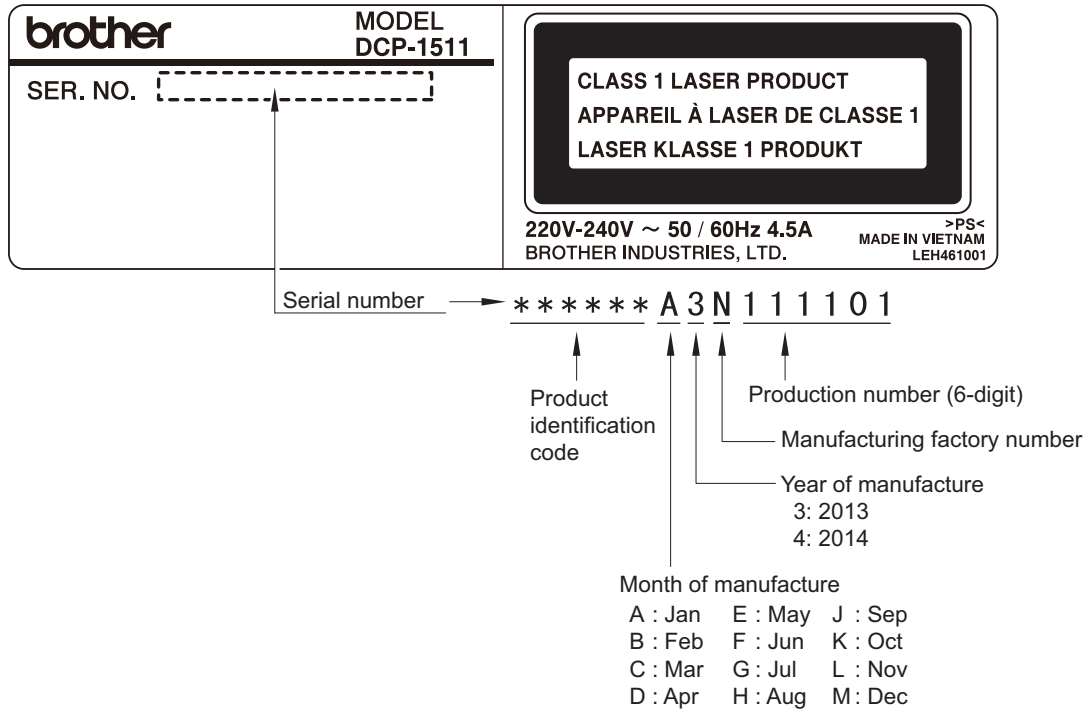


Fig. App. 1-1

<Location>

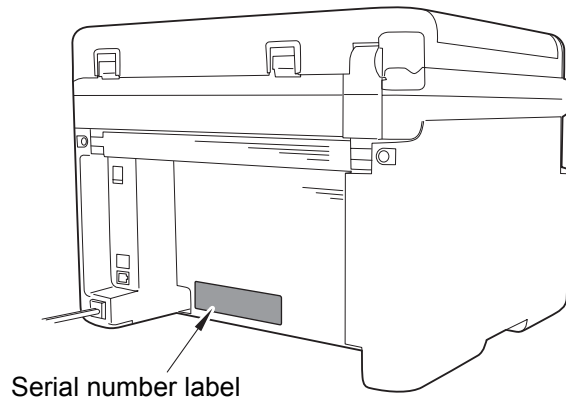


Fig. App. 1-2

## APPENDIX 2 DELETING USER SETTING INFORMATION

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The user setting information for the machine is stored in the main PCB. You can delete user setting information following the procedure below.

### <Operating Procedure>

- (1) Press the [Menu] button.
- (2) Press the [▲] or [▼] button to display "Initial Setup" on the LCD, and press the [OK] button.
- (3) Press the [▲] or [▼] button to display "Reset" on the LCD, and press the [OK] button.
- (4) Press the [▲] or [▼] button to display "All Settings" on the LCD, and press the [OK] button.
- (5) Press the [▲] or [▼] button to display "Reset" on the LCD, and press the [OK] button.
- (6) When completed, the machine returns to the ready state.