



FS-C5016N

SERVICE MANUAL

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Revision history

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1.0	1-June-2003		
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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 (\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 main 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

Type	Desktop
Printing system	Electrophotographic printing (tandem)
Paper type.....	Cassette: Plain paper (60 to 90 g/m ²) Recycled paper (60 to 90 g/m ²) Thick paper (90 to 105 g/m ²) MP tray: Plain paper (60 to 90 g/m ²) Recycled paper (60 to 90 g/m ²) Thick paper (90 to 200 g/m ²) Special paper: Transparencies, labels, envelopes, postcards, tracing paper
Paper sizes	A4 (210 × 297 mm) B5 (182 × 257 mm) A5 (148 × 210 mm) Letter (8½" × 11") Legal (8½" × 14") Non-standard size (148 to 216 mm × 210 to 356 mm: cassette), (70 to 216 mm × 148 to 297 mm: MP tray)
Print speeds.....	Cassette (Values within [] are for duplex printing using the duplexer DU-300.) A4: 16 pages/minutes [16 pages/minutes] B5: 17 pages/minutes [16 pages/minutes] A5: 17 pages/minutes [16 pages/minutes] Letter-R: 17 pages/minutes [16 pages/minutes] Legal: 14 pages/minutes [14 pages/minutes] MP tray (in cassette mode) A4: 16 pages/minutes [16 pages/minutes] B5: 17 pages/minutes [16 pages/minutes] A5: 17 pages/minutes [16 pages/minutes] Letter: 17 pages/minutes [16 pages/minutes] Legal: 14 pages/minutes [14 pages/minutes]
First print time	Standby mode: 16 seconds or less (A4) Sleep mode: 76 seconds or less (A4)
Warm-up time	Sleep mode: 60 seconds or less (room temperature 23 °C, 60% RH) Power on: 60 seconds or less (room temperature 23 °C, 60% RH)
Paper feed system	One universal cassette and one MP tray
Paper loading capacity.....	Cassette: 500 sheets (80 g/m ² , 0.11 μm) MP tray: 100 sheets (80 g/m ² , 0.11 μm)
Paper eject system	Face down: 250 sheets (80 g/m ² , 0.11 μm), equipped with a face-down paper full sensor Face up: 250 sheets, Optional face-up tray PT-300 must be installed (100 sheets when the duplexer DU-300 is installed)
Photoconductor.....	OPC drum (diameter 30 mm)
Charging system.....	Scorotron (positive charging)
Light source	LED
Developing system.....	Touch down development method Developer: Two-component magnetic toner Toner replenishing: Automatic from the toner container
Transfer system.....	Primary transfer: Transfer belt (negative-charged) Secondary transfer: Transfer roller (negative-charged)
Separation system	Small radius curvature separation
Fixing system.....	Heat roller system (Oil-less) Heat roller (diameter 35mm, 500 W halogen heater lamp) Pressure roller (diameter 35mm, 350 W halogen heater lamp)
Charge erasing system.....	Exposure by eraser lamp (LED)
Cleaning system	Drum: Counter blade Primary transfer belt: Fur brush
Controller hardware	CPU: Power PC750CXe (400 MHz) System ROM: 4 MB (32 Mbit × 2) Font ROM: 4 MB (32 Mbit × 1) Main RAM: 96 MB standard (on-board); expanding up to 608 MB (standard 96 MB + 256 MB × 2) at the maximum by adding optional expansion memory Optional expansion RAM (DIMM): 2 slot 100-pin DIMM (32, 64, 128 or 256 MB)

Interface	Parallel: High-speed (bi-directional), IEEE 1284 Nibble/ECP mode USB: Full-Speed USB2.0 Optional interface (KUIO-LV) × 1: Network interface card IB-20 (10 Base-TX/100 Base-TX/10 Base-2), IB-21E (10 Base-TX/100 Base-TX), wireless LAN card IB-22 must be installed.
Controller software.....	a) Emulation PCL6 (PCL5e+PCLXL) KPDL3 (PostScript 3 compatible) b) Fonts: Bitmap font: 1 Line Printer bitmap font Outline fonts: 80 PCL fonts 136 KPDL3 fonts: c) Graphic: (1) Raster graphic: 75, 100, 150, 200*, 300, 600* dpi (*200 dpi is supported when the resolution is 600 dpi.) (2) Vector graphic: Line, Box, Circle, Arc, Fill pattern etc. (3) Bar code: One-dimensional bar code: 45 types Two o-dimensional bar code: 1 type (PDF-417) d) Connectivity plug & play, Windows 95/98/ME/NT4.0/2000/XP SNMP (KM-NET viewer)
Resolution.....	600 × 600 dpi (multi 4-bit)
Dimensions	Main unit: 385 × 345 × 470 mm/15.16" × 13.58" × 18.5" (W × D × H)
Weight.....	Main unit: 22 kg/48.6 lbs (not including toner containers)
Power source	220 - 240 V AC, 50/60 Hz (European countries) 120 V AC, 60 Hz (U.S.A./Canada)
Power consumption	Maximum: 991 W (220 - 240 V model), 1037 W (120 V model) Normal operating: 483 W (220 - 240 V model), 491 W (120 V model) Ready: 202 W (220 - 240 V model), 199 W (120 V model) EcoPower: 26 W (220 - 240 V model), 22 W (120 V model)
Current.....	4.5 A (220 - 240 V model), 9.1 A (120 V model)
Noise.....	Printing: 53 dB(A) Ready: 39 dB(A)
Options	Expansion memory (32/64/128/256 MB 100-pin DIMM), memory card (CompactFlash), hard disk unit HD-4, network interface card IB-20 (10 BASE-T/100BASE-TX/10BASE-2), network interface card IB-21E (10BASE-T/100BASE-TX), wireless LAN card IB-22 (compatible to IEEE802.11b), serial interface board IB-11, (Maximum: 115 kbps), paper feeder PF-60 (500 sheets [60 to 105 g/m ²] × 1 cassette, A4, A5, B5, legal, letter, custom), duplexer DU-300, face-up output tray PT-300 (250 sheets) envelope feeder EF-60A

1-1-2 Parts names

(1) Overall

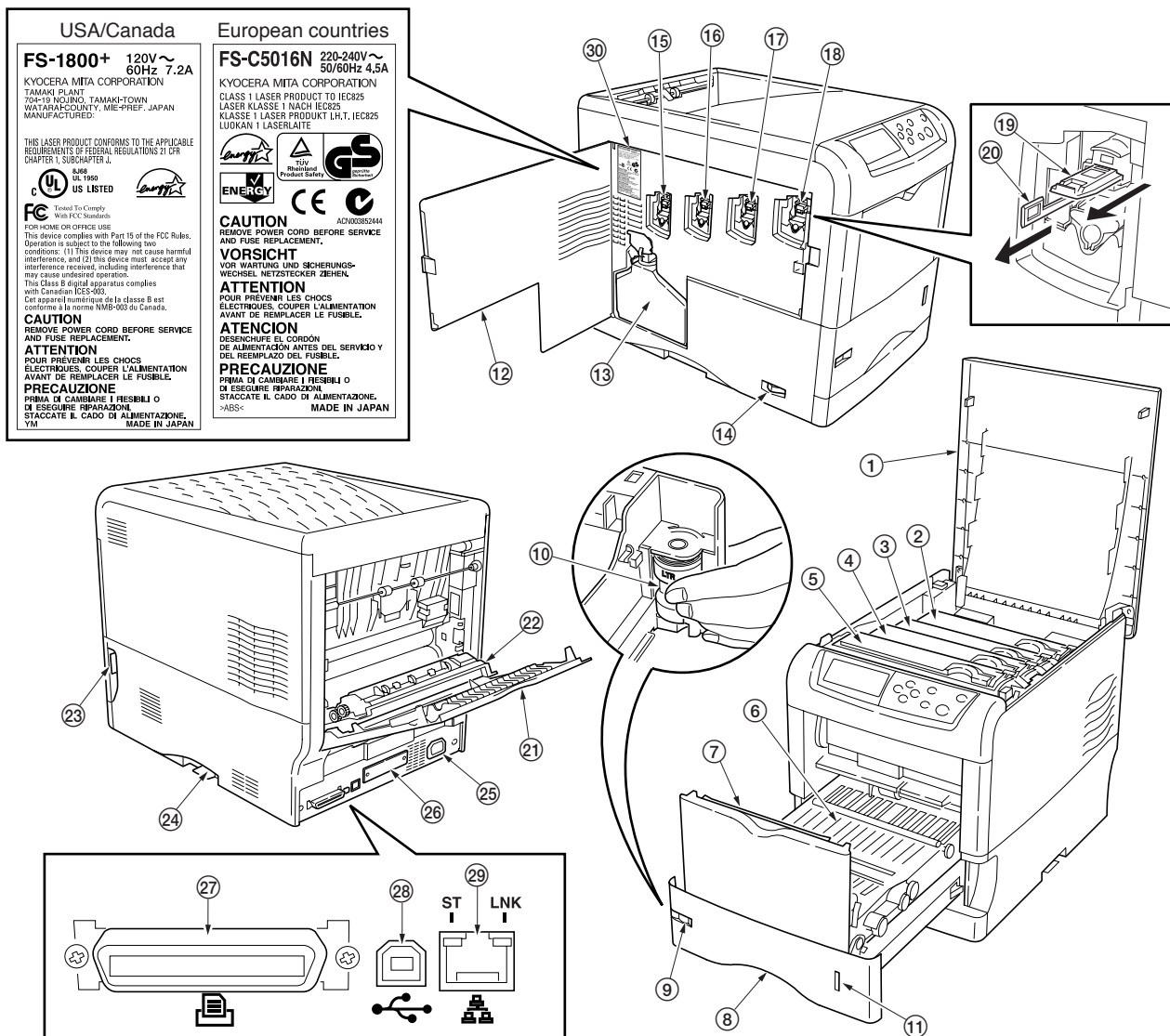


Figure 1-1-1

- | | |
|-------------------------------|-----------------------------------|
| 1. Top cover | 16. Cyan main charger unit |
| 2. Magenta toner container | 17. Yellow main charger unit |
| 3. Cyan toner container | 18. Black main charger unit |
| 4. Yellow toner container | 19. Main charger wire cleaner |
| 5. Black toner container | 20. Lens cleaner |
| 6. Paper feed unit | 21. Rear cover |
| 7. MP tray | 22. Fuser cover |
| 8. Paper cassette | 23. Paper feed unit release lever |
| 9. Paper size window | 24. Memory card slot |
| 10. Paper size dial | 25. AC inlet |
| 11. Paper gauge | 26. Optional interface slot |
| 12. Left side cover | 27. Parallel interface connector |
| 13. Waste toner box | 28. USB interface connector |
| 14. Power switch | 29. Network interface connector |
| 15. Magenta main charger unit | 30. Rating label |

(2) Operation panel

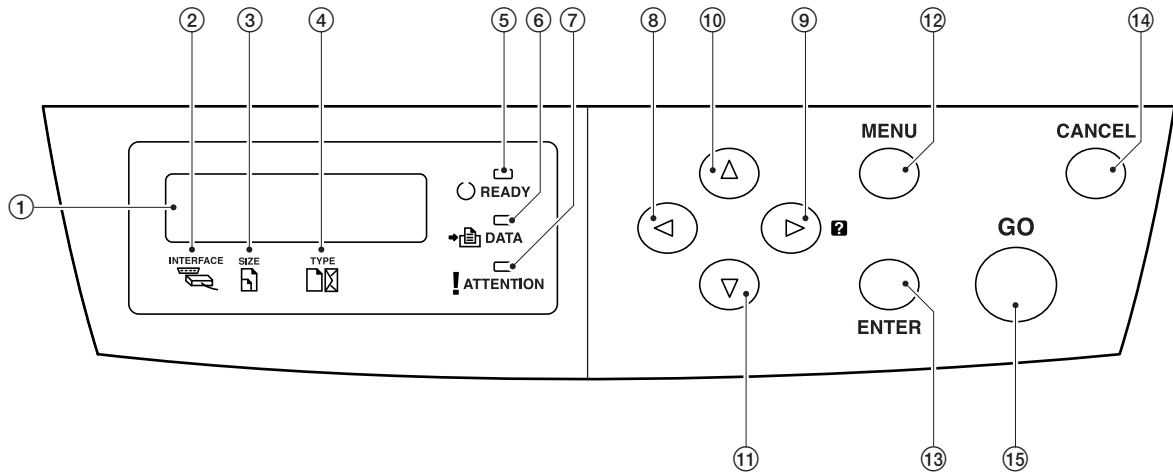


Figure 1-1-2

- | | |
|------------------------------------|------------------|
| 1. Message display | 9. ► key (Right) |
| 2. Interface indicator (INTERFACE) | 10. ▲ key (Up) |
| 3. Paper size indicator (SIZE) | 11. ▼ key (Down) |
| 4. Paper type indicator (TYPE) | 12. MENU key |
| 5. Ready indicator (READY) | 13. ENTER key |
| 6. Data indicator (DATA) | 14. CANCEL key |
| 7. Attention indicator (ATTENTION) | 15. GO key |
| 8. ◀ key (Left) | |

1-1-3 Cross section view

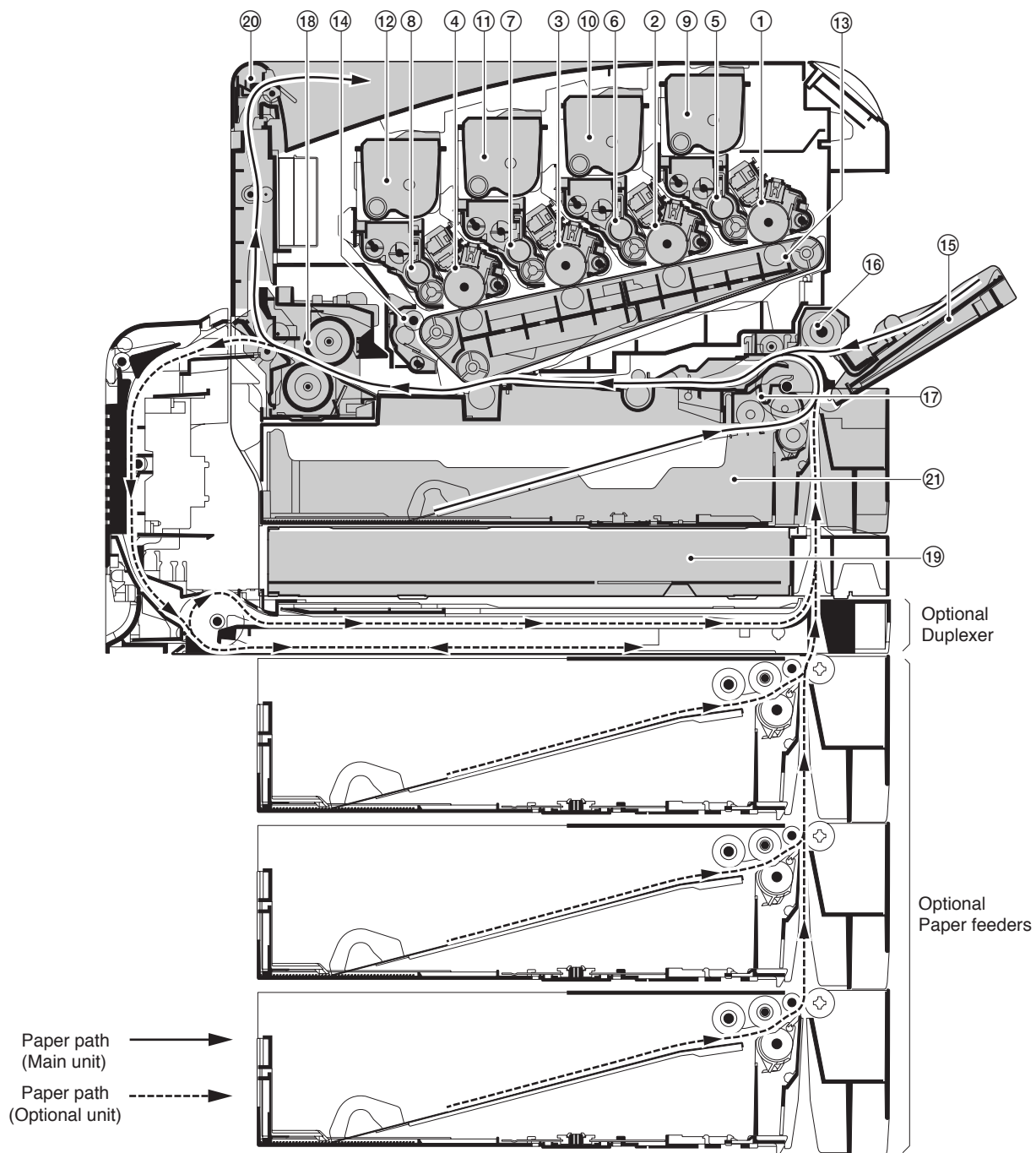


Figure 1-1-3

- | | |
|----------------------------|---|
| 1. Black drum unit | 12. Magenta toner container |
| 2. Yellow drum unit | 13. Primary transfer unit |
| 3. Cyan drum unit | 14. Primary transfer cleaning unit |
| 4. Magenta drum unit | 15. MP tray |
| 5. Black developer unit | 16. MP tray feed unit |
| 6. Yellow developer unit | 17. Feed unit |
| 7. Cyan developer unit | 18. Fuser unit |
| 8. Magenta developer unit | 19. Controller box |
| 9. Black toner container | 20. Face-down tray unit (vertical path) |
| 10. Yellow toner container | 21. Paper cassette |
| 11. Cyan toner container | |

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1-2-1 Drum unit

Note the following when handling or storing the drum unit.

- When removing the drum unit, never expose the drum surface to strong direct light.
- Avoid abrupt changes in temperature and humidity.
- Avoid exposure to any substance which is harmful to or may affect the quality of the drum.
- Do not touch the drum surface with any object. Should it be touched by hands or stained with oil, clean it.

Developer unit and toner container

Store the toner container in a cool, dark place.

Avoid direct light and high humidity.

1-2-2 Installation environment

1. Temperature: 10 - 32.5 °C/50 - 90.5 °F
2. Humidity: 20 - 80%RH
3. Power supply: 120 V AC (U.S.A./Canada), 220 - 240 V AC (European countries)
4. Power source frequency: 50 Hz \pm 2%/60 Hz \pm 2%
5. installation location

Avoid direct sunlight or bright lighting. Ensure that the photo-conductor 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 photo-conductor, 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.

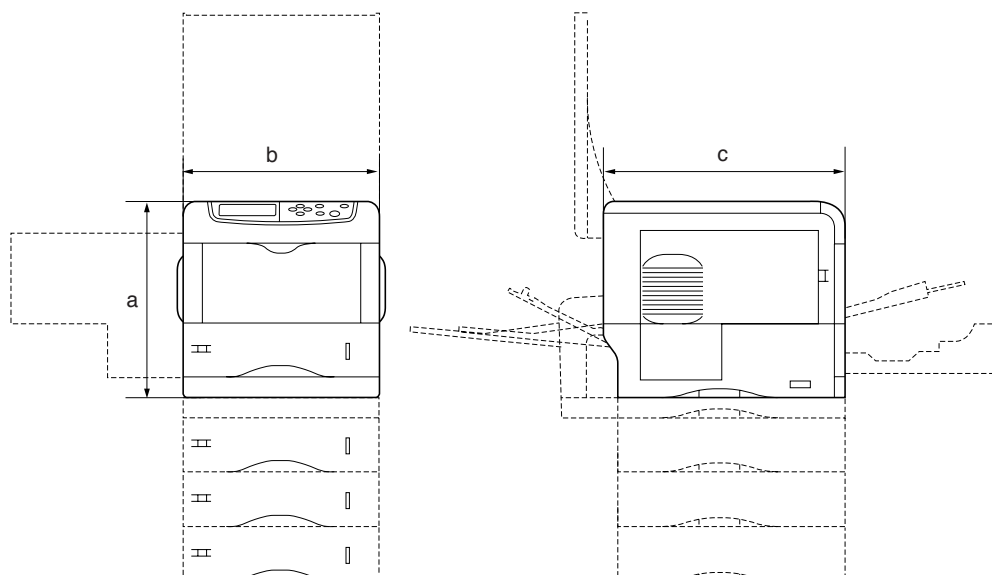
Machine front: 600 mm/26.6"

Machine rear: 250 mm/9.84"

Machine right: 250 mm/9.84"

Machine left: 400 mm/15.7"

Machine top: 750 mm/29.5"



a: 385mm/15.16"

b: 345mm13.58"

c: 470mm18.5"

Figure 1-2-1 Installation dimensions

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1-3-1 Unpacking and installation

(1) Installation procedure

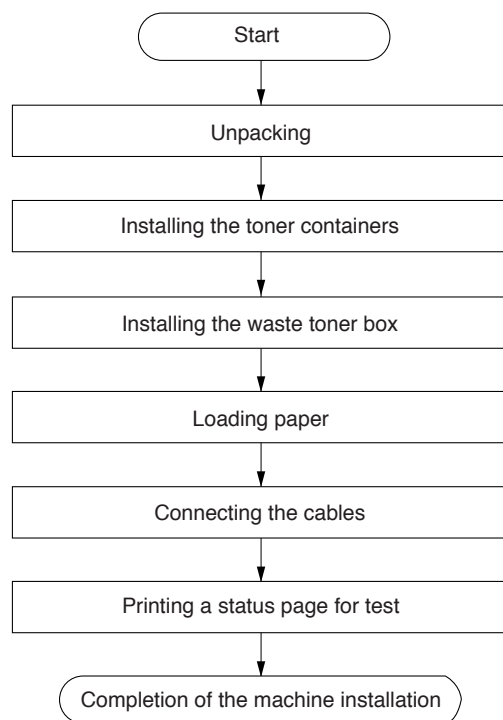


Figure 1-3-1

Unpacking.

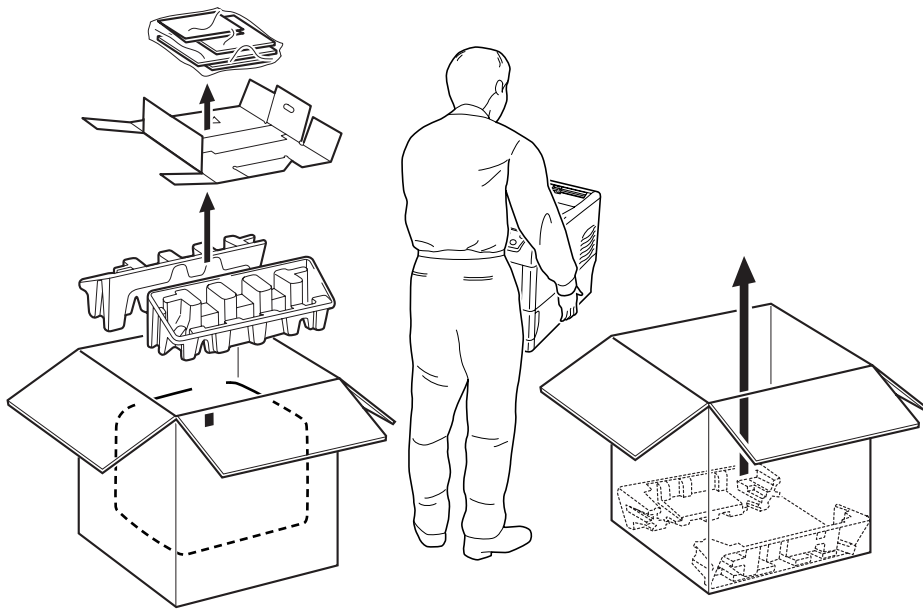


Figure 1-3-2

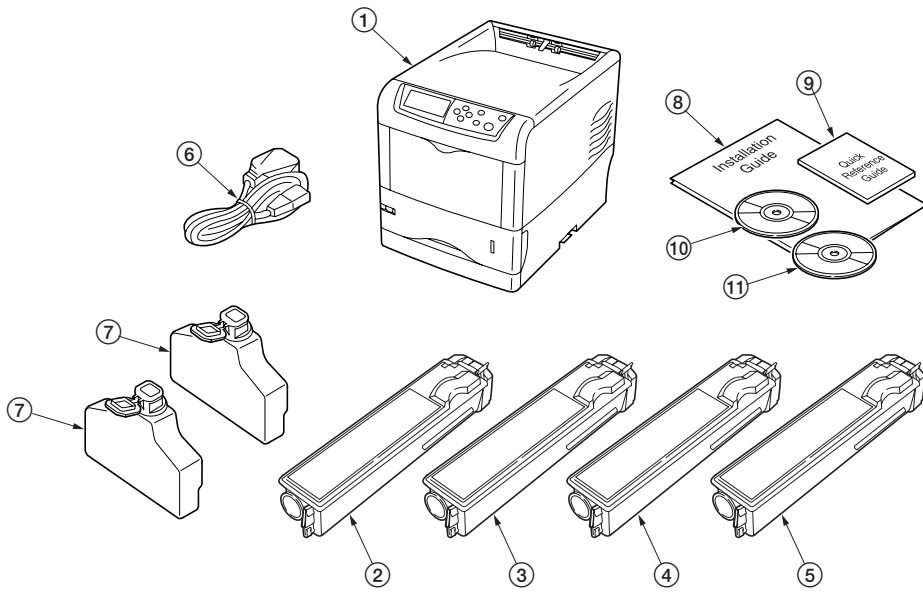


Figure 1-3-3 Unpacking

- | | |
|----------------------------|--|
| 1. Printer | 7. Waste toner box × 2 |
| 2. Black toner container | 8. Operation guide |
| 3. Yellow toner container | 9. Quick reference guide |
| 4. Cyan toner container | 10. Kyocera mita software library CD-ROM |
| 5. Magenta toner container | 11. Kyocera mita document library CD-ROM |
| 6. Power cord | |

Installing the toner containers.

1. Remove the protective seal from the black toner container.

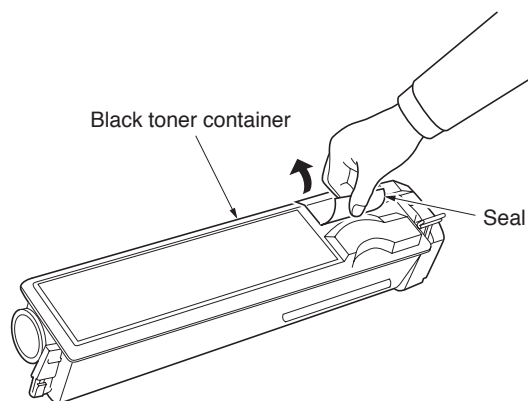


Figure 1-3-4

2. Shake the black toner container several times to loosen the toner inside.

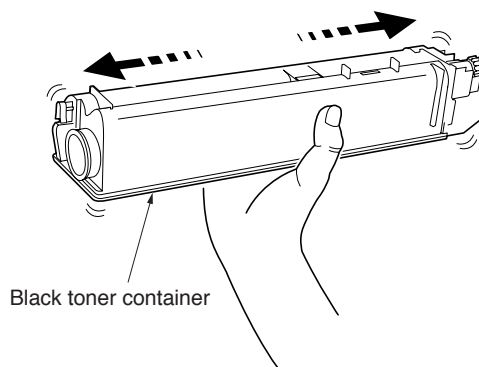


Figure 1-3-5

3. Open the top cover.
4. Install the black toner container into the printer. The black toner container must be installed in the front most developer.

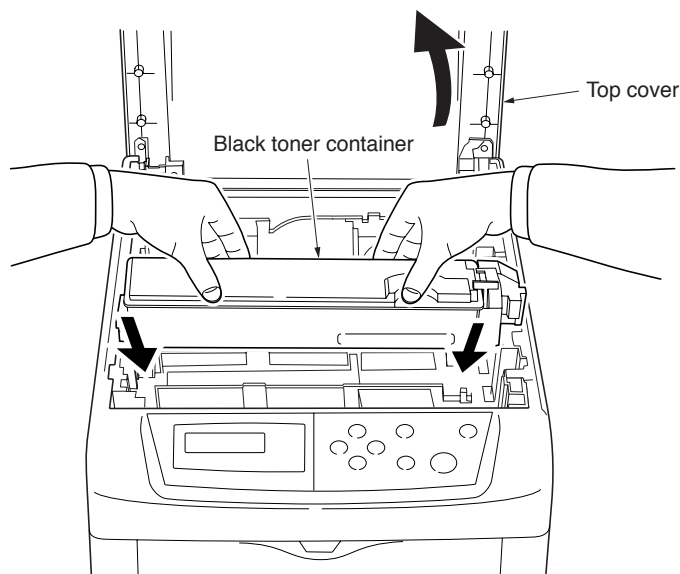


Figure 1-3-6

5. Push in the black toner container firmly until it locks in the developer.

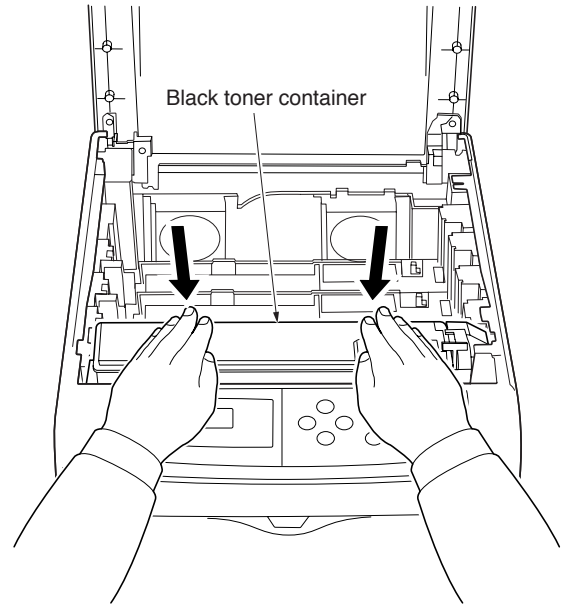


Figure 1-3-7

6. Turn the lock lever backward to the lock position.
7. Install other toner containers in the same procedure.
8. Close the top cover.

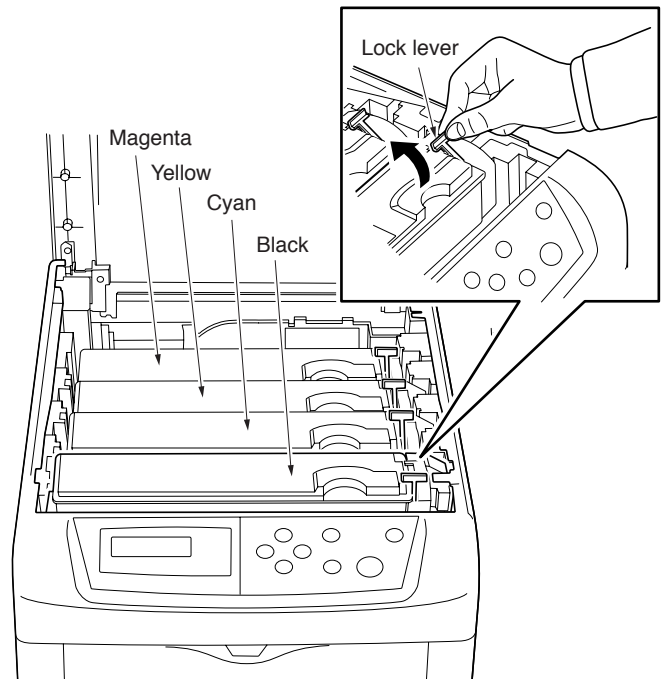


Figure 1-3-8

Installing the waste toner box.

1. Open the side cover.
2. Install the waste toner box.
3. Close the side cover.

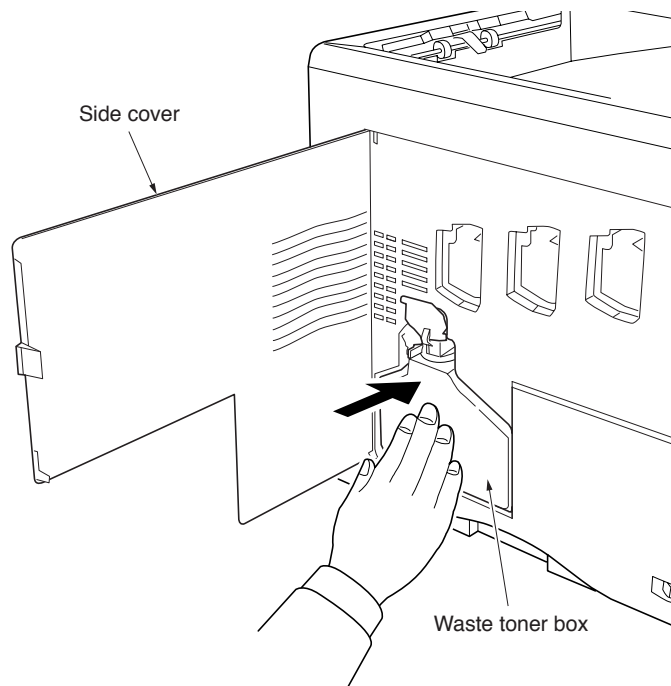


Figure 1-3-9

Loading paper.

1. Remove the cassette from the printer.
2. Adjust the paper guides and the paper stopper according to the paper size to be used.
3. Turn the dial so that the size of the loaded paper is indicated in the paper size indication window.

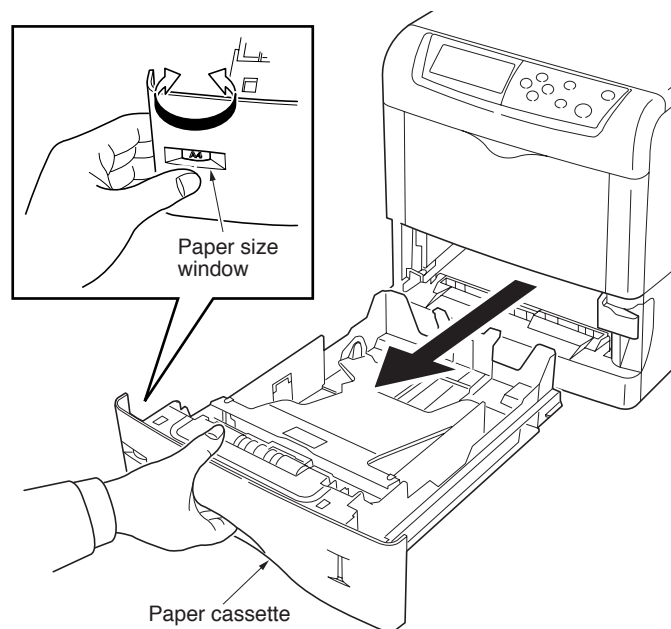


Figure 1-3-10

Connecting the cable.

1. Connect the USB, ethernet, or parallel cable between the printer and the computer.
2. Connect the power cord to the printer AC inlet.
3. Connect the power cord to the wall outlet.

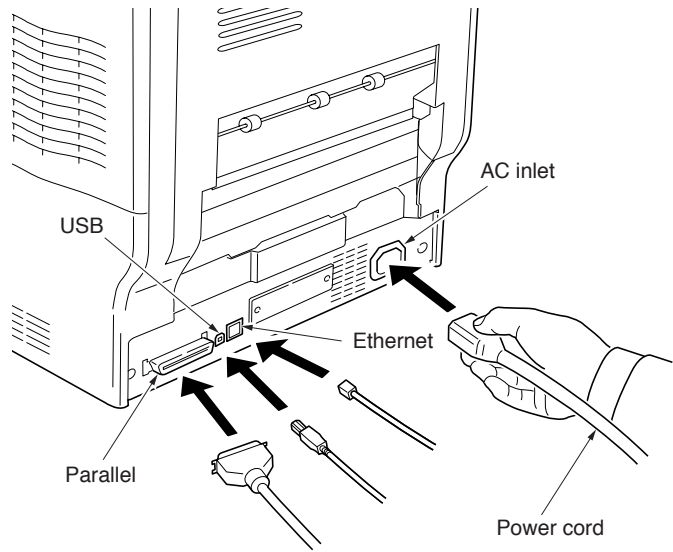


Figure 1-3-11

Printing a status page for test.

1. Turn on the printer power switch. The message will change from [Self test] to [Ready] when initialization is complete.
 - Use the following key operation to print a status page for test.
 - Press the MENU key when [Ready] is displayed.
 - Press the ▼ key to display [Print Status Page].
 - Press the ENTER key to display [Print Status Page?].
 - Press the ENTER key. Processing] will be displayed and the status page will be printed. When printing is complete, [Ready] will appear again.
2. Check to see if the status page is properly printed.

Completion of the machine installation.

1-3-2 Installing expansion memory (optional)

<Procedure>

1. Turn off printer power.
- * **Caution:** Do not insert or remove expansion memory while printer power is on. Doing so may cause damage to the printer and the expansion memory.
2. If a memory card is currently installed in the memory card slot (See the figure), remove the memory card first.
3. Remove two screws and then remove the main controller PWB.

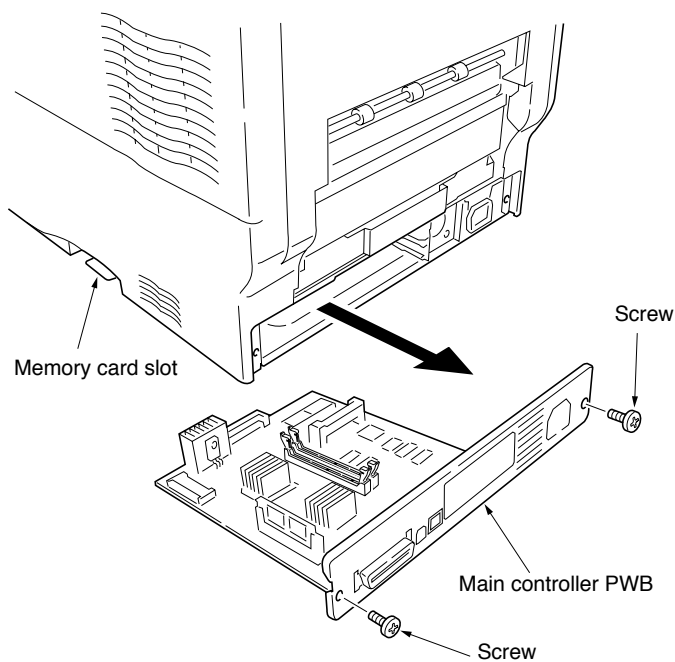


Figure 1-3-12

4. Open the stoppers of the memory socket.
5. Insert the memory so that the two notches of the memory are engaged with the projections of the memory socket.
6. Close the stoppers of the memory socket.
7. Reattach the main controller PWB in the printer.
8. Print a status page to check the memory expansion.
- * If memory expansion has been properly performed, information on the installed memory is printed with the total memory capacity has been increased. Standard memory capacity 96 MB.)

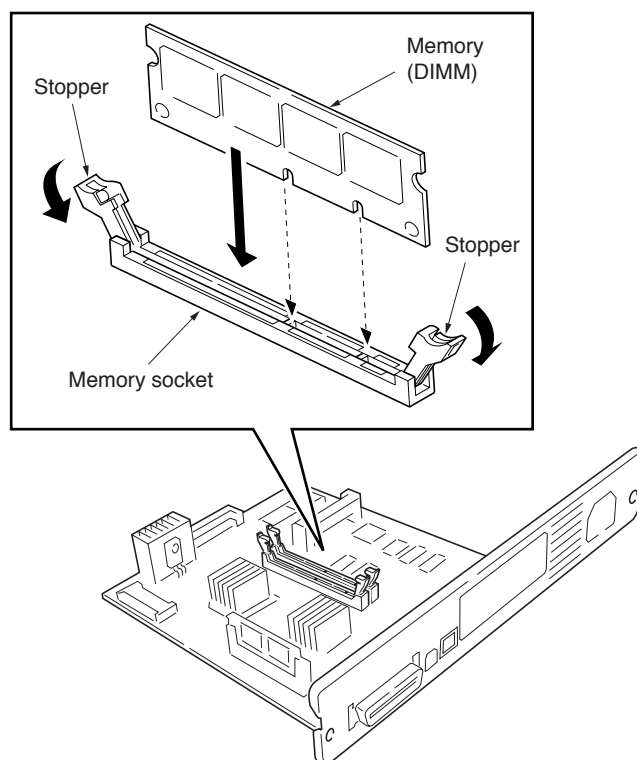


Figure 1-3-13

1-3-3 Installing a memory card (optional)

<Procedure>

1. Turn off printer power.
 - * **Caution:** Do not insert or remove memory card while printer power is on. Doing so may cause damage to the printer and the memory card.
2. Insert the memory card into the memory card slot.
3. Format the memory card before use. (Refer to the operation guide.)

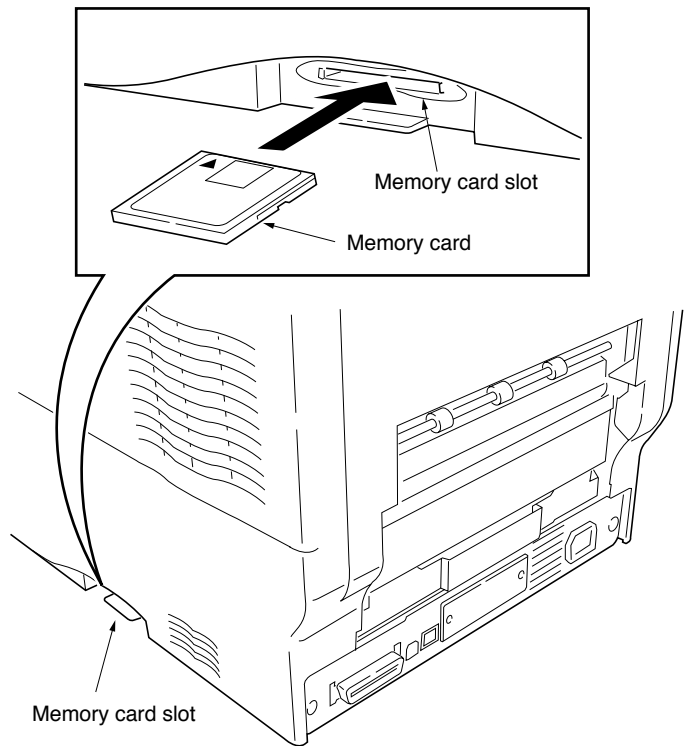
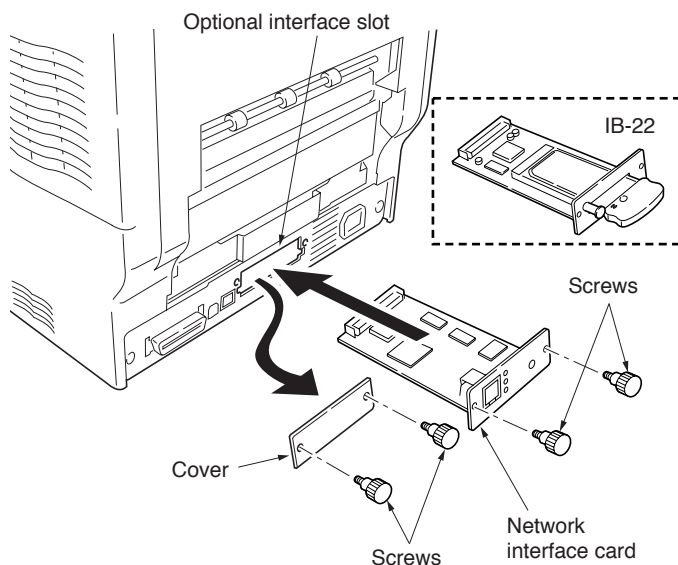


Figure 1-3-14

1-3-4 Installing the network interface card (optional)

<Procedure>

1. Turn off printer power.
2. Remove the two screws and then remove the optional interface slot cover.
3. Insert the network interface card into the optional interface slot.
4. Use the two screws to secure the network interface card.

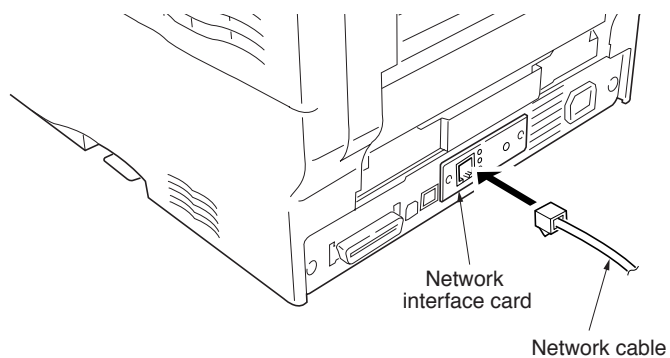


Network interface cards available

Part number	Specifications	Remarks
IB-20	10 Base-TX, 100 Base-TX, 10 Base2	
IB-21E	10 Base-TX, 100 Base-TX	
IB-22	Compatible to IEEE 802.11b	Wireless LAN

Figure 1-3-15

5. Connect the network cable (IB-20 and IB-21E).
6. Configure the network interface card. (See the IB-2x quick configuration guide.)



Network configuration (ex. IB-22)

Item	Setting
Wireless LAN Mode	Ad hoc/802.11 Ad hoc/ Infrastructure/Automatic
SSID	Any string (up to 32 characters)
Channel	Depends on the environment
Encryption (WEP)	DISABLE/64 bit/128 bit
WEP key	Hexadecimal setting (00-FF) 64 bits = 10 digits, 128 bits = 26 digits

Figure 1-3-16

1-3-5 Installing the hard disk unit (optional)

<Procedure>

1. Turn off printer power.
2. Remove the two screws and remove the optional interface slot cover.
3. Insert the hard disk unit into the optional interface slot.
4. Use the two screws to secure the hard disk unit.
5. Format the hard disk unit. (Refer to the operation guide.)

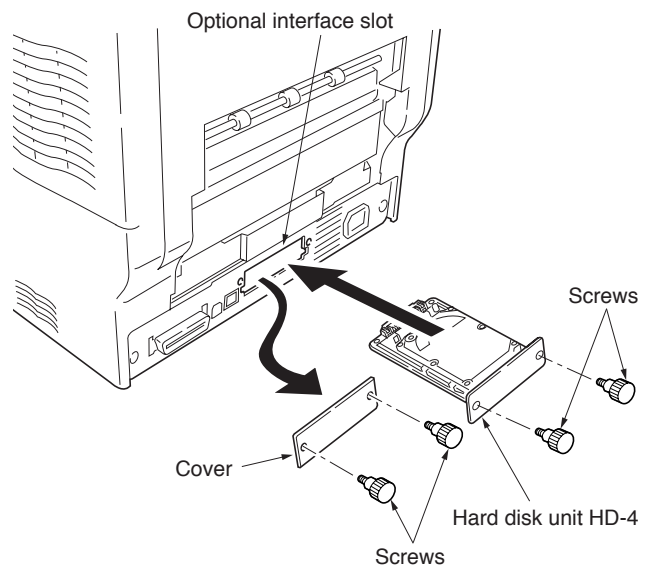
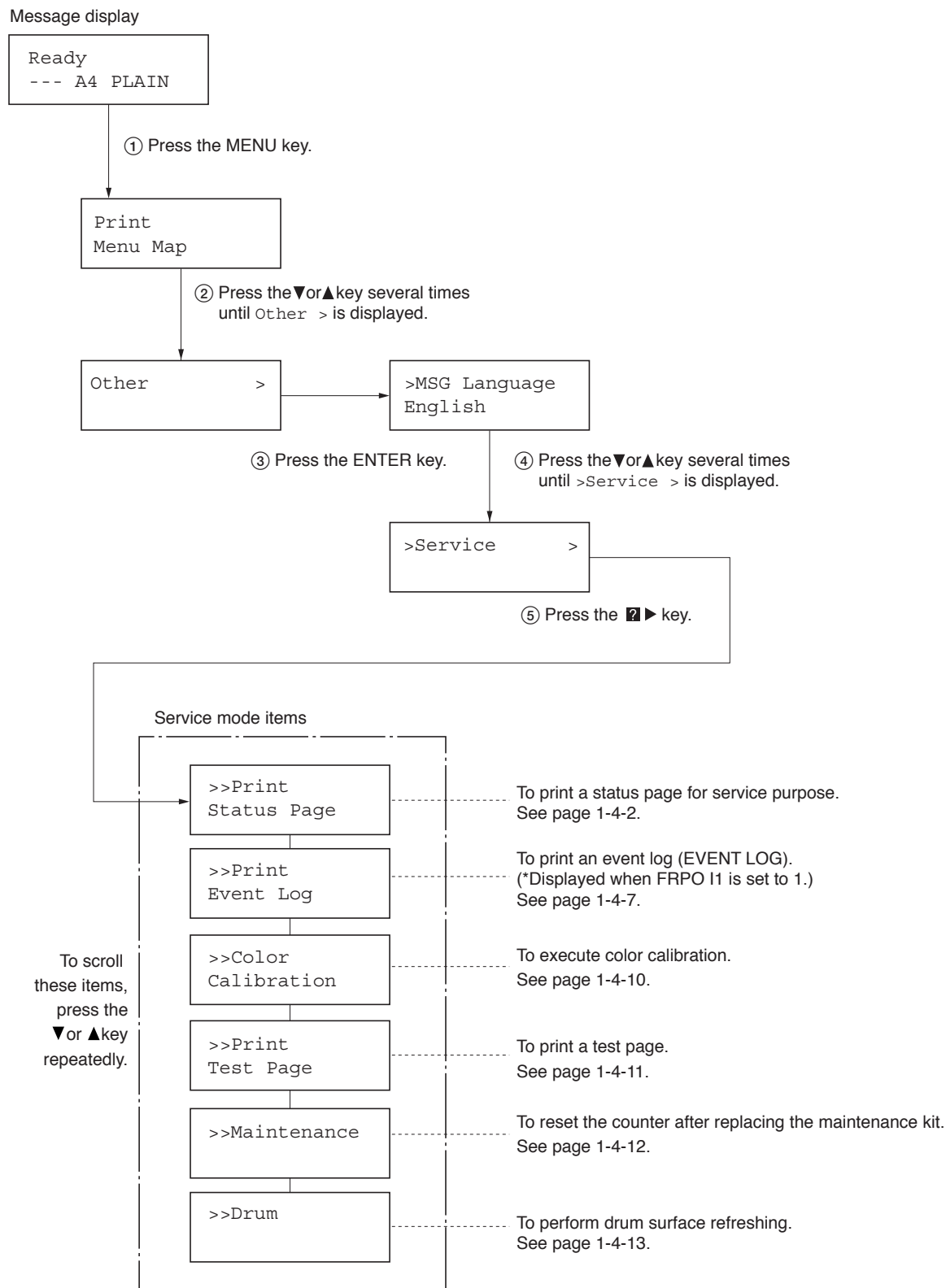


Figure 1-3-17

1-4-1 Service mode

The printer is equipped with various service mode that can be accessed with the MENU key operation on the operation panel.

(1) Executing service mode



Service items	Description
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> >>Print Status Page </div>	<p>Printing a status page for service purpose</p> <p>Description Prints a status page for service purpose. The status page includes various printing settings and service cumulatives.</p> <p>Purpose To acquire the current printing environmental parameters and cumulative information.</p> <p>Procedure</p> <ol style="list-style-type: none"> 1. Enter the service mode [>>Print Status Page]. 2. Press the ENTER key. "Print Status Page?" will be displayed. 3. Press the ENTER key. Two pages will be printed. (The second page includes service information.)

Service information
(Refer to next page)

Main controller PWB
firmware version

Release date of the firmware

PAGE PRINTER STATUS PAGE *FS-C5016N*

Firmware version: 132.00 Released: 18/Feb/2003

PAGE PRINTER STATUS PAGE *FS-C5016N*

Firmware version: 132.00 Released: 18/Feb/2003

Service Information

```

[A003] [C1] [22.00A] [03/03] Total page 9690
/P00/S00/P00/W00/D10:DM0301.DAN
/0020/0020/1061/0811/ 0/ 0/ 0/ 0/ 0/ 0/
/AAAAAA/AAAAAA/
/AAAAAA/
/AAAAAA/
/AAAAAA/AAAAAA/AAAAAA/AAAAAA/
/AAAAAA/
/AAAAAA/
/0000/0000/0000/0000/
/0000/0000/0000/0000/0000/
/00000000/00000000/00000000/00000000/00/
/RS2/[0003-0003]/0/30/8
/AE.B/AP.C/AG.C/AD.D/
/03030303/03030303/03030303/03000000/00000000/03030303/03030303/
SPD1:0203040508090A0B0C0D0F101112131415161718191A1B1C1D1E1F202122235E
SPD2:0203040508090A0B0C0D0F101112131415161718191A1B1C1D1E1F202122235E
/0000000000000000/0000000000000000/0000000000000000/0000000000000000
/0000000000000000/0000000000000000/0000000000000000/0000000000000000
/0000000000000000/0000000000000000/0000000000000000/0000000000000000
/0000000000000000/0000000000000000/0000000000000000/0000000000000000
DN:SPL9200007/SPL9200007/SPL9200007/SPL9200007/SN:SPL9200010
                    
```

Figure 1-4-1

Service items	Description										
	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Service information</p> <p>[A003] [C1] [22.00A] [03/03] Total page 9690</p> <p>① ② ③ ④ ⑤</p> <p>/P00/S00/F00/N00/D10:DM0301.DAN</p> <p>⑥ ⑦ ⑧ ⑨ ⑩</p> <p>/0020/0020/1061/0811/ 0/ 0/ 0/ 0/ 0/ 0/</p> <p>⑪ ⑫</p> <p>⑬ /AAAAAA/AAAAAA/ ⑭ /AAAAAA/ ⑮ /AAAAAA/ ⑯ /AAAAAA/AAAAAA/AAAAAA/AAAAAA/ ⑰ /AAAAAA/ ⑱ /AAAAAA/ ⑲ /0000/0000/0000/0000/0000/ ⑳ /0000/0000/0000/0000/0000/ /00000000/00000000/00000000/00000000/00/ ㉑ ㉒ /RS2/[0003-0003]/0/30/8 ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ /AE.B/AF.C/AG.C/AD.D/ ㉙ /03030303/03030303/03030303/03000000/00000000/03030303/03030303/ ㉚ SPD1:0203040508090A0B0C0D0F101112131415161718191A1B1C1D1E1F202122235E ㉛ SPD2:0203040508090A0B0C0D0F101112131415161718191A1B1C1D1E1F202122235E ㉜ /0000000000000000/0000000000000000/0000000000000000/0000000000000000 /0000000000000000/0000000000000000/0000000000000000/0000000000000000 /0000000000000000/0000000000000000/0000000000000000/0000000000000000 /0000000000000000/0000000000000000/0000000000000000/0000000000000000 DN:SPL9200007/SPL9200007/SPL9200007/SPL9200007/SN:SPL9200010 ㉝ ㉞</p> </div>										
<table border="1"> <thead> <tr> <th>Items</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>① Engine ROM information</td> <td>[Flash ROM version]</td> </tr> <tr> <td>② Operation panel PWB information</td> <td>[Operation panel PWB mask ROM version]</td> </tr> <tr> <td>③ Boot ROM information</td> <td>[Boot ROM version]</td> </tr> <tr> <td>④ Software jumper switch information (hexadecimal)</td> <td> [First byte/second byte (displayed in OEM mode only)] First byte Bit 0 = 1: (Fixed) Bit 1 = 0: Overseas, 1: Domestic (Japan) Bit 2, 3 (Not used) Bit 4 = 0: Kyocera, 1: OEM Bit 5 = 0: For Europe, 1: For US Bit 6 = 0: Non MICR mode, 1: MICR mode Bit 7 = 0: Kyocera, 1: Kyocera Mita Second byte: Displayed in OEM mode only </td> </tr> </tbody> </table>	Items	Description	① Engine ROM information	[Flash ROM version]	② Operation panel PWB information	[Operation panel PWB mask ROM version]	③ Boot ROM information	[Boot ROM version]	④ Software jumper switch information (hexadecimal)	[First byte/second byte (displayed in OEM mode only)] First byte Bit 0 = 1: (Fixed) Bit 1 = 0: Overseas, 1: Domestic (Japan) Bit 2, 3 (Not used) Bit 4 = 0: Kyocera, 1: OEM Bit 5 = 0: For Europe, 1: For US Bit 6 = 0: Non MICR mode, 1: MICR mode Bit 7 = 0: Kyocera, 1: Kyocera Mita Second byte: Displayed in OEM mode only	
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② Operation panel PWB information	[Operation panel PWB mask ROM version]										
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Service items	Description		
<table border="1"> <thead> <tr> <th>Items</th> <th>Description</th> </tr> </thead> </table>	Items	Description	
Items	Description		
⑤ Total page	Total print page count		
⑥ Parallel I/O information			
⑦ Serial I/O error code	00: Normal Bit 0: Framing error Bit 1: Overrun error Bit 2: Parity error		
⑧ Operation panel lock status (displayed only when locked)	01: Partial lock 02: Full lock		
⑨ NVRAM error (displayed only when any error has occurred)	01: ID error 02: Version error 03: Checksum error 04: NVRAM crash error		
⑩ NVRAM downloading status	00: Normal (not downloaded) Bit 0: Font data Bit 1: Host data Bit 2: Macro data Bit 3: Program data Bit 4: Operation panel message data (file name displayed) Bit 5: OEM data (file name displayed) Bit 6: Reserved Bit 7: Error occurred		
⑪ Printable area setting	/Top offset/Left offset/Page length/Page width		
⑫ Left offset for each paper source	/MP tray/Cassette 1/Cassette 2/Cassette 3/Cassette 4/Cassette 5/Duplexer		
⑬ Optional paper feeder life counter	/Paper feeder 1/Paper feeder 2		
⑭ Optional paper feeder life counter	/Paper feeder 3		
⑮ Optional paper eject unit life counter	/ Duplexer/		
⑯ Drum life counter	/Cyan drum unit/Magenta drum unit/Yellow drum unit/Black drum unit		
⑰ Pixel counter	/Cyan/Magenta/Yellow/Black		
⑱ Maintenance kit counter			
⑲ Optional unit software version	/Paper feeder1/Paper feeder 2/Paper feeder 3/Envelope feeder/Duplexer		
⑳ Drum ID	/Cyan/Magenta/Yellow/Black		
㉑ LED print head compensation value			
㉒ LED print head compensation data handling error	0: Normal bit0 to 3: LED print head compensation data in the LED print head memory PWB (0: Black, 1: Yellow, 2: Cyan, 3: Magenta) bit4: Consistency and legitimacy check bit5: Type of system DIMM PWB bit6: Erasing to the system DIMM PWB bit7: Writing to the system DIMM PWB bit8: Checking the blank after erasing to the system DIMM PWB bit9: Verifying after writing to the system DIMM PWB		

Service items	Description																					
Items	Description																					
⑳ Serial interface information	RS2: RS-232C RS4: RS-422A																					
㉑ Optional unit information	Upper 2 bytes Bit 0: MPF Bits 1 to 6: Feeders 1 to 6 (6 is not supported) Bit 7: Duplexer Bit 9: Envelope feeder Bits 10 to 15: Reserved Lower 2 bytes Bit 0: Face-up Bit 1: Face-down Bits 2 to 15: Reserved																					
㉒ Operation panel message language	PMSG command setting (decimal)																					
㉓ Current temperature	0 to 60 °C (in 1 °C increment, “-“= Humidity/temperature sensor is abnormal.)																					
㉔ Current humidity	10 to 90% RH (in 2% increment)																					
㉕ Average printing ratio (2 digits for integer part, 1 digit for decimal part)	/Cyan/Magenta/Yellow/Black Printing ratio for the total period from shipping (displayed in%)																					
㉖ Media type attributes	Media type setting value from 1 to 28 (fixing temperature, paper thickness, duplex printing, refer to next page) (14 to 20 are unused and always 0x00.)																					
㉗ Memory SPD information (slot 1)	Bus error if all digits are “E”.																					
㉘ Memory SPD information (slot 2)	Bus error if all digits are “E”.																					
㉙ Engine parameter setting	Hexadecimal, 128 bytes (256 digits)																					
㉚ Drum serial number	/Cyan/Magenta/Yellow/Black																					
㉛ Machine serial number	-																					
<p>NOTE:</p> <p style="text-align: center;">Code conversion</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>I</td><td>J</td> </tr> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> </tr> </tbody> </table>			A	B	C	D	E	F	G	H	I	J	0	1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I	J													
0	1	2	3	4	5	6	7	8	9													

Service items		Description							
Table 1-4-1 Media type attribute									
No.	Type	Yes/ No	Type adjust default	Paper feed source			Paper destination		
				Paper cassette	MP tray	Enve- lope feeder	Duplexer	Face- down tray	Face- up tray
1	Plain	YES	Normal2	YES	YES	YES	YES	YES	YES
2	Transparency	YES	Extra.Thick	NO	YES	NO	NO	YES	YES
3	Preprinted	YES	Normal2	YES	YES	YES	YES	YES	YES
4	Labels	YES	Thick1	NO	YES	YES	NO	YES	YES
5	Bond	YES	Normal2	YES	YES	YES	YES	YES	YES
6	Recycled	YES	Normal2	YES	YES	YES	YES	YES	YES
7	Vellum	YES	Thin	NO	YES	NO	NO	YES	YES
8	Rough	YES	Normal2	YES	YES	YES	YES	YES	YES
9	Letter Head	YES	Normal2	YES	YES	YES	YES	YES	YES
10	Color	YES	Normal2	YES	YES	YES	YES	YES	YES
11	Prepunched	YES	Normal2	YES	YES	YES	YES	YES	YES
12	Envelope	YES	Thick1	NO	YES	YES	NO	YES	YES
13	Cardstock	YES	Thick2	NO	YES	YES	NO	YES	YES
14	Coated	YES	Normal2	NO	YES	YES	NO	YES	YES
15	2'nd Side	NO	-	-	-	-	-	-	-
16	Thick	YES	Thick1	NO	YES	YES	NO	NO	YES
17	Fine	YES	Normal2	YES	YES	YES	YES	YES	YES
18	Reserved	-	-	-	-	-	-	-	-
19	Reserved	-	-	-	-	-	-	-	-
20	Reserved	-	-	-	-	-	-	-	-
21	Custom1	YES	Normal2	YES	YES	YES	YES	YES	YES
22	Custom2	YES	Normal2	YES	YES	YES	YES	YES	YES
23	Custom3	YES	Normal2	YES	YES	YES	YES	YES	YES
24	Custom4	YES	Normal2	YES	YES	YES	YES	YES	YES
25	Custom5	YES	Normal2	YES	YES	YES	YES	YES	YES
26	Custom6	YES	Normal2	YES	YES	YES	YES	YES	YES
27	Custom7	YES	Normal2	YES	YES	YES	YES	YES	YES
28	Custom8	YES	Normal2	YES	YES	YES	YES	YES	YES
Table 1-4-2 Type adjust setting									
No.	Type	Speed (line)			Speed in gloss mode				
		1	3/4	1/2	1	3/4	1/2		
1	Thin	YES	-	-	-	YES	-		
2	Normal1	YES	-	-	-	YES	-		
3	Normal2	YES	-	-	-	YES	-		
4	Normal3	YES	-	-	-	YES	-		
5	Thick1	-	YES	-	-	-	YES		
6	Thick2	-	-	YES	-	-	-		
7	Thick3	-	-	YES	-	-	-		
8	Extra Thick	-	-	YES	-	-	-		
<p>Note that a half speed is 55 % of the normal speed. Since the speed of printing in gross mode gets slower than normal, printing in media types including Thick2, Thick3, and Extra Thick is not possible in gloss mode.</p>									

Service items	Description
---------------	-------------

>>Print
Event Log

Printing an event log (EVENT LOG)
Description
 Prints the history of paper misfeeds and self-diagnostic errors including up to 16 items from the latest occurrence of such an error. (If the number of errors exceeds 16, errors will be deleted sequentially from the oldest one.)
Purpose
 To allow machine malfunction analysis based on the frequency of paper misfeeds and self-diagnostic errors.
Procedure

1. Enter the service mode [>>Print Event log].
2. Press the ENTER key. ">>Print Event Log?" will be displayed.
3. Press the ENTER key. A sheet of event log will be printed.

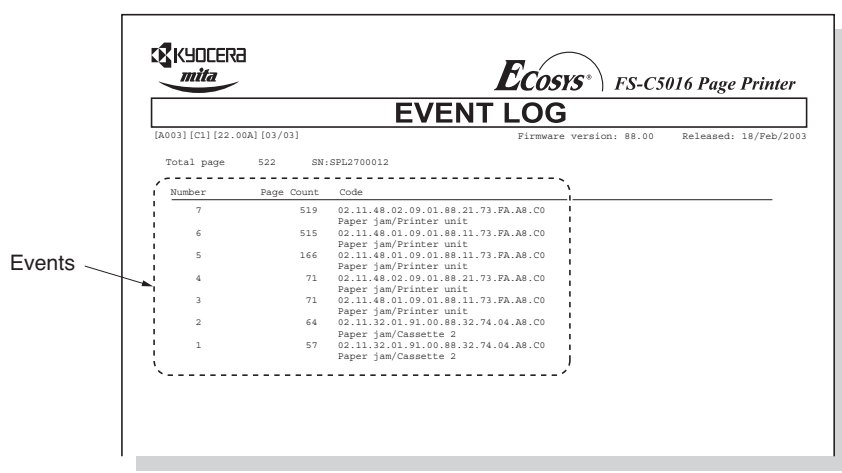


Figure 1-4-3 Event log (EVENT LOG)

Details of events
 The event list includes the following information:
 (A) Number: Prints a list of errors occurred (1 to 16). A smaller number means an older event.
 (B) Number of pages: Number of pages printed when an error occurred
 (C) Description: Indicates the description of error.
 (D) Code: Code ① identifies an error and codes ② to ⑨ indicate the details.
 The value 02 of code ① means a paper misfeed. See code table (1).
 The value 99 of code ① means a self-diagnostic error. See code table (2).

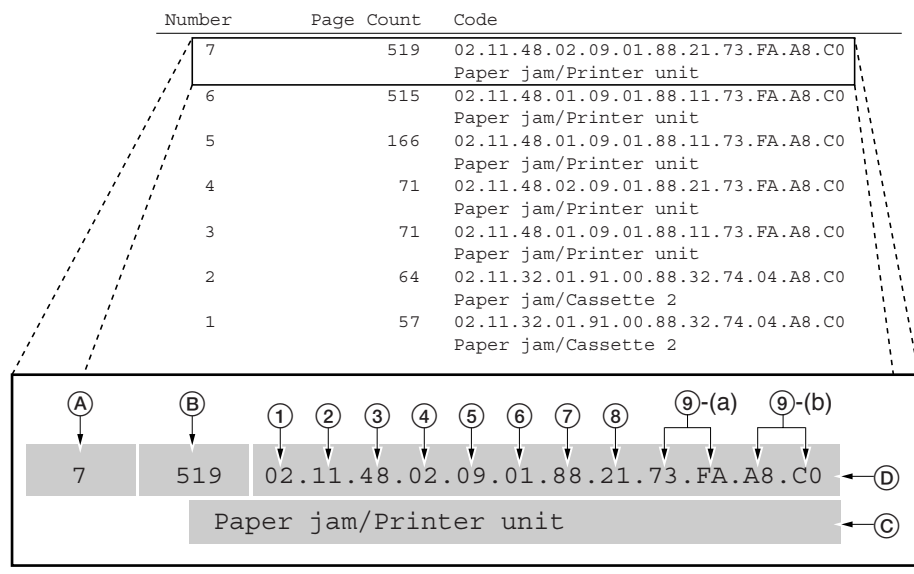


Figure 1-4-4 Understanding events

Service items	Description		
Table 1-4-3 Code table (1)			
Code digit and Details of code description	Code table		
① Identification code	02: Paper misfeed		
② Error type (hexadecimal)	11: Paper misfeed		
③ Paper misfeed location (ASCII)	31: Cassette 1 (in the printer) 32: Cassette 2 33: Cassette 3 34: Cassette 4 35: Envelope feeder 42: MP tray 47: Rear cover 48: Inside the printer 49: Duplexer		
④ Paper misfeed location (hexadecimal)	01: Paper feed sensor [32] Paper feed sensor [33] Paper feed sensor [34] Registration sensor [48] Vertical path sensor [49] 02: Eject sensor [47] Switchback sensor [47] 03: Duplexer refeed sensor [49] 99: Not determined Values within [] indicate paper misfeed locations.		
⑤ Cause of paper misfeed (hexadecimal)	01: Paper did not pass within a specified time. 02: Paper did not arrive within a specified time. 09: Paper remains longer than a specified time. (other than 01 and 02) 11: Paper misfeed occurred when paper is being transported. 91: Paper remains when power is turned on. 99: Others (Paper stopped due to an external cause such as opening of a cover during-printing.)		
⑥ Paper source (hexadecimal)	00: MP tray 01: Cassette 1 (in the printer) 02: Cassette 2 03: Cassette 3 04: Cassette 4 09: Duplexer 99: Envelope feeder		
⑦ Paper size (hexadecimal)	01: Monarch 02: Business 03: International DL 04: International D5 05: Executive 06: Letter size 07: Legal size	08: A4 09: B5 13: A5 14: A6 15: B6 16: Commercial #9 17: Commercial #6	18: ISO B5 19: Custom size 31: Postcard 32: Reply-paid 33: Oficio II 34: 216 × 310 (mm) 35: 216 × 305 (mm)

Service items	Description	
	Code digit and Details of code description	Details of code
⑧	Main cause of paper misfeed (hexadecimal)	<p>10: Paper does not arrive at the registration sensor. 11: Paper does not pass the registration sensor. 12: Paper remains at the registration sensor when power is turned on. 20: Paper does not arrive at the eject sensor. 21: Paper does not pass the eject sensor. 22: Paper remains at the eject sensor when power is turned on. 30: Paper does not arrive at the paper feeder 1 feed sensor. 31: Paper does not pass the paper feeder 1 feed sensor. 32: Paper remains at the paper feeder 1 feed sensor when power is turned on. 40: Paper does not arrive at the paper feeder 2 feed sensor. 41: Paper does not pass the paper feeder 2 feed sensor. 42: Paper remains at the paper feeder 2 feed sensor when power is turned on. 50: Paper does not arrive at the paper feeder 3 feed sensor. 51: Paper does not pass the paper feeder 3 feed sensor. 52: Paper remains at the paper feeder 3 feed sensor when power is turned on. A1: Paper does not arrive at the vertical path sensor. A2: Paper does not arrive at the switchback sensor. A3: Paper does not pass the vertical path sensor. A4: Paper does not arrive at the duplexer refeed sensor. A5: Paper does not pass the switchback sensor. A6: Paper does not pass the duplexer refeed sensor. A7: Duplexer overflow (Third sheet is commanded when second sheet remains.) A8: Duplexer drive signal output from the printer while paper is transported turns off. A9: Paper remains in the duplexer when power is turned on. E0: Paper misfeed occurs due to forced stop when an error occurs during printing. (such as opening of a cover) F0 to FF: Paper misfeed caused by a reason excluding above.</p>
⑨	(a) Misfed paper width (hexadecimal)	0000 to FFFF [in 0.1 mm] Example: 73FA (hexadecimal) = 29690 (decimal) = 296.9 mm
	(b) Misfed paper length (hexadecimal)	0000 to FFFF [in 0.1 mm] Example: A8C0 (hexadecimal) = 43200 (decimal) = 432.0 mm

Service items		Description	
Table 1-4-4 Code table (2)			
Code digit and Details of code description		Details of code	
1	Identifica- tion code (hexadeci- mal)	99: Self-diagnostic error	
2	Self-diag- nostic error code [Upper digit of former 2 dig- its] (hexa- decimal)	10: A 11: B 12: C 13: D 14: E	
3	Self-diag- nostic error code [Lower digit of former 2 dig- its] (hexa- decimal)	00: 0 01: 1 02: 2 03: 3 04: 4 05: 5 06: 6 07: 7	08: 8 09: 9 10: A 11: B 12: C 13: D 14: E 15: F
④ to ⑧		Unused	
Remarks: Self-diagnostic error codes E0 and F0 to F2 are not recorded.			
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> >>Color Calibration </div>		<p>Execution of color calibration</p> <p>Description Executing the density of color using.</p> <p>Purpose To carry out color calibration manually besides it can be carried out automatically each time the printer is turned on.</p> <p>Start Enter the service mode [>>Color Calibration]. Press the ENTER key twice. The color calibration starts and automatically finishes.</p> <p>Completion</p>	

Service items	Description
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> >>Print Test Page </div>	<p>Printing a test page</p> <p>Description Four colors are printed respectively with halftones of three different levels.</p> <p>Purpose To check the activation of the developer and drum units of four colors.</p> <p>Start Enter the service mode [>>Printing Test Page]. Press the ENTER key twice. The test page is printed.</p> <p>Completion</p> <div style="text-align: center; margin: 20px 0;"> </div> <p>*1: Since focusing in yellow is hardly readable, yellow is mixed with cyan for more readability, resulting in green.</p> <p>*2: Each portion of colors has three different magnitude of halftones (bands). If focus is excessively lost, dots are not recognizable with the 16/256 band, resulting in uneven density. It also results in vertical streaks in the 24/256 and/or 32/256 bands.</p>

Figure 1-4-5 Test page

Service items	Description
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">>>Maintenance</div>	<p>Counter reset for the maintenance kit</p> <p>Description The "Install MK" message means that maintenance kit should be replaced at 200,000 images of printing. The interval counter must be manually reset using this service item. MK-500/MK-502 Maintenance kit includes the following units:</p> <ul style="list-style-type: none"> • Drum unit: DK-500 DRUM UNIT [Part No.: *****] • Cyan developer unit: DV-500C DLP C UNIT [Part No.: *****] • Magenta developer unit: DV-500C DLP M UNIT [Part No.: *****] • Yellow developer unit: DV-500C DLP Y UNIT [Part No.: *****] • Black developer unit: DV-500C DLP K UNIT [Part No.: *****] • Fuser unit: FK-500 FUSER UNIT [Part No.: *****] • Paper feed unit: TR-500 FEED TRANS UNIT [Part No.: *****] • Ozone filters × 2: [Part No.: *****] • Feed roller set: [Part No.: *****] <p>Purpose To reset the life counter for the developer units and drum units included in maintenance kit.</p> <p>Procedure for replacing the maintenance kit</p> <ol style="list-style-type: none"> 1. Remove the four old drum units (See page 1-6-12). 2. Remove the LED print head from each old drum unit and then refit to the new drum unit (See page 1-6-13). 3. Install the four new drum units. 4. Replace the four developer units (See page 1-6-11). 5. Replace the fuser unit (See page 1-6-18). 6. Replace the paper feed unit (See page 1-6-5). 7. Replace the two ozone filters (See page 1-6-35). 8. Replace the feed roller set (Feed roller, pickup roller, and MP feed roller). (See page 1-6-6). <p>Start Enter the service mode [>>Maintenance]. Press the ENTER key, ">>Maintenance ?" is displayed. Press the ENTER key twice. The counter for each component is reset immediately.</p> <p>Completion</p> <p>Note: Occurrences of resetting the maintenance kits are recorded on the service status page in number of pages or images at which the maintenance kit was replaced (See page 1-4-4). This may be used to determine the possibility that the counter was erroneously or unintentionally reset.</p>

Service items	Description
<div style="border: 1px solid black; padding: 2px;">>>Drum</div>	<p>Drum surface refreshing</p> <p>Description</p> <p>Rotates the drum approximately 5 minutes with toner lightly applied onto the drum using the high-voltage output control of the engine controller PWB. The cleaning blade in the drum unit scrapes toner off the drum surface to clean it.</p> <p>Purpose</p> <p>To clean the drum surface when image failure occurs due to contamination. This mode is useful when dew condensation on the drum occurs.</p> <p>Procedure</p> <ol style="list-style-type: none">1. Enter the service mode [>>Drum].2. Press the ENTER key. Message ">>Drum?" will be displayed.3. Press the ENTER key. Drum surface refreshing will start and finish after approximately 3 minutes.

1-4-2 Maintenance

(1) Method of removing the toner soiling which comes in contact with heat roller and Press roller

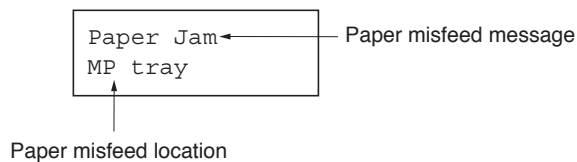
When misfeeding has occurred in the fuser unit, misfeed paper can coil around the heat roller or the press roller. Removing the misfed paper will cause, there are times when the toner soiling remains in the heat roller or the press roller. Follow the procedure below in this case and remove the toner soiling from the heat roller or the press roller.

1. Remove the misfed paper. Cancel misfeed by opening and closing a cover. wait until the message display shows "Ready".
2. Press [MENU] and set paper type to [Transparency] and paper source to [MP tray].
3. Set the a sheet (transparency sheet [3M CG3700] or thick paper with the of more than weight above 135 g/m²) to MP tray.
4. Press [MENU] and print a status page. (The toner soiling which comes in contact with the heat roller and the press roller will be transferred onto paper).
5. Until the toner soiling is cleared, repeat (Usually when 4 - 5 it prints, the soiling goes out) the above procedure.

1-5-1 Paper misfeed detection

(1) Paper misfeed indication

When a paper misfeed occurs, the printer immediately stops printing and displays the paper misfeed message on the operator panel. To remove paper misfed in the printer, pull out the paper cassette, pull out the paper feed unit or open the rear cover.



(2) Paper misfeed message display

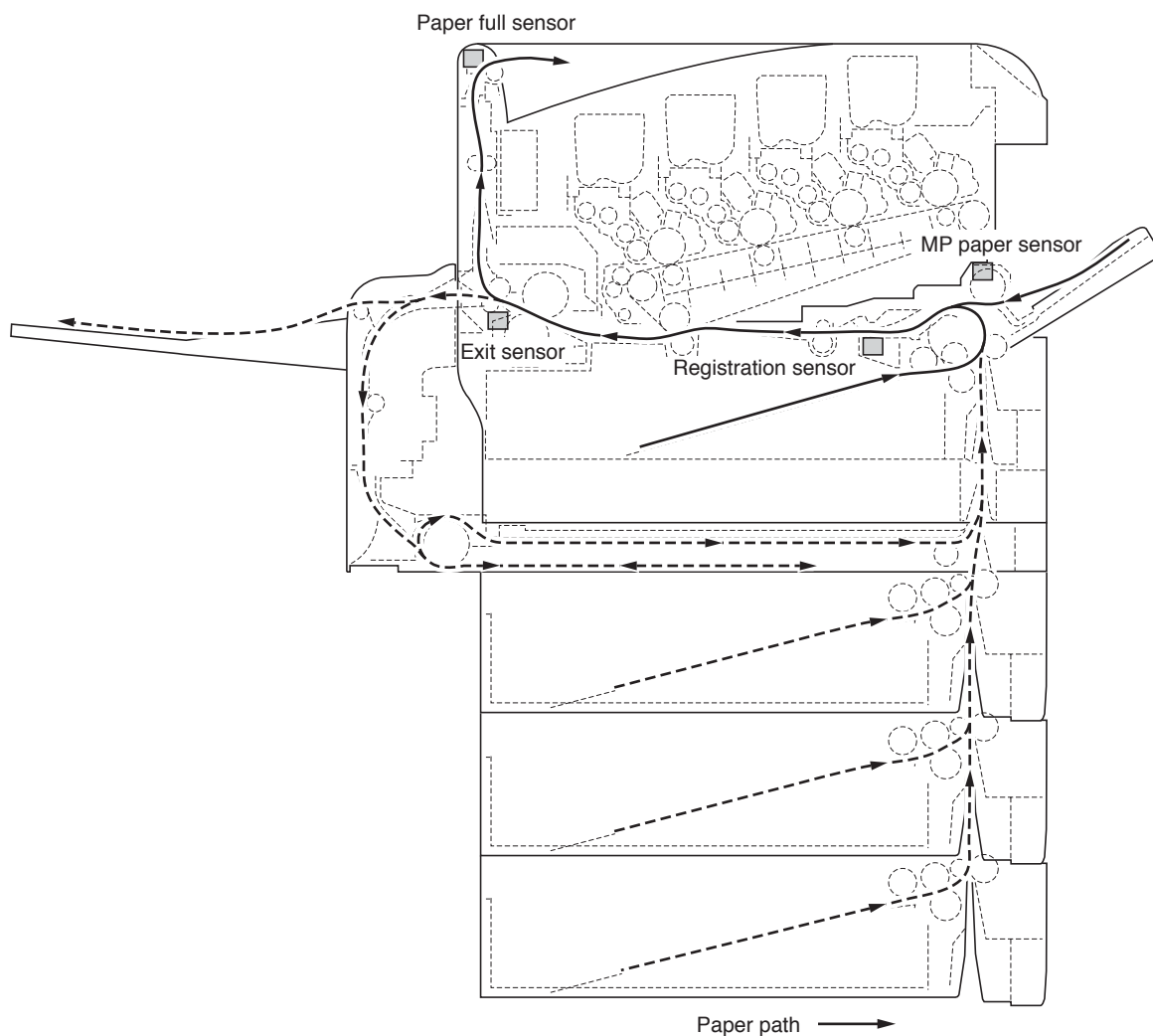


Figure 1-5-1 Paper misfeed detection

1-5-2 Self-diagnosis

(1) Self-diagnostic function

This printer is equipped with self-diagnostic function. When a problem is detected, the printer stops printing and display an error message on the operator panel. An error message consists of a message prompting a contact to service personnel, total print count, and a four-digit error code (2 digits for F0 only) indicating the type of the error. (The display varies depending on the type of the error.)

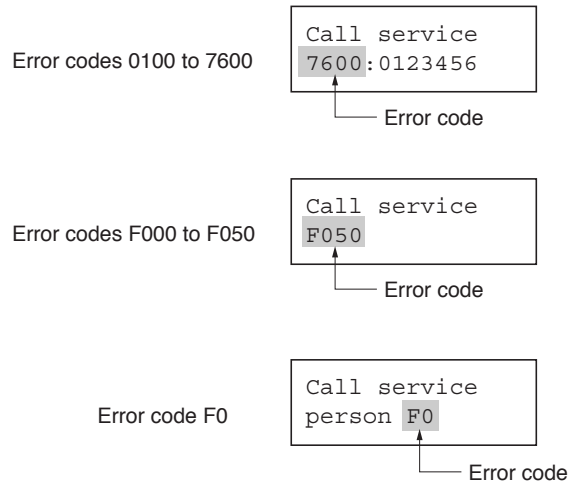


Figure 1-5-2 Error message display

(2) Self-diagnostic code

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
0100	EEPROM (U12) write error <ul style="list-style-type: none"> When it cannot make normal to access to the EEPROM (U12) which is installed in the socket of the engine controller PWB (KP-1054). (The total counter, serial number and engine parameter etc. are stored in the EEPROM [U12]).	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		EEPROM (U12) installing malfunction.	Check the bending of the lead pin and floating of the IC, there is trouble, if there is trouble, remedy or replace.
0150	EEPROM (U11) write error <ul style="list-style-type: none"> When it cannot make normal to access to the EEPROM (U11) which is mounted on the engine controller PWB (KP-1054). 	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
0420	Paper feeder communication error <ul style="list-style-type: none"> When turning on power, the ASIC of the engine controller PWB (KP-1054) recognized the optional paper feeder PF-60, but when it becomes not be able to communicate from the middle. After the error occurring, when power source is turned on/off, there are times when the paper feeder is not recognized.	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective paper feeder PF-60.	After removing or replacing the paper feeder PF-60, do the operation check. If operation is normal, replace the paper feeder PF-60.
		Defective duplexer DU-300.	If the duplexer DU-300 is installed, after removing or replacing the duplexer DU-300, do the operation check. If operation is normal, replace the duplexer DU-300.
		Defective harness (S02852) between engine controller PWB (KP-1054) and interface connector, or poor contact of the connector terminals.	Check the continuity of the harness (S02852). Check the insertion of YC7 of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
0460	Duplexer communication error <ul style="list-style-type: none"> When turning on power, the ASIC of the engine controller PWB (KP-1054) recognized the optional duplexer DU-300, but when it becomes not be able to communicate from the middle. After the error occurring, when power source is turned on/off, there are times when the duplexer is not recognized.	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective duplexer DU-300.	After removing or replacing the duplexer DU-300, do the operation check. If operation is normal, replace the Duplexer DU-300.
		Defective paper feeder PF-60.	If the optional paper feeder PF-60 is installed, after removing or replacing the paper feeder PF-60, do the operation check. If operation is normal, replace the paper feeder PF-60.
		Defective harness (S02852) between engine controller PWB (KP-1054) and interface connector, or poor contact of the connector terminals.	Check the continuity of the harness (S02852). Check the insertion of YC7 of the engine controller PWB, if there is trouble, remedy or replace.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
0951	LED print head memory PWB 4 communication error (black drum unit) <ul style="list-style-type: none"> The LED print head memory PWB 4 (KP-1040) which is attached to the LED print head 4 of the Black drum unit does not communicate with the engine controller PWB (KP-1054) normally. 	Defective LED print head memory PWB 4 (KP-1040).	Replace the LED print head 4 of black drum unit. See page 1-6-13.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
		Defective harness (S02866) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the continuity of the harness (S02866), check the insertion of YC3 of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
		Defective harness (S02866) between LED print head memory PWB 4 (KP-1040) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the connection of the connector with the black drum unit and the printer main unit, check the continuity of the harness (S02866), check the connection of the LED print head memory PWB 4 (KP-1040), if there is trouble, remedy or replace.
0952	LED print head memory PWB 2 communication error (cyan drum unit) <ul style="list-style-type: none"> The LED print head memory PWB 2 (KP-1040) which is attached to the LED print head 2 of the cyan drum unit does not communicate with the engine controller PWB (KP-1054) normally. 	Defective LED print head memory PWB 2 (KP-1040).	Replace the LED print head 2 of cyan drum unit. See page 1-6-13.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
		Defective harness (S02866) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the continuity of the harness (S02866), check the insertion of YC3 of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
		Defective harness (S02866) between LED print head memory PWB 2 (KP-1040) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the connection of the connector with the cyan drum unit and the printer main unit, check the continuity of the harness (S02866), check the connection of the LED print head memory PWB 2 (KP-1040), if there is trouble, remedy or replace.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
0953	LED print head memory PWB 1 communication error (magenta drum unit) <ul style="list-style-type: none"> The LED print head memory PWB 2 (KP-1040) which is attached to the LED print head 1 of the magenta drum unit does not communicate with the engine controller PWB (KP-1054) normally. 	Defective LED print head memory PWB 1 (KP-1040).	Replace the LED print head 1 of magenta drum unit. See page 1-6-13.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
		Defective harness (S02866) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the continuity of the harness (S02866), check the insertion of YC3 of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
		Defective harness (S02866) between LED print head memory PWB 1 (KP-1040) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the connection of the connector with the magenta drum unit and the printer main unit, check the continuity of the harness (S02866), check the connection of the LED print head memory PWB 1 (KP-1040), if there is trouble, remedy or replace.
0954	LED print head memory PWB 3 communication error (yellow drum unit) <ul style="list-style-type: none"> LED print head memory PWB 3 communication error (yellow drum unit) The LED print head memory PWB 3 (KP-1040) which is attached to the LED print head 3 of the yellow drum unit does not communicate with the engine controller PWB (KP-1054) normally. 	Defective LED print head memory PWB 3 (KP-1040).	Replace the LED print head 3 of yellow drum unit. See page 1-6-13.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
		Defective harness (S02866) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the continuity of the harness (S02866), check the insertion of YC3 of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
		Defective harness (S02866) between LED print head memory PWB 3 (KP-1040) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the connection of the connector with the yellow drum unit and the printer main unit, check the continuity of the harness (S02866), check the connection of the LED print head memory PWB 3 (KP-1040), if there is trouble, remedy or replace.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
1200	Side registration motor error • The duplexer PWB of the optional duplexer cannot detect the home position of the adjust guide.	Defective duplexer DU-300.	Refer to the duplexer DU-300's service manual.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
2610	Paper feed motor error (top) • The notification that was received, the motor clock sensor cannot detect the revolution of the paper feed motor of the optional paper feeder (top).	Defective paper feeder PF-60.	Refer to the paper feeder PF-60's service manual.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
2620	Paper feed motor error (middle) • The notification that was received, the motor clock sensor cannot detect the revolution of the paper feed motor of the optional paper feeder (middle).	Defective paper feeder PF-60.	Refer to the paper feeder PF-60's service manual.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
2630	Paper feed motor error (bottom) • The notification that was received, the motor clock sensor cannot detect the revolution of the paper feed motor of the optional paper feeder (third).	Defective paper feeder PF-60.	Refer to the paper feeder PF-60's service manual.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
5301	Eraser lamp 4 error (black drum unit) • The eraser lamp 4 [PWB] (KP-976) of the black drum unit does not communicate with the engine controller PWB (KP-1054) normally.	Defective eraser lamp 4 [PWB] (KP-976).	Replace the eraser lamp 4 [PWB] (KP-976).
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective drum PWB 4 (KP-972).	Replace the black drum unit. See page 1-6-12.
		Defective harness between drum PWB (KP-972) and eraser lamp 4 [PWB] (KP-976), or poor contact of the connector terminals.	Check the connection of the YC401 connector of the drum PWB (KP-972), if there is trouble, remedy or replace.
		Defective harness (S02869) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the continuity of the harness (S02869), check the connection YC3 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
5302	Eraser lamp 2 error (cyan drum unit) <ul style="list-style-type: none"> The eraser lamp 2 [PWB] (KP-976) of the cyan drum unit does not communicate with the engine controller PWB (KP-1054) normally. 	Defective eraser lamp 2 [PWB] (KP-976).	Replace the eraser lamp 2 [PWB] (KP-976).
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective drum PWB 2 (KP-972).	Replace the cyan drum unit. See page 1-6-12.
		Defective harness between drum PWB 2 (KP-972) and eraser lamp 2 [PWB] (KP-976), or poor contact of the connector terminals.	Check the connection of the YC401 connector of the drum PWB 2 (KP-972), if there is trouble, remedy or replace.
		Defective harness (S02869) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the continuity of the harness (S02869), check the connection YC3 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
5303	Eraser lamp 1 error (magenta drum unit) <ul style="list-style-type: none"> The eraser lamp 1 [PWB] (KP-976) of the cyan drum unit does not communicate with the engine controller PWB (KP-1054) normally. 	Defective eraser lamp 1 [PWB] (KP-976).	Replace the eraser lamp 1 [PWB] (KP-976).
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective drum PWB 1 (KP-972).	Replace the magenta drum unit. See page 1-6-12.
		Defective harness between drum PWB 1 (KP-972) and eraser lamp 1 [PWB] (KP-976), or poor contact of the connector terminals.	Check the connection of the YC401 connector of the drum PWB 1 (KP-972), if there is trouble, remedy or replace.
		Defective harness (S02869) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the continuity of the harness (S02869), check the connection YC3 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
5304	Eraser lamp 3 error (yellow drum unit) <ul style="list-style-type: none"> The eraser lamp 3 [PWB] (KP-976) of the yellow drum unit does not communicate with the engine controller PWB (KP-1054) normally. 	Defective eraser lamp 3 [PWB] (KP-976).	Replace the eraser lamp 3 [PWB] (KP-976).
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective drum PWB 3 (KP-972).	Replace the yellow drum unit. See page 1-6-12.
		Defective harness between drum PWB 3 (KP-972) and eraser lamp 3 [PWB] (KP-976), or poor contact of the connector terminals.	Check the connection of the YC401 connector of the drum PWB 3 (KP-972), if there is trouble, remedy or replace.
		Defective harness (S02869) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048), or poor contact of the connector terminals.	Check the continuity of the harness (S02869), check the connection YC3 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
6000	Fuser temperature time-out error (heat roller) <ul style="list-style-type: none"> Doing the control which turns on the fuser heater lamp 1 which is built in to the heat roller of the fuser unit, the fuser temperature which fuser thermistor 1 detects stipulated temperature did not rise within stipulated time. 	Defective installation condition of fuser thermistor 1.	Check the installation condition of fuser thermistor 1, if there is trouble, remedy or replace. See page 1-6-18.
		Fuser thermostat 1 operated.	Replace the Fuser thermostat 1. See page 1-6-18.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective power supply PWB.	Replace the power supply PWB. See page 1-6-25.
		Defective fuser PWB (KP-970).	Replace the fuser PWB (KP-970).
		Defective harness of the fuser thermistor 1, or poor contact of the connector terminals.	Check the harness of the fuser thermistor 1, check the connection YC694 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
		Defective fuser heater lamp 1.	Replace the fuser heater lamp 1. See page 1-6-18.
		Defective harness (S02857: 220 - 240 V AC model, S02858: 120 V AC model) between fuser unit connector and fuser heater lamp 1.	Check the continuity of the harness (S02857: 220 - 240 V AC model, S02858: 120 V AC model), check the connection YC694 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
		Defective harness (S02856) between fuser unit connector and power supply PWB.	Check the continuity of the harness (S02856), check the connection CN2 connector of the power supply PWB, if there is trouble, remedy or replace.
6020	Fuser abnormal high temperature error (heat roller) <ul style="list-style-type: none"> Abnormal high fuser temperature of the heat roller was detected. 	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective fuser PWB (KP-970)	Replace the fuser PWB (KP-970).
		Defective power supply PWB (KP-1054).	Replace the power supply PWB. See page 1-6-25.
		Defective installation condition of fuser thermistor 1.	Check the installation condition of fuser thermistor 1, if there is trouble, remedy or replace. See page 1-6-18.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
6030	Fuser thermistor 1 broken error (heat roller) <ul style="list-style-type: none"> It was judged it has been broken from the fact that it is not the input signal from of the fuser thermistor 1 which detects the fuser temperature of the heat roller. 	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective harness of the fuser PWB (KP-970) between fuser thermistor 1 or poor contact of the connector terminals.	Check harness of the fuser PWB (KP-970), check the connection YC694 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
		Defective harness (S02854) between fuser PWB (KP-970) and fuser connector or poor contact of the connector terminals.	Check the continuity of the harness (S02854), check the connection YC691 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
		Defective harness (S02853) power supply PWB and fuser connector or poor contact of the connector terminals.	Check the continuity of the harness (S02853), check the connection YC902 connector of the power supply PWB, if there is trouble, remedy or replace.
		Defective fuser PWB (KP-970).	Replace the fuser PWB (KP-970).
		Defective power supply PWB.	Replace the power supply PWB. See page 1-6-26.
		Defective installation condition of fuser thermistor 1.	Check the installation condition of fuser thermistor 1, if there is trouble, remedy or replace. See page 1-6-18.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
6100	Fuser temperature time-out error (press roller) <ul style="list-style-type: none"> Doing the control which turns on the fuser heater lamp 2 which is built in to the press roller of the fuser unit, the fuser temperature which fuser thermistor 2 detects stipulated temperature did not rise within stipulated time. 	Defective installation condition of fuser thermistor 2.	Check the installation condition of fuser thermistor 2, if there is trouble, remedy or replace. See page 1-6-18.
		Fuser thermostat 2 operated.	Replace the Fuser thermostat 2. See page 1-6-18.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective power supply PWB.	Replace the power supply PWB. See page 1-6-25.
		Defective fuser PWB (KP-970).	Replace the fuser PWB (KP-970).
		Defective harness of the fuser thermistor 2, or poor contact of the connector terminals.	Check the harness of the fuser thermistor 2, check the connection YC693 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
		Defective fuser heater lamp 2.	Replace the fuser heater lamp 2. See page 1-6-18.
		Defective harness (S02857: 220 - 240 V AC model, S02858: 120 V AC model) between fuser unit connector and fuser heater lamp 2.	Check the continuity of the harness (S02857: 220 - 240 V AC model, S02858: 120 V AC model), check the connection YC693 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
		Defective harness (S02856) between fuser unit connector and power supply PWB.	Check the continuity of the harness (S02856), check the connection CN2 connector of the power supply PWB, if there is trouble, remedy or replace.
6120	Fuser abnormal high temperature error (press roller) <ul style="list-style-type: none"> Abnormal high fuser temperature of the press roller was detected. 	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective fuser PWB (KP-970).	Replace the fuser PWB (KP-970).
		Defective power supply PWB.	Replace the power supply PWB. See page 1-6-25.
		Defective installation condition of fuser thermistor 2.	Check the installation condition of fuser thermistor 2, if there is trouble, remedy or replace. See page 1-6-18.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
6130	Fuser thermistor 2 broken error (press roller) <ul style="list-style-type: none"> It was judged it has been broken from the fact that it is not the input signal from of the fuser thermistor 2 which detects the fuser temperature of the press roller. 	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective harness of the fuser PWB (KP-970) between fuser thermistor 2 or poor contact of the connector terminals.	Check harness of the fuser PWB (KP-970), check the connection YC693 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
		Defective harness (S02854) between fuser PWB (KP-970) and fuser connector or poor contact of the connector terminals.	Check the continuity of the harness (S02854), check the connection YC691 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
		Defective harness (S02853) power supply PWB and fuser connector or poor contact of the connector terminals.	Check the continuity of the harness (S02853), check the connection YC902 connector of the power supply PWB, if there is trouble, remedy or replace.
		Defective fuser PWB (KP-970).	Replace the fuser PWB (KP-970).
		Defective power supply PWB.	Replace the power supply PWB. See page 1-6-25.
		Defective installation condition of fuser thermistor 2.	Check the installation condition of fuser thermistor 2, if there is trouble, remedy or replace. See page 1-6-18.
6400	Zero cross signal error <ul style="list-style-type: none"> The zero cross signal which from the POWER supply PWB is outputted to the engine controller PWB (KP-1054) was not detected. 	Defective power supply PWB.	Replace the power supply PWB. See page 1-6-25.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
7001	Toner motor 4 overcurrent detection error (black toner) <ul style="list-style-type: none"> The engine controller PWB (KP-1054) detected the overcurrent of toner motor 4. 	Defective toner motor 4.	Replace the toner motor 4. See page 1-6-34.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Lump of toner inside black toner container or defectiveness of toner replenishment drive system.	Replace the black toner container.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
7002	Toner motor 2 overcurrent detection error (cyan toner) <ul style="list-style-type: none"> The engine controller PWB (KP-1054) detected the overcurrent of toner motor 2. 	Defective toner motor 2.	Replace the toner motor 2. See page 1-6-34.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Lump of toner inside cyan toner container or defectiveness of toner replenishment drive system.	Replace the cyan toner container.
7003	Toner motor 1 overcurrent detection error (magenta toner) <ul style="list-style-type: none"> The engine controller PWB (KP-1054) detected the overcurrent of toner motor 1. 	Defective toner motor 1.	Replace the toner motor 1. See page 1-6-34.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Lump of toner inside magenta toner container or defectiveness of toner replenishment drive system.	Replace the magenta toner container.
7004	Toner motor 3 overcurrent detection error (yellow toner) <ul style="list-style-type: none"> The engine controller PWB (KP-1054) detected the overcurrent of toner motor 3. 	Defective toner motor 3.	Replace the toner motor 3. See page 1-6-34.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Lump of toner inside yellow toner container or defectiveness of toner replenishment drive system.	Replace the yellow toner container.
7401	Black developer unit non- installing error <ul style="list-style-type: none"> The toner sensor 4 inside the black developer unit did not output the density detection signal, judged the engine controller PWB (KP-1054) the black developer unit is not installed. 	Defective harness of the toner sensor 4, defective connection of the connector between black developer unit and the printer main unit or poor contact of the connector terminals.	Check the damage of harness of the toner sensor 4, check the connection of the connector with the black developer unit and the printer main unit, if there is trouble, remedy or replace.
		Defective toner sensor 4.	Replace the black developer unit. See page 1-6-11.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective engine relay PWB (KP-966).	Replace the engine relay PWB (KP-966).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
7402	Magenta developer unit non- installing error <ul style="list-style-type: none"> The toner sensor 1 inside the magenta developer unit did not output the density detection signal, judged the engine controller PWB (KP-1054) the magenta developer unit is not installed. 	Defective harness of the toner sensor 1, defective connection of the connector between magenta developer unit and the printer main unit or poor contact of the connector terminals.	Check the damage of harness of the toner sensor 1, check the connection of the connector with the magenta developer unit and the printer main unit, if there is trouble, remedy or replace.
		Defective toner sensor 1.	Replace the magenta developer unit. See page 1-6-11.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective engine relay PWB (KP-966).	Replace the engine relay PWB (KP-966).
7403	Cyan developer unit non- installing error <ul style="list-style-type: none"> The toner sensor 2 inside the cyan developer unit did not output the density detection signal, judged the engine controller PWB (KP-1054) the cyan developer unit is not installed. 	Defective harness of the toner sensor 2, defective connection of the connector between cyan developer unit and the printer main unit or poor contact of the connector terminals.	Check the damage of harness of the toner sensor 2, check the connection of the connector with the cyan developer unit and the printer main unit, if there is trouble, remedy or replace.
		Defective toner sensor 2.	Replace the cyan developer unit. See page 1-6-11.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective engine relay PWB (KP-966).	Replace the engine relay PWB (KP-966).
7404	Yellow developer unit non- installing error <ul style="list-style-type: none"> The toner sensor 3 inside the yellow developer unit did not output the density detection signal, judged the engine controller PWB (KP-1054) the yellow developer unit is not installed. 	Defective harness of the toner sensor 3, defective connection of the connector between yellow developer unit and the printer main unit or poor contact of the connector terminals.	Check the damage of harness of the toner sensor 3, check the connection of the connector with the yellow developer unit and the printer main unit, if there is trouble, remedy or replace.
		Defective toner sensor 3.	Replace the yellow developer unit. See page 1-6-11.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective engine relay PWB (KP-966).	Replace the engine relay PWB (KP-966).

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
7411	Black drum unit non- installing error • The EEPROM (U401) on the drum PWB 4 (KP-972) inside the black drum unit does not communicate normally.	Defective harness between drum PWB 4 (KP-972) and printer main unit or poor contact of the connector terminals.	Check the connection of the black drum unit and the printer main unit, check the continuity of the harness (S02867), if there is trouble, remedy or replace.
		Defective drum PWB 4 (KP-972).	Replace the drum PWB 4 (KP-972).
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
		Defective harness (S02869) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048) or poor contact of the connector terminals.	Check the continuity of the harness (S02869), check the connection YC3 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
7412	Cyan drum unit non- installing error • The EEPROM (U401) on the drum PWB 2 (KP-972) inside the cyan drum unit does not communicate normally.	Defective harness between drum PWB 2 (KP-972) and printer main unit or poor contact of the connector terminals.	Check the connection of the cyan drum unit and the printer main unit, check the continuity of the harness (S02867), if there is trouble, remedy or replace.
		Defective drum PWB 2 (KP-972).	Replace the drum PWB 2 (KP-972).
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
		Defective harness (S02869) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048) or poor contact of the connector terminals.	Check the continuity of the harness (S02869), check the connection YC3 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
7413	Magenta drum unit non- installing error • The EEPROM (U401) on the drum PWB 1 (KP-972) inside the magenta drum unit does not communicate normally.	Defective harness between drum PWB 1 (KP-972) and printer main unit or poor contact of the connector terminals.	Check the connection of the magenta drum unit and the printer main unit, check the continuity of the harness (S02867), if there is trouble, remedy or replace.
		Defective drum PWB 1 (KP-972).	Replace the drum PWB 1 (KP-972).
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
		Defective harness (S02869) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048) or poor contact of the connector terminals.	Check the continuity of the harness (S02869), check the connection YC3 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
7414	Yellow drum unit non- installing error • The EEPROM (U401) on the drum PWB 3 (KP-972) inside the yellow drum unit does not communicate normally.	Defective harness between drum PWB 3 (KP-972) and printer main unit or poor contact of the connector terminals.	Check the connection of the magenta drum unit and the printer main unit, check the continuity of the harness (S02867), if there is trouble, remedy or replace.
		Defective drum PWB 3 (KP-972).	Replace the drum PWB 3 (KP-972).
		Defective LED print heads relay PWB (KP-1048).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective LED print heads relay PWB (KP-1048).	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
		Defective harness (S02869) between engine controller PWB (KP-1054) and LED print heads relay PWB (KP-1048) or poor contact of the connector terminals.	Check the continuity of the harness (S02869), check the connection YC3 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.

Code	Contents	Remarks	
		Causes	Check procedures/corrective measures
7600	Toner ID sensor error <ul style="list-style-type: none"> The detection signal of the toner ID sensor was abnormal value. 	Defective toner ID sensor.	Replace the toner ID sensor.
		Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-26.
		Defective harness (S02865) between engine controller PWB (KP-1054) and toner ID sensor or poor contact of the connector terminals.	Check the continuity of the harness (S02865), check the connection YC11 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
F0 (F000)	Operation panel PWB communication error <ul style="list-style-type: none"> The operation panel PWB (KP-962) does not communicate to the main controller PWB (KP-957) normally 30 seconds. 	Defective main controller PWB (KP-957).	Replace the main controller PWB (KP-957). See page 1-6-24.
		Defective operation panel PWB (KP-962).	Replace the operation panel PWB (KP-962).
F010	System DIMM PWB checksum error <ul style="list-style-type: none"> The system DIMM PWB (KP-893) which stores the program checksum did not coincide. 	Defective system DIMM PWB (KP-893).	Replace the system DIMM PWB (KP-893).
		Defective main controller PWB (KP-957).	Replace the main controller PWB (KP-957). See page 1-6-24.
F020	Main controller PWB memory check error <ul style="list-style-type: none"> It could not access to the standard memory or the optional expanding memory which are mounted on the main PWB (KP-957) normally. 	Defective main controller PWB (KP-957).	Replace the main controller PWB (KP-1054). See page 1-6-24.
		Defective expanding memory.	If the expanding memory is installed, after removing or replacing the expanding memory, do the operation check. If operation is normal, replace the expanding memory. See page 1-3-7.
F030	Main controller PWB system error <ul style="list-style-type: none"> The error which is related to the system other than the error code F0 (F010) and F020 occurred. 	Defective main controller PWB (KP-957).	Replace the main controller PWB (KP-1054). See page 1-6-24.
F040	Engine controller PWB communication error <ul style="list-style-type: none"> The main controller PWB (KP-957) does not communicate to the engine controller PWB (KP-1054) normally. 	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
		Defective main controller PWB (KP-957).	Replace the main controller PWB (KP-957). See page 1-6-24.
F050	Engine controller PWB flash ROM error <ul style="list-style-type: none"> Abnormality occurring in the flash ROM which is mounted on the engine controller PWB (KP-1054), the main controller PWB (KP-957) received notification. 	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.

1-5-3 Electrical problems

Problem	Causes	Check procedures/corrective measures
(1) "Close top cover" display is not cancelled to closing the top cover.	Right edge of the top cover floating, it is not closed completely.	Close the top cover securely.
	Defective top cover switch 2.	Replace the top cover switch 2.
	Defective top cover/paper feed unit switch (SW701) of the sensor PWB (KP-982).	Replace the sensor PWB (KP-982).
	Defective harness (S02846) between engine controller PWB (KP-1054) and top cover switch 2 or poor contact of the connector terminals.	Check the continuity of the harness (S02846), check the connection YC11 connector of the engine controller PWB (KP-1054), if there is trouble, remedy or replace.
	Malfunctioning interlock rod that interfaces between the top cover and the top cover/paper feed unit switch (SW701).	Check to see if the interlock rod malfunctions. If it malfunctions, repair it.
	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
	Defective harness (S02849) between engine controller PWB (KP-1054) and sensor PWB (KP-982) or poor contact of the connector terminals.	Check the continuity of the harness (S02849), check the connection YC2 connector of the engine controller PWB (KP-1054), check the connection YC701 and YC702 connectors of the sensor PWB (KP-982), if there is trouble, remedy or replace.
(2) "Close side cover" display is not cancelled to closing the top cover.	Defective side cover switch (SW702) of the sensor PWB (KP-982).	Replace the sensor PWB (KP-982).
	The actuator of the side cover switch (SW702) of the sensor PWB (KP-982) is bent.	Check the bending of the actuator of the side cover switch, if there is trouble, remedy or replace.
	Defective sensor PWB (KP-982).	Replace the sensor PWB (KP-982).
	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
	Defective harness (S02849) between engine controller PWB (KP-1054) and sensor PWB (KP-982) or poor contact of the connector terminals.	Check the continuity of the harness (S02849), check the connection YC2 connector of the engine controller PWB (KP-1054), check the connection YC701 and YC702 connectors of the sensor PWB (KP-982), if there is trouble, remedy or replace.

Problem	Causes	Check procedures/corrective measures
(3) "Close paper transfer unit" display is not cancelled to closing the paper feed unit.	Defective top cover/paper feed unit switch (SW701) of the sensor PWB (KP-982).	Replace the sensor PWB (KP-982).
	Malfunctioning interlock rod that interfaces between the top cover and the top cover/paper feed unit switch (SW701).	Check to see if the interlock rod malfunctions. If it malfunctions, repair it.
	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
	Defective harness (S02849) between engine controller PWB (KP-1054) and sensor PWB (KP-982) or poor contact of the connector terminals.	Check the continuity of the harness (S02849), check the connection YC2 connector of the engine controller PWB (KP-1054), check the connection YC701 and YC702 connectors of the sensor PWB (KP-982), if there is trouble, remedy or replace.
(4) "Cassette 1 not loaded" display is not cancelled to closing the paper cassette.	Defective cassette size switch.	Replace the cassette size switch.
	Defective sensor PWB (KP-982).	Replace the sensor PWB (KP-982).
	Defective harness (S02861) between cassette size switch and sensor PWB (KP-982) or poor contact of the connector terminals.	Check the continuity of the harness (S02861), check the connection YC703 connector of sensor PWB (KP-982), if there is trouble, remedy or replace.
	Defective harness (S02849) between engine controller PWB (KP-1054) and sensor PWB (KP-982) or poor contact of the connector terminals.	Check the continuity of the harness (S02849), check the connection YC2 connector of the engine controller PWB (KP-1054), check the connection YC701 and YC702 connectors of the sensor PWB (KP-982), if there is trouble, remedy or replace.
	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
(5) "Check waste toner box" display is not cancelled to replacing the waste toner box.	The waste toner full sensor or the waste toner full sensor [PWB] (KP-974) the sensor section is dirty.	Replace the waste toner full sensor or the waste toner full sensor [PWB] (KP-974).
	Defective harness (S02863) between bias high voltage PWB (KP-980) and waste toner full sensor [PWB] (KP-974) or poor contact of the connector terminals.	Check the continuity of the harness (S02863), check the connection of YC802 connector of the bias high voltage PWB (KP-980), check the connection of YC682 connector of the waste toner full sensor [PWB] (KP-974) if there is trouble, remedy or replace.
	Defective harness (S02862) between waste toner full sensor and waste toner full sensor [PWB] (KP-974) or poor contact of the connector terminals.	Check the continuity of the harness (S02862), check the connection YC681 connector of the waste toner full sensor [PWB] (KP-974), if there is trouble, remedy or replace.
	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.

Problem	Causes	Check procedures/corrective measures
(6) The paper size is not recognized as the size set with the paper size dial.	Defective cassette size switch.	Replace the cassette size switch.
	Defective sensor PWB (KP-982).	Replace the sensor PWB (KP-982).
	Defective harness (S02861) between cassette size switch and sensor PWB (KP-982) or poor contact of the connector terminals.	Check the continuity of the harness (S02861), check the connection YC703 connector of sensor PWB (KP-982), if there is trouble, remedy or replace.
	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
(7) Paper misfeed display is not cancelled.	Defective registration sensor.	Replace the sensor PWB (KP-982).
	Defective sensor PWB (KP-982).	Replace the sensor PWB (KP-982).
	Defective harness (S02849) between engine controller PWB (KP-1054) and sensor PWB (KP-982) or poor contact of the connector terminals.	Check the continuity of the harness (S02849), check the connection YC2 connector of the engine controller PWB (KP-1054), check the connection YC701 and YC702 connectors of the sensor PWB (KP-982), if there is trouble, remedy or replace.
	Defective exit sensor.	Replace the fuser PWB (KP-970).
	Defective harness (S02849) between fuser PWB (KP-970) and fuser connector or poor contact of the connector terminals.	Check the continuity of the harness (S02849), check the connection YC691 connector of the fuser PWB (KP-970), if there is trouble, remedy or replace.
	Defective harness (S02853) between power supply PWB and fuser connector or poor contact of the connector terminals.	Check the continuity of the harness (S02853), check the connection YC902 connector of the power supply PWB, if there is trouble, remedy or replace.
	Defective engine controller PWB (KP-1054).	Replace the engine controller PWB (KP-1054). See page 1-6-25.
	Defective power supply PWB.	Replace the power supply PWB. See page 1-6-25.

1-5-4 Image formation problems

(1) No image appears (entirely white).



P.1-5-22

(2) No image appears (entirely black).



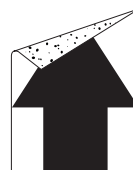
P.1-5-22

(3) A specific color is printed solid.



P.1-5-23

(4) The back side gets dirty.



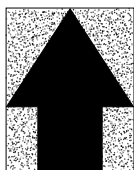
P.1-5-23

(5) Image is too light.



P.1-5-24

(6) The background is colored.



P.1-5-24

(7) White streaks are printed vertically.



P.1-5-25

(8) Black streaks are printed vertically.



P.1-5-25

(9) Streaks are printed horizontally.



P.1-5-26

(10) Spots are printed.



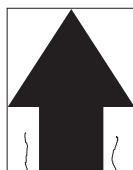
P.1-5-26

(11) The leading edge of image begins to print too early or too late.



P.1-5-26

(12) Paper is wrinkled.



P.1-5-27

(13) Offset occurs.



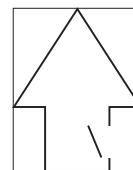
P.1-5-27

(14) Part of image is missing.



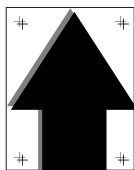
P.1-5-27

(15) Fusing is loose.



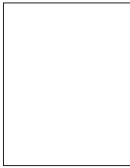
P.1-5-28

(16) Colors are printed offset to each other.



P.1-5-28

(1) No image appears (entirely white).



Causes

1. The LED print head has not done functioning.
2. Defective developing sleeve bias or developing magnet bias output.
3. Defective secondary transfer bias output.
4. Malfunction of the developer installation.

Causes	Check procedures/corrective measures
1. The LED print head has not done functioning.	
A. Loose connection with drum connectors.	Check connection between the drum unit and the unit frame. If necessary, secure the connection. (Do not attempt to disconnect/connect the connector while power is on.)
B. Loose connection with the LED print head connector.	Check CN2 (LED print head connector) for connection. If necessary, secure the connection. (Do not attempt to disconnect/connect the connector while power is on.)
C. Defective main controller PWB.	Replace the main controller PWB (KP-957). See page 1-6-24.
D. Defective LED print heads relay PWB. See page 1-6-26.	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.
2. Defective developing sleeve bias or developing magnet bias output.	
A. Defective engine controller PWB.	Replace the engine controller PWB (KP-1054). See page 1-6-25.
B. Defective main high voltage PWB.	Replace the main high voltage PWB (KP-978). See page 1-6-30.
3. Defective secondary transfer bias output.	
A. Defective engine controller PWB.	Replace the engine controller PWB (KP-1054). See page 1-6-25.
B. Defective bias high voltage PWB.	Replace the bias high voltage PWB (KP-980). See page 1-6-30.
4. Malfunction of the developer installation.	Reinstall the developer. See page 1-6-11.

(2) No image appears (entirely black).

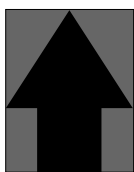


Causes

1. No main charging.
2. Defective LED print heads relay PWB.

Causes	Check procedures/corrective measures
1. No main charging.	
A. Poor contact of output terminal of main high voltage PWB.	Check the installation of the main high voltage PWB (KP-978), If it installation incorrectly, reinstall it. See page 1-6-29.
B. Defective main high voltage PWB.	Replace the main high voltage PWB (KP-978). See page 1-6-29.
C. Poor contact of output terminal of main high voltage PWB.	Check the installation of the main high voltage PWB (KP-978), If it installation incorrectly, reinstall it. See page 1-6-30
D. Defective engine controller PWB.	Replace the engine controller PWB (KP-1054). See page 1-6-25.
2. Defective LED print heads relay PWB.	Replace the LED print heads relay PWB (KP-1048). See page 1-6-28.

(3) A specific color is printed solid.

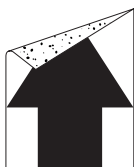


Causes

1. Defective main charger unit which corresponds to the color causing the problem.
2. Disconnected main charger wire.

Causes	Check procedures/corrective measures
1. Defective main charger unit which corresponds to the color causing the problem.	Check if the main charger unit is properly seated. If necessary, reseal it properly.
2. Disconnected main charger wire.	Replace main charger unit.

(4) The back side gets dirty.

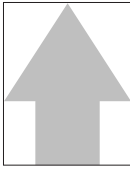


Causes

1. Dirty secondary transfer roller.
2. Dirty paper conveying path of the paper feed unit.
3. Dirty heat roller and press roller.

Causes	Check procedures/corrective measures
1. Dirty secondary transfer roller.	Clean the secondary transfer roller.
2. Dirty paper conveying path of the paper feed unit.	Clean the paper conveying path of the paper feed unit.
3. Dirty heat roller and press roller.	Clean the heat roller and press roller. See page 1-4-14.

(5) Image is too light.

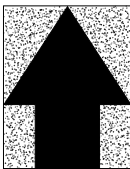


Causes

1. Defective developing bias output.
2. Dirty drum.
3. Dirty SELFOC lens of LED print head.

Causes	Check procedures/corrective measures
1. Defective developing bias output.	
A. Defective developer.	Check the four colors of image by using the test print of service mode. If the defect appears on a particular color, replace the developer for that color. See pages 1-4-11, 1-6-11.
B. Defective bias high voltage PWB.	Replace the bias high voltage PWB (KP-980). See page 1-6-30.
A. Defective engine controller PWB.	Replace the engine controller PWB (KP-1054). See page 1-6-25.
B. Defective main controller PWB.	Replace the main controller PWB (KP-957). See page 1-6-24.
C. Defective drum unit.	Replace the drum unit. See page 1-6-12.
2. Dirty drum.	Perform the drum surface refreshing. See page 1-4-12.
3. Defective color calibration.	
A. Dirty sensing surface of the toner ID sensor.	Clean the sensing surface of the toner ID sensor.
B. The printer environment considerably changed since an automatic calibration was made.	Perform the color calibration of service mode. See page 1-4-10.
4. Dirty SELFOC lens of LED print head.	Clean the SELFOC lens of LED print head by using LED cleaner.

(6) The background is colored.



Causes

1. Defective developing sleeve bias output.
2. Defective primary transfer cleaning unit.
3. Defective color calibration.

Causes	Check procedures/corrective measures
1. Defective developing sleeve bias output.	
A. Defective developer.	Check the four colors of image by using the test print of service mode. If the defect appears on a particular color, replace the developer for that color. See pages 1-4-11, 1-6-11.
B. Defective bias high voltage PWB.	Replace the bias high voltage PWB (KP-980). See page 1-6-30.
C. Defective engine controller PWB.	Replace the engine controller PWB (KP-1054). See page 1-6-25.
D. Defective main controller PWB.	Replace the main controller PWB (KP-957). See page 1-6-24.
E. Defective drum unit.	Replace the drum unit. See page 1-6-12.
2. Defective primary transfer cleaning unit.	Replace the primary transfer cleaning unit. See page 1-6-16.
3. Defective color calibration.	
A. Dirty sensing surface of the toner ID sensor.	Clean the sensing surface of the toner ID sensor.
B. The printer environment considerably changed since an automatic calibration was made.	Perform the color calibration of service mode. See page 1-6-17.

- (7) White streaks are printed vertically.



Causes

1. Defective LED print head output.
2. Defective main charging output.
3. Foreign object in one of the developers.
4. Adhesion of soiling to primary transfer belt.

Causes	Check procedures/corrective measures
1. Defective LED print head output.	
A. Poor insertion of LED cleaner.	Check if the LED cleaner unit is properly seated. If necessary, reseal it properly.
B. Dirty SELFOC lens of LED print head.	Clean the SELFOC lens of LED print head by using LED cleaner.
C. Focus is lost with the LED print head.	Check the four colors of image by using the test print of service mode. If the defect appears on a particular color, replace the LED print head for that color. See page 1-4-13
D. Defective LED print head.	Check the four colors of image by using the test print of service mode. If the defect appears on a particular color, replace the LED print head for that color. See page 1-4-13.
2. Defective main charging output.	
A. Adhesion of oxide to main charger wire.	Clean the main charger wire by using main charger wire cleaner.
B. Dirty main charger grid.	Clean the main charger wire by using main charger grid cleaner.
C. Dirty main charger shield.	Replace the main charger unit.
3. Foreign object in one of the developers.	Check the image by using the test print of service mode. If the white line appears on a particular page, replace the developer for that color (See page 1-4-11, 1-6-11).
4. Adhesion of soiling to primary transfer belt.	Replace the primary transfer unit. See page 1-6-14.

- (8) Black streaks are printed vertically.



Causes

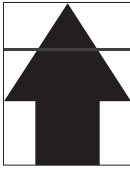
1. Dirty main charger wire.
2. Poor insertion of the main charger wire cleaner.
3. Dirty or flawed drum.
4. Deformed or worn cleaning blade in the drum unit.
5. Defect fur brush of the primary transfer cleaning unit.
6. Worn primary transfer belt.

Causes	Check procedures/corrective measures
1. Dirty main charger wire.	Clean the main charger wire by using main charger wire cleaner.
2. Poor insertion of the main charger wire cleaner.	Check if the main charger wire cleaner is properly seated. If necessary, reseal it properly.
3. Dirty or flawed drum.	
A. Dirty drum.	Perform the drum surface refreshing. See page 1-4-13.
B. Flawed drum.	Replace the drum unit. See page 1-6-12.
4. Deformed or worn cleaning blade in the drum unit.	Replace the drum unit. See page 1-6-12.
5. Defect fur brush of the primary transfer cleaning unit.	Replace the primary transfer cleaning unit. See page 1-6-16.
6. Worn primary transfer belt.	Replace the primary transfer unit. See page 1-6-14.

(9) Streaks are printed horizontally.

Causes

1. Poor contact of output terminal of main charger unit.
2. Poor contact of grounding terminal of drum unit.
3. Poor contact of developing bias terminal of developer.



Causes	Check procedures/corrective measures
1. Poor contact of output terminal of main charger unit.	Insert the main charger properly.
2. Poor contact of grounding terminal of drum unit.	Replace the drum unit. See page 1-6-12.
3. Poor contact of developing bias terminal of developer.	Replace the developer. See page 1-6-11.

(10) Spots are printed.

Causes

1. Dirty or flawed drum.
2. Deformed or worn cleaning blade in the drum unit.
3. Defect fur brush of the primary transfer cleaning unit.
4. Flawed developing sleeve roller.
5. Dirty heat roller and press roller.



Causes	Check procedures/corrective measures
1. Dirty or flawed drum.	Perform the drum surface refreshing. See page 1-4-13.
2. Deformed or worn cleaning blade in the drum unit.	Replace the drum unit. See page 1-6-12.
3. Defect fur brush of the primary transfer cleaning unit.	Replace the primary transfer cleaning unit. See page 1-6-16.
4. Flawed developing sleeve roller.	Replace the developer. See page 1-6-11.
5. Dirty heat roller and press roller.	Perform the heat roller and press roller cleaning. See page 1-4-14.

(11) The leading edge of image begins to print too early or too late.

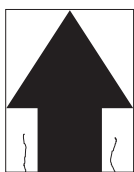
Causes

1. Registration clutch operating incorrectly.
2. Defective engine controller PWB.
3. Defective main controller PWB.



Causes	Check procedures/corrective measures
1. Registration clutch operating incorrectly.	Check the installation of the registration clutch. If it operates incorrectly, replace it.
2. Defective engine controller PWB.	Replace the engine controller PWB (KP-1054). See page 1-6-25.
3. Defective main controller PWB.	Replace the main controller PWB (KP-957). See page 1-6-24.

(12) Paper is wrinkled.

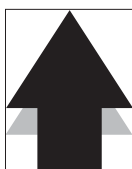


Causes

1. Paper curled.
2. Paper damp.

Causes	Check procedures/corrective measures
1. Paper curled.	Check the paper storage conditions, replace the paper.
2. Paper damp.	Check the paper storage conditions, replace the paper.

(13) Offset occurs.



Causes

1. Deformed or worn cleaning blade in the drum unit.
2. Wrong types of paper.

Causes	Check procedures/corrective measures
1. Deformed or worn cleaning blade in the drum unit.	Replace the drum unit. See page 1-6-12.
2. Wrong types of paper.	Check if the paper meets specifications. Replace paper.

(14) Part of image is missing.

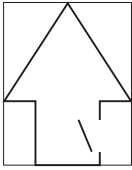


Causes

1. Paper damp.
2. Paper creased.
3. Drum condensation.
4. Flawed drum.
5. Flawed primary transfer belt.

Causes	Check procedures/corrective measures
1. Paper damp.	Check the paper storage conditions, replace the paper.
2. Paper creased.	Replace the paper.
3. Drum condensation.	Perform the drum surface refreshing. See page 1-4-13.
4. Flawed drum.	Replace the drum unit. See page 1-6-12.
5. Flawed primary transfer belt.	Replace the primary transfer unit. See page 1-6-14.

(15) Fusing is loose.

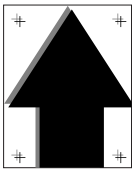


Causes

1. Wrong types of paper.
2. Defective pressure for the heat roller and press roller.
3. Flawed heat roller or press roller.

Causes	Check procedures/corrective measures
1. Wrong types of paper.	Check if the paper meets specifications, replace paper.
2. Defective pressure for the heat roller and press roller.	Check the fuser pressure springs.
3. Flawed heat roller or press roller.	Replace the heat roller or press roller. See page 1-6-18.

(16) Colors are printed offset to each other.



Causes

1. The drum unit is not properly seated in its position.

Causes	Check procedures/corrective measures
1. The drum unit is not properly seated in its position.	Perform the color registration to correct (Refer to user's manual).

1-6-1 Precautions for assembly and disassembly

(1) Precautions

- Be sure to turn the power switch off and disconnect the power plug before starting disassembly.
- When handling PWBs (printed wiring boards), do not touch parts with bare hands. The PWBs are susceptible to static charge.
- Do not touch any PWB containing ICs with bare hands or any object prone to static charge.
- Use the following circuit testers when measuring voltages:
 - Hioki 3200
 - Sanwa MD-180C
 - Sanwa YX-360TR

1-6-2 Outer covers

(1) Detaching and refitting the top cover

Procedure

1. Open the rear cover.
2. Open the top cover.
3. Remove the opening and closing axis from the main unit frame and then remove the upper cover.

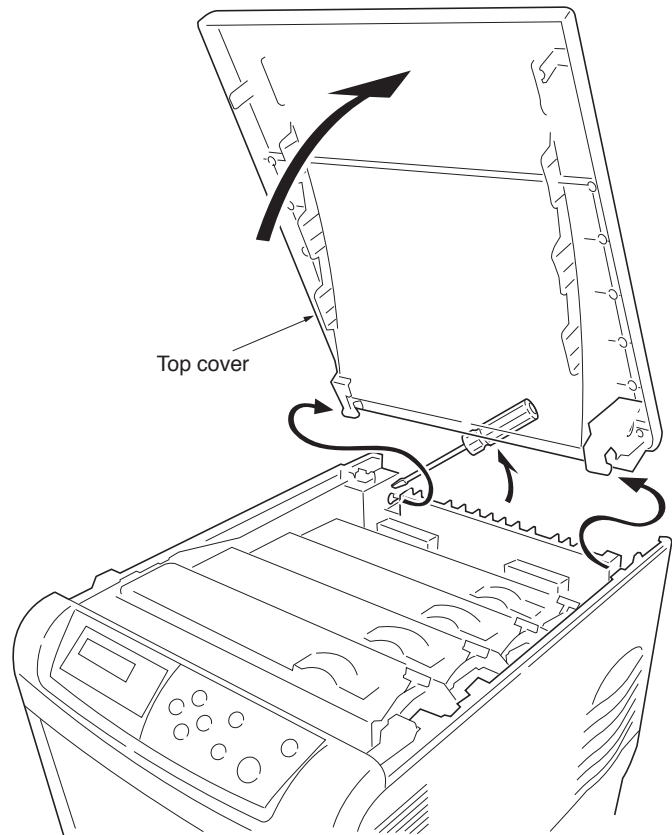


Figure 1-6-1

(2) Detaching and refitting the rear cover

Procedure

1. Open the rear cover.
2. Remove the opening and closing axis from the main unit frame and then remove the rear cover.

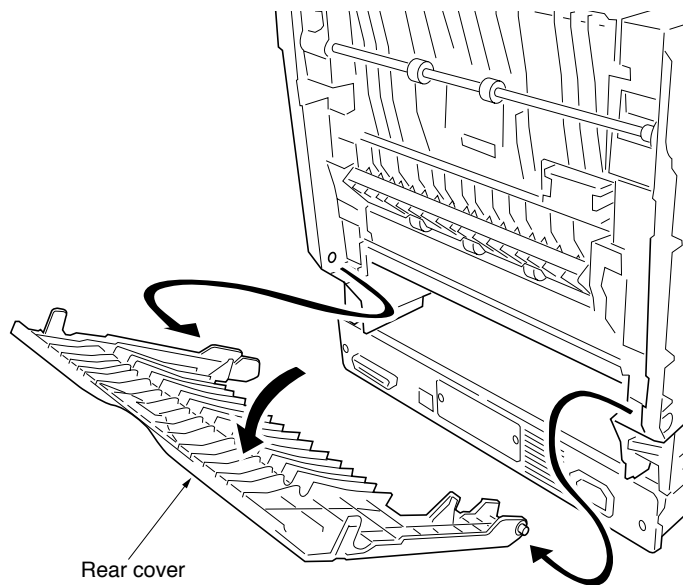


Figure 1-6-2

(3) Detaching and refitting the right cover

Procedure

1. Remove the top cover (see page 1-6-2).
2. Remove the one screw.

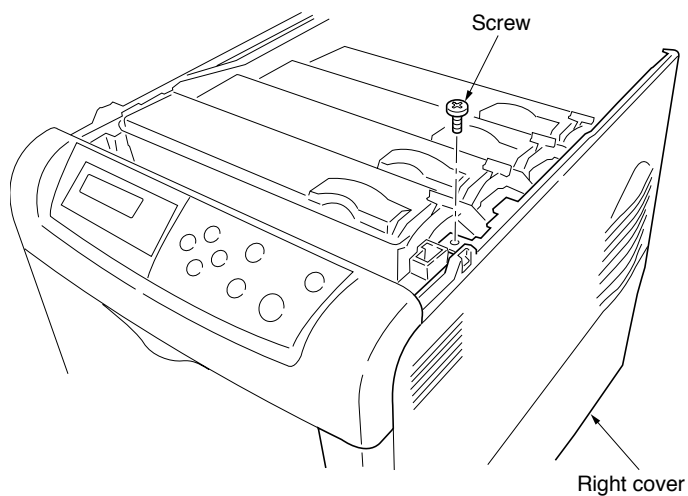


Figure 1-6-3

3. Remove the paper feed unit (see page 1-6-5).
4. Using a flat blade screwdriver, unlatch the right cover at the nine positions as shown in the diagram.

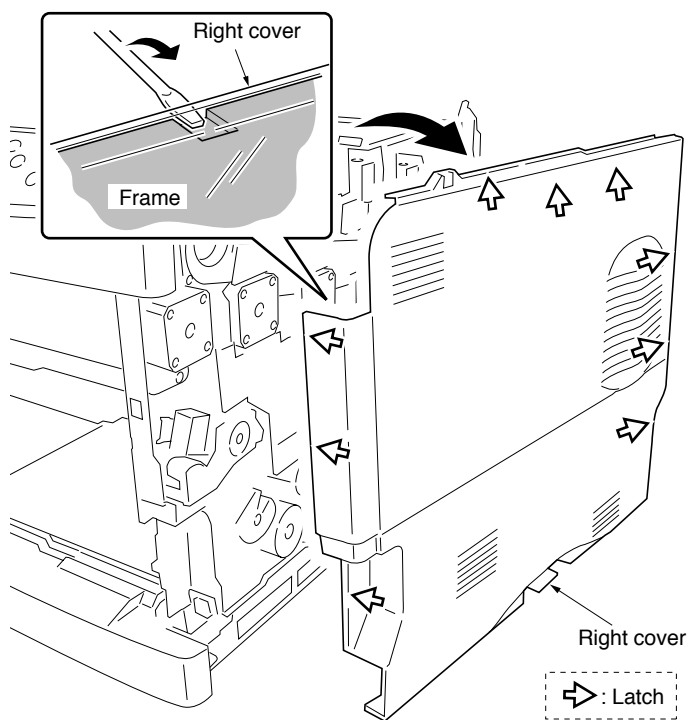


Figure 1-6-4

(4) Detaching and refitting the left cover

Procedure

1. Remove the top cover (see page 1-6-2).
2. Open the side cover and then remove the one screw.
3. Remove the waste toner box. To remove waste toner box, press the lock lever in.

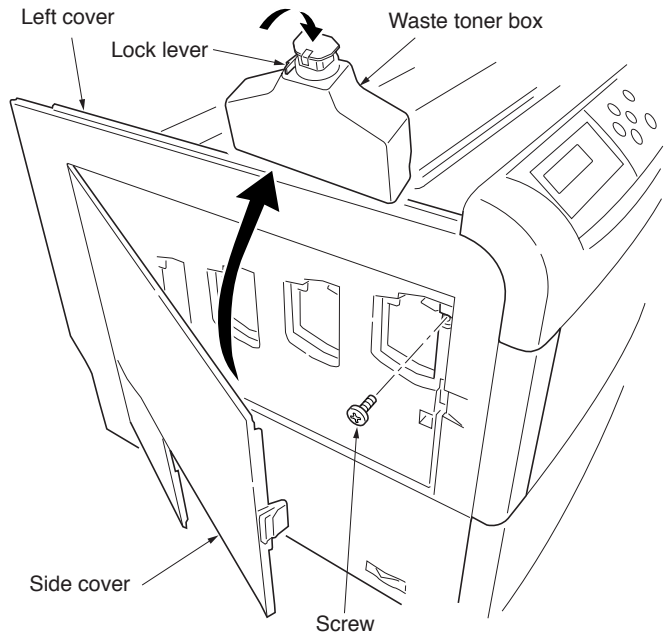


Figure 1-6-5

4. Remove the paper feed unit (see page 1-6-5).
5. Using a flat blade screwdriver, unlatch the right cover at the nine positions as shown in the diagram.

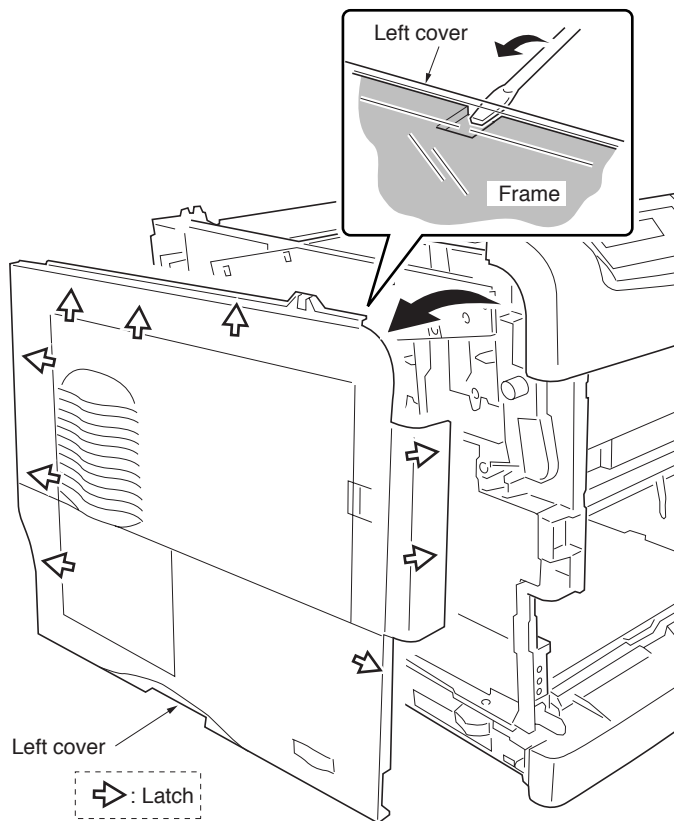


Figure 1-6-6

1-6-3 Paper feed unit

(1) Detaching and refitting the paper feed unit

Procedure

1. Pull out the paper feed unit until stop.
2. While pressing the left and right lock release buttons and then remove the paper feed unit.

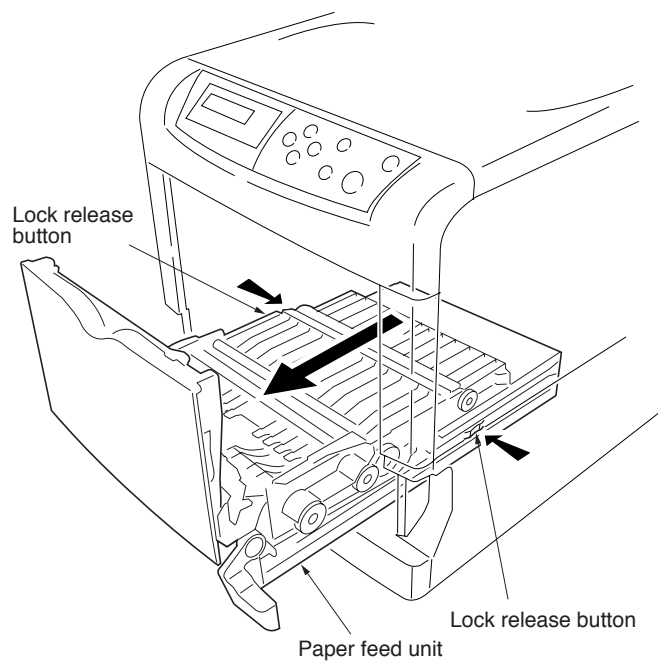


Figure 1-6-7

(2) Detaching and refitting the paper feed roller

Procedure

1. Remove the paper feed unit (see previous page).
2. Turn over the paper feed unit.
3. While pushing the lock release buttons and then detach the joint.
4. Unlatch the latches and then remove paper feed roller unit.

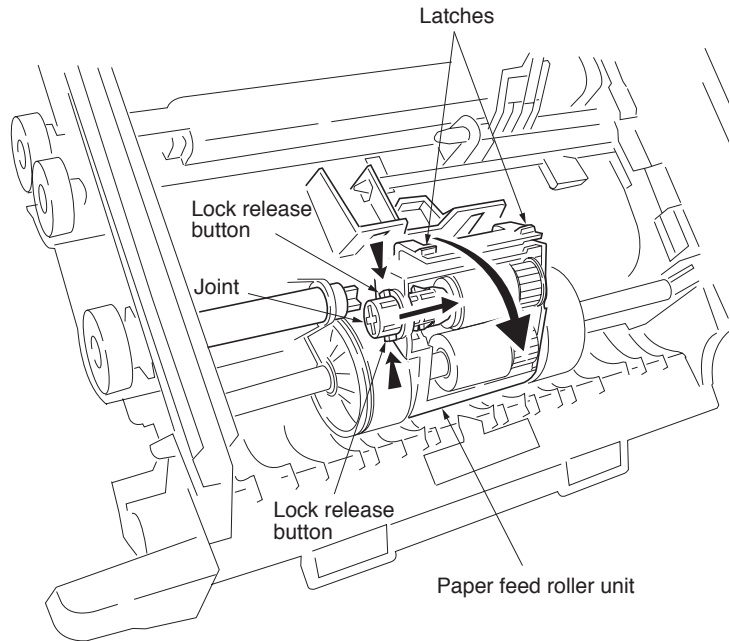


Figure 1-6-8

5. Unlatch the three latches and then remove the feed bracket cover.
6. Remove the feed roller and pickup roller.
 - The one-way clutch is built in to the pickup gear Z32S. When the pickup gear Z32S is installed again, the surface of one-way clutch side is directed to feed bracket cover side.
7. Check or replace the feed roller and then refit all the removed parts.

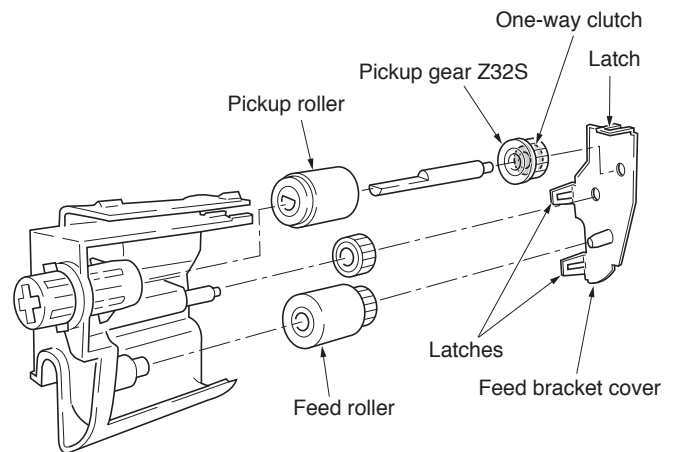


Figure 1-6-9

(3) Detaching and refitting the retard roller

Procedure

1. Remove the paper cassette.
2. Unlatch the two latches and then remove the retard roller holder.
3. Remove the retard roller from retard roller holder.
4. Check or replace the retard roller and then refit all the removed parts.

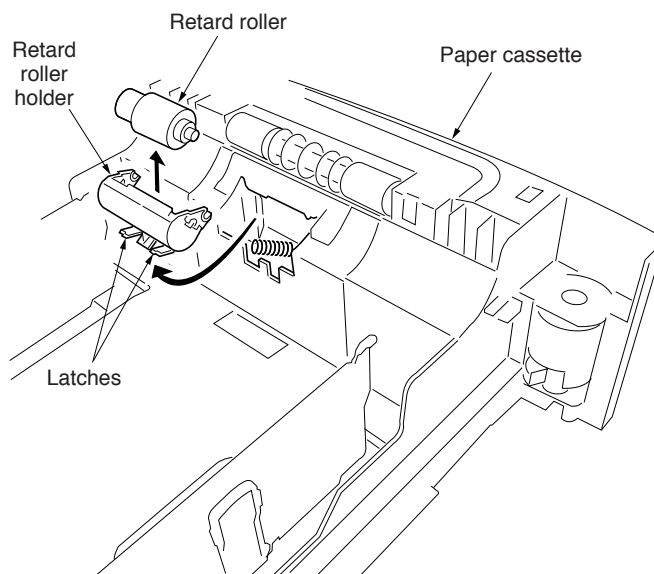


Figure 1-6-10

(4) Detaching and refitting the secondary transfer roller

Procedure

1. Remove the paper feed unit (see page 1-6-5).
2. Removing the hook by sliding and then remove the paper chute.
3. Remove the secondary transfer roller.
4. Remove the transfer roller gear.
5. Check or replace the secondary transfer roller and then refit all the removed parts.

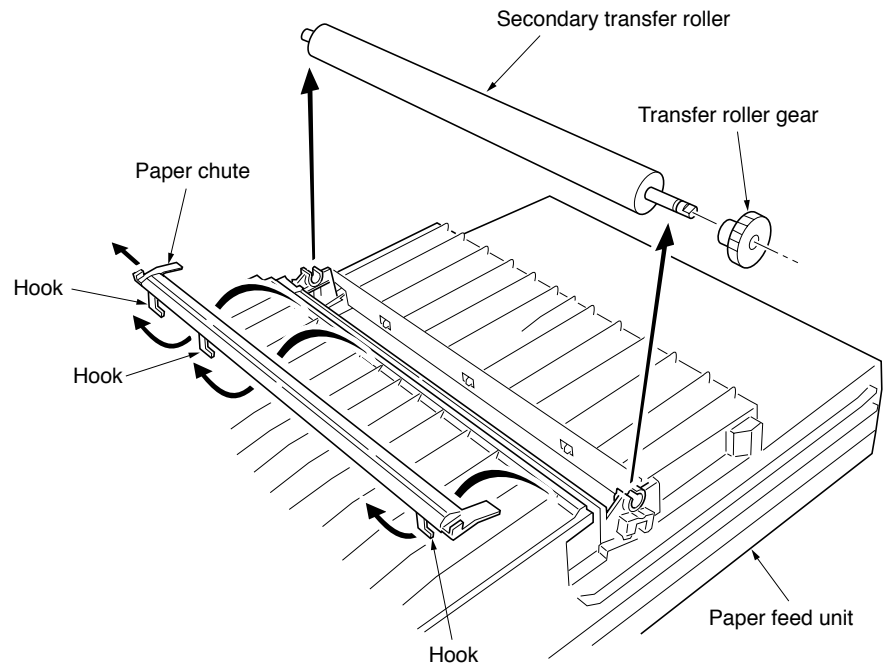


Figure 1-6-11

1-6-4 MP tray feed unit

(1) Detaching and refitting the MP tray feed unit

Procedure

1. Remove the paper feed unit (see page 1-6-5).
2. Remove the paper right cover (see page 1-6-3).
3. Remove the main high voltage PWB (see page 1-6-29).
4. Remove the paper feed drive unit (see page 1-6-32).
5. While pushing the latch from inside the main unit frame and then remove the MP tray feed unit.
6. Check or replace the MP tray feed unit and then refit all the removed parts.

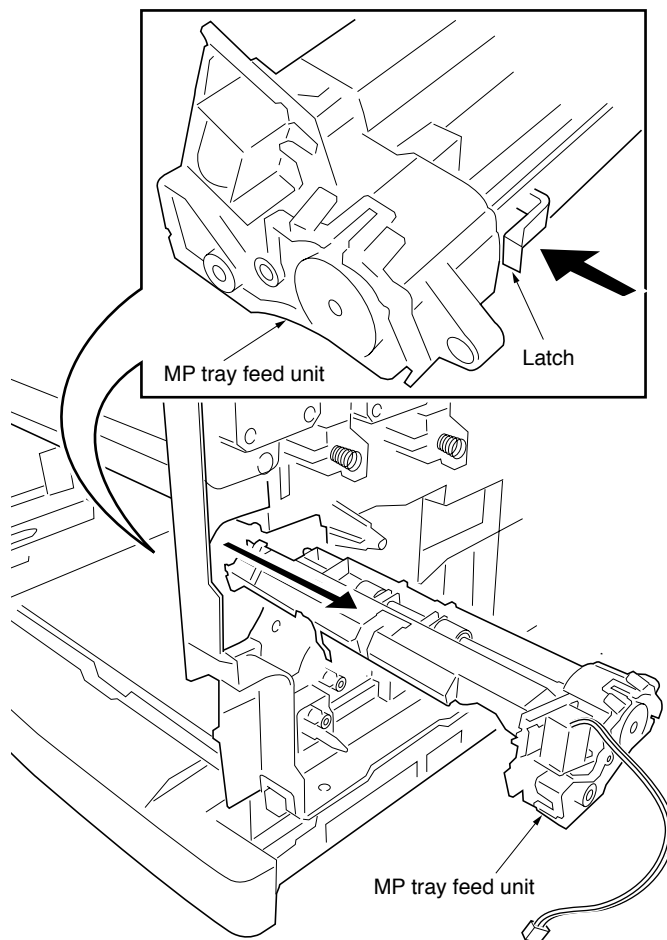


Figure 1-6-12

(2) Detaching and refitting the MP tray feed roller

Procedure

1. Remove the MP tray feed unit (see previous page).
2. Pull up the MP tray holder and then sliding do.
3. Remove the MP tray feed roller.
4. Check or replace the MP tray feed roller and then refit all the removed parts.

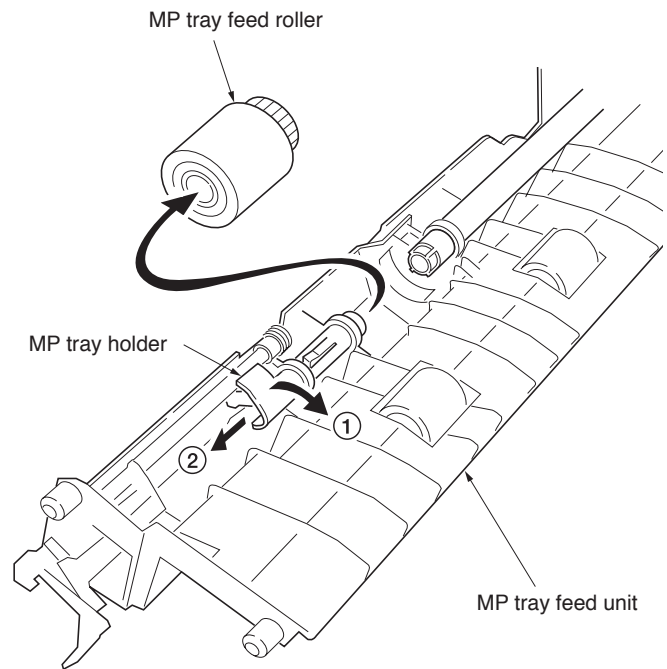


Figure 1-6-13

1-6-5 Developing section

(1) Detaching and refitting the developer unit

Procedure

1. Open the top cover.
2. Remove the one connector.
3. While releasing two release levers and then remove the developer unit. (Use the same procedure for other developers.)

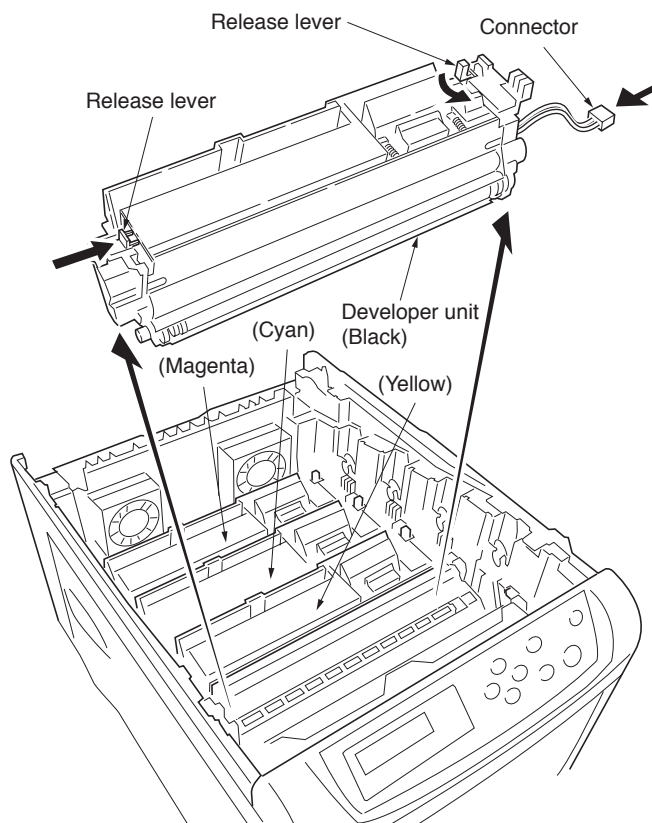


Figure 1-6-14

1-6-6 Drum section

(1) Detaching and refitting the drum unit

Procedure

1. Remove the developer unit (see previous page).
2. Remove the each connector cover.

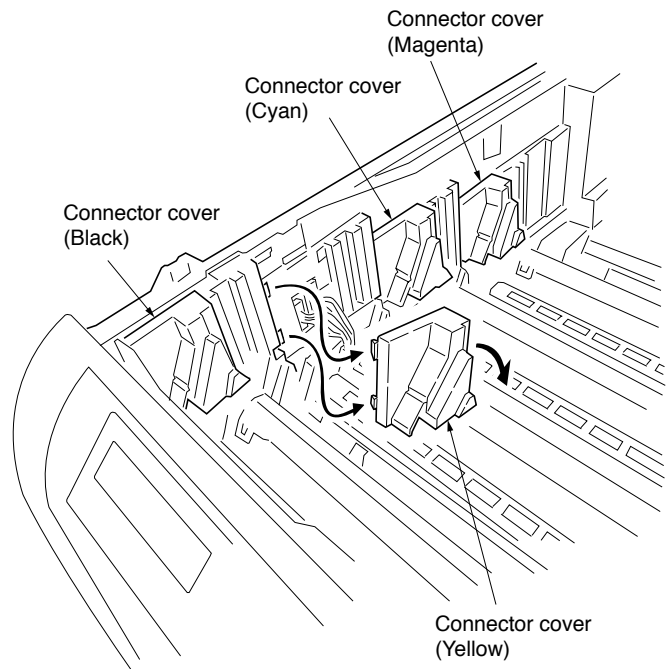


Figure 1-6-15

3. Remove the two connectors.
4. While releasing two release levers and then remove the drum unit. (also 4 colors with the same procedure, there is no order.)

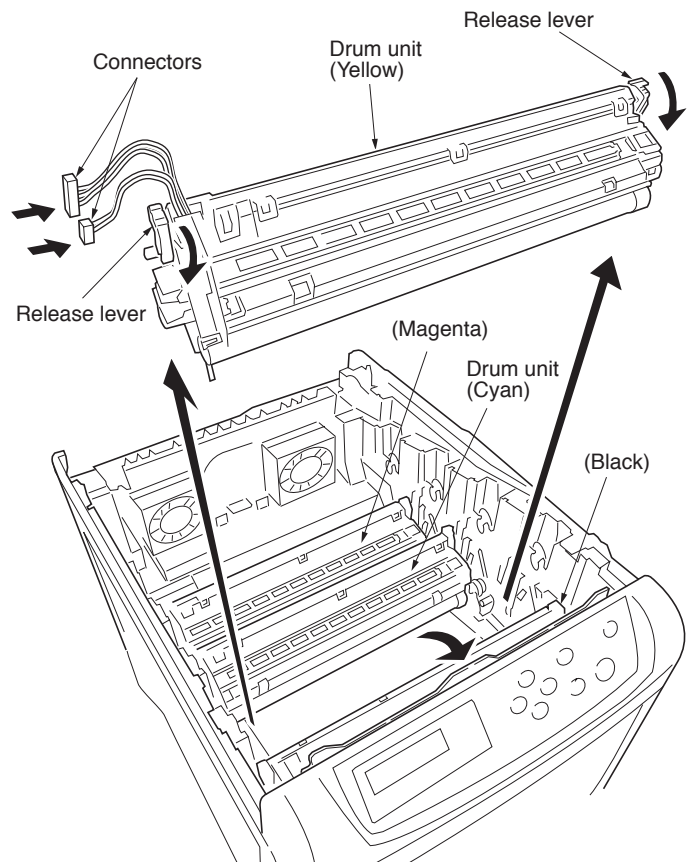


Figure 1-6-16

(2) Detaching and refitting the LED print heads

Procedure

1. Remove the drum unit (see previous page).
2. Remove the hook and the opening and closing axis and then remove the LED print head cover.
 - Before removing the LED print head, sufficiently do to let escape the static electricity which is electrified in the human body concerning the metal part and the like of the aqueduct faucet, after that do that work.
3. Remove the LED print head.
 - Do not attempt turn the focal adjustment pins).
 - At the time of handling, have the metal based part the both ends, do not touch the SELFOC lens part.
4. Remove the four connectors and then remove the harness.
5. Check or replace the LED print head and then refit all the removed parts.
 - When replacing to the new LED print head, peel the protection seal (blue color) of the SELFOC lens.

Caution

- When refitting the LED print head in the drum unit, make sure that the print head is properly seated in the drum unit.

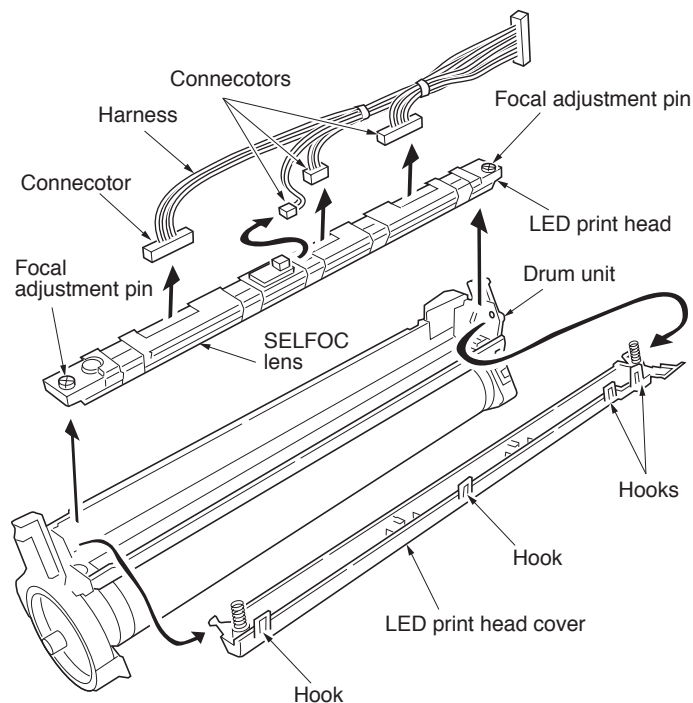


Figure 1-6-17

6. Print the test print, and check the image.
 - After replacing to the new LED print head, when making the printer restart, in order again to read the LED compensation data from the LED print head memory PWB, time of 30 seconds is required.

1-6-7 Primary transfer section

(1) Detaching and refitting the primary transfer unit

Procedure

1. Remove the all drum units (see page 1-6-12).
2. Pull two handles and raise.
3. Remove the primary transfer unit with the handles.
4. Check or replace the primary transfer unit and then refit all the removed parts.

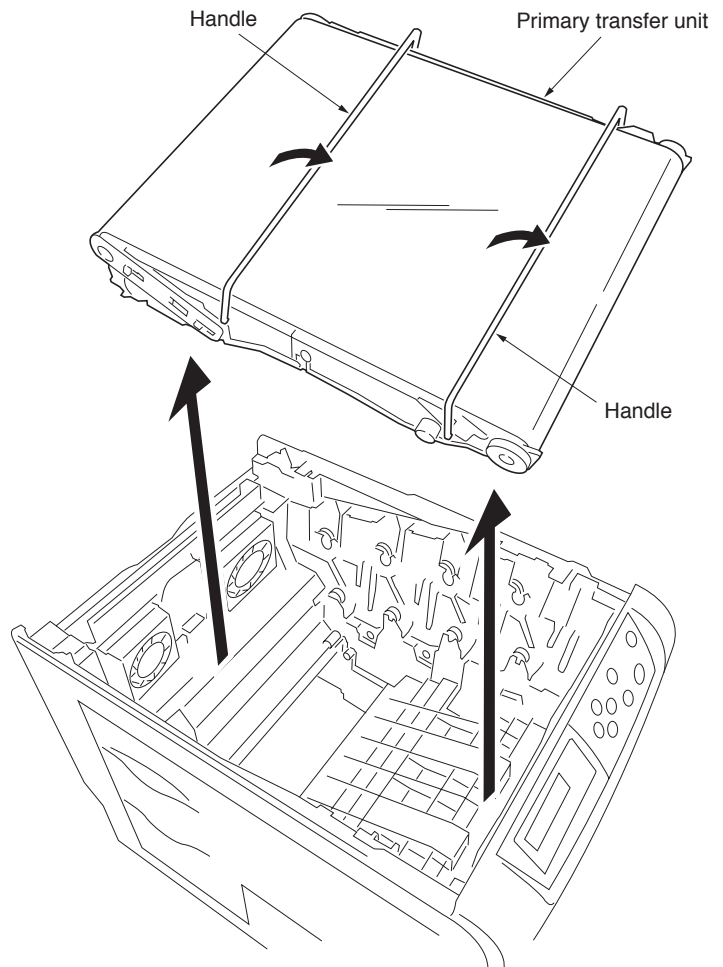
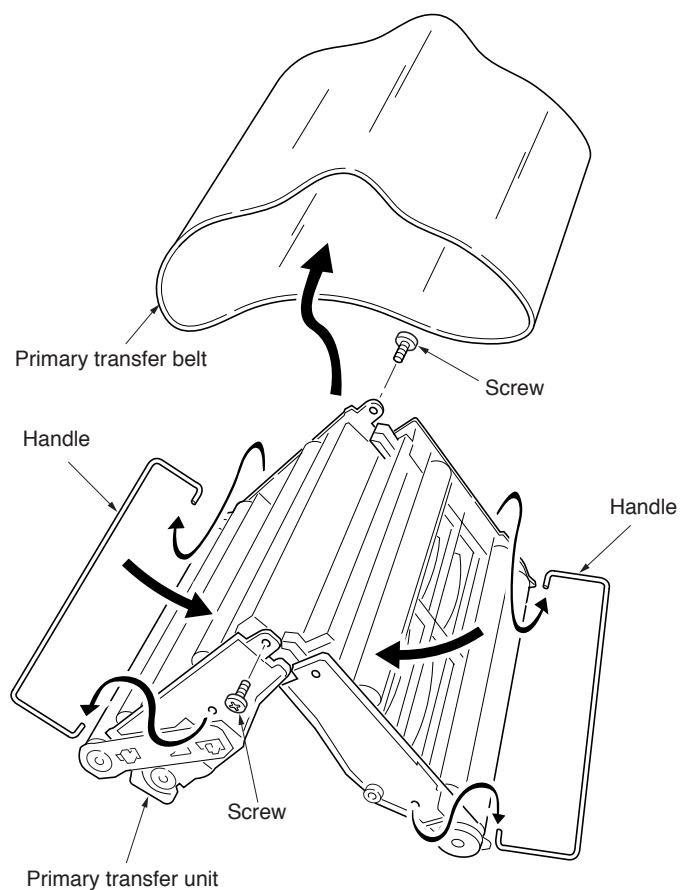


Figure 1-6-18

(2) Detaching and refitting the primary transfer belt**Procedure**

1. Remove primary transfer unit (see previous page).
2. Remove the two handles.
3. Remove the two screws and then make the primary transfer unit two-fold.
4. Remove the primary transfer belt.
5. Check or replace the primary transfer belt and then refit all the removed parts.

**Figure 1-6-19**

(3) Detaching and refitting the primary transfer cleaning unit

Procedure

1. Remove the primary transfer unit (see page 1-6-14).
2. Pull out the primary transfer cleaning unit from the main unit frame a little with underneath the right ①.
3. Pull out the waste toner outlet ② which is on the left side of the primary transfer cleaning unit from the main unit frame.
4. Remove the primary transfer cleaning unit.
5. Check or replace the primary transfer cleaning unit and then refit all the removed parts.

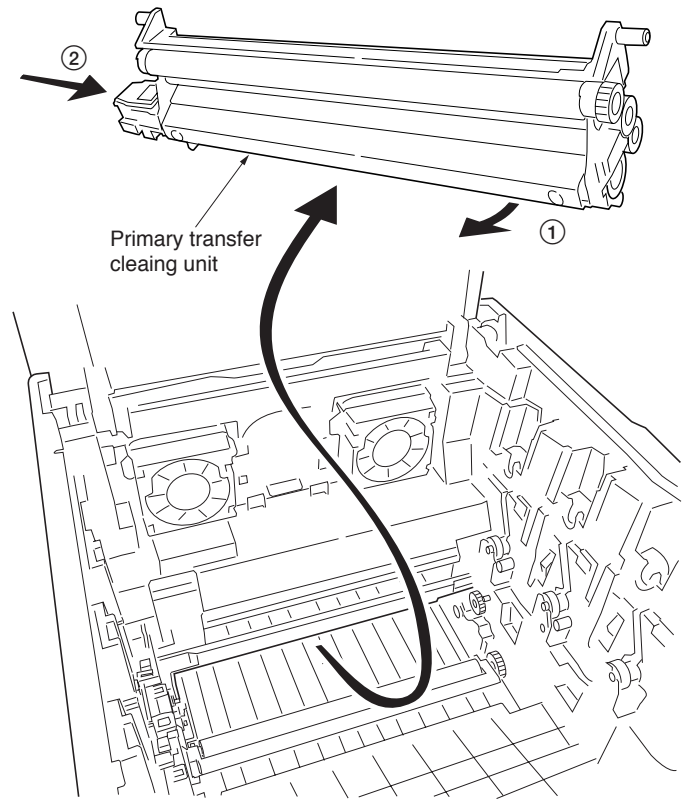


Figure 1-6-20

1-6-8 Fuser unit

(1) Detaching and refitting the fuser unit

Procedure

1. Remove the rear cover (see page 1-6-2).
2. Remove the right cover and left cover (see pages 1-6-4, 5).
3. Remove the two screws and then remove the fuser unit.
4. Check or replace the fuser unit and then refit all the removed parts.

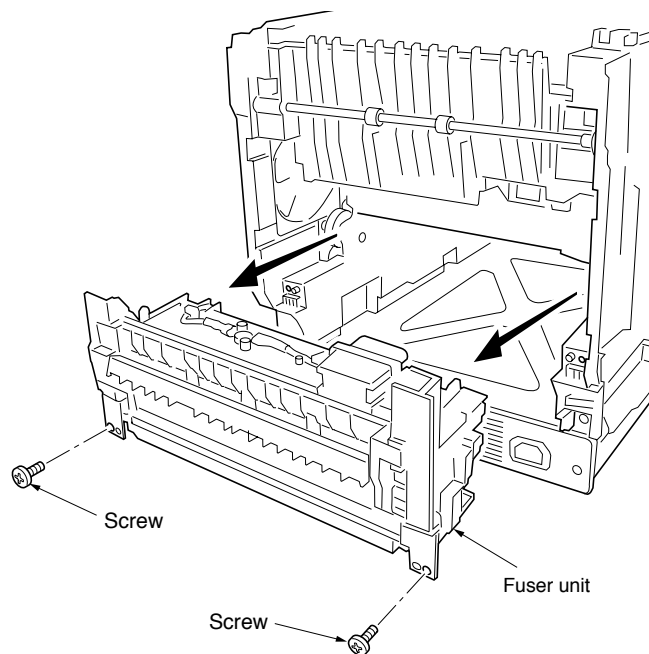


Figure 1-6-21

(2) Detaching and refitting the fuser thermistor 1 and 2, fuser thermostat 1 and 2, fuser heater lamp 1 and 2, heat roller, and press roller

Procedure

1. Remove the fuser unit (see previous page).
2. While two latch unlatching, remove the fuser bottom cover by making slide.
3. Remove the one tab.

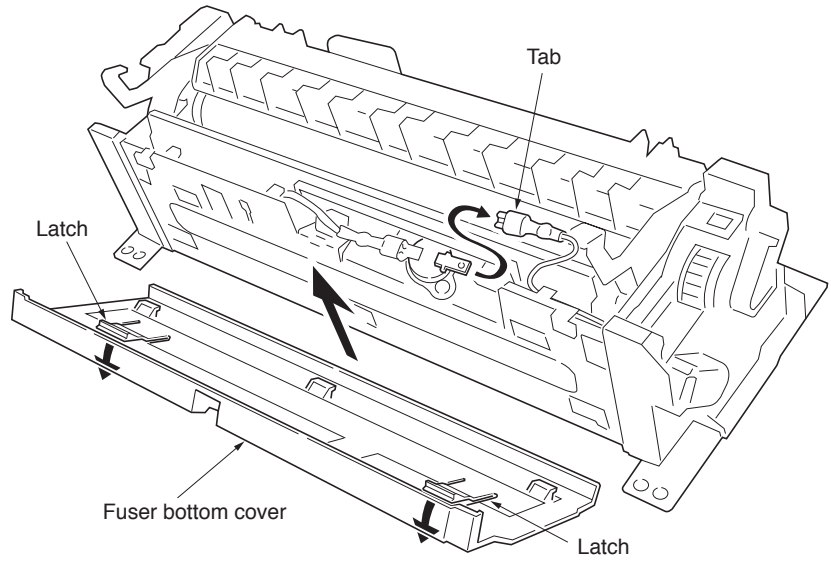


Figure 1-6-22

4. Remove the two screws from the terminal.

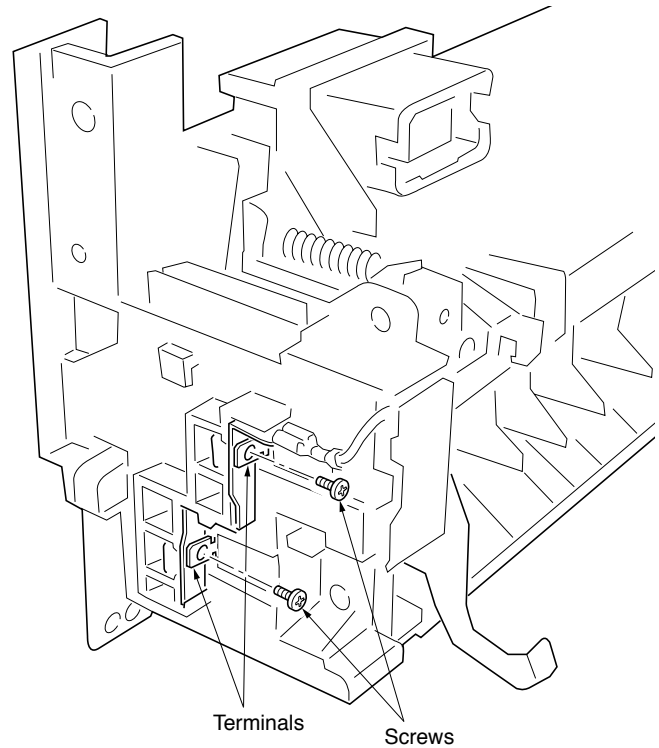


Figure 1-6-23

5. Remove the three connectors from the fuser PWB.
6. Remove the one tab.
7. While unlatching the latches and then remove the fuse unit connector.
8. Remove the terminal.

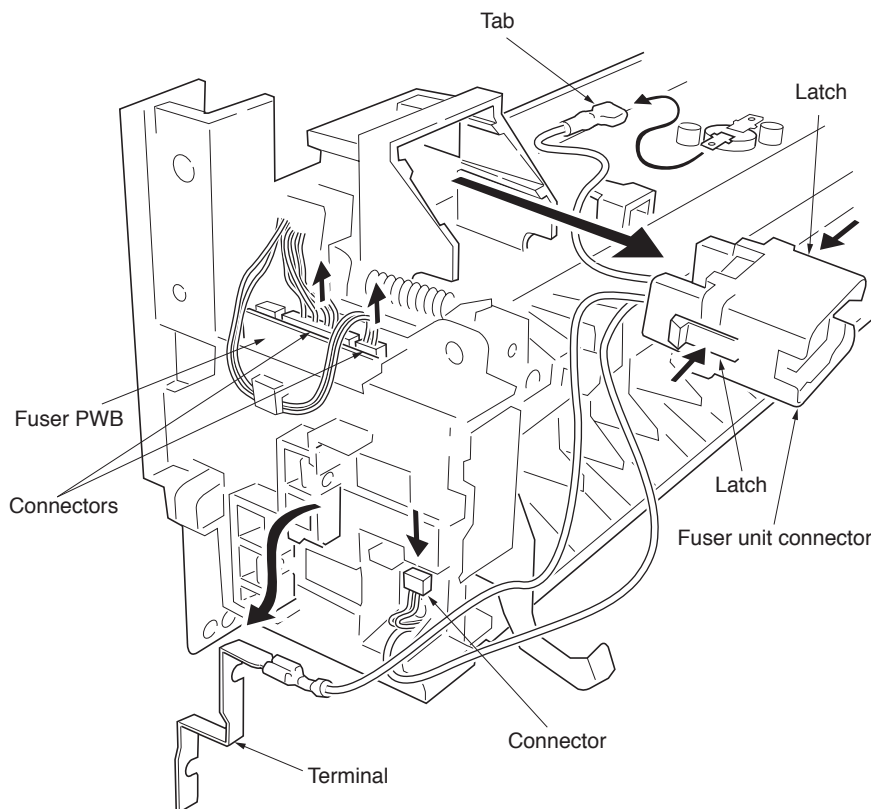


Figure 1-6-24

9. Remove the one screw and then remove the fuser left cover.

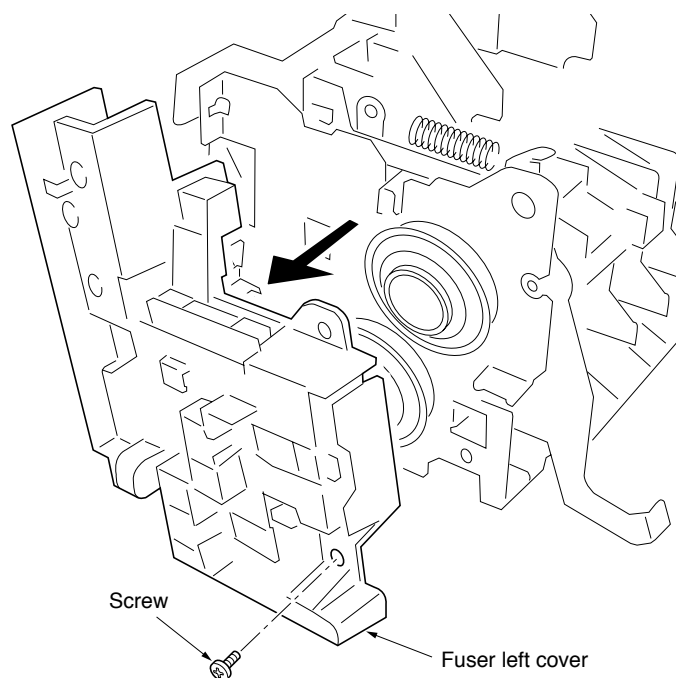


Figure 1-6-25

10. Remove the one screw and then remove the fuser right cover.
11. Remove the fuser heater lamp 1 and 2.

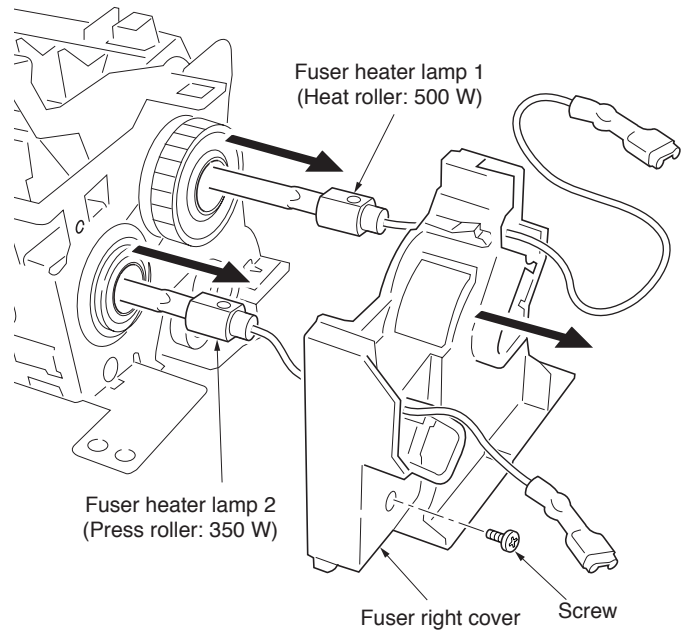


Figure 1-6-26

12. Remove the two pressure springs.
13. Remove the fuser upper cover, right pressure lever and, left pressure lever.
14. Remove the fuser stay.

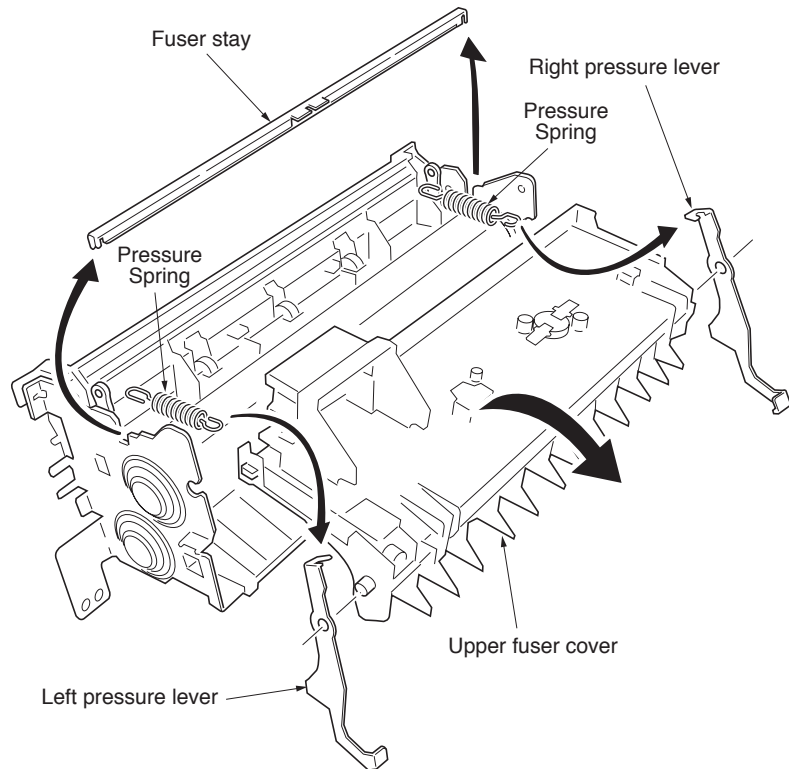


Figure 1-6-27

- 15. Remove the two screws and then remove the fuser thermostat 1.
- 16. Remove the one screw and then remove the fuser thermistor 1.

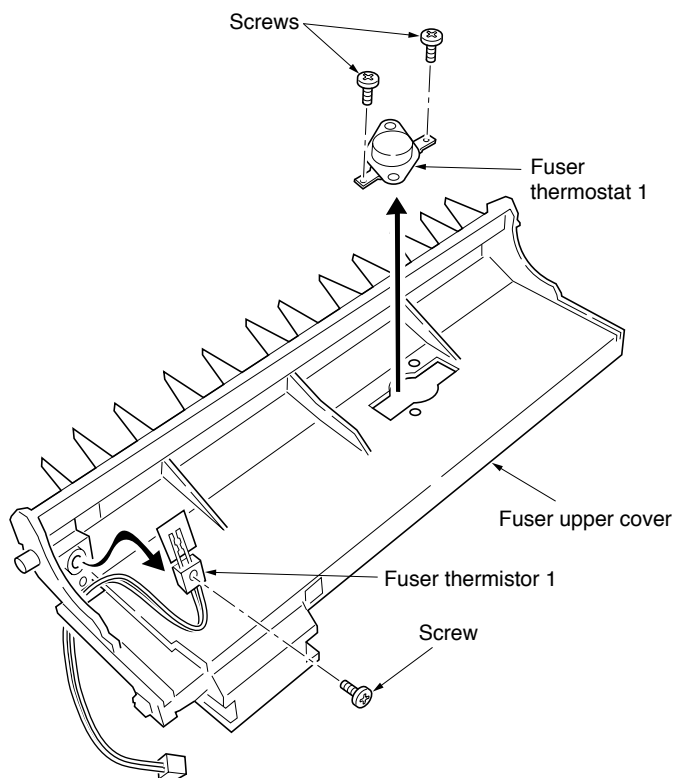


Figure 1-6-28

- 17. Remove the user lower guide.
- 18. Remove the one tab.
- 19. Remove the two screws and then remove the fuser thermostat 2.
- 20. Remove the one screw and then remove the fuser thermistor 2.

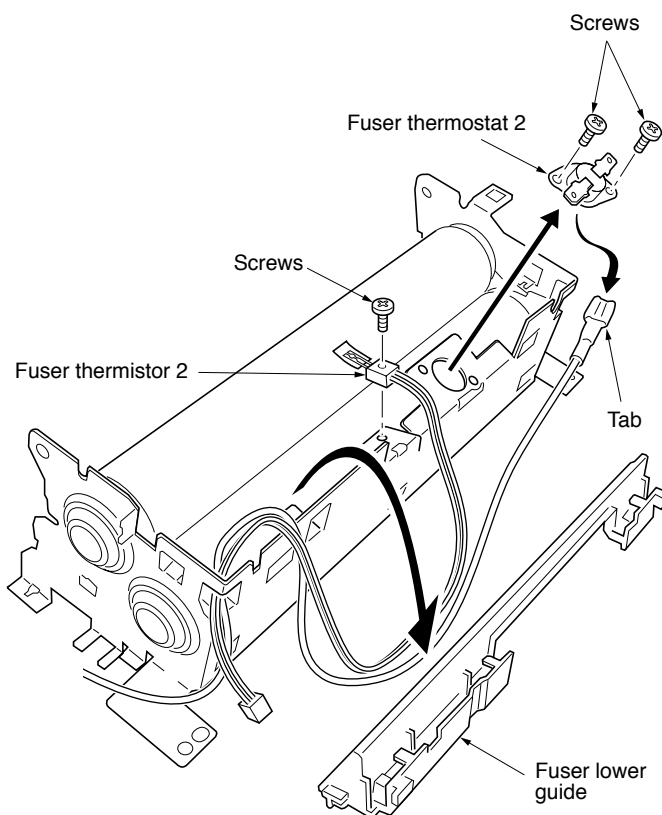


Figure 1-6-29

21. Remove the one C-ring, fuser gear, one C-ring, one bush and, one bearing.
22. Remove the one C-ring, one bush and, one bearing.
23. Remove the heat roller.

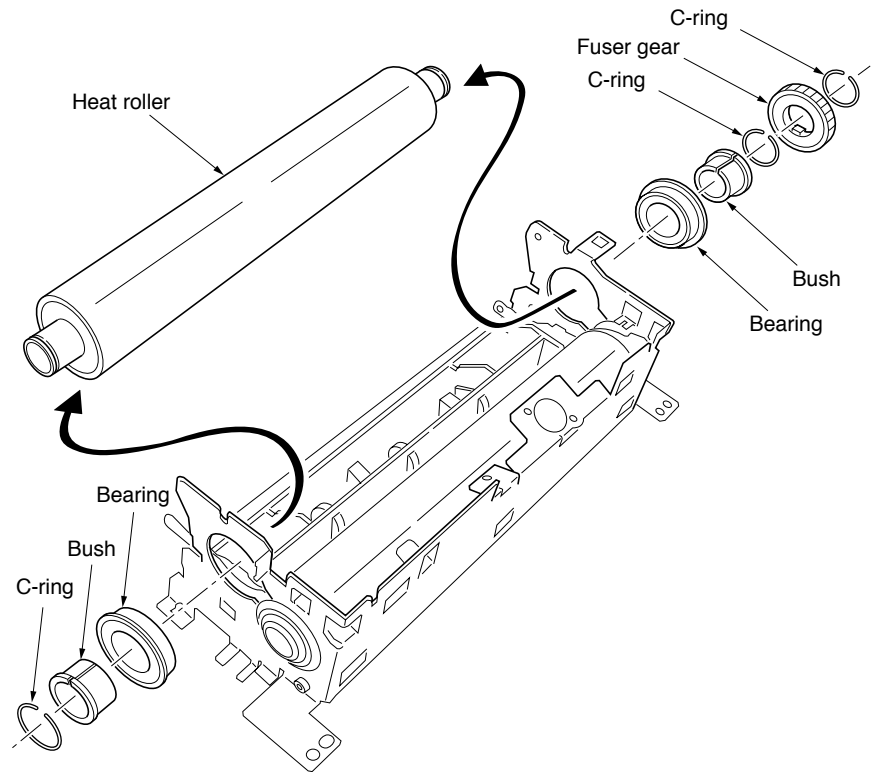


Figure 1-6-30

24. Remove the two bushes and two bearings.
25. Remove the right stay, left stay and press roller.
26. Check or replace the fuser thermistor 1 and 2, fuser thermostat 1 and 2, fuser heater lamp 1 and 2, heat roller and, press roller then refit all the removed parts.

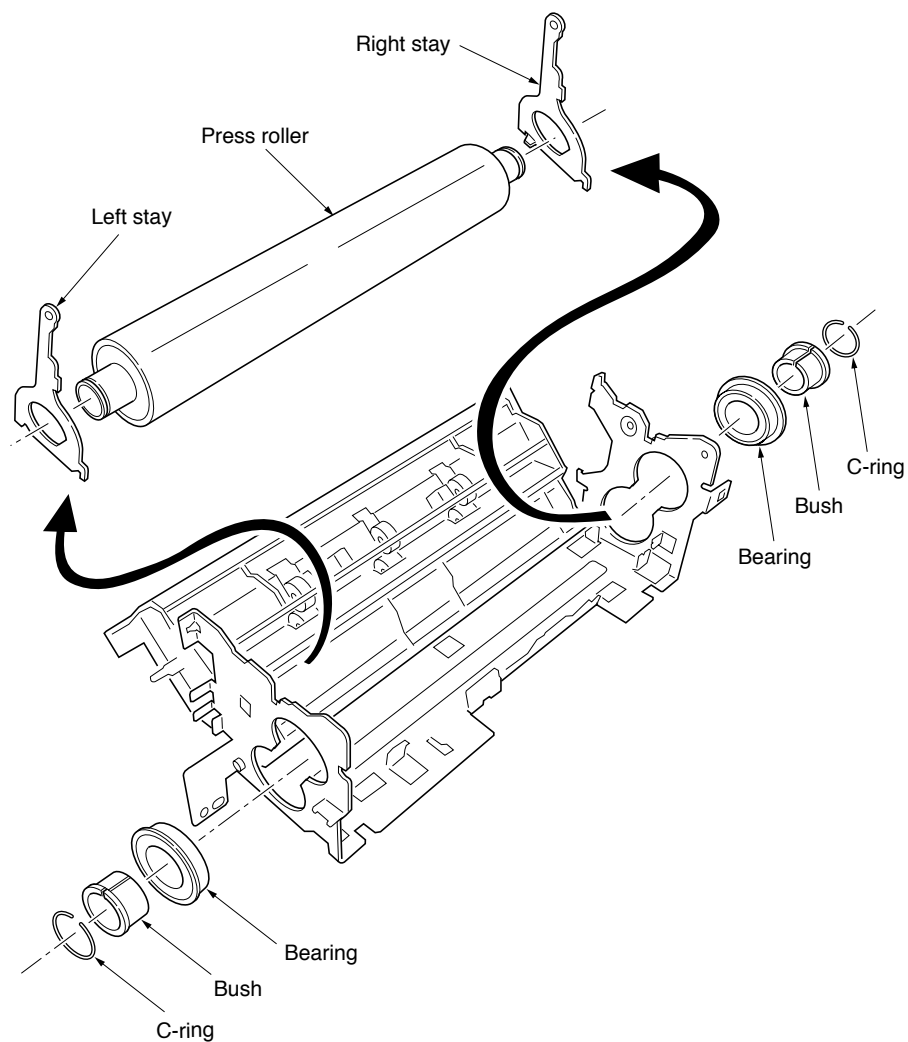


Figure 1-6-31

1-6-9 PWBs

(1) Detaching and refitting the main controller PWB

Procedure

1. Turn off the power switch and then remove the power cord.
2. When the optional memory card has been installed in the Memory card slot already, remove that.
3. Remove the two screws and then remove the main controller PWB.

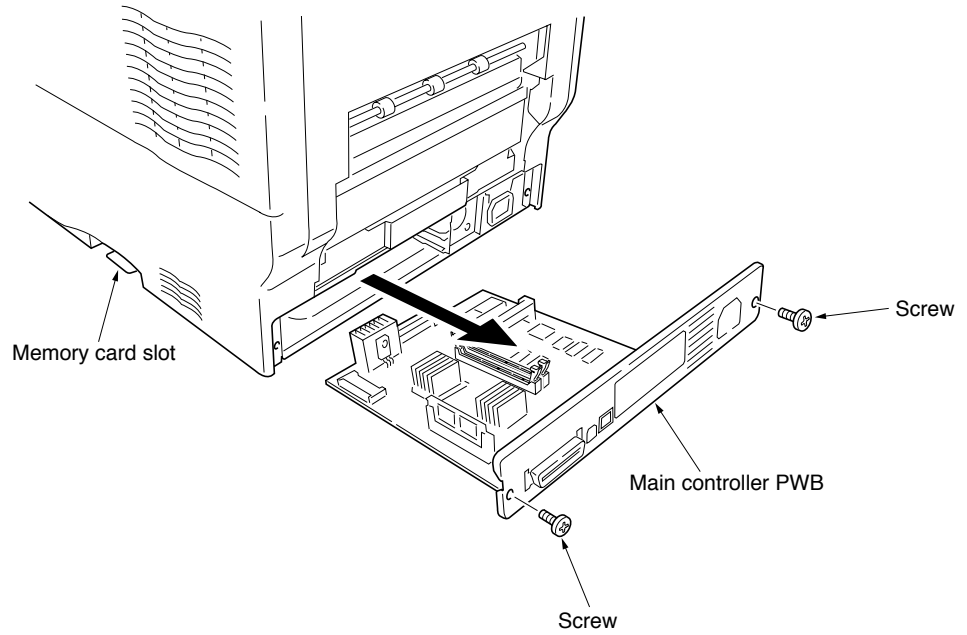


Figure 1-6-32

(2) Detaching and refitting the engine controller PWB and power supply PWB

Procedure

1. Remove the main controller PWB (see previous page).
2. Remove the right cover, left cover and, rear cover. (see pages 1-6-2, 3, 4).
3. Remove the all (machine left: five, machine right: four) connectors.

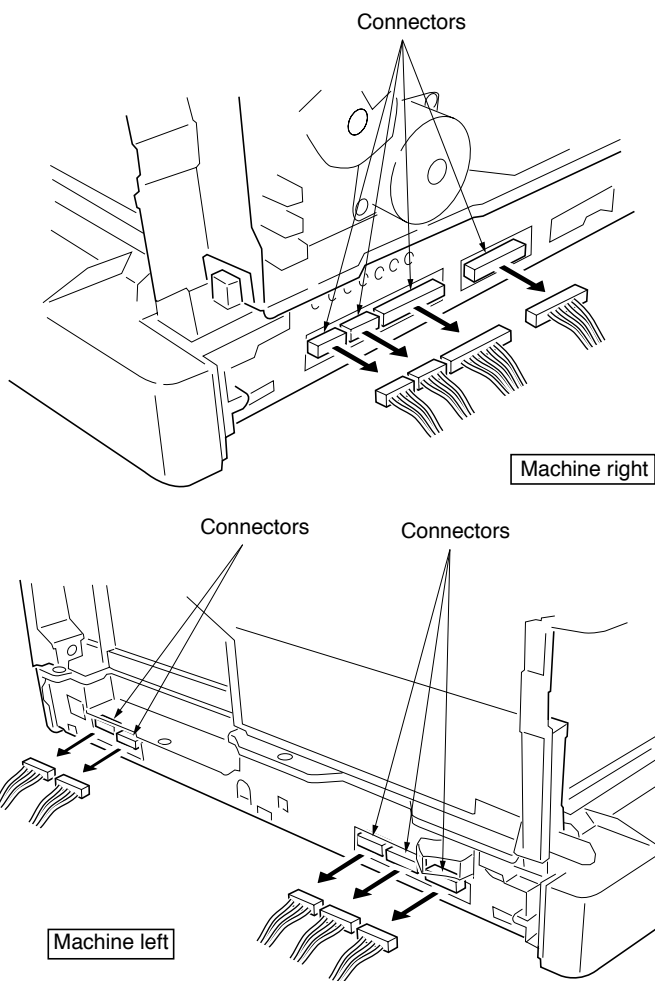


Figure 1-6-33

4. Remove three screws.
5. Loose the one screw.
6. Remove the main unit frontal projections and remove the controller box.

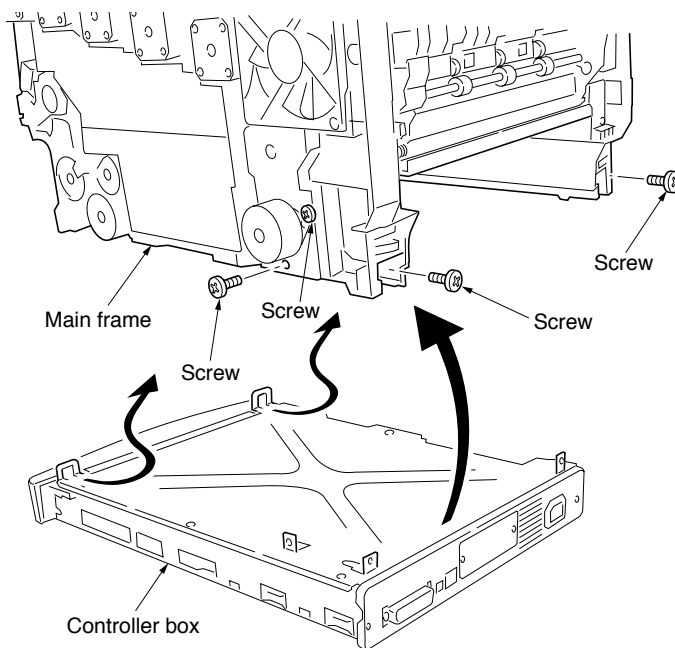


Figure 1-6-34

7. Remove the six screws and then remove the controller box cover.

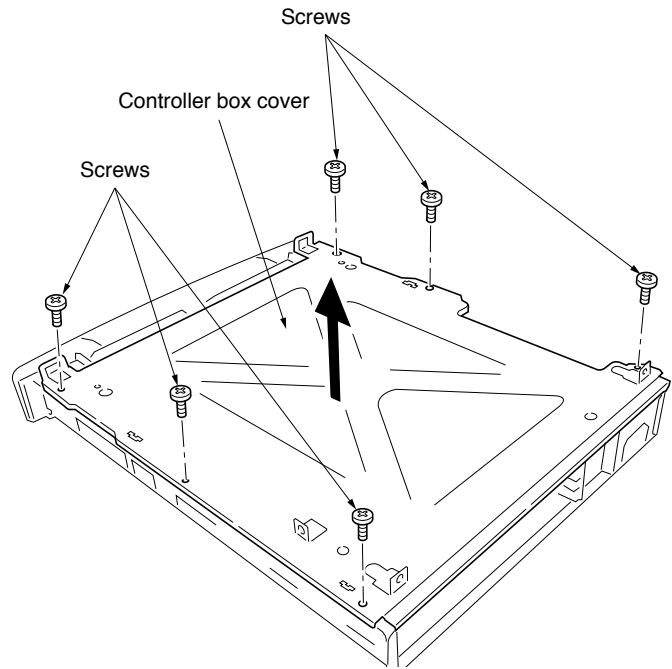


Figure 1-6-35

8. Remove the five screws.
9. Remove the two connectors and then removing the connection with the power supply PWB, remove the engine controller PWB.

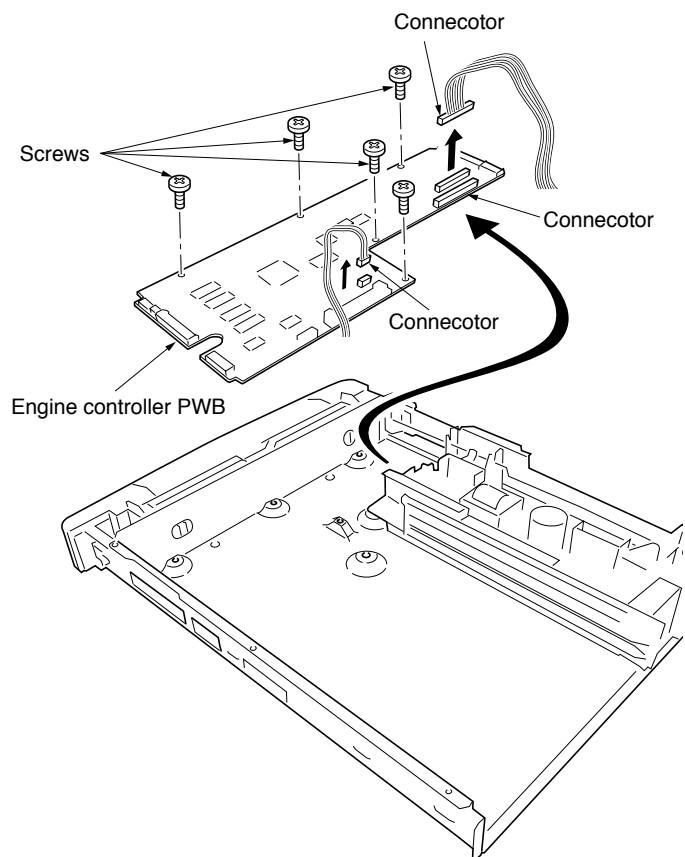


Figure 1-6-36

10. The EEPROM (U12) removing from the socket of the old engine controller PWB, it does again to install in the socket of the new engine controller PWB.

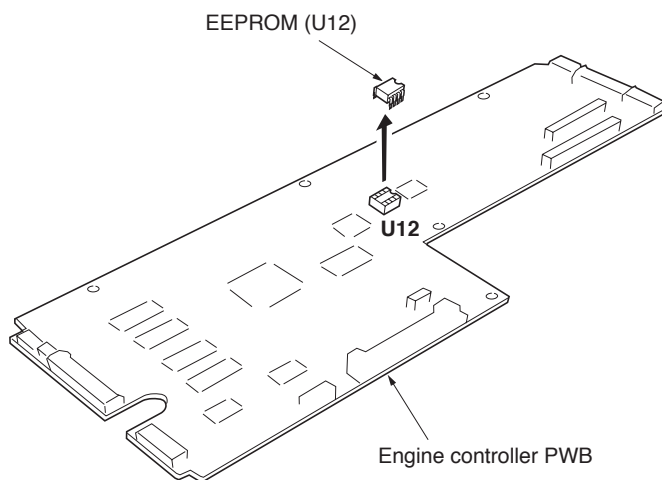


Figure 1-6-37

11. Remove the three screws, one terminal, one washer and then remove the power supply PWB.
12. Check or replace the engine controller PWB and power supply PWB then refit all the removed parts.

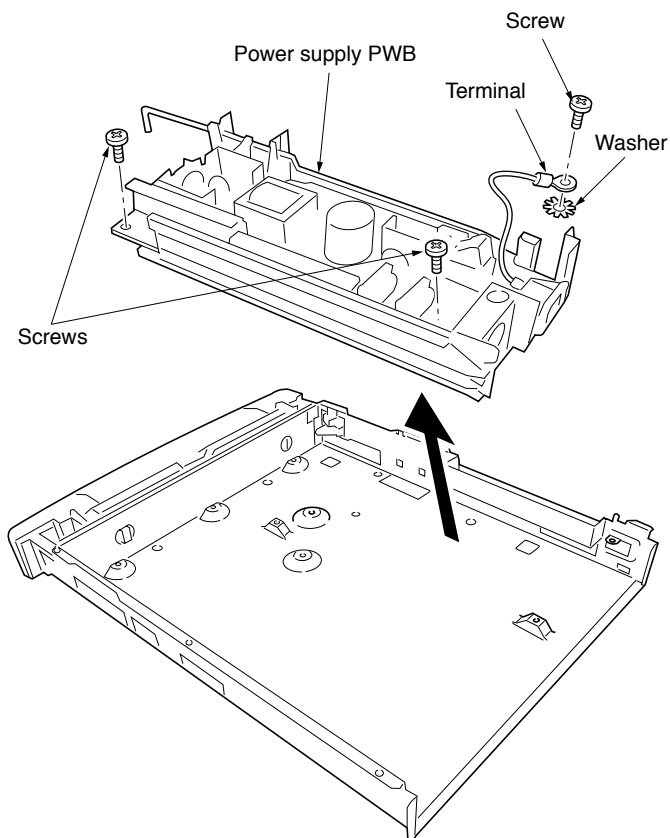


Figure 1-6-38

(3) Detaching and refitting the LED print heads relay PWB

Procedure

1. Remove the left cover (see page 1-6-4).
2. Unlatch the four latches and remove the two connectors and then remove the LED print heads relay PWB.
3. Check or replace the LED print heads relay PWB and then refit all the removed parts.

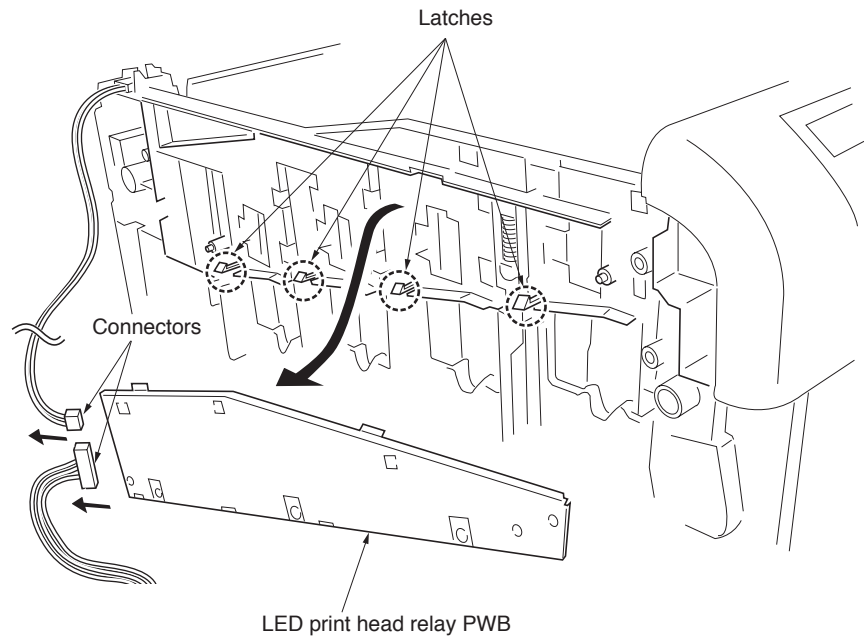


Figure 1-6-39

(4) Detaching and refitting the main high voltage PWB

Procedure

1. Remove the right cover (see page 1-6-3).
2. Unlatch the four latches and remove the one connector and then remove the main high voltage PWB.
3. Check or replace the main high voltage PWB and then refit all the removed parts.

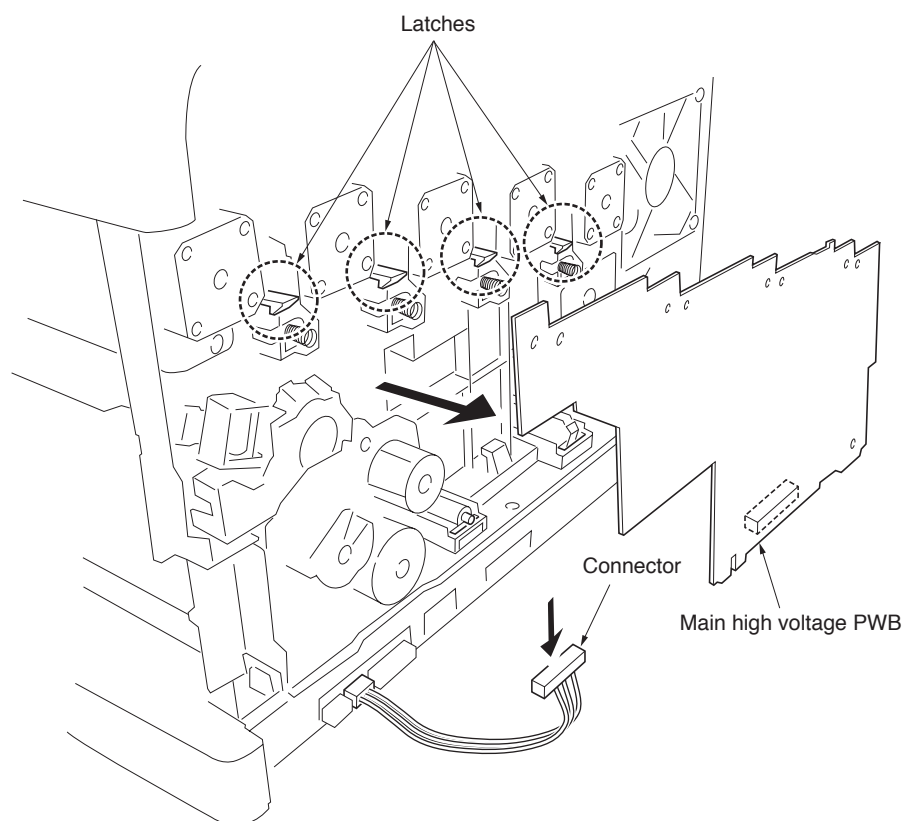


Figure 1-6-40

(5) Detaching and refitting the bias high voltage PWB

Procedure

1. Remove the right cover (see page 1-6-3).
2. Unlatch the five latches and remove the two connectors and then remove the bias high voltage PWB.
3. Check or replace the bias high voltage PWB and then refit all the removed parts.

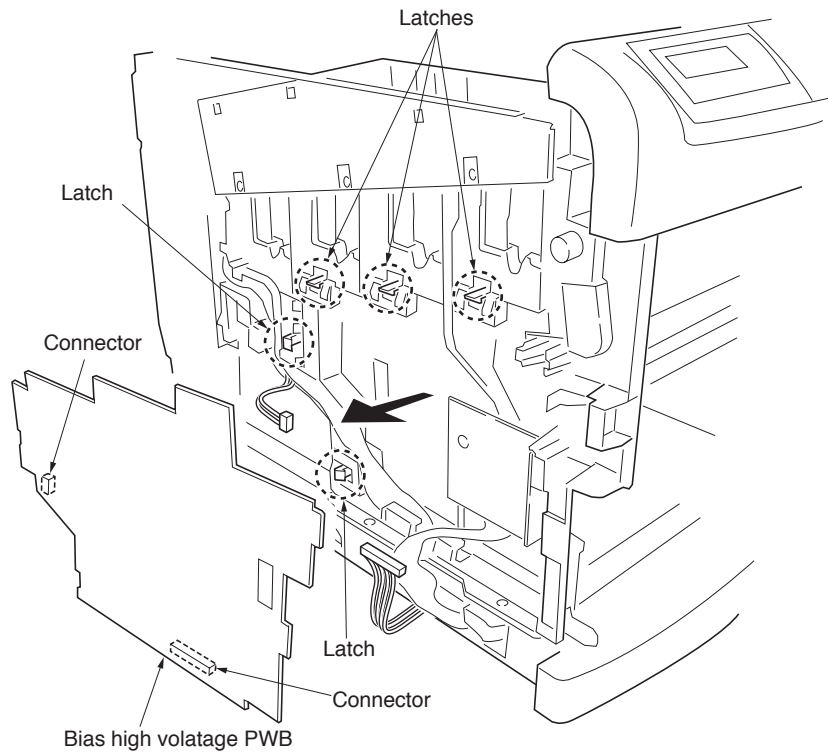


Figure 1-6-41

1-6-10 Others

(1) Detaching and refitting the main drive unit

Procedure

1. Remove the right cover (see page 1-6-3).
2. Remove the seven connectors.
3. Remove the six screws and then remove the main drive unit.
4. Check or replace the main drive unit and then refit all the removed parts.

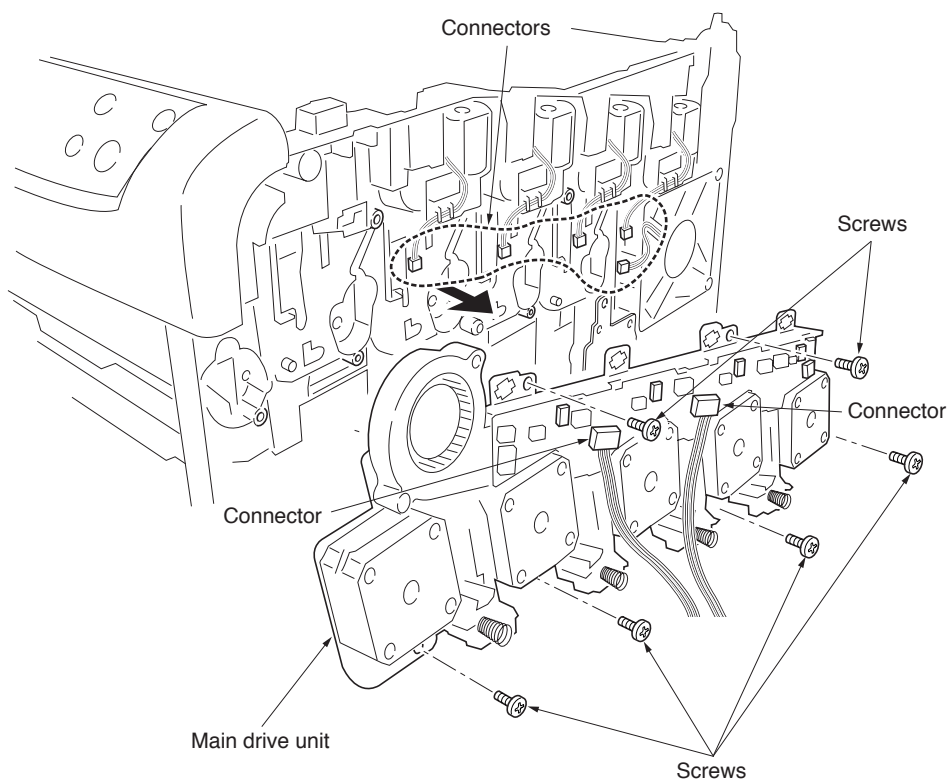


Figure 1-6-42

(2) Detaching and refitting the paper feed drive unit

Procedure

1. Remove the right cover (see page 1-6-3).
2. Remove five connectors.
3. Remove the harness from the two wire hooks.

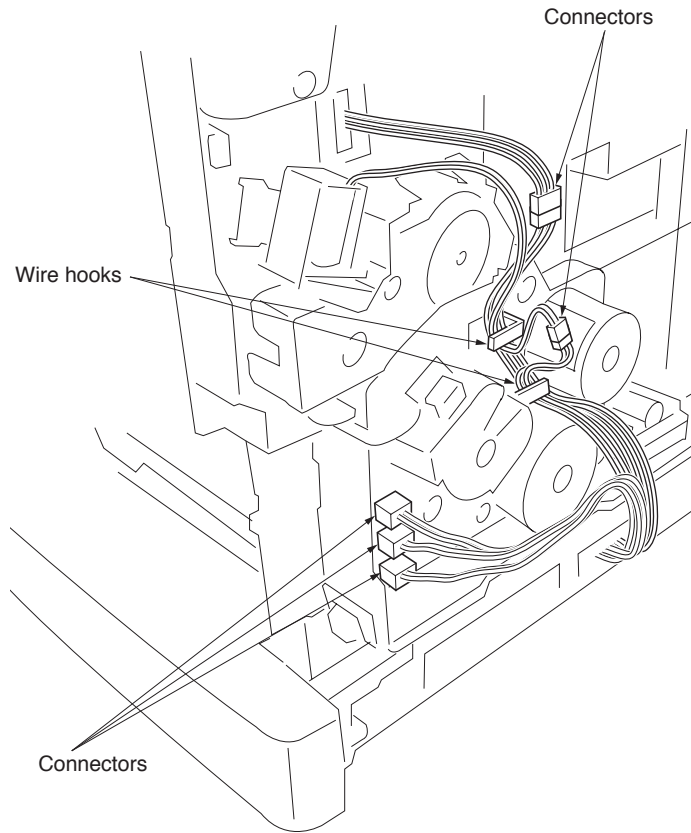


Figure 1-6-43

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

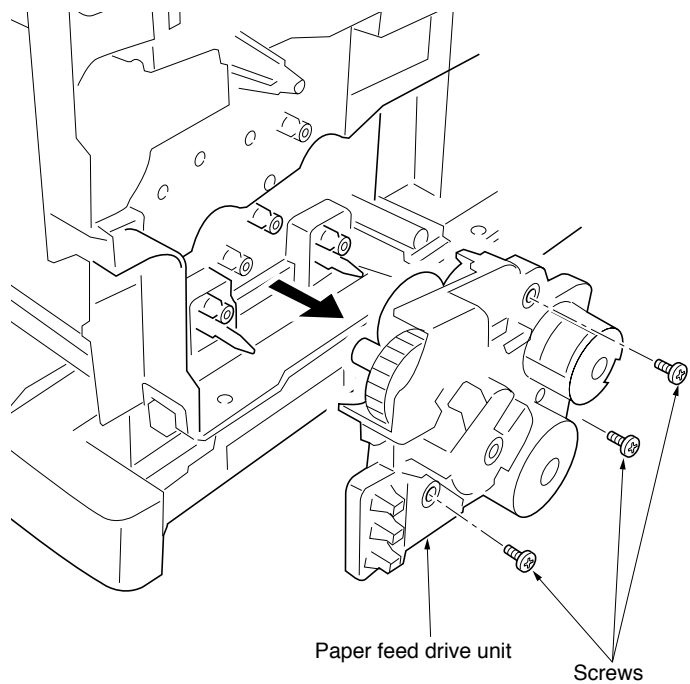


Figure 1-6-44

(3) Detaching and refitting the fuser drive unit

Procedure

1. Remove the right cover (see page 1-6-3).
2. Remove the one connector.
3. Remove the two screws and the remove the fuser drive unit.
4. Check or replace the fuser drive unit and then refit all the removed parts.

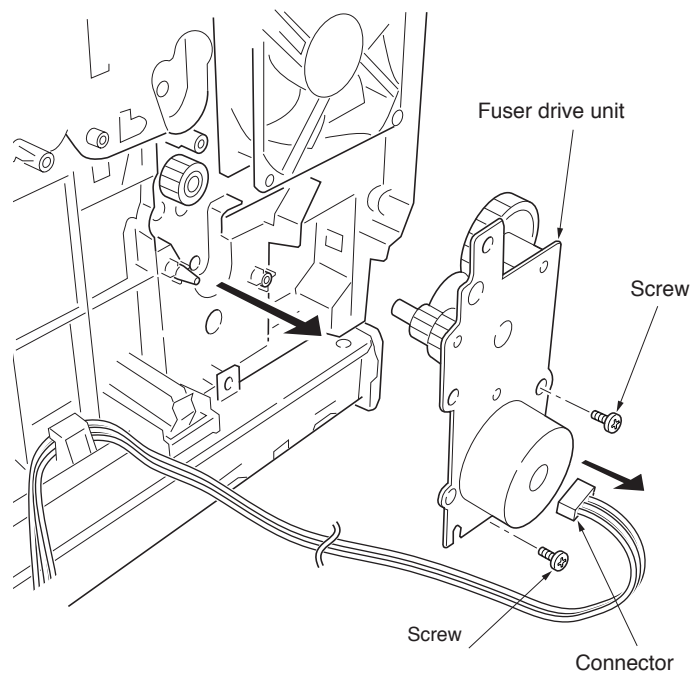


Figure 1-6-45

(4) Detaching and refitting the toner motor 1, 2, 3 and 4

Procedure

1. Remove the right cover (see page 1-6-3).
2. Remove the one connector.
3. Remove the hole which is inserted into the projection of main unit frame side, slide toner motor 4 to up in order to remove the hook.
4. Remove the toner motor 4.
5. Check or replace the toner motor 4 and then refit all the removed parts. (Also four toner motors with the same procedure, there is no order.)

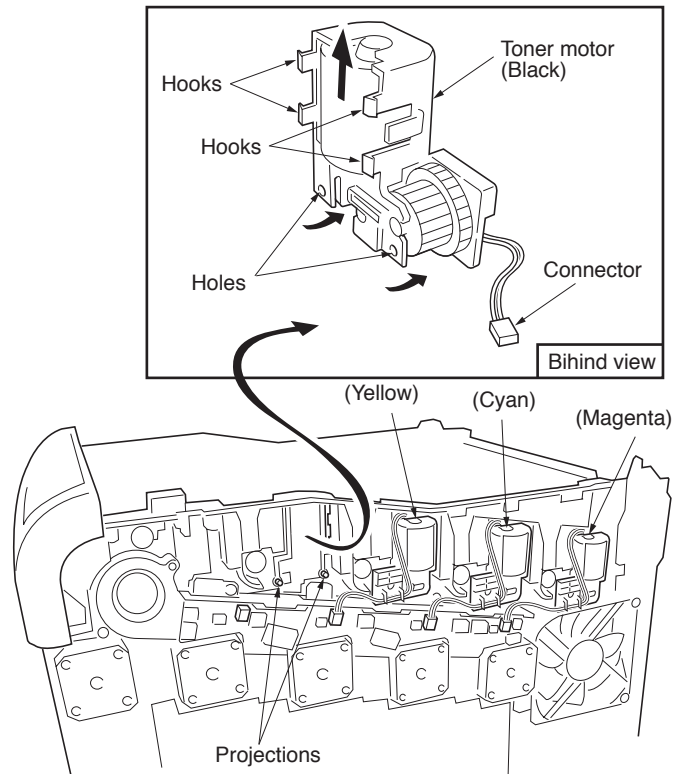


Figure 1-6-46

(5) Detaching and refitting the ozone filters

Procedure

1. Open the top cover.
2. Remove the ozone filters from the ozone fan motor 1 and 2.
3. Check or replace the ozone filters and then refit all the removed parts.

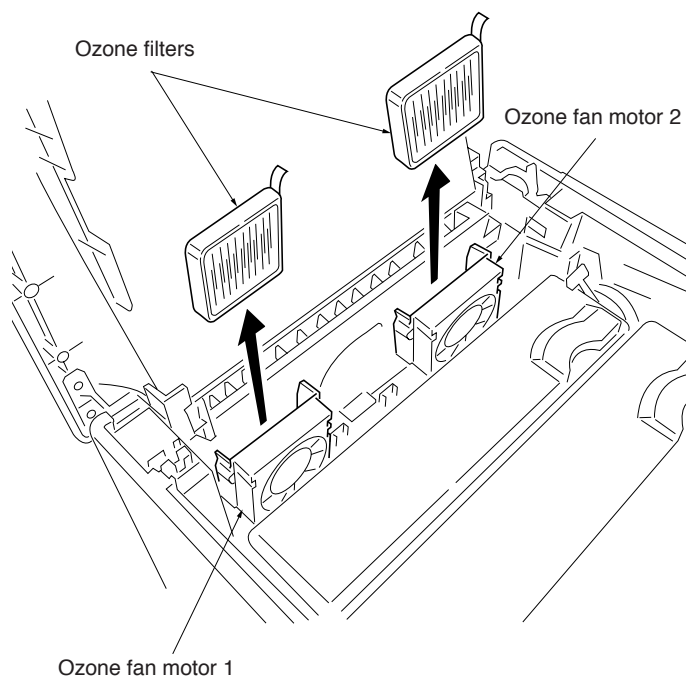


Figure 1-6-47

(6) Detaching and refitting the waste toner duct

Procedure

1. Remove the primary transfer unit (see page 1-6-15).
2. Unlatch the three latches and then remove the waste toner duct.
3. Check or replace the waste toner duct and then refit all the removed parts.

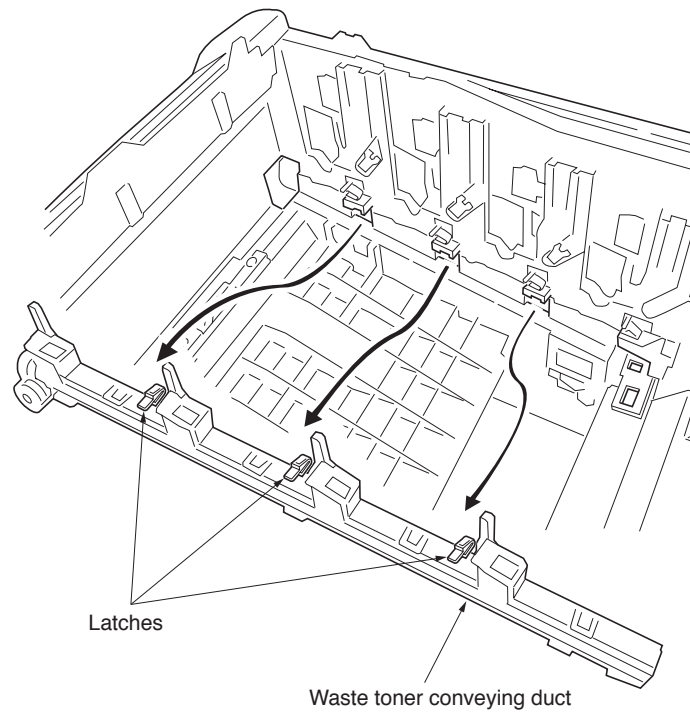


Figure 1-6-48

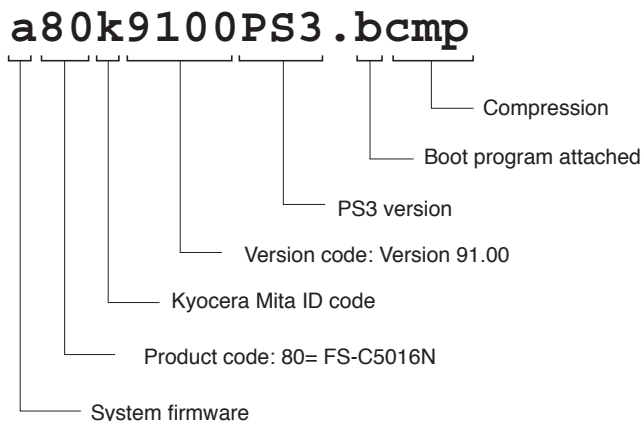
1-7-1 Downloading firmware

The system firmware can be update by downloading new firmware. Downloading can be made either by directly sending the new firmware from PC via the parallel interface or using a memory card that contains the new firmware. The message data for the operation panel display is also downloadable so that a new message language is appended for the operation panel. The message data should be downloaded directly from PC.

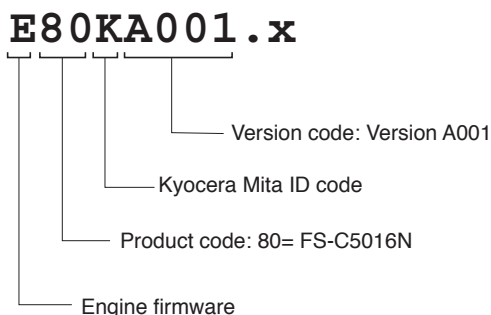
(1) Format of the firmware files

The file names for the firmware files have the following formats:

System firmware file name example



Engine firmware file name example



Operation panel message data file name example

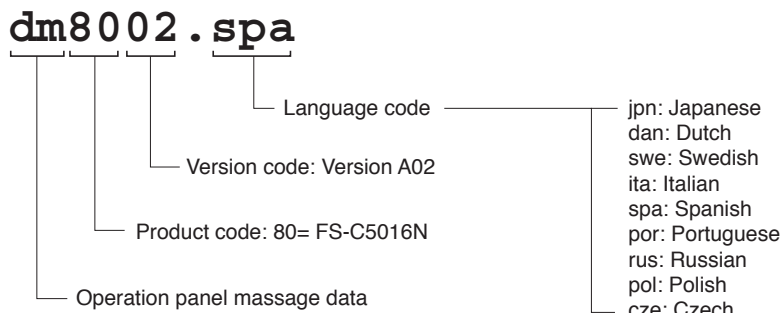


Figure 1-7-1

(2) Downloading firmware via the parallel interface

To download the system firmware using the parallel interface, use the procedure below. Note that you can download both the system and engine firmware at a time.

1. Turn printer and PC power off.
2. Connect the parallel printer cable between the PC and the printer.

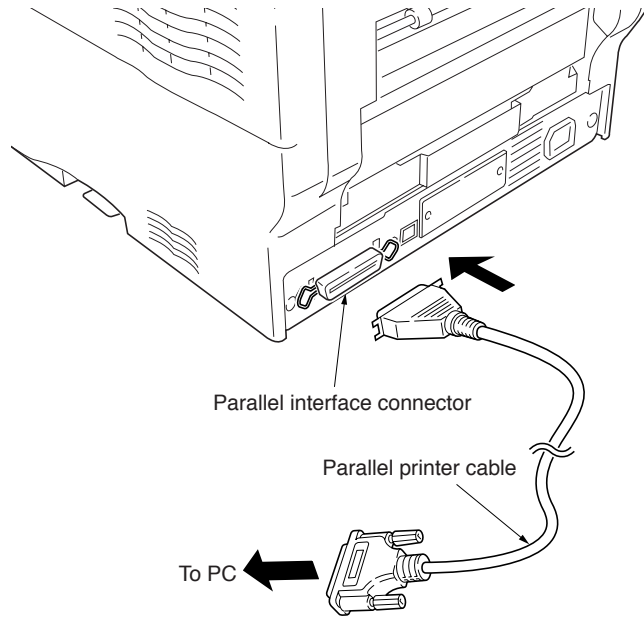


Figure 1-7-2

3. Turn printer power on.
4. Confirm that display ① is displayed.
5. At the DOS prompt, enter command ②.
* Enter UPGR'SYS' in capitals.
6. Confirm that message display ③ is displayed.
7. At the DOS prompt, enter command ④ so that the system firmware (example: s80K9100.bcmp) and the engine firmware (example: E80KA005.x) are copied to the printer.
8. Message display ⑤ is displayed during downloading. When message display ⑥ is displayed to indicate downloading is finished, turn printer power off and then turn on.
9. Confirm that message display ⑦ is displayed after warm-up.
10. Print a status page. (See page 1-4-2.)
11. Check that the status page shows the updated firmware version.

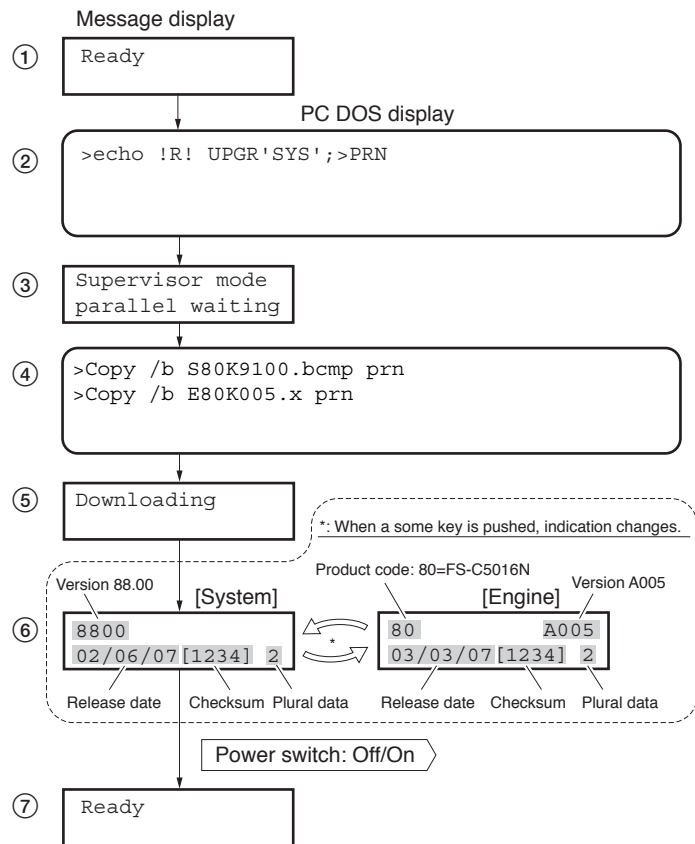


Figure 1-7-3

(3) Downloading firmware using the memory card

The procedure below provides how to download firmware from a memory card. Note that you can download both the system and engine firmware at a time.

1. Turn printer power on.
2. Insert the memory card into the printer's memory card slot.

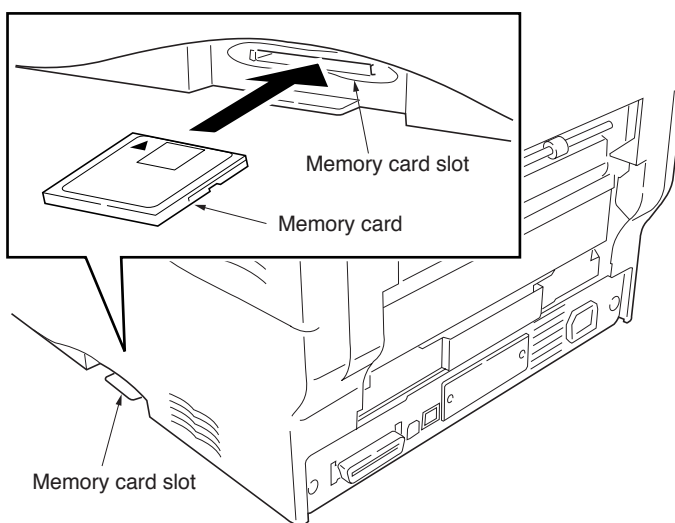


Figure 1-7-4

3. Press MENU key on the printer's operation panel and carry out the memory card formatting procedure ①.
4. When formatting is complete, turn printer power off.

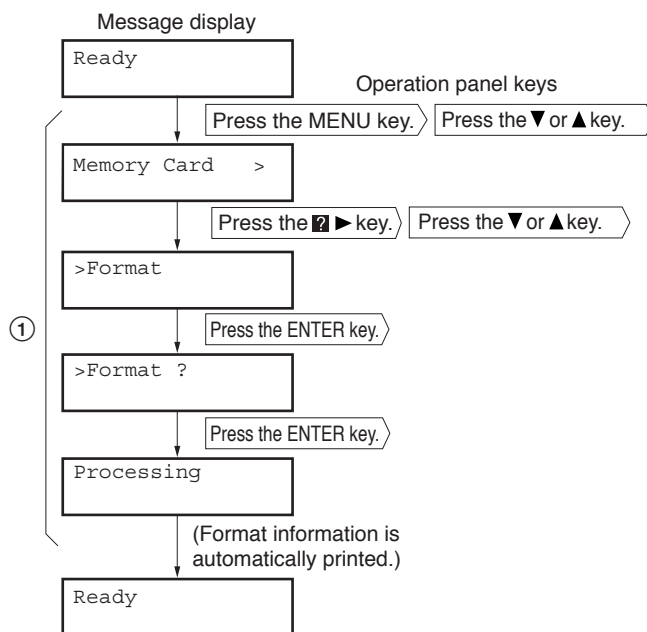


Figure 1-7-6

5. Remove the formatted memory card from the memory card slot.

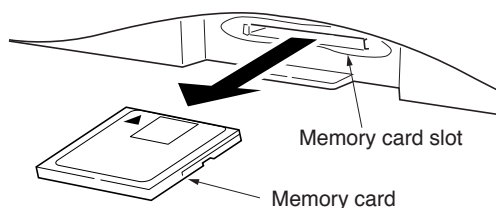


Figure 1-7-7

6. Insert the memory card to the PC's slot or to the adaptor.
7. Copy the firmware file to download to the root directory of the memory card.
8. Remove the memory card from the PC's slot or the adaptor.

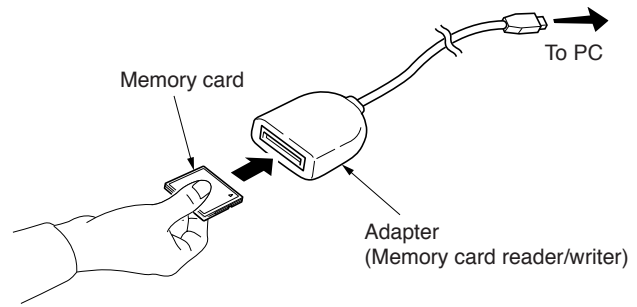


Figure 1-7-8

9. Confirm that the printer's power switch is set to off.
10. Insert the memory card into the printer's memory card slot.

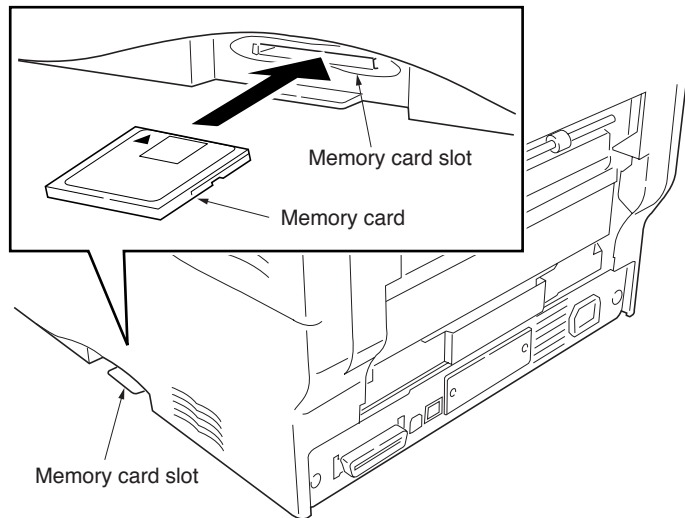


Figure 1-7-9

11. Turn printer power on. The firmware file in the memory card will be automatically downloaded.
12. Message display ① is displayed during downloading. When message display ② is displayed to indicate downloading is finished.
13. Turn printer power off.
14. Remove the memory card from memory card slot.
15. Turn printer power on.
16. Confirm that message display ③ is displayed after warm-up.
17. Print the status page. (See page 1-4-2.)
18. Print the status page to check that the firmware version has been updated.

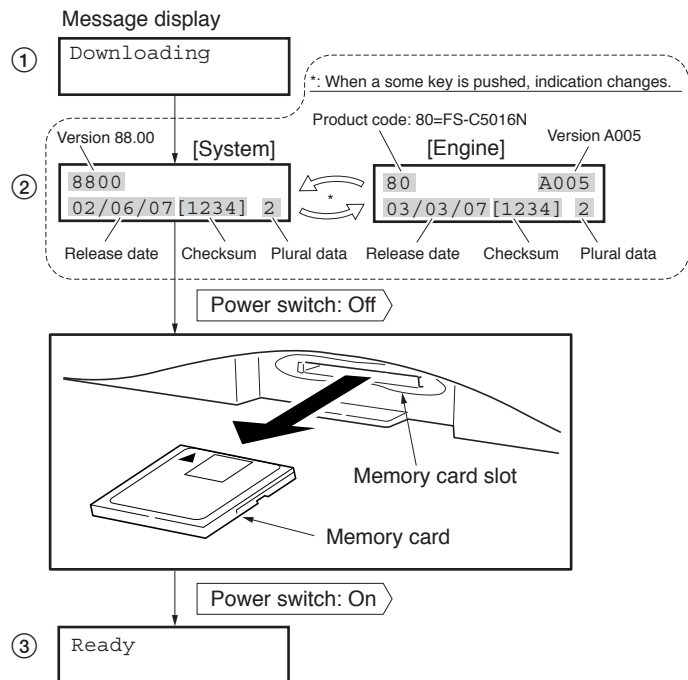


Figure 1-7-10

(4) Downloading the message data

To download the new message data, progress the following procedures.

1. Turn off the power switch to the printer and PC.
2. Connect the parallel printer cable between the PC and printer.

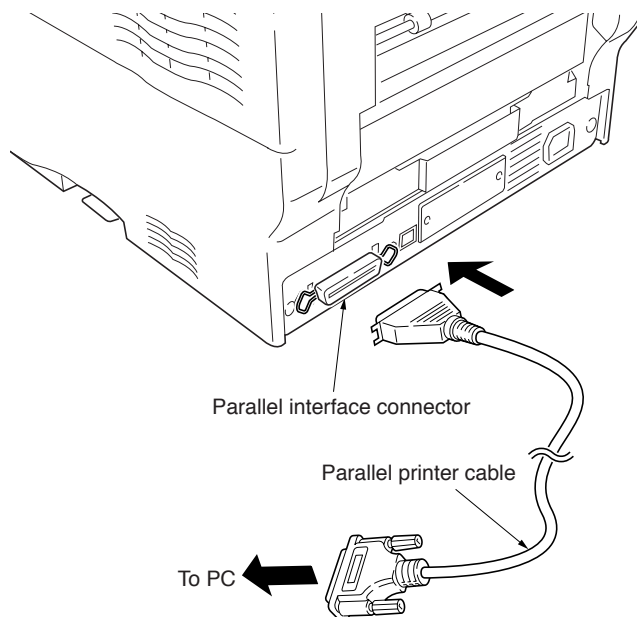


Figure 1-7-11

3. Turn on the power to the printer.
4. Check that the message indication ① is indicated.
5. Input the command ② following the DOS prompt indication.
 - * Enter BOOST'SPR' in capitals.
6. Check that the message indication ③ is indicated.
7. Input the command ④ following the DOS prompt indication and copy the message data file to the printer (e.g.; dm8002.spa).
8. The message indication ⑤ is indicated while downloading the data file. When the message indication ⑥ is indicated, which shows the end of downloading, turn off the power switch once and then turn it on again.
9. Check that the message indication ⑦ is indicated after warming up the printer.
10. Print the status page. (See page 1-4-2.)
11. Print the status page to check that the firm-ware version has been updated.

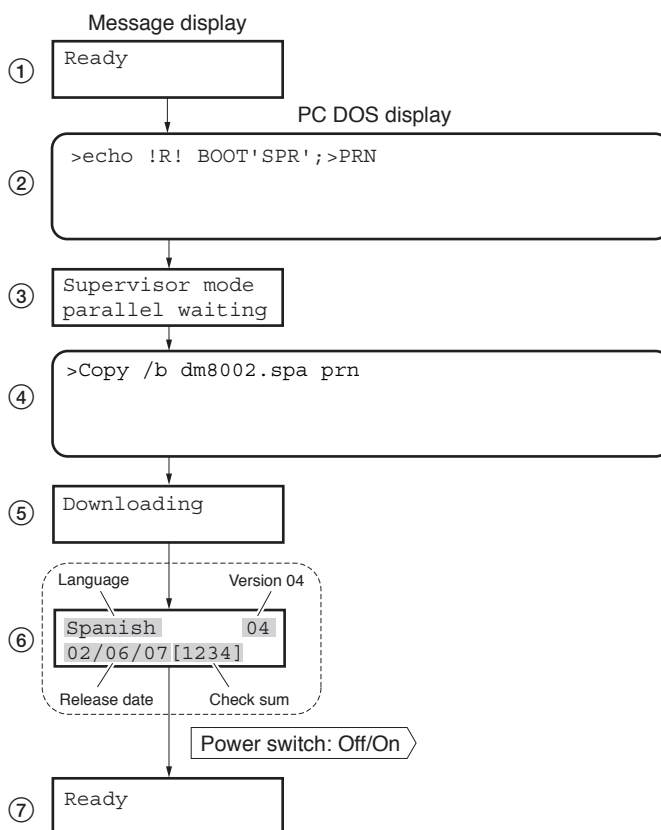


Figure 1-7-12

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2-1-1 Paper feed section

There is paper feed from the paper cassette which can load paper 500 and paper feed from the MP tray which can load paper 100 in paper feed method of this printer.

The Paper feed section is composed of paper cassette, paper feed unit, paper feed drive unit, MP tray and, MP tray feed unit.

(1) Paper feeding from paper cassette

The paper cassette is fit underneath the paper feed unit. The paper stored in the paper cassette is lifted up so that it is pressed against the pickup roller as the bottom plate in the paper cassette is raised by the lifter mechanism. The sheet at top is rewound to the pick up roller and sent to the paper feed roller which forward the paper in the printer. In order to prevent paper misfeed during feeding, the retard roller which is positioned face-to-face with the paper feed roller acts to prevent feeding more than one sheet at a turn of the pick up roller. The paper cassette has an opening at the front side. This opening is a loophole for the paper that is fed by the optional paper feeder or the duplexer which feeds paper into the printer.

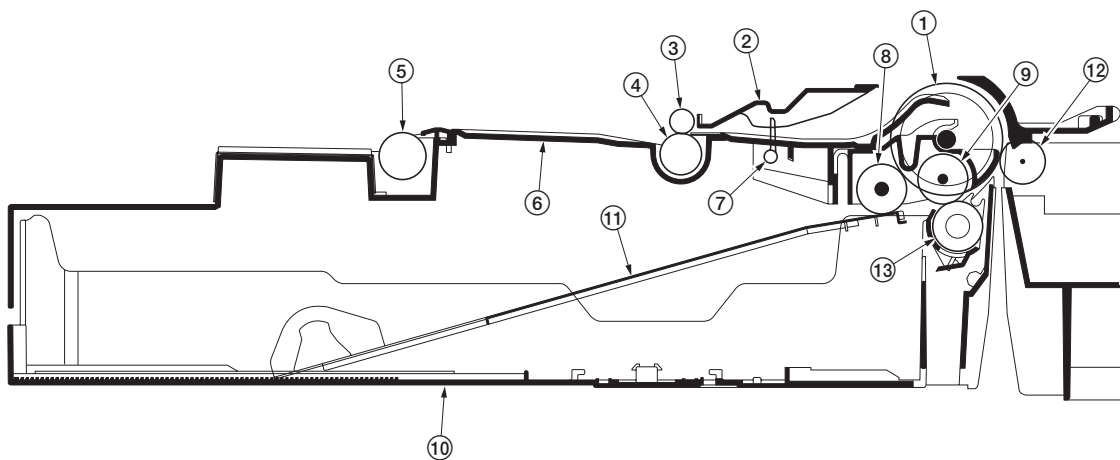


Figure 2-1-1 Paper cassette

- | | | |
|------------------------------|-----------------------------------|-------------------|
| 1. Guide roller | 6. Feed base | 11. Bottom plate |
| 2. Paper guide | 7. Registration sensor (actuator) | 12. Feed pulley |
| 3. Upper registration roller | 8. Pickup roller | 13. Retard roller |
| 4. Lower registration roller | 9. Feed roller | |
| 5. Secondary transfer roller | 10. Cassette base | |

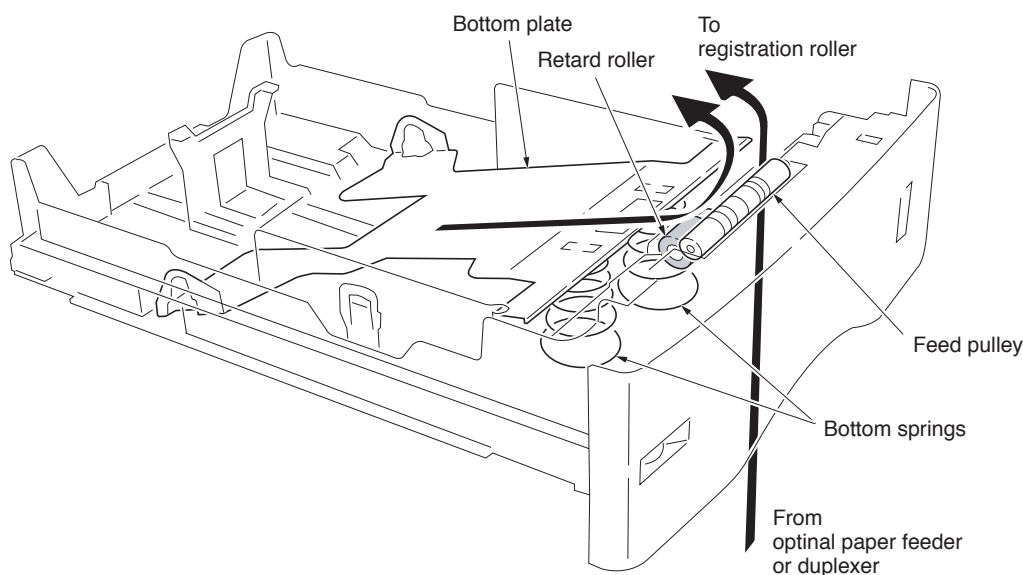
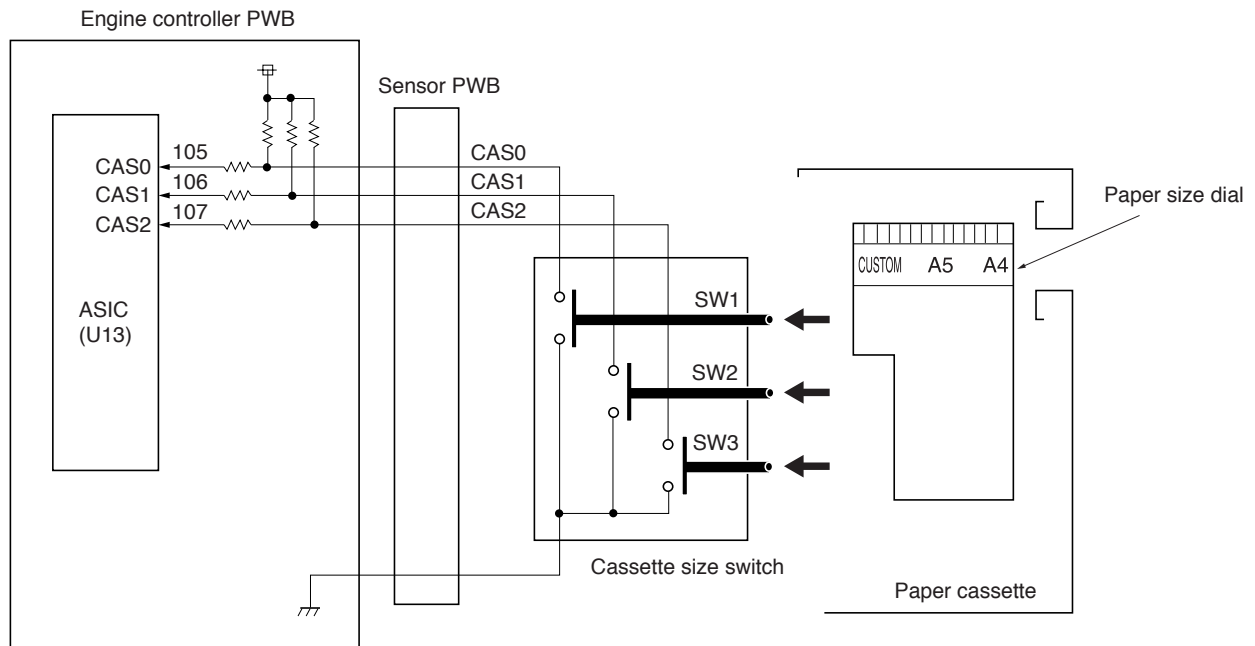
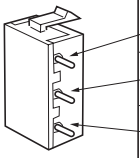
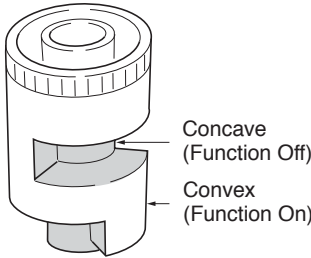


Figure 2-1-2

The paper size dial has predetermined patterns of activating the paper size switches using concaves and convexes according to paper sizes. SW1, SW2, and SW3 produce corresponding signals for paper sizes.



Cassette size switch	Paper size								See note below.	Paper size dial
	Cassette not installed	Other	Legal	Letter	A4	A5	B5			
	SW1	H	H	H	H	L	L	L	L	
	SW2	H	H	L	L	H	H	L	L	
	SW3	H	L	H	L	H	L	H	L	

Note: Color calibration cancellaton signal

Figure 2-1-3

Paper gauge sensing circuit

The actuator which has a light reflector at one end keeps tracking of the height of the paper stack in the paper cassette. The angle of the reflector varies according to the actuator angle which means the amount of paper remaining. As the reflector moves across the detecting surface of paper gauge sensor (photo interrupter) 1 and 2, the on and off states of these sensors vary in combination as shown in the table below, allowing to determine the amount of remaining paper in the cassette.

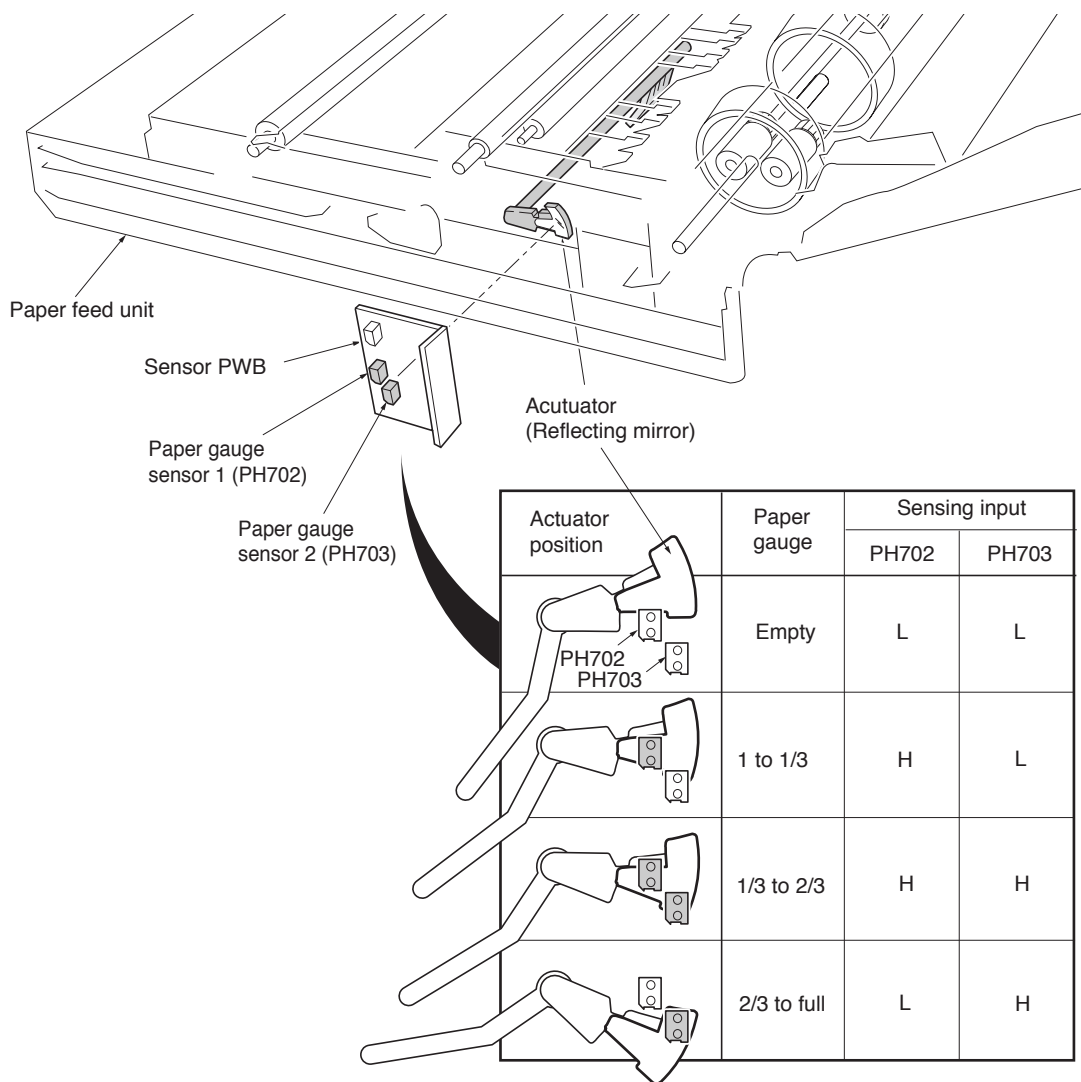


Figure 2-1-4

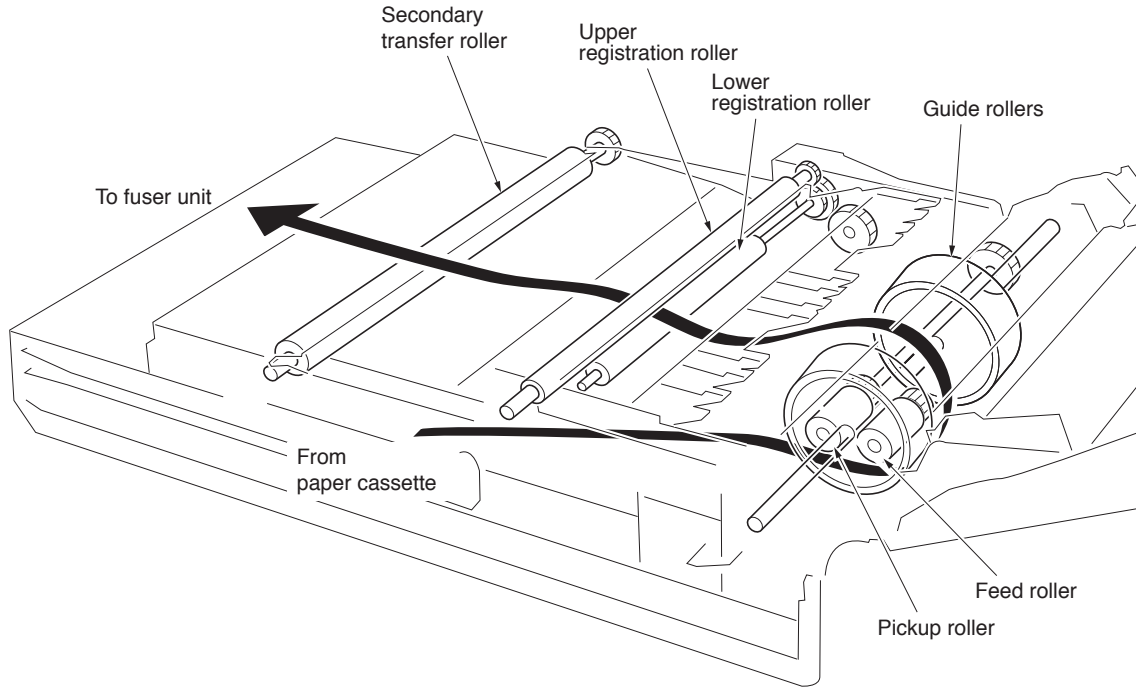


Figure 2-1-5 Paper feed unit

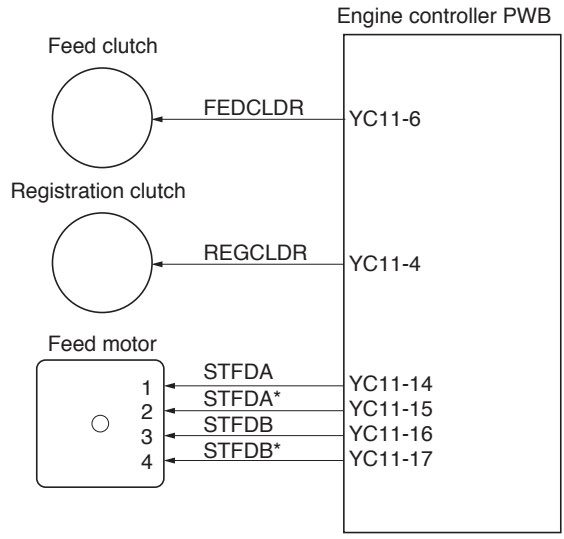


Figure 2-1-6 Paper cassette paper feed section block diagram

(2) Paper feeding from MP tray

The MP tray bottom which is driven by the MP feed solenoid press the paper against the MP feed roller. The sheet is rewound to the MP feed roller, then forward to the registration roller by means of the MP middle roller.

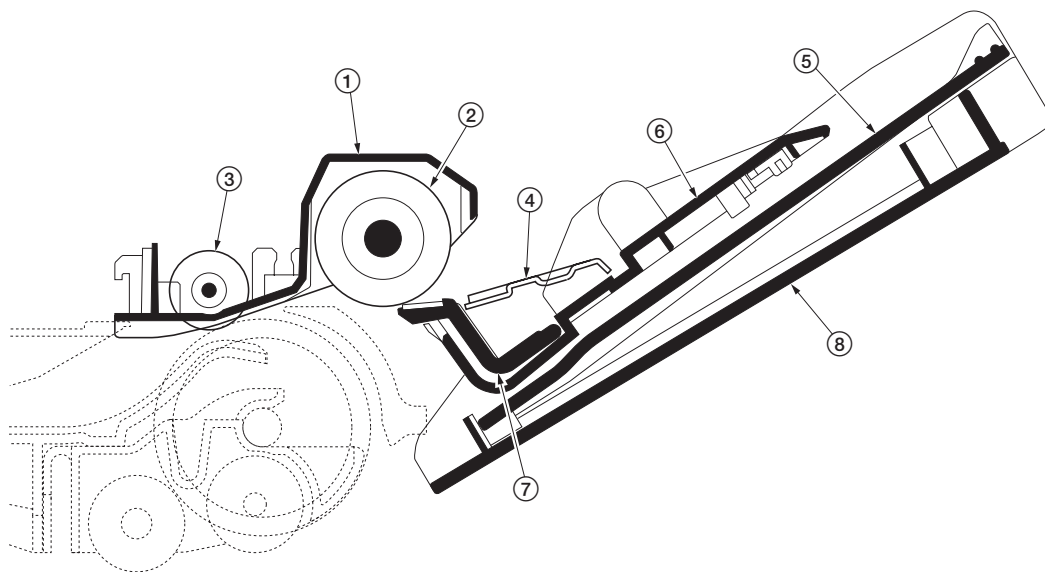


Figure 2-1-7 MP tray paper feed section

- | | |
|---------------------|-------------------|
| 1. MP frame | 5. MP middle tray |
| 2. MP feed roller | 6. MP base |
| 3. MP middle roller | 7. Separator |
| 4. Multi bottom | 8. MP tray cover |

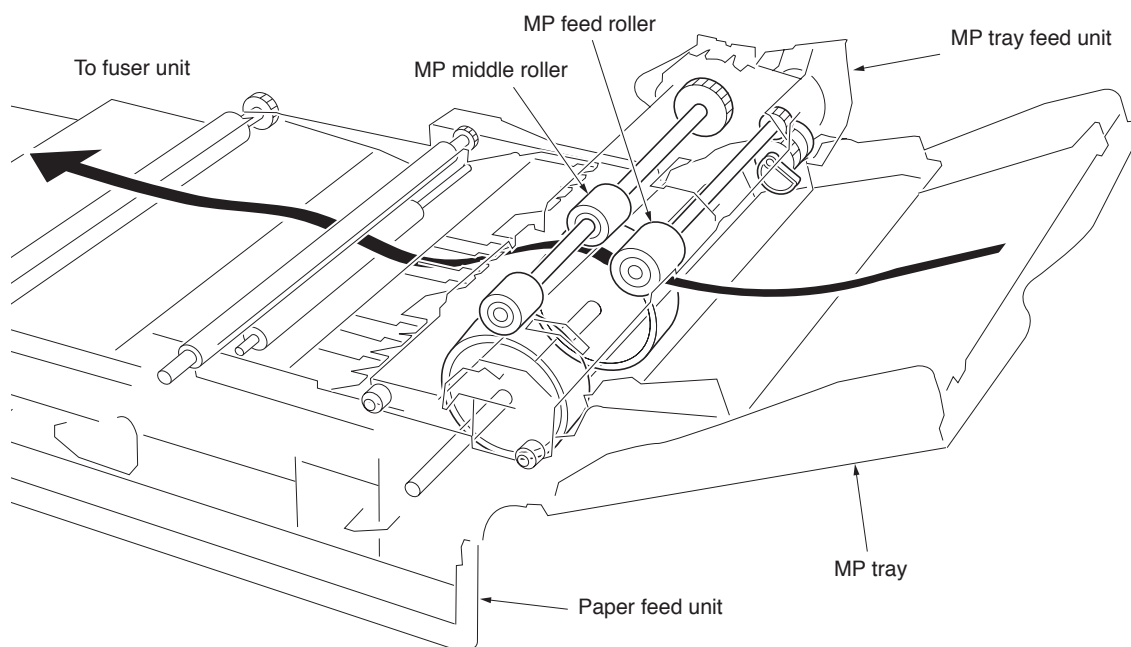


Figure 2-1-8

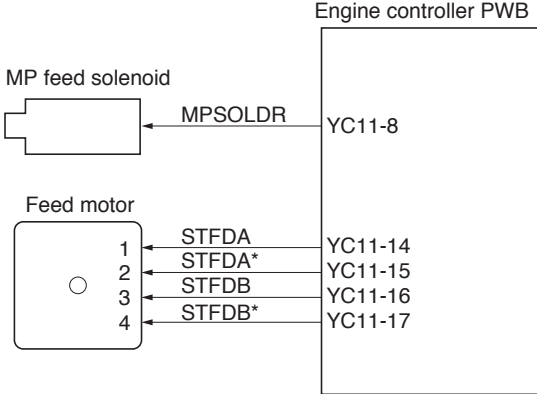


Figure 2-1-9 MP tray paper feed section block diagram

2-1-2 Developing section

(1) Developer

Developing section is composed of mixer screw, developing blade, developing magnet roller and, developing sleeve.

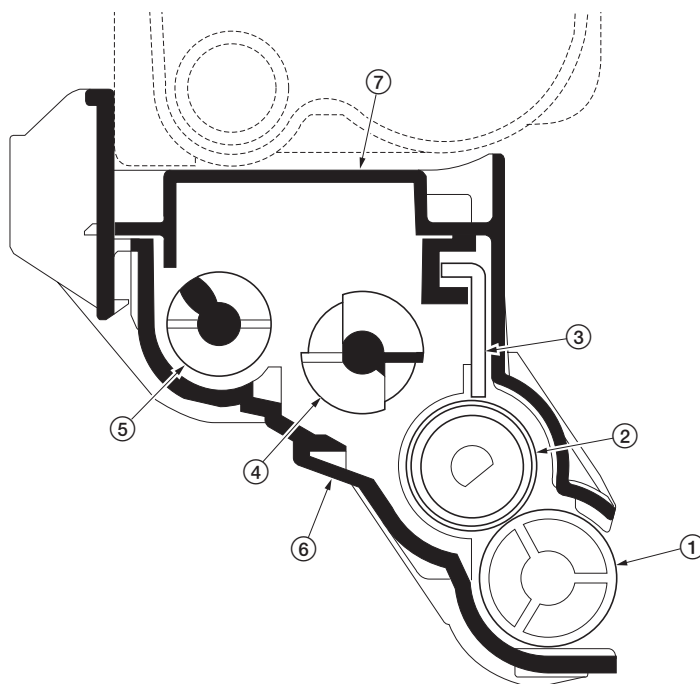


Figure 2-1-10

- | | |
|-----------------------------|-------------------|
| 1. Developing sleeve | 5. Mixer screw A |
| 2. developing magnet roller | 6. Developer case |
| 3. Doctor blade | 7. Developer lid |
| 4. Mixer screw B | |

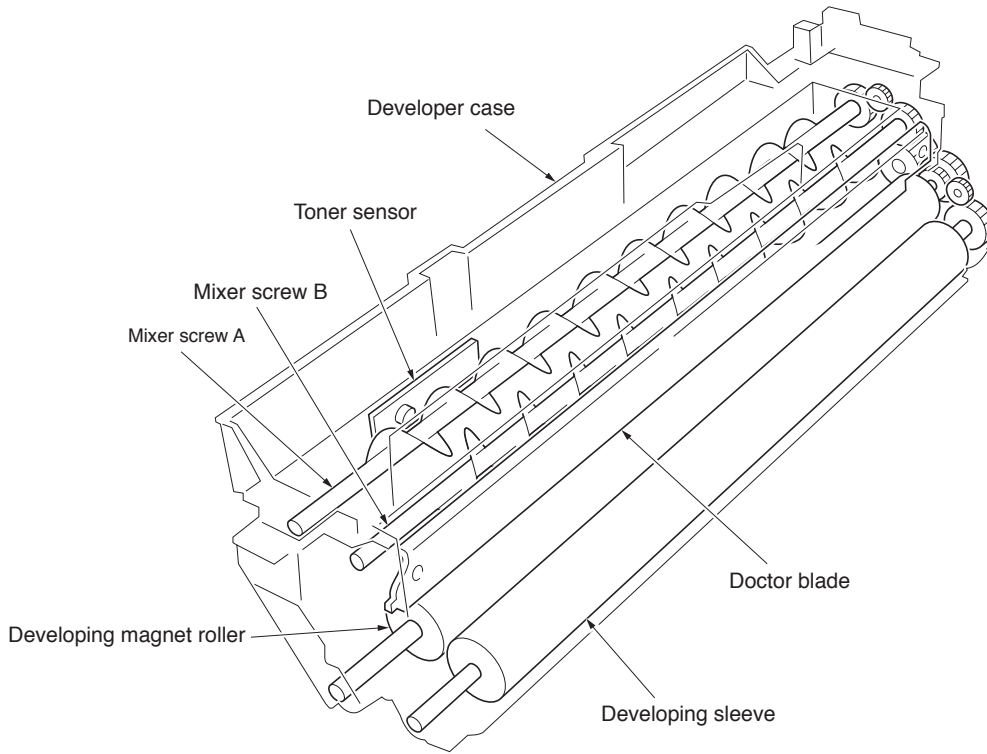


Figure 2-1-11 Developer unit

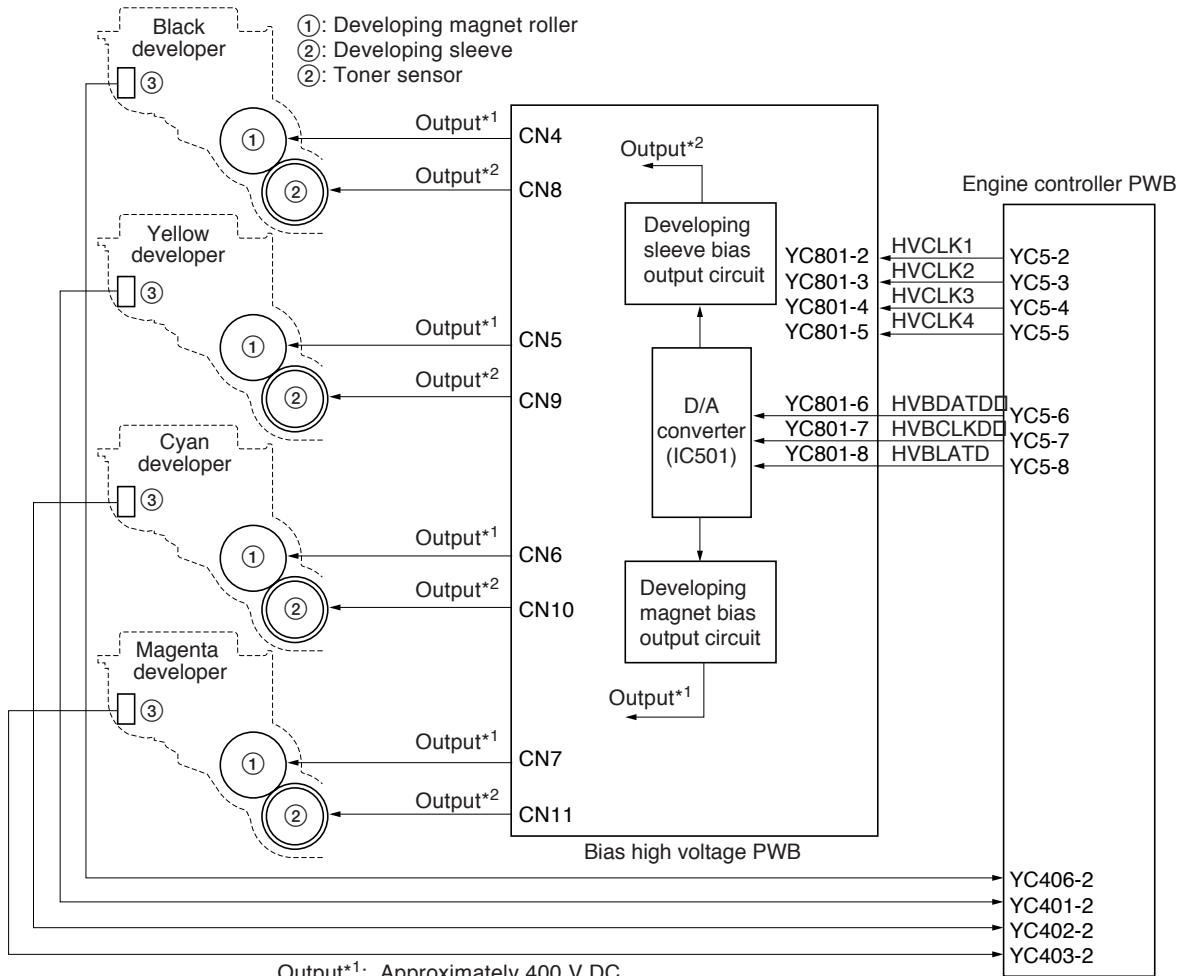


Figure 2-1-12 Developing section block diagram

(2) Touch down developing method

Touchdown development system is a development system having the best of both mono-component system and dual component system. Dual component developer which is a powder of mixture of toner and carrier powder is continuously agitated by mixer screws A and B in the toner hopper in the developer unit. The toner and carrier powder are adsorbed to each other by means of electrostatic charge developed by the friction when they are stirred. The developing magnet roller is comprised of a magnet and a sleeve which revolves coaxially with the magnet. The developer powder forms 'brushes' of toner and carrier on the magnet sleeve along the magnetic field centering the magnet. The 'brushes' are truncated to a constant length of height (approximately 0.5 to 0.55 millimeters) as they pass under the doctor blade. The developing magnet roller lies along the developing sleeve at the distance of 0.40 millimeters. As the developing magnet roller revolves, the brushes formed at pole N1 sweep the developing sleeve and the toner is transferred to the developing sleeve as it is attracted by the difference in potential between them. The toner on the developing sleeve is approximately 70 micrometer in thickness. The developing sleeve is located 0.23 millimeter from the drum. The toner is transferred to the drum by means of the DC/AC bias applied to the developing sleeve.

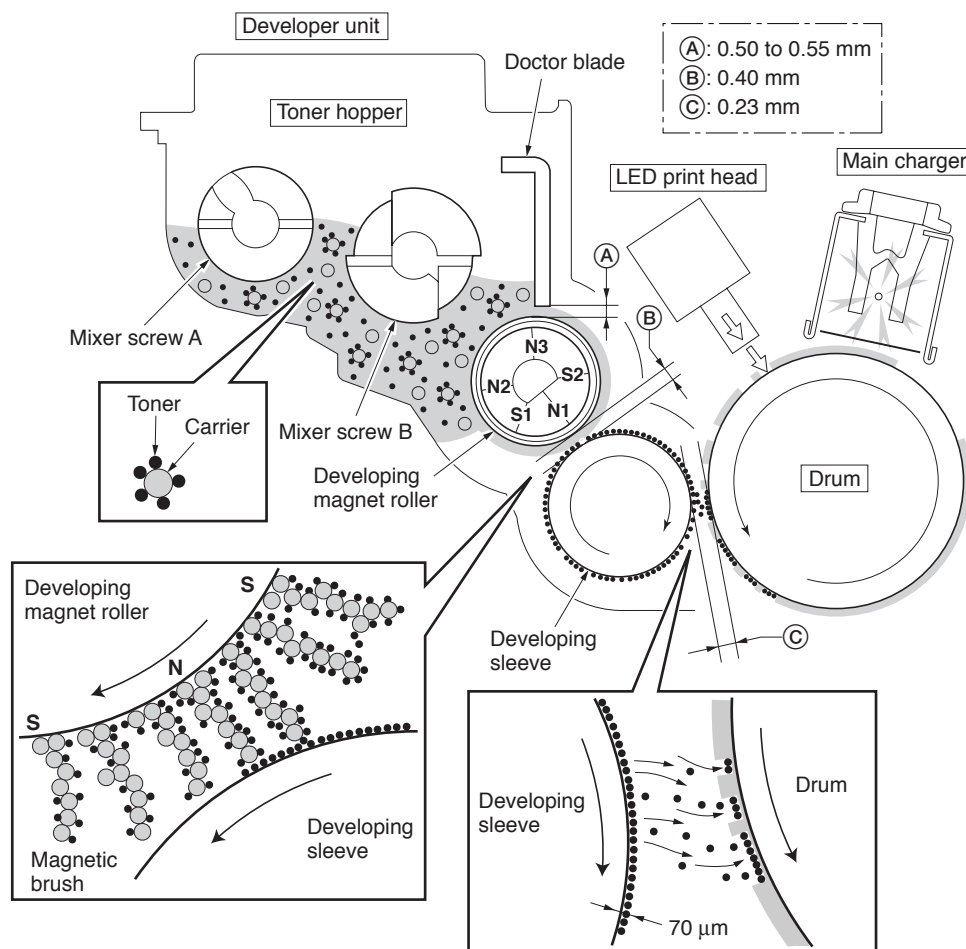


Figure 2-1-13

2-1-3 Drum section

The drum unit includes a photoconductive drum, eraser lamp, LED print head, cleaning blade and, a main charger unit. The drum unit is removable with the main charger unit.

(1) Drum unit

The tandem development system uses four drum units which are isomorphic to each other, in cyan, magenta, yellow, and black colors. In the drum unit, the main charger disperses charging potential over the drum to evenly charge the drum. When the light emitted by LED hits the charged drum, the electrostatic latent image is developed on the drum. The electrostatic latent image is 'developed' by toner applied by the developer unit and transferred onto the primary transfer belt in four colors. The toner remaining on the drum is scraped off by the cleaning blade and driven outside by the spiral screw. The residual potential on the drum is discharged by the exposure to the eraser lamp. Thus, the drum becomes ready for the next main charging.

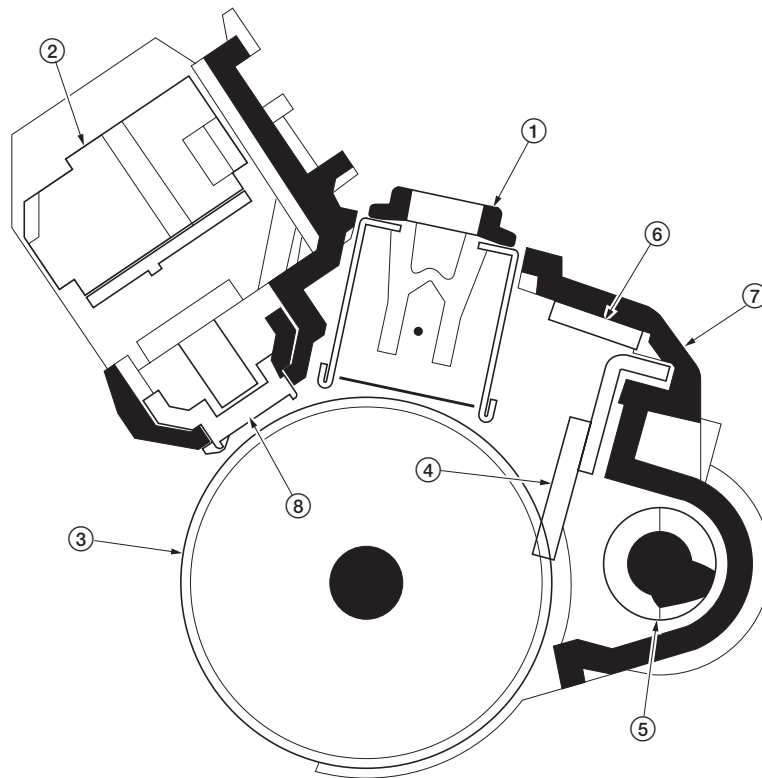


Figure 2-1-14

- | | |
|----------------------|---------------------------|
| 1. Main charger unit | 5. Waste toner exit screw |
| 2. LED print head | 6. Eraser lamp [PWB] |
| 3. Drum | 7. Drum frame |
| 4. Cleaning blade | 8. Lens cleaner |

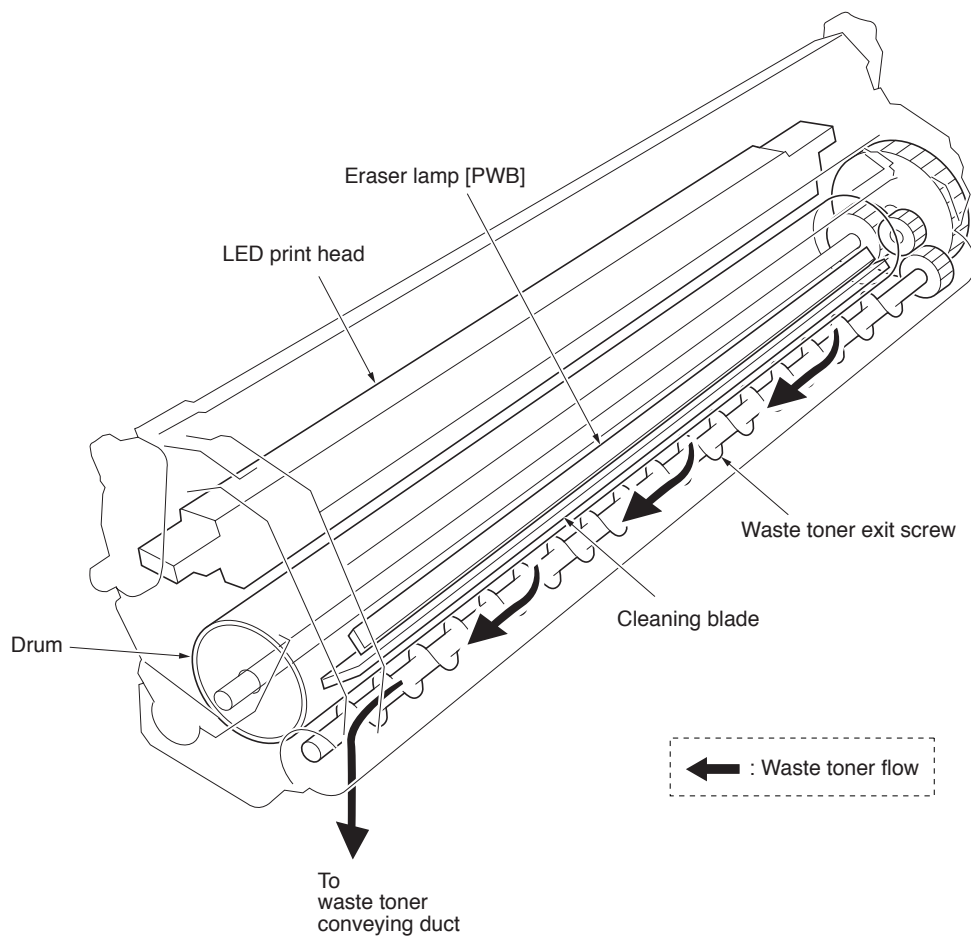


Figure 2-1-15 Drum unit

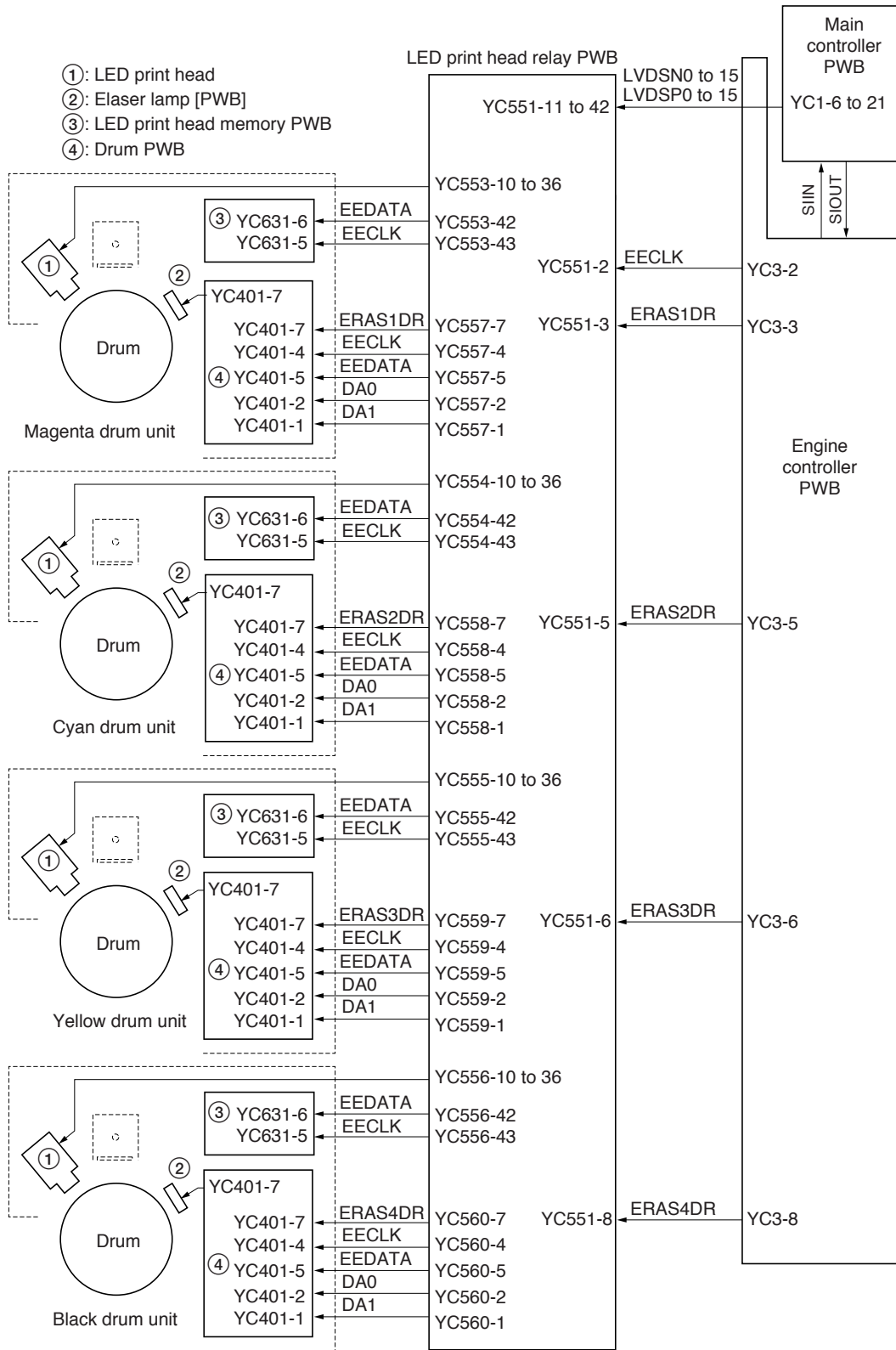


Figure 2-1-16 Drum section block diagram

(2) Waste toner ejecting mechanism

The waste toner which is ejected from the drum units drops on the waste toner conveyer through a duct. The waste toner is conveyed towards the primary transfer cleaning unit, finally stored in the waste toner box.

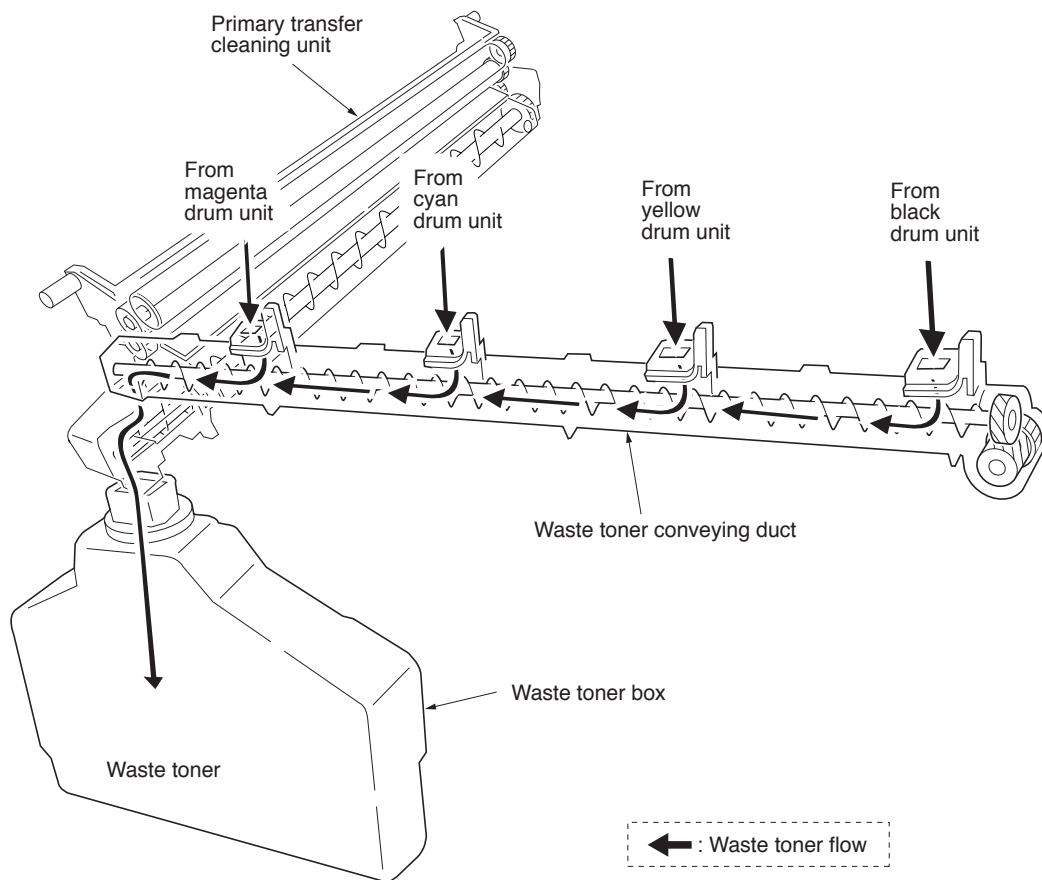


Figure 2-1-17 Waste toner ejecting mechanism

(3) LED print head

The LED print head is comprised of an LED array, SELFOC lens array, and an LED print head memory PWB. The LED array arrays 5120 of LED chips in line. It also includes the driver circuit for the LED array. The light which is switched on and off depending on video data irradiate the drum through the SELFOC lens, to form an image. The LED head is of 600 dpi, therefore the exposure of the light is as dense as 600 dots per a inch. The LED print head memory PWB stores data for compensation of fluctuation of luminosity over all LED chips in the array.

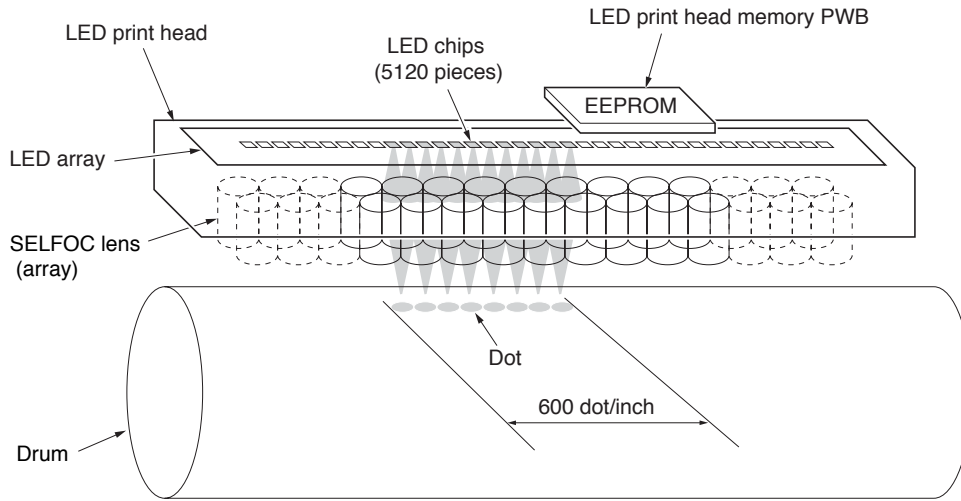


Figure 2-1-18 LED print head

Data to print is processed by the main controller PWB and transferred to the LED print head relay PWB in synchronization with VIDEO signal through the engine controller PWB. VIDEO signal is sent from ASIC (U22) on the mail controller PWB to ASIC (U551) on the LED print head relay PWB using LVDS method. LVDS stands for Low Voltage Differential Signaling which uses 16 pairs of signal lines (32 in all). The main controller PWB converts VIDEO signal into a unique format using LVDS depending on compensating data stored in a flash DIMM.

The LED print head has an LED print head memory PWB mounted. The PWB includes data for compensating the fluctuation of luminosity of every LED chip. At power-up, the compensating data in EEPROM are cached in the flash DIMM on the main controller PWB. In a subsequent power-up, the main controller PWB refers the flash DIMM to obtain the compensating data and the EEPROM is checked with its checksum only.

If the LED print head or the main controller PWB is replaced, checksum becomes error. The compensating data is transferred to the controller PWB again from the EEPROM. In case of failure with EEPROM on the LED print head memory PWB or with compensating data, the printer displays service call 0951, 0952, 0953, or 0954 within approximately 30 seconds.

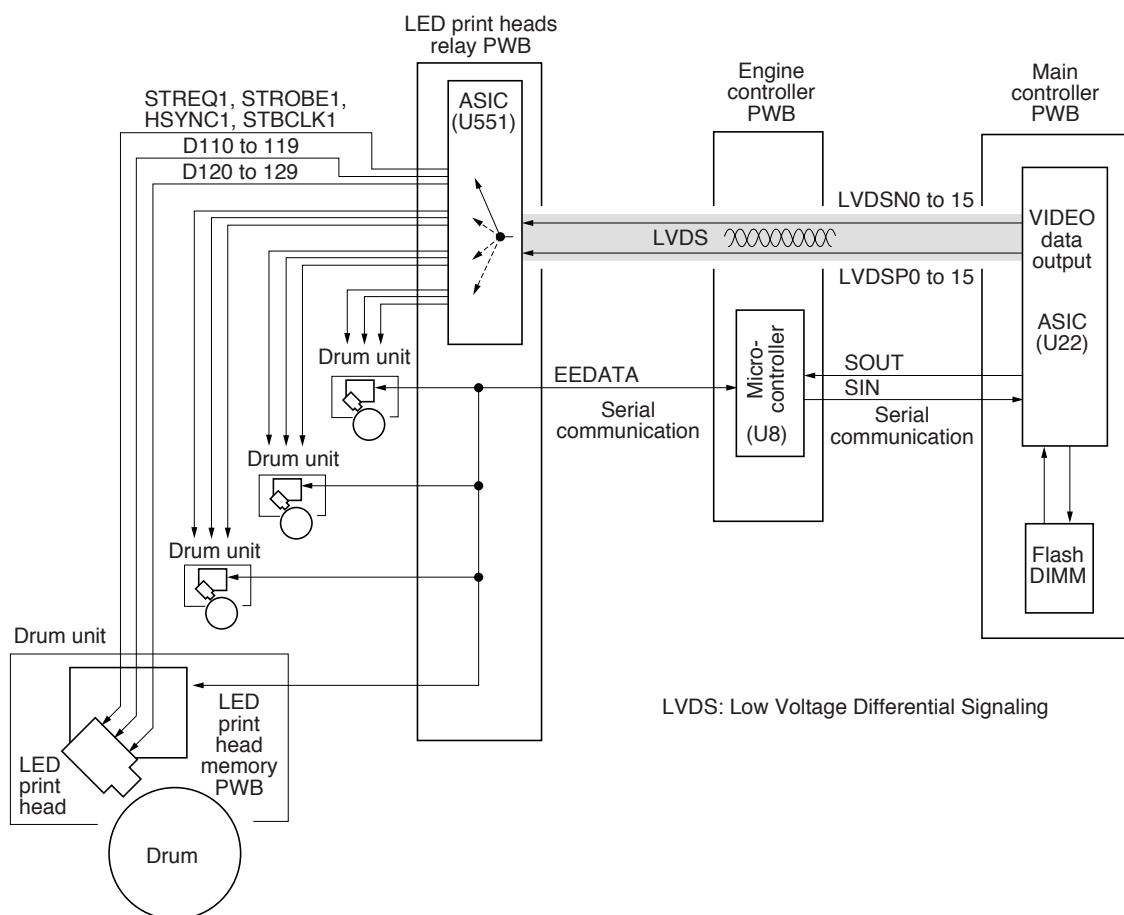
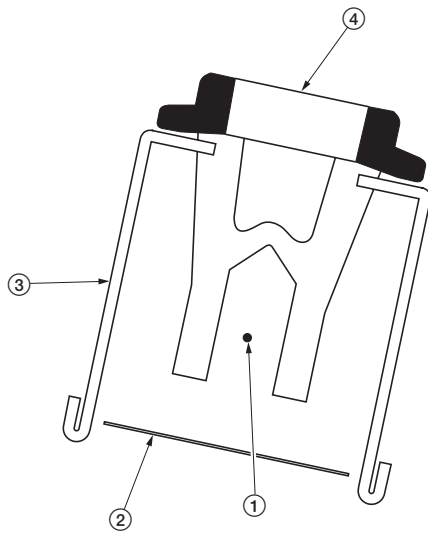


Figure 2-1-19 LED print head block diagram

(4) Main charger unit

Main charger unit is comprised of the main charger wire, main charger grid, main charger shield, and the main charger cleaner which are modularized and fitted to the drum unit.



- 1. Main charger unit
- 2. Main charger grid
- 3. Main charger shield
- 4. Main charger cleaner

Figure 2-1-20

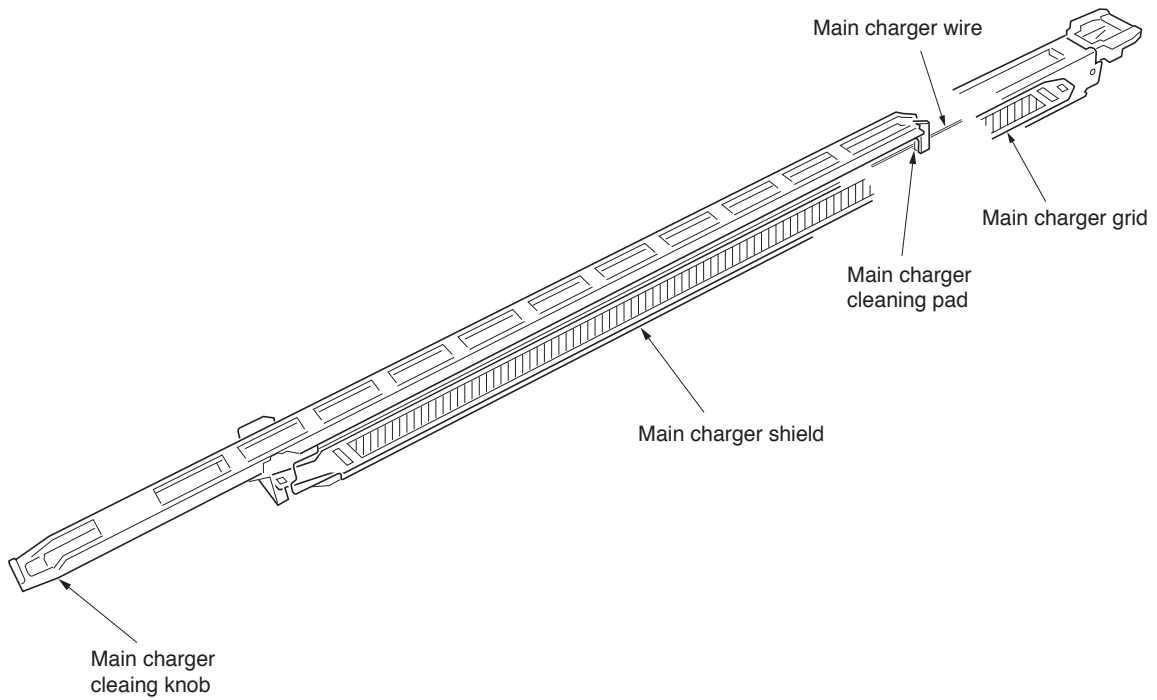


Figure 2-1-21 Main charger unit

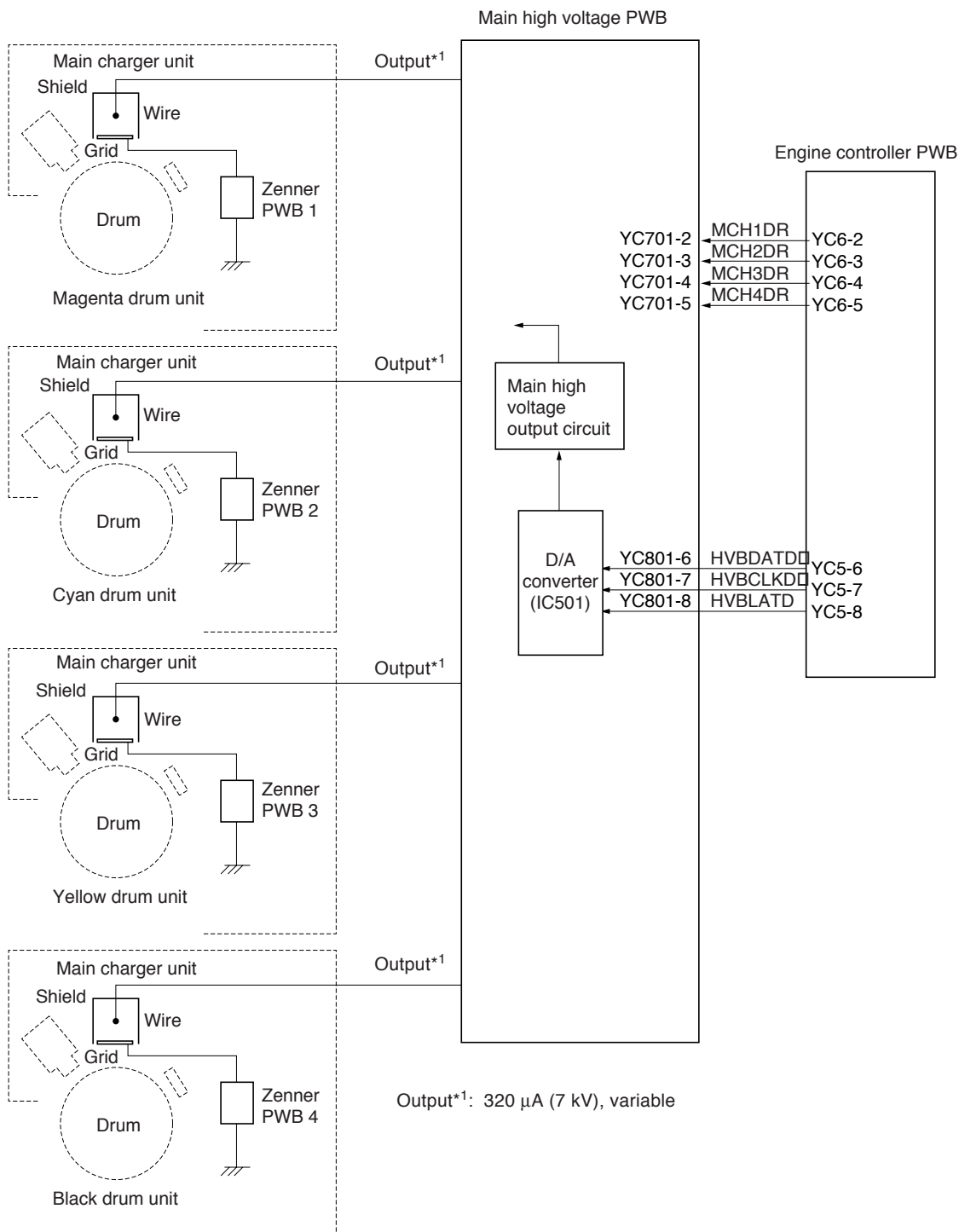


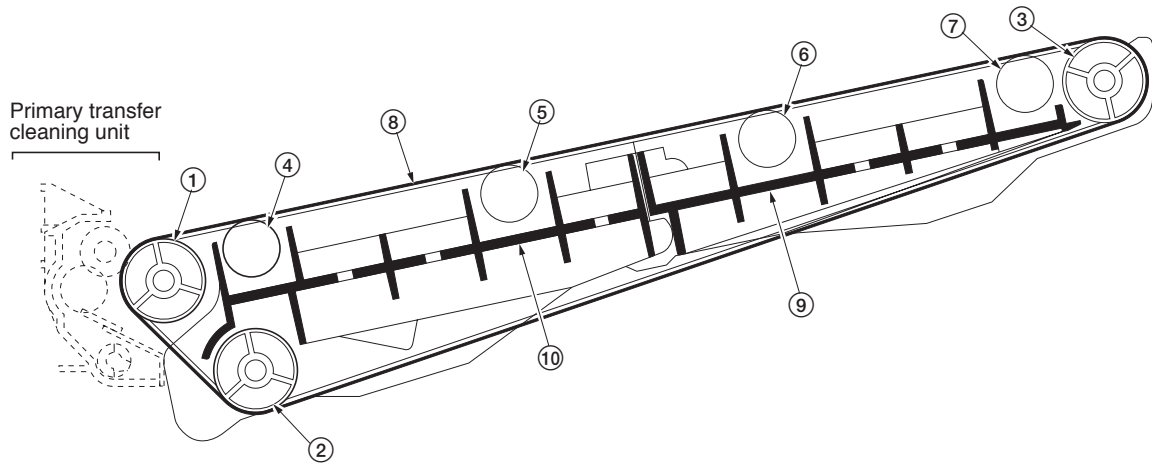
Figure 2-1-22 Main charger output block diagram

2-1-4 Primary transfer section

Primary transfer section is composed of the primary transfer unit and primary transfer cleaning unit.

(1) Primary transfer unit

The primary transfer unit is comprised of the primary transfer belt, tension rollers, and four primary transfer rollers of colors. Color image is transferred on the transfer belt as the four layers different colors. The toner ID sensor mounted on the main frame monitors the density of the toner on the primary transfer belt.



- | | |
|--------------------------------------|-------------------------------------|
| 1. Tension roller | 6. Primary transfer roller (yellow) |
| 2. Tension roller | 7. Primary transfer roller (black) |
| 3. Drive roller | 8. Primary transfer belt |
| 4. Primary transfer roller (magenta) | 9. Drive base |
| 5. Primary transfer roller (cyan) | 10. Tension base |

Figure 2-1-23 Primary transfer unit

The primary transfer belt is made of stratum fluorine coat, stratum elasticity, and stratum resin in the order from the surface to the bottom. These substances ensure smooth paper travel as well as the durability of the belt itself.

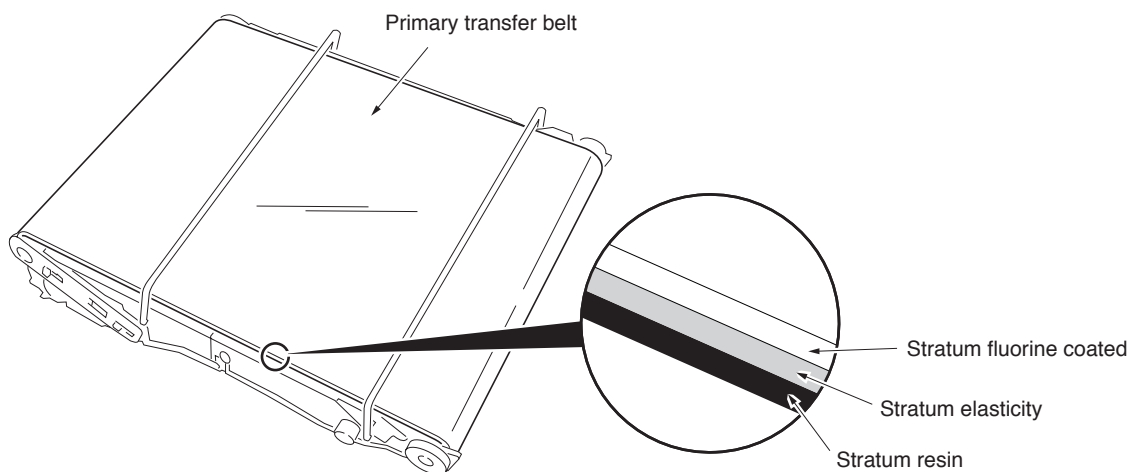


Figure 2-1-24 Primary transfer unit

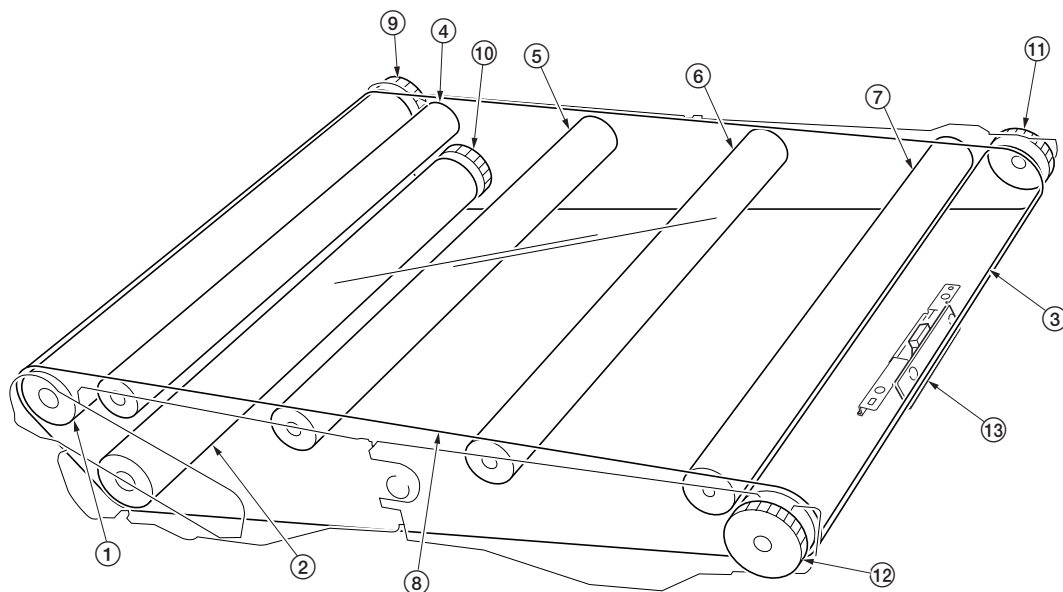


Figure 2-1-25

- | | |
|--------------------------------------|---|
| 1. Tension roller | 7. Primary transfer roller (black) |
| 2. Tension roller | 8. Primary transfer belt |
| 3. Drive base | 9. Backup gear 29H |
| 4. Primary transfer roller (magenta) | 10. Backup gear 29H |
| 5. Primary transfer roller (cyan) | 11. Image gear 22H |
| 6. Primary transfer roller (yellow) | 12. Image gear 28S |
| | 13. Toner ID sensor (mounted on the main frame) |

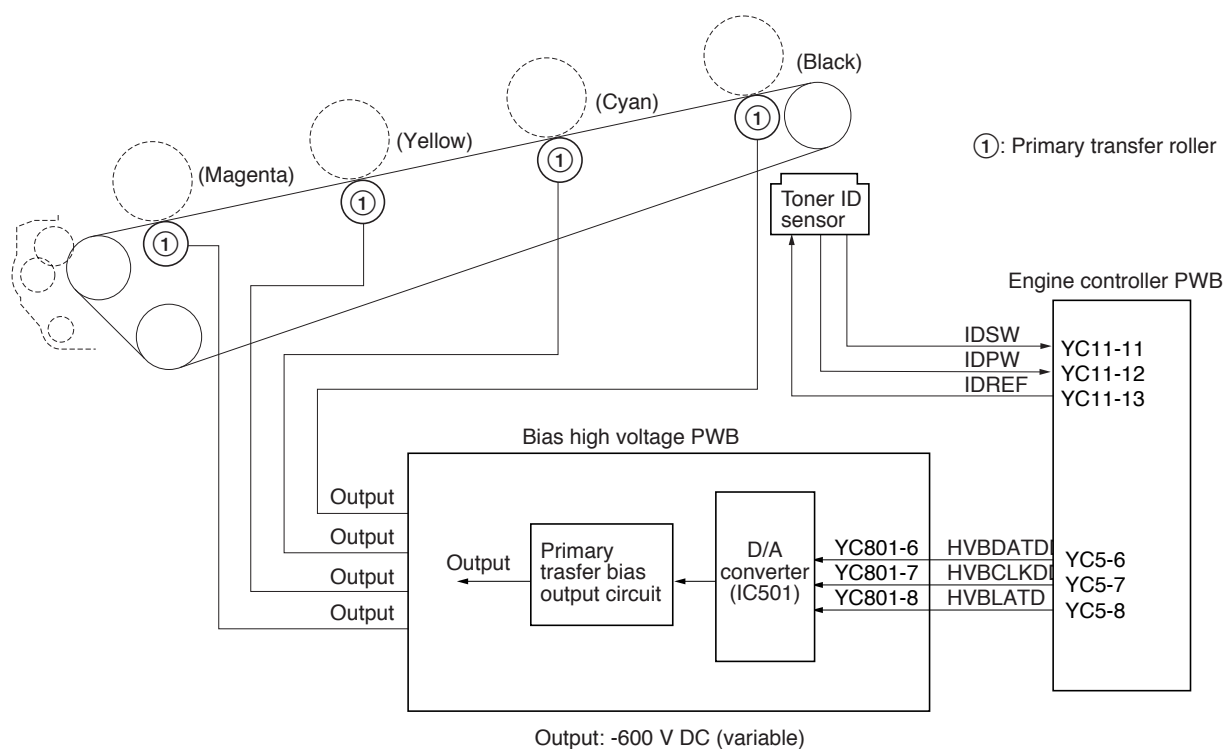
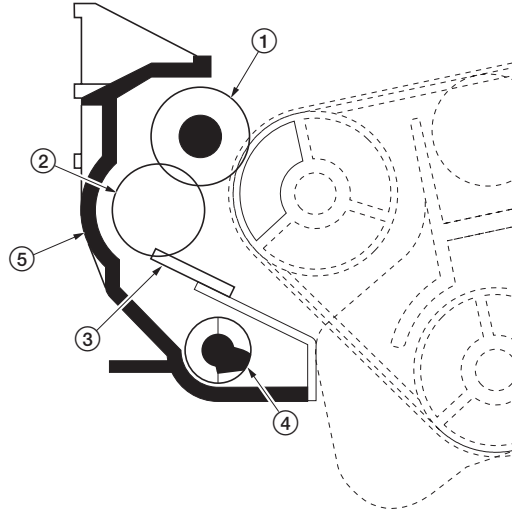


Figure 2-1-26 Primary transfer section block diagram

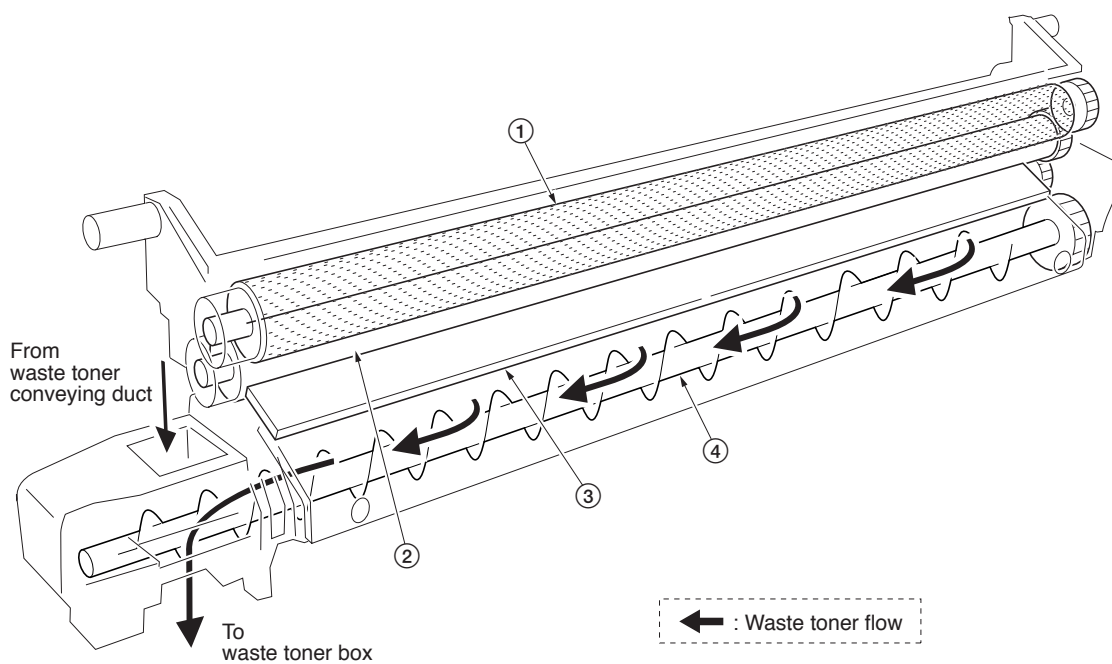
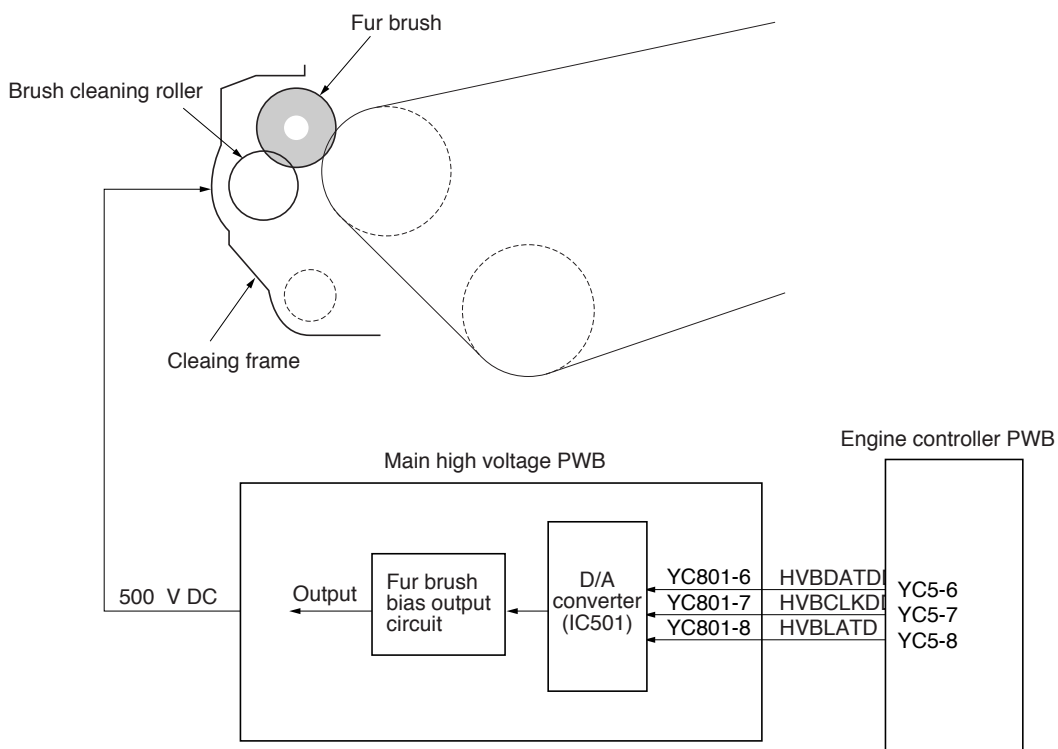
(2) Primary transfer cleaning unit

The primary transfer cleaning unit is composed of the fur brush, brush cleaning roller, cleaning blade and, cleaning screw. After secondary transferring is done, the toner which remains in the primary transfer belt is collected back in the waste toner box. The brush cleaning roller and the fur brush are applied with the DC bias of approximately 500 V DC through the conductive cleaning frame from the main high voltage PWB. The voltage at the fur brush is approximately 300 V DC. The toner remaining on the primary transfer belt is transferred onto the fur brush that is biased and continuously revolving. It is then scraped off of the fur brush by the metal brush cleaning roller in the cleaning frame. The brush cleaning roller has the cleaning blade which scrapes off the waste toner. The waste toner scraped off of the brush cleaning roller falls onto the cleaning screw, then driven outward from the cleaning frame.



1. Fur brush
2. Brush cleaning roller
3. Cleaning blade
4. Cleaning screw
5. Cleaning frame

Figure 2-1-27 Primary transfer cleaning unit



1. Fur brush
2. Brush cleaning roller
3. Cleaning blade
4. Cleaning screw

A full color image is developed by recoating four colors on the primary transfer belt. If the density of each color is not kept constant, the resultant color image will be deteriorated. The toner ID sensor mounted on the primary transfer belt to the printer main unit side maintains the constant color fidelity.

The toner ID sensor includes a LED, deflection beam splitters of BS1 and BS2, photo diode PD2 and PD3 that scale toner density, and associated components.

The deflection beam splitter 1 (BS1) splits the light from the LED to S wave and P wave. S wave oscillates vertically in reference to the entrance plane; whereas, P wave oscillates horizontally in reference to the entrance plane. S wave reaches the photo diode (PD1) and acts to stabilize the luminosity of the LED by means of the feed back circuit. P wave is irradiated to toner, then it produces scattered light wave S and reflection wave P which bounced on the primary transfer belt. They reach the deflection beam splitter 2 (BS2) where they are distinguished as P wave and S wave, respectively, then detected by photo diode 2 (PD2) and photo diode 3 (PD3).

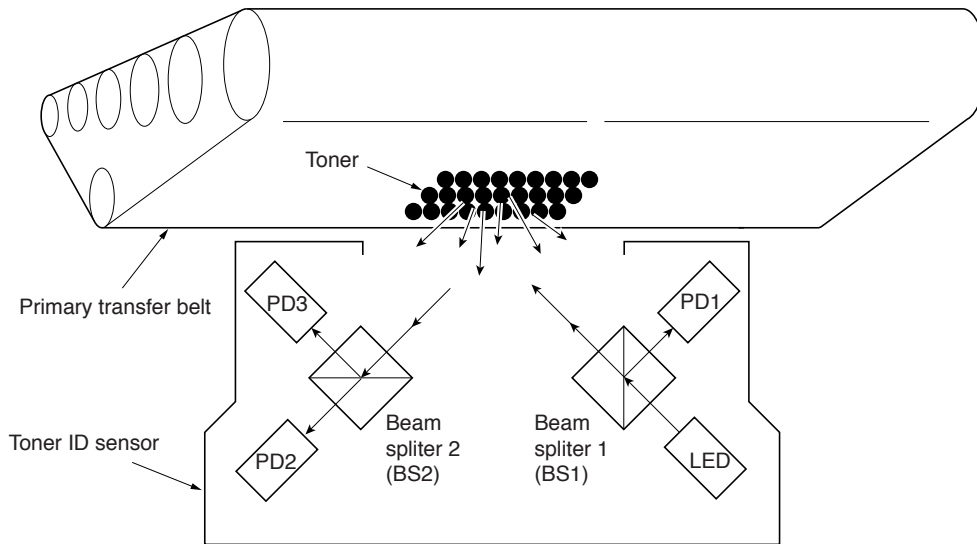


Figure 2-1-30 Toner ID sensor

2-1-5 Secondary transfer and separation section

The secondary transfer and separation section includes the secondary transfer roller which is installed on the paper feed unit. The secondary transfer roller is applied by the bias high voltage PWB of DC bias. The image constituted by toner on the primary transfer belt is transferred on paper by means of the difference in potential. The paper is separated from the transfer belt as the curvature radius of the secondary transfer roller is considerably small.

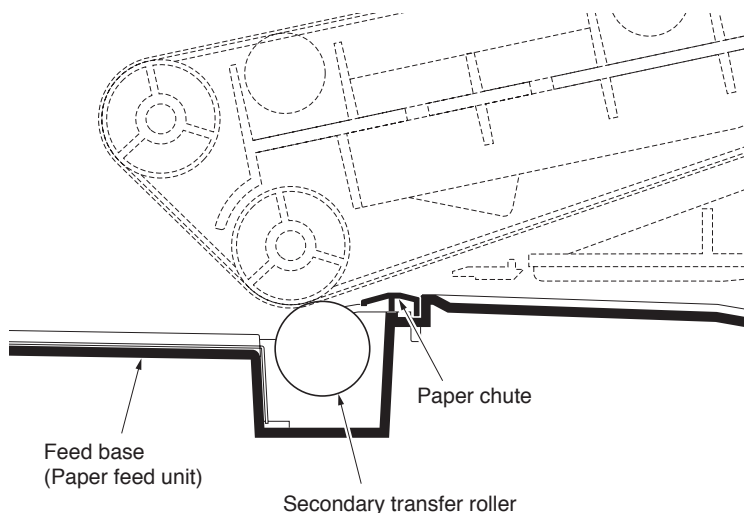


Figure 2-1-31

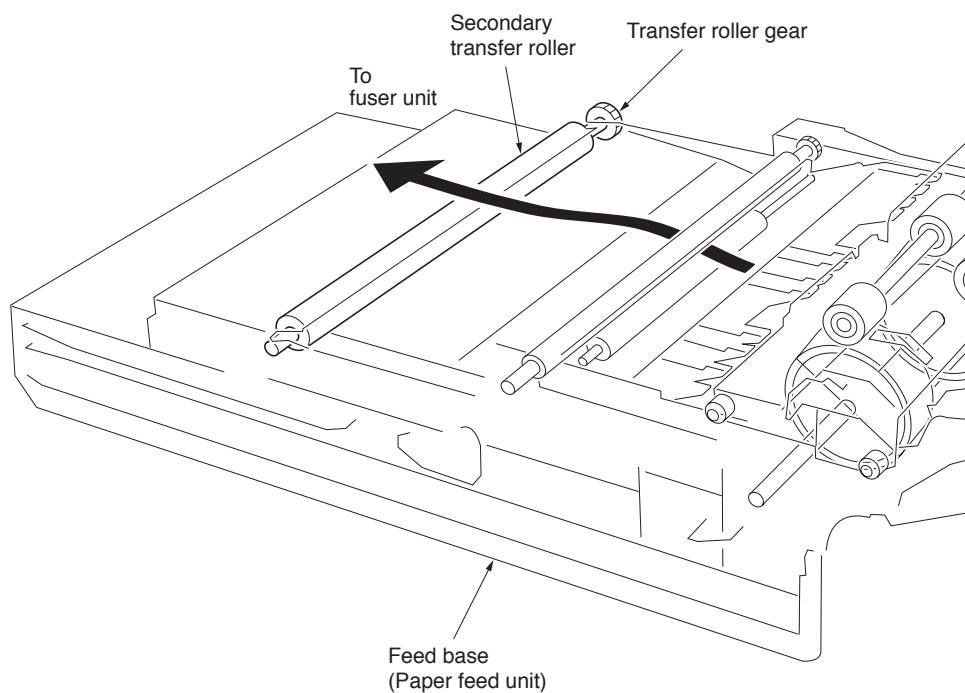


Figure 2-1-32 Secondary transfer unit

The primary transfer roller bias is triggered by a serial data which is generated by the engine controller PWB and derived from the bias high voltage PWB. The engine controller PWB converts current and voltage into serial data and applies it to the bias high voltage PWB. The bias high voltage PWB then uses D/A converter (IC501) and revert it into analog voltage. The analog voltage is applied to the high voltage output circuit which in turn applies the secondary transfer roller with the bias accordingly.

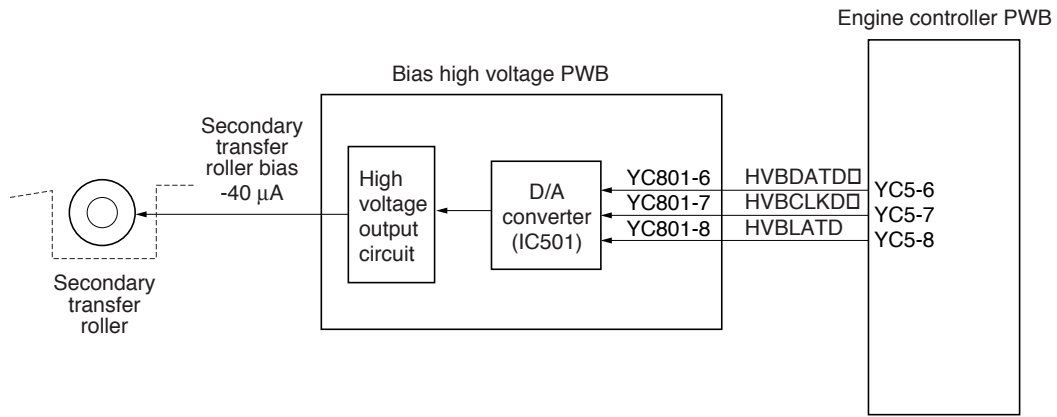


Figure 2-1-33 Secondary transfer unit block diagram

2-1-6 Fuser section

(1) Fuser unit

The fuser unit is composed of the heat roller, press roller, fuser heater lamp 1, fuser heater lamp 2, and the change guide. Paper sent from the secondary transfer and separation section is applied with heat and pressure to permanently fuse toner on paper. The change guide switches the destination of paper to the face-down tray or optional face-up tray. It also sends paper to the duplexer.

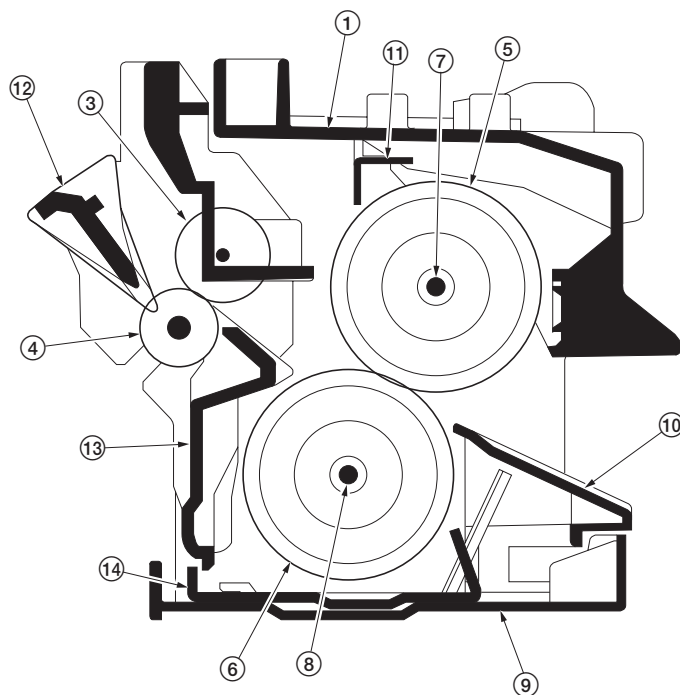


Figure 2-1-34

- | | |
|------------------------|--------------------------|
| 1. Upper fuser frame | 8. Fuser heater lamp 2 |
| 2. Lower fuser frame | 9. Lower fuser cover |
| 3. Upper exit roller | 10. Lower entrance guide |
| 4. Lower exit roller | 11. Stay plate |
| 5. Heat roller | 12. Change guide |
| 6. Press roller | 13. Exit guide |
| 7. Fuser heater lamp 1 | 14. Fuser frame |

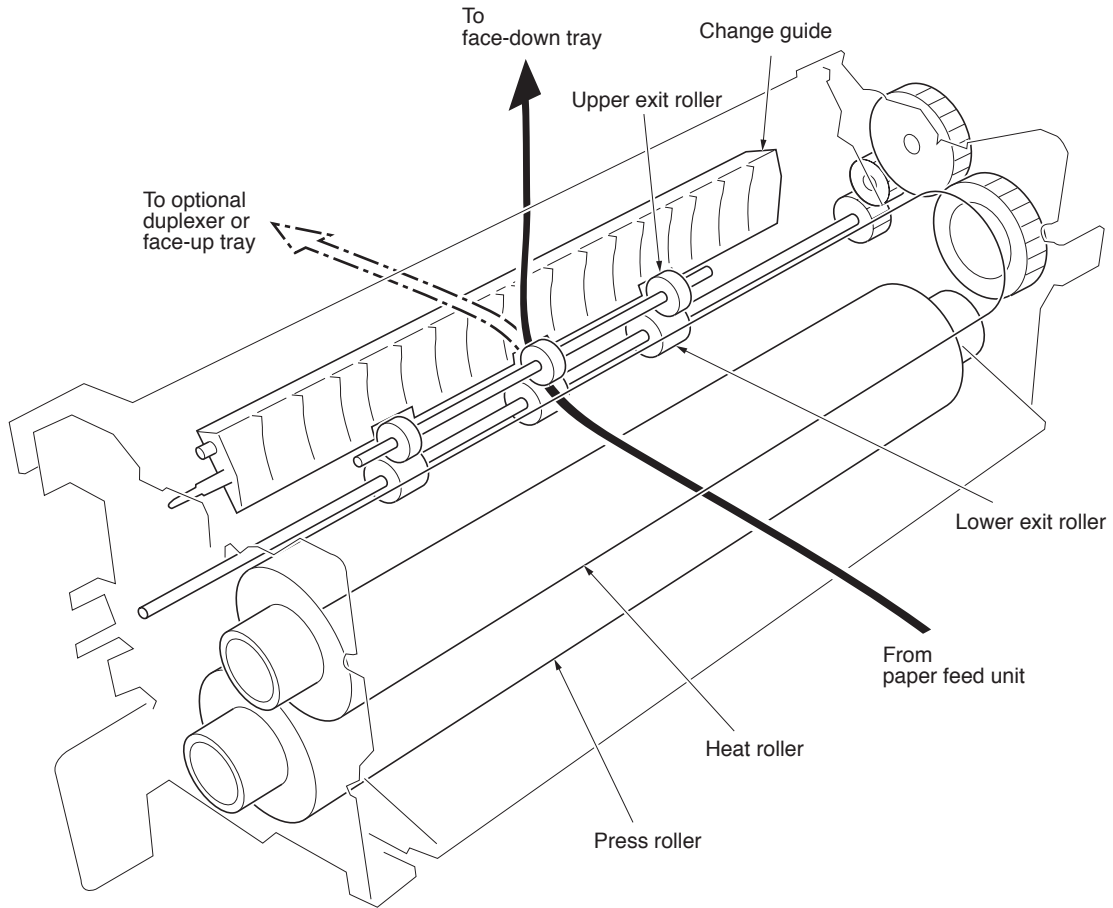


Figure 2-1-35 Fuser unit

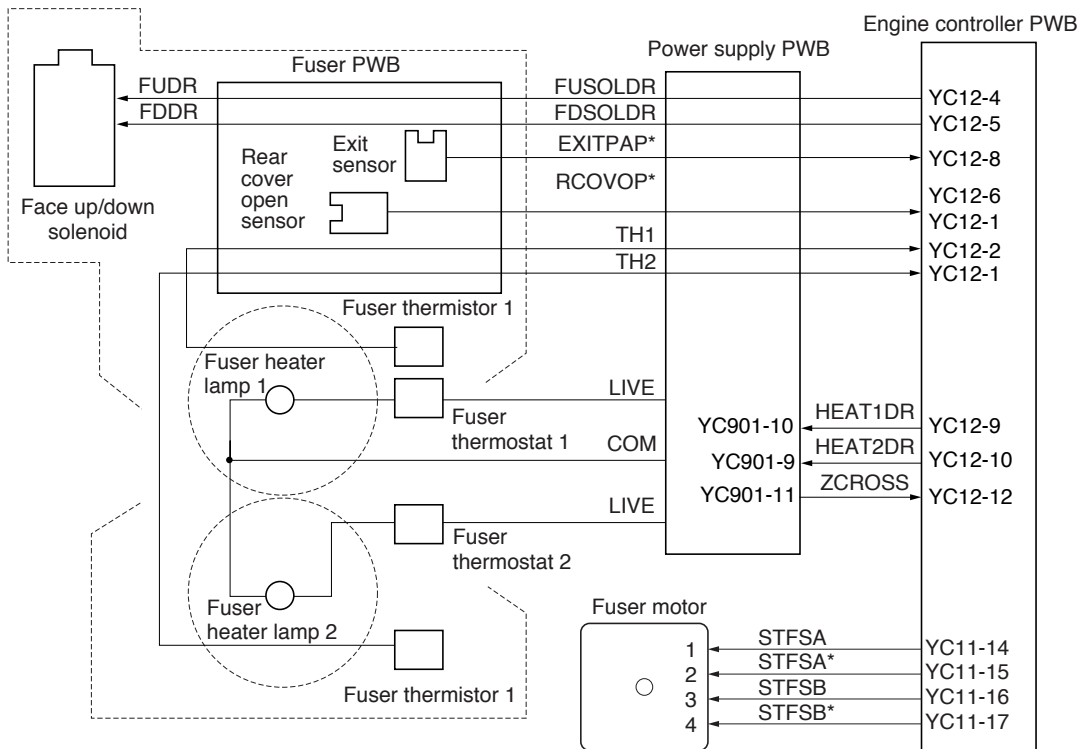


Figure 2-1-36 Fuser unit block diagram

2-2-1 Electrical parts layout

(1) Main frame and controller box

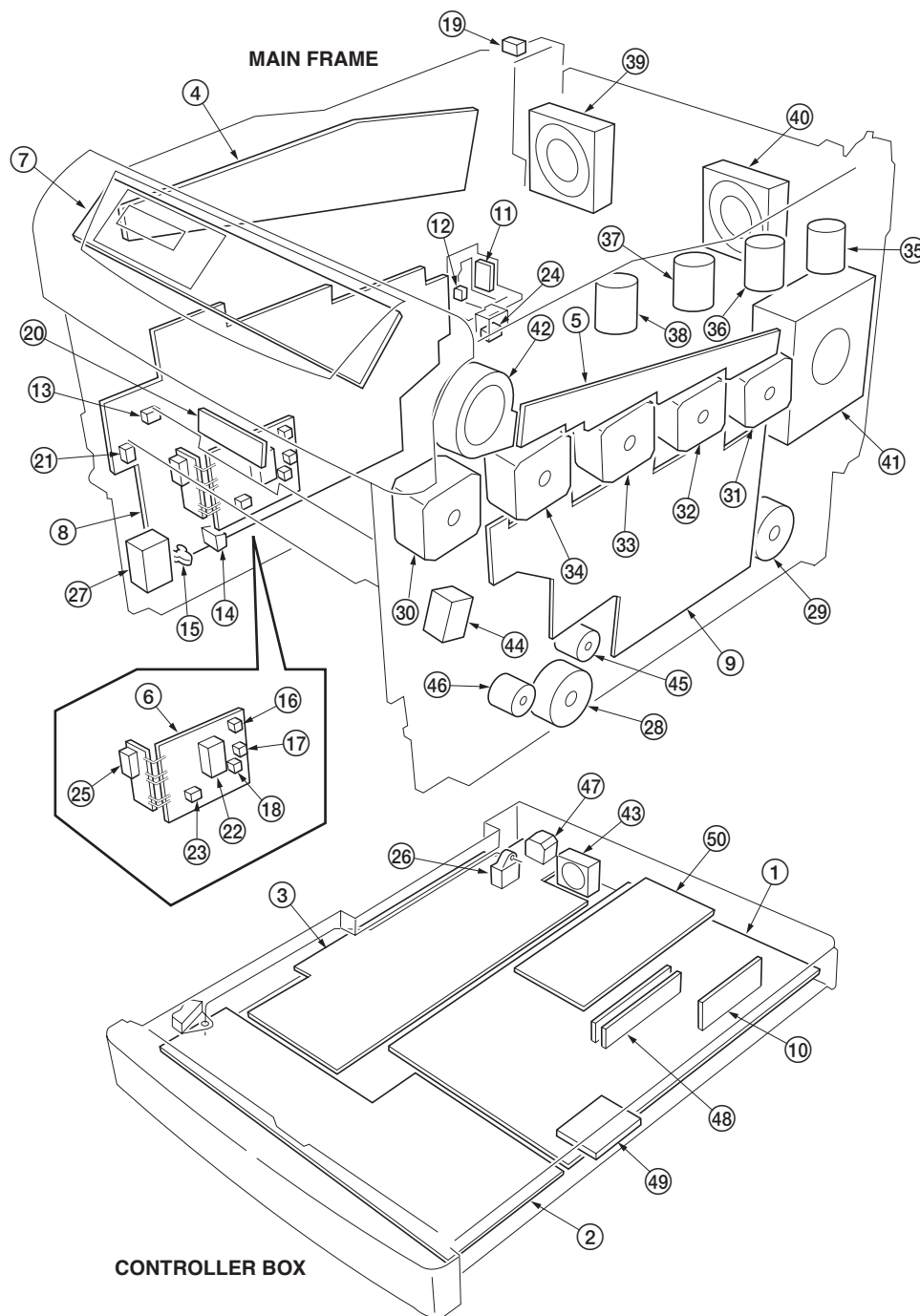
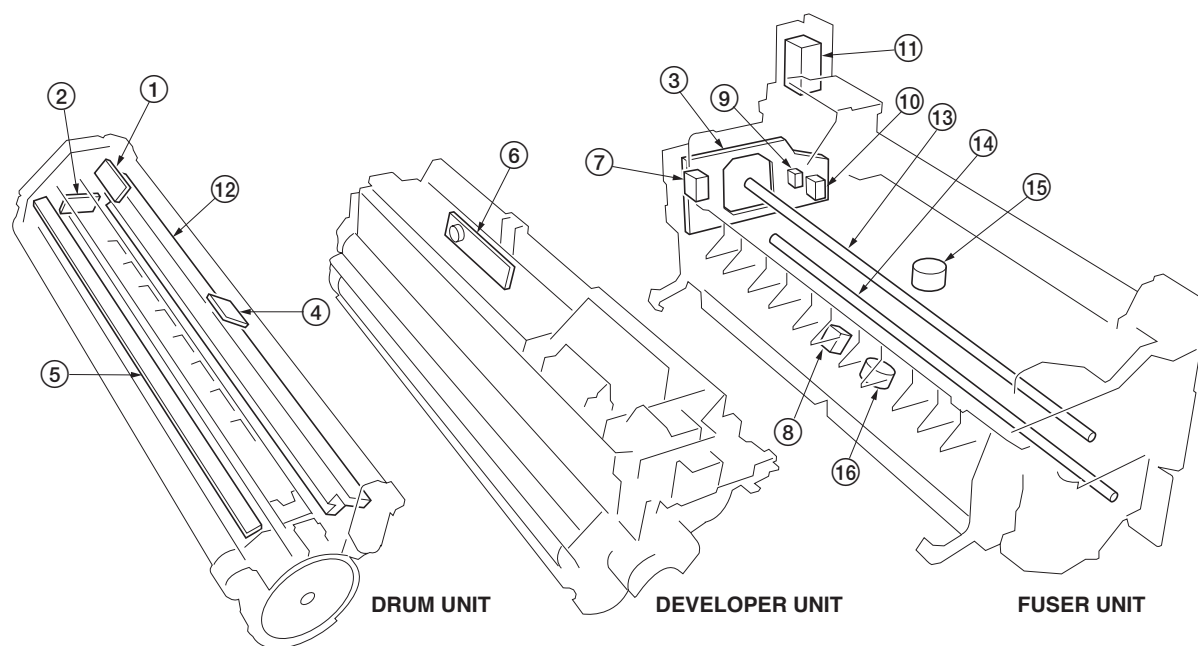


Figure 2-2-1 Main frame and controller box

- | | | |
|----|-------------------------------|---|
| 1. | Main controller PWB..... | Controls the software such as the print data processing and provides the interface with computers. |
| 2. | Engine controller PWB | Controls printer hardware such as high voltage/bias output control, paper conveying system control, and fuser temperature control, etc. |
| 3. | Power supply PWB..... | Generates 24 V DC and 5 V DC power source. Controls the fuser heater lamp 1 and 2. |
| 4. | LED print head relay PWB..... | Consists the LED print head control circuit and wiring relay circuit between engine controller PWB and drum units. |
| 5. | Engine relay PWB..... | Interconnects the engine controller PWB and the electrical parts. |

- | | |
|---|---|
| 6. Sensor PWB | Consists the top cover/paper feed unit switch, side cover switch, top cover switch 1, paper gauge switch 1/2, registration sensor, and, wiring relay circuit. |
| 7. Operator panel PWB | Indicates the LCD message display and LED indicators. Controls key inputs. |
| 8. Bias high voltage PWB..... | Generates the developing magnet roller bias, developing sleeve bias, and secondary transfer bias |
| 9. Main high voltage PWB..... | Generates the main charger high voltage and primary transfer rollers bias. |
| 10. System DIMM PWB | System program (firmware). |
| 11. Waste toner full sensor PWB | Detects the waste toner box being full. |
| 12. Waste toner full sensor | Section of LED light emitting for waste toner detection. |
| 13. MP tray paper sensor..... | Detects paper misfeed in the MP tray. |
| 14. Humidity sensor | Detects the ambient humidity. |
| 15. Temperature sensor | Detects the ambient temperature. |
| 16. Registration sensor | Detects the timing of primary feeding. |
| 17. Paper gauge sensor 1 | Detects the paper remaining amount level. |
| 18. Paper gauge sensor 2..... | Detects the paper remaining amount level. |
| 19. Paper full sensor | Detects whether the face-down tray is full. |
| 20. Toner ID sensor..... | Measures image density for color calibration. |
| 21. Envelope feeder install sensor | Installing detection of optional envelope feeder. |
| 22. Top cover/feed unit switch | Shuts off 24 V power line when the top cover is opened. |
| 23. Top cover switch 1..... | Detects the top cover open. |
| 24. Top cover switch 2..... | Detects the top cover right side open. |
| 25. Side cover switch | Shuts off 24 V power line when the side cover is opened. |
| 26. Power switch | Turns ON/OFF the AC power source. |
| 27. Cassette size switch..... | Detects the paper size dial setting of the paper setting dial. |
| 28. Feed motor..... | Drives the paper feed section. |
| 29. Fuser motor..... | Drives the fuser unit and paper exit section. |
| 30. Primary transfer motor | Drives the primary transfer unit and primary transfer cleaning unit. |
| 31. Drum motor 1 | Drives the magenta drum unit. |
| 32. Drum motor 2 | Drives the cyan drum unit. |
| 33. Drum motor 3 | Drives the yellow drum unit. |
| 34. Drum motor 4 | Drives the black drum unit. |
| 35. Toner motor 1 | Replenishes the magenta developer with toner. |
| 36. Toner motor 2..... | Replenishes the cyan developer with toner. |
| 37. Toner motor 3..... | Replenishes the yellow developer with toner. |
| 38. Toner motor 4..... | Replenishes the black developer with toner. |
| 39. Ozone fan motor 1 | The exhaust gas of ozone. |
| 40. Ozone fan motor 2 | The exhaust gas of ozone. |
| 41. Main fan motor | Dissipates heat from the fuser unit. |
| 42. Drum motor cooling fan motor | Dissipates heat from the drum motors. |
| 43. Controller box fan motor..... | Dissipates heat from the controller box. |
| 44. MP tray feed solenoid | Controls the primary paper feed from the MP tray. |
| 45. Registration clutch | Controls the second paper feed. |
| 46. Feed clutch..... | Controls the paper cassette paper feed. |
| 47. AC inlet..... | Connects the AC power source. |
| 48. Expanding memory (optional)..... | For expanding main RAM. |
| 49. Expanding memory card (optional)..... | Expands the print job function. |
| 50. Expanding board (optional)..... | Expands the interface, network interface card or serial interface board. |

(2) Drum unit, developer unit and fuser unit**Figure 2-2-2 Drum unit, developer unit and fuser unit**

- | | | |
|-----|---|---|
| 1. | Drum PWB 1, 2, 3, 4..... | Drum PWB 1 (magenta), drum PWB 2 (cyan), drum PWB 3 (yellow), drum PWB 4 (black) wiring relay circuit inside each color drum unit. Drum individual information in EEPROM storage. |
| 2. | Zener PWB 1, 2, 3, 4..... | Adjusts the main charger grid electrostatic potential. |
| 3. | Fuser PWB..... | Relays wirings from electrical components on the fuser unit. |
| 4. | LED print head memory PWB 1, 2, 3, 4..... | LED print head memory PWB 1 (magenta), LED print head memory PWB 2 (cyan), LED print head memory PWB 3 (yellow), LED print head memory PWB 4 (black) storage of compensation data of each color LED print head of each drum unit. |
| 5. | Eraser lamp 1, 2, 3, 4..... | Eliminates the residual electrostatic charge on the drum. |
| 6. | Toner sensor 1, 2, 3, 4..... | Measures the toner concentration in the toner hopper. |
| 7. | Fuser thermistor 1..... | Detects the temperature of the heat roller. |
| 8. | Fuser thermistor 2..... | Detects the temperature of the press roller. |
| 9. | Exit sensor..... | Detects paper misfeed in the fixing unit. |
| 10. | Rear cover open/close sensor..... | Detects the rear cover open. |
| 11. | Face up/down solenoid..... | Switches the output stack between face up and face down. |
| 12. | LED print head 1, 2, 3, 4..... | LED print head 1 (magenta), LED print head 2 (cyan), LED print head 3 (yellow), LED print head 4 (black) lighting of dot light to drum of each color drum unit. |
| 13. | Fuser heater lamp 1..... | Heats the heat roller. |
| 14. | Fuser heater lamp 2..... | Heats the press roller. |
| 15. | Fuser thermostat 1..... | Disable power for the fuser heater lamp 1 in emergency. |
| 16. | Fuser thermostat 2..... | Disable power for the fuser heater lamp 2 in emergency. |

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2-3-1 Power supply PWB

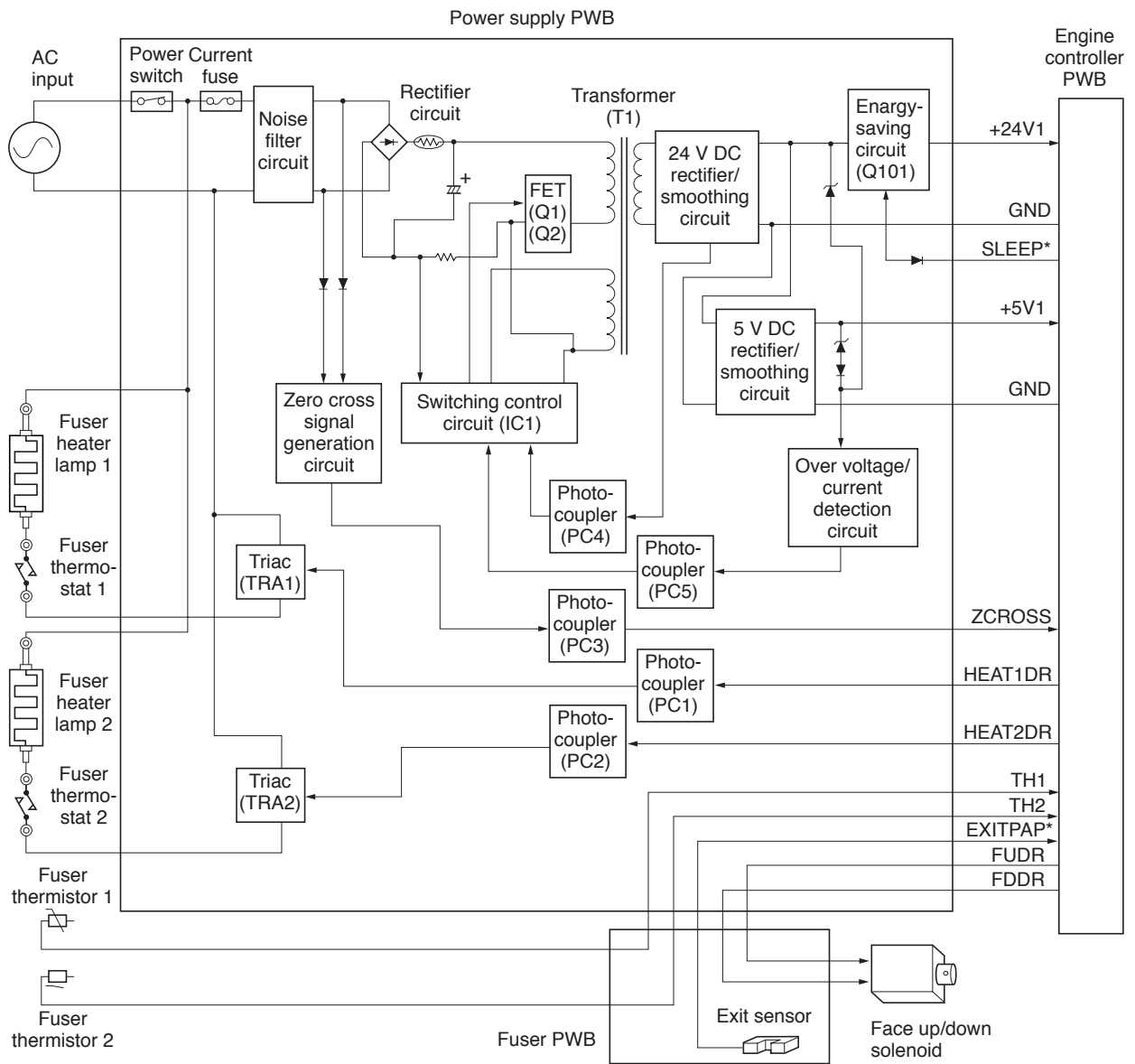


Figure 2-3-1 Power supply PWB block diagram

Connector	Pin No.	Signal	I/O	Voltage	Description
CN1 Connected to the AC inlet	1	AC100V	I	220 - 240 V AC 120 V AC	AC power input
	2	-	-	-	Ground
	3	AC100V	I	220 - 240 V AC 120 V AC	AC power output
CN2 Connected to the AC inlet fuser heater lamp 1 and 2, fuser thermostat 1 and 2	1	HEATER LIVE	O	220 - 240 V AC 120 V AC	Fuser heater lamp 1 output
	2	NC	-	-	Not Connected
	3	HEATER COM	O	220 - 240 V AC 120 V AC	Fuser heater lamps output (common)
	4	NC	-	-	Not Connected
	5	HEATER LIVE	O	220 - 240 V AC 120 V AC	Fuser heater lamp 2 output
YC901 Connected to the engine controller PWB	1	TH1	O	Analog	Fuser thermistor 1 detection voltage output
	2	TH2	O	Analog	Fuser thermistor 2 detection voltage output
	3	FDSOLDR	I	0/24 V DC	Face up/down solenoid control signal
	4	+5V2	O	5 V DC	5 V DC power output
	5	RCOVOP*	O	0/5 V DC	Rear cover open/close sensor: rear cover Open/Close
	6	FUSOLDR	I	0/24 V DC	Face up/down solenoid control signal
	7	EXITPAP*	O	0/5 V DC	Exit sensor: On/Off
	8	+24V2	O	24 V DC	24 V DC power output
	9	HEAT1DR	I	0/24 V DC	Fuser heater lamp 1: On/Off
	10	HEAT2DR	I	0/24 V DC	Fuser heater lamp 2: On/Off
	11	ZCROSS	O	0/5 V DC (pulse)	Zero cross signal output
	12	SLEEP	I	0/24 V DC	Eco-mode control signal input: Normal/Eco-mode
	13	24V1	O	24 V DC	24 V DC power output
	14	24V1	O	24 V DC	24 V DC power output
	15	24V1	O	24 V DC	24 V DC power output
	16	24V1	O	24 V DC	24 V DC power output
	17	GND	-	-	Ground
	18	GND	-	-	Ground
	19	GND	-	-	Ground
	20	GND	-	-	Ground
	21	GND	-	-	Ground
	22	GND	-	-	Ground
	23	GND	-	-	Ground
	24	GND	-	-	Ground
	25	+3.3V1	I	3.3 V DC	3.3 V DC power input
	26	+3.3V1	I	3.3 V DC	3.3 V DC power input
	27	+3.3V1	I	3.3 V DC	3.3 V DC power input
	28	+3.3V1	I	3.3 V DC	3.3 V DC power input
	29	+5V1	O	5 V DC	5 V DC power output
	30	+5V1	O	5 V DC	5 V DC power output
YC902 Connected to the fuser PWB	1	GND	-	-	Ground
	2	+24V2	O	24 V DC	24 V DC power output
	3	FDDR	O	0/24 V DC	Face up/down solenoid control signal
	4	EXITPAP*	I	0/5 V DC	Exit sensor: On/Off
	5	FUSOLDR	O	0/24 V DC	Face up/down solenoid control signal
	6	+5V1	O	5 V DC	5 V DC power output
	6	RCOVOP*	I	0/5 V DC	Rear cover open/close sensor: rear cover Open/Close
	7	TH1	I	Analog	Fuser thermistor 1 detection voltage output
8	TH2	I	Analog	Fuser thermistor 2 detection voltage output	

2-3-2 Engine controller PWB

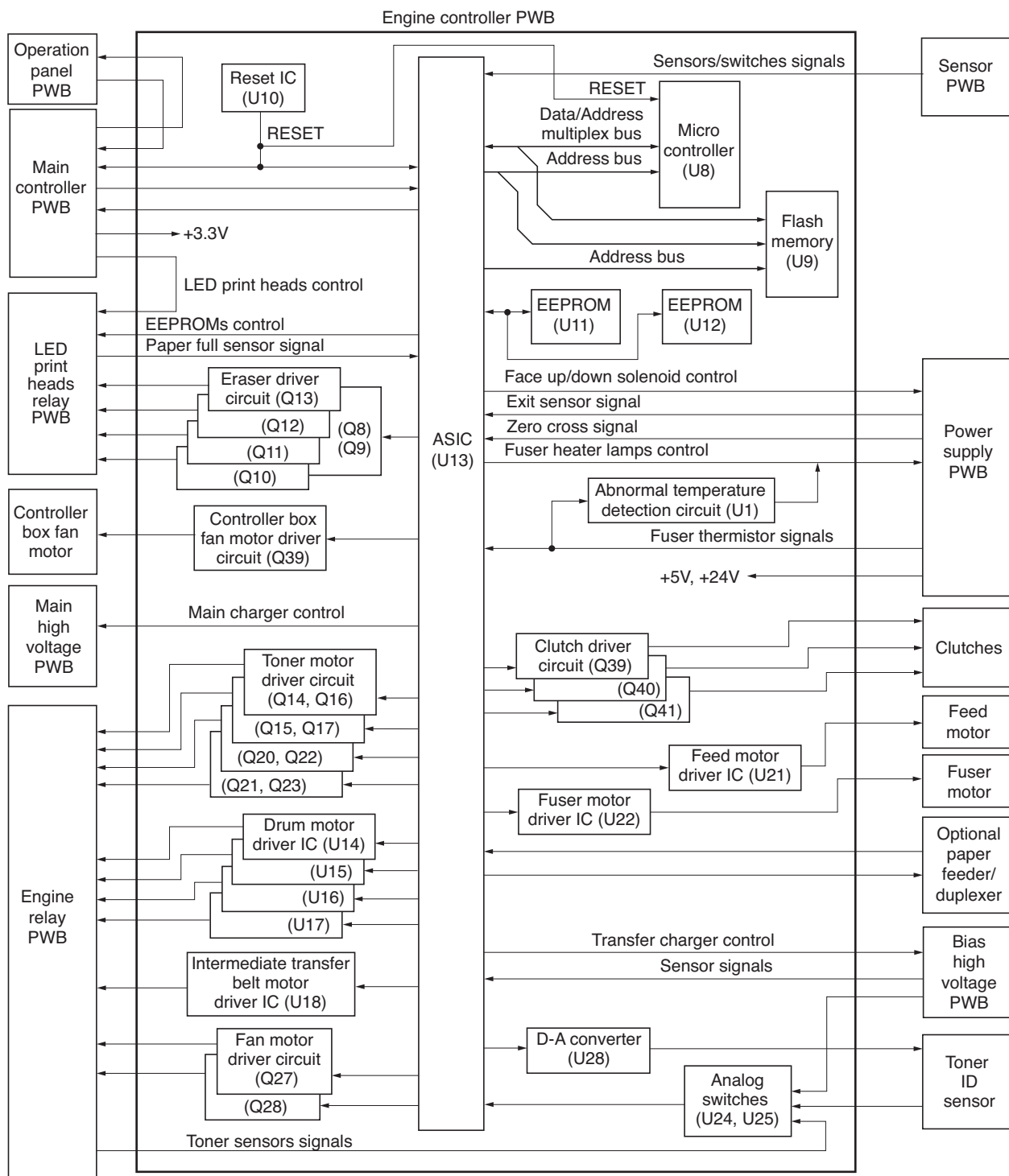


Figure 2-3-2 Engine controller PWB block diagram

(1) Fuser heater lamps control circuit

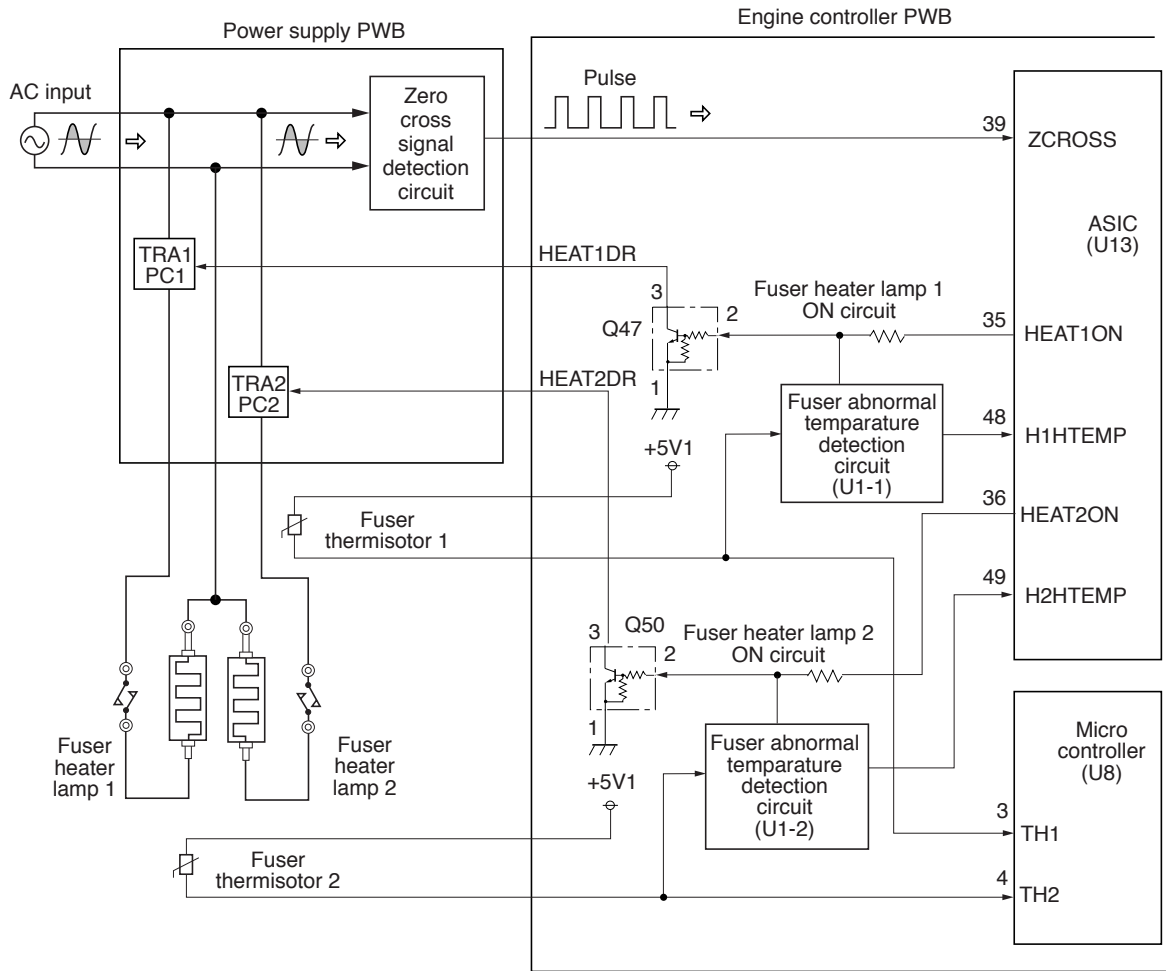


Figure 2-3-3

The ON/OFF action of the fuser heater lamp 1 and 2 are controlled by the fuser heater lamp 1 and 2 lighting ON signals (HEAT1ON, HEAT2ON) output from the No.35 and 36 pin of ASIC (U13) of the engine controller PWB. When the HEAT1ON and HEAT2ON signals reach the H level, the photocouplers (PC1, PC2) and triacs (TRA1, TRA2) turn on because the transistors (Q47, Q50) turn on and then the AC voltage is loaded to the fuser heater lamps. The HEAT1ON and HEAT2ON signals turn ON/OFF the photocouplers (PC1, PC2) and triacs (TRA1, TRA2) being synchronized with the zero cross signal (ZCROSS) that is detected by the zero cross signal detection circuit on the power supply PWB. The ZCROSS signal detects the zero cross point (0V) where the AC power source changes between positive/negative domains and it is input to the No.39 pin of the ASIC (U13) of the engine/high voltage PWB. Since the ON/OFF operation of the photocouplers (PC1, PC2) and triacs (TRA1, TRA2) are performed at the zero cross point (0V), it can avoid the sharp change of current and restrain noises generated from the AC power source. The fuser thermistor detection voltages (TH1, TH2) are input to the micro controller (U8) and branched to input to the comparator (U1-1, U1-2). The comparator (U1-1, U1-2) compares the TH1 and TH2 signals voltage with the unusually high temperature voltage. If the voltage TH1 and TH2 signals voltage are higher than unusually high temperature voltage, the output level is L. For the HEAT1ON and HEAT2ON signals, the circuit that forcibly turns off the fuser heater lamps by the hardware-based method and forcibly makes the HEAT1ON and HEAT2ON signals to L level regardless of controls by ASIC (U13) is provided fuser heater lamp ON signals (HEAT1ON, HEAT2ON).

This circuit is provided for the purpose of fail safe, it usually monitors the unusual high temperature in the software system by the input voltage of the TH1 and TH2 signals that are input to the No.3 and 4 pin of micro controller (U8), therefore, the circuit operates the control to turn off the fuser heater lamps before the mentioned circuit is activated and stops the machine, and then indicates the error code 6020 or 6120 that shows the fuser high temperature failure according to the self diagnosis function.

(2) Interlock and 24 V DC power supply circuit

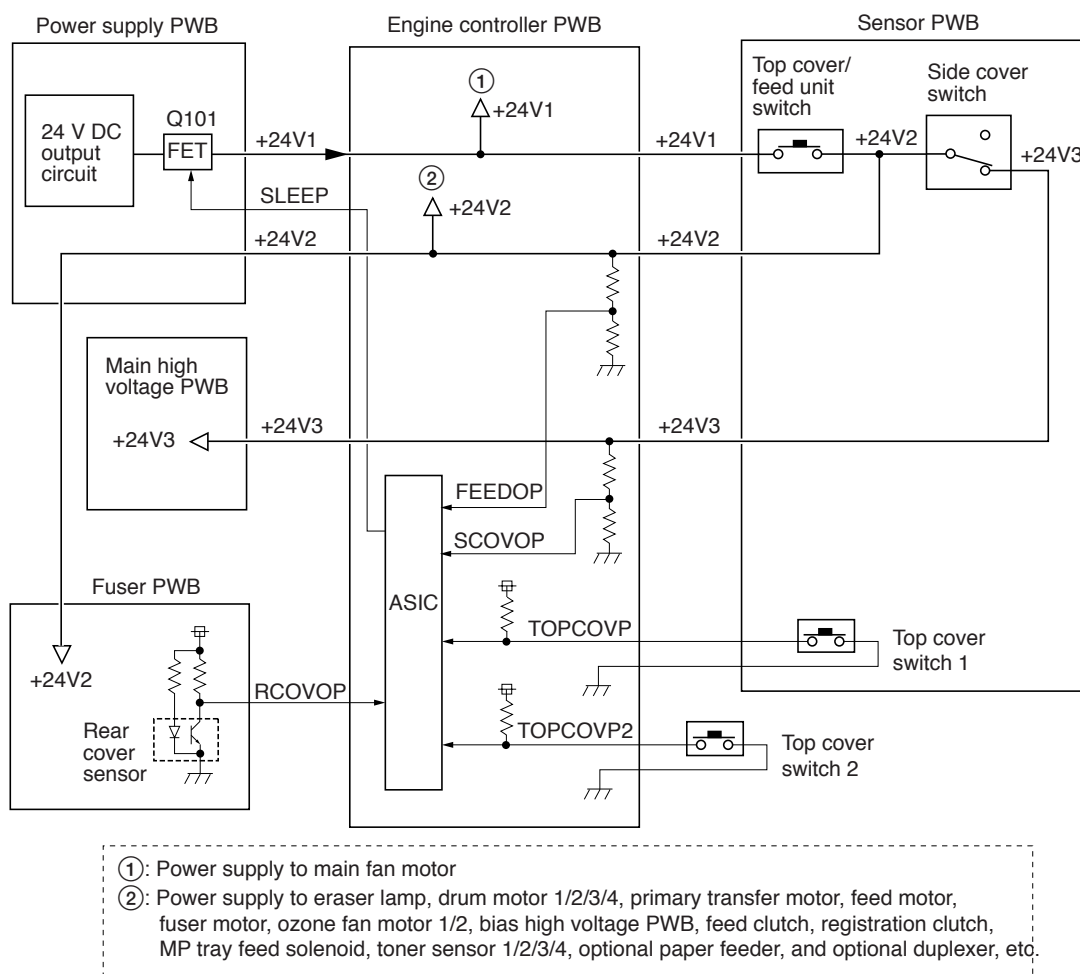


Figure 2-3-4

The 24 V DC power source line is shut off by the top cover/feed unit switch or the side cover switch that is turned OFF when the top cover or the side cover is opened. At the same time, the 24 V DC power supply is stopped to the motor and clutch and it is also output to the ASIC of the engine controller PWB as the cover open detection signal.

The 24 V DC power is divided into five groups of +24V1, +24V2, and +24V3 as figure 2-3-4, and the loads that supply the 24 V DC power source or the cover open detection signals are different.

In the Eco-power mode, the circuit shuts off the +24V power source that is used by the printer unit in order to reduce the power consumption. In the Eco-power mode, the sleep signal (SLEEP) becomes L level, which is output from the CPU of the engine controller PWB. The signal at this level turns off the transistors (Q101) of the Eco-circuit, accordingly the supply of +24V1 to the power line is shut off and the operation of connected load will stop.

Connector	Pin No.	Signal	I/O	Voltage	Description
YC2 Connected to the sensor PWB	1	+24V1	O	24 V DC	24 V DC power output
	2	+24V1	O	24 V DC	24 V DC power output
	3	+24V1	O	24 V DC	24 V DC power output
	4	+24V1	O	24 V DC	24 V DC power output
	5	GND	-	-	Ground
	6	GND	-	-	Ground
	7	+24V2	O	24 V DC	24 V DC power output (via top cover/paper feed unit switch)
	8	+24V2	O	24 V DC	24 V DC power output (via top cover/paper feed unit switch)
	9	+24V2	O	24 V DC	24 V DC power output (via top cover/paper feed unit switch)
	10	+5V2	O	5 V DC	5 V DC power output
	11	REGPAP*	I	0/5 V DC	Registration sensor: On/Off
	12	PAPVOL0	I	0/5 V DC	Paper gauge sensor 1: On/Off
	13	PAPVOL1	I	0/5 V DC	Paper gauge sensor 2: On/Off
	14	TCOVOP	I	0/5 V DC	Top cover switch 1: Top cover Close/Open
	15	CAS0	I	0/5 V DC	Cassette size switch (lower button: On/Off)
	16	CAS1	I	0/5 V DC	Cassette size switch (middle button: On/Off)
	17	CAS2	I	0/5 V DC	Cassette size switch (upper button: On/Off)
	18	+24V3	I	24 V DC	24 V DC power output (via side cover switch)
YC3 Connected to the LED print head relay PWB	1	GND	-	-	Ground
	2	EECLK	O	0/5 V DC (pulse)	Clock for EEPROM data reading and writing
	3	ERS1DR	O	0/24 V DC	Eraser lamp 1 (black): On/Off
	4	EEDATA	I/O	0/5 V DC (pulse)	EEPROM data signal
	5	ERS2DR	O	0/24 V DC	Eraser lamp 2 (yellow): On/Off
	6	ERS3DR	O	0/24 V DC	Eraser lamp 3 (cyan): On/Off
	7	+5V1	O	5 V DC	5 V DC power output
	8	ERS4DR	O	0/24 V DC	Eraser lamp 4 (magenta): On/Off
	9	+5V1	O	5 V DC	5 V DC power output
	10	RD	O	0/5 V DC	LED print head control signal
	11	LVDSP0	O	Analog	LED print head control video data signal (LVDS)
	12	LVDSN0	O	Analog	LED print head control video data signal (LVDS)
	13	LVDSP1	O	Analog	LED print head control video data signal (LVDS)
	14	LVDSN1	O	Analog	LED print head control video data signal (LVDS)
	15	LVDSP2	O	Analog	LED print head control video data signal (LVDS)
	16	LVDSN2	O	Analog	LED print head control video data signal (LVDS)
	17	LVDSP3	O	Analog	LED print head control video data signal (LVDS)
	18	LVDSN3	O	Analog	LED print head control video data signal (LVDS)
	19	LVDSP4	O	Analog	LED print head control video data signal (LVDS)
	20	LVDSN4	O	Analog	LED print head control video data signal (LVDS)
	21	LVDSP5	O	Analog	LED print head control video data signal (LVDS)
	22	LVDSN5	O	Analog	LED print head control video data signal (LVDS)
	23	LVDSP6	O	Analog	LED print head control video data signal (LVDS)
	24	LVDSN6	O	Analog	LED print head control video data signal (LVDS)
	25	LVDSP7	O	Analog	LED print head control video data signal (LVDS)
	26	LVDSN7	O	Analog	LED print head control video data signal (LVDS)
	27	LVDSP8	O	Analog	LED print head control video data signal (LVDS)
	28	LVDSN8	O	Analog	LED print head control video data signal (LVDS)
	29	LVDSP9	O	Analog	LED print head control video data signal (LVDS)
	30	LVDSN9	O	Analog	LED print head control video data signal (LVDS)
	31	LVDSP10	O	Analog	LED print head control video data signal (LVDS)
	32	LVDSN10	O	Analog	LED print head control video data signal (LVDS)
	33	LVDSP11	O	Analog	LED print head control video data signal (LVDS)
	34	LVDSN11	O	Analog	LED print head control video data signal (LVDS)
	35	LVDSP12	O	Analog	LED print head control video data signal (LVDS)
	36	LVDSN12	O	Analog	LED print head control video data signal (LVDS)
	37	LVDSP13	O	Analog	LED print head control video data signal (LVDS)
	38	LVDSN13	O	Analog	LED print head control video data signal (LVDS)

Connector	Pin No.	Signal	I/O	Voltage	Description
YC3 Connected to the LED print head relay PWB	39	LVDSP14	O	Analog	LED print head control video data signal (LVDS)
	40	LVDSN14	O	Analog	LED print head control video data signal (LVDS)
	41	LVDSP15	O	Analog	LED print head control video data signal (LVDS)
	42	LVDSN15	O	Analog	LED print head control video data signal (LVDS)
	43	+5V1	O	5 V DC	5 V DC power output
	44	FDPFUL*	I	0/5 V DC	Paper full sensor: On/Off
	45	+5V1	O	5 V DC	5 V DC power output
	46	+5V1	O	5 V DCV	5 V DC power output
	47	GND	-	-	Ground
	48	GND	-	-	Ground
	49	GND	-	-	Ground
50	GND	-	-	Ground	
YC4 Connected to the engine relay PWB	1	ST4A	O	0/24 V DC (pulse)	Drum motor 4 (black) energization pulse
	2	STMIDB*	O	0/24 V DC (pulse)	Primary transfer motor energization pulse
	3	ST4B	O	0/24 V DC (pulse)	Drum motor 4 (black) energization pulse
	4	STMIDA*	O	0/24 V DC (pulse)	Primary transfer motor energization pulse
	5	ST4A*	O	0/24 V DC (pulse)	Drum motor 4 (black) energization pulse
	6	STMIDB*	O	0/24 V DC (pulse)	Primary transfer motor energization pulse
	7	ST4B*	O	0/24 V DC (pulse)	Drum motor 4 (black) energization pulse
	8	STMIDA	O	0/24 V DC (pulse)	Primary transfer motor energization pulse
	9	TNM4DR	O	0/24 V DC	Toner motor 4 (black): On/Off
	10	TNSEN4	I	Analog	Toner sensor 4 (black) detection voltage input
	11	TNSEN3	I	Analog	Toner sensor 3 (yellow) detection voltage input
	12	ST3B*	O	0/24 V DC (pulse)	Drum motor 3 (yellow) energization pulse
	13	TNM3DR	O	DC0V/24V	Toner motor 3 (yellow): On/Off
	14	ST3A*	O	0/24 V DC (pulse)	Drum motor 3 (yellow) energization pulse
	15	+24V2	O	24 V DC	24 V DC power output
	16	ST3B	O	0/24 V DC (pulse)	Drum motor 3 (yellow) energization pulse
	17	+24V2	O	24 V DC	24 V DC power output
	18	ST3A	O	0/24 V DC (pulse)	Drum motor 3 (yellow) energization pulse
	19	GND	-	-	Ground
	20	GND	-	-	Ground
	21	TNSEN2	I	Analog	Toner sensor 2 (cyan) detection voltage input
	22	HFANDR	O	0/24 V DC	Main fan motor: On/Off
	23	TNM2DR	O	0/24 V DC	Toner motor 2 (cyan): On/Off
	24	OZFANDR	O	0/24 V DC	Ozone fan motor 1, ozone fan motor 2 and, drum motors cooling fan motor: On/Off
25	TNSEN1	I	Analog	Toner sensor 1 (magenta) detection voltage input	
26	TNM1DR	O	0/24 V DC	Toner motor 1 (magenta): On/Off	
27	ST2A	O	0/24 V DC (pulse)	Drum motor 2 (cyan) energization pulse	
28	ST1B*	O	24 V DC	Drum motor 1 (magenta) energization pulse	
29	ST2B	O	0/24 V DC (pulse)	Drum motor 2 (cyan) energization pulse	
30	ST1A*	O	24 V DC	Drum motor 1 (magenta) energization pulse	
31	ST2A*	O	0/24 V DC (pulse)	Drum motor 2 (cyan) energization pulse	
32	ST1B	O	0/24 V DC (pulse)	Drum motor 1 (magenta) energization pulse	
33	ST2B*	O	0/24 V DC (pulse)	Drum motor 2 (cyan) energization pulse	
34	ST1A	O	0/24 V DC (pulse)	Drum motor 1 (magenta) energization pulse	
YC5 Connected to the bias high voltage PWB	1	+24V2	O	24 V DC	24 V DC power output (via top cover/paper feed unit switch)
	2	HVCLK1	O	3KHz rectangular wave	Developing sleeve (magenta) output
	3	HVCLK2	O	3KHz rectangular wave	Developing sleeve (cyan) output
	4	HVCLK3	O	3KHz rectangular wave	Developing sleeve (yellow) output
	5	HVCLK4	O	3KHz rectangular wave	Developing sleeve (black) output
	6	HVADATD	O	0/5 V DC (pulse)	Output control D/A converter serial signal
	7	HVACLKD	O	0/5 V DC (pulse)	Output control D/A converter clock signal
8	HVALATD	O	0/5 V DC (pulse)	Output control D/A converter data latch signal	
9	GND	-	-	Ground	

Connector	Pin No.	Signal	I/O	Voltage	Description
YC5 Connected to the bias high voltage PWB	10	+5V1	O	5 V DC	5 V DC power output
	11	MPFSENS1	I	0/5 V DC	MP tray paper sensor: On/Off
	12	MPFSENS2	I	0/5 V DC	Envelope feeder install sensor: Installed/Not installed
	13	WTLEDDR	O	0/5 V DC (pulse)	Waste toner full sensor (emitter) drive output
	14	WTSENS	I	0/5 V DC (pulse)	Waste toner full sensor (receiver) input, Full at voltage above the 2 V DC
	15	AIRTEMP	I	Analog	Temperature sensor detection voltage input
	16	WETCK1	O	0/5 V DC (pulse)	Humidity sensor control signal (1 KHz)
	17	WETCK2	I	Analog	Temperature sensor detection signal
YC6 Connected to the main high voltage PWB	1	+24V3	I	24 V DC	24 V DC power input (via side cover switch)
	2	MCH1DR	O	0/24 V DC	Main charger output control signal (Magenta): On/Off
	3	MCH2DR	O	0/24 V DC	Main charger output control signal (Cyan): On/Off
	4	MCH3DR	O	0/24 V DC	Main charger output control signal (Yellow): On/Off
	5	MCH4DR	O	0/24 V DC	Main charger output control signal (Black): On/Off
	6	+5V1	O	5 V DC	5 V DC power output
	7	HVADATD	O	0/5 V DC (pulse)	Output control D/A converter serial signal
	8	HVACLKD	O	0/5 V DC (pulse)	Output control D/A converter clock signal
	9	HVALATD	O	0/5 V DC (pulse)	Output control D/A converter data latch signal
	10	GND	-	-	Ground
YC7 Connected to the optional paper feeder/ duplexer	1	GND	-	-	Ground
	2	OPRDY*	I	0/5 V DC	Optional unit ready signal: Ready/Not ready
	3	OPSEL2	O	0/5 V DC	Optional unit select signal: (bit2)
	4	OPSDO	O	0/5 V DC (pulse)	Optional unit serial communication data output
	5	OPSEL1	O	0/5 V DC	Optional unit select signal: (bit1)
	6	OPSDI	I	0/5 V DC (pulse)	Optional unit serial communication data input
	7	OPSEL0	O	0/5 V DC	Optional unit select signal: (bit0)
	8	OPSCLK	O	0/5 V DC (pulse)	Optional unit serial communication clock signal
	9	NC	-	-	Not connected
	10	OP5V	O	5 V DC	5 V DC power output (via fuse)
	11	GND	-	-	Ground
	12	OP24V	O	24 V DC	5 V DC power output (via fuse)
YC8 Connected to the main controller PWB	1	+3.3V1	I	3.3 V DC	3.3 V DC power output
	2	+3.3V1	I	3.3 V DC	3.3 V DC power output
	3	+2.5V1	O	3.3 V DC	3.3 V DC power output
	4	+2.5V1	O	3.3 V DC	3.3 V DC power output
	5	GND	-	-	Ground
	6	LVDSN15	I	Analog	LED print head control video data signal (LVDS)
	7	LVDSN14	I	Analog	LED print head control video data signal (LVDS)
	8	LVDSN13	I	Analog	LED print head control video data signal (LVDS)
	9	LVDSN12	I	Analog	LED print head control video data signal (LVDS)
	10	LVDSN11	I	Analog	LED print head control video data signal (LVDS)
	11	LVDSN10	I	Analog	LED print head control video data signal (LVDS)
	12	LVDSN9	I	Analog	LED print head control video data signal (LVDS)
	13	LVDSN8	I	Analog	LED print head control video data signal (LVDS)
	14	LVDSN7	I	Analog	LED print head control video data signal (LVDS)
	15	LVDSN6	I	Analog	LED print head control video data signal (LVDS)
	16	LVDSN5	I	Analog	LED print head control video data signal (LVDS)
	17	LVDSN4	I	Analog	LED print head control video data signal (LVDS)
	18	LVDSN3	I	Analog	LED print head control video data signal (LVDS)
	19	LVDSN2	I	Analog	LED print head control video data signal (LVDS)
	20	LVDSN1	I	Analog	LED print head control video data signal (LVDS)
	21	LVDSN0	I	Analog	LED print head control video data signal (LVDS)
	22	RD	I	0/5 V DC	LED print head control signal
	23	GND	-	-	Ground
	24	SCLKIN	I	0/5 V DC (pulse)	Serial communication synchronizing clock signal
	25	SYSRES*	O	0/5 V DCC	System reset signal
	26	SIOUT	O	0/5 V DC (pulse)	Serial communication data output
	27	GND	-	-	Ground
	28	GND	-	-	Ground

Connector	Pin No.	Signal	I/O	Voltage	Description
YC8 Connected to the main controller PWB	29	FPRST*	O	0/5 V DC	Operation panel PWB reset signal
	30	GND	-	-	Ground
	31	+5V1	O	5 V DC	5 V DC power output
	32	+2.5V1	I	2.5 V DC	2.5 V DC power input
	33	+2.5V1	I	2.5 V DC	2.5 V DC power input
	34	+2.5V1	I	2.5 V DC	2.5 V DC power input
	35	GND	-	-	Ground
	36	LVDSP15	I	Analog	LED print head control video data signal (LVDS)
	37	LVDSP14	I	Analog	LED print head control video data signal (LVDS)
	38	LVDSP13	I	Analog	LED print head control video data signal (LVDS)
	39	LVDSP12	I	Analog	LED print head control video data signal (LVDS)
	40	LVDSP11	I	Analog	LED print head control video data signal (LVDS)
	41	LVDSP10	I	Analog	LED print head control video data signal (LVDS)
	42	LVDSP9	I	Analog	LED print head control video data signal (LVDS)
	43	LVDSP8	I	Analog	LED print head control video data signal (LVDS)
	44	LVDSP7	I	Analog	LED print head control video data signal (LVDS)
	45	LVDSP6	I	Analog	LED print head control video data signal (LVDS)
	46	LVDSP5	I	Analog	LED print head control video data signal (LVDS)
	47	LVDSP4	I	Analog	LED print head control video data signal (LVDS)
	48	LVDSP3	I	Analog	LED print head control video data signal (LVDS)
	49	LVDSP2	I	Analog	LED print head control video data signal (LVDS)
	50	LVDSP1	I	Analog	LED print head control video data signal (LVDS)
	51	LVDSP0	I	Analog	LED print head control video data signal (LVDS)
	52	BDMASK	O	Analog	LED print head control video data signal (LVDS)
	53	GND	-	-	Ground
	54	SIIN	I	0/3.3 V DC (pulse)	Serial communication data output
	55	SDIR	O	0/3.3 V DC	Control signal
	56	SBSY*	O	0/3.3 V DC	Control signal
	57	EGIR	O	0/3.3 V DC	Control signal
	58	FPCLK	O	0/3.3 V DC (pulse)	Operation panel PWB control data synchronizing clock signal
59	FPDATA	I/O	0/3.3 V DC (pulse)	Operation panel PWB control data signal	
60	FPDIR	O	0/3.3 V DC	Operation panel PWB communication direction control signal	
YC10 Connected to the opera- tion panel PWB	1	+3.3V1	O	3.3 V DC	3.3 V DC power output
	2	FPDATA	I/O	0/3.3 V DC (pulse)	Operation panel PWB control data signal
	3	FPDIR	I	0/3.3 V DC	Operation panel PWB communication direction control signal
	4	FPCLK	I	0/3.3 V DC (pulse)	Operation panel PWB communication direction control signal
	5	GND	-	-	Ground
	6	FPRST*	O	DC0V/5V	Operation panel PWB reset signal
YC11 Connected to the regis- tration clutch, feed clutch, MP tray feed solenoid, toner ID sensor, feed motor and, fuser motor	1	TCOV0P2	I	DC0V/5V	Top cover switch: Top cover Close/Open
	2	GND	-	-	Ground
	3	+24V2	O	24 V DC	24 V DC power (via top cover/paper feed unit switch)
	4	REGCLDR	O	0/24 V DC	Registration clutch: On/Off
	5	+24V2	O	24 V DC	24 V DC power output (via top cover/paper feed unit switch)
	6	FEDCLDR	O	0/24 V DC	Feed clutch: On/Off
	7	+24V2	O	24 V DC	24 V DC power output (via top cover/paper feed unit switch)
	8	MPSOLDR	O	0/24 V DC	MP tray feed solenoid: On/Off
	9	+5V1	O	5 V DC	5 V DC power
	10	GND	-	-	Ground
	11	IDSW	I	Analog	Toner ID sensor detection voltage (S-wave) input
	12	IDSW	I	Analog	Toner ID sensor detection voltage (P-wave) input
	13	IDREF	O	Analog	Toner ID sensor LED light emitting control signal
	14	STFDA	O	0/24 V DC (pulse)	Feed motor energization pulse
	15	STFDA*	O	0/24 V DC (pulse)	Feed motor energization pulse
	16	STFDB	O	0/24 V DC (pulse)	Feed motor energization pulse

Connector	Pin No.	Signal	I/O	Voltage	Description
YC11 Connected to the registration clutch, feed clutch, MP tray feed solenoid, toner ID sensor, feed motor and, fuser motor	17	STFDB*	O	0/24 V DC (pulse)	Feed motor energization pulse
	18	STFSA	O	0/24 V DC (pulse)	Fuser motor energization pulse
	19	STFSA*	O	0/24 V DC (pulse)	Fuser motor energization pulse
	20	STFSB	O	0/24 V DC (pulse)	Fuser motor energization pulse
	21	STFSB*	O	0/24 V DC (pulse)	Fuser motor energization pulse
	22	GND	-	-	Ground
YC12 Connected to the power supply PWB	1	TH1	I	Analog	Fuser thermistor 1 detection voltage input
	2	TH2	I	Analog	Fuser thermistor 2 detection voltage input
	3	FDSOLDR	O	0/24 V DC (pulse)	Face up/down solenoid control signal
	4	+5V2	I	5 V DC	5 V DC power input
	5	RCOVOP*	O	0/5 V DC	Rear cover open/close sensor: rear cover open/close
	6	FUSOLDR	O	0/24 V DC	Face up/down solenoid control signal
	7	EXITPAP*	I	0/5 V DC	Exit sensor: On/Off
	8	+24V2	I	24 V DC	24 V DC power output
	9	HEAT2DR	O	0/24 V DC	Fuser heater lamp 1: On/Off
	10	HEAT1DR	O	0/24 V DC	Fuser heater lamp 2: On/Off
	11	ZCROSS	I	0/5 V DC (pulse)	Zero cross signal input
	12	SLEEP	O	0/24 V DC	Eco-mode control signal output: Normal/Eco-mode
	13	24V1	I	24 V DC	24 V DC power input
	14	24V1	I	24 V DC	24 V DC power input
	15	24V1	I	24 V DC	24 V DC power input
	16	24V1	I	24 V DC	24 V DC power input
	17	GND	-	-	Ground
	18	GND	-	-	Ground
	19	GND	-	-	Ground
	20	GND	-	-	Ground
	21	GND	-	-	Ground
	22	GND	-	-	Ground
	23	GND	-	-	Ground
	24	GND	-	-	Ground
	25	+3.3V1	O	3.3 V DC	3.3 V DC power output
	26	+3.3V1	O	3.3 V DC	3.3 V DC power output
	27	+3.3V1	O	3.3 V DC	3.3 V DC power output
	28	+3.3V1	O	3.3 V DC	3.3 V DC power output
	29	+5V1	I	5 V DC	5 V DC power input
	30	+5V1	I	5 V DC	5 V DC power input
YC13 Connected to the controller box fan motor	1	BFANDR	O	0/5 V DC	Controller box fan motor: On/Off
	2	GND	-	-	Ground

2-3-3 Main controller circuit

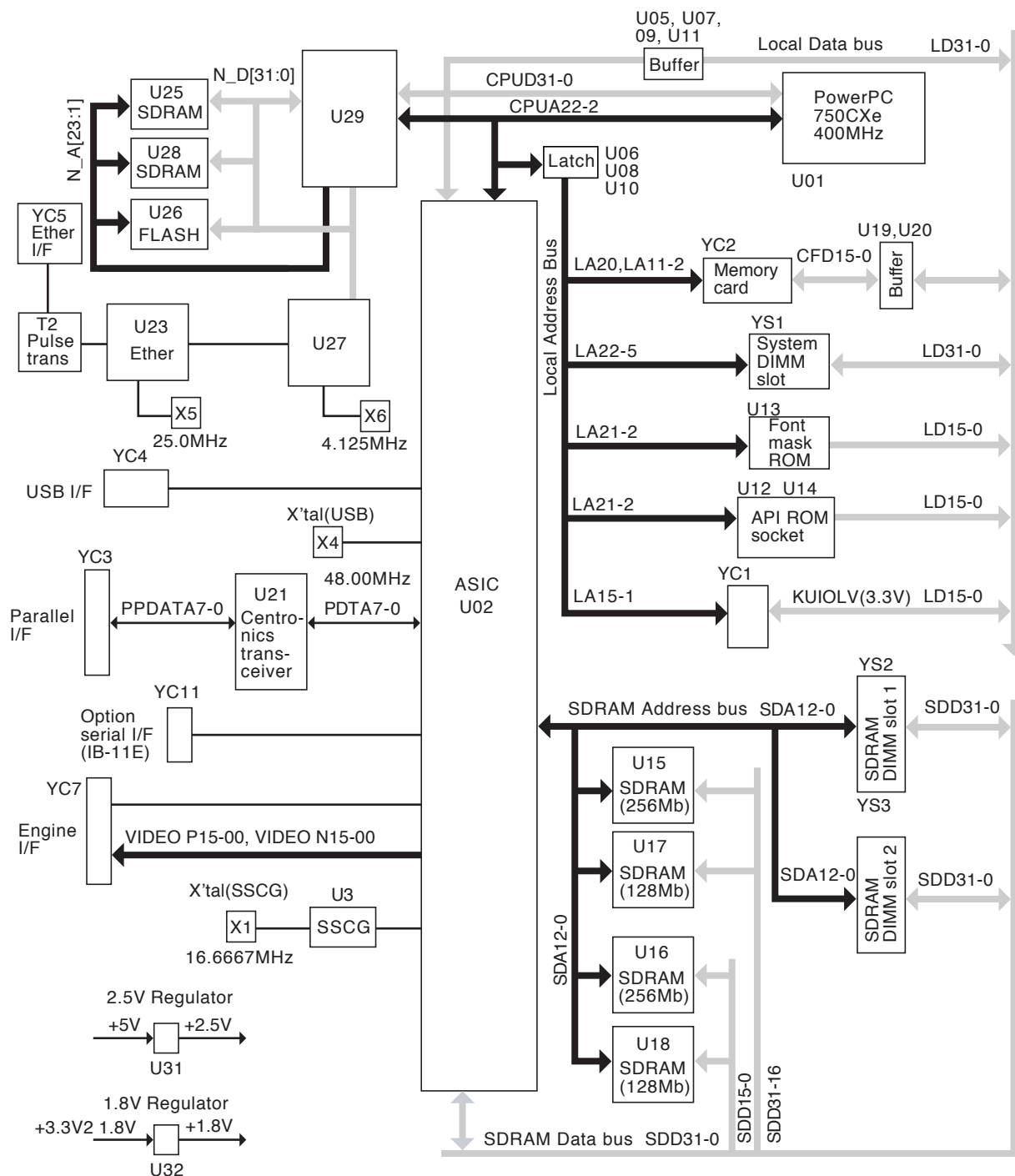
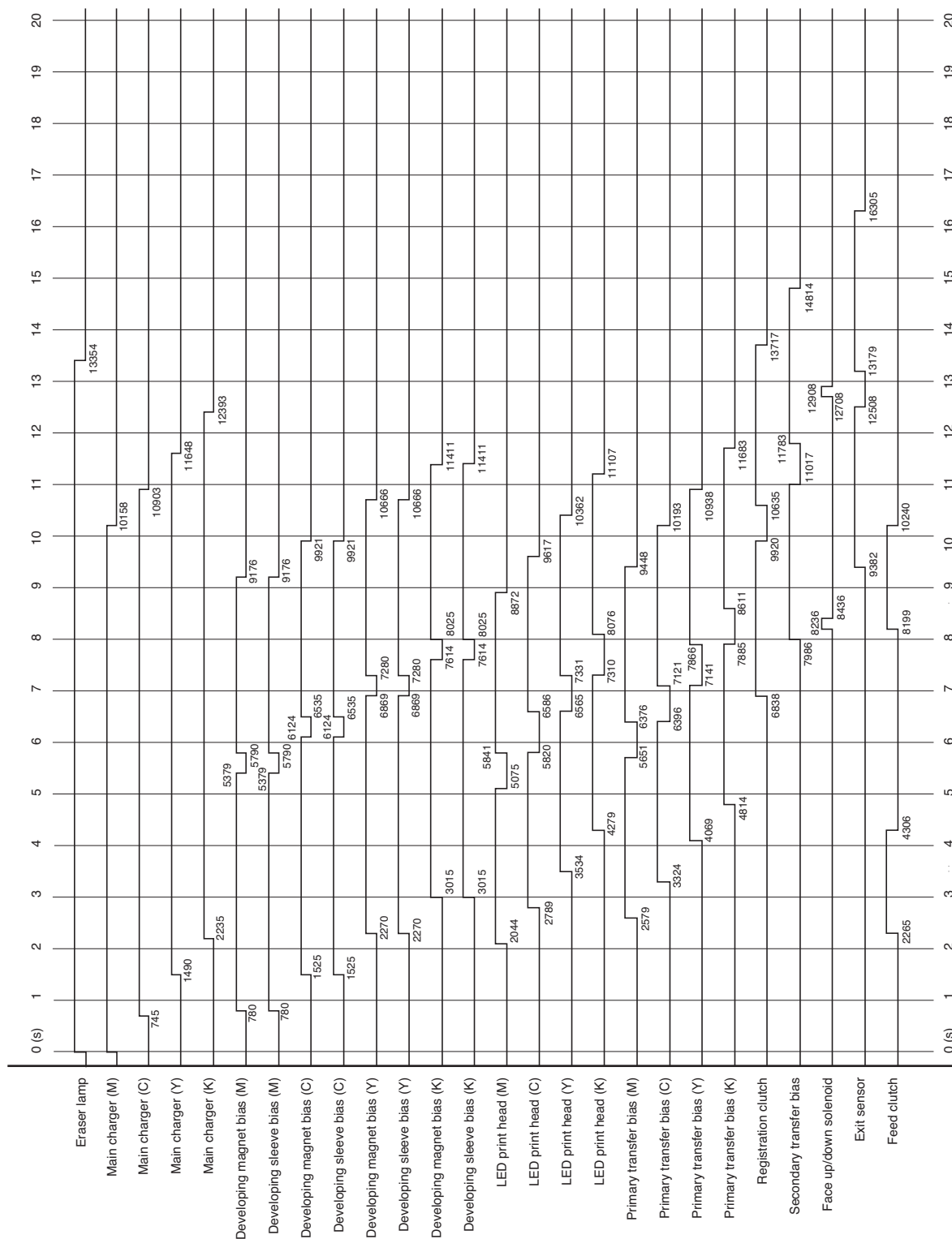


Figure 2-3-5 Main controller circuit block diagram

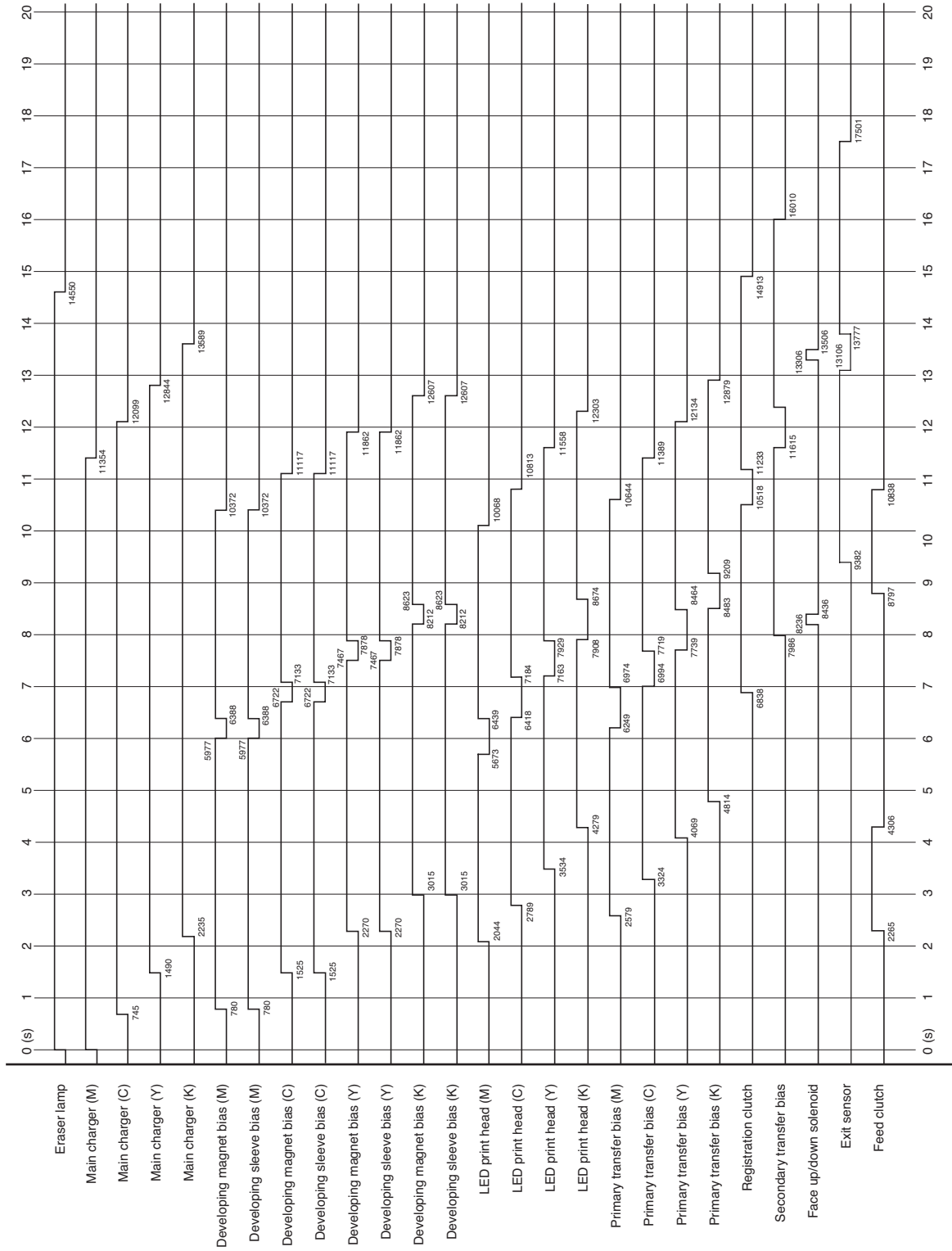
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2-4-1 Appendixes

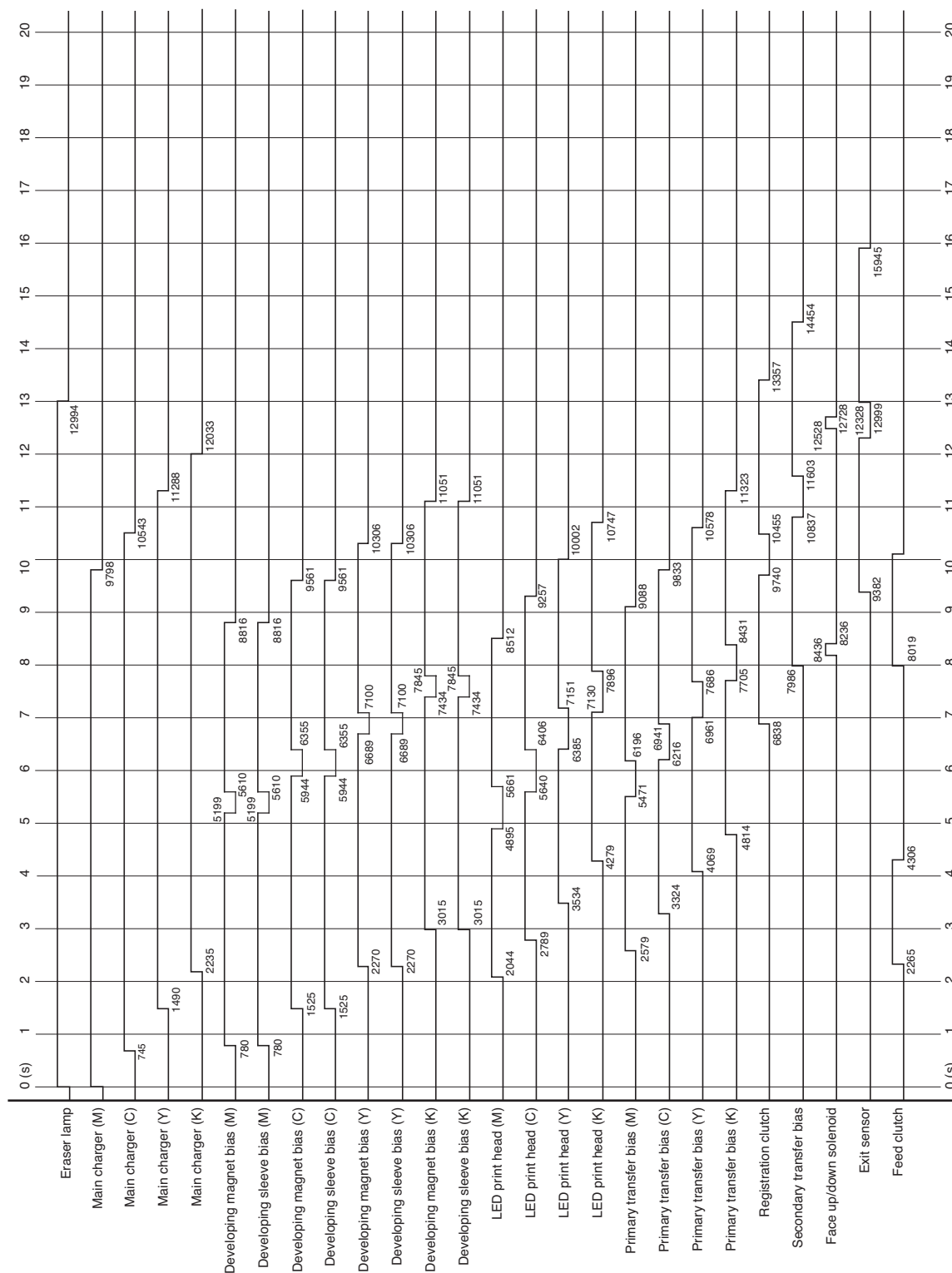
(1) Timing chart No. 1 Paper cassette feeding, Two A4 size papers



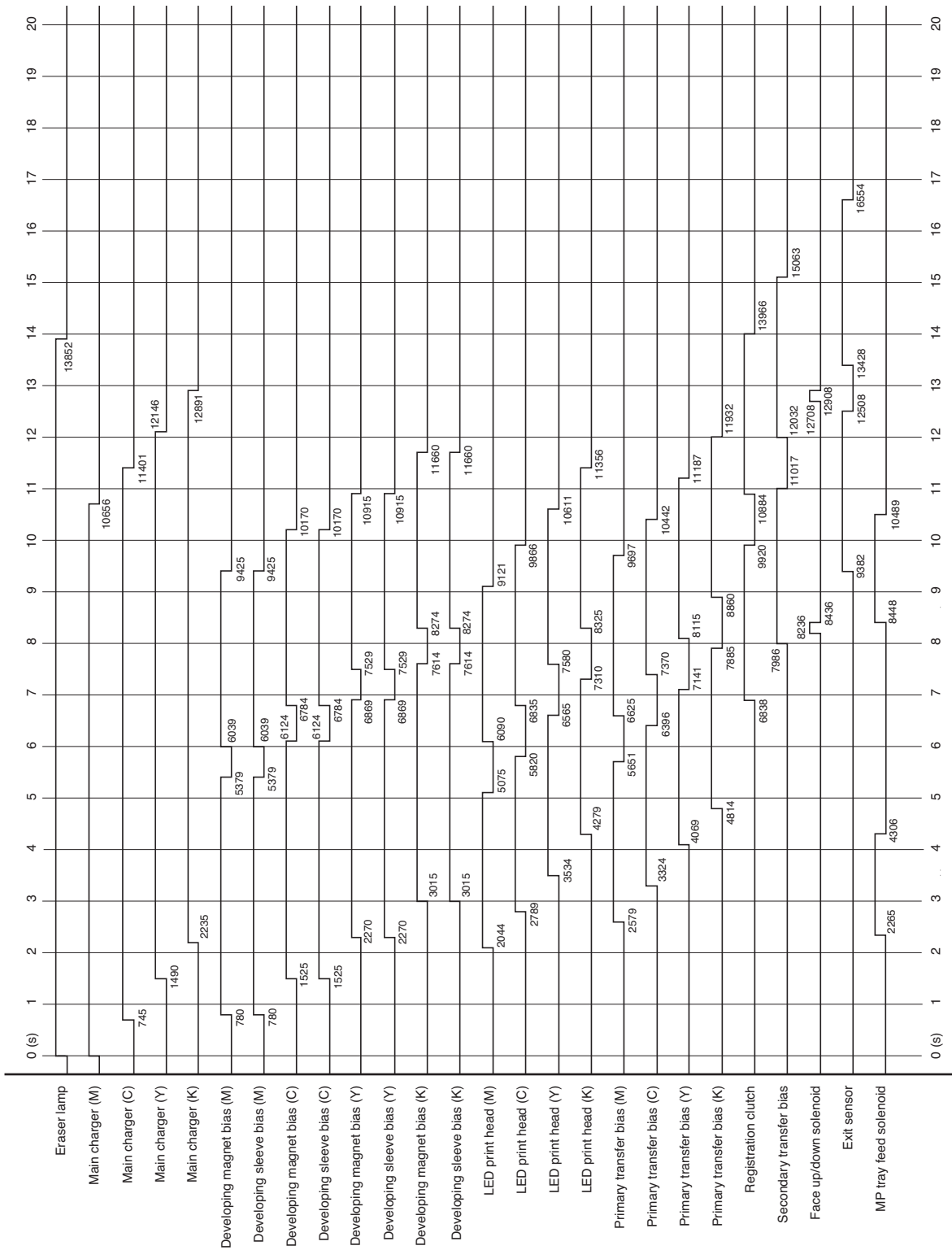
(2) Timing chart No. 2 Paper cassette feeding, Two legal size papers



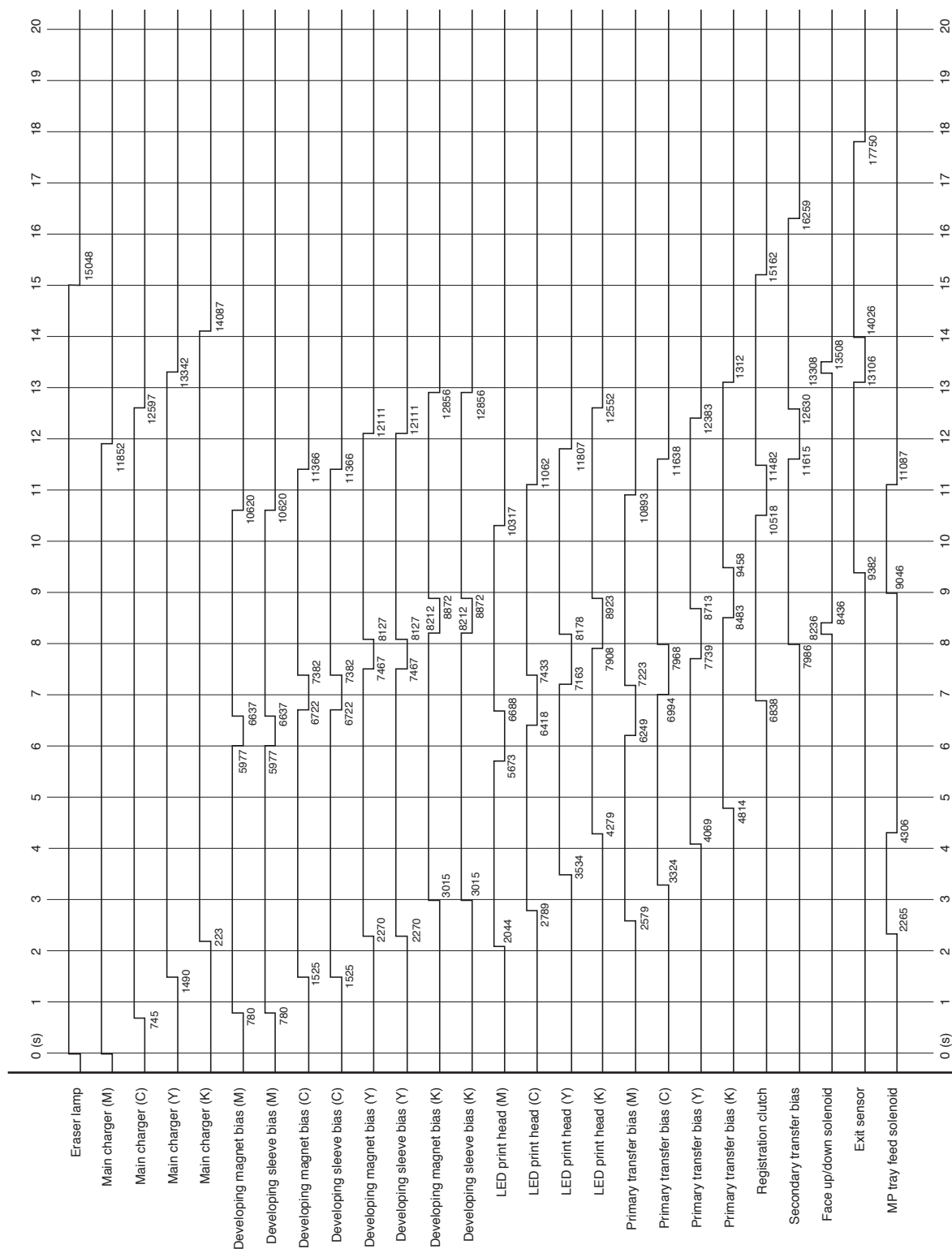
(3) Timing chart No. 3 Paper cassette feeding, Two letter size papers



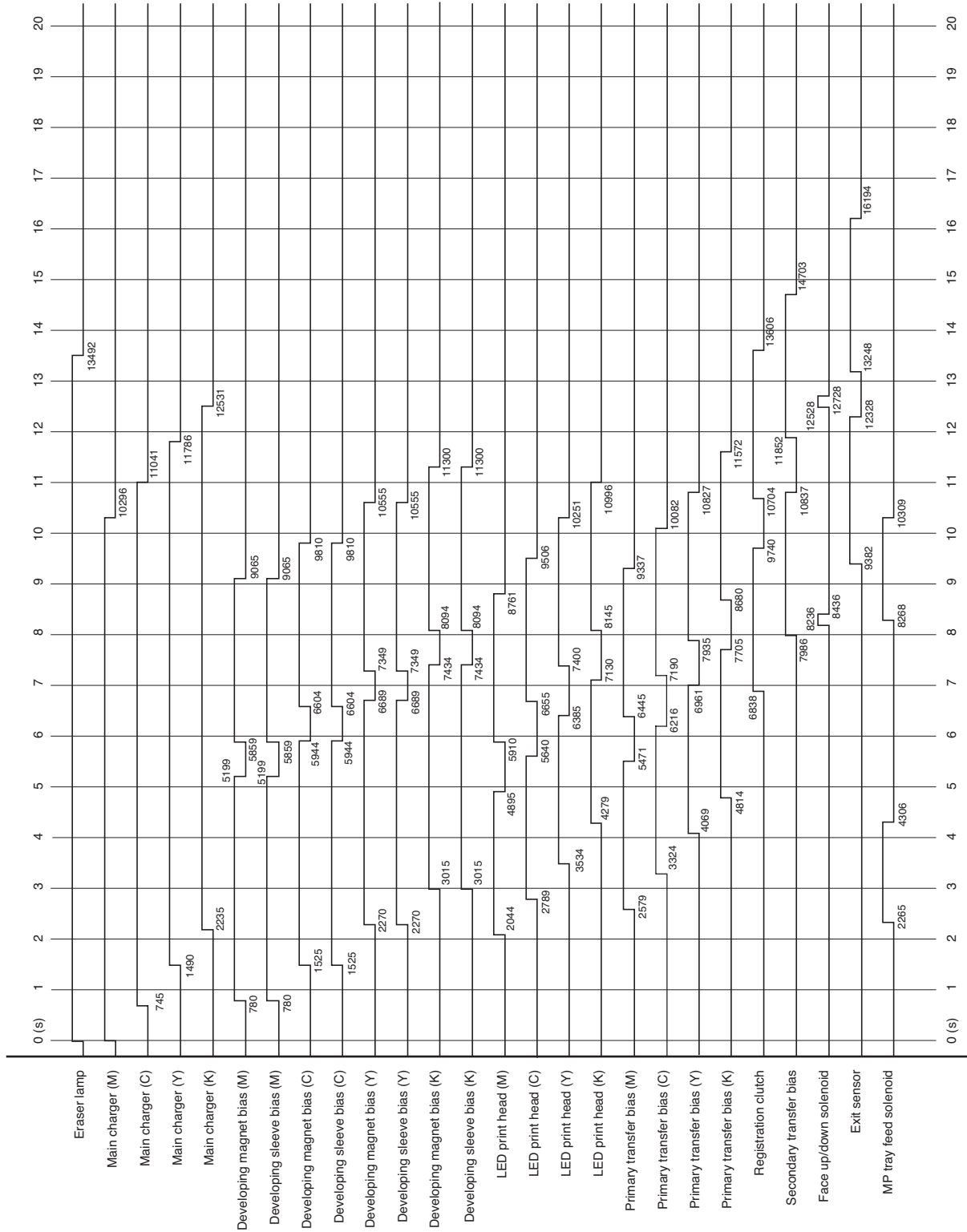
(4) Timing chart No. 4 MP tray feeding, Two A4 size papers



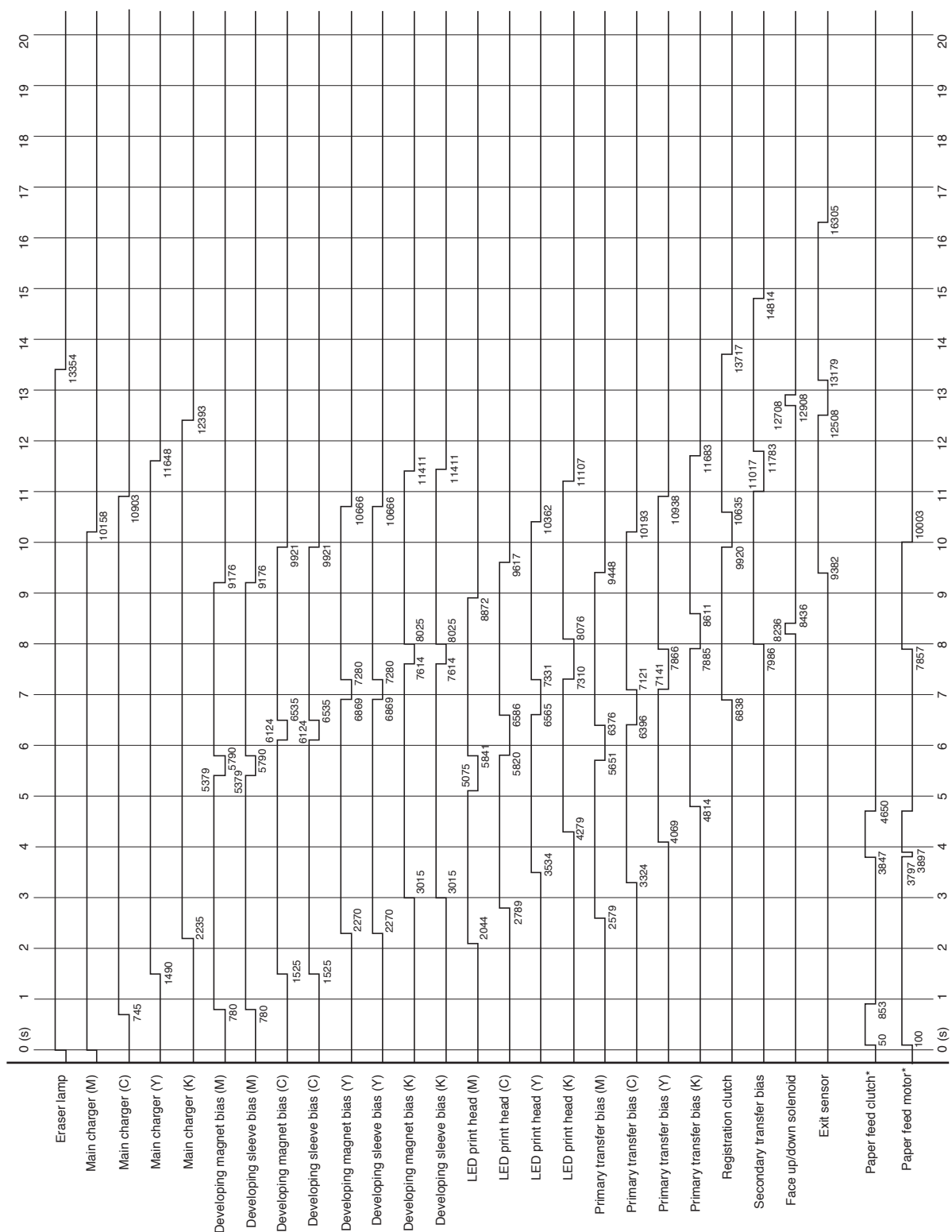
(5) Timing chart No. 5 MP tray feeding, Two legal size papers



(6) Timing chart No. 6 MP tray feeding, Two letter size papers

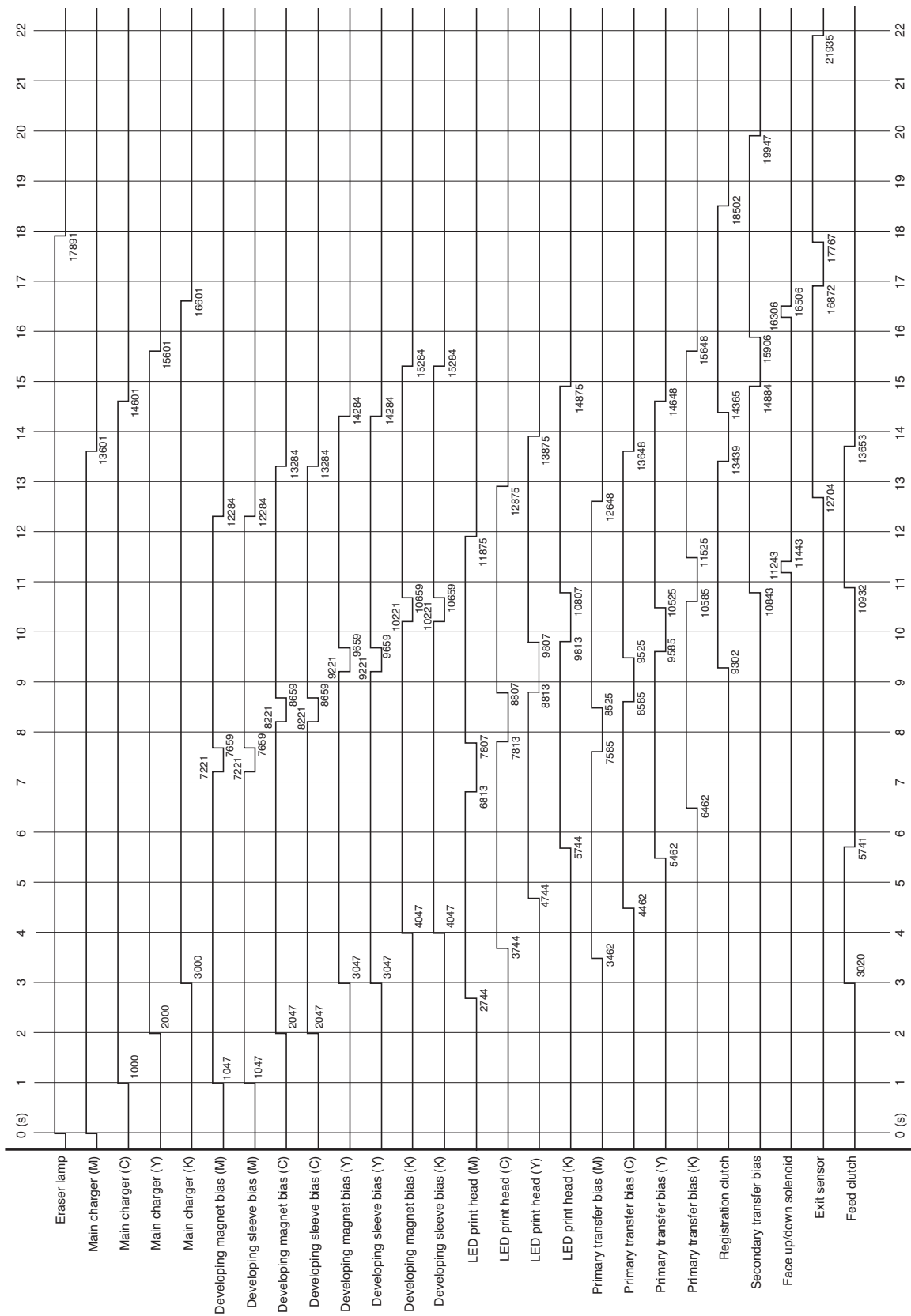


(7) Timing chart No. 7 Optional paper feeder feeding, Two A4 size papers

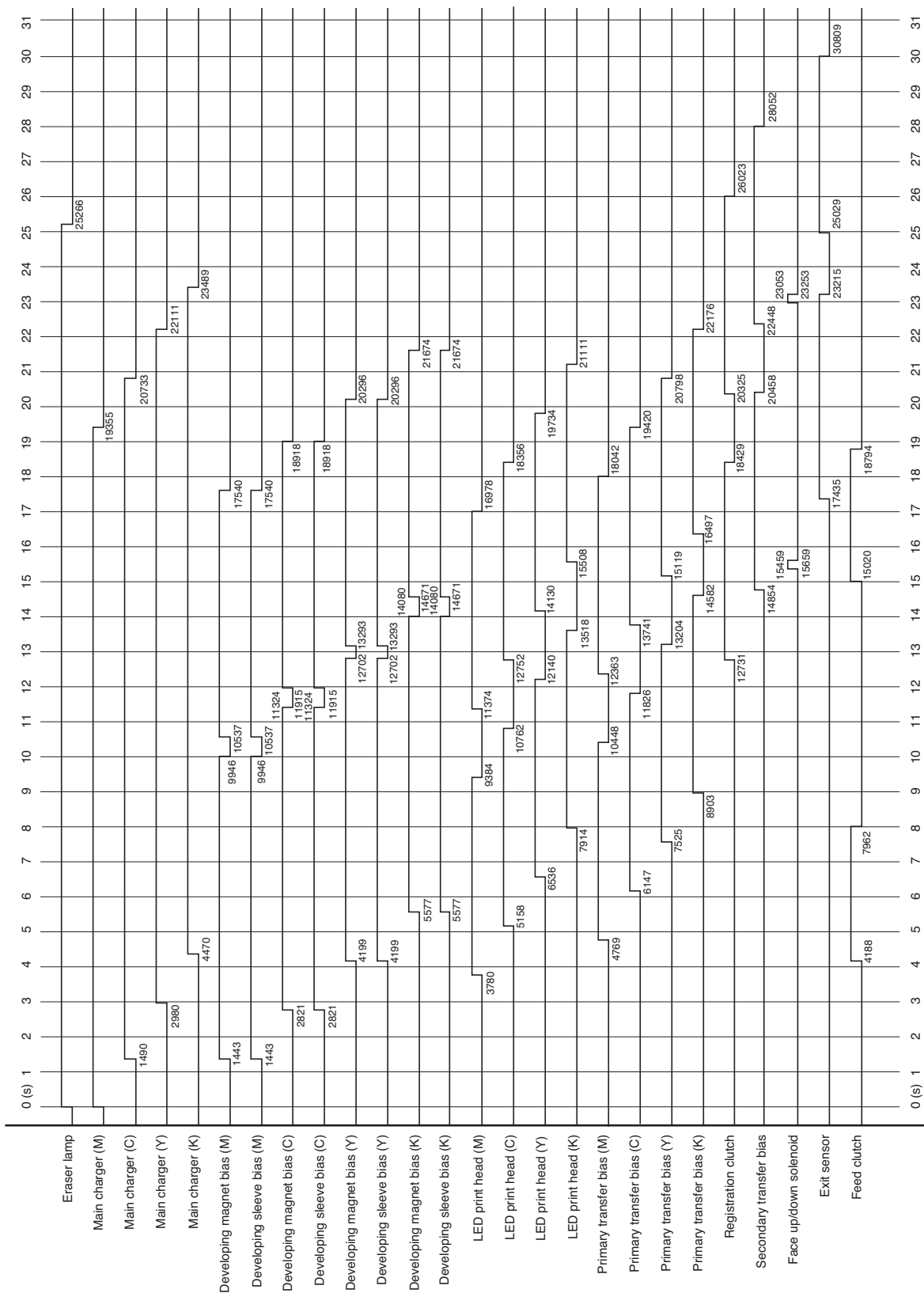


*Paper feeder PF-60 (Top)

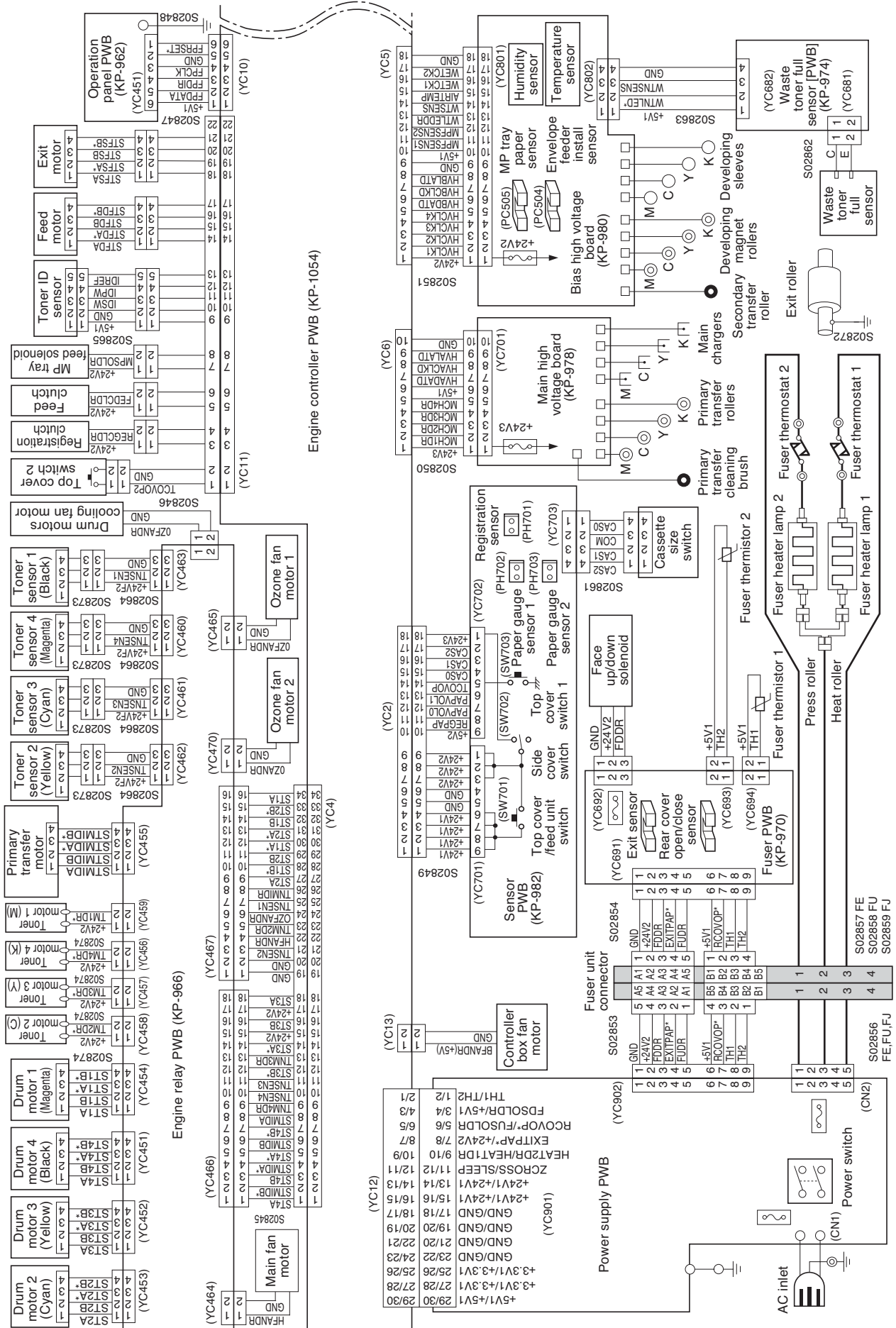
(8) Timing chart No. 8 Paper cassette feeding, Two A4 size papers (Gloss mode)

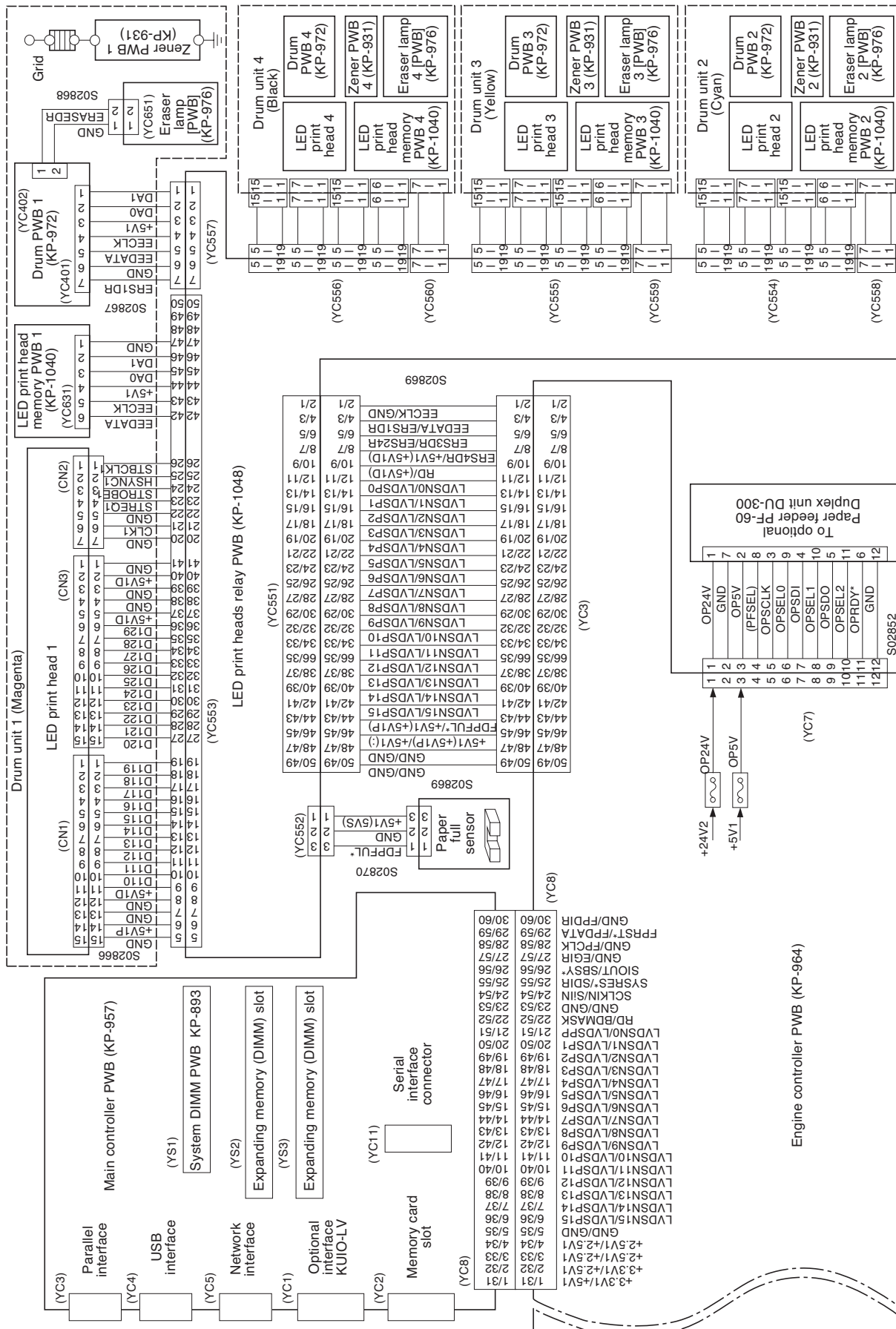


(9) Timing chart No. 9 Paper cassette feeding, Two A4 size papers (Transparencies mode)

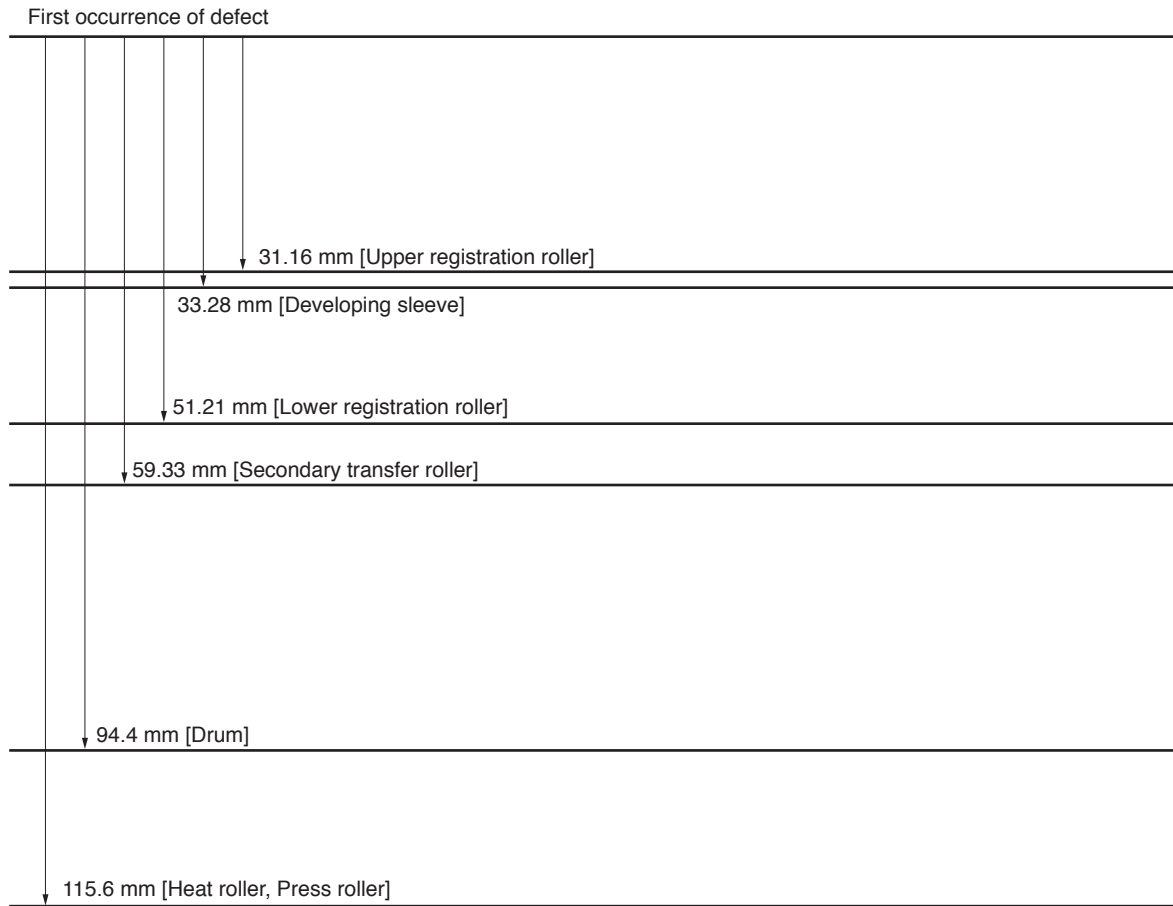


(10) Wiring diagram





(11) Repetitive defects gauge



MEMO

MEMO

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*Ecosys FS-C5016N
Color Laser Printer*

PARTS LIST

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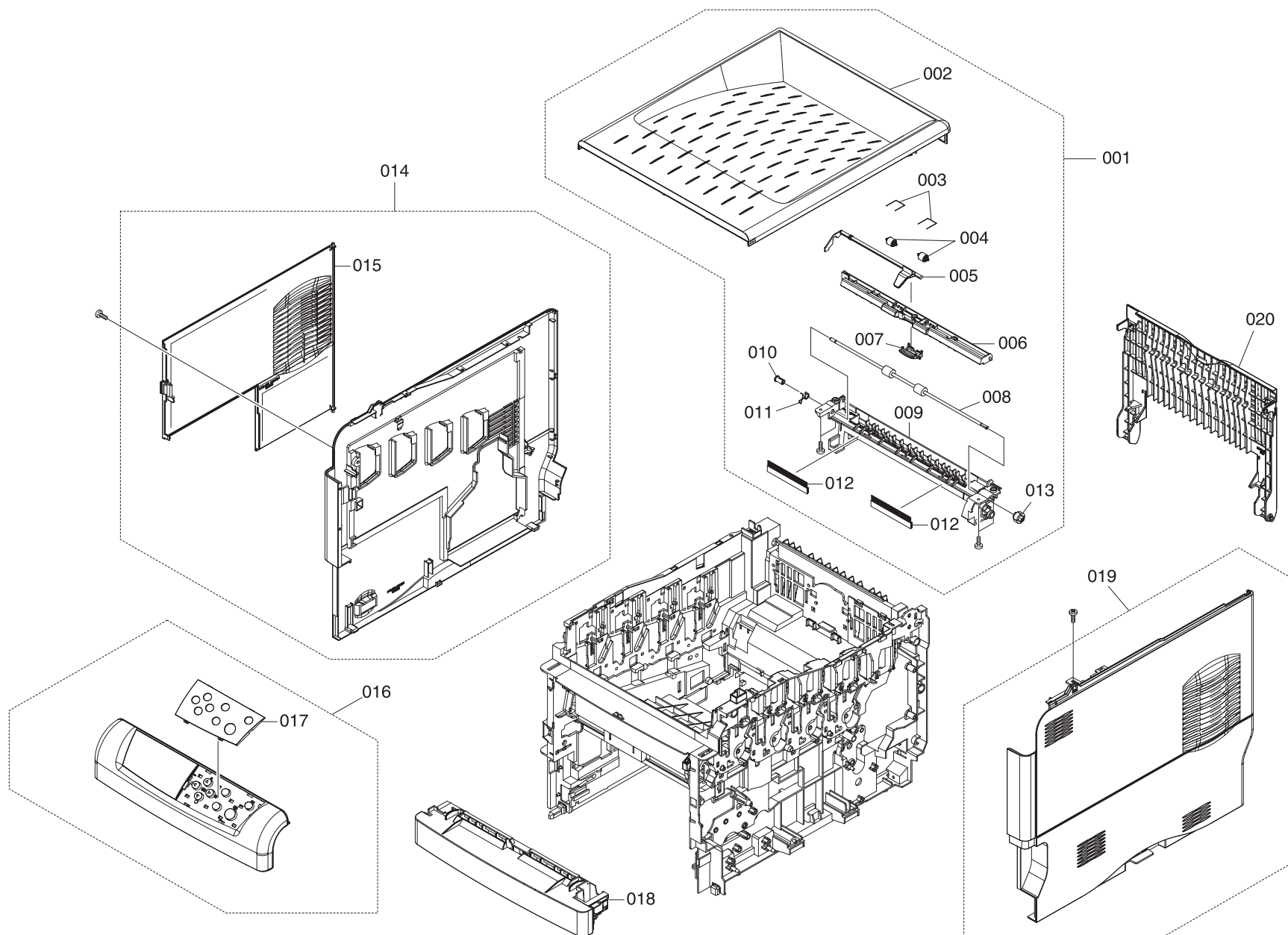
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Notes on Ordering

- Parts with + are component parts or sub-assemblies of the assembly appearing above them.
- Parts with ++ are component parts of the assembly marked with + immediately above them.
- SP means service parts that are available for ordering.

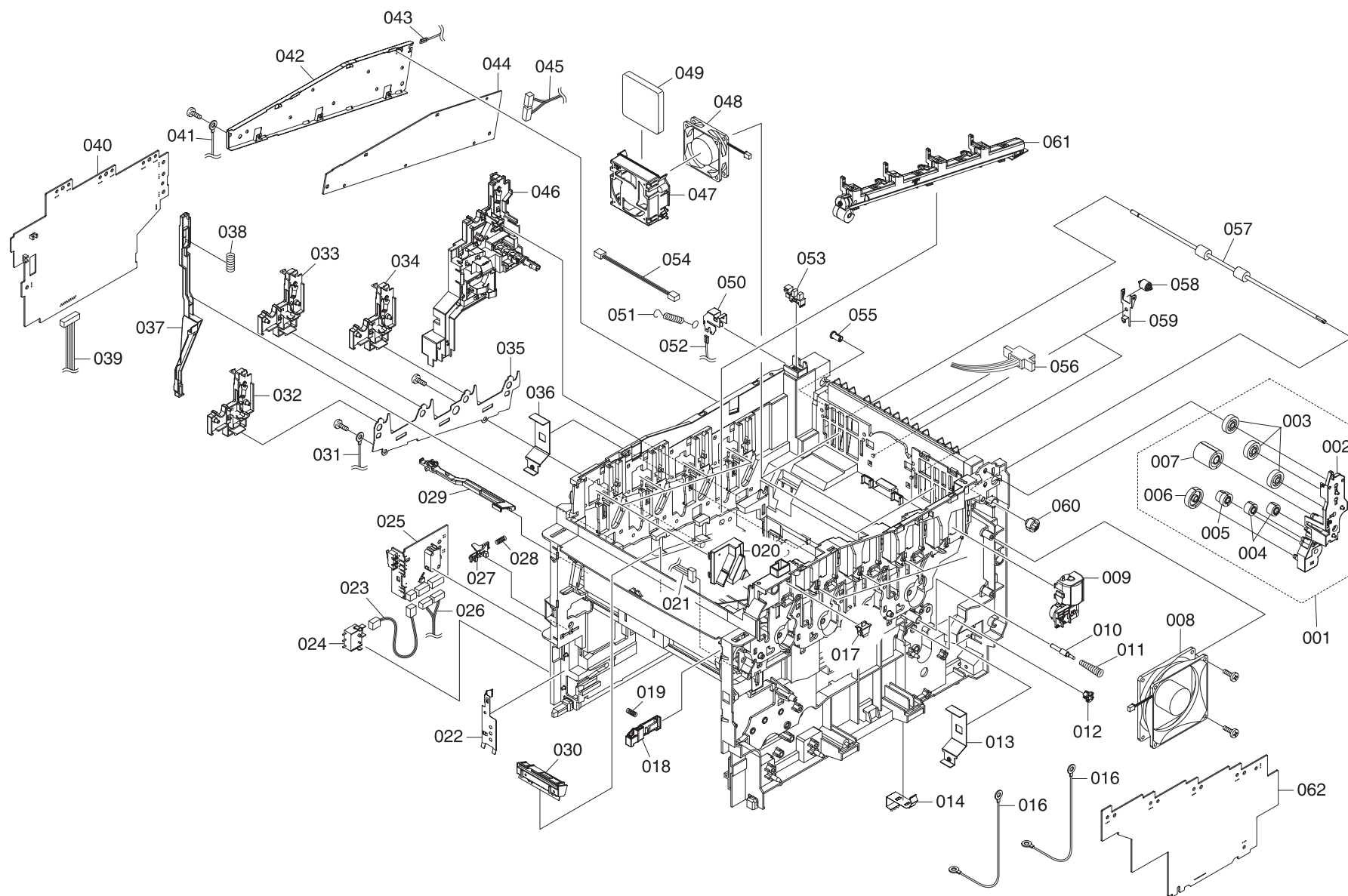
1. Exterior Covers (01-)



List 1 - Exterior Covers (01-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
01-001	2D969100	COVER TOP ASSY		X	1	1	
01-002	2D904010	COVER TOP		X	1	1	
01-003	+ 5MMW251LD046	SPRING PULLEY		X	2	2	
01-004	+ 5MVM273DB006	ROLLER PINCH		X	2	2	
01-005	+ 5MVX732CB003	ACTUATOR FD		X	1	1	
01-006	+ 5MVX852CH002	FRAME FD		-	1	1	
01-007	+ 2D904170	GUIDE STOCK		X	1	1	
01-008	+ 2D904090	ROLLER FD		X	1	1	
01-009	+ 2D904060	FRAME FD LOW		-	1	1	
01-010	+ 5MVM266DN006	BUSH FD		X	1	1	
01-011	+ 2D902570	SPRING FRAME FD LOW		-	1	1	
01-012	+ 2D904250	DISCHARGER FD		X	2	2	
01-013	+ 5MVG127DN076	GEAR ROLL FD Z18		X	1	1	
01-014	2D969110	COVER LEFT ASSY		X	1	1	
01-015	+ 2D904040	COVER SIDE		X	1	1	
01-016	2D968530	KEY BOARD ASSY	Excl. KMFR/KMIT	X	1	1	
01-016	2D969250	KEY BOARD ASSY	KMFR only	X	-	1	
01-016	2D969260	KEY BOARD ASSY	KMIT only	X	-	1	
01-017	+ 2D924060	COVER PANEL E	Excl. KMFR/KMIT	X	1	1	
01-017	+ 2D904100	COVER PANEL FRENCH	KMFR only	X	-	1	
01-017	+ 2D904110	COVER OABEL ITALIAN	KMIT only	X	-	1	
01-018	5MVB866CH022	COVER FRONT		X	1	1	
01-019	2D969120	COVER RIGHT ASSY		X	1	1	
01-020	2D904050	COVER REAR		-	1	1	

2. Upper Frame Unit (02-)

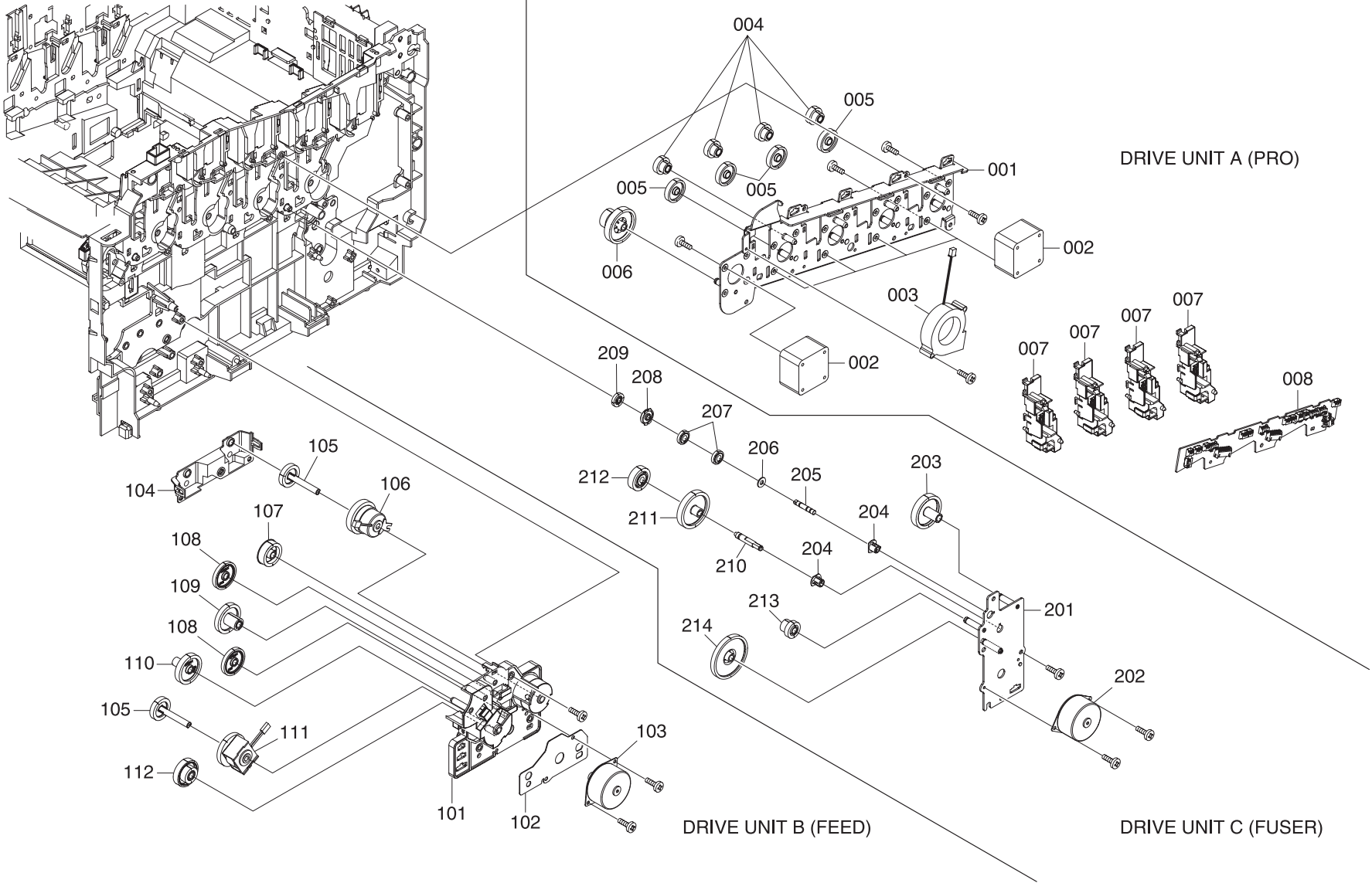


List 2 - Upper Frame Unit (02-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
02-001	2D968590	BRACKET FD GEAR ASSY		X	1	1	
02-002	+ 2D902390	BRACKET FD GEAR		X	1	1	
02-003	+ 5MVG137DN014	GEAR IDLE Z25		X	3	3	
02-004	+ 5MVG127DW004	GEAR IDLE Z16		X	2	2	
02-005	+ 2D902400	GEAR FD Z15-Z18		X	1	1	
02-006	+ 5MVG138DN048	GEAR FD Z29		X	1	1	
02-007	+ 5MVG138DN047	GEAR FD Z28		X	1	1	
02-008	WNAA1030	FAN MOTOR		X	1	1	
02-009	2D968610	TONER MOTOR ASSY		X	4	4	
02-010	5MMT463SN001	PIN CONTACT BIAS		-	1	1	
02-011	2D902580	SPRING CONTACT CLN		-	1	1	
02-012	2D922250	BUSH FRAME		X	1	1	
02-013	2D902380	PLATE EARTH FUSER		-	1	1	
02-014	2D902330	PLATE EARTH HV B		-	1	1	
02-016	2D926340	CONN. CORD ASSY	S02981	-	2	2	
02-017	5ESP01000101*01	PUSH SWITCH 01 SN		X	1	1	
02-018	5MVX522DB006	LOCK COVER M/P		-	1	1	
02-019	5MMW261LD051	SP LOCK COVER M/P		-	1	1	
02-020	2D902370	COVER HARNESS		-	4	4	
02-021	2D926260	CONN. CORD ASSY		-	1	1	
02-022	2D902320	PLATE EARTH HV A		-	1	1	
02-023	2D926160	CONN. CORD ASSY	S02861	-	1	1	
02-024	5ESP03090001+01	PUSH SWITCH 03 SN		X	1	1	
02-025	2D901540	P.W.B ASSY KP-982	SENSOR	X			
02-026	2D926060	CONN. CORD ASSY	S02849	-	1	1	
02-027	5MVX322DB023	LEVER EF		-	1	1	
02-028	5MMW222LD002	SPRING LEVER EF		-	1	1	
02-029	2D969860	CLEANER ID ASSY		X	1	1	
02-030	2D968570	SENSOR ID ASSY		X	1	1	
02-031	2D926280	CONN. CORD ASSY	S02975	-	1	1	
02-032	2D969810	BRACKET HV DLP K ASSY		X	1	1	
02-033	2D969830	BRACKET HV DLP Y ASSY		X	1	1	
02-034	2D969820	BRACKET HV DLP C ASSY		X	1	1	
02-035	2D902170	PLATE FRAME DRUM		-	1	1	
02-036	2D902380	PLATE EARTH FUSER		-	1	1	
02-037	2D902310	ROD INTERLOCK		-	1	1	
02-038	5MMW451LD001	SPRING INTER LOCK		-	1	1	
02-039	2D926080	CONN. CORD ASSY	S02851	-	1	1	
02-040	2D927070	TRANS ASSY	HI VOLTAGE DLP	X	1	1	

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
02-041	2D926290	CONN. CORD ASSY		-	1	1	
02-042	2D902200	PLATE SHIELD PWB		-	1	1	
02-043	2D926310	CONN. CORD ASSY		-	1	1	
02-044	2D901800	P.W.B ASSY KP-1048	LEDRLY	X	1	1	
02-045	2D926230	CONN. CORD ASSY	S02869	-	1	1	
02-046	2D968560	BRACKET HV ASSY		X	1	1	
02-047	2D902540	BRACKET FAN		-	2	2	
02-048	WNAA1050	FAN MOTOR		X	2	2	
02-049	2D902530	OZONE FILTER		X	2	2	
02-050	2D902550	PLATE EARTH FD		-	1	1	
02-051	2D902560	SPRING EARTH FD		-	1	1	
02-052	2D926320	CONN. CORD ASSY	S02979	-	1	1	
02-053	2BZ16530	PT.SENSOR EE-SX1235A		X	1	1	
02-054	2D926240	CONN. CORD ASSY	S02870	-	1	1	
02-055	5MVM266DN006	BUSH FD		X	1	1	
02-056	2D926120	CONN. CORD ASSY	S02856	-	1	1	
02-057	2D902690	ROLLER FD LOW		X	1	1	
02-058	5MVM273DB006	ROLLER PINCH		X	2	2	
02-059	2D902410	BRACKET ROLLER PINCH		-	2	2	
02-060	5MVG127DN076	GEAR ROLL FD Z18		X	1	1	
02-061	2D968520	WASTE TONER ASSY		X	1	1	
02-062	2D927060	TRANS ASSY	HI VOLTAGE MAIN	X	1	1	

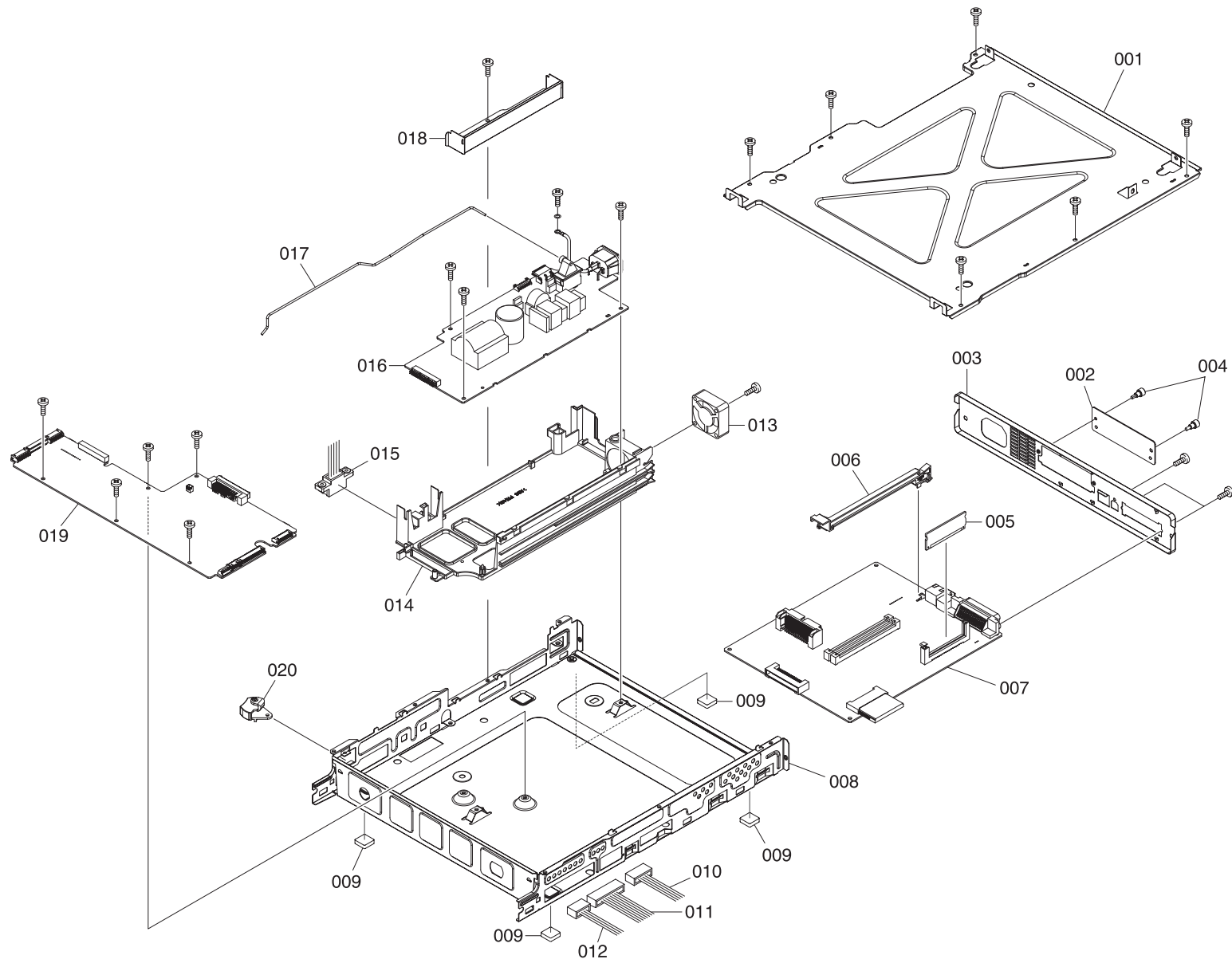
3. Drive Units (03-)



List 3 - Drive Units (03-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
	2D993170	DR-500A DRIVE UNIT	PRO	X	1	1	
03-001	+ 2D922150	PLATE DRIVE MAIN		-	1	1	
03-002	+ WNAA1000	STEPPING MOTOR PRO		X	5	5	
03-003	+ WNAA1040	FAN MOTOR		X	1	1	
03-004	+ 2D922160	GEAR Z21H-Z20H		X	4	4	
03-005	+ 2D922170	GEAR Z45H		X	4	4	
03-006	+ 2D922180	GEAR Z72H-Z22H		X	1	1	
03-007	+ 2D968810	BRACKET HV MAIN ASSY		-	4	4	
03-008	+ 2D901420	P.W.B.ASSY KP-966	ENGRLY	X	1	1	
	2D993180	DR-500B DRIVE UNIT	FEED	X	1	1	
03-101	+ 2D922010	BRACKET DRIVE FEED		-	1	1	
03-102	+ 2D922260	SHEET MOTOR FEED		-	1	1	
03-103	+ WNAA1010	STEPPING MOTOR FEED		X	1	1	
03-104	+ 2D922020	COVER DRIVE FEED		-	1	1	
03-105	+ 2D922080	GEAR CL Z21S		X	2	2	
03-106	+ 2D922270	CLUTCH REGIST		X	1	1	
03-107	+ 2D922050	GEAR Z30S		X	1	1	
03-108	+ 2D922040	GEAR Z35S		X	2	2	
03-109	+ 2D922060	GEAR Z38S-Z14S		X	1	1	
03-110	+ 2D922070	GEAR Z38S		X	1	1	
03-111	+ YY000290	CLUTCH FEED		X	1	1	
03-112	+ 2D922030	GEAR Z56S-Z20S		X	1	1	
	2D993190	DR-500C DRIVE UNIT	FUSER	X	1	1	
03-201	+ 2D922090	PLATE DRIVE FUSER		-	1	1	
03-202	+ WNAA1020	STEPPING MOTOR FUSER		X	1	1	
03-203	+ 2D922130	GEAR Z43S		X	1	1	
03-204	+ 2D922240	BUSH SHAFT CLUTCH		X	2	2	
03-205	+ 2D915250	SHAFT CLUTCH B		-	1	1	
03-206	+ C2890150	POLY WASHER		-	1	1	
03-207	+ 2D969870	GEAR Z22S ASSY		X	2	2	
03-208	+ 2D915200	BUSH DRIVE FUSER		X	1	1	
03-209	+ 2D915210	GEAR DRIVE FUSER Z22		X	1	1	
03-210	+ 2D922220	SHAFT CLUTCH		-	1	1	
03-211	+ 2D922110	GEAR Z48S		X	1	1	
03-212	+ 2D969180	GEAR Z29S ASSY		X	1	1	
03-213	+ 2D922140	GEAR Z14-Z20		X	1	1	
03-214	+ 2D922100	GEAR Z93S-Z24S		X	1	1	

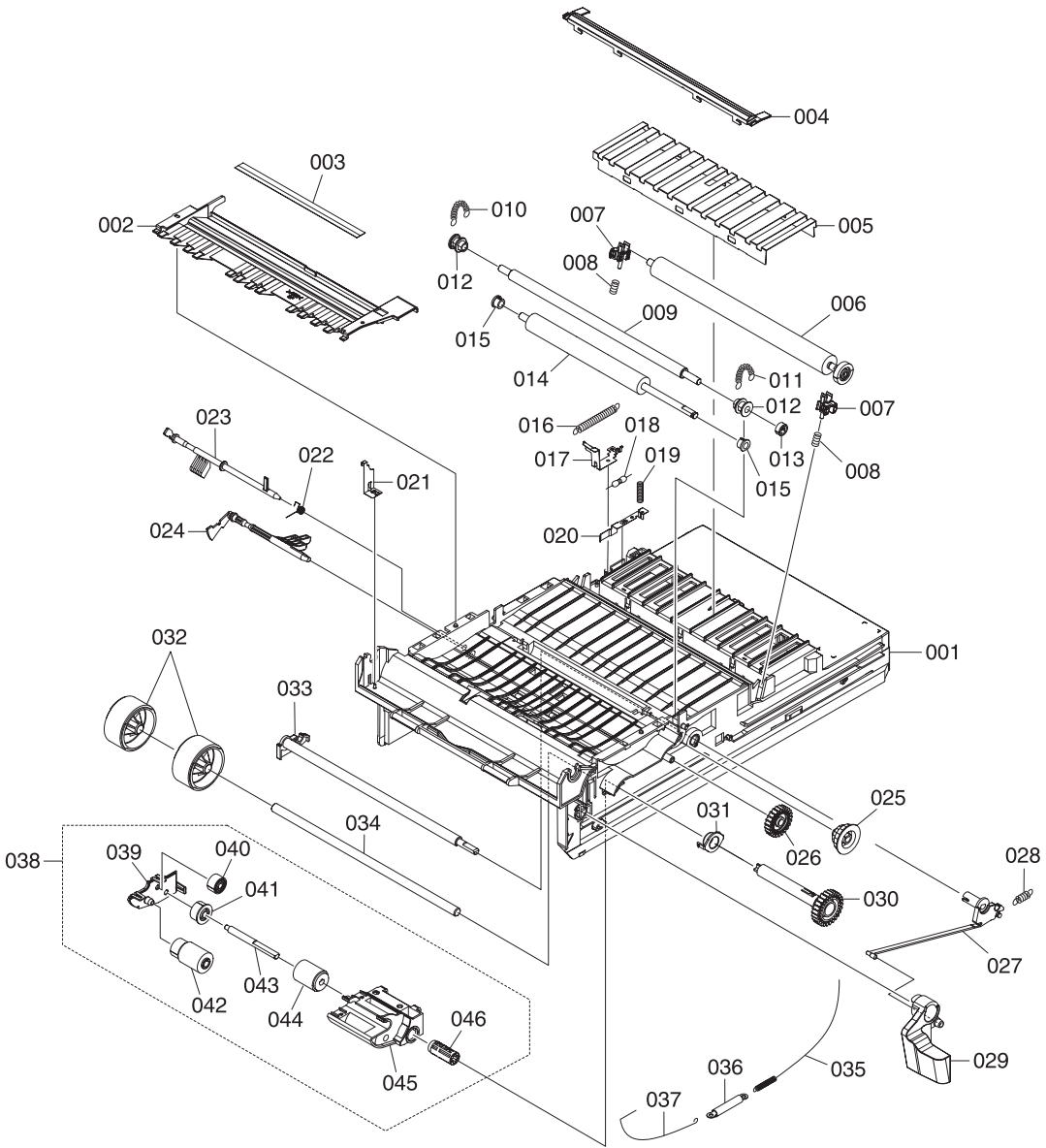
4. Controller Box (04-)



List 4 - Controller Box

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
04-001	2D903020	LID CONTROLLER		-	1	1	
04-002	5MMS636SD009	PLATE OPTION		-	1	1	
04-003	2D903030	PANEL REAR		-	1	1	
04-004	5MMT263SN012	SCREW OP		X	2	2	
04-005	2D901620	P.W.B.ASSY KP-893	FLASH DIMM	X	1	1	
04-006	2D903070	RAIL OPTION		-	1	1	
04-007	2D901200	P.W.B.ASSY KP-957	MAIN	X	1	1	
04-008	2D903010	BOX CONTROLLER		-	1	1	
04-009	5MVX221RB014	FOOT		X	4	4	
04-010	2D926030	CONN. CORD ASSY	S02846	-	1	1	
04-011	2D926020	CONN. CORD ASSY	S02845	-	1	1	
04-012	2D926070	CONN. CORD ASSY	S02850	-	1	1	
04-013	WNA00580	FAN MOTOR		X	1	1	
04-014	2D903050	CASE PWB POWER		-	1	1	
04-015	2D926090	CONN. CORD ASSY	S02852	X	1	1	
04-016	2D928610	SWITCHING REGULATOR		X	-	1	
04-016	2D928600	SWITCHING REGULATOR		X	1	-	
04-017	2D903060	ROD SW POWER		-	1	1	
04-018	2D903040	BRACKET BOX		-	1	1	
04-019	2D901720	P.W.B.ASSY KP-1054	ENGINE	Incl. KMTW	X	-	1
04-019	2D901730	P.W.B.ASSY KP-1054	ENGINE	Excl. KMTW	X	1	-
04-020	5MVX433SH002	LEVER SW		-	1	1	

5. Paper Feed Unit (05-)

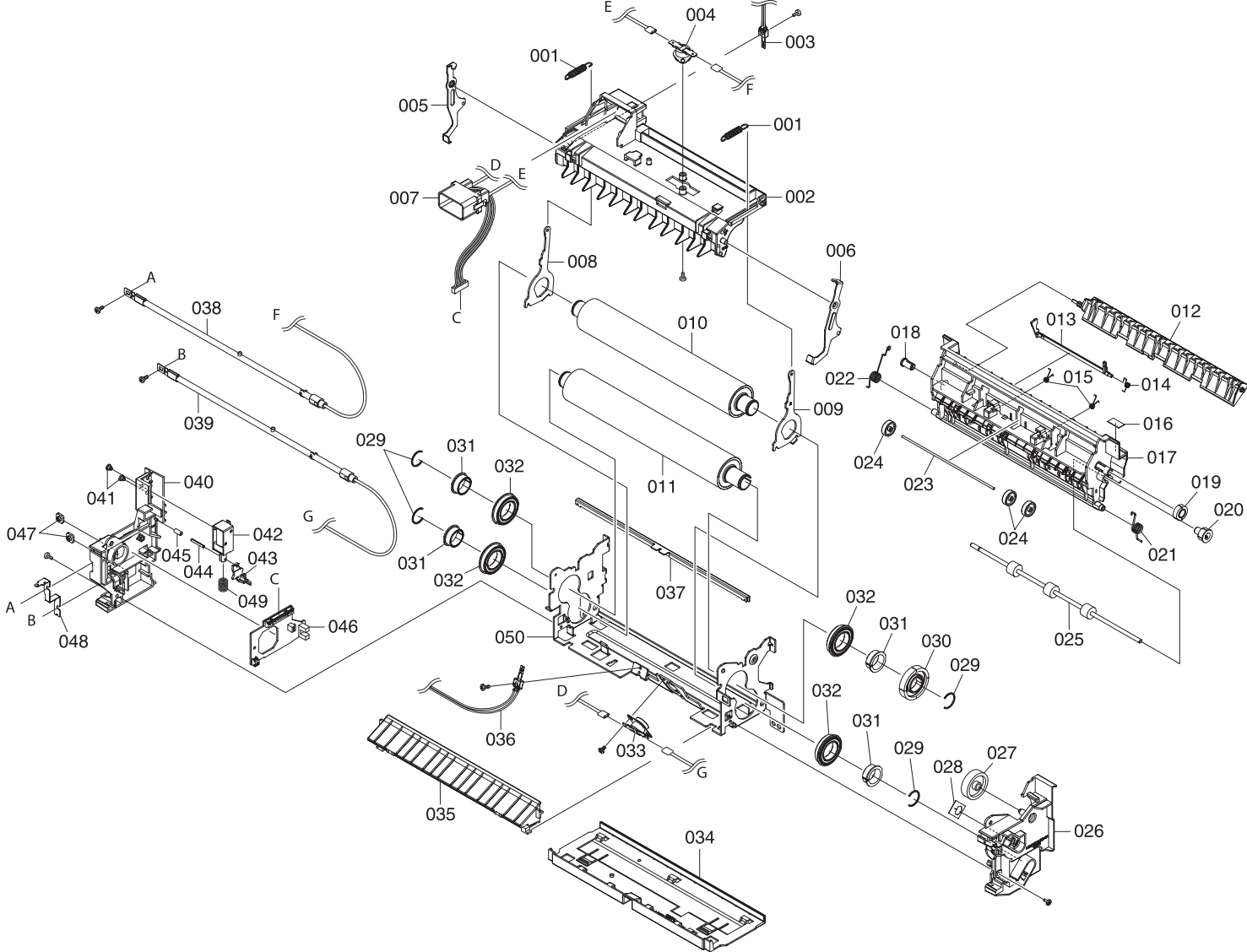


List 5 - Paper Feed Unit (05-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
	2D993140	FE-500 FEED TRANS UNIT		X	1	1	
05-001	+ 2D916050	BASE FEED		-	1	1	
05-002	+ 2D916070	GUIDE PAPER		-	1	1	
05-003	+ 2D916150	SHEET REGIST		X	1	1	
05-004	+ 2D916080	PAPER CHUTE		X	1	1	
05-005	+ 2D968830	DISCHARGER ASSY		-	1	1	
05-006	+ 2D968840	ROLLER TRANSFER ASSY		X	1	1	
05-007	+ 5MVX322DB019	BUSH TRANSFER		X	2	2	
05-008	+ 2D916060	SPRING TRANS		-	2	2	
05-009	+ 2D916170	ROLLER REGIST UP		X	1	1	
05-010	+ 2D916250	SPRING REGIST L		-	1	1	
05-011	+ 5MMW341LD008	SPRING REGIST R		-	1	1	
05-012	+ 5MVM221DB002	BUSH REGIST		X	2	2	
05-013	+ 5MVG126DN015	GEAR REGIST Z19S		X	1	1	
05-014	+ 2D916180	ROLLER REGIST LOW		X	1	1	
05-015	+ 5MVM176DN019	BUSH POM A		X	2	2	
05-016	+ 2D916130	SPRING EARTH B		-	1	1	
05-017	+ 2D916110	PLATE EARTH TC		-	1	1	
05-018	+ RHOA0040	M.GLAZE R. 100M 1W		-	1	1	
05-019	+ 5MMW241SX005	SPRING TRANS R		-	1	1	
05-020	+ 2D916210	PLATE EARTH FEED		-	1	1	
05-021	+ 2D916140	PLATE EARTH MP		-	1	1	
05-022	+ 2D916260	SPRING ACTUATOR REG		-	1	1	
05-023	+ 5MVX742SB008	SENSOR DOC		X	1	1	
05-024	+ 5MVX663SB013	ACTUATOR PAPER		X	1	1	
05-025	+ 5MVG148DN060	GEAR REG Z22S-Z32S		X	1	1	
05-026	+ 2D916220	GEAR IDLE Z23S		X	1	1	
05-027	+ 2D916090	HOOK RELEASE		-	1	1	
05-028	+ 5MMW251SD002	SPRING LOCK R		-	1	1	
05-029	+ 5MVX666SH005	LEVER LOCK		-	1	1	
05-030	+ 2D916230	GEAR JOINT Z26S		X	1	1	
05-031	+ 5MVM222XN001	BUSH FEED		X	1	1	
05-032	+ 5AAVR0LL+049	ROLLER GUIDE ASSY		X	2	2	
05-033	+ 5MVX843CB004	SHAFT RELEASE		-	1	1	
05-034	+ 5MMT860SN002	SHAFT ROLL GUIDE		-	1	1	
05-035	+ 2D916270	SPRING EARTH C		-	1	1	
05-036	+ 2D926390	CONN. CORD ASSY		-	1	1	
05-037	+ 2D916280	WIRE EARTH M/P		-	1	1	

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
05-038	+ 5AAYA37E++35	HOLDER FEED ASSY		X	1	1	
05-039	++ 5MVX642DH001	COVER BKT FEED		-	1	1	
05-040	++ 5MVG137DN036	GEAR FEED IDLE Z29S		-	1	1	
05-041	++ 5AAVGEAR+037	GEAR PICKUP		X	1	1	
05-042	++ 5AAVROLL+047	ROLLER FEED ASSY		X	1	1	
05-043	++ 5MMT664SN002	SHAFT PICKUP		-	1	1	
05-044	++ 5AAVROLL+048	ROLLER PICKUP ASSY		X	1	1	
05-045	++ 5MVX664SH004	BRACKET FEED		-	1	1	
05-046	++ 5MVX376DN001	HOLDER RELEASE		X	1	1	

6. Fuser Unit (06-)

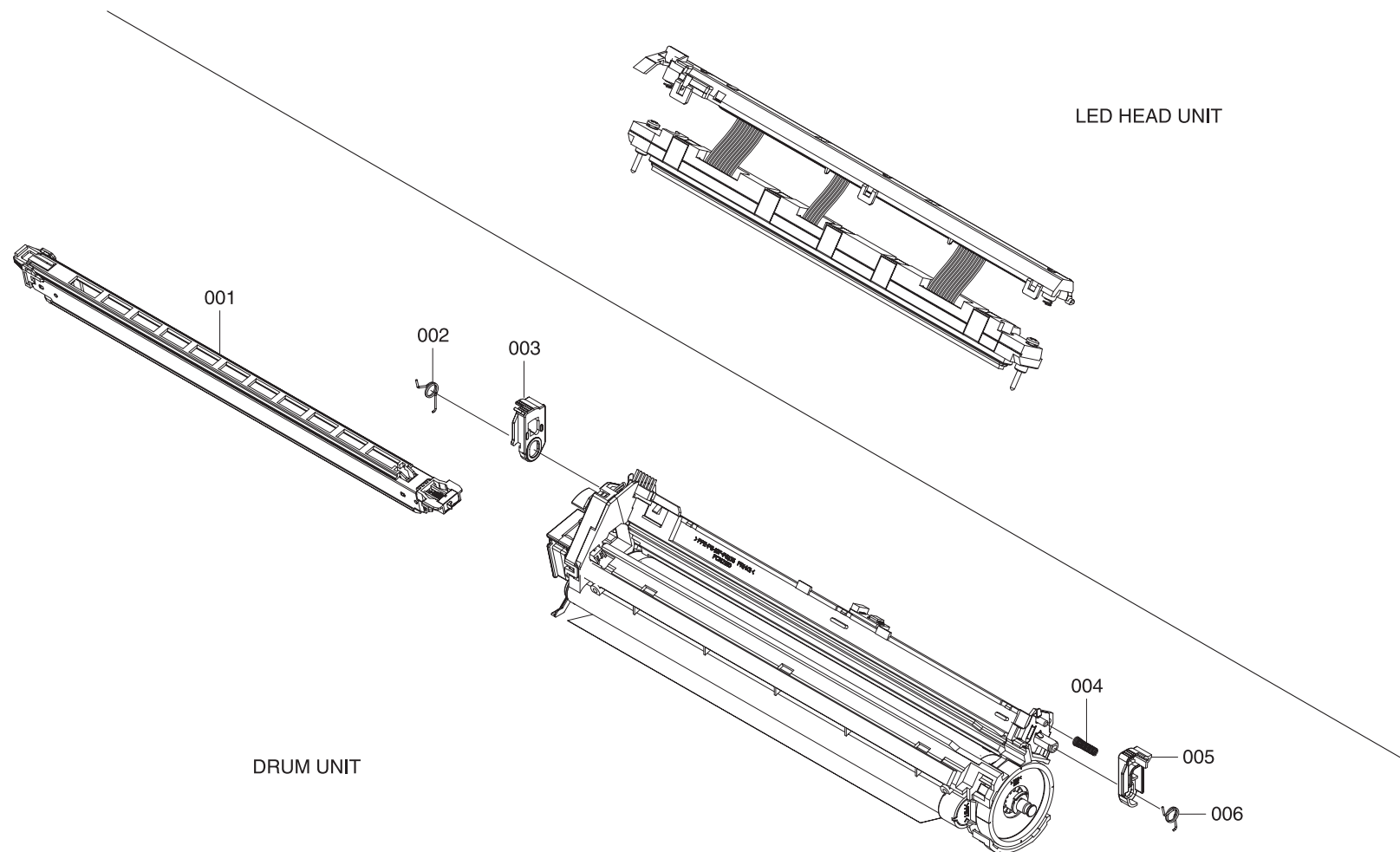


List 6 - Fuser Unit (06-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks	Remarks	Remarks
	2D993150	FK-500(E) FUSER UNIT		X	-	1			
	2D993220	FK-500(U) FUSER UNIT		X	1	-			
06-001	+ 2D920250	SPRING PRESS		-	2	2			
06-002	+ 2D920320	FRAME FUSER UP		-	1	1			
06-003	+ 2D927090	THERMISTOR ASSY		X	1	1			
06-004	+ YF0A1530	THERMOSTAT 250V150C		X	1	1			
06-005	+ 2D920190	PLATE RELEASE L		-	1	1			
06-006	+ 2D920200	PLATE RELEASE R		-	1	1			
06-007	+ 2D926130	CONN. CORD ASSY	S02857	-	-	1			
06-007	+ 2D926140	CONN. CORD ASSY		-	1	-			
06-008	+ 2D920170	PLATE PRESS L		-	1	1			
06-009	+ 2D920180	PLATE PRESS R		-	1	1			
06-010	+ 2D920060	ROLLER FIX UP		X	1	1			
06-011	+ 2D920070	ROLLER FIX LOW		X	1	1			
06-012	+ 2D920140	GUIDE CHANGE		-	1	1			
06-013	+ 2D920150	ACTUATOR FUSER		X	1	1			
06-014	+ 2D920280	SPRING ACTUATOR		-	1	1			
06-015	+ 2D920300	SPRING PULLEY EXIT		-	2	2			
06-016	+ 2D920390	LABEL EXIT		-	1	1			
06-017	+ 2D920080	GUIDE EXIT		-	1	1			
06-018	+ 5MVM266DN006	BUSH FD		X	1	1			
06-019	+ 5MVG127DN047	GEAR IDLE Z18		X	1	1			
06-020	+ 2D920040	GEAR EXIT Z15S		X	1	1			
06-021	+ 2D920270	SPRING EXIT R		-	1	1			
06-022	+ 2D920260	SPRING EXIT L		-	1	1			
06-023	+ 5MMT722SZ001	SHAFT EXIT		-	1	1			
06-024	+ 5MVM176DB018	PULLEY EXIT		X	3	3			
06-025	+ 2D920340	ROLLER EXIT		X	1	1			
06-026	+ 2D920120	COVER FUSER R		-	1	1			
06-027	+ 5MVG148XN005	GEAR JOINT Z36		X	1	1			
06-028	+ 2D920360	SEAL HEATER R		-	1	1			
06-029	+ 2D920310	RING STOP		-	4	4			
06-030	+ 2D920020	GEAR HEAT Z43S		X	1	1			
06-031	+ 2D920030	BUSH FUSER		X	4	4			
06-032	+ 2D920350	FUSER BEARING		X	4	4			
06-033	+ YF0A1530	THERMOSTAT 250V150C		X	1	1			
06-034	+ 2D920130	COVER FUSER LOW		-	1	1			
06-035	+ 2D920330	GUIDE ENTRANCE LOW		-	1	1			
06-036	+ 2D927090	THERMISTOR ASSY		X	1	1			

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks	Remarks	Remarks
06-037	+ 2D920210	PLATE STAY		-	1	1			
06-038	+ WP0A0510	LAMP HEATER UP 240V		X	-	1			
06-038	+ WP0A0530	LAMP HEATER UP 120V		X	1	-			
06-039	+ WP0A0520	LAMP HEATER LOW 240V		X	-	1			
06-039	+ WP0A0540	LAMP HEATER LOW 120V		X	1	-			
06-040	+ 2D920110	COVER FUSER L		-	1	1			
06-041	+ 5MMT143SZ014	STUD SCREW M3		-	2	2			
06-042	+ WSA0170	SOLENOID		X	1	1			
06-043	+ 2D920010	ACTUATOR SOL		-	1	1			
06-044	+ 5MBP2518WXSP	SPRING PIN		-	1	1			
06-045	+ 5MVM111RB002	RUBBER PIN		-	1	1			
06-046	+ 2D901460	P.W.B.ASSY KP-970	FUSER	-	1	1			
06-047	+ 5MMS111SL002	NUT FUSER A		-	2	2			
06-048	+ 2D920220	PLATE HEATER L		-	1	1			
06-049	+ 5MMW261LJ032	SPRING SOL		-	1	1			
06-050	+ 2D920050	FRAME FUSER		-	1	1			

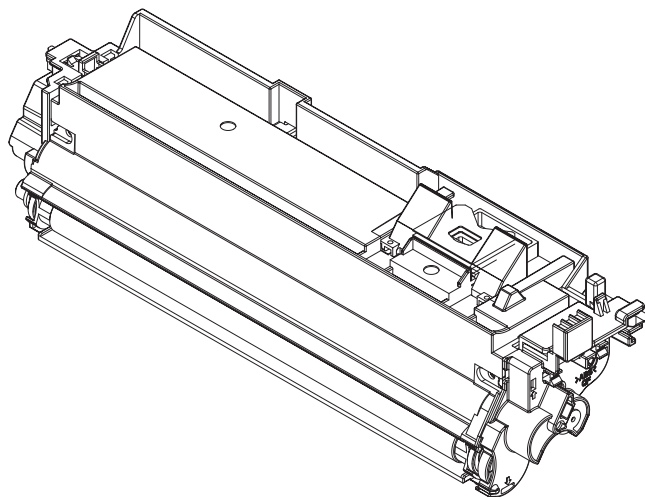
7. Drum Unit / LED Unit (07-)



List 7 - Drum Unit / LED Unit (07-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
	2D993200	LK-500 LED HEAD UNIT		X	4	4	
	2D993040	DK-500 DRUM UNIT		X	1	1	
07-001	+ 2D993160	MC-500 MCH ASSY		X	1	1	
07-002	+ 2D908360	SPRING LOCK L		-	1	1	
07-003	+ 2D908340	LEVER DRUM L		-	1	1	
07-004	+ 2D908380	SPRING EARTH		-	1	1	
07-005	+ 2D908350	LEVER DRUM R		-	1	1	
07-006	+ 2D908370	SPRING LOCK R		-	1	1	

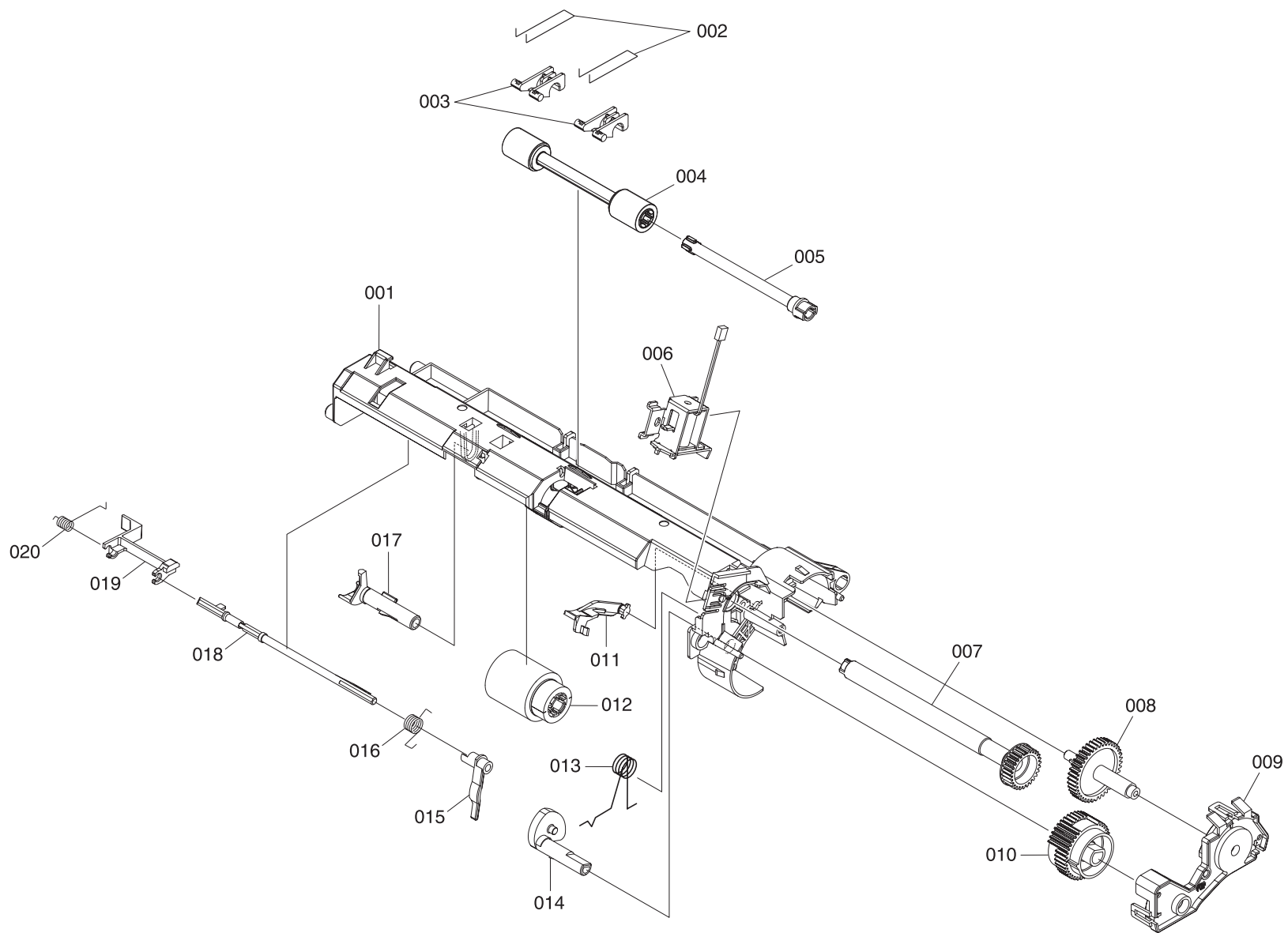
8. Developer Unit (08-)



List 8 - Developer Unit (08-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
08	2D993050	DV-500K DLP UNIT K		X	-	1	
08	2D993260	DV-502K DLP UNIT K		X	1	-	
08	2D993060	DV-500Y DLP UNIT Y		X	-	1	
08	2D993270	DV-502Y DLP UNIT Y		X	1	-	
08	2D993070	DV-500M DLP UNIT M		X	-	1	
08	2D993280	DV-502M DLP UNIT M		X	1	-	
08	2D993080	DV-500C DLP UNIT C		X	-	1	
08	2D993290	DV-502C DLP UNIT C		X	1	-	

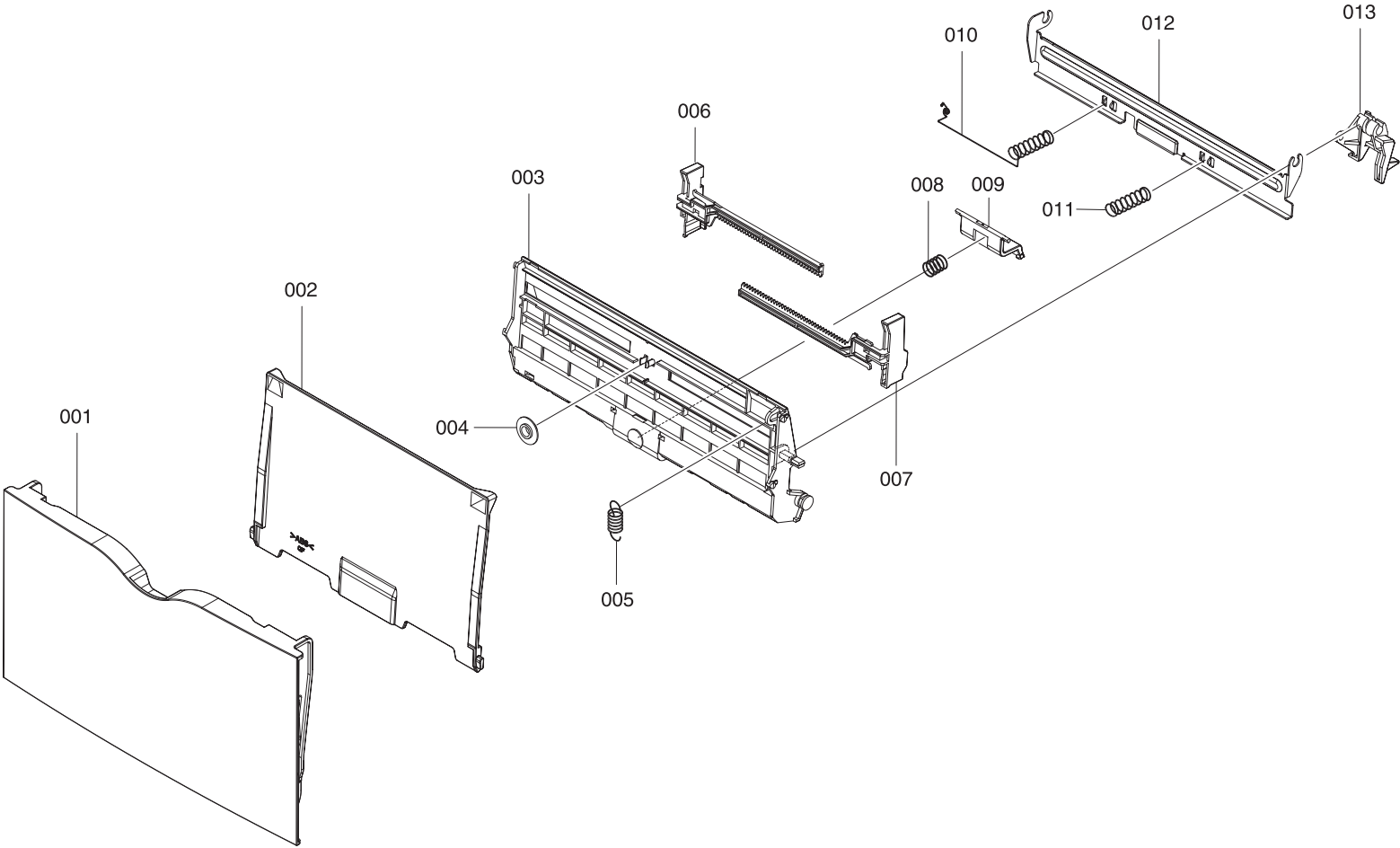
9. Frame MP Assembly (9-)



List 9 - Frame MP Assembly (9-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
	2D968390	FRAME MP ASSY		X	1	1	
09-001	+ 5MVX866CH001	FRAME M/P		-	1	1	
09-002	+ 5MMW601SD001	SPRING MID M/P		-	2	2	
09-003	+ 5MVX321DN014	BUSH MID M/P		X	2	2	
09-004	+ 5AAVR0LL+050	ROLL MID M/P ASSY		X	1	1	
09-005	+ 5MVT676CB003	SHAFT MID B		-	1	1	
09-006	+ WSAA0160	SOLENOID M/P ASSY		X	1	1	
09-007	+ 5MVG133DN008	GEAR M/P Z27		X	1	1	
09-008	+ 2D916010	GEAR MID Z42S		-	1	1	
09-009	+ 5MVX662DN003	HOLDER CLUTCH M/P		-	1	1	
09-010	+ 5MVG148DN063	GEAR M/P Z40		-	1	1	
09-011	+ 5MVX522DN004	LEVER CAM		-	1	1	
09-012	+ 5AAVR0LL+051	ROLLER M/P ASSY		X	1	1	
09-013	+ 5MMW161LD043	SPRING CAM M/P		-	1	1	
09-014	+ 5MVX433DN002	CAM M/P		X	1	1	
09-015	+ 5MVX421SB021	ACTUATOR M/P C		-	1	1	
09-016	+ 5MMW161SD009	SP ACTUATOR M/P C		X	1	1	
09-017	+ 5MVX422DN007	HOLDER FEED M/P		X	1	1	
09-018	+ 5MVT754SB001	ACTUATOR M/P A		-	1	1	
09-019	+ 5MVX621SB010	ACTUATOR M/P B		-	1	1	
09-020	+ 5MMW161SD010	SP ACTUATOR M/P B		-	1	1	

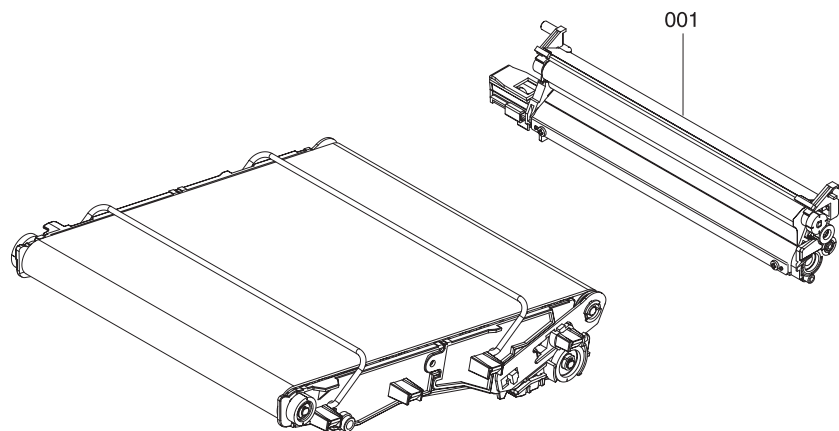
10. MP Tray (10-)



List 10 - MP Tray (10-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
	2D969170	TRAY M/P ASSY		X	1	1	
10-001	+ 2D906020	COVER M/P		X	1	1	
10-002	+ 2D906010	TRAY M/P		-	1	1	
10-003	+ 5MVB864SH009	BASE M/P		-	1	1	
10-004	+ 5MVG127DH001	GEAR MANUAL		-	1	1	
10-005	+ 5MMW261SM001	SPRING LOCK M/P		-	1	1	
10-006	+ 2D906030	GUIDE M/P L		-	1	1	
10-007	+ 2D906040	GUIDE M/P R		-	1	1	
10-008	+ 5MMW261LD039	SPRING SEPARATOR		-	1	1	
10-009	+ 5AAVCASET248	SEPARATOR M/P ASSY		X	1	1	
10-010	+ 2D916020	SP BOTTOM M/P L		-	1	1	
10-011	+ 5MMW461SD004	SP BOTTOM M/P R		-	1	1	
10-012	+ 5AAVCASET249	BOTTOM MULTI ASSY		X	1	1	
10-013	+ 5MVX533DN002	BRACKET BOTTOM		-	1	1	

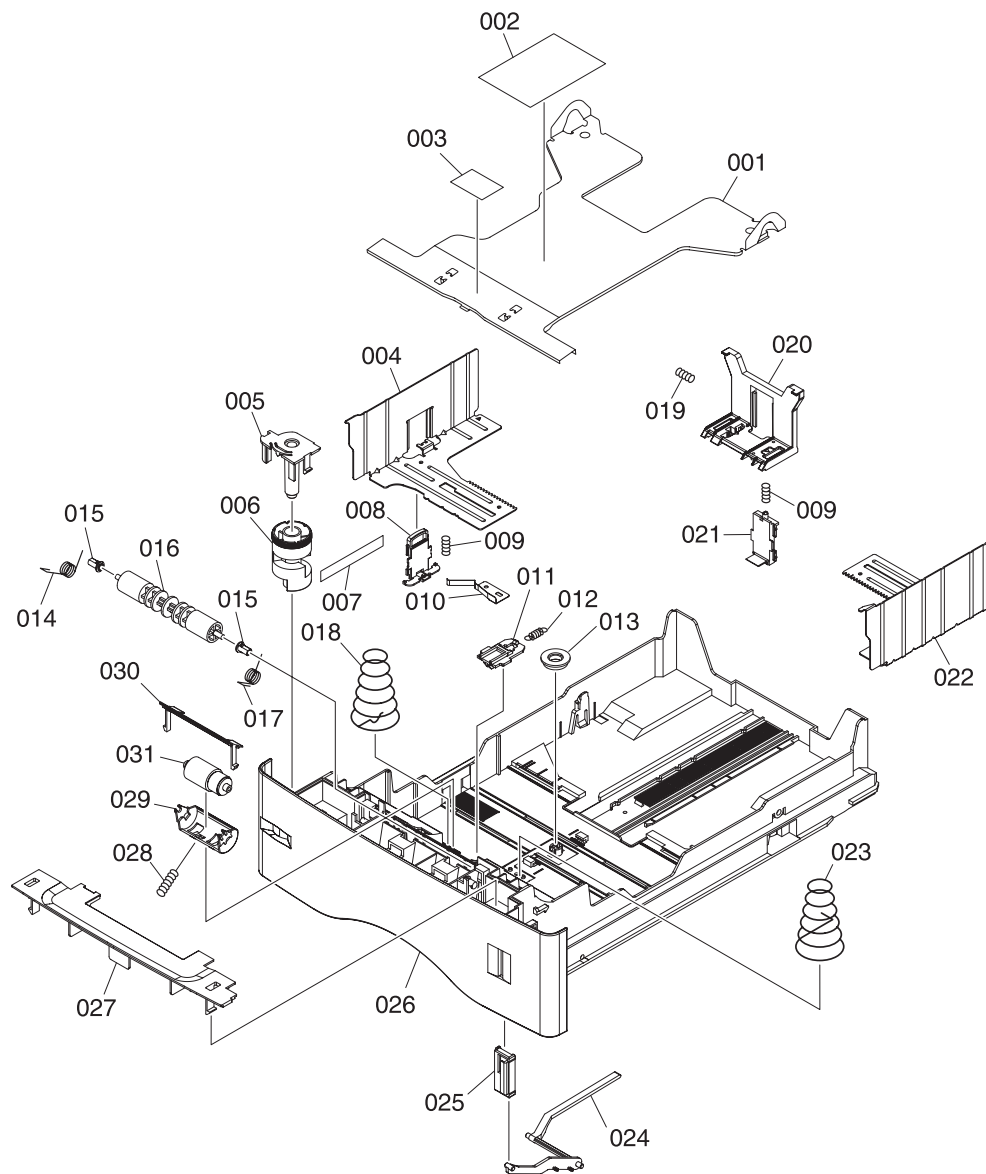
11. Primary Transfer Unit (11-)



List 11 - Primary Transfer Unit (11-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
	2D993130	TR-500 PRE TRANSFER UNIT		X	1	1	
11-001	+ 2D993250	CLEANING UNIT		X	1	1	

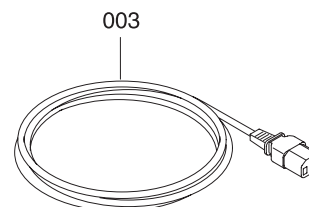
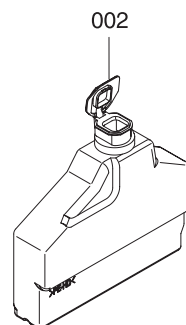
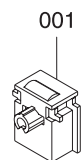
12. Paper Cassette (12-)



List 12 - Paper Cassette (12-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
	5PLPXZ7APKX	PC-60LG(A4) CASSETTE ASSY		X	-	1	
	5PLPXCUIAPKX	PC-60LG(LTR) CASSETTE ASSY	Excl.KMTW	X	1	-	
	5PLPXDSAPKX	PC-60LG(A4) CASSETTE ASSY	KMTW only	X	1	-	
12-001	+ 5MMX883SD004	PLATE BOTTOM		-	1	1	
12-002	+ 5MVVL221GE1H	LABEL OPERATION	Excl.KMTW	-	1	1	
12-002	+ 5MVVL221GE1J	LABEL OPERATION J	KMTW only	-	1	1	
12-003	+ 5MVS421RN004	SHEET FRICTION		X	1	1	
12-004	+ 5MML877SN002	PLATE SIDE L		-	1	1	
12-005	+ 5MVX543DH002	HOLDER DIAL		-	1	1	
12-006	+ 5MVM586SH001	DIAL CASSETTE		-	1	1	
12-007	+ 5MVVL171WN03	LABEL SIZE LGL		-	1	1	
12-008	+ 5MVX642DG001	LOCK LEVER SIDE		-	1	1	
12-009	+ 5MMW166LD010	SPRING LOCK GUIDE		-	2	2	
12-010	+ 5MMX653LD004	EARTH PLATE		-	1	1	
12-011	+ 5MVX432DN005	LOCK BOTTOM		X	1	1	
12-012	+ 5MMW251LD048	SP STOPPER BOTTOM		-	1	1	
12-013	+ 5MVG127DB046	GEAR CASSETTE		-	1	1	
12-014	+ 5MMW161LD045	SPRING FEED L		-	1	1	
12-015	+ 5MVM164DN007	BUSH4		X	2	2	
12-016	+ 5MVT774DN001	ROLLER FEED		X	1	1	
12-017	+ 5MMW161LD044	SPRING FEED R		-	1	1	
12-018	+ 5MMW682LD005	SPRING BOTTOM EARTH	Excl.KMTW	-	1	1	
12-018	+ 5MMW682LD007	SPRING BOTTOM EARTH	KMTW only	-	1	-	
12-019	+ 5MMW151SD003	SPRING END		-	1	1	
12-020	+ 5MVX664DN001	END FENCE		-	1	1	
12-021	+ 5MVX642DG002	LOCK LEVER END		-	1	1	
12-022	+ 5MML877SN001	PLATE SIDE R		-	1	1	
12-023	+ 5MMW682LD004	SPRING BOTTOM	Excl.KMTW	-	1	1	
12-023	+ 5MMW682LD006	SPRING BOTTOM	KMTW only	-	1	-	
12-024	+ 5MVX764DN001	LEVER INDICATOR		X	1	1	
12-025	+ 5MVX422SD002	INDICATER PAPER		-	1	1	
12-026	+ 5MVB987SH018	BASE CASSETTE LGL		-	1	1	
12-027	+ 5MVX853SH003	COVER ROLLER		-	1	1	
12-028	+ 5MMW151LD004	SPRING RETARD		-	1	1	
12-029	+ 5MVX644DN001	HOLDER RETARD		-	1	1	
12-030	+ 5MVX632SH005	GUIDE RETARD		-	1	1	
12-031	+ 5AAVR0LL+052	RETARD ROLL ASSY		X	1	1	

13. Accessories (A-)



List 13 - Accessories (A-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
13-001	5AAYTK20**03	GRID CLEANER 3 ASSY		X	1	1	
13-002	2D993240	BOTTLE ASSY		X	2	2	
13-003	2BM27920	AC CORD ASSY	Excl. KMUK/KMAUS	-	-	1	
13-003	2A829210	AC CORD ASSY	KMUK	-	-	1	
13-003	2A829190	AC CORD ASSY	KMAUS	-	-	1	
13-003	2BM27910	AC CORD ASSY		-	1	-	

14. Packing Assemblies (P-)

Ref. No.	Part Code	Description	Applicable Model	SP	120V	230V	Remarks
P-001	2D977010	PACKING ASSY		X	-	1	
P-001	2D977020	PACKING ASSY		X	1	-	
P-002	2D980150	POLY BAG		X	1	1	



FS-C5016N

Color Page Printer



Operation Guide

Please read the Operation Guide before using the printer. Keep it close to the printer for easy reference.




The sections of this guide and parts of the printer marked with symbols are safety warnings meant to protect the user, other individuals and surrounding objects, and ensure correct and safe usage of the printer. The symbols and their meanings are indicated below.

⚠ WARNING: Indicates that serious injury or even death may result from insufficient attention to or incorrect compliance with the related points.



⚠ CAUTION: Indicates that personal injury or mechanical damage may result from insufficient attention to or incorrect compliance with the related points.

Symbols




The \triangle symbol indicates that the related section includes safety warnings. Specific points of attention are indicated inside the symbol.

- [General warning]
- [Warning of danger of electrical shock]
- [Warning of high temperature]

The \otimes symbol indicates that the related section includes information on prohibited actions. Specifics of the prohibited action are indicated inside the symbol.

- [Warning of prohibited action]
- [Disassembly prohibited]

The \bullet symbol indicates that the related section includes information on actions which must be performed. Specifics of the required action are indicated inside the symbol.

- [Alert of required action]
- [Remove the power plug from the outlet]
- [Always connect the printer to an outlet with a ground connection]

Please contact your service representative to order a replacement if the safety warnings in the guide are illegible or if the guide itself is missing. (fee required)

Caution

NO LIABILITY IS ASSUMED FOR ANY DAMAGE CAUSED BY IMPROPER INSTALLATION.

Notice on Software

SOFTWARE USED WITH THIS PRINTER MUST SUPPORT THE PRINTER'S EMULATION MODE. The printer is factory-set to emulate the PCL. The emulation mode can be changed by following the procedures described in [Chapter 3](#).

Notice

The information in this guide is subject to change without notification. Additional pages may be inserted in future editions. The user is asked to excuse any technical inaccuracies or typographical errors in the present edition.

No responsibility is assumed if accidents occur while the user is following the instructions in this guide. No responsibility is assumed for defects in the printer's firmware (contents of its read-only memory).

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FCC statement (for users in the United States)

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

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is not guarantee that interference will not occur in a particular installation. If this equipment does not cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that used for the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment. Shielded circular cables should be used for interfacing with the computer.

Cautions to the user:

- Any modifications without prior permission of Kyocera may cause harmful interference.
- If any modifications or changes are made to this equipment without prior permission of Kyocera, Kyocera as the manufacturer does not guarantee the compliance with the FCC Rules.
- The use of equipment that does not comply with the FCC Rules is prohibited.

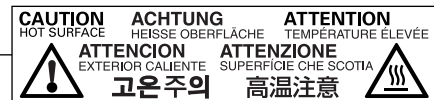
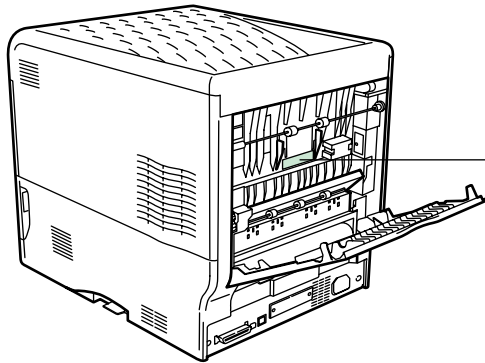
Important Notes for Interface connectors

Be sure to power off the printer before connecting or disconnecting an interface cable. For protection against static electricity discharge to the printer's internal electronics through the interface connector(s), cover any interface connector that is not in use with the protective cap supplied.

Use shielded interface cables.

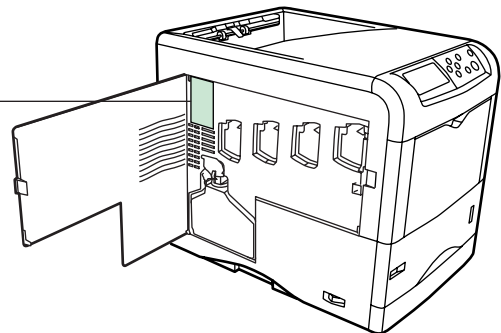
Cautionary Labels

The printer bears any of the following labels.



For Europe, Asia,
and other countries

For U.S.A. and
Canada



Ozone concentration

The printers generate ozone gas (O₃) which may concentrate in the place of installation and cause an unpleasant smell. To minimize the concentration of ozone gas to less than 0.1 ppm, we recommend you not to install the printer in a confined area where ventilation is blocked.

Declaration of Conformity for U.S.A.

Model name: Color Page Printer FS-C5016N

Trade name: Kyocera Mita

Responsible party: Kyocera Mita America, Inc.

Address: 225 Sand Road PO Box 40008 Fairfield, New Jersey 07004-0008, U.S.A.

Telephone: (973) 808-8444

Fax: (973) 882-6000

Manufacturer: Kyocera Mita Corporation Tamaki Plant

Manufacturer's address: 704-19, Nojino, Tamaki-cho, Watarai-gun, Mie-ken 519-0497, Japan

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

The manufacturer and its merchandising companies retain the following technical documentation in anticipation of the inspection that may be conducted by the authorities concerned.

User's instruction that conforms to the applicable specifications.

Technical drawings.

Descriptions of the procedures that guarantee the conformity.

Other technical information.

Kyocera Mita America Inc.

CE Marking Directive

According to Council Directive 89/336/EEC and 73/23/EEC

Manufacturer: Kyocera Mita Corporation Tamaki Plant

Manufacturer's address: 704-19, Nojino, Tamaki-cho, Watarai-gun, Mie-ken 519-0497, Japan

Declares that the product

Product name: Color Page Printer

Model number: FS-C5016N

(as tested with enhancement optional units; Duplex unit DU-300, Paper Feeder PF-60)

Conforms to the following product specifications:

EN 55 022: 1998 Class B

EN 61 000-3-2: 1995

EN 61 000-3-3: 1995

EN 55 024: 1998

EN 60 950: 2000

The manufacturer and its merchandising companies retain the following technical documentation in anticipation of the inspection that may be conducted by the authorities concerned.

User's instruction that conforms to the applicable specifications.

Technical drawings.

Descriptions of procedures that guarantee conformity.

Other technical information.

Declaration of Conformity for Australia

Manufacturer: Kyocera Mita Corporation Tamaki Plant
Manufacturer's address: 704-19, Nojino, Tamaki-cho, Watarai-gun, Mie-ken 519-0497, Japan
declares that the product

Product name: Color Page Printer
Model name: FS-C5016N

Description of devices: This Page Printer Model FS-C5016N is the 16 ppm (monochrome/color), A4 size and utilized plane paper; dry toner; etc. The printer can be equipped with several enhancement optional units as a paper feeder as PF-60, a duplex unit as DU-300.

conforms to the following product specifications:

AS/NZS 3548: 1995 (EN 55 022: 1998 Class B)
IEC60950 (EN 60 950): 1999

The manufacturer and its merchandising companies retain the following technical documentation in anticipation of the inspection that may be conducted by the authorities concerned.

User's instruction that conforms to the applicable specifications
Technical drawings
Descriptions of procedures that guarantee conformity
Other technical information

The manufacturer has been employed with ISO9001 scheme. JQA and BS have attested the manufacturer.

Kyocera Mita Australia Pty., Ltd.
6-10 Talavera Road, North Ryde, NSW 2113, Australia
Telephone: +61 2-9888-9999
Fax: +61 2-9888-9588

Canadian Department of Communications compliance statement

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

Avis de conformité aux normes du ministère des Communications du Canada

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

ISO 7779

Maschinenlärminformationsverordnung 3. GSGV, 18.01.1991: Der höchste Schalldruckpegel beträgt 70 dB (A) oder weniger gemäß ISO 7779.

Disclaimer

Kyocera Mita will not be liable to customers or any other person or entity for any loss or damage caused or alleged to be caused directly or indirectly by equipment sold or furnished by us, including but not limited to, any interruption of service, loss of business or anticipatory profits, or consequential damages resulting from the use or operation of the equipment or software.

ENERGY STAR®



As an ENERGY STAR Partner, we have determined that this product meets the ENERGY STAR guidelines for energy efficiency.

The basic objective of the ENERGY STAR Program is to reduce environmental pollution by encouraging the manufacture and sale of equipment that uses energy more efficiently.

This printer is equipped with a sleep timer function that conforms with the standards of the ENERGY STAR Program. This function makes it possible to reduce the amount of electrical power consumed by the printer. For maximum power savings, turn off the printer's power supply when not using the printer for extended periods of time.

For details on the sleep timer function and printer power consumption, refer to this manual.

Initial settings of the sleep timer function and power saved using the sleep timer function:

Initial sleep mode setting	Power consumption in sleep mode
15 minutes (60 minutes)	21 W (45 W) [for U.S.A. and Canada] 24 W (45 W) [for Europe, Asia, and other countries]

(): ENERGY STAR program guideline

Group for Energy Efficient Appliances (GEEA)



The goal of GEEA is efficient use of energy. This product has a high-efficiency profile and meets the criteria for receiving the GEEA-Label.

Initial sleep mode setting	Power Consumption	
	Power off	Sleep mode
15 min. (60 min.)	0 W (1 W)	24 W (30 W)

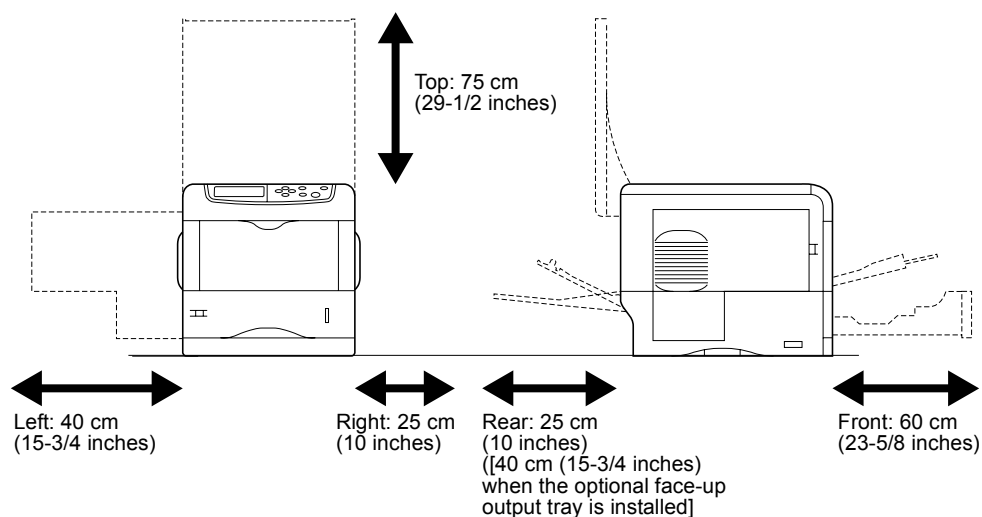
(): GEEA criteria

Installation Precautions

Environment

CAUTION

- Avoid placing the printer on or in locations which are unstable or not level. Such locations may cause the printer to fall down or fall over. This type of situation presents a danger of personal injury or damage to the printer.
- Avoid locations with humidity or dust and dirt. If dust or dirt becomes attached to the power plug, clean the plug to avoid the danger of fire or electrical shock.
- Avoid locations near radiators, heaters, or other heat sources, or locations near flammable items, to avoid the danger of fire.
- To keep the printer cool and facilitate changing of parts and maintenance, allow access space as shown below. Leave adequate space, especially around the side cover, to allow air to be properly ventilated out of the printer.






Other Precautions

- Adverse environmental conditions may affect the safe operation and performance of the printer. Install in an air-conditioned room (recommended room temperature: around 20 °C, humidity: around 65 % RH) and avoid the following locations when selecting a site for the printer.
 - Avoid locations near a window or with exposure to direct sunlight.
 - Avoid locations with vibrations.
 - Avoid locations with drastic temperature fluctuations.
 - Avoid locations with direct exposure to hot or cold air.
 - Avoid poorly ventilated locations.
- If the floor is delicate against casters, when this product is moved after installation, the floor material may be damaged.

Power Supply/Grounding the Printer

⚠ WARNING


- DO NOT use a power supply with a voltage other than that specified. Avoid multiple connections in the same outlet. These types of situations present a danger of fire or electrical shock... 
- Plug the power cord securely into the outlet. If metallic objects come in contact with the prongs on the plug, it may cause a fire or electric shock. 
- Always connect the printer to an outlet with a ground connection to avoid the danger of fire or electrical shock in case of an electric short. If an earth connection is not possible, contact your service representative. 

Other Precautions

- Connect the power plug to the closest outlet possible to the printer.

Handling of Plastic Bags










⚠ WARNING

- Keep the plastic bags that are used with the printer away from children. The plastic may cling to their nose and mouth causing suffocation. 






Precautions for Use

Cautions when Using the Printer

WARNING

- DO NOT place metallic objects or containers with water (flower vases, flower pots, cups, etc.) on or near the printer. This type of situation presents a danger of fire or electrical shock should they fall inside. 
- DO NOT remove any of the covers from the printer as there is a danger of electrical shock from high voltage parts inside the printer. 
- DO NOT damage, break or attempt to repair the power cord. DO NOT place heavy objects on the cord, pull it, bend it unnecessarily or cause any other type of damage. These types of situations present a danger of fire or electrical shock. 
- NEVER attempt to repair or disassemble the printer or its parts as there is a danger of fire, electrical shock or damage to the laser. If the laser beam escapes, there is a danger of it causing blindness. 
- If the printer becomes excessively hot, smoke appears from the printer, there is an odd smell, or any other abnormal situation occurs, there is a danger of fire or electrical shock. Turn the power switch OFF (O) immediately, remove the power plug from the outlet and contact your service representative. 
- If anything harmful (paper clips, water, other fluids, etc.) falls into the printer, turn the power switch OFF (O) immediately. Next, remove the power plug from the outlet to avoid the danger of fire or electrical shock. Then contact your service representative. 
- DO NOT remove or connect the power plug with wet hands, as there is a danger of electrical shock. 

- ALWAYS contact your service representative for maintenance or repair of internal parts. 

CAUTION

- DO NOT pull the power cord when removing it from the outlet. If the power cord is pulled, the wires may become broken and there is a danger of fire or electrical shock. (ALWAYS grasp the power plug when removing the power cord from the outlet.) 
- ALWAYS remove the power plug from the outlet when moving the printer. If the power cord is damaged, there is a danger of fire or electrical shock. 
- If the printer will not be used for a short period of time (overnight, etc.), turn the power switch OFF (O). If it will not be used for an extended period of time (vacations, etc.), remove the power plug from the outlet for safety purposes during the time the printer is not in use. 
- For safety purposes. ALWAYS remove the power plug from the outlet when performing cleaning operations. 
- If dust accumulates within the printer, there is a danger of fire or other trouble. It is therefore recommended that you consult with your service representative in regard to cleaning of internal parts. This is particularly effective if accomplished prior to seasons of high humidity. Consult with your service representative in regard to the cost of cleaning the internal parts of the printer. 

Other Precautions

- DO NOT place heavy objects on the printer or cause other damage to the printer.
- DO NOT open the top cover, turn off the main switch, or pull out the power plug during printing.
- During printing, some ozone is released, but the amount does not cause any ill effect to one's health. If, however, the printer is used over a long period of time in a poorly ventilated room or when printing an extremely large number of copies, the smell may become unpleasant. To maintain the appropriate environment for print work, it is suggested that the room be properly ventilated.
- DO NOT touch electrical parts, such as connectors or printed circuit boards. They could be damaged by static electricity.
- DO NOT attempt to perform any operations not explained in this handbook.
- CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- If the printer will not be used for an extended period of time, remove the paper from the cassette, return it to its original package and reseal it.

Cautions for Toner Handling

⚠ CAUTION

- Do not incinerate toner and toner containers. Dangerous sparks may cause burn.
- Never open the toner container.
- Make sure not to inhale the toner, and not to rub your eyes or touch your mouth with the hands stained with the toner. And make sure not to stick to your skin.
- For the disposal of old toner container, consult your dealer. Or dispose of the toner or toner containers in accordance with Federal, State and Local rules and regulations.
- Keep away the toner container.



For More Information...

Item	Description
Installation Guide (paper manual)	Describes the printer setup procedure.
Quick Reference Guide (paper manual)	Describes common information about the printer such as loading paper, understanding messages, etc.
The following documents are stored in the CD-ROM as PDF documents.	
Operation Guide (this manual)	Guides you through topics concerning the operations and maintenance of the printer.
KX Printer Drivers Operation Guide	Describes how to install and set the printer driver.
PRESCRIBE Command Technical Reference	PRESCRIBE is the native language of the Kyocera Mita printers. This Technical Reference contains the information about how the printing is performed using the PRESCRIBE commands as well as the font and emulation description. Also included is a list of permanent parameters and their explanation needed when customizing your printer.
PRESCRIBE Command Reference	Gives a detailed explanation of the PRESCRIBE command syntax and parameters with the aid of print examples.

Guide to the Operation Guide

This Operation Guide has the following chapters:

Chapter 1 Introduction

This chapter explains printer features and the names of parts.

Chapter 2 Handling Paper

This chapter explains the types of paper that can be used with the printer.

Chapter 3 Using the Operator Panel

This chapter explains the message display, indicators and keys on the operator panel, and how to make various settings from the operator panel.

Chapter 4 Troubleshooting

This chapter explains how to handle printer problems that may occur, such as paper jams.

Chapter 5 Maintenance

This chapter explains how to replace the toner container and how to care for your printer.

Appendix A Options

This appendix introduces the available options to be used with the printer.

Appendix B Computer Interface

This appendix explains the pin assignment and specifications for the printer's parallel interface, USB interface, and serial interface.

Appendix C Technical Specifications

This appendix lists the printer's specifications.

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Chapter 1 Introduction

Welcome to the professional color printer from Kyocera Mita. With the Ecosys Color FS-C5016N, you can print out color or monochrome pages at a speed of 16 pages per minute (A4 size) or 17 pages per minute (Letter and A5 sizes).

1.1 Features

This section outlines the common major printer features of the FS-C5016N Ecosys color page printer.

1.1.1 General

Components with an ultra-long product life

The main printer components such as the Advanced Beam Array, imaging drum, development units, and fuser unit have an ultra-long product life.

USB (Universal Serial Bus) Interface

This printer supports Full-Speed USB 2.0. Connection to a computer with a USB interface gives a higher communication speed than parallel interface connection.

High-speed printing

This printer supports print speeds of up to 16 pages per minute (A4 size) for both color and monochrome printouts. (Actual time varies according to page complexity.)

Superb color printing quality

This printer prints the gray level of 4 bpp (bits per pixel).

Intelligent color calibration system

The intelligent color calibration system automatically optimizes colors every time the printer is powered.

Variety of paper sizes and types

In addition to ordinary paper, you can use print media such as transparencies, labels, and other special papers for printouts.

Sleep mode

Conserves energy while printing is in standby.

1.1.2 Hardware

Advanced Performance Data Processing

A 400 MHz CPU, 96 MB of RAM, and the optional hard disk deliver ideal throughput for wide varying printing applications.

Expansion slot for hardware interfaces

This printer is equipped with an expansion slot for plugging in an optional network interface card or a hard disk.

Standard bidirectional parallel interface

Ensures high-speed data transfer between the host computer and printer.

Memory card slot

You can select and read the data in a memory card set in this slot from the printer operator panel.

Large-capacity paper cassette

The paper cassette can hold approximately 500 sheets of 80 g/m² paper which is 0.1 mm thick. The printer also has a multipurpose tray that can hold approximately 100 sheets of nonstandard size paper. Printed sheets can be stacked in the face-down output tray or an optional face-up output tray.

Displaying printer messages in any of eight languages

Printer messages can be displayed in English, French, German, Italian, Dutch, Spanish, or Portuguese.

1.1.3 Software

e-MPS

'e-MPS' is an abbreviation for 'enhanced-Multiple Printing System,' which is a post-processing function that combines electronic sorting, job retention, and virtual mailboxing.

When printing multiple copies of a document, the data is transferred from the computer to the printer only for the first copy; the data is then stored on the printer's hard disk. Copies of the document are printed using the stored data.

Printing is performed faster with less computer spooling time and less network traffic.

Furthermore, printed data that is stored on the hard disk can be called up using job retention functions, such as Quick Copy etc., allowing you to quickly print additional copies of a document from the printer at any time, without needing to re-spool the document or start up the computer system.

Printer control language PRESCRIBE

The printer uses PRESCRIBE, Kyocera Mita's page printer control language with enhanced color graphics capabilities. The simple commands of PRESCRIBE allow the programmers to easily define pagination and device control.

KPDL3 (Kyocera Printer Description Language 3)

The printer uses KPDL3, Kyocera's implementation of the PostScript page description language Level 3. The printer has 136 fonts that are compatible with Adobe PostScript fonts. (The printer also has 80 PCL fonts.)

PDF417 two-dimensional bar codes

The printer has the built-in two-dimensional stacked bar codes of PDF 417 (Portable Data File 417).

Account Management System

This printer comes equipped with an Account Management System function which records the number of pages printed by each department. The administrator can preset the maximum number of pages that each department will be allowed to print.

1.1.4 Networking

Built-in and external network interfaces

Because the network interface supports TCP/IP, IPX/SPX, NetBEUI and EtherTalk protocols, network printing is possible with various environments including Windows, Macintosh, UNIX and NetWare, etc.

Support for network printer monitor utility (KM-NET VIEWER)

Allows network wide management of printers. See the readme file in the CD-ROM (supplied with the printer) for details.

1.2 Parts and Functions

This section provides explanations and illustrations for you to determine the parts and their functions. Try to be familiar with the names and functions of these parts for correct use and optimal performance.

1.2.1 Front

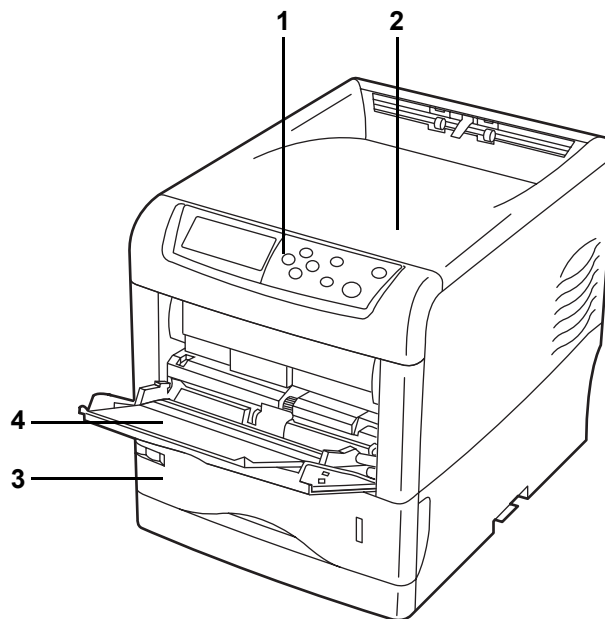


Figure 1-1

- 1 Operator Panel**
Used to specify printer functions and display the printer operating status.
- 2 Top Cover**
When open, this cover gives you access to the internal component for replacing toner containers.
- 3 Paper Cassette**
The cassette holds up to 500 sheets of A5 to Legal sizes (80 g/m²).
- 4 MP (Multi-Purpose) Tray**
The MP tray holds up to 100 sheets of paper (80 g/m²). Transparencies, envelopes, etc. must be fed using this tray.

1.2.2 Left

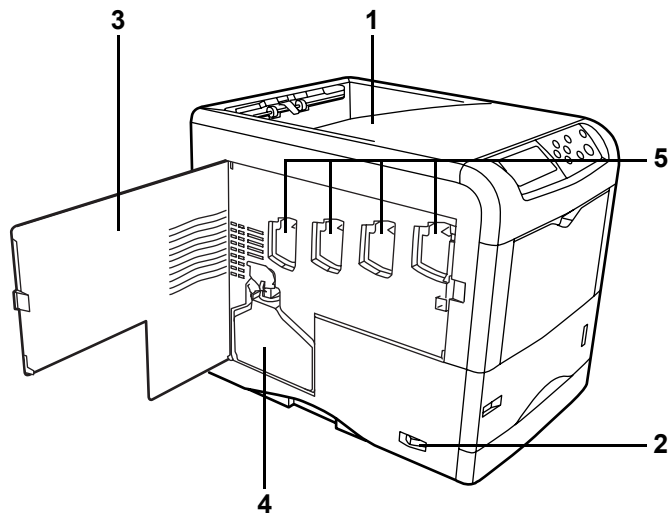


Figure 1-2

- 1 Face-down Tray**
This tray receives printouts face down.
- 2 Power Switch**
This switch turns printer power on and off.
- 3 Left Cover**
This cover needs to be opened when replacing the waste toner box or cleaning the main charger units.
- 4 Waste Toner Box**
This plastic box collects waste toner for later disposal. The box has a cap which is used to seal the box opening when being disposed of.
- 5 Main Charger Units**
The main charger units are electrical components included in each toner container and are used to transfer toner onto the drum unit. Whenever you replace a toner container, be sure to clean the corresponding main charger unit.

1.2.3 Internal

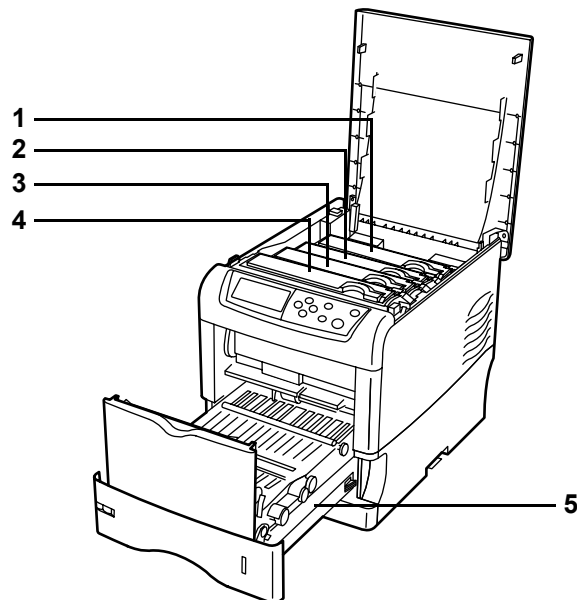


Figure 1-3

1 Magenta Toner Container

This container holds magenta (M) toner. You must replace the container when the toner run out.

2 Cyan Toner Container

This container holds cyan (C) toner. You must replace the container when the toner run out.

3 Yellow Toner Container

This container holds yellow (Y) toner. You must replace the container when the toner run out.

4 Black Toner Container

This container holds black (K) toner. You must replace the container when the toner run out.

5 Paper Transfer Unit

The paper transfer unit feeds paper from the cassette for printing.

1.2.4 Rear

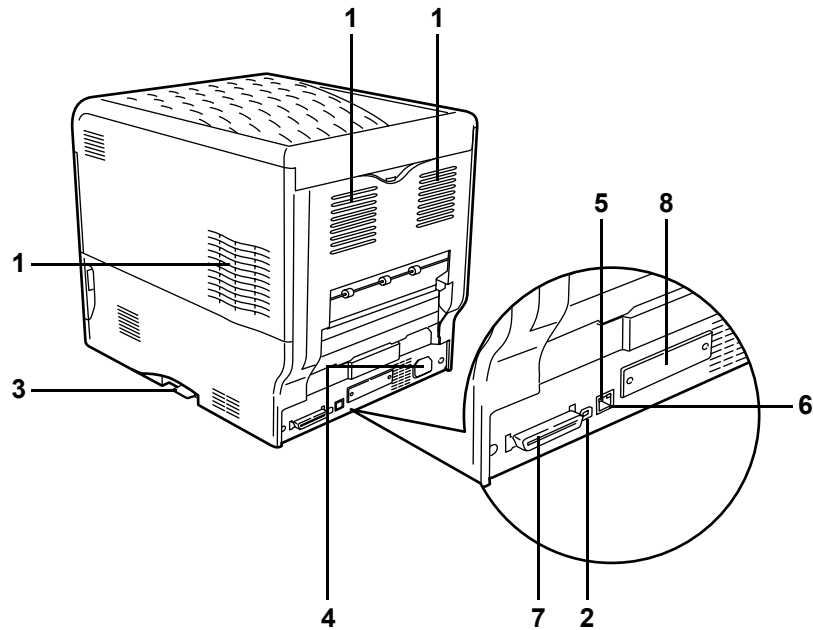


Figure 1-4

1 Vents

Air is purged through these vents to cool down the inside.

2 USB Interface Connector

This connector is a USB interface that conforms to the Full-Speed USB 2.0. Use a USB cable between this connector and the USB port on a computer.

3 Memory Card Slot

This slot receives a memory card. A memory card can hold fonts, macros, forms, etc., that can be downloaded in the printer's memory. For details, see [Appendix A Options, section A.3.1 Memory Card on page A-7](#).

4 Power Cord Connector

This connector accepts the power cord supplied with the printer.

5 Network indicators

These indicators light according to the communication status with the network.

Right: 10BASE-T/100BASE-TX indicator

Lights when you are connected to the network at 10 Mbps or 100 Mbps.

Left: Status indicator

Flashes during data communication.

6 Network Interface Connector

Connects to the network via a 10BASE-T/100BASE-TX network cable.

7 Parallel Interface Connector

This connector is for a standard Centronics parallel interface cable from the computer. Connect this connector to the computer's parallel port.

8 Option Interface Slot (Network/Serial)

This slot can be used to hold the optional network interface card, a hard disk or the serial interface board kit. For details, see [Appendix A Options](#).

Chapter 2 Handling Paper

The printer can use a variety of media in various sizes. However, any media you will choose to use with the printer must be in accordance with the guidelines and specifications in this chapter. Use of paper not satisfying these guidelines and specifications may cause problems such as frequent paper jams, poor quality printing, and possible damage to the printer mechanism.

Even meeting the instructions provided in this chapter, special media such as transparencies, labels, envelopes, non-standard-size paper must be fed directly from the printer's MP (multi-purpose) tray and delivered in the face-up tray in 'straight path' manner. For details on use of MP tray, see [Chapter 3 Using the Operator Panel, section 3.10.1 MP Tray Mode on page 3-68](#).

2.1 General

The Ecosys Color FS-C5016N printer is designed for high-grade bond (copy) paper, like those widely used for ordinary xerographic copiers. The printer will also support other types of paper as long as they meet the standards explained in this chapter.

Selecting the right paper is very important. Use of unsuitable paper can cause paper jams, misfeed, curling, poor print quality, and even worse, printer damage. This chapter shows you how to use your printer in a way that will ensure efficient, error-free printing and minimal printer damage. This practice will increase your office productivity.



Note

Kyocera Mita will not be liable for any problems that may occur if you use paper that does not meet these standards.

2.1.1 Available paper types

The FS-C5016N printer can use almost any type of printer paper. This printer accepts paper used for xerographic copiers as well.

Paper comes in three generic grades: economy, standard, and premium. The grades are determined by how easily the paper can pass through the printer. This depends on the smoothness, size, moisture content, and cutting of the paper. The higher the grade, the less risk of problems (such as paper jams), and higher the print quality.

The differences in paper characteristics of different paper makers also affect the printer performance. High-performance printer can produce high-quality results only when the right types of paper are selected. Low-priced paper is not always economical, especially if it ends up causing frequent printing problems.

Paper of the different grades is available in basis weights (explained later). The recommended basis weights of paper for the printer are 16, 20, and 28 pounds. When expressed in grams per square meter, the recommended basis weights range from 60 to 105 g/m².

2.1.2 Paper specifications

Table 2-1 summarizes the basic paper specifications. Details are given on the subsequent pages.

Item	Values
Weight (basis weight)	Cassette: 60 to 105 g/m ² (16 to 28 lb/ream) MP tray: 60 to 200 g/m ² (16 to 53 lb/ream)
Thickness	0.086 to 0.110 mm (3.4 to 4.3 mils)
Dimensions	See <i>Table 2-3</i> .
Dimensional accuracy	±0.7 mm (±0.0276 inches)
Squareness of corners	90 ±0.2 °
Moisture content	4 to 6 %

Table 2-1

Item	Values
Direction of grain	Long grain
Pulp content	80 % or more

Table 2-1 (Continued)

2.1.3 Minimum and Maximum Paper Sizes

The minimum and maximum paper sizes are as follows. For non standard paper such as cut-sheet, the MP (multi-purpose) tray must be used.

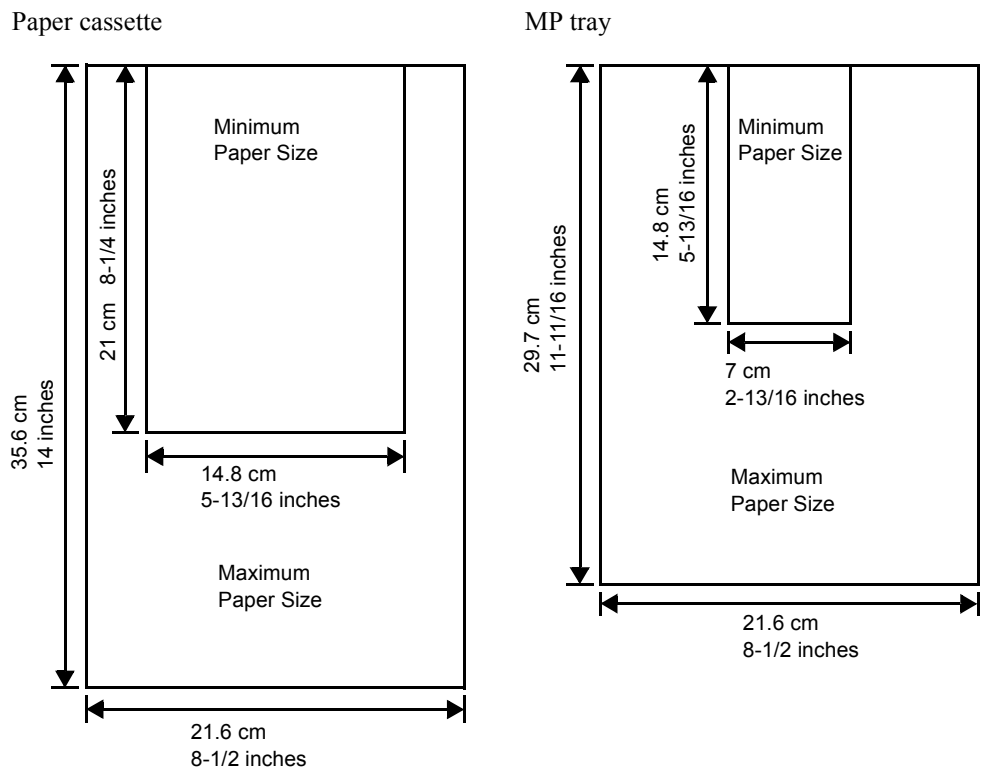


Figure 2-1

2.1.4 Recommended Paper

The following products are recommended for use with the printer for optimum performance.

Size	Product	Weight
Letter, Legal	Hammermill LASER PRINT	90 g/m ² (24 lb)
A4	NEUSIEDLER COLOR COPY	90 g/m ²

Table 2-2

2.2 Selecting the Right Paper

Printer printing is a process involving light, electrostatic discharge, toner, and heat. In addition, as the paper passes through the printer it undergoes considerable sliding, bending, and twisting motions. A high-quality printing paper matching the printer's requirements with-stands all these stresses, enabling the printer to turn out clean, crisp printed copy consistently.

This section describes the major considerations for selecting the right printing paper.

2.2.1 Guidelines

Paper conditions

Do not use paper with folded edges, curls, warps, smudges, tears, or embossing. Also do not use paper containing lint, clay, or paper debris. Using such paper may cause illegible printing, misfeeds, paper jams, etc., and shorten the product life of the printer. Never use paper with surface coating or other surface treatment. The paper surface should be as smooth and even as possible.

Paper composition

Do not use paper with surface-coating or containing plastic or carbon. The heat of fusing causes such paper to emit toxic fumes.

Bond paper should have at least an 80 % pulp content. The percentage of cotton and other fibers should not exceed 20 %.

Paper sizes

Table 2-3 lists the standard paper sizes and dimensions. Note that certain paper sizes are available only for MP tray feeding (as remarked) and face-up tray delivering. For details on using MP tray, see [Chapter 3 Using the Operator Panel, section 3.10.1 MP Tray Mode on page 3-68](#).

The dimensional tolerances for these paper sizes are ± 0.7 mm (± 0.0276 inches) for both length and width of paper. The corner angles must be $90 \pm 0.2^\circ$.

MP tray	Size	Cassette or MP tray	Size
Monarch	3-7/8 × 7-1/2 inches	Legal†	8-1/2 × 14 inches
Business	4-1/8 × 9-1/2 inches	Letter	8-1/2 × 11 inches
ISO A6	10.5 × 14.8 cm	ISO A4	21 × 29.7 cm
ISO DL	11 × 22 cm	ISO A5	14.8 × 21 cm
Commercial 9	3-7/8 × 8-7/8 inches	ISO C5	16.2 × 22.9 cm
Commercial 6-3/4	3-5/8 × 6-1/2 inches	ISO B5	17.6 × 25 cm
JIS B6	12.8 × 18.2 cm	JIS B5	18.2 × 25.7 cm
Statement	5-1/2 × 8-1/2 inches	Executive	7-1/4 × 10-1/2 inches

Table 2-3

MP tray	Size	Cassette or MP tray	Size
Hagaki	10 × 14.8 cm	Oficio II	8-1/2 × 13 inches
Ofuku-Hagaki	14.8 × 20 cm	Folio	21 × 33 cm
Youkei 2	11.4 × 16.2 cm	16 kai	19.7 cm × 27.3 cm
Youkei 4	10.5 × 23.5 cm		
Custom	Cassette: 14.8 to 21.6 cm × 21 to 35.6 cm (5-13/16 to 8-1/2 inches × 8-1/4 to 14 inches) MP tray: 7 to 21.6 cm × 14.8 to 29.7 cm (2-13/16 to 8-1/2 inches × 5-13/16 to 11-11/16 inches)		

Table 2-3 (Continued)

† Only with the paper cassette feeding

2.2.2 Paper properties

Smoothness

Paper should have a smooth, uncoated surface. Paper with a rough or sandy surface can cause gaps in printouts. However, paper with surfaces that are too smooth may cause multiple-sheet feeding and fogging problems (fogging is a gray background effect).

Basis weights

Basis weight is the weight in pounds of 500 sheets (called a ream) of paper cut to the basic size, which is 17 × 22 inches. The number of sheets in a ream and the basic paper size relating to basis weights depend on paper classifications. In the metric system, the basis weight is expressed in grams per square meter (g/m²).

Paper that is too heavy or too light may cause misfeeds, jams, and premature wear of printer parts. Uneven weight of paper can cause multiple-sheet feeding, print defects, poor toner fusing, blurring, and other print quality problems. The recommended basis weights for this printer are between 60 and 105 g/m² (16 to 28 lb per ream).

Paper Weight Equivalence Table

The paper weight is listed with expression in U.S. bond weight (lb) and European metric (g/m²). The shaded part indicates the standard weight.

U. S. Bond Weight (lb)	Europe Metric Weight (g/m ²)
16	60
17	64
20	75
21	80
22	81
24	90
27	100

Table 2-4

U. S. Bond Weight (lb)	Europe Metric Weight (g/m²)
28	105
32	120
34	128
36	135
39	148
42	157
43	163
47	176
53	199

Table 2-4 (Continued)**Thickness (Caliper)**

Thick paper is called high-caliper paper and thin paper is called low-caliper paper. Paper used by the printer should be neither too thick nor too thin. If you encounter paper jam, multiple-sheet feed, or too light printing problems, the paper may be too thin. If you encounter paper jam or too heavy printing problems, the paper may be too thick. The recommended thickness of a sheet for this printer is between 0.086 and 0.110 mm (from 3.4 to 4.3 mils).

Moisture content

Moisture content is the percentage of the weight of water in paper. Moisture affects the appearance, feeding, curling, electrostatic properties, toner fusing of the paper.

The moisture content of paper varies with the relative humidity in the room. If the room is too humid, paper will absorb more moisture. The edges will swell and the paper will become wavy. If the room is too dry and the paper loses moisture, the edges shrink and tighten, and the print contrast may be degraded.

Wavy or tight edges can cause paper misfeeds and misalignments. The recommended moisture content is between 4 and 6 %.

To maintain the correct moisture content level, store the paper in an environment that allows moisture control. These are tips for moisture control:

- Store paper in a cool, dry place.
- Leave packages of paper wrapped as long as possible. Rewrap unused paper.
- Return paper to its paper carton, whenever possible. Place the cartons on a pallet or other furniture so that they are not in direct contact with the floor.
- Before using paper stored for an extended period of time, condition it in the printer's environment for at least 48 hours.
- Do not expose paper to heat, direct sunlight, or damp.

Grain

Technically, grain is the direction of paper in the paper machine. Grain is parallel with the direction of movement in the paper machine. Grain long means that the grain runs along the length of the sheet, and grain short means that the grain runs along the width of the sheet. Because grain short causes paper feed problems, always select grain long for the printer.

2.2.3 Other properties of paper

Porosity

The density of paper structure, which indicates the compactness of the fiber bonding. It is also the characteristic that allows air to pass through paper (i.e., air permeability).

Stiffness

The ability of paper to resist deformation under stress. In the printer, limp paper can buckle and too stiff paper can bind. Both conditions result in paper jams.

Curl

Most paper naturally tends to curl one way. To produce flat printouts, load the paper sheets so that the upward pressure from the printer can correct their curling. When loading paper, it is also important to distinguish between the front side and backside of the paper. Be sure to follow the paper loading instructions printed on the paper carton.

Electrostatic discharge

During the printing process, paper is given an electrostatic charge to attract the toner. Therefore, the paper must discharge the static electricity so that the printouts do not stick to each other in the output tray.

Whiteness

The contrast of printed images depends on the whiteness of the paper. Whiter paper produces sharper and clearer images.

Quality control

Uneven paper sizes, corners that are not square, jagged paper edges, irregularly cut sheets, torn edges and corners, etc. can cause various printer troubles. Before purchasing paper, find out whether the paper store always takes measures to prevent such problems in its products.

Packaging

Paper sheets should be shipped in strong cartons to protect them from damage during transportation. Before purchasing paper, make sure the store ships its products in proper packages.

2.3 Loading Paper

The following explains the procedure for loading paper in the cassette and the MP tray.



Fan the media (paper/transparencies), then tap it on a level surface to avoid media jams or skewed printing.

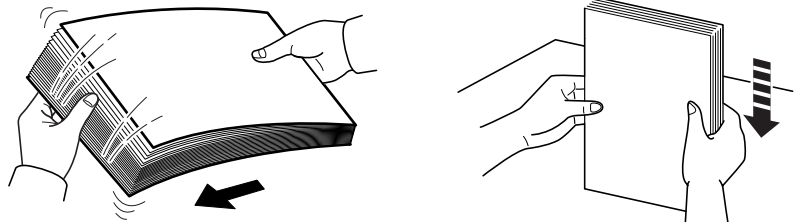


Figure 2-2

2.3.1 Loading Paper into the Cassette

Perform the following procedure to load paper into the cassette.

- 1** Pull the paper cassette all the way out of the printer.

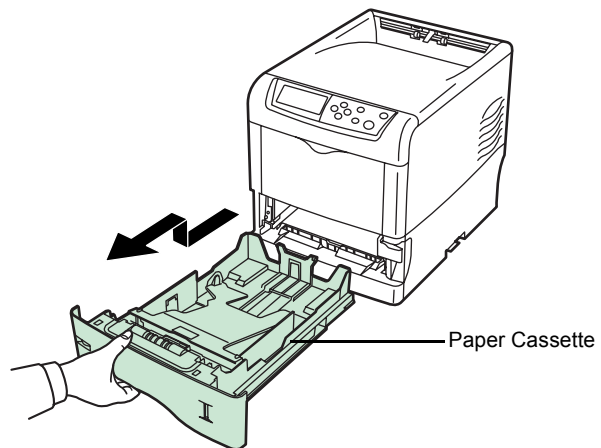


Figure 2-3

2 Push the bottom plate down until it locks.

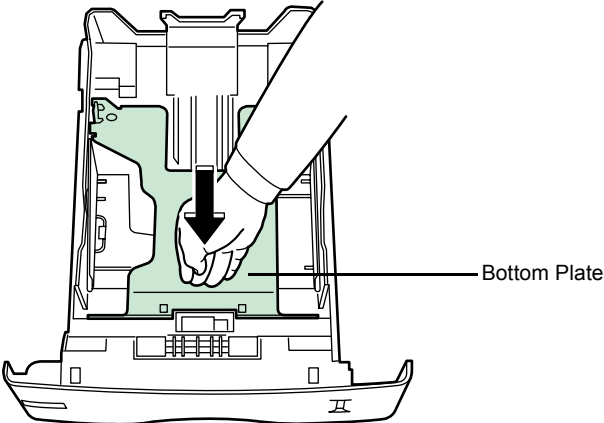


Figure 2-4

Standard paper sizes are attached to the inside of the paper cassette as shown in the following figure.

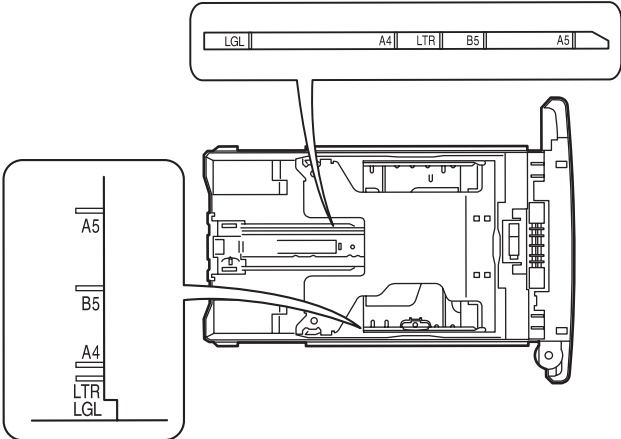


Figure 2-5

- 3 Turn the paper size dial so that the size of the paper you are going to use appears in the paper size window.

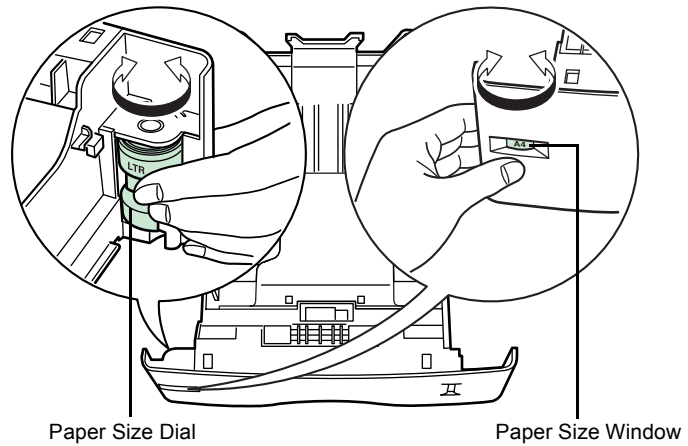


Figure 2-6



When the paper size dial is set to OTHER the paper size must be set into the printer on the operator panel. See [Chapter 3 Using the Operator Panel, section 3.10.4 Setting the Cassette Paper Size on page 3-72](#).

- 4 Adjust the position of the paper guides located on the left and right sides of the paper cassette. Pull the release lever on the left side guide and slide to the desired paper size.

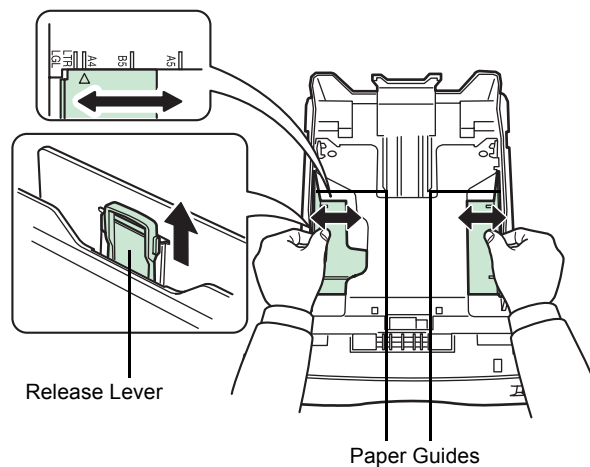


Figure 2-7

- 5** Adjust the position of the paper stopper located at the rear of the paper cassette. Pull the release lever and slide the paper stopper to the desired paper size. When shipped from the factory, the paper cassette is set to A4 size.

When using non-standard size paper, move the paper guides and paper stopper all the way out, insert the paper, then adjust the paper guides and paper stopper to the size of the paper. Adjust them so that they are in light contact with the paper.

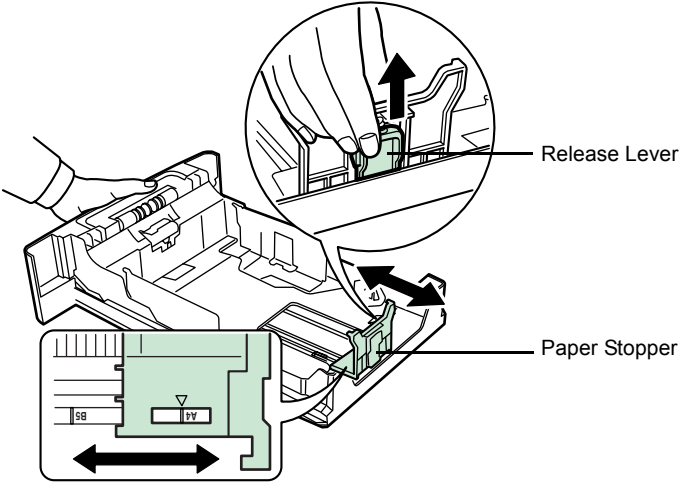


Figure 2-8

- 6** Slide the paper into the paper cassette.

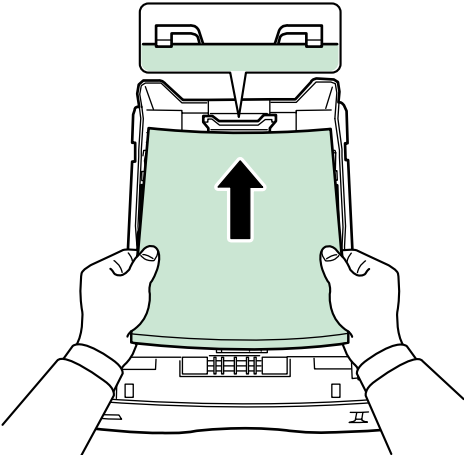


Figure 2-9



Note

- Do not load more paper than will fit under the load limits on the paper guides.
- The paper cassette will hold approximately 500 sheets of paper with a 80 g/m² (21 lb.) basis weight, or with a thickness of 0.11 mm.

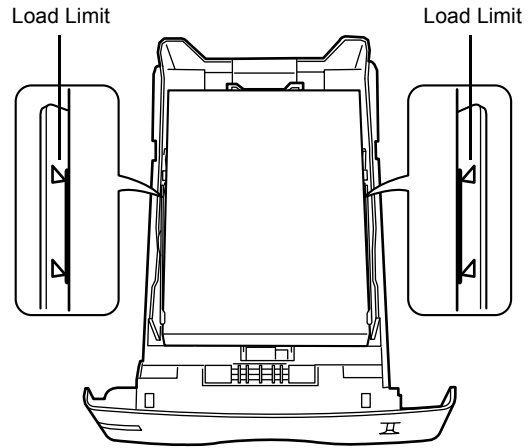


Figure 2-10

- 7** Set the stack of paper so that it is under the clips as shown.

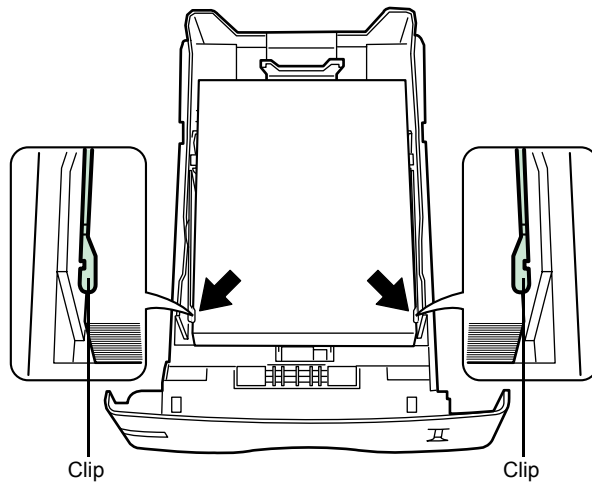


Figure 2-11

- 8 Insert the paper cassette into the slot in the printer. Push it straight in as far as it will go.

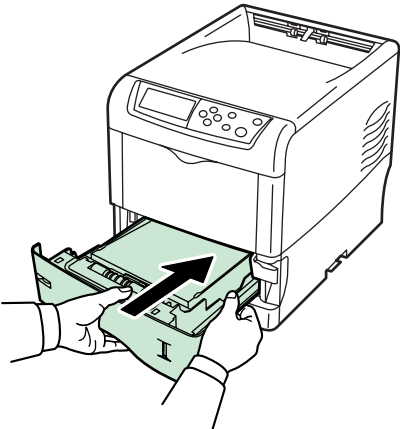



Figure 2-12

There is a paper gauge on the right side of the front of the paper cassette to indicate the remaining paper supply. When paper is exhausted, the pointer will go down to the level of  (empty).

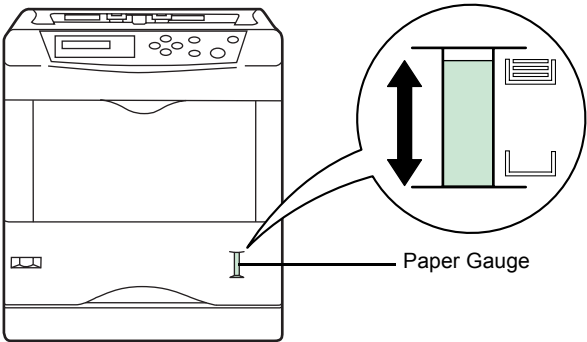


Figure 2-13

2.3.2 Loading Paper into the MP (Multi-Purpose) Tray

Perform the following procedure to load paper into the MP tray.

- 1** Pull the MP tray towards you until it stops.

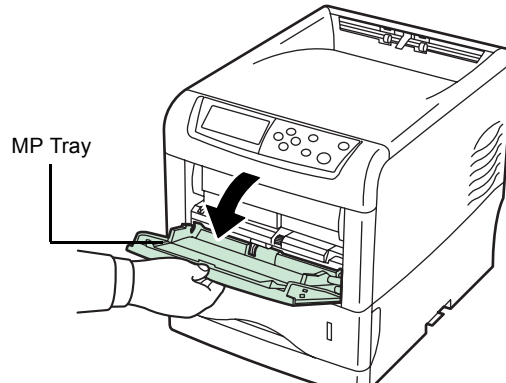


Figure 2-14

- 2** Pull out the subtray.

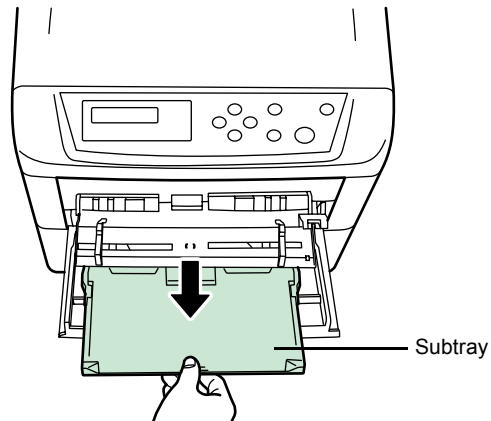


Figure 2-15

- 3** Adjust the position of the paper guides on the MP tray. Standard paper sizes are attached to the MP tray. For standard paper sizes, slide the guides to the position marked correspondingly.

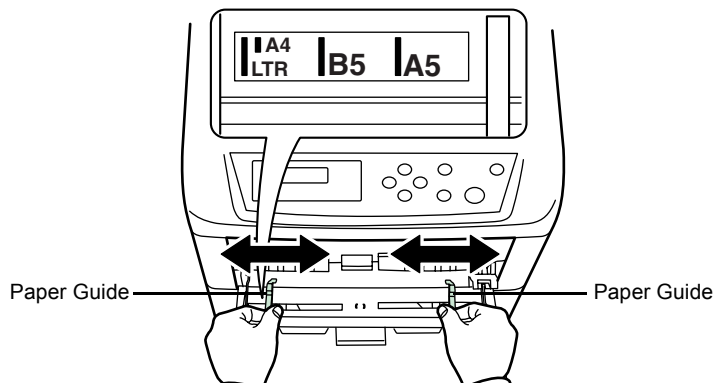


Figure 2-16

4 Align the paper with the paper guides and insert as far as it will go.

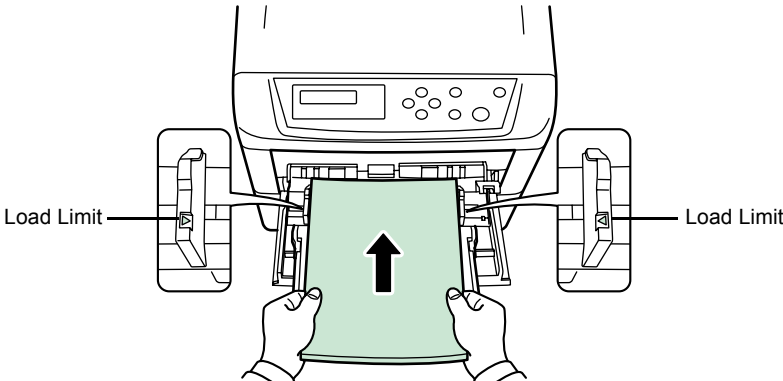


Figure 2-17



Note

- Do not load more paper than will fit under the load limits on the inside of the MP tray.
- If the paper is considerably curled in one direction, for example, if the paper is already printed on one side, try to roll the paper in the opposite direction to counteract the curl. Printed sheets will then come out flat.

Collect		
Incollect		

5 Set the MP tray paper size on the printer's operator panel. Refer to *Chapter 3 Using the Operator Panel, section 3.10.2 Setting MP Tray Paper Size on page 3-69.*

2.4 Special Paper

Besides plain paper, this printer can use the following types of special paper:

Paper type to be used	Paper type to be selected
Thin paper (60 to 64 g/m ²)	Vellum
Thick paper (90 to 200 g/m ²)	Thick
Colored paper	Color
Recycled paper	Recycle
Overhead projector transparencies	Transparency
Postcards	Cardstock
Envelopes	Envelope
Label	Labels

Table 2-5

You can assign one of these special paper type to a paper cassette or MP (multi-purpose) tray by using the printer's operator panel keys. Then, the printer can automatically select the paper cassette or multi-purpose tray to feed the special paper from and internally adjust the electrical parameters for optimum printing performance according to the special paper type. For details, see [Chapter 3 Using the Operator Panel, section 3.10.5 Setting the Cassette Paper Type on page 3-76](#).

Note that some types of special paper do not allow feeding from the paper feeder cassette.

2.4.1 Selecting the Special Paper

Since special paper differs significantly in paper composition and quality, special paper is more likely to cause problems than white bond paper during printing. When using special paper, be sure that they are manufactured for photocopiers and/or page printers.

Before purchasing any special paper, make a test print using the printer and check whether the results are satisfactory.



Kyocera Mita shall not be liable for any danger to a person or machine that is caused by using special paper (e.g., fumes emitted from the special paper).

To avoid problems, stack transparencies, labels, postcards, envelopes, or thick paper on the face-up tray (option).

Major considerations for each type of special paper are given below.

Transparency

Transparencies for overhead projectors must withstand the heat of fusing during the printing process. The recommended transparency product is as follows:

3M CG3700 (Letter, A4)

Transparencies must be placed on the MP (multi-purpose) tray with the long edge towards the printer. To avoid problems, stack transparencies face up on the face-up tray.

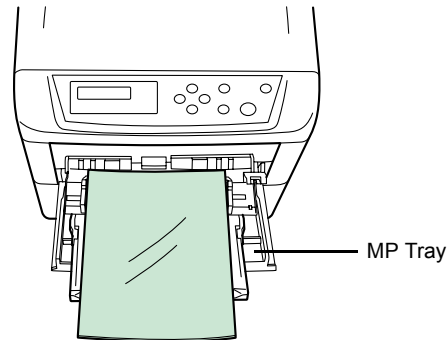


Figure 2-18

When unloading transparencies (e.g., for clearing jams), hold them carefully by the edges to avoid leaving fingerprints on them.

Adhesive-backed labels

Label paper must be fed manually.

For printing on labels, use extreme care so that the adhesive may not come in direct contact with any part of the printer. Adhesives that stick to the drum or rollers will cause printer damage.

Labels consist of three parts. Printing is done onto the top sheet (also called the face sheet). The adhesive contains chemicals. The carrier sheet (also called the backing paper or liner) bears the top sheet. This composition of labels can cause more problems than other print forms during printing.

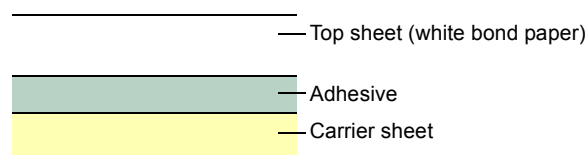


Figure 2-19

When using label paper, do not leave gaps between the arranged labels (i.e., top sheets). Labels arranged with gaps in-between can easily be peeled off during printing, causing serious jam problems.

When the label paper has extra margin around the label's outside edges that correspond to the margins of the printable area, do not remove the extra top sheet from the carrier sheet until printing is finished.

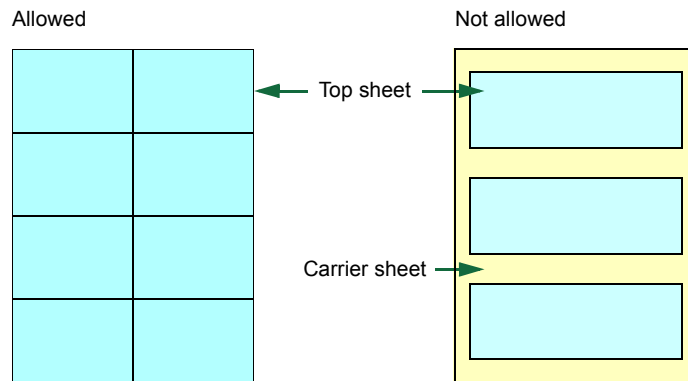


Figure 2-20

When selecting labels, make sure to use only those meeting the following requirements:

Item	Value
Top sheet weight	44 to 74 g/m ² (12 to 20 lb)
Total weight	104 to 151 g/m ² (28 to 40 lb)
Top sheet thickness	0.086 to 0.107 mm (3.9 to 4.2 mils)
Total thickness	0.115 to 0.145 mm (4.5 to 5.7 mils)
Moisture content	4 to 6 % (composite)

Table 2-6

Postcards

Fan the stack of postcards and align the edges before loading them in the MP tray. Make sure the postcards you are going to set are not curled. Feeding curled postcards may cause paper jams.

Some postcards have rough edges on the back (those are created when the paper is cut). In this case, put the postcards on a flat place and rub the edges with, for example, a ruler to smooth them.

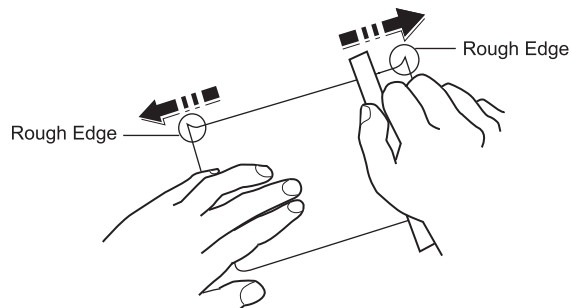


Figure 2-21

Envelopes

Envelopes should be fed in the face-up position, right edge first.

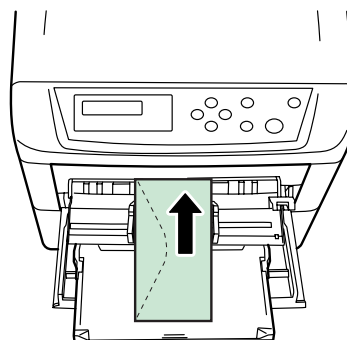


Figure 2-22

Since the composition of an envelope is more complex than that of ordinary paper, it is not always possible to ensure consistent printing quality over the entire envelope surface.

Normally, envelopes have a diagonal grain direction. See section [Grain on page 2-6](#). This direction can easily cause wrinkles and creases when envelopes pass through the printer. Before purchasing envelopes, make a test print to check whether the printer accepts the envelope.

Other handling cautions follow:

- Do not use envelopes that have an encapsulated liquid adhesive.
- Avoid a long printing session for envelopes only. Extended envelope printing can cause premature printer wear.
- If jams do tend to occur, try setting a lesser number of envelopes on the MP tray.
- To avoid jams caused by curled envelopes, stack the printed envelopes no higher than 10 on the output tray.

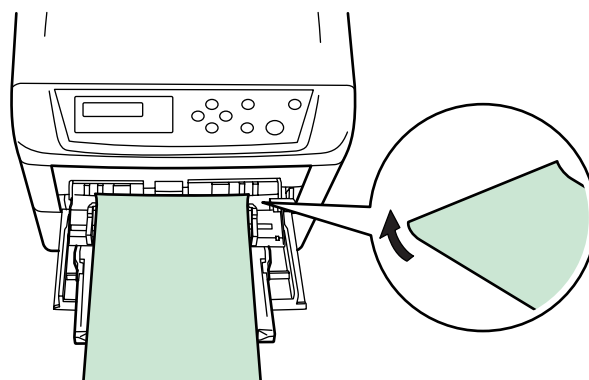
Thick Paper

Fan the stack of paper and align the edges before loading them in the MP tray. Some types of paper have rough edges on the back (those are created when the paper is cut). In this case, put the paper on a flat place and rub the edges once or twice with, for example, a ruler to smooth them in the same way as described in [Postcards on page 2-18](#). Feeding rough edged paper may cause paper jams.



Note

If the paper jams even after you smooth it out in such a way, set the paper in the MP tray with the leading edge raised up a few millimeters as shown in the illustration.



Colored paper

Colored paper should have the same specifications as the white bond paper listed. In addition, the pigments in the paper must be able to withstand the heat of fusing during the printing process (up to 200 °C or 392 °F).

Pre-printed paper

Pre-printed paper should basically be bond paper. The inks on the paper must be able to withstand the heat of fusing during the printing process and must not be adversely affected by silicon oil. Do not use paper with any kind of coating, such as calendar stock.

Recycled paper

Select recycled paper that has the same specifications as white bond paper. See [Table 2-1 on page 2-2](#). Recycled paper, however, does not have to be as white as white bond paper.



Note

Before purchasing recycled paper, make a test using the printer and check whether the print quality is satisfactory.

2.5 Paper Type

The printer is capable of printing under the optimum setting for the type of paper being used.

Setting the paper type for the paper source from the printer's operator panel will cause the printer to automatically select the paper source and print in the mode best suited to that type of paper.

A different paper type setting can be made for each paper source including the MP tray. Not only can preset paper types be selected, but it is also possible for you to define and select customized paper types. See *Chapter 3 Using the Operator Panel, section 3.10.9 Creating Custom Paper Type on page 3-81*.

The following types of paper can be set.

Paper Type	Paper source			
	MP tray	Paper Cassette	Paper Weight	Duplex path (MP tray available only in Cassette mode)
Plain	Yes	Yes	Normal 2	Yes
Transparency	Yes	No	Extra Heavy	No
Preprinted	Yes	Yes	Normal 2	Yes
Labels	Yes	No	Heavy 1	No
Bond	Yes	Yes	Normal 2	Yes
Recycled	Yes	Yes	Normal 2	Yes
Vellum	Yes	No	Light	No
Rough	Yes	Yes	Normal 2	Yes
Letterhead	Yes	Yes	Normal 2	Yes
Color	Yes	Yes	Normal 2	Yes
Prepunched	Yes	Yes	Normal 2	Yes
Envelope	Yes	No	Heavy 1	No
Cardstock	Yes	No	Heavy 2	No
Coated	Yes	No	Normal 2	No
Thick	Yes	No	Heavy 1	No
High quality	Yes	Yes	Normal 2	Yes
Custom 1 (to 8) [†]	Yes	Yes	Normal 2	Yes

Yes: Can be stored No: Cannot be stored

Table 2-7

[†] This is a paper type defined and registered by the user. Up to eight types of user settings may be defined. For details on *Chapter 3 Using the Operator Panel, section 3.10.9 Creating Custom Paper Type on page 3-81*.

Chapter 3 Using the Operator Panel

This chapter provides the information you need to configure the Ecosys Color printer. In general you need to use the operator panel only to make default settings. You can make most changes to the printer settings using the printer driver through the application software.



Note

Changes to printer settings made using a software application override changes made using the operator panel.

You can also rely on other printer utilities such as Kyocera Mita PrintMonitor if you need to change settings that are not available on the printer driver. It will allow you remotely access to printer settings. Printer utilities are supplied in the CD-ROM supplied with the printer.

The chapter describes the operator panel in detail, including its menus and the procedures for changing various printer settings.

3.1 Understanding the Operator Panel

The operator panel on the top of the printer has a 2-line by 16-character liquid crystal display (LCD), eight keys, and three indicators (LED).

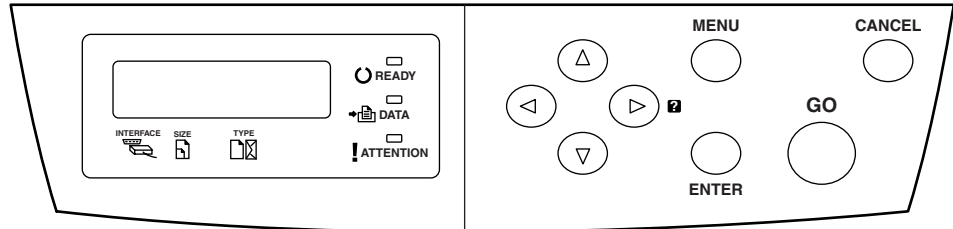


Figure 3-1

Messages that appear on the display and functions of indicators and keys are explained in the sections that follow.

3.1.1 Message Display

The message display on the operator panel shows:

- Status information, the ten messages listed below which are displayed during normal operation.
- Error codes, when the printer requires the operator’s attention; as explained in [Chapter 4 Troubleshooting](#).

Status Information

Message	Meaning
Self test	The printer is performing self-diagnostics after power-up.
Please wait	The printer is warming up and is not ready. When the printer is switched on for the first time, this message will take several minutes.
Please wait (Adding toner)	Toner is currently being replenished. This message may be displayed during continuous printing of a large volume of pages which require a large amount of toner such as with photographs, etc.
Please wait (Calibrating)	The color calibration function is being performed automatically as you powered on the printer. You can also execute this function manually on the operator panel. For details, see section 3.13.13 Color Calibration on page 3-104 .
Ready	The printer is ready to print.
Processing	The printer is receiving data to print. This is also shown when the printer is reading a memory card, hard disk or RAM disk.

Table 3-1

Message	Meaning
Sleeping	The printer is in sleep mode. The printer wakes from sleep mode whenever a key on the operator panel is pressed, the cover is opened or closed, or a print job is received. The printer then warms up and goes on-line. For details on sleep mode, see <i>Sleep Timer Timeout Time on page 3-92</i> .
Cancelling data	Jobs inside the printer are being canceled. To cancel a job, see <i>section 3.1.3 Keys on page 3-6</i> .
Waiting	The printer is waiting for the rest of print job before completing the last page. Pressing the GO key allows you to obtain the last page immediately. See below.
FormFeed TimeOut	The printer is printing the last page after a waiting period.

Table 3-1 (Continued)

Error codes

See *Chapter 4 Troubleshooting*.

3.1.2 Indicators in Message Display

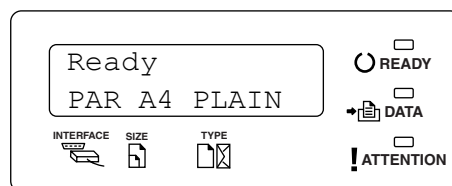


Figure 3-2

Interface Indicator (INTERFACE)

The interface indicator shows the interface that is currently in use:

PAR	Parallel interface is in use.
USB	USB interface is in use.
SER	Serial (RS-232C) interface is in use. (option)
NET	Network interface is in use.
OPT	Network interface is in use. (option)
---	No interface is in use.

Each interface has a timeout time of 30 seconds during which the other interface should wait to receive a print job. Even a print job has been complete on the interface, you should wait for this period until the other interface begins printing the job.

Paper Size Indicator (SIZE)

This indicator indicates:

- While the printer is in standby, the paper size of the current cassette. The default paper cassette is determined by the operator panel keys. For details, see [section 3.10 Paper Handling on page 3-68](#).
- While the printer is printing, the paper size used to format the document to print by the application software.

The abbreviations used to indicate the paper sizes and their dimensions are as follows:

A4	ISO A4 (21 × 29.7 cm)
A5	ISO A5 (14.8 × 21 cm)
A6	ISO A6 (10.5 × 14.8 cm) [†]
B5	JIS B5 (18.2 × 25.6 cm)
B6	JIS B6 (12.8 × 18.2 cm) [†]
LT	Letter (8-1/2 × 11 inches)
LG	Legal (8-1/2 × 14 inches)
MO	Monarch (3-7/8 × 7-1/2 inches) [†]
BU	Business (4-1/8 inches) [†]
DL	ISO DL (11 × 22 cm) [†]
C5	ISO C5 (16.2 × 22.9 cm)
b5	ISO B5 (17.6 × 25 cm)
EX	Executive (7-1/4 × 10-1/2 inches)
#6	Commercial 6-3/4 (3-5/8 × 6-1/2 inches) [†]
#9	Commercial 9 (3-7/8 × 8-7/8 inches) [†]
HA	Japanese Postcard (10 × 14.8 cm) [†]
OH	Return Postcard (20 × 14.8 cm) [†]
O2	Oficio II (8-1/2 × 13 inches)
16K	16 kai (19.7 × 27.3 cm)
ST	Statement (5-1/2 × 8-1/2 inches) [†]
FO	Folio (21 × 33 cm)
Y2	Yokei 2 (11.4 × 16.2 cm) [†]
Y4	Yokei 4 (10.5 × 23.5 cm) [†]
CU	Custom Size (14.8 × 21 cm to 21.6 × 35.6 cm)

[†] Only with MP tray feeding

Paper Type Indicator (TYPE)

This indicator shows the paper type defined for the current paper cassette. The paper type can be manually defined using the operator panel. For more information, see [section 3.10 Paper Handling on page 3-68](#).

The following abbreviations are used:

(none)	Auto	LETTERHEA	Letterhead
PLAIN	Plain paper	COLOR	Colored paper
TRNSPRNCY	Transparency [†]	PREPUNCH	Pre-punched paper
PREPRINTE	Pre-printed paper	ENVELOPE	Envelope [†]
LABELS	Labels [†]	CARDSTOCK	Card stock [†]
BOND	Bond paper	COATED	Coated paper [†]
RECYCLED	Recycled paper	THICK	Thick paper [†]
VELLUM	Vellum [†]	HIGH QUAL	High-quality paper for color printing
ROUGH	Rough paper	CUSTOM1 (to 8)	Custom 1 (to 8)

[†] Only with MP tray feeding

READY, DATA, and ATTENTION Indicators

The following indicators light during normal operation and whenever the printer needs operator's attention. Depending on the status of lighting, each indicator has the following meaning:




Indicator	Description
 READY	<p>Flashing. Indicates an error that you can recover by yourself, such as the loose top cover. For details, see Chapter 4 Troubleshooting, section 4.3 Error Messages on page 4-7.</p> <p>On. Indicates that the printer is ready and on-line. The printer prints the data it receives.</p> <p>Off. Indicates that the printer is off-line. Data can be received but will not be printed until the printer is on-line by pressing the GO key. Also, indicates when printing is automatically stopped due to the occurrence of an error. For details see Chapter 4 Troubleshooting, section 4.3 Error Messages on page 4-7.</p>
 DATA	<p>Flashing. Indicates that a data is being received from the computer.</p> <p>On. Indicates either that data received is being processed before printing starts, or that data received is being written to a memory card, hard disk or RAM disk.</p>
 ATTENTION	<p>Flashing. Indicates that the printer requires maintenance or is warming up.</p> <p>On. Indicates the occurrence of a problem or an error. For details, see Chapter 4 Troubleshooting, section 4.3 Error Messages on page 4-7.</p>

Table 3-2

3.1.3 Keys

The operator panel keys are used to configure the printer operation. Note that certain keys have the secondary function.



The printer has a parallel, serial, and an optional network interface. Configuration to the printer settings made with these keys affect only one of these interfaces that is currently active (indicated by the INTERFACE indicator on the message display). See [Interface Indicator \(INTERFACE\)](#) on page 3-3.

GO Key



The **GO** key switches the printer between on-line and off-line. Use this key to:

- Toggle the printer's on-line and off-line states. You can temporarily stop the print job by switching the printer off-line.
- Print and feed out one page when the printer displays `Waiting`.
- Recover from certain errors.
- Recover from the Sleep mode.

CANCEL Key



This key is used to:

- Cancel a printing job.
- Stop the alarm sound.
- Reset numeric values or cancels a setting procedure while using menu system.

To cancel a printing job:

- 1** While the printer displays `Processing`, press the **CANCEL** key.

`Print Cancel?` appears on the message display followed by the interface which the job to cancel is on. The interface is indicated by one of the following message:

```
Parallel
USB
Network
Serial (option serial interface)
Option (option network interface)
```

- 2** Press the **ENTER** key. `Cancelling data` appears on the message display and printing stops after the current page is printed.

MENU Key

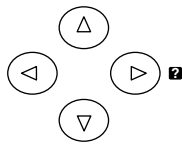
MENU




The **MENU** key lets you enter the menu system to change the setup and printing environment of the printer.

Pressing this key during a menu selection will terminate the selection and return the printer to the normal operation.

Arrow Keys



The four arrow keys are used in the menu system to access a desired item or enter numeric values.

The arrow key with the question mark () may be pressed when the paper jam message has appeared on the message display. Then a help message will appear to facilitate jam clearing in the location.

ENTER Key



ENTER

This key is used to:

- Finalize settings of numeric values and other selections.
- Set the paper source when `Use alternative?` is shown in the message display.



Note

If you hold down the ENTER key and press the MENU key when Ready is shown on this printer, the AdministrationID menu will be displayed. This menu is the setting menu for administration under the Account Management System and is normally not used. Press the MENU key to return to the Ready display.

3.2 Using the Menu Selection System

3.2.1 Menu Selection System

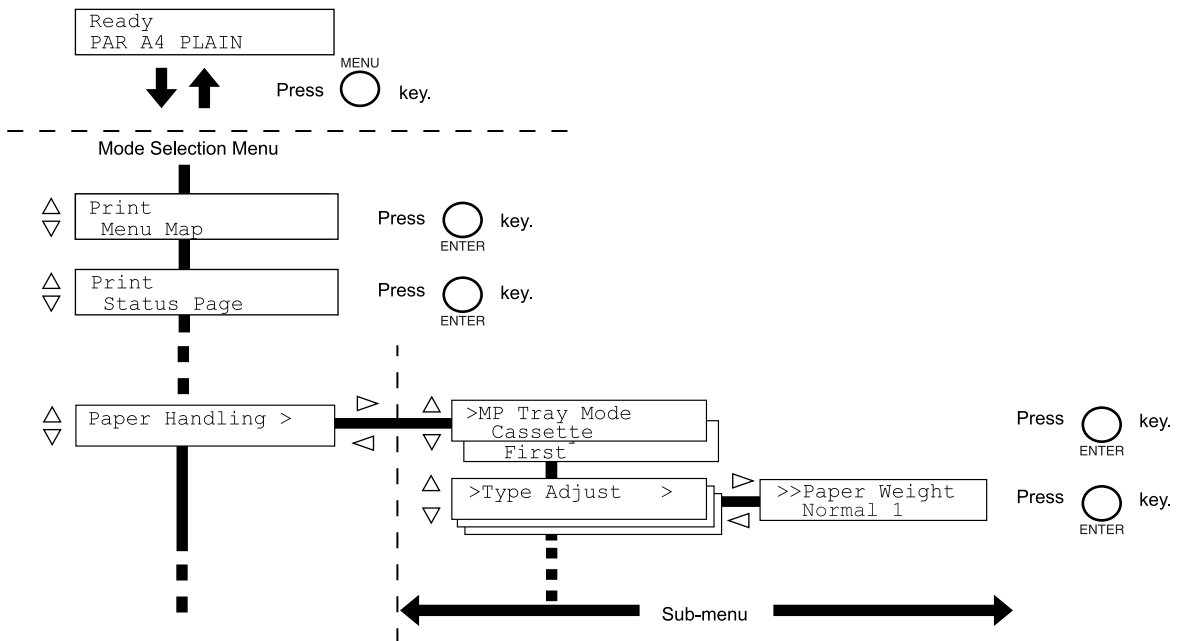
This section explains how to use the menu selection system. The **MENU** key on the operator panel allows you to use the menu to set or change the printer environment such as the number of copies to print, emulation, etc., to your specific needs. Settings can be made when Ready is indicated on the printer message display.

The printer obeys the most recently received printer settings sent from the application software, or from the printer driver, which take priority over operator panel settings.

Entering the Mode Selection Menu

Press the **MENU** key when Ready is indicated on the printer message display.

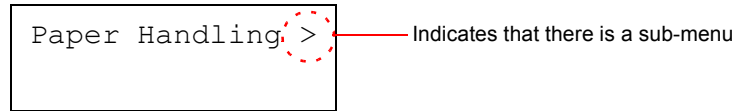
The mode selection menu is displayed.



Selecting a Menu

The mode selection menu is hierarchical. Press the Δ or ∇ key to display the desired menu.

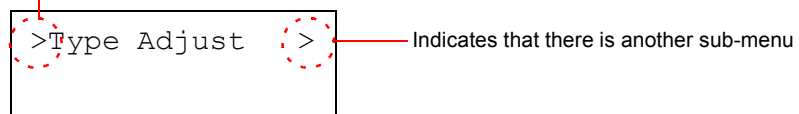
- If the selected menu has a sub-menu, > is displayed after the menu.



Press the \triangleright key to move to the sub-menu or \triangleleft key to go back.

- > is displayed before the sub-menu.

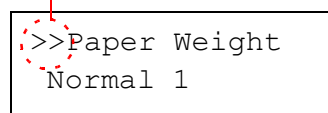
Indicates that this is the sub-menu



Press the \triangleright key to move to another sub-menu or \triangleleft key to go back.

- >> is displayed before the second sub-menu.

Indicates that this is the second sub-menu



Setting a Menu

Select the desired menu and press the **ENTER** key to set or change the configuration.

Press the Δ or ∇ key to display the desired item and the **ENTER** key to finalize the value or selections set.

Cancelling Menu Selection

If you press the **MENU** key when selecting a menu, the message display returns to Ready.



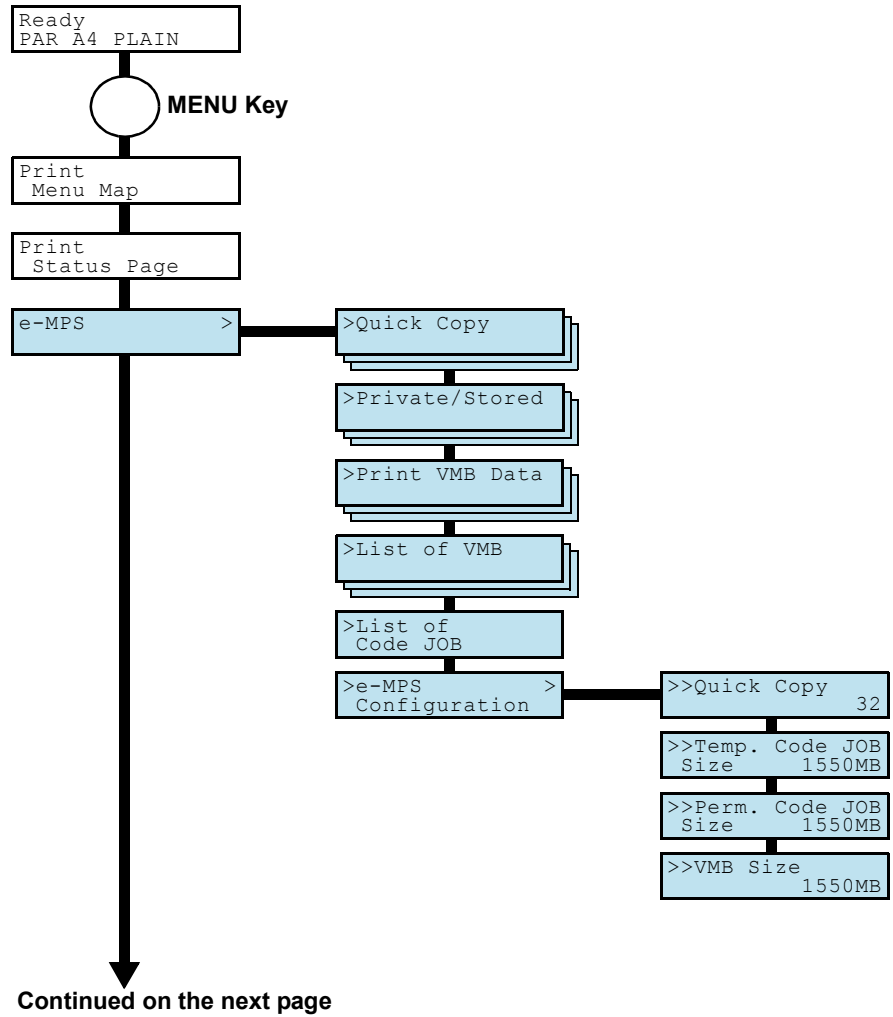
Note

Settings that are received from application software and the printer driver will take priority over settings made in the operator panel.

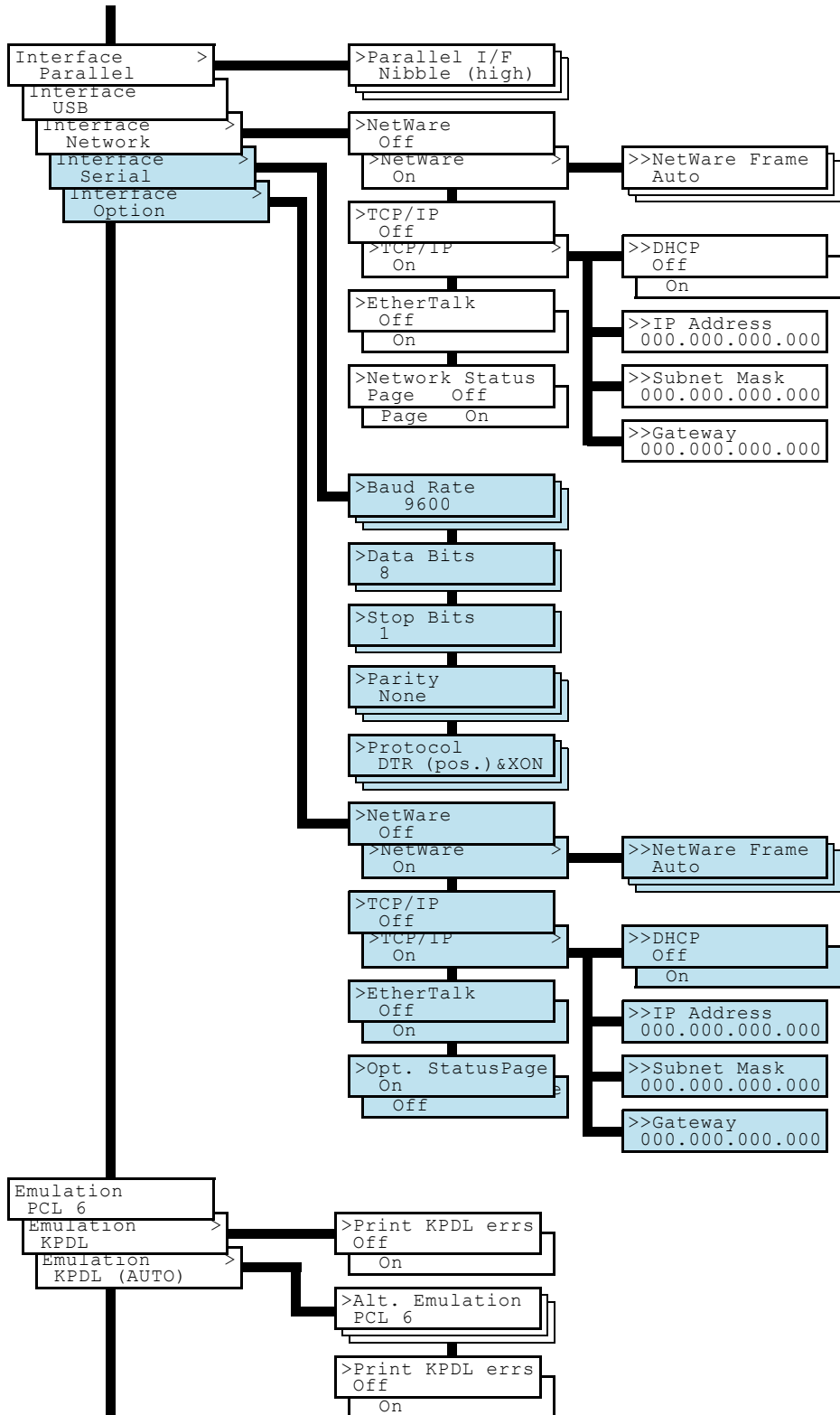
3.2.2 Menu System Road Map

The following is the hierarchy diagram of the menu selection system of the printer.

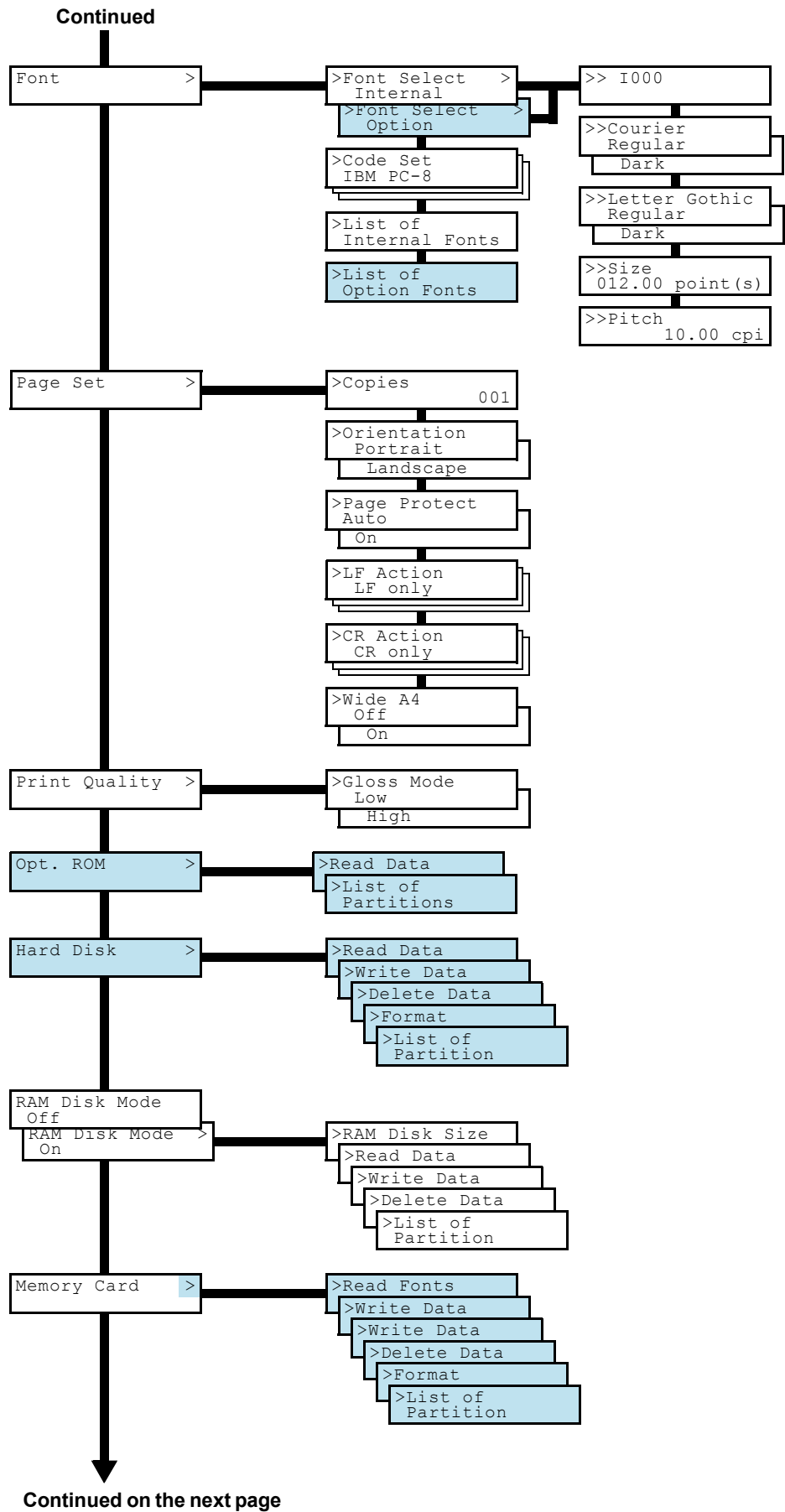
For details about menu selection operations, see [page 3-8](#).



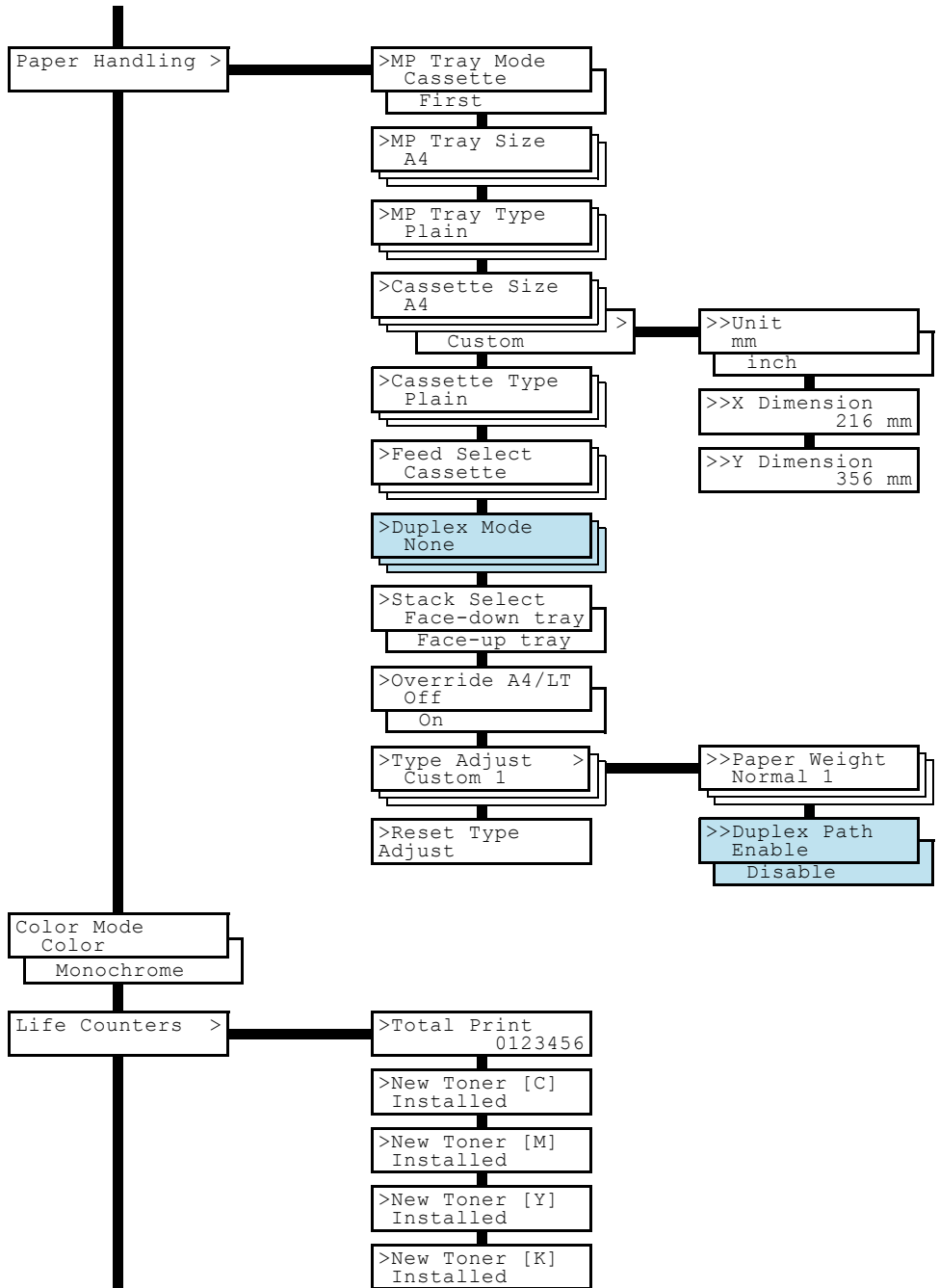
Continued



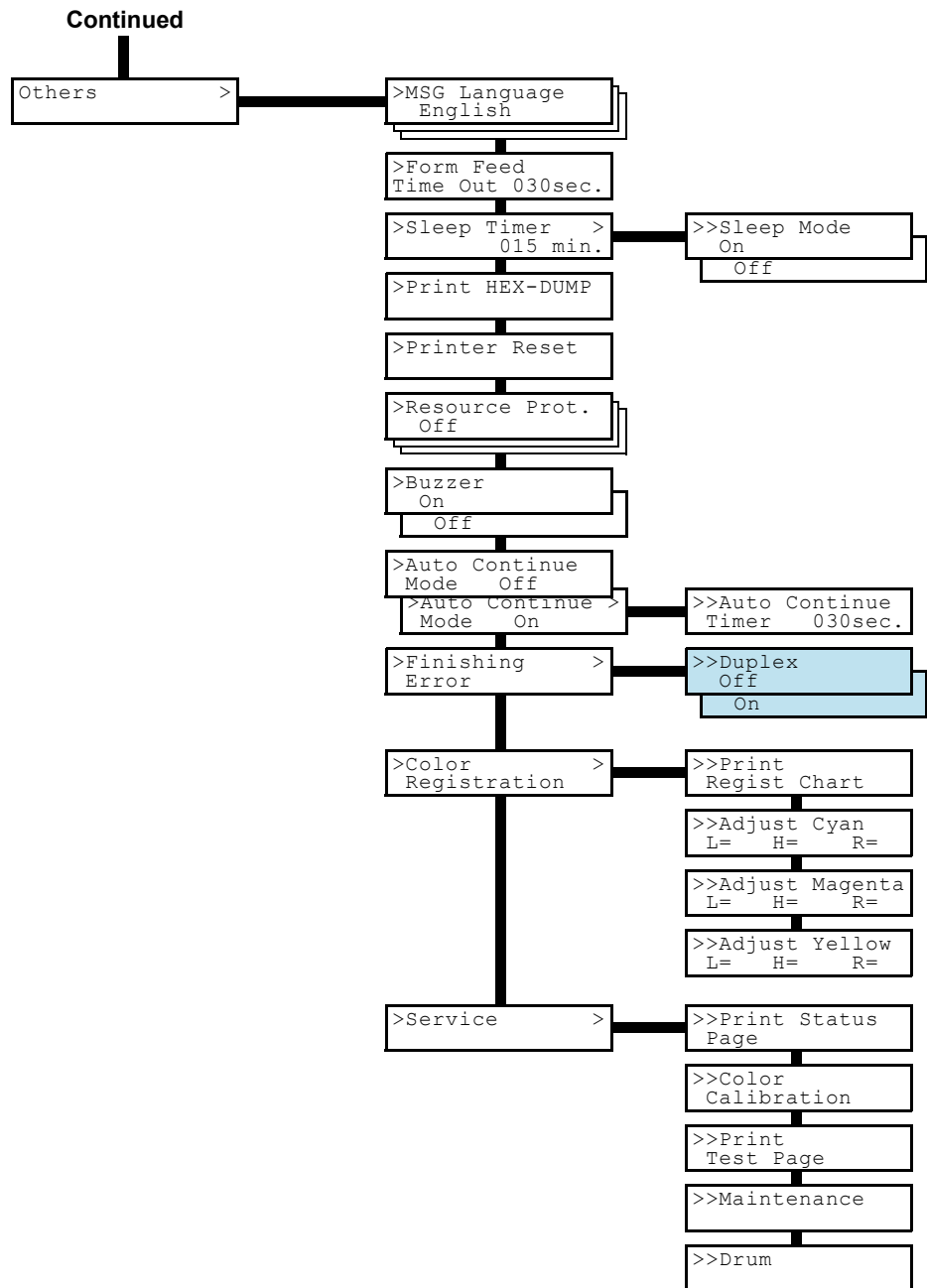
Continued on the next page



Continued



Continued on the next page



3.3 Menu Map and Status Pages

This section explains the procedure for printing the printer's internal information using the menu selection system. The menu map is useful as a reference to guide yourself through the menu selection system.

The status page is a list of parameters and settings for most basic printer configurations. You may be required to produce a status page when requesting service to the printer.

3.3.1 Printing a Menu Map

The printer prints a full list of menu selection system — Menu Map. Note that menus shown in the list may vary depending on which optional units installed in the printer.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Print Menu Map` appears.

```
Print
Menu Map
```

- 3** Press the **ENTER** key. A question mark (?) appears.

```
Print
Menu Map ?
```

- 4** Press the **ENTER** key. The message `Processing` appears and the printer prints a Menu Map.



Figure 3-3

3.3.2 Printing a Status Page

You can check the printer's current status, including available memory space and option settings by printing a status page.

- 1** Press the **MENU** key.
- 2** Press the \triangle or ∇ key repeatedly until `Print Status Page` appears.

```
Print
Status Page
```

- 3** Press the **ENTER** key. A question mark (?) appears.

```
Print
Status Page ?
```

- 4** Press the **ENTER** key again. The message `Processing` appears and the printer prints a status page.

For a sample status page and its full description, see [Understanding the Status Page on page 3-18](#).

Understanding the Status Page

The numbers in the following diagram refer the items explained below the diagram. The items and values on the status page may vary depending on the printer's firmware version.

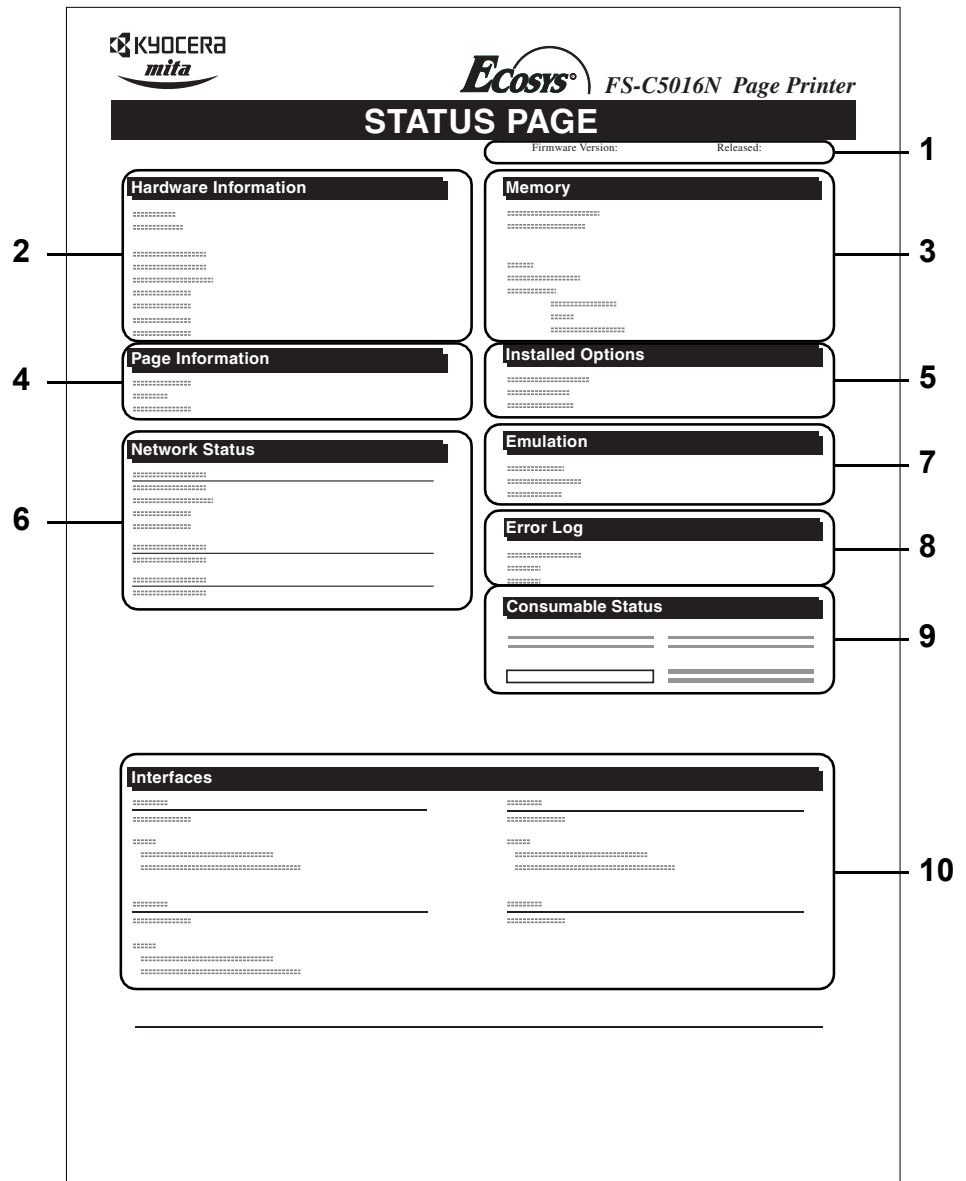


Figure 3-4

1 Software Version

This item shows the version and release date of the printer firmware.

2 Hardware Information

This item shows various printer settings for hardware-related items:

- MP tray paper size and type
- Paper cassette size and type
- Buzzer control
- Host buffer size
- Sleep time timeout time
- Formfeed timeout time

3 Memory

This item shows:

- Standard memory in the printer (96 MB)
- Option memory slot status (Slots 1 and 2) in megabytes
- Total memory in the printer
- Current status of the RAM disk

4 Page Information

This item shows the page related items:

- Number of copies, from 1 to 999
- Total page count

5 Installed Options

This item shows the options installed in the printer:

- Hard disk
- Option ROM
- Memory card

6 Network Status

This item shows the IP address, subnet mask address, and default gateway address for the network interface card in the printer.

7 Emulation

This item shows all available emulations of the printer. The PCL 6 emulation is set as default when the printer is shipped from the factory. The emulations are:

- PCL 6
- KPDL3

8 Error Log

This item shows the last three instances of the following types of errors, listing them in the order of occurrence:

- KPDL (PostScript) errors
- Memory overflow
- Print overrun
- File-not-found

The most recent error is displayed on the topmost line of Error Log. Error information is cleared when the printer is powered off.

The error log information is intended for service purpose.

9 Consumable Status

This item shows the approximate level of remaining toner. When the value is 100, the toner container is full. The closer to 0, the smaller the amount of remaining toner.

10 Interface Information

This information shows the emulation and the default font for all interfaces installed in the printer.

3.4 e-MPS

e-MPS is an abbreviation for ‘enhanced-Multiple Printing System’ which implements the following functions that are available from the printer driver:

- Job Retention
- Job Storage

In either job mode, when printing a document, the print data is transferred from the computer to the printer then stored on the printer’s hard disk. Since copies of the document are printed using the stored data, printing is performed faster with less computer spooling time and less network traffic.



Note

- **To use the e-MPS system, an optional hard disk must be installed in the printer. For details, see [Appendix A Options](#).**
- **The RAM disk may also be used in the Proof-and-Hold and Private Print modes. See [Using the RAM Disk on page 3-66](#) for details on RAM disk setup.**

Job Retention

Job Retention has four modes as summarized below. These modes are selected when you choose on the printer driver through the application software:

	Quick Copy	Proof-and-Hold	Private Print	Stored Job
Primary function	To later print additional copies	To proof the first copy before printing multiple copies	To hold the document in printer to prevent unauthorized access	To electronically store documents such as fax cover pages
Start storing by	Printer driver	Printer driver	Printer driver	Printer driver
On terminating print setting from application software	Prints simultaneously	Prints one copy simultaneously	Does not print	Does not print
Retrieved by	Operator panel	Operator panel	Operator panel	Operator panel
Default number of copies printed at retrieval	Same as storing (can be changed)	One less (can be changed)	Same as storing (can be changed)	One (can be changed)
Maximum number of jobs stored [†]	32, expandable to 50	32, expandable to 50	Depends on the hard disk capacity (Private jobs are deleted automatically once it is retrieved.)	Depends on the hard disk capacity
PIN security	No	No	Yes	Yes (if necessary)
Data after printing	Stored	Stored	Deleted	Stored
Data at power off	Deleted	Deleted	Deleted	Stored
Hard disk required	Yes	No	No	Yes

Table 3-3

[†] Jobs in excess will cause the earlier ones to be deleted.

Job Storage

Job storage stores print jobs either temporarily or permanently, or in virtual mailboxes, as you click an appropriate radio button on the printer driver when printing from a computer.

Virtual Mailbox

Virtual mailbox is part of Job Storage, which stores print jobs on the hard disk without printing. It enables you to retrieve jobs later from the operator panel or the **KM-NET Printer Disk Manager utility** in the CD-ROM.

Each mailbox may be used by an individual who desires to share the printer in this mode. By default, each mailbox is numbered from 'Tray 001,' 'Tray 002,' ... etc. To 'post' a job in one of these mailboxes, you assign a numbered or named mailbox on the printer driver when printing.

To retrieve the stored job for printing, see [Retrieving Jobs from Virtual Mailbox \(VMB\) on page 3-28](#).



Note

The virtual mailbox can be used in PCL 6 emulation only.

3.4.1 Using Quick Copy

This mode enables you to print the requested number of copies of a job, simultaneously storing the job on the hard disk. When additional copies are required, you can reprint the required number of copies from the printer operator panel. To print a job as a quick copy job, see [KX Printer Drivers Operation Guide](#).

The default number of print jobs that can be stored on the hard disk is 32. This value can be increased to up to 50 from the e-MPS Configuration menu. For details, see [Changing the Maximum Number of Quick Copy/Proof-and-Hold Jobs on page 3-30](#). When the number of jobs reaches the limit, the oldest job will be overwritten by the new one.

When the printer is turned off, all stored jobs will be deleted.

Printing Additional Copies using Quick Copy

To print additional copies of a job stored in the printer:

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until e-MPS > appears.

```
e-MPS      >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until >Quick Copy appears followed by the user name (Harold, in this example). The user name is assigned at printing using the printer driver.

```
>Quick Copy
Harold
```

5 Press the **ENTER** key. A blinking question mark (?) appears before the user name.

```
>Quick Copy
?Harold
```

6 Press the Δ or ∇ key to display the desired user name, Arlen, in this example.

```
>Quick Copy
?Arlen
```

7 Press the **ENTER** key. The job name entered in the printer driver (Report, in this example) appear with a blinking question mark (?) before the letters.

```
>Arlen
?Report
```

8 Press the Δ or ∇ key to scroll to the desired job title.

9 Press the **ENTER** key. The number of copies to be printed can be set. To increase the copy count, press the Δ key; to decrease the copy count, press the ∇ key.

```
>Report
Copies      001
```

10 Press the **ENTER** key to finalize the copy count. The printer prints the specified number of copies for the job.

Deleting a Quick Copy Job

All quick copy jobs are automatically deleted when the printer is turned off. If you desire to explicitly delete a stored quick copy job, proceed as follows:

- 1 Follow steps 1 through 8 in the above section to let the title of the job to be deleted displayed.

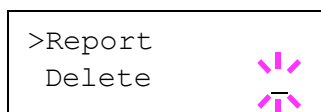
- 2 When the title of the job to be deleted is displayed, e.g. `Report`, below, press the **ENTER** key. The cursor below the copy count starts to blink.

```
>Report
Copies      001
```



- 3 Press the ∇ key repeatedly until `Delete` appears below the title.

```
>Report
Delete
```



- 4 Press the **ENTER** key. The stored quick copy job is deleted.

3.4.2 Using Proof-and-Hold

When you print multiple copies, this mode first prints one copy so that you can proof it before continuing to print the remaining copies. Since you can proof the printouts before printing the remaining copies, wastage of paper can be reduced.

The printer prints one copy and, at the same time, saves the print job on the hard disk/RAM disk. You can also change the number of copies when resuming printing from the operator panel.

When the printer is turned off, all stored jobs will be deleted.

Printing Remaining Copies of a Proof and Hold Job

Printing a Proof-and-Hold job on the operator panel is similar to printing a quick copy job. See *Printing Additional Copies using Quick Copy on page Chapter 3-22*.

3.4.3 Printing a Private Print/Stored Job

In private printing, you can specify that a job is not printed until you release the job from the operator panel. At sending the job from the application software, you can specify a 4-digit access code in the printer driver. The job is released for printing by entering the access code on the operator panel. Thus, this function ensures confidentiality of the print job.

In the stored job mode, access codes are not mandatory, but can be set on the printer driver if printing with the PIN security is required. Then, the access code must be entered on the operator panel to print a stored job. Print data will be stored in the hard disk after printing. See *KX Printer Drivers Operation Guide* for the driver settings.

Releasing a Private/Stored Job

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until e-MPS > appears.

```
e-MPS      >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until >Private/Stored appears. The name entered in the printer driver (Harold, in this example) also appears.

```
>Private/Stored
Harold
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears before the user name.

```
>Private/Stored
?Harold
```

- 6** Press the Δ or ∇ key to display the desired user name (Arlen, in this example).

```
>Private/Stored
?Arlen
```

- 7** Press the **ENTER** key. The user name and the job name (Agenda, in this example) entered in the printer driver appear with a blinking question mark (?).

```
>Arlen
?Agenda
```

- 8** Press the Δ or ∇ key to display the desired job title.

- 9** Press the **ENTER** key. The ID input line appears. Enter the four-digit access code entered in the printer driver and press the **ENTER** key.

```
>Agenda
ID      0000
```



To enter the ID, press the ◀ or ▶ key to move the cursor to the number to be changed and then enter the correct number by pressing the △ or ▽ key.

- 10** You can set the number of copies to be printed. To increase the copy count, press the △ key; to decrease the copy count, press the ▽ key.

```
>Agenda
Copies  001
```



- 11** Press the **ENTER** key to finalize the copy count. The printer prints the specified number of copies for the job.

Deleting a Private/Stored Job

You can individually delete stored jobs by performing the following procedure. Jobs saved using Private Print will be automatically deleted if you turn the power off after printing, but jobs saved using Stored Job will not be deleted automatically.

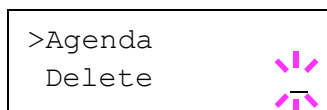
- 1** Follow steps 1 through 8 in the above section.
- 2** When the title of the job to be printed is displayed (Agenda, in this example), press the **ENTER** key. Enter the four-digit access code entered in the printer driver and press the **ENTER** key.

```
>Agenda
Copies  001
```



- 3** Press the ▽ key repeatedly until Delete appears for the number of copies.

```
>Agenda
Delete
```



- 4** Press the **ENTER** key. The private job is deleted from the hard disk.

Printing a Code Job

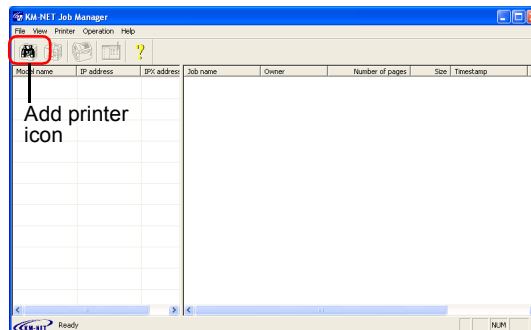
Install the KM-NET Job Manager software from the CD-ROM supplied with the printer. To do this, from the CD-ROM **Main Menu**, select **Printer Utilities > Install KM-NET Job Manager**.

- 1** Browse through Windows **Start > Programs > KYOCERA MITA > KM-Net > Job Manager**.
- 2** Enter the password for the software. **Job Manager** will start.
- 3** Click the **Add printer** icon (below). Select the **Local** or **Network** port.



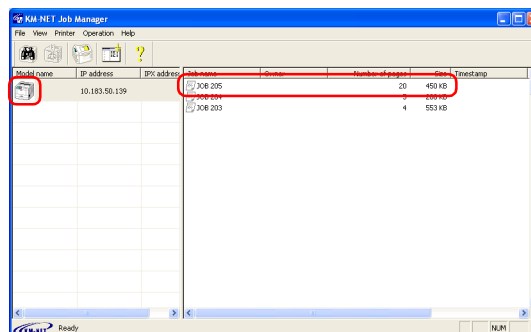
Note

If you use the local parallel port to connect to the printer, make sure that the printer driver is set to print to a local port. To check this out, click the **Details** tab of the printer **Properties**, and note the **Print to the following port** setting.



- 4** Follow the wizard until the **Select printer** dialog box is reached. When the printer is found in the **Printer List**, click (highlight) it, then **Finish**.
- 5** Double click **Model Name** on the list. The jobs currently stored in the printer are shown. To print the job, right click **Job name** and then click **Print** on the drop down list that appears.

It is possible to select more than one job at a time by left clicking a job one by one while pressing the **Ctrl** key on the computer keyboard.



The job remains intact even after printing. To permanently delete the job in the hard disk, right click the job name on **Job Manager**, then click **Delete** on the drop down list that appears.

Printing a List of Code Jobs

If you select Permanent Job Storage on the printer driver, you can have a List of Code Job printed using the operator panel.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until e-MPS > appears.

```
e-MPS      >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until >List of Code JOB appears.

```
>List of
Code JOB
```

- 5** Press the **ENTER** key. A question mark (?) appears.

```
>List of
Code JOB ?
```

- 6** Press the **ENTER** key again. The printer prints a Code Job list as shown in [Figure 3-5](#) below.

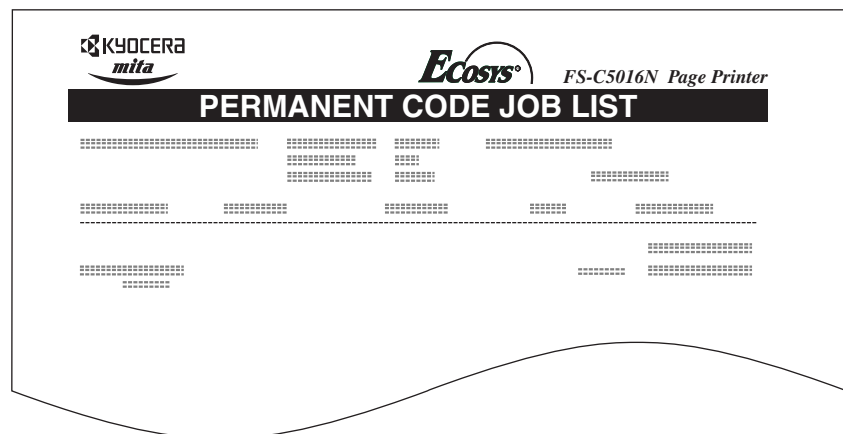


Figure 3-5

3.4.4 Retrieving Jobs from Virtual Mailbox (VMB)

To retrieve the jobs posted in the virtual mailbox, proceed as follows.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until e-MPS > appears.

```
e-MPS >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until >Print VMB Data appears. The virtual mailbox number will also appear.

```
>Print VMB Data  
Tray001:
```

If you have named the virtual mailbox with an alias on the printer driver, the alias (Richard, in this example) will follow the number:

```
>Print VMB Data  
Tray001:Richard
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Print VMB Data  
Tray001?Richard
```

- 6** Press the **ENTER** key. The document in the mailbox is printed and automatically deleted from the mailbox.

Printing a List of VMB

A Virtual Mailbox list includes the jobs currently stored in the mailboxes.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until e-MPS > appears.

```
e-MPS >
```

- 3** Press the \triangleright key.

- 4** Press the Δ or ∇ key repeatedly until >List of VMB appears.

```
>List of VMB
```

- 5** Press the **ENTER** key. A question mark (?) appears.

```
>List of VMB ?
```

- 6** Press the **ENTER** key again. The printer prints a list of jobs currently posted in the virtual mailboxes as shown in [Figure 3-6](#) below.

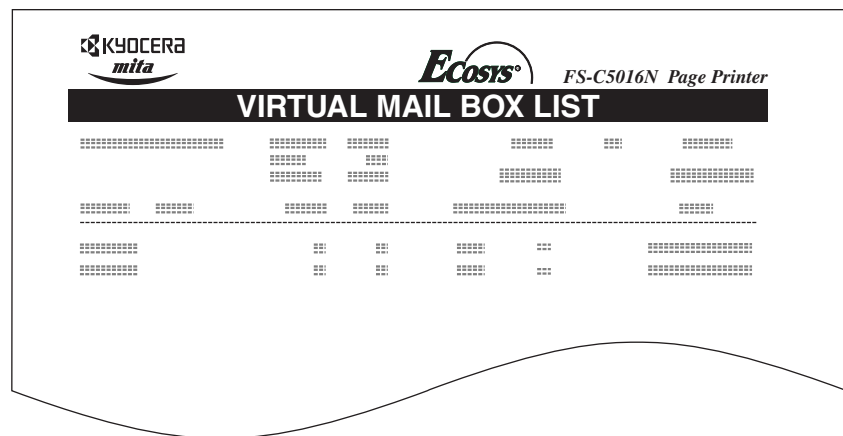


Figure 3-6

3.4.5 Changing e-MPS Configuration

You can change the following parameters for e-MPS operation:

- Maximum number of Quick Copy/Proof-and-Hold jobs
- Maximum space assigned to temporary code jobs
- Maximum space assigned to permanent code jobs
- Maximum space assigned to virtual mailboxes



The total amount of storage areas specified must not exceed the total size of the hard disk. Otherwise, you may only be able to accommodate print jobs of a smaller amount of print jobs than specified.

Changing the Maximum Number of Quick Copy/Proof-and-Hold Jobs

This changes maximum number of Quick Copy/Proof-and-Hold jobs from 0 to 50. The default is 32.

- 1 Press the **MENU** key.
- 2 Press the Δ or ∇ key repeatedly until e-MPS > appears.

```
e-MPS      >
```

- 3 Press the \triangleright key.
- 4 Press the Δ or ∇ key repeatedly until >e-MPS Configuration > appears.

```
>e-MPS      >
Configuration
```

- 5 Press the \triangleright key.
- 6 Press the Δ or ∇ key repeatedly until >>Quick Copy appears.

```
>>Quick Copy
                32
```

- 7 Press the **ENTER** key. A blinking cursor () appears.

```
>>Quick Copy
                32
```

- 8 Press the Δ or ∇ key to increase or decrease the value at the blinking cursor. The value can be set between 0 and 50. Use the \triangleright and \triangleleft keys to move the cursor right and left.
- 9 When the desired maximum number of jobs is set, press the **ENTER** key.

- 10** Press the **MENU** key. The display returns to Ready.

Maximum Space Assigned to Temporary Code Jobs

This changes the hard disk space that holds temporary code jobs. You can change the maximum space from 0 to 9999 (megabytes). The actual maximum size depends on the size of free hard disk space, however. The default size is 1/6 of the total hard disk space, rounded off in unit of 50 MB. For example, if the total hard disk space is 10 GB, the default size is 1550 MB.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until e-MPS > appears.

```
e-MPS      >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until >e-MPS Configuration > appears.

```
>e-MPS      >
Configuration
```

- 5** Press the \triangleright key.
- 6** Press the Δ or ∇ key repeatedly until >>Temp. Code JOB Size appears.

```
>>Temp. Code JOB
Size      1550MB
```

- 7** To change the maximum disk space, press the **ENTER** key. A blinking cursor () appears.

```
>>Temp. Code JOB
Size      1550MB
```

- 8** Press the Δ or ∇ key to increase or decrease, respectively, the value at the blinking cursor. Use the \triangleright and \triangleleft keys to move the cursor right and left.
- 9** When the desired size is displayed, press the **ENTER** key.
- 10** Press the **MENU** key. The display returns to Ready.

Maximum Space Assigned to Permanent Code Jobs

This changes the hard disk space that holds permanent code jobs. You can change the maximum space from 0 to 9999 (megabytes). The actual maximum size depends on the size of free hard disk space, however. The default size is 1/6 of the total hard disk space, rounded off in unit of 50 MB. For example, if the total hard disk space is 10 GB, the default size is 1550 MB.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key and select e-MPS >.

```
e-MPS      >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key and select >e-MPS Configuration >.

```
>e-MPS      >
Configuration
```

- 5** Press the \triangleright key.
- 6** Press the Δ or ∇ key and select >>Perm. Code JOB Size.

```
>>Perm. Code JOB
Size      1550MB
```

- 7** Press the **ENTER** key, the message display shows a blinking cursor (|).

```
>>Perm. Code JOB
Size      1550|MB
```

- 8** Press the Δ or ∇ key to increase or decrease, respectively, the value at the blinking cursor. Use the \triangleright and \triangleleft keys to move the cursor right and left.
- 9** When the desired size is displayed, press the **ENTER** key.
- 10** Press the **MENU** key and the display returns to Ready.

Maximum Space Assigned to Virtual Mailboxes (VMB)

This changes the hard disk space for virtual mailboxes. You can change the maximum space from 0 to 9999 (megabytes). The actual maximum size depends on the size of free hard disk space, however. The default size is 1/6 of the total hard disk space, rounded off in unit of 50 MB. For example, if the total hard disk space is 10 GB, the default size is 1550 MB.

- 1** Press the **MENU** key
- 2** Press the Δ or ∇ key and select e-MPS >.

```
e-MPS >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key and select >e-MPS Configuration >.

```
>e-MPS >
Configuration
```

- 5** Press the \triangleright key.
- 6** Press the Δ or ∇ key and select >>VMB Size.

```
>>VMB Size
1550MB
```

- 7** To change the maximum size, press the **ENTER** key. The message display shows a blinking cursor ().

```
>>VMB Size
1550  MB
```

- 8** Press the Δ or ∇ key to increase or decrease, respectively, the value at the blinking cursor. Use the \triangleright and \triangleleft keys to move the cursor right and left.
- 9** When the desired size is displayed, press the **ENTER** key.
- 10** Press the **MENU** key to exit the menu selection.

3.5 Changing the Interface Parameters

The printer is equipped with both a parallel and USB interfaces. Optional serial interface board kit and network interface card can also be installed. Various printing environment parameters such as the default emulation can be changed independently on different interfaces by using the printer's menu selection system. Select the interface to apply the changes in the procedure described below.



This interface selection described below does not select which interface data will be received from. The printer automatically selects an interface data to be received.

3.5.1 Changing Parallel Interface Mode

The parallel interface supports a bi-directional/high-speed mode according to IEEE standards. Normally, this interface is used under the default setting `Auto`. For details, see [Appendix B Computer Interface](#). After setting the interface, be sure to reset the printer or turn the power off at least once. The new setting will be enabled thereafter. You can select from the following:

- Auto (default)
- Nibble/high speed
- High speed
- Normal

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Interface >` appears.
- 3** If the interface is other than parallel, press the **ENTER** key. A blinking question mark (?) appears.

```
Interface
? Serial
```

- 4** Press the Δ or ∇ key repeatedly until `Parallel` appears.

```
Interface
? Parallel
```

- 5** Press the **ENTER** key again. The question mark disappears.
- 6** To change the parallel interface mode, press the \triangleright key. The current communication mode appears.

- 7** To change the communication mode, press the **ENTER** key. A blinking question mark (?) appears.

```
>Parallel I/F
? Nibble (high)
```

- 8** Press the Δ or ∇ key to scroll through the following communication modes:

```
Nibble (high)
Auto
Normal
High Speed
```

- 9** When the desired communication mode is displayed, press the **ENTER** key.

- 10** Press the **MENU** key to exit the menu selection.

3.5.2 Changing Serial Interface Parameters



Note

This section applies to the printer having the optional serial interface board kit (IB-11) installed.

You can confirm or change the serial interface parameters including baud rate, data bits, stop bits, parity, and protocol. These parameters must match those of the computer's serial interface.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Interface >` appears.
- 3** If the interface is other than serial, press the **ENTER** key. A blinking question mark (?) appears.

```
Interface
? Parallel
```

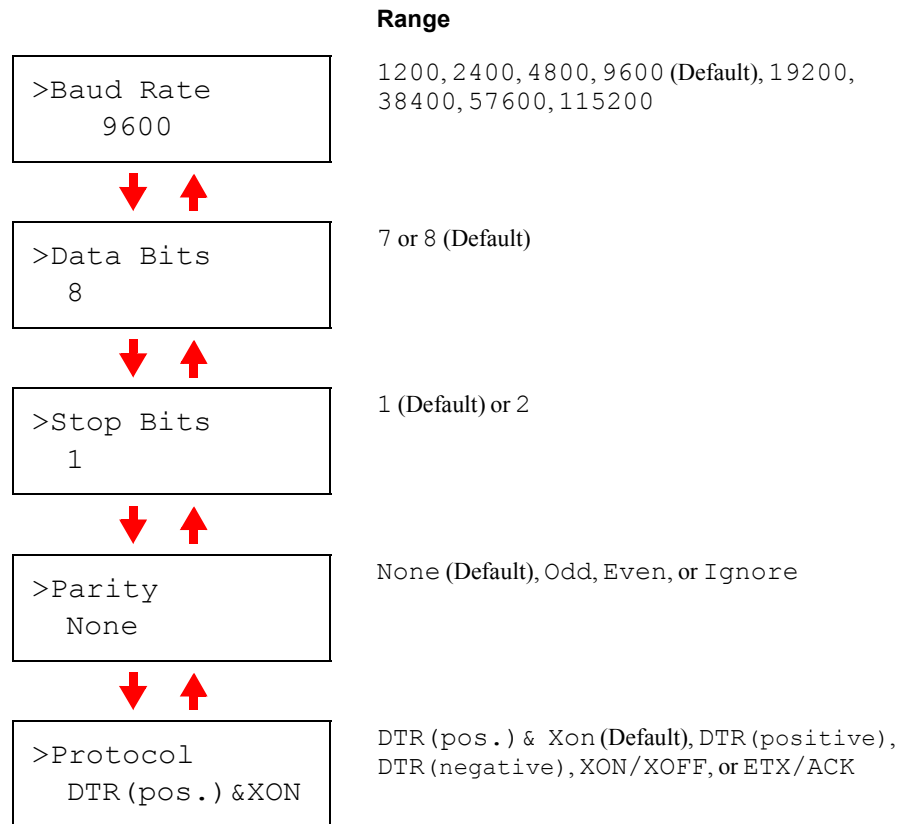
- 4** Press the Δ or ∇ key repeatedly until `Serial` appears.

```
Interface
? Serial
```

- 5** Press the **ENTER** key again.
- 6** Press the \triangleright key. One of the following serial parameters is indicated (Baud rate for example).

3.5 Changing the Interface Parameters

Pressing the Δ or ∇ key toggles through the serial parameters as follows. To change the serial parameter, press the **ENTER** key. Use the Δ or ∇ key to change the value or selection.



For example, to change baud rate from 9600 to 115200, display the baud rate menu following the above procedure. When the display shows baud rate, 9600 (bps), press the **ENTER** key. A blinking question mark (?) appears.

```
>Baud Rate
? 9600
```

Press the Δ or ∇ key to scroll through values. When 115200 is displayed, press the **ENTER** key. Press the **MODE** key to exit the menu selection.



Some computers may not be able to handle a baud rate of 115200 bps. If you set the baud rate to 115200 and encounter communication problems, select a lower baud rate.

3.5.3 Changing Network Interface Parameters

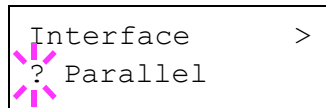
This printer supports TCP/IP, NetWare and EtherTalk protocols. In addition, you can install the optional network interface card in the option interface slot.

Using the operator panel, you can:

- Activate or deactivate TCP/IP, NetWare, and AppleTalk
- Activate or deactivate DHCP
- Enter IP address, subnet mask address, and default gateway address
- Determine whether to print a network status page when the printer is turned on

To confirm or change network card parameters, proceed as follows:

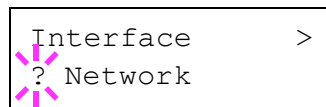
- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Interface >` appears.
- 3** If the current interface is other than network, press the **ENTER** key. A blinking question mark (?) appears.



```
Interface >
? Parallel
```

If the optional network interface card is installed in the printer, `Option` will be displayed. The setting procedure is basically the same even in this case.

- 4** Press the Δ or ∇ key repeatedly until `Network` appears.



```
Interface >
? Network
```

- 5** Press the **ENTER** key again.

- 6** Press the \triangleright key. One of the following menus is indicated. To change settings for the item, press the **ENTER** key. Use the \triangle or ∇ key to change the value or selection.

```
>NetWare      >
  On
```



```
>TCP/IP      >
  On
```



```
>EtherTalk
  Off
```



```
>Network Status
  Page      Off
```

Range

Set this item to On when you connect to a network using NetWare. In submenu (>), frame mode can be selected from Auto, 802.3, Ethernet II, 802.2, and 802.3SNAP.

Set this item to On when you connect to a network using TCP/IP. Submenu (>) has items including DHCP, IP address, subnet mask address, and gateway address. To resolve IP address for the network card, see [3.5.4 Resolving IP Address](#) below.

EtherTalk must be activated (On) for networking with Macintosh computers.

When the item is set to On, the printer prints out a network status page when it prints the printer status. See [Printing a Network Interface Status Page on page 3-40](#).

- 7** Activate the appropriate protocol that is required to connect the printer to the network. To activate a protocol, let the protocol displayed, press the **ENTER** key, press the \triangle or ∇ key to change from Off to On, and press the **ENTER** key.
- 8** Press the **MENU** key. The display returns to Ready. You can print a network status page to confirm that the IP address, subnet mask address, and the gateway address have been properly set. To print a network status page, see [Printing a Network Interface Status Page on page 3-40](#) which follows.

3.5.4 Resolving IP Address

To connect the printer to the network using TCP/IP protocol, you must set the IP address on the printer. The IP address must be unique to the printer and should be obtained from your network administrator.

- 1 Activate TCP/IP protocol in the manner described above.

```
>TCP/IP      >
  On
```

- 2 Enter the submenu by pressing the \triangleright key. Each time you press the \triangle or ∇ key, the selection changes as shown below.

```
>>DHCP
  Off
```



```
>>IP Address
  000.000.000.000
```



```
>>Subnet Mask
  000.000.000.000
```



```
>>Gateway
  000.000.000.000
```

- 3 When \gg IP Address is displayed, press the **ENTER** key. A blinking cursor ($_$) appears at the last digit.

```
>>IP Address
  000.000.000.000_
```

- 4 Press the \triangle or ∇ key to increase or decrease, respectively, the value at the blinking cursor. Use the \triangleright and \triangleleft keys to move the cursor right and left.

- 5 When the IP address is entered, press the **ENTER** key.

- 6 Press the \triangle or ∇ key to move to Subnet Mask. Perform the same procedure to complete entering the subnet mask address.

- 7 Then, press the \triangle or ∇ key to move to Gateway. Perform the same procedure to complete entering the subnet mask address.

- 8 Press the **MENU** key. The display returns to Ready. You can print a network status page to confirm that the IP address, subnet mask address, and the gateway address have been properly set. To print a network status page, see [Printing a Network Interface Status Page](#) which follows.

Printing a Network Interface Status Page

You can have your printer print out a network status page when the printer prints the status page. The network status page shows the network addresses, and other information under various network protocols about the network interface card. The default setting is `Off` (print disable).



Printing out a network interface status page may not be possible with the optional network interface card. For details, see the manual for the network interface.

A sample network status page is shown on [Figure 3-7 on page 3-41](#).

- 1 Press the **MENU** key.
- 2 Press the **ENTER** key repeatedly until `Interface >` appears.

```
Interface >
Parallel
```

- 3 If the interface is other than network, press the **ENTER** key. A blinking question mark (?) appears.

```
Interface
? Parallel
```

- 4 Press the Δ or ∇ key repeatedly until `Network` appears. Press the **ENTER** key.

```
Interface
? Network
```

- 5 Press the \triangleright key and then press the Δ or ∇ key repeatedly until the display shows `>Network Status Page Off`.

```
>Network Status
Page Off
```

- 6 The default setting is `Off`. If it is set to `On`, press the **ENTER** key. A blinking question mark (?) appears.

```
>Network Status
Page ? Off
```

- 7 Press the Δ or ∇ key to select `On`.

```
>Network Status
Page ? On
```

- 8 Press the **ENTER** key again.
- 9 Press the **MENU** key. The display returns to Ready. The printer prints a network status page as an example shown in *Figure 3-7* below.

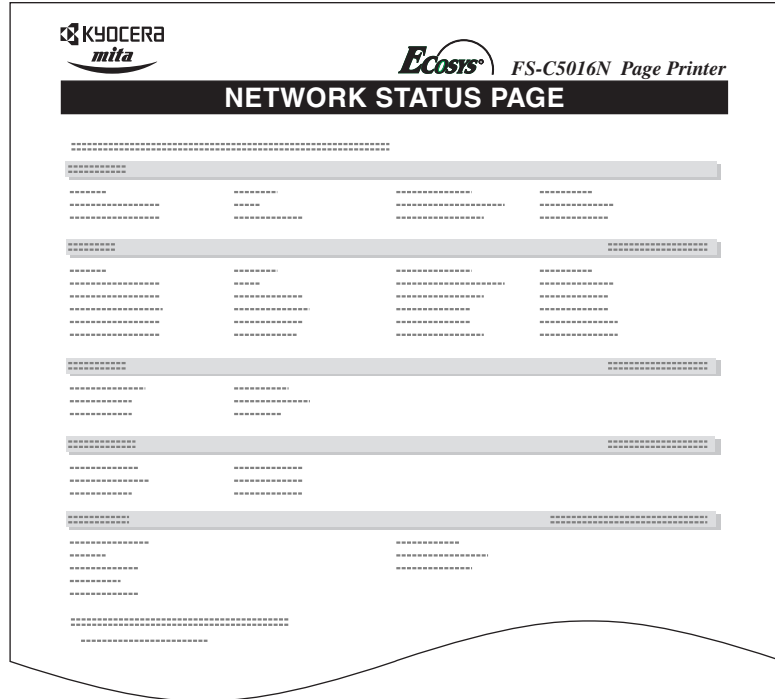


Figure 3-7

3.6 Making Default Settings

Using the operator panel, you can set the default for the following items. Note default settings made using the operator panel may be overridden by the printer driver settings and application software.

3.6.1 Default Emulation

You can change the emulation mode and character code set for the current interface. The printer is capable of the following emulation modes:

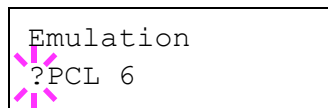
- HP PCL 6 (HP Color LaserJet 8550)
- KPDL3 (PostScript 3)

The printer can automatically switch between HP PCL 6 and KPDL3 depending on the print job that is received from the computer. To do this, select `KPDL (AUTO)` in the following procedure.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Emulation >` appears on the message display. One of the emulation modes appears, indicating the emulation currently in use.

```
PCL 6 (default)
KPDL
KPDL (AUTO)
```

- 3** To change the default emulation, press the **ENTER** key. A blinking question mark (?) appears.



```
Emulation
?PCL 6
```

- 4** Press the Δ or ∇ key repeatedly until the desired emulation mode is displayed.
- 5** Press the **ENTER** key.
- 6** Press the **MENU** key. The display returns to `Ready`.

3.6.2 Alternative Emulation for KPD L Emulation

The auto KPD L [KPD L (AUTO)] emulation enables the printer to automatically change the emulation mode according to the print job received. The emulation mode the printer switches alternatively can be selected using the operator panel. The default alternative emulation is HP PCL 6.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Emulation >` appears.

```
Emulation >
PCL 6
```

- 3** Press the **ENTER** key. A blinking question mark (?) appears.

```
Emulation
?PCL 6
```

- 4** Press the Δ or ∇ key repeatedly until `KPD L (AUTO)` appears. Press the **ENTER** key.

```
Emulation
?KPD L (AUTO)
```

- 5** Press the \triangleright key. Press the Δ or ∇ key until `>Alt. Emulation` is displayed. The alternative emulation currently selected also appears — `PCL 6` or `KC-GL`.

- 6** To change the alternative emulation, press the **ENTER** key. A blinking question mark (?) appears.

```
>Alt. Emulation
?PCL 6
```

- 7** Press the Δ or ∇ key until the desired alternative emulation appears.
- 8** Press the **ENTER** key.
- 9** Press the **MENU** key. The display returns to `Ready`.

3.6.3 Printing KPD L Errors

The printer can print error descriptions when printing error occurs during KPD L emulation. The default is `Off` — the printer does not print KPD L errors.

- 1 Press the **MENU** key.
- 2 Press the Δ or ∇ key repeatedly until `Emulation >` appears.

```
Emulation >
PCL 6
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears.

```
Emulation
?PCL 6
```

- 4 Select `KPD L` or `KPD L (AUTO)` using the Δ or ∇ key.

```
Emulation
?KPD L
```

- 5 Press the **ENTER** key.
- 6 Press the \triangleright key. Press the Δ or ∇ key until `>Print KPD L Errs (errors)` appears.

```
>Print KPD L Errs
Off
```

- 7 Press the **ENTER** key. A blinking question mark (?) appears.

- 8 Select `On` using the Δ or ∇ key. Press the **ENTER** key.

```
>Print KPD L Errs
? On
```

- 9 Press the **MENU** key. The display returns to `Ready`.

3.6.4 Default Font

You can select the default font for the current interface. The default font can be one of the internal fonts or a font that is downloaded to the printer memory or stored on memory card or hard disk.

In this menu, you can also set the type and pitch for Courier and Letter Gothic; as well as to print a font list.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Font >` appears.

```
Font >
```

- 3** Press the \triangleright key. Press the Δ or ∇ key until `>Font Select >` appears.

```
>Font Select >
Internal
```

- 4** To select an internal font, make sure that `Internal` is displayed and press the \triangleright key. The display changes as shown below. If `Internal` is not displayed, press the **ENTER** key, then press the Δ or ∇ key until it appears.

```
>> I000
```

To select an optional font, press the **ENTER** key while `>Font Select >` is displayed. Press the Δ or ∇ key repeatedly until `Option` appears and then press the **ENTER** key. Press the \triangleright key next to display the font selection shown above. You can perform this operation only when optional fonts are installed in the printer.

The letter before the number indicates the location of the font, as shown below:

I	Internal font
S	Soft (downloaded) font
M	Fonts in optional memory card
H	Fonts in RAM disk or optional hard disk
O	Fonts in optional ROM (API)

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>>?I000
```

- 6** Press the Δ or ∇ key repeatedly until the desired font number appears. For font numbers of the internal fonts, see [Printing Lists of Fonts on page 3-50](#).
- 7** When the desired font is displayed, press the **ENTER** key.
- 8** Press the **MENU** key. The display returns to `Ready`.

Selecting Regular or Dark Courier/Letter Gothic

Courier or Letter Gothic font thickness can be selected as Regular or Dark. In the procedure below, it is assumed that Courier is selected. The procedure is the same for Letter Gothic.

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Font >` appears.

```
Font >
```

3 Press the \triangleright key. Press the Δ or ∇ key until `>Font Select >` appears.

```
>Font Select >
Internal
```

4 Make sure that `Internal` is displayed and press the \triangleright key.

5 Press the Δ or ∇ key repeatedly until `>>Courier` appears. If you are selecting the thickness of the Letter Gothic font, choose `>> Letter Gothic` here instead.

```
>>Courier
Regular
```

6 Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Courier
? Regular
```

7 Select `Regular` or `Dark` using the Δ or ∇ key.

8 Press the **ENTER** key.

9 Press the **MENU** key. The display returns to `Ready`.

Changing the Default Font Size

You can change the size of the default font. If you selected a proportional font, the character size can also be changed.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Font >` appears.

```
Font >
```

- 3** Press the \triangleright key. Press the Δ or ∇ key until `>Font Select >` appears.

```
>Font Select >
Internal
```

- 4** Make sure that `Internal` is displayed and press the \triangleright key.

- 5** Press the Δ or ∇ key repeatedly until `>>Size` appears.

```
>>Size
012.00 point(s)
```

- 6** Press the **ENTER** key. A blinking cursor () appears.

```
>>Size
012.00 point(s)
```

- 7** Press the Δ or ∇ key to increase or decrease the value at the blinking cursor. The font size can be set between 4 and 999.75 points, in 0.25-point increments. Use the \triangleright or \triangleleft key to move the cursor right and left.

- 8** When the desired size is displayed, press the **ENTER** key.

- 9** Press the **MENU** key. The display returns to `Ready`.

Character Pitch for Courier/Letter Gothic

You can set the character pitch for fixed fonts when the default font is Courier or Letter Gothic.

1 Press **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Font >` appears.

```
Font >
```

3 Press the \triangleright key. Press the Δ or ∇ key until `>Font Select >` appears.

```
>Font Select >
Internal
```

4 Make sure that `Internal` is displayed and press the \triangleright key.

5 Press the Δ or ∇ key repeatedly until `>>Pitch` appears.

```
>>Pitch
10.00 cpi
```

6 Press the **ENTER** key. A blinking cursor () appears.

```
>>Pitch
10.00 cpi
```

7 Press the Δ or ∇ key to increase or decrease the value at the blinking cursor. The character pitch can be set between 0.44 and 99.99 characters per inch, in 0.01 character-per-inch increments. Use the \triangleright or \triangleleft key to move the cursor right and left.

8 When the desired size is displayed, press the **ENTER** key.

9 Press the **MENU** key. The display returns to `Ready`.

Setting the Code Set

You can change the character code set. Available character code sets vary depending on the current font. (The default is IBM PC-8.)

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Font >` appears.

```
Font >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until `>Code Set` appears.

```
>Code Set  
IBM PC-8
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Code Set  
?IBM PC-8
```

6 Press the Δ or ∇ key until the desired character code set appears.

7 Press the **ENTER** key.

8 Press the **MENU** key. The display returns to `Ready`.

Printing Lists of Fonts

To help you decide in selecting a font, you can printout lists of the internal fonts or the optional fonts including downloaded fonts. Samples for font lists are shown in [Figure 3-8 on page 3-51](#).

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Font >` appears.

```
Font >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until `>List of Internal Fonts` or `>List of Option Fonts` appears.

```
>List of  
Internal Fonts
```

5 Press the **ENTER** key. A question mark (?) appears.

```
>List of  
Internal Fonts?
```

6 Press the **ENTER** key again. `Processing` appears, then `Ready`. The printer prints out a list of fonts with a sample and font ID (number) for each of them. Sample lists of fonts are shown in [Figure 3-8](#) on the next page.

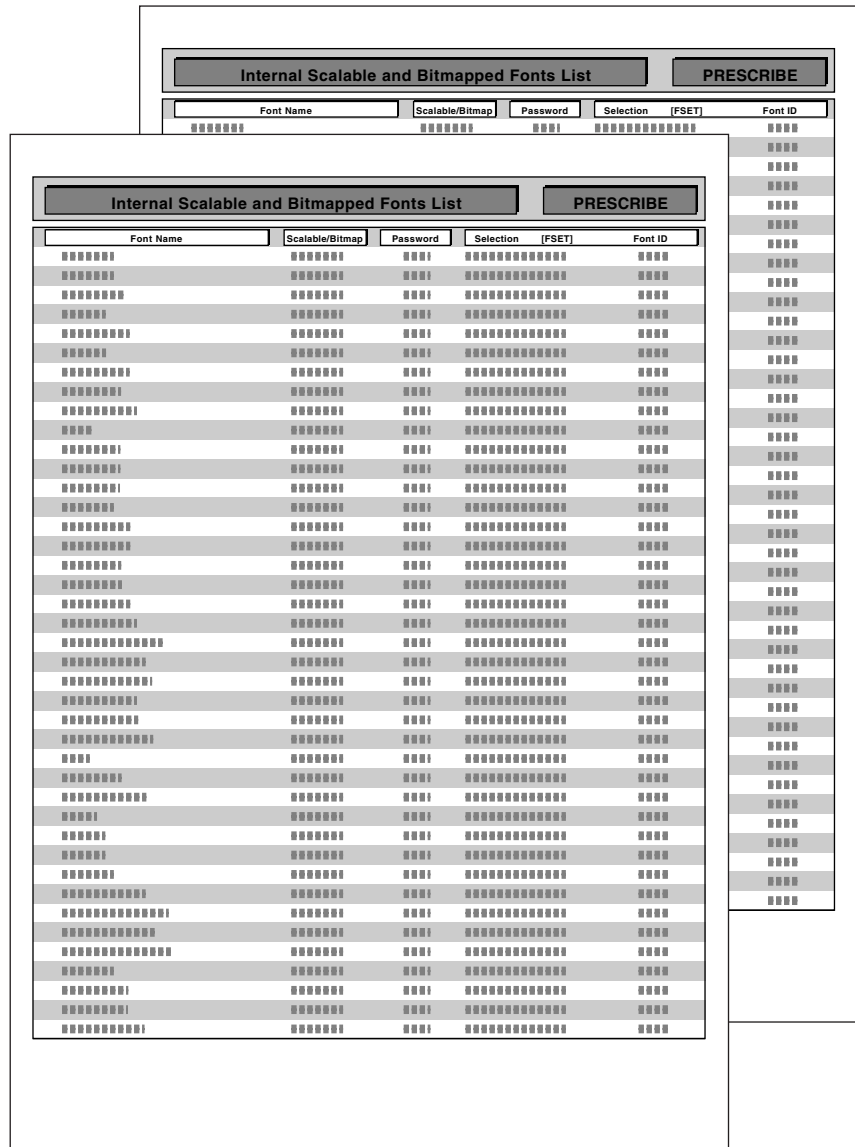


Figure 3-8

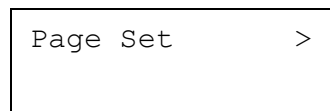
3.7 Pagination

In Page Set menus, you can set the number of copies, page orientation, and other settings regarding pagination.

3.7.1 Number of Copies

You can set the number of copies of each page to be printed for the current interface. The number of copies can be set between 1 and 999.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Page Set >` appears.



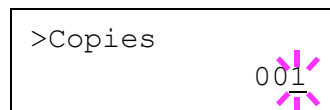
A rectangular box representing a screen display. The text inside is "Page Set" followed by a right-pointing chevron symbol ">" on the right side.

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Copies` appears.



A rectangular box representing a screen display. The text inside is ">Copies" followed by the number "001" on the right side.

- 5** Press the **ENTER** key. A blinking cursor ($_$) appears.



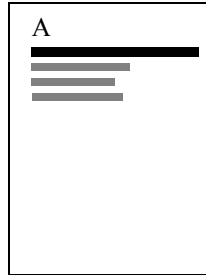
A rectangular box representing a screen display. The text inside is ">Copies" followed by the number "001". A pink blinking cursor is positioned under the first zero of "001".

- 6** Press the Δ or ∇ key to increase or decrease, respectively, the value at the blinking cursor. Use the \triangleright and \triangleleft keys to move the cursor right and left.
- 7** When the desired size is displayed, press the **ENTER** key.
- 8** Press the **MENU** key. The display returns to `Ready`.

3.7.2 Print Orientation

You can select portrait (upright) or landscape (sideways) page orientation.

Portrait Orientation



Landscape Orientation

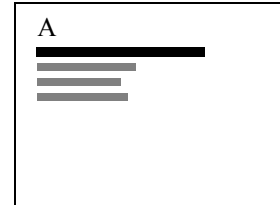


Figure 3-9

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Page Set >` appears.


```
Page Set >
```
- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Orientation` appears.

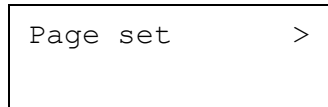

```
>Orientation
Portrait
```
- 5** Press the **ENTER** key. A blinking question mark (?) appears.


```
>Orientation
? Portrait
```
- 6** Select `Portrait` or `Landscape` using the Δ or ∇ key.
- 7** Press the **ENTER** key.
- 8** Press the **MENU** key. The display returns to `Ready`.

3.7.3 Page Protect Mode

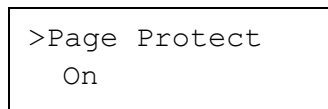
The Page Protect Menu does not normally appear, however, Page Protect will be forcibly set to On if a print overrun error occurs because the print job is too complex. When this has happened, be sure to reset Page Protect to Auto (default) in order to maintain the optimum use of printer memory.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until Page set > appears.



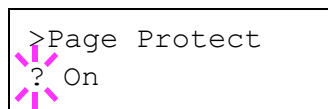
Page set >

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until >Page Protect appears.



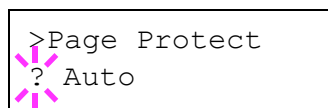
>Page Protect
On

- 5** Press the **ENTER** key. A blinking question mark (?) appears.



>Page Protect
? On

- 6** Press the Δ or ∇ key repeatedly until Auto appears.



>Page Protect
? Auto

- 7** Press the **ENTER** key.
- 8** Press the **MENU** key. The display returns to Ready.

3.7.4 Linefeed (LF) Action

This procedure instructs the printer what to do when it receives a linefeed code (0AH).

- LF only: Linefeed is performed (Default).
- CR and LF: A linefeed and carriage return are performed.
- Ignore LF: The linefeed is ignored.

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until Page Set > appears.

```
Page Set      >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until >LF Action appears.

```
>LF Action
LF only
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>LF Action
? LF only
```

6 Press the Δ or ∇ key repeatedly until the desired linefeed action appears.

7 When the desired action is displayed, press the **ENTER** key.

8 Press the **MENU** key. The display returns to Ready.

3.7.5 Carriage-Return (CR) Action

This procedure instructs the printer what to do when it receives a carriage-return code (ODH).

- CR only: A carriage-return is performed (Default).
- CR and LF: A linefeed and carriage return are performed.
- Ignore CR: The carriage-return is ignored.

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until Page Set > appears.

```
Page Set >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until >CR Action appears.

```
>CR Action  
CR only
```

5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>CR Action  
? CR only
```

6 Press the Δ or ∇ key repeatedly until the desired carriage-return action appears.

7 When the desired action is displayed, press the **ENTER** key.

8 Press the **MENU** key. The display returns to Ready.

3.7.6 Wide A4 Pitch

Turn this to On to increase the maximum number of characters that can be printed in a line for A4 page (78 characters at 10 pitch) and Letter size page (80 characters at 10 pitch). This setting is effective in only PCL 6 emulation.

- 1 Press the **MENU** key.
- 2 Press the Δ or ∇ key repeatedly until `Page set >` appears.

```
Page Set      >
```

- 3 Press the \triangleright key.
- 4 Press the Δ or ∇ key repeatedly until `>Wide A4` appears.

```
>Wide A4  
Off
```

- 5 Press the **ENTER** key. A blinking question mark (?) appears.

```
>Wide A4  
? Off
```

- 6 Select On or Off using the Δ or ∇ key.
- 7 Press the **ENTER** key.
- 8 Press the **MENU** key. The display returns to Ready.

3.8 Setting Print Quality

The printer features the Print Quality menu which lets you select the intensity of the gloss mode (Low or High).

3.8.1 Gloss Mode

The gloss mode, when set to High, increases the effect of glossiness in printing by reducing the printing speed by half. The gloss mode is not available when Transparency is selected as the paper type setting.



Note

Depending on the paper used, printing in gloss mode may cause wrinkle in paper. To reduce wrinkle, try using thicker paper.

The default gloss mode is Low. To confirm or change the gloss mode, proceed as follows:

- 1 Press the **MENU** key.
- 2 Press the Δ or ∇ key repeatedly until Print Quality > appears.

```
Print Quality >
```

- 3 Press the \triangleright key.
- 4 Press the Δ or ∇ key repeatedly until >Gloss Mode appears.

```
>Gloss Mode  
Low
```

- 5 To change the gloss mode, press the **ENTER** key. A blinking question mark (?) appears.

```
>Gloss Mode  
? Low
```

- 6 Press the Δ or ∇ key to change from Low to High.
- 7 Press the **ENTER** key to finalize the selection.
- 8 Press the **MENU** key. The display returns to Ready.

3.9 Operating the Storage Device

The printer supports three types of storage device; memory card, optional hard disk, and RAM disk. The memory card and optional hard disk are installed into the dedicated slots of the printer. The RAM disk is an allocated part of the printer's memory. If the optional hard disk is installed in the printer, the e-MPS function will be available. For details, see *e-MPS on page 3-20*.

The basic operations of each storage device are the same. This section mainly explains the operation of the memory card.

3.9.1 Using the Memory Card

The printer is equipped with a slot for a memory card. By inserting a memory card into the printer, the following operations become available.

- Reading Font Data
- Reading Data
- Writing Data
- Deleting Data
- Formatting Memory Card
- Printing a List of Data Names

For details about the handling of the memory card, see *Appendix A Options, section A.3.1 Memory Card on page A-7*.

Reading Font Data

In case of a memory card if a memory with the font data card is already inserted into the slot when the printer is turned on, the fonts are automatically read into the printer. To read fonts into the printer from a memory card, proceed as follows.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Memory Card >` appears.

```
Memory Card >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Read Fonts` appears.

```
>Read Fonts
```

- 5** Press the **ENTER** key. A question mark (?) appears.

```
>Read Fonts ?
```

- 6 Press the **ENTER** key. *Processing* appears and the reading of data from the memory card starts. When completed, *Processing* disappears.

```
>Read Fonts
Processing
```

- 7 Press the **MENU** key. The display returns to *Ready*.

Reading Data

You can print out the data in the memory card. To read the data saved on the memory card and print it out, proceed as follows.

- 1 Press the **MENU** key.
- 2 Press the Δ or ∇ key repeatedly until *Memory Card >* appears.

```
Memory Card >
```

- 3 Press the \triangleright key.
- 4 Press the Δ or ∇ key repeatedly until *>Read Data* appears (*Report*, in this example).

```
>Read Data
Report
```

- 5 Press the **ENTER** key. A blinking question mark (?) appears before the data name.

```
>Read Data
?Report
```

- 6 Press the Δ or ∇ key to display the desired data name.
- 7 Press the **ENTER** key. *Processing* appears and the reading of data from the memory card starts.

Writing Data

Data can be written to a memory card until no space is left for storing. When writing to a memory card, a name is assigned to the file automatically. You can use the procedure explained in the section *Printing a List of Data Names (Partitions)* on page 3-64 to print a list of data names for confirmation.

To write data to a memory card, proceed as follows.



Note

First check that the memory card is properly formatted. Otherwise, the >Write Data message to be explained below will not be shown on the message display. If the memory card inserted in the memory card slot is not formatted, the >Format will automatically appear on the message display. Format the memory card. See *Formatting a Memory Card* on page 3-63.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Memory Card >` appears.

```
Memory Card >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Write Data` appears.

```
>Write Data
```

- 5** Press the **ENTER** key. A question mark (?) appears.

```
>Write Data ?
```

- 6** Press the **ENTER** key. `Processing` appears, then `Waiting`.

- 7** In this state, send the file from the computer to the printer.

As the printer receives data, the message display changes to `Processing`, then when the end of the data is received, the message display changes to `Waiting`.

- 8** Check that the message display has changed to `Waiting`, then press the **GO** key. This writes the file to the memory card and instructs the printer to automatically print out a memory card write information page as shown below.

The file is written onto the memory card given a destination name (also referred to as a partition name) which the printer automatically assigns one after another as follows: DataS001 (first data), DataS002 (second data), DataS003 (third data)...

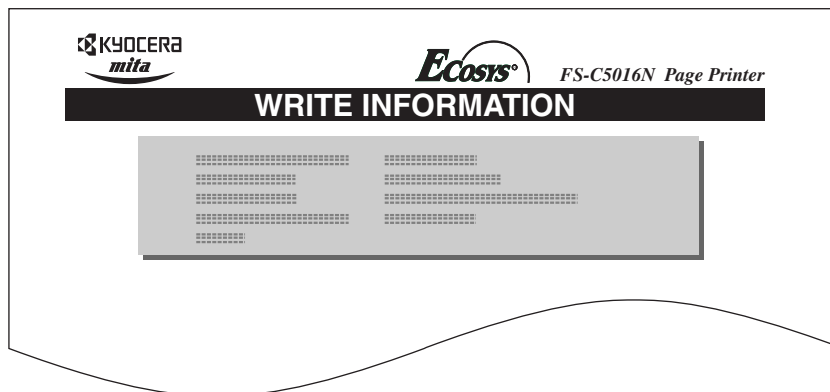


Figure 3-10

Partition Type:	Type of data written (currently only type 2 is supported).
Partition Name:	The destination name of data written to the card.
Write Partition Length:	The size of the written data on the memory card.
Others:	Error information.

When the memory card write information page is printed, the display returns to Ready.

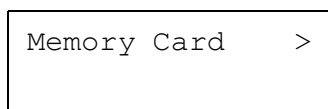
- Repeat above steps until you have transferred all data (files) that you want to write to the memory card. Each time you finish writing data, a memory card write information page is printed from the printer showing the information, but pertaining only to the data just written. To see all data contained in the memory card at once, print a list of data names as explained. See [Printing a List of Data Names \(Partitions\) on page 3-64](#).

Deleting Data

It is possible to use the printer to delete data from a memory card one by one.

To delete data from a memory card, proceed as follows. Check that the memory card contains data. Otherwise, the >Delete Data menu will not appear on the message display.

- Press the **MENU** key.
- Press the Δ or ∇ key repeatedly until `Memory Card >` appears.



- Press the \triangleright key.

- 4** Press the Δ or ∇ key repeatedly until `>Delete Data` appears. The data name also appears (`Report`, in this example).

```
>Delete Data
  Report
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears before the data name.

```
>Delete Data
?Report
```

- 6** Press the Δ or ∇ key to display the desired data name.

- 7** Press the **ENTER** key. `Processing` appears and the data is deleted from the memory card. The display returns to `Ready`.

Formatting a Memory Card

A new memory card must be formatted before it can be used in the printer. Formatting allows data to be written to the memory card.



Note

- **Formatting will destroy any existing data on a storage device including a used memory card.**
- **Formatting of the memory card must be executed from the printer.**

To format a memory card, proceed as follows. When a new memory card is inserted in the printer's slot, `Format error Memory card` will appear on the message display.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Memory Card >` appears.

```
Memory Card >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Format` appears.

```
>Format
```

- 5** Press the **ENTER** key. A question mark (?) appears.

```
>Format ?
```

- 6 Press the **ENTER** key. Processing appears and formatting of the memory card starts.

When the formatting is successfully completed, the printer automatically prints out a format information page, which allows you to check the memory card for proper formatting.

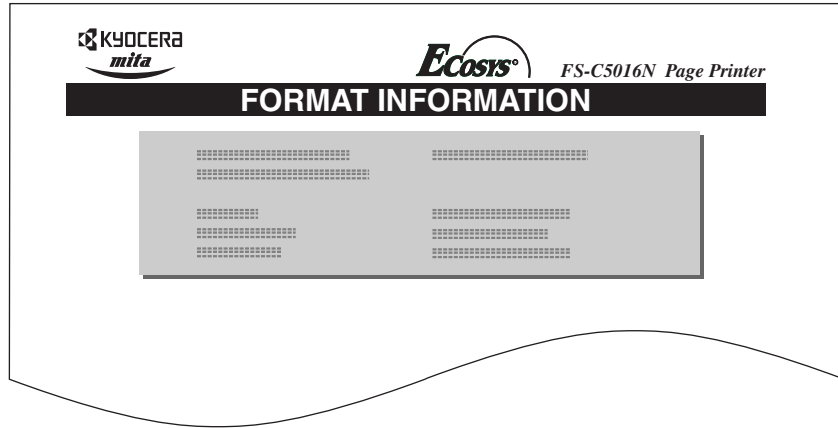


Figure 3-11

Format information page includes the following items:

- Capacity:** The total size of the memory card.
- Used Space:** The size the printer uses for its system.
- Free Space:** The size remaining in the memory card for storing data.

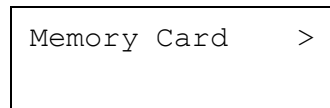
When the memory card format information is printed, the display returns to Ready.

Printing a List of Data Names (Partitions)

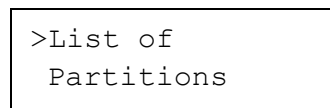
The printer prints a list of all data names (referred to as partitions) stored in a memory card for reference. (Printing a list is also available for a font card.)

To print a list of data names for the memory card, proceed as follows.

- 1 Press the **MENU** key.
- 2 Press the Δ or ∇ key repeatedly until Memory Card > appears.



- 3 Press the \triangleright key.
- 4 Press the Δ or ∇ key repeatedly until >List of Partitions appears.



- 5** Press the **ENTER** key. A question mark (?) appears.

```
>List of
Partitions ?
```

- 6** Press the **ENTER** key. Processing appears and the printing of the list starts.

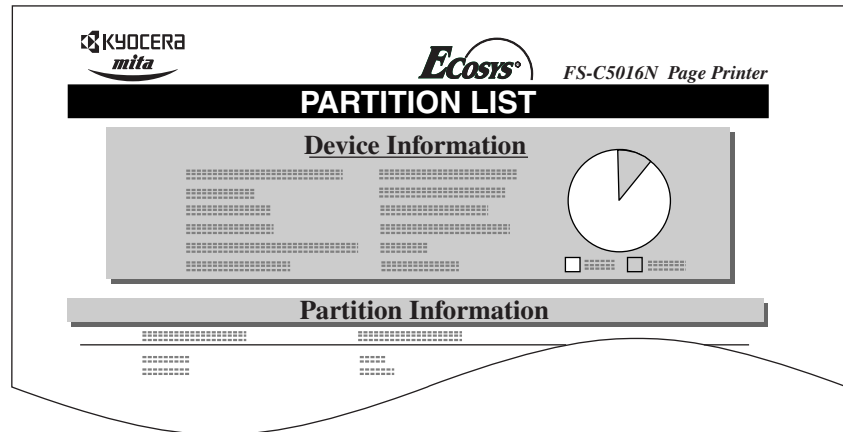


Figure 3-12

The printout (example above) includes the following information:

Device Name/Number:	MEMORY CARD/A is indicated for the memory card.
Capacity:	The total capacity of the memory card in bytes.
Used Space:	The total size of the data stored in the memory card in bytes.
Free Space:	The size of the capacity remaining in the memory card for storing further data, including the amount of memory that the printer uses for its system.
Partition Name:	The name of the written data assigned automatically by the printer.
Partition Size:	The size of the written data in bytes.
Partition Type:	The type of the written data i.e., whether it is host data (Data) or font data (Font).

When the list of file names (partition list) for the memory card is printed, the display returns to Ready.

3.9.2 Using the Optional Hard Disk

Installing the optional hard disk into the printer allows you to perform the following operations on the hard disk.

- Reading data
- Writing data
- Deleting data
- Formatting hard disk
- Printing a list of data names (partitions)

When an optional hard disk is inserted into the printer for the first time, it must be formatted before use. If the optional hard disk is not formatted, the `>FORMAT` menu will automatically appear on the message display.

The operations of the optional hard disk are the same as those of the memory card. See the relevant sections in [section 3.9.1 Using the Memory Card on page 3-59](#).

When data is written to the hard disk, the name automatically given to the corresponding file will be DataH001 (for the 1st file), DataH002 (for the 2nd file), DataH003 (for the 3rd file), etc.

3.9.3 Using the RAM Disk

The RAM disk is a memory space shared within the printer memory that can temporarily store print jobs. The RAM disk can be used only for electronic sorting. The stored print job can then be used to print multiple copies of the job reducing the total amount of time required to print the whole job. It acts similar to the hard disk except that the data is effective only during the printer is powered up. By default, the RAM disk is not activated (`Off`).

To use the RAM disk, activate and enter the desired size of the RAM disk in the manner described below. The maximum RAM disk size can be calculated as follows:

Maximum RAM disk size = Total printer memory - 36 MB

For example, if the total memory installed in your printer is 256 MB, you can set 224 MB of RAM disk. If you attempt to set the RAM disk size beyond this restriction, the printer automatically round it down so that the size is always 36 MB less than the total printer memory. Once the RAM disk size is set, the printer must be reset.

To activate RAM disk in the printer's memory, first you must set the RAM disk mode to On and set the desired data size for the RAM disk as described in the following section. This allows you to perform the following operations on the RAM disk.

- Reading data
- Writing data
- Deleting data
- Printing a list of data names (partitions)

The operations of the RAM disk are the same as those of the memory card. See the relevant sections in [section 3.9.1 Using the Memory Card on page 3-59](#). When data is written to the RAM disk, the name automatically given to the corresponding file will be DataH001 (for the 1st file), DataH002 (for the 2nd file), DataH003 (for the 3rd file), etc.



- The RAM disk can not be used when an optional hard disk is installed.
- The RAM disk stores data only temporarily. When the printer is reset or turned off, the stored data will be erased.
- The RAM disk is allocated within the printer's memory available to users. If the size of the RAM disk is set too large, the printing speed may decrease or the memory may become insufficient.

To confirm the RAM disk size or activate the RAM disk, proceed as follows:

Setting the RAM Disk Size

- 1 Press the **MENU** key.
- 2 Press the Δ or ∇ key repeatedly until RAM Disk Mode appears.

```
RAM Disk Mode
  Off
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears. Press the Δ or ∇ key to select On. Press the **ENTER** key.

```
RAM Disk Mode
? On
```

- 4 Press the \triangleright key. Press the Δ or ∇ key repeatedly until >RAM Disk Size appears. The data size also appears.

```
>RAM Disk Size
  0119 MByte
```

- 5 Press the **ENTER** key. A blinking cursor () appears. Press the Δ or ∇ key to display the desired size. Definable RAM disk size is 0001 to 1024.

```
>RAM Disk Size
  0119 MByte
```

This range varies depending on the total memory size of the printer. The setting exceeding this range is automatically adjusted to the maximum RAM disk size.

- 6 When the desired RAM disk size is displayed, press the **ENTER** key.
- 7 Press the **MENU** key. The display returns to Ready. Then, turn off the printer and on again. The selected RAM disk size is activated after the printer is restarted.

3.10 Paper Handling

This section explains how to change mode for the MP (multi-purpose) tray, the paper size and type for each paper source, and how to select the paper source and paper destinations.

3.10.1 MP Tray Mode

The MP tray can be used in either of two modes — *Cassette* or *First*. The MP tray feed paper differently depending on the mode:

- **Cassette Mode (default)**
The MP tray acts in the same manner as other paper source. The printer can correctly feed paper from any paper source as you command on the printer driver. The cassette mode provides a faster printing speed than the first mode.
- **First Mode**
The MP tray automatically feeds paper placed on the MP tray overriding another paper source that is selected on the printer driver. After all paper sheets in the MP tray have been used up (approximately 100 sheets [A4 size, 0.11 mm thickness]), paper will be fed from the paper source originally selected. This mode is convenient to feed paper of special size or type without reloading the current paper source. However, the MP tray must be kept empty if you desire to feed paper from the intended paper source.

To switch the MP tray to *First* mode, proceed as follows:

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>MP Tray Mode` appears.

```
>MP Tray Mode  
Cassette
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>MP Tray Mode  
? Cassette
```

- 6** Press the Δ or ∇ key to change *Cassette* to *First*.
- 7** Press the **ENTER** key. The MP tray mode is changed.
- 8** To exit the menu selection, press the **MENU** key.

3.10.2 Setting MP Tray Paper Size

When you use the MP tray in cassette mode, you should set the MP tray size to the paper size that is used to format the job to print. If the sizes do not match, printing will not be performed on the correct size paper. The default setting is `Letter` size for the U.S. and Canada and `A4` for other countries.

For more information about the paper sizes that you can feed from the MP tray, see [Chapter 2 Handling Paper](#).



Note

Feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>MP Tray Size` appears. In this example, the current MP tray paper size is `A4`.

```
>MP Tray Size  
A4
```

- 5** To change the paper size, press the **ENTER** key. A blinking question mark (?) appears.

- 6** Press the Δ or ∇ key to display the desired paper size. The message display toggles through the following paper sizes:

A4
Executive
Letter
Legal
Custom
Oficio II
Statement
Folio
Youkei 2
Youkei 4
16K
Hagaki
Oufukuhagaki
Monarch
Business
Comm. #9
Comm. #6 3/4
DL
C5
A6
B6
A5
B5
ISO B5

- 7** When the desired paper size is displayed, press the **ENTER** key. The paper size is set for the MP tray.

- 8** To exit the menu selection, press the **MENU** key.

3.10.3 Setting the MP Tray Paper Type

By setting a paper type (plain, recycled, etc.) to the MP tray, you can select the paper on the MP tray according to the paper type you command on the printer driver. The default setting is plain paper.

For more information about paper types that can be fed from the MP tray, see [Chapter 2 Handling Paper](#).

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until Paper Handling > appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until >MP Tray Type appears.

```
>MP Tray Type
Plain
```

- 5** To change paper type, press the **ENTER** key. A blinking question mark (?) appears.

```
>MP Tray Type
? Plain
```

- 6** Press the Δ or ∇ key to display the desired paper type. The message display toggles through the following paper types:

```
Plain
Transparency
Preprinted
Labels
Bond
Recycled
Vellum
Rough
Letterhead
Color
Prepunched
Envelope
Cardstock
Coated
Thick
High quality
Custom 1(to 8)
```

- 7** When the desired paper type is displayed, press the **ENTER** key. The paper type is set to the MP tray.
- 8** To exit the menu selection, press the **MENU** key.

3.10.4 Setting the Cassette Paper Size

To set the standard sizes A5, A4, B5, Letter, and Legal size for the paper cassette, use the following procedure to set the paper size dial of the paper cassette.

If you use a non-standard size, see *Custom Paper Size*.

Properly set the paper into the paper cassette. For details about the adjustment of the paper guides and paper stopper inside the paper cassette, see *Chapter 2 Handling Paper, section 2.3 Loading Paper on page 2-8*.

- 1 Turn the paper size dial so that the size of the paper you are going to use appears in the paper size window.

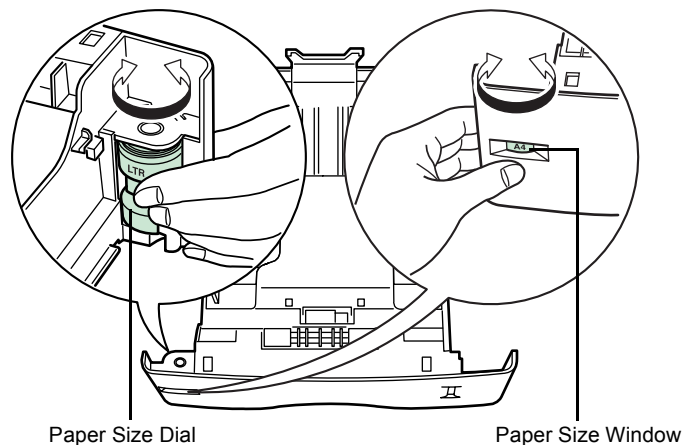


Figure 3-13

- 2 Adjust the paper guides and paper stopper inside the paper cassette to the size of the paper to be used and load the paper into the cassette.

The paper size setting for the paper cassette is completed.

Custom Paper Size

In addition to the standard sizes A5, A4, B5, Letter, and Legal size for the paper cassette, paper of other sizes can be fed. When placing paper of sizes other than A5, A4, B5, Letter, or Legal into the paper cassette, set the size of the paper to be used into the printer by following the procedure given below. If an optional paper feeder (PF-60) is installed, custom sizes for its paper cassette can be set using the same procedure.

This menu appears when the paper size dial of the paper cassette is set to **OTHER**.

Properly set the paper into the paper cassette. For details about the adjustment of the paper guides and paper stopper inside the paper cassette, see *Chapter 2 Handling Paper, section 2.3 Loading Paper on page 2-8*.

Setting Paper Size Dial

Use the following procedure to set the paper size dial to **OTHER**.

- 1** Pull out the paper cassette from the printer and turn the paper size dial to **OTHER**. See *step 1* in *Setting the Cassette Paper Size*.
- 2** Adjust the paper guides and paper stopper inside the paper cassette to the size of the paper to be used and load the paper into the cassette.

When using non-standard size paper, read the next section to set the paper size from the operator panel.

Setting a custom size from the Operator Panel

Set the size of the paper loaded in the paper cassette into the printer from the printer operator panel.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Cassette Size >` appears.

If optional paper feeders are added, `Cassette 1 Size` will appear for the standard paper cassette and `Cassette 2 Size`, `Cassette 3 Size`, and `Cassette 4 Size` will appear for the optional paper feeders.

```
>Cassette Size >
Custom
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Cassette Size
? Custom
```

- 6 Press the Δ or ∇ key to display the desired paper size. The message display toggles through the following paper sizes:

```
Custom  
Oficio II  
Folio  
16K  
C5  
A5  
B5  
ISO B5  
A4  
Executive  
Letter
```

- 7 When the desired paper size is displayed, press the **ENTER** key. The paper size is set for the paper cassette.

If you selected `Custom` in step 6, be sure to set the unit of measurement and the dimensions of the paper as described in the following sections.

Selecting the Unit of Measurement

Then, use the following procedure to set the unit of measurement.

- 1 Press the \triangleright key.
- 2 Press the Δ or ∇ key repeatedly until `>>Unit` appears. The unit of measurement can be selected between millimeters and inches. The current unit of measurement is displayed (the default setting is mm).

```
>>Unit  
mm
```

- 3 Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Unit  
? mm
```

- 4 Select `mm` or `inch` using the Δ or ∇ key.
- 5 Press the **ENTER** key.
Set the dimensions of the paper as described in the next section.

Entering the Width and Length

Then, use the following procedure to set the paper size.

Enter the paper size for X Dimension and Y Dimension as shown in the figure.

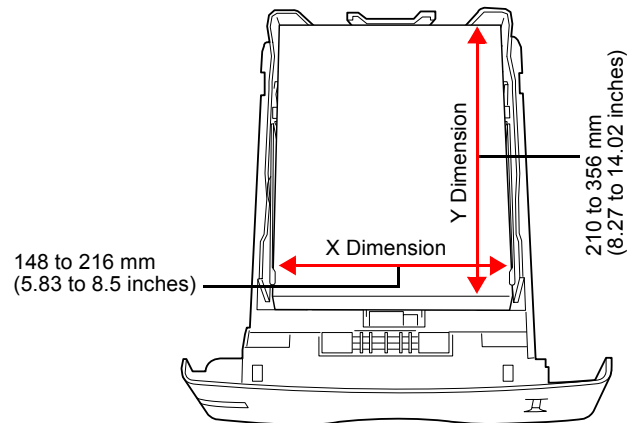


Figure 3-14

- 1** When the unit of measurement is set, press the ∇ key. >>X Dimension appears as shown below (the paper width setting).

```
>>X Dimension
      216 mm
```

- 2** Press the **ENTER** key. A blinking cursor ($_$) appears.

```
>>X Dimension
      21 $\_$ 6 mm
```

- 3** Press the Δ or ∇ key to increase or decrease the value of the figure where the cursor is blinking and display the desired width. The width can be set between 148 and 216 mm (5.83 to 8.5 inches). You can use the \triangleleft or \triangleright key to move the cursor right and left.
- 4** Display the paper width and press the **ENTER** key.
- 5** When the width is set, press the key. >>Y Dimension appears (the paper length setting). Set the desired length in the same way as the width. The length can be set between 210 and 356 mm (8.27 to 14.02 inches).
- 6** Display the paper length, press the **ENTER** key.
- 7** Press the **MENU** key. The display returns to Ready.
- 8** To print using the custom size set above, define the same custom size on the printer driver. For details, see [KX Printer Drivers Operation Guide](#).

3.10.5 Setting the Cassette Paper Type

By setting a paper type (plain, recycled, etc.) to the paper cassette, you can automatically select the paper in the paper cassette according to the paper type you command on the printer driver. The default setting is plain paper for all paper cassettes.

For more information about paper types that you can feed from the paper cassette, see [Chapter 2 Handling Paper](#).

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Cassette Type` appears.

If optional paper feeders are added, `Cassette 1 Type` will appear for the standard paper cassette and `Cassette 2 Type`, `Cassette 3 Type`, and `Cassette 4 Type` will appear for the optional paper feeders.

```
>Cassette Type  
Plain
```

- 5** To change paper type, press the **ENTER** key. A blinking question mark (?) appears.

```
>Cassette Type  
? Plain
```

- 6** Press the Δ or ∇ key to display the desired paper type. The message display toggles through the following paper types:

```
Plain  
Preprinted  
Bond  
Recycled  
Rough  
Letterhead  
Color  
Prepunched  
High quality  
Custom 1 (to 8)
```

- 7** When the desired cassette type is displayed, press the **ENTER** key.
- 8** To exit the menu selection, press the **MENU** key.

3.10.6 Selecting the Paper Feed Source

You can select the paper source using the operator panel, from which the printer feeds paper as the default. If an optional paper feeder(s) is installed, it is also available for the default paper source.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Feed Select` appears.

```
>Feed Select
Cassette 1
```

- 5** To change the current paper feed source, press the **ENTER** key. A blinking question mark (?) appears.

```
>Feed Select
? Cassette 1
```

- 6** Press the Δ or ∇ key to display the desired paper feed source. The message display toggles through the following paper feed sources, depending on the installed optional paper feeders (from the top most paper cassette to the bottom paper cassette):

```
MP tray
Cassette 1
Cassette 2
Cassette 3
Cassette 4
```

Cassettes 2, 3 and 4 are available for selection when the optional paper feeders are installed.

- 7** When the desired paper source displayed, press the **ENTER** key.
- 8** To exit the menu selection, press the **MENU** key.

3.10.7 Duplex Printing

Using the optional duplexer (DU-300), you can automatically print on both sides of the paper. The duplexer is mounted underneath the printer.

Duplex printing is available for the following paper types:

Plain
Preprinted
Bond
Recycled
Rough
Letterhead
Color
Prepunched
High quality

Activating the duplexer on the operator panel is done by selecting either short edge or long edge binding mode.



Note

- To use this function, the optional duplexer must be installed on the printer.
- Duplex printing can be also performed from the MP tray. When the MP tray is set to First Mode (First), the paper size and paper type will be the same as those of the paper cassette currently set at the paper feed source. If the paper to be fed from the MP tray does not match the paper size and paper type of the current paper feed source cassette, a paper jam may occur.

Binding Modes

Binding refers to the manner in which printed pages of paper are joined together (by gluing, stitching, etc.) in book form. The two possible types of binding are: long-edge binding, in which pages are joined together along their long edge; and short-edge binding, in which they are joined together along their short edge. In selecting a binding type, you must also consider the orientation of the printed page. You can use long-edge or short-edge binding with either landscape or portrait printing.

Depending on the binding type and print orientation, the duplexer provides four types of binding. These are: (1) portrait, long-edge, (2) portrait, short edge, (3) landscape, long-edge, and (4) landscape, short-edge. The figure below shows these binding methods.

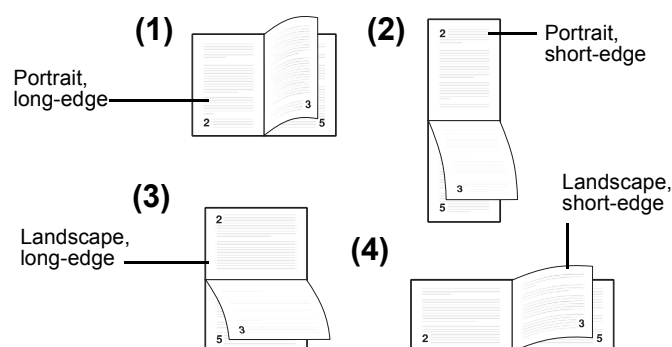


Figure 3-15

To select duplex printing and binding setup from the operator panel, proceed as follows. This procedure can only be performed when the optional duplexer (DU-300) is installed.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Duplex Mode` appears.

```
>Duplex Mode
None
```

- 5** To activate duplex printing, press the **ENTER** key. A blinking question mark (?) appears.

```
>Duplex Mode
?None
```

- 6** Press the Δ or ∇ key to display the desired binding mode. The message display toggles through the following:

```
None (default)
Long edge bind
Short edge bind
```

- 7** When the desired binding mode is displayed, press the **ENTER** key. The binding mode is set.
- 8** To exit the menu selection, press the **MENU** key.

Note on Duplex Printing from the MP Tray

- You cannot select the MP tray, when it is set to 'cassette' mode, to perform duplex printing. To perform duplex printing, select a paper cassette.
- It is possible to duplex-print using the MP tray if it is set in 'first' mode. (See [Section 3.10.1 MP Tray Mode on page 3-68.](#)) However, be sure to set the MP tray paper size and paper type to the same paper size and paper type as those of the current paper cassette. If the paper size or type differs, a paper jam may occur.

3.10.8 Overriding Difference between A4 and Letter

When the `Override A4/LT` is turned on using the operator panel, the printer ignores the difference between A4 and Letter paper sizes. Printing is performed without an error message even if the actual paper size in the current cassette differs from the paper size formatting the job.

By default, this feature is off. To confirm and turn on the `Override A4/LT`, proceed as follows:

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Override A4/LT` appears.

```
>Override A4/LT  
Off
```

- 5** To change overriding mode, press the **ENTER** key. A blinking question mark (?) appears.

```
>Override A4/LT  
? Off
```

- 6** Press the Δ or ∇ key to change `Off` to `On`.
- 7** Press the **ENTER** key. The overriding mode is set.
- 8** To exit the menu selection, press the **MENU** key.

3.10.9 Creating Custom Paper Type

The following describes the procedure used to set a user-defined paper type for the printer. Eight custom user settings may be registered. After having been set, any of these may be called up when setting the paper type for a paper source.

The paper weight and duplex path can be set (see [Setting the Paper Weight on page 3-82](#), and [Setting the Duplex Path on page 3-83](#)) after selecting the paper type to be customized as follows. For how to reset the customized settings, see [section 3.10.10 Resetting the Custom Paper Type on page 3-84](#).

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until Paper Handling > appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until >Type Adjust > appears.

```
>Type Adjust >
Custom 1
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Type Adjust
? Custom 1
```

- 6** Press the Δ or ∇ key to display the desired paper type. The display changes as shown below.

```
Custom 1 (to 8)
Plain
Transparency
Preprinted
Labels
Bond
Recycled
Vellum
Rough
Letterhead
Color
Prepunched
Envelope
Cardstock
Coated
Thick
High quality
```

- 7** When the paper type to be customized is displayed, press the **ENTER** key.

- 8** Press the \triangleright key and proceed to *Setting the Paper Weight*.

Setting the Paper Weight

You can set the paper thickness for your custom paper type to be customized.

- 1** Display the custom paper type (see *section 3.10.9 Creating Custom Paper Type on page 3-81*) and press the \triangleright key.

- 2** Press the \triangle or ∇ key repeatedly until `>>Paper Weight` appears.

```
>>Paper Weight
Normal 1
```

- 3** Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Paper Weight
? Normal 1
```

- 4** Press the \triangle or ∇ key to display the desired paper thickness. The display changes as shown below. For details of the default setting for each paper type, see *Chapter 2 Handling Paper, section 2.5 Paper Type on page 2-21*.

```
Light
Normal 1
Normal 2
Normal 3
Heavy 1
Heavy 2
Heavy 3
Extra Heavy
```

- 5** When the desired paper thickness displayed, press the **ENTER** key.

- 6** Press the **MENU** key. The display returns to Ready.

If the optional duplexer is installed on the printer, duplex printing can be enabled and disabled. See *Setting the Duplex Path* on the following page.

Setting the Duplex Path



Note

To use this function, the optional duplexer must be installed on the printer.

If the optional duplexer is installed on the printer, you can set whether or not to enable duplex printing as follows. The default setting is `Enable`.

1 Display the custom paper type (see [section 3.10.9 Creating Custom Paper Type on page 3-81](#)) and press the `▷` key.

2 Press the `△` or `▽` key repeatedly until `>>Duplex path` appears.

```
>>Duplex path
  Enable
```

3 Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Duplex path
? Enable
```

4 Select `Enable` or `Disable` using the `△` or `▽` key. For details of the default setting for each paper type, see [Chapter 2 Handling Paper, section 2.5 Paper Type on page 2-21](#).

5 Press the **ENTER** key.

6 Press the **MENU** key. The display returns to `Ready`.

The custom paper type setting is completed.

3.10.10 Resetting the Custom Paper Type

If you want to reset all custom paper type settings to the factory default, proceed as follows:

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until Paper Handling > appears.

Paper Handling >

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until >Reset Type Adjust appears.

>Reset Type
Adjust

5 To reset all custom paper types, press the **ENTER** key. A question mark (?) appears.

>Reset Type
Adjust ?

6 Press the **ENTER** key. All customized paper types will be reset to the default. The display returns to Ready.

3.10.11 Selecting the Output Stack

The Stack Select menu on the operator panel allows you to select either the face-down tray or the face-up tray for the output stack.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Paper Handling >` appears.

```
Paper Handling >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Stack Select` appears.

```
>Stack Select  
Face-down tray
```

- 5** To change the output stack, press the **ENTER** key. A blinking question mark (?) appears.

```
>Stack Select  
? Face-down tray
```

- 6** Press the Δ or ∇ key to toggle through the following output stacks:

```
Face-down tray  
Face-up tray
```

- 7** When the desired output stack is displayed, press the **ENTER** key.

- 8** To exit the menu selection, press the **MENU** key.

3.11 Selecting Monochrome or Color Printing

You can use the Color Mode menu on the operator panel to select the Monochrome or Color printing mode. By default, the printer is set to print in color mode. To change it to monochrome mode, proceed as follows:

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Color Mode` appears.

```
Color Mode
Color
```

3 To change color mode, press the **ENTER** key. A blinking question mark (?) appears.

```
Color Mode
? Color
```

4 Press the Δ or ∇ key to change color mode — `Color` or `Monochrome`.

5 When the desired color mode is displayed, press the **ENTER** key. Color mode is changed.

6 To exit the menu selection, press the **MENU** key.

3.12 Reading Life Counters

You can display the total number of pages printed by your printer whenever it is necessary. The total number of printed pages can also be checked on the status page. See [section 3.3.2 Printing a Status Page on page 3-17](#). For proper maintenance scheduling, you need to reset the toner counter using this menu each time a new toner container is installed.

3.12.1 Displaying the Total Printed Pages

This procedure displays the total number of printed pages. You cannot change the displayed value.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Life Counters >` appears.

```
Life Counters >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Total Print` appears and the latest total print count is shown.

```
>Total Print  
0123456
```

- 5** To exit the menu selection, press the **MENU** key.

3.12.2 Resetting the Toner Counter

The toner containers must be replaced when the printer displays the `Low toner` or `Replace toner` message which will be given depending on the color of toner. The `Low toner` message will be shown as a pre-warning that the toner is running out and the printer will soon stop, at that time showing `Replace toner`. If you replace the toner container before `Replace toner` is displayed, you must manually reset the toner counter as explained below.

Note that if you reset the toner counter before the toner container is replaced, the subsequent toner warnings will not be indicated correctly.

1 Replace the toner container according to the message given on the message display. To replace the toner containers, see [Chapter 5 Maintenance, section 5.1 Toner Container Replacement on page 5-2](#).

2 Press the **MENU** key.

3 Press the Δ or ∇ key repeatedly until `Life Counters >` appears.

```
Life Counters >
```

4 Press the \triangleright key.

5 Press the Δ or ∇ key repeatedly until the message display shows the toner container of the color you replaced — `[C]yan`, `[M]agenta`, `[Y]ellow`, or `blac[K]`. For example, to reset the Cyan toner counter, display `>New Toner [C] Installed`.

6 Press the **ENTER** key. A question mark (?) appears.

```
>New Toner [C]  
Installed ?
```

7 Press the **ENTER** key. The toner counter is reset.

8 To exit the menu selection, press the **MENU** key.

3.13 Other Modes

The following modes can be accessed in the `Others` submenu:

- Message Language
- Automatic Form Feed Timeout Setting
- Sleep Timer Setting
- Received Data Dumping
- Printer Resetting
- Resource Setting
- Alarm (Buzzer) Setting
- Auto Continue Setting
- Duplex Printing Error Detection Setting
- Color Registration
- Service Menu (for service personnel)
- Color Calibration

3.13.1 Selecting the Message Language

You can select the language of the messages on the message display by following the procedure given below. You can optionally download messages in other languages. Contact your Kyocera Mita dealer for information.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>MSG Language` appears. The default message language is `English`.

```
>MSG Language
English
```

- 5** To change the language, press the **ENTER** key. A blinking question mark (?) appears.

```
>MSG Language
? English
```

- 6 Press the Δ or ∇ key. The display cycles through the available selection in the following order:

English
Francais
Deutsch
Italiano
Nederlands
Español
Português

- 7 Press the **ENTER** key.
- 8 Press the **MENU** key. The display returns to Ready.

3.13.2 Automatic Form Feed Timeout Setting

If the printer receives no data for a certain period, it will time out and release the current interface. It prints whatever data it has in its buffer and feeds out the page. The default form feed timeout time is 30 seconds. You can adjust the time-out time as follows:

- 1 Press the **MENU** key.
- 2 Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

- 3 Press the \triangleright key.
- 4 Press the Δ or ∇ key repeatedly until `>Form Feed Time Out 030sec.` appears.

```
>Form Feed  
Time Out 030sec.
```

- 5 To change the timeout time, press the **ENTER** key. A blinking cursor (`_`) appears.

```
>Form Feed  
Time Out 030sec.
```

- 6 Press the Δ or ∇ key to increase or decrease the value at the blinking cursor and set the desired time. The timeout time can be between 0 and 495 seconds, in 5-second increments. Use the \triangleright and \triangleleft keys to move the cursor right and left.
- 7 When the desired timeout time is displayed, press the **ENTER** key.
- 8 To exit the menu selection, press the **MENU** key.

3.13.3 Setting the Sleep Timer

The printer has a sleep timer that is used to conserve power when the printer is not printing, processing, or receiving data. You can turn off or on the sleep timer function using the following procedure.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Sleep Timer >` appears.

```
>Sleep Timer >
015 min.
```

- 5** Press the \triangleright key and display `>>Sleep Mode`.

```
>>Sleep Mode
On
```

- 6** To turn off the sleep timer, press the **ENTER** key. A blinking question mark (?) appears.

```
>>Sleep Mode
? On
```

- 7** Press the Δ or ∇ key to change `On` to `Off`.

```
>>Sleep Mode
? Off
```

- 8** Press the **ENTER** key. The sleep timer is turned off.
- 9** To exit the menu selection, press the **MENU** key.

Sleep Timer Timeout Time

You can adjust the timer timeout time, the length of time the printer waits before entering sleeping mode in the absence of data. The default sleep timer timeout time is 15 minutes.

The printer reverts to normal operation mode when the printer receives a print job, the operator panel is operated, or one of the exterior covers is opened.



Note

Color calibration is automatically executed before the printer reverts to normal operation mode.

To confirm and change the timeout time, proceed as follows:

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Sleep Timer >` appears.

```
>Sleep Timer >
      015min.
```

- 5** To change the timeout time, press the **ENTER** key. A blinking cursor (`_`) appears.

```
>Sleep Timer
      015min.
```

- 6** Press the Δ or ∇ key to increase or decrease the value at the blinking cursor and set the desired time. The timer can be set between 5 and 240 min, in 5-minute increments. Use the \triangleright and \triangleleft keys to move the cursor right and left.
- 7** When the desired timeout time is displayed, press the **ENTER** key.
- 8** To exit the menu selection, press the **MENU** key.

3.13.4 Received Data Dump

You can print data received by the printer as hexadecimal code for debugging programs and files.

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until `> Print HEX-DUMP` appears.

```
>Print HEX-DUMP
```

5 Press the **ENTER** key. A question mark (?) appears.

```
>Print HEX-DUMP?
```

6 Press the **ENTER** key again. The message `Processing` appears for a second, followed by `Waiting`.

```
Processing
```



```
Waiting
```

7 While the message display is indicating `Waiting` (for 30 seconds by default), send data to be hex-dumped to the printer. The message display indicates `Processing` while the data is being received.

You can cancel printing of any more dump data by pressing the **GO** key and then the **CANCEL** key.

8 Once all data has been received, the message `Waiting` will appear. Press the **GO** key to finish hex-dump printing.

3.13.5 Printer Resetting

The procedure described below resets the printer's temporary conditions, such as the current page orientation, font, etc., set by commands to their default values. Downloaded fonts and macros are deleted from the printer's memory.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Printer Reset` appears.

```
>Printer Reset
```

- 5** To reset the printer, press the **ENTER** key. A question mark (?) appears.

```
>Printer Reset ?
```

- 6** Press the **ENTER** key again. `Self test` appears while the printer is resetting itself, followed by `Please wait` and then `Ready`.

```
Self test
```



```
Please wait
```



```
Ready
```

3.13.6 Resource Protection

By default, when you switch from the PCL 6 emulation to another, all downloaded fonts and macros will be lost. Resource protection preserves these PCL resources in memory so that they remain intact even when you have switched back in PCL 6.



Note

Resource protection requires extra memory to store the downloaded fonts and macros. The total size of the printer memory recommended for using the resource protection option is affected by several factors. See [Appendix A Options](#).

By default, resource protection is deactivated. To activate resource protection, proceed as follows:

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Resource Prot.` appears.

```
>Resource Prot.
Off
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Resouce Prot.
? Off
```

- 6** Press the Δ or ∇ key to select `Permanent` or `Perm / Temp` (Permanent/Temporary) for resource protection.
- 7** When the desired resource protection is displayed, press the **ENTER** key.
- 8** To exit the menu selection, press the **MENU** key.

3.13.7 Alarm (Buzzer) Setting

You can set an alarm sound in addition to the message displayed when the paper supply is exhausted, or when paper jamming occurs. This setting is useful, for example, when the printer is located some distance from the user.

The audio alarm is set to `On` when leaving the factory. If the alarm is set to `Off`, it will not sound.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `Buzzer` appears.

```
>Buzzer  
On
```

- 5** Press the **ENTER** key. A blinking question mark (?) appears.

```
>Buzzer  
? On
```

- 6** Select `On` or `Off` using the Δ or ∇ key.
- 7** Press the **ENTER** key.
- 8** To exit the menu selection, press the **MENU** key.

3.13.8 Auto Continue Setting

If an error that still allows you to continue printing occurs (Memory overflow Press GO, Print overrun Press GO, KPDL error Press GO, File not found Press GO, RAM disk error Press GO, MemoryCard err Press GO, Hard disk err Press GO, and Duplex disabled Press GO), the next received data is automatically printed after a set period of time elapses. For example, if the printer is shared over a network as a network printer and one person causes one of the above errors, after the set period of time elapses, the data sent from the next person is printed. The default setting is Off (Auto Continue disabled).



Note

For setting the auto continue recovery time, see the next section.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Others >` appears.


```
Others >
```
- 3** Press the \triangleright key
- 4** Press the Δ or ∇ key repeatedly until `>Auto Continue >` appears.


```
>Auto Continue >
Mode Off
```
- 5** Press the **ENTER** key. A blinking question mark (?) appears.


```
>Auto Continue
Mode ? Off
```
- 6** Select On or Off using the Δ or ∇ key.
- 7** Press the **ENTER** key.
- 8** To exit the menu selection, press the **MENU** key. The display returns to Ready.

3.13.9 Setting the Auto Continue Recovery Time

Follow the procedure given below to change the recovery time for Auto Continue.

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others      >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until `>Auto Continue Mode >` appears.

```
>Auto Continue >
Mode      On
```

5 Press the \triangleright key and display `>> Auto Continue Timer`. The default setting is 30 seconds.

```
>>Auto Continue
Timer      030sec.
```

6 Press the **ENTER** key. A blinking cursor (`_`) appears.

```
>>Auto Continue
Timer      030sec.
```

7 Press the Δ or ∇ key to increase or decrease the value at the blinking cursor and set the desired time. The time must be set between 000 and 495 seconds, in 5-second increments. If set to 000, printing will be continued immediately without any time interval. You can use the \triangleright and \triangleleft keys to move the cursor right and left.

8 Display the desired time and press the **ENTER** key.

9 Press the **MENU** key. The display returns to `Ready`.

3.13.10 Duplex Printing Error Detection Setting

If the error detection setting for duplex printing has been turned On, and you attempt to print onto a paper size and paper type that cannot be used for duplex printing, the Duplex disabled Press GO error message will be displayed and printing will stop. To print onto one-side of the paper only when this message is displayed, press the **GO** key. The default setting is Off.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until Others > appears.

```
Others      >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until >Finishing Error > appears.

```
>Finishing >
Error
```

- 5** Press the \triangleright key and display >>Duplex.

```
>>Duplex
Off
```

- 6** Press the **ENTER** key. A blinking question mark (?) appears.

```
>>Duplex
? Off
```

- 7** Press the Δ or ∇ key to change Off to On.

```
>>Duplex
? On
```

- 8** Press the **ENTER** key.
- 9** To exit the menu selection, press the **MENU** key.

3.13.11 Color Registration

When using the printer for the first time after set-up or after having moved it, or if printout of any color (cyan, magenta or yellow) is skewed, use this mode to correct the color registration on the operator panel.

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until `>Color Registration >` appears.

```
>Color >  
Registration
```

5 Press the \triangleright key.

6 Press the Δ or ∇ key repeatedly until `>>Print Regist Chart` appears.

```
>>Print  
Regist Chart
```

7 Press the **ENTER** key. A question mark (?) appears.

```
>>Print  
Regist Chart ?
```

- 8** Press the **ENTER** key. Processing appears and a color registration correction chart is printed out. There are left (L), horizontal (H) and right (R) registration charts for each color (cyan, magenta and yellow) included on the color registration correction chart.

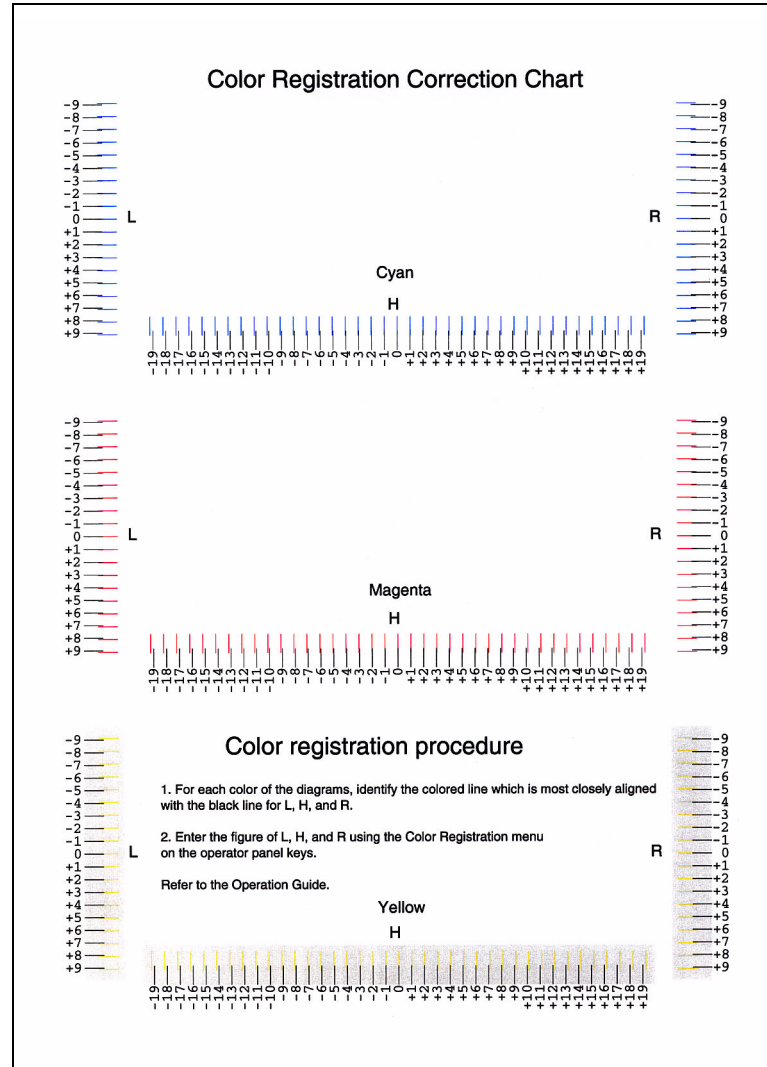


Figure 3-16

- 9** Press the Δ or ∇ key repeatedly until `>>Adjust Cyan` appears.

```
>>Adjust Cyan
L=   H=   R=
```

- 10** Press the **ENTER** key. 0 or 00 will be displayed for each value and the cursor will flash under the left (L) value.

```
>>Adjust Cyan
L= 0 H= 00 R= 0
```


- 11** Look at the left chart (L) in the cyan portion of the color registration correction chart. Find the two lines that most seem to overlap as a single straight line and note the number value listed there. In the example below the value would be -2. (Be careful of plus [+] and minus[-] numbers.)

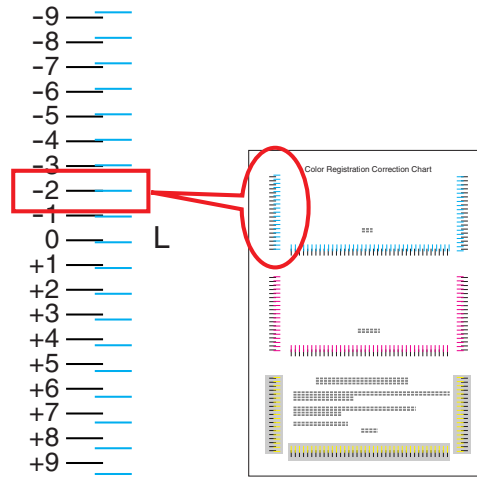


Figure 3-17

- 12** Press the Δ or ∇ key until that value is displayed.

```
>>Adjust Cyan
L=-2 H= 00 R= 0
```

- 13** Use the \triangleright and \triangleleft keys to move the cursor right and left. Perform the same operation as you did for the left (L) value in order to find the horizontal (H) and right (R) values for cyan in the color registration correction chart, and select those values on the operator panel as well.

- 14** Press the **ENTER** key. OK? and each of the entered values will be displayed. If the displayed values are correct, press the **ENTER** key.

```
OK?
L=-2 H= 00 R=+1
```

- 15** Press the ∇ key. >>Adjust Magenta will be displayed and, once you complete the settings for that color, >>Adjust Yellow will be displayed as well. Perform the same operation as you did for the cyan chart in order to find the values for magenta and yellow in the color registration correction chart, and perform those settings in the same way.

- 16** Once you have completed the settings for all 3 colors, press the **MENU** key. The display returns to Ready.



If the problem of skewed-color printout still persists even after correcting the color registration, call for service.

3.13.12 Printing the Service Status Page

The service status page contains printer settings information that is more detailed than the standard status page and is therefore mostly for service purposes. However, since there is a great deal of information on the service status page that may be useful to you, the procedure for printing it out is given below.

- 1** Press the **MENU** key.
- 2** Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

- 3** Press the \triangleright key.
- 4** Press the Δ or ∇ key repeatedly until `>Service >` appears.

```
>Service >
```

- 5** Press the \triangleright key.
- 6** Press the Δ or ∇ key repeatedly until `>>Print Status Page` appears.

```
>>Print  
Status Page
```

- 7** Press the **ENTER** key. A question mark (?) appears.

```
>>Print  
Status Page ?
```

- 8** Press the **ENTER** key. The display indicates `Processing` and printing starts.

3.13.13 Color Calibration

This printer contains a calibration function that automatically makes adjustments in compensation for secular changes that occur over time due to variations in the ambient temperature and humidity. So that the highest quality color printing can be maintained, this color calibration operation is carried out automatically each time the power to the printer is turned on. The color calibration operation may be carried out automatically during recovery from the Sleep mode or during printing.

To manually carry out the color calibration operation, perform the following procedure.

1 Press the **MENU** key.

2 Press the Δ or ∇ key repeatedly until `Others >` appears.

```
Others >
```

3 Press the \triangleright key.

4 Press the Δ or ∇ key repeatedly until `>Service >` appears.

```
>Service >
```

5 Press the \triangleright key.

6 Press the Δ or ∇ key repeatedly until `>>Color Calibration` appears.

```
>>Color  
Calibration
```

7 To let the printer perform color calibration, press the **ENTER** key. A question mark (?) appears to let you confirm the execution of calibration.

```
>>Color  
Calibration ?
```

8 Press the **ENTER** key. The message display shows `Please wait (Calibrating)` and calibration will start.

```
Please wait  
(Calibrating)
```

9 When calibration is finished, the display returns to `Ready`.

Chapter 4 Troubleshooting

This chapter explains how to handle printer problems that may occur. If a problem cannot be corrected, contact your Kyocera Mita dealer. This chapter explains the following topics:

- *General Guidelines*
- *Print Quality Problems*
- *Error Messages*
- *Clearing Paper Jams*

4.1 General Guidelines

The table below provides basic solutions for problems you may encounter with the printer. We suggest you consult this table to troubleshoot the problems before calling for service.

Symptom	Check Items	Corrective Action
Print quality is not good.	See Section 4.2 Print Quality Problems on page 4-3 .	
Paper is jammed.	See Section 4.4 Clearing Paper Jams on page 4-12 .	
Nothing lights on the operator panel even when power is turned on and the fan makes no noise.	Check that the power cord is properly plugged into the power outlet.	Turn off the printer's power, plug in the power cord securely, and try turning on the printer's power again.
	Check that the power switch is in the On (I) position.	Set the power switch to the On position.
The printer prints a status page, but does not print jobs from the computer.	Check the printer cable or the interface cable.	Connect both ends of the printer cable securely. Try replacing the printer cable or the interface cable.
	Check program files and application software.	Try printing another file or using another print command. If the problem occurs only with a specific file or application, check the printer driver settings for that application.

Table 4-1

4.1.1 Tips

Printer problems may be solved easily by following the tips below. When you have encountered a problem that following the above guidelines will not solve, try the following:

- Turn the printer power off and wait for several seconds. Then, turn on the printer.
- Reboot the computer which sends the print jobs to the printer.
- Obtain and use the latest version of the printer driver. The latest versions of printer drivers and utilities are available at: <http://www.kyoceramita.com/download/>.
- Make sure that the procedures for printing are correctly followed in the application software. Consult the documentation supplied with the application software.
- If the printer prints garbage characters or stalls when the computer is turned on, particularly when the printer is connected to the computer under Windows 98 via the parallel port, rename device driver file drvwppqt.vxd. This file may be located in Windows\System\Iosubsys or Arcada\System folder. For technical details, visit Microsoft web site for the device driver.

4.2 Print Quality Problems

The tables and diagrams in the following sections define print quality problems and the corrective action you can conduct to solve the problems. Some solutions may require cleaning or replacing parts of the printer.

If the suggested corrective action will not solve the problem, call for service.

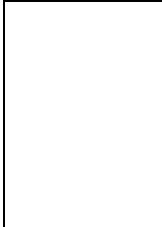

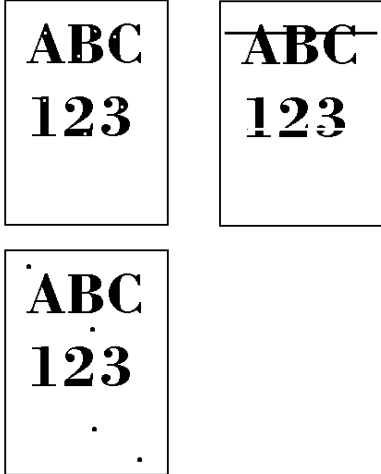
Printed Results	Corrective Action
<p>Completely blank printout</p> 	<p>Check the toner containers.</p> <p>Open the printer top cover and check that the toner containers are correctly installed in the printer. For more information on installing the toner containers, see Chapter 5 Maintenance, section 5.1 Toner Container Replacement on page 5-2.</p> <hr/> <p>Check that the application software is correctly operated.</p>
<p>Full single-color printout</p> 	<p>Check the charger unit.</p> <p>Open the left cover and check that the charger unit is correctly installed.</p> <hr/> <p>Check the advanced beam array lens cleaners.</p> <p>Open the left cover and make sure that the lens cleaners are securely pushed all the way into the printer. For full details, see Chapter 5 Maintenance, section 5.3.3 Cleaning the Advanced Beam Array Lenses on page 5-17.</p>
<p>Dropouts, horizontal streaks, stray dots</p> 	<p>Clean the main charger units.</p> <p>Open the left cover. Slowly pull the green wire cleaner knob to each of the main charger units in and out a few times. For full details, see Chapter 5 Maintenance, section 5.3.1 Cleaning the Main Charger Unit on page 5-11.</p>

Table 4-2

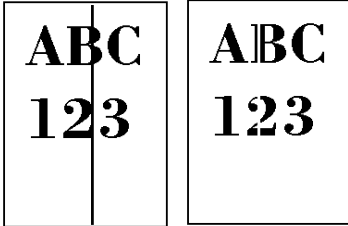
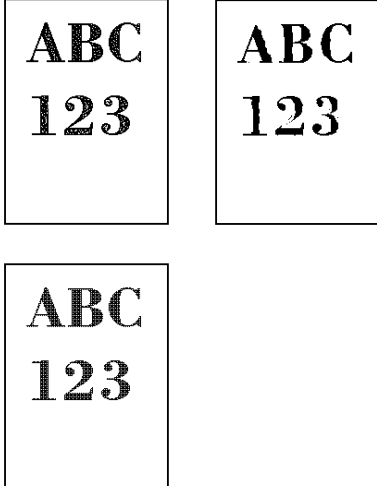
Printed Results	Corrective Action
<p>Black or white vertical streaks</p> 	<p>Check the operator panel for toner.</p> <p>If the Toner low (C/M/Y/K) message is displayed with color description, install a new toner kit for the color. To replace the toner container, see Chapter 5 Maintenance, section 5.1 Toner Container Replacement on page 5-2.</p> <hr/> <p>Clean the main charger units.</p> <p>Open the left cover. Slowly pull the green wire cleaner knob to each of the main charger units in and out a few times. For full details, see Chapter 5 Maintenance, section 5.3.1 Cleaning the Main Charger Unit on page 5-11.</p> <hr/> <p>Clean the advanced beam array lenses.</p> <p>Open the left cover. Slowly pull the green lens cleaner knob in and out 2 times. For full details, see Chapter 5 Maintenance, section 5.3.3 Cleaning the Advanced Beam Array Lenses on page 5-17.</p>
<p>Faint or blurred printing</p> 	<p>Clean the main charger units.</p> <p>Open the left cover. Slowly pull the green wire cleaner knob to each of the main charger units in and out a few times. For full details, see Chapter 5 Maintenance, section 5.3.1 Cleaning the Main Charger Unit on page 5-11.</p> <hr/> <p>Clean the advanced beam array lenses.</p> <p>Open the left cover. Slowly pull the green lens cleaner knob in and out 2 times. For full details, see Chapter 5 Maintenance, section 5.3.3 Cleaning the Advanced Beam Array Lenses on page 5-17.</p> <hr/> <p>Make sure the paper type setting is correct the paper being used. See Chapter 3 Using the Operator Panel, section 3.10.5 Setting the Cassette Paper Type on page 3-76.</p> <hr/> <p>Conduct color calibration either by switching the printer off then on or using the printer operator panel. For full details, see Chapter 3 Using the Operator Panel, section 3.13.13 Color Calibration on page 3-104.</p> <hr/> <p>Try adjusting the color control settings using the printer driver.</p> <hr/> <p>Check the operator panel. If the Toner low (C/M/Y/K) message is displayed with color description, install a new toner kit for the color. To replace toner, see Chapter 5 Maintenance, section 5.1 Toner Container Replacement on page 5-2.</p>



Table 4-2 (Continued)

Printed Results	Corrective Action
Grey background	<p>Clean the main charger units.</p> <p>Open the left cover. Slowly pull the green wire cleaner knob to each of the main charger units in and out a few times. For full details, see Chapter 5 Maintenance, section 5.3.1 Cleaning the Main Charger Unit on page 5-11.</p> <hr/> <p>Check the charger units installation.</p> <p>Open the left cover and check that the charger units are correctly installed and seated as far as it will go. See Chapter 5 Maintenance, section 5.3 Cleaning the Printer on page 5-11.</p> <hr/> <p>Conduct color calibration either by switching the printer off then on or using the printer operator panel. For full details, see Chapter 3 Using the Operator Panel, section 3.13.13 Color Calibration on page 3-104.</p>
Dirt on the top edge or back of the paper	<p>Check the paper chute and the ramp.</p> <p>Pull out the paper transfer unit and check for toner on the paper ramp. Clean the paper ramp using a soft, dry, lint-free cloth. For details, see Chapter 5 Maintenance, section 5.3.2 Cleaning the Paper Transfer Unit on page 5-16.</p>

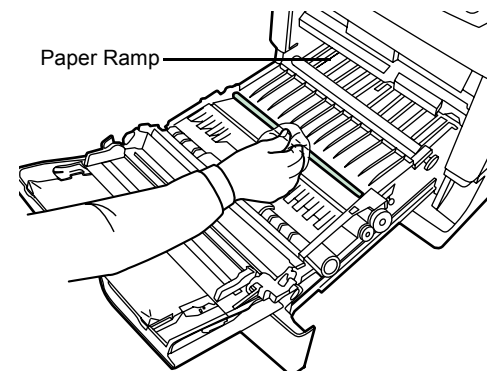
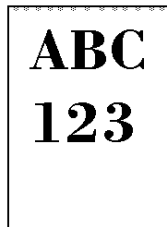
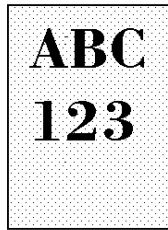


Table 4-2 (Continued)

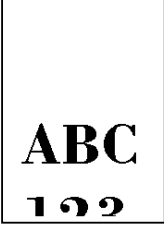
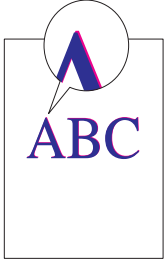
Printed Results	Corrective Action
Printing incomplete or out of position	Check that the application software is correctly operated.
	See 4.1.1 Tips on page 4-2 .
Skewed-color printout	Conduct color registration using the printer operator panel. For full details, see Chapter 3 Using the Operator Panel, section 3.13.11 Color Registration on page 3-100 .
	

Table 4-2 (Continued)

4.3 Error Messages

The following table lists errors and maintenance messages that you can be dealt with by yourself. If `Call service` appears, turn off the printer, disconnect the power cord, and contact your Kyocera Mita dealer.

Some errors cause the alarm sound to sound. To stop the alarm sound, press the **CANCEL** key to stop the alarm sound.

Message	Corrective Action
Add paper MPTray	The paper has run out in the paper source displayed. Supply paper according to the paper source displayed (paper cassettes, MP tray, optional paper feeders, or optional envelope feeder). This message is displayed alternately with messages indicating the printer status, such as, Ready, Please wait, Processing, Waiting, and Form Feed Time Out. If the number of copies to print is 2 or more, only the Add paper message is displayed.
Call service F###:	F### represents a controller error (#=0, 1, 2, ...). Call for service. The printer does not operate when this message is displayed.
Call service ####:0123456	#### represents a mechanical error (#=0, 1, 2, ...). Call for service. The printer does not operate when this message is displayed. The total number of pages printed is also indicated, e.g. 0123456.
Call service Person F0	This message means an error in data communications between the printer controller and the operator panel. Call for service.
Cassette # not loaded	The corresponding paper cassette is not installed. Install the cassette. The cassette number can be 1 (topmost) to 4 (bottom).
Check waste toner box	This message warns following two cases. Install the new waste toner box. <ul style="list-style-type: none"> The waste toner box is not installed. The waste toner box is almost full.
Clean printer Press GO	Please clean the inside of the printer. See Chapter 5 Maintenance, section 5.3 Cleaning the Printer on page 5-11 . This message will be displayed when replacing the toner container after the message <code>Replace toner C, M, Y, K</code> is displayed. After cleaning the inside of the printer, press the GO key and the printer will be ready for printing. If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to Chapter 3 Using the Operator Panel, section 3.13.8 Auto Continue Setting on page 3-97 .
Close duplexer rear unit	The rear unit of the optional duplexer is open. Close the duplexer rear unit.
Close duplexer top cover	The top cover of the optional duplexer is open. Close the duplexer top cover.
Close paper transfer unit	The paper transfer unit is open. Close the paper transfer unit.

Table 4-3

Message	Corrective Action
Close left cover	The left cover of the printer is open. Close the left cover.
Close rear cover	The rear cover of the printer is open. Close the printer rear cover.
Close top cover	The top cover of the printer is open. Close the printer top cover.
Duplex disabled Press GO	You attempted to print with a paper size and paper type that cannot be used for duplex printing. Press the GO key to print onto one-side of the paper only.
Face-down tray paper full	The face-down tray has become full (approx. 250 pages). You must remove all printed pages from the face-down tray. When the printer detects that the face-down tray is empty again, the printer will continue printing into the face-down tray.
File not found Press GO	You have attempted to print a job that is not contained in the specified virtual mailbox, or the specified virtual mailbox is not found. If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to Chapter 3 Using the Operator Panel, section 3.13.8 Auto Continue Setting on page 3-97 .
Format error Hard disk	The hard disk installed in the printer is not formatted, and therefore cannot be read or written. To format the hard disk, follow the procedure in the Installation Guide of the hard disk.
Format error Memory card	The memory card inserted in the printer is not formatted, and therefore cannot be read or written. To format a memory card, follow the procedure in Chapter 3 Using the Operator Panel, section Formatting a Memory Card on page 3-63 .
Hard disk err ## Press GO	A hard disk error has occurred. Look at the error code given in place of ## and refer to Storage Error Codes on page 4-11 . To ignore the hard disk error, press the GO key.
I/F occupied	This message is displayed when you attempt to use the printer's operator panel to change the environmental settings on the interface from which data are presently being received.
ID error	The user ID entered for a private job, or a stored job is not correct. Check the user ID that you specified on the printer driver.
Insert the same memory card	You have inserted the wrong memory card when the Insert again message was displayed. Remove the wrong memory card from the printer's memory card slot and insert the correct memory card. The printer again reads it from the beginning of the data.
Install MK	Replace Maintenance Kit which is displayed on the message display. Replacement of the maintenance kit is necessary at every 200,000 images of printing and requires professional servicing. Contact your Kyocera Mita dealer.
KPDL error ## Press GO	Current print processing cannot continue because of occurrence of KPDL error which is categorized by ##. To print out an error report, display > Print KPDL err(s) from the menu system, and select On. Press the GO key to resume printing. You can abandon printing by the CANCEL key. If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to Chapter 3 Using the Operator Panel, section 3.13.8 Auto Continue Setting on page 3-97 .

Table 4-3 (Continued)

Message	Corrective Action
Load Cassette # (A4)/(PLAIN) [†]	<p>The paper cassette matching the paper size and paper type of the print job is empty. Load paper into the paper cassette as displayed in place of #. Press the GO key to resume printing.</p> <p>If you want to print from a different paper source, press the Δ or ∇ key to display <i>Use alternative</i> and you can change the source for paper feeding. After selecting a paper source and pressing the MENU key, <i>Paper Handling ></i> appears. By pressing the Δ key, the paper type settings menu appears. After setting the correct paper type, press the ENTER key and printing starts. For details, see Chapter 3 Using the Operator Panel, section 3.10.6 Selecting the Paper Feed Source on page 3-77.</p>
Load EF (A5)/(PLAIN) [†]	<p>There is no paper cassette installed in the printer that matches the paper size and paper type of the print job. Set paper in the envelope feeder. Press the GO key to resume printing. (Note that feeding the paper having a paper size which does not match the current paper size from the envelope feeder can cause paper jam.)</p> <p>If you want to print from a different paper source, press the Δ or ∇ key to display <i>Use alternative</i> and you can change the source for paper feeding. After selecting a paper source and pressing the MENU key, <i>Paper Handling ></i> appears. By pressing the Δ key, the paper type settings menu appears. After setting the correct paper type, press the ENTER key and printing starts. For details, see Chapter 3 Using the Operator Panel, section 3.10.6 Selecting the Paper Feed Source on page 3-77.</p>
Load MP Tray (A4)/(PLAIN) [†]	<p>There is no paper cassette installed in the printer that matches the paper size and paper type of the print job. Set paper in the MP tray. Press the GO key to resume printing. (Note that feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.)</p> <p>If you want to print from a different paper source, press the Δ or ∇ key to display <i>Use alternative</i> and you can change the source for paper feeding. After selecting a paper source and pressing the MENU key, <i>Paper Handling ></i> appears. By pressing the Δ key, the paper type settings menu appears. After setting the correct paper type, press the ENTER key and printing starts. For details, see Chapter 3 Using the Operator Panel, section 3.10.6 Selecting the Paper Feed Source on page 3-77.</p>
Memory card err Insert again	<p>The memory card is accidentally removed from the printer's memory card slot during reading. If you continue reading the memory card, insert the same memory card into the slot again. The printer again reads it from the beginning of the data.</p> <p>Also see Insert the same memory card.</p>
Memory overflow Press GO	<p>The total amount of data received by the printer exceeds the printer's internal memory. Try adding more memory. Press the GO key to resume printing. You can abandon printing by the CANCEL key.</p> <p>If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to Chapter 3 Using the Operator Panel, section 3.13.8 Auto Continue Setting on page 3-97</p>
MemoryCard err## Press GO	<p>A memory card error has occurred. Look at the error code given in place of ## and refer to Storage Error Codes on page 4-11. To ignore the memory card error, press the GO key</p>
Missing duplex drawer	<p>The duplex drawer is either not installed or incorrectly inserted. Insert the duplex drawer securely.</p>
Paper jam #####	<p>A paper jam has occurred. The location of the paper jam is indicated in place of the #'s. For details, see Section 4.4 Clearing Paper Jams on page 4-12.</p>

Table 4-3 (Continued)

Message	Corrective Action
Paper path error	There is no paper cassette in the feeder, or the cassette is not inserted properly. After reinserting the paper cassette, you should be able to print. When two or more optional feeders are installed and the lowest one is selected, the same message will appear if any of the upper paper feeder and the printer cassette is improperly installed.
Print overrun†† Press GO	The print job transferred to the printer was too complex to print on a page. Press the GO key to resume printing. (A page break may be automatically inserted in some places.) You can abandon printing by the CANCEL key. If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to Chapter 3 Using the Operator Panel, section 3.13.8 Auto Continue Setting on page 3-97
RAM disk error## Press GO	A RAM disk error has occurred. Look at the error code given in place of ## and refer to Storage Error Codes on page 4-11 . To ignore the RAM disk error, press the GO key.
Replace toner C, M, Y, K	Two message items are displayed alternately. Toner has run out in the toner container(s). Replace the toner container using a new toner kit for the particular color. The printer does not operate when this message is displayed.
↓ ↑	For example, if Replace toner C, K is displayed, replace the cyan and the black toner containers.
Replace toner Clean printer	
Set paper Press GO	The MP tray is out of paper. Load paper and press the GO key. (Note that feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.)
Toner low C, M, Y, K	Replace the toner container using a new toner kit. Color of the toner container that needs to be replaced is represented by C (Cyan), M (Magenta), Y (Yellow), and K (Black).
Virtual mailbox full	The storage area in the hard disk for the virtual mailboxes is full. Print out accumulated jobs in the virtual mailboxes.
Warning low memory	The printer's internal memory is running low due to too many numbers of fonts and macros downloaded. Try deleting unnecessary fonts and macros.

Table 4-3 (Continued)

† Messages separated by '()/()' are displayed alternately.

†† After this error has happened, page protect mode will be automatically turned on. To maintain optimum use of memory during printing, we recommend you manually turn off page protect mode. See [Chapter 3 Using the Operator Panel, section 3.7.3 Page Protect Mode on page 3-54](#).

Storage Error Codes

Hard Disk Errors

Code	Meaning
01	Hard disk format error. If this error recurs even if the power has been turned off and then on, reformat the hard disk.
02	The disk system is not installed. Recheck the requirements for using the system and the devices.
04	There is no available hard disk space. Delete unnecessary files, etc., in order to free up space.
05	The specified file does not exist in the hard disk.
06	There is no memory available to the hard disk system. Increase the available memory.
10	Formatting is not possible because host data is being spooled on the hard disk. Wait until the hard disk is ready, and then format.
85	VMB: Alias error. The alias setting was lost, or the virtual tray corresponding to the alias does not exist. Set the alias again.
97	The number of permanent code jobs that can be stored reached the limit value, and no more can be saved. Either delete some unnecessary jobs, etc., or increase the limit.
98	An unreadable page was found in a job (The job is damaged.).
99	A print job for the specified ID does not exist in the hard disk.

Table 4-4

Memory Card Errors

Code	Meaning
01	The printer does not support the memory card inserted. The memory card must meet the requirements described in <i>Appendix A Options, section A.3.1 Memory Card on page A-7</i> .
02	The memory card is not installed.
04	The memory card is full and cannot hold further data. Purge unnecessary files or use a new memory card.
05	Specified file is not on the memory card.
06	Insufficient printer memory to support the memory card system. Expand printer memory.

Table 4-5

RAM Disk Errors

Code	Meaning
01	Format error. Try turning the power off and on again.
02	RAM disk mode is Off. Turn RAM disk mode On from the operator panel.
04	No disk space. Purge unnecessary files.
05	Specified file is not on disk.
06	Insufficient printer memory to support the RAM disk system. Expand printer memory.

Table 4-6

4.4 Clearing Paper Jams

If the paper jammed in the paper transport system, or no paper sheets were fed at all, the Paper jam message appears and the location of the paper jam (the component where the paper jam has occurred) is also indicated. The printer automatically goes off-line when this message is displayed. Remove jammed paper. After removing jammed paper, the printer will re-start printing.

4.4.1 Possible Paper Jam Locations

The figure below explains the printer's paper paths including the options. The locations where paper jams might occur are also shown here, with each location explained in [Table 4-7](#) below. Paper jams can occur in more than one component on the paper paths.

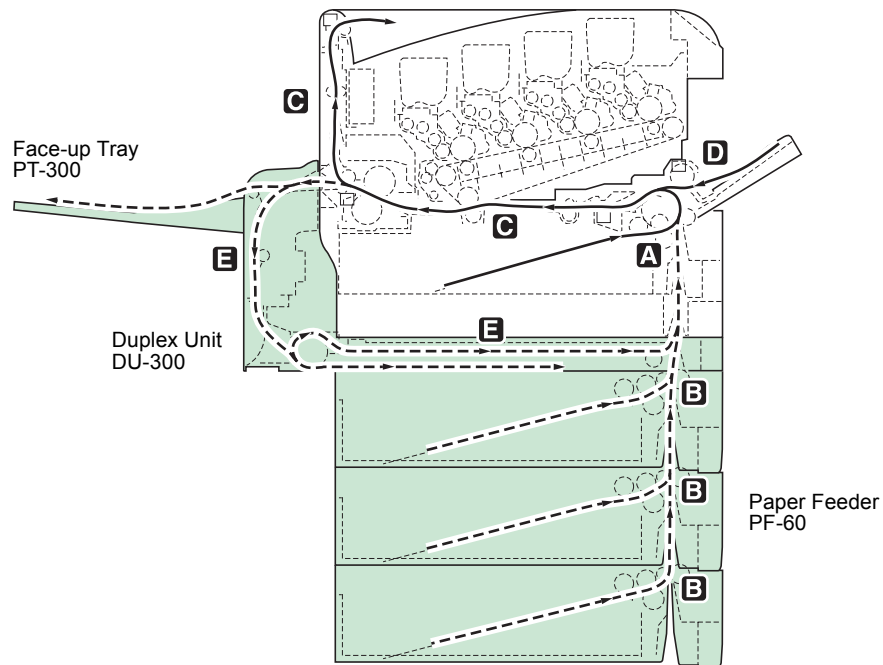


Figure 4-1

Paper jam message	Paper jam location	Description	Reference page
Paper jam Cassette 1	A	Paper is jammed at the paper cassette.	4-14
Paper jam Cassette 2 (to 4)	B	Paper is jammed at the optional paper feeder's cassette.	4-14
Paper jam Printer	C	Paper is jammed inside the printer.	4-15 4-16

Table 4-7

Paper jam message	Paper jam location	Description	Reference page
Paper jam MP Tray	D	Paper is jammed at the MP tray or optional envelope feeder (if installed).	4-17
Paper jam EF			
Paper jam Duplexer	E	Paper is jammed inside the rear cover of the optional duplexer or at the duplexer drawer.	4-17

Table 4-7

4.4.2 General considerations for clearing jams

Bear in mind the following considerations when attempting jam removal:



When pulling the paper, pull it gently so as not to tear it. Torn pieces of paper are difficult to remove and may be easily overlooked, deterring the jam recovery.

- If paper jams occur frequently, try using a different type of paper, replace the paper with paper from another ream, flip the paper stack over, or rotate the paper stack 180 degrees. Selection of paper is fully discussed in *Chapter 2 Handling Paper on page 2-1*. The printer may have problems if paper jams recur after the paper was replaced.
- Whether or not the jammed pages are reproduced normally after printing is resumed depends on the location of the paper jam.

Utilizing Online Help Messages

Online help messages are available in the printer's message display to provide simple instructions for clearing jams. Press the (?) key when the paper jam message has appeared. Then a help message will appear to facilitate jam clearing in the location.

4.4.3 Jam at the Paper Cassette

Paper is jammed at the paper cassette or inside the printer. Remove the jammed paper using the procedure given below.

- 1** Pull out the paper cassette and remove the jammed paper.

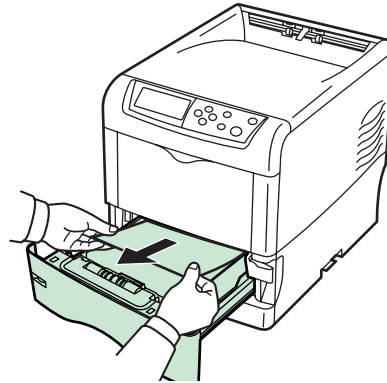


Figure 4-2

- 2** If paper is jammed at the standard paper cassette (Cassette 1), open and close the paper transfer unit (the paper jam error will be reset).

4.4.4 Jam at the Paper Transfer Unit

- 1** While pulling the green paper transfer unit release lever, pull out the paper transfer unit.

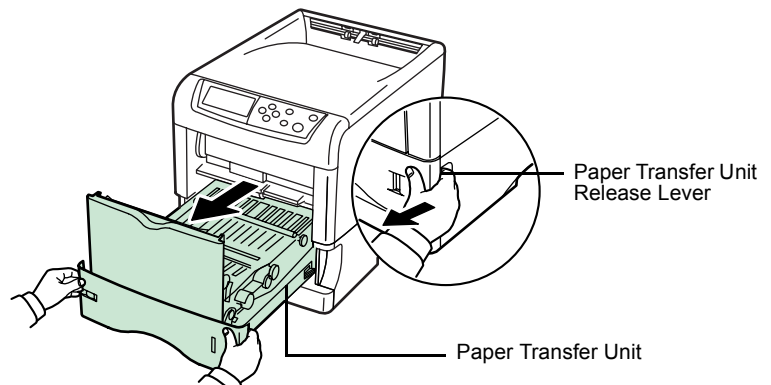


Figure 4-3

- 2** If paper is jammed as shown in **A**, remove the paper by pulling the center up. If paper is jammed as shown in **B**, remove the paper by pulling the edge.

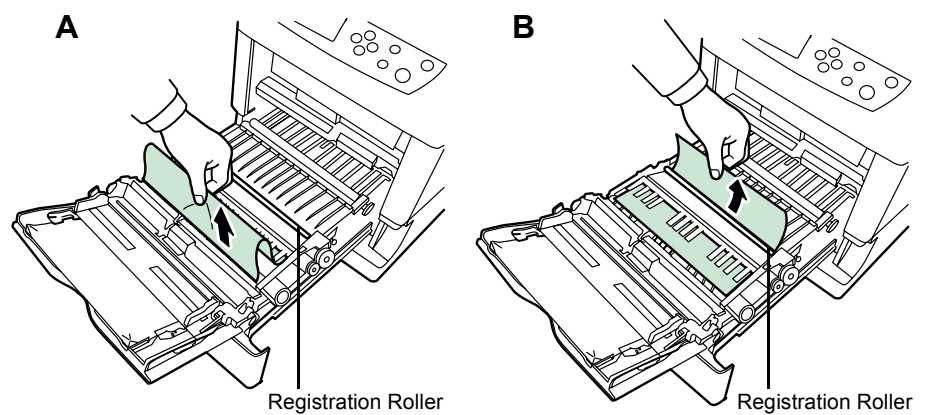


Figure 4-4

- 3** Push the paper transfer unit back in.

4.4.5 Jam at the Rear Cover

- 1 While pulling the green paper transfer unit release lever, pull out the paper transfer unit.

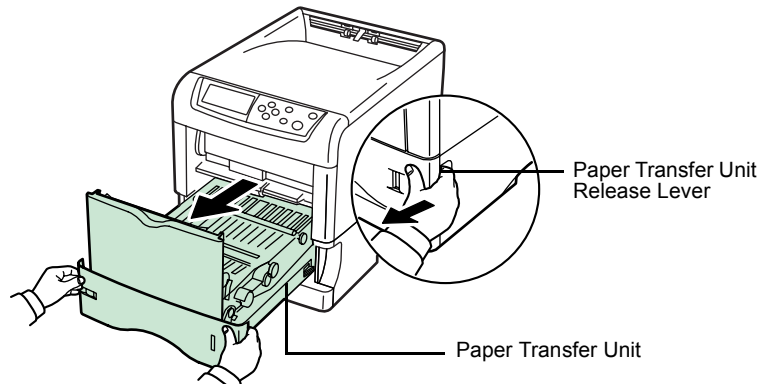


Figure 4-5

- 2 Open the rear cover and then the fuser cover, and remove the jammed paper.



Note

If the optional face-up tray is installed on the printer, remove that tray first before attempting to remove the jammed paper.

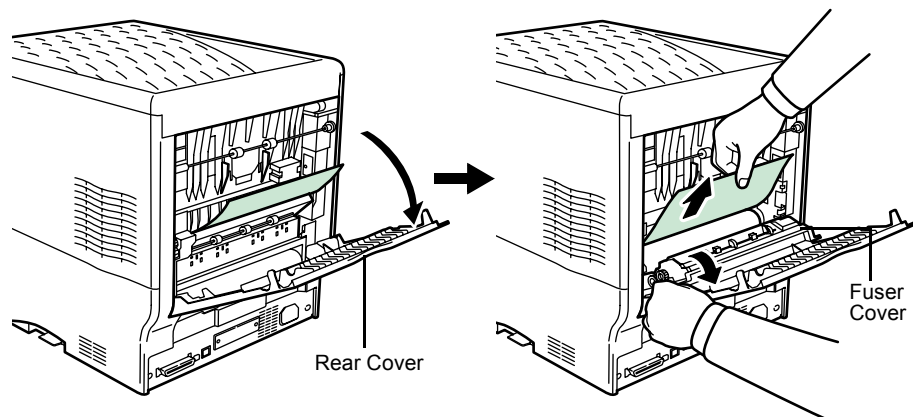


Figure 4-6



Caution

The fuser unit inside the printer is hot. Do not touch it with your hands as it may result in burn injury. Remove jammed paper carefully.

- 3 Push the paper transfer unit back in and close the fuser cover and rear cover.

4.4.6 Jam at the MP Tray

Paper is jammed at the MP tray. Remove the jammed paper using the procedure given below.

- 1** Remove the paper jammed at the MP tray.

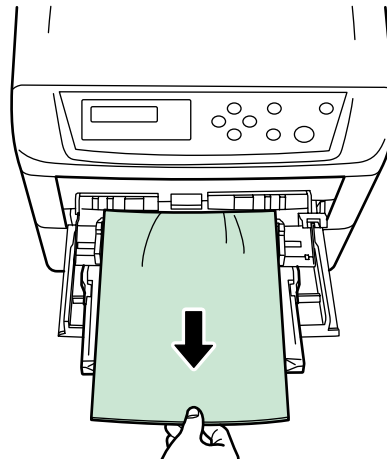


Figure 4-7

- 2** Open and close the paper transfer unit (the paper jam error will be reset).

4.4.7 Jam at the Optional Envelope Feeder

Paper is jammed at the optional envelope feeder. Remove the jammed paper using the same procedure as for a jam at the MP Tray. Then, open and close the paper transfer unit. For details, refer to the User's Manual for the envelope feeder.

4.4.8 Jam at the Optional Duplexer

Paper is jammed inside the rear cover of the optional duplexer or at the duplexer drawer. Refer to the Operation Guide for the duplexer and remove the jammed paper.

Chapter 5 Maintenance

This chapter describes basic maintenance tasks you can perform on the printer. You can replace the following component according to the printer's display:

- Toner Kits
- Waste Toner Box

Also, the following parts need periodic cleaning:

- Paper Transfer Unit
- Main Charger Units
- Advanced Beam Array Lenses

5.1 Toner Container Replacement

5.1.1 Frequency of toner container replacement

The life of the toner containers depends on the amount of toner required to accomplish your printing jobs. When 5 % coverage (a typical business document) of individual toner colors is assumed for A4 or letter size paper in landscape orientation:

- The black toner container lasts an average of 8,000 monochrome pages.
- The cyan, magenta, and yellow toner containers last an average of 8,000 color images.

You can print a status page to check how much toner remains in the toner container. For details, see [Chapter 3 Using the Operator Panel, section 3.3.2 Printing a Status Page on page 3-17](#). The Toner Gauge section on the status page shows a progress bar for each color, which roughly represents how much toner is left in the toner container.

Starter Toner Containers

The toner containers packed with the new printer are starter toner containers. The black starter toner container lasts an average of 4,000 monochrome pages. The cyan, magenta, and yellow starter toner containers last an average of 4,000 color images for each.

Toner Kits

It is strongly recommended to use the new Kyocera Mita Toner Kit supplied from Kyocera Mita to prevent printer troubles and ensure a long printer life.

The toner kits are supplied in 4 different colors: cyan, magenta, yellow and black.

A new toner kit for each color contains the following items:

- Toner Container
- Cleaning cloth
- Grid cleaner for main charger cleaning
- Plastic waste bags for old toner container and old waste toner box
- Waste toner box
- Installation Guide



Note

Do not remove the toner container from the carton until you are ready to install it in the printer.

5.1.2 Understanding Messages Requesting Toner Container Replacement

The printer displays messages for individual colors at two stages of toner usage. This message is automatically alternated with the other printer message (such as `Ready`):

- When the printer becomes low on toner, for example in the cyan container, the printer displays the message `Toner low C, M, Y, K` as the first caution. Note the replacement is not always necessary at this stage.
- If you ignore the above message and continue printing, the printer displays the message `Replace Toner` — just before the toner is used up. The toner container must be replaced immediately. Clean the separate charger wires, etc. After the cleaning is finished, however, the message does not automatically change to `Ready`. To restart printing, you must press the **GO** key and make the printer ready.

In either case, to replace the toner container, see [section 5.1 Toner Container Replacement on page 5-2](#).

5.1.3 Replacing the Toner Container



During toner container replacement, temporarily put storage media and computer supplies (such as floppy disks) away from around the toner container. This is to avoid damaging media by the magnetism of toner.

This section explains how to replace the toner containers. When replacing the toner container of any color, always replace the waste toner box at the same time. If this box is full, the printer may be damaged or contaminated by the waste toner that may spill over the box.



You do not have to turn printer power off before starting the replacement. Any data that may be under printing process in the printer will be deleted if you turn printer power off.

To replace the toner container, first make sure of the color of the toner container requiring replacement. In this example, it is assumed that you are replacing the black toner container.

- 1 Open the top cover.

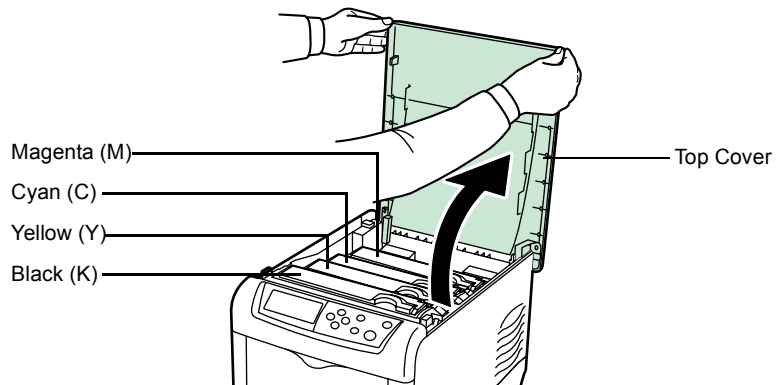


Figure 5-1

- 2 Pull the blue lock lever on the toner container forward towards the unlocked symbol (🔓).

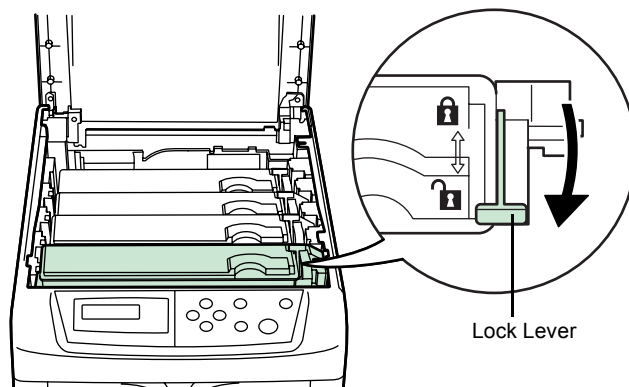


Figure 5-2

- Carefully remove the old toner container from the printer.

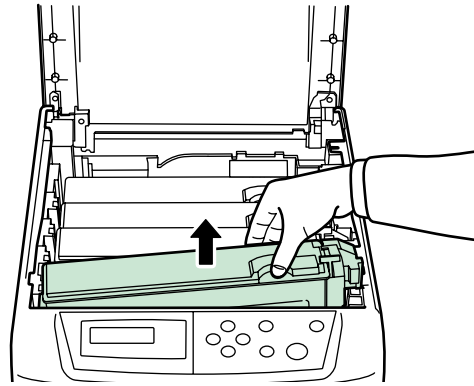


Figure 5-3

- Put the old toner container in the plastic bag (contained in the toner kit) and discard it later according to the local code or regulations for waste disposal.

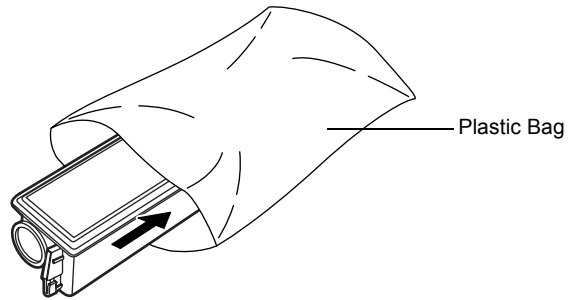


Figure 5-4

- Take the new toner container out of the toner kit.
- Shake the new toner container 5 or 6 times as shown in the figure in order to distribute the toner evenly inside the container.

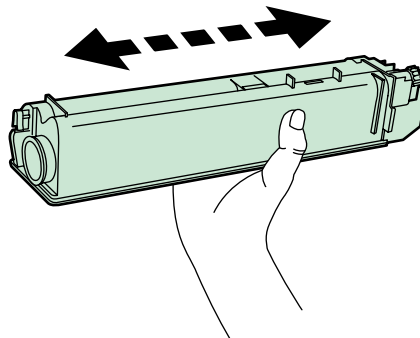


Figure 5-5

- 7 Set the new toner container in the printer as shown in the figure below.

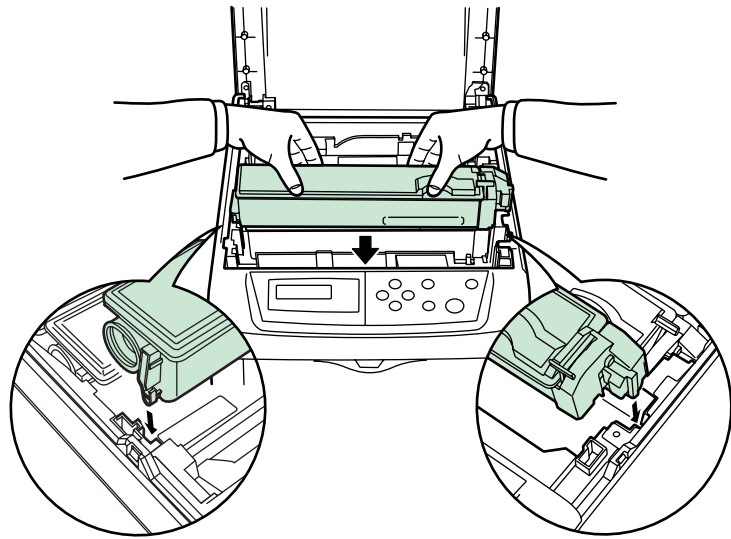


Figure 5-6

- 8 Push down on the top of the toner container to install it firmly in place.

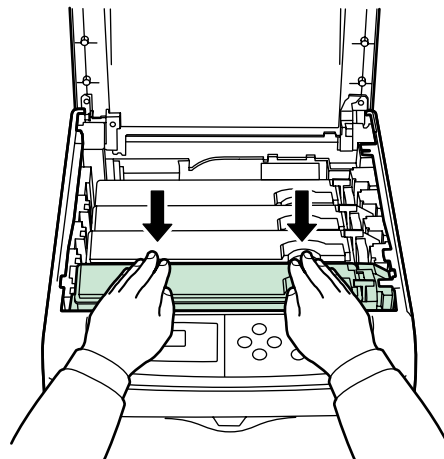



Figure 5-7

- 9** Pull the blue lock lever on the toner container back towards the locked symbol () as far as it will go.

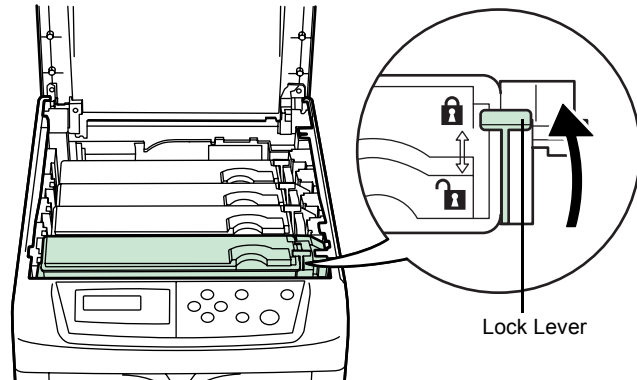


Figure 5-8

To replace the other color toner containers, use the same procedure above.

- 10** Close the top cover.

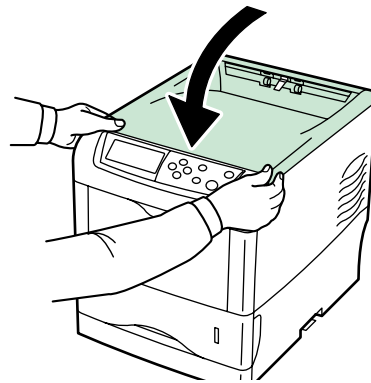


Figure 5-9

Proceed to the next section and replace the waste toner box.

5.2 Replacing the Waste Toner Box

Replace the waste toner box each time you replace the toner container. A new waste toner box is included with the toner kit. The printer will not operate without replacing the waste toner box.

- 1 Open the left cover.

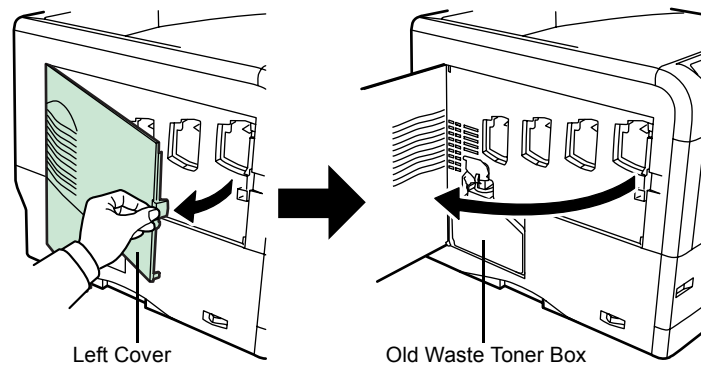


Figure 5-10

- 2 While holding the waste toner box, press the lock lever and then gently remove the waste toner box.

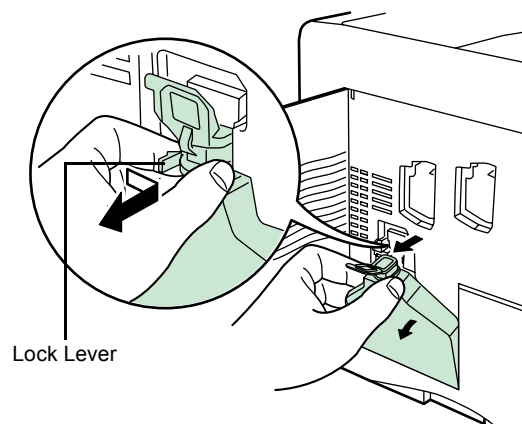


Figure 5-11



Note

Remove the waste toner box as gently as possible so as not to scatter the toner inside. Do not let the opening of the waste toner box face downward.

- 3 Close the cap to the old waste toner box after removing the box from the printer.

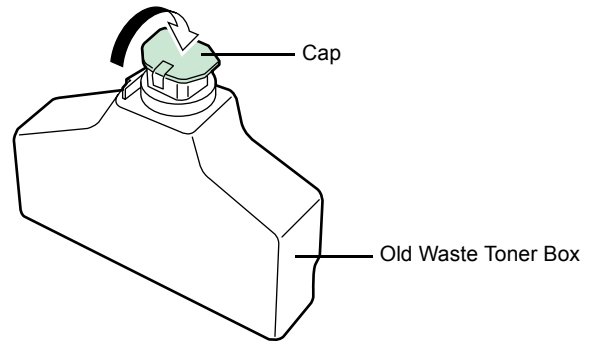


Figure 5-12

- 4 To prevent toner from spilling, put the old waste toner box in the plastic bag (contained in the toner kit) and discard it later according to the local code or regulations for waste disposal.

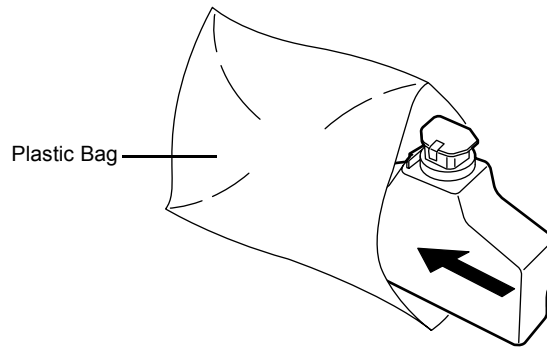


Figure 5-13

- 5 Open the cap of the new waste toner box.

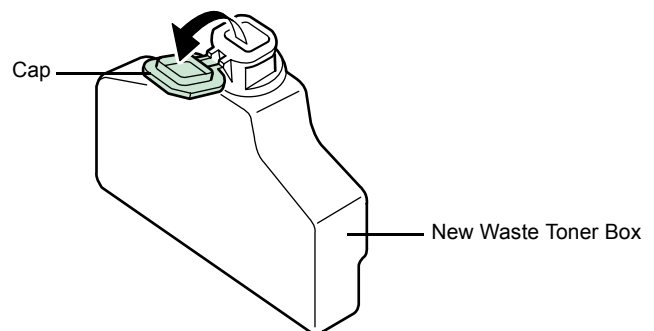


Figure 5-14

- 6 Insert the new waste toner box as shown in the figure below. When the box is set correctly, it will snap into place.

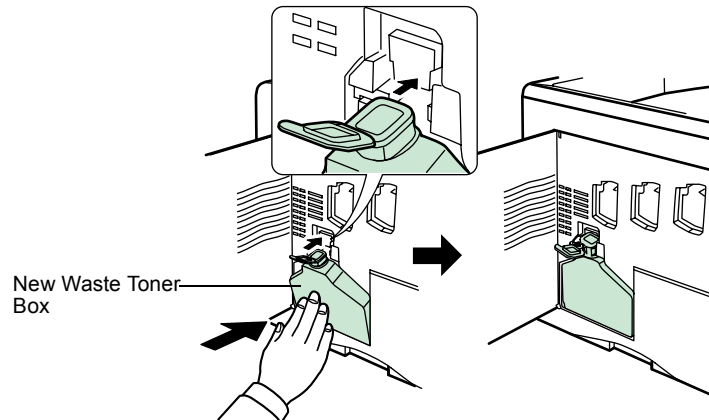


Figure 5-15

- 7 Make sure that the waste toner box is correctly inserted and close the left cover.

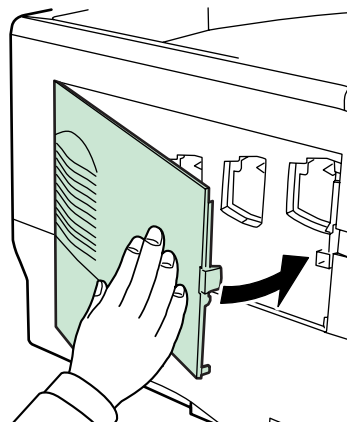


Figure 5-16

After replacing the toner containers and the waste toner box, clean the main charger units and the paper transfer unit. For instructions, see [section 5.3 Cleaning the Printer on page 5-11](#).

5.3 Cleaning the Printer

As discussed earlier, the following parts must be cleaned each time the toner container and waste toner box are replaced:

- Main charger wire
- Main charger grid
- Registration roller

In addition to this, it is recommended that the main charger wire and registration roller are cleaned periodically at least once a month.

If lines, etc., appear on printed copies, the printouts appear dirty, or faint or blurred printouts are produced, clean the advanced beam array lenses.

5.3.1 Cleaning the Main Charger Unit

The main charger units need to be cleaned periodically as they get contaminated with dioxide after long usage. Each main charger unit is comprised of two main parts — the wire and the grid — which should be separately as explained below.

There are 4 main charger units, one for each toner container. When performing the cleaning procedure, be sure to clean the main charger unit that corresponds to color of the toner container that was replaced. The following example explains the procedure to clean the main charger unit for the black toner container.

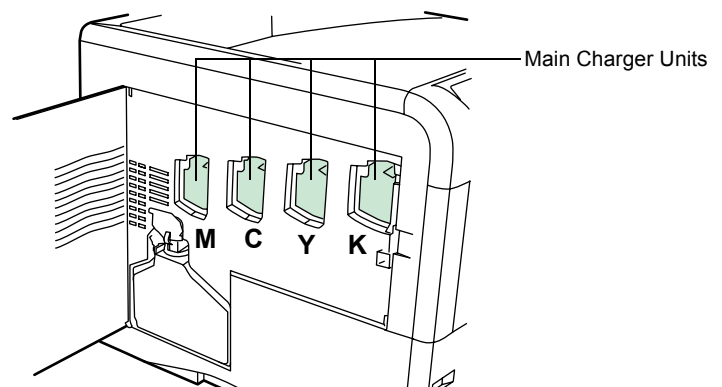


Figure 5-17

- 1 Open the left cover.

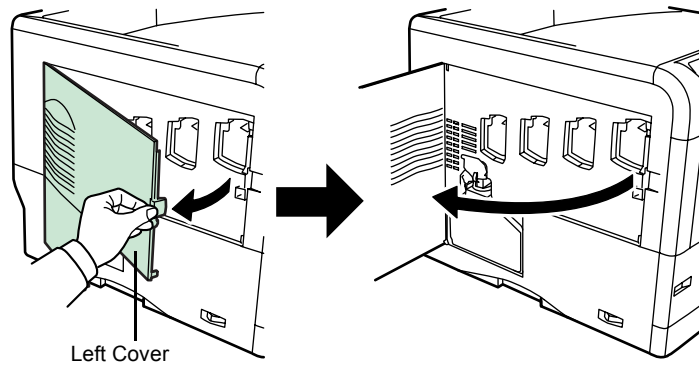


Figure 5-18

- 2 First clean the main charger wire. Grasp the green wire cleaner knob. Gently pull the wire cleaner knob out and push it back in. Repeat this 2 to 3 times. After cleaning, make sure you restore the wire cleaner knob to its home position.

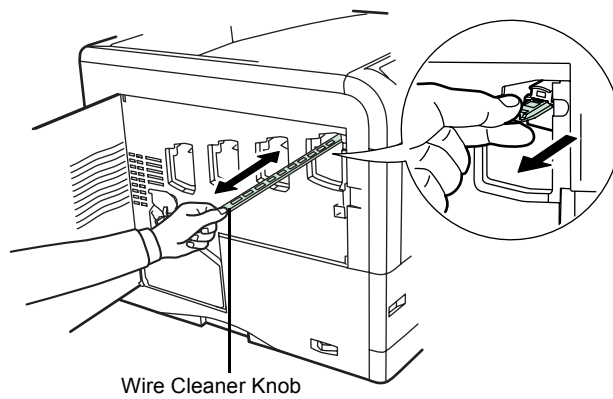


Figure 5-19



Note

If the wire cleaner knob is not restored to its home position, a band will print along the length of the page.

- 3** Next, clean the main charger grid. Take the grid cleaner out of the toner kit. Take the grid cleaner out of the protective bag and remove the cap.

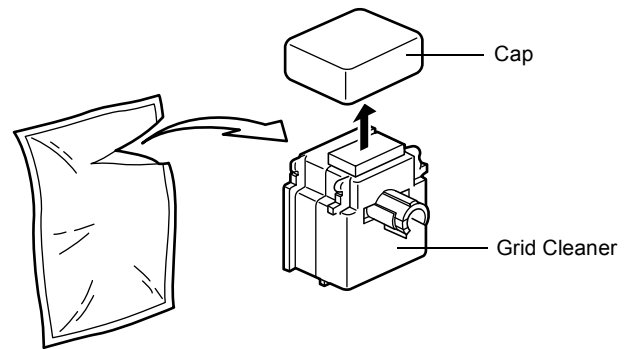


Figure 5-20



The pad of the grid cleaner contains water. Clean the grid quickly so that the pad may not dry off.

Note

- 4** Lift up slightly on the main charger unit and pull it out a short distance as shown in the figure below.

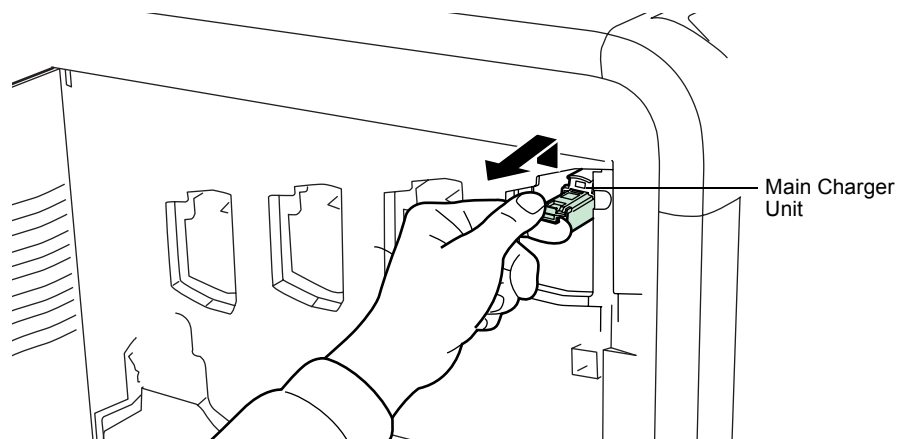


Figure 5-21

- 5 Attach the grid cleaner to the printer with the pad facing up.

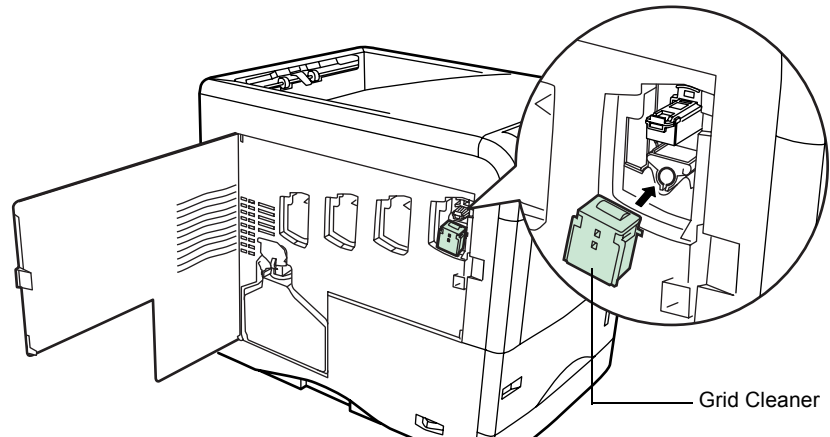


Figure 5-22

- 6 Gently pull the main charger handle out and push it back in. Repeat this 2 to 3 times. These movements clean the grid. After cleaning, make sure you restore the main charger unit to its home position.

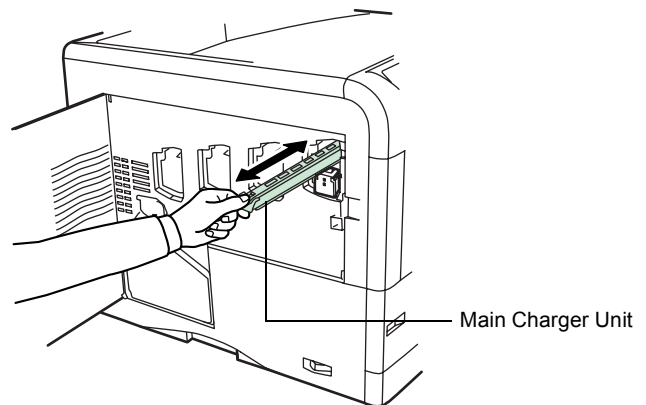


Figure 5-23



Note

If the main charger unit is not restored to its home position, the corresponding color will be printed over the whole page.

- 7 Remove the grid cleaner from the printer and discard it. The grid cleaner cannot be reused.

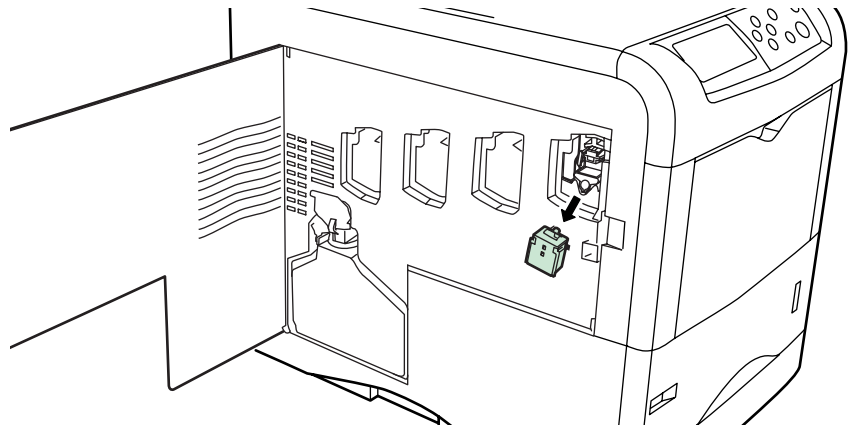


Figure 5-24

Use the same procedure to clean the main charger units for the other toner containers.

- 8 Close the left cover.

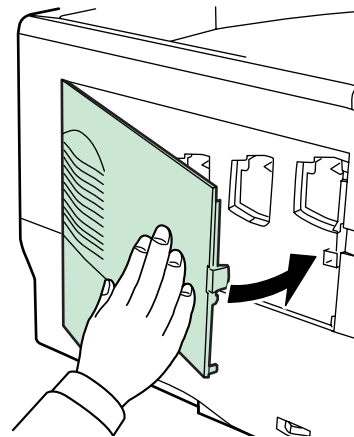


Figure 5-25

5.3.2 Cleaning the Paper Transfer Unit

Print problems such as soiling of the reverse side of printed pages may occur if the paper transfer unit becomes dirty. To clean the paper transfer unit, the following tool must be used:

- Cleaning cloth (included in the toner kit)

Clean the paper transfer unit according to the procedure that follows:

- 1** While pulling the green paper transfer unit release lever, pull out the paper transfer unit.

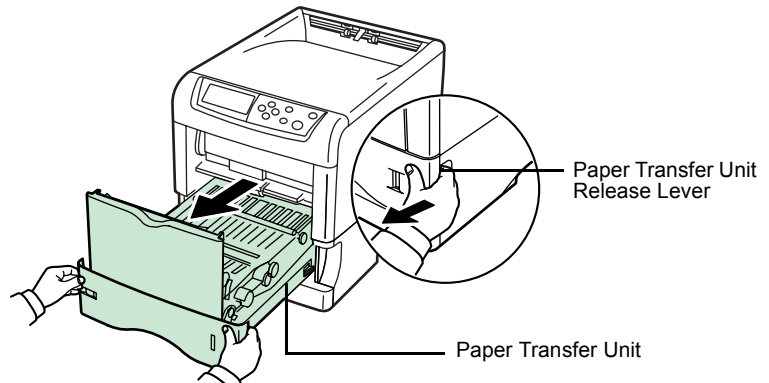


Figure 5-26

- 2** Wipe away the paper dust on the registration roller and the paper ramp using the wiper cloth included in the toner kit.

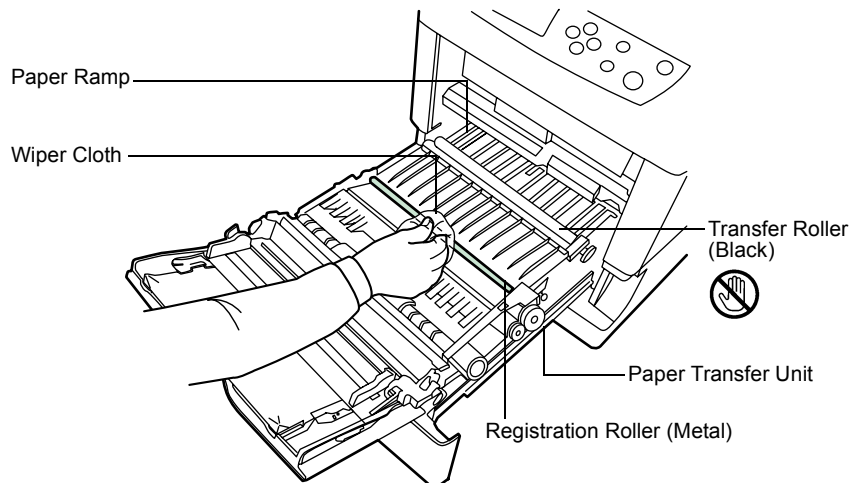


Figure 5-27



Note

Be careful not to touch the black transfer roller during cleaning as this may adversely affect print quality.

- 3** Push the paper transfer unit back in completely.

5.3.3 Cleaning the Advanced Beam Array Lenses

If lines, etc., appear on printed copies, the printouts appear dirty, or faint or blurred printouts are produced, clean the advanced beam array lenses.

There is 1 lens on the main charger unit of each toner container. The following example explains the procedure to clean the lens on the main charger unit of the black toner container.

- 1** Open the left cover.

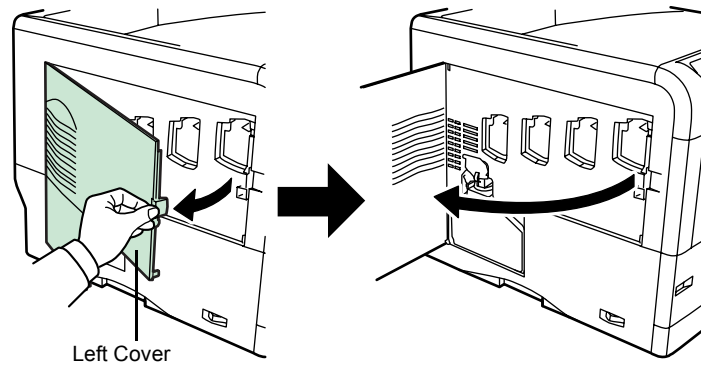


Figure 5-28

- 2** Grasp the tab of the green lens cleaner knob. Gently pull the lens cleaner knob out and push it back in. Repeat this 2 times.

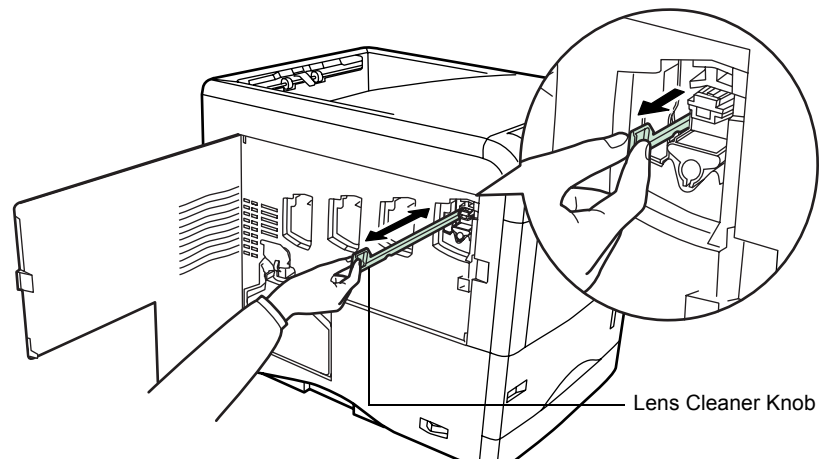


Figure 5-29

- 3** Push the lens cleaner knob back in completely. After cleaning, make sure you restore the lens cleaner knob to its home position.

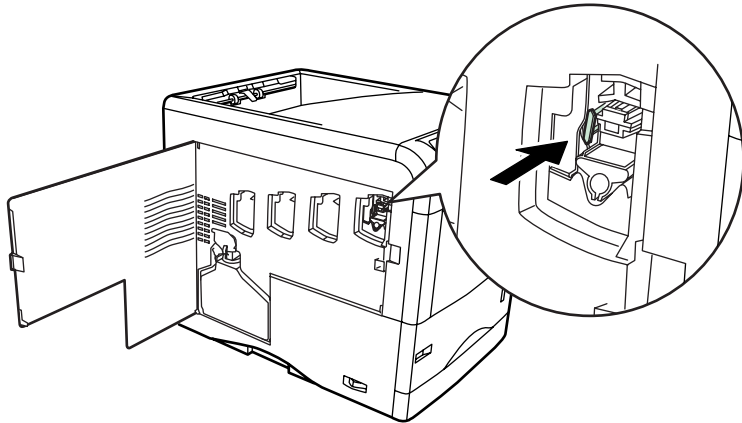


Figure 5-30



Note

If the lens cleaner knob is not restored to its home position, the corresponding color will be printed over the whole page.

Use the same procedure to clean the lenses on the main charger unit of the other toner containers.

- 4** Once you are finished cleaning all 4 lenses, close the left cover.

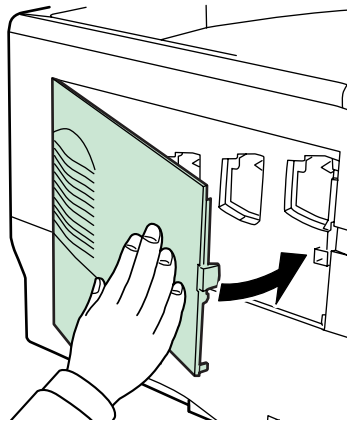


Figure 5-31

Appendix A Options

Your printer can be installed with various options indicated in this appendix.
You can select the options that will satisfy your printing requirements.
For availability of the options, consult your Kyocera Mita dealer.

A.1 Options

The FS-C5016N printer has the following options available. For instructions on installing individual options, refer to the documentation included with the option. Some options are explained in the following sections.

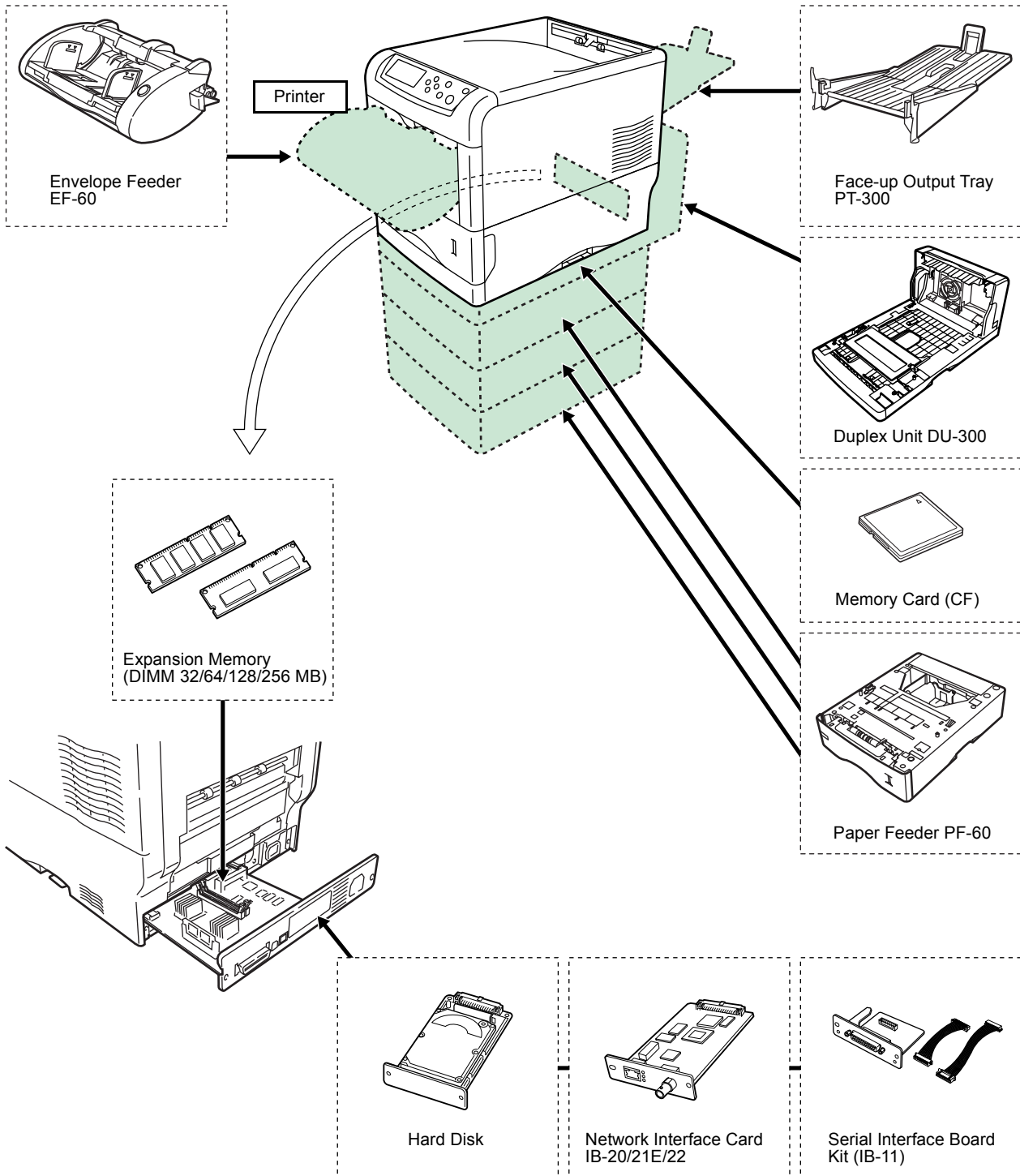


Figure A-1

A.2 Expansion Memory Modules

To expand the printer memory for more complex print jobs and faster print speed, you can plug in optional memory modules (dual in line memory modules) in two memory slots provided on the printer main controller board. You can select additional memory modules from 32, 64, 128, or 256 MB (the maximum memory size is 608 MB, including the base 96 MB memory).



Note

Only an authorized Kyocera Mita dealer should install the expansion memory. Kyocera Mita shall not be liable for any damages caused by improper installation of expansion memory.

Precautions on handling the printer's main controller board and memory modules

- To protect electronic parts, discharge static electricity from your body by touching a water pipe (faucet) or other large metal object before handling the memory modules. Or, wear an antistatic wrist strap, if possible, when you install the memory modules.
- Always hold the main controller board or a memory module by its edges as shown below to avoid damaging electronic parts.

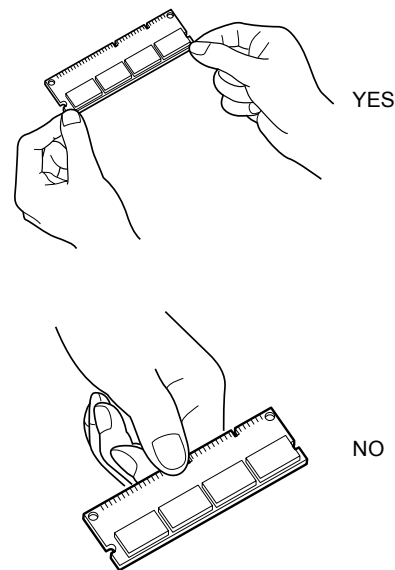


Figure A-2

A.2.1 Installing the Memory Modules

- 1** Power off the printer and unplug the printer power cord.
- 2** Unscrew two screws at the back of the main controller board.

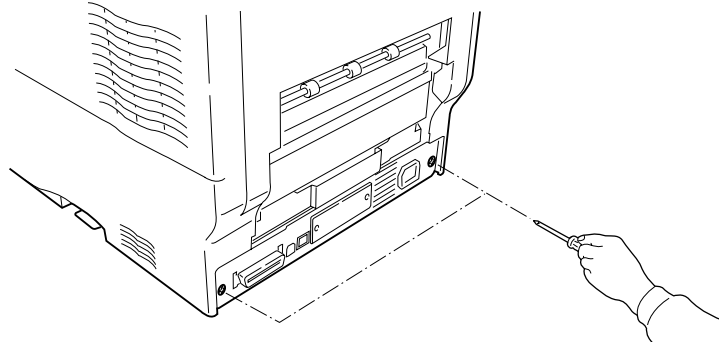


Figure A-3

- 3** Pull out the main controller board gently.

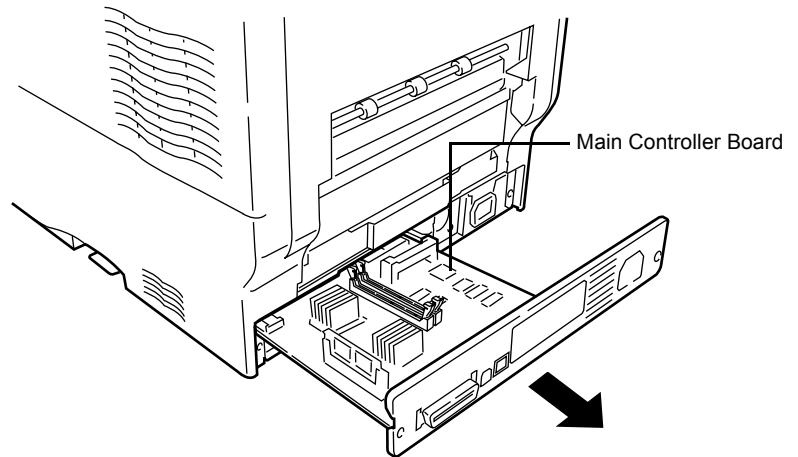


Figure A-4

- 4** Push out the clamps on both ends of the memory socket on the main controller board.

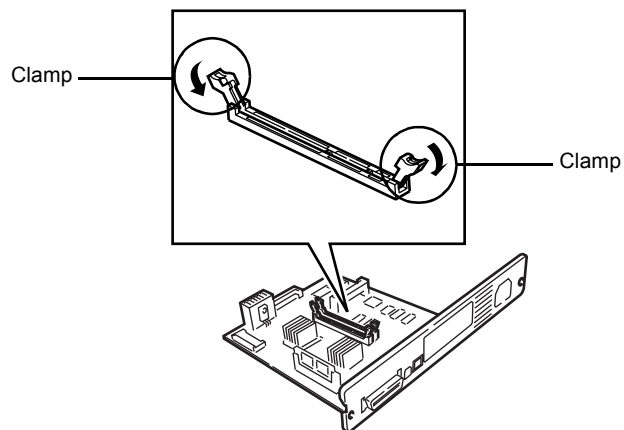


Figure A-5

- 5** Remove the memory module from its package. Aligning the cutouts of the memory module with the matching keys of the socket, carefully plug the memory module into the memory socket until it clicks in place.

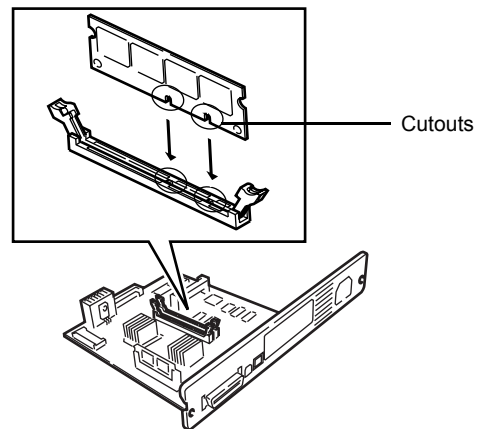


Figure A-6

- 6** Push down the two socket clamps to secure the memory modules.

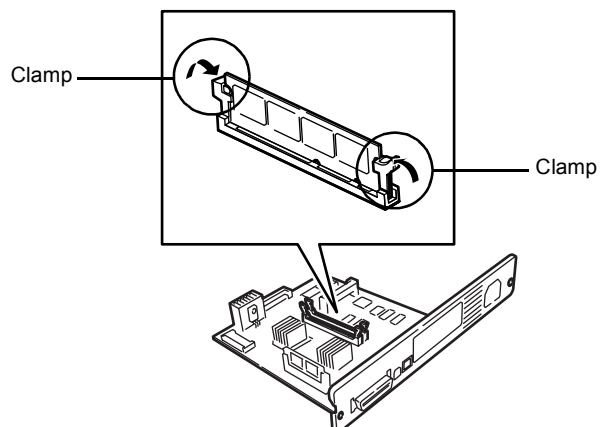


Figure A-7

- 7** After you finish installing the memory modules, reinstall the main controller board and fasten it with screws.

Removing a Memory Module

To remove a memory module, remove the main controller board, then carefully push out the two socket clamps. Ease the memory module out of the socket to remove.

Testing the expanded memory

To verify that the memory modules are working properly, test them by printing a status page. To print a status page:

- 1** Make sure the printer is switched off. Plug in the printer power cord into an AC outlet and power on the printer.
- 2** Wait until the printer becomes `Ready`. When ready, press the **MENU** key.
- 3** Press the `▽` key repeatedly until the message display shows `Print Status Page`.
- 4** Press the **ENTER** key twice. A status page is printed.

Check the **Memory** field in the upper right area. It shows information about the memory modules installed in memory slots 1 and 2. If you see an increase in the total memory size, the installation is successful. (Note that the printer is shipped with 128 MB of base memory.)

A.3 General Description of Options

A.3.1 Memory Card

The printer is equipped with a slot for a memory card with the maximum size of 256 MB. A memory card is useful for storing fonts, macros, and overlays. You can use the **IC Link for Windows** utility to download fonts, etc., to a flash memory card. This software is included in the CD-ROM supplied with the printer.

Reading Font from the Memory Card

Once inserted in the printer's slot, the contents of the memory card can be read from the control panel or automatically when you power on or reset the printer. To manually read data in the memory card, see [Chapter 3 Using the Operator Panel, section 3.9.1 Using the Memory Card on page 3-59](#).



Before inserting a memory card in the printer, make sure that the printer is switched off.

Insert the memory card in the memory card slot.

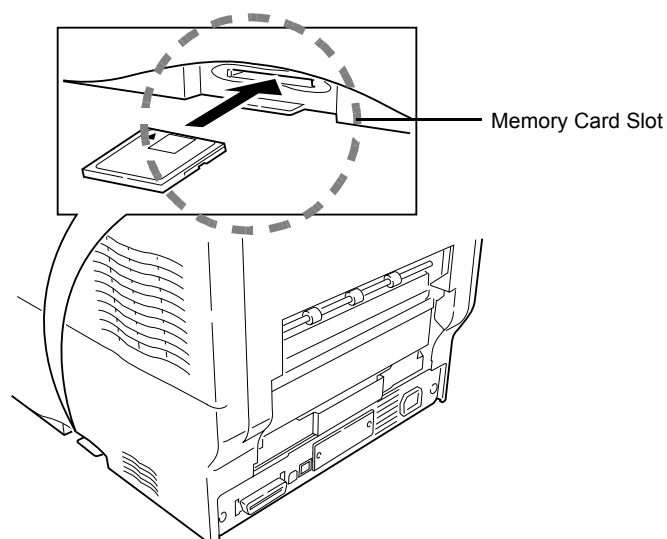


Figure A-8

A.3.2 PF-60 Paper Feeder

The PF-60 paper feeder allows you to add 3 more paper cassettes to the bottom of the printer for continuous feeding of a large volume of paper. Each paper cassette can hold up to approximately 500 sheets of ISO A4, ISO A5, JIS B5, letter, and legal size (80 g/m²) paper. This feeder is attached at the bottom of the printer as shown below.

For detailed information on installing the paper feeder, see the manual supplied with the paper feeder.

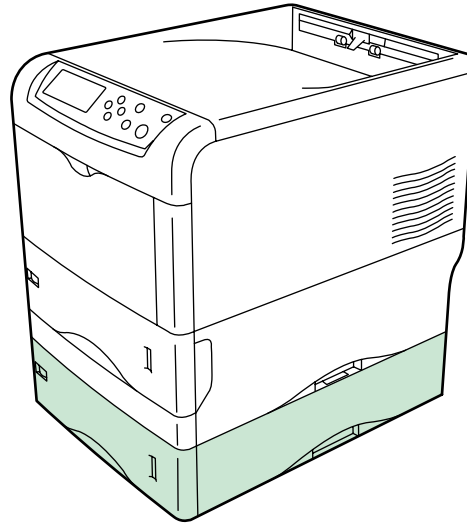


Figure A-9

A.3.3 DU-300 Duplex Unit

The DU-300 duplex unit is attached to the bottom of the printer and allows you to print onto both sides of the paper. Printing on both sides can be performed using ISO A4, ISO A5, JIS B5, letter, and legal sized paper.

For detailed information on installing the duplex unit, see the manual supplied with the duplex unit.

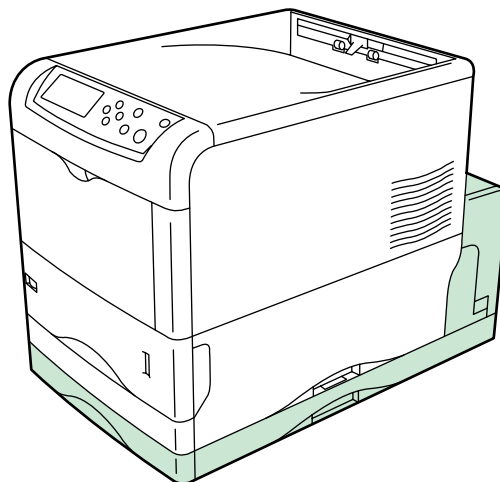


Figure A-10

A.3.4 PT-300 Face-up Output Tray

Use the face-up output tray when you wish paper to be stacked with the printed side facing up (reverse order), or when you are printing on envelopes, postcards, transparencies, or thick paper.

- 1 Install the paper stopper according to the size of paper to be used.

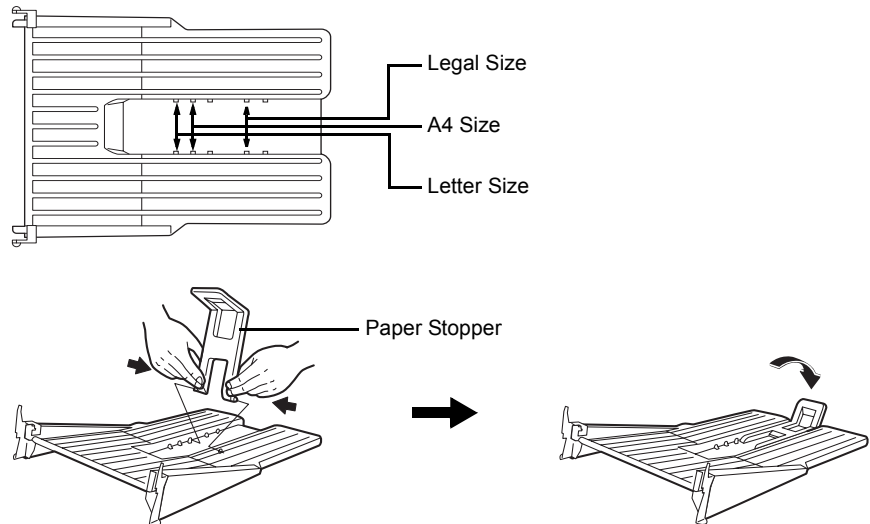
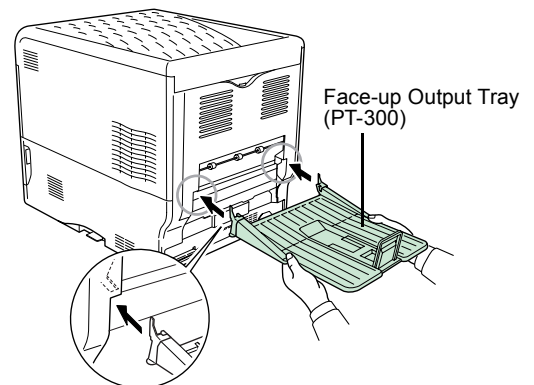


Figure A-11

- 2 Install the face-up output tray on the rear of the printer.

When installing directly to the printer



If a duplexer has been installed to the printer

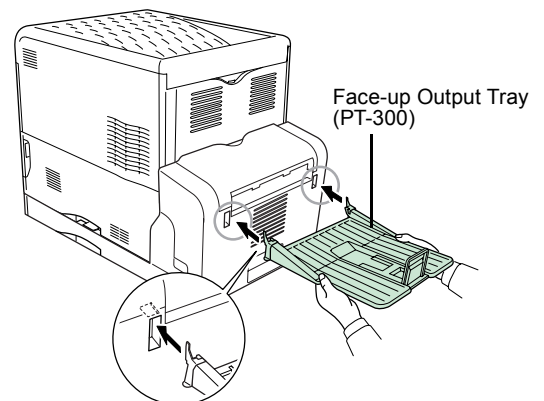


Figure A-12

A.3.5 Hard Disk

The hard disk is used for saving print data. This is advantageous when printing multiple sets of copies, as high-speed printing is possible using the electronic sorting function. The hard disk is further required in order to use the e-MPS function. You can use the **KM-NET Printer Disk Manager** utility to keep track of the stored data. This software is included in the CD-ROM supplied with the printer.

The hard disk must be installed in the option interface slot that is located at the back of the printer as shown below.

The hard disk must be formatted before the initial use. To format the hard disk, use the printer operator panel or the **KM-NET Printer Disk Manager**. Before you install the hard disk in the printer, power off the printer and unplug the power cord.

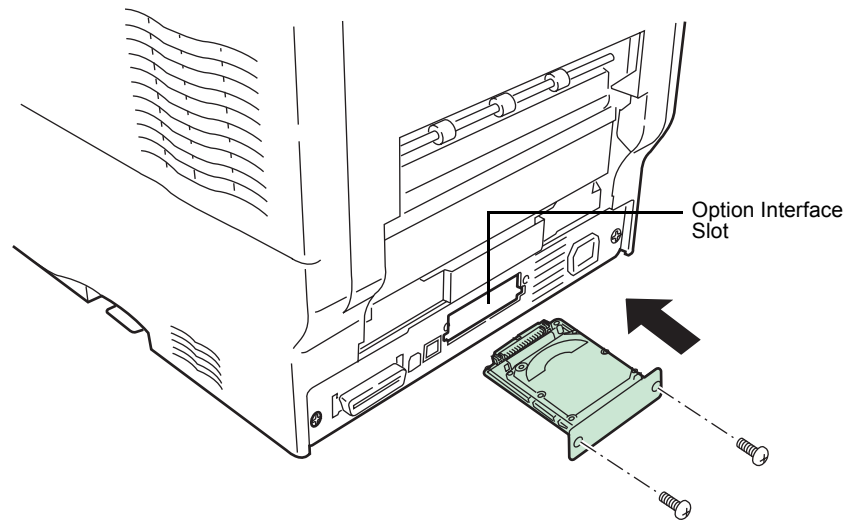


Figure A-13

A.3.6 IB-20/IB-21E/IB-22 Network Interface Cards

Along with the standard for the network interface on the printer, the network interface card supports TCP/IP, IPX/SPX, NetBEUI and EtherTalk protocols, so that the printer can be used on network environments including Windows, Macintosh, UNIX, NetWare, etc. The network interface card must be installed in the option interface slot that is located at the back of the printer as shown below.

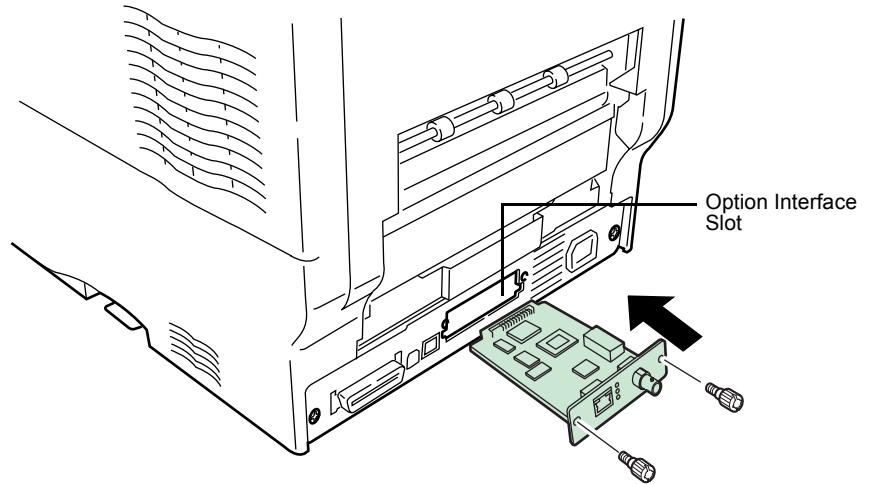


Figure A-14

Network interface card	Network connections
IB-20	10Base-T/100Base-TX/10Base-2
IB-21E	10Base-T/100Base-TX
IB-22	IEEE802.11b (Wireless)

Table A-1

Appendix B Computer Interface

This appendix explains the signals used in the printer's parallel, USB, and serial (option) interfaces. It also lists pin assignments, signal functions, timings, connector specifications, and voltage levels. For details on the network interface, refer to the IB-21E/IB-22 User's Manual contained on the CD-ROM that is supplied with the printer.

This appendix explains the following topics:

- Parallel Interface
- USB Interface
- Serial Interface (Option)

B.1 Parallel Interface

B.1.1 Communication Modes

The printer provides high-speed data transmission on a parallel interface. You can select the parallel interface communication mode from the operation panel. To change communication mode, see [Chapter 3 Using the Operator Panel, section 3.5.1 Changing Parallel Interface Mode on page 3-34](#).



Note

Use a parallel interface cable that complies with the IEEE 1284 standard.

You can choose from four communication modes:

Communication Mode	Reception	Transmission
Auto (default)	High-speed/ECP	Nibble/ECP
Nibble	High-speed	Nibble
High-speed	High-speed	—
Normal	Normal	—

Table B-1

B.1.2 Interface Signals

Table shows the connector pins and corresponding input and output signals of the parallel interface. Explanation of each signal is also given in the table.

The description in [] indicates signal names in Auto mode and Nibble (high) mode (IEEE 1284-compliant). In Auto and Nibble modes, these signals are bidirectional.

Pin	In or out	Signal	Description
1	In	Strobe [†] [nStrobe]	A negative-going-strobe pulse causes the printer to read and latch the data on the Data 0 [1] to Data 7 [8] signal lines.
2	In	Data 0 [Data 1]	These eight signals form one byte of data sent from host computer to printer. Data 7 [8] is the most significant bit.
3	In	Data 1 [Data 2]	
4	In	Data 2 [Data 3]	
5	In	Data 3 [Data 4]	
6	In	Data 4 [Data 5]	
7	In	Data 5 [Data 6]	
8	In	Data 6 [Data 7]	
9	In	Data 7 [Data 8]	
10	Out	Acknowledge [†] [nAck]	This negative-going pulse acknowledges the previous character received.
11	Out	Busy [Busy]	When this signal is high, the printer is busy. When it is low, the printer is able to receive more data.
12	Out	Paper Empty [PError]	This signal goes high when the printer runs out of paper. ^{††}
13	Out	Online (Select) [Select]	This signal goes high when the printer is online and low when the printer is offline. The signal goes low when you press the GO key to make the printer go off line. ^{††}
14	In	— [nAutoFd]	Ignored
15	—	—	Not used
16	—	0 V DC	
17	—	Chassis Ground	
18	—	+5 V DC	This pin is used for the printer's +5 V DC power supply (+5±0.5 V, 400 mA maximum, with fuse)
19	—	Ground return	
20	—	Ground return	
21	—	Ground return	
22	—	Ground return	
23	—	Ground return	
24	—	Ground return	
25	—	Ground return	
26	—	Ground return	
27	—	Ground return	
28	—	Ground return	
29	—	Ground return	

Table B-2

Pin	In or out	Signal	Description
30	—	Ground return	
31	In	— [nInit]	Ignored
32	Out	Error [†] [nFault]	When the high-speed parallel line control is on, this line returns an error status. ^{††}
33	—	—	Not used
34	—	—	Not used
35	Out	Power Ready	This signal goes high when the printer is powered on.
36	In	Select In [nSelect In]	When this line is high, IEEE1284 mode is enabled.

Table B-2

[†] Indicates signals that are low active.

^{††} The Paper Empty, Online, and Error signals work only after you have enabled them using the O2 parameter of the FRPO command.

B.2 USB Interface

This printer supports the Full-Speed USB 2.0. USB (Universal Serial Bus) interface specifications and interface signals are as follows.

B.2.1 Specifications

Basic specification

Complies with the Full-Speed USB 2.0.

Connectors

Printer: B-type receptacle (female) with upstream port

Cable: B-type plug (male)

Cable

Use a shielded cable that complies with USB 2.0 and not longer than 5 meters (16 feet).

Transfer Mode

Full speed (max. 12 Mbps)

Power Control

Self-power device

B.2.2 Interface Signals

USB Connector Pin Assignment

Pin	Signal	Description
1	Vbus	Power supply (+5 V)
2	D-	Data transmission
3	D+	Data transmission
4	GND	Signal ground
Shell		Shield

Table B-3

B.3 Serial Interface (Option)

Installing the optional serial interface board kit (IB-11) in the printer enables connection to a computer with an RS-232C standard serial interface.

B.3.1 Interface Signals

Table B-4 below shows the pins and corresponding input and output signals of the RS-232C interface connector.

Pin	In or out	Signal	Description
1	—	FG	Frame Ground. This pin is connected directly to the printer frame.
2	Out	TXD	Transmit Data. This pin is used to output asynchronous data sent from the printer to the computer. This signal is often used in handshaking.
3	In	RXD	Receive Data. This pin is used to input serial asynchronous data sent from the computer to the printer.
4	Out	RTS	Request To Send. This output is always high (above 3 volts).
5	In	CTS	Clear To Send. Not used.
6	In	DSR	Data Set Ready. Not used.
7	—	SG	Signal Ground. This pin is used to establish a common reference level for the voltages of all signals other than Frame Ground.
20	Out	DTR	Data Terminal Ready. This pin is used to notify the status of the printer buffer (i.e., nearly full or nearly empty) when handshaking is used. The pin goes high (above 3 volts) when the buffer is able to accept more data.

Table B-4

B.3.2 Interface voltage levels

The voltage levels of the interface signals conform to EIA RS-232C specifications. The voltage level of SPACE is 3 to 15 volts. The voltage level of MARK is -3 to -15 volts. Voltages between -3 and 3 volts are undefined.

B.4 RS-232C Protocol

B.4.1 Parameters of the RS-232C Protocol

A protocol is a set of rules followed by various devices to send or receive data. The parameters of the RS-232C protocol are stored in the battery-powered memory of the printer. You can verify these parameters on the status printout as marked by the following identifications:

- H1: Baud rate
- H2: Number of data bits
- H3: Number of stop bits
- H4: Parity
- H5: Protocol logic
- H6: Buffer-nearly-full threshold
- H7: Buffer nearly-empty threshold
- H8: Received data buffer size

The parameters can be changed from the printer operator panel. To change the value for the serial interface parameters, see [Chapter 3 Using the Operator Panel, section 3.5.2 Changing Serial Interface Parameters on page 3-35](#).

This following section outlines the parameters and their values you can select on the operator panel:

H1: Baud rate

Parameter value	Baud rate
12	1200
24	2400
48	4800
96	9600
19	19200
38	38400
57	57600
11	115200

The factory setting is 96 (9600 baud).

H2: Number of data bits

7 or 8. The factory setting is 8.

H3: Number of stop bits

1 or 2. The factory setting is 1.

H4: Parity

Parameter value	Meaning
0	None
1	Odd
2	Even
3	Ignored

The factory setting is 0 (none).

H5: Protocol logic

Parameter value	Meaning
0	Combination of DTR (positive logic) and XON/XOFF
1	DTR (positive logic)
2	DTR (negative logic)
3	XON/XOFF
4	ETX/ACK

The factory setting is 0.

H6: Buffer nearly-full threshold

A percentage value from 0 to 99. The factory setting is 90.

H7: Buffer nearly-empty threshold

A percentage value from 0 to 99. The factory setting is 70. The factory settings of the buffer nearly-full and nearly-empty thresholds (H6 and H7) are subject to change without notice.

The difference between the nearly-full and nearly-empty thresholds allows the computer to send a fairly large amount of data in a continuous stream.

H8: Received data buffer size

The input buffer size is specified in increments of 100 kB. The factory setting is 5 (500 kB).

B.4.2 PRESCRIBE FRPO D0 Command

The PRESCRIBE FRPO D0 command is provided to allow manipulating XON/XOFF when an error has occurred on the serial interface. *Table B-5* summarizes the error status corresponding to different D0 values.

Timing of XON transfer to host while Ready or Waiting	Serial interface error	
	error not handled	error handled
XON sent every 3-5 seconds	D0=0 (default)	D0=1
XON not sent	D0=10	D0=11

Table B-5

B.5 RS-232C Cable Connection

B.5.1 Preparing an RS-232C Cable

After you procure an RS-232C cable, check its wiring against the pin assignments shown in page [section B.1.2 Interface Signals on page B-3](#). If you have an IBM communications adapter cable type 1502067, use the procedure below to solder the wiring at the end (printer side) of the cable:

- 1** Unscrew the plastic cover at the end (printer side) of the cable.
- 2** A bare shield wire is provided for each wire in the cable. Solder all shield wires together into a single bundle.
- 3** Connect the bundled shield wires to the connector metal face using a piece of flat cable about 3 mm wide and 15 mm long. Make sure that the soldered connections are secure.
- 4** Unsolder wires 2 and 3, then resolder them in a crossover configuration. In other words, solder wire 2 to pin 3 and wire 3 to pin 2. Cover the solder joints with a thermofit tube.
- 5** Cut wires 4, 5, 6, and 20.
- 6** Solder wires 5 and 6 together and connect them to pin 20. Cover the solder joints with a thermofit tube. Leave wire 4 unconnected.
- 7** Tape all remaining loose ends together, or seal them with a thermofit tube.
- 8** Screw the plastic cover back on the cable end.

B.5.2 Connecting the Printer to the Computer

Make sure that both computer and printer are powered off.

- 1** Discharge static electricity from your body by touching a metal object such as a doorknob.
- 2** Plug the end (printer side) of the RS-232C cable into the printer's serial interface connector and screw it on securely.
- 3** Plug the other end of the cable into the computer's serial interface connector.
- 4** Power on the printer.
- 5** The printer's parameters are set at the factory as follows:

Baud rate = 9600 bps, data bits (character length) = 8, stop bits = 1, parity = none

The two RS-232C protocols are XON/XOFF and DTR. The printer executes both of these protocols simultaneously, using positive logic for DTR.

If you are not sure about the printer's current parameter settings, reset them to the values shown above (i.e., baud rate = 9600 bps, etc.). You can perform parameter settings from the operation panel. See *Chapter 3 Using the Operator Panel, section 3.5.2 Changing Serial Interface Parameters on page 3-35*.

- 6 On the computer, set the same parameters as that of the printer. Most computers allow you to do this by DIP switch settings that should be made before power is turned on.

With Windows XP, make settings as follows:

- 1 Click on the **Start** button in the Windows XP task bar and align the cursor with **Settings**, then click on **Control Panel** from among the items displayed.
- 2 The **Control Panel** window opens. Double click on **System**.
- 3 **System Properties** window opens. Click on the **Hardware** tab, then click on the **Device Manager** button, and double click on **Ports (COM & LPT)**.

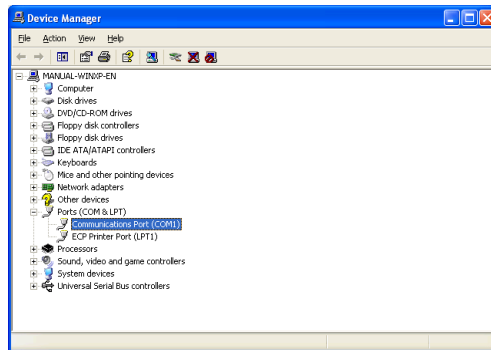


Figure B-1

- 4 Double click on **Communications Port**.
- 5 The **Communications Port Properties** dialog is displayed for the selected COM port. Click on the **Port Settings** tab and set the port properties.

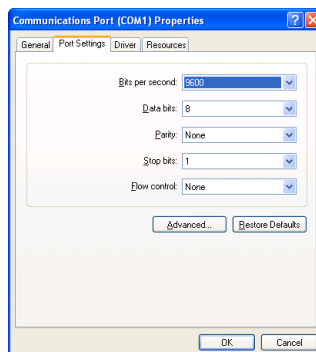


Figure B-2

- 6 After setting the properties, click the **OK** button.

With Windows 95/98/Me, make settings as follows:

- 1** Click on the **Start** button in the Windows 95/98/Me task bar and align the cursor with **Settings**, then click on **Control Panel** from among the items displayed.
- 2** The **Control Panel** window opens. Double click on **System**.
- 3** **System Properties** window opens. Click on the **Device Manager** tab, then double click on **Ports (COM & LPT)**.

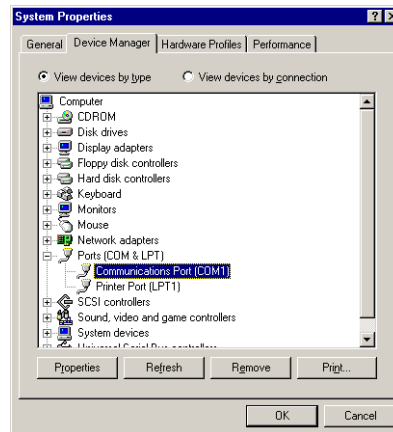


Figure B-3

- 4** Double click on **Communications Port**.
- 5** The **Communications Port Properties** dialog is displayed for the selected COM port. Click on the **Port Settings** tab and set the port properties.

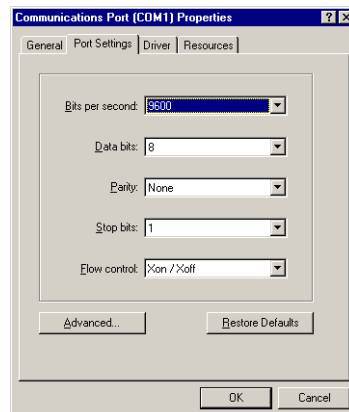


Figure B-4

- 6** After setting the properties, click the **OK** button.

In DOS, enter the following commands:

```
C:\>MODE COM1:96,N,8,1,P  
C:\>MODE LPT1:=COM1
```

To test the interface, enter the following:

```
CTRL P  
C:\>DIR  
CTRL P
```

The software settings made using the above procedures are temporary. On most computers, permanent settings must be made with DIP switches.

Appendix C Technical Specifications

The technical specification may be changed for improvement purpose.

C.1 Printer Specification

Item		Specification
Printing method		Electrographic by Advanced Beam Array, tandem intermediate transfer belt
Printing speed		See section C.2 Printing Speeds on page C-4 .
Resolution		600 dpi (horizontal and vertical)
First print (A4, 23 °C)		Approximately 16 seconds or less (from power on) Approximately 96 seconds or less (from sleep mode)
Warm up time (23 °C)		80 seconds or less
Main Controller CPU		PowerPC 750CXe (400 MHz)
Main memory		96 MB, expandable up to 608 MB maximum
Expansion Memory Module		32, 64, 128, or 256 MB (for 2 slots)
Operating system		Windows 95/98/Me, Windows NT/2000/XP
Interfaces	Parallel	IEEE1284
	USB	USB 2.0 Full-Speed
	Network	Protocol support: TCP/IP, IPX/SPX, NetBEUI, EtherTalk
	Option	Network interface card or Serial interface board (KUIO-LV)/Hard disk
Memory card slot		Compact flash memory card, maximum 256 MB
Self-diagnostics		Performed at power-on
Maximum duty cycle (for standard dry A4 plain paper)		85,000 pages per month
Imaging drum		OPC
Developers		Touchdown projection development
Main charger		Positive scorotron charger
Transferring	Primary	Belt system
	Secondary	Roller system
Separation		Small diameter separation
Drum cleaning		Blade cleaner
Primary transfer belt cleaning		Brush cleaner
Drum discharging		Discharging LED
Fuser		Heat rollers
Paper		See Chapter 2 Handling Paper; section 2.1.2 Paper specifications on page 2-2 .
Paper sizes	Cassettes	A4, B5, A5, legal, and letter sizes, adjustable
	Multi-purpose tray	70 × 216 mm to 148 × 297 mm
Unprintable areas		A top, bottom, left, or right margin of 4 mm
Paper capacity	Cassettes	500 sheets (80 g/m ²)
	Multi-purpose tray	100 sheets (80 g/m ²)
Output tray capacities	Face-down tray	250 sheets (80 g/m ²)
	Face-up tray (option)	250 sheets (80 g/m ²) [100 sheets (80 g/m ²) when the optional duplexer is installed.]

Table C-1

Item	Specification	
Operating environment	Temperature	10 to 32.5 °C (50 to 90.5 °F)
	Relative humidity	15 to 80 %
	Optimum conditions	23 °C (73 °F), 60 % (relative humidity)
	Altitude	2,000 m (6,500 feet) maximum
	Illumination	1,500 lux or less
Power supply	U.S.A. and Canada	120 V, 60 Hz, 9.1 A max
	Europe, Asia, and other countries	220 to 240 V, 50 or 60 Hz, 4.5 A max. at 230 V
	Allowable voltage fluctuations	± 10 % maximum
	Allowable frequency fluctuations	± 2 % maximum
Power consumption	U.S.A. and Canada	Maximum: 1,037 W Normal operation: 491 W Standby: 199 W Sleeping: 21 W
	Europe, Asia, and other countries	Maximum: 991 W Normal operation: 483 W Standby: 202 W Sleeping: 24 W
Noise [†]	Printing	LpA = 53 dB (A)
	Standby	LpA = 36 dB (A)
	Sleeping	Unmeasurably low
Dimensions	345 (13-9/16) wide × 385 (15-3/16) high × 470 mm (18-1/2 inches) deep	
Weight	24 kg (52-7/8 lb)	

Table C-1 (Continued)

[†] In accordance with ISO 7779 (Bystander Position, sound pressure level at the front)

C.2 Printing Speeds

Mode	Paper Size	Print Speeds (color/monochrome)
Simplex printing	A4	16 pages/minute
	Letter, B5, A5	17 pages/minute
	Legal	14 pages/minute
	Thick (A4) [†] , Transparency (A4) [†]	8 pages/minute
Duplex printing ^{††}	A4, Letter, B5, A5	16 pages/minute
	Legal	14 pages/minute

Table C-2

[†] Only with MP tray feeding

^{††} The DU-300 duplex unit is required.

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FS-C5016N

Color Page Printer



Quick Reference Guide

Notice

NO LIABILITY IS ASSUMED FOR ANY DAMAGE CAUSED BY IMPROPER INSTALLATION OF THE PRODUCT.

SOFTWARE USED WITH THIS PRINTER MUST SUPPORT THE PRINTER'S NATIVE MODE OR ONE OF ITS EMULATION MODES.

The information in this manual is subject to change without notification. Additional pages may be inserted in future editions. The user is asked to excuse any technical inaccuracies or typographical errors in the present edition.

No responsibility is assumed if accidents occur while the user is following the instructions in this manual. No responsibility is assumed for defects in the printer's firmware (contents of its read-only memory).

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FS-C5016N

**Quick Reference
Guide**

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Guide to the information about the printer

The following documentation and CD-ROM are supplied:

Installation Guide	This guide provides information on installing the printer before starting to use.
Quick Reference Guide (This booklet)	This guide provides common information about the printer such as loading paper, understanding messages, etc.
Operation Guide	This guide is supplied as an online manual (PDF) in the CD-ROM. This guide fully details the information on the printer features, hardware, troubleshooting, printer driver handling, etc.
KX Printer Drivers Operation Guide	This guide is supplied as an online manual (PDF) in the CD-ROM. This guide explains how to install and configure the printer driver.
Software and Document CD-ROMs	These CDs include the printer software for Kyocera Mita printers such as printer drivers, network printer monitors, and various software utilities. Also, these CDs include the Operation Guides and other documents.
Web site	The latest versions of printer drivers and utilities are available for downloading at: http://www.kyoceramita.com/download/

Understanding the Error Messages

These messages appear on the printer's message display when the printer needs the operator's attention. For more details, refer to chapter 4 of the *Operation Guide*.

Message	Corrective Action
Add paper MPTray	<p>The paper has run out in the paper source displayed. Supply paper according to the paper source (paper cassettes, MP tray, optional paper feeders, or optional envelope feeder).</p> <p>This message is displayed alternately with messages indicating the printer status, such as, Ready, Please wait, Processing, Waiting, and Form Feed Time Out. If the number of copies to print is 2 or more, only the Add paper message is displayed.</p>
Call service F###:	F### represents a controller error (#=0, 1, 2, ...). Call a service. The printer does not operate when this message is displayed.
Call service ####:0123456	#### represents a mechanical error (#=0, 1, 2, ...). Call a service. The printer does not operate when this message is displayed. The total number of pages printed is also indicated, e.g. 0123456.
Call service Person F0	This message means an error in data communications between the printer controller and the operator panel. Call a service.
Cassette # not loaded	The corresponding paper cassette is not installed. Install the cassette. The cassette number can be 1 (topmost) to 4 (bottom).

Message	Corrective Action
Check waste toner box	<p>This message warns following two cases. Install the new waste toner box.</p> <ul style="list-style-type: none"> • The waste toner box is not installed. • The waste toner box is almost full.
Clean printer Press GO	<p>Please clean the inside of the printer. See <i>Cleaning the Printer</i> on page 35.</p> <p>This message will be displayed when replacing the toner container after the message Replace toner C, M, Y, K is displayed. After cleaning the inside of the printer, press the GO key and the printer will be ready for printing.</p> <p>If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to chapter 3 of the <i>Operation Guide</i>.</p>
Close duplexer rear unit	<p>The rear unit of the optional duplexer is open. Close the duplexer rear unit.</p>
Close duplexer top cover	<p>The top cover of the optional duplexer is open. Close the duplexer top cover.</p>
Close paper transfer unit	<p>The paper transfer unit is open. Close the paper transfer unit.</p>
Close left cover	<p>The left cover of the printer is open. Close the printer left cover.</p>
Close rear cover	<p>The rear cover of the printer is open. Close the printer rear cover.</p>

Message	Corrective Action
Close top cover	The top cover of the printer is open. Close the printer top cover.
Duplex disabled Press GO	You attempted to print with a paper size and paper type that cannot be used for duplex printing. Press the GO key to print onto one-side of the paper only.
Face-down tray paper full	The face-down tray has become full (approx. 250 pages). You must remove all printed pages from the face-down tray. When the printer detects that the face-down tray is empty again, the printer will continue printing into the face-down tray.
File not found Press GO	<p>You have attempted to print a job that is not contained in the specified virtual mailbox, or the specified virtual mailbox is not found.</p> <p>If Auto Continue is set to <i>On</i>, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to chapter 3 of the <i>Operation Guide</i>.</p>
Format error Hard disk	The hard disk installed in the printer is not formatted, and therefore cannot be read or written. To format the hard disk, follow the procedure in the Installation Guide of the hard disk.
Format error Memory card	The memory card inserted in the printer is not formatted, and therefore cannot be read or written. To format a memory card, follow the procedure in chapter 3 of the <i>Operation Guide</i> .

Message	Corrective Action
<p>Hard disk err ## Press GO</p>	<p>A hard disk error has occurred. Look at the error code given in place of ## and refer to chapter 4 of the <i>Operation Guide</i>. To ignore the hard disk error, press the GO key.</p>
<p>I/F occupied</p>	<p>This message is displayed when you attempt to use the printer's operator panel to change the environmental settings on the interface from which data are presently being received.</p>
<p>ID error</p>	<p>The user ID entered for a private job, or a stored job is not correct. Check the user ID that you specified on the printer driver.</p>
<p>Insert the same memory card</p>	<p>You have inserted the wrong memory card when the <code>Insert again</code> message was displayed. Remove the wrong memory card from the printer's memory card slot and insert the correct memory card. The printer again reads it from the beginning of the data.</p>
<p>Install MK</p>	<p>Replace Maintenance Kit which is displayed on the message display. Replacement of the maintenance kit is necessary at every 200,000 images of printing and requires professional servicing. Contact your Kyocera Mita dealer.</p>

Message	Corrective Action
<p>KPDL error ## Press GO</p>	<p>Current print processing cannot continue because of occurrence of KPDL error which is categorized by ##. To print out an error report, display <code>> Print KPDL err(s)</code> from the menu system, and select <code>On</code>. Press the GO key to resume printing. You can abandon printing by the CANCEL key.</p> <p>If Auto Continue is set to <code>On</code>, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to chapter 3 of the <i>Operation Guide</i>.</p>
<p>Load Cassette # (A4)/(PLAIN)[†]</p>	<p>The paper cassette matching the paper size and paper type of the print job is empty. Load paper into the paper cassette indicated by #. Press the GO key to resume printing.</p> <p>If you want to print from a different paper source, press the <code>▽</code> or <code>△</code> key to display <code>Use alternative</code> and you can change the source for paper feeding. After selecting a paper source and pressing the MENU key, <code>Paper Handling ></code> appears. By pressing the <code>△</code> key, the paper type settings menu appears. After setting the correct paper type, press the ENTER key and printing starts. For details, see chapter 3 of the <i>Operation Guide</i>.</p>

Message	Corrective Action
Load EF (A5)/(PLAIN) [†]	<p>There is no paper cassette installed in the printer that matches the paper size and paper type of the print job. Set paper in the envelope feeder. Press the GO key to resume printing. (Note that feeding the paper having a paper size which does not match the current paper size from the envelope feeder can cause paper jam.)</p> <p>If you want to print from a different paper source, press the ∇ or \triangle key to display <code>Use alternative</code> and you can change the source for paper feeding. After selecting a paper source and pressing the MENU key, <code>Paper Handling ></code> appears. By pressing the \triangle key, the paper type settings menu appears. After setting the correct paper type, press the ENTER key and printing starts. For details, see chapter 3 of the <i>Operation Guide</i>.</p>

Message	Corrective Action
Load MP Tray (A4)/(PLAIN) [†]	<p>There is no paper cassette installed in the printer that matches the paper size and paper type of the print job. Set paper in the MP tray. Press the GO key to resume printing. (Note that feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.)</p> <p>If you want to print from a different paper source, press the ▽ or △ key to display <code>Use alternative</code> and you can change the source for paper feeding. After selecting a paper source and pressing the MENU key, <code>Paper Handling ></code> appears. By pressing the △ key, the paper type settings menu appears. After setting the correct paper type, press the ENTER key and printing starts. For details, see chapter 3 of the <i>Operation Guide</i>.</p>
Memory card err Insert again	<p>The memory card is accidentally removed from the printer's memory card slot during reading. If you continue reading the memory card, insert the same memory card into the slot again. The printer again reads it from the beginning of the data.</p> <p>Also see <code>Insert the same memory card</code>.</p>

Message	Corrective Action
<p>Memory overflow Press GO</p>	<p>The total amount of data received by the printer exceeds the printer's internal memory. Try adding more memory. Press the GO key to resume printing. You can abandon printing by the CANCEL key.</p> <p>If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to chapter 3 of the <i>Operation Guide</i>.</p>
<p>MemoryCard err## Press GO</p>	<p>A memory card error has occurred. Look at the error code given in place of ## and refer to chapter 4 of the <i>Operation Guide</i>. To ignore the memory card error, press the GO key.</p>
<p>Missing duplex drawer</p>	<p>The duplex drawer is either not installed or incorrectly inserted. Insert the duplex drawer securely.</p>
<p>Paper jam #####</p>	<p>A paper jam has occurred. The location of the paper jam is indicated in place of the #'s. For details, see <i>Clearing Paper Jams</i> on page 22.</p>
<p>Paper path error</p>	<p>There is no paper cassette in the feeder, or the cassette is not inserted properly. After reinserting the paper cassette, you should be able to print. When two or more optional feeders are installed and the lowest one is selected, the same message will appear if any of the upper paper feeder and the printer cassette is improperly installed.</p>

Message	Corrective Action
<pre>Print overrun Press GO††</pre>	<p>The print job transferred to the printer was too complex to print on a page. Press the GO key to resume printing. (The page may break in some pages.).</p> <p>You can abandon printing by the CANCEL key.</p> <p>If Auto Continue is set to On, printing will be automatically resumed after a preset period of time. For details on Auto Continue, refer to chapter 3 of the <i>Operation Guide</i>.</p>
<pre>RAM disk error## Press GO</pre>	<p>A RAM disk error has occurred. Look at the error code given in place of ## and refer to chapter 4 of the <i>Operation Guide</i>. To ignore the RAM disk error, press the GO key.</p>
<pre>Replace toner C, M, Y, K</pre> <p style="text-align: center;">↓ ↑</p> <pre>Replace toner Clean printer</pre>	<p>Two message items are displayed alternately. Toner has run out in the toner container(s). Replace the toner container using a new toner kit for the particular color. The printer does not operate when this message is displayed.</p> <p>For example, if <code>Replace toner C,K</code> is displayed, replace the cyan and the black toner containers.</p>
<pre>Set paper Press GO</pre>	<p>The MP tray is out of paper. Load paper and press the GO key. (Note that feeding the paper having a paper size which does not match the current paper size from the MP tray can cause paper jam.)</p>
<pre>Toner low C, M, Y, K</pre>	<p>Replace the toner container using a new toner kit. Color of the toner container that needs to be replaced is represented by C (Cyan), M (Magenta), Y (Yellow), and K (Black).</p>

Message	Corrective Action
<pre>Virtual mailbox full</pre>	The storage area in the hard disk for the virtual mailboxes is full. Print out accumulated jobs in the virtual mailboxes.
<pre>Warning low memory</pre>	The printer's internal memory is running low due to too many numbers of fonts and macros downloaded. Try deleting unnecessary fonts and macros.

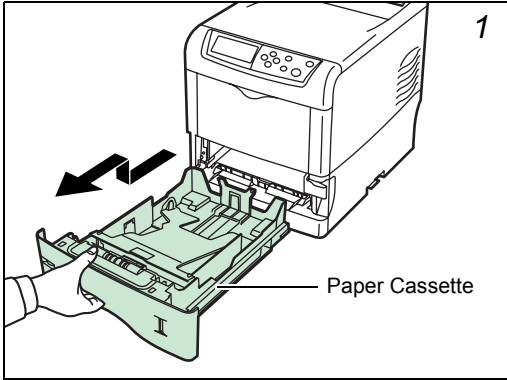
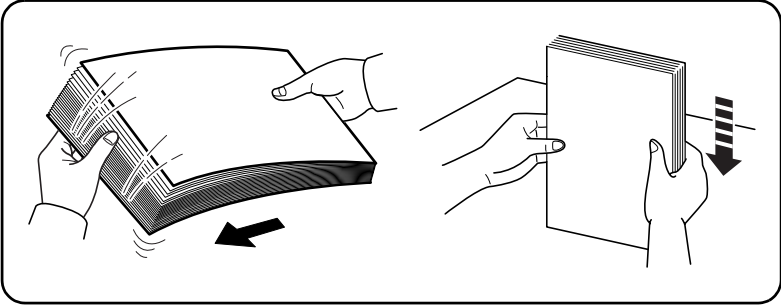
† Messages separated by '()' are displayed alternately.

†† After this error has happened, page protect mode will be automatically turned on. To maintain optimum use of memory during printing, we recommend you manually turn off page protect mode. See chapter 3 of the *Operation Guide*.

Loading Paper

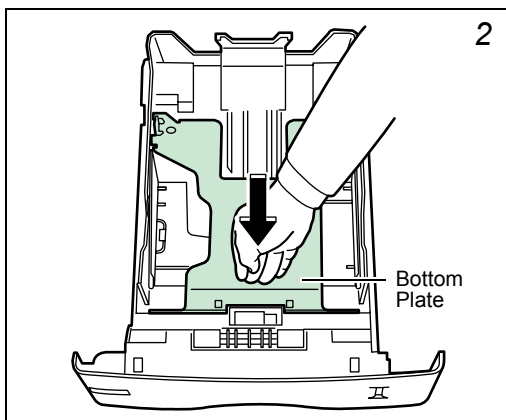


Fan the media (paper/transparencies), then tap it on a level surface to avoid media jams or skewed printing.



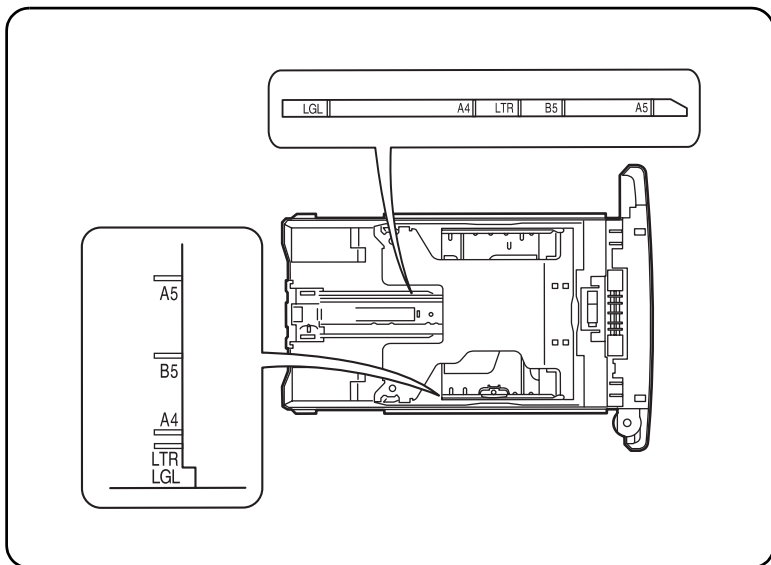
1 Loading paper into the cassette

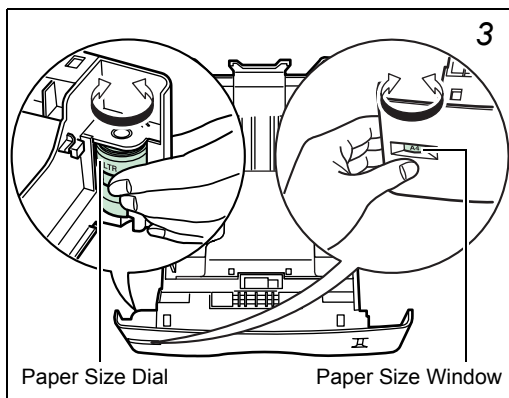
Pull the paper cassette all the way out of the printer.



Push the bottom plate down until it locks.

Standard paper sizes are attached to the inside of the paper cassette as shown in the following figure.



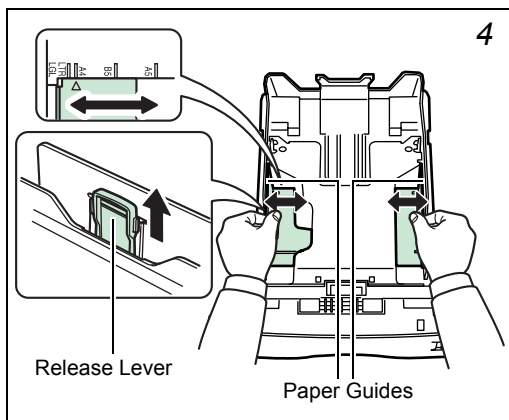


Turn the paper size dial so that the size of the paper you are going to use appears in the paper size window.

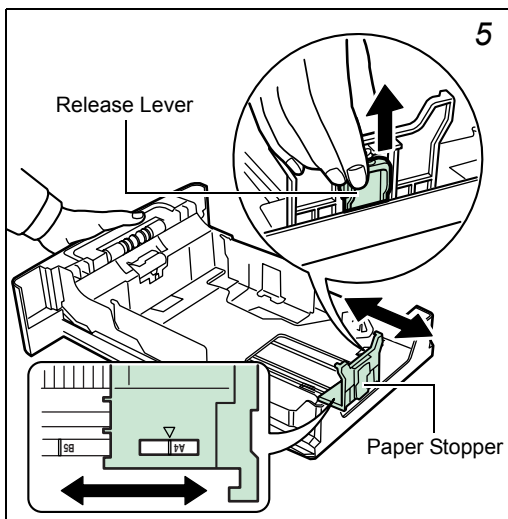


Note

When the paper size dial is set to **OTHER** the paper size must be set into the printer on the operator panel. See chapter 3 of the Operation Guide.

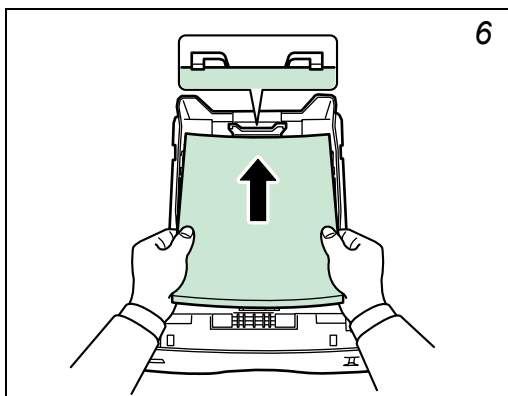


Adjust the position of the paper guides located on the left and right sides of the paper cassette. Pull the release lever on the left side guide and slide to the desired paper size.



Adjust the position of the paper stopper located at the rear of the paper cassette. Pull the release lever and slide the paper stopper to the desired paper size. When shipped from the factory, the paper cassette is set to A4 size.

When using non-standard size paper, move the paper guides and paper stopper all the way out, insert the paper, then adjust the paper guides and paper stopper to the size of the paper. Adjust them so that they are in light contact with the paper.

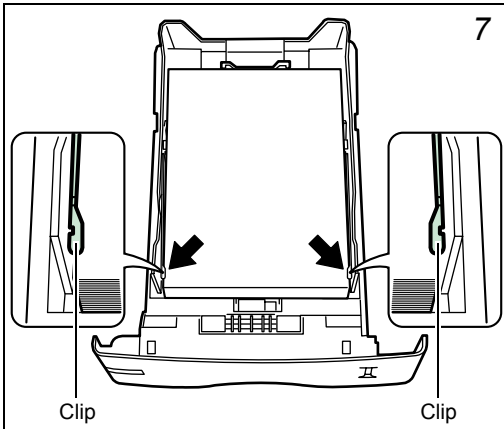
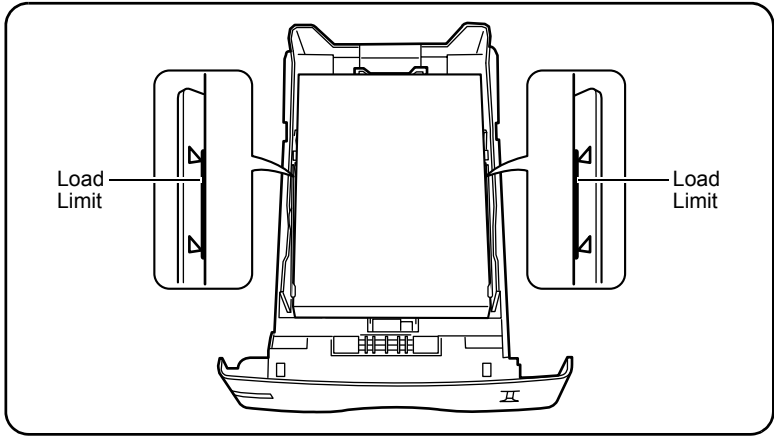


Slide the paper into the paper cassette.

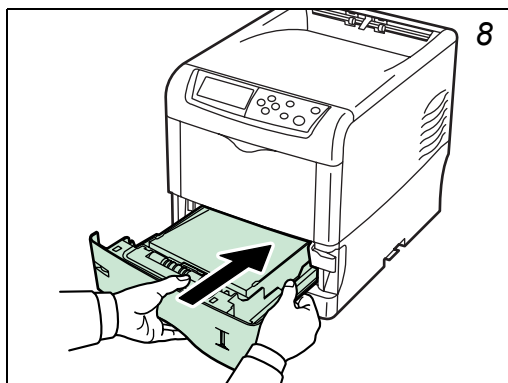


Note


- Do not load more paper than will fit under the load limits on the paper guides.
- The paper cassette will hold approximately 500 sheets of paper with a 80 g/m² (21 lb.) basis weight, or with a thickness of 0.11 mm.

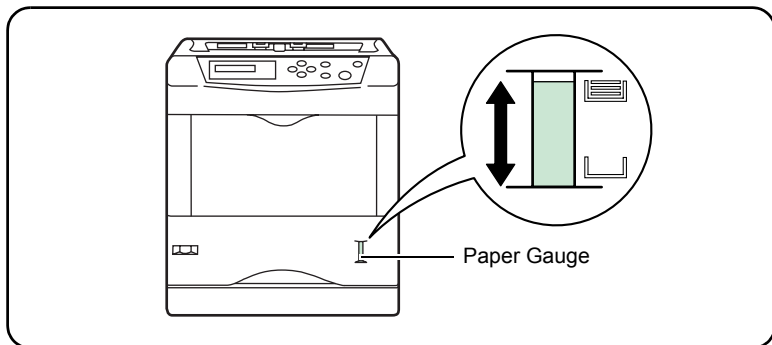


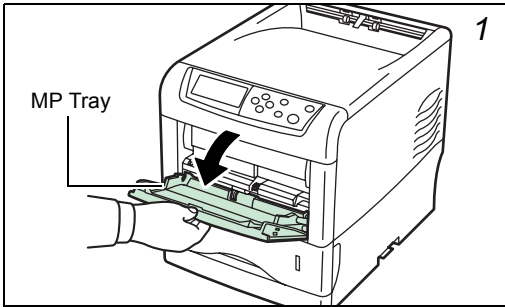
Set the stack of paper so that it is under the clips as shown.



8 Insert the paper cassette into the slot in the printer. Push it straight in as far as it will go.

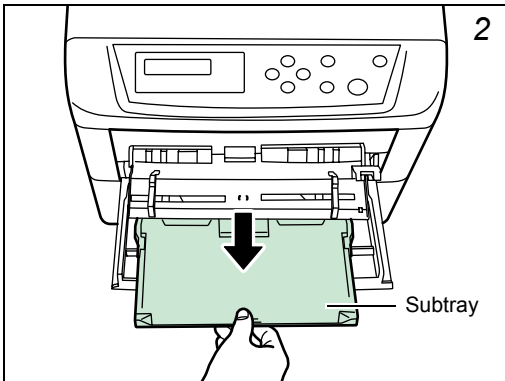
There is a paper gauge on the right side of the front of the paper cassette to indicate the remaining paper supply. When paper is exhausted, the pointer will go down to the level of  (empty).



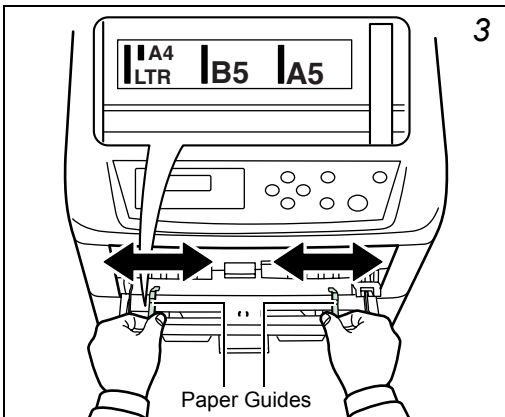


Loading paper into the MP (Multi-Purpose) tray

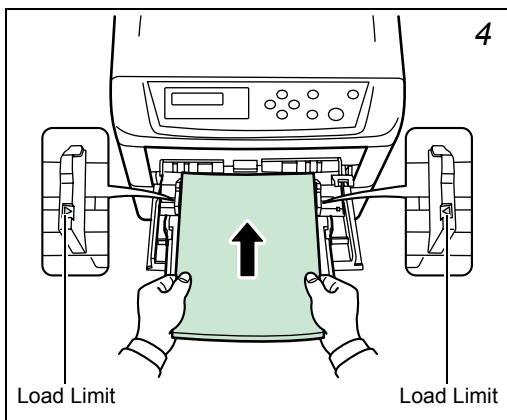
Pull the MP tray towards you until it stops.



Pull out the subtray.



Adjust the position of the paper guides on the MP tray. Standard paper sizes are attached to the MP tray. For standard paper sizes, slide the guides to the position marked correspondingly.



Align the paper with the paper guides and insert as far as it will go.



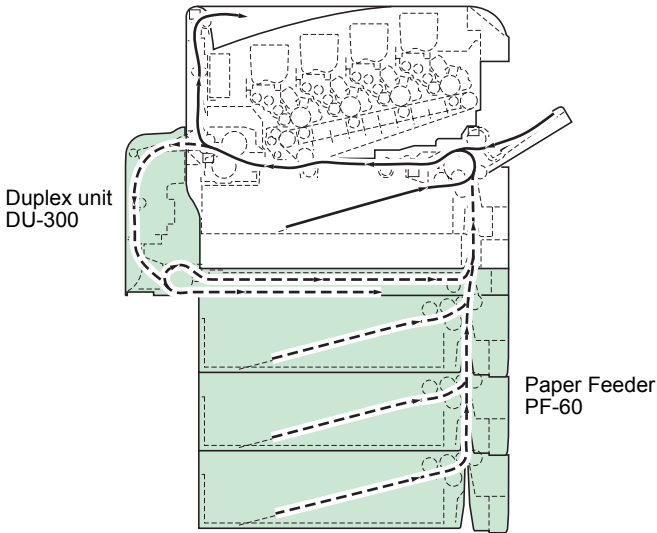
Note

- Do not load more paper than will fit under the load limits on the inside of the MP tray.
- If the paper is considerably curled in one direction, for example, if the paper is already printed on one side, try to roll the paper in the opposite direction to counteract the curl. Printed sheets will then come out flat.

<p>Collect</p>		
<p>Incollect</p>		

Clearing Paper Jams

The figure below is a simplified diagram showing the paper paths in the print system. You can clear paper jams easily and quickly if you become familiar with the paper paths and locations of potential jams.

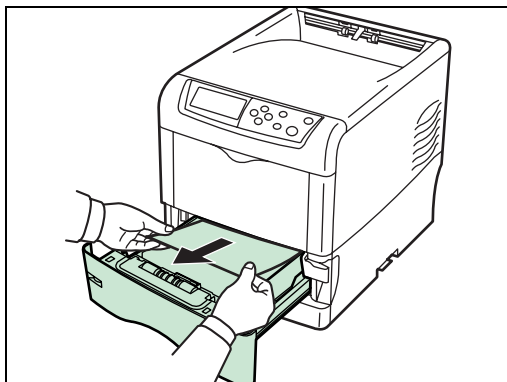


Depending on the indication on the message display, proceed as follows:



When pulling the paper, pull it gently so as not to tear it. Torn pieces of paper are difficult to remove and may be easily overlooked, deterring the jam recovery.

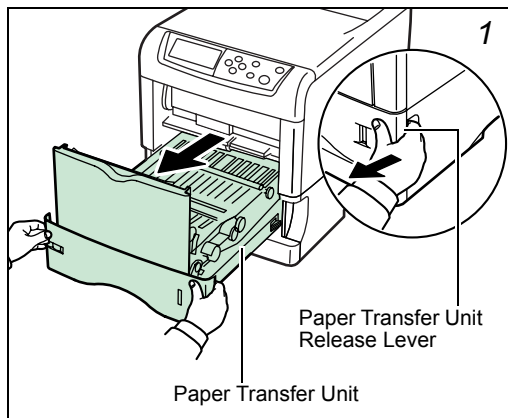
Jam at the Paper Cassette



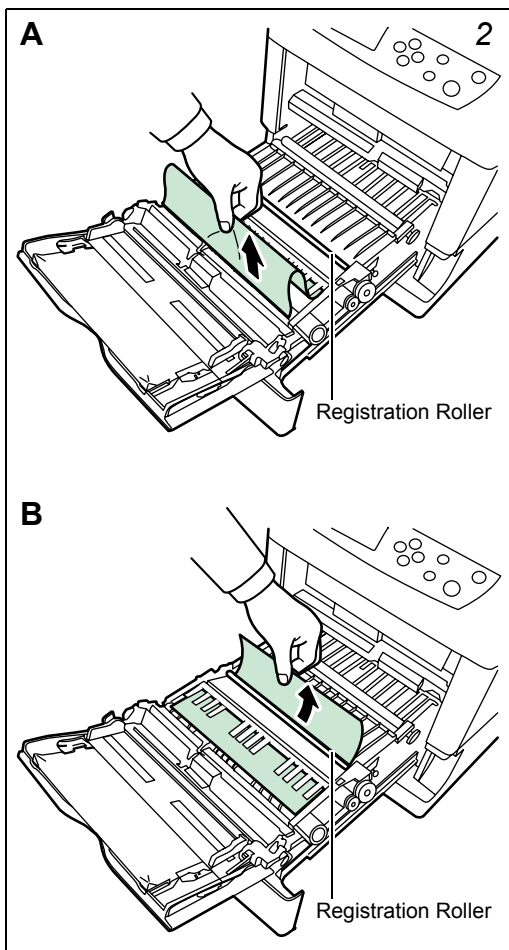
Pull out the paper cassette and remove the jammed paper.

If paper is jammed at the standard paper cassette (Cassette 1), open and close the paper transfer unit (the paper jam error will be reset).

Jam at the Paper Transfer Unit



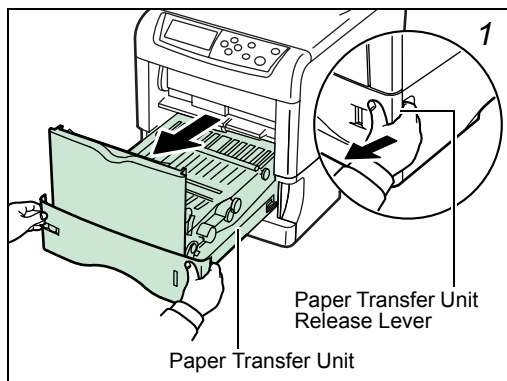
While pulling the green paper transfer unit release lever, pull out the paper transfer unit.



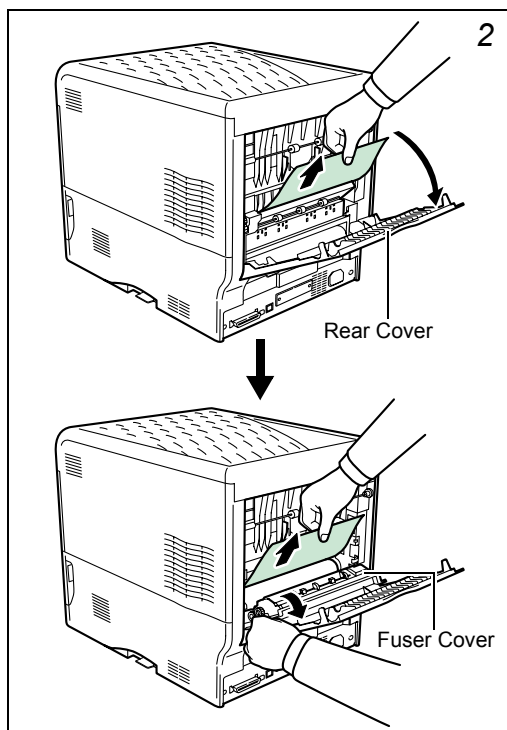
If paper is jammed as shown in **A**, remove the paper by pulling the center up.

If paper is jammed as shown in **B**, remove the paper by pulling the edge.

Jam at the Rear Cover



While pulling the green paper transfer unit release lever, pull out the paper transfer unit.



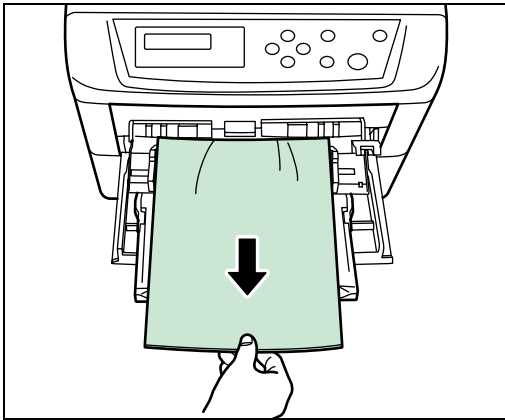
Open the rear cover and then the fuser cover, and remove the jammed paper.



The fuser unit inside the printer is hot. Do not touch it with your hands as it may result in burn injury. Remove jammed paper carefully.

Push the paper transfer unit back in and close the fuser cover and rear cover.

Jam at the MP Tray



Remove the paper jammed at the MP tray.

Open and close the paper transfer unit (the paper jam error will be reset).

Toner Container Replacement

The life of the toner containers depends on the amount of toner required to accomplish your printing jobs.

When 5 % coverage (a typical business document) of individual toner colors is assumed for A4 or letter size, the average life of each toner container is as follows†:

Black	8,000 pages
Cyan	8,000 images
Magenta	8,000 images
Yellow	8,000 images

Replace the toner container when the printer displays, for example:

```
Toner low
C
```

This is the first caution. Note the replacement is not always necessary at this stage. Replace the toner container immediately when the printer displays:

```
Replace Toner
C
```

† Excluding the starter toner containers.

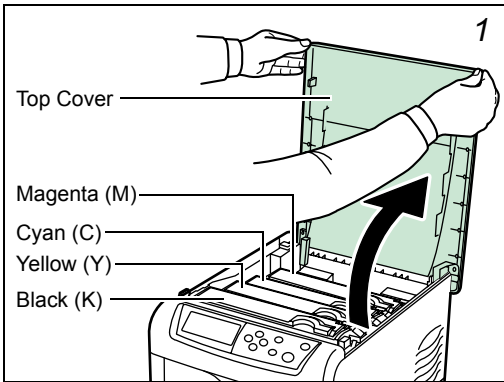
Replacing the Toner Container



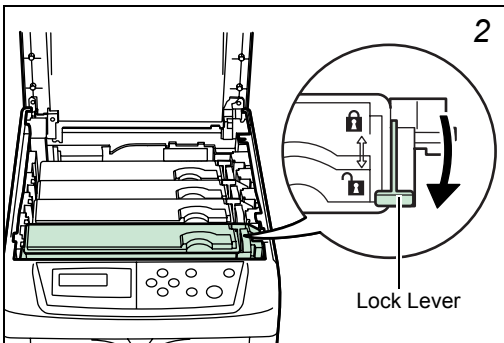
Note

You do not have to turn printer power off before starting the replacement. Any data that may be under printing process will be deleted if you turn printer power off.

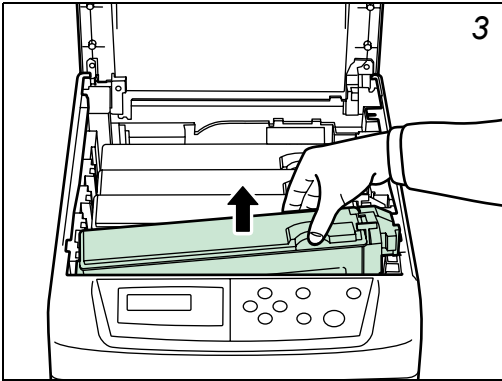
To replace the toner container, first make sure of the color of the toner container requiring replacement according to the message display. In this example, it is assumed that you are replacing the black toner container.



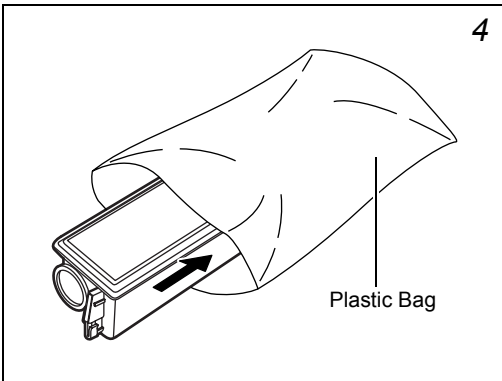
Open the top cover.



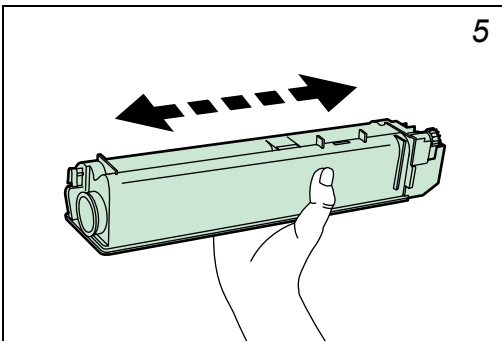
Pull the blue lock lever on the toner container forward towards the unlocked symbol (🔓).



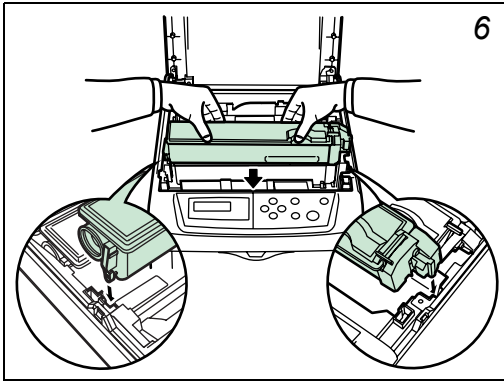
3 Carefully remove the old toner container from the printer.



4 Put the old toner container in the plastic bag (contained in the toner kit) and discard it later according to the local code or regulations for waste disposal.

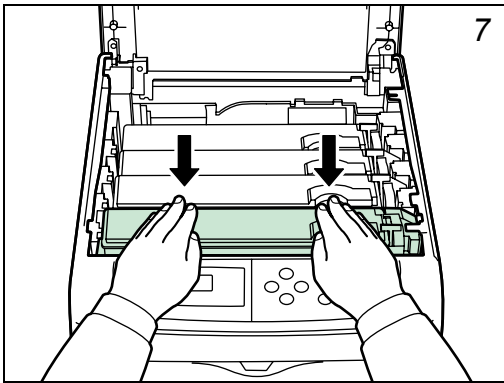


5 Take the new toner container out of the toner kit. Shake the new toner container 5 or 6 times as shown in the figure in order to distribute the toner evenly inside the container.



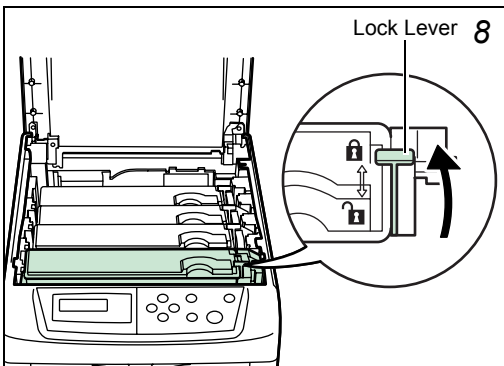
6

Set the new toner container in the printer as shown in the figure.



7

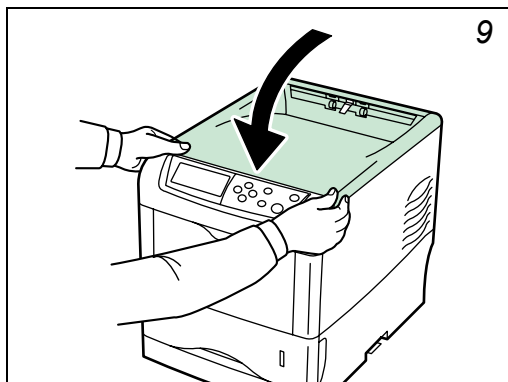
Push down on the top of the toner container to install it firmly in place.



8

Push the blue lock lever on the toner container back towards the locked symbol (🔒) as far as it will go.

To replace the other color toner containers, use the same procedure above.

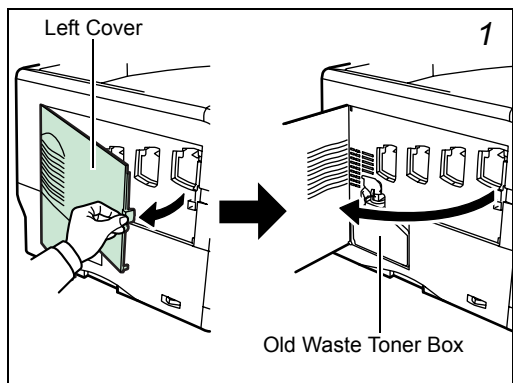


9 Close the top cover.

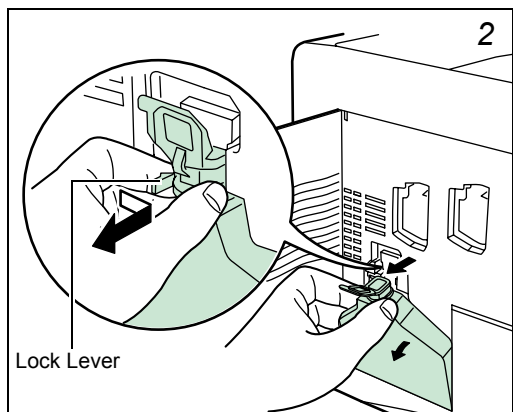
When the toner container has been replaced, proceed to the next section.

Replacing the Waste Toner Box

Replace the waste toner box each time you replace the toner container. A new waste toner box is included with the toner kit. The printer will not operate without replacing the waste toner box.



1 Open the left cover.

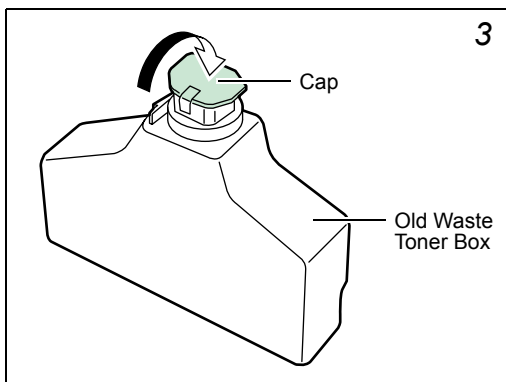


2 While holding the waste toner box, press the lock lever and then gently remove the waste toner box.

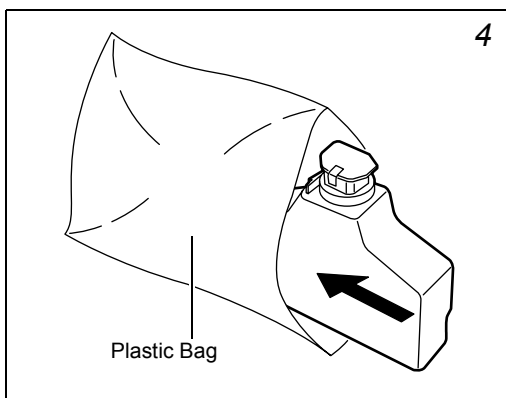


Note

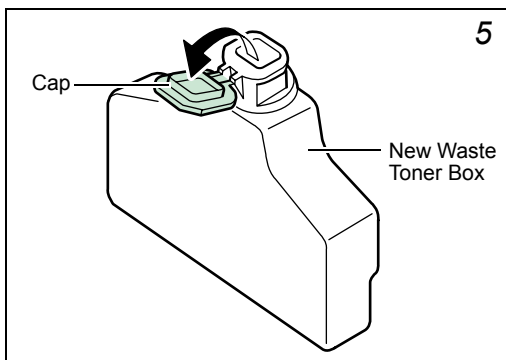
Remove the waste toner box as gently as possible so as not to scatter the toner inside. Do not let the opening of the waste toner box face downward.



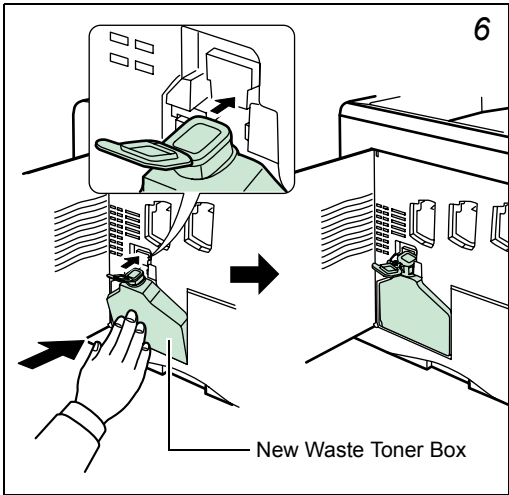
Close the cap to the old waste toner box after removing the box from the printer.



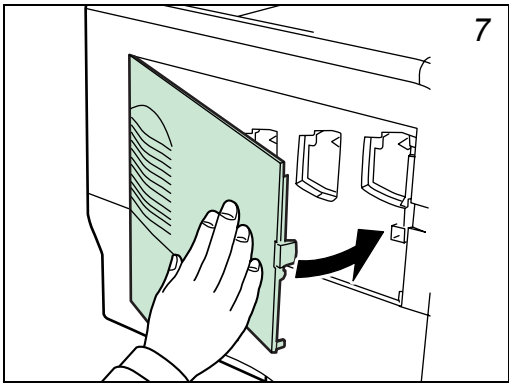
To prevent toner from spilling, put the old waste toner box in the plastic bag (contained in the toner kit) and discard it later according to the local code or regulations for waste disposal.



Open the cap of the new waste toner box.



Insert the new waste toner box as shown in the figure. When the box is set correctly, it will snap into place.



Make sure that the waste toner box is correctly inserted and close the left cover.

The printer parts must be cleaned when replacing the toner container. See *Cleaning the Printer* on page 35.

When the toner container is replaced, reset the toner counter (see chapter 3 of the *Operation Guide*).

Cleaning the Printer

The following parts must be cleaned each time the toner container is replaced:

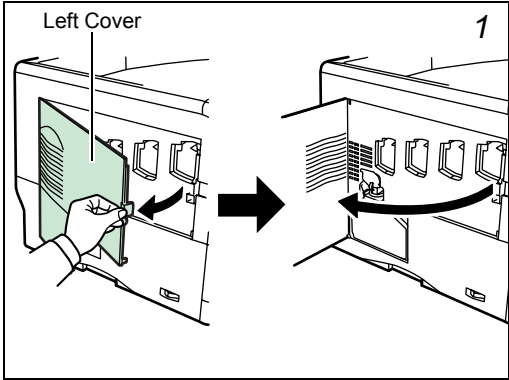
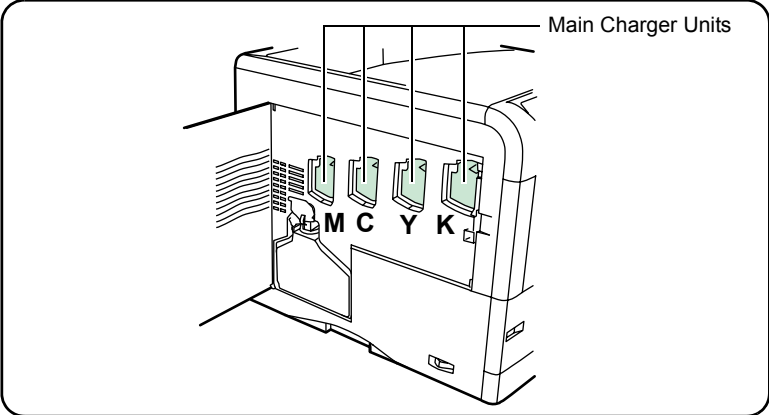
- Main charger wire
- Main charger grid
- Registration roller

In addition to this, it is recommended that the main charger wire and registration roller are cleaned periodically at least once a month.

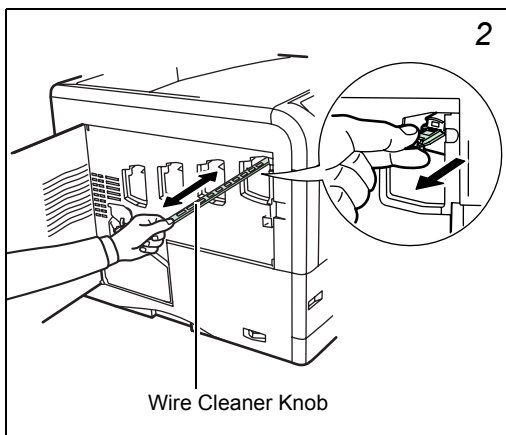
Cleaning the Main Charger Unit

The main charger units need to be cleaned periodically as they get contaminated with dioxide after long usage. Each main charger unit is comprised of two main parts — the wire and the grid — which should be separately as explained below.

There are 4 main charger units, one for each toner container. When performing the cleaning procedure, be sure to clean the main charger unit that corresponds to the toner container that was replaced. The following example explains the procedure to clean the main charger unit for the black toner container.



Open the left cover.



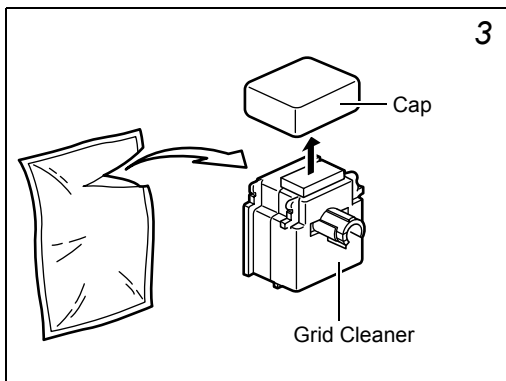
Cleaning the main charger wire — Grasp the tab of the green wire cleaner knob. Gently pull the wire cleaner out and push it back in. Repeat this 2 to 3 times.

After cleaning, make sure you restore the wire cleaner knob to its home position.



Note

If the wire cleaner knob is not restored to its home position, a band will print along the length of the page.

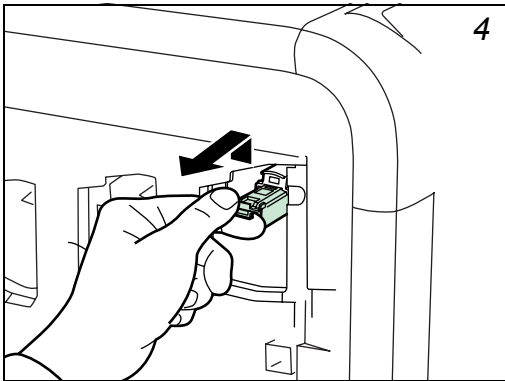


Cleaning the main charger grid — Take the grid cleaner out of the toner kit. Take the grid cleaner out of the protective bag and remove the cap.

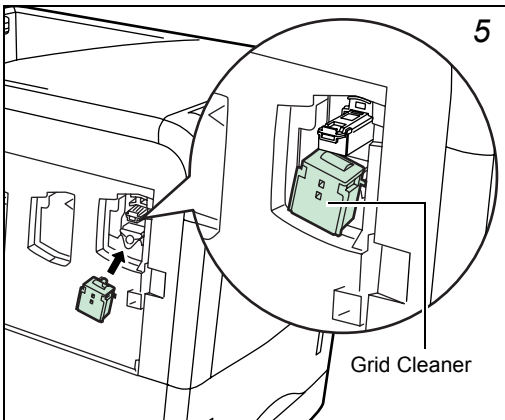


The pad of the grid cleaner contains water. Clean the grid quickly so that the pad may not dry off.

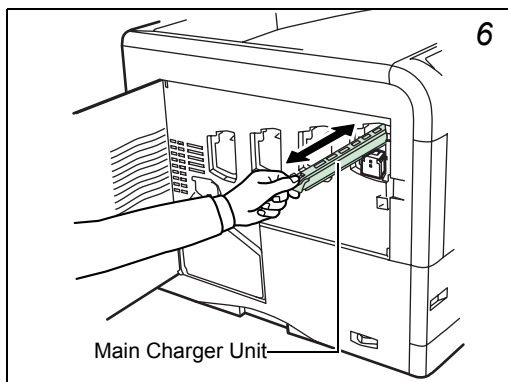
Note



Lift up slightly on the main charger unit and pull it out a short distance as shown in the figure.



Attach the grid cleaner to the printer with the pad facing up.



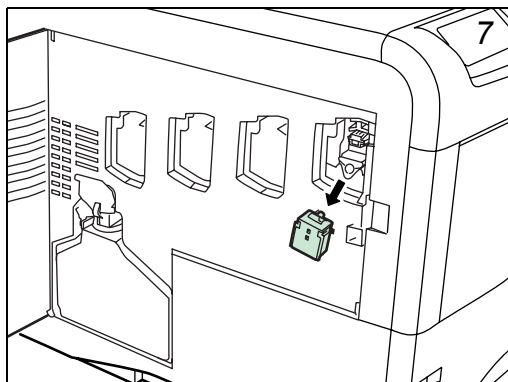
Gently pull the main charger handle out and push it back in. Repeat this 2 to 3 times. These movements clean the grid.

After cleaning, make sure you restore the main charger unit to its home position.



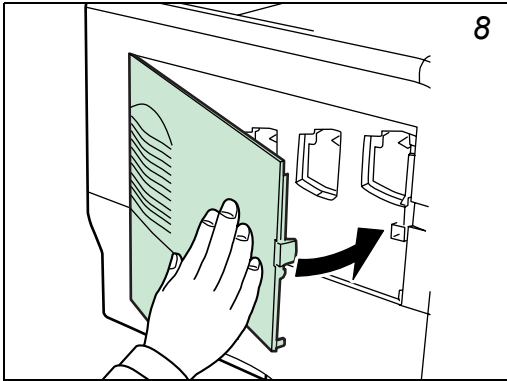
Note

If the main charger unit is not restored to its home position, the corresponding color will be printed over the whole page.



After cleaning is finished, remove the grid cleaner from the printer and discard it. The grid cleaner cannot be reused.

Use the same procedure to clean the main charger units for the other toner containers.



8 Close the left cover.

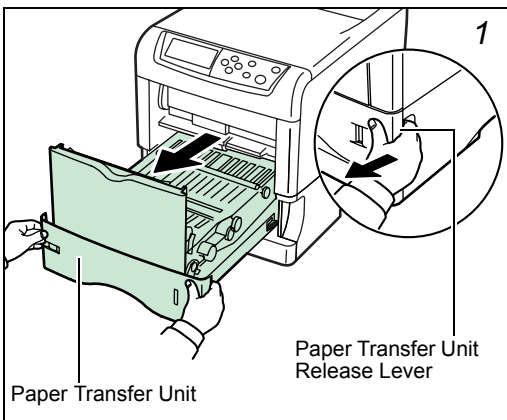
Cleaning the Paper Transfer Unit

Print problems such as soiling of the reverse side of printed pages may occur if the paper transfer unit becomes dirty. To clean the paper transfer unit:

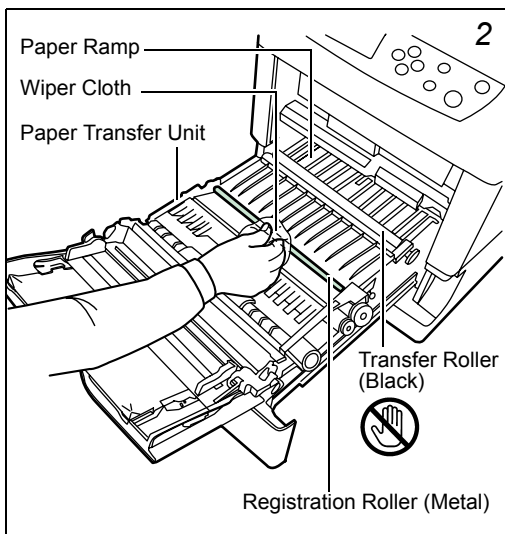


Note

Be careful not to touch the black transfer roller during cleaning as this may adversely affect print quality.



1 While pulling the green paper transfer unit release lever, pull out the paper transfer unit.



Wipe away the paper dust on the registration roller and the paper ramp using the wiper cloth included in the toner kit.

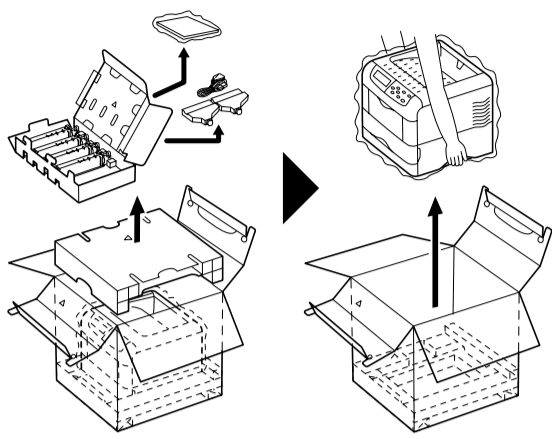
Push the paper transfer unit back in.

Kyocera Mita Corporation

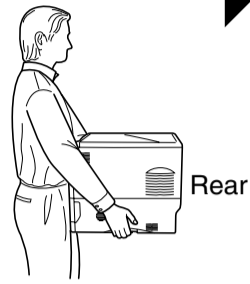
2-28, 1-Chome, Tamatsukuri, Chuo-ku
Osaka 540-8585, Japan
Phone: (06) 6764-3555

Unpacking

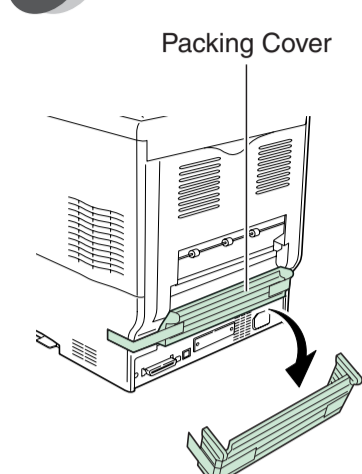
1 Unpack the printer.



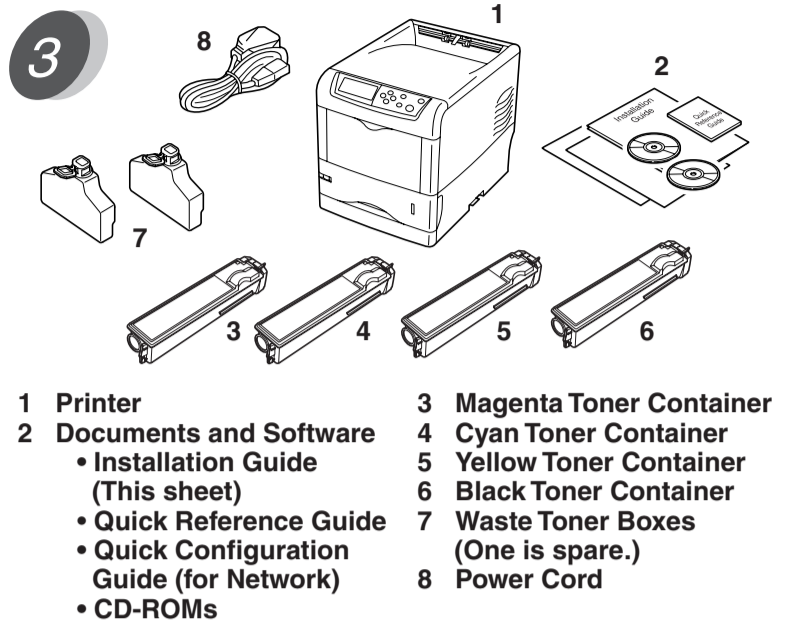
Be sure to hold the right and left sides of the printer when carrying it, as shown in the illustration.



2 Remove the packing cover.

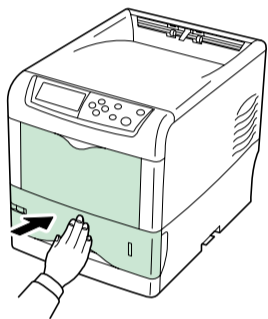


Checking Parts and Components

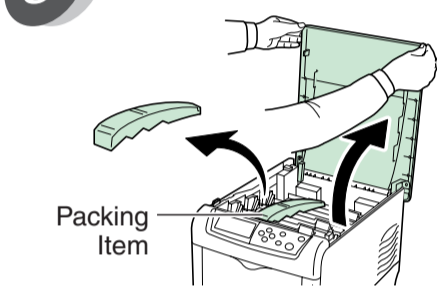


Installing the Toner Containers and Waste Toner Box

4 Close the paper transfer unit tightly.

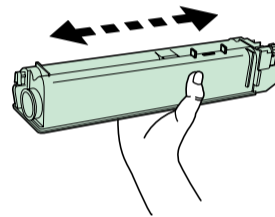


5 Open the top cover and remove the packing item.

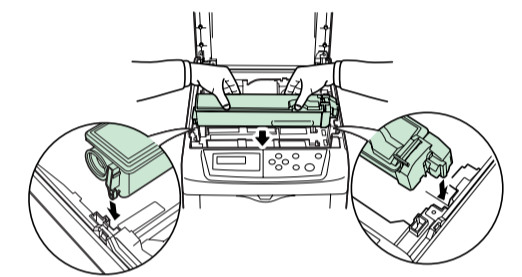


In this example, it is assumed that you are installing the black toner container.

6 Shake the new toner container 5 or 6 times as shown in the figure in order to distribute the toner evenly inside the container.

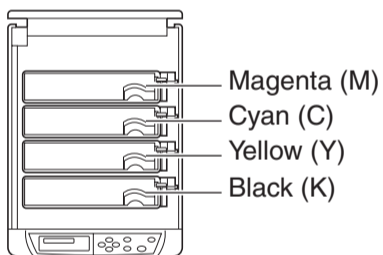


7 Set the new toner container in the printer as shown in the figure below.

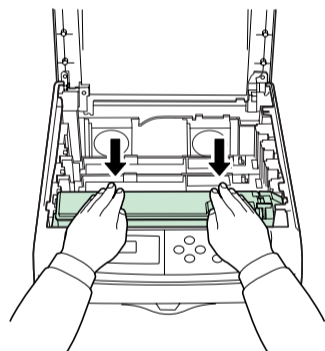


Note

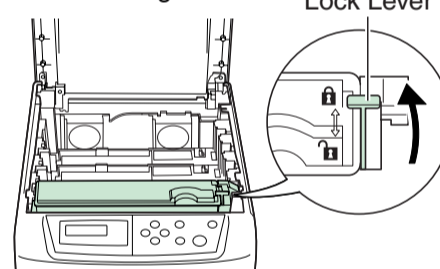
Be sure you set the toner container in the correct location for that color.



8 Push down on the top of the toner container to install it firmly in place.

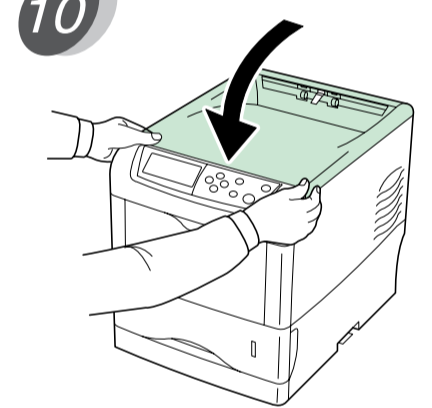


9 Push the blue lock lever on the toner container back towards the locked symbol (🔒) as far as it will go.

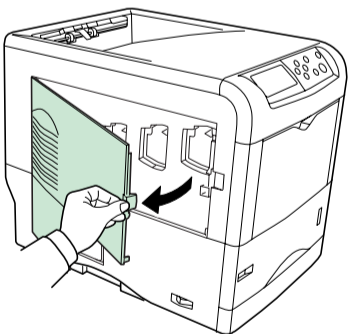


To install the other color toner containers, use the same procedure above.

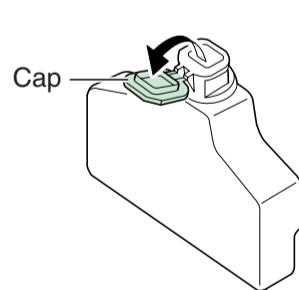
10 Close the top cover.



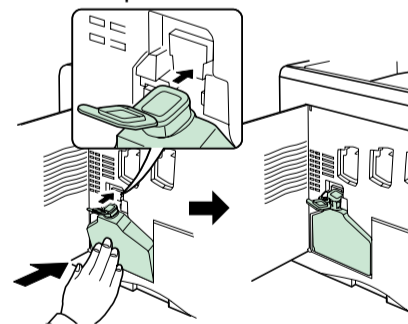
11 Open the left cover.



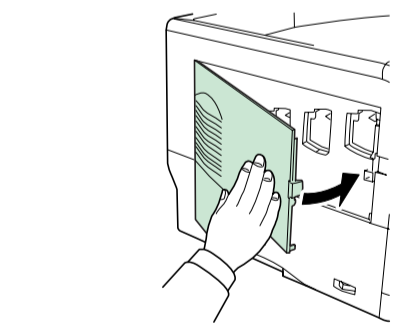
12 Open the cap of the waste toner box.



13 Insert the waste toner box as shown in the figure. When the box is set correctly, it will snap into place.

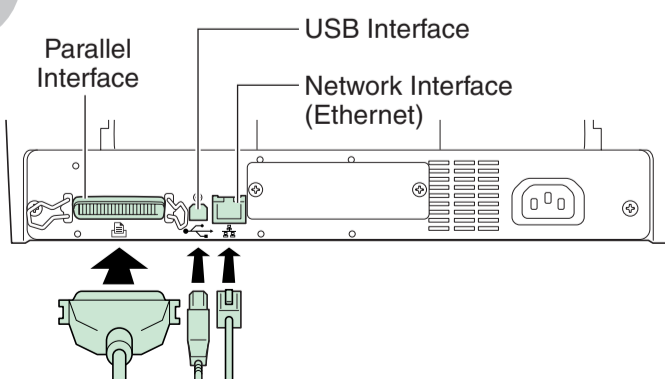


14 Make sure that the waste toner box is correctly inserted and close the left cover.

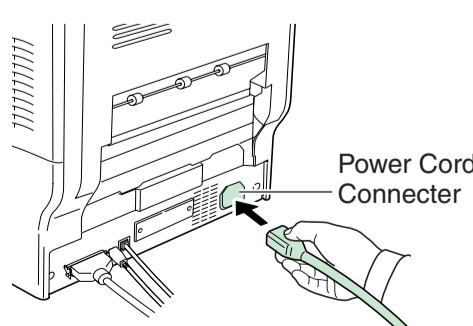


Making Connections

15 Connect to the computer.



16 Connect the power cord to the power outlet.



17 Turn on (|) the printer power switch.

