



FS-1116MFP

SERVICE MANUAL



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Safety precautions

This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

Safety warnings and precautions

Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:

 **DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

 **WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

 **CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

Symbols

The triangle () symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.



General warning.



Warning of risk of electric shock.



Warning of high temperature.

 indicates a prohibited action. The specific prohibition is shown inside the symbol.



General prohibited action.



Disassembly prohibited.

 indicates that action is required. The specific action required is shown inside the symbol.



General action required.



Remove the power plug from the wall outlet.



Always ground the copier.

1. Installation Precautions

WARNING

- Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current. 
- Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities. 

CAUTION:

- Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury. 
- Do not install the copier in a humid or dusty place. This may cause fire or electric shock. 
- Do not install the copier near a radiator, heater, other heat source or near flammable material.

This may cause fire. 

- Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance. 

- Always handle the machine by the correct locations when moving it. 
- Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury. 

- Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention. 

- Advise customers that they must always follow the safety warnings and precautions in the copier's instruction handbook. 

2. Precautions for Maintenance

WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly. 
 - Always follow the procedures for maintenance described in the service manual and other related brochures. 
 - Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits. 
 - Always use parts having the correct specifications. 
 - Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident. 
 - When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully. 
 - Always check that the copier is correctly connected to an outlet with a ground connection. 
 - Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock. 
 - Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight. 
 - Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. 
- ### CAUTION
- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections. 
 - Use utmost caution when working on a powered machine. Keep away from chains and belts. 
 - Handle the fixing section with care to avoid burns as it can be extremely hot. 
 - Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures. 

• Do not remove the ozone filter, if any, from the copier except for routine replacement.



• Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself.



• Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item.



• Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks.



• Remove toner completely from electronic components.



• Run wire harnesses carefully so that wires will not be trapped or damaged.



• After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws.



• Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary.



• Handle greases and solvents with care by following the instructions below:



Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely. Ventilate the room well while using grease or solvents.

Allow applied solvents to evaporate completely before refitting the covers or turning the power switch on. Always wash hands afterwards.

• Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc.



• Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately.



3.Miscellaneous

WARNING

• Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas.



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1-1-1 Specifications

Main body

Printing system	Electro-photographic
Originals.....	Sheets of paper, books and 3-dimensional objects
Copy sizes	Paper cassette: A4, B5 (JIS), A5, folio, legal, letter, oficio II Manual feed tray: A4, B5 (JIS), A5, folio, legal, letter, oficio II, statement, executive, A6, B6, B5 (ISO), envelope #10, envelope #9, envelope monarch, envelope #6, envelope C5, envelope DL, 16K
Paper types.....	Paper cassette: Plain paper, recycled paper, thick paper 60 to 105 g/m ² Manual feed tray: Plain paper, recycled paper, thick paper 60 to 163 g/m ² Transparency, envelopes and post cards supported
Paper feed source capacity	Paper cassette: 250 sheets Manual feed tray: 1 sheet
Output tray capacity	100 sheets (face-down)
Photoconductor.....	OPC drum (diameter 30 mm/1 3/16")
Charging system.....	Scorotron (positive charging)
Developing system	Mono component dry developing method Toner replenishing: Automatic from the toner container
Transfer system	Transfer roller (negative-charged)
Separation system	Small diameter separation
Fuser system	Heat roller system
Charge erasing system.....	Exposure by eraser lamp (LED)
Cleaning system	Drum: Counter blade
Warm-up time	25 seconds or less
Memory.....	64 MB
Ambient conditions	Temperature: 10 to 32.5 °C/50 to 95 °F Humidity: 20 to 80 %RH Altitude: Maximum 2,000 m/6,562 ft Illumination: 1,500 lux or less
Power source	120 V AC, 60 Hz, 8.2 A 220 to 240 V AC, 50 Hz, 3.9 A
Dimensions (W) × (D) × (H)	476 × 392 × 489 mm/18 3/4" × 15 7/16" × 19 1/4"
Weight.....	Approx. 15 kg/33 lbs
Required space (W) × (D)	479 × 437 mm/18 7/8" × 17 3/16"
Option	Print server

Copying functions

Copying speed.....	Platen (1:1) A4: 16 copies/min. A5: 10 copies/min. B5: 14 copies/min. Letter: 17 copies/min. Document processor (1:1) A4: 12 copies/min. A5: 10 copies/min. B5: 14 copies/min. Letter: 13 copies/min. Legal: 11 copies/min.
First copy (1:1, Letter/A4)	Platen 12±0.5 seconds Document processor 14±0.5 seconds
Resolution.....	Scanning and printing: 600 × 600 dpi
Continuous copying	1 to 99 sheets
Zoom ratios.....	Any 1 % increment between 25 and 400 %

Printing functions

Printing speed.....	A4: 16 pages per minute/Letter: 17 pages per minute
First print.....	11 seconds or less
Resolution.....	600 × 600 dpi
Host Interface	USB: 1 port (Hi-speed USB)

Scanning functions

Scanning Speed.....	Monochrome: 5 scan/min. Full color or grayscale: 5 scan/min. (TWAIN) 4 scan/min. (QLINIK) 1:1, Letter/A4, 300 dpi
Resolution.....	600 × 300 dpi
Color mode	Full color: 24 bit/dot (each color) Grayscale: 8 bit/dot Monochrome: 1 bit/dot
File format.....	PDF, TIFF, JPEG (8-Bit gray mode, 24-Bit color mode), BMP
Host Interface	USB (TWAIN): 1 port (Hi-speed USB)

Fax functions

Compatibility	Group 3
Line Requirements.....	Subscription telephone line, PBX
Transmission Time.....	Less than 4 seconds (33,600 bps, ITU-T #1 chart, Memory transmission, ECM transmission, Image quality: Standard, MMR, non-TTI, Brightness: Normal)
Modem Speed.....	33.6/31.2/28.8/26.4/24.0/21.6/19.2/16.8/14.4/12.0/9.6/7.2/4.8/2.4 Kbps
Encoding Method.....	MMR/MR/MH
Error Correction	ECM
Document Dimensions.....	Max. width: 8 1/2"/210 mm Max. length: 356 mm
Automatic Feeding.....	Max. 50 sheets (using the document processor)
Scanning Line Density	Horizontal x Vertical Standard (8 dots/mm x 3.85 lines/mm) Fine (8 dots/mm x 7.7 lines/mm) Super fine (8 dots/mm x 15.4 lines/mm) Photo (8 dots/mm x 15.4 lines/mm)
Recording Resolution	600 dpi x 600 dpi
Grayscale.....	64 levels (Error diffusion)
One-Touch Dial.....	Max. 12 destinations (1-12)
Speed Dial	Max. 100 destinations
Group Dial.....	Max. 6 dials (max. 50 destinations per a group)
Broadcast Transmission	Max. 100 destinations
Polling Reception.....	Max. 1 location
Memory Reception.....	150 pages or more (ITU-T A4#1, Image quality: standard)
Installed Imaging Memory.....	For reception: 3 MB (flash memory)
Output Reports	FAX Tx Report, Activity Report, Phone Book List, Memory Job List, Reject FAX List, Lost Job Report
Functions	
Reception functions	Manual reception, Automatic reception, Fax/telephone auto selection, D.R.D. reception*
Transmission functions	Numeric key dialing (max. 40), One-touch dialing, Speed dialing, Group dialing, Redialing (manual/automatic)
Communication functions	Direct feed transmission, Memory transmission
Additional communication functions	
.....	Broadcast transmission (up to 100 numbers), Polling communication, Memory fax forwarding, Timer transmission, ECM
Supplementary communication functions	
.....	Manual transmission, Phone Book, line monitor, Transmission destination display, Tone transmission
Supplementary transmission functions	
.....	TTI transmission, Initial communication speed setting, Line type setting
Supplementary reception functions	
.....	Memory reception, Reception date and time recording, Reduced size reception, Reject fax (max. 20 parties)
Reports	Transmission report, Activity report, Power failure report, Confirmation report, Delayed communication report, User settings list, Speed dial list, One-touch key list, Phone Book list, Group dial list, Reject FAX list
Others	Memory editing

*120 V specifications only.

Document processor (DP)

Original feed system	Automatic feeding
Originals.....	Sheets of paper
Original size	Maximum: Legal
	Minimum: Statement and A5R
Original paper weight.....	60 to 105 g/m ²
Maximum number of originals.....	50 sheets

Environmental specifications

Duplex copying	Manual
Paper feed	Recycled paper made from 100% recycled pulp may be used with this product.

NOTE: These specifications are subject to change without notice.

1-1-2 Parts names

(1) Main body

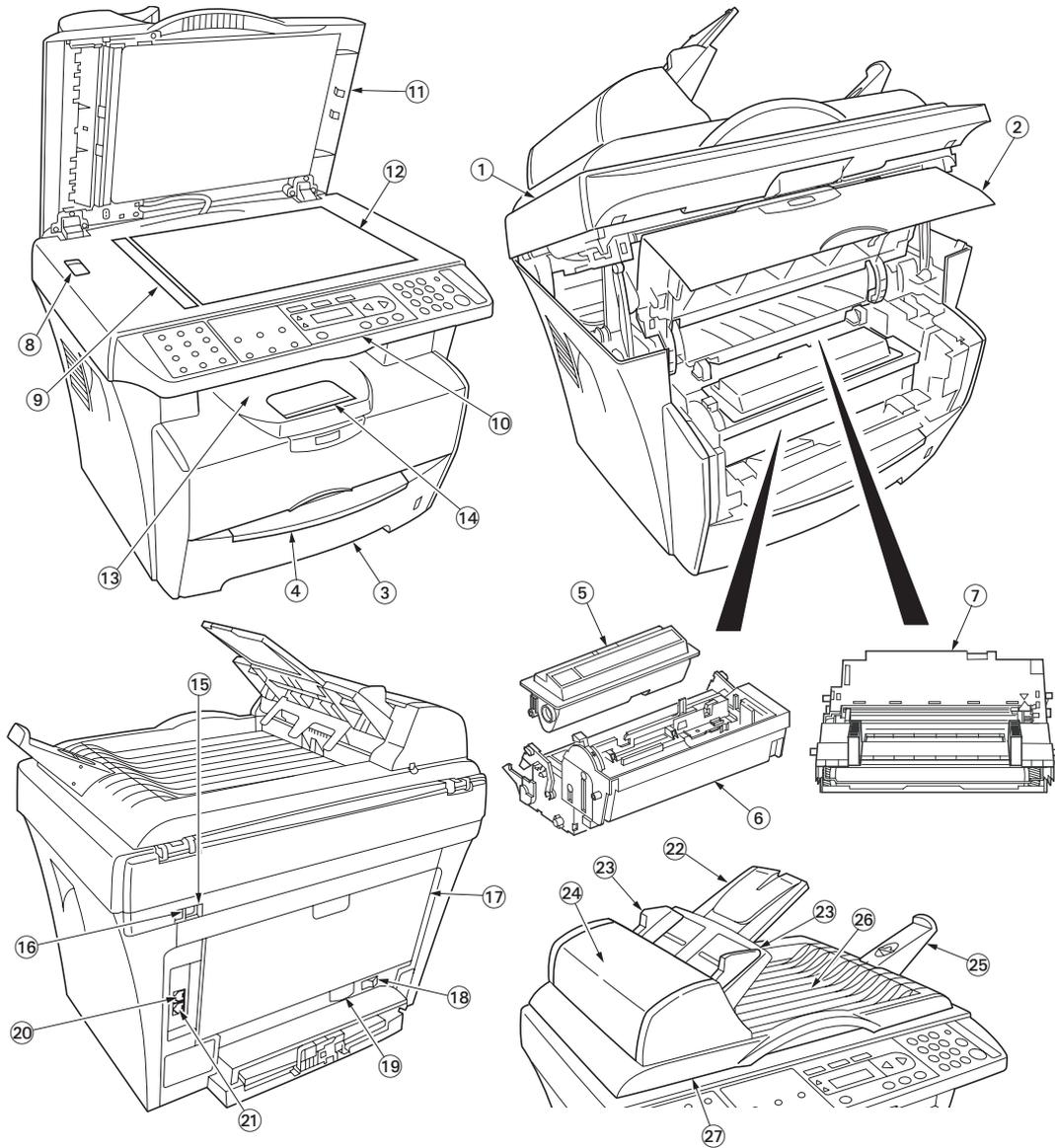


Figure 1-1-1

- | | |
|----------------------------------|--------------------------------------|
| 1. Scanner unit | 15. USB Interface connector |
| 2. Front cover | 16. 5 V DC output (for print server) |
| 3. Paper cassette | 17. Rear cover |
| 4. Manual feed tray | 18. Power switch |
| 5. Toner container | 19. AC inlet |
| 6. Developer unit | 20. Telephone jack |
| 7. Drum unit | 21. LINE jack |
| 8. Shipping lock | 22. Original table |
| 9. Original size indicator plate | 23. Original insert guides |
| 10. Operation panel | 24. Left cover |
| 11. Original cover | 25. Ejection extension |
| 12. Platen | 26. Original eject table |
| 13. Output tray | 27. Document processor (DP) |
| 14. Paper stopper | |

(2) Operation panel

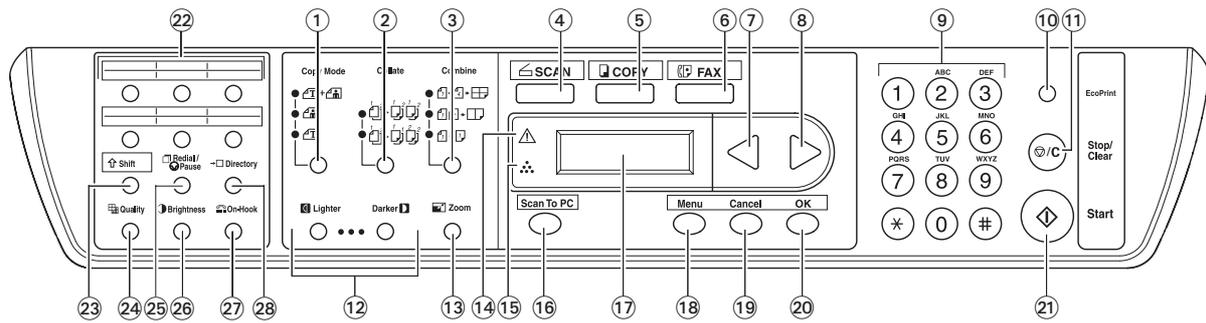


Figure 1-1-2

- | | |
|--|------------------------------|
| 1. Copy mode key and indicator | 15. Toner indicator |
| 2. Collate key and indicator | 16. Scan To PC key |
| 3. Combine key and indicator | 17. Message display |
| 4. SCAN key | 18. Menu key |
| 5. COPY key and indicator | 19. Cancel key |
| 6. FAX Key and Indicator | 20. OK key |
| 7. ◀ key | 21. Start key |
| 8. ▶ key | 22. One-touch Keys (1 to 12) |
| 9. Numeric keys | 23. Shift Key |
| 10. EcoPrint key and indicator | 24. Quality Key |
| 11. Stop/Clear key | 25. Redial/Pause Key |
| 12. Exposure adjustment key/Exposure display | 26. Brightness Key |
| 13. Zoom key | 27. On-Hook Key |
| 14. Memory overflow indicator | 28. Directory Key |

1-1-3 Machine cross section

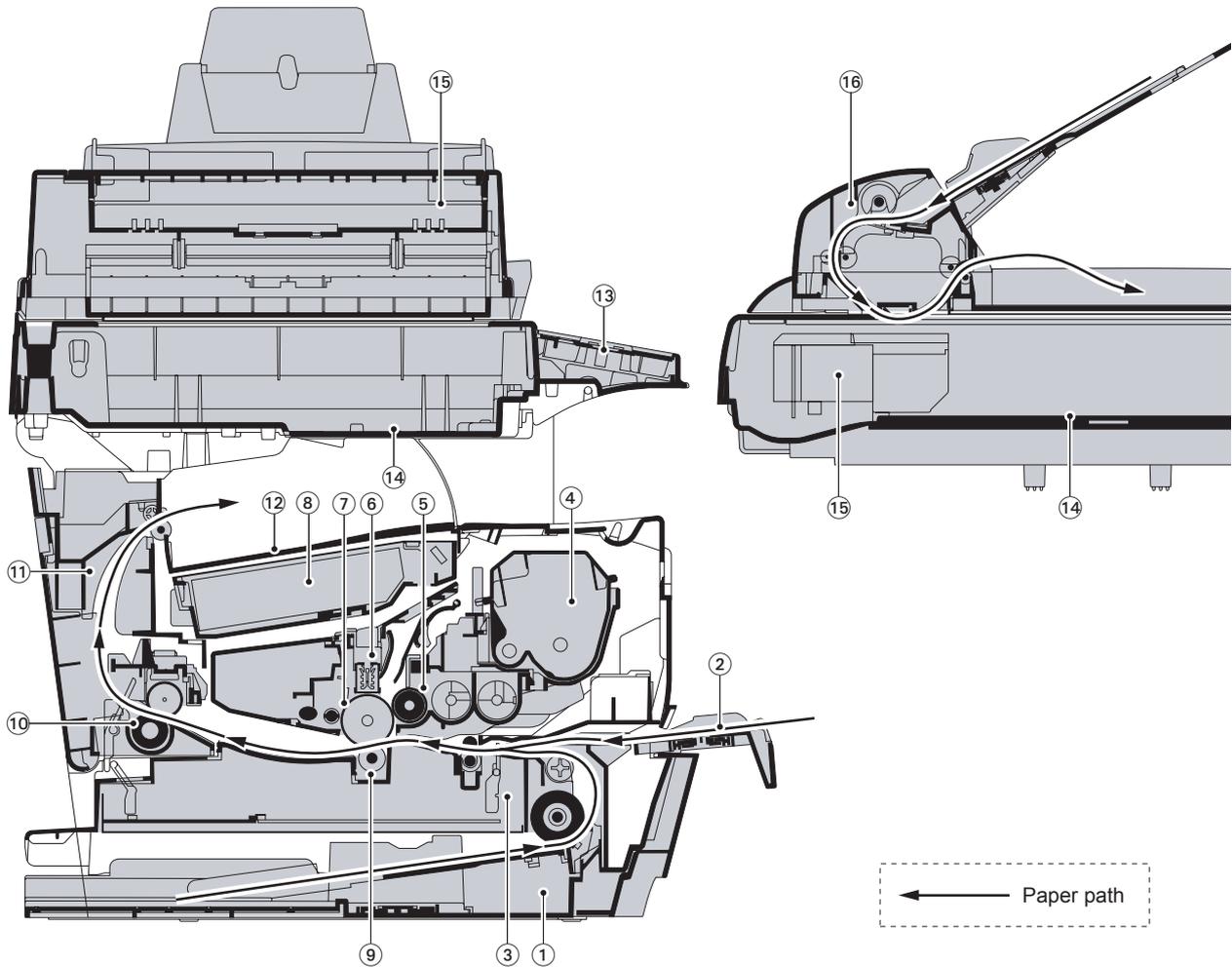


Figure 1-1-3 Machine cross section

- | | |
|------------------------------------|-----------------------------|
| 1. Paper cassette | 9. Transfer section |
| 2. Manual feed tray | 10. Fuser unit |
| 3. Paper feeding/conveying section | 11. Paper exit section |
| 4. Toner container | 12. Output tray |
| 5. Developer unit | 13. Operation unit |
| 6. Main charger unit | 14. Scanner unit |
| 7. Drum unit | 15. Optical module unit |
| 8. Laser scanner unit | 16. Document processor (DP) |

1-2-1 Installation environment

1. Temperature: 10 to 32.5 °C/50 to 90.5 °F
2. Humidity: 15 - 80%RH
3. Power supply: 120 V AC, 8.2 A
220 - 240 V AC, 3.9 A
4. Power source frequency: 50 Hz ±0.3%/60 Hz ±0.3%
5. Installation location
Avoid direct sunlight or bright lighting. Ensure that the photoconductor will not be exposed to direct sunlight or other strong light when removing paper jams.
Avoid extremes of temperature and humidity, abrupt ambient temperature changes, and hot or cold air directed onto the machine.
Avoid dust and vibration.
Choose a surface capable of supporting the weight of the machine.
Place the machine on a level surface (maximum allowance inclination: 1°).
Avoid air-borne substances that may adversely affect the machine or degrade the photoconductor, such as mercury, acidic or alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
Select a room with good ventilation.
6. Allow sufficient access for proper operation and maintenance of the machine.
Machine front: 100 cm/39 3/8"
Machine rear: 25 cm/9 13/16"
Machine right: 30 cm/11 13/16"
Machine left: 30 cm/11 13/16"

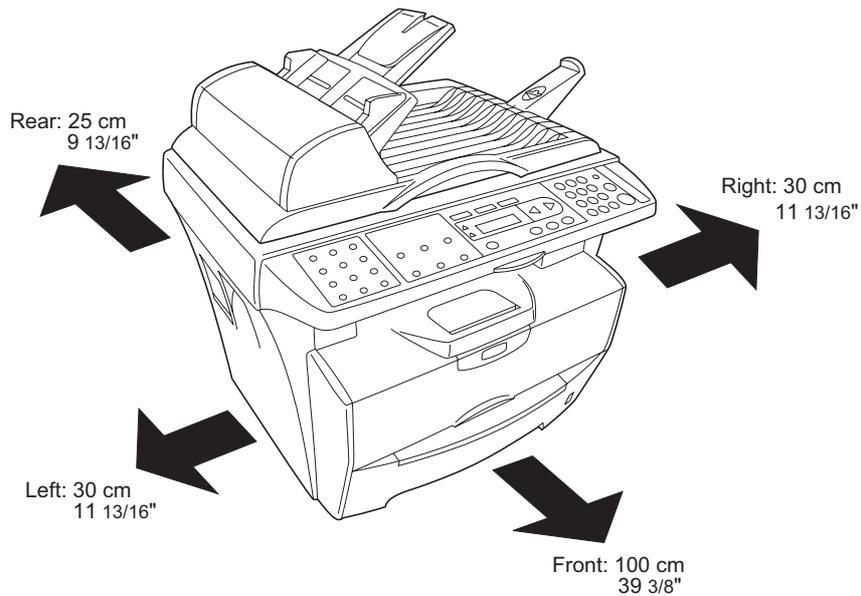


Figure 1-2-1

1-2-2 Unpacking and installation

(1) Installation procedure

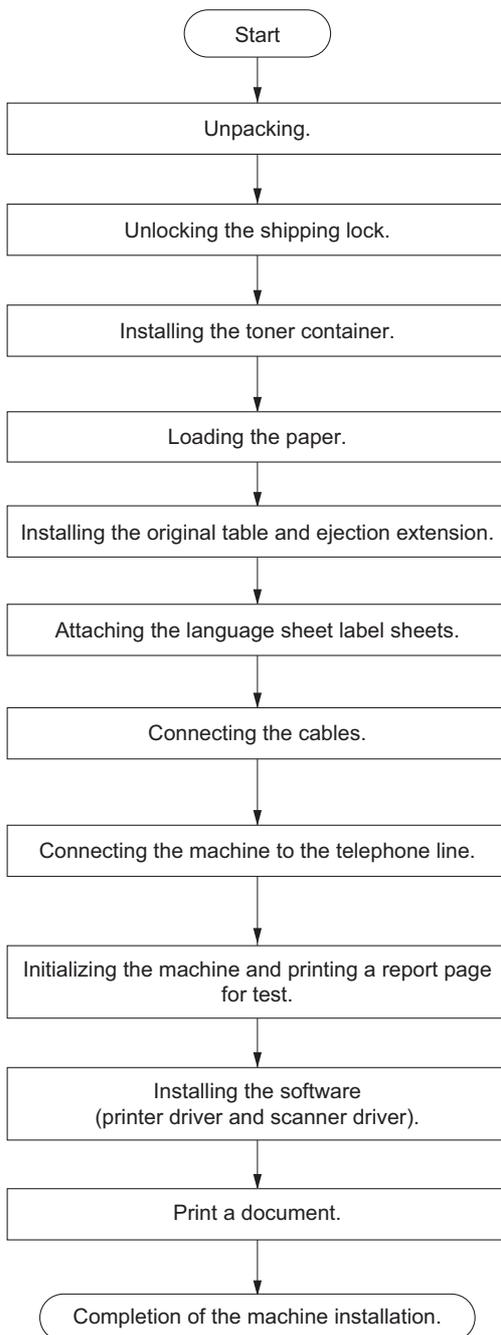


Figure 1-2-2

Unpacking.

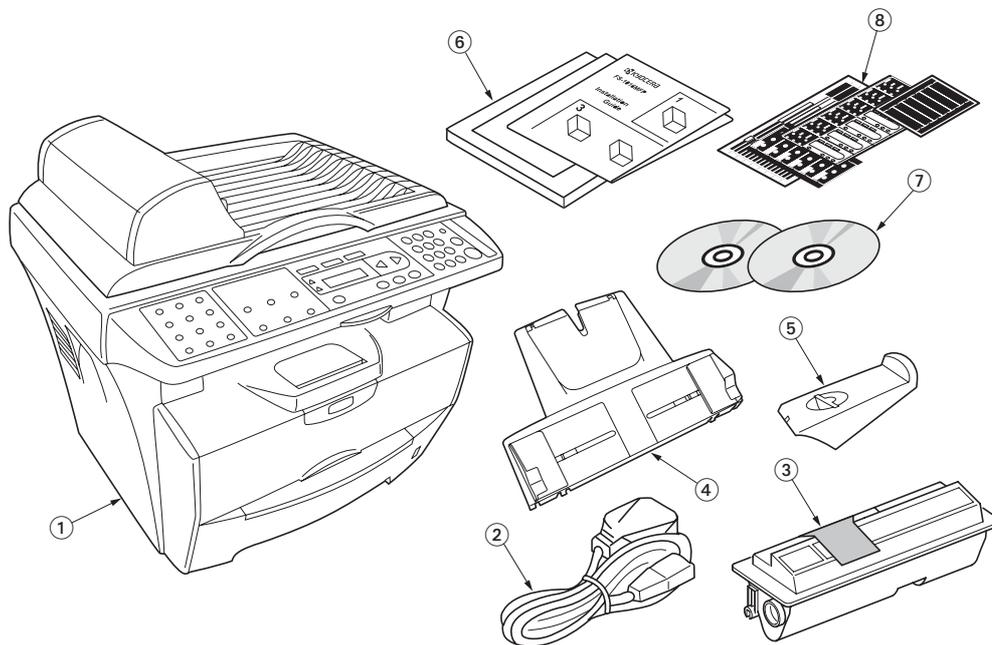


Figure 1-2-3 Unpacking

1. Machine (main body)
2. Power cord
3. Toner container
4. Original table
5. Ejection extension
6. Operation guide and Installation guide
7. CD-ROMs
8. Language label sheets

Unlocking the shipping lock.

1. Open the document processor (DP).
2. Unlock the shipping lock.
3. Close the document processor (DP).

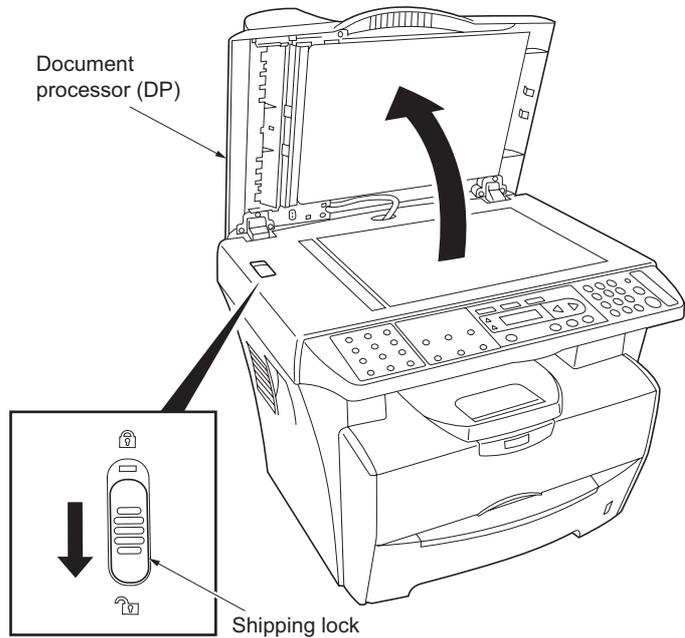


Figure 1-2-4

Installing the toner container.

1. Open the scanner unit.
2. Open the front cover.

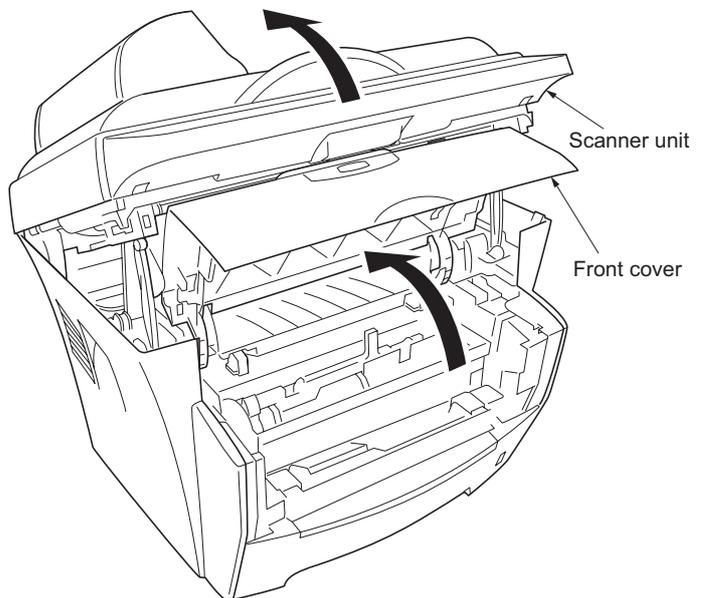


Figure 1-2-5

- 3. Shake the container horizontally to distribute the toner evenly.
- 4. Remove the seal from the toner container.

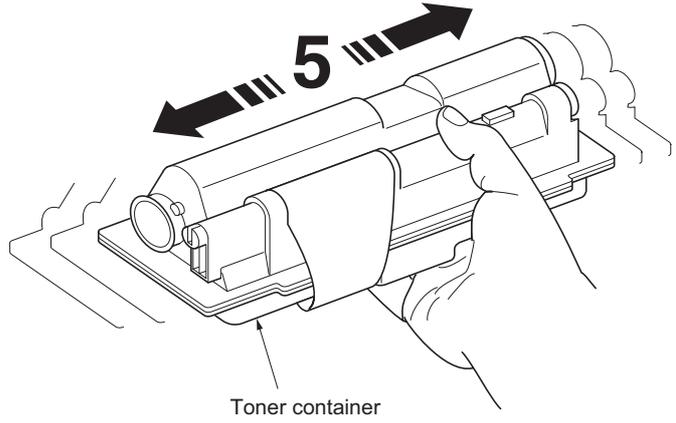


Figure 1-2-6

- 5. Remove the seal from the toner container.

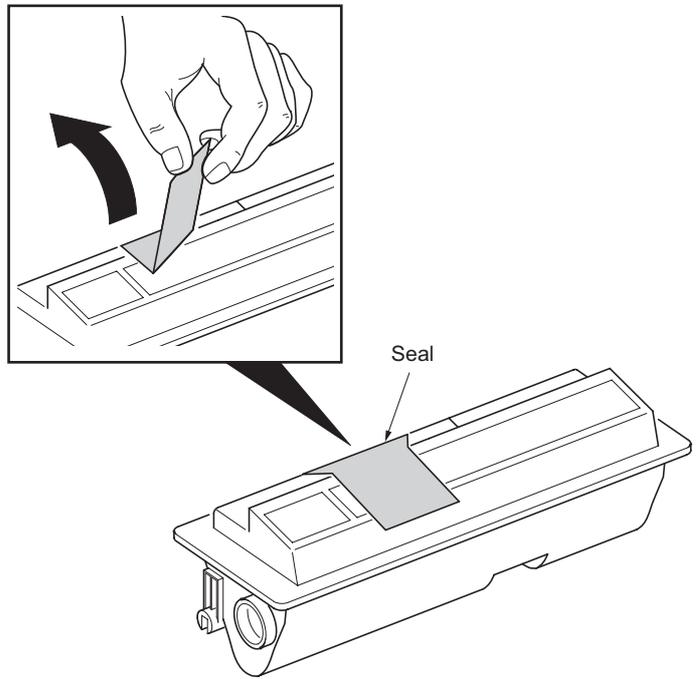


Figure 1-2-7

6. Turn the toner container release lever to the [UNLOCK] position.
7. Install the toner container in the printer.

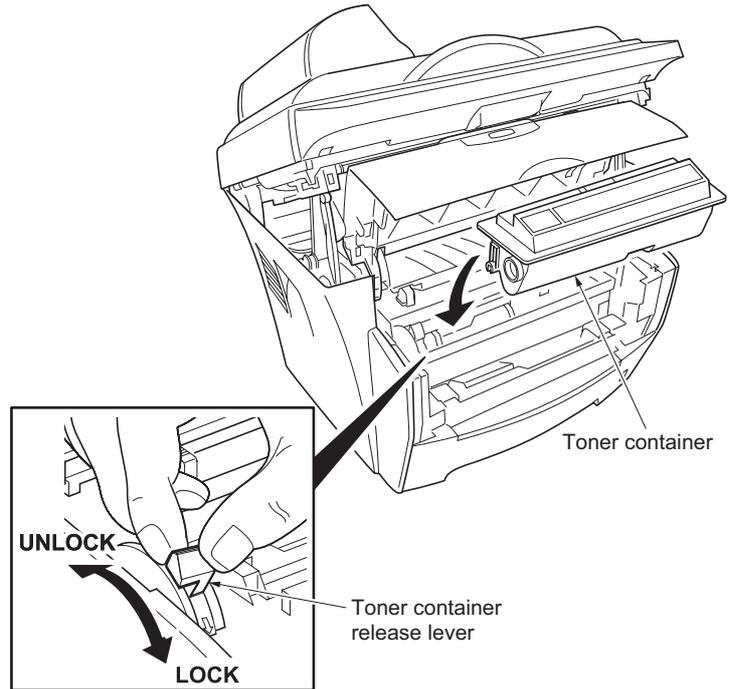


Figure 1-2-8

8. Push firmly on the top of the container at the positions marked [PUSH HERE] until you hear a click.
9. Turn the toner container release lever to the [LOCK] position.
10. Close the front cover.
11. Close the scanner unit.

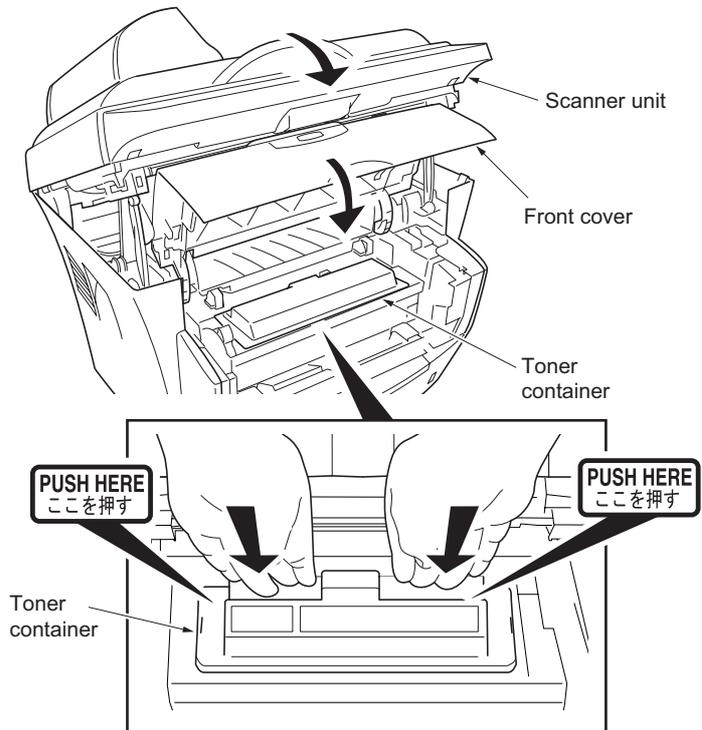


Figure 1-2-9

Loading the paper.

1. Pull the paper cassette completely out of the machine.
2. Press the release button and adjust the paper length guide to the paper size required.
3. Adjust the position of the width guides located on the left and right sides of the paper cassette. Press the release button on the left guide and slide the guides to the paper size required.
4. Load the paper in the paper cassette.
5. Push the paper cassette back into the machine until it stops.

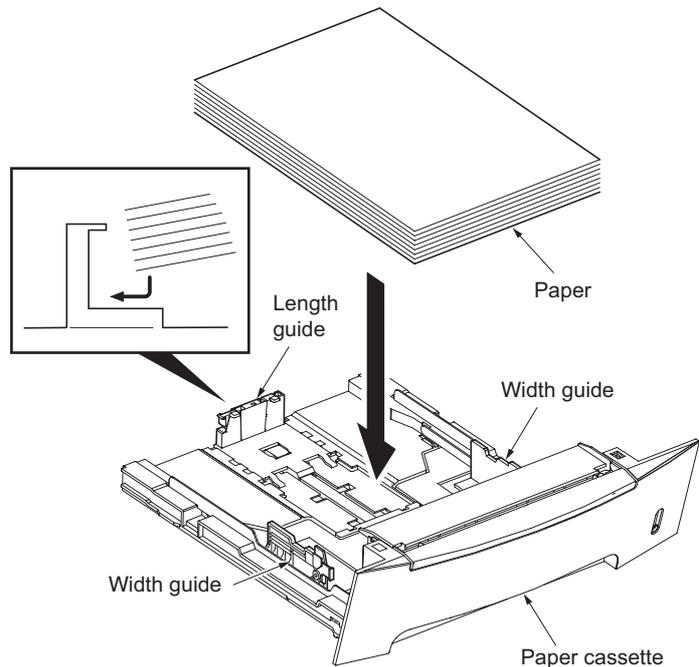


Figure 1-2-10

Installing the original table and ejection extension.

1. Install the original table.
2. Install the ejection extension.

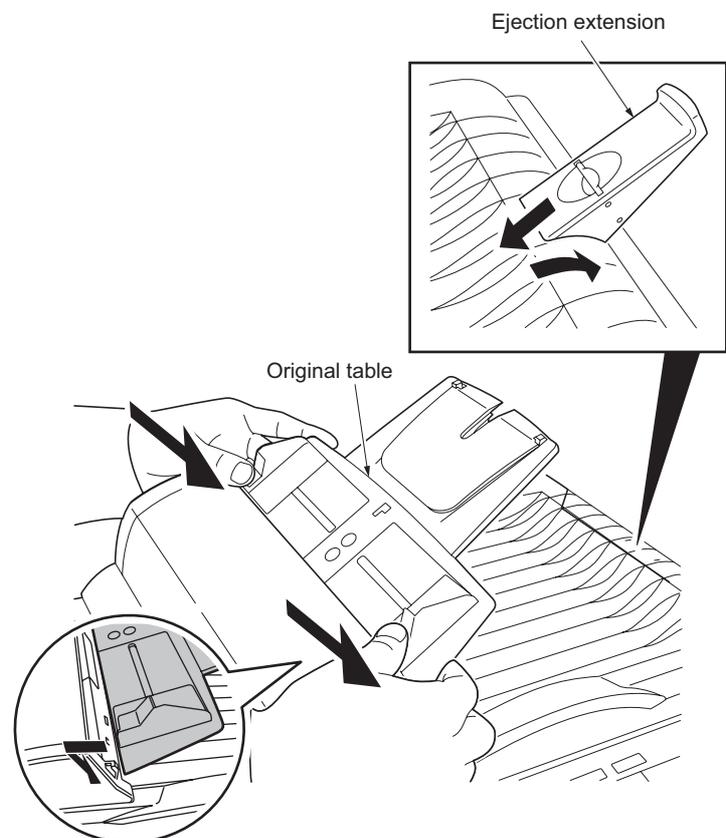


Figure 1-2-11

Attaching the language label sheets.

1. Remove the language label sheet.
2. Attach the language label sheet on the operation panel.

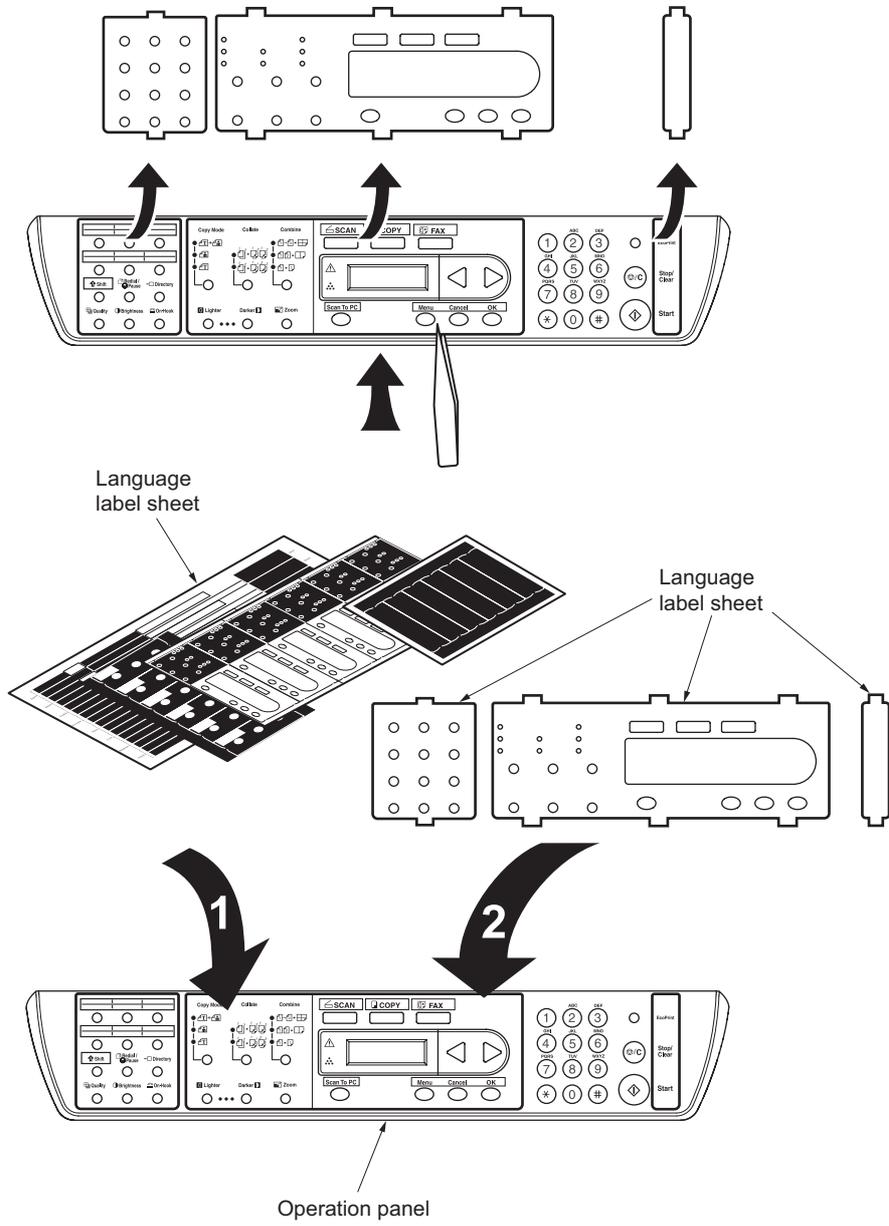


Figure 1-2-12

Connecting the cables.

1. Connect the printer cable to the USB interface connector.
2. Connect the other end of the printer cable to the PC's USB interface connector.
3. Connect the power cord to the printer AC inlet.
4. Connect the power cord to the wall outlet.

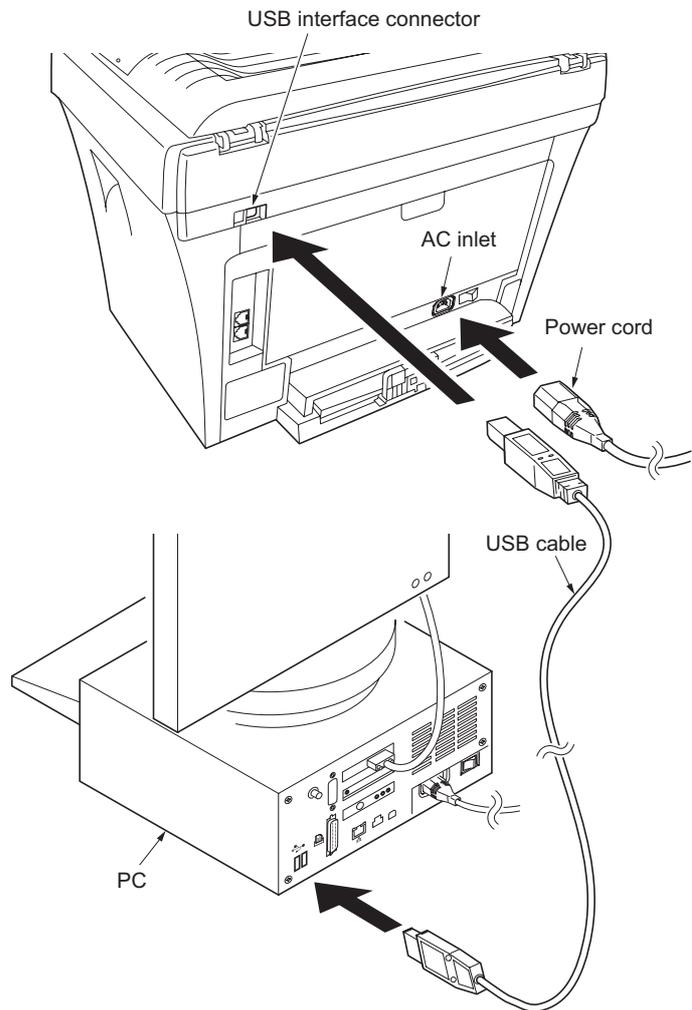


Figure 1-2-13

Connecting the machine to the telephone line.

1. Plug the modular cord into the LINE jack, and then connect the line terminal to the telephone line.

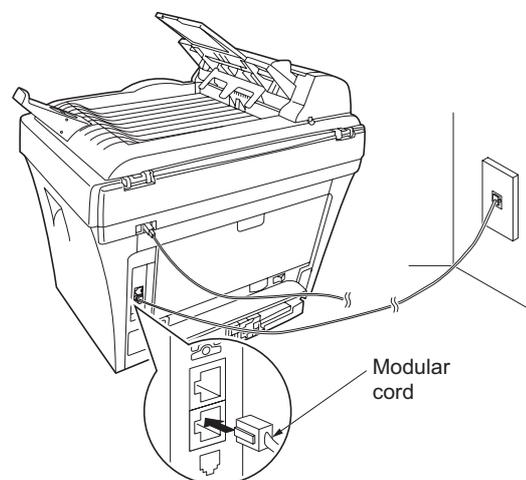


Figure 1-2-14

Initializing the machine and printing a report page for test.

1. Turn the power switch on. The machine will begin to warm up after which the basic screen is displayed.
2. Press the Menu key.
3. Press the ◀ or ▶ key to select [3. Report.]
4. Press the OK key.
5. Press the ◀ or ▶ key to select [31. Configuration], [32. Menu Map] or [33. Usage report].
6. Press the OK key.
Printing of the report will begin.
The display returns to the [3. Report] screen.

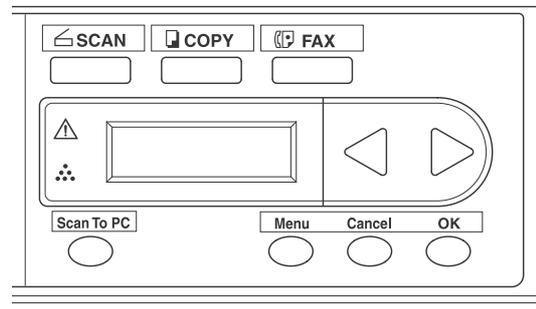


Figure 1-2-15

Installing the software (printer driver and scanner driver).

Ensure the machine is plugged in and connected to the PC's USB port before installing software from the CD-ROM.

Required operating systems (OS) for using the Software: Microsoft Windows 98SE/Me/2000/XP

1. Switch on the PC and activate Windows.
NOTE: If the Welcome to the Found New Hardware Wizard dialog box displays, select Cancel.
2. Insert the CD-ROM (Product Library) into the CD-ROM drive. Once the installation program launches, the License Agreement Notice is displayed.
NOTE: If the installation program fails to launch, use Windows Explorer to access the CD-ROM and double-click Setup.exe.
3. Click View License Agreement to display and read it.
4. Click Accept to proceed.
5. Click Select Language.

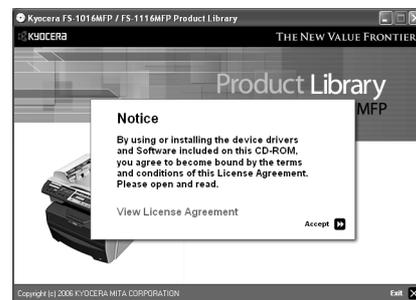


Figure 1-2-16

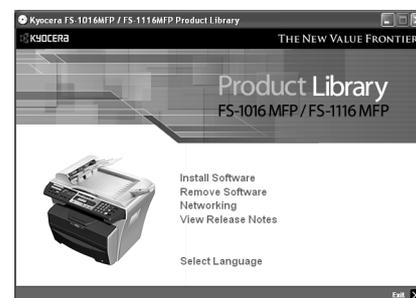


Figure 1-2-17

6. Click the language to be used.
7. Click Install Software. The Installation Wizard starts.
8. Click Next.

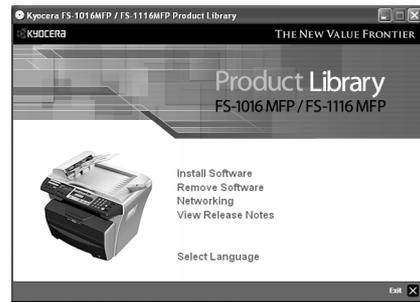


Figure 1-2-18

9. For the simple, default installation, select Express Mode and click Next.
 Note: If you selected Custom Mode, select Universal Serial Bus (USB) to select the connection method, and follow the on-screen instructions.

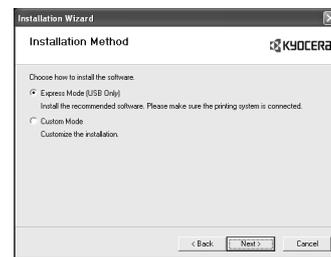


Figure 1-2-19

10. Click Install. The installation program installs the software.

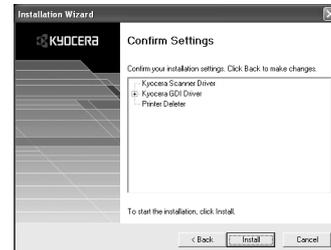


Figure 1-2-20

Note: When installing software for Windows XP, if a software installation warning for an unsigned device driver is displayed, click Continue Anyway to bypass the warning and install the driver. All device drivers have been fully tested.



Figure 1-2-21

11. When the installation is complete, the Installation Completed Successfully window is displayed. Click Finish to leave the install program and return to the disc main menu.

Print a document.

1. From the application File menu, select Print. The Print dialog box displays.
2. Select the drop down list of printer names.
3. Select the options required, enter the number of copies required and if printing more than one set, select Collate. Select OK to start printing.

Completion of the machine installation.

1-3-1 Service mode

(1) Printing the system configuration page

Description

Lists information on the settings and environments of use for this machine.

Purpose

To acquire the current printing environmental parameters and cumulative information.

Procedure

1. Press the Menu key.
 2. Press the ◀ or ▶ key to select [3. Report.]
 3. Press the OK key.
 4. Press the ◀ or ▶ key to select [31. Configuration].
 5. Press the OK key.
- Printing of the system configuration page will begin.
The display returns to the [3. Report] screen.

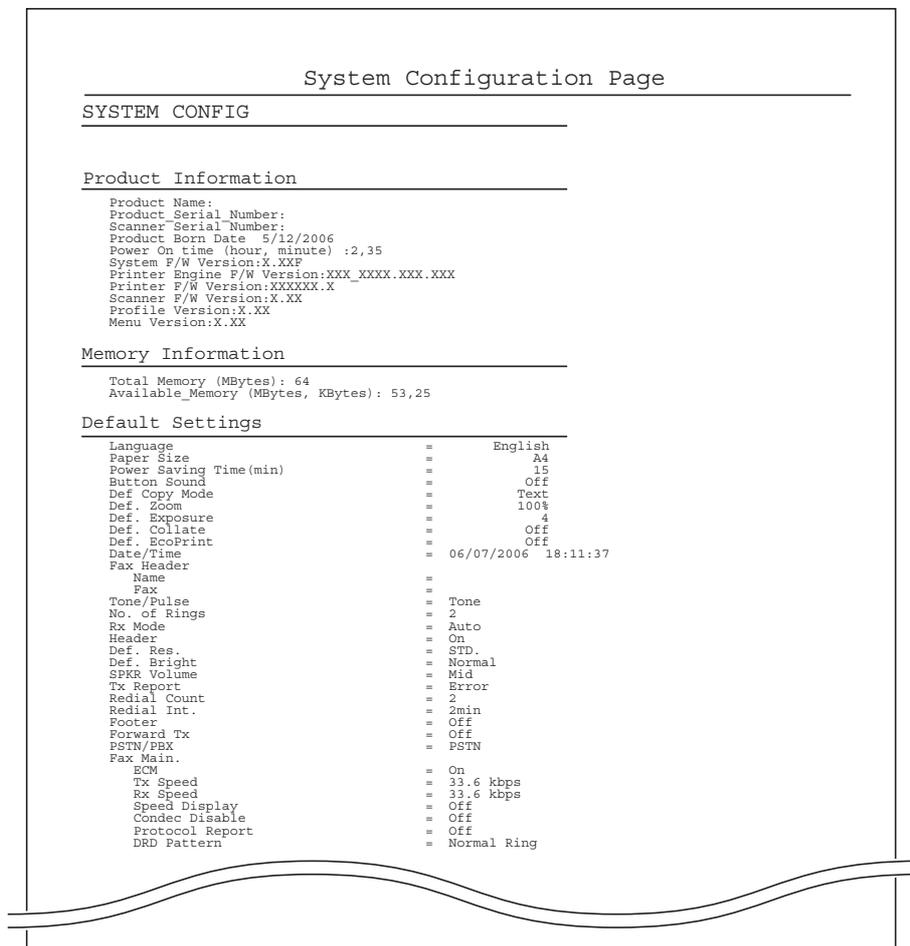
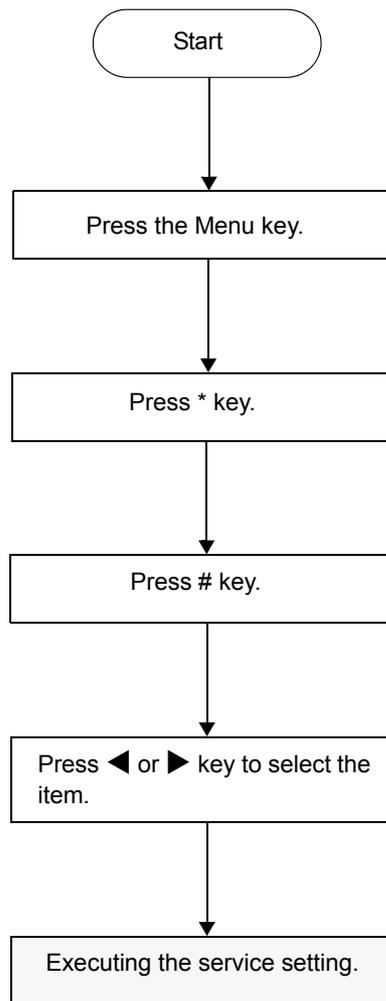


Figure 1-3-1 System configuration page

(2) Executing a service setting item



(3) Contents of service setting items

The machine is equipped with a service setting for fax function which can be used to maintain and service the machine.

Service items	Description						
1.Country Select	<p>Selecting the country destination</p> <p>Description To set the fax destination code.</p> <p>Purpose Basically, the setting need not be changed.</p> <p>Method</p> <ol style="list-style-type: none"> 1. Select the country using the ◀ or ▶ key. 2. Press the OK key. The setting is set. 						
2.Factory Def.	<p>Initializing the data</p> <p>Description Initializes the data in the backup data on the fax control PWB.</p> <p>Start</p> <ol style="list-style-type: none"> 1. Select the item using the ◀ or ▶ key. <table border="1" data-bbox="485 725 1399 969"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>21.System Clear</td> <td>Initializes all data, image memories, stored and configured information in the backup data stored on the fax control PWB.</td> </tr> <tr> <td>22.User Data Clr</td> <td>Initializes stored and configured information and image memories in the backup data stored on the fax control PWB.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Press the OK key. <p>Initializing the system</p> <ol style="list-style-type: none"> 1. Select [System Clear] using the ◀ or ▶ key. 2. Press the OK key. Data initialization starts. <p>Initializing the system</p> <ol style="list-style-type: none"> 1. Select [User Data Clear] using the ◀ or ▶ key. 2. Press the OK key. Data initialization starts. 	Display	Description	21.System Clear	Initializes all data, image memories, stored and configured information in the backup data stored on the fax control PWB.	22.User Data Clr	Initializes stored and configured information and image memories in the backup data stored on the fax control PWB.
Display	Description						
21.System Clear	Initializes all data, image memories, stored and configured information in the backup data stored on the fax control PWB.						
22.User Data Clr	Initializes stored and configured information and image memories in the backup data stored on the fax control PWB.						
3.Service Test	<p>Test mode This service item is for a test mode and do not execute.</p>						
4.Tx Level	<p>Setting the transmission level</p> <p>Description Sets the modem output level.</p> <p>Purpose Perform the following adjustment to set the line characteristics.</p> <p>Setting</p> <ol style="list-style-type: none"> 1. Change the value using the ◀ or ▶ key <table border="1" data-bbox="485 1556 1399 1630"> <thead> <tr> <th>Description</th> <th>Setting range</th> <th>Initial setting</th> </tr> </thead> <tbody> <tr> <td>Modem output level</td> <td>0 to -15 dbm</td> <td>-10 dbm</td> </tr> </tbody> </table> <ol style="list-style-type: none"> 2. Press the OK key. The setting is set. 	Description	Setting range	Initial setting	Modem output level	0 to -15 dbm	-10 dbm
Description	Setting range	Initial setting					
Modem output level	0 to -15 dbm	-10 dbm					

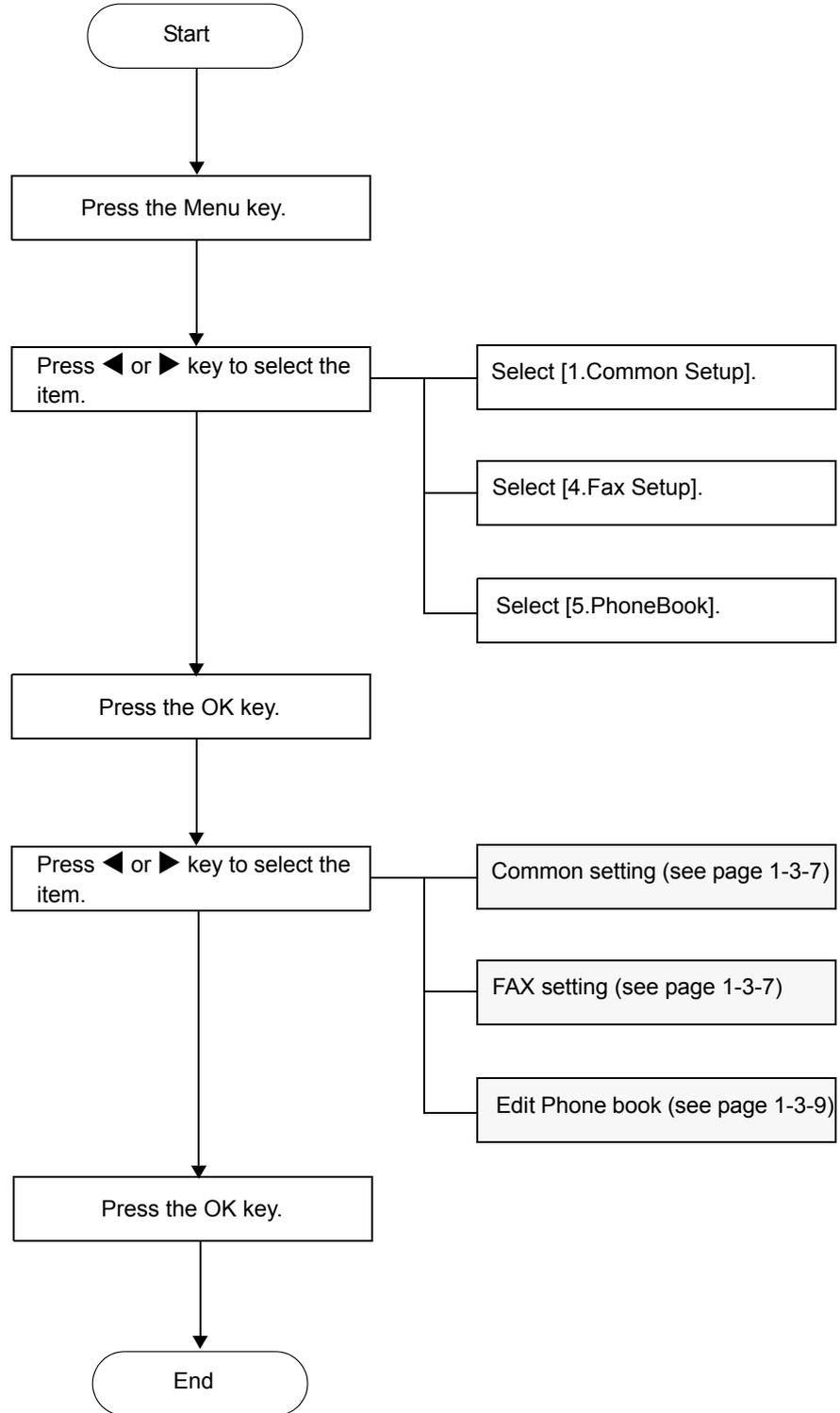
Service items	Description												
5.DialTone Det	<p>Setting the dial tone detection</p> <p>Description Sets PSTN dial tone detection.</p> <p>Purpose Selects if the dial tone is detected to check the telephone is off the hook when a fax is connected to a public switched telephone network.</p> <p>Setting</p> <ol style="list-style-type: none"> Select the item using the ◀ or ▶ key. <table border="1" data-bbox="486 481 1398 595"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>On</td> <td>Detects the dial tone.</td> </tr> <tr> <td>Off</td> <td>Does not detect the dial tone.</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the OK key. The setting is set. 	Display	Description	On	Detects the dial tone.	Off	Does not detect the dial tone.						
Display	Description												
On	Detects the dial tone.												
Off	Does not detect the dial tone.												
6.Connect Time	<p>Setting the communication time</p> <p>Description Sets the T0 time-out time (the time before detecting a CED or DIS signal after a dialing signal is sent) for fax transmission.</p> <p>Purpose To improve transmission performance for international communications. Depending on the quality of the exchange, or when the auto select function is selected at the destination unit, a line can be disconnected. Change the setting to prevent this problem.</p> <p>Setting</p> <ol style="list-style-type: none"> Change the value using the ◀ or ▶ key. <table border="1" data-bbox="486 963 1398 1189"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>30 secs</td> <td>30 seconds</td> </tr> <tr> <td>60 secs</td> <td>60 seconds</td> </tr> <tr> <td>70 secs</td> <td>70 seconds</td> </tr> <tr> <td>80 secs</td> <td>80 seconds</td> </tr> <tr> <td>90 secs</td> <td>90 seconds</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the OK key. The value is set. 	Display	Description	30 secs	30 seconds	60 secs	60 seconds	70 secs	70 seconds	80 secs	80 seconds	90 secs	90 seconds
Display	Description												
30 secs	30 seconds												
60 secs	60 seconds												
70 secs	70 seconds												
80 secs	80 seconds												
90 secs	90 seconds												
7.EQL mode	<p>Setting the G3 cable equalizer</p> <p>Description Sets the G3 transmission/reception cable equalizer.</p> <p>Purpose Perform the following adjustment to make the equalizer compatible with the line characteristics.</p> <p>Setting</p> <ol style="list-style-type: none"> Change the value using the ◀ or ▶ key. <table border="1" data-bbox="486 1467 1398 1655"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0 km</td> <td>0 km</td> </tr> <tr> <td>1.8 km</td> <td>1.8 km</td> </tr> <tr> <td>3.6 km</td> <td>3.6 km</td> </tr> <tr> <td>7.2 km</td> <td>7.2 km</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Press the OK key. The setting is set. 	Display	Description	0 km	0 km	1.8 km	1.8 km	3.6 km	3.6 km	7.2 km	7.2 km		
Display	Description												
0 km	0 km												
1.8 km	1.8 km												
3.6 km	3.6 km												
7.2 km	7.2 km												

Service items	Description								
<p>8.Pulse type</p>	<p>Adjusting the ratio of make-to-break of dial pulses</p> <p>Description Adjusts the ratio of make-to-break (ratio of make in pulse cycles) of dial pulses.</p> <p>Purpose Change the setting if dial pulse transmission problems occur.</p> <p>Setting</p> <ol style="list-style-type: none"> Change the value using the ◀ or ▶ key. <table border="1" data-bbox="486 454 1398 604"> <thead> <tr> <th>Display</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Off</td> <td>Does not adjust</td> </tr> <tr> <td>33/67</td> <td>33 to 67 % of the make-to break</td> </tr> <tr> <td>40/60</td> <td>40 to 60 % of the make-to break</td> </tr> </tbody> </table> <p>To change the setting, select [40/60] for 120V specifications and [33/67] for 220-240V specifications.</p> <ol style="list-style-type: none"> Press the OK key. The setting is set. 	Display	Description	Off	Does not adjust	33/67	33 to 67 % of the make-to break	40/60	40 to 60 % of the make-to break
Display	Description								
Off	Does not adjust								
33/67	33 to 67 % of the make-to break								
40/60	40 to 60 % of the make-to break								

1-3-2 System Settings

The machine is equipped with a system settings which can be operated by users (mainly by the machine administrator). In this machine system settings, default settings can be changed.

(1) Executing a system setting item



(2) Common setting

Message Language

Select the language of the message display.

1. Press the ◀ or ▶ key to select the language to be used in the display and press the OK key.
The display changes to the selected language and returns to the ready screen.

Sleep Mode

Conserve power when it is not operating.

1. Press the ◀ or ▶ key to select [13. Sleep Mode].
2. Press the ◀ or ▶ key to select the time for the Sleep Mode to engage and press the OK key.
Initial setting: 15 min
The display returns to the ready screen.

Toner Install

Resets the toner counter after replacing the toner container.

1. Press the ◀ or ▶ key to select [14. Toner Install].
2. Press the ◀ or ▶ to select [On] and press the OK key.
The display returns to the ready screen.

Buzzer

The Buzzer can be set to sound when a key on the operation panel is pressed or in cases when errors occur, etc.

1. Press the ◀ or ▶ key to select [16. Buzzer].
2. Press the ◀ or ▶ to select [On] or [Off]. Press the OK key. The display returns to the ready screen.

Drum Reset

Perform the drum reset procedure when the drum unit has been replaced.

1. Press the ◀ or ▶ key to select [17. Drum Reset].
2. Press the ◀ or ▶ to select [On] and press the OK key. The display returns to the ready screen.

Drum Refresh

The drum refresh is cleaning the drum surface. If potential printing quality problems has occurred, perform the drum refresh.

1. Press the ◀ or ▶ key to select [18. DrumRefresh].
2. Press the ◀ or ▶ to select [On] or [Off]. Press the OK key. The display returns to the ready screen.

Drum Control

The drum control is cleaning the drum surface automatically when the machine is turned on.

1. Press the ◀ or ▶ key to select [19. DrumControl].
2. Press the ◀ or ▶ to select the cleaning time.
Setting range: 0/90/155
Press the OK key. The display returns to the ready screen.

Eco Fuser

When this mode is selected On, the fuser heater is switched off during sleep mode to save power consumption. However, warm-up time becomes longer than Off.

1. Press the ◀ or ▶ key to select [110. Eco Fuser].
2. Press the ◀ or ▶ to select [On] or [Off]. Press the OK key. The display returns to the ready screen.

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(3) FAX setting

Setting the Current Date and Time

Set the date and time of the built-in clock.

1. Press the ◀ or ▶ key to select [41.Date/Time].
2. Enter the current date and time using the numeric keys and press OK key. The display returns to the ready screen.

Entering FAX Information

Enter your station name and FAX number.

1. Press the ◀ or ▶ key to select [42.Fax Header].
2. Enter your station name using the numeric keys and press OK key.
3. Enter your FAX number using the numeric keys and press OK key. The display returns to the ready screen.

Selecting the Line Type

Choose the line type corresponding to your telephone service.

NOTE: This menu works for 120 V specifications only.

1. Press the ◀ or ▶ key to select [43.Tone/Pulse].
2. Press the ◀ or ▶ key to select [Tone] or [Pulse 10PPS] and press OK key. The display returns to the ready screen.

Number of Ring Setting

Sets the number of ring until the facsimile starts reception automatically in Automatic FAX reception or Auto FAX/Tel Switching.

1. Press the ◀ or ▶ key to select [44.No. of Rings].
2. Press the ◀ or ▶ key to select a number of ring (1-10) and press OK key. The display returns to the ready screen.

Reception Mode Settings

Choose the ideal mode for your needs.

1. Press the ◀ or ▶ key to select [45.RX Mode].
2. Press the ◀ or ▶ key to select a reception mode, and press OK key. The display returns to the ready screen.

Configuring TTI Settings

Chooses whether to send TTI (Transmit Terminal Identifier) information.

1. Press the ◀ or ▶ key to select [46.Header].
2. Press the ◀ or ▶ key to select [On] or [Off] and press the OK key. The display returns to the ready screen.

Default Settings (image quality and brightness)

Selects the default value of image quality and brightness.

1. Press the ◀ or ▶ key to select [47. Def. Res.] or [48. Def. Bright] and press the OK key.
2. Press the ◀ or ▶ key to select a desired setting value, and press the OK key.
Setting range
STD./Fine/S-Fine/Photo
Dark/Normal/Light
The display returns to the ready screen.

Speaker Volume Setting

Selects the speaker volume when the On-Hook key is pressed, or during communication.

1. Press the ◀ or ▶ key to select [49.SPKR Volume].
2. Press the ◀ or ▶ key to select [Off], [Low], [Mid] or [High] and press the OK key. The display returns to the ready screen.

Reception Record

Adds reception report (reception date, sender's FAX number, job number or number of pages to be received) to the received document.

1. Press the ◀ or ▶ key to select [413.Footer].
2. Press the ◀ or ▶ key to select [On] or [Off] and press the OK key. The display returns to the ready screen.

Memory Forwarding

The facsimile stores received document into memory, and then forwards it to the registered destination.

1. Press the ◀ or ▶ key to select [414.Forward Tx].
2. Enter the FAX number of the forwarding destination using the numeric keys and press the OK key.
3. Press the ◀ or ▶ key to select [On] or [Off], and press the OK key. The display returns to the ready screen, and the memory forwarding starts.

PBX Settings

Select PBX if you want to use your facsimile in Private Branch EXchange(PBX)

1. Press the ◀ or ▶ key to select [415.PSTN/PBX].
2. Press the ◀ or ▶ key to select [PSTN] or [PBX] and press the OK key. The display returns to the ready screen.

ECM

Determines if ECM communication is used or not.

1. Press the ◀ or ▶ key to select [416.Fax Main.].
2. Press the ◀ or ▶ key to select [ECM] and press the OK key.
3. Press the ◀ or ▶ key to select [ECM:Off] or [ECM:On] and press the OK key.
The display returns to the ready screen.

Tx Speed

Selects the starting speed on FAX transmission.

1. Press the ◀ or ▶ key to select [416.Fax Main.].
2. Press the ◀ or ▶ key to select [Tx Speed] and press the OK key.
3. Press the ◀ or ▶ key to select the item and press the OK key.

Setting range: 33.6/31.2/28.8/26.4/24/21.6/19.2/16.8/14.4/12/9.6/7.2/4.8/2.4

The display returns to the ready screen.

Rx Speed

Selects the starting speed on FAX reception.

1. Press the ◀ or ▶ key to select [416.Fax Main.].
2. Press the ◀ or ▶ key to select [Rx Speed] and press the OK key.
3. Press the ◀ or ▶ key to select the item and press the OK key.

Setting range: 33.6/31.2/28.8/26.4/24/21.6/19.2/16.8/14.4/9.6/4.8/2.4

The display returns to the ready screen.

Speed Display

Determines whether to display transmission speed, etc. on the message display.

1. Press the ◀ or ▶ key to select [416.Fax Main.].
2. Press the ◀ or ▶ key to select [Speed Display] and press the OK key.
3. Press the ◀ or ▶ key to select [On] or [Off] and press the OK key.

The display returns to the ready screen.

Codec Disable

Restricts codec to be used.

1. Press the ◀ or ▶ key to select [416.Fax Main.].
2. Press the ◀ or ▶ key to select [Codec Disable] and press the OK key.
3. Press the ◀ or ▶ key to select [MMR], [MR], or [Off] and press the OK key.

The display returns to the ready screen.

Protocol Report

Determines whether to print protocol report automatically.

1. Press the ◀ or ▶ key to select [416.Fax Main.].
2. Press the ◀ or ▶ key to select [Protocol Report] and press the OK key.
3. Press the ◀ or ▶ key to select [On], [Off], or [Error] and press the OK key.

The display returns to the ready screen.

File Clear

Deletes all the data in memory.

1. Press the ◀ or ▶ key to select [416.Fax Main.].
2. Press the ◀ or ▶ key to select [File Clear] and press the OK key.
3. Press the OK key to delete all transmission/reception documents in the memory.

DRD Pattern

Selects ringer type for DRD (120 V specifications only).

1. Press the ◀ or ▶ key to select [416.Fax Main.].
2. Press the ◀ or ▶ key to select [DRD Pattern] and press the OK key.
3. Press the ◀ or ▶ key to select [Normal Ring], [Double Ring], [S-S-L] or [S-L-S] and press the OK key.
The display returns to the ready screen.



(4) Edit Phone book

Registering One-touch Dial

To register a FAX number to a one-touch key (1-12).

1. Press the ◀ or ▶ key to select [51.1-Touch].
2. Press a one-touch key to which a FAX number to be registered.
3. Enter a destination name using the numeric keys and press the OK key.
4. Enter a destination FAX number and press the OK key. The display returns to the ready screen.

Registering Speed Dial

To register a FAX number to a speed dial (00-99).

1. Press the ◀ or ▶ key to select [52.Speed Dial].
2. Enter 2-digit speed dial (00-99) to which a FAX number to be registered.
3. Enter a destination name using the numeric keys and press the OK key.
4. Enter a destination FAX number and press the OK key. The display returns to the ready screen.

Registering Group Dial

Registers a group dial to a one-touch key (1-6).

1. Press the ◀ or ▶ key to select [53.Group Dial].
2. Press a one-touch key (1-6) to which a group dial to be registered.
3. Press the ◀ or ▶ key to display [Add], and press the OK key.
4. Display the destination to be added as a member, and press the OK key. The destination is added as a member.
5. Press the Cancel key to complete registering.

Fax Reject Setting

The facsimile can reject fax sent from specified party.

Parties without registering their FAX number can be all rejected (Reject No Registration Setting).

1. Press the ◀ or ▶ key to select [54.Reject Fax].
2. Press the ◀ or ▶ key to display [Add], and press the OK key.
3. Enter the FAX number to reject using the numeric keys and press the OK key. The number is added to the list.
4. Press the Cancel key to complete registering.

Reject No Registration Setting (Reject in case FAX number is not registered)

1. Press the ◀ or ▶ key to display [Reject Blank ID], and press the OK key.
2. Press the ◀ or ▶ key to select [On] or [Off], and press the OK key. The display returns to the ready screen.



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1-4-1 Paper misfeed detection

(1) Paper misfeed indication

When a paper misfeed occurs, the machine immediately stops printing and displays the paper misfeed message on the operation panel. To remove paper misfed in the machine, open the front cover or the rear cover or pull out the paper cassette. To remove original jammed in the DP, open the original cover.

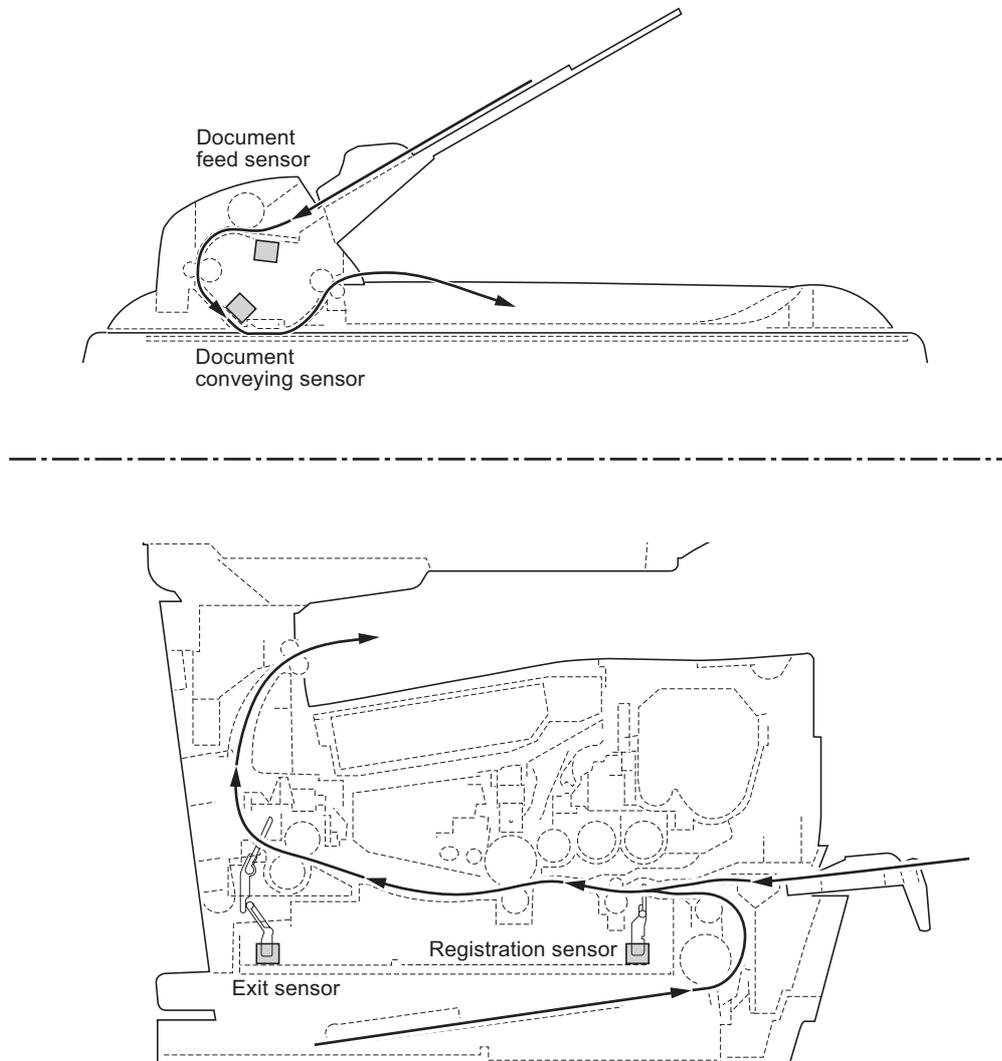


Figure 1-4-1 Paper misfeed detection

1-4-2 Self-diagnosis

(1) Self-diagnostic function

This machine is equipped with a self-diagnostic function. When a problem is detected, the machine stops printing and an error message is displayed on the operation panel.

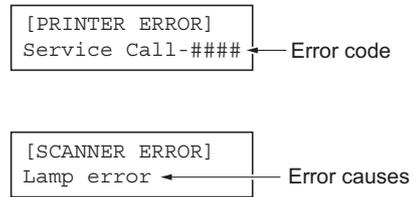


Figure 1-4-2Error message display

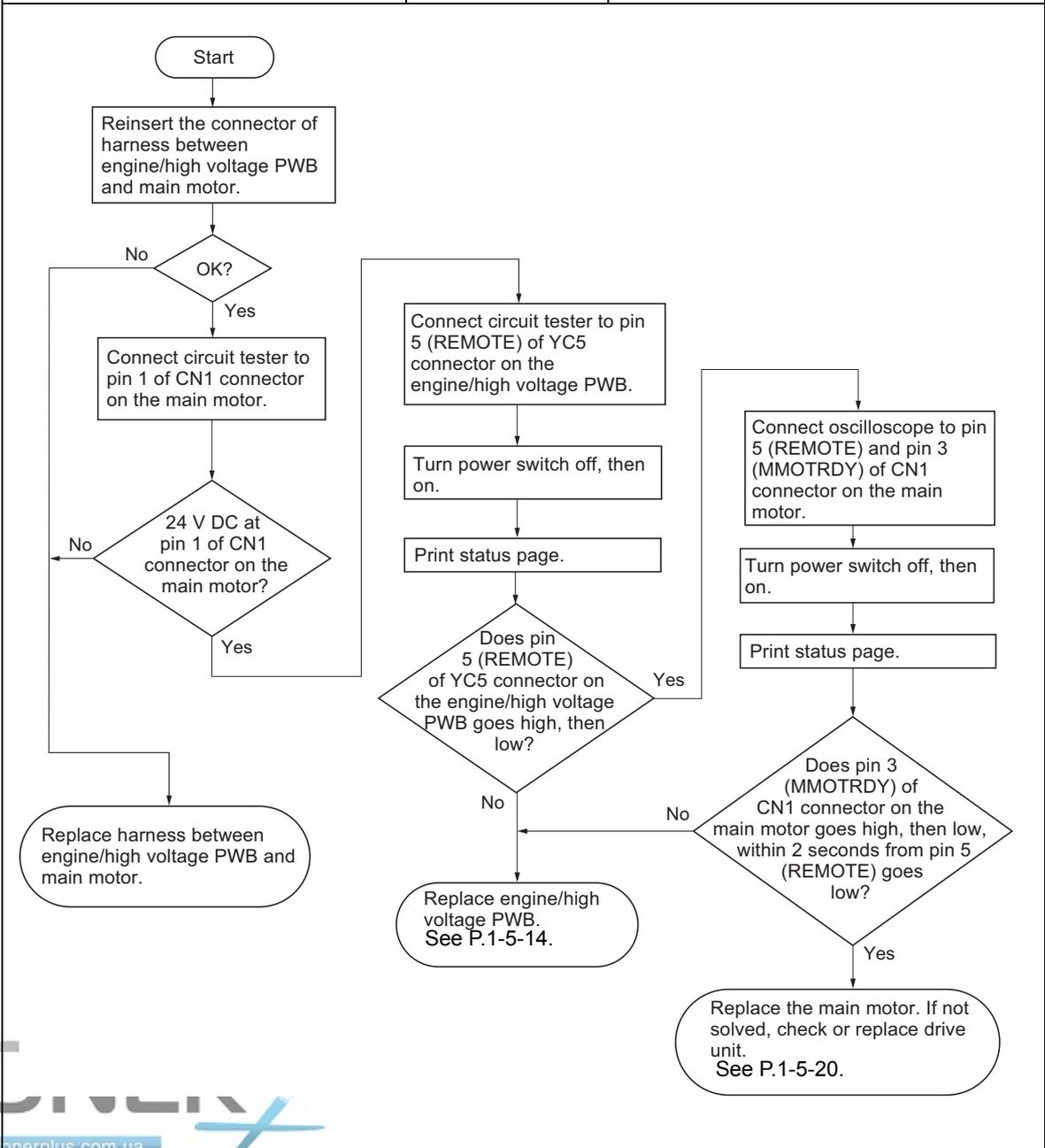
(2) Service error message

Service error message	Contents	Remarks	
		Causes	Check procedures/corrective measures
[PRINTER ERROR] Service Call-####	"####" means self-diagnostic error code.	Self-diagnostic error occurred.	Turn the power switch off and then back on again. If this message still remains, follow the self-diagnostic error code instruction. See P.1-4-2.
[PRINTER ERROR] Out of Memory	On-line printer jobs are crowded.	The data transferred to the machine was too complex to print on a page.	Wait a while, and check again.
		Memory error.	Turn the power switch off and then back on again. If this message still remains, replace the main PWB (See P.1-5-29).
[PRINTER ERROR] Engine Panic	The engine/high voltage PWB can not establish communication between engine/high voltage PWB and the main PWB over 10 s.	Defective PWB.	Replace the main PWB or engine/high voltage PWB.
[SCANNER ERROR] Lamp Error	Exposure lamp error for scanner.	Poor contact in exposure lamp connector terminals.	Reinsert the connector (See P.1-5-33).
		Defective exposure lamp.	Replace the exposure lamp (See P.1-5-33).
		Defective inverter PWB.	Replace the optical module unit (See P.1-5-24).
		Defective FFC between main PWB and CCD PWB, or improper connector insertion.	Reinsert the FFC. Also check for continuity within the FFC. If none, remedy or replace the FFC (See P.1-5-39).
		Defective optical module unit.	Replace the optical module unit (See P.1-5-24).
		Defective main PWB.	Turn the power switch off and then back on again. If this message still remains, replace the main PWB (See P.1-5-29).
[SCANNER ERROR] AFE R/W Error	AFE read/write error for scanner.	Defective main PWB.	Turn the power switch off and then back on again. If this message still remains, replace the main PWB (See P.1-5-29).
[SCANNER ERROR] Home sensor	Scanner home position sensor error for scanner.	Shipping lock is locked.	Turn the power switch off and slide shipping lock to unlock position (See P.1-2-4).
		Poor contact in scanner home position connector terminals.	Reinsert the connector (See P.1-5-37).
		Defective FFC between main PWB and CCD PWB, or improper connector insertion.	Reinsert the FFC. Also check for continuity within the FFC. If none, remedy or replace the FFC (See P.1-5-39).

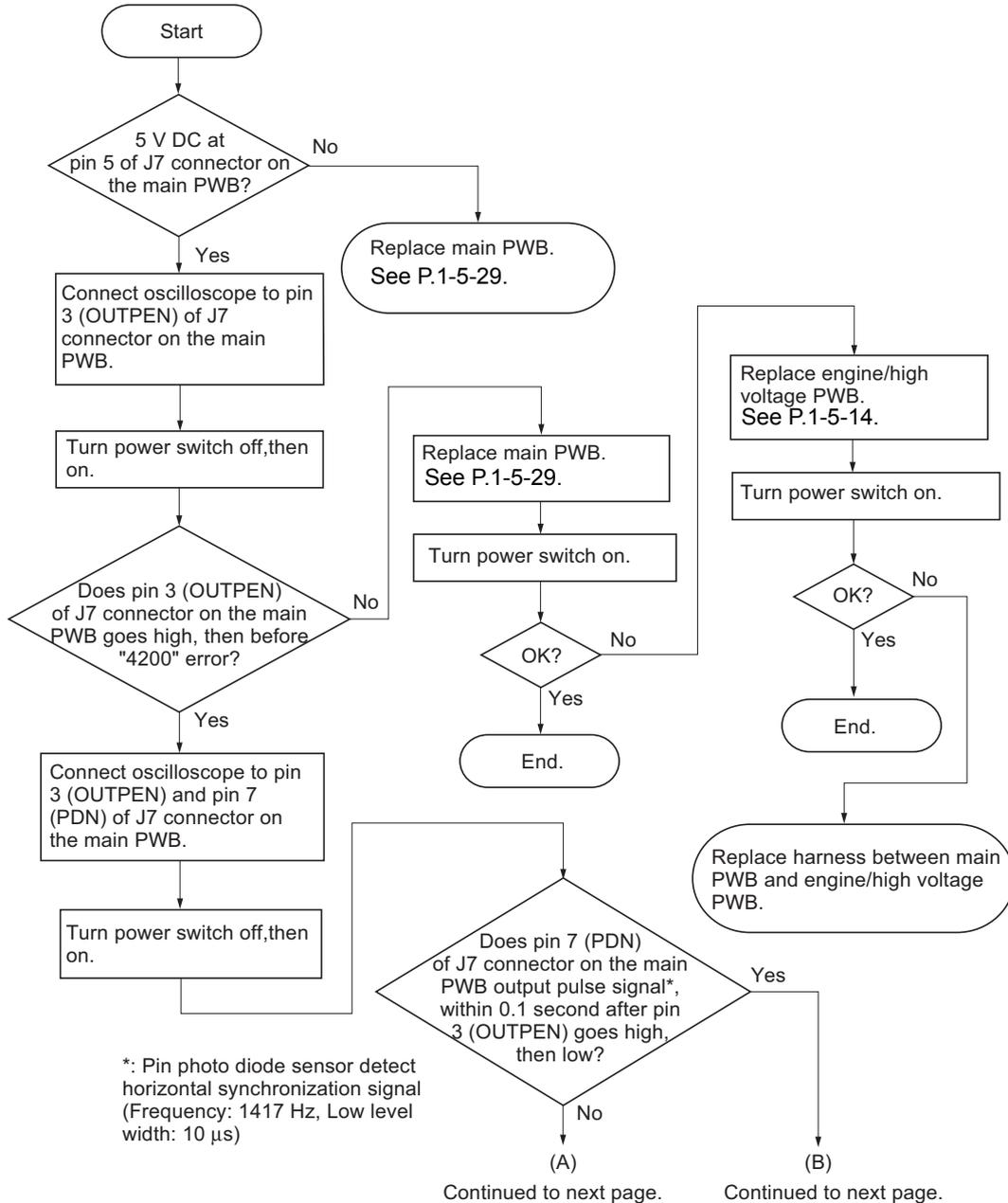
Service error message	Contents	Remarks	
		Causes	Check procedures/corrective measures
[SCANNER ERROR] Home sensor	Scanner home position sensor error for scanner.	Defective scanner home position sensor.	Replace the scanner home position sensor (See P.1-5-37).
		Defective main PWB.	Turn the power switch off and then back on again. If this message still remains, replace the main PWB (See P.1-5-29).
[SCANNER ERROR] Motor Stall	Scanner motor stall for scanner.	Defective scanner belt spring.	Replace the scanner belt spring.
		Poor contact in scanner motor connector terminals.	Reinsert the connector (See P.1-5-38).
		Defective FFC between main PWB and CCD PWB, or improper connector insertion.	Reinsert the FFC. Also check for continuity within the FFC. If none, remedy or replace the FFC (See P.1-5-39).
		Defective scanner motor.	Replace the scanner motor (See P.1-5-38).
		Defective main PWB.	Turn the power switch off and then back on again. If this message still remains, replace the main PWB (See P.1-5-29).
		Defective scanner unit.	Replace the scanner unit (See P.1-5-22).
Toner Low	Toner low for machine.	Toner is running low.	Replace the toner container.
		Defective toner container.	Replace the toner container.
		Defective main PWB.	Replace the main PWB (See P.1-5-29).
Please Replace Toner	Toner empty for machine.	Toner has run out so further copying or printing is impossible.	Replace the toner container.
		Defective toner container.	Replace the toner container.
		Defective main PWB.	Replace the main PWB (See P.1-5-29).
No Connection	No dial tone is detected.	Poor contact in modular cord.	Check if the modular cord is firmly connected.
Dialing Failed	The other party is not compliant to FAX, or did not start receiving.	T1 time-out error is detected.	Check the other party.
Com Err:XXXXXX	"XXXXXX" means fax error code.	Communication error occurs.	For detail, see P.1-4-14.

(3) Service call codes

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
2000	Main motor error The main motor ready input is not given for two seconds during the main motor is driven.	Defective harness between engine/ high voltage PWB and main motor.	Follow the flow chart.
		Defective main motor.	
		Defective engine/ high voltage PWB.	
		Defective drive unit.	



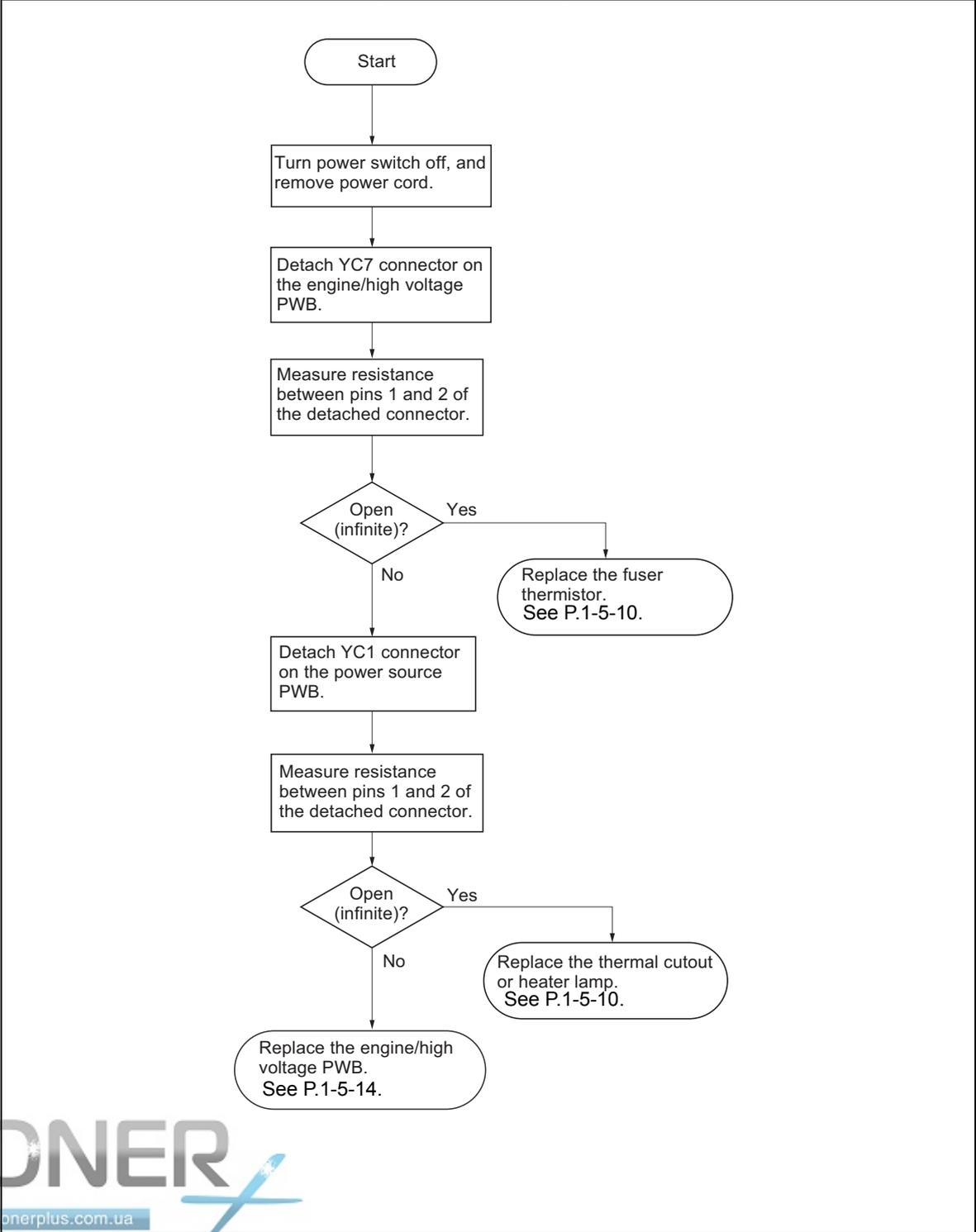
Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
4200	<p>PD (Pin photo diode) sensor (laser scanner unit) error</p> <p>The first BD input is not given for 10 seconds after power is turned on and the laser begins emitting.</p> <p>The first BD input is not given for 7 seconds during printing and after the laser begins emitting.</p>	<p>Defective main PWB.</p> <p>Defective harness between main PWB and engine/high voltage PWB.</p> <p>Defective engine/high voltage PWB.</p>	Follow the flow chart.



Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
4200 cont.	<p>Continued from previous page.</p> <p>(A)</p> <pre> graph TD A1[Replace laser scanner unit. See P.1-5-17.] --> A2[Replace main PWB. See P.1-5-29.] A2 --> A3[Turn power switch on.] A3 --> A4{OK?} A4 -- Yes --> A4_End([End.]) A4 -- No --> A5[Replace engine/high voltage PWB. See P.1-5-14.] A5 --> A6[Turn power switch on.] A6 --> A7{OK?} A7 -- Yes --> A7_End([End.]) A7 -- No --> A8[Replace harness between main PWB and laser scanner unit.] A8 --> A9[Turn power switch on.] A9 --> A10{OK?} A10 -- Yes --> A10_End([End.]) A10 -- No --> A11[Replace harness between main PWB and laser scanner unit.] A11 --> A12[Turn power switch on.] A12 --> A13{OK?} A13 -- Yes --> A13_End([End.]) A13 -- No --> A14([Replace harness between main PWB and engine/high voltage PWB.]) </pre> <p>(B)</p> <pre> graph TD B1[Replace main PWB. See P.1-5-29.] --> B2[Turn power switch on.] B2 --> B3{OK?} B3 -- Yes --> B3_End([End.]) B3 -- No --> B4[Replace engine/high voltage PWB. See P.1-5-14.] B4 --> B5{OK?} B5 -- Yes --> B5_End([End.]) B5 -- No --> B6([Replace harness between main PWB and engine/high voltage PWB.]) </pre>	Continued from previous page.	



Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
6000	Broken heater lamp error The temperature won't rise by 1 °C/33.8 °F during warming up and the heater is turned on for 5 s. The temperature won't rise by 1 °C/33.8 °F during printing and the heater is turned on for 5 seconds with the duty cycle more than 60%.	Defective fuser thermistor.	Follow the flow chart.
		Broken thermal cutout or heater lamp.	
		Defective engine/high voltage PWB.	



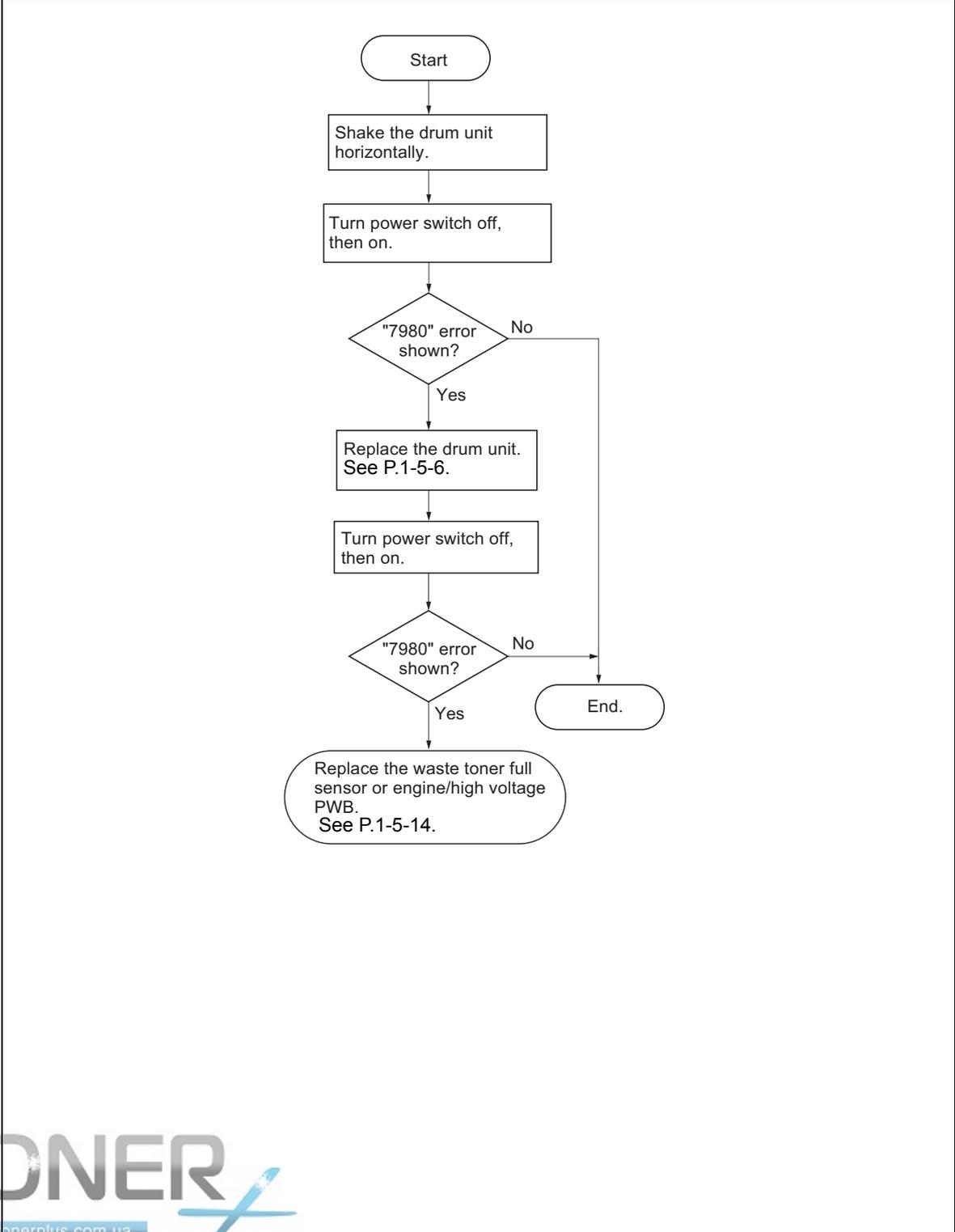
Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
6010	Fuser low temperature After the fuser heater lamp is turned on, the temperature at the upper fuser roller lower than 100 °C/212 °F continues for 30 s.	Defective the fuser thermistor.	Follow the flow chart.
		Defective the engine/high voltage PWB.	
<pre> graph TD Start([Start]) --> Check[Check the installation condition of the fuser thermistor.] Check --> OK{OK?} OK -- Yes --> ReplacePWB1([Replace the engine/high voltage PWB. See P.1-5-14.]) OK -- No --> Remedy[Remedy or replace the fuser thermistor.] Remedy --> Switch[Turn power switch off, then on.] Switch --> Error{"6010" error shown?} Error -- Yes --> ReplacePWB2([Replace the engine/high voltage PWB. See P.1-5-14.]) Error -- No --> End([End.]) </pre>			



Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
6050	Broken fuser thermistor The thermistor AD value is less than 1 for 600 ms.	Defective the fuser thermistor.	Follow the flow chart.
		Defective the engine/high voltage PWB.	
<pre> graph TD Start([Start]) --> Step1[Turn power switch off, and remove power cord.] Step1 --> Step2[Detach YC7 connector on the engine/high voltage PWB.] Step2 --> Step3[Measure resistance between pins 1 and 2 of the detached connector.] Step3 --> Decision{Open (infinite)?} Decision -- Yes --> Action1([Replace the fuser thermistor. See P.1-5-10.]) Decision -- No --> Action2([Replace the engine/high voltage PWB. See P.1-5-14.]) </pre>			
6400	Zero cross signal error While fuser heater ON/OFF control is performed, the zero-cross signal is not input within 3 s.	Defective the power source PWB.	Follow the flow chart.
		Defective the engine/high voltage PWB.	
<pre> graph TD Start([Start]) --> Step1[Replace the power source PWB. See P.1-5-14.] Step1 --> Decision{OK?} Decision -- Yes --> End([End.]) Decision -- No --> Action([Replace the engine/high voltage PWB. See P.1-5-14.]) </pre>			



Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
7980	Waste toner full (Total page count less than 100,000 pages of printing) The toner-full sensor has detected that the waste toner is full before the total print page of less than 100,000 pages.	Defective drum unit.	Follow the flow chart.
		Defective waste toner full sensor.	
		Defective engine/ high voltage PWB.	

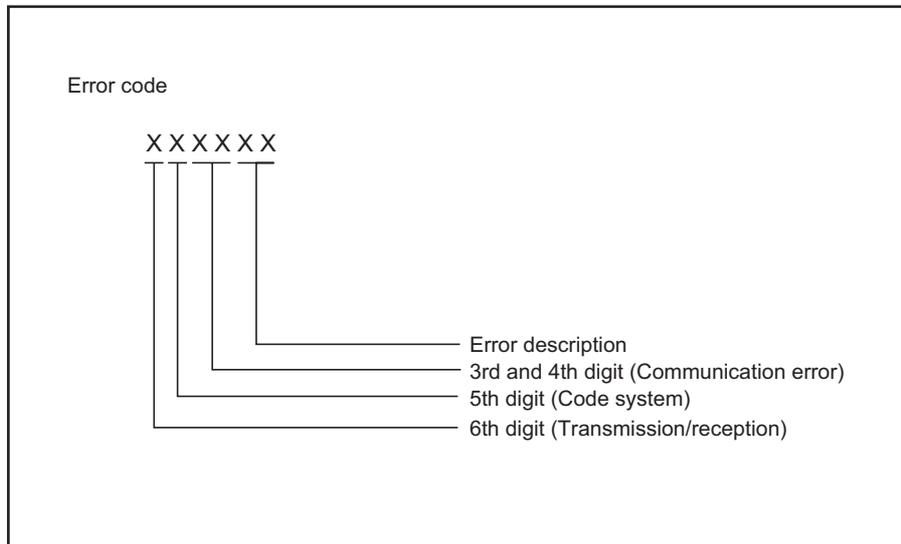


Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
7990	Waste toner full (Total page count more than 100,000 pages of printing) The toner-full sensor has detected that the waste toner is full before the total print page of more than 100,000 pages.	Defective drum unit.	Follow the flow chart.
		Defective waste toner full sensor.	
		Defective engine/ high voltage PWB.	
<pre> graph TD Start([Start]) --> Step1[Shake the drum unit horizontally.] Step1 --> Step2[Turn power switch off, then on.] Step2 --> Dec1{"'7990' error shown?"} Dec1 -- No --> End([End.]) Dec1 -- Yes --> Step3[Replace the drum unit. See P.1-5-6.] Step3 --> Step4[Turn power switch off, then on.] Step4 --> Dec2{"'7990' error shown?"} Dec2 -- No --> End Dec2 -- Yes --> Step5([Replace waste toner full sensor or engine/high voltage PWB. See P.1-5-14.]) </pre>			
F040 (E0)	Main - Engine communication error The communication breakdown occurred between the main PWB and the engine/ high voltage PWB during the predetermined period in seconds.	Defective engine/ high voltage PWB.	Replace the engine/high voltage PWB (See P.1-5-14)
		Defective main PWB.	Replace the main PWB (See P.1-5-29).
F050 (E6)	Engine checksum error Checksum result failed with the CPU and engine/high voltage PWB.	Defective engine/ high voltage PWB.	Replace the engine/high voltage PWB (See P.1-5-14).

(4) Error codes**(4-1) Error code**

Error codes are listed on the communication reports, activity report, etc. The codes consist of an error code indication a 6-digit number.

The 6th digit indicates the transmission/reception error, 5th digit indicates codec system, 3rd and 4th digit indicate communication speed, and then, the lower two indicate error description.

**(4-2) Table of general classification**

Error code	Description
1xxxxx	Transmission error
2xxxxx	Reception error
3xxxxx	Polling reception error
x1xxxx	MH error
x2xxxx	MR error
x3xxxx	MMR error
xx01xx	V.34 mode error
xx02xx	V.17 mode (14.4 Kbps) error
xx03xx	V.17 mode (12 Kbps) error
xx04xx	V.17 mode (9.6 Kbps) error
xx05xx	V.17 mode (7.2 Kbps) error
xx06xx	V.33 mode (14.4 Kbps) error
xx07xx	V.33 mode (12 Kbps) error
xx08xx	V.29 mode (9.6 Kbps) error
xx09xx	V.29 mode (7.2 Kbps) error
xx10xx	V.27 mode (4.8 Kbps) error
xx11xx	V.27 mode (2.4 Kbps) error
xxxxyy	Refer to the table below for error codes.

Note: x means an arbitrary numeric number.

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(4-3) Table of error code

Error code	Description
xxxx01	Transmission was interrupted.
1xxx11	Transmission was interrupted due to jam in the DP.
1xxx12	Transmission was interrupted because the left cover of the DP.
1xxx13	Transmission was interrupted due to shutting down of the facsimile.
2xxx14	Reception failed because the facsimile memory is full.
xxxx15	No dial tone was detected.
xxxx16	Transmission failed in spite of auto redialing.
xxxx18	Waiting transmission job was deleted because the facsimile was shut down.
1xxx19	Transmission job was deleted.
xxxx31	T1 time-out error was detected.
xxxx32	Communication error occurred in V.8 mode.
xxxx33	T0 time-out error was detected.
xxxx40	Retry out.
xxxx41	The training signal was not received.
xxxx42	Command transmission retry was exceeded at phase B.
xxxx43	T2 time-out error was detected at phase B.
xxxx44	DCN signal was received.
xxxx45	DCT signal was received.
xxxx46	Remote not capable for polling.
xxxx47	Reception was rejected due to fax reception rejection settings.
xxxx50	T2 time-out error was detected at phase C.
xxxx51	Image data was not built up at transmission.
xxxx52	Time-out error was detected at phase C.
xxxx60	Retry out.
xxxx61	T2 time-out error was detected at phase D.
xxxx62	DCN signal was received.
xxxx63	Command transmission retry was exceeded at phase D.
xxxx64	Communication was canceled due to the PPR signals received in more times than defined.
xxxx65	RNR signal time-out error was detected.
xxxx66	RTN or PIN signal was received.
xxxx70	Time-out error was detected at phase E.

1-4-3 Image formation problems

(1) Completely blank printout.



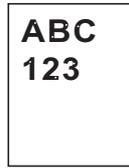
See P.1-4-17

(2) All-black printout.



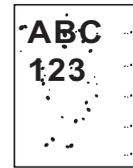
See P.1-4-17

(3) Dropouts.



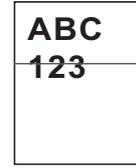
See P.1-4-18

(4) Black dots.



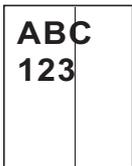
See P.1-4-18

(5) Black horizontal streaks.



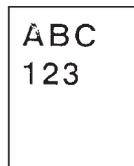
See P.1-4-18

(6) Black vertical streaks.



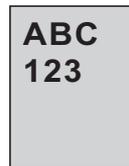
See P.1-4-19

(7) Unsharpness.



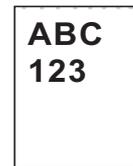
See P.1-4-19

(8) Gray background.



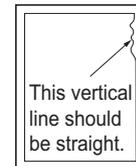
See P.1-4-20

(9) Dirt on the top edge or back of the paper.



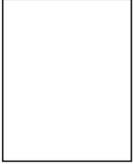
See P.1-4-20

(10) Undulated printing at the right edge (scanning start position).

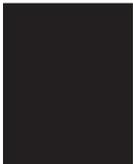


See P.1-4-20

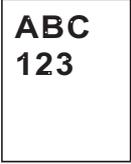
(1) Completely blank printout

Copy example	Causes	Check procedures/corrective measures
	Defective drum unit or developer unit.	Open the top cover and check that the drum unit and developer unit is correctly seated. Check for poor contact of the main charger terminal between the main charger unit and the drum unit.
	Defective transfer bias potential.	Check the transfer bias output on the engine/high voltage PWB. This requires removal of the left cover and the test equipment. Replace the engine/high voltage PWB if high voltage potential is not available on the PWB (See P.1-5-14).
	Defective laser scanner unit.	The scanner components within the scanner may be disordered. Replace the laser scanner unit (See P.1-5-17).
	Defective main PWB.	Defective laser scanner unit control circuit in the main PWB (See P.1-5-29).

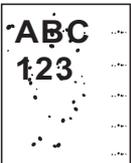
(2) No image appears (entirely black).

Copy example	Causes	Check procedures/corrective measures
	Defective main charger unit.	Open the top cover and check that the drum unit is correctly seated. Check for poor contact of the main charger terminal between the main charger unit and the drum unit.
	Defective main charger high voltage output.	Make sure the main charger high voltage output from the engine/high voltage PWB correctly arrives at the drum unit (main charger unit).
	Defective engine/high voltage PWB.	Check the high voltage output on the engine/high voltage PWB. Replace the engine/high voltage PWB if high voltage potential is not available on the PWB (See P.1-5-14).
	Defective main PWB.	Replace the main PWB (See P.1-5-29).

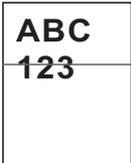
(3) Dropouts

Copy example	Causes	Check procedures/corrective measures
	Defective developing roller (in the developer unit).	If the defects occur at regular intervals of 47.2 mm/1 7/8", the problem may be the damaged developing roller (in the developer unit). Replace the developer unit (See P.1-5-6).
	Defective drum unit.	Defective drum unit. If the defects occur at regular intervals of 94 mm/3 11/16", the problem may be the damaged drum (in the drum unit). Replace the drum unit (See P.1-5-6).
	Defective fuser unit.	Defective fuser unit. If the defects occur at regular intervals of 63 mm/2 1/2" (heat roller or press roller), the problem may be the damaged fuser unit. Replace the press roller or heat roller (See P.1-5-10).
	Defective paper specifications.	Defective paper specifications. Paper with rugged surface or dump tends to cause dropouts. Replace paper with the one that satisfies the paper specifications.
	Defective transfer roller installation.	The transfer roller must be supported by the bushes at the both ends. Clean the bush to remove oil and debris. Replace the transfer roller if necessary (See P.1-5-5).
	Defective engine/high voltage PWB (transfer bias potential).	Check the transfer bias output on the engine/high voltage PWB. This requires removal of the left cover and the test equipment. Replace the engine/high voltage PWB if high voltage potential is not available on the PWB (See P.1-5-14).

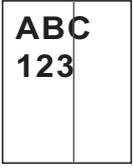
(4) Black dots

Copy example	Causes	Check procedures/corrective measures
	Defective drum unit.	Defective drum unit. If the defects occur at regular intervals of 94 mm/3 11/16", the problem may be the damaged drum (in the drum unit). Replace drum unit (See P.1-5-6). If the defects occur at random intervals, the toner may be leaking from the developer unit and drum unit. Replace developer unit and drum unit (See P.1-5-6).

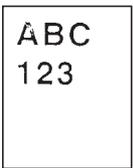
(5) Black horizontal streaks

Copy example	Causes	Check procedures/corrective measures
	Defective drum unit's ground.	Defective drum unit's ground. The drum axle in the drum unit and its counter part, the grounding tab in the machine, must be in a good contact. If necessary, apply a small amount of electro-conductive grease onto the tab.
	Defective drum unit.	Defective drum unit. Replace the drum unit (See P.1-5-6).

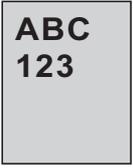
(6) Black vertical streaks

Copy example	Causes	Check procedures/corrective measures
	Contaminated main charger wire.	Contaminated main charger wire. Clean the main charger wire by sliding the green colored cleaning knob in and out several times.
	Defective drum surface.	Defective drum surface. A streak of toner remaining on drum after printing means that the cleaning blade (in the drum unit) is not working properly. Replace the drum unit (See P.1-5-6).
	Defective magnet roller (in the developer unit).	Defective magnet roller (in the developer unit). Replace the developer unit (See P.1-5-6).

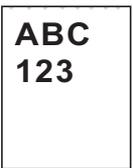
(7) Unsharpness

Copy example	Causes	Check procedures/corrective measures
	Defective paper specifications.	Defective paper specifications. Paper with rugged surface or dump tends to cause unsharp printing.
	Defective transfer roller installation.	Defective transfer roller installation. The transfer roller must be supported by the bushes at the both ends. Clean the bush to remove oil and debris. Replace the transfer roller if necessary (See P.1-5-5).
	Defective transfer bias potential.	Defective transfer bias potential. Check the transfer bias output on the engine/high voltage PWB. This requires removal of the left cover and the test equipment. Replace the engine/high voltage PWB if high voltage potential is not available on the PWB (See P.1-5-14).
	EcoPrint mode setting.	EcoPrint mode setting. The EcoPrint mode can provides faint, unsharp printing because it acts to conserve toner for draft printing purpose. For normal printing, turn the EcoPrint mode off by using the operator panel. For details refer to the operation guide.

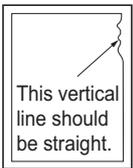
(8) Gray background

Copy example	Causes	Check procedures/corrective measures
	Print density setting.	Print density setting. The print density may be set too high. Try adjusting the print density. For details refer to the operation guide.
	Defective drum surface potential.	Defective drum surface potential. The drum surface potential should be approximately 470 ± 15 V. This may vary depending on production lots. Measurement is possible only by using the jig and tool specifically designed for this purpose. The drum unit will have to be replaced if it bears values far out of the allowable range.
	Defective main charger grid.	Defective main charger grid. Clean the main charger grid.
	Developing roller (in the developer unit).	Defective developing roller (in the developer unit). If a developer unit which is known to work normally is available for check, replace the current developer unit with the normal one. If the symptom disappears, replace the developer unit with a new one (See P.1-5-6).

(9) Dirt on the top edge or back of the paper

Copy example	Causes	Check procedures/corrective measures
	Toner contamination in various parts.	Toner contamination in various parts. Dirty edges and back of the paper can be caused by toner accumulated on such parts as the paper chute, paper transportation paths, the bottom of the drum and developer, and the fuser unit inlet. Clean these areas and parts to remove toner.
	Defective transfer roller.	Defective transfer roller. If the transfer roller is contaminated with toner, clean the transfer roller using a vacuum cleaner or by continuously printing a low-density page until the symptom has faded away.

(10) Undulated printing at the right edge (scanning start position)

Copy example	Causes	Check procedures/corrective measures
	Defective laser scanner unit.	Defective laser scanner unit. Defective polygon motor in the laser scanner unit. Replace the laser scanner unit (See P.1-5-17).
	Defective engine controller circuit in the engine/high voltage PWB.	Defective engine controller circuit in the engine/high voltage PWB. Replace the engine/high voltage PWB (See P.1-5-14).

1-4-4 Electric problems

Problem	Causes	Check procedures/corrective measures
(1)The machine does not operate when the power switch is turned on.	No electricity at the power outlet.	Measure the input voltage.
	The power cord is not plugged in properly.	Check the contact between the power plug and the outlet.
	The top cover is not closed-completely.	Check the top cover.
	Broken power cord.	Check for continuity. If none, replace the cord.
	Defective power switch.	Check for continuity across the contacts. If none, replace the power source PWB (See P.1-5-14).
	Blown fuse in the power source PWB.	Check for continuity. If none, remove the cause of blowing and replace the fuse.
	Defective interlock switch.	Check for continuity across the contacts of interlock switch. If none, replace the engine/high voltage PWB (See P.1-5-14).
	Defective power source PWB or engine/high voltage PWB.	With AC present, check for 5 V DC at YC4-11, YC7-2, YC10-1, YC6-1, and 24 V DC at YCYC3-5, YC3-6, YC5-1 YC9-1 on the engine/high voltage PWB. If none, replace the power source PWB or engine/high voltage PWB (See P.1-5-14).
(2)The main motor does not operate (Self diagnostic code 2000).	Poor contact in the main motor connector terminals.	Reinsert the connector. Also check for continuity within the connector harness. If none, remedy or replace the harness.
	Broken main motor gear.	Check visually and replace the main motor if necessary.
	Defective main motor.	Replace the main motor (See P.1-5-21).
	Defective engine/high voltage PWB.	Replace the engine/high voltage PWB (See P.1-5-14).
(3)The cooling fan motor does not operate.	Broken cooling fan motor coil.	Check for continuity across the coil. If none, replace the cooling fan motor.
	Poor contact in cooling fan motor connector terminals.	Reinsert the connector.
(4)The power source fan motor does not operate.	Broken power source fan motor coil.	Check for continuity across the coil. If none, replace the power source fan motor.
	Poor contact in power source fan motor connector terminals.	Reinsert the connector.
(5)The registration clutch does not operate.	Broken registration clutch coil.	Check for continuity across the coil. If none, replace the registration clutch.
	Poor contact in the registration clutch connector terminals.	Reinsert the connector.
	Defective harness between connect PWB and engine/high voltage PWB.	Check for continuity across the harness. If none, replace the harness.
	Defective engine/high voltage PWB.	Replace the engine/high voltage PWB (See P.1-5-14).
	Defective connect PWB.	Replace the connect PWB.

Problem	Causes	Check procedures/corrective measures
(6)The feed clutch does not operate.	Broken feed clutch coil.	Check for continuity across the coil. If none, replace the feed clutch.
	Poor contact in the feed clutch connector terminals.	Reinsert the connector.
	Defective harness between connect PWB and engine/ high voltage PWB.	Check for continuity across the harness. If none, replace the harness.
	Defective engine/high voltage PWB.	Replace the engine/high voltage PWB (See P.1-5-14).
	Defective connect PWB.	Replace the connect PWB.
(7)The eraser lamp (PWB) does not turn on.	Poor contact in the eraser lamp (PWB) connector terminals.	Reinsert the connector.
	Defective eraser lamp (PWB).	Check for continuity. If none, replace the eraser lamp (PWB) (See P.1-5-19).
	Defective engine/high voltage PWB.	If the eraser lamp (PWB) turns on when YC8-2 on the engine/high voltage PWB is held low, replace the engine/high voltage PWB (See P.1-5-14).
(8)The heater lamp does not turn on.	Broken wire in heater lamp.	Check for continuity across each heater lamp. If none, replace the heater lamp (See P.1-5-10).
	Thermal cutout triggered.	Check for continuity across thermal cutout. If none, remove the cause and replace the thermal cutout (See P.1-5-10).
(9)The heater lamp does not turn off.	Broken fuser thermistor.	Measure the resistance. If it is $\infty\Omega$, replace the fuser thermistor (See P.1-5-10).
	Dirty sensor part of the fuser thermistor.	Check visually and clean the fuser thermistor sensor parts (See P.1-5-10).
(10)No main charging.	Poor insertion main charger unit.	(See P.1-4-17).
	Broken main charger wire.	
	Poor contact of main charger terminal and high voltage output terminal on the engine/high voltage PWB.	
	Defective engine/high voltage PWB.	
(11)No developing bias is output.	Poor insertion developer unit.	(See P.1-5-6, P.1-5-14).
	Poor contact of developing bias terminal spring and high voltage output terminal (TAB1) on the engine/ high voltage PWB.	
	Defective engine/high voltage PWB.	

Problem	Causes	Check procedures/corrective measures
(12)No transfer bias is output.	Poor contact of transfer bias terminal and transfer bias terminal (J1, J2, J3) on the engine/high voltage PWB.	(See P.1-5-14).
	Defective engine/high voltage PWB.	
(13)The message requesting paper to be loaded is shown when paper is present in the paper cassette.	Defective paper sensor on the engine/high voltage PWB.	Replace the engine/high voltage PWB (See P.1-5-14).
(14)A paper jam in the paper feeding/ conveying section or fuser section is indicated when the power switch is turned on.	A piece of paper torn from paper is caught around registration sensor or exit sensor.	Check and remove if any.
	Defective registration sensor on the engine/high voltage PWB.	Replace the engine/high voltage PWB (See P.1-5-14).
	Defective exit sensor on the power source PWB.	Replace the power source PWB (See P.1-5-14).
(15)The indicator requesting cover to be closed is displayed when the top cover is closed.	Defective interlock switch on the engine/high voltage PWB.	Check for continuity across the interlock switch. If there is no continuity when the interlock switch is on, replace the engine/high voltage PWB (See P.1-5-14).

1-4-5 Mechanical problems

Problem	Causes/check procedures	Corrective measures
(1) No primary paper feed.	Check if the surfaces of the feed roller is dirty with paper powder.	Clean with isopropyl alcohol.
	Check if the paper feed roller is deformed.	Check visually and replace any deformed paper feed roller. See P.1-5-4.
	Defective feed clutch installation.	Check visually and remedy if necessary.
(2) No secondary paper feed.	Check if the surfaces of the upper and lower registration rollers are dirty with paper powder.	Clean with isopropyl alcohol.
	Defective registration clutch installation.	Check visually and remedy if necessary.
(3) Skewed paper feed.	Paper width guide in a cassette installed incorrectly.	Check the paper width guide visually and correct or replace if necessary.
(4) Multiple sheets of paper are fed at one time.	Check if the separator pad is worn.	Replace the separator pad if it is worn.
	Check if the paper is curled.	Change the paper.
(5) Paper jams.	Check if the paper is excessively curled.	Change the paper.
	Check if the contact between the upper and lower registration rollers is correct.	Check visually and remedy if necessary.
	Check if the upper and lower fuser roller is extremely dirty or deformed.	Clean or replace the upper and lower fuser roller.
	Check if the contact between the FD roller and FD pulley is correct.	Check visually and remedy if necessary.
(6) Toner drops on the paper conveying path.	Check if the drum unit or developer unit is extremely dirty.	Clean the drum unit or developer unit.
(7) Abnormal noise is heard.	Check if the pulleys, rollers and gears operate smoothly.	Grease the bearings and gears.
	Check if the following electromagnetic clutches are installed correctly: Feed clutch and registration clutch.	Check visually and remedy if necessary.

1-5-1 Precautions for assembly and disassembly

(1) Precautions

Be sure to turn the power switch off and disconnect the power plug before starting disassembly.

When the fax kit is installed, be sure to disconnect the modular code before starting disassembly.

When handling PWBs (printed wiring boards), do not touch connectors with bare hands or damage the board.

Do not touch any PWB containing ICs with bare hands or any object prone to static charge.

Use only the specified parts to replace the fuser unit thermostat. Never substitute electric wires, as the machine may be seriously damaged.

When removing the hook of the connector, be sure to release the hook.

1-5-2 Outer covers and scanner unit

(1) Detaching and refitting the right cover, left cover and top cover

<Procedure>

1. Remove the paper cassette.
2. Open the scanner unit.
3. Open the front cover.
4. Unlatch the four latches and then remove the right cover.

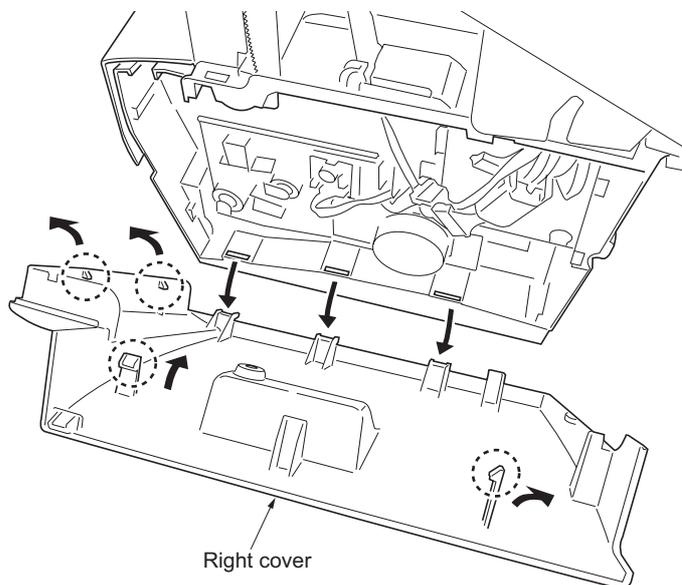


Figure 1-5-1 Removing the right cover

5. Unlatch the six latches and then remove the left cover.

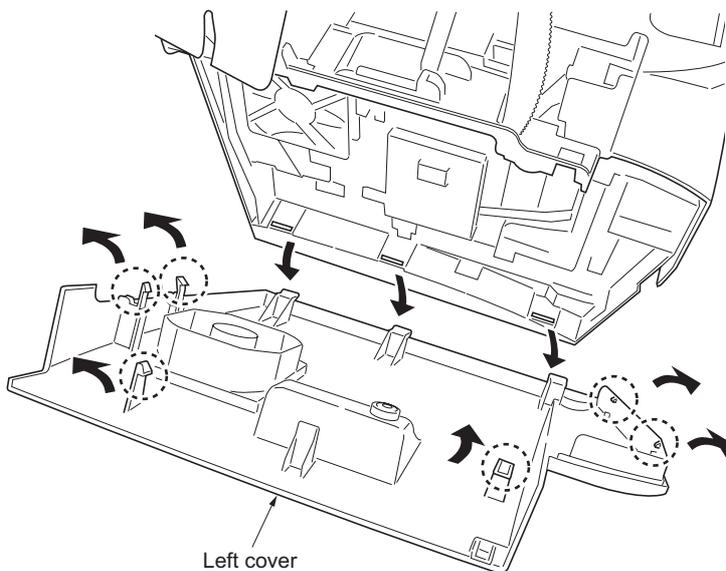


Figure 1-5-2 Removing the left cover

6. Remove the scanner unit (See P.1-5-22).
7. While opening the rear cover and then remove the two screws.
8. While unhooking the two hooks and then remove the top cover.

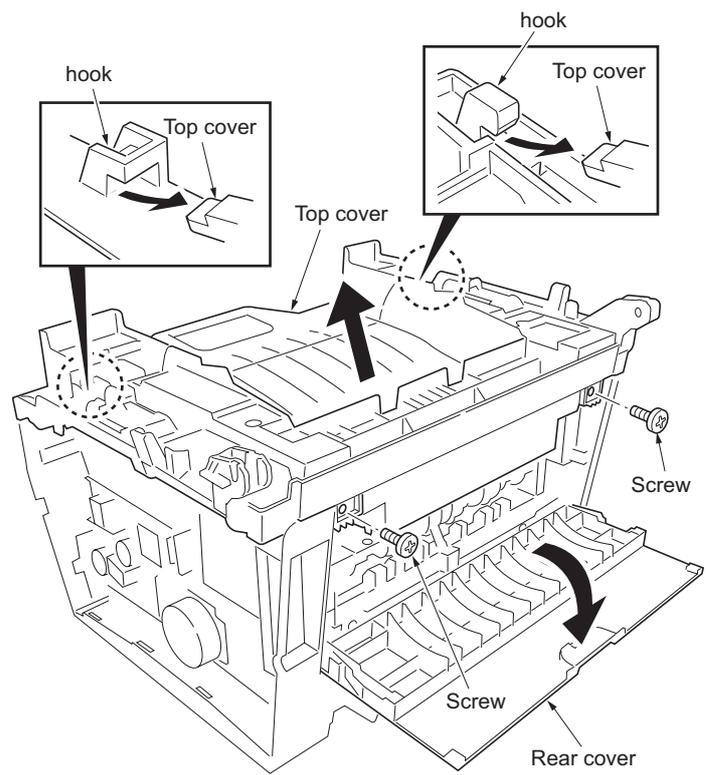


Figure 1-5-3

1-5-3 Paper feeding/conveying section

(1) Detaching and refitting the paper feed roller

<Procedure>

1. Remove the paper cassette.
2. Remove the paper feed roller.
3. Check or replace the paper feed roller and refit all the removed parts.

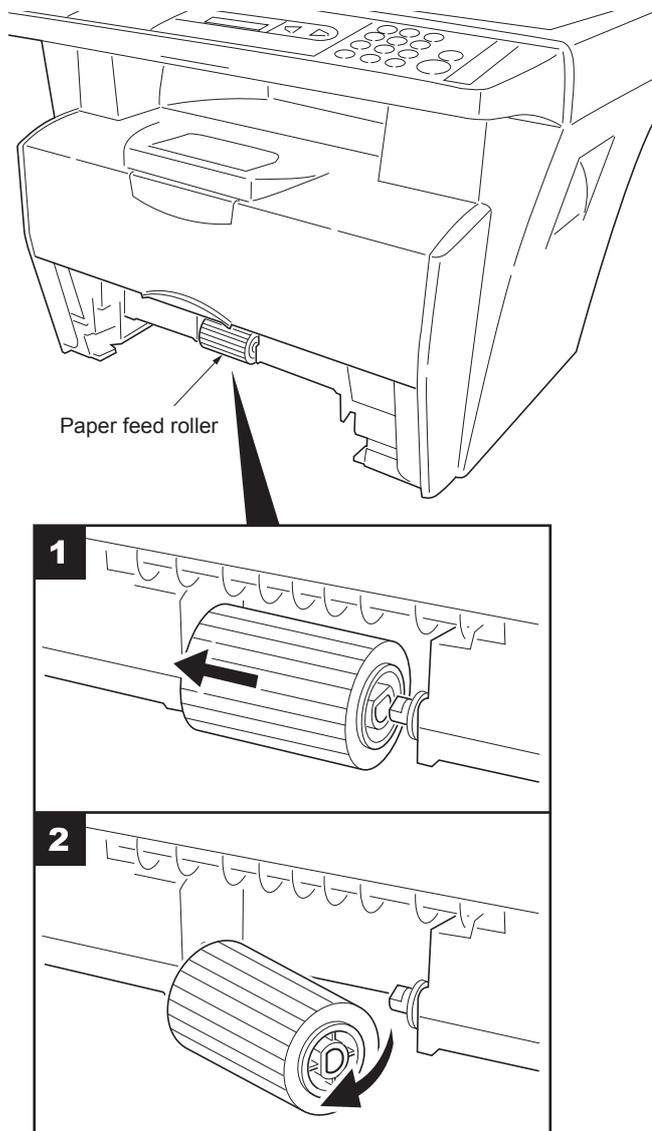


Figure 1-5-4 Removing the paper feed roller

(2) Detaching and refitting the transfer roller

<Procedure>

1. Remove the developer unit and drum unit (See P.1-5-6).
2. Remove the transfer roller from bushes.
3. Check or replace the transfer roller and refit all the removed parts.

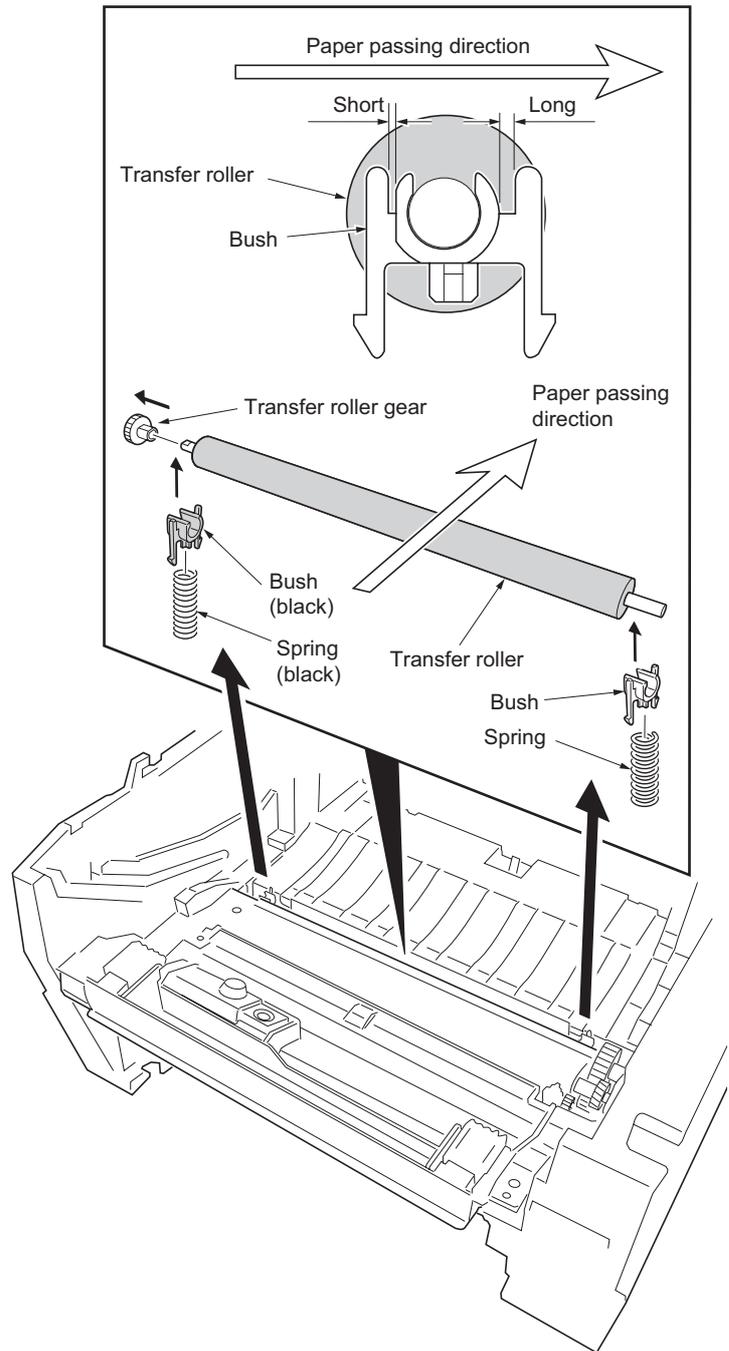


Figure 1-5-5 Removing the transfer roller

1-5-4 Process section

(1) Detaching and refitting the developer unit and drum unit

<Procedure>

1. Open the scanner unit.
2. Open the front cover.
3. Remove the developer unit (with toner container).

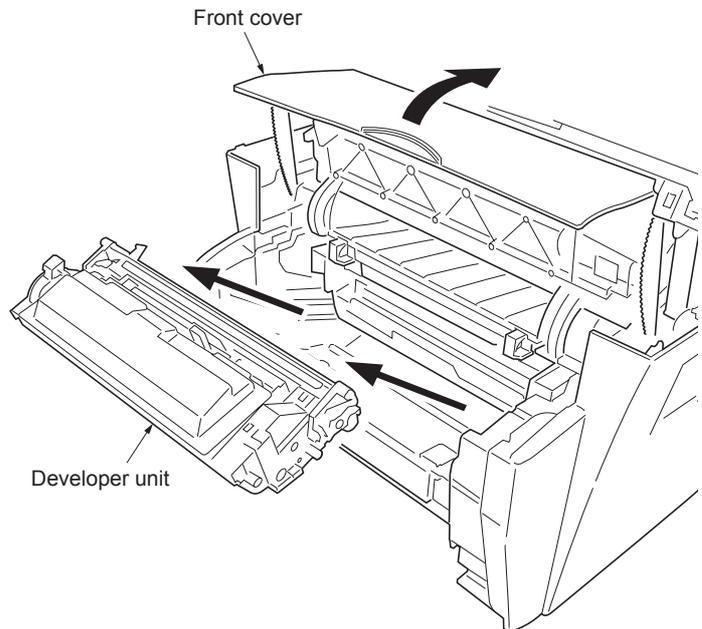


Figure 1-5-6 Removing the developer unit

4. Remove the drum unit.
5. Check or replace the developer or drum unit and refit all the removed parts.

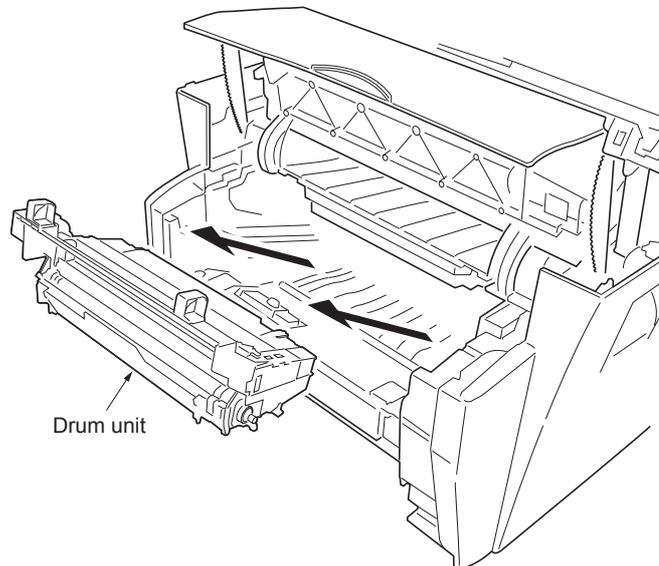


Figure 1-5-7 Removing the drum unit

(2) Detaching and refitting the main charger unit

<Procedure>

1. Remove the drum unit (See P.1-5-6).
2. While pushing on the main charger terminal (1), slide the main charger unit (2).
3. Remove the main charger unit (3) by lifting it.
4. Check or replace the main charger unit and refit all the removed parts.

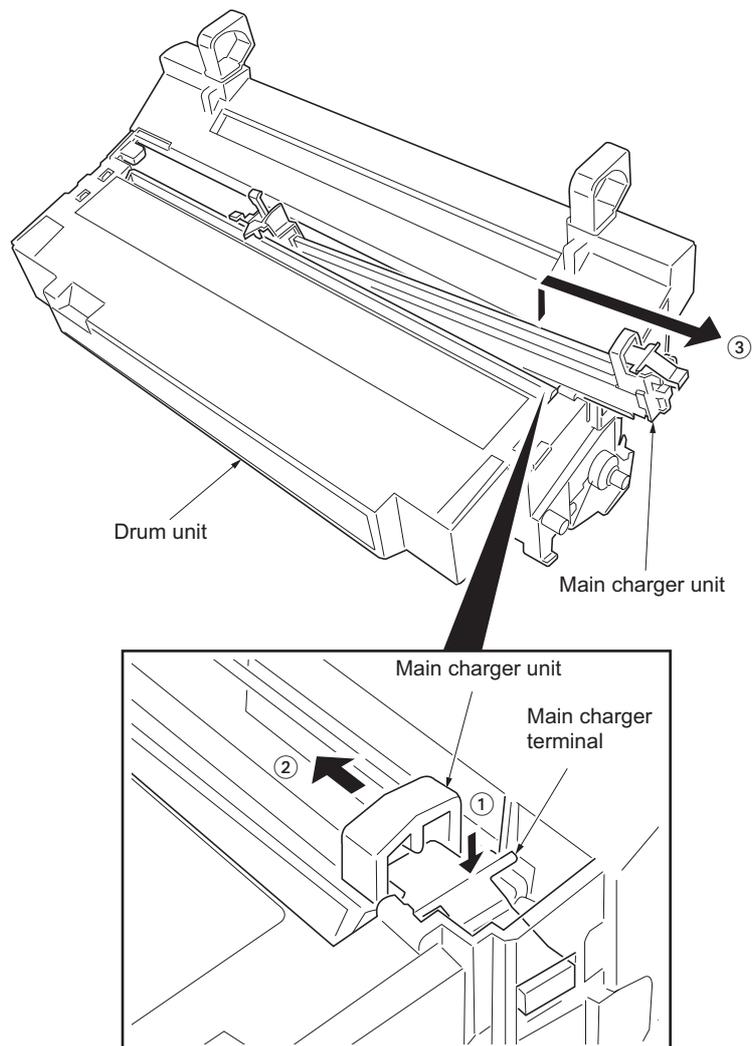


Figure 1-5-8

1-5-5 Fuser unit

(1) Detaching and refitting the fuser unit

<Procedure>

1. Remove the outer covers (See P.1-5-2).
2. Remove the two connectors.
3. Remove the wire from two clamps.

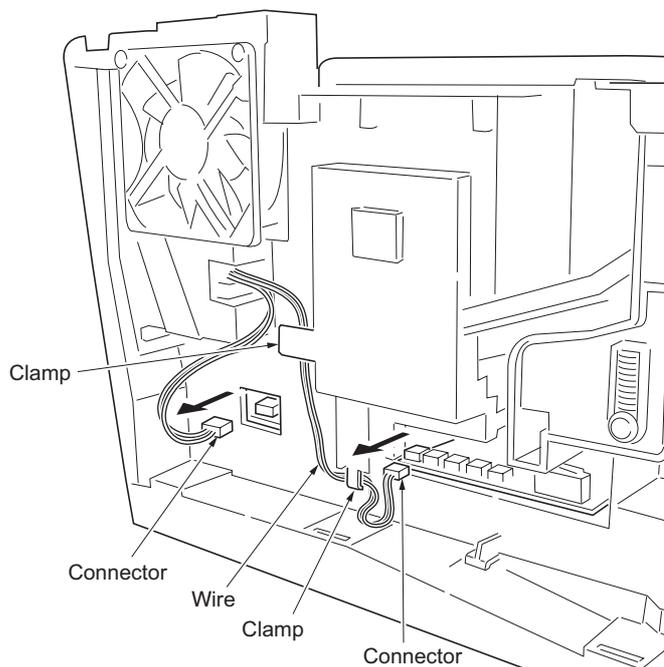


Figure 1-5-9

4. Pull out the rear cover axes (with springs) from the axis holes.

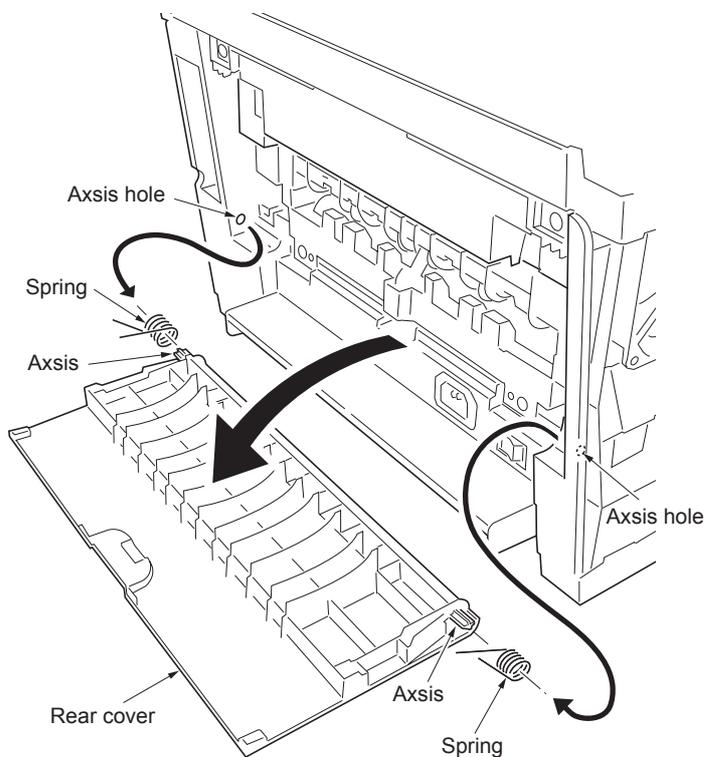


Figure 1-5-10

- Remove the two screws and then remove the fuser unit.

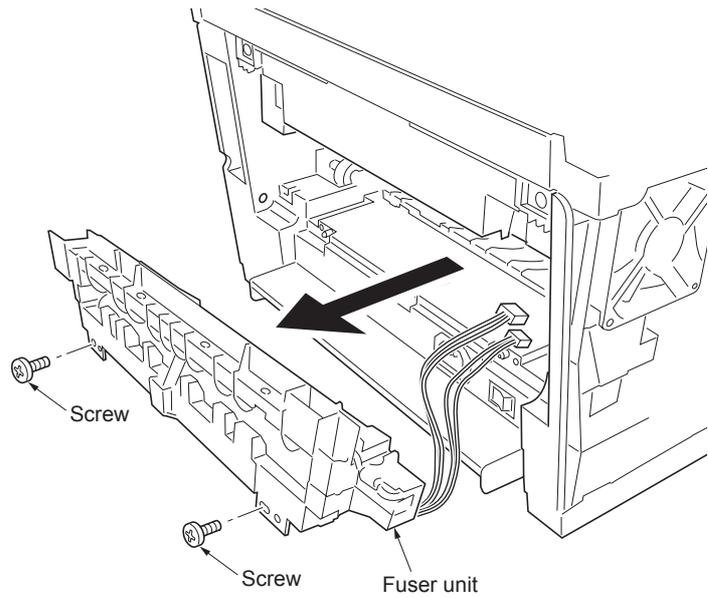


Figure 1-5-11

- Remove the two screws and then separate the upper fuser frame and lower fuser frame.
- Check or replace the fuser unit and refit all the removed parts.

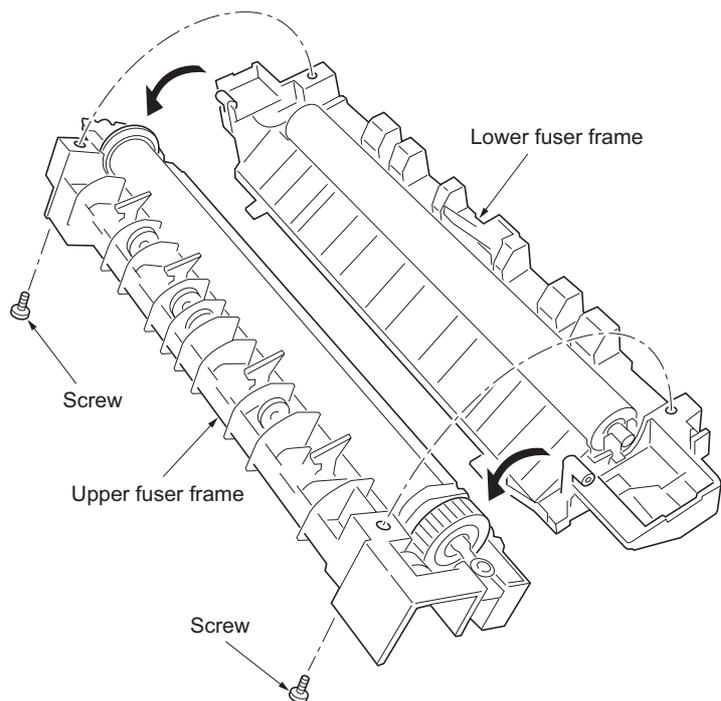


Figure 1-5-12

(2) Detaching and refitting the heater lamp, heat roller, fuser thermistor, thermal cutout, and press roller

<Procedure>

1. Remove the fuser unit (See P.1-5-8).
2. Remove the two screws and terminal.
3. Remove the heater lamp.
* Seat the heater lamp aligning its wattage mark and welding mark faced with the correct direction and side.

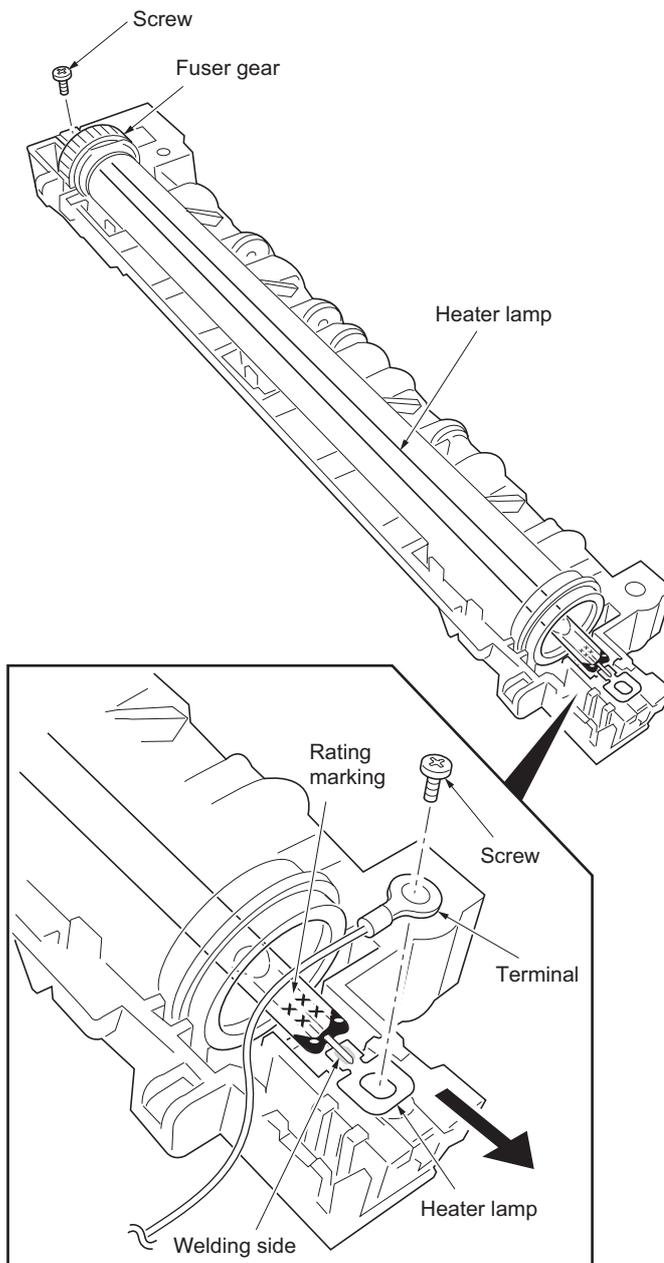


Figure 1-5-13

- 4. Pull the heat R bush and heat L bush (with heat roller) from the upper fuser guide.
- 5. Remove the heat R bush, heat L bush and heat gear from the heat roller.

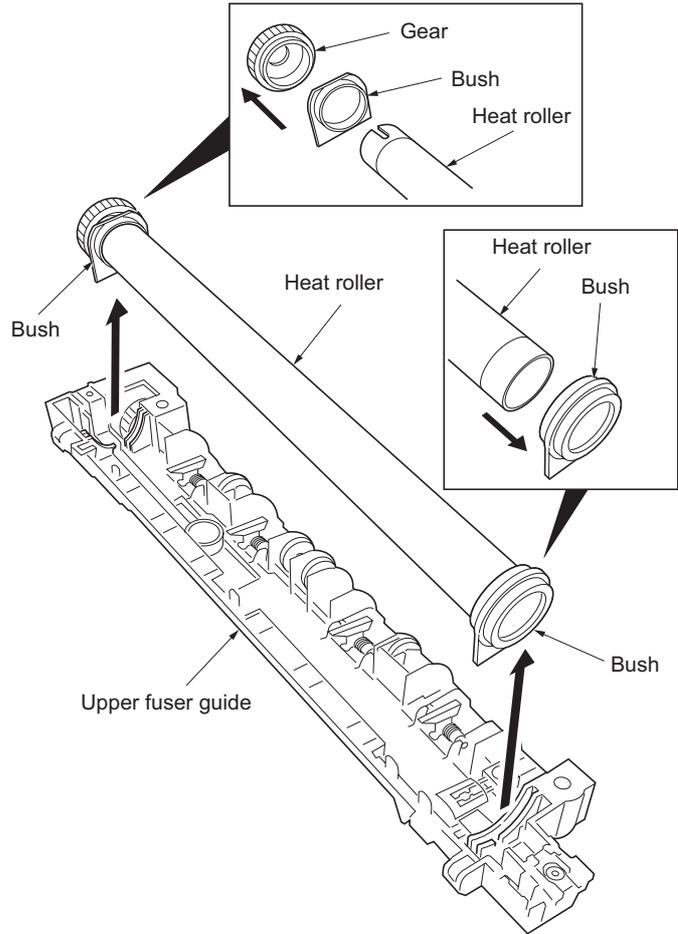


Figure 1-5-14

- 6. Remove the one screw and then remove the fuser thermistor.

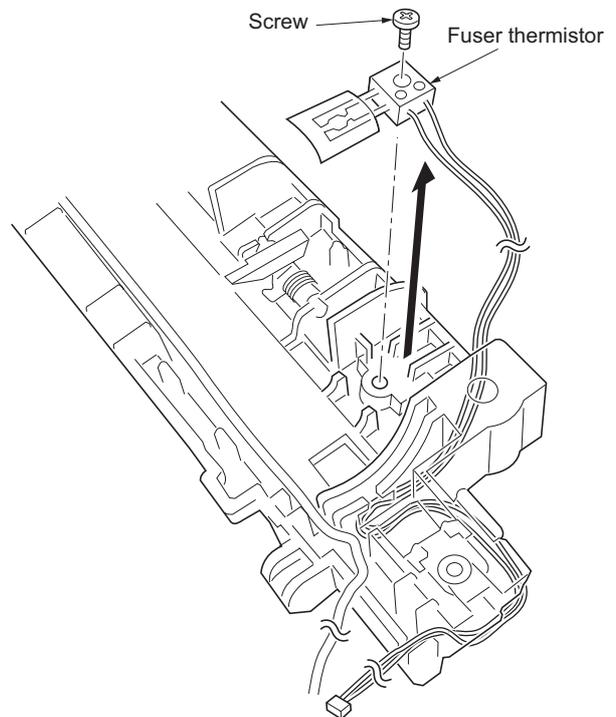


Figure 1-5-15

7. Remove the two screws (nuts), plate cord, and terminal.
8. Remove the thermal cutout.

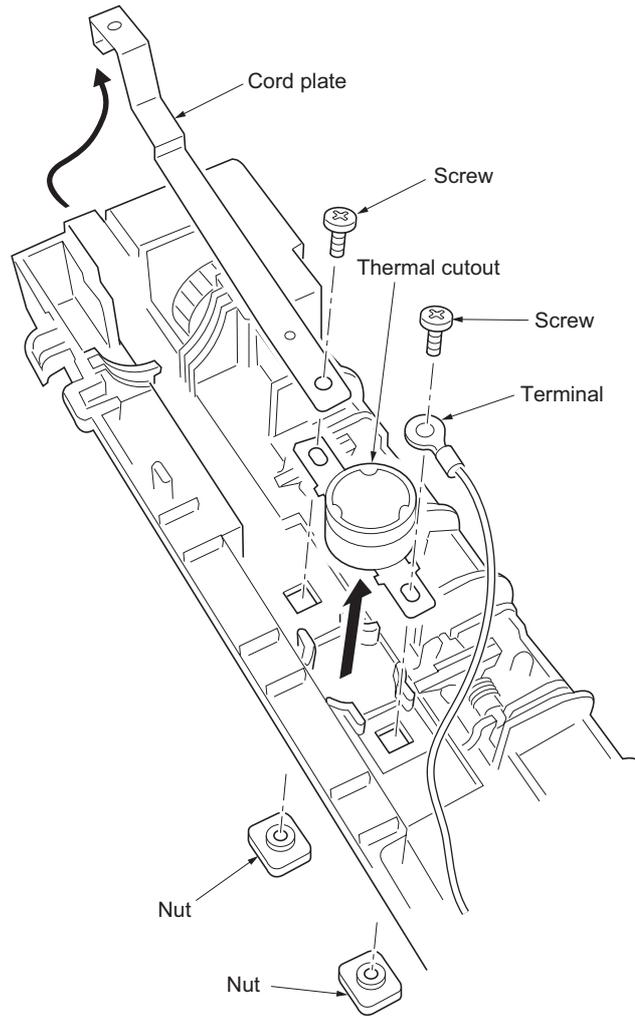


Figure 1-5-16

9. Remove the press roller from the bushes.
10. Check or replace the heater lamp, heat roller, fuser thermistor, thermal cutout, or press roller and refit all the removed parts.

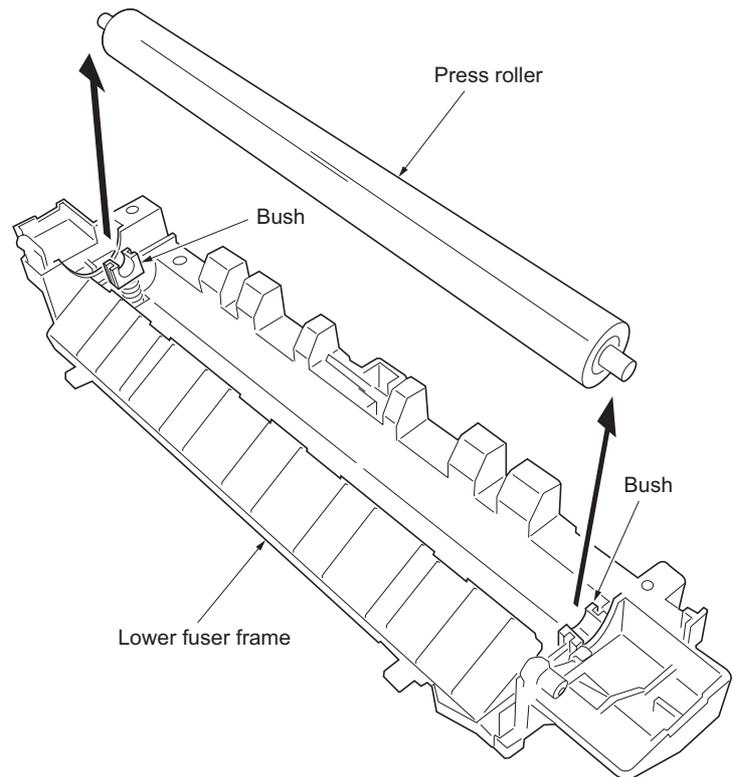


Figure 1-5-17 Removing the press roller

(3) Detaching and refitting the engine/high voltage PWB and power source PWB

<Procedure>

1. Remove the developer unit and drum unit (See P.1-5-6).
2. Remove the paper cassette.
3. Remove the scanner unit (See P.1-5-22).
4. Remove the six connectors.
 - * When seating the engine/high voltage PWB, ensure that the developer bias terminal spring is correctly in contact with the developing bias terminal (TB1) on the engine/high voltage PWB.

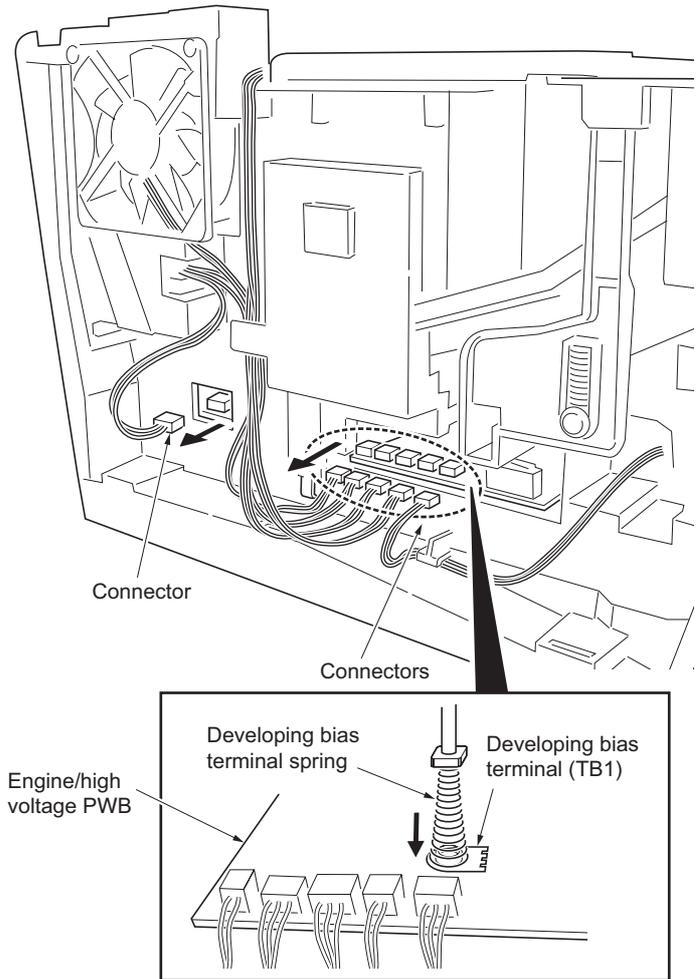


Figure 1-5-18

- 5. Turn the printer bottom side up.
- 6. Remove the five screws and then remove the bottom frame plate with PWBs (behind the plate).

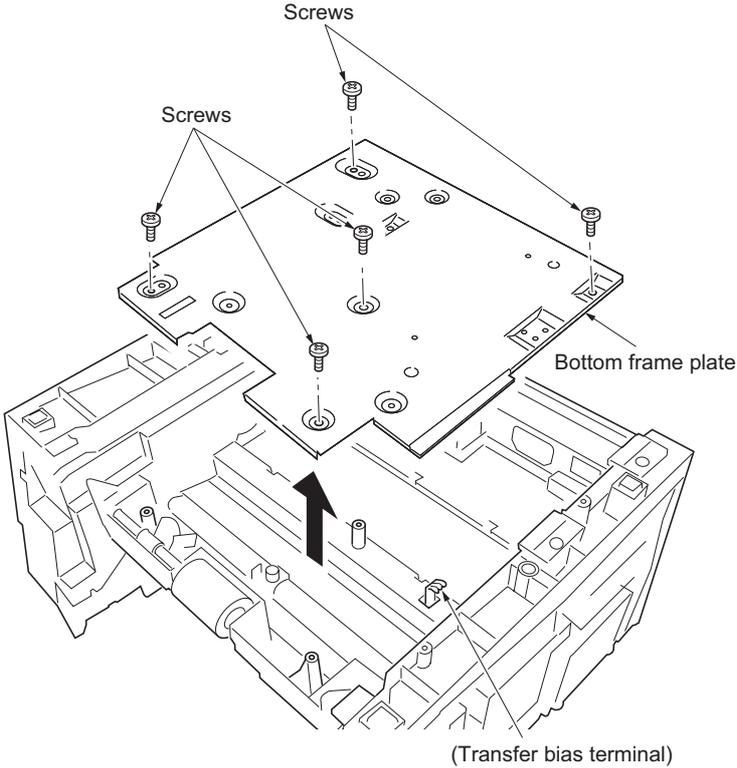


Figure 1-5-19

7. Remove the one screw and terminal from the bottom frame plate.
 * When securing the grounding terminal, hook the grounding wire to the projection.
8. Remove the two connectors from power source PWB.
9. Remove the three screws from power source PWB and power source fan motor.
10. Remove four screws from the engine/high voltage PWB.
11. Separate the engine/high voltage PWB and power source PWB.
12. Check or replace the engine/high voltage PWB or power source PWB and then refit all the removed parts.
 * To replace the engine/high voltage PWB, remove the EEPROM (U2) from the old engine/high voltage PWB and mount it to the new engine/high voltage PWB.
13. Check or replace the power source PWB or engine/high voltage PWB and refit all the removed parts.

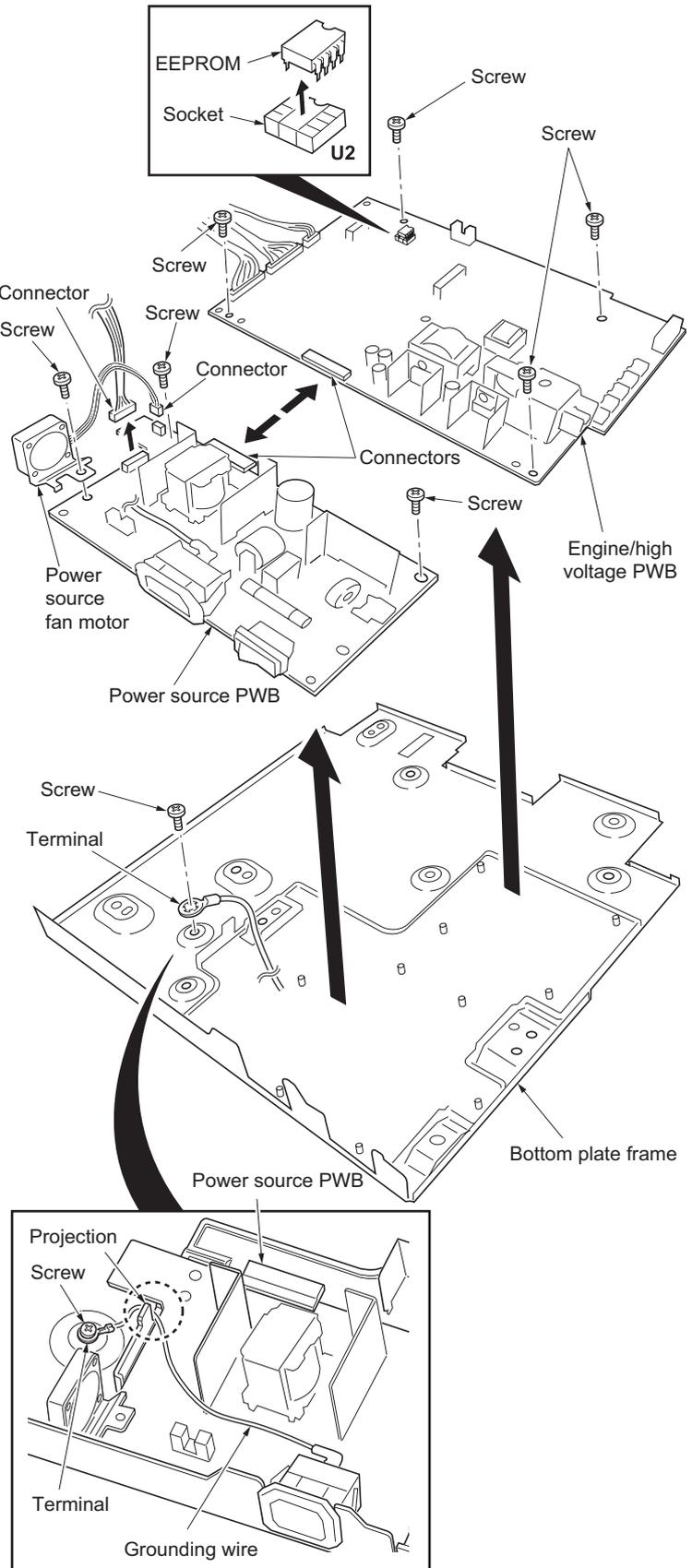


Figure 1-5-20

(4) Detaching and refitting the laser scanner unit

<Procedure>

1. Remove the outer covers (See P.1-5-2).
2. Remove the two screws and then remove the LSU lid.

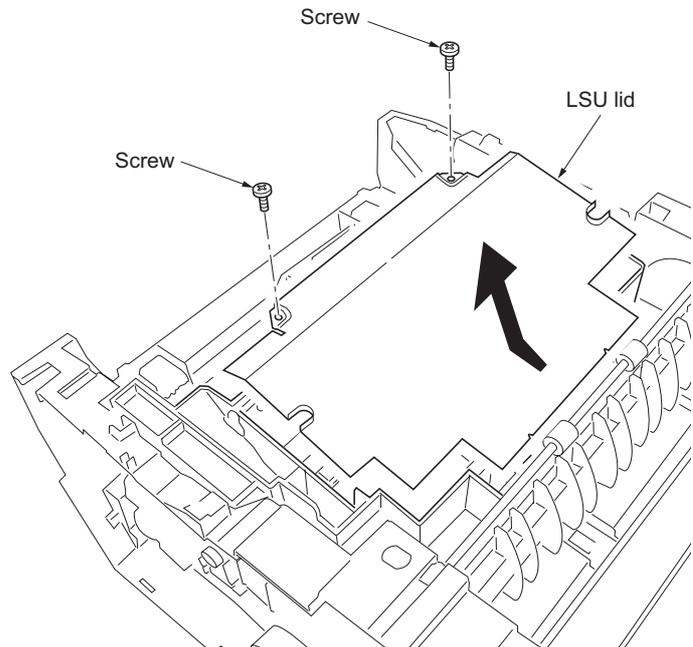


Figure 1-5-21

3. Remove the three screws.
4. Remove the two connectors and then remove the laser scanner unit.
5. Check or replace the laser scanner unit and refit all the removed parts.

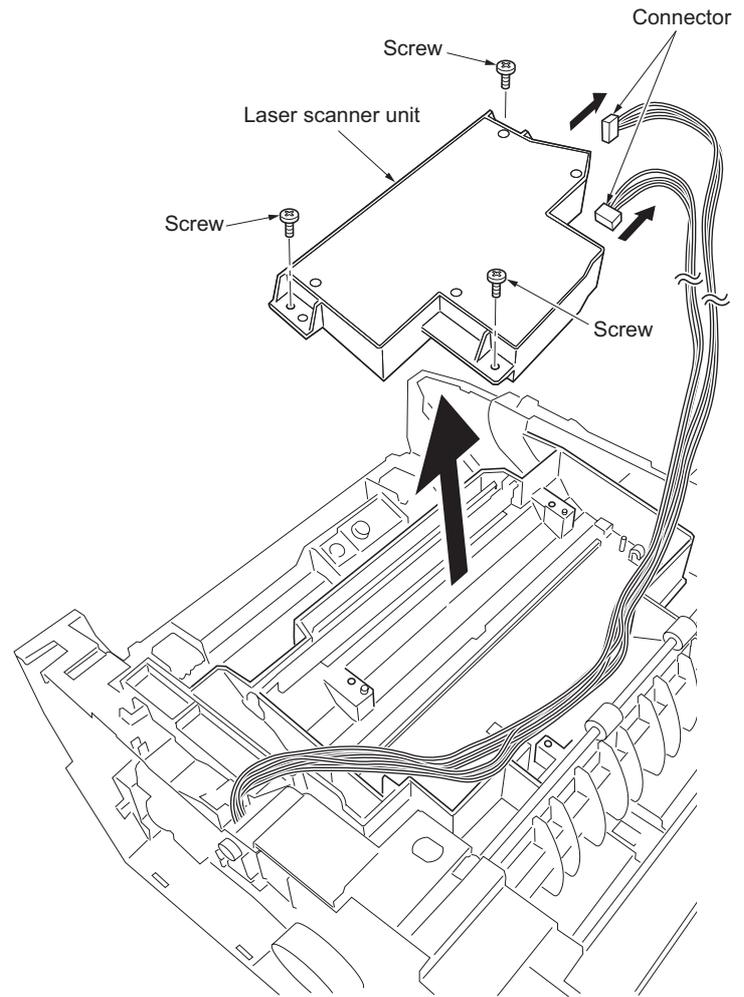
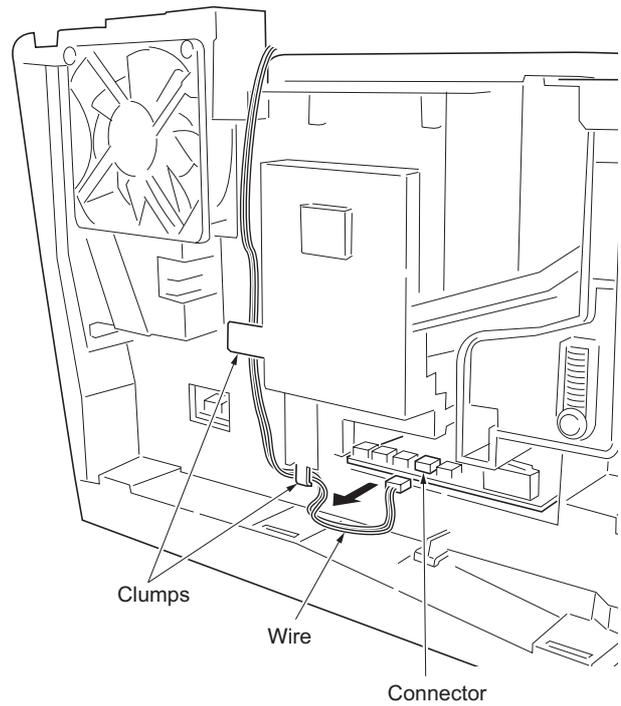


Figure 1-5-22

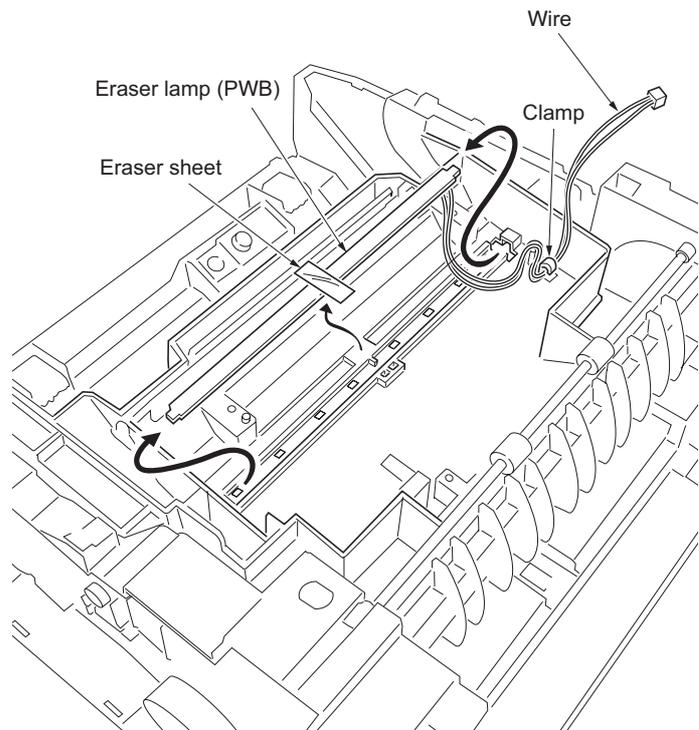
(5) Detaching and refitting the eraser lamp (PWB)

<Procedure>

1. Remove the laser scanner unit (See P.1-5-17).
2. Remove the one connector.
3. Remove the wire from two clamps.

**Figure 1-5-23**

4. Remove the wire from clamp.
5. Remove the sheet eraser.
6. Remove the eraser lamp (PWB).
7. Check or replace the eraser lamp (PWB) and refit all the removed parts.

**Figure 1-5-24**

(6) Detaching and refitting the drive unit

<Procedure>

1. Remove the right cover (See P.1-5-2).
2. Remove the three connectors.
3. Remove the two screws and then remove the two grounding plates.
4. Remove the two stoppers and then remove the two clutches.

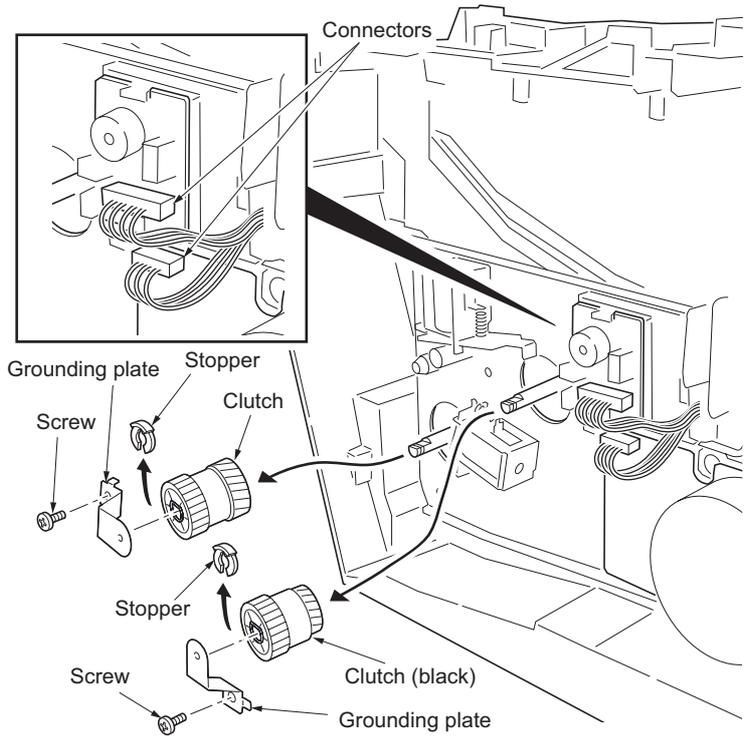


Figure 1-5-25

5. Remove the three screws and then remove the drive unit.
6. Check or replace the drive unit and refit all the removed parts.

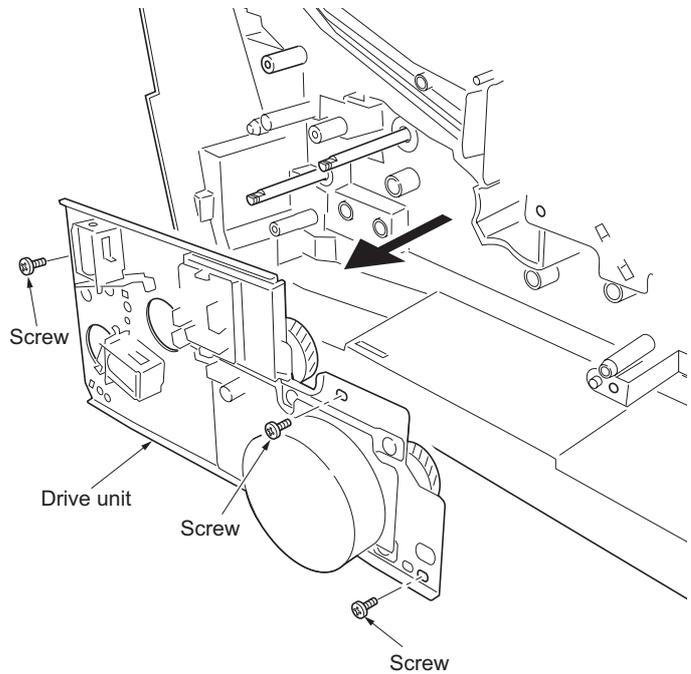
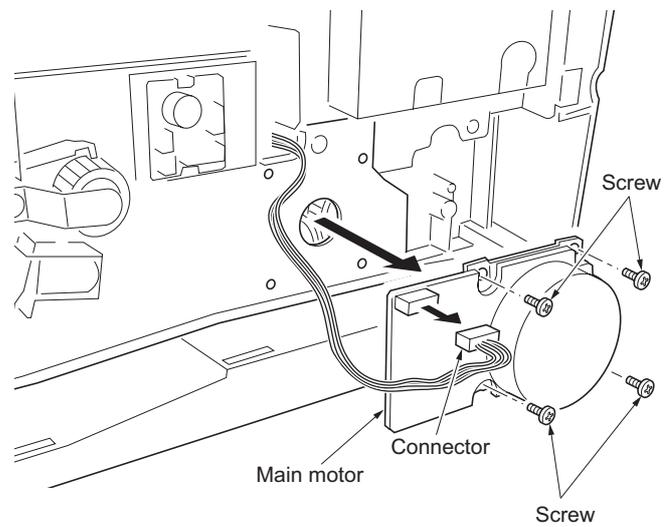


Figure 1-5-26

(7) Detaching and refitting the main motor

<Procedure>

1. Remove the right cover (See P.1-5-24).
2. Remove the one connector from main motor.
3. Remove the four screws and then remove the main motor.
4. Check or replace the main motor and refit all the removed parts.

**Figure 1-5-27**

1-5-6 Scanner unit

(1) Detaching and refitting the scanner unit

<Procedure>

1. Remove the right cover and left cover (See P.1-5-2).
2. Open the scanner unit.
3. While pressing the locks and then remove the lift link L and lift link R.

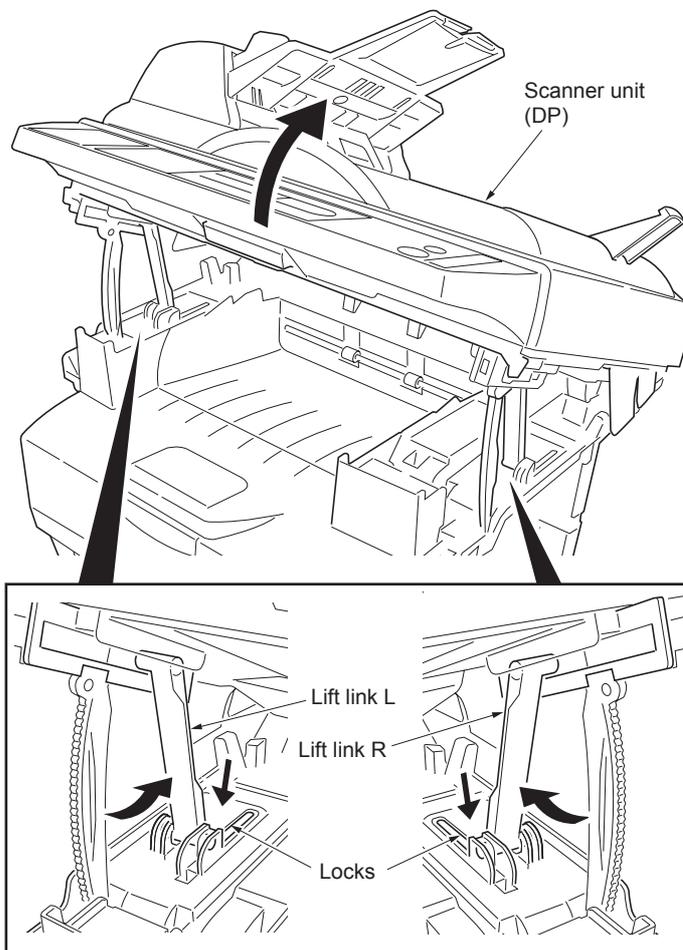


Figure 1-5-28

4. Remove the two screws and then remove the two terminals.
5. Remove the five connectors.
6. Remove the ferrite core.

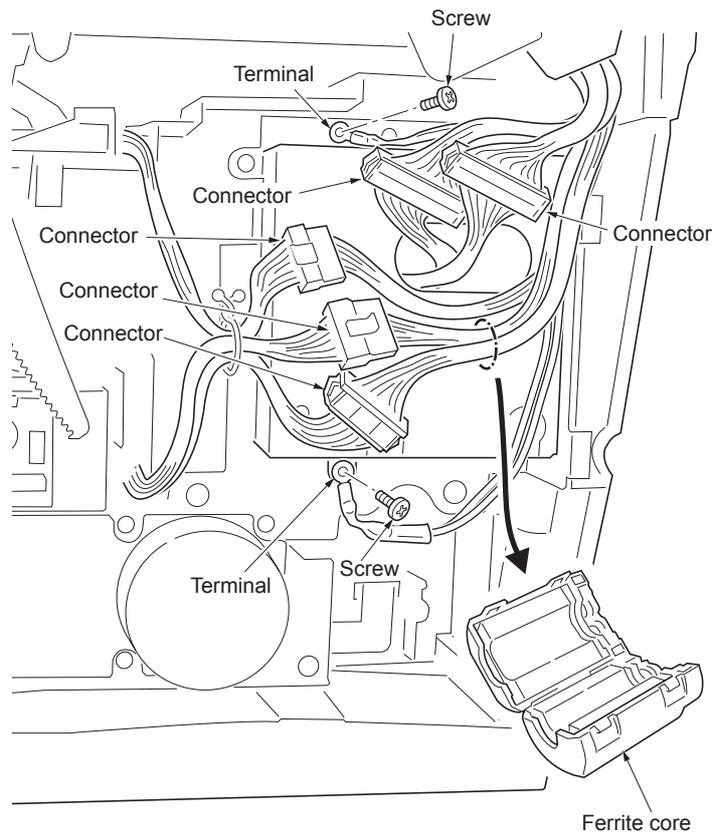


Figure 1-5-29

7. Remove the two pivot pins.
8. Remove the scanner unit (with DP).
9. Check or replace the scanner unit and refit all the removed parts.

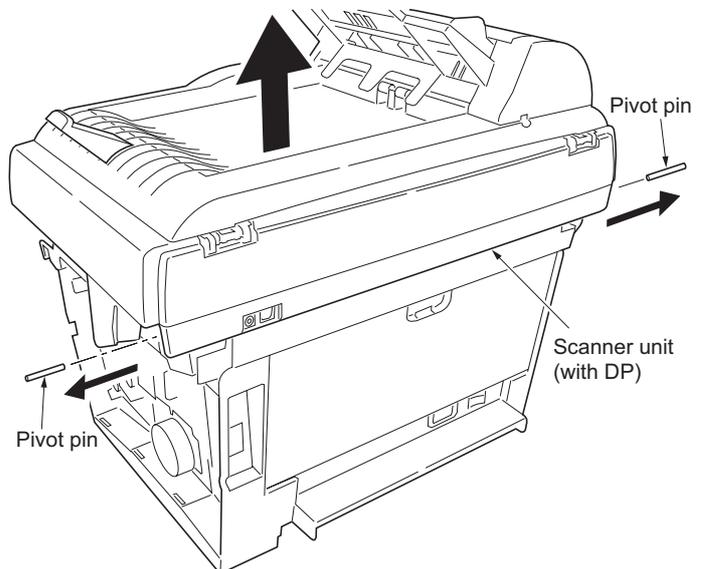


Figure 1-5-30

(2) Detaching and refitting the optical module unit

<Procedure>

1. Remove the scanner unit (See P.1-5-22).
2. Unlatch the two latches and then remove the original table.
3. Remove the ejection extension.

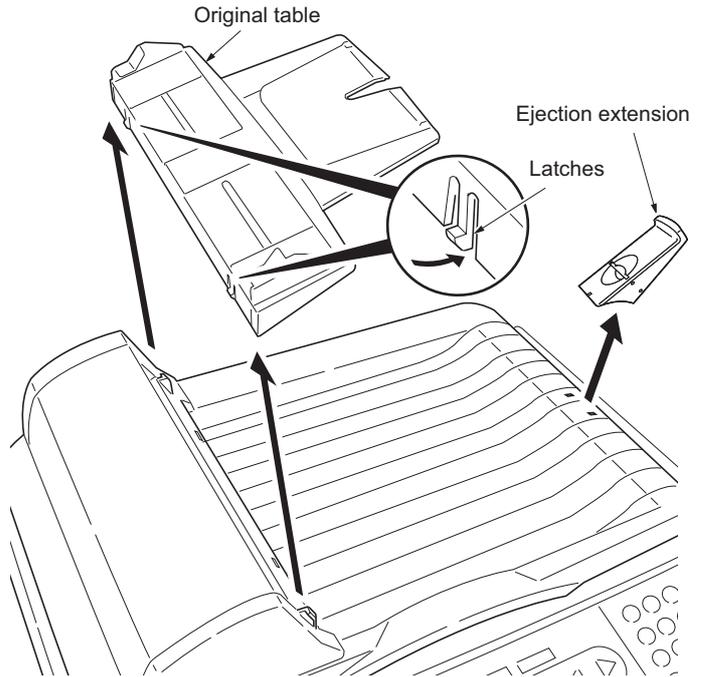


Figure 1-5-31

4. Turn over the scanner unit.
5. Remove the six screws and then open the main PWB cover.

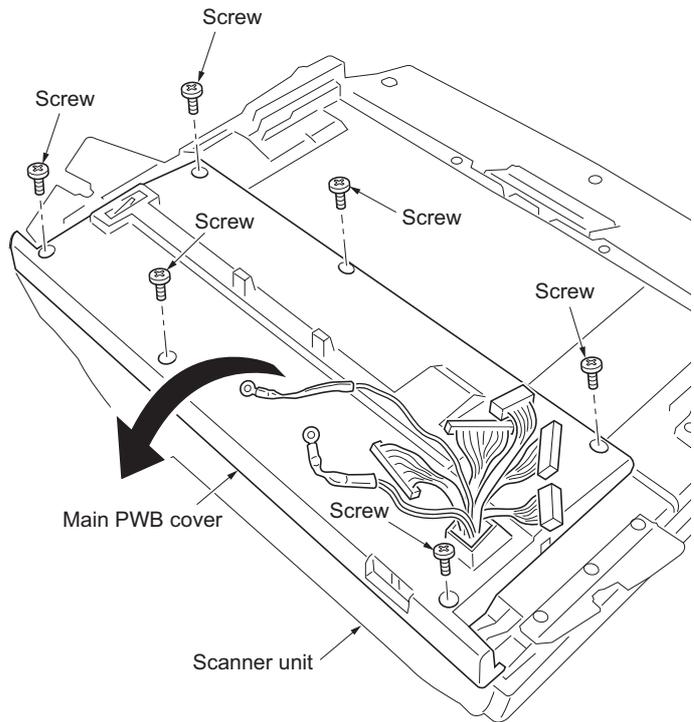


Figure 1-5-32

6. Remove the screw and then remove the terminal.
7. Remove the connector.
8. Cut the band.
9. Split and remove the ferrite core.

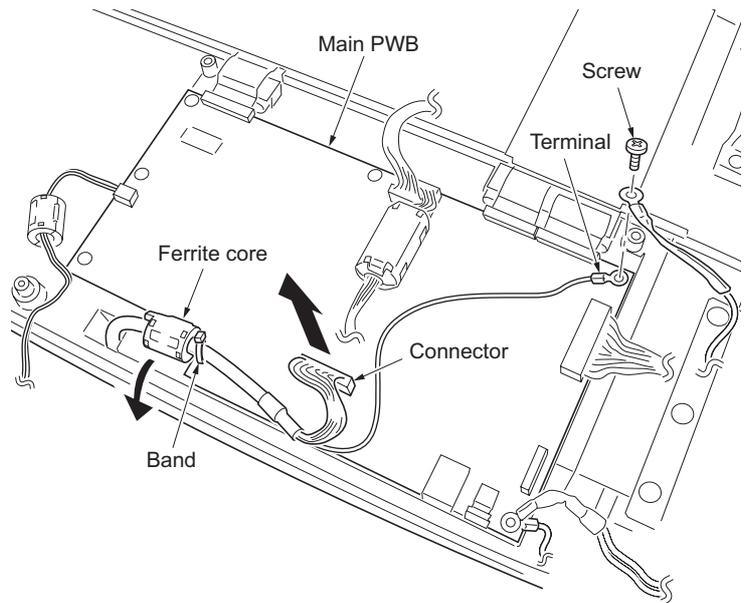


Figure 1-5-33

10. Remove the two screws and then remove the DP signal cable.
11. While pressing the hinge locks and then remove the hinges of DP.

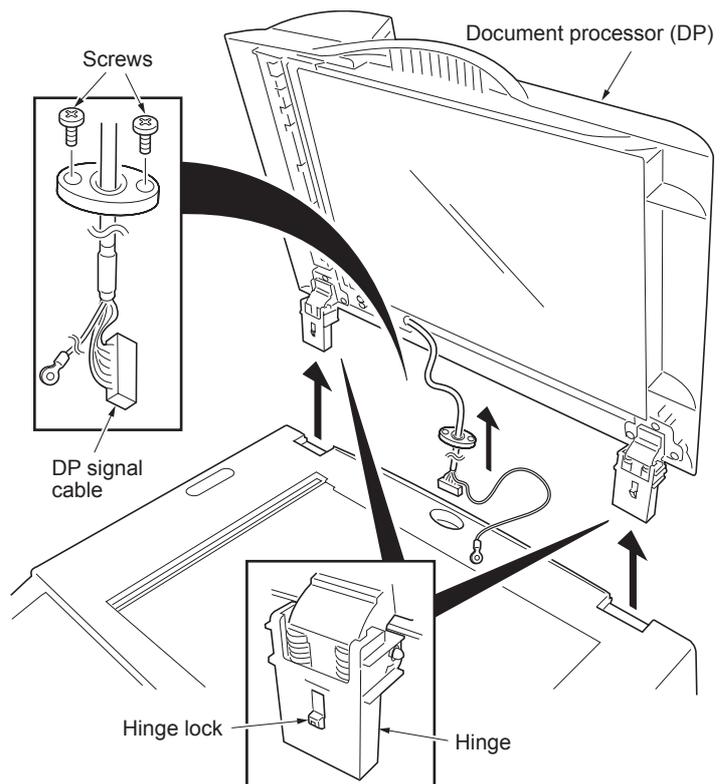


Figure 1-5-34

12. Remove the three screws.

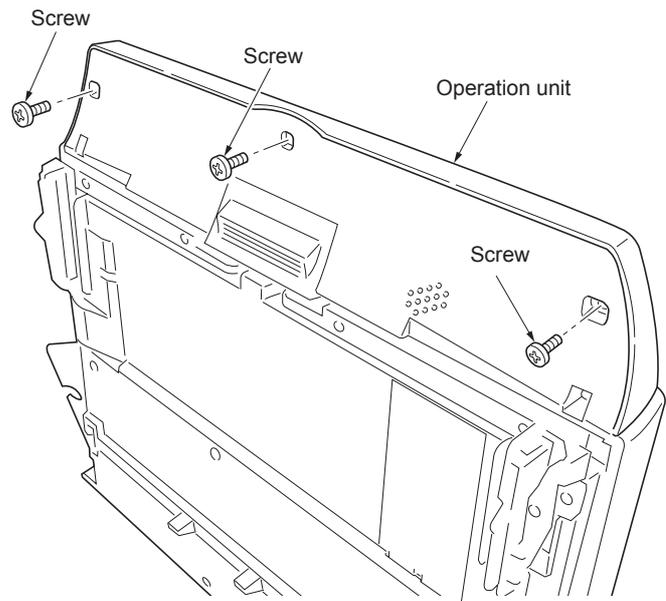


Figure 1-5-35

- 13. Remove the FFC from FFC connector.
- 14. Remove the connector.
- 15. Remove the operation unit.

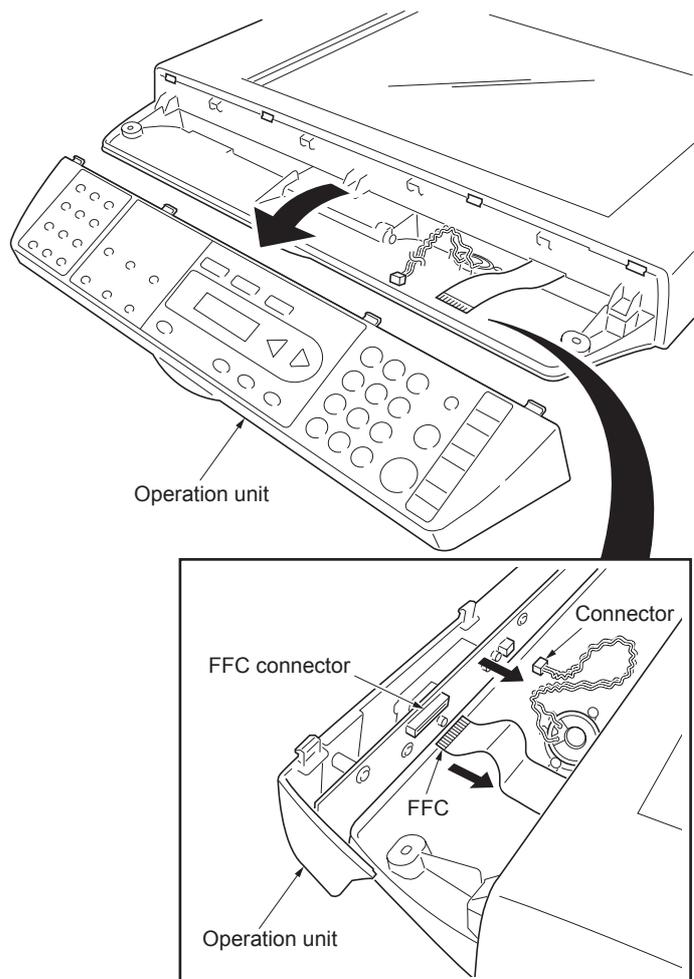


Figure 1-5-36

16. Remove the four screws and then remove the scanner upper housing.

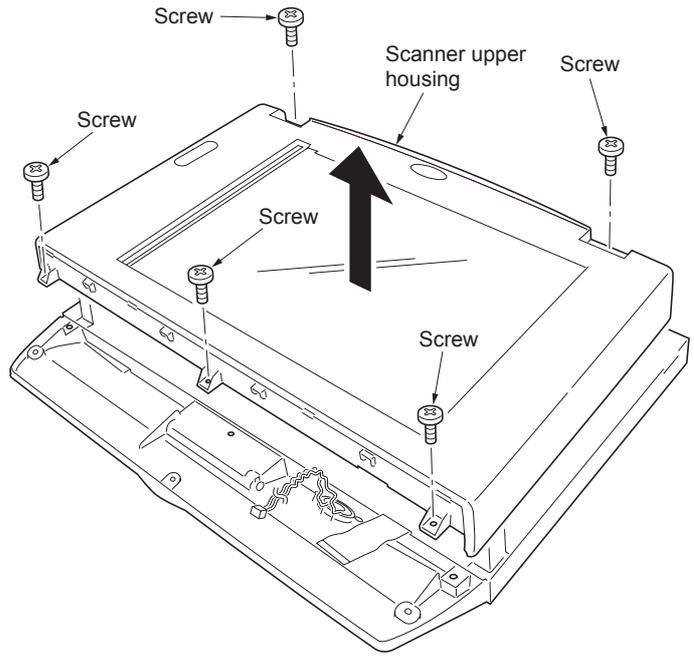


Figure 1-5-37

17. Remove the sliding rod.

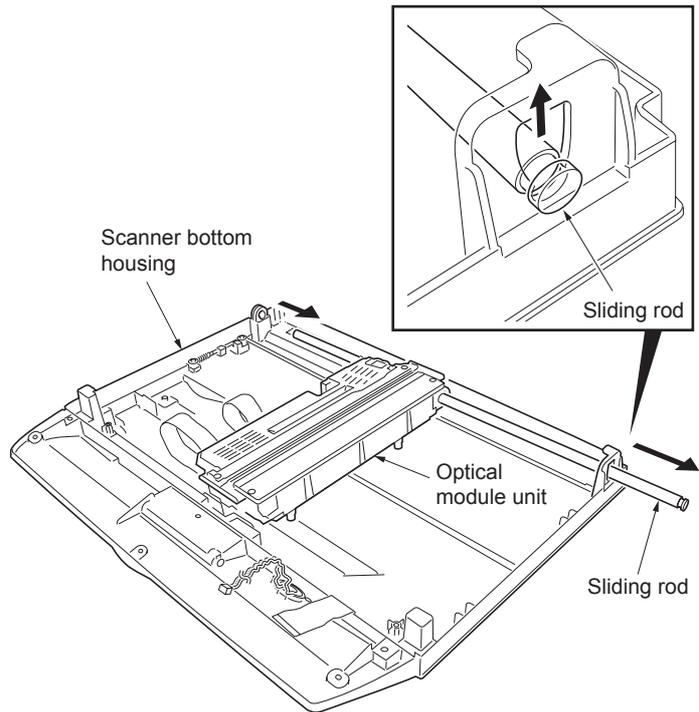


Figure 1-5-38

- 18. Remove the two FFCs.
- 19. Remove the optical module unit from the scanner belt.
- 20. Check or replace the optical module unit and refit all the removed parts.

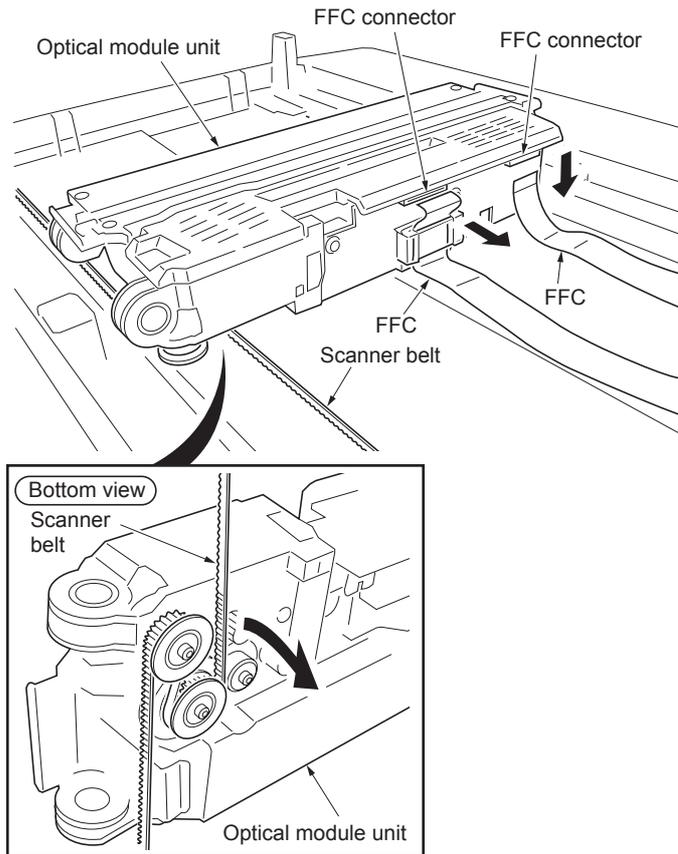


Figure 1-5-39

(3) Detaching and refitting the main PWB

<Procedure>

1. Remove the scanner unit (See P.1-5-22).
2. Remove the original table and ejection extension (See P.1-5-24).
3. Turn over the scanner unit.
4. Remove the six screws and then open the main PWB cover.

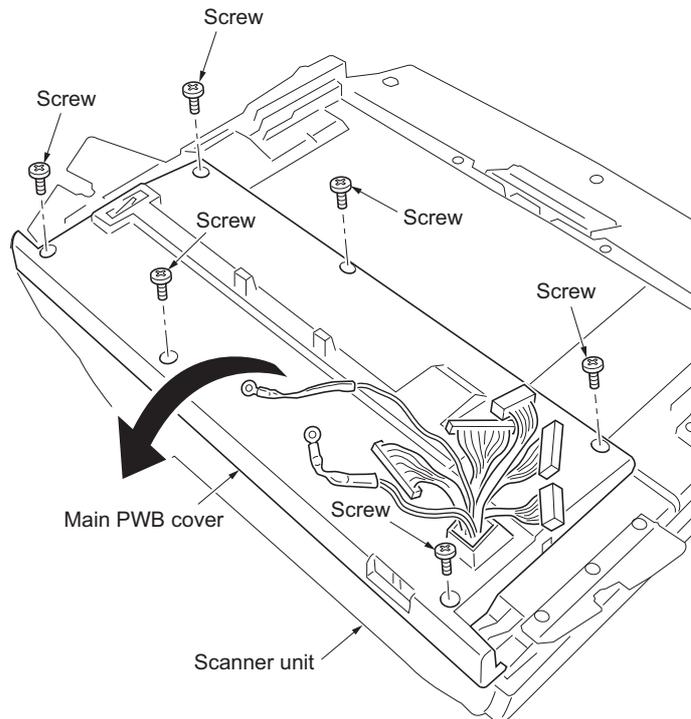


Figure 1-5-40

5. Remove the three FFCs.
6. Cut the band.
7. Split and remove the ferrite core (A).
8. Split the ferrite core (B).
9. Remove the six connectors.

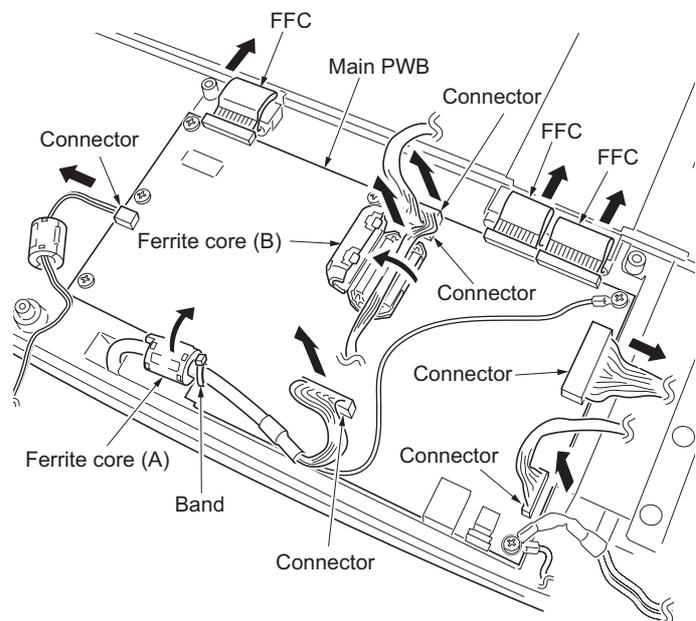


Figure 1-5-41

10. Remove the two screws (A) and then remove the three terminals.
11. Remove the four screws (B) and then remove the Main PWB.
12. Remove the lug terminal.

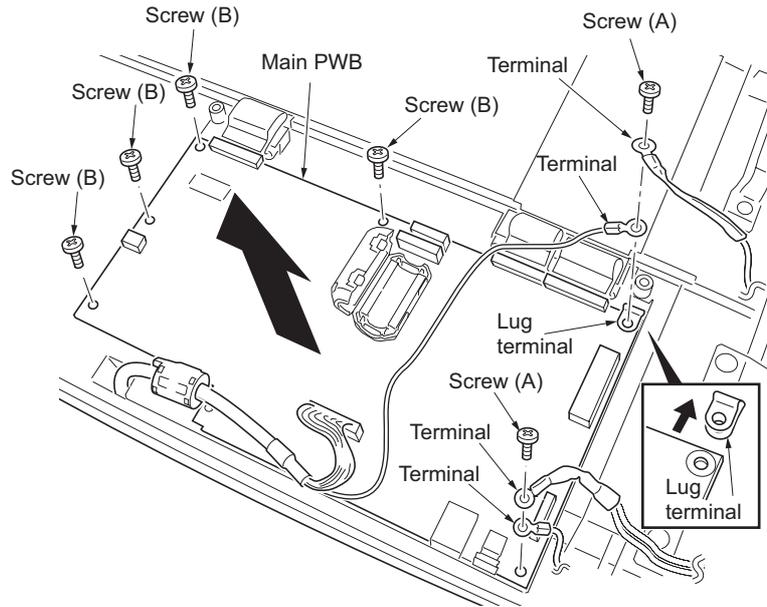


Figure 1-5-42

13. Check or replace the main PWB and refit all the removed parts.

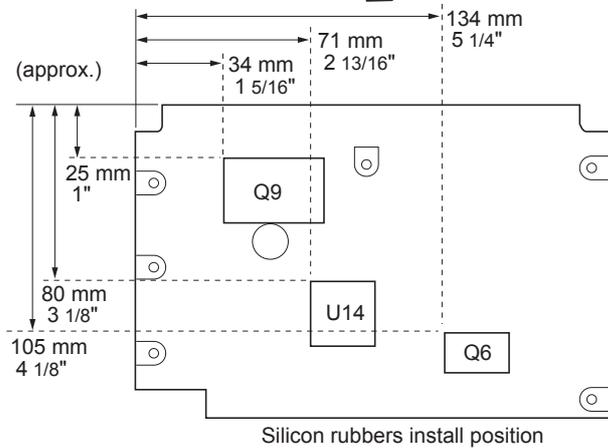
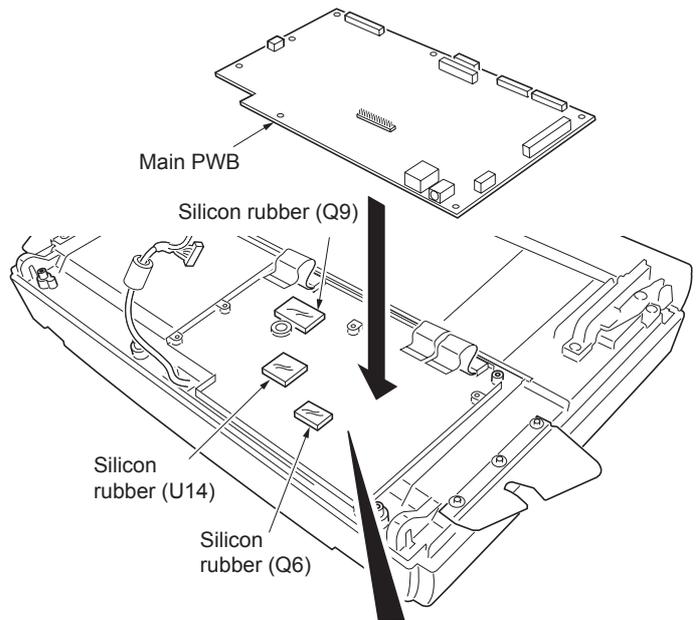
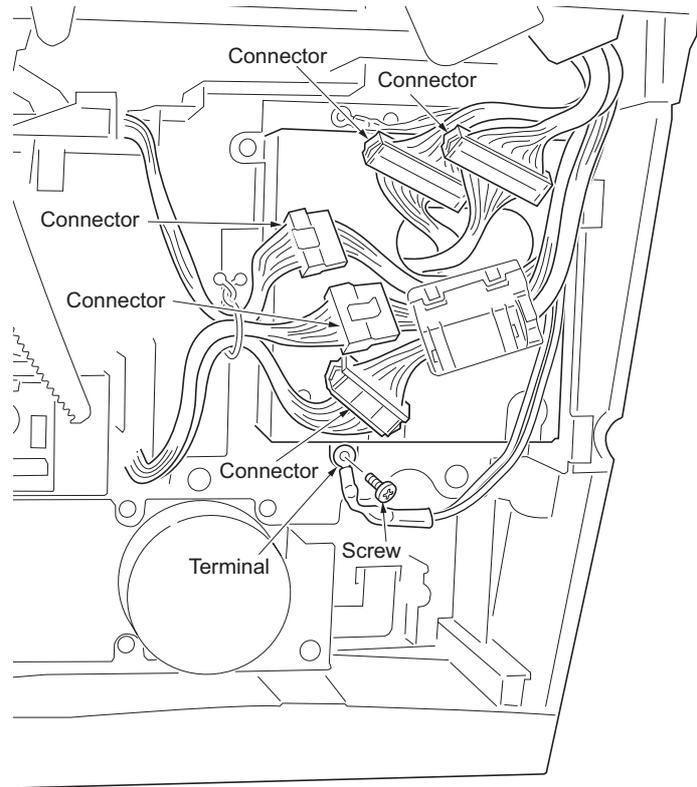


Figure 1-5-43

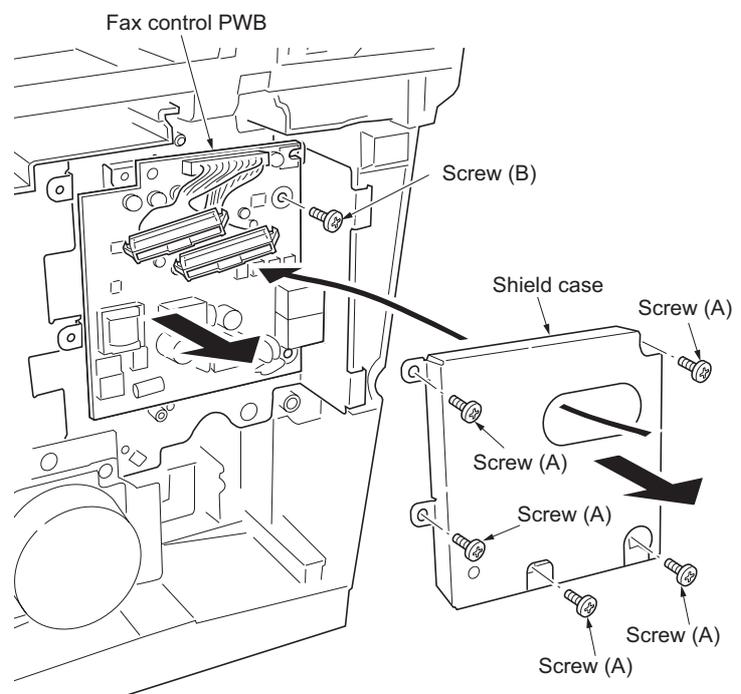
(4) Detaching and refitting the fax control PWB

<Procedure>

1. Remove the right cover (See P.1-5-2).
2. Remove the five connectors.
3. Remove the screw and then remove the terminal.

**Figure 1-5-44**

4. Remove the five screws and then remove the shield case.
5. Remove the screw (B) and then remove the fax control PWB.

**Figure 1-5-45**

6. Remove the relay cable.
7. Check or replace the fax control PWB and refit all the removed parts.

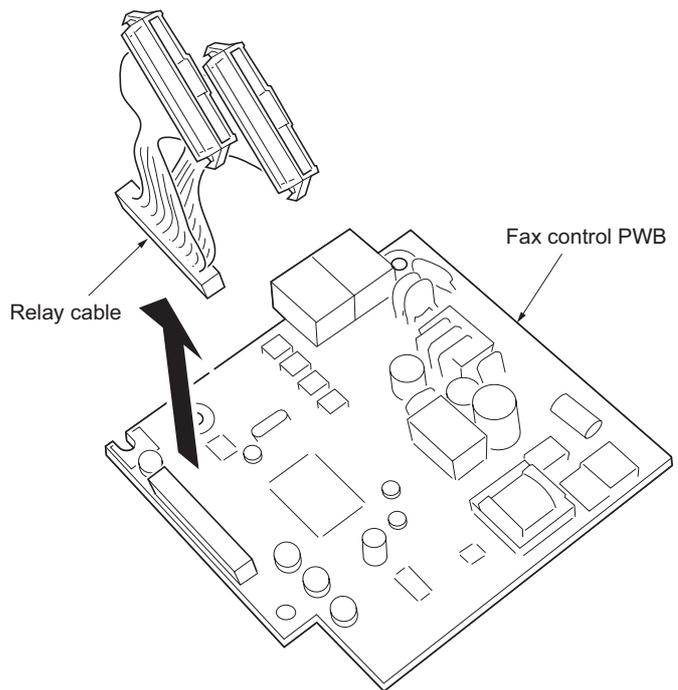


Figure 1-5-46

(5) Detaching and refitting the exposure lamp

<Procedure>

1. Remove the optical module unit (See P.1-5-24).
2. Remove the CCD cover.

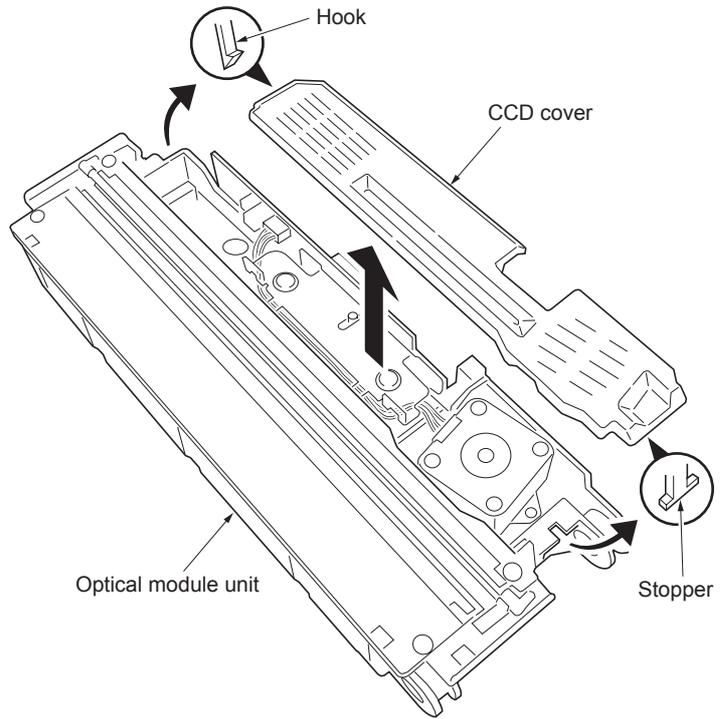


Figure 1-5-47

3. Remove the one connector.
4. Remove the adhesive tape.
5. Remove the exposure lamp holder.

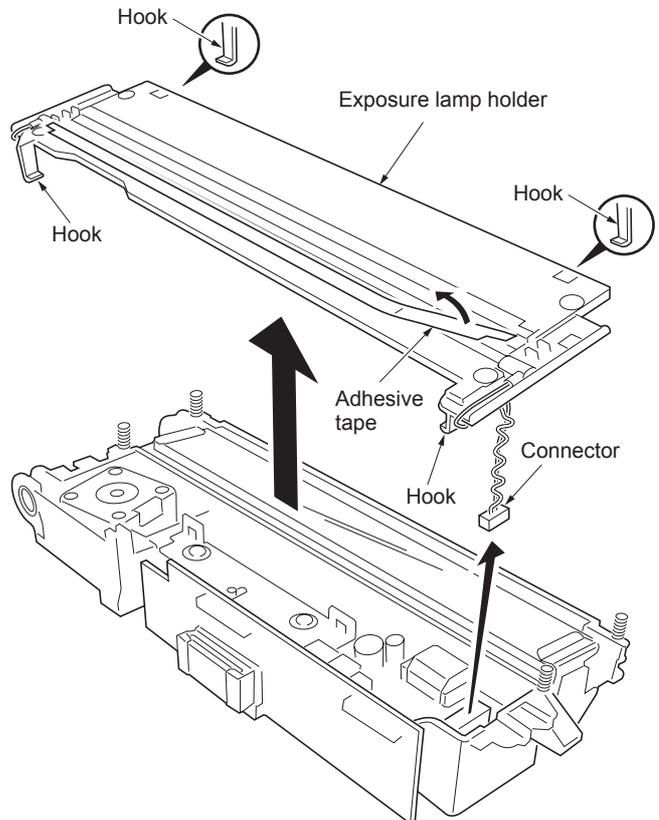


Figure 1-5-48

6. Remove the wires from the exposure lamp holder.
7. Remove the exposure lamp.
8. Check or replace the exposure lamp and refit all the removed parts.

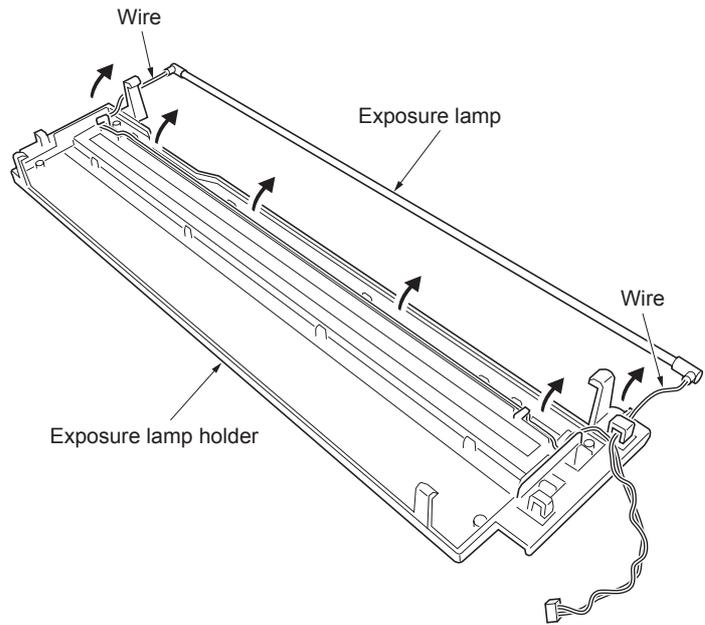


Figure 1-5-49

(6) Detaching and refitting the inverter PWB

<Procedure>

1. Remove the optical module unit (See P.1-5-24).
2. Cut the band.

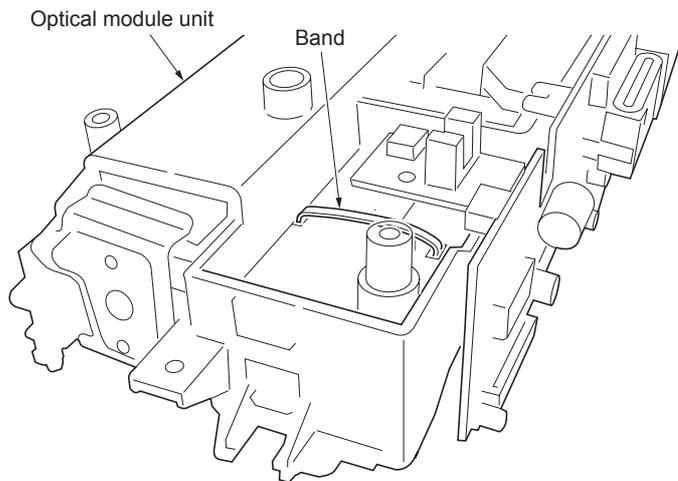


Figure 1-5-50

3. Remove the CCD cover.

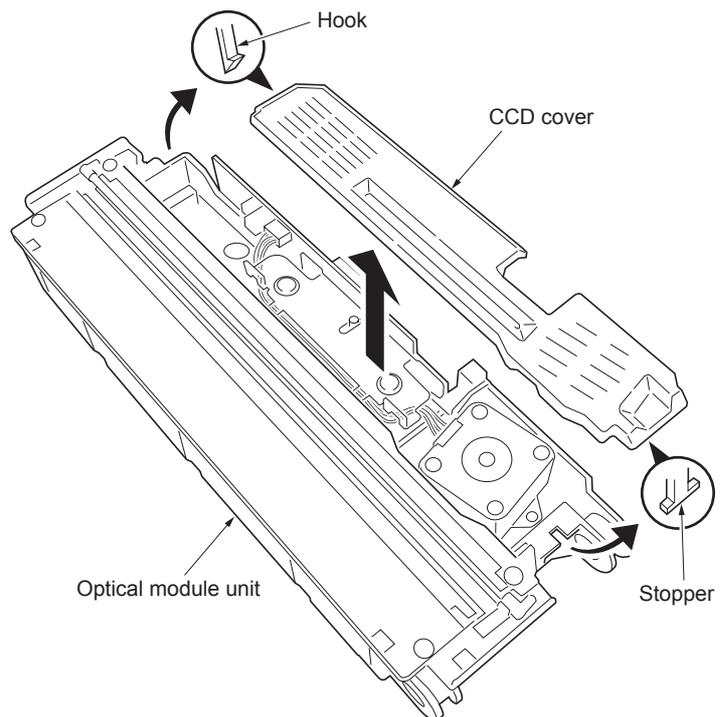


Figure 1-5-51

4. Remove the two connectors.
5. Remove the one screw and then remove the inverter PWB.
6. Check or replace the inverter PWB and refit all the removed parts.

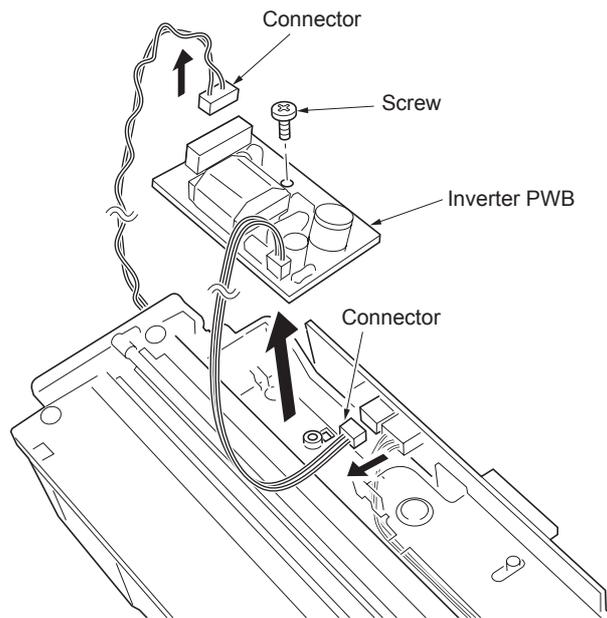
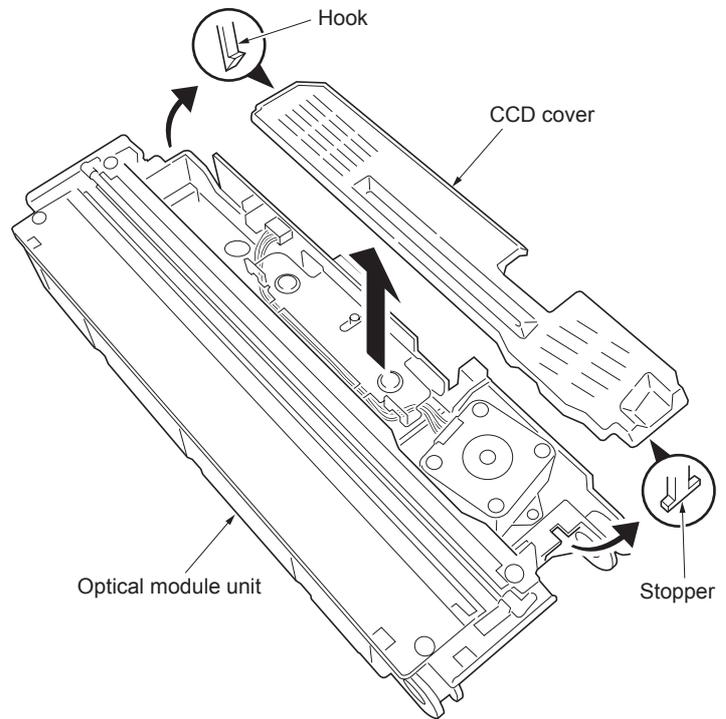


Figure 1-5-52

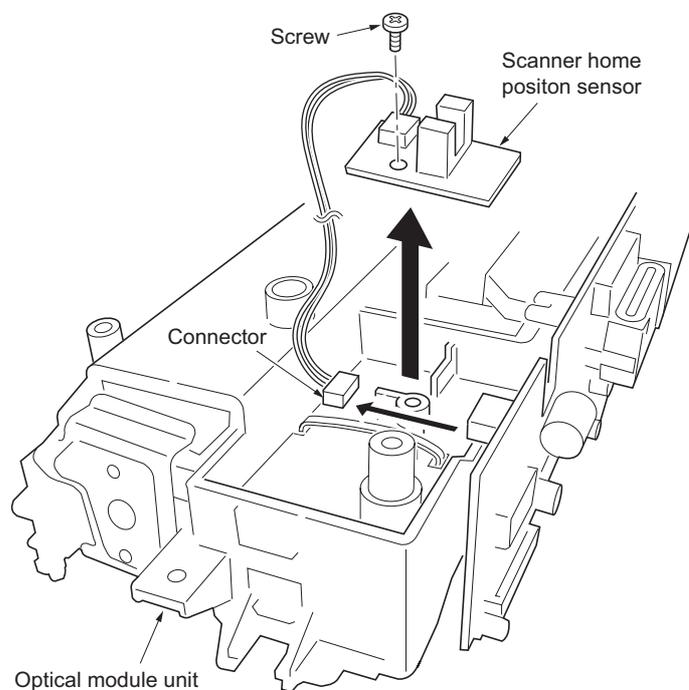
(7) Detaching and refitting the scanner home position sensor

<Procedure>

1. Remove the optical module unit (See P.1-5-24).
2. Remove the CCD cover.

**Figure 1-5-53**

3. Remove the one connector.
4. Remove the one screw and then remove the scanner home position sensor.
5. Check or replace the scanner home position sensor and refit all the removed parts.

**Figure 1-5-54**

(8) Detaching and refitting the scanner motor

<Procedure>

1. Remove the optical module unit (See P.1-5-24).
2. Remove the one connector.
3. Remove the scanner motor wire.

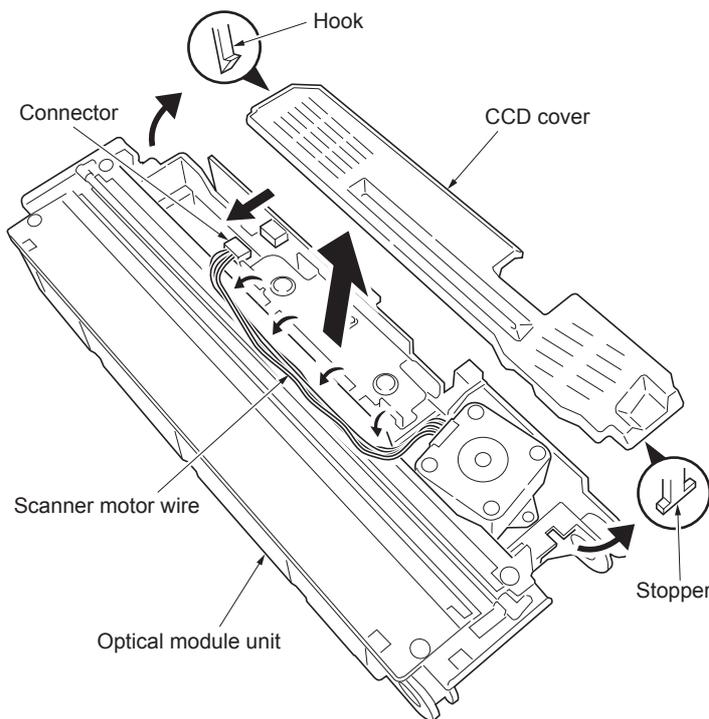


Figure 1-5-55

4. Remove the two screws.
5. Remove the scanner motor.
6. Check or replace the scanner motor and refit all the removed parts.

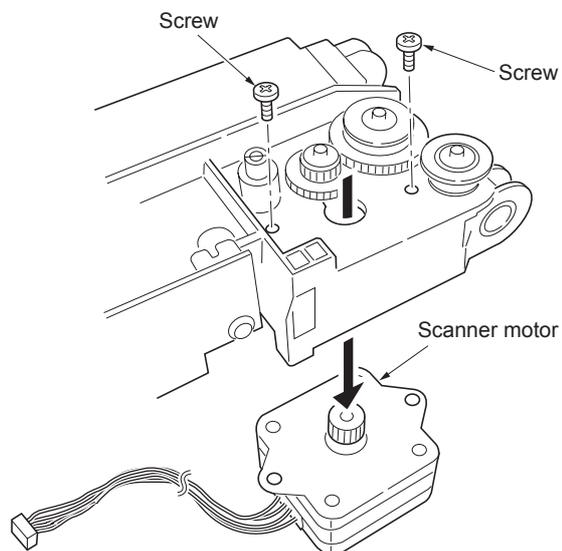


Figure 1-5-56

1-5-7 Document processor (DP)

(1) Detaching and refitting the document processor (DP)

<Procedure>

1. Remove the scanner unit (See P.1-5-22).
2. Remove the original table (See P.1-5-24).
3. Turn over the scanner unit.
4. Remove the six screws and then open the main PWB cover.

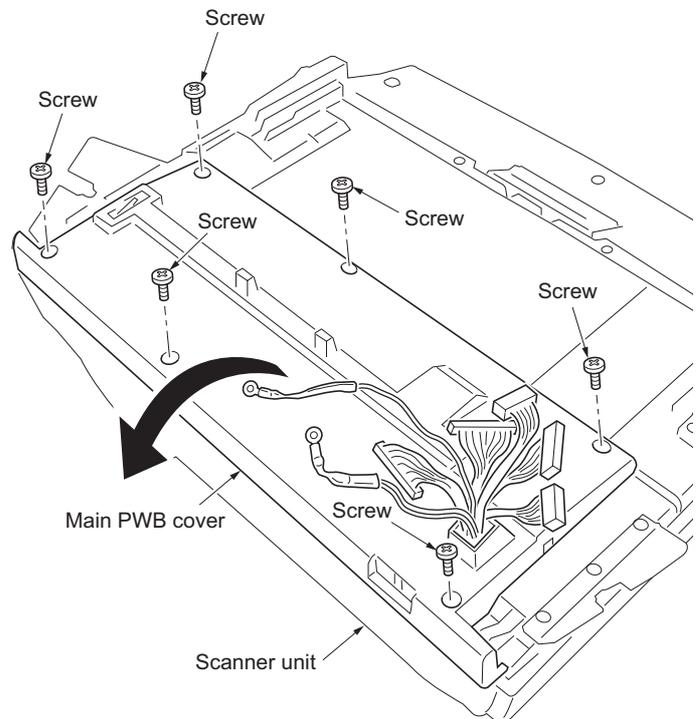


Figure 1-5-57

5. Remove the screw and then remove the terminal.
6. Remove the connector.
7. Cut the band.
8. Split and remove the ferrite core.

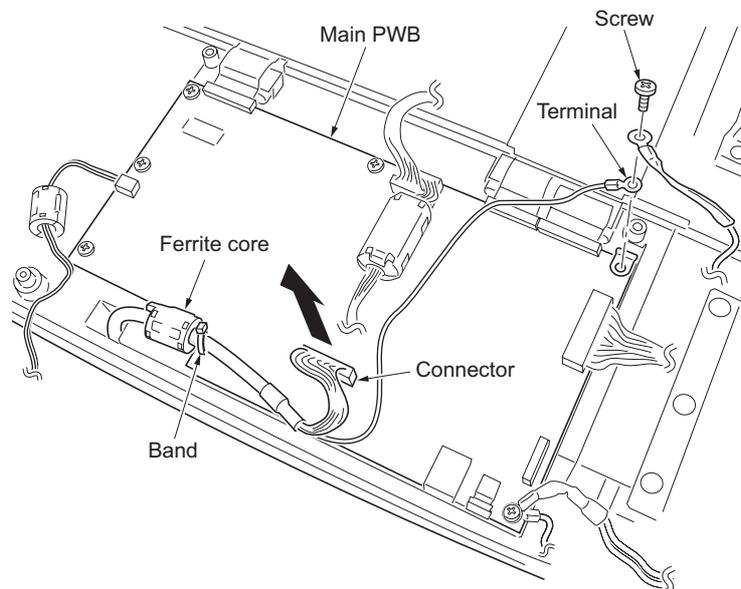


Figure 1-5-58

9. Remove the two screws and then remove the DP signal cable.
10. While unlocking the both hinge locks and then remove the document processor (DP).
11. Check or replace the document processor (DP) and refit all the removed parts.

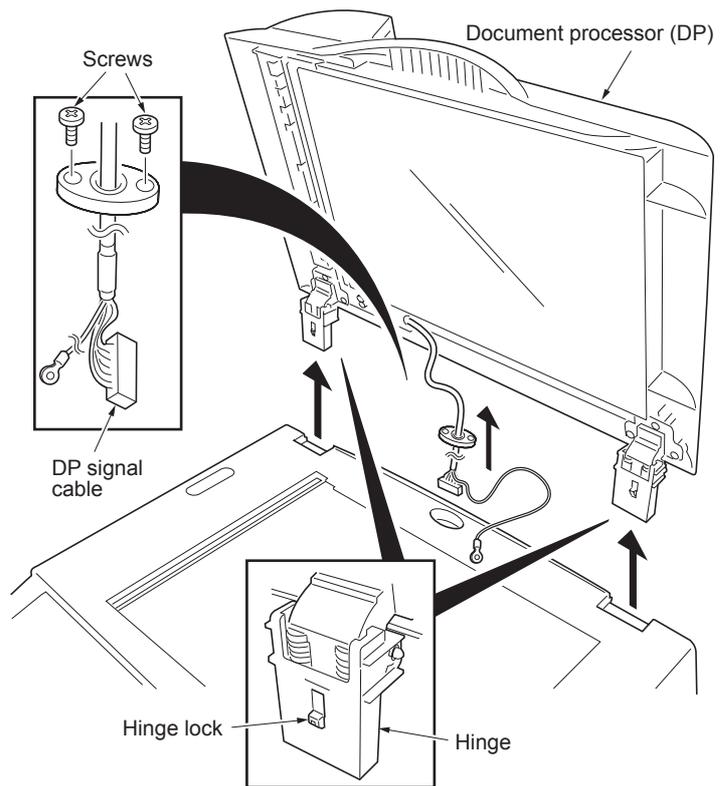


Figure 1-5-59

(2) Detaching and refitting the pad assembly

<Procedure>

1. Open the DP cover.
2. Press both arms of the pad assembly inwardly with your fingers and then pull out the pad assembly.
3. Check or replace the pad assembly and refit all the removed parts.

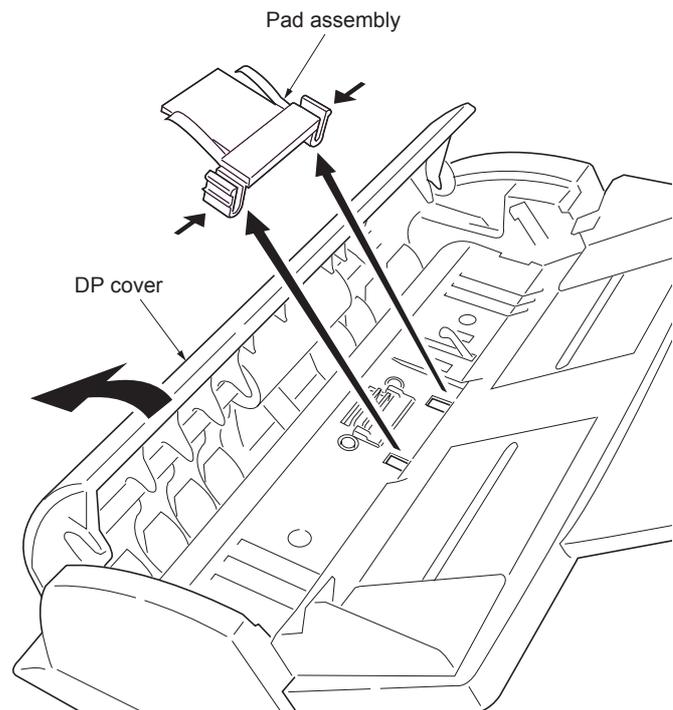


Figure 1-5-60

(3) Detaching and refitting the original feed roller

<Procedure>

1. Open the DP front cover.
2. Open the shaft holder.
3. Remove the original feed roller.
4. Check or replace the original feed roller and refit all the removed parts.

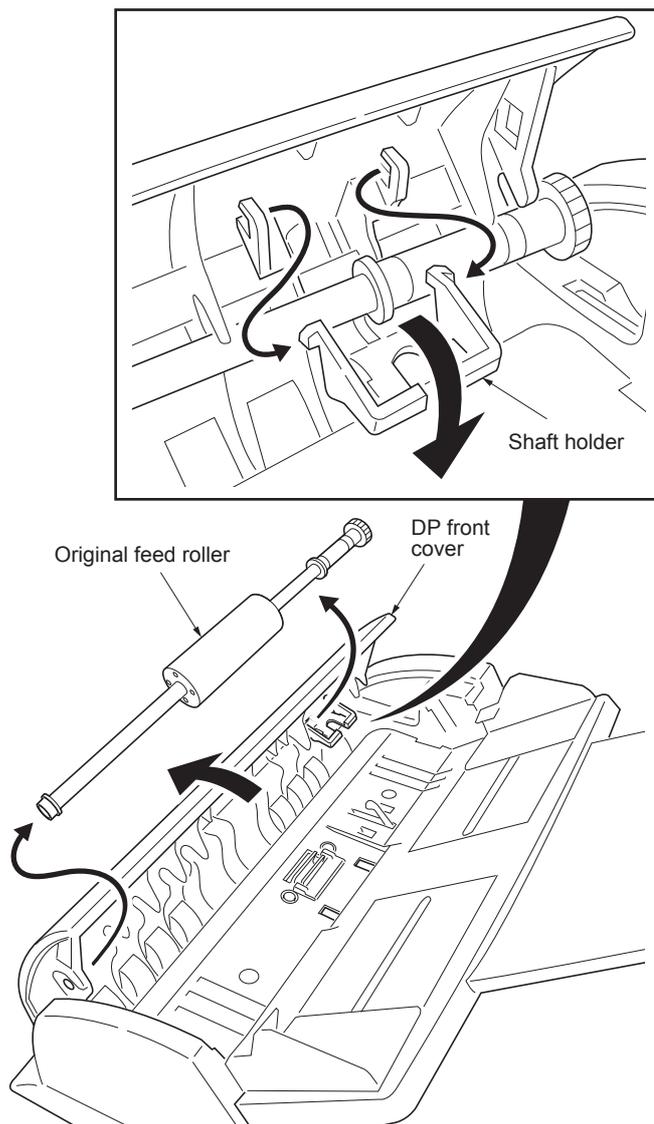


Figure 1-5-61

1-6-1 Updating the firmware

Follow the procedure below to upgrade the firmware on the main PWB and fax control PWB.

Procedure

Note: Ensure the machine is plugged in and connected to the PC's USB port, install the updating firmware folder (files) before firmware updating.

1. Double-click [FWUpdate.exe] in the [FW ver. x.xx]F] updating firmware program folder.
The updating firmware program starts automatically.

Updating firmware program folder

Example:

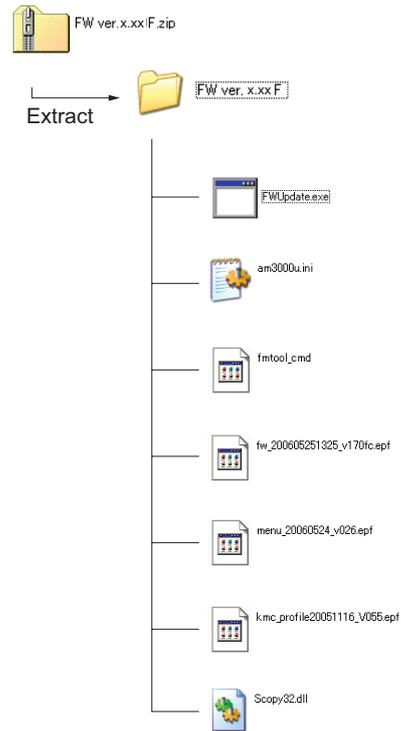


Figure 1-6-1

2. When message is displayed to indicate downloading is finished.

PC display



Message display

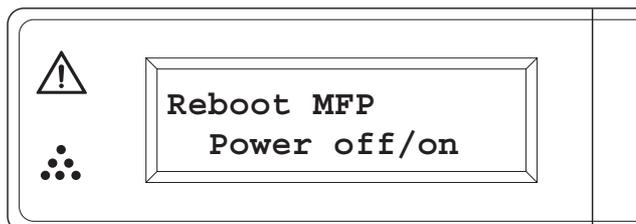


Figure 1-6-2

TONER
 3. Turn printer power off and then turn on.
www.tonerplus.com.ua

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2-1-1 Paper feeding/conveying section

The paper feeding/conveying system picks up paper from the paper cassette, manual feed tray, feeds it in the machine and delivers in the output tray. Paper is feed at the precise timing in synchronization with data processing.

(1) Paper feed section

The figure below shows the components in the paper feeding/conveying section and the paths through which the paper travels. The sensors, clutches, motor etc., are described in the following pages.

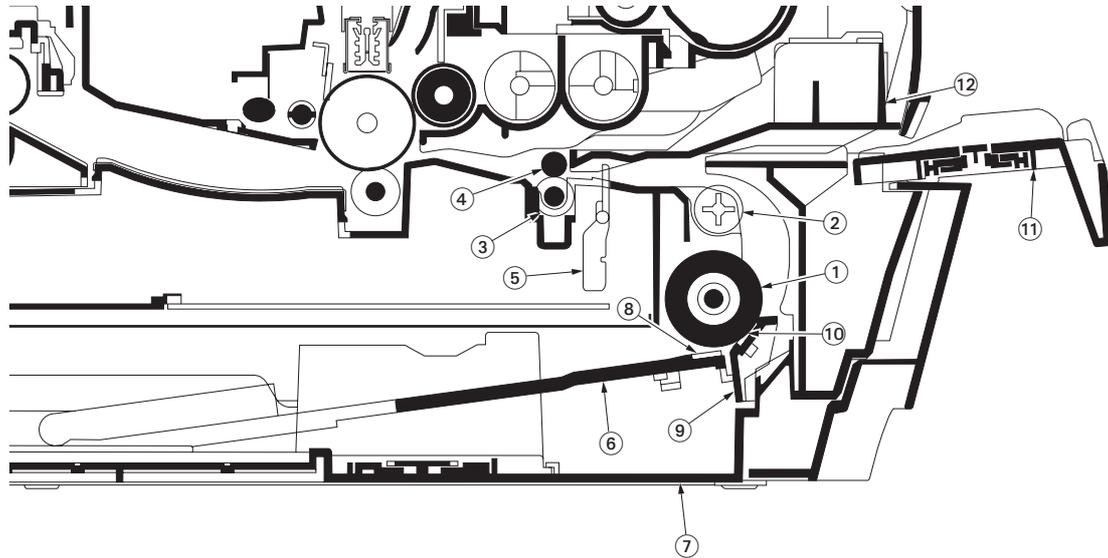


Figure 2-1-1 Paper feeding/conveying section

- | | |
|------------------------------------|-----------------------|
| (1) Feed roller | (7) Cassette bottom |
| (2) Feed pulley | (8) Bottom pad |
| (3) Lower registration roller | (9) Paper separator |
| (4) Upper registration roller | (10) Separator pad |
| (5) Registration sensor (Actuator) | (11) Manual feed tray |
| (6) Base plate | (12) Feed guide |

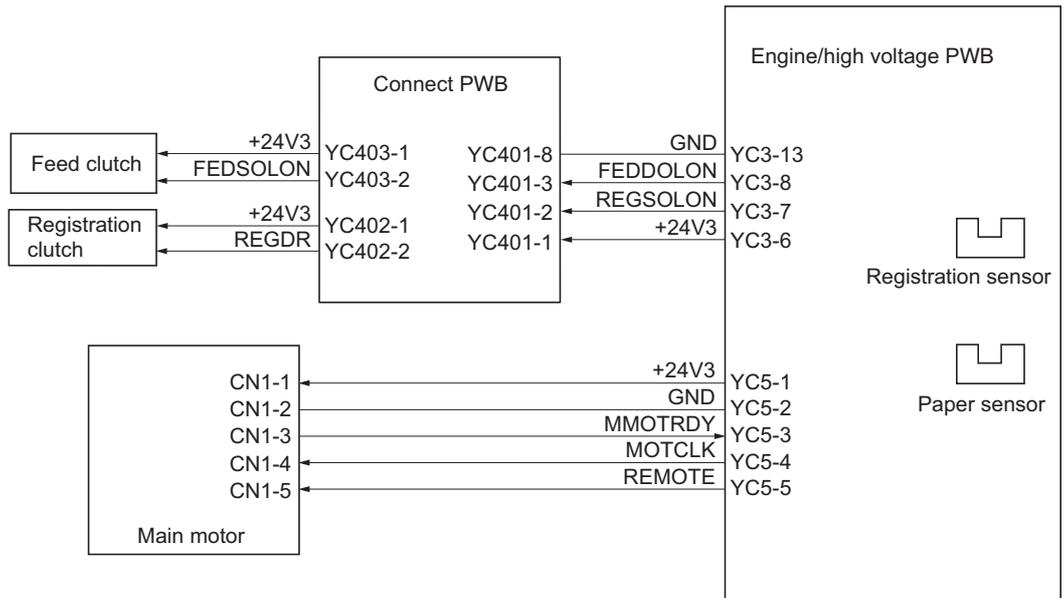


Figure 2-1-2 Paper feeding/conveying section block diagram

2-1-2 Drum section

(1) Drum unit

The durable layer of organic photoconductor (OPC) is coated over the aluminum cylinder base. The OPC tend to reduce its own electrical conductance when exposed to light. After a cyclic process of charging, exposure, and development, the electrostatic image is constituted over the OPC layer.

Since the OPC is materialized by resin, it is susceptible to damage caused by sharp edges such as a screwdriver, etc., resulting in a print quality problem. Also, finger prints can cause deterioration of the OPC layer, therefore, the drum (in the drum unit) must be handled with care. Substances like water, alcohol, organic solvent, etc., should be strictly avoided. As with all other OPC drums, the exposure to a strong light source for a prolonged period can cause a print quality problem. The limit is approximately 500 lux for less than five minutes. If the drum (drum unit) remains removed form the machine, it should be stored in a cool, dark place.

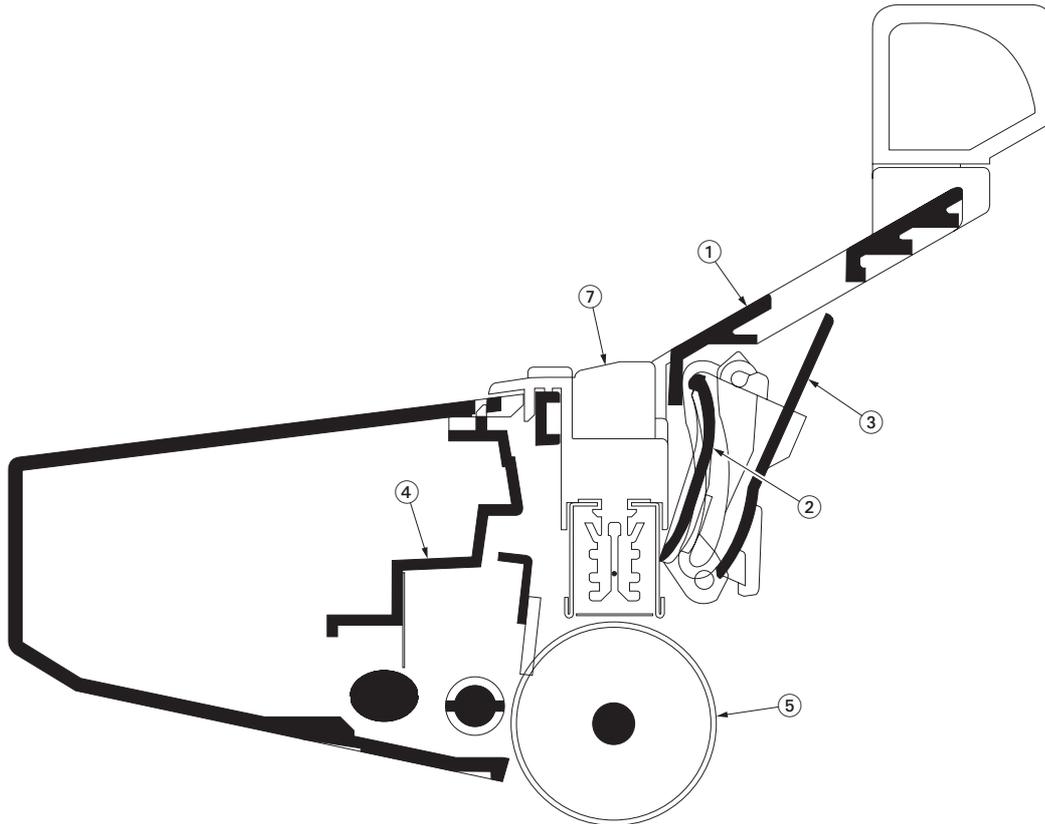


Figure 2-1-3 Drum unit

- (1) Drum frame
- (2) Drum cover A
- (3) Drum cover B
- (4) Waste toner cover
- (5) Drum (OPC)

(2) Main charger unit

As the drum rotates in a “clean (neutral)” state, its photoconductive layer is given a uniform, positive (+) corona charge dispersed by the main charger wire. Due to high-voltage scorotron charging, the charging wire can get contaminated by oxidation after a long run. Cleaning the charging wire prevents print quality problems such as black streaks.

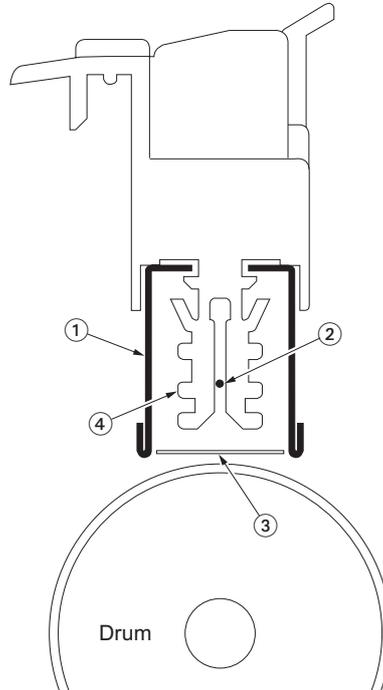


Figure 2-1-4 Main charger unit

- (1) Main charger shield
- (2) Main charger wire
- (3) Main charger grid
- (4) Main charger wire cleaner

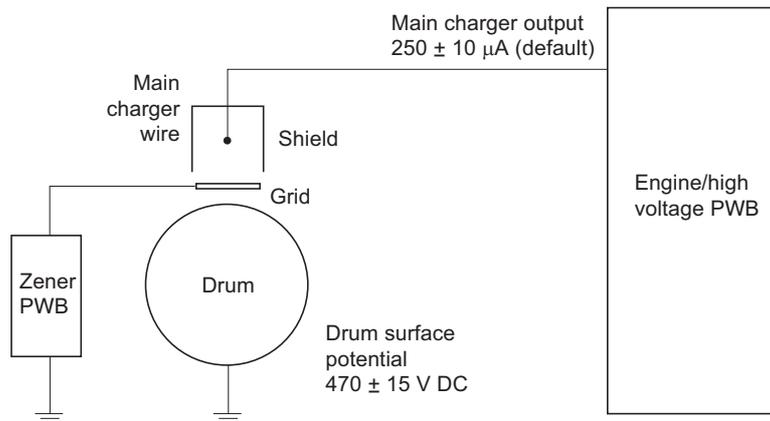


Figure 2-1-5 Drum unit and main charger unit block diagram.

2-1-3 Expose section

(1) Laser scanner unit

The charged surface of the drum is then scanned by the laser beam from the laser scanner unit. The laser beam (780 nm wavelength) beam is dispersed as the polygon motor revolves (27959 rpm) to reflect the laser beam over the drum. Various lenses and mirror are housed in the laser scanner unit, adjust the diameter of the laser beam, and focalize it at the drum surface.

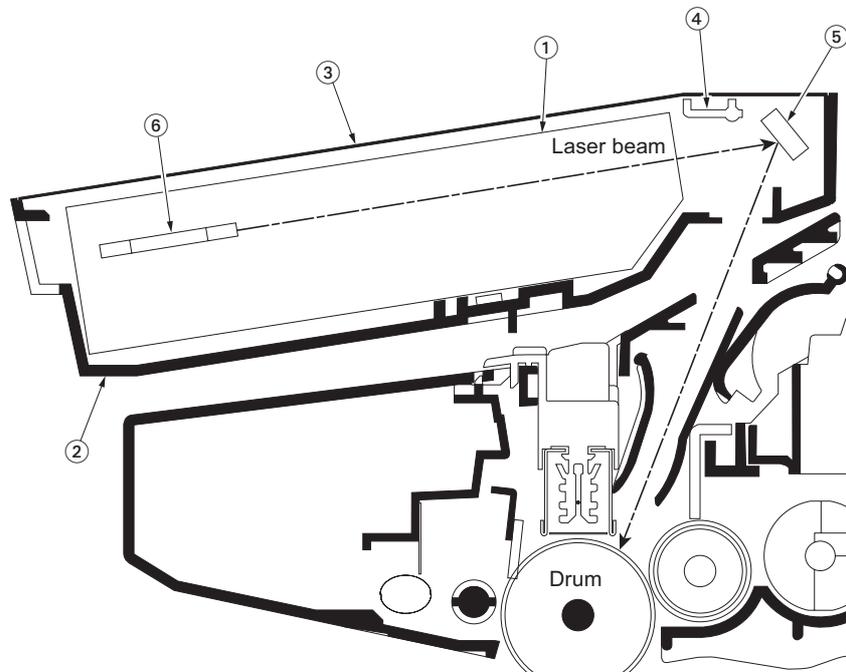


Figure 2-1-6 Laser scanner unit

- (1) Laser scanner unit
- (2) MID frame
- (3) LSU lid
- (4) LSU shutter
- (5) LSU mirror
- (6) Polygon motor (mirror)

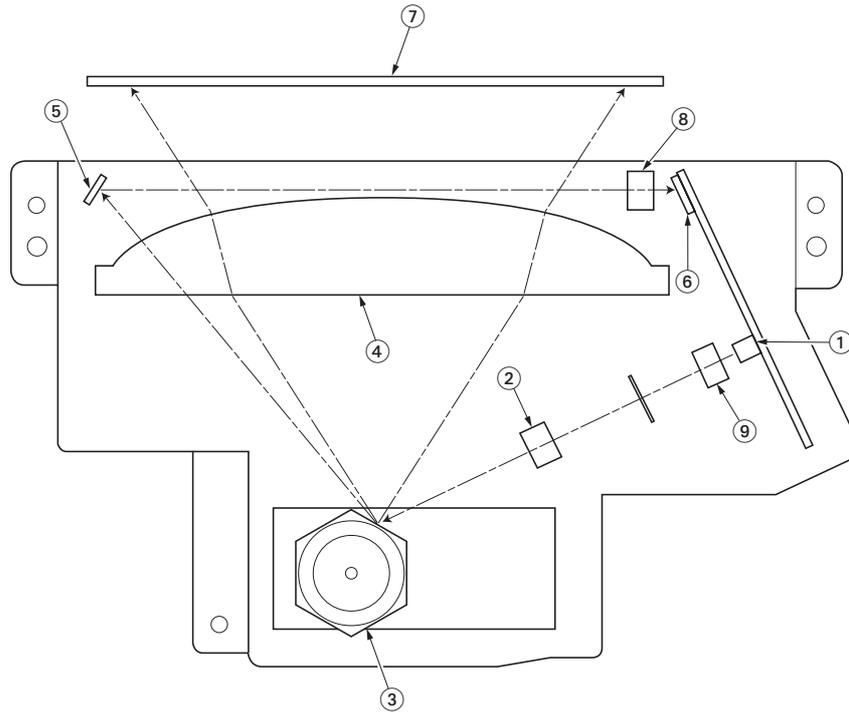


Figure 2-1-7 Laser scanner unit

- 1. Laser diode Emits diffused, visible laser.
- 2. Cylindrical lens..... Compensates the vertical angle at which the laser beam hits a polygon mirror segment.
- 3. Polygon mirror (motor) Has six mirror segments around its hexagonal circumference; each mirror corresponding to one scanned line width on the drum when laser beam scans on it.
- 4. F-theta lens The f-theta lens equalizes focusing distortion on the far ends of the drum.
- 5. Sensor mirror Bends the very first shot of a laser scan towards the pin photo diode sensor (6)
- 6. Pin photo diode sensor When shone by the sensor mirror above, this pin photo diode sensor generates a trigger signal for the engine controller to start activating the paper feeding system.
- 7. LSU mirror..... Diverts the laser beam vertically onto the drum. Note the diffused laser beam finally pinpoints on the drum.
- 8. PD lens Condensing laser beam focus to the pin photo diode sensor.
- 9. Collimator lens Aligns the laser beam to the cylindrical lens.

2-1-4 Developing section

(1) Developer unit

The latent image constituted on the drum is developed into a visible image. The developing roller contains a 3-pole (S-N-S) magnet core and an aluminum cylinder rotating around the magnet core. Toner attracts to the developing roller since it is powdery ink made of black resin bound to iron particles. Doctor blade, magnetized by magnet, is positioned approximately 0.30 mm above the developing roller to constitute a smooth layer of toner in accordance with the roller revolution. The developing roller is applied with the AC-weighted, positive DC power source. Toner on the developing roller is given a positive charge. The positively charged toner is then attracted to the areas of the drum which was exposed to the laser light. (The gap between the drum and the developing roller is 0.32 mm.) The non-exposed areas of the drum repel the positively charged toner as these areas maintain the positive charge.

The developing roller is also AC-biased to ensure contrast in yielding by compensating the toner's attraction and repelling action during development.

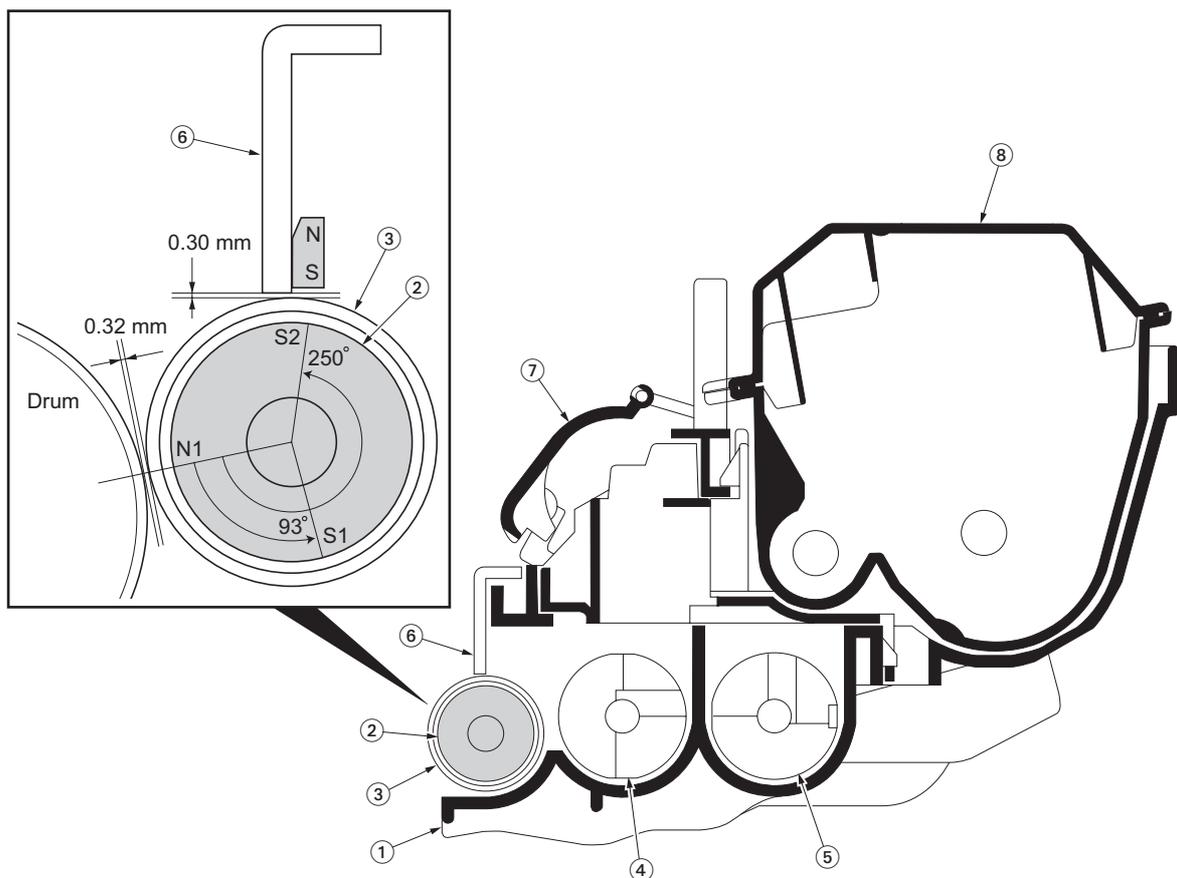


Figure 2-1-8 Developer unit and toner container

- | | |
|-----------------------|---------------------|
| (1) DLP case | (5) DLP screw B |
| (2) Magnet roller | (6) Doctor blade |
| (3) Developing sleeve | (7) DLP shutter |
| (4) DLP screw A | (8) Toner container |

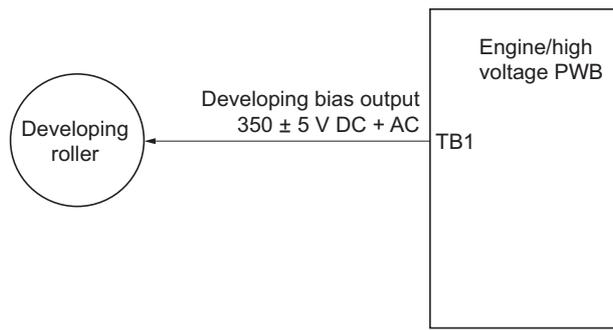


Figure 2-1-9Developing section block diagram

2-1-5 Transfer section

The image developed by toner on the drum is transferred onto the paper because of the electrical attraction between the toner itself and the transfer roller. The transfer roller is negatively biased so that the positively charged toner is attracted onto the paper while it is pinched by the drum and the transfer roller.

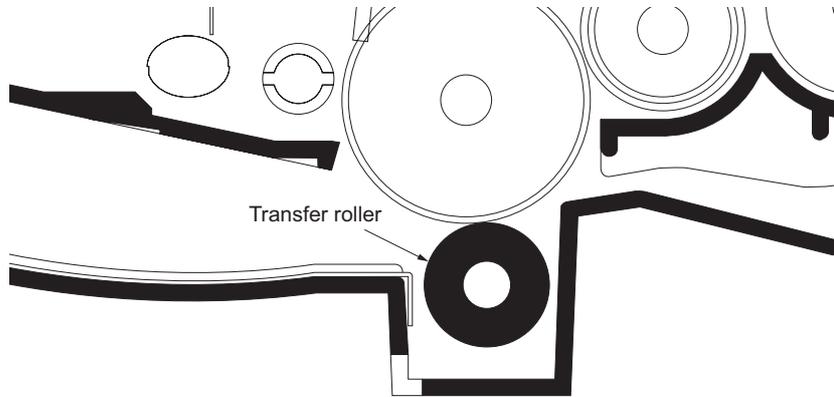
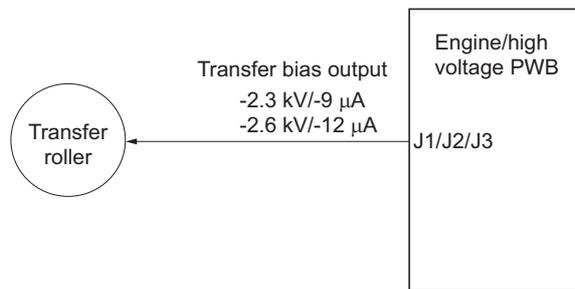


Figure 2-1-10 Transfer section



Switches output depending on media type and media size.

Figure 2-1-11 Transfer section block diagram

2-1-6 Cleaning section

After the transferring process, the drum needs to be physically cleaned of toner which is residual after the development process. The cleaning blade is constantly pressed against the drum and scrapes the residual toner off to the sweep roller. The waste toner is collected at the output end of the sweep roller and sent back to the toner container, into the waste toner reservoir.

After the drum is physically cleaned, it then must be cleaned to the electrically neutral state. This is necessary to erase any residual positive charge, ready to accept the uniform charge for the next print process. The residual charge is canceled by exposing the drum to the light emitted from the eraser lamp (PWB). This lowers the electrical conductivity of the drum surface making the residual charge on the drum surface escape to the ground.

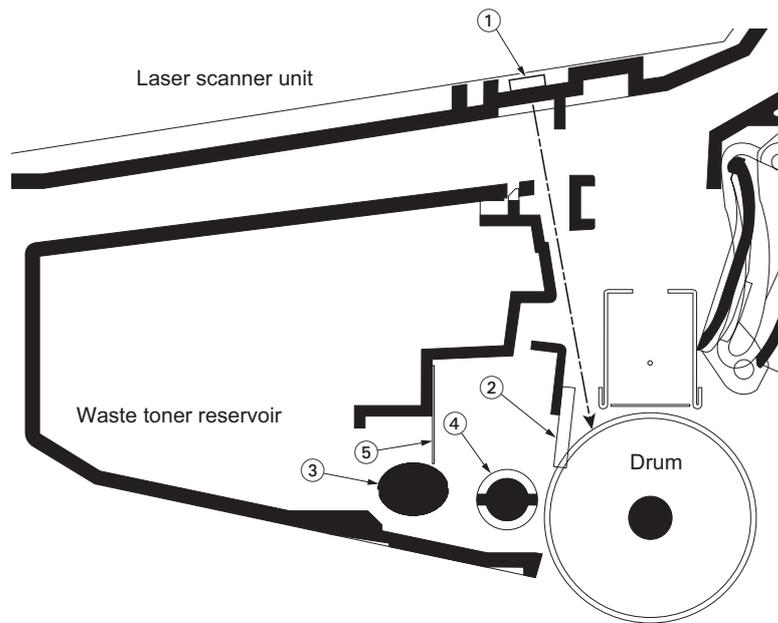


Figure 2-1-12 Cleaning section

- (1) Eraser lamp (PWB)
- (2) Cleaning blade
- (3) Sweep roller
- (4) Drum roller
- (5) Sheet sweep

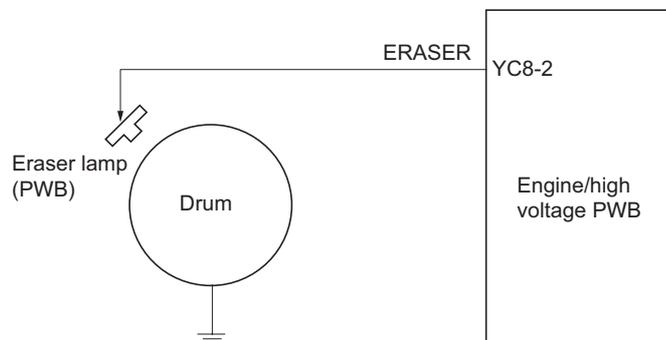


Figure 2-1-13 Cleaning section block diagram

2-1-7 Fuser section

(1) Fuser unit

The toner on the paper is molten and pressed into the paper as it passes between the heat roller and the press roller in the fuser unit.

The heat roller has a heater lamp (750 W) inside which continuously turns on and off by the fuser thermistor to maintain the constant temperature onto the heat roller surface.

The heat roller is resin coated by fluorine to prevent toner from accumulating on the roller after a long run. Care must be taken while handling the heat roller not to scratch the roller surface as doing so may result in print problems.

The heat roller has four claws (separators) which are continuously in contact with its surface. These claws (separators) prevent the paper on which toner has been fused from being wound around the heat roller causing paper jam.

The press roller is made of the heat-resistant silicon rubber. This roller is used to strongly press the paper towards the heat

roller by means of coil springs.

The temperature of the heat roller is constantly monitored by the engine/high voltage PWB using the fuser thermistor and triac. Should the temperature of the heat roller exceed the predetermined value, the thermal cutout is activated to effectively disconnect the heater lamp from power.

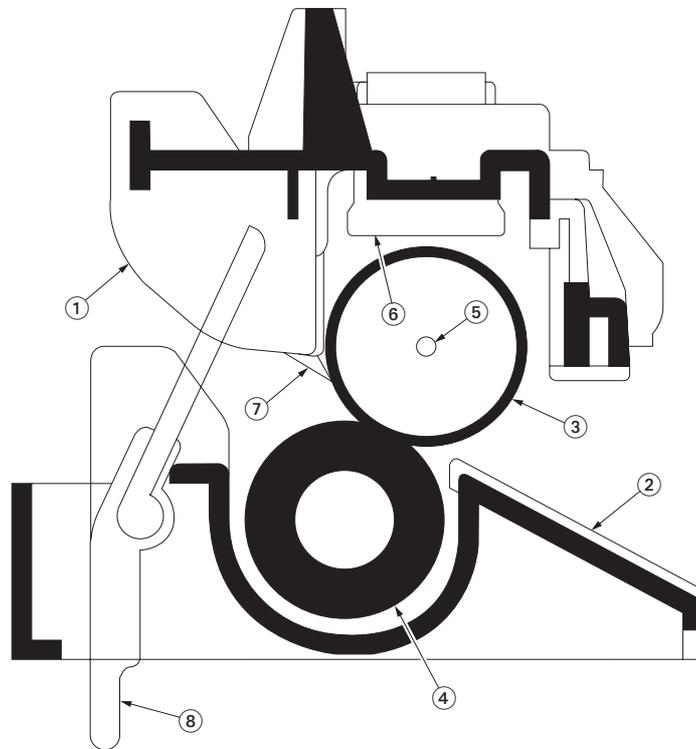


Figure 2-1-14 Fuser unit

- | | |
|-----------------------|--------------------|
| (1) Upper fuser frame | (5) Heater lamp |
| (2) Lower fuser frame | (6) Thermal cutout |
| (3) Heat roller | (7) Separators |
| (4) Press roller | (8) Fuser actuator |

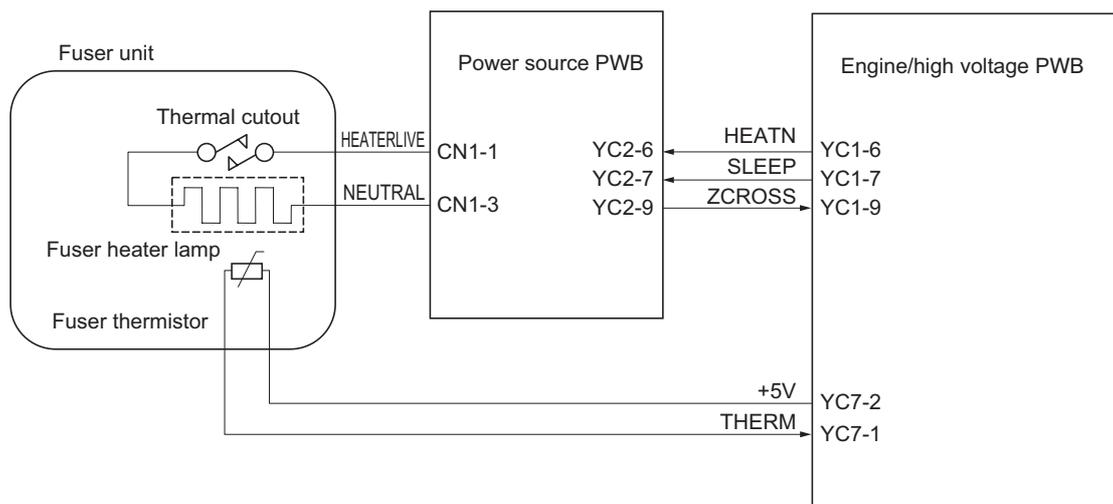


Figure 2-1-15 Fuser section block diagram

2-1-8 Paper exit section

(1) Paper exit section

The paper exit section transports the paper which passed the fuser unit towards the output tray. The paper which passed through the fuser unit turns on the exit sensor which is driven by the fuser actuator in the fuser unit, and is led by the guide comprised of the rear cover and the frame, finally reaching the FD roller. The paper is delivered to the output tray by the rotation of the FD roller.

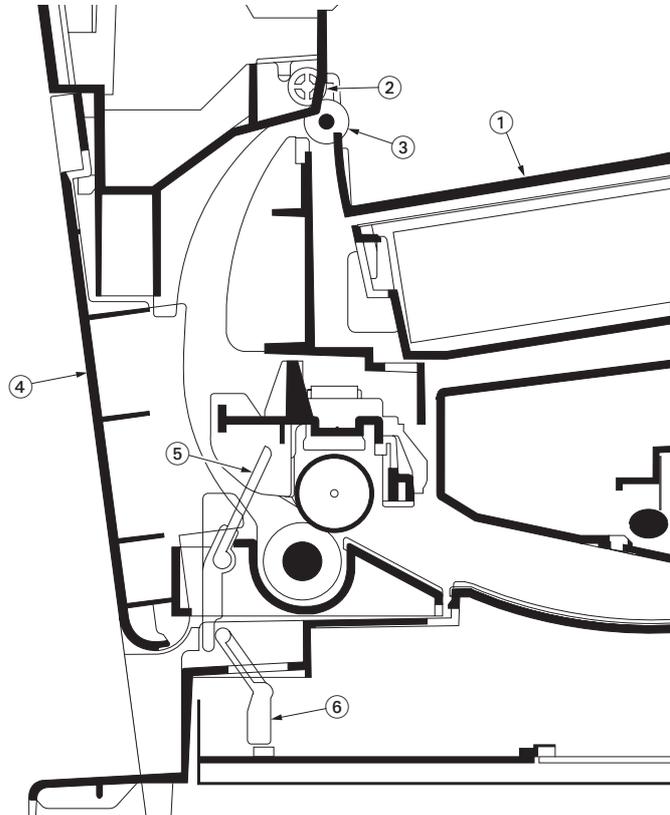


Figure 2-1-16 Paper exit section

- (1) Output tray
- (2) FD pulley
- (3) FD roller
- (4) Rear cover
- (5) Fuser actuator
- (6) Exit sensor actuator

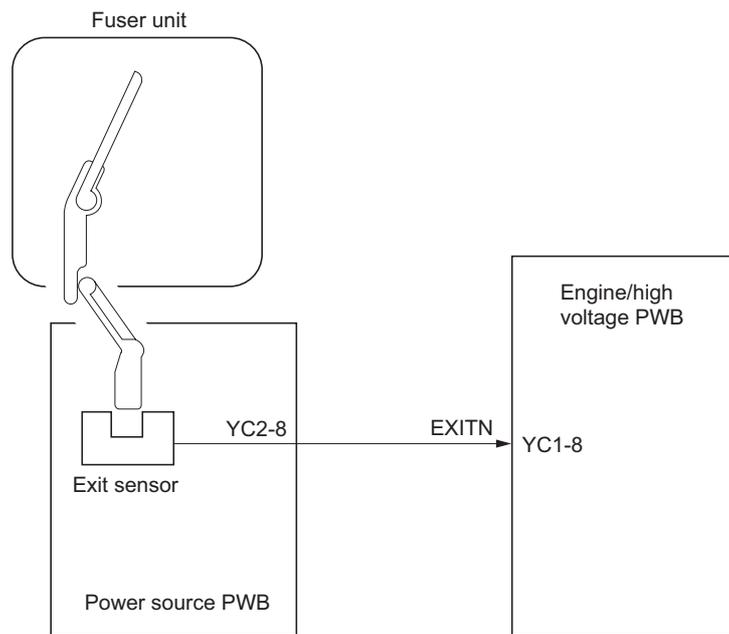


Figure 2-1-17 Paper exit section block diagram

2-1-9 Scanner section

(1) Scanner unit

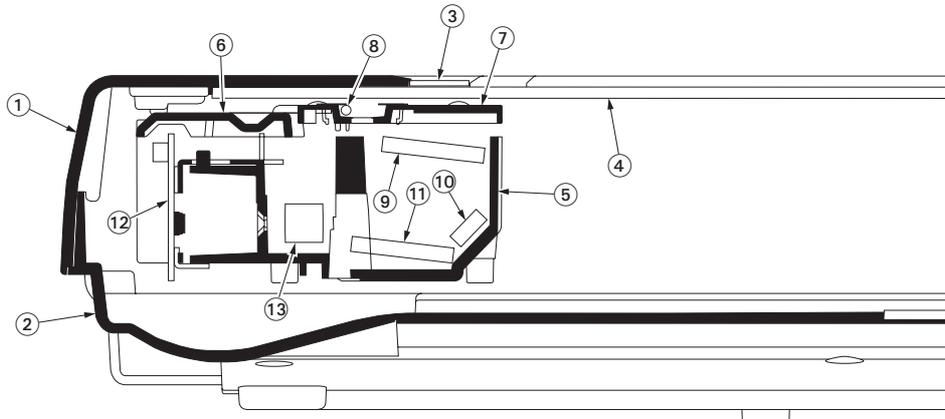


Figure 2-1-18 Scanner section

- | | |
|---------------------------------|-------------------|
| (1) Scanner upper housing | (8) Exposure lamp |
| (2) Scanner bottom housing | (9) Mirror |
| (3) Platen | (10) Mirror |
| (4) Size indicator | (11) Mirror |
| (5) Optical module unit housing | (12) Lens |
| (6) Lamp housing | (13) CCD PWB |
| (7) CCD cover | |

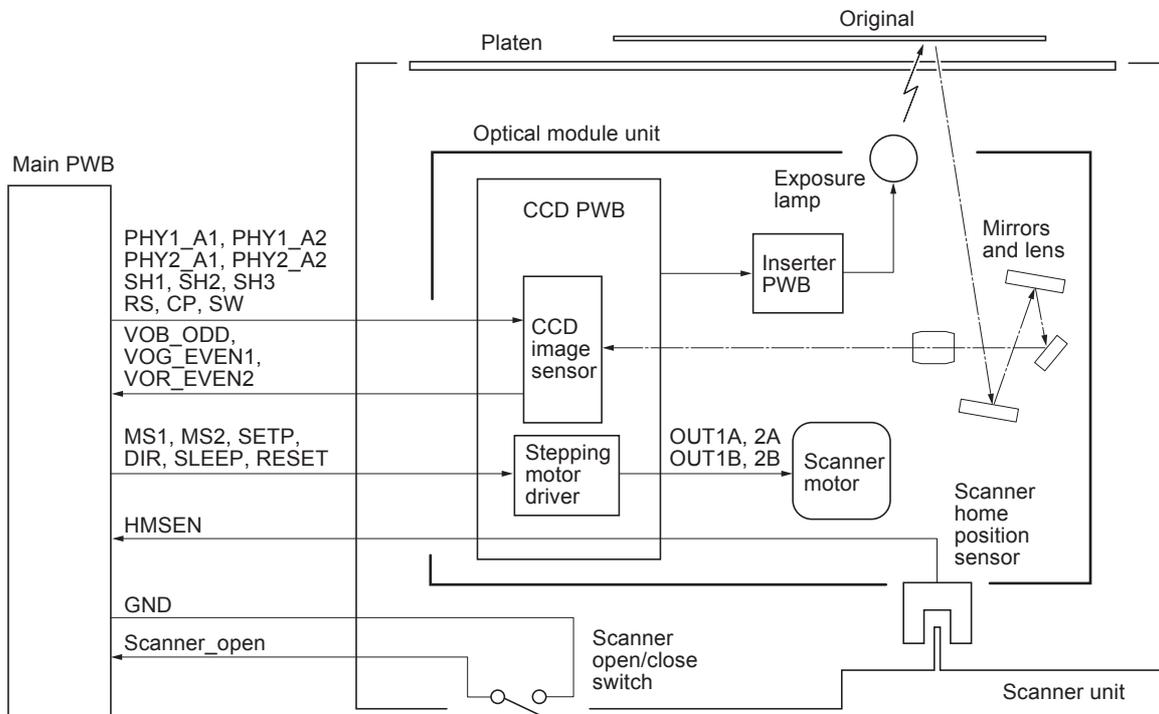


Figure 2-1-19 Scanner section block diagram



(2) Optical module unit

The optical module unit consists of an exposure lamp, three mirrors, a lens, a CCD PWB, and so on. Also an inverter PWB for driving the exposure lamp and a scanner home position sensor for detecting the home position of the optical module unit are incorporated.

The original on the platen is exposed to the light of the exposure lamp that is reflected by the reflector. The image is input through reflection by the three mirrors and through the lens to the CCD image sensor on the CCD PWB. The CCD image sensor scans one row of the image in the main scan direction, converts it to electric signals, and outputs them to the main PWB. Then the optical module unit is moved in the sub scan direction along the sliding rod, and the CCD image sensor scans the next row of the image in the main scan direction. The operation described above is repeated for scanning the overall image of the original. If a document processor (DP) is used, the optical module unit stops at the position of the platen and scans sequentially one row of the image on the original in synchronization with the moving timing of the original in the sub scan direction by driving the DP.

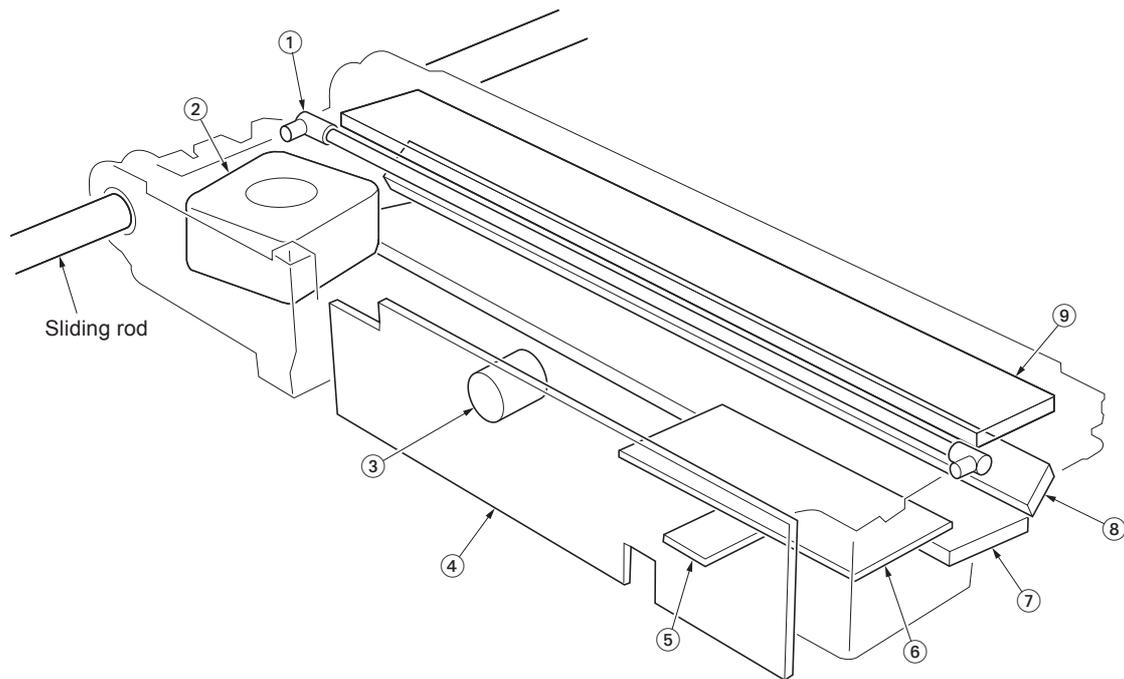


Figure 2-1-20 Optical module unit

- (1) Exposure lamp
- (2) Scanner motor
- (3) Lens
- (4) CCD PWB
- (5) Scanner home position sensor
- (6) Inverter PWB
- (7) Mirror
- (8) Mirror
- (9) Mirror

2-1-10 Document processor (DP) section

(1) Document processor (DP)

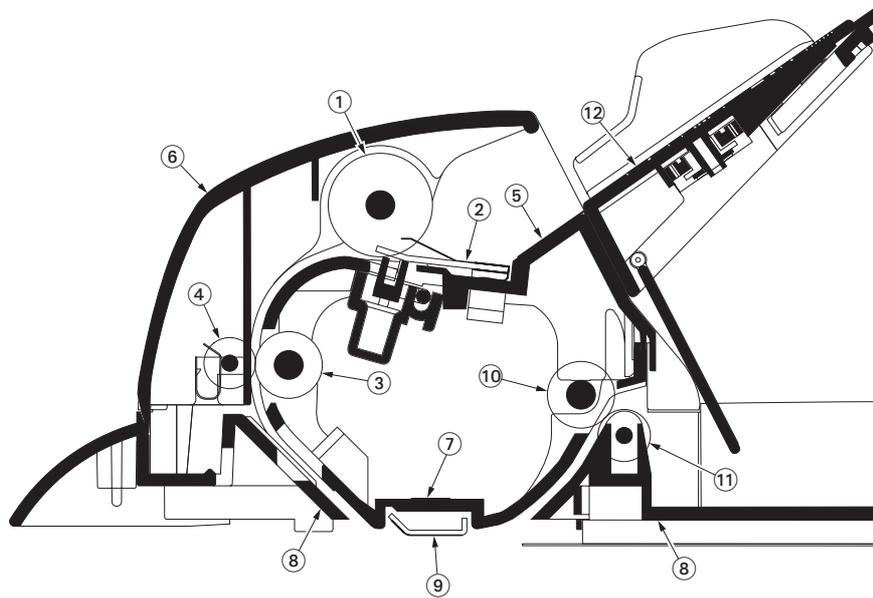


Figure 2-1-21 Document processor (DP) section

- | | |
|-------------------------------|---------------------------|
| (1) Original feed roller | (7) DP bottom housing |
| (2) Pad assembly | (8) DP frame |
| (3) Original conveying roller | (9) DP contact plate |
| (4) Original conveying pulley | (10) Original exit roller |
| (5) DP upper housing | (11) Original exit pulley |
| (6) DP cover | (12) Original table |

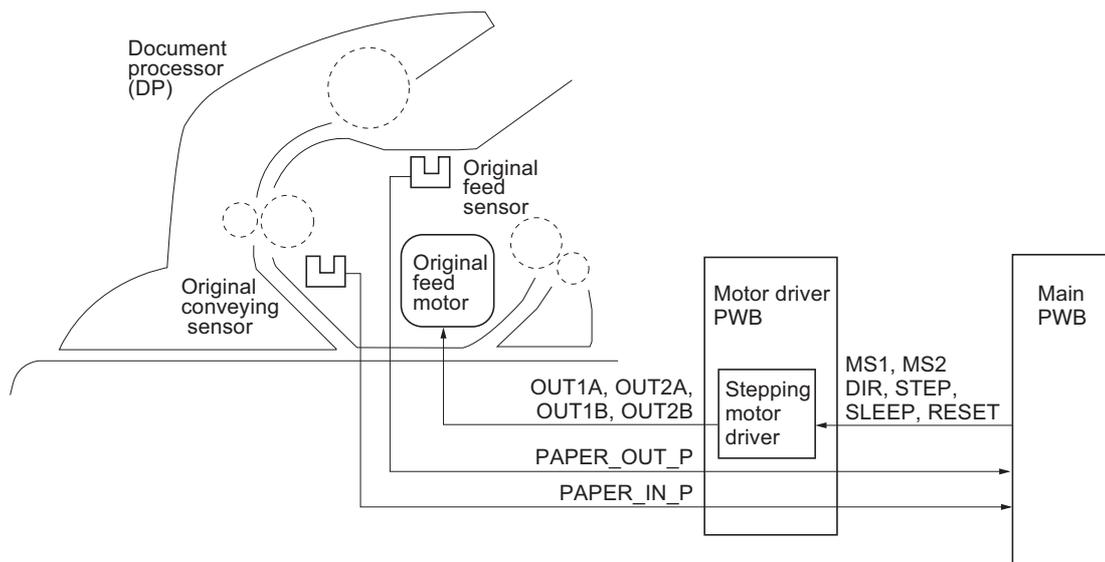


Figure 2-1-22 Document processor (DP) section block diagram

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2-2-1 Electrical parts layout

(1) Electrical parts layout

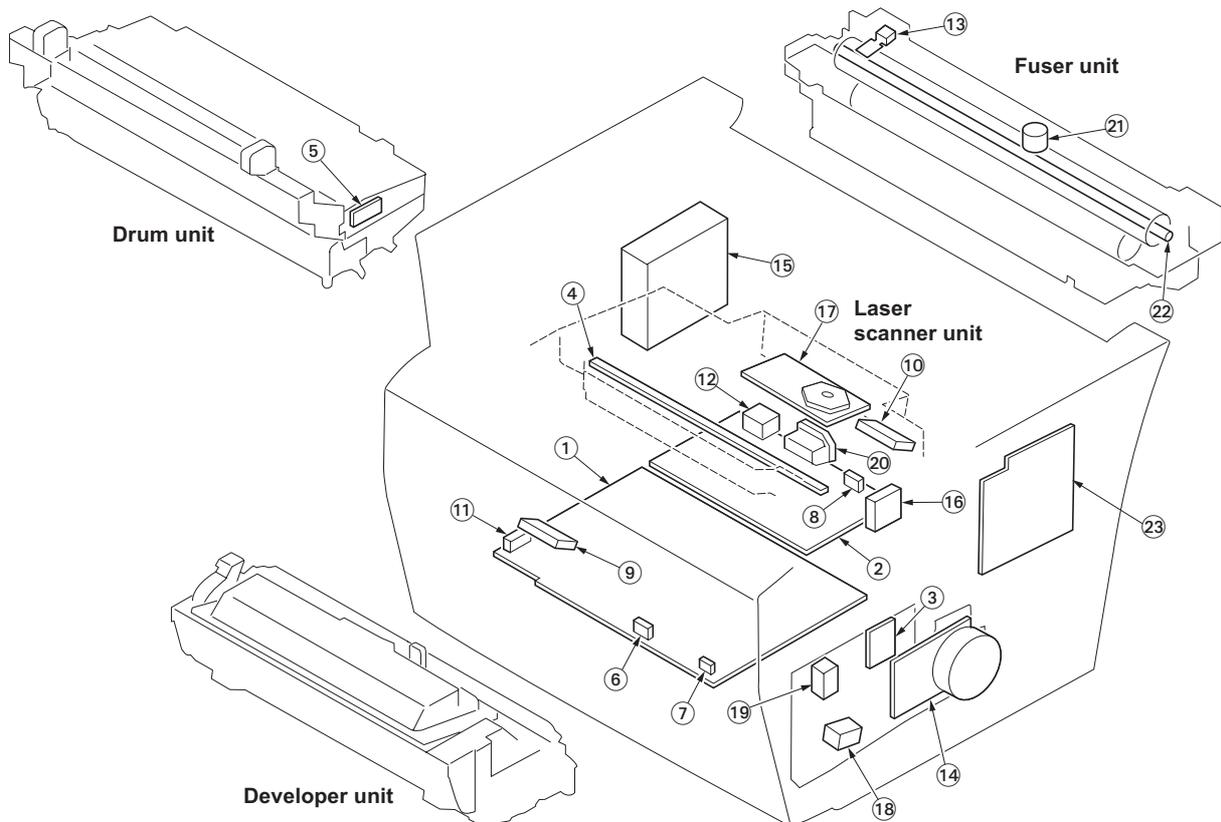


Figure 2-2-1 Main frame

- | | |
|-----------------------------------|---|
| 1. Engine/high voltage PWB | Controls the input/output of electrical parts and generates the high voltage. |
| 2. Power source PWB | After full-wave rectification of AC power source input, switching for converting to 24 V DC and 5 V DC for output. |
| 3. Connect PWB | Consists the buzzer and wiring relay circuit. |
| 4. Eraser lamp PWB | Eliminates the residual electrostatic charge on the drum. |
| 5. Zener PWB | Adjusts the main charger grid electrostatic potential. |
| 6. Registration sensor | Detects the timing of primary feeding and paper jam. |
| 7. Paper sensor | Detects paper in the paper cassette. |
| 8. Exit sensor | Detects paper jam in the fuser unit and paper exit section. |
| 9. Toner empty sensor | Measures toner in the toner container. |
| 10. Waste toner full sensor | Detects the waste toner reservoir (drum unit) being full. |
| 11. Interlock switch | Monitors whether the top cover is open and cuts off the 24 V DC power source. |
| 12. Power switch | Turns ON/OFF the AC power source. |
| 13. Fuser thermistor | Measures the heat roller temperature. |
| 14. Main motor | Drives the entire machine. |
| 15. Cooling fan motor | Cools the interior of machine. |
| 16. Power source fan motor | Cools the power source PWB. |
| 17. Polygon motor | Drives the polygon mirror. |
| 18. Feed clutch | Controls the paper cassette paper feed. |
| 19. Registration clutch | Controls the primary paper feed. |
| 20. AC inlet | Connects the AC power source. |
| 21. Thermal cutout | Shuts off the power source to the heater lamp when the heat roller reaches extremely high temperature. |
| 22. Heater lamp | Energizes the heat roller. |
| 23. Fax control PWB | Modulates, demodulates, compresses, decompresses and smoothes out image data, and converts resolution of image data. Also, controls connection to the telephone line. |

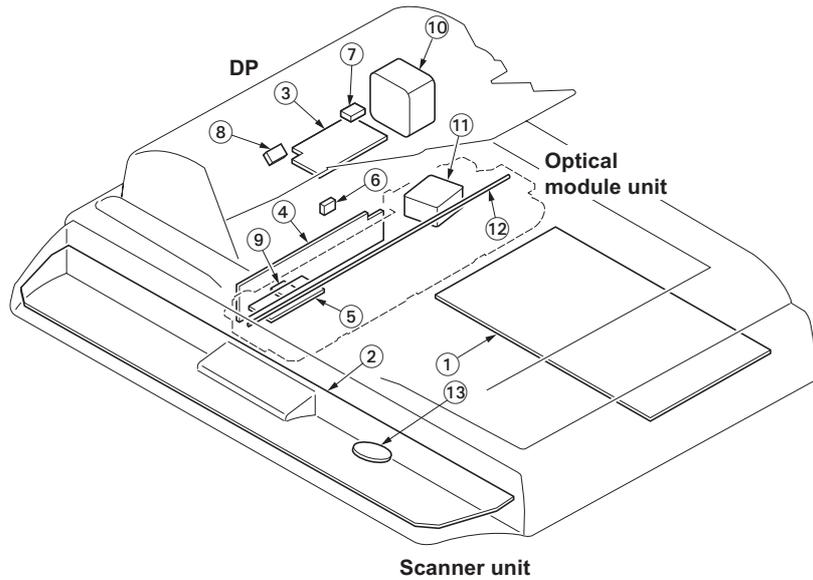


Figure 2-2-2 Scanner unit and document processor (DP)

- 1. Main PWB Controls the software such as the print data processing and provides the interface with computer.
- 2. Operation panel PWB Indicates the LED indicators and controls key inputs.
- 3. Motor driver PWB..... Controls the DP unit.
- 4. CCD PWB Reads the image off originals.
- 5. Inverter PWB..... Controls the exposure lamp.
- 6. Scanner unit open/close switch Detects when the scanner unit is opened or closed.
- 7. Document feed sensor..... Detects the presence of an original.
- 8. Document conveying sensor..... Detects the original scanning timing.
- 9. Scanner home position sensor Detects the optical module unit in the home position.
- 10. Document feed motor Drives the original feed section.
- 11. Scanner motor Drives the optical module unit.
- 12. Exposure lamp Exposes originals.
- 13. Speaker..... Outputs buzzer, monitoring and speaker sounds.

2-3-1 Power source PWB

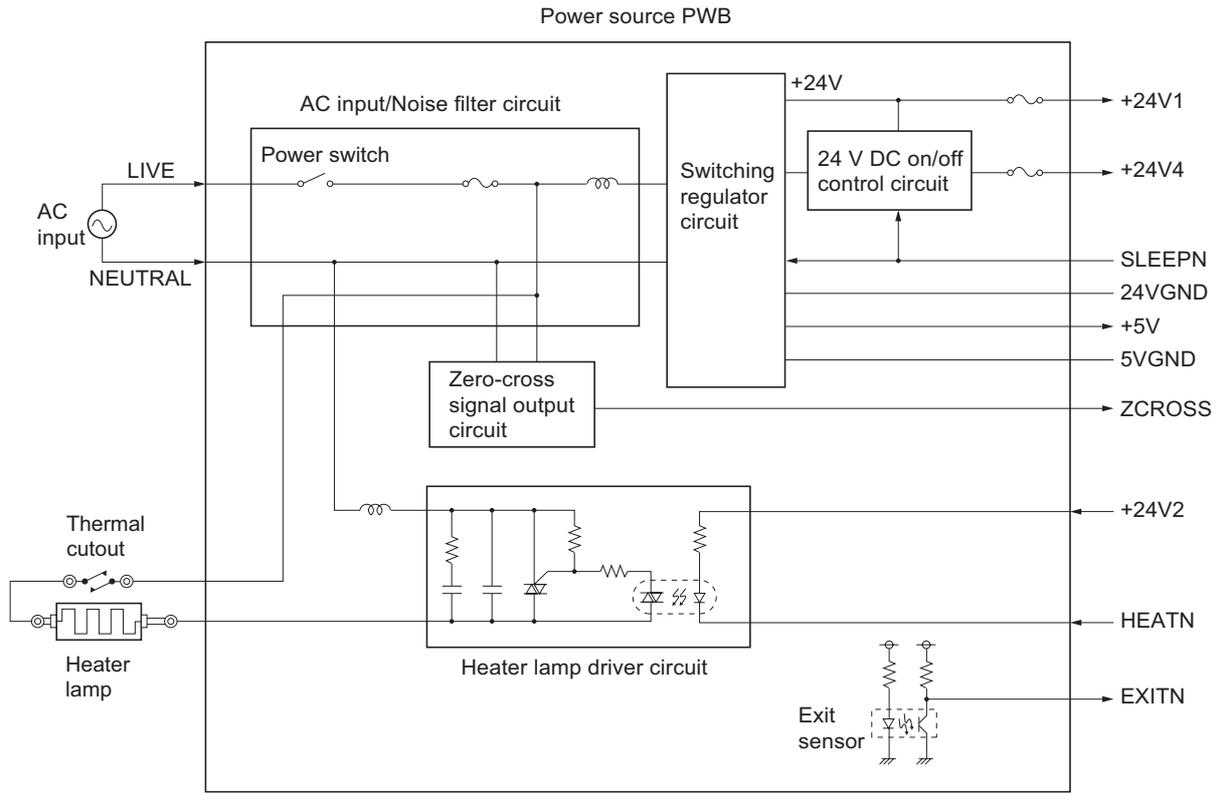


Figure 2-3-1 Power source PWB block diagram

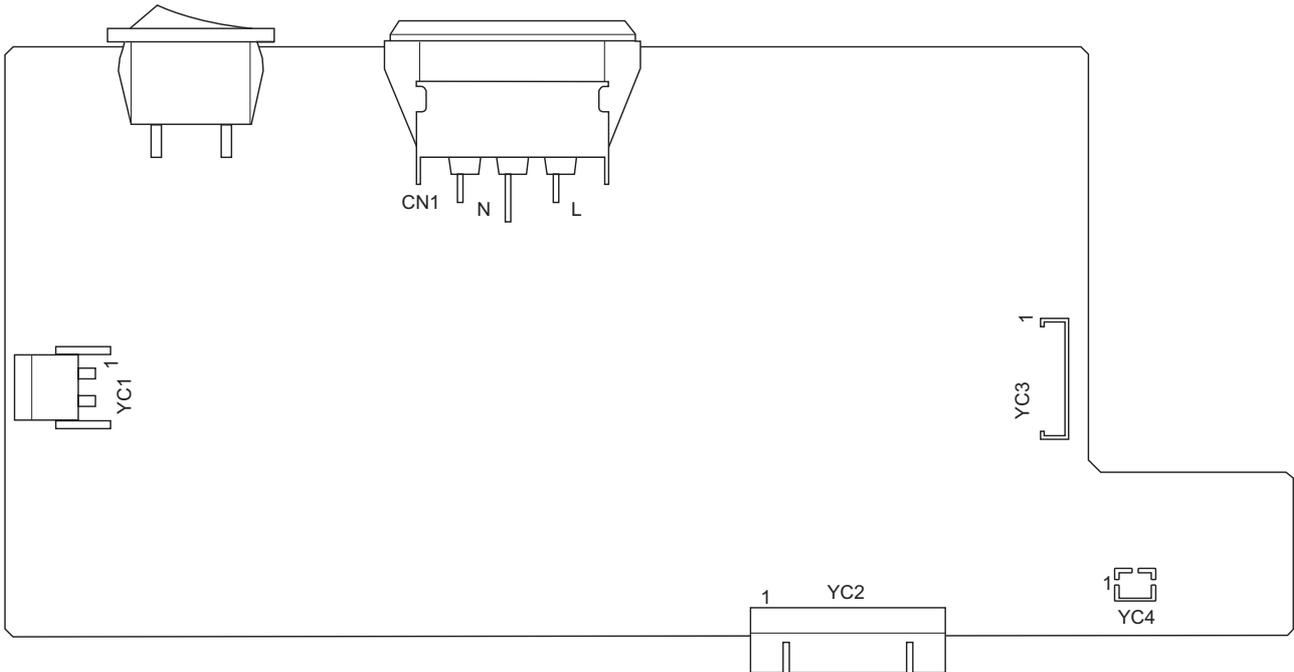


Figure 2-3-2 Power source PWB silk-screen diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
CN1 Connected to the AC inlet	1	LIVE	I	220 - 240 V AC 120 V AC	AC power input
	3	NEUTRAL	I	220 - 240 V AC 120 V AC	AC power input
YC1 Connected to the heater lamp	1	HEATERLIVE	O	220 - 240 V AC 120 V AC	Power supply for heater lamp (On/Off)
	3	NEUTRAL	O	220 - 240 V AC 120 V AC	Power supply for heater lamp (On/Off)
YC2 Connected to the engine/high voltage PWB	1	+5V	O	5 V DC	5 V DC power output
	2	+5V	O	5 V DC	5 V DC power output
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	+24V2	I	24 V DC	24 V DC power input (via interlock switch)
	6	HEATN	I	0/24 V DC	Heater lamp: On/Off
	7	SLEEPN	I	0/5 V DC	Sleep mode: On/Off
	8	EXITIN	O	0/5 V DC	Exit sensor: On/Off
	9	ZCROSS	O	0/5 V DC (pulse)	Zero cross signal
	10	+24V	O	24 V DC	24 V DC power output
	11	+24V	O	24 V DC	24 V DC power output
	12	GND	-	-	Ground
	13	GND	-	-	Ground
YC3 Connected to the main PWB	1	+24V4	O	24 V DC	24 V DC power output
	2	GND	-	-	Ground
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	+5V	O	5 V DC	5 V DC power output
	6	+5V	O	5 V DC	5 V DC power output
YC4 Connected to the power source fan motor	1	+5V2	O	5 V DC	5 V DC power output
	2	FAN	O	0/5 V DC	Power source fan motor: On/Off

2-3-2 Engine/high voltage PWB

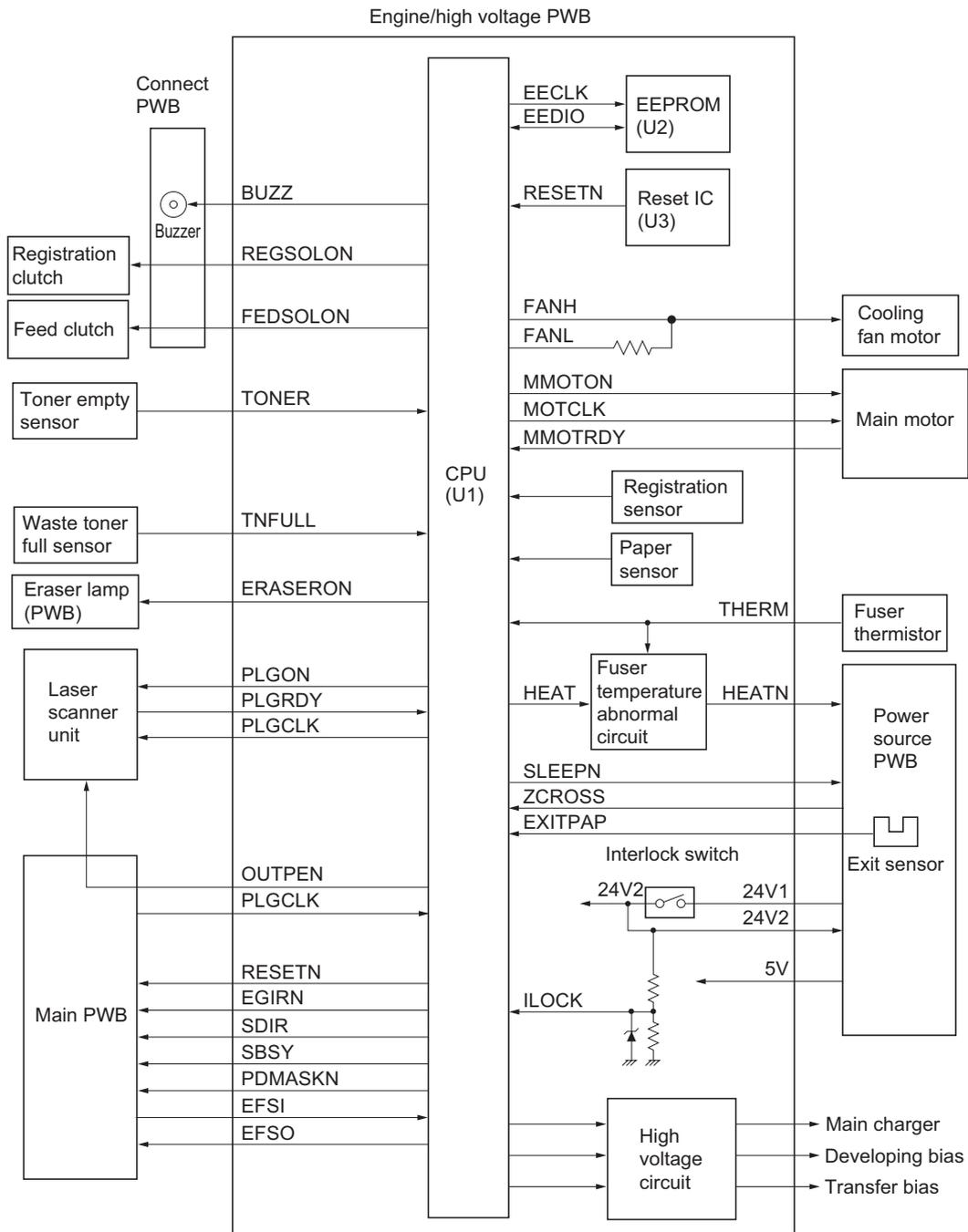


Figure 2-3-3 Engine/high voltage PWB block diagram

The engine/high voltage PWB consists mainly of CPU (U1) and it is primarily divided into the engine circuit section that controls the entire hardware such as the process and paper feeding/conveying mechanism and the high voltage circuit section that generates various high voltages to output during the process operation.

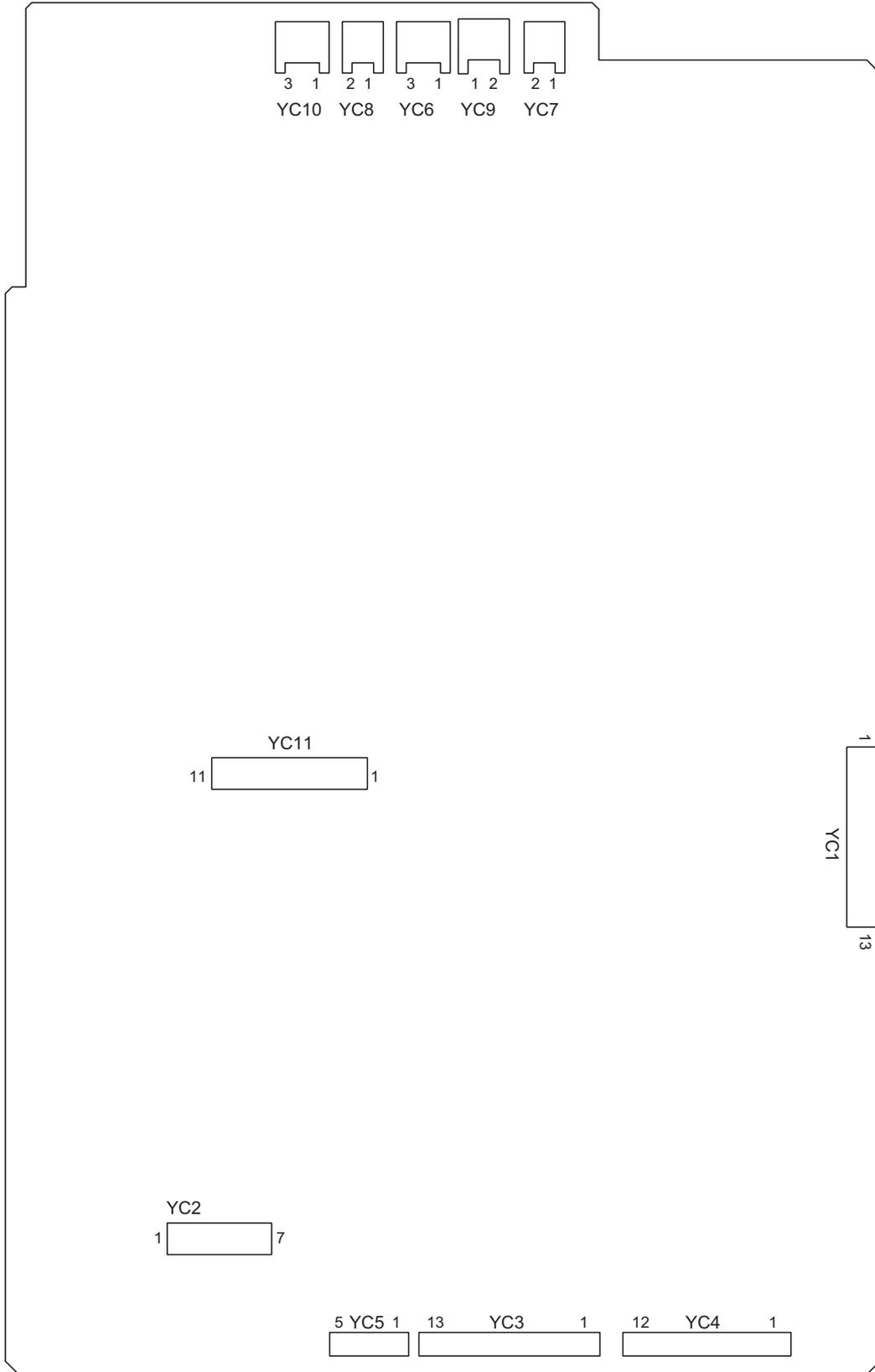


Figure 2-3-4 Engine/high voltage PWB silk-screen diagram



Connector	Pin No.	Signal	I/O	Voltage	Description
YC1 Connected to the power source PWB	1	+5	I	5 V DC	5 V DC power input
	2	+5	I	5 V DC	5 V DC power input
	3	GND	-	-	Ground
	4	GND	-	-	Ground
	5	+24V	O	24 V DC	24 V DC power output (via interlock switch)
	6	HEATN	O	0/24 V DC	Heater lamp: On/Off
	7	SLEEP	O	0/5 V DC	Sleep mode: On/Off
	8	EXITIN	I	0/5 V DC	Exit sensor: On/Off
	9	ZCROSS	I	0/5 V DC (pulse)	Zero cross signal
	10	+24V	I	24 V DC	24 V DC power input
	11	+24V	I	24 V DC	24 V DC power input
	12	GND	-	-	Ground
	13	GND	-	-	Ground
YC3 Connected to the laser scanner unit and con- nect PWB	1	PLGCLK	O	5 V DC (pulse)	Polygon motor clock signal
	2	PLGRDY	I	0/5 V DC	Polygon motor: Ready/Not ready
	3	PLGON	O	0/5 V DC	Polygon motor control signal
	4	GND	-	-	Ground
	5	+24V3	O	24 V DC	24 V DC power output
	6	+24V3	O	24 V DC	24 V DC power output
	7	REGSOLON	O	0/24 V DC	Registration clutch: On/Off
	8	FEDDOLON	O	0/24 V DC	Feed clutch: On/Off
	9	BUZ	O	0/5 V DC (pulse)	Buzzer: On (4 kHz)
	10	FPLED2	-	-	Not used
	11	FPLED1	-	-	Not used
	12	FPSW	-	-	Not used
	13	GND	-	-	Ground
YC4 Connected to the main PWB	1	RESETN	O	0/5 V DC	Reset signal
	2	EGIRN	O	0/5 V DC	Engine interrupt signal
	3	SDIR	O	0/5 V DC	Communication direction change signal
	4	SBSY	O	0/5 V DC	Engine busy signal
	5	PDMASKN	O	0/5 V DC	PD mask control signal
	6	EFSI	I	0/5 V DC (pulse)	Engine interface serial communication data
	7	EFCK	I	0/5 V DC (pulse)	Clock signal for engine interface
	8	EFSD	O	0/5 V DC (pulse)	Engine interface serial communication data
	9	PLGCLK	I	0/5 V DC (pulse)	Clock signal for polygon motor
	10	OUTPEN	O	0/5 V DC	Laser output: On/Off
	11	-	-	-	-
	12	GND	-	-	Ground
YC5 Connected to the main motor	1	+24V3	O	24 V DC	24 V DC power output
	2	GND	-	-	Ground
	3	MMOTRDY	-	-	Ground (power)
	4	MOTCLK	O	0/5 V DC (pulse)	Main motor clock signal
	5	MMOTON	O	0/5 V DC	Main motor: On/Off
YC6 Connected to the waste toner full sensor	1	+5V	O	5 V DC	5 V DC power output
	2	TNFULL	I	0/5 V DC	Waste toner full sensor detecting signal: Full/Not full
	3	GND	-	-	Ground
YC7 Connected to the fuser thermistor	1	+5V	O	5 V DC	5 V DC power output
	2	THERM	I	Analog	Fuser thermistor detection voltage
YC8 Connected to the eraser lamp (PWB)	1	ERASPW	O	24 V DC	24 V DC power output
	2	ERASER	O	0/24 V DC	Eraser lamp (PWB): On/Off

Connector	Pin No.	Signal	I/O	Voltage	Description
YC9	1	+24V1	O	24 V DC	24 V DC power output
Connected to the cooling fan motor	2	FAN	O	0/12/24 V DC	Cooling fan motor: Full speed/Half speed/Off
YC10	1	+5V	O	5 V DC	5 V DC power output
Connected to the toner empty sensor	2	TONER	I	0/5 V DC	Toner empty/Not
	3	GND	-	-	Ground

2-3-3 Main PWB

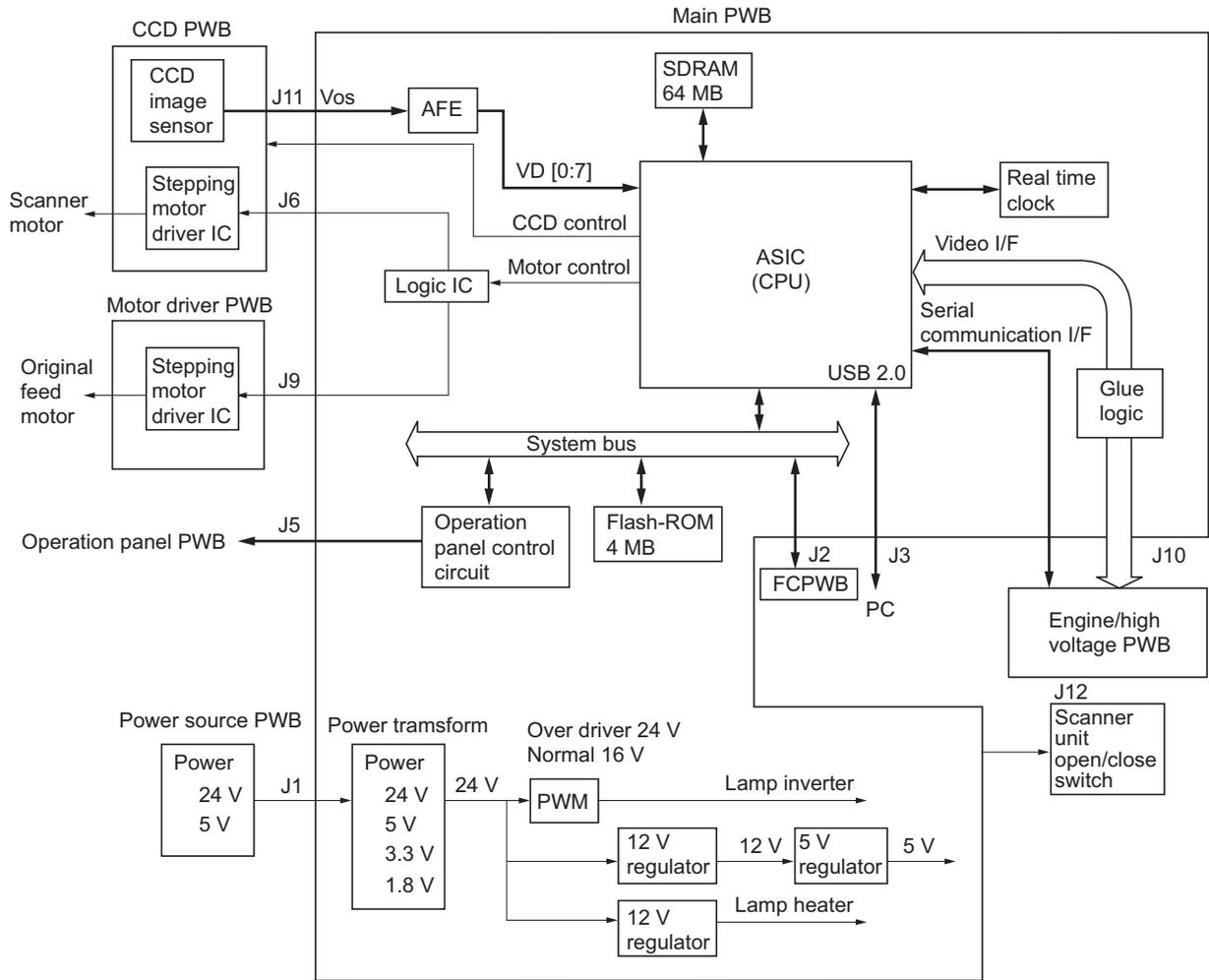


Figure 2-3-5 Main PWB block diagram

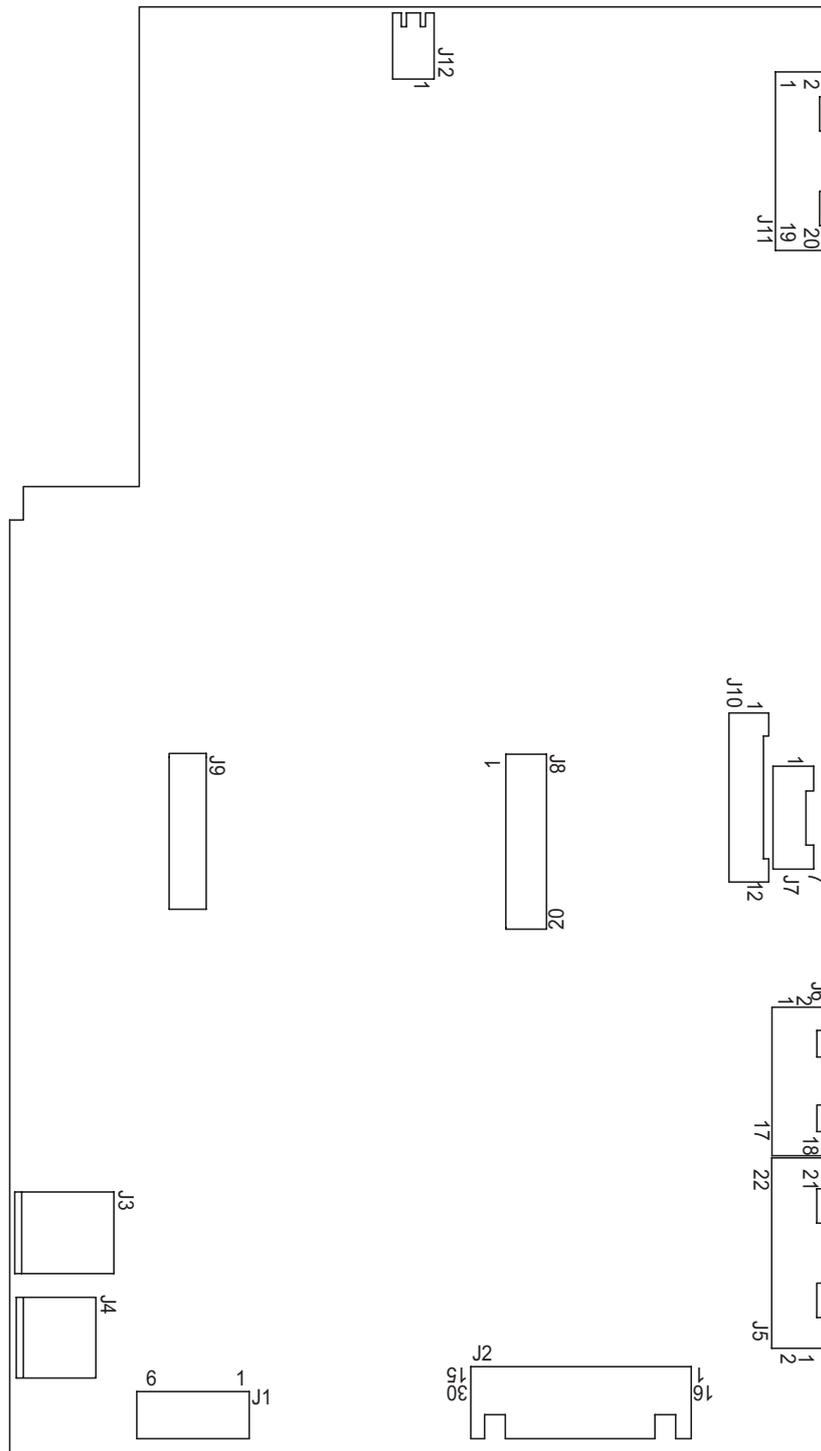


Figure 2-3-6 Main PWB silk-screen diagram

2-3-4 Fax control PWB

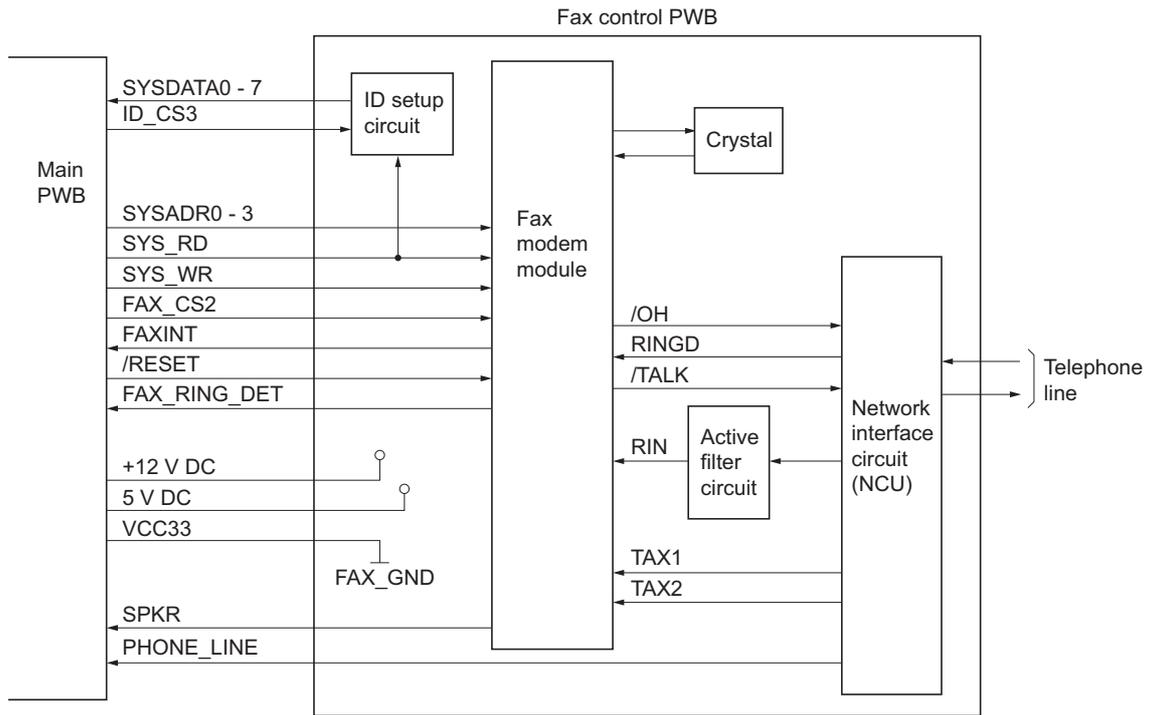


Figure 2-3-7 Fax control PWB block diagram

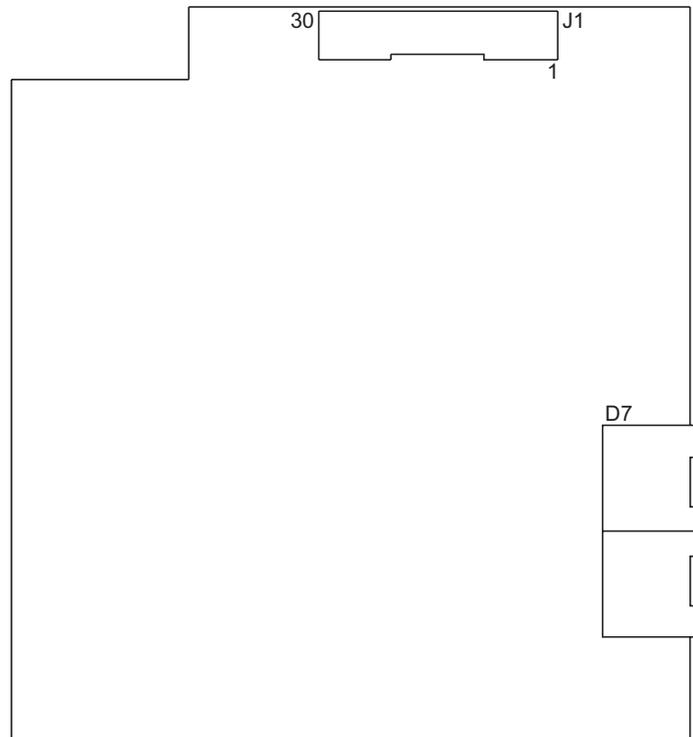
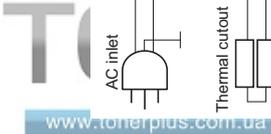
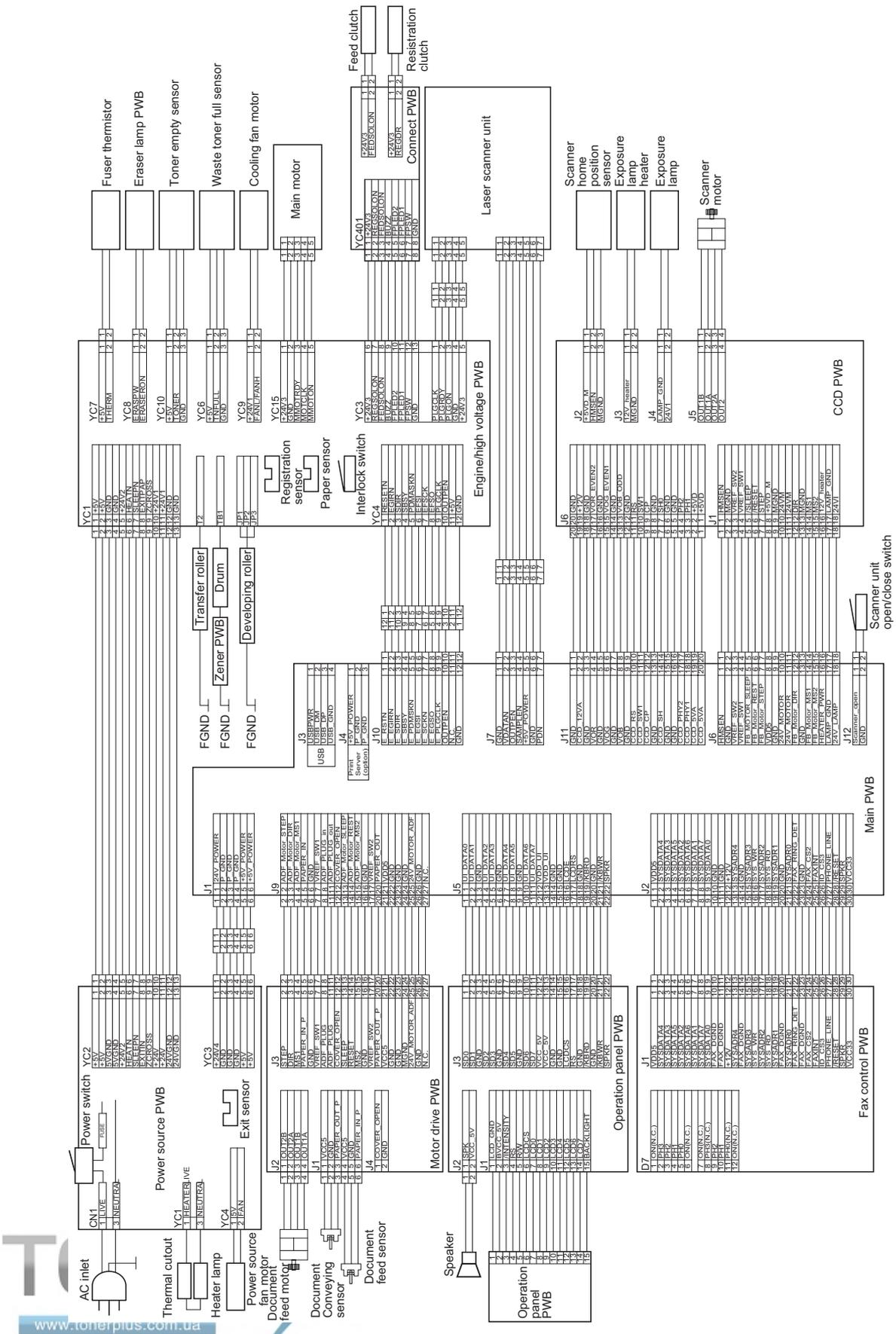


Figure 2-3-8 Fax control PWB silk-screen diagram

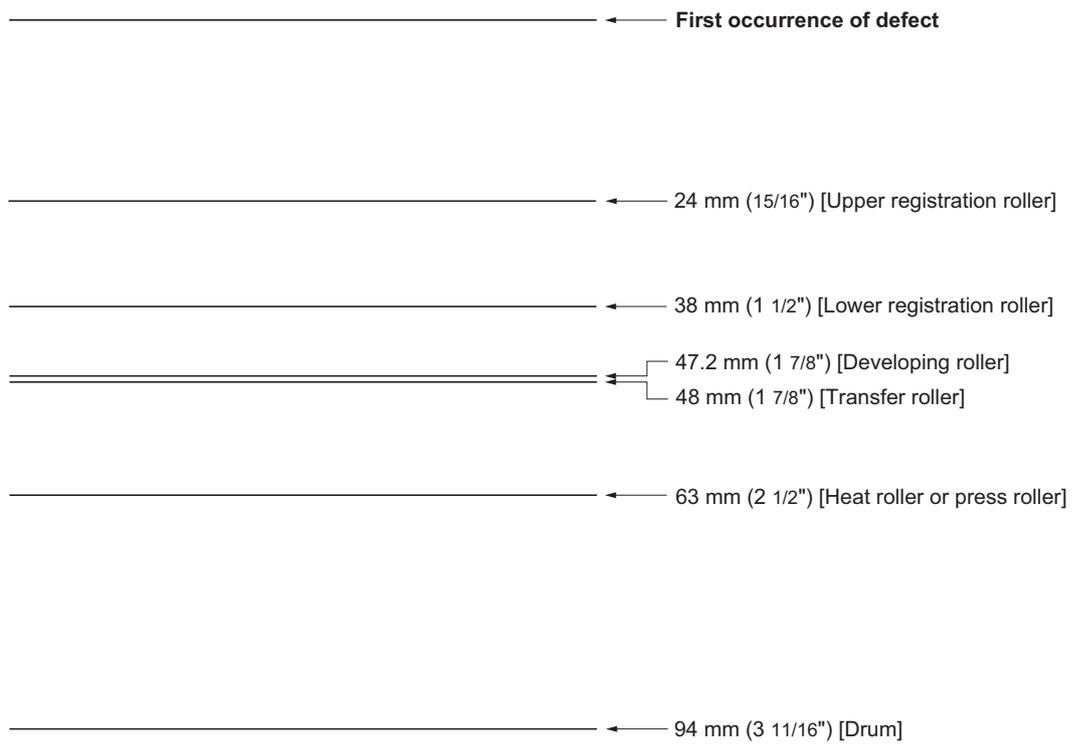


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(1) Wiring diagram



(2) Repetitive defects gauge



Setup Guide for the Print Server

IB-110

Setup Guide Setup-Leitfaden Guide d'installation Guida all'installazione



WA02430XX

(E) Thank you for purchasing the IB-110 Print Server (hereinafter "IB-110"). Follow the instructions in this setup guide to configure Windows environments for use with the IB-110. Simply follow the steps 1 to 4. For instructions on configuring other environments, refer to the online manual on the "IB-110 Library" CD.

- Using DC-DC cable other than the one supplied may cause problem.
- If the IB-110 is going to be installed horizontally, the rubber feet provided with it must be adhered to the prescribed positions on the unit's bottom panel without fail.

(D) Vielen Dank für den Erwerb des Druckerservers IB-110 (im Weiteren als "IB-110" bezeichnet). Bitte folgen Sie den Anweisungen dieses Setup-Leitfadens, um Windows-Umgebungen für den Gebrauch mit dem IB-110 zu konfigurieren. Dazu führen Sie einfach Schritt 1 bis 4 aus. Anweisungen zum Konfigurieren anderer Umgebungen finden Sie im Online-Handbuch der CD "IB-110 Library".

- Die Verwendung eines anderen Gleichstrom-Gleichstrom-Kabel als den mitgelieferten, kann Probleme auslösen.
- Wenn eine Installation des IB-110 in horizontaler Lage beabsichtigt ist, müssen die mitgelieferten GummifüÙe unbedingt vorher an den dafür vorgesehenen Stellen an der Bodenplatte des Gerätes befestigt werden.

(F) Merci d'avoir fait l'achat du serveur d'impression IB-110 (ci-après dénommé "IB-110").

Veillez suivre les instructions du présent guide d'installation pour configurer les environnements Windows pour l'utilisation avec l'IB-110. Suivez simplement les étapes 1 à 4. Pour les instructions relatives à la configuration des autres environnements, reportez-vous au manuel en ligne sur le CD "IB-110 Library".

- L'utilisation d'un câble CC-CC autre que celui fourni avec l'appareil peut entraîner des problèmes.
- Si vous prévoyez installer l'IB-110 à l'horizontale, vous devez fixer les pieds de caoutchouc fournis aux positions indiquées sur le panneau inférieur de l'appareil.

(I) Grazie per aver acquistato il server di stampa IB-110 (che d'ora in avanti verrà chiamato "IB-110"). Seguire le istruzioni in questa guida all'installazione per configurare gli ambienti Windows per l'utilizzo con l'IB-110. È sufficiente seguire i passi da 1 a 4 della procedura. Per le istruzioni su come configurare altri ambienti, consultare il manuale online nel CD della "IB-110 Library".

- L'utilizzo di un cavo CC-CC diverso da quello in dotazione può provocare danni.
- Se si intende installare l'IB-110 orizzontalmente, i piedini in gomma forniti devono essere attaccati senz'altro alle posizioni prescritte sul pannello del fondo dell'unità.

- Supported Operating Systems / • Unterstützte Betriebssysteme / • Systèmes d'exploitation pris en charge / • Sistemi operativi supportati

Windows 98/Me, Windows 2000/XP
Netware 3.x, 4.x, 5.x, 6.x / MacOS 8.x, 9.x, 10.x / UNIX

Step 1 Connect the IB-110 and your printer to the network environment

Schritt 1 Den IB-110 und den Drucker an die Netzwerkumgebung anschließen.

Étape 1 Connectez l'IB-110 et votre imprimante à l'environnement réseau

Fase 1 Collegare l'IB-110 e la propria stampante all'ambiente di rete

(E) • If you connect the IB-110 to another network later, restore the default settings before doing so. See the User's Manual for instructions on restoring the default settings. Before connecting the IB-110, prepare the Ethernet hub, network cable, and USB cable.

1. Turn off the printer and unplug the AC power cable from the printer.
2. Use the network cable to connect the IB-110 to the Ethernet hub [1].
3. Use the USB cable to connect the IB-110 to the printer [2].
4. Use the DC-DC cable provided to connect the IB-110 with the printer [3]. If a DC-DC cable cannot be used with the printer, the AC adapter (option) used exclusively with the IB-110 will be required in addition.
5. Turn on the printer [4]. Confirm that the IB-110 Link LED indicator (green) lights up.

(D) • Wenn der IB-110 später an ein anderes Netzwerk angeschlossen werden soll, müssen Sie vorher darauf achten, die Standardeinstellungen wiederherzustellen. Einzelheiten zum Wiederherstellen der Standardeinstellungen finden Sie im Benutzerhandbuch.

Stellen Sie vor dem Anschließen des IB-110 den Ethernet-Verteiler, ein Netzwerkkabel und ein USB-Kabel bereit.

1. Den Druckerstrom ausschalten und das Stromkabel vom Drucker abziehen.
2. Verwenden Sie das Netzwerkkabel zum Anschließen des IB-110 an den Ethernet-Verteiler [1].
3. Verwenden Sie das USB-Kabel zum Anschließen des IB-110 an den Drucker [2].
4. Verwenden Sie das mitgelieferte Gleichstrom-Gleichstrom-Kabel zum Anschluss des IB-110 an den Drucker. [3]. Wenn der Drucker nicht auf den Anschluss eines Gleichstrom-Gleichstrom-Kabel verfügbar ist, ist zusätzlich der Gebrauch des exklusiv für den IB-110 vorgesehenen Netzgeräts (separat erhältlich) erforderlich.
5. Schalten Sie den Drucker [4] ein. Vergewissern Sie sich, dass die Netzwerkanschluss-Anzeigelampe (grüne LED) am IB-110 aufleuchtet.

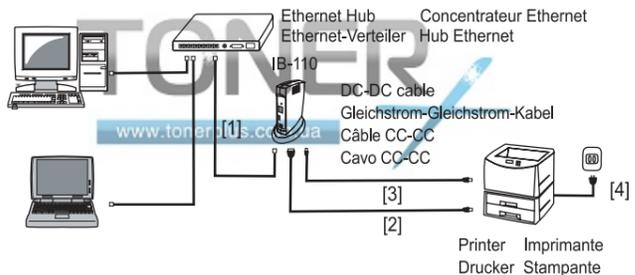
(F) • Si vous connectez l'IB-110 à un autre réseau plus tard, vous devrez d'abord rétablir les paramètres par défaut. Voir le Manuel d'utilisation pour les instructions sur la restauration des paramètres par défaut. Avant de connecter l'IB-110, préparez le concentrateur Ethernet, le câble réseau et le câble USB.

1. Éteignez l'imprimante et débranchez le câble d'alimentation.
2. Utilisez le câble réseau pour connecter l'IB-110 au concentrateur Ethernet [1].
3. Utilisez le câble USB pour connecter l'IB-110 à l'imprimante [2].
4. Utilisez le câble CC-CC fourni pour connecter l'IB-110 à l'imprimante. [3]. S'il n'est pas possible d'utiliser un câble CC-CC avec l'imprimante, il faudra en plus se procurer l'adaptateur CA (en option) conçu exclusivement pour l'IB-110.
5. Allumez l'imprimante [4]. Vérifiez que le voyant DEL de liaison (vert) de l'IB-110 s'allume.

(I) • Se si collega l'IB-110 a un'altra rete in un secondo momento, ripristinare le impostazioni predefinite prima di farlo. Per le istruzioni su come ripristinare le impostazioni predefinite, consultare la Guida per l'utente.

Prima di collegare l'IB-110, preparare l'hub Ethernet, il cavo di rete e il cavo USB.

1. Spegner la stampante e scollegare il cavo di alimentazione CA dalla stampante.
2. Utilizzare il cavo di rete per collegare l'IB-110 all'hub Ethernet [1].
3. Utilizzare il cavo USB per collegare l'IB-110 alla stampante [2].
4. Usare il cavo CC-CC fornito per collegare l'IB-110 con la stampante. [3]. Se non è possibile usare un cavo CC-CC con la stampante, in aggiunta sarà necessario l'alimentatore CA (opzionale) usato esclusivamente con l'IB-110.
5. Accendere la stampante [4]. Verificare che l'indicatore LED Link (verde) dell'IB-110 si accenda.



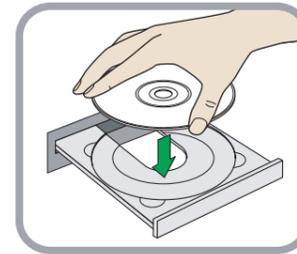
Step 2 Configure the IB-110's IP address

Étape 2 Configurez l'adresse IP de l'IB-110

Schritt 2 Konfigurieren Sie die IP-Adresse des IB-110

Fase 2 Configurare l'indirizzo IP dell'IB-110

1.



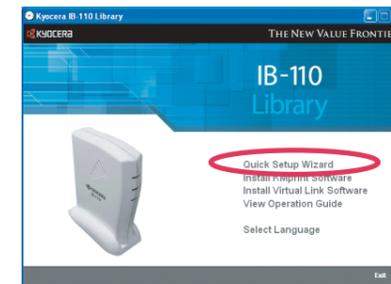
(E) Insert the "IB-110 Library CD" in your computer's CD-ROM drive.

(D) Legen Sie die "IB-110 Library CD" in das CD-ROM-Laufwerk des PC ein.

(F) Insérez le "IB-110 Library CD" dans le lecteur de CD-ROM de votre ordinateur.

(I) Inserire l'"IB-110 Library CD" nell'unità CD-ROM del computer.

2.



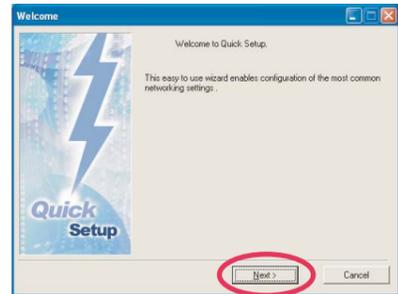
(E) Click **Quick Setup Wizard**.

(D) Klicken Sie auf **Schnelleinrichtungs-Assistent**.

(F) Cliquez sur **Assistant d'installation rapide**.

(I) Fare clic su **Configurazione rapida guidata**.

3.



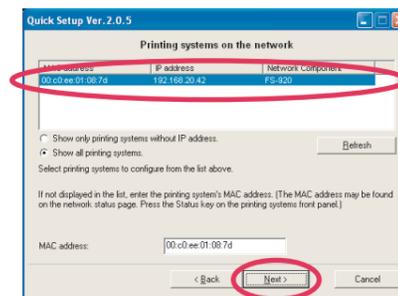
(E) Click **Next**.

(D) Klicken Sie auf **Weiter**.

(F) Cliquez sur **Suivant**.

(I) Fare clic su **Avanti**.

4.



(E) In the print server list, select the IB-110. Click **Next**.

(D) Wählen Sie den IB-110 aus der Liste der Druckserver aus, und klicken Sie dann auf **Weiter**.

(F) Dans la liste des serveurs d'impression, sélectionnez l'IB-110. Cliquez sur **Suivant**.

(I) Nell'elenco dei server di stampa, selezionare l'IB-110. Fare clic su **Avanti**.

(E) If the IB-110 is not listed:

- Make sure the computer's network environment (IP address) is correctly configured.
- Temporarily disable any security software and the standard firewall built into the operating system (for Windows XP), if applicable.

(D) Falls der IB-110 nicht in der Liste erscheint:

- Vergewissern Sie sich, dass die Netzwerkumgebung des PC (IP-Adresse) korrekt konfiguriert ist.
- Sperren Sie ggf. vorübergehend eine momentan aktivierte Sicherheits-Software und die Standard-Firewall des Betriebssystems (bei Windows XP).

(F) Si l'IB-110 ne figure pas dans la liste :

- Vérifiez que l'environnement du réseau de l'ordinateur (l'adresse IP) est correctement configuré.
- Désactivez temporairement tout logiciel de sécurité et le firewall standard intégré par défaut au système d'exploitation (pour Windows XP), le cas échéant.

(I) Qualora l'IB-110 non appaia nell'elenco:

- Assicurarsi che l'ambiente di rete del computer (indirizzo IP) sia configurato correttamente.
- Disattivare temporaneamente qualsiasi software di sicurezza e il firewall di serie incorporato nel sistema operativo (per Windows XP), se applicabile.

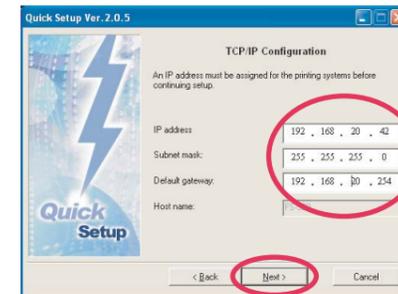
(E) In Step 2, 4, IB-110 is replaced by the printer name when the IB-110 is attached to the printer. If this is the case, select the printer name in the print server list.

(D) Wenn IB-110 an den Drucker angeschlossen ist, wurde in Schritt 2,4 IB-110 mit dem Druckernamen ersetzt. Sollte dies der Fall sein, wählen Sie den Druckernamen in der Druckerserverliste aus.

(F) À l'étape 2, 4, IB-110 est remplacé par le nom de l'imprimante lorsque le IB-110 est connecté à l'imprimante. Le cas échéant, sélectionnez le nom de l'imprimante dans la liste du serveur d'impression.

(I) Al punto 2, 4, IB-110 viene sostituito dal nome della stampante quando l'IB-110 viene collegato alla stampante. Se questo è il caso, selezionare il nome della stampante nell'elenco dei server di stampa.

5.



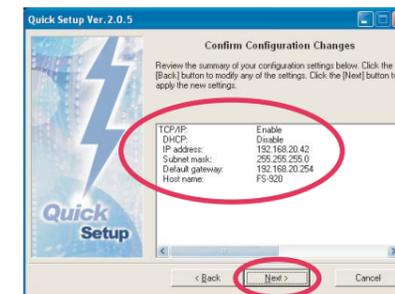
(E) Enter the IP address, Subnet mask, and Default gateway. Click **Next**.

(D) Geben Sie IP-Adresse, Subnetzmaske und Standard-Gateway ein, und klicken Sie dann auf **Weiter**.

(F) Saisissez l'adresse IP, le Masque de sous-réseau et la Passerelle par défaut. Cliquez sur **Suivant**.

(I) Immettere Indirizzo IP, Maschera sottorete e Gateway predefinito. Fare clic su **Avanti**.

6.



(E) Confirm the settings and click **Next**.

(D) Überprüfen Sie die vorgenommenen Einstellungen, und klicken Sie dann auf **Weiter**.

(F) Vérifiez les paramètres et cliquez sur **Suivant**.

(I) Verificare le impostazioni e fare clic su **Avanti**.

7.

(E) When the final installation screen of the **Quick Setup Wizard** is displayed, click **Finish**.

(D) Wenn die letzte Seite der **Schnelleinrichtungs-Assistent** angezeigt wird, klicken Sie auf **Ende**.

(F) Lorsque l'écran final d'installation de **Assistant d'installation rapide** s'affiche, cliquez sur **Terminer**.

(I) Quando viene visualizzata la schermata di installazione finale di **Configurazione rapida guidata**, fare clic su **Fine**.

Step 3 Installing the Software Utilities

Schritt 3 Installieren der Software-Dienstprogramme

Étape 3 Installation des utilitaires

Fase 3 Installazione delle utility del software

(E) **IB-110 Library CD-ROM** includes the following 2 utilities. Install these utilities as needed. For details, refer to **Installing the Software Utilities** in the User's Manual.

- **KMprint:** A utility for printing via "Peer to Peer Communication" in a Windows environment.

- **Virtual Link:** A utility for using the scanning function of the MFP connected to this product. When "Virtual Link" is installed in Windows XP (SP2 or later), a message to change Windows Firewall settings will be displayed. Click Yes. (Refer to the manual on how to use the Virtual Link.)

(D) Die **IB-110 Library CD-ROM** enthält die beiden folgenden Dienstprogramme, die nach Erfordernis zu installieren sind. Einzelheiten hierzu sind dem Abschnitt **Installieren der Software-Dienstprogramme** des Benutzerhandbuchs des IB-110 zu entnehmen.

- **KMprint:** Dieses Dienstprogramm ermöglicht ein zum Peer-to-Peer-Drucken in einer Windows-Umgebung.

- **Virtual Link:** Dieses Dienstprogramm ermöglicht die Nutzung der Scan-Funktion eines an dieses Produkt angeschlossenen FS-1016MFP/FS-1116MFP. Wenn Virtual Link unter Windows XP (SP2 oder neuere Version) installiert wird, erscheint eine Meldung zum Ändern der Windows Firewall-Einstellungen. Auf Yes klicken. (Einzelheiten zum Gebrauch von Virtual Link sind dem Benutzerhandbuch zu entnehmen.)

(F) Le disque **IB-110 Library CD-ROM** contient les 2 utilitaires suivants. Installez ces utilitaires si nécessaire. Pour plus d'informations, consultez **Installation des utilitaires** dans le mode d'emploi de l'IB-110.

- **KMprint:** Utilitaire pour l'impression par "Communication Poste à Poste" dans un environnement Windows.

- **Virtual Link:** Utilitaire pour l'utilisation de la fonction de numérisation du FS-1016MFP/FS-1116MFP connecté à cet appareil. Lorsque **Virtual Link** est installé sous Windows XP (SP2 ou plus récent), un message s'affiche pour demander de modifier les paramètres du pare-feu de Windows. Cliquez sur Yes. (Consultez le mode d'emploi concernant la façon d'utiliser Virtual Link.)

(I) L'**IB-110 Library CD-ROM** comprende le due utility seguenti. Installarle a seconda delle esigenze. Per i dettagli, consultare **Installazione delle utility del software** nel manuale d'uso dell'IB-110.

- **KMprint:** utility per la stampa attraverso la "comunicazione Peer to Peer" in ambiente Windows.

- **Virtual Link:** utility per utilizzare la funzione di scansione dell'FS-1016MFP/FS-1116MFP collegata a questo prodotto. Quando "Virtual Link" viene installato su Windows XP (SP2 o versione successiva), viene visualizzato un messaggio per cambiare le impostazioni del Windows Firewall. Fare clic su Yes. (Consultare il manuale per informazioni sull'utilizzo di Virtual Link.)

Step 4 Installing the printer driver

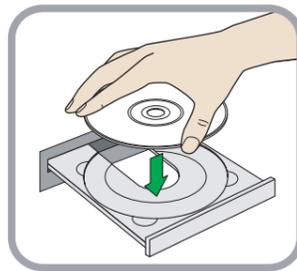
Schritt 4 Installieren des Druckertreibers

Étape 4 Installation du pilote d'imprimante

Fase 4 Installazione del driver della stampante

1.

(E) Insert the "Software Library CD-ROM" bundled with your printer in your computer's CD-ROM drive.
•After a while, the menu screen appears. Click **Quit** to close the menu screen.

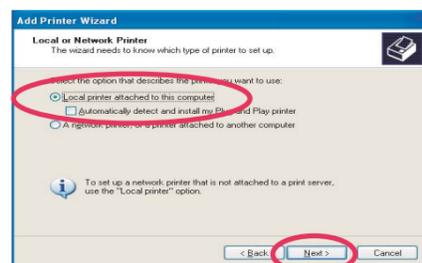


(D) Legen Sie die CD-ROM "Software Library" im Lieferumfang des Druckers in das CD-ROM-Laufwerk des PC ein.
•Nach einigen Sekunden erscheint die Menüanzeige. Klicken Sie auf **Beenden**, um das Menüfenster zu schließen.

(F) Insérez le "Software Library CD-ROM" fourni avec votre imprimante dans le lecteur de CD-ROM de votre ordinateur.
•Après un moment, l'écran de menu apparaît. Cliquez sur **Quitter** pour fermer l'écran de menu.

(I) Inserire nell'unità CD-ROM del computer il "Software Library CD-ROM" in dotazione con la stampante.
•Dopo qualche istante, viene visualizzata la schermata del menu. Fare clic su **Esci** per chiudere la schermata del menu.

4.



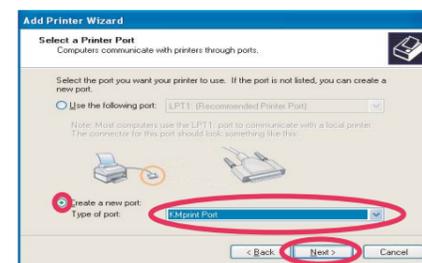
(E) Choose **Local printer attached to this computer**, and click **Next**.

(D) Markieren Sie das Optionsfeld **Lokaler Drucker, der an den Computer angeschlossen ist**, und klicken Sie dann auf **Weiter**.

(F) Choisissez **Une imprimante locale connectée à cet ordinateur** et cliquez sur **Suivant**.

(I) Scegliere **Stampante locale collegata al computer** e fare clic su **Avanti**.

5.



(E) Choose **Create a new port**. In **Type of port**, select **KMprint Port** from the drop down list. Click **Next**.

(D) Markieren Sie das Optionsfeld **Einen neuen Anschluss erstellen**. Wählen Sie **KMprint Port** aus dem Drop-Down-Menü neben **Anschlusstyp** aus, und klicken Sie dann auf **Weiter**.

(F) Choisissez **Créer un nouveau port**. Dans **Type de port**, sélectionnez **KMprint Port** dans la liste déroulante. Cliquez sur **Suivant**.

(I) Scegliere **Crea una nuova porta**. In **Tipo di porta**, selezionare **KMprint Port** dal menu a discesa e fare clic su **Avanti**.

6.



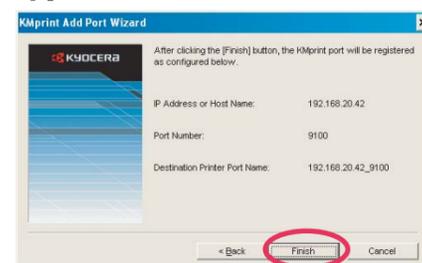
(E) Enter the IP address and click **Next**.

(D) Geben Sie die IP-Adresse ein, und klicken Sie dann auf **Weiter**.

(F) Saisissez la bonne Adresse IP et cliquez sur **Suivant**.

(I) Immettere l'indirizzo IP e fare clic su **Avanti**.

7.



(E) Confirm the settings and click **Finish**.

(D) Überprüfen Sie die vorgenommenen Einstellungen, und klicken Sie dann auf **Ende**.

(F) Vérifiez les paramètres et cliquez sur **Terminer**.

(I) Verificare le impostazioni e fare clic su **Fine**.

8.



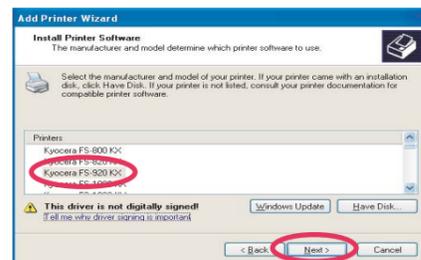
(E) Click **Have Disk** and then **Browse**. After the file selection dialog is displayed, navigate to **My Computer > CD-ROM Drive > Drivers > KXDriver > Win2k_XP** and click **OK**. Select the printer and click **Next**.

(D) Klicken Sie zunächst auf **Datenträger** und dann auf **Durchsuchen**. Wenn das Dialogfeld für Dateiauswahl erscheint, wählen Sie **Arbeitsplatz > CD-ROM-Laufwerk > Treiber > KXDriver > Win2k_XP** aus, und klicken Sie dann auf **OK**. Wählen Sie den Drucker aus, und klicken Sie dann auf **Weiter**.

(F) Cliquez sur **Disque fourni** puis sur **Parcourir**. Lorsque le dialogue de sélection de fichier s'affiche, accédez à **Poste de travail > Lecteur de CD-ROM > Pilotes > KXDriver > Win2k_XP** et cliquez sur **OK**. Sélectionnez l'imprimante et cliquez sur **Suivant**.

(I) Fare clic su **Disco driver** e quindi su **Sfogliare**. Quando viene visualizzata la finestra di dialogo per la selezione dei file, navigare fino a **Risorse del computer > Unità CD-ROM > Drivers > KXDriver > Win2k_XP** e fare clic su **OK**. Selezionare la stampante e fare clic su **Avanti**.

9.



(E) Select the printer in the list of printer drivers and click **Next**.

(D) Wählen Sie den Drucker aus der Liste der Druckertreiber aus, und klicken Sie dann auf **Weiter**.

(F) Sélectionnez l'imprimante dans la liste des pilotes d'imprimante et cliquez sur **Suivant**.

(I) Selezionare la stampante nell'elenco dei driver delle stampanti e fare clic su **Avanti**.

10.



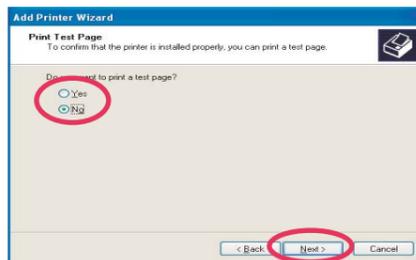
(E) Confirm the printer name and click **Next**.

(D) Überprüfen Sie den Druckernamen, und klicken Sie dann auf **Weiter**.

(F) Vérifiez le nom de l'imprimante et cliquez sur **Suivant**.

(I) Verificare il nome della stampante e fare clic su **Avanti**.

11.



(E) Confirm the printer name and click **Next**.
(D) Wenn eine Testseite gedruckt werden soll, markieren Sie das Optionsfeld **Ja**, und klicken Sie dann auf **Weiter**.

(F) Choisissez **Oui** si vous désirez imprimer une page de test et cliquez sur **Suivant**.

(I) Scegliere **Si** se si desidera stampare una pagina di prova e fare clic su **Avanti**.

12.



(E) Confirm the settings and click **Finish**. Printer driver installation is now complete.

(D) Überprüfen Sie die vorgenommenen Einstellungen, und klicken Sie dann auf **Fertig stellen**. Damit ist die Installation des Druckertreibers abgeschlossen.

(F) Vérifiez les paramètres et cliquez sur **Terminer**. L'installation du pilote d'imprimante est alors terminée.

(I) Verificare le impostazioni e fare clic su **Fine**. L'installazione del driver della stampante è stata completata.

3.



(E) Click **Next**.

(D) Klicken Sie auf **Weiter**.

(F) Cliquez sur **Suivant**.

(I) Fare clic su **Avanti**.

IB-110

Setup Guide

Guía de configuración Manual de instalação Installatiehandleiding



WA02440XX

(E) Thank you for purchasing the IB-110 Print Server (hereinafter "IB-110"). Follow the instructions in this setup guide to configure Windows environments for use with the IB-110. Simply follow the steps 1 to 4. For instructions on configuring other environments, refer to the online manual on the "IB-110 Library" CD.

- Using DC-DC cable other than the one supplied may cause problem.
- If the IB-110 is going to be installed horizontally, the rubber feet provided with it must be adhered to the prescribed positions on the unit's bottom panel without fail.

(S) Gracias por comprar el servidor de impresión IB-110 (de aquí en adelante, "IB-110"). Siga las instrucciones de esta guía de configuración para configurar los entornos Windows para su uso con el IB-110. Simplemente siga los pasos 1 a 4. Para instrucciones sobre la configuración en otros entornos, consulte el manual en línea del CD "IB-110 Library".

- El uso de un cable de CC-CC distinto del suministrado puede ocasionar daños.
- Si IB-110 va a ser instalado horizontalmente, las patas de goma suministradas con el deberan adherirse sin falta en las posiciones recomendadas del panel inferior de la unidad.

(P) Obrigado por ter adquirido o servidor de impressão IB-110 (daqui em diante "IB-110").

Siga as instruções deste manual de instalação para configurar ambientes Windows para utilização com o IB-110. Efectue os procedimentos de 1 a 4. Para mais informações sobre como configurar outros ambientes, consulte o manual on-line de CD "IB-110 Library".

- A utilização de um cabo CC-CC diferente do fornecido pode resultar em danos.
- Se tentarem instalar o IB-110 horizontalmente, é absolutamente necessário montar os pés de borracha fornecidos nas posições indicadas no painel da parte inferior da unidade.

(N) Hartelijk dank dat u hebt gekozen voor de IB-110 printserver (hierna te noemen "IB-110"). Volg de instructies in deze installatiehandleiding om Windows-omgevingen te configureren voor gebruik met de IB-110. Volg stap 1 tot en met 4. Raadpleeg voor instructies voor de configuratie van andere omgevingen de on line handleiding op de "IB-110 Library CD".

- Het gebruik van een andere dan de bijgeleverde DC-DC-kabel kan schade veroorzaken.
- Als de IB-110 horizontaal wordt opgesteld, is het noodzakelijk de bijgeleverde rubberen voetjes te bevestigen op de voorgeschreven plaatsen op de onderkant van het apparaat.

- Supported Operating Systems / • Sistemas operativos compatibles /
- Sistemas operativos suportados / • Ondersteunde besturingssystemen

Windows 98/Me, Windows 2000/XP
Netware 3.x, 4.x, 5.x, 6.x / MacOS 8.x, 9.x, 10.x / UNIX

Step 1 Connect the IB-110 and your printer to the network environment

Paso 1 Conectar el IB-110 y su impresora al entorno de red

Passo 1 Ligar o IB-110 e a impressora ao ambiente de rede

Stap 1 Sluit de IB-110 en de printer op de netwerkomgeving aan

(E) • If you connect the IB-110 to another network later, restore the default settings before doing so. See the User's Manual for instructions on restoring the default settings. Before connecting the IB-110, prepare the Ethernet hub, network cable, and USB cable.

1. Turn off the printer and unplug the AC power cable from the printer.
2. Use the network cable to connect the IB-110 to the Ethernet hub [1].
3. Use the USB cable to connect the IB-110 to the printer [2].
4. Use the DC-DC cable provided to connect the IB-110 with the printer [3]. If a DC-DC cable cannot be used with the printer, the AC adapter (option) used exclusively with the IB-110 will be required in addition.
5. Turn on the printer [4]. Confirm that the IB-110 Link LED indicator (green) lights up.

(S) • Si posteriormente conecta el IB-110 a otra red, antes de hacerlo debe restaurar las configuraciones predeterminadas. Consulte en el Manual del usuario las instrucciones sobre restauración de las configuraciones predeterminadas.

Antes de conectar el IB-110, prepare el concentrador Ethernet, el cable de red y el cable USB.

1. Apague la impresora y desconecte el cable de alimentación de CA de la impresora.
2. Utilice el cable de red para conectar el IB-110 al concentrador Ethernet [1].
3. Utilice el cable USB para conectar el IB-110 a la impresora [2].
4. Utilice el cable de CC-CC suministrado para conectar el IB-110 a la impresora [3]. Si no se puede utilizar un cable de CC-CC con la impresora, se necesitará además el adaptador de CA (opcional) utilizado exclusivamente con el IB-110.
5. Encienda la impresora [4]. Confirme que el indicador Link LED del IB-110 (verde) se enciende.

(P) • Se ligar o IB-110 a outra rede posteriormente, restaure as predefinições antes de o fazer.

Para mais informações sobre como restaurar as predefinições, consulte o manual do utilizador.

Antes de ligar o IB-110, prepare o hub Ethernet, o cabo de rede e o cabo USB.

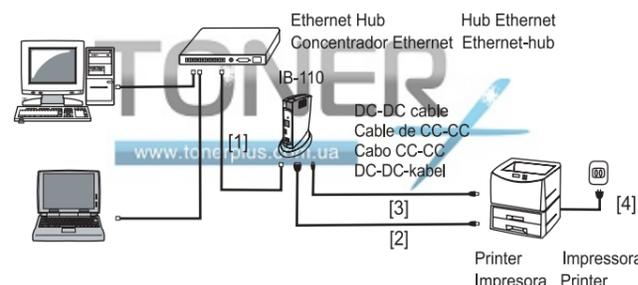
1. Desligue a impressora e retire o cabo de alimentação CA da impressora.
2. Utilize o cabo de rede para ligar o IB-110 ao hub Ethernet [1].
3. Utilize o cabo USB para ligar o IB-110 à impressora [2].
4. Utilize o cabo CC-CC fornecido para ligar o IB-110 à impressora [3]. Se não puder utilizar um cabo CC-CC com a impressora, será, além disso, necessário o adaptador CA (opcional) utilizado exclusivamente com o IB-110.
5. Ligue a impressora [4]. Confirme se o indicador luminoso Link (verde) do IB-110 se acende.

(N) • Wanneer u de IB-110 later op een ander netwerk aansluit, moet u van tevoren de standaardinstellingen herstellen.

Zie de gebruikershandleiding voor instructies over het herstellen van de standaardinstellingen.

Sluit voordat u de IB-110 aansluit de Ethernet-hub, de netwerkkabel en de USB-kabel aan.

1. Schakel de printer uit en maak het netsnoer los van de printer.
2. Sluit met de netwerkkabel de IB-110 op de Ethernet-hub aan [1].
3. Sluit met de USB-kabel de IB-110 op de printer aan [2].
4. Gebruik de bijgeleverde DC-DC-kabel om de IB-110 aan te sluiten op de printer [3]. Als een DC-DC-kabel niet kan worden gebruikt met de printer, is bovendien de netadapter (optie) vereist die alleen voor de IB-110 wordt gebruikt.
5. Schakel de printer in [4]. Controleer of het verbindingsindicatielampje van de IB-110 (groen) gaat branden.



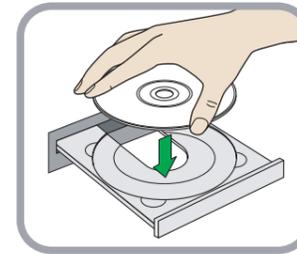
Step 2 Configure the IB-110's IP address

Paso 2 Configurar la dirección IP del IB-110

Passo 2 Configurar o endereço IP do IB-110

Stap 2 Configureer het IP-adres van de IB-110

1.



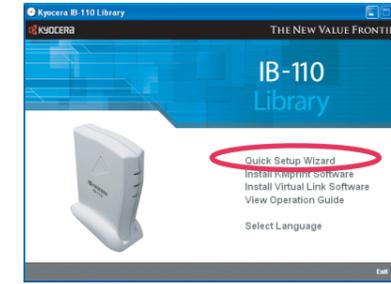
(E) Insert the "IB-110 Library CD" in your computer's CD-ROM drive.

(S) Inserte el "IB-110 Library CD" en la unidad de CD de su PC.

(P) Introduzir "IB-110 Library CD" na unidade de CD-ROM do computador.

(N) Plaats de "IB-110 Library CD" in het CD-ROM-station van uw computer.

2.



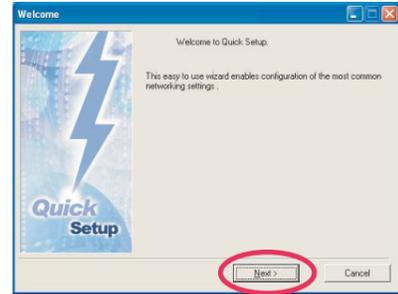
(E) Click Quick Setup Wizard.

(S) Pulse Pulse Asistente de instalación rápida.

(P) Clique em Assistente de configuração rápida.

(N) Klik op Quick Setup Wizard.

3.



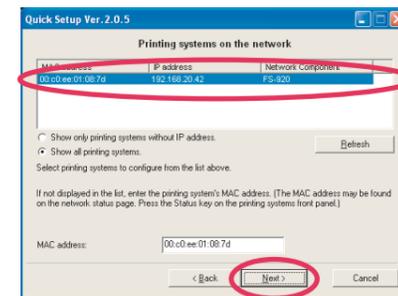
(E) Click Next.

(S) Pulse Siguiente.

(P) Clique em Avançar.

(N) Klik op Volgende.

4.



(E) In the print server list, select the IB-110. Click Next.

(S) En la lista de servidores de impresión, seleccione el IB-110. Pulse Siguiente.

(P) Selecione o IB-110 na lista de servidores de impressão. Clique em Avançar.

(N) Selecteer in de lijst met printerversers de IB-110. Klik op Volgende.

(E) If the IB-110 is not listed:

- Make sure the computer's network environment (IP address) is correctly configured.
- Temporarily disable any security software and the standard firewall built into the operating system (for Windows XP), if applicable.

(S) Si el IB-110 no aparece en la lista:

- Asegúrese de que el entorno de red del PC (dirección IP) está correctamente configurado.
- Desactive temporalmente cualquier software de seguridad y el cortafuegos del sistema operativo (en Windows XP), si es aplicable.

(P) Se o IB-110 não estiver listado:

- Certifique-se de que o ambiente de rede do computador (endereço IP) está configurado correctamente.
- Desactive temporariamente qualquer software de segurança e a firewall standard integrada no sistema operativo (para Windows XP), se aplicável.

(N) Wanneer de IB-110 niet in de lijst voorkomt:

- Controleer of de netwerkomgeving van de computer (het IP-adres) op de juiste manier is geconfigureerd.
- Schakel beveiligingssoftware en de standaardfirewall die in het besturingssysteem is ingebouwd (voor Windows XP) voorlopig uit, indien van toepassing.

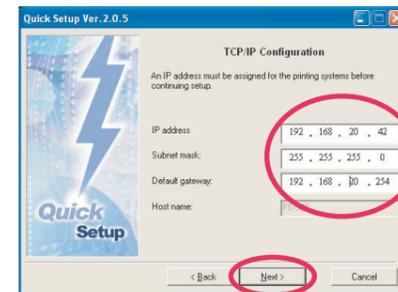
(E) In Step 2, 4, IB-110 is replaced by the printer name when the IB-110 is attached to the printer. If this is the case, select the printer name in the print server list.

(S) En el paso 2, 4, IB-110 se sustituye por el nombre de la impresora cuando IB-110 está conectado a la impresora. Si este fuera el caso, seleccione el nombre de la impresora de la lista de servidores de impresora.

(P) No Passo 2, 4, IB-110 é substituído pelo nome da impressora quando IB-110 estiver ligado à impressora. Se for este o caso, selecione o nome da impressora na lista de servidores de impressão.

(N) In Stap 2, 4, IB-110 is verplaatst met de printer naam wanneer de IB-110 is verbonden aan de printer. Als dit het geval is, selecteer u de printer naam uit de printer server lijst.

5.



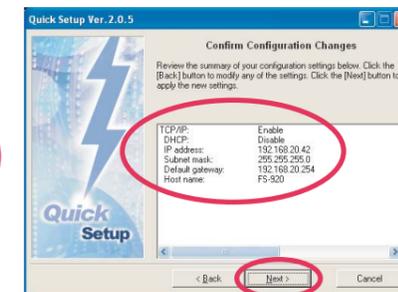
(E) Enter the IP address, Subnet mask, and Default gateway. Click Next.

(S) Introduzca la dirección IP, máscara de subred y Gateway por omisión. Pulse Siguiente.

(P) Introduza o Endereço IP, a Máscara de sub-rede e a Gateway padrão. Clique em Avançar.

(N) Voer het IP-adres, het Subnetmasker en de Standaardgateway in. Klik op Volgende.

6.



(E) Confirm the settings and click Next.

(S) Confirme las configuraciones y pulse Siguiente.

(P) Confirme as configurações e clique em Avançar.

(N) Bevestig de instellingen en klik op Volgende.

7.

(E) When the final installation screen of the Quick Setup Wizard is displayed, click Finish.

(S) Cuando aparezca la pantalla de instalación final de Asistente de instalación rápida.

(P) Quando aparecer o ecrã de instalação final do Assistente de configuração rápida, clique em Concluir.

(N) Wanneer het laatste installatiescherm van Quick Setup Wizard wordt weergegeven, klikt u op Voltoeien.

Step 3 Installing the Software Utilities
Paso 3 Instalación de las herramientas de software
Passo 3 Instalando os utilitários de software
Step 3 De softwarehulpprogramma's installeren

(E) **IB-110 Library CD-ROM** includes the following 2 utilities. Install these utilities as needed. For details, refer to **Installing the Software Utilities** in the User's Manual.

- **KM print:** A utility for printing via "Peer to Peer Communication" in a Windows environment.
- **Virtual Link:** A utility for using the scanning function of the MFP connected to this product. When "Virtual Link" is installed in Windows XP (SP2 or later), a message to change Windows Firewall settings will be displayed. Click Yes. (Refer to the manual on how to use the Virtual Link.)

(S) El **CD-ROM de Biblioteca** de IB-110 incluye las dos utilidades siguientes. Instale estas utilidades si es necesario. Para más detalles, consulte **Installing the Software Utilities** en el manual del usuario de IB-110.

- **KM print:** Una utilidad para imprimir mediante "comunicación entre pares" en un entorno Windows.
- **Virtual Link:** Una utilidad para utilizar la función de escaneo de la FS-1016MFP/FS-1116MFP conectada a este producto. Cuando "Virtual Link" está instalado en Windows XP (SP2 o posterior), aparecerá un mensaje para cambiar las configuraciones del cortafuegos de Windows. Haga clic en Yes. (Consulte en el manual cómo utilizar Virtual Link.)

(P) O **CD-ROM da biblioteca de IB-110** inclui os dois utilitários seguintes. Instale estes utilitários conforme necessário. Para mais informações, consulte **Installing the Software Utilities** no Manual do utilizador de IB-110.

- **KM print:** Um utilitário para imprimir através da "Comunicação par-a-par" num ambiente Windows.
- **Virtual Link:** Um utilitário para utilizar a função de digitalização do FS-1016MFP/FS-1116MFP ligado a este produto. Quando instalar o "Virtual Link" no Windows XP (SP2 ou posterior), aparece uma mensagem para alterar as definições da Windows Firewall. Clique em Yes. (Consulte o manual para saber como utilizar o Virtual Link.)

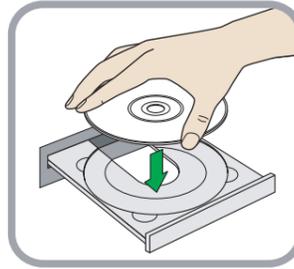
(N) De **IB-110 bibliotheek-CD-ROM** bevat de onderstaande 2 hulpprogramma's. Installeer deze programma's indien nodig. Raadpleeg voor meer informatie **Installing the Software Utilities** in de gebruiksaanwijzing van de IB-110.

- **KM print:** een hulpprogramma om af te drukken via "peer-to-peer-communicatie" in een Windows-omgeving.
- **Virtual Link:** een hulpprogramma om de scanfunctie te gebruiken van de FS-1016MFP/FS-1116MFP die op dit product is aangesloten. Wanneer "Virtual Link" in Windows XP (SP2 of later) wordt geïnstalleerd, verschijnt er een bericht dat de instellingen van Windows Firewall moeten worden gewijzigd. Klik op Yes. (Zie de handleiding voor het gebruik van Virtual Link.)

Step 4 Installing the printer driver
Paso 4 Instalar el controlador de la impresora
Passo 4 Instalar o controlador de impressora
Step 4 Het printerstuurprogramma installeren

1.

(E) Insert the "Software Library CD-ROM" bundled with your printer in your computer's CD-ROM drive.
 •After a while, the menu screen appears. Click **Quit** to close the menu screen.

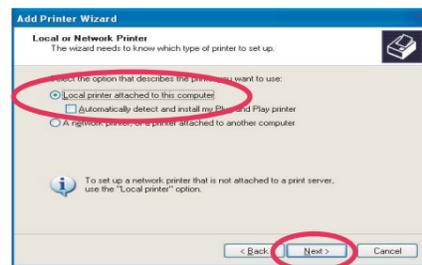


(S) Inserte en la unidad de CD de su PC el CD-ROM "Software Library" incluido con su impresora.
 •Poco después, aparecerá la pantalla de menú. Pulse **Salir** para cerrar la pantalla de menú.

(P) Introduza "Software Library CD-ROM" fornecido com a impressora na unidade de CD-ROM do computador.
 •O ecrã do menu aparece decorridos alguns momentos. Clique em **Sair** para fechar o ecrã do menu.

(N) Plaats de "Software Library CD-ROM" die bij uw printer wordt geleverd in het CD-ROM-station van de computer.
 •Na een tijdje verschijnt het menuscherm. Klik op **Afsluiten** om het menuscherm te sluiten.

4.



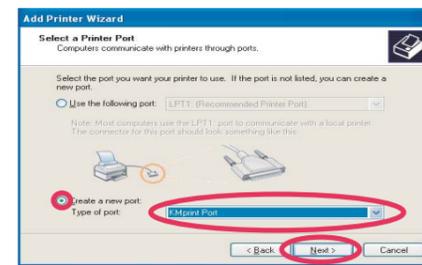
(E) Choose **Local printer attached to this computer**, and click **Next**.

(S) Seleccione **Impresora local conectada a este equipo**, y pulse **Siguiente**.

(P) Seleccione **Impressora local conectada a este computador** e clique em **Avançar**.

(N) Kies **Lokale printer die met deze computer is verbonden** en klik op **Volgende**.

5.



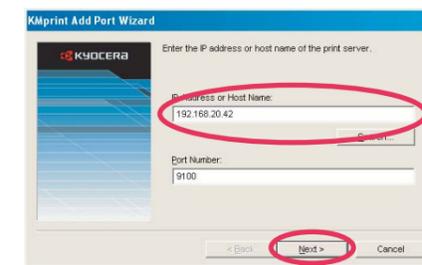
(E) Choose **Create a new port**. In **Type of port**, select **KMprint Port** from the drop down list. Click **Next**.

(S) Seleccione **Crear nuevo puerto**. En **Tipo de puerto**, seleccione **KMprint Port** en el menú desplegable. Pulse **Siguiente**.

(P) Seleccione **Criar uma nova porta**. Em **Tipo de porta**, seleccione **Kmprint Port** na lista pendente. Clique em **Avançar**.

(N) Kies **Een nieuwe poort maken**. Selecteer bij **Type poort** in het vervolgmenu de optie **KMprint Port**. Klik op **Volgende**.

6.



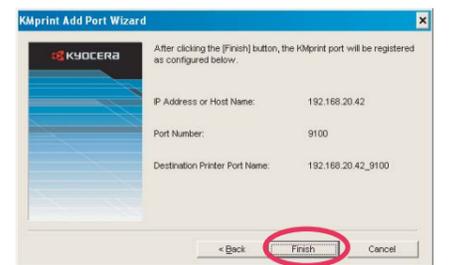
(E) Enter the IP address and click **Next**.

(S) Introduzca la dirección IP y pulse **Siguiente**.

(P) Introduza o endereço IP e clique em **Avançar**.

(N) Voer het IP-adres in en klik op **Volgende**.

7.



(E) Confirm the settings and click **Finish**.

(S) Confirme las configuraciones y pulse **Finalizar**.

(P) Confirme as configurações e clique em **Concluir**.

(N) Bevestig de instellingen en klik op **Beëindigen**.

8.



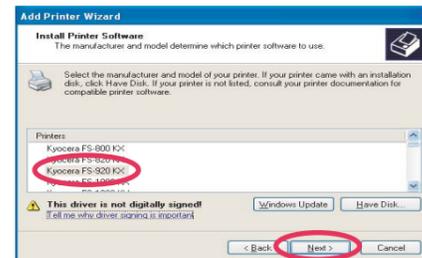
(E) Click **Have Disk** and then **Browse**. After the file selection dialog is displayed, navigate to **My Computer > CD-ROM Drive > Drivers > KXDriver > Win2k_XP** and click **OK**. Select the printer and click **Next**.

(S) Pulse **Utilizar disco** y luego **Examinar**. Cuando aparezca el cuadro de diálogo de selección de archivo, vaya a **Mi PC > Unidad de CD > Controladores > KXDriver > Win2k_XP** y pulse **Aceptar**. Seleccione la impresora y pulse **Siguiente**.

(P) Clique em **Com disco** e, em seguida, em **Procurar**. Depois de aparecer a caixa de diálogo de seleção de ficheiros, vá para **O meu computador > Unidade de CD-ROM > Controladores > KXDriver > Win2k_XP** e clique em **OK**. Seleccione a impressora e clique em **Avançar**.

(N) Klik op **Disc** en vervolgens op **Bladeren**. Nadat het dialoogvenster voor selectie van een bestand is weergegeven, gaat u naar **Deze Computer > CD-ROM-station > Stuurprogramma's > KXDriver > Win2k_XP** en klikt u op **OK**. Selecteer de printer en klik op **Volgende**.

9.



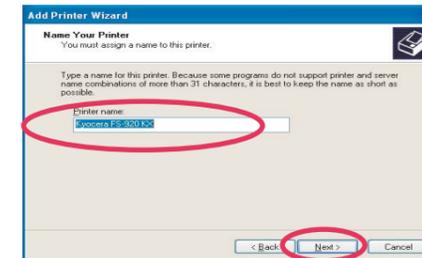
(E) Select the printer in the list of printer drivers and click **Next**.

(S) Seleccione la impresora en la lista de controladores de impresora y pulse **Siguiente**.

(P) Seleccione a impressora na lista de controladores de impressora e clique em **Avançar**.

(N) Selecteer de printer in de lijst met printerstuurprogramma's en klik op **Volgende**.

10.



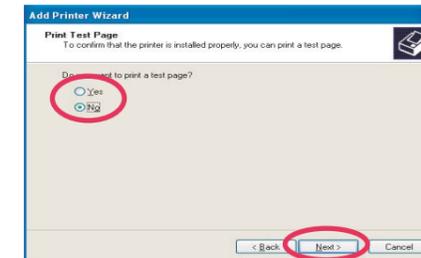
(E) Confirm the printer name and click **Next**.

(S) Confirme el nombre de la impresora y pulse **Siguiente**.

(P) Confirme o nome da impressora e clique em **Avançar**.

(N) Bevestig de naam van de printer en klik op **Volgende**.

11.



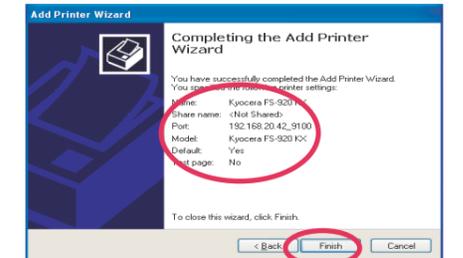
(E) Choose **Yes** if you desire to print a test page and click **Next**.

(S) Seleccione **Sí** si desea imprimir una página de prueba y pulse **Siguiente**.

(P) Seleccione **Sim** se quiser imprimir uma página de teste e clique em **Avançar**.

(N) Kies **Ja** als u een testpagina wilt afdrukken en klik op **Volgende**.

12.



(E) Confirm the settings and click **Finish**. Printer driver installation is now complete.

(S) Confirme las configuraciones y pulse **Finalizar**. La instalación del controlador de la impresora ha finalizado.

(P) Confirme as configurações e clique em **Concluir**. A instalação do controlador de impressão está concluída.

(N) Bevestig de instellingen en klik op **Voltoeien**. Het printerstuurprogramma is nu geïnstalleerd.

3.



(E) Click **Next**.

(S) Pulse **Siguiente**.

(P) Clique em **Avançar**.

(N) Klik op **Volgende**.

KYOCERA MITA EUROPE B.V.

Hoeksteen 40, 2132 MS Hoofddorp,
The Netherlands
Phone: +31.20.654.0000
Home page: <http://www.kyoceramita-europe.com>
Email: info@kyoceramita-europe.com

KYOCERA MITA NEDERLAND B.V.
Beechavenue 25, 1119RA Schiphol-Rijk
The Netherlands
Phone: +31.20.58.77.200

KYOCERA MITA (UK) LTD
8 Beacontree Plaza
Gillette Way Reading Berks RG2 0BS,
U.K.
Phone: +44.1189.311.500

KYOCERA MITA ITALIA S.p.A.
Via G. Verdi, 89 / 91, 20063 Cernusco s/N
Milano, Italy
Phone: +39.02.92179.1

S.A. KYOCERA MITA BELGIUM N.V.
Hermesstraat 8A, 1930 Zaventem,
Belgium
Phone: +32.2.720.9270

KYOCERA MITA FRANCE S.A.
Parc Les Algorithmes Saint Aubin
91194 GIF-SUR-YVETTE,
France
Phone: +33.1.6985.2600

KYOCERA MITA ESPAÑA S.A.
Edificio Kyocera, Avda de Manacor No. 2,
28290 Las Matas (Madrid),
Spain
Phone: +34.91.631.8392

KYOCERA MITA FINLAND OY
Kirvesmiehenkatu 4, 00880 Helsinki,
Finland
Phone: +358.9.4780.5200

KYOCERA MITA (SCHWEIZ)
Hohlstrasse 614, 8048 Zürich
Switzerland
Phone: +41.1.908.4949

KYOCERA MITA DEUTSCHLAND GMBH
Mollsfeld 12, 40670 Meerbusch,
Germany
Phone: +49.2159.918.0

KYOCERA MITA GMBH AUSTRIA
Eduard-Kittenberger-Gasse 95,
1230 Wien,
Austria
Phone: +43.1.86338.210

KYOCERA MITA SVENSKA AB
Vretenvägen 2, 6tr, 17 154 Solna,
Sweden
Phone: +46.8.546.55000

KYOCERA MITA NORGE
Postboks 150 Oppsal, NO 0619 Oslo
Olaf Helsetsvvei 6, NO 0694 Oslo,
Norway
Phone: +47.22.62.73.00

KYOCERA MITA DANMARK A/S
Ejby Industrivej 1, DK-2600 Glostrup,
Denmark
Phone: +45.5687.1100

KYOCERA MITA PORTUGAL LDA.
Rua do Centro Cultural, 41 (Alvalade) 1700-106 Lisbon,
Portugal
Phone: +351.21.842.9100

KYOCERA MITA SOUTH AFRICA (PTY) LTD.
527 Kyalami Boulevard,
Kyalami Business Park Midrand,
South Africa
Phone: +27.(0)11.540.2600

KYOCERA MITA AMERICA, INC.

Headquarters:
225 Sand Road,
Fairfield, New Jersey 07004-0008,
U.S.A.
Phone: (973) 808-8444

KYOCERA MITA AUSTRALIA PTY. LTD.
Level 3, 6-10 Talavera Road, North Ryde,
N.S.W. 2113 Australia
Phone: (02) 9888-9999

KYOCERA MITA NEW ZEALAND LTD.
1-3 Parkhead Place, Albany
P.O. Box 302 125 NHPC, Auckland,
New Zealand
Phone: (09) 415-4517

KYOCERA MITA (THAILAND) CORP., LTD.
9/209 Ratchada-Prachachem Road,
Bang Sue, Bangkok 10800, Thailand
Phone: (02) 586-0320

KYOCERA MITA SINGAPORE PTE LTD.
121 Genting Lane, 3rd Level,
Singapore 349572
Phone: 67418733

KYOCERA MITA HONG KONG LIMITED
11/F., Mita Centre,
552-566, Castle Peak Road,
Tsuen Wan, New Territories,
Hong Kong
Phone: 24297422

KYOCERA MITA TAIWAN Corporation.
7F-1~2, No.41, Lane 221, Gangchi Rd.
Neihu District, Taipei, Taiwan, 114. R.O.C.
Phone: (02) 87511560

KYOCERA MITA Corporation

2-28, 1-chome, Tamatsukuri, Chuo-ku
Osaka 540-8585, Japan
Phone: (06) 6764-3555
<http://www.kyoceramita.com>

KYOCERA MITA AMERICA, INC.

Headquarters:

225 Sand Road,
Fairfield, New Jersey 07004-0008
TEL : (973) 808-8444
FAX : (973) 882-6000

New York Branch:

1410 Broadway 23rd floor
New York, NY 10018
TEL : (917) 286-5400
FAX : (917) 286-5402

Northeastern Region:

225 Sand Road,
Fairfield, New Jersey 07004-0008
TEL : (973) 808-8444
FAX : (973) 882-4401

Midwestern Region:

201 Hansen Court Suite 119
Wood Dale, Illinois 60191
TEL : (630) 238-9982
FAX : (630) 238-9487

Western Region:

14101 Alton Parkway,
Irvine, California 92618-7006
TEL : (949) 457-9000
FAX : (949) 457-9119

Southeastern Region:

1500 Oakbrook Drive,
Norcross, Georgia 30093
TEL : (770) 729-9786
FAX : (770) 729-9873

Southwestern Region:

2825 West Story Road,
Irving, Texas 75038-5299
TEL : (972) 550-8987
FAX : (972) 252-9786

National Operation Center & National Training Center:

2825 West Story Road,
Irving, Texas 75038-5299
TEL : (972) 659-0055
FAX : (972) 570-5816

Latin America Division:

8240 N.W. 52nd. Terrace Dawson Building,
Suite 108 Miami, Florida 33166
TEL : (305) 421-6640
FAX : (305) 421-6666

KYOCERA MITA CANADA, LTD.

6120 Kestrel Road, Mississauga,
Ontario L5T 1S8, Canada
TEL : (905) 670-4425
FAX : (905) 670-8116

KYOCERA MITA MEXICO, S.A. DE C.V.

Av. 16 de Septiembre #407
Col. Santa Inés,
Azcapotzalco México,
D.F. 02130, México
TEL : (55) 5383-2741
FAX : (55) 5383-7804

