OKI®

B4300

MONOCHROME LED PAGE PRINTER

Maintenance Manual

Notice

Disclaimer

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Preface

This Maintenance Manual describes the field maintenance methods for B4300 Monochrome LED Page Printers.

This manual is written for use by service personnel. Please note that you should refer to the User's Guide for detailed. handling and operating methods of the equipment.

Table of Contents

Configuration

1. System Configuration

B4300 consists of control and engine blocks in the standard configuration, as shown in Figure 1-1.
In addition, the options marked with asterisk (*) are available.

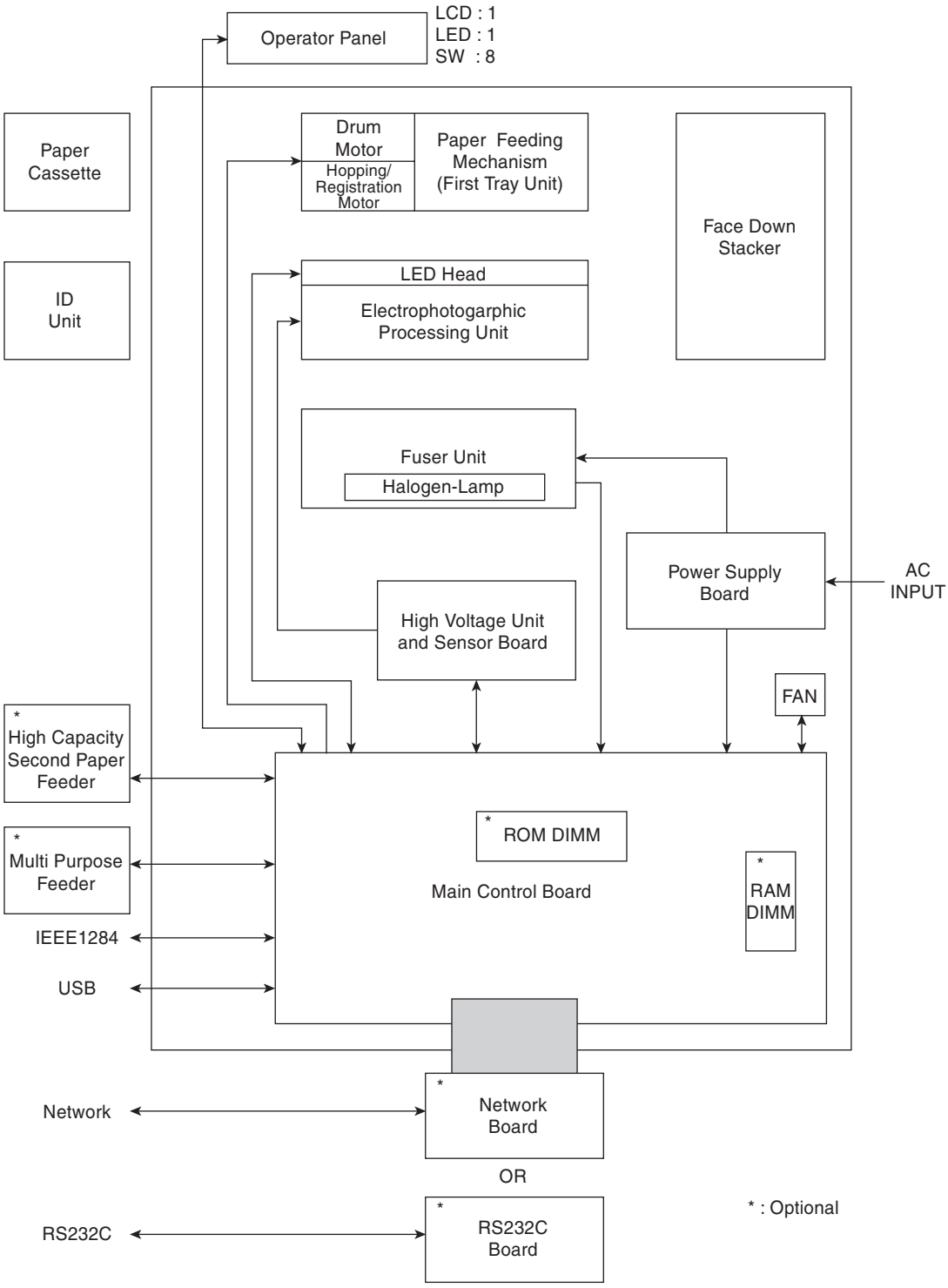


Figure 1-1

2. Printer Configuration

The printer unit consists of the following hardware components:

- Electrophotographic Processor
- Paper Feeder
- Controller
- Operator Panel
- Power Supply Unit

The printer unit configuration is shown in Figure 1-2.

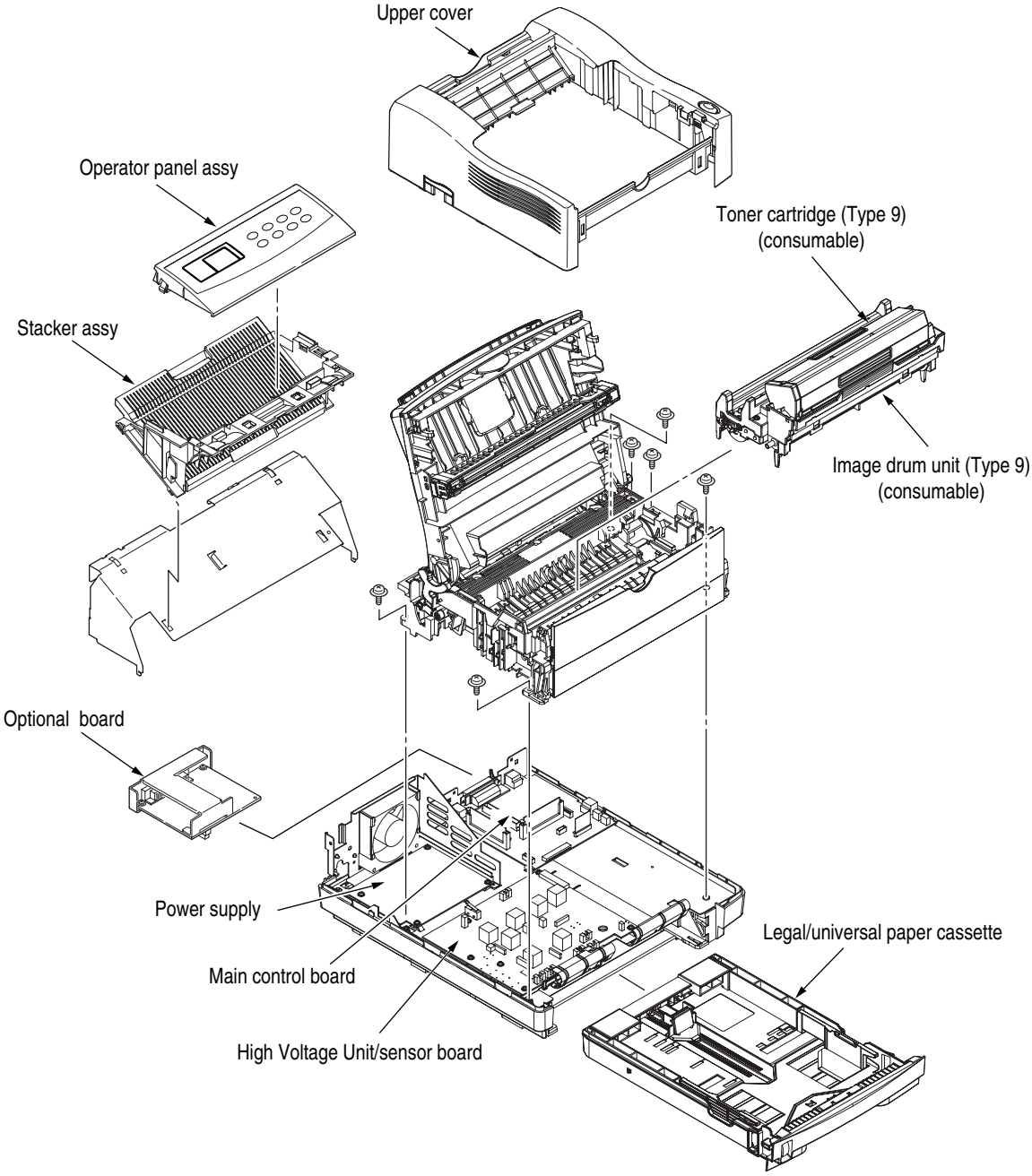
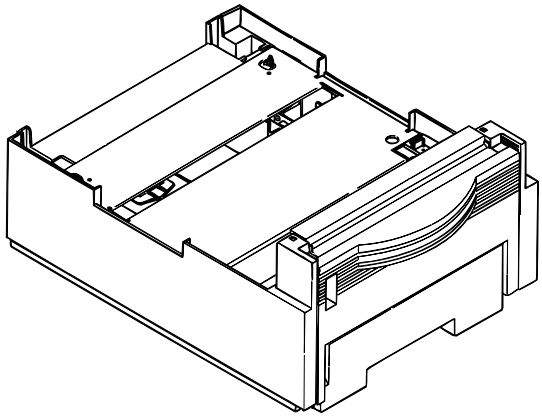


Figure 1-2

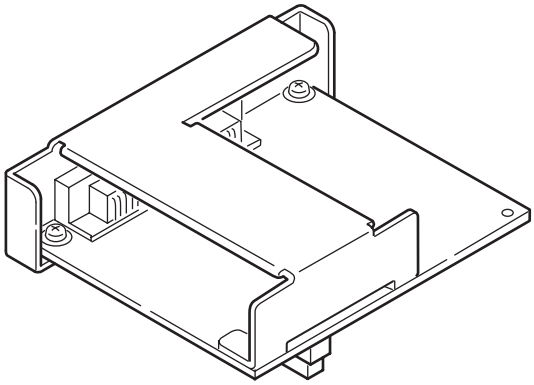
3. Optional Configuration

The options shown below are available for use with B4300. These are available separately from the printer unit.

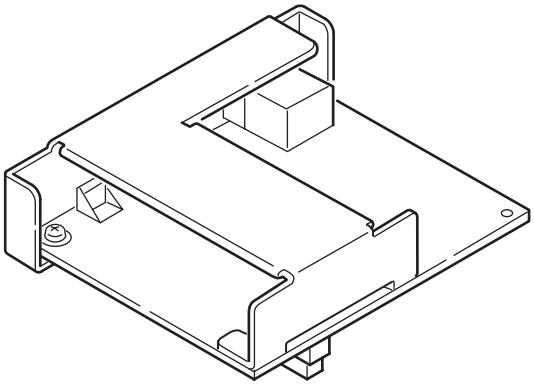
- High Capacity Second Paper Feeder



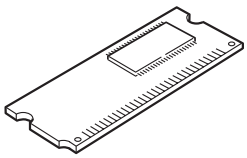
- RS-232C Serial Interface Board



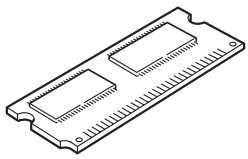
- Network Interface Board (Soft NIC CARD)



- SDRAM DIMM

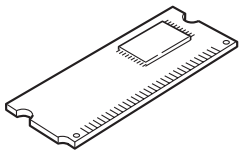


(i) 16MB

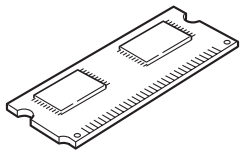


(ii) 32MB

- Flash DIMM

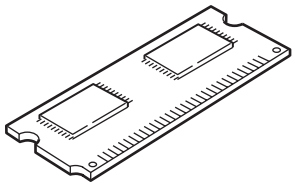


(i) 8MB



(ii) 16MB

- Postscript 3 Emulation DIMM



16MB

4. Specification

1	Type	Desktop
2	External Dimensions	Height 8.5" (215 mm) Width 14.0" (355 mm) Depth 15.7" (400 mm)
3	Weight	Approx. 9 kg
4	Developing method Exposing method	Dry electrophotography LED stationary head
5	Paper Used	<Type> • Standard Paper – Xerox 4200 (20 lbs) • Application paper (manual face-up feed) – Label – Envelope – OHP paper (transparency) <Size> • Standard sizes – Letter – Legal – Legal-13 – Executive – COM-9 ** – COM-10 ** [** manual feed only] – Monarch ** – DL** – C5** – A4 – A5 – B5 (JIS) – A6 • Applicable sizes – Width : 3.5" to 8.5" (90 to 216 mm) – Length : 5.8" to 14" (148 to 355.6 mm) <Thickness> – Automatic feed : 16 to 28 lbs (60 to 105 g/m^2) – Manual feed : Label, OHP paper (transparency) Envelope : (24 to 28 lbs)
6	Printing Speed	Continuous printing : 19 pages per minute with Letter size paper. 18 pages per minute with A4 size paper. Warm-up time : 35 seconds typical at room temperature [68½F (20½C), AC 120/230 V]. First page print time : 6.0 seconds typical for the Letter size paper (6.2 seconds for the A4 size) after warm-up.
7	Paper Feeding Method	Automatic feed or manual feed
8	Paper Delivery Method	Face down/face up
9	Resolution	600 x 600 dots/inch 600 x 1200 dots/inch
10	Power Input	120 VAC + 6%, -10% 230 VAC ± 10%

11	Power Consumption		120VAC	230VAC
		Peak :	Approx. 700W	Approx. 700W
		Typical operation :	Approx. 340W	Approx. 350W
		Idle :	Approx. 66W	Approx. 68W
		Power save mode (Without option) :	Approx. 8W	Approx. 9W
		Power save mode (With full option) :	Approx. 12W	Approx. 13W

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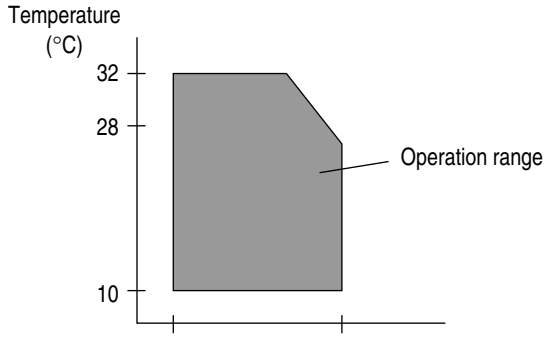
	In Operation	Power Off Mode	During Storage	Unit
Temperature	50-90 (10-32)	32-110 (0-43)	14-110 (-10-43)	F (C)
Humidity	20-80	10-90	10-90	%RH
Maximum wet bulb temperature	77 (77)	80.4 (26.8)	_____	F (C)
Minimum difference between wet and dry bulb temperatures	35.6 (2)	35.6 (2)	_____	F (C)

1. Storage conditions specified above apply to printers in packed condition.
2. Temperature and humidity must be in the range where no condensation occurs.

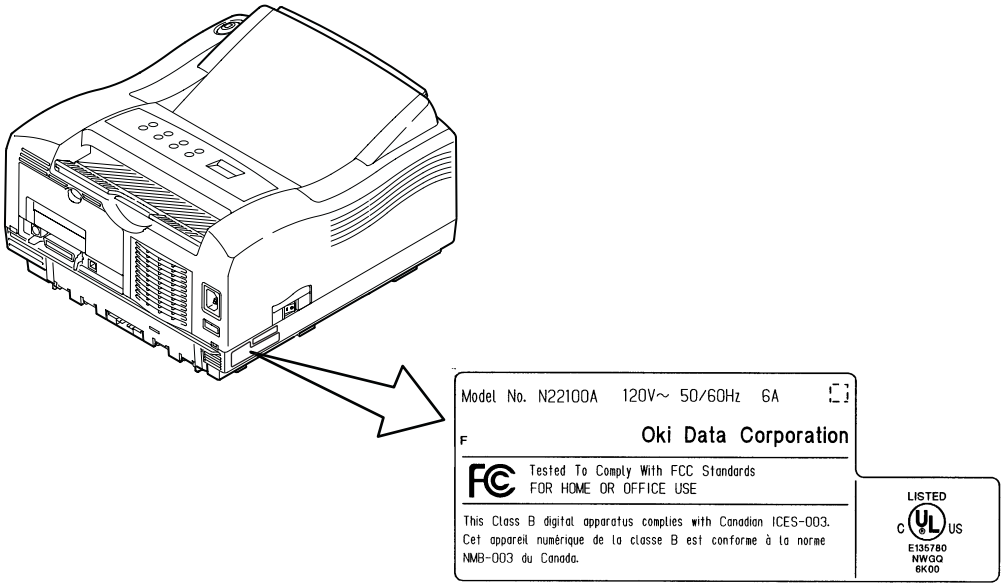


13	Noise	During operation: 53 dB (A) or less Standby: 38 dB (A) or less Quiet mode: Background level
14	Consumables	Image drum cartridge 25,000 (at continuous printing) 17,000 (3 page/job) without Power Save 11,000 (1 page/job) without Power Save 7,000 (1 page/job) with Power Save (Minimum)

5. Safety Standards

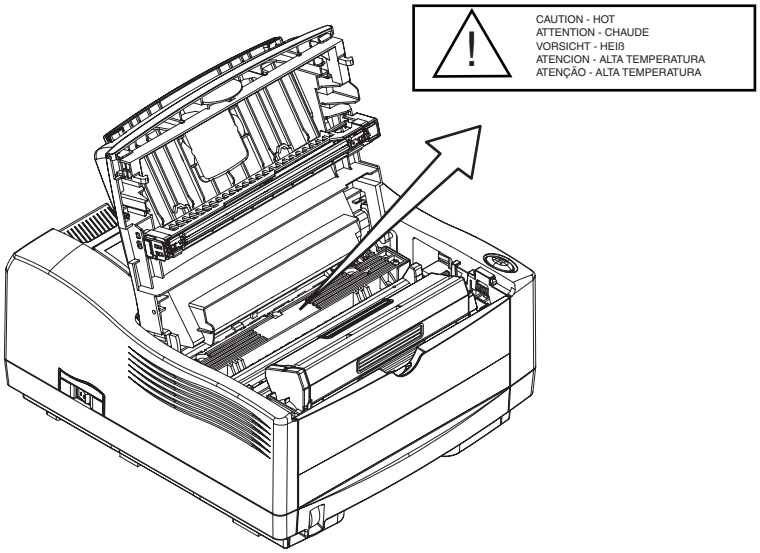
A. Certification Label

The safety certification label is affixed to the printer in the position described below.



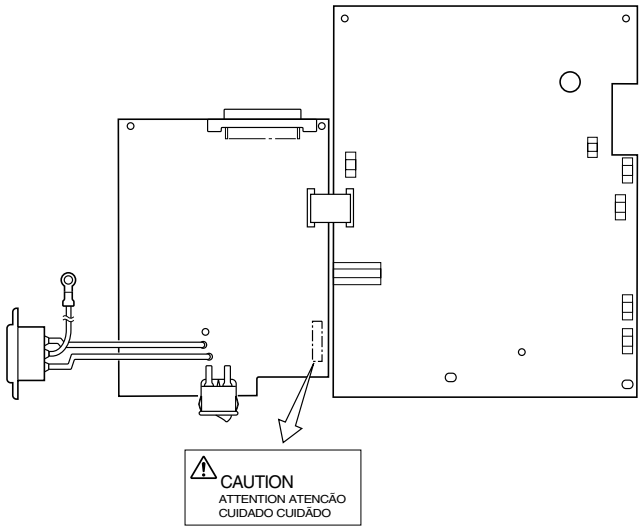
B. Warning Label

The warning labels are affixed to the sections which may cause bodily injury.
Follow the instructions on warning labels during maintenance.



C. Warning/Caution Marking

The following warning and caution markings are made on the power supply/sensor board.



The heat sink and transformer core present a risk of electric shock. Test before touching. Circuits may still be live after fuses open.

Parts Replacement

This section explains the procedures for replacement of parts, assemblies, and units in the field. Only the disassembly procedures are explained here. For reassembly, reverse the disassembly procedure.

1. Caution for Parts Replacement

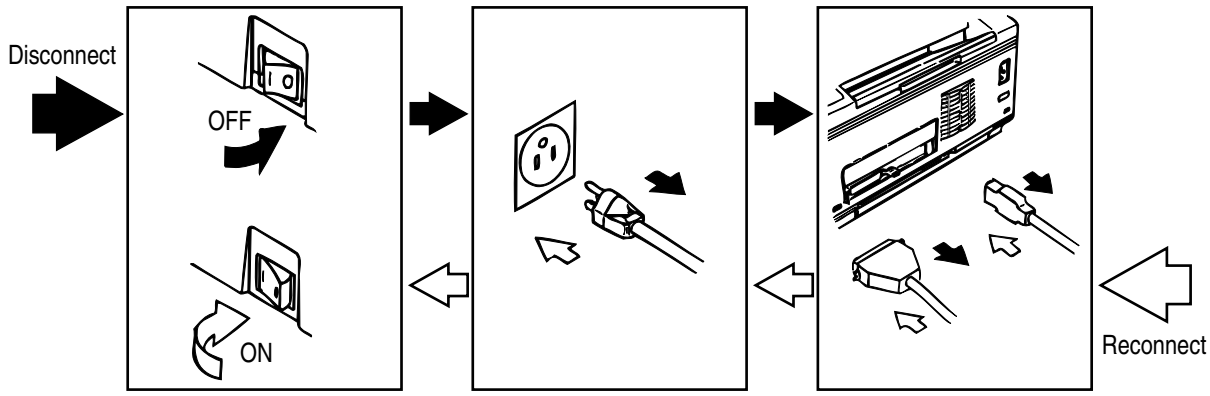
1. Before replacing parts, remove the AC cord and interface cable.

Remove the AC cord:

a. Turn off ("O") the power switch of the printer
b. Disconnect the AC inlet plug of the AC cord from the AC receptacle.
c. Disconnect the AC cord and interface cable from the printer.

Reconnect the printer:

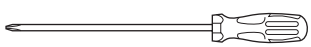
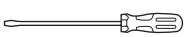
a. Connect the AC cord and interface cable to the printer.
b. Connect the AC inlet plug to the AC receptacle.
c. Turn on ("|") the power switch of the printer.

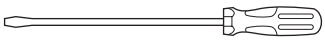
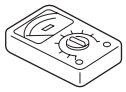
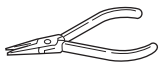
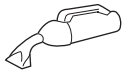
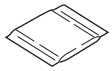


2. Do not disassemble the printer as long as it is operating normally.
3. Do not remove parts which do not have to be touched; try to keep the disassembly to a minimum.
4. Use specified service tools.
5. When disassembling, follow the laid out sequences. Parts may be damaged if these sequences are not followed.
6. Since screws, collars and other small parts are likely to be lost, they should temporarily be attached to the original positions during disassembly.
7. When handling IC's such as microprocessors, ROMs and RAMs, or circuit boards, do not wear gloves that are likely to generate static electricity.
8. Do not place printed circuit boards directly on the equipment or floor.

Service Tools

The tools required for field replacement of printed circuit boards, assemblies, and units are listed below.

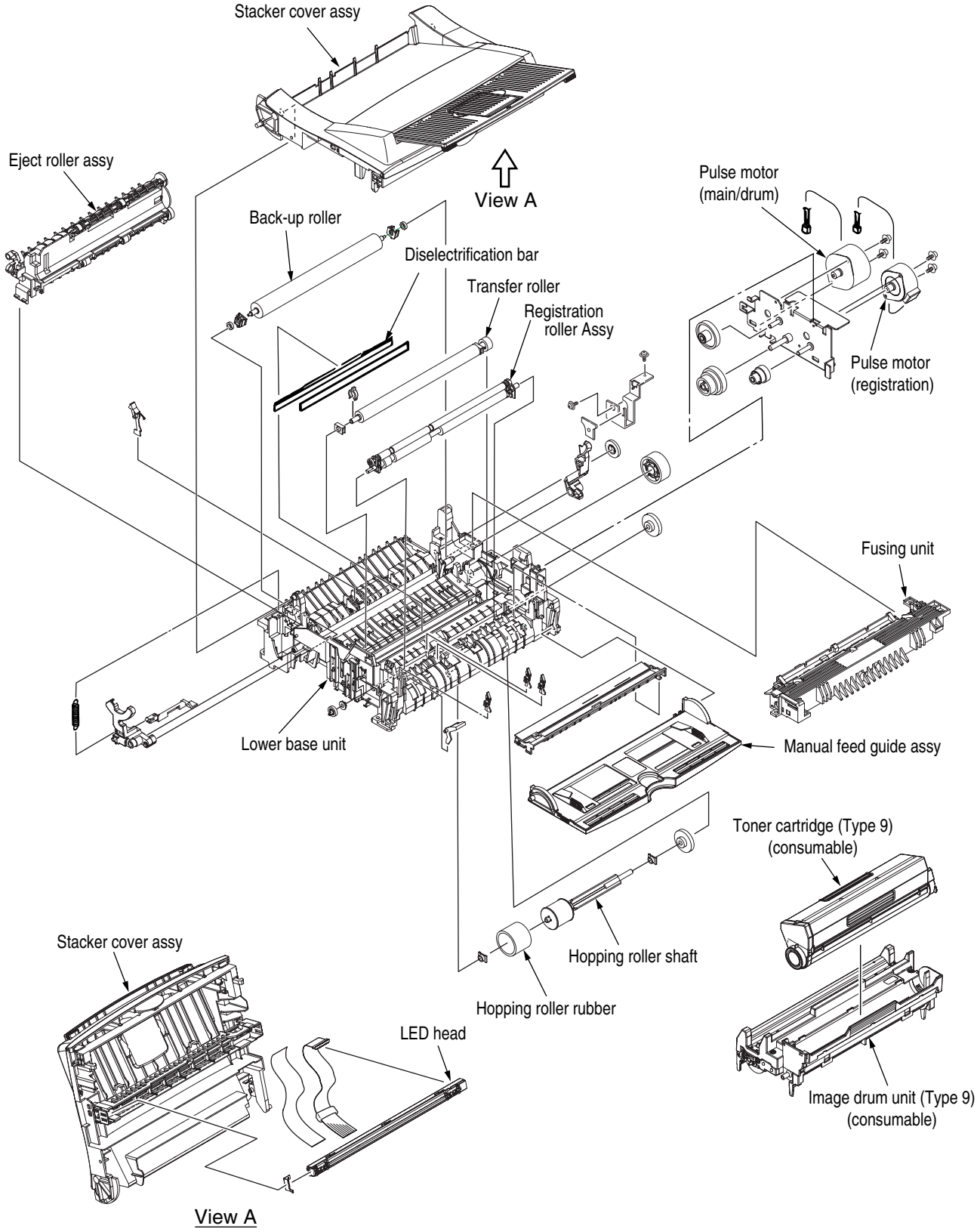
No.	Service Tools		Qty.	Application
1		No. 1-100 Phillips screwdriver	1	2~2.5 mm screws
2		No. 2-100 Phillips screwdriver	1	3~5 mm screws
3		No. 3-100 screwdriver	1	

No.	Service Tools		Qty.	Application
4		No. 5-200 Phillips screwdriver	1	
5		Digital multimeter	1	
6		Pliers	1	
7		Toner Vacuum	1	
8		LED Head cleaner	1	Cleans LED Head

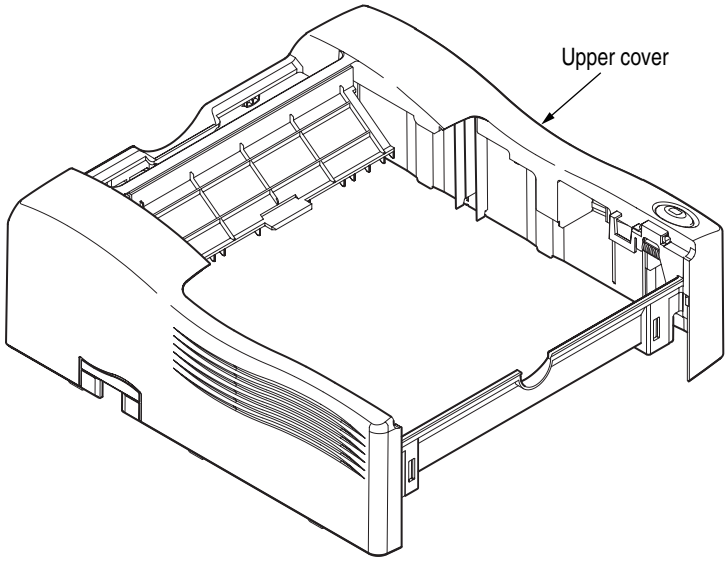
2. Parts Layout

This section explains the layout of main components of the equipment.

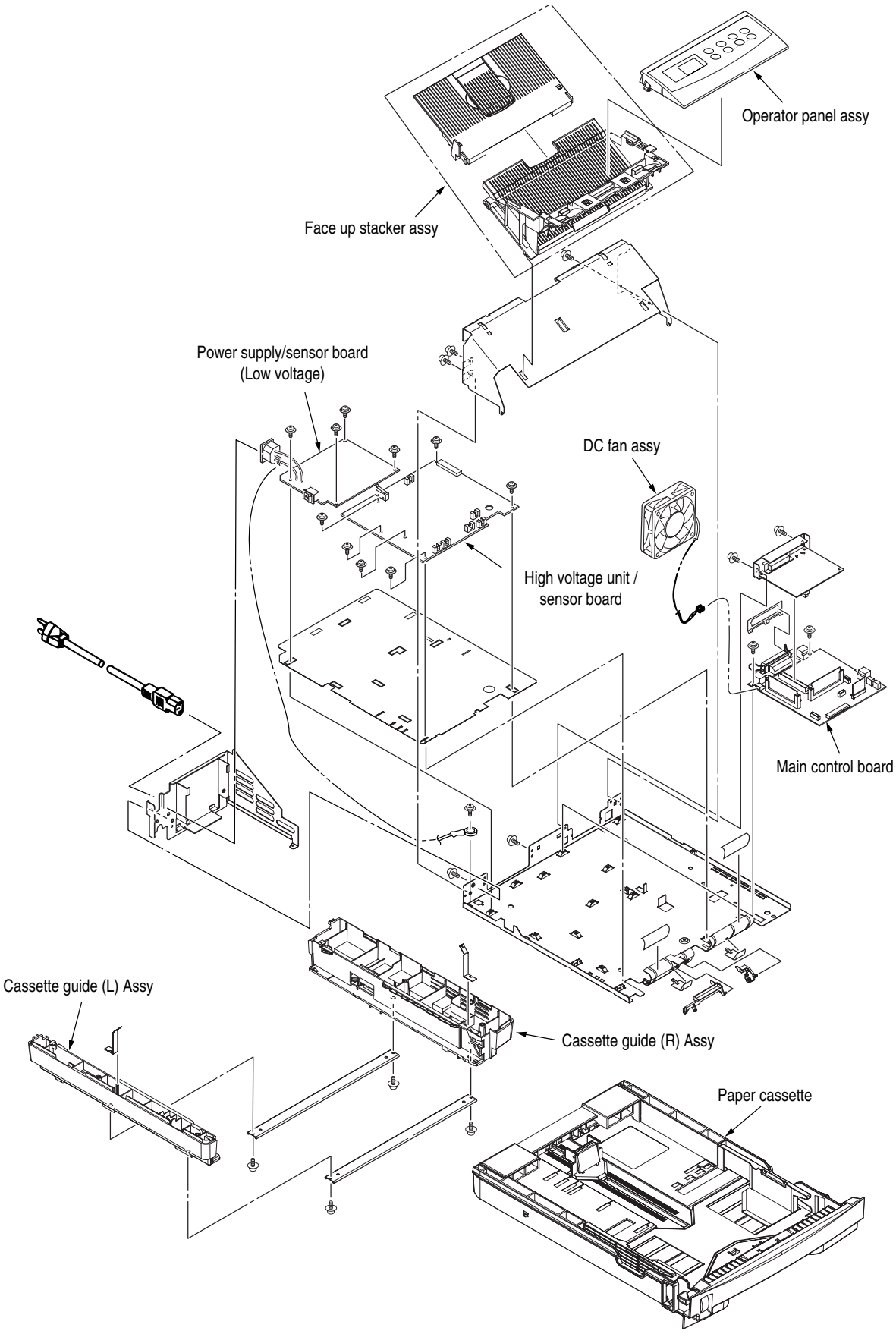
A. Lower Base Unit



B. Upper cover unit

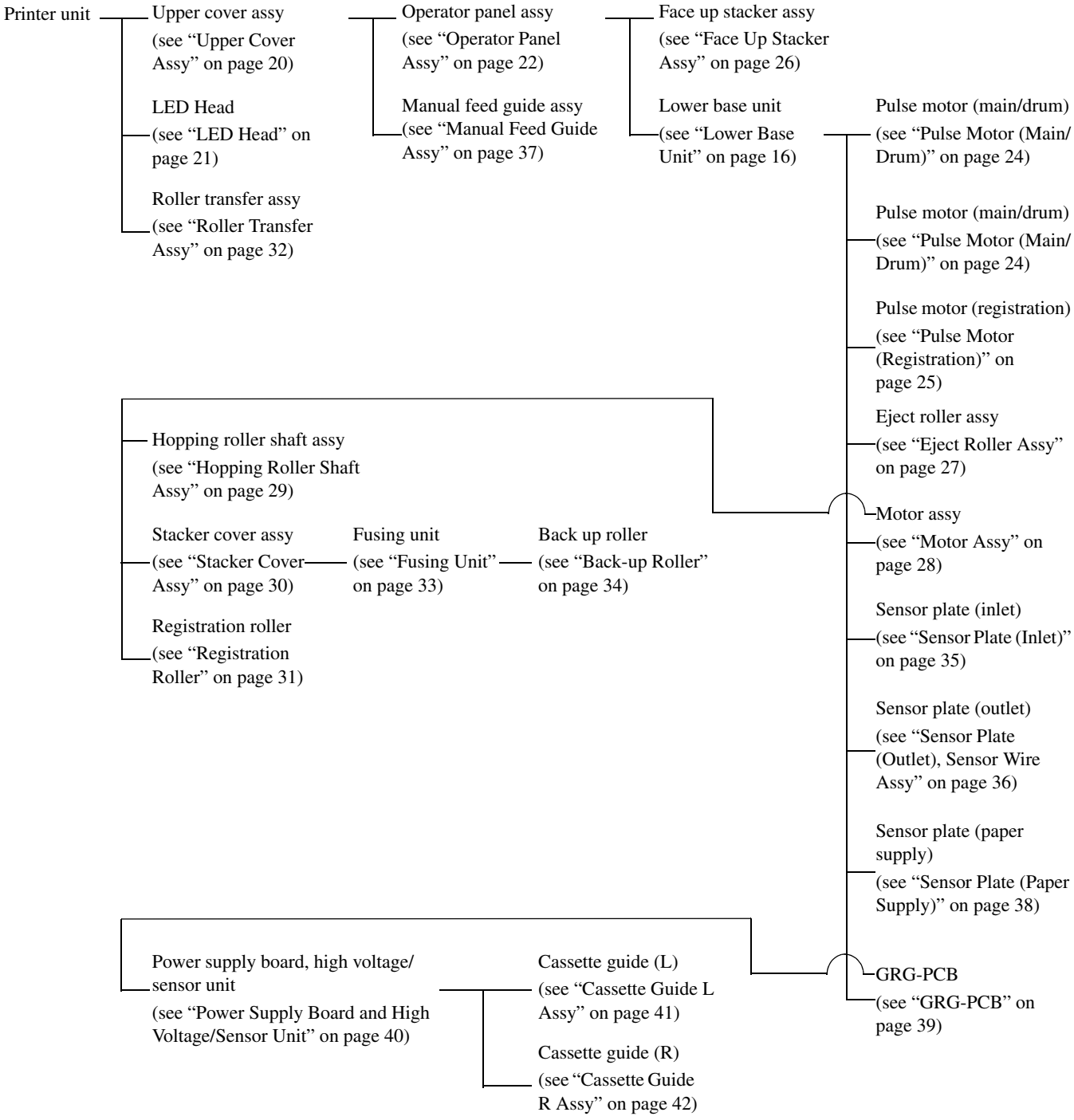


C. Base Unit


Operator panel assy
Face up stacker assy
Power supply/sensor board
(Low voltage)
DC fan assy
High voltage unit /
sensor board
Main control board
Cassette guide (L) Assy
Cassette guide (R) Assy
Paper cassette

3. How to Change Parts

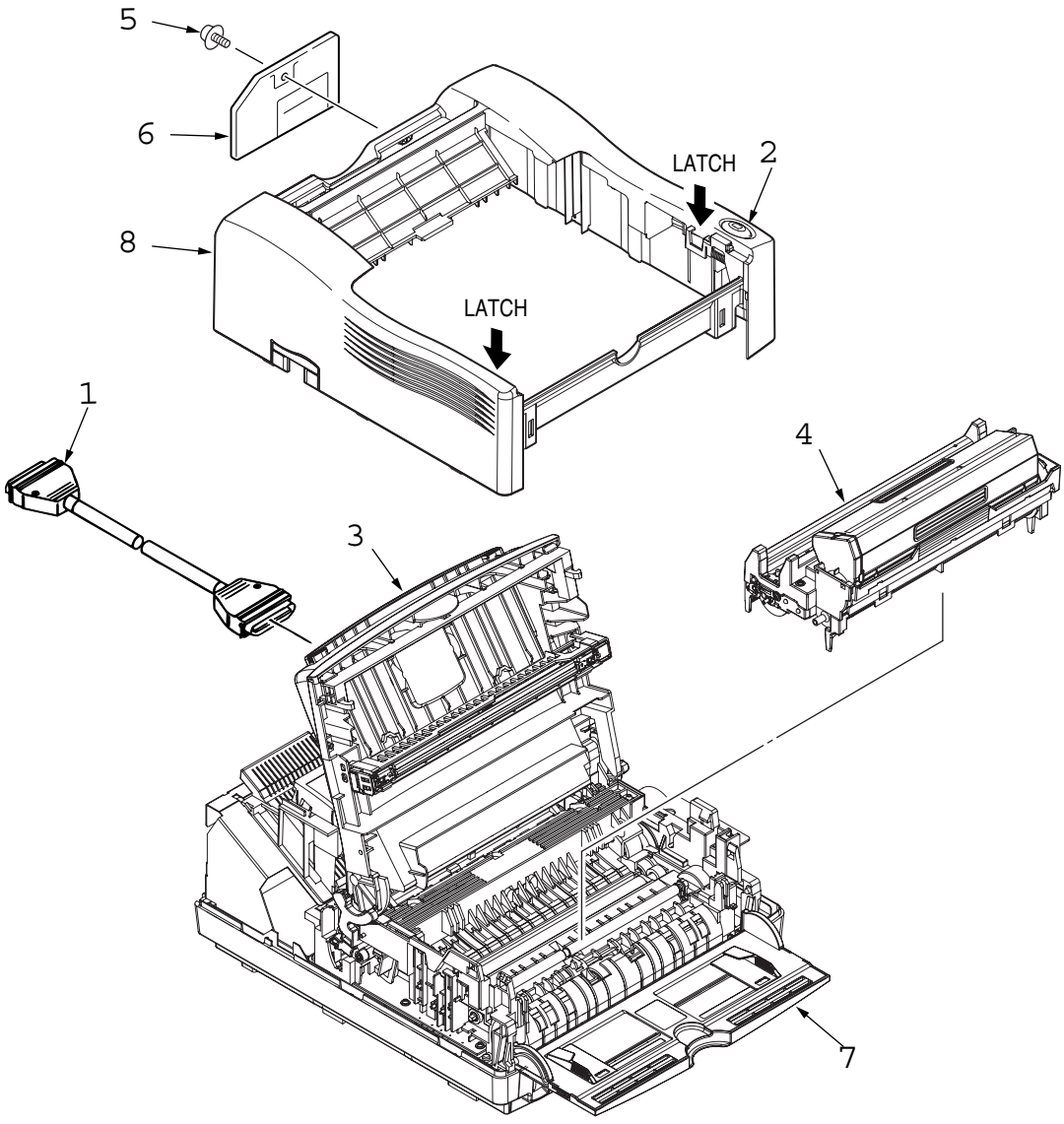
This section explains how to change parts and assemblies listed in the disassembly diagram below. Within the parts replacement procedures, those parts below are RSPL parts.



A. Upper Cover Assy

1. With the power switch turned off, unplug the AC power cord from the outlet.
2. Disconnect the interface cable (1).
3. Press the button (2) on right side of the Upper cover and open the stacker cover assy (3).
4. Take out the image drum unit (4).
5. Remove one screw (5), and remove the I/F cover (6) from the back side of the printer.
6. Open the manual feed guide assy (7). Unlock the latches at two locations on the front side. Lift the front side of the upper cover (8) up and unlock the latches at two locations on the back side. Lift and remove the upper cover assy (8).

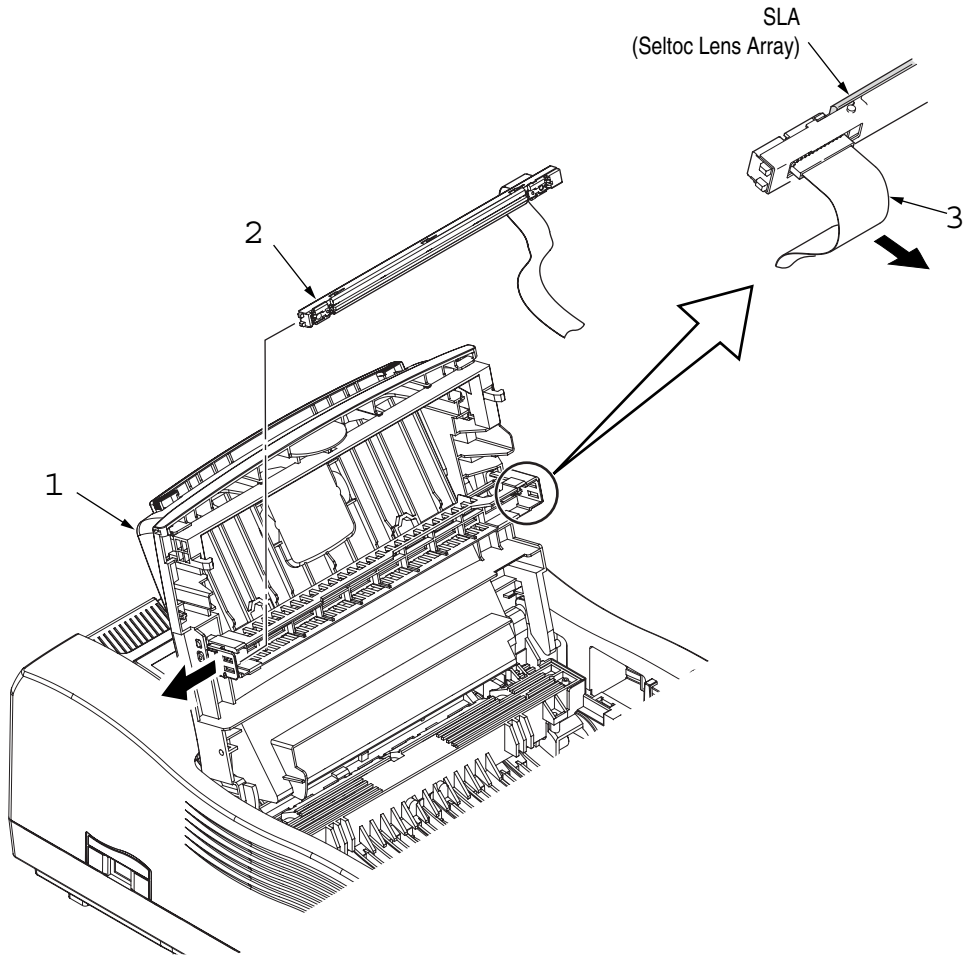
   Note: When removing or reinstalling the upper cover, be careful not to get the motor cables tangled or caught.



B. LED Head

1. Press the button on right side of the upper cover and open the stacker cover assy (1).
2. Open the hook section on the left side of the head holder and remove the LED head (2).
3. Remove the head cable (3) from the head connector.

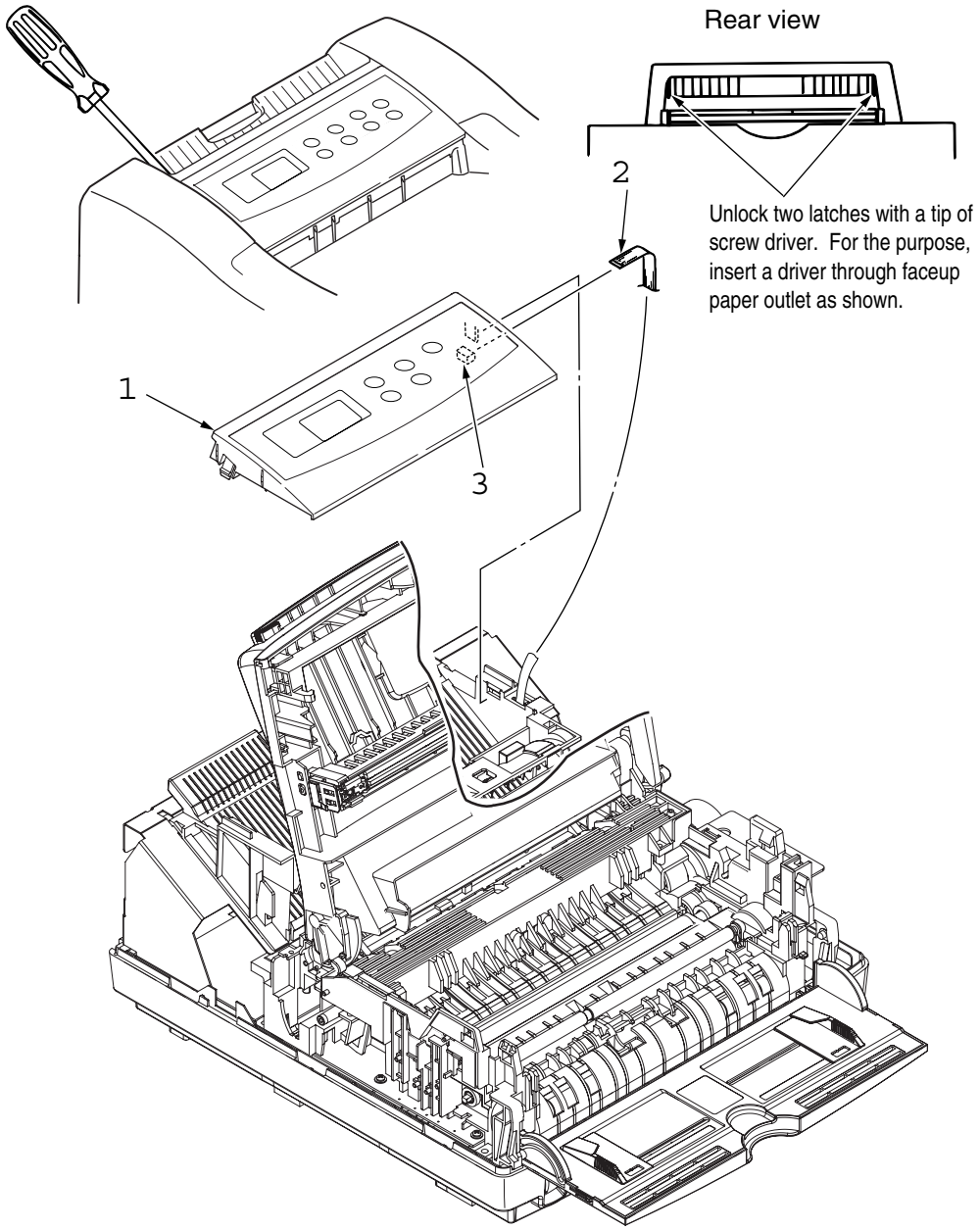
   Note: Be sure not to touch directly or push on the SLA part of the LED head.



C. Operator Panel Assy

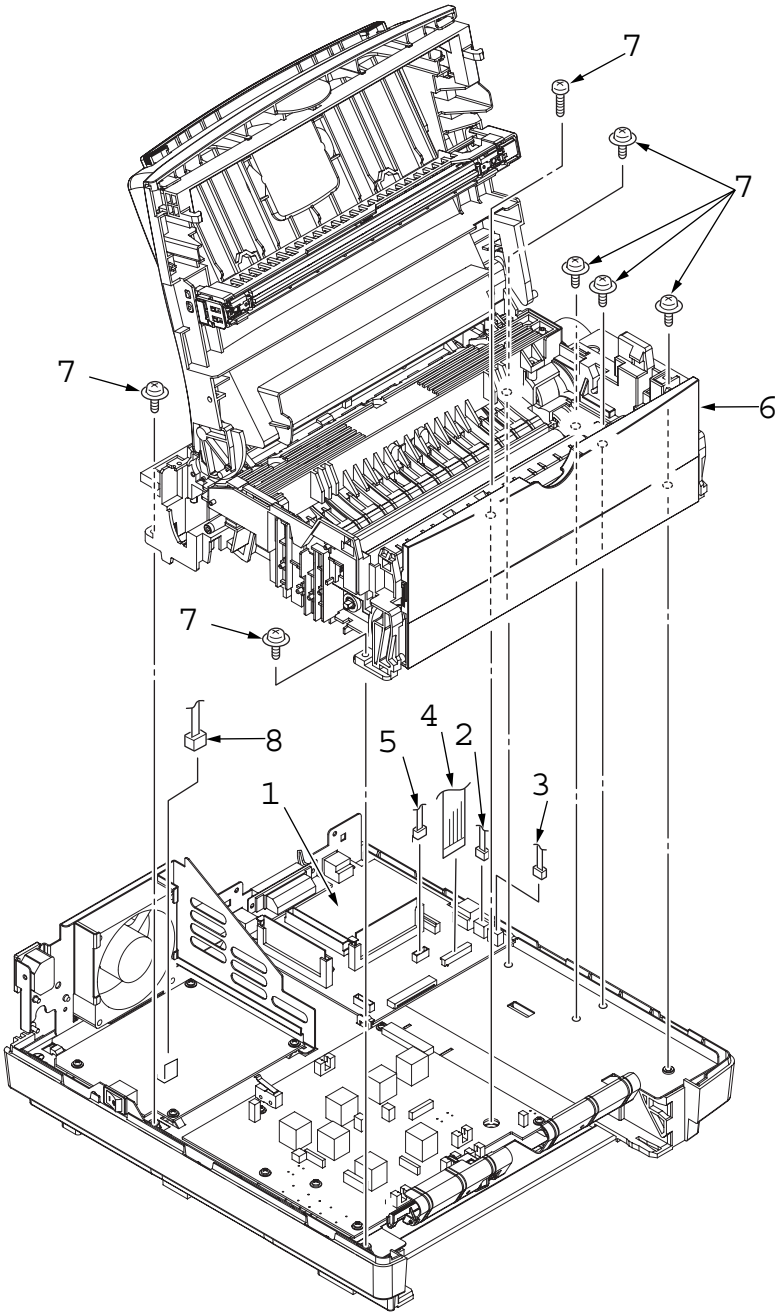
1. Unlock two latches on the upper cover from the rear side, lift the operator panel assy (1) from the back and remove it.
2. Remove the Sumi card (operator panel) (2) from the connector (CN1) (3).

Note: You can remove the operator panel assy while the upper cover installed on the unit. However, it is much easier to remove the panel assy after removal of upper cover.



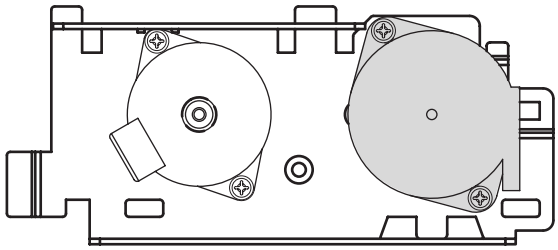
D. Lower Base Unit

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
4. Remove the roller transfer assy (see “Roller Transfer Assy” on page 32).
5. Remove the connecting cables (2) and (3) of the pulse motors from the connectors (DM, RM) of the GRG-PCB (1).
6. Remove the LED head cables (4) from the connector (HEAD1).
7. Remove the Thermistor cable (5) from the connector (THERM).
8. Remove the connecting cable (8) of the heater from the connector (CN2).
9. Open the manual feed guide assy, remove seven screws (7), then remove the lower base unit (6).

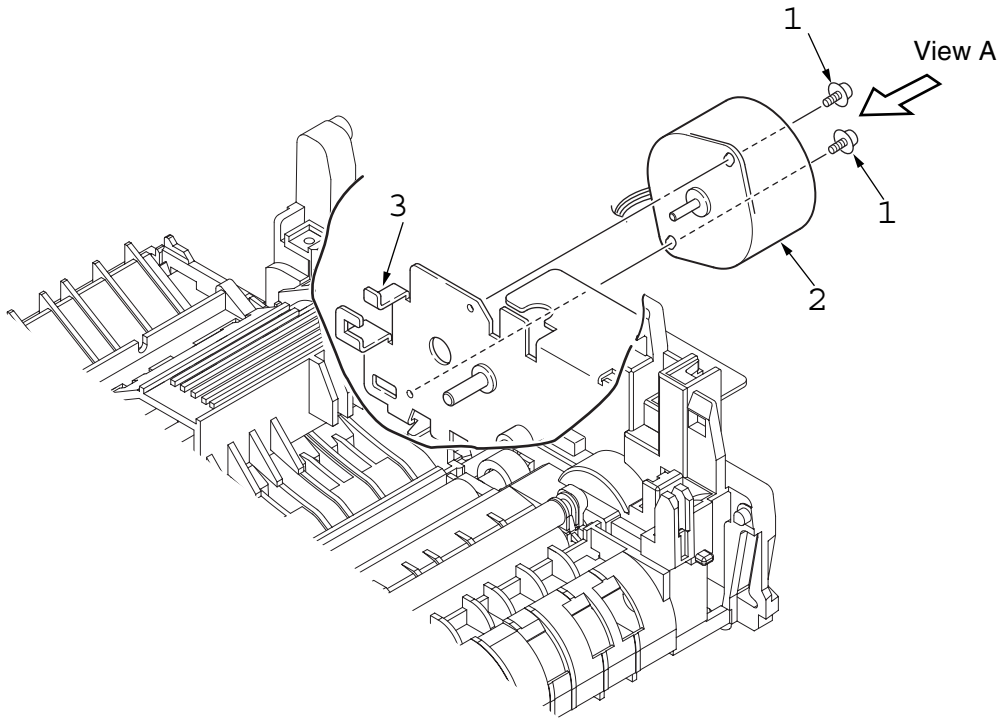


E. Pulse Motor (Main/Drum)

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the lower base unit (see “Lower Base Unit” on page 23).
3. Remove two screws (1) and remove the pulse motor (main/drum) (2) from the motor bracket (3).

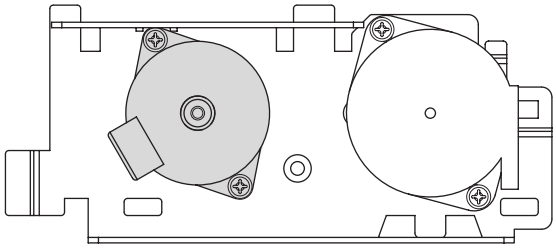


View A

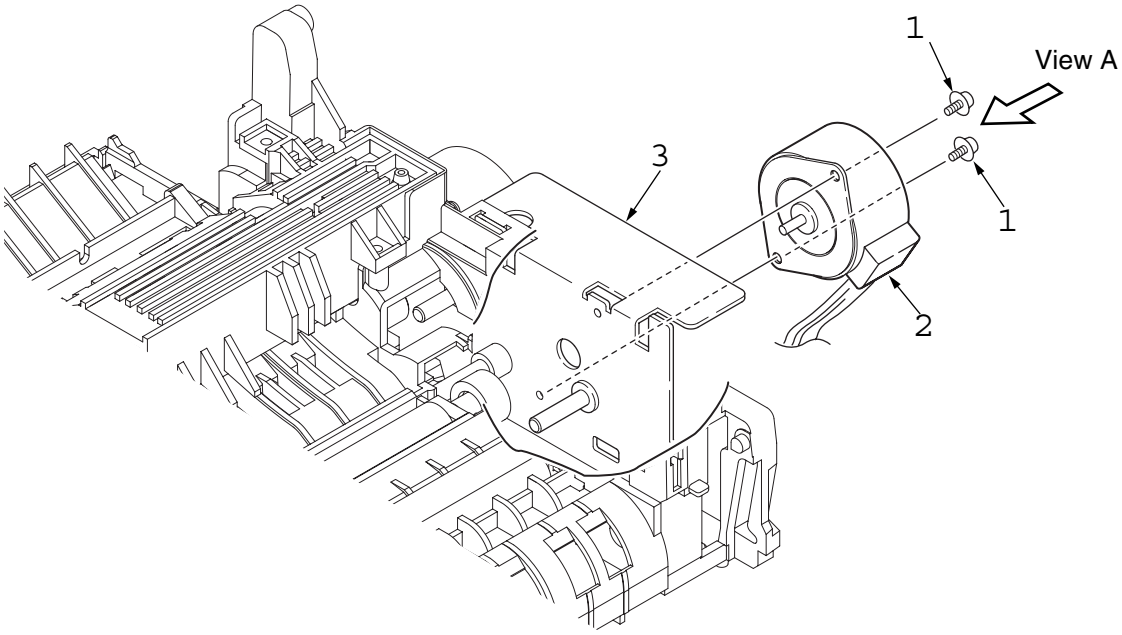


F. Pulse Motor (Registration)

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the lower base unit (see “Lower Base Unit” on page 23).
3. Remove two screws (1) and remove the pulse motor (registration) (2) from the motor bracket (3).

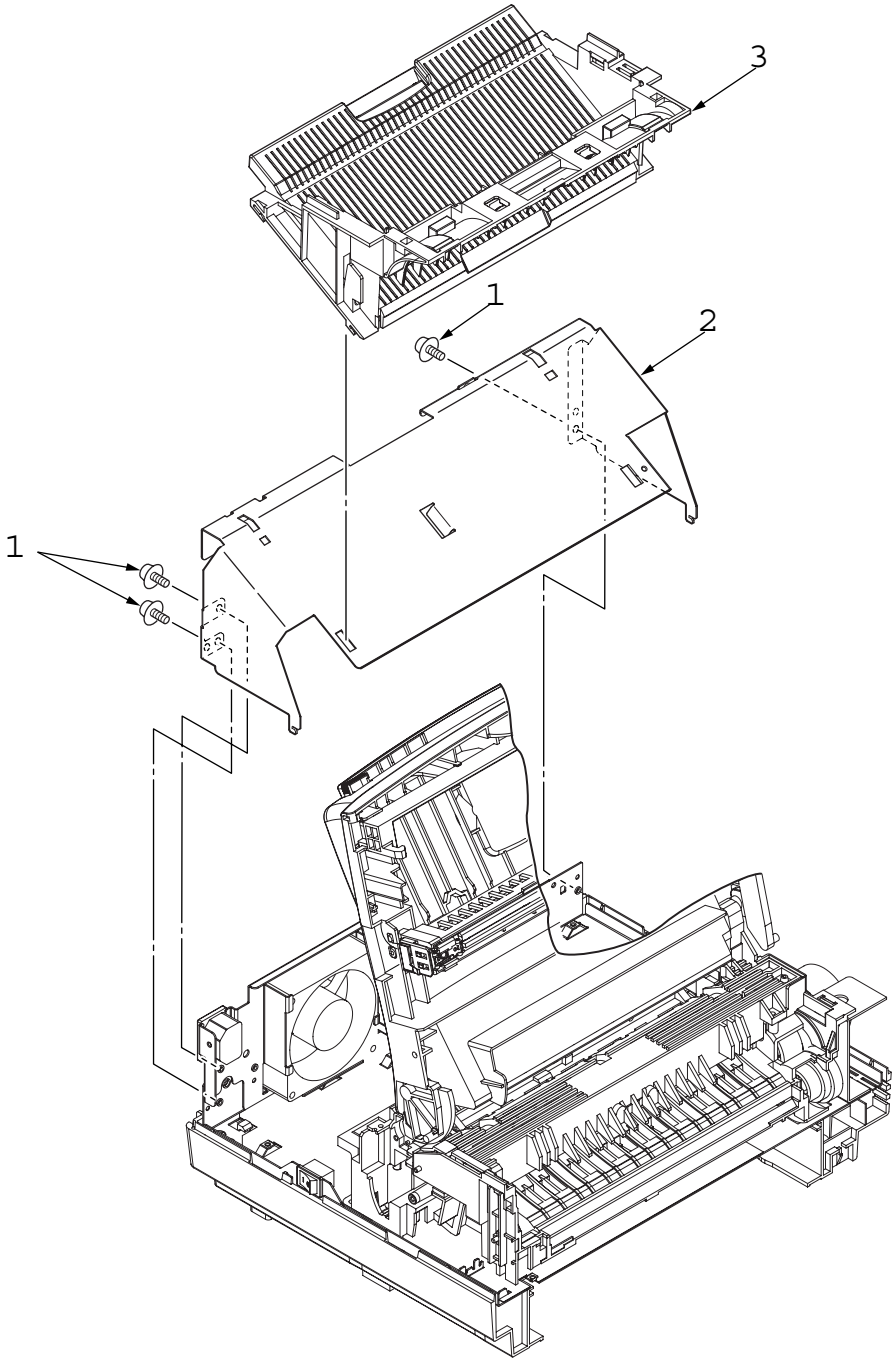


View A



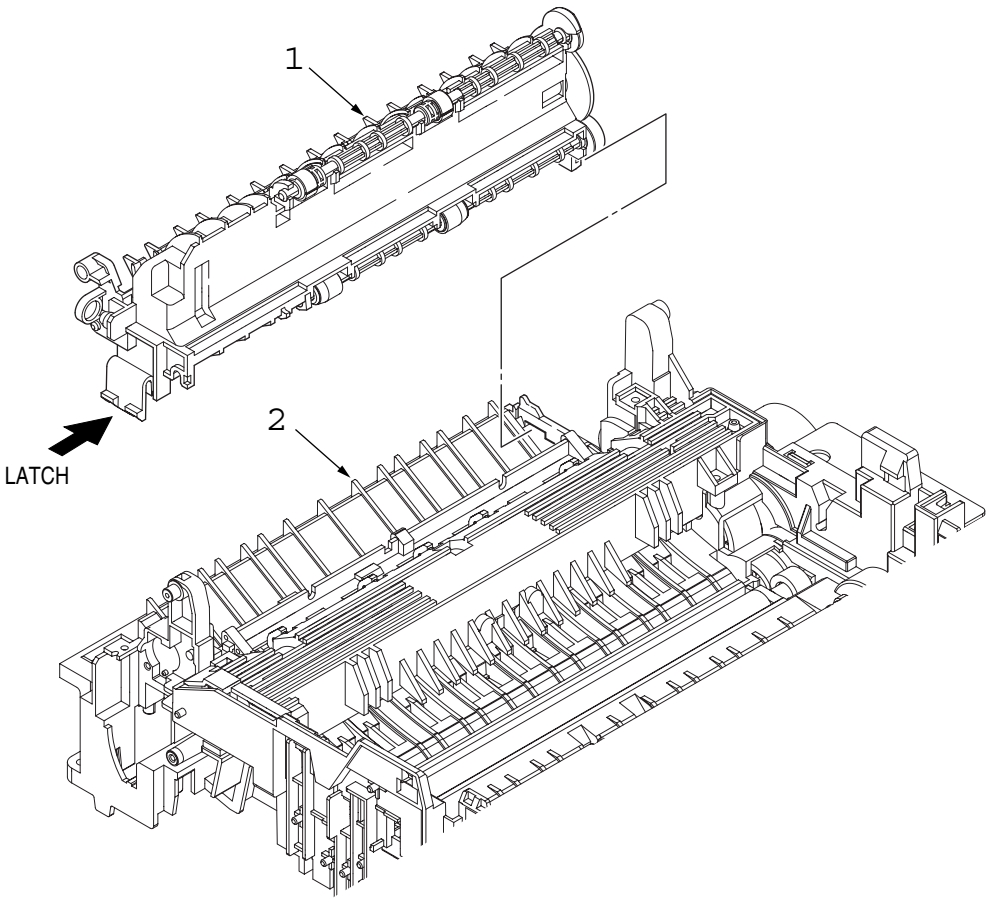
G. Face Up Stacker Assy

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove three screws (1) and remove both the shield plate (2) and face up stacker (3) together.
4. Unlock the latches at two locations, and remove the face up stacker (3).



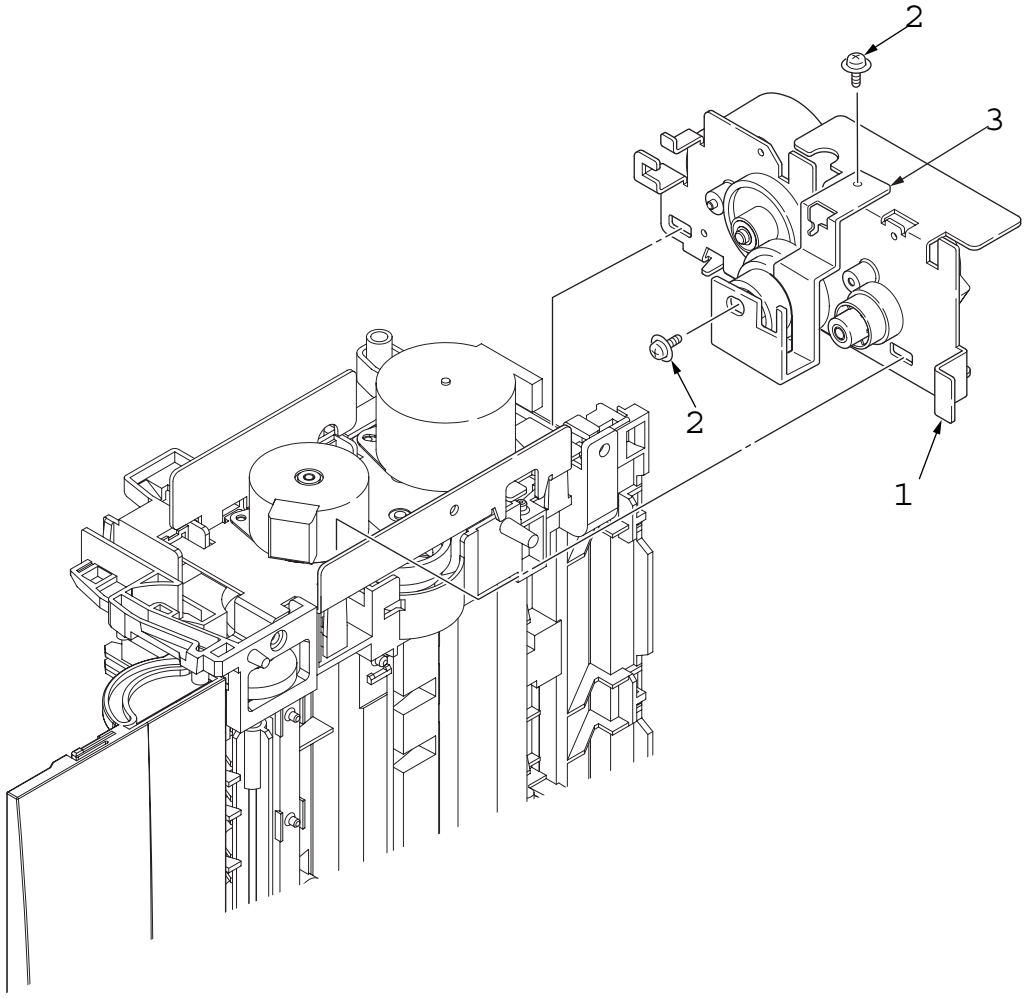
H. Eject Roller Assy

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
4. Remove the stacker cover assy (see “Stacker Cover Assy” on page 30).
5. Disengage the eject roller assy (1) from the lower base (2) by pressing the latch section of the eject roller assy (1) in the direction of the arrow shown below, and remove the eject roller assy (1).



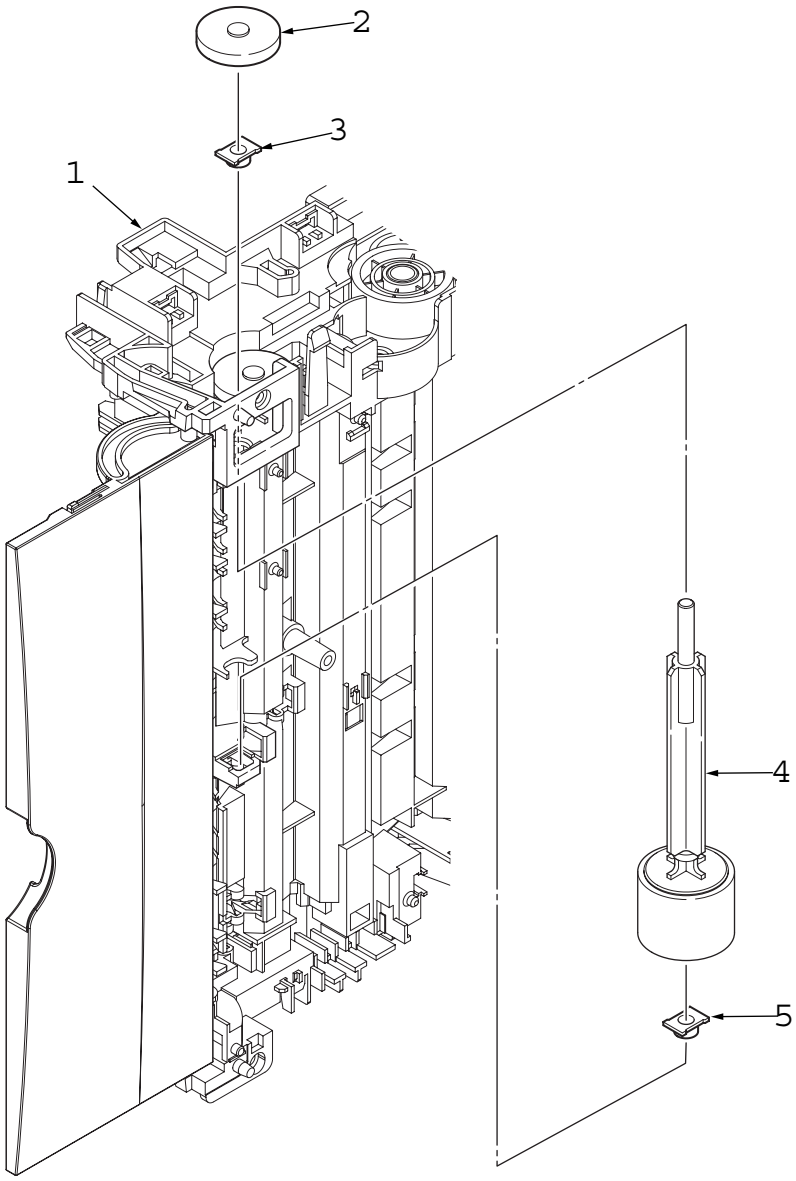
I. Motor Assy

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
4. Remove the lower base unit (see “Lower Base Unit” on page 23).
5. Stand the lower base unit on its side as shown, and unlock two latches, then remove the motor assy (1).
6. Remove two screws (2) and remove the bracket-Motor-Sub (3) from the Motor bracket.



J. Hopping Roller Shaft Assy

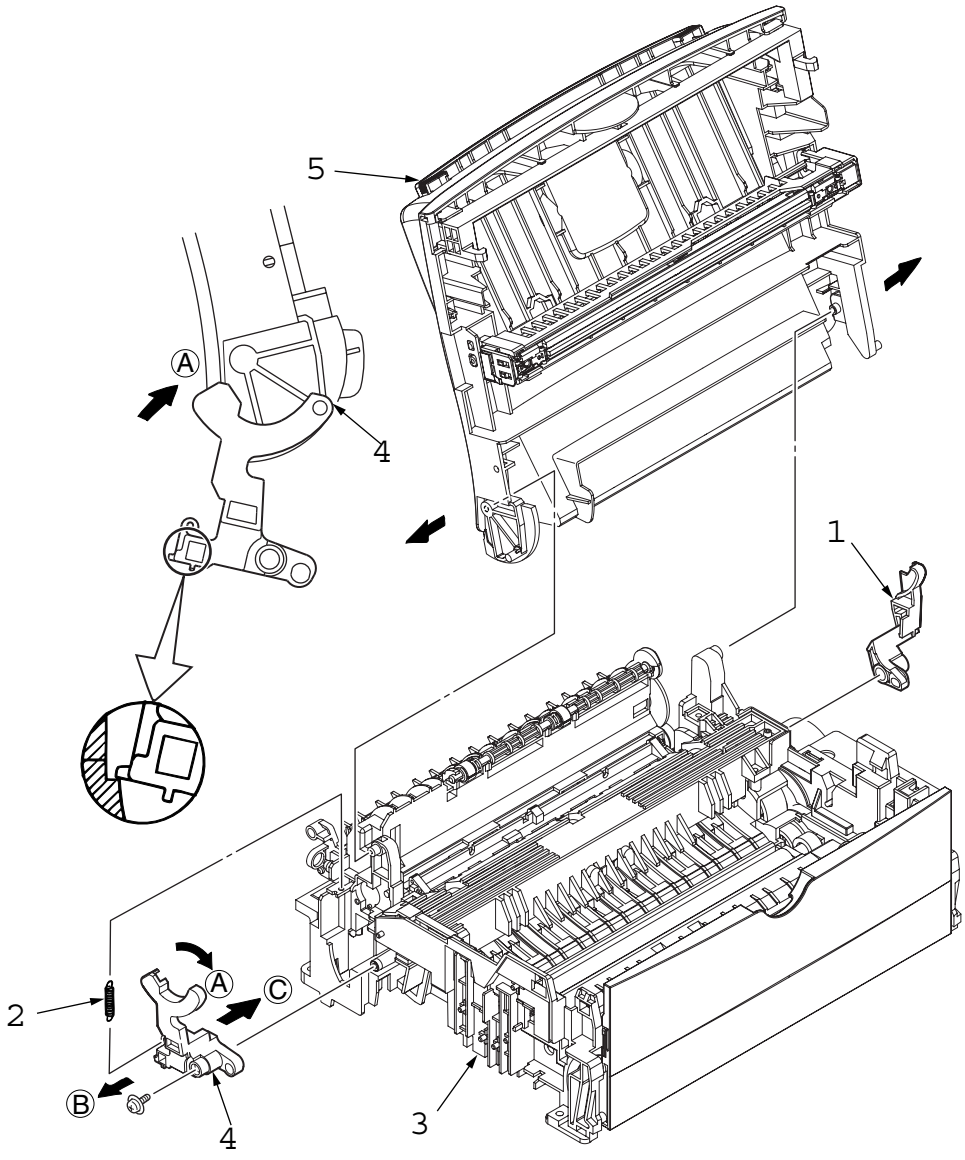
1. Remove the upper cover (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
4. Remove the lower base unit (see “Lower Base Unit” on page 23).
5. Remove the motor assy (see “Motor Assy” on page 28).
6. With the lower base unit (1) standing on its side, remove the one-way clutch gear (2) and the bearing (A) (3).
7. Remove the hopping roller shaft assy (4) (the bearing (B) (5) comes off, so be careful not to lose it).



K. Stacker Cover Assy

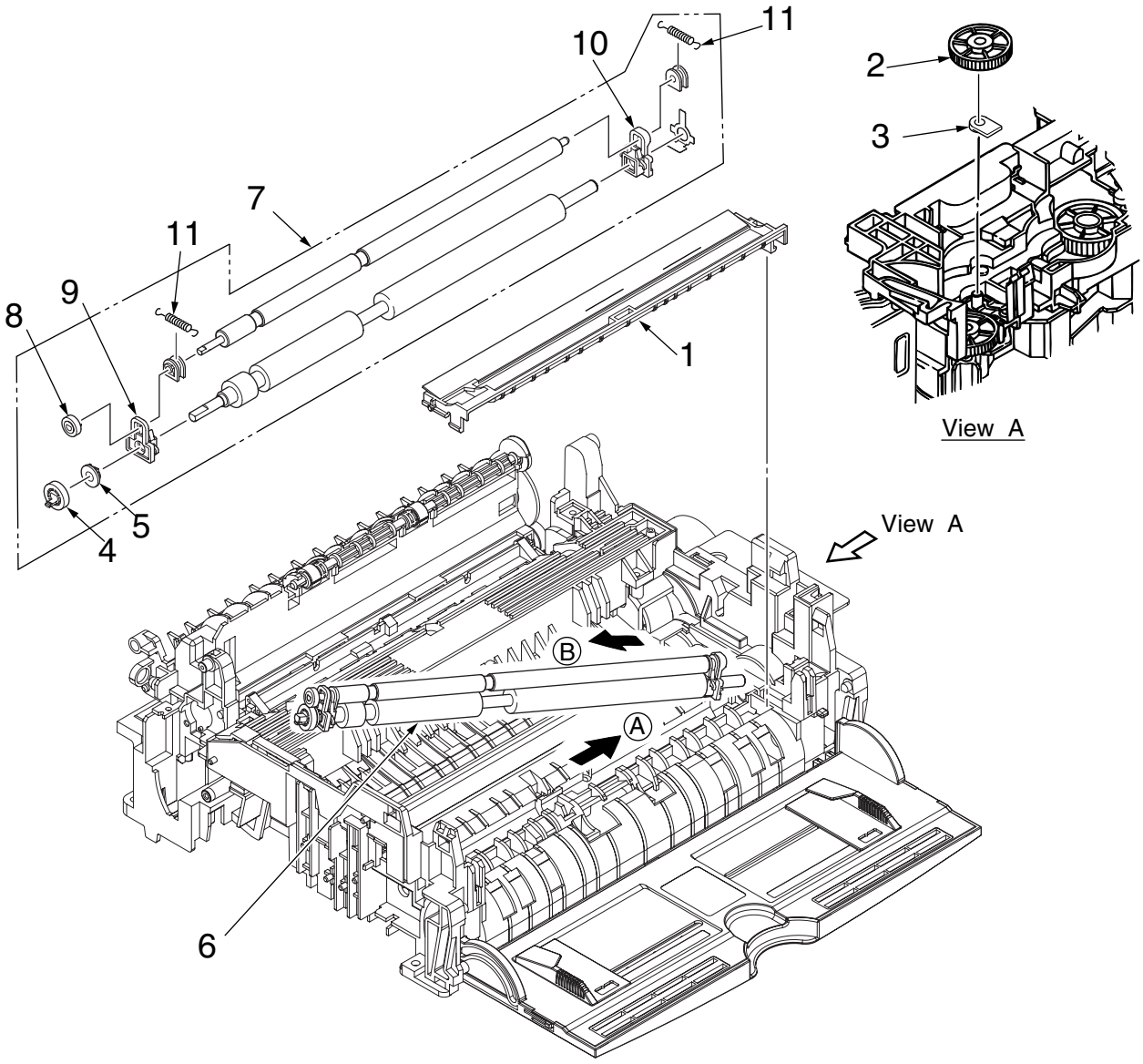
1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
4. Remove the motor assy (see “Motor Assy” on page 28).
5. Remove the reset lever R (1).
6. Remove one screw, detach the reset spring (2) from the lower base unit (3), turn the reset lever L (4) in the direction of arrow A until it stops, and remove it in the direction of arrow B.
7. Unlock two latches of the lower base unit (3), then remove the stacker cover assy (5).

   Note : When reinstalling the reset lever L (4), fit it onto the guide of the lower base unit (3), turn it in the direction of arrow C while pressing down the shaft of back up roller, and engage the reset lever L (4).



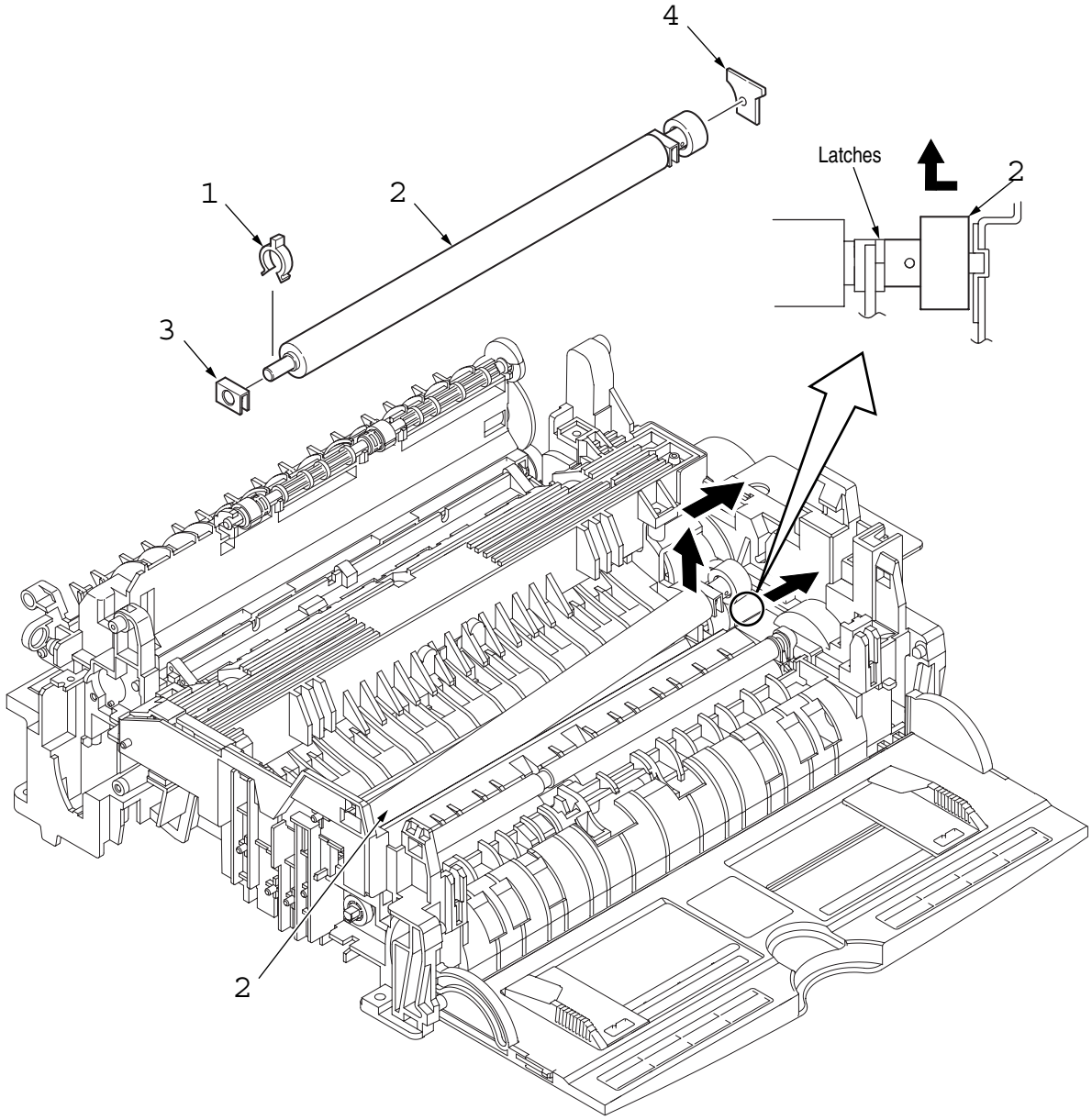
L. Registration Roller

1. Remove the upper cover (see 2.3.1).
2. Remove the operator panel assy (see 2.3.3).
3. Remove the face up stacker assy (see 2.3.7).
4. Remove the lower base unit (see 2.3.4).
5. Remove the motor assy (see 2.3.9).
6. Unlock the latch at the left side of the paper guide (R) (1) and remove the paper guide (R) (1).
7. With the lower base unit standing on its side, remove the one-way clutch gear (2) and the bearing (3).
8. Remove the Registration Gear by unlocking the latch of the Gear (4).
9. Remove the Registration Bearing L (5).
10. Press the registration roller (6) in the direction of arrow A and lift up the left side of it, then remove the registration roller Assy (7).
11. Pull out the registration roller Assy (7) in the direction of arrow B.
12. Remove the pressure roller Assy gear (8) by unlocking the latch of the gear (8).
13. Remove the bearing-Registration L (9) and bearing Registration R (10).
14. Remove the Spring A from the bearing (9, 10).



M. Roller Transfer Assy

1. With the power switch turned off, unplug the AC cord from the outlet.
2. Open the stacker cover.
3. Remove the spacer (1).
4. Release the roller transfer assy 2 by unlocking two latches of the bearing TR (never apply excessive force when unlocking the latch) and slide the roller transfer assy left to remove the gear from the bracket.
5. Lift the right side of the roller transfer assy (2), and shift it to the right side, then pull it out from the main unit (at this time, the bearings (3) of the left side and holder-TR (4) of the right side of the roller transfer assy (2) will also come off).



N. Fusing Unit

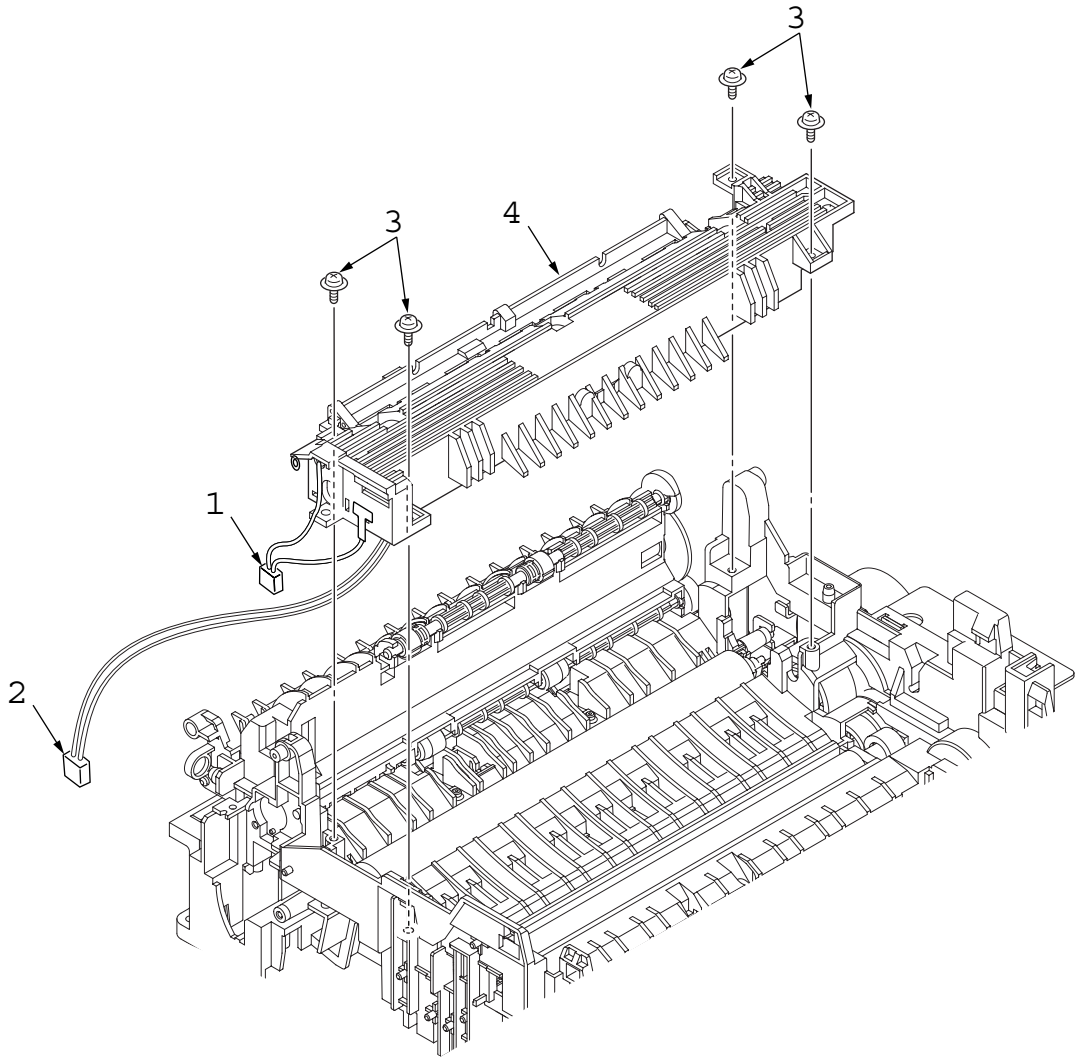
1. Remove the upper cover (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
4. Remove the lower base unit (see “Lower Base Unit” on page 23).
5. Remove the stacker cover assy (see “Stacker Cover Assy” on page 30).
6. Remove the connecting cable (1) of the heater and connecting cable (2) of the thermistor from the hooks of the lower base.
7. Remove four screws (3), lift and remove the fusing unit (4).

Caution: Fusing unit may be hot. Use care when handling.

Notes: 1. When reinstalling or removing the fusing unit, tighten or loosen the screws while holding the fusing unit assy (4) down with your hand (it is being pushed up by back up roller).

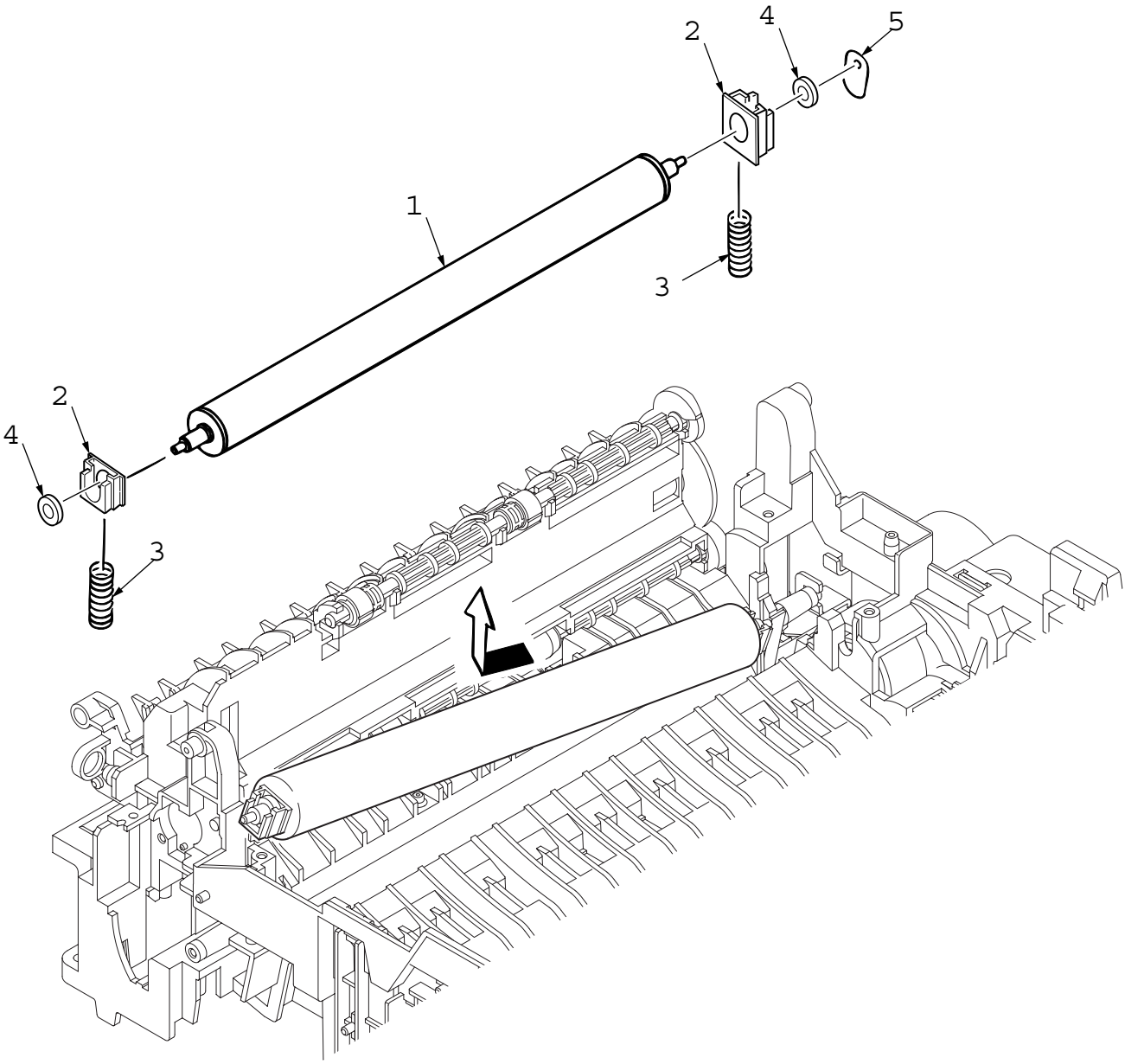
2. When reinstalling the screws (3), be sure to direct the screws into preexisting thread and avoid damaging the threads.

3. Do not apply excessive torque when tightening the screws (3).



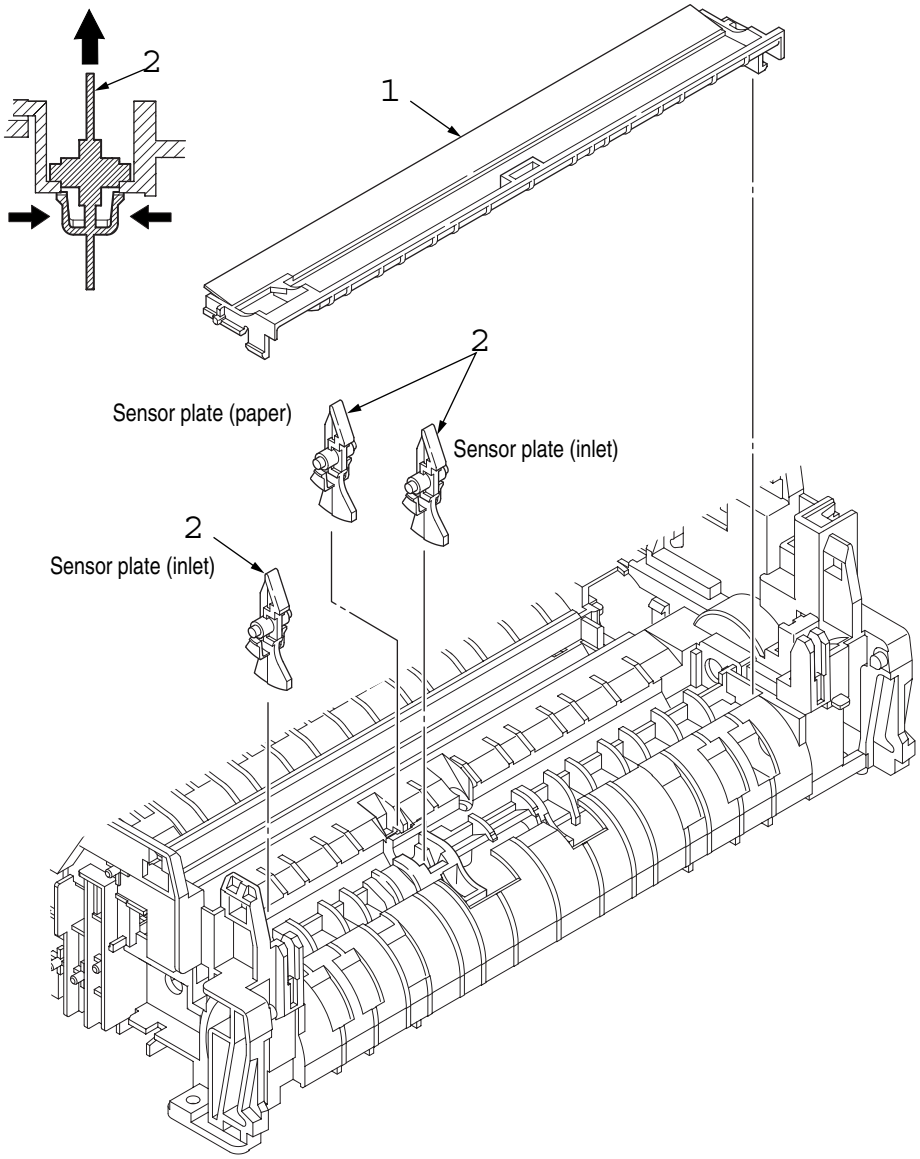
O. Back-up Roller

1. Remove the fusing unit assy (see “Fusing Unit” on page 33).
2. Lift the left side of the back-up roller (1), and pull it out to the left side (at this time, two bearing Holders (back-up) (2) and the bias springs (back-up) (3) and the two ball-bearings (4), washer C (5) will also come off).



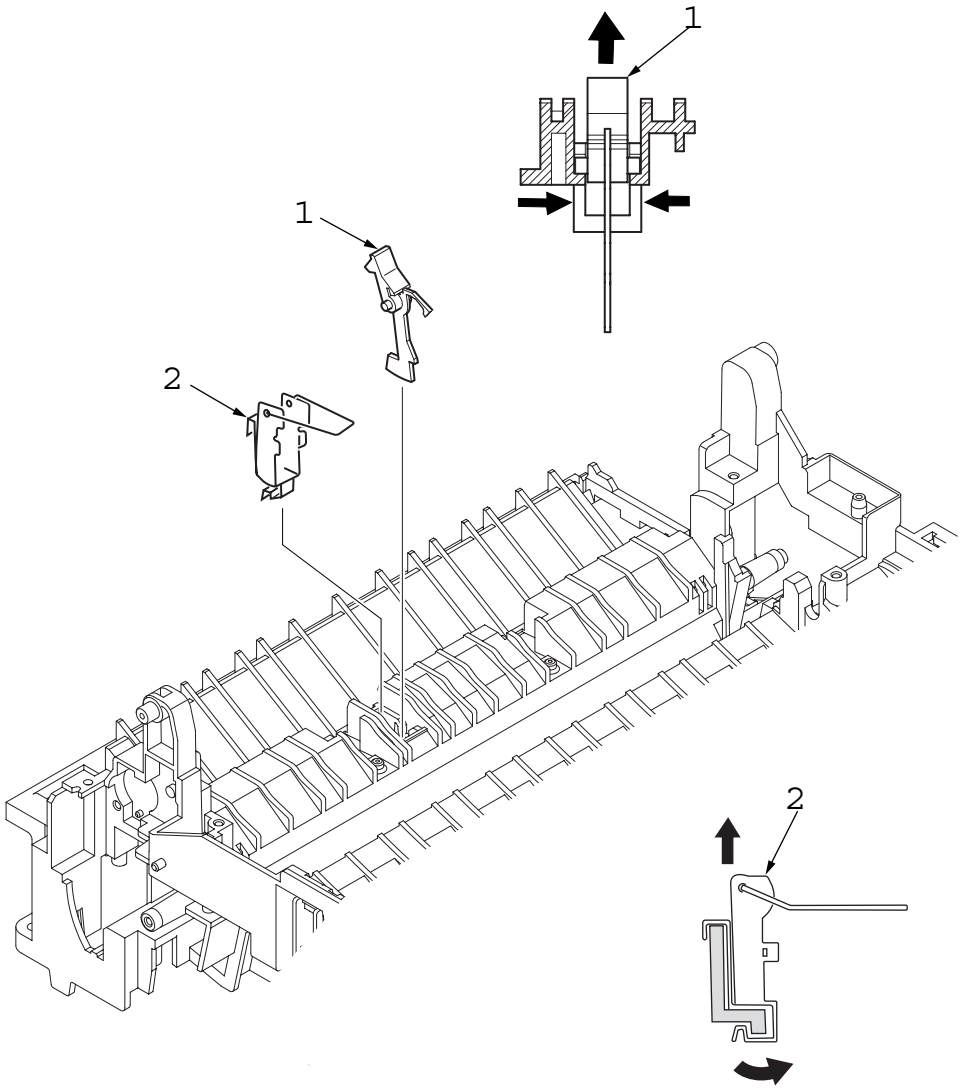
P. Sensor Plate (Inlet)

1. Remove the upper cover (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
4. Remove the lower base unit (see “Lower Base Unit” on page 23).
5. Unlock the latch at the left side of the paper guide (R) (1) and remove the paper guide (R) (1).
6. Press the clamps of three sensor plates (inlet and paper) (2), and remove them by pressing them upward from the bottom.



Q. Sensor Plate (Outlet), Sensor Wire Assy

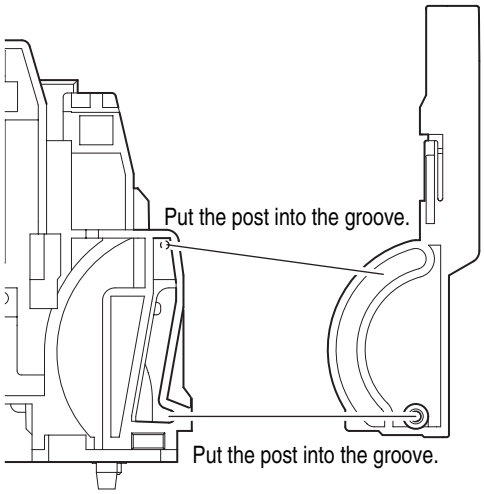
1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the eject roller assy (see “Eject Roller Assy” on page 27).
4. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
5. Remove the lower base unit (see “Lower Base Unit” on page 23).
6. Remove the fusing unit assy (see “Fusing Unit” on page 33).
7. Press the clamps of the sensor plate (outlet) (1), and remove the sensor plate by pushing it up.
8. Turn the clamps of the sensor wire assy (2) remove the sensor wire assy from the lower base unit.

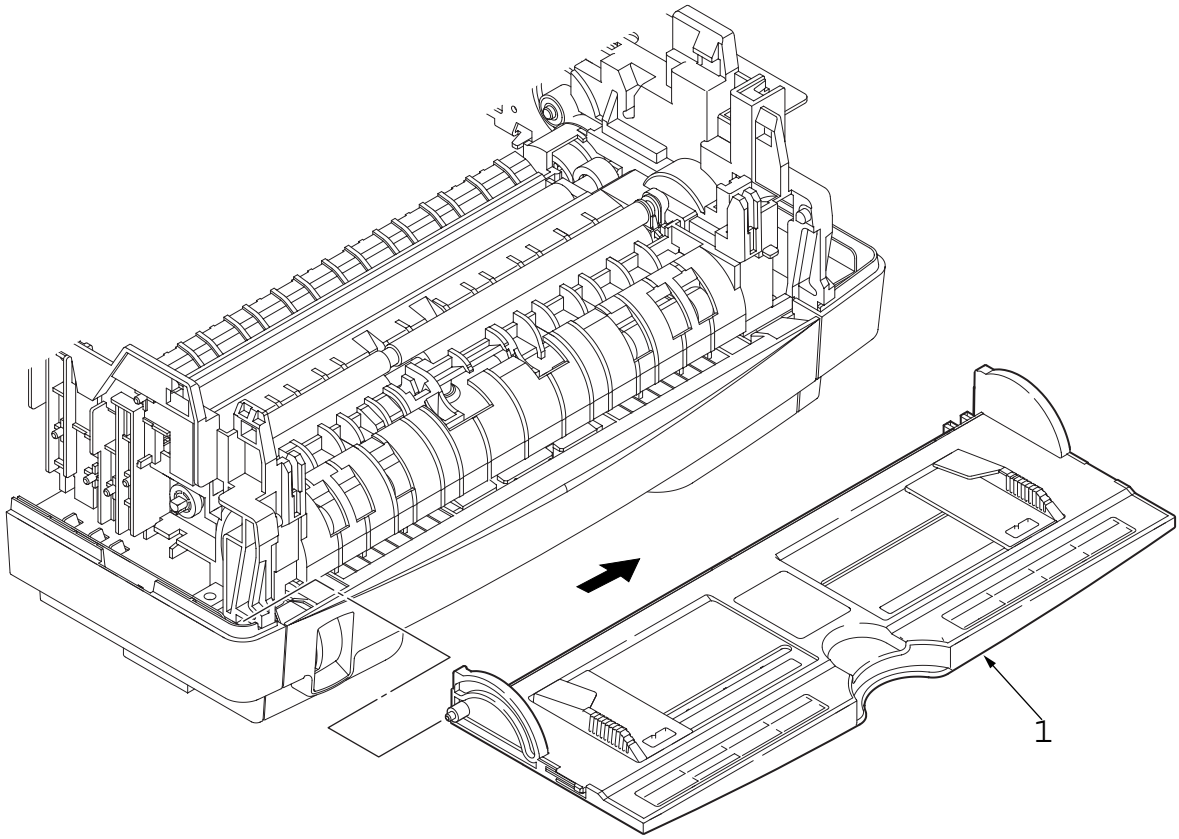


R. Manual Feed Guide Assy

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Open the manual feed guide assy (1), and release the engagement on both sides with the main unit by carefully bending the manual feed guide assy (1).

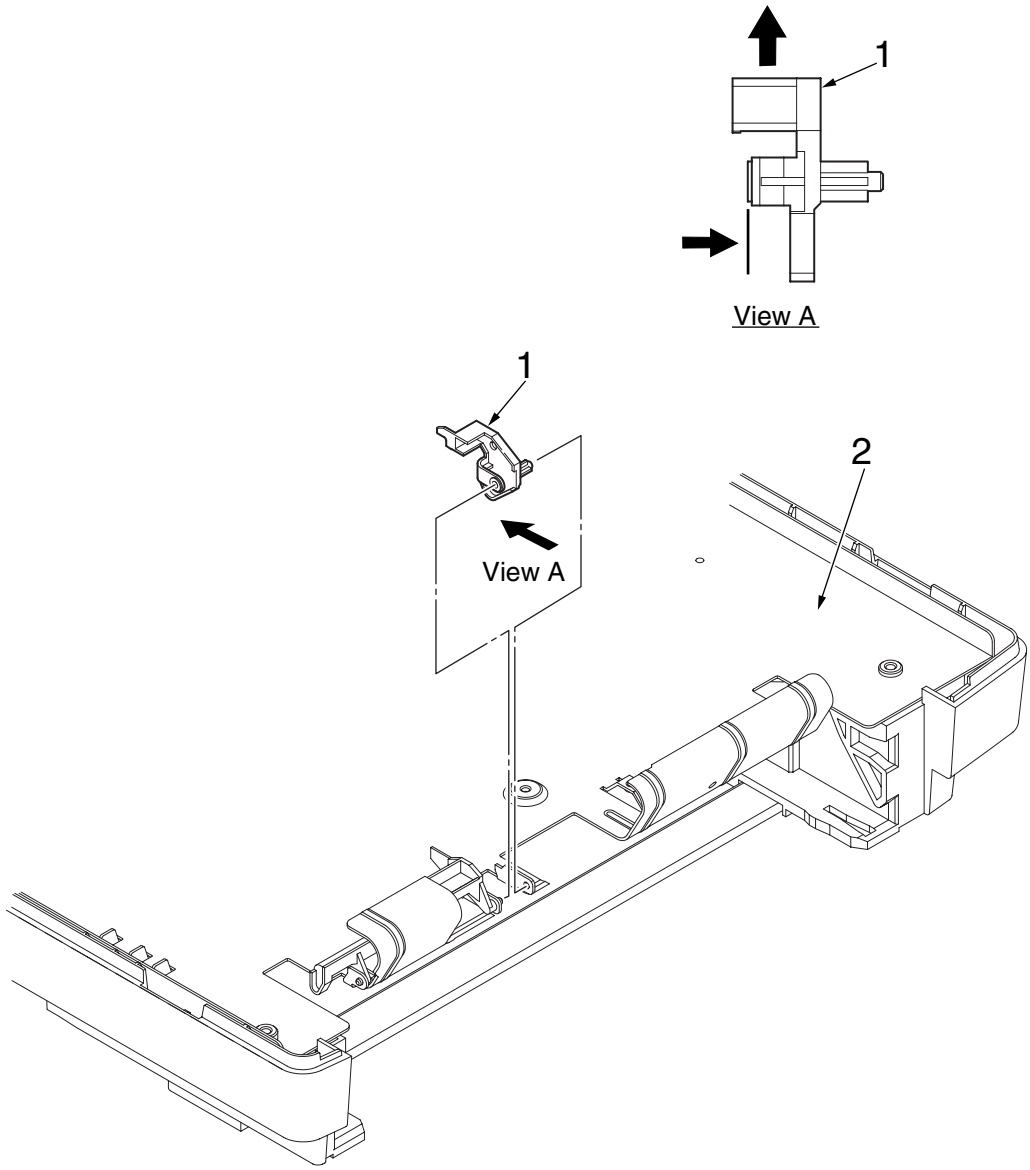
   Note : When remounting, verify the proper the engagements as shown in the diagram.





S. Sensor Plate (Paper Supply)

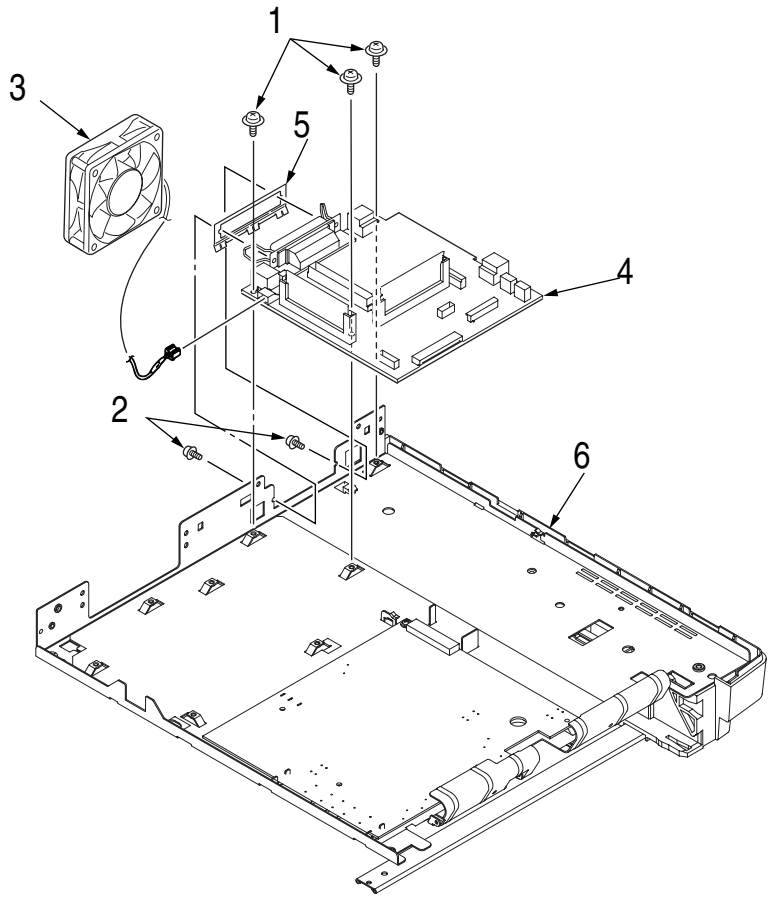
1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26).
4. Remove the lower base unit (see “Lower Base Unit” on page 23).
5. Press the clamps of the sensor plate (paper supply) (1) to unlock the latch, and remove it from the base plate (2).



T. GRG-PCB

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the operator panel assy (see “Operator Panel Assy” on page 22).
3. Remove the face up stacker assy (see “Face Up Stacker Assy” on page 26.).
4. Remove the lower base unit (see “Lower Base Unit” on page 23).
5. Remove three screws (1) and two screws (2).
6. Remove the connector FAN, and disconnect the fan motor (3).
7. Remove the three connectors PWZ, PS1 and HVIF.
8. Remove the GRG-PCB (4) and plate earth A (5).

   Note : When reinstalling the GRG-PCB 4 onto the base plate (6), insert the edge of the GRG-PCB (4) in two slots of the base plate (6).



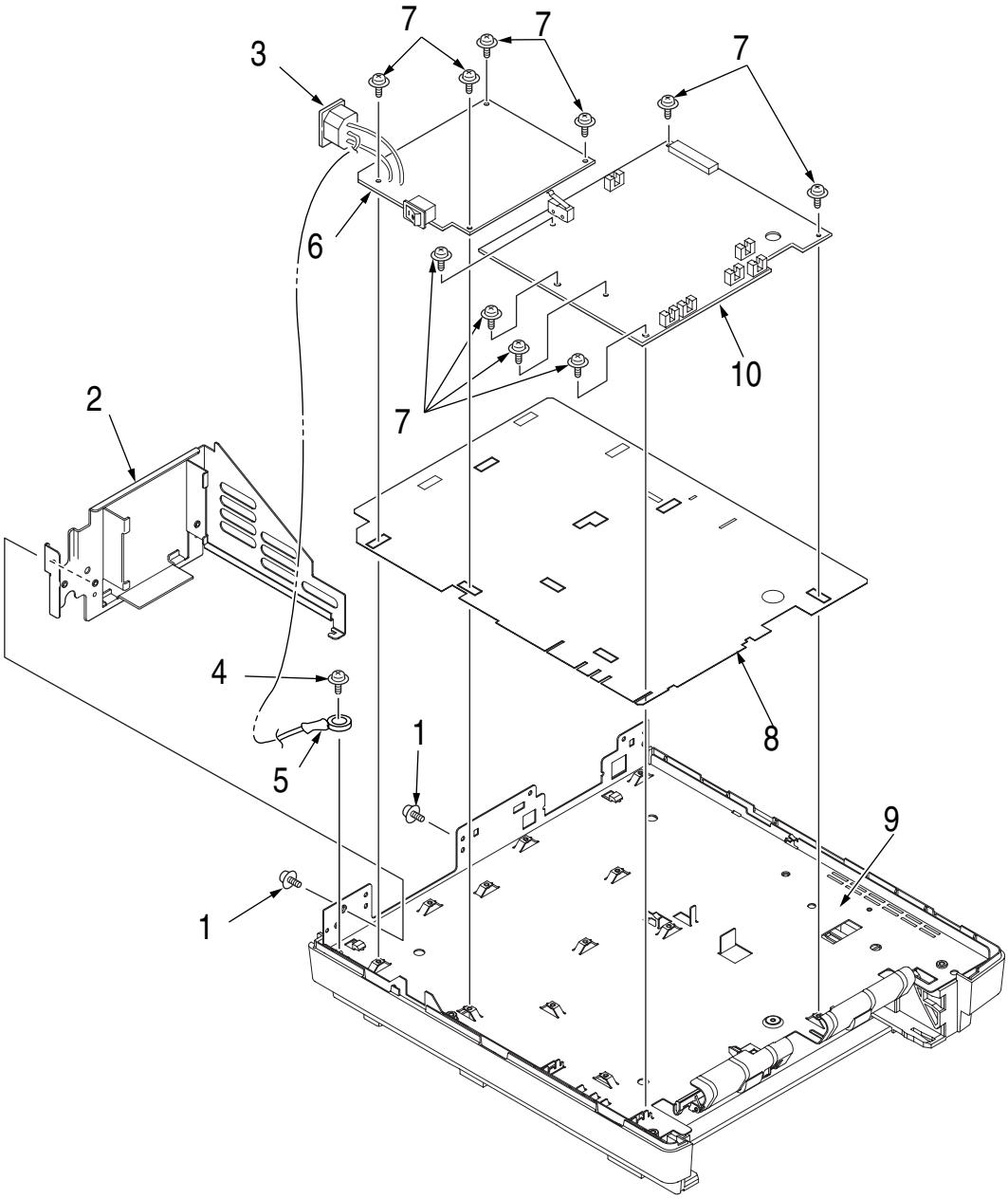
U. Power Supply Board and High Voltage/Sensor Unit

1. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
2. Remove the lower base unit (see “Lower Base Unit” on page 23).
3. Remove two screws (1) and the guide plate (2).
4. Remove the AC inlet (3) from the guide plate (2).
5. Remove the screw (4) and remove the grounding (earth) wire (5).
6. Remove the connectors CN2 from power supply board (6) and CN1 from high voltage/sensor unit (10).
7. Remove ten screws (7), and remove the power supply board 6 and high voltage/sensor unit (10).
8. Remove the Insulation plate (8) from the base plate (9).

Notes : 1.Be careful about the sensor (paper supply) when reinstalling the lower base.

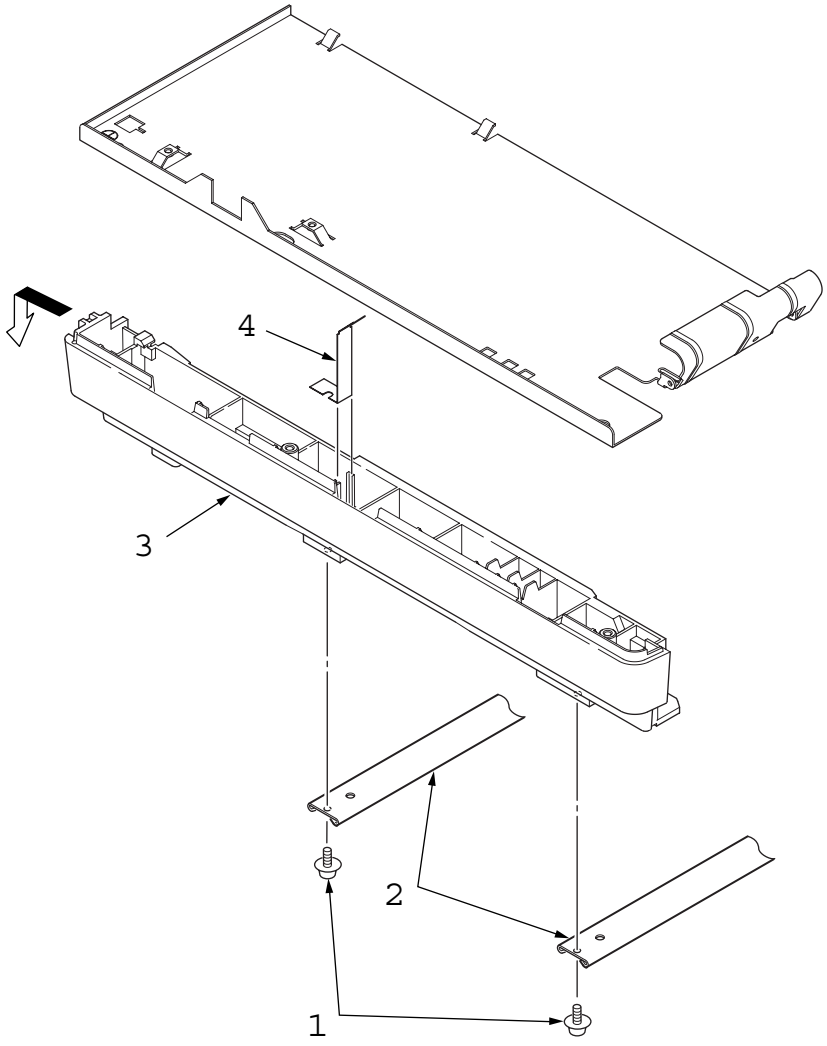
2.Make sure that no excessive force is applied to the power supply switch.

3.When installing the power supply/sensor onto the base plate, be careful not to bend the base plate (it is desirable to place a block underneath it to prevent bending).



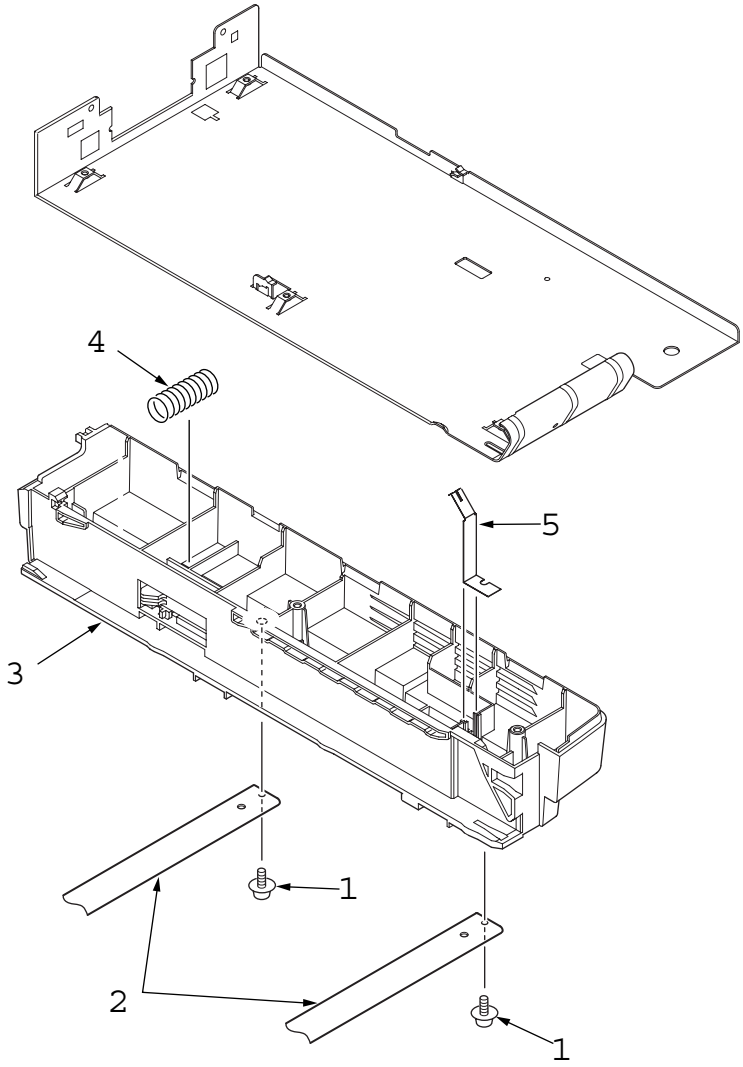
V. Cassette Guide L Assy

1. Remove the paper cassette.
2. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
3. Remove the lower base unit (see “Lower Base Unit” on page 23).
4. Remove two screws (1), and remove the beam plates (2).
5. Remove the cassette guide L Assy (3) by shifting it in the direction of the arrow as shown below.
6. Remove the earth plate (4).



W. Cassette Guide R Assy

1. Remove the paper cassette.
2. Remove the upper cover assy (see “Upper Cover Assy” on page 20).
3. Remove the lower base unit (see “Lower Base Unit” on page 23).
4. Remove two screws (1), and remove the beam plates (2).
5. Remove the cassette guide R Assy (3) by shifting it in the direction of arrow.
6. Remove the earth plate (4) and the cassette lock spring (5).



Adjustment

This chapter provides explanations concerning the adjustment necessary when replacing a part. The adjustment is made by changing the parameter value set in EEPROM on the main control board. The parameter can be set by the key operation from the operator panel. This printer has three kinds of maintenance modes, and it is necessary to select one of the modes when replacing any parts.

1. Maintenance Modes and Functions

A. User Maintenance Mode (Administrator Menu)

In order to enter Admin MENU, turn the printer on while holding down the ITEM+/ITEM- switch.

There are seventeen functions as follows:

Item	Value	Functions
ALL	ENABLE DISABLE	Sets All Category Enable/Disable of User Menu. Set to Disable, User Menu is not shown. Subsequent Items are not displayed if the Categories are disabled. Panel Lock is available when this MENU is set to DISABLE.
INFO.	ENABLE DISABLE	Sets Category INFORMATION MENU Enable/Disable. Set to Disable, Category INFORMATION MENU of User Menu is not displayed.
PRINT	ENABLE DISABLE	Sets Category PRINT MENU Enable/Disable. Set to Disable, Category PRINT MENU of User Menu is not displayed.
MEDIA	ENABLE DISABLE	Sets Category MEDIA MENU Enable/Disable. Set to Disable, Category MEDIA MENU of User Menu is not displayed.
SYS CONF	ENABLE DISABLE	Sets Category SYSTEM CONFIG MENU Enable/Disable. Set to Disable, Category SYSTEM CONFIG MENU of User Menu is not displayed.
PCL MENU	ENABLE DISABLE	Sets Category PCL EMULATION MENU Enable/Disable. Set to Disable, PCL EMULATION MENU of User Menu is not displayed.
PPR MENU	ENABLE DISABLE	Sets Category PPR EMULATION MENU Enable/Disable. Set to Disable, PPR EMULATION MENU of User Menu is not displayed.
FX MENU	ENABLE DISABLE	Sets Category FX EMULATION MENU Enable/Disable. Set to Disable, FX EMULATION MENU of User Menu is not displayed.
ESC/P	ENABLE DISABLE	Sets Category ESC/P EMULATION MENU Enable/Disable. Set to Disable, ESC/P EMULATION MENU of User Menu is not displayed. (Displayed only for Domestic market)
PARALLEL	ENABLE DISABLE	Sets Category PARALLEL MENU Enable/Disable. Set to Disable, Category PARALLEL MENU of User Menu is not displayed.
RS232C	ENABLE DISABLE	Sets Category RS232C MENU Enable/Disable. Set to Disable, Category RS232C MENU of User Menu is not displayed. Displayed only if RS232C is installed.
USB	ENABLE DISABLE	Sets Category USB MENU Enable/Disable. Set to Disable, Category USB MENU of User Menu is not displayed.
NETWORK	ENABLE DISABLE	Sets Category NETWORK MENU Enable/Disable. Set to Disable, Category NETWORK MENU of User Menu is not displayed. Displayed only if a NIC is installed.
MEMORY	ENABLE DISABLE	Sets Category MEMORY MENU Enable/Disable. Set to Disable, Category MEMORY MENU of User Menu is not displayed.
ADJUST	ENABLE DISABLE	Sets Category SYSTEM ADJUST MENU Enable/Disable. Set to Disable, Category SYSTEM ADJUST MENU of User Menu is not displayed.

Item	Value	Functions
MAINT.	ENABLE DISABLE	Sets Category MAINTENANCE MENU Enable/Disable. Set to Disable, Category MAINTENANCE MENU of User Menu is not displayed.
USAGE	ENABLE DISABLE	Sets Category USAGE MENU Enable/Disable. Set to Disable, Category USAGE MENU of User Menu is not displayed.

Note: Detailed descriptions of these functions are provided in “Appendix D Diagnostics Test” .

B. System Maintenance Mode (System Maintenance Menu)

Note: This mode is used only by maintenance personnel and it should not be released to the end-users.

The printer enters System Maintenance Menu when the power supply switch is turned ON while the Menu/Item+/Value-/Cancel switches are held down.

The functions are as follows:

Category	Item	Value	Functions
OKIUSER	OKIUSER	ODA OEL APS JP1 JPOEM1 JPOEM2 OEMA OEML	Sets brands; JPOEM1: Japanese OEM(1) JPOEM2: Japanese OEM(2) OEMA: Overseas OEM for A4 default OEML: Overseas OEM for Letter default Selecting brand will automatically prompt reboot.
ENG STAT	ENG STAT	PRINT	Selecting by the Select switch, then pressing the On-line switch will prompt initialization and printing Engine information.
PAGE PRT	PAGE PRT	ENABLE DISABLE	Sets printing or not printing the total page count in PRINT MENU MAP.
EMULATE	PCL	ENABLE DISABLE	Changes the default PDL for each brand. PDLs that are disabled in this menu will not be displayed at EMULATE of User Menu or OP MENU of Admin Menu. (No specific to PCL XL is provided; thus, when DISABLE is set, there is not visual change.) When print data in the PDL language set to DISABLE is received, the printer will display INVALID DATA and discard received data. PS3 EMU will be displayed only when PSE is installed. For PN262/82, PCL cannot be set to DISABLE. (ENABLE must be set to make it always usable. Even if set to DISABLE, received data will be processed.)
	IBM PPR	ENABLE DISABLE	
	EPSONFX	ENABLE DISABLE	
	PS3 EMU	ENABLE DISABLE	
	ESC/P	ENABLE DISABLE	
	PCL XL	ENABLE DISABLE	
LOOPTEST	RS232C	EXECUTE	Displayed only if an RS232C is installed. Loop Test runs Serial I/F function test without connecting the host PC. The printer alone sends/receives “00”FFH” data. Loop Test requires attachment of a Loop connector (pin2: TD and pin3: RD are shorted) prior to execution. A Loop count is displayed real-time on LCD, and if an error occurs, an error message will be displayed. This mode can be ended only by turning the power off. Following this operation, the power is shut down; thus, the printer cannot go back in Operation Mode or other Maintenance Mode.

Category	Item	Value	Functions
COMT PRT	CONT PRT	EXECUTE	PRINTING Rolling ASCII Continuous Print Continuously prints Rolling ASCII patterns for various types continuous testing on the maker side. (Noise test, engine test). This mode can be ended by pressing the “ONLINE” SW. Following this operation, the power turns off, thus, the printer cannot return to either operation mode or any of other maintenance modes.
DOTSHIFT	TRAY 1	-4.0mm — -0.5mm 0mm +0.5mm — +3.5mm	Set the dot shift for the horizontal direction when printing from Tray 1. This area will not be initialized by the EEPROM reset operation.
	TRAY 2	-4.0mm — -0.5mm 0mm +0.5mm — +3.5mm	Set the dot shift for the horizontal direction when printing from Tray 2. This item is displayed even when Tray 2 is not set. This area will not be initialized by the EEPROM reset operation. (At first, it is initialized by default.)
	MANUAL	-4.0mm — -0.5mm 0mm +0.5mm — +3.5mm	Set the dot shift for the horizontal direction when printing from the manual slot. This area will not be initialized by the EEPROM reset operation. (At first, it is initialized by default.)
NETWORK			Details depend on NETWORK.
ENG DIAG			Enters Engine Maintenance Menu.

Note: Detailed descriptions of these functions are provided in “Appendix D Diagnostics Test” .

B. EEPROM Initial Setting Range for Events

The EEPROM is initialized for each event as shown. “O” is initialized. “–” is not initialized.

No	Events	CU EEPROM Area					PU EEPROM Area			
		Factory Default Area	User Menu Area	Administrator Menu/System Maintenance Menu Area (*3)		F/W Revision Area	Engine Maintenance Menu Area			
					Brands Area			Drum Counter	Page Counter	Toner Dot Counter
1	User Maintenance Menu EEPROM RESET Operation	—	○	—	—	—	—	—	—	—
2	F/W Revision check error at the time of a power on.	—	○	○	—	○	—	—	—	—
3	CU EEPROM area mapping Revision check error at the time of a power on.	○	○	○	—	—	—	—	—	—
4	Brands area check error at the time of a power on (*1)	○	○	○	○	○	—	—	—	—
5	Engine Maintenance Menu ENGINE RESET Operation	—	—	—	—	—	—	○	○ (*1)	○
6	PU EEPROM area mapping check error at the time of a power on	—	—	—	—	—	○	○	○	○

Note:

(*1) Only when the page counter is 500 sheets or less is it reset to 0.

3. Adjustment When Replacing a Part

Adjustment is necessary when replacing any of the following parts.

Part Replaced	Adjustment
LED Head	Set the LED head drive time.
Image Drum Cartridge	Reset the image drum counter (refer to User’s Guide).
Main Control Board	EEPROM data Upload/Download

A. Uploading/Downloading EEPROM data

When the controller printed circuit board is replaced, the contents of the old EEPROM shall be copied to the new EEPROM on the new board to preserve customer settings. For the purpose, use the EEPROM operation on the Option of the Maintenance Utility. To copy follow the steps below.

1. Be sure to confirm that the printer and the PC are connected with a centronics I/F cable. Then execute the Maintenance Utility.

   Note: Printer driver will be uninstalled.

2. Select the Option on the Maintenance Utility.
3. Click the "UPLOAD EEPROM" button on the "EEPROM Operations."

4. The contents of the EEPROM data are displayed on the "DIALOG" of the Maintenance Utility. The contents of the old EEPROM are then copied into the memory of the PC.
5. Replace the controller P.C.B. with a new one while it displays the above "DIALOG."
6. After the replacement, click "Downloaded EEPROM" on the "EEPROM Operations". EEPROM upload has been completed.

In case of troubles such as centronics I/F failure, etc. EEPROM data may not be uploaded properly. In such case, it is necessary to adjust the following settings manually after the replacement using the Maintenance Utility.

- Factory setting

  The maintenance utility is designed to be used only by field engineer and it should not be released to the end-users.

Periodical Maintenance

1. Periodical Replacement Parts

The parts are to be replaced periodically as specified below:

Part Name	Condition for Replacement	Cleaning	Remarks
Toner Cartridge 2.5K (Type 9)	About 2,500 sheets of paper have been printed.	LED head	Consumables
Toner Cartridge 6K (Type 9)	About 6,000 sheets of paper have been printed.	LED head	Consumables
Image Drum Cartridge (Type 9)	About 25,000 sheets of paper have been printed. See “Image drum cartridge” on page 11.		Consumables

2. Cleaning

Remove any toner or dust accumulated inside the printer. Clean in and around the printer with a piece of cloth when necessary. Use the toner vacuum to clean inside the printer.

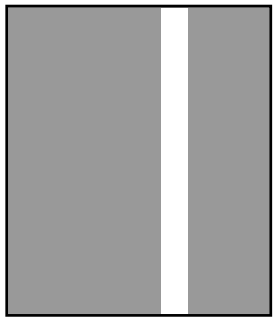
Note: Do not touch the image drum, LED lens array, or LED head connector block.

A. Cleaning of LED Lens Array

Clean the LED lens array or replace the toner cartridge when white lines or stripes (void, light printing) are generated vertically down the page, as shown below.

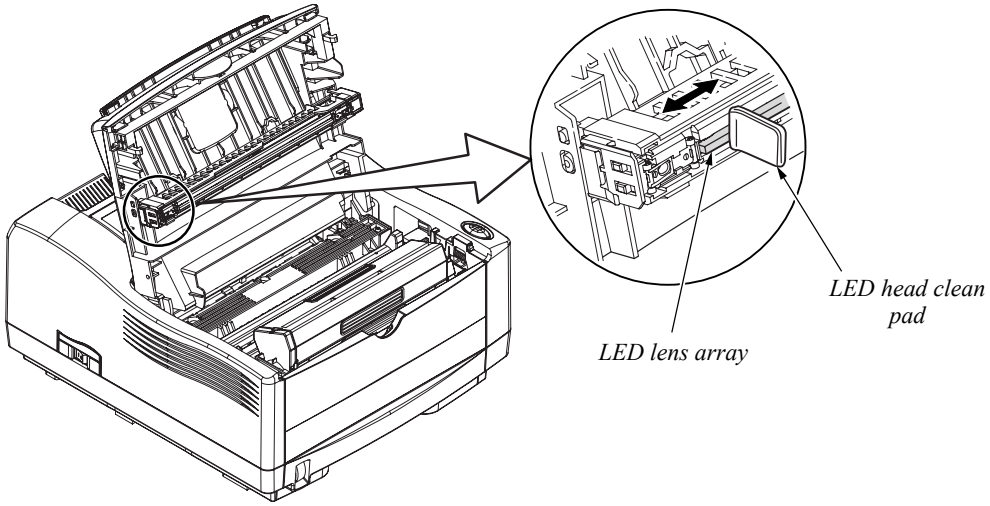
Note: The LED lens array must be cleaned with an LED head cleaner included in the replacement toner kit.

White lines or stripes (void, light printing)



1. Set the LED head cleaner to the LED lens array as shown in the figure, then slide the cleaner back and forth horizontally several times to clean the head.

Note: Gently press the LED head cleaner onto the LED lens array.



2. Throw the cleaner pad away.

B. Cleaning Page Function

There is a charge roller cleaning function with this printer, which can be executed by the user.

1. Press the Menu key several times, and the LCD displays “MAINTE MENU.”
2. Press the Item key, and the LCD displays “CLEANING PRINT.”
3. Press the Select key. The printer enters the cleaning mode.
4. The LCD displays “MANUAL” on the upper line, and on the lower line, “LETTER REQUEST” is displayed, scrolling one character width at a time from right to left "LETTER" on the lower line may instead be “A4” depending on the printer designation. When the above messages appear on the LCD, the user can verify that the printer has entered the cleaning mode and that it is requesting insertion of a letter (or A4) size paper into the manual feeder slot.
5. Insert a sheet of paper into the manual feeder slot.
6. Toner attached to the image drum is transferred onto the inserted sheet, and the sheet is ejected with the toner residues printed. While this process is going on, the LCD displays “PRINT CLEANING” message.
7. The printer returns to “MAINTE MENU.” The LCD displays “CLEANING PRINT.”

Troubleshooting Procedures

1. Troubleshooting Tips

1. Check the troubleshooting section in the User's Guide.
2. Gather as much information about the situation as possible.
3. Inspect the equipment under the conditions close to those in which the problem had occurred.

2. Points to Check before Correcting Image Problems

1. Is the printer being run in proper ambient conditions?
2. Are supplies (toner) and routine replacement part (image drum cartridge) being replaced properly?
3. Is the printing paper normal (acceptable quality)?
4. Is the image drum cartridge being loaded properly?

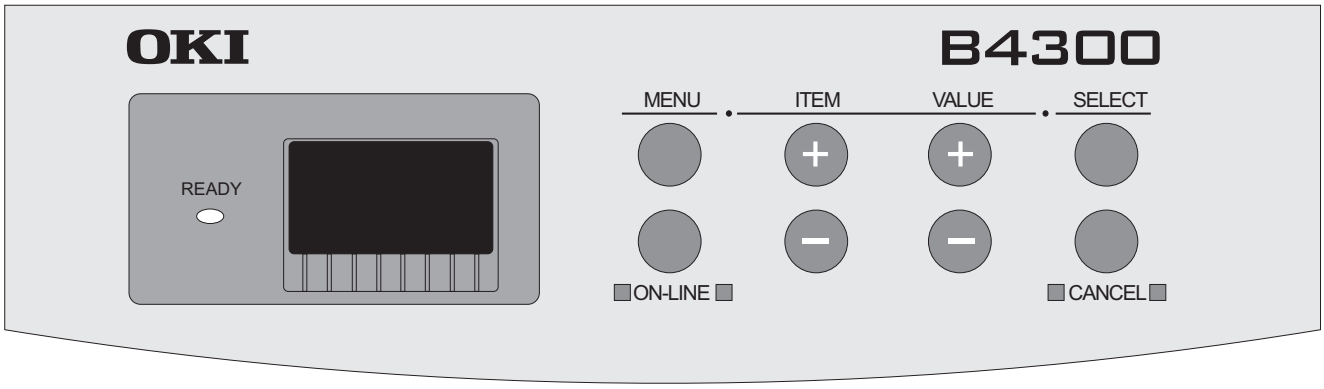
3. Tips for Correcting Image Problems

1. Do not touch, or bring foreign matter into contact with the surface of the image drum.
2. Do not expose the image drum to direct sunlight.
3. Keep hands off the fuser unit as it heats up during operation.
4. Do not expose the image drum to light for longer than 5 minutes at room temperature.

4. Preparation for Troubleshooting

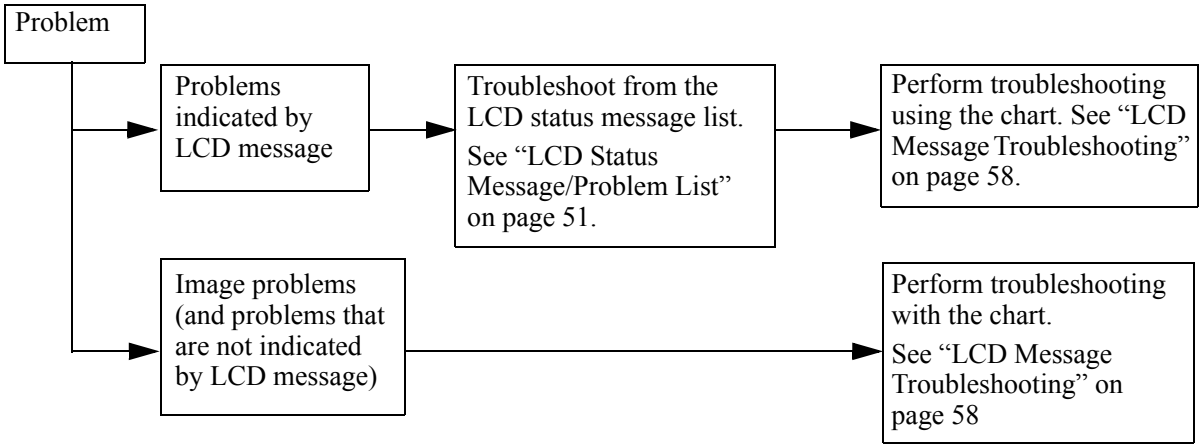
A. Operator Panel Display

The failure status of the printer is displayed by the liquid crystal display (LCD) of the operator panel. Take proper corrective action as directed by messages which are being displayed on the LCD.



5. Troubleshooting Flow

Should there be a problem with the printer, carry out troubleshooting according to the following procedure flow:



A. LCD Status Message/Problem List

Legend

The status and problems which may be displayed by messages on the LCD are listed in the table below.
The following are the meaning of the symbols in the LCD display.

Code	Description
xxxx:	Emulation (AUTO, PCL, PSE, PPR, FX)
tttt:	Trays (TRAY1, TRAY2, MANUAL)
mmmm:	Paper Size (LETTER, A4 SIZE, ..., B5 SIZE, A6 SIZE)
pppp:	Media type (Plain, Transparency, ...)
cccc:	COVER (UPPER, TRAY2)

Note: "TRAY2" is indicated only when the second tray is set.

The following are indicated in the contents section of the displayed table.

Item	Description
(Job Account-related):	Displayed only when the Job Accounting function is enabled.
(PSE-related):	Displayed only when PSE is set. (PSE stands for Postscript3 Emulation. Only when PSE is set.)
(TRAY2-related):	Displayed only when TRAY2 is set.
(RS232C-related):	Displayed only when an RS232C card is set.
(NIC items):	Displayed only when an NIC card is set.

Status Table List

Status Level	LCD	LED	Description
Normal	ON-LINE xxxx	Light	Shows on-line status.
Normal	OFF-LINE xxxx	No Light	Shows off-line status.
Normal	FILE ACCESS	Varies	Accessing an accounting file. (Job Account-related)
Normal	ARRIVE xxxx	Varies	Data receiving, process not started yet. Displayed mainly during PJL process without text print data or during job spooling.
Normal	ACTIVE xxxx	Blink	Data receiving output processing
Normal	DATA xxxx	Varies	Unprinted data remains in Buffer. Waiting for data to follow.
Normal	PRINTING	Varies	Printer is printing.
Normal	■ ■ aaa/bbb	Varies	Printing a copy. aaa indicates the number of sheets being printed. bbb indicates the total number of sheets that have been printed. The display for normal printing is applicable when the number of copies is one sheet. This item displays with a different message in the first line.
Normal	FLUSHING	Blink	Job cancellation has been requested. Data is ignored till the end of the job.
Normal	FLUSHING (JAM)	Blink	After turning jam recovery OFF, indicates discarding data after a job is cancelled when a jam is generated. MSG blinks only on the top LCD line.
Normal	FLUSHING (DENIED)	Blink	Cancelled as permission for printing has not been received. (Job Account-related). • MSG blinks only on the top LCD line when a job is received from a user who has not received permission for printing.
Warning	FLUSHING (LOG)	Blink	Indicates that a job has been cancelled because the job accounting log has been filled. A “cancel job” instruction appears when logs are full. (Job Account-related only) MSG blinks only on the top LCD line.
Normal	■ WARM UP	Varies	Printer is now warming up. This message can be displayed with a different message in the first line.
Normal	■ PWR SAVE	Varies	Printer is in power save mode. This message can be displayed with other messages in the first line.
Warning	■ TONERLOW	Varies or Blink	Toner amount is low. This message can be displayed with other messages in the first line. Normal operation is possible. The LED blinks and will go OFF LINE. • It will return to ON-LINE when the cover opens and closes. If blinking in an ON-LINE state, it will usually return to an OFF LINE state.
Warning	■ TONEREMP	Varies	Toner near empty. (This state occurs after printing 100 sheets from TONERLOW.) This message can be displayed with other messages in the first line. It is possible to cancel the print job or continue normal operation.
Warning	■ TONERSNS	Varies	Something is wrong with the toner sensor. This message can be displayed with other messages in the first line when the engine is set to Shipping mode. Normal operation is possible. The error, explained later, displays when the engine is set to Factory mode. (ERR 163)

Status Level	LCD	LED	Description
Warning	■ CHG DRUM	Varies	Drum cartridge life (Warning). This message can be displayed with other messages in the first line. Drum life is nearing completion. Replace soon. When a CHG DRUM warning occurs, status code 10060 is set.
Normal	PRINT DEMO	Varies or Blink	Demo page printing.
Normal	PRINT FONTS	Varies or Blink	Fonts sample printing.
Normal	PRINT MENU MAP	Varies or Blink	Menu map printing.
Normal	PRINT FILELIST	Varies or Blink	File list printing.
Normal	PRINT CLEANING	Varies or Blink	Cleaning page printing.
Warning	INVALID DATA	Varies	Received invalid data. Prompts the user to press ON-LINE switch to clear Warning display. Displayed when the printer receives an unsupported PDL command.
Warning	■ ERR PSE	Blink	Interpreter detects an error due to following reasons. Data received after this is ignored till the end of the job. When the job is received completely, this is automatically cleared. - The job has a syntax error. - The page is complicated, and VM was used up.
Warning	■ tttt EMPTY	Varies	Tray tttt has run out of paper. Handled as Warning until the user refills the tray that has run out of paper. * Scroll display
Warning	■ TRAY2 COVER OPEN	Varies	Second Tray Cover Open * Scroll display
Warning	■ FILE SYSTEM IS FULL	Varies	Flash memory is full. This is a transient warning. Displayed until the job is completed, then, cleared. * Scroll display
Warning	■ FILE IS WRITE PROTECTED	Varies	An attempt to write into a write-protected file was made. Because this is a transient warning, it is displayed until the job is completed. then, cleared. * Scroll display
Warning	■ INVALD ID.JOB REJECTED	Varies	Notifies a user that the job has been cancelled as permission for printing has not been received. (Job Account-related) This is displayed until the ON LINE key is pressed. * Scroll display.
Warning	■ LOG BUFFER FULL. JOB REJECTED	Varies	Notifies a user that the job has been cancelled as the log buffer is full. (Job Account-related) This is displayed until the ON LINE key is pressed. * Scroll display.
Warning	■ FILE OPERATION FAILED nnn	Varies	A FLASH error other than No.26 and No.27 has occurred. Operation that does not use FLASH is possible. * Scroll display
Error	MANUAL mmmm REQUEST	Light	Manual print request. Prompts the user to set paper indicated by mmmm manually. * Scroll display
Error	LOAD mmm tttt EMPTY	No Light	Indicates that a print request was sent to the tttt tray that has become empty. A message for setting mmmm paper. TRAY1 TRAY2 MPF * Scroll display.

Status Level	LCD	LED	Description
Error	CLOSE COVER TRAY2 COVER OPEN	No Light	Print request has been made to the 2nd tray route cover open. To continue, close cover. * Scroll display
Error	CHANGE PAPER TO mmmm/pppp tttt MEDIA MISMATCH	No Light	The media type in the tray and the edit media type do not match. TRAY1 TRAY2 MPF * Scroll display
Error	CHANGE PAPER TO mmmm/pppp tttt SIZE MISMATCH	No Light	The paper size in the tray and the edit size do not match. TRAY1 TRAY2 MPF * Scroll display
Error	RS232C OVERFLOW	No Light	RS232C Overflow has occurred. To continue, press ON-LINE switch (RS232C related)
Error	RS232C OVER RUN	No Light	RS232C Overrun has occurred. To continue, press ON-LINE switch (RS232C related)
Error	RS232C PRY ERR	No Light	RS232C parity error has occurred. To continue, press ON-LINE switch (RS232C related)
Error	RS232C FRM ERR	No Light	RS232C framing error has occurred. To continue, press ON-LINE switch (RS232C related)
Error	NETWORK INITIAL	Varies	Initializing (rebooting) a section related to NIC. MSG blinks only on the top LCD line. (NIC-related)
Error	TONEREMP CHG CART	No Light	• Toner Low message has occurred and almost no toner is left in the cartridge. For temporary operation, open/close the cover or press “ON-LINE” switch, to return to normal operation. You must change the toner cartridge soon. • Displayed after printing 100 sheets after Toner Low was sensed, to prompt the user to change the cartridge. After this, the printer recovers with Cover Open/Close or when user presses “ON-LINE” switch, then, after printing 30 pages, this message is re-displayed. • Even after this, the printer recovers when the user opens and closes the cover, or presses the “ON LINE” switch, but this message is displayed for every sheet ejected. • During Change Drum Alarm, however, “CHG DRUM,” not this message, is displayed, to prompt the operator to replace the drum and not the toner.
Error	MEMORY OVERFLOW	No Light	Memory capacity has overflowed due to the following reasons. To continue, press ON-LINE switch. - Too much print data in a page. - Too much Macro data. - Too much DLL data. - After frame buffer compression, overflow has occurred. To fix, install expansion RAM or decrease the data amount. * Scroll display
Error	OPEN UPPER COVER PAPER SIZE ERROR	No Light	Warns that paper of an inappropriate size has been fed from the tray. To continue for Recovery Print, open and close the cover. * Scroll display
Error	CHECK tttt PAPER JAM	No Light	Paper jam occurred when paper was being fed from tttttt tray. TRAY1 TRAY2 MPF * Scroll display

Status Level	LCD	LED	Description
Error	OPEN UPPER COVER PAPER JAM	No Light	Jam has occurred in the paper path. Paper Feed Transport (Message of 10.5 is displayed) * PN262 does not distinguish jam type or tray. * Only Exit jam is identified. * Scroll display
Error	OPEN UPPER COVER EXIT JAM	No Light	Jam occurred when paper was exiting. Open the cover and remove the paper inside the printer. Close the cover to continue for Recovery Print. * Scroll display
Error	CHG DRUM	No Light	Notifies the user of the drum life. For temporary operation, open/close the cover or press “ON-LINE” switch, to recover the printer operation. You must change the drum soon. Reset drum counter.
Error	CHECK IMAGE DRUM DRUM MISSING	No Light	The drum is not set properly. Reset
Error	CLOSE COVER UPPER COVER OPEN	No Light	The cover is open. UPPER Stacker * Scroll display
-	DL MODE xxxx	Varies	Downloading via NIC. The download status is indicated in the bottom line. Refer to the Network specifications for details. (NIC-related)
Error	POWER OFF/ON NETWORK ERROR	No Light	Network error has occurred. * Scroll display
-	REBOOT X	No Light	Displays when the printer is rebooted. The lower display shows the code indicating the reason for the reboot. Reason codes: 0: Factor(s) other than those shown below 1: PJL command reception 2: Operation panel operation 3: PostScript quit operator 4: Specification mode via network

Status Level	LCD	LED	Description
Fatal	ERR nnn	No Light	Note: The following error names are not displayed: * Scroll display
020			CU ROM Hash Check Error 1
030			CU Slot1 DIMM RAM Check Error
034			RAM configuration error
035			Slot1 RAM Spec error
040			CU EEPROM ERROR
041			CU FLASH ERROR
042			FLASH FILE SYSTEM ERROR
043			FLASH FILE SYSTEM VERSION MISMATCH
050			Operator Panel Error
051			CU FAN ERROR
063			HOST_IF_NO_DRIVER:PCI
070			CANT_HAPPEN
072			Engine communication error
073			H/W overrun detect
074			F/W Overrun detect
075			VIC Limutter
076			VIC decomp write error (reserved: for monochrome product only)
077			VIC illegal decomp error (reserved: for monochrome product only)
102			Engine RAM Error (Reserved)
103			Engine SRAM Error (Reserved)
106			Engine Control Error
120			PU Board Fan Motor Error
121			Power Supply LSI Error (Reserved)
122			Power Supply Fan Motor Error (Reserved)
123			Humidity Sensor (Reserved)
124			Temperature Sensor (Reserved)
125			Multi purpose tray home error (Reserved)
130			LED Head Over Temperature
134			LED Head Missing, Color: Black (Reserved)
143			Drum Up/Down, Color: Black (Reserved)
163			Toner Sensor Error, Color: Black
170			Upper Thermistor, State: Short
171			Upper Thermistor, State: Open
172			Upper Heater Temp, State: High

Status Level	LCD	LED	Description
173	ERR nnn	No Light	Upper Heater Temp, State: Low
179			Fuser Mismatch (Reserved)
180			I/F Error, Loc: Envelop feeder
182			I/F Error, Loc: Tray2
187			I/F Error, Loc: Control Panel (Reserved)
190			System Memory Overflow
200			PU F/W download check SUM error (Reserved)
201			PU F/W Flash write error (Reserved)
202			PU F/W Flash data missing (Reserved)
203			IMAGE ACK illegal page ID
204			IMAGE SET Trans error (Reserved)
205			No page at DUP IN (Reserved)
206			No page at PPOUT
207			Illegal function call
208			Parameter error
210			EM Null page cargo
211			EM Null page
212			EM No video queue
213			EM Illegal sequence
001	INITIAL- IZING	No Light	Machine check Exception
002			DSI Exception
003			ISI Exception
004			Alignment Exception
005			Program Exception
006			Floating-point unavailable Exception
007			Instruction address breakpoint Exception
008			Thermal management interrupt Exception
009			Instruction TLB miss
010			Data TLB miss
011			Data TLB store miss
Normal			Indicates that the controller side is initializing.
Normal	EEPROM RESET'NG	No Light	Indicates that EEPROM is initializing.
-	RAM CHK ********	No Light	Indicates that the RAM is being checked. * is indicated after each time one-eighth of the total space is checked.
Normal	■■■■■■■■ ■■■■■■■■	No Light	Displayed at power ON.

LCD Message Troubleshooting

If the problems cannot be corrected by using the LCD status message/problem list, follow the troubleshooting flowcharts given here.

No.	Trouble	Flowchart Number
1	The printer does not work normally after the power is turned on.	①
2	Jam Alarm —Paper input jam —Paper feed jam —Paper exit jam	 ②-1 ②-2 ②-3
3	Paper Size Error	③
4	Fusing Unit Error	④
5	SSIO (Synchronous Serial Input/Output) error I/F timeout (no response) between the printer and an optional tray (High Capacity Second Paper Feeder, Power Envelope Feeder).	⑤
6	Fan Error	⑥

①. The printer does not work normally after the power is turned on.

- Turn the power off, then back on.
  - Is an all black message being displayed by the LCD display? 
    - No Is the AC cord being connected properly?
      - No Connect the AC cord properly.
    - Yes Is +5 V being applied between Pins 11 and 21 of POWER connector on the main control board?
      Pin 16 : 0 V
      Pin 11 : +5 V
      Ⓐ
      - No Is the connection between POWER connector on the main control board and connector CN3 on the power supply/sensor board being made properly?
        No Correct the connection.
      - Yes Go to 1-1.
    - Yes Is +12 V being applied between Pins 15 (GND) and 24 of POWER connector?
      Pin 15 : 0 V
      Pin 24 : +12 V
      - No Go to Ⓐ
    - Yes Is the flexible cable for the operator panel assy being connected to the PANEL connector on the control board and the connector CN1 on the OLCC board properly?
      - No Connect the flexible cable properly.
    - Yes Replace the operator panel assy or flexible cable.
    - Has the problem been solved?
      - No Replace the main control board.
    - Yes End
  - Yes Is INITIAL-IZING message being displayed by the LCD display?
    - No Replace the main control board.
  - Yes Is ON-LINE XXX message being displayed by the LCD display?
    XXX: PCL, AUTO, PSE*, HEX DUMP, PPR, FX
    * PSE means Postscript 3 Emulation.
    - No Take actions according to the LCD status message/problem list (see “LCD Status Message/Problem List” on page 51 for corrective actions).
  - Yes End

①-1

Take the measurement of the following voltage readings at connector CN3 on the power supply board without main control board:

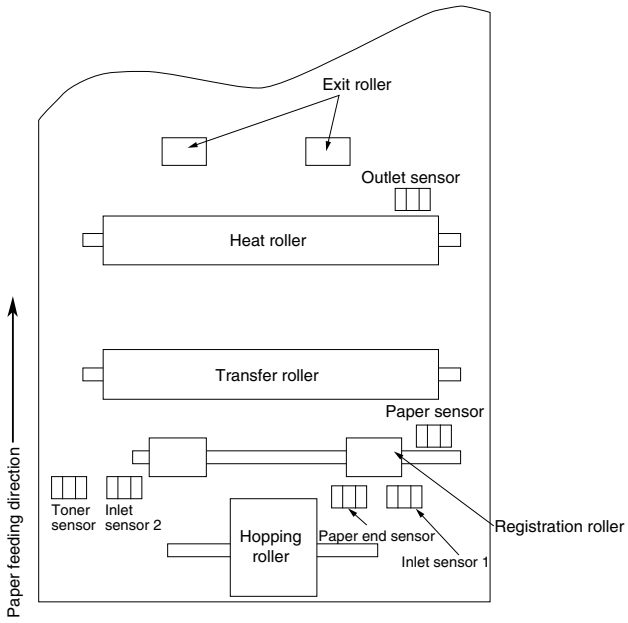
Voltage between Pins 11 and 16: ... 5VDC
Voltage between Pins 17 and 16: ... about 30VDC
Voltage between Pins 24 and 16: ... 12VDC

Yes Replace the power supply unit.

[JAM error]

②-1 Paper input jam

- Does the JAM error occur when the power is turned on?
  - Yes — Is the paper at the inlet sensor?
    - Yes — Remove the paper.
    - No — Is the operation of the inlet sensor plate normal (moves freely when touched)?
      - No — Replace the inlet sensor plate.
      - Yes — Clean the inlet sensor on the power supply/sensor board, or replace the power supply/sensor board.
  - No — Does the JAM alarm occur after paper feeding?
    - Yes — Is the paper fed to the inlet sensor plate?
      - Yes — Is the operation of the input sensor plate normal (moves freely when touched)?
        - No — Replace the inlet sensor plate.
        - Yes — Clean the inlet sensor on the power supply/sensor board or replace the power supply/sensor board.
      - No — Replace the hopping roller rubber or paper cassette.
  - No — Is the hopping roller rotating?
    - Yes — Set the paper tray properly.
  - No — Is the registration motor rotating?
    - Yes — Replace the one-way clutch gear of the hopping roller assembly.
  - No — Is RM connector on the main control board being connected properly?
    - No — Connect RM connector properly.
  - Yes — Is the coil resistance (normal resistance: both between Pins 1 and 2, as well as Pins 3 and 4 are about 7.9 Ω) of the registration motor normal?
    - No — Replace the registration motor.
  - Yes — Replace the main control board.



②-2 Paper feed jam

- Does the JAM error occur when the power is turned on?
  - Yes — Is the paper on the inlet sensor?
    - Yes — Remove the paper.
  - No — Is the operation of the paper sensor plate normal (move freely when touched)?
    - No — Replace the paper sensor plate.
  - Yes — Replace the power supply/sensor board.
- No — Has the paper reached the paper sensor plate?
  - No — Is the registration roller rotating?
    - No — Replace the one-way clutch gear of the hopping roller assembly.
  - Yes — Is the image drum cartridge being set properly?
    - No — Set the image drum cartridge properly.
  - Yes — Check the hopping roller assembly or tray.
- Yes — Has the paper reached the outlet sensor plate?
  - Yes — Is the operation of the outlet sensor plate normal (moves freely when touched)?
    - No — Replace the outlet sensor plate.
  - Yes — Clean the outlet sensor on the power supply/sensor board or replace the power supply/sensor board.
- No — Is the main/drum motor rotating?
  - No — Is DM connector on the main control board being connected properly?
    - No — Connect DM connector properly.
  - Yes — Is the coil resistance (normal resistance: both between Pins 1 and 2, as well as Pins 3 and 4 are about 8.6 Ω) of the main/drum motor correct?
    - No — Replace the main/drum motor.
  - Yes — Replace the main control board.
- Yes — Is the transfer roller rotating?

②-2-a

②-2-a

- No — Check the gears (transfer roller gear, idle gear and reduction gear).

- Yes — Is the fusing unit being installed properly?
  - No — Install the fusing unit properly.

- Yes — Is the image drum cartridge being set properly?
  - No — Set the image drum cartridge properly.

- Yes — Clean the paper sensor on the power supply/sensor board or replace the power supply/sensor board.

[JAM error]

②-3 Paper exit jam

- Does the paper exit jam error occur when the power is turned on?
  - Yes — Is the paper on the outlet sensor plate?
    - Yes — Remove the paper.
  - No — In the operation of the outlet sensor plate normal (moves freely when touched)?
    - No — Replace the outlet sensor plate.
  - Yes — Clean the outlet sensor on the power supply/sensor board or replace the power supply/sensor board.

- No — Is the face-up stacker pulled out completely from the printer or pushed into the printer completely?
  - No — Pull the face-up stacker out of the printer completely or push it into the printer completely.

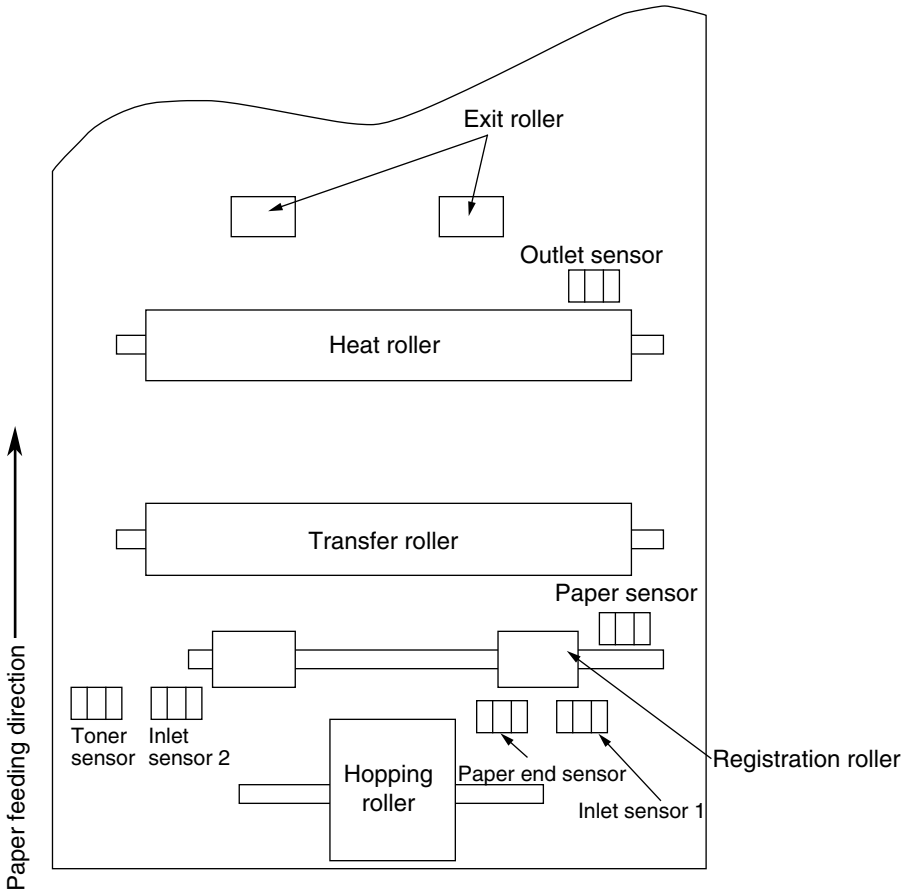
- Yes — Is the eject roller assembly being installed properly?
  - No — Install the eject roller assembly properly.

- Yes — Has the coil spring come off the eject roller assembly?
  - Yes — Install the coil spring to the eject roller assembly.

- No — Replace the eject roller assembly.

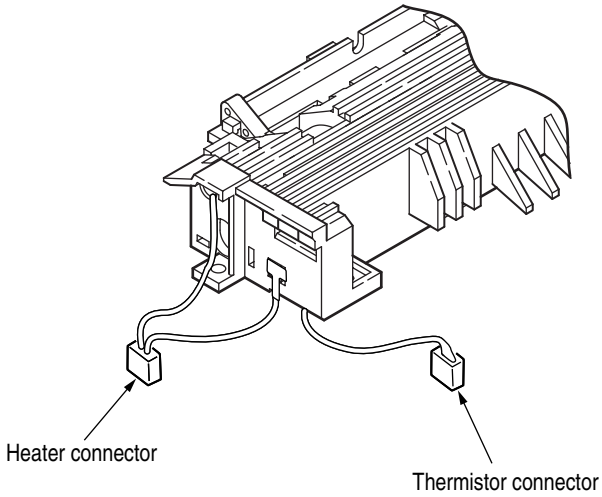
③ Paper size error

- Is paper of the specified size being used?
  - No Use paper of the specified size.
- Yes Are inlet sensor plates 1 and 2 operating properly (moves freely when touched)?
  - No Replace the inlet sensor plate or clean the inlet sensor on the power supply/sensor board.
- Yes Does the outlet sensor plate operate properly (moves freely when touched)?
  - No Replace the outlet sensor plate or clean the outlet sensor on the power supply/sensor board.
- Yes Replace the power supply/sensor board.



④ Fusing unit error (ERROR 170) (ERROR 171) (ERROR 172) (ERROR 173)

- Turn the power off, then back on again.
- Yes — Is the thermistor open or shorted? Measure the resistance between thermistor contacts (heater contacts 120V/2Ω or 240V/7Ω, and thermistor contacts 200KΩ at room temperature) (see Figure below).
  - Yes — Replace the fusing unit.
- No — Is the thermistor connector connected to the main control board connector?
  - No — Connect the thermistor connector property.
- Yes — Is the heater of the fusing unit turned on (when the heater is turned on, light is emitted)?
  - Yes — Check the thermistor connector or replace the main control board or the fusing unit.
- No — Is the AC voltage being supplied to the connector for the heater of the power supply board? (see Figure below)
  - No — Replace the main control board or the power supply/sensor board.
- Yes — Check the heater connector cord and the heater connector for poor contact .



⑤ Synchronous serial I/O error or I/F timeout between printer and optional tray (ERROR 180, 182)

- Is an option tray being used?
  - Yes — Is the cable between the main control board and the optional tray being connected properly?
    - No — Connect the cable properly.
    - Yes — Replace the main control board.
  - Has the problem been solved?
    - No — Check the problem by following the High Capacity Second Paper Feeder maintenance manual of “Appendix E High Capacity Second Paper Feeder” on page 120.
    - Yes — End
- No — Replace the main control board.
- Has the problem been solved?
  - No — Replace the power supply/sensor board.
- Yes — End

⑥. Fan error (ERROR 120)

- Is the fan rotating?
  - Yes — Replace the main control board.
- No — Is FAN connector on the main control board being connected properly?
  - No — Connect FAN connector properly.
- Yes — Replace the fan or main control board.

6. Image Troubleshooting

Procedures for troubleshooting for abnormal image printouts are explained below. The Image Troubleshooting Figure below shows typical abnormal images.

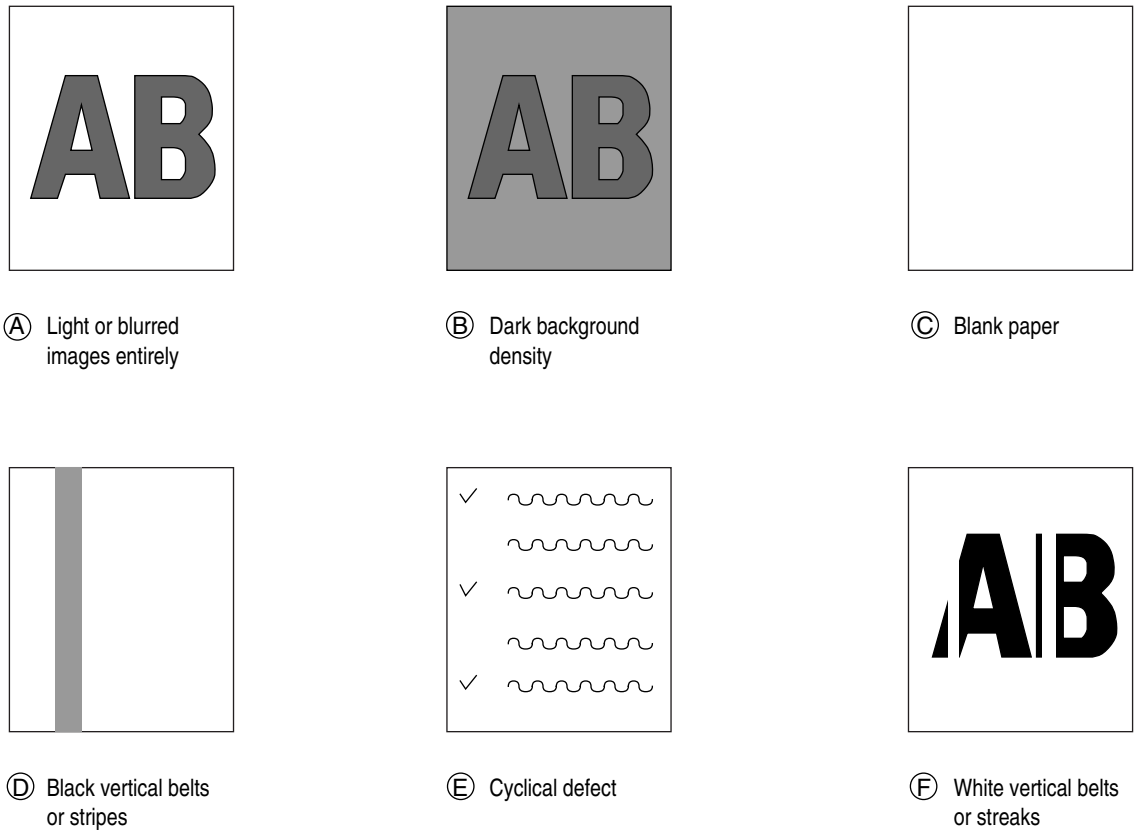
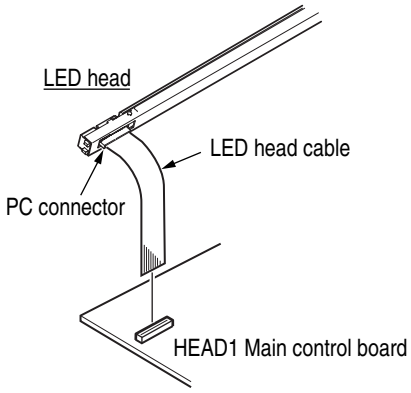


Figure: Image Troubleshooting

Problem	Flowchart number
Images are light or blurred entirely (A)	①
Dark background density (B)	②
Blank paper is output (C)	③
Black vertical belts or stripes (D)	④
Cyclical defect (E)	⑤
Print voids	⑥
Poor fusing (images are blurred or peels off when the printed characters and images on the paper are touched by hand)	⑦
White vertical belts or streaks (F)	⑧

①. Images are light or blurred entirely.

- Is toner low (is the TONER LOW message displayed)?
  - Yes — Supply toner.
- No — Is paper of the specified grade being used?
  - No — Use paper of the specified grade.
- Yes — Is the lens surface of the LED head dirty?
  - Yes — Clean the lens.
- No — Is the LED head being installed properly (check the HEAD1 connector of the main control board and PC connector on the LED head for proper connection)?
  - No — Install the LED head properly.
- Yes — Is the contact plate of the transfer roller in contact with the contact assembly of the power supply/sensor board properly (see Figure)?
  - No — Adjust the contact plate of the transfer roller to make a proper contact with the power supply/sensor board and shaft of the transfer roller.



- Yes — Is the contact of the developing roller and the contact of the toner supply roller of the image drum cartridge in contact with the contact assembly properly (see Image Troubleshooting Figure on page 67, (A) and (B))?
  - No — Adjust the contacts of the developing and toner supply roller to make a proper contact with the contact assembly.
- Yes — Replace the transfer roller.
- Has the problem been solved?
  - Yes — End
- No — Replace the image drum cartridge.
- Has the problem been solved?
  - Yes — End

Note: After replacing the image drum cartridge, set the printer in the admin menu mode by turning the power on while pressing the ITEM+/ITEM- key, and reset the drum counter (see Printer Handbook).

- No — Is the tension between the back-up roller (7.52kg) and the surface of back-up roller normal?
  - No — Replace the back-up roller or bias spring.
- Yes — Replace the main control board or power supply/sensor board.

②. Dark background density

- Has the image drum been exposed to external light?
  - Yes — Install the image drum in the printer and wait about 30 minutes.
- No — Perform the cleaning page function (see “Cleaning Page Function” on page 49).
- Has the problem been solved?
  - Yes — End
- No — Is the heat roller of the fusing unit dirty?
  - Yes — Clean the heat roller.
- No — Is the contact of the cleaning roller of the image drum cartridge in contact with the contact assembly properly (see “Figure 5-4” on page 74 (C))?
  - No — Adjust the contact of the cleaning roller to make a proper contact with the contact assembly.
- Yes — Replace the image drum cartridge.
- Has the problem been solved?
  - Yes — End

    Note: After replacing the image drum cartridge, set the printer to the admin menu mode by turning the power on while pressing the ITEM+/ITEM- key, and reset the drum counter (see Printer Handbook).
- No — Replace the main control board or power supply/sensor board.

③. Blank paper is output.

- Is the LED head being connected properly (check the HEAD1 and HEAD2 connectors on the main control board and PC connector on the LED head)?
  - No — Connect the LED head properly or replace the head cable(s).
- Yes — Is the contact of the image drum cartridge in proper contact with the ground contact properly (see “Figure 5-4” on page 74 (C))?
  - No — Adjust the ground contact (Drum) of the contact assembly.
- Yes — Replace the LED head.
- Has the problem been solved?
  - Yes — End
- No — Replace the main control board or power supply/sensor board.

④. Black vertical belts or stripes

- Perform the cleaning page function (see “Cleaning Page Function” on page 49).
- Has the problem been solved?
  - Yes End.
- No Replace the image drum cartridge.
- Has the problem been solved?
  - Yes End

    Note: After replacing the image drum cartridge, set the printer to the admin menu mode by turning the power on while pressing the ITEM+/ITEM- key, and reset the drum counter (see Printer Handbook).
- Clean the LED lens array of the LED head.
- Has the problem been solved?
  - Yes End.
- No Replace the LED head.
- Has the problem been solved?
  - Yes End
- No Replace the main control board or power supply/sensor board.

⑤. Cyclical Defect

Unit	Frequency	Remedy
Image drum	3.71" (94.2mm)	Replace or clean the image drum cartridge.
Developing roller	1.86" (47.12mm)	Replace the image drum cartridge.
Toner supply roller	2.96" (75.27mm)	Replace the image drum cartridge.
Charging roller	1.21" (30.63mm)	Replace the image drum cartridge.
Cleaning roller	0.93" (23.56mm)	Replace the image drum cartridge.
Transfer roller	1.95" (49.6mm)	Replace the transfer roller.
Heat roller	2.44" (62.0mm)	Replace the fusing unit assy.
Back-up roller	2.73" (69.4mm)	Replace the back-up roller.

Note: After replacing the image drum cartridge, set the printer to the admin menu mode by turning the power on while pressing the ITEM+/ITEM- key, and reset the drum counter (see Printer Handbook).

⑥. Prints voids

- Is the contact plate of the transfer roller in proper contact with the power supply/sensor board (see “Figure 5-5” on page 75)?
  - No — Adjust the contact plate so that it touches the power supply/sensor board and the shaft of the transfer roller properly.
- Yes — Replace the transfer roller.
- Has the problem been solved?
  - Yes — End
- No — Is the tension between the back-up roller (7.52kg) and the surface of back-up roller normal?
  - No — Replace the back-up roller or bias spring.
- Yes — Are the contacts of the toner supply roller, developing roller, image drum and charging roller in proper contact with the contact assy (see “Figure 5-4” on page 74 - A , B , C , D , E)?
  - No — Adjust the contacts so that they touch the contact assy properly.
- Yes — Replace the image drum cartridge.
- Has the problem been solved?
  - Yes — End

    Note: After replacing the image drum cartridge, set the printer in the admin menu mode by turning the power on while pressing the ITEM+/ITEM- key, and reset the drum counter (see Printer Handbook).
- No — Is the LED head being installed properly (check HEAD1 connector on the main control board and PC Connector on the LED head)?
  - No — Install the LED head properly.
- Yes — Replace the LED head or the head cable.
- Has the problem been solved?
  - Yes — End
- No — Replace the main control board or power supply/sensor board.

⑦. Poor Fusing

Poor fusing (images are blurred or peel off when the printed characters and images on the paper are touched by hand).

- Is paper of the specified grade being used?
  - No — Use paper of the specified grade.
- Yes — Is the tension between the back-up roller (7.52kg) and the surface of back-up roller normal?
  - No — Replace the back-up roller or bias spring.
- Yes — Is the contact of the fusing unit assy in proper contact with the contact assy (see “Figure 5-4” on page 74 - G)?
  - No — Adjust the contact of the fusing unit assy to make a proper contact with the contact assembly.
- Yes — Replace the fusing unit assembly.
- Has the problem been solved?
  - Yes — End
- No — Replace the main control board or power supply/sensor board.

⑧. White vertical belts or streaks

- Is the LED lens dirty?
  - Yes Clean the LED lens.
- No Is the contact plate of the transfer roller in proper contact with the power supply/sensor board (“Figure 5-5” on page 75)?
  - No Adjust the contact plate to make a proper contact with the power supply/sensor board.
- Yes Replace the transfer roller.
- Has the problem been solved?
  - Yes End
- No Is the tension between the back-up roller (7.52kg) and the surface of back-up roller normal?
  - No Replace the back-up roller or bias spring.
- Yes Is the LED head being installed properly (check HEAD1 connector on the main control board and PC connector on the LED head)?
  - No Install the LED head properly.
- Yes Replace the LED head.
- Has the problem been solved?
  - Yes End

    Note: After replacing the LED head, set the LED head drive time (“Adjustment When Replacing a Part” on page 42).
- Yes Replace the image drum cartridge.
  - Yes End

    Note: After replacing the image drum cartridge, reset the drum counter by clicking the "Reset" button in the Status Monitor. (see User’s Guide).
- No Replace the main control board or power supply/sensor board.

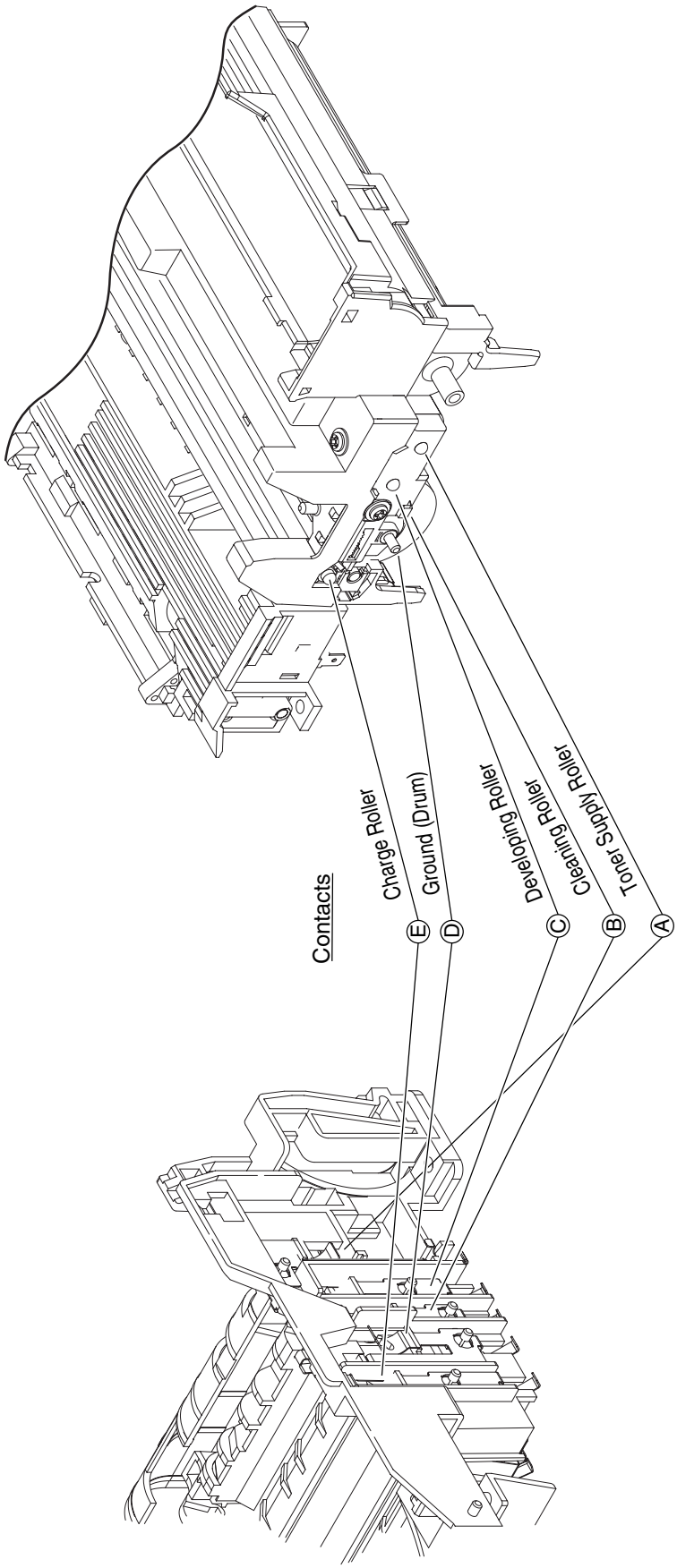

Contacts
Charge Roller
Ground (Drum)
Developing Roller
Cleaning Roller
Toner Supply Roller
E
D
C
B
A

Figure 5-4

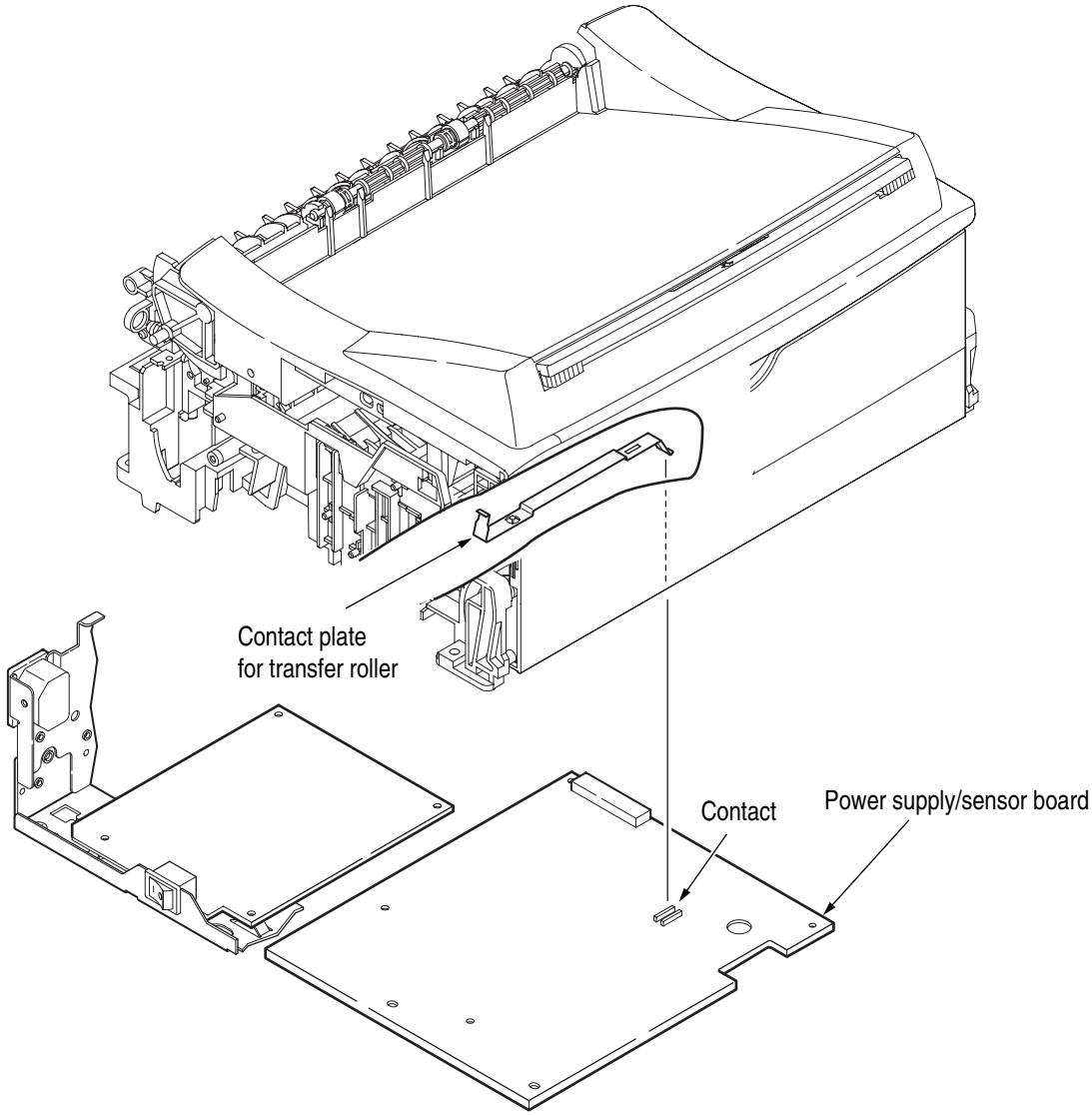
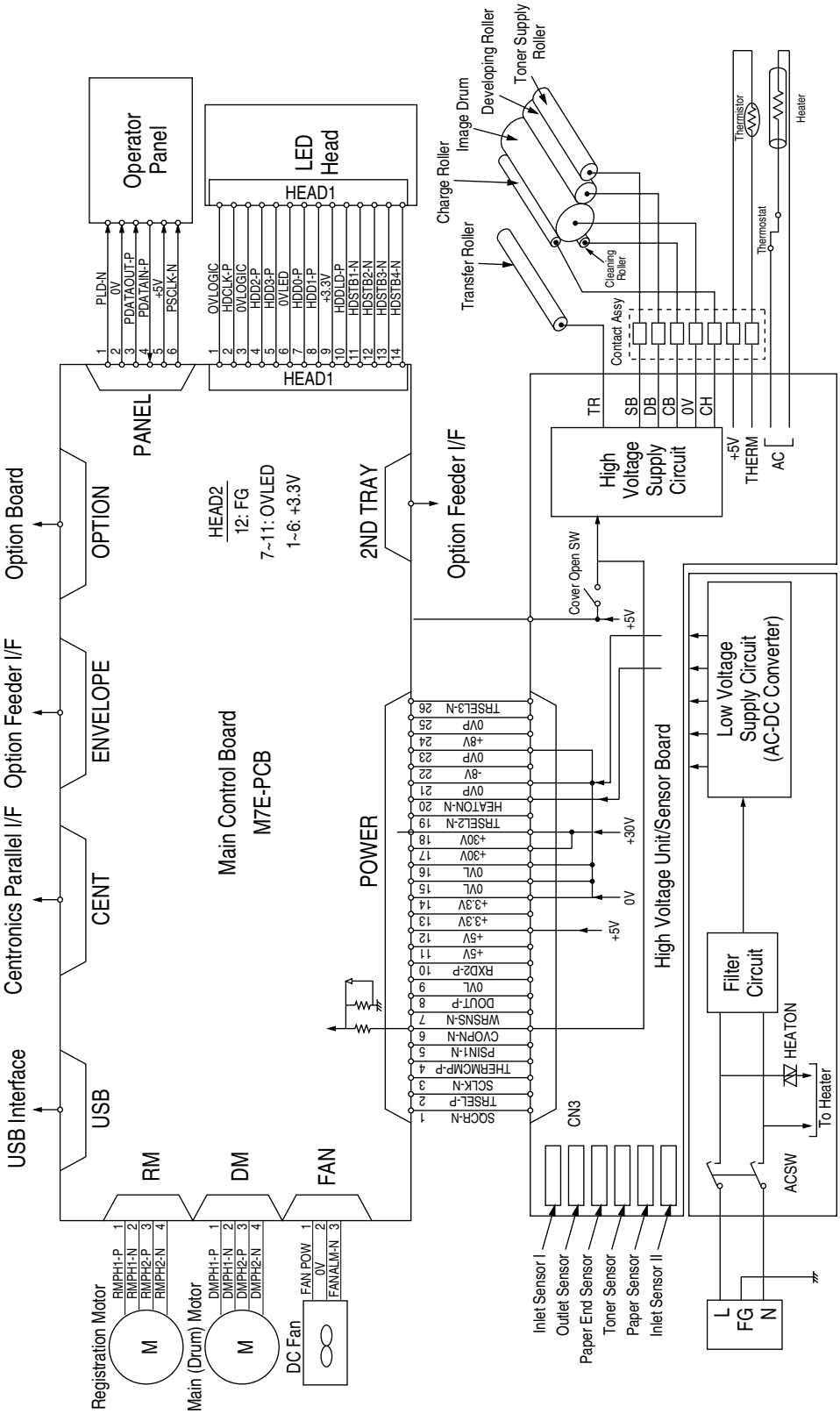

Contact plate
for transfer roller
Contact
Power supply/sensor board

Figure 5-5

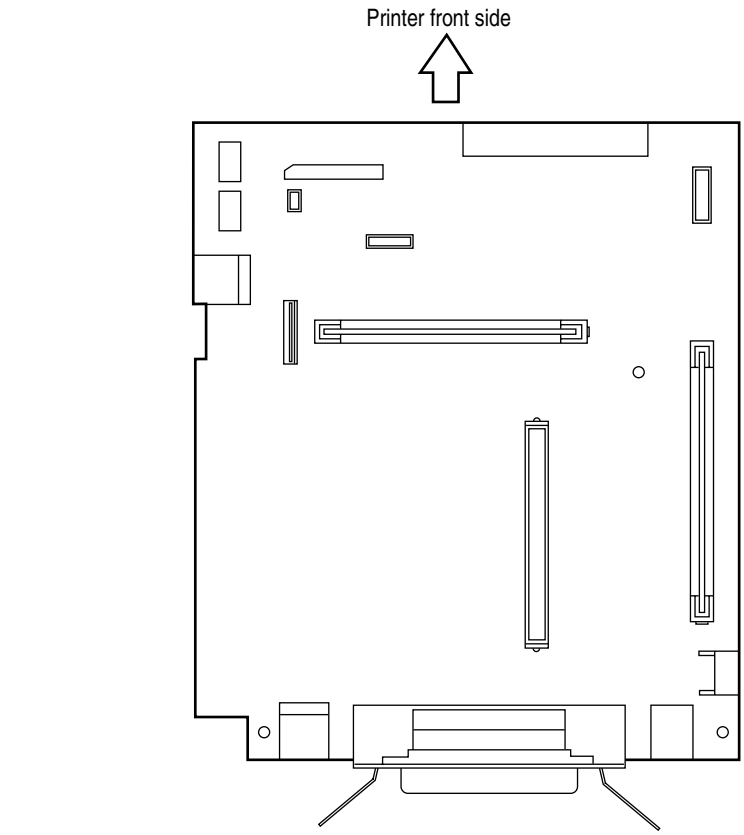
Wiring Diagram

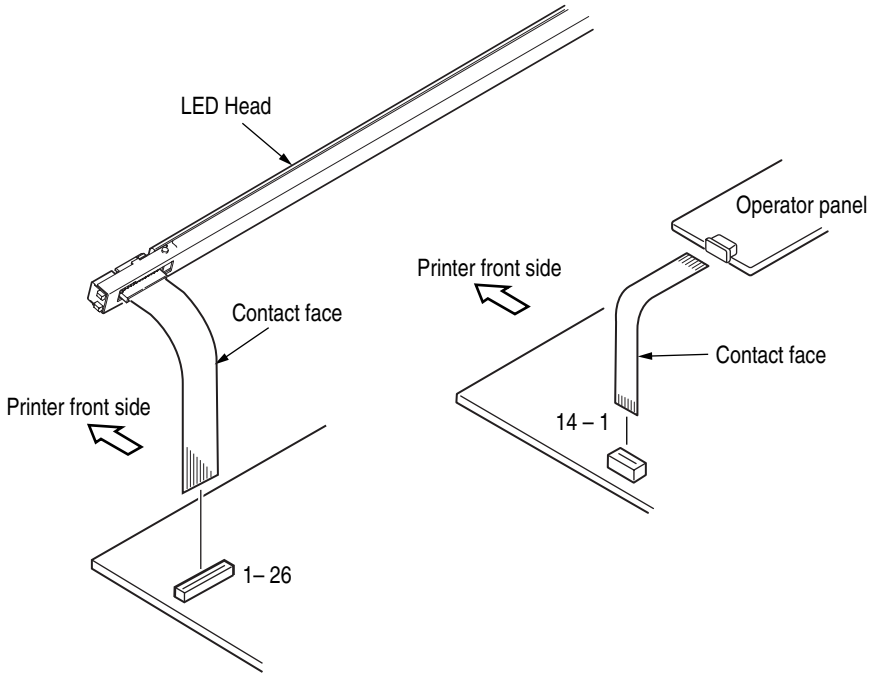
1. Interconnect Signal Diagram



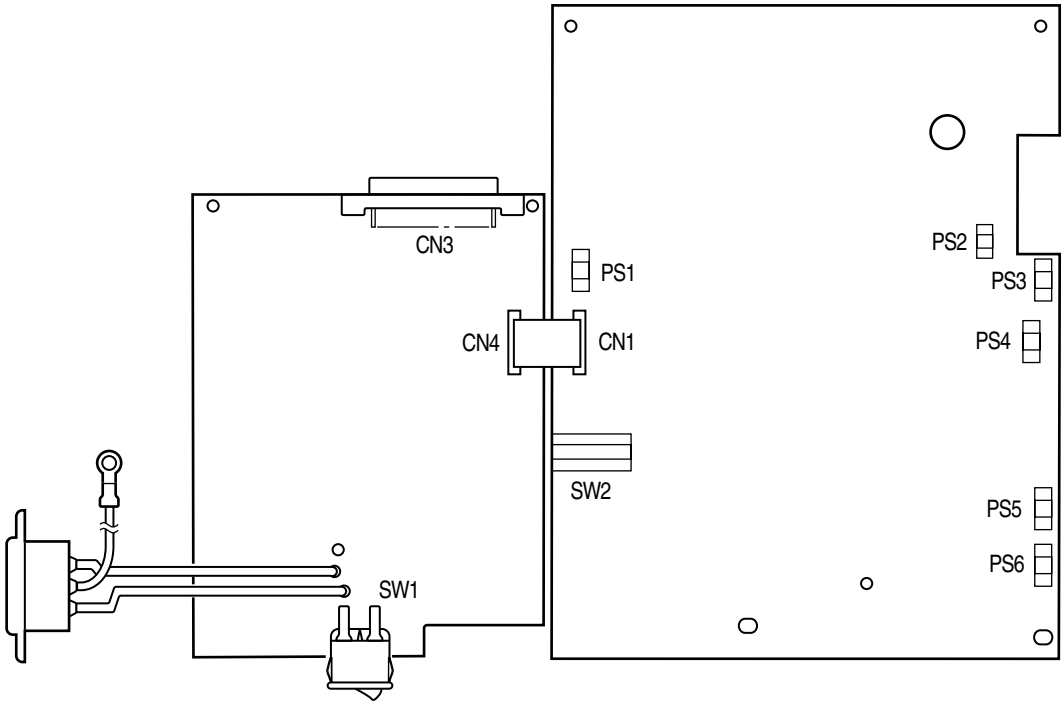
2. PCB Layout and Connector Signal List

A. Main Control Board (GRG-PCB)





B. Power Supply/Sensor Board



FAN Connector Pin Assignment (To fan motor)

Opening	Pin Number	I/O*	Signal	Description
1	1	O	FANPOW	Power supply for fan driving
2	2	C	OV	Ground
3	3	I	FANALM-N	Fan alarm

DM Connector Pin Assignment (To main/drum motor)

Opening	Pin Number	I/O*	Signal	Description
1	1	O	DMPH1-P	Coil 1-P
2	2	O	DMPH1-N	Coil 1-N
3	3	O	DMPH2-P	Coil 2-P
4	4	O	DMPH2-N	Coil 2-N

Excitation Sequence

Pin Number	Line Color	Step Number			
		1	2	3	4
2	Yellow	+	-	-	+
4	Black	+	+	-	-
1	Orange	-	+	+	-
3	Brown	-	-	+	+

* I: In, O: Out, C: Common - Rotary direction is clockwise viewed from the output axis

RM Connector Pin Assignment (To registration motor)

Opening	Pin Number	I/O*	Signal	Description
1	1	O	RMPH1-P	Coil 1-P
2	2	O	RMPH1-N	Coil 1-N
3	3	O	RMPH2-P	Coil 2-P
4	4	O	RMPH2-N	Coil 2-N

* I: In, O: Out

Excitation Sequence

Pin Number	Line Color	Step Number			
		1	2	3	4
2	Yellow	+	-	-	+
4	Black	+	+	-	-
1	Orange	-	+	+	-
3	Brown	-	-	+	+

Clockwise viewed from the output axis

HEAD1 Connector Pin Assignment (To LED head)

		PIN NO.	I/O*	Signal	Description
1		1	C	0VLOGIC	Ground for Logic
	2	2	O	HDCLK-P	Clock
3		3	C	0VLOGIC	Ground for Logic
	4	4	O	HDD2-P	Data 2
5		5	O	HDD3-P	Data 3
	6	6	C	0VLED	Ground for LED
7		7	O	HDD0-P	Data 0
	8	8	O	HDD1-P	Data 1
9		9	C	+3.3V	+3.3V power supply for LED driving
	10	10	O	HDDLD-P	Load
11		11	O	HDSTB1-N	Strobe 1
	12	12	C	HDSTB2-N	Strobe 2
13		13	O	HDSTB3-N	Strobe 3
	14	14	C	HDSTB4-N	Strobe 4

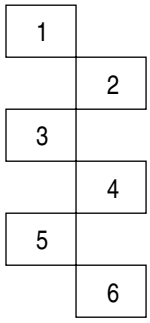
* O: Out
C: Common

HEAD2 Connector Pin Assignment (To LED head)

		PIN NO.	I/O*	Signal	Description
1		1	O	+3.3V	+3.3V power supply for LED driving
	2	2	O		
3		3	O		
	4	4	O		
5		5	O		
	6	6	O		
7		7	C	OVLED	Ground for LED
	8	8	C		
9		9	C		
	10	10	C		
11		11	C		
	12	12	C	FG	FG

* O: Out
C: Common

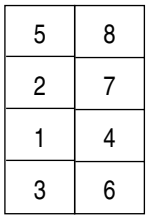
PANEL Connector Pin Assignment (To operator panel)



PIN NO.	I/O*	Signal	Description
1	O	PLD-N	Load
2	C	OV	Logic groud
3	O	PDATAOUT-P	Data output
4	I	PDATAIN-P	Data input
5	C	5V	+5V power supply
6	O	PSCLK-N	Clock

* I: In
O: Out
C: Common

ENVELOPE Connector Pin Assignment (To option feeder I/F)



PIN NO.	I/O*	Signal	Description
1	O	PAPERIN-N	Paper sense 1
2	O	SCLK-N	Clock
3	O	DATA-N	Data
4	I	PAPERIN-N	OPT send data ready
5	C	OVP	Analog groud
6	O	30V	+30V power supply
7	C	0V	Logic gound
8	O	5V	+5V power supply

* I: In
O: Out
C: Common

2NDTRAY Connector Pin Assignment (To option tray I/F)

	PIN NO.	I/O*	Signal	Description
1	1	O	PAPERIN-N	Paper sense 1
2	2	O	SCLK-N	Clock
3	3	O	DATA-N	Data
4	4	I	PAPERIN-N	OPT send data ready
5	5	C	OVP	Analog groud
6	6	O	30V	+30V power supply
7	7	C	0V	Logic gound
8	8	O	5V	+5V power supply

* I: In
O: Out
C: Common

POWER Connector Pin Assignment (To power supply/sensor board)

2	1
4	3
6	5
8	7
10	9
12	11
14	13
16	15
18	17
20	19
22	21
24	23
26	25

Pin No.	I/O*	Signal	Description
2	O	TRSEL-P	TR control switch
4	I	THERMCMP-P	Heater temperature
6	I	CVOPN-N	Cover open (+5V)
8	O	DOUT-P	Serial data output
10	I	RXD2-P	Serial data input
12	I	+5V	Logic circuit supply voltage
14	I	+3.3V	LED head supply voltage
16	C	OVL	Logic ground
18	I	+30V	Motor and fan drive voltage and source voltage for high voltage supply
20	O	HEATON-N	Heater on
22	I		NC
24	I	+12V	High voltage supply
26	O	TRSEL3-N	TR control switch

Pin No.	I/O*	Signal	Description
1	I	SQCR-N	Sequence clear signal of serial I/F
3	I	SCLK-N	Clock signal of serial I/F
5	I	PSIN1-N	Paper sense
7	I	WRSNS-N	Reading of paper edge
9	C	OVL	Ground for logic
11	I	+5V	Logic circuit supply voltage
13	I	+3.3V	LED head supply voltage
15	C	OVL	Logic ground
17	I	+30V	Motor and fan drive voltage and source voltage for high voltage supply
19	O	TRSEL2-N	TR control switch
21	C	0VP	Power (motor) ground
23	C	0VP	Power (motor) ground
25	C	0VP	Power (motor) ground

* O : Out
I : In
C : Common

CENT Connector Pin Assignment (To Centro parallel I/F)

1	19
2	20
3	21
4	22
5	23
6	24
7	25
8	26
9	27
10	28
11	29
12	30
13	31
14	32
15	33
16	34
17	35
18	36

Pin No.	I/O*	Signal	Description	Pin No.	I/O*	Signal	Description
1	I	STROBE-N	Strobe	19	C	SG	Ground
2	C	DATA1-P	Data bit 0	20	C	SG	Ground
3	C	DATA2-P	Data bit 1	21	C	SG	Ground
4	C	DATA3-P	Data bit 2	22	C	SG	Ground
5	C	DATA4-P	Data bit 3	23	C	SG	Ground
6	C	DATA5-P	Data bit 4	24	C	SG	Ground
7	C	DATA6-P	Data bit 5	25	C	SG	Ground
8	C	DATA7-P	Data bit 6	26	C	SG	Ground
9	C	DATA8-P	Data bit 7	27	C	SG	Ground
10	O	ACK-N	Acknowledge	28	C	SG	Ground
11	O	BUSY-P	Busy	29	C	SG	Ground
12	O	PE-P	paper end	30	C	SG	Ground
13	O	SEL-P	Select	31	I	IPRIME-N	Input prime
14	I	AUTOFEED-N	Auto feed	32	O	FAULT-N	Fault
15		NC	Not connected	33	C	SG	Ground
16	C	SG	Ground	34		NC	Not connected
17	C	FG		35	O	HILEVEL	Always kept high
18	O	P-LOGIC-H	+5V power supply	36	I	SELIN-N	Select in

* O : Out
I : In
C : Common

USB Connector Pin Assignment To USB I/F)

2	1
3	4

PIN NO.	I/O*	Signal	Description
1	I	Vcc	+5V Power supply
2	I/O	D-	USB Data
3	I/O	D+	USB Data
4	C	0V	Ground

* I: In
O: Out
C: Common

OPTION Connector Pin Assignment (To option RAM / RS232C or Network)

01		51	
	02		52
03		53	
	04		54
05		55	
	06		56
07		57	
	08		58
09		59	
	10		60
11		61	
	12		62
13		63	
	14		64
15		65	
	16		66
17		67	
	18		68
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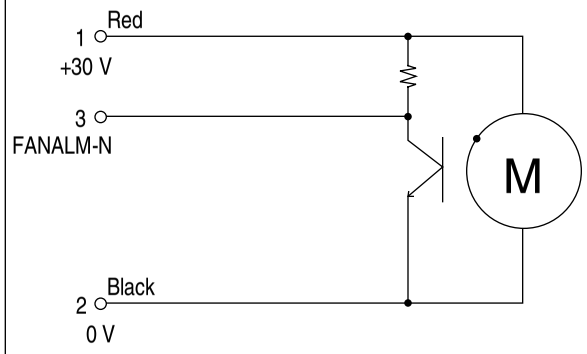
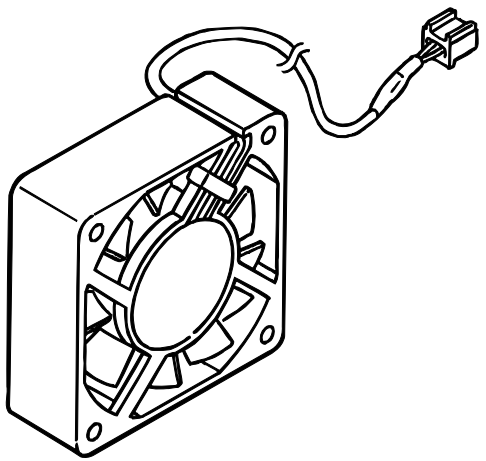
	20		70
21		71	
	22		72
23		73	
	24		74
25		75	
	26		76
27		77	
	28		78
29		79	
	30		80
31		81	
	32		82
33		83	
	34		84
35		85	
	36		86
37		87	
	38		88
39		89	
	40		90
41		91	
	42		92
43		93	
	44		94
45		95	
	46		96
47		97	
	48		98
49		99	
	50		100

Pin No.	I/O*	Signal	Description	Pin No.	I/O*	Signal	Description
01	O	A0	OR write enable	51	I/O	D16	Data bit 16
02	C	0V	Logic ground	52	I/O	D0	Data bit 0
03	O	A1	Address bit 1	53	I/O	D17	Data bit 17
04	O	A2	Address bit 2	54	I/O	D1	Data bit 1
05	O	RSDTR0-N	RS232C Data terminal ready	58	I/O	D18	Data bit 18
06	O	A3	Address bit 3	56	I/O	D2	Data bit 2
07	O	A4	Address bit 4	57	I/O	D19	Data bit 19
08	C	0V	Logic ground	58	I/O	D3	Data bit 3
09	O	A5	Address bit 5	59	I/O	D20	Data bit 20
10	O	A6	Address bit 6	60	I/O	D4	Data bit 4
11	C	+5V	Logic power supply	61	I/O	D21	Data bit 21
12	O	A7	Address bit 7	62	I/O	D5	Data bit 5
13	O	A8	Address bit 8	63	I/O	D22	Data bit 22
14	C	0V	Logic ground	64	I/O	D6	Data bit 6
15	O	A9	Address bit 9	65	I/O	D23	Data bit 23
16	O	A10	Address bit 10	66	I/O	D7	Data bit 7
17	C	+5V	Logic power supply	67	I/O	D24	Data bit 24
18	O	A11	Address bit 11	68	I/O	D8	Data bit 8
19	O	A12	Address bit 12	69	I/O	D25	Data bit 25
20	C	0V	logic ground	70	I/O	D9	Data bit 9
21	O	A13	Address bit 13	71	I/O	D26	Data bit 26
22	O	A14	Address bit 14	72	I/O	D10	Data bit 10
23	C	+5V	Logic power supply	73	I/O	D27	Data bit 27
24	O	A15	Address bit 15	74	I/O	D11	Data bit 11
25	O	A16	address bit 16	75	I/O	D28	Data bit 28
26	C	0V	Logic ground	76	I/O	D12	Data bit 12
27	O	A17	Address bit 17	77	I/O	D29	Data bit 29
28	O	A18	Address bit 18	78	I/O	D13	Data bit 13
29	C	+5V	Logic power supply	79	I/O	D30	Data bit 30
30	O	A19	Address bit 19	80	I/O	D14	Data bit 14
31	O	A20	Address bit 20	81	I/O	D31	Data bit 31
32	C	0V	Logic ground	82	I/O	D15	Data bit 15
33	O	A21	Address bit 21	83	O	DRAS2-N	DRAM select 2
34	O	A22	Address bit 22	84	O	DRAS3-N	DRAM select 3
35	O	A23	Address bit 23	85	O	DRAS4-N	DRAM select 2
36	O	0V	Logic ground	86	O	DRAS5-N	DRAM select 5
37	O	0V	Logic ground	87	O	DCAS3-N	DCAS3
38	C	0V	Logic ground	88	O	DCAS2-N	DCAS2
39	O	RSRTS0-N	RS232C request to send	89	O	DCAS1-N	DCAS1
40	O	CS1-N	ROM/SRAM select 1	90	O	DCAS0-N	DCAS0
41	O	CS2-N	ROM/SRAM select 2	91	O	RD-N	RD-N
42	O	CS3-N	ROM/SRAM select 3	92	O	WR-N	WR-N
43	I	SCRREQ-P	SCC send request	93	I	INT1-N	Interrupt request 1
44	C	0V	Logic ground	94	I	INT2-N	Interrupt request 2
45	I	SCSREQ-P	SCC receive request	95	O	EEPRMCS1-P	EEPROM select
46	O	IOS0-N	I/O select 0	96	O	EEPRMCLK-P	EEPROM clock
47	O	IOS1-N	I/O select 1	97	C	SSTXD-P	EEPROM data
48	O	RSTXD0-N	RS232C send data	98	I	DRDY-N	Data read
49	O	-8V	RS232C line voltage	99	C	+8V	RS232C line voltage
50	I	RSRXD0-P	RS232C receive data	100	O	RESET-N	Reset signal

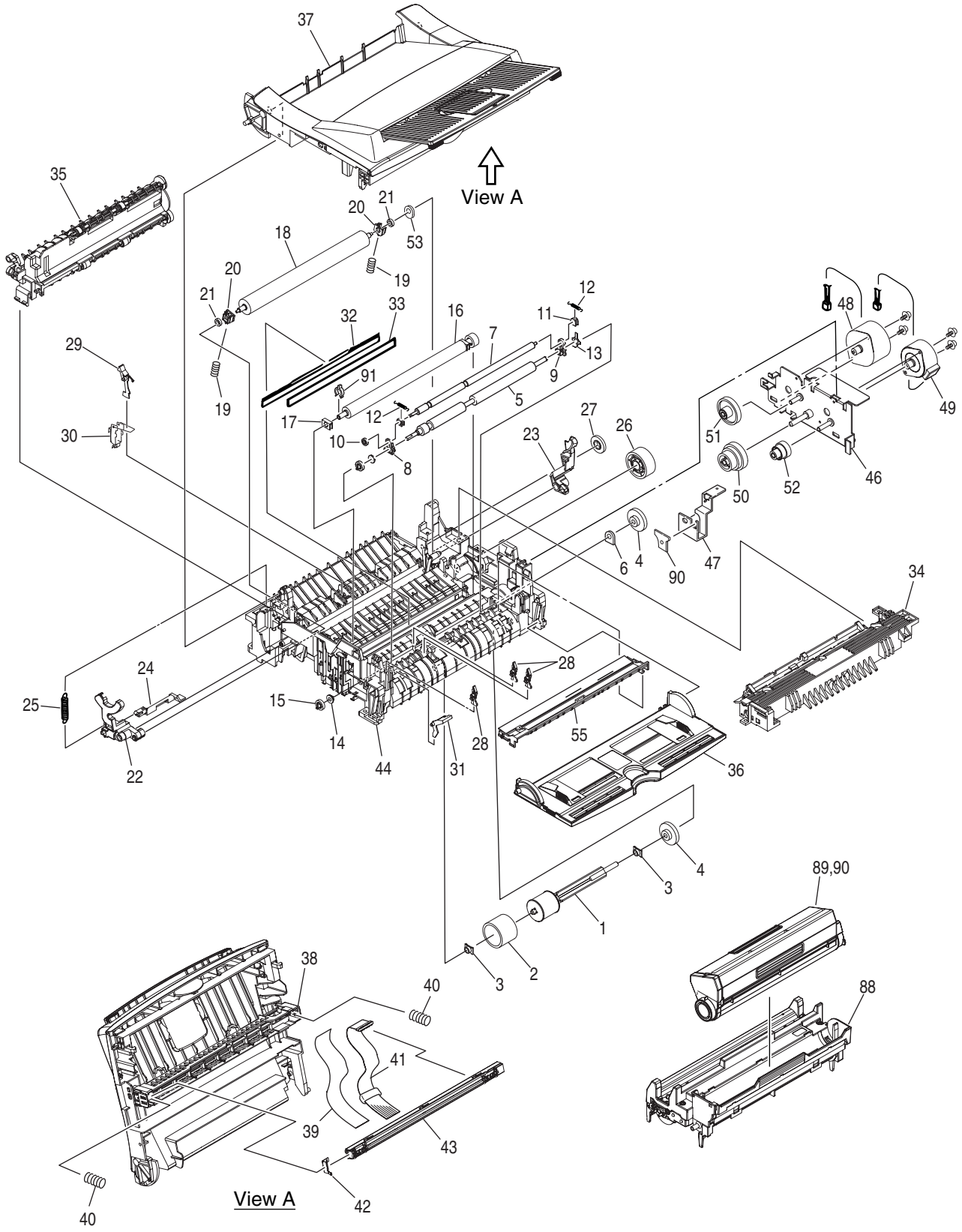
* O : Out
I : In
C : Common

3. Resistance Check

Unit	Circuit Diagram	Illustration	Resistance
Registration motor			Between Pins 1 and 2: 7.9Ω Between Pins 3 and 4: 7.9Ω
Main/drum motor			Between Pins 1 and 2: 8.6Ω Between Pins 3 and 4: 8.6Ω
Fusing unit			Between Pins 1 and 2: 120V 2Ω 240V 7Ω Between Pins 3 and 4: 200KΩ (at room temperature)

Unit	Circuit Diagram	Illustration	Resistance
Fan			

Parts List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View A
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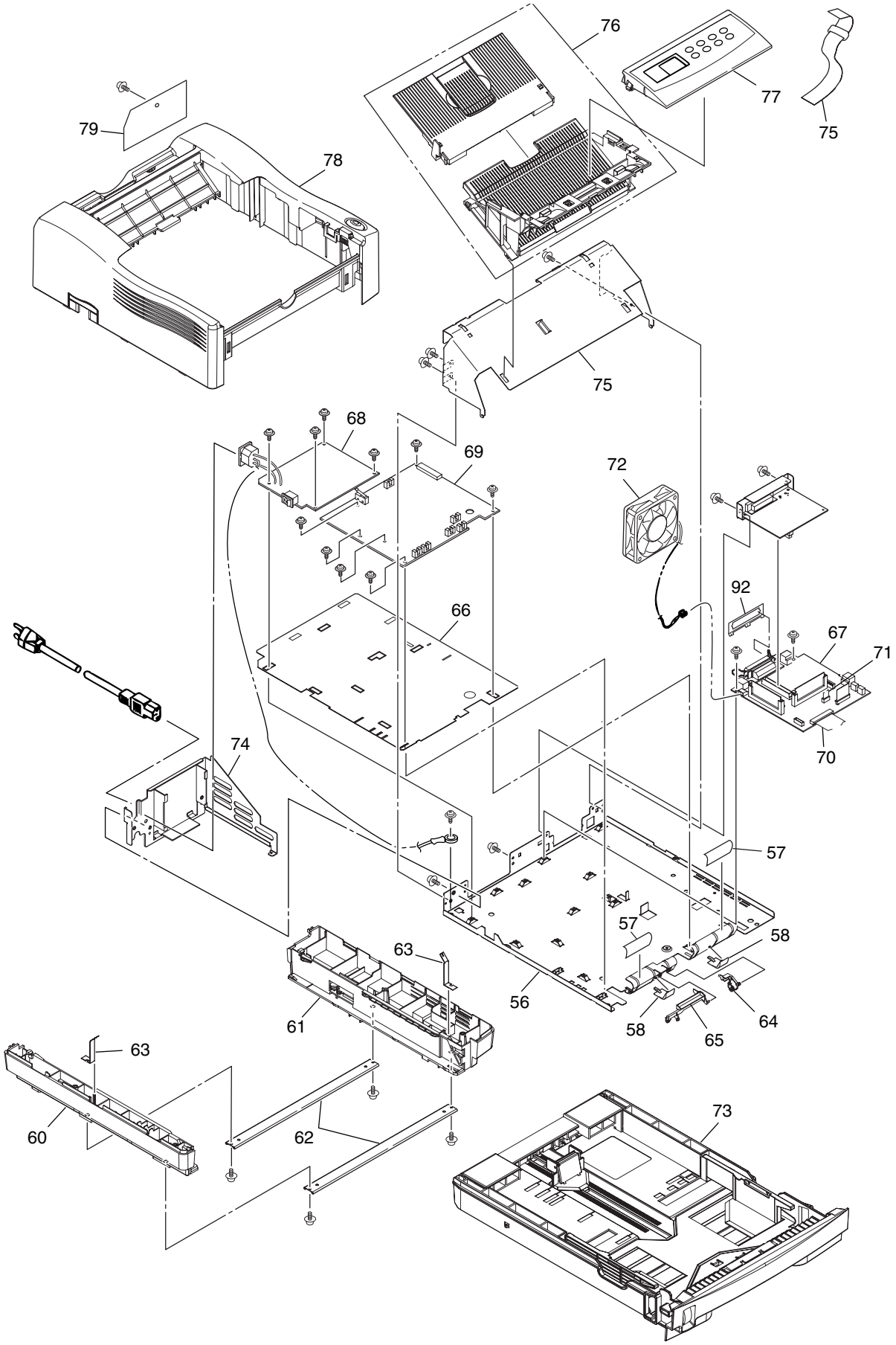
View A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For B4300

#:New Parts

No.	Part No.	Name	Q'ty /Unit	Recommended Q'ty/Year			Remarks
				per 500	per 1000	per 2000	
1	51112301	Hopping Roller Shaft	1	3	6	12	
2	53342401	Rubber-Hopping Roller	1	3	6	12	
3	51607402	Bearing	2	6	12	24	
4	51228901	One-way Clutch Gear	2	6	12	24	
5	42174301	Roller-Regist	1	3	6	12	#
6	51607501	Bearing(Registration)	1	3	6	12	
7	42174201	Roller-Pressure	1	3	6	12	#
8	41279501	Holder-Regist L	1	3	6	12	
9	41279601	Holder-Regist R	1	3	6	12	
10	41279801	Gear-Pressure	1	3	6	12	
11	41279401	Bearing-Pressure	2	6	12	24	
12	41281201	Spring-Tension	2	6	12	24	
13	41280401	Plate-Contact PA	1	3	6	12	
14	41279301	Bearing-Regist L	1	3	6	12	
15	41279701	Gear-Regist	1	3	6	12	
16	42208501	Roller Assy.-Transfer	1	3	6	12	#
17	40438001	Bearing TR	1	3	6	12	
18	41301801	Roller-Back up	1	3	6	12	
19	41584101	Spring Bias	2	6	12	24	
20	41536201	Holder-BU	2	6	12	24	
21	41584201	Bearing-Ball	2	6	12	24	
22	42208601	Lever-Reset L Assy.	1	3	6	12	#
23	50805901	Reset Lever R	1	3	6	12	
24	53068901	Switch Arm	1	3	6	12	
25	50924201	Reset Spring	1	3	6	12	
26	42126101	Idle Gear	1	3	6	12	#
27	51229201	Eject Roller Idle Gear	1	3	6	12	
28	51010701	Sensor Plate(Inlet)	3	9	18	36	
29	40771401	Lever-Eject Sensor Assembly	1	3	6	12	
30	41027701	Sensor Wire Assembly	1	3	6	12	
31	42468801	Toner Sensor(Adhesion)	1	3	6	12	
32	51010903	Diselectrification Bar Shaft	1	3	6	12	
33		Diselectrification Film	1	3	6	12	
34-a	42209201	Heat Assy	1	10	20	40	120V #
34-b	42209202	Heat Assy	1	10	20	40	230V #
35	40772501	Roller Assy.-Eject	1	3	6	12	
36	42145701	Cover Assy.-Front	1	3	6	12	#

#:New Parts

No.	Part No.	Name	Q'ty /Unit	Recommended Q'ty/Year			Remarks
				per 500	per 1000	per 2000	
37	42145801	Cover Assy.-Stacker	1	3	6	12	#
38	42129101	Holder-Head	1	3	6	12	#
39	42146701	Film-FG	1	3	6	12	#
40	42146501	Spring-Head	2	6	12	24	#
41	42408201	Cable-Assy-Head	1	5	10	20	#
42	42146601	Contact-Head	1	3	6	12	#
43	42266801	LED Head Unit-51MXF	1	5	10	20	#
44	42208301	Frame Subassy.-Lower	1	3	6	12	#
45		Damper Frame	1	3	6	12	
46	42122701	Bracket-Motor(Caulking)	1	3	6	12	#
47	42352501	Bracket-Sub-M	1	3	6	12	#
48	42196001	Motor-Pulse(Main)	1	3	6	12	#
49	42196101	Motor-Pulse(Regist)	1	3	6	12	#
50	42121701	Gear-M3	1	3	6	12	#
51	42121801	Gear-M2	1	3	6	12	#
52	42121901	Gear-R2	1	3	6	12	#
53	50517201	Washer C	1	3	6	12	
54		FG Plate OP	1	3	6	12	
55	42209101	Guide-Paper R(Adhesive)	1	3	6	12	#
56	42200501	Plate-Base Assy.	1	3	6	12	#
57		Polyethylene Tape	2	6	12	24	L=90mm
58	40828301	Guide-Paper H	2	6	12	24	
59		CS-RING(CS3-SUS)	2	6	12	24	
60	42209401	Cassette guide L Assy.	1	3	6	12	#
61	42209501	Cassette guide R Assy.	1	3	6	12	#
62		Beam Plate	2	6	12	24	
63		FG Plate(bm)	2	6	12	24	
64	51019701	Sensor Plate(Paper Supply)	1	3	6	12	
65	51011501	Cassette Sensor Plate	1	3	6	12	
66	42146301	Insulator	1	3	6	12	#
67	42263805	Board-GRG	1	5	10	20	#
68-a	41991601	Power Supply Unit	1	5	10	20	100V/120V #
68-b	41991701	Power Supply Unit	1	5	10	20	230V #
69	42284101	Board-HLB	1	5	10	20	#
70	56639214	Sumi-Card(30P)	1	5	10	20	#
71	42101001	Cord Assy.(13p-5P,8p)	1	5	10	20	#
72	42283501	Fan Motor	1	3	6	12	#
73	42209601	Cassette Assy.-Paper	1	3	6	12	#

#:New Parts

No.	Part No.	Name	Q'ty /Unit	Recommended Q'ty/Year			Remarks
				per 500	per 1000	per 2000	
74	42146201	Plate-Guide	1	3	6	12	#
75	42408001	Cord Assy.-OP	1	5	10	20	
76	42146801	Face Up Stacker Assy.	1	3	6	12	#
77	42147001	Frame Assy.-OP Panel	1	3	6	12	B4300 #
78	42147201	Cover-Upper Assy.	1	3	6	12	#
79	42129601	Cover-IF	1	3	6	12	#
90	42406601	Holder-Tr_R	1	3	6	12	#
91	42406701	Spacer-Tr_L	1	3	6	12	#
92		Plate-Earth_A	1	3	6	12	#
	Option						
81	42160909	Board GRL	1				
82	42160910	Board GRL-2	1				
83	42263905	Board GRK	1				
84	42264009	Board GRM	1				
85	42264010	Board GRM-2	1				
86	42264105	Board GRH	1				
87	42264205	Board GRJ	1				
	Consumable						
88	42102801	Image Drum Unit Type 9	1				
89	42102901	Toner Cartridge Type 9 (6K)	1				
90	42103001	Toner Cartridge Type 9 (2.5K)	1				

Appendix A RS-232C Serial Interface (option)

1. Connector
   - Printer side: 25-pin receptacle
     Type DB-25S (made by Cannon) or equivalent
   - Cable side: 25-pin plug
     Type DB-25S (made by Cannon)
     Shell
     Type DB-C8-J10-F2-1 (made by Nihon Kouku Denshi) or equivalent

   Note: Plug shall be fixable with a lock screw.

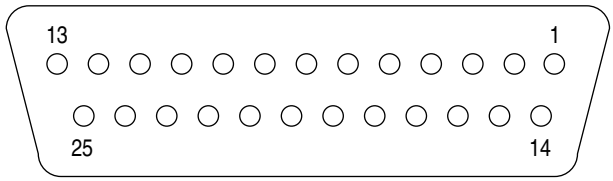
2. Cable
   - Cable length: 6 ft (1.8 m) max. (cable shall be shielded)

   Note: Cable is not provided.

3. Interface signal

Pin No.	Signal Name	Abbreviation	Signal Direction	Functions
1	Frame Ground	FG		Frame Ground
2	Transmitted Data	TD	← PR	Transmitted Data
3	Received Data	RD	→ PR	Received Data
4	Request to Send	RTS	← PR	Stay space level
5	-			(Not connected)
6	-			(Not connected)
7	Signal Ground	SG		Signal Ground
8	-			(Not connected)
9 ~ 17	-			(Not connected)
18	-			(Not connected)
19	-			(Not connected)
20	Data Terminal Ready	DTR	← PR	Data terminal ready
21 ~ 25	-			(Not connected)

   - Connector Pin Arrangement

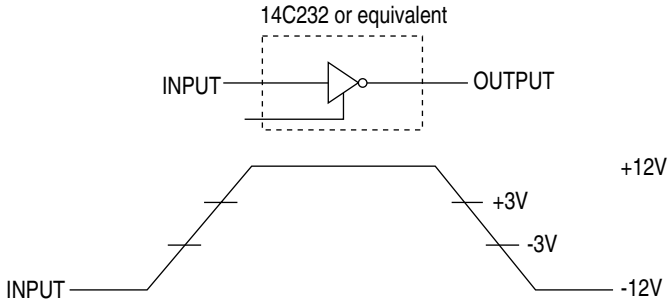


(View from the cable side)

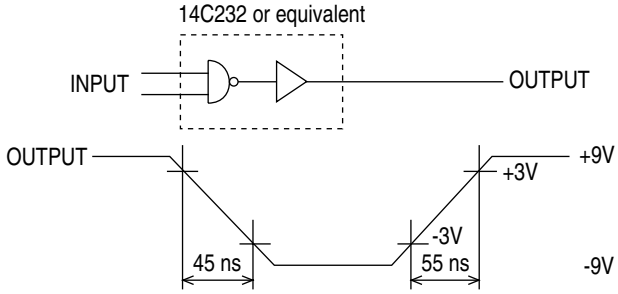
   When the Ready/Busy protocol is used for the buffer busy control method, the busy signal can be set to Pin-20 (DTR) in the menu.

4. Signal Level
   - MARK polarity : -3V to -15V (LOGIC = 1)
   - SPACE polarity : +3V to +15V (LOGIC = 0)

5. Interface Circuit
   a. Receiving Circuit



   b. Sending Circuit



   Note: The signal levels described above is for the case where 3K . x 15pF is connected to the terminal.

6. Receive Margin

   37% min. at all reception rates.

7. Communications Protocol
   a. READY/BUSY protocol
   b. X-ON/X-OFF protocol

8. Interface Parameter Setting

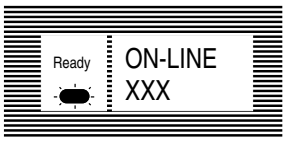
Press MENU key several times.

Press ITEM key to display the item on the LCD to set up.

Press VALUE key to display the value on the LCD to set up.

Press SELECT key, and display "*" mark on the right side of the value:

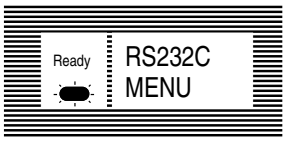
By pressing the ON LINE key, menu setting mode is completed and the printer returns to on-line state.



XXX : PCL, AUTO, PSE*, HEX DUMP, PRR or FX

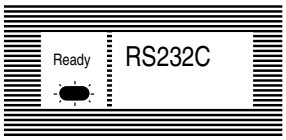
* PSE means POSTSCRIPT 3 EMULATION.

Press the MENU key 10 times.



"RS232C MENU" is displayed on the LCD.

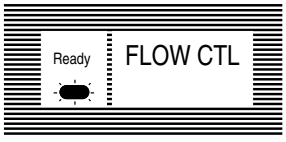
Press the ENTER key.



Item	RS232C I/F
Contents of Display	Function
ENABLE	ENABLE
DISABLE	DISABLE

Factory Setting: ENABLE

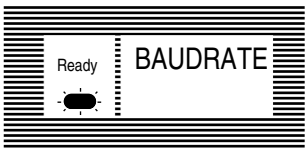
Press the ITEM key.



Item	Flow CTL
Contents of Display	Function
DTR HI	SPACE-READY
DTR LO	MARK-READY
XONXOFF	
RBSTXON	Sending at intervals of 1 sec.

Factory Setting: DTR HI

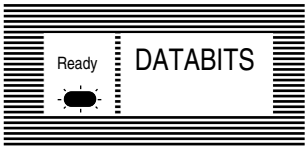
Press the ITEM key.



Item	Baud Rate
Contents of Display	Function
300	300 baud
600	600 baud
1200	1200 baud
2400	2400 baud
4800	4800 baud
9600	9600 baud
19200	19200 baud
38400	38400 baud
57600	57600 baud
76800	76800 baud
115200	115200 baud

Factory Setting: 9600 baud

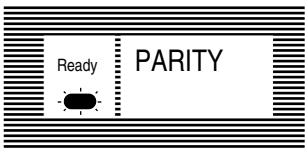
Press the ITEM key.



Item	Bit Length
Contents of Display	Function
8 BITS	8 bits
7 BITS	7 bits

Factory Setting: 8 bit

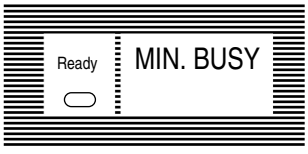
Press the ITEM key.



Item	Parity
Contents of Display	Function
NONE	No parity
EVEN	Even parity
ODD	Odd parity

Factory Setting: NONE

Press the ITEM key.

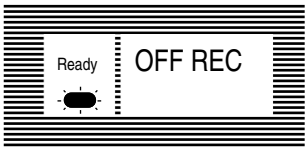


Item	Minimum BUSY Time
Contents of Display	Function
200 m SEC	200 ms
1 SEC	1 sec (1000 ms)

Factory Setting: 200 m SEC

(PCL only)

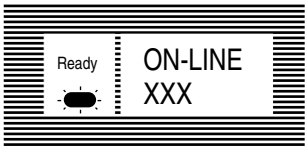
Press the ITEM key.



Item	RS232C I/F OFF-LINE RECEIVE
Contents of Display	Function
ENABLE	ENABLE
DISABLE	DISABLE

Factory Setting: ENABLE

Press the ON LINE key.



Setting completed.

XXX : PCL, AUTO, PSE, HEX DUMP, PRR or FX

Appendix B Centronics Parallel Interface

1. Connector
   - Printer side: 36-pin receptacle
     (single port) Type 57RE-40360-730B-D29A (made by Daiichi Denshi), CNAX05841A36AT (made by Ougat) or equivalent
   - Cable side: 36-pin plug
     Type 57-30360 (made by Daiichi Denshi) or equivalent
     Plug-552274-1 (AMP), 552073-1 (AMP) or equivalent

   Note: Plug shall be fixable with a lock screw.

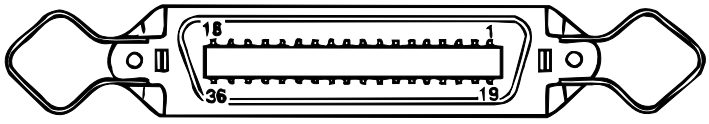
2. Cable
   - Cable length: 6 ft (1.8 m) max. (A shielded cable composed of twisted pair wires is recommended for noise prevention.)

   Note: Cable is not provided and is not available from Oki.

3. Table of Parallel I/F Signals

Pin No.	Signal name	Signal direction	Functions
1	$\overline{\text{DATA STROBE}}$	→ PR	Parallel data sampling strobe
2	DATA BIT - 1	→ PR	PR Parallel input and output data
3	DATA BIT - 2		
4	DATA BIT - 3		
5	DATA BIT - 4		
6	DATA BIT - 5		
7	DATA BIT - 6		
8	DATA BIT - 7		
9	DATA BIT - 8		
10	$\overline{\text{ACKNOWLEDGE}}$	← PR	Completion of data input or end of a function
11	BUSY	← PR	During print processing or alarm
12	PAPER END	← PR	End of paper
13	SELECT	← PR	Select state (ON-LINE)
14	$\overline{\text{AUTOFEED}}$	→ PR	Request to change mode
15	-		(Not used)
16	0V		Signal ground
17	CHASSIS GROUND		Chassis ground
18	+5V	← PR	50 mA max.
19 ⋮ 30	0V		Signal ground
31	$\overline{\text{INPUT PRIME}}$	→ PR	Initializing signal
32	$\overline{\text{FAULT}}$	← PR	End of paper or during alarm
33	-		Signal ground
34	-		(Not used)
35	-		High level (3.3 k)
36	$\overline{\text{SELECT IN}}$	→ PR	Request to change mode

- Connector Pin Arrangement



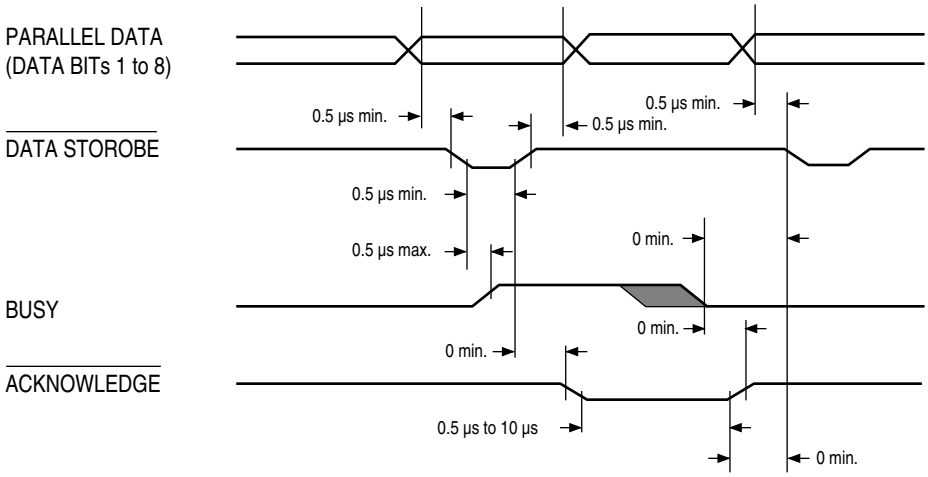
4. Signal Level
   - LOW : 0 V to +0.8 V
   - HIGH : +2.4 V to 5.0 V

5. Specifications

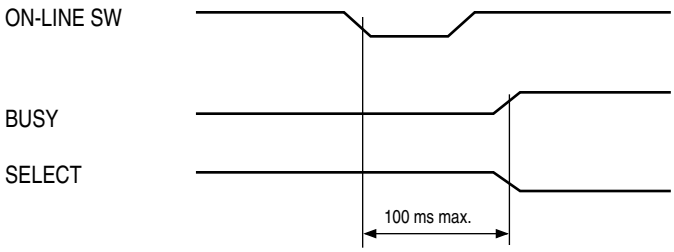
Item	Description
Mode	Compatibility mode, Nibble mode, ECP mode
Data bit length	8 bits (in the compatibility mode)
Input prime	Valid/Invalid
Receive buffer	0.1M, 0.2M, 0.5M Bytes
Control	Handshaking control is performed in each mode. Data received from the host is stored in the receive buffer. Busy control is performed. Signal lead control is performed.

6. Timing Charts

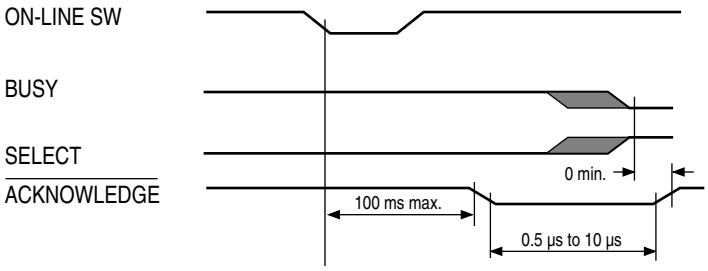
a. Data receiving timing



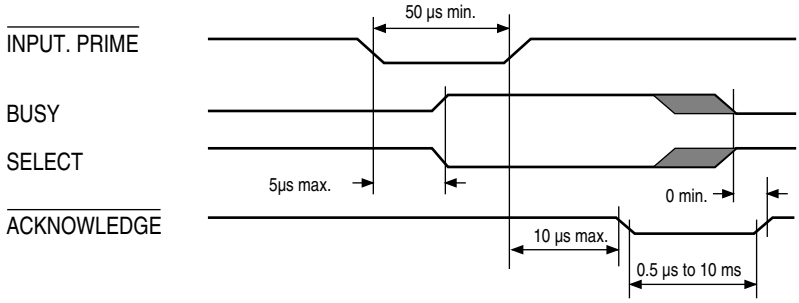
b. On-line → off-line switching timing by ON-LINE SW



c. Off-line → on-line switching timing by ON-LINE SW



d. INPUT PRIME timing (when set to the effective INPUT PRIME signal)

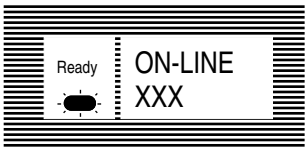


7. Interface Parameter Setting

The following settings are possible by pressing the SELECT key, after selecting the display contents of the LCD of the operator panel by using the ITEM+ and ITEM- keys.

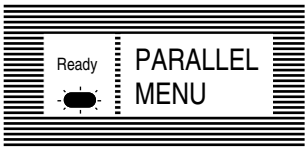
Settings are retained even when the printer power is turned off.

By pressing the ON LINE key, menu setting mode is completed and the printer returns to on-line state.



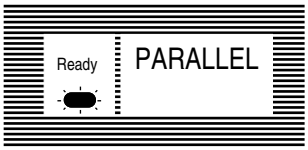
XXX : PCL, AUTO, PSE, HEX DUMP, PRR or FX

Press the MENU key 9 times.



"PARALLEL MENU" is displayed on the LCD.

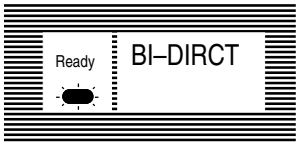
Press the ENTER key.



Item	PARALLEL I/F
Contents of Display	Function
ENABLE	ENABLE
DISABLE	DISABLE

Factory Setting: ENABLE

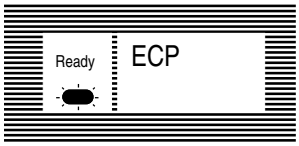
Press the ITEM key.



Item	Direction of Data Transfer
Contents of Display	Function
ENABLE	Bi-directional data transmission
DISABLE	Uni-directional data transmission

Factory Setting: ENABLE

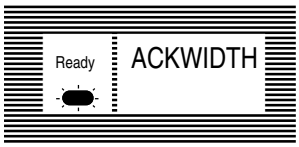
Press the ITEM key.



Item	ECP Mode
Contents of Display	Function
ENABLE	ENABLE
DISABLE	DISABLE

Factory Setting: ENABLE

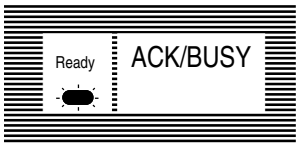
Press the ITEM key.



Item	ACK Width in compatible
Contents of Display	Function
NARROW	0.5µs
MEDIUM	1.0µs
WIDE	3.0µs

Factory Setting: NARROW

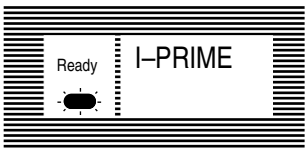
Press the ITEM key.



Item	Output order of BUSY and ACK signal
Contents of Display	Function
IN	ACK IN BUSY: BUSY=LOW→the end of ACK pulse
WHILE	ACK WHILE BUSY: BUSY=LOW→Center of ACK pulse

Factory Setting: IN

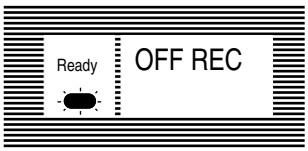
Press the ITEM key.



Item	I-PRIME
Contents of Display	Function
3µ SEC	Enabled with the 3µs nlnit signal
50µ SEC	Enabled with the 50µs nlnit signal
DISABLE	DISABLE

Factory Setting: DISABLE

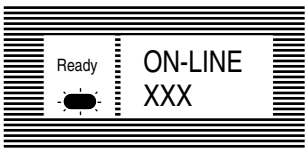
Press the ITEM key.



Item	PARALLEL I/F OFF-LINE RECEIVE
Contents of Display	Function
ENABLE	ENABLE
DISABLE	DISABLE

Factory Setting: DISABLE

Press the ON LINE key.



Setting completed.

XXX : PCL, AUTO, PSE, HEX DUMP, PRR or FX

Appendix C Universal Serial Bus (USB)

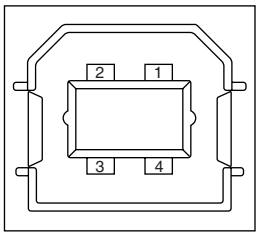
1. Universal Serial Bus Specification Revision 2.0 full speed compliance

1. Connector
   - Printer side: “B” Receptacle (Upstream Input to the USB Device)
   - Cable side: Series “B” Plug
2. Cable
   - Cable length: Max 5m (A cable must meet USB Spec Rev 1.1 for normal operation)

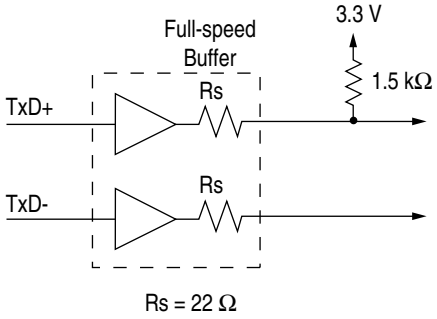
   Note: Cable is not provided and is not available from Oki.
3. Table of USB I / F signals

Contact Number	Signal Name
1	Vbus
2	D -
3	D +
4	GND
Shell	Shielded

4. Connector pin arrangement



5. Mode & Class of Device
   - Full - speed Driver
   - Self - powered Device
6. Data Signaling Rate
   - Full - speed function - 12Mb/s
7. Interface circuit



8. Signal Level

- Input/Output Level

Parameter	Symbol	Min.	Max.	Units
Input Levels :				
High (driven)	V_{IH}	2.0		V
High (floating)	V_{IHZ}	2.7	3.6	V
Low	V_{IL}		0.8	V
Output Levels :				
Low	OL	0.0	0.3	V
High (driven)	OH	2.8	3.6	V
Output Signal Crossover Voltage	V_{CRS}	1.3	2.0	V

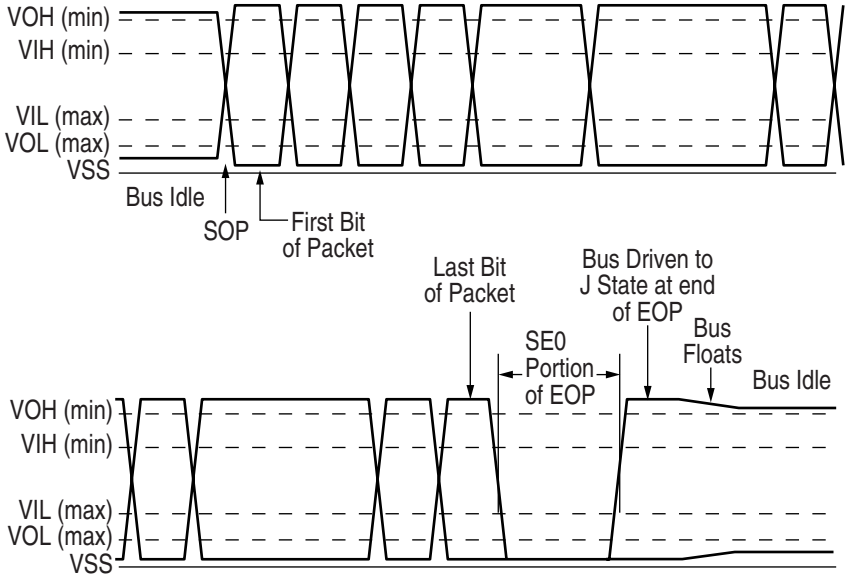
- Signaling Levels

Bus State	Signaling Levels	
	Required	Acceptable
Differential "1"	(D+) - (D-) > 200mV and D+ > V_{IH} (min)	(D+) - (D-) > 200mV
Differential "0"	(D-) - (D+) > 200mV and D- > V_{IH} (min)	(D-) - (D+) > 200mV
Single-ended 0 (SE0)	D+ and D- < V_{IL} (max)	D+ and D- < V_{IH} (min)
Data J state: Low-speed Full-speed	 Differential "0" Differential "1"	
Data K state: Low-speed Full-speed	 Differential "1" Differential "0"	
Idle state: Low-speed Full-speed	 D- > V_{IHZ} (min) and D+ < V_{IL} (max) D+ > V_{IHZ} (min) and D- < V_{IL} (max)	 D- > V_{IHZ} (min) and D+ < V_{IH} (min) D+ > V_{IHZ} (min) and D- < V_{IH} (min)
Resume state	Data K state	
Start-of-Packet (SOP)	Data lines switch from Idle to K state	
End-of-Packet (EOP)	SE0 for 1 bit time[1] followed by a J state for 1 bit time	SE0 for 1 bit time[1] followed by a J state
Disconnect (at downstream port)	SE0 for 2.5µs	
Connect (at downstream port)	Idle for 2ms	Idle for 2.5µs
Reset	D+ and D- < V_{IL} (max) for 10ms	D+ and D- < V_{IL} (max) for 2.5µs

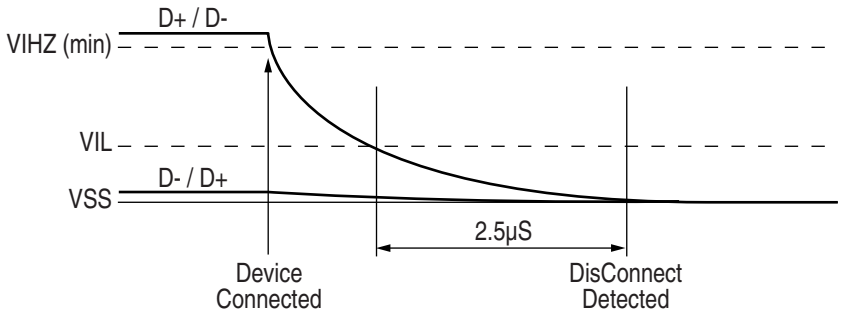
Note: The width of EOP is defined in bit times relative to the device type receiving the EOP. The nbit time is approximate.

9. Timing Chart

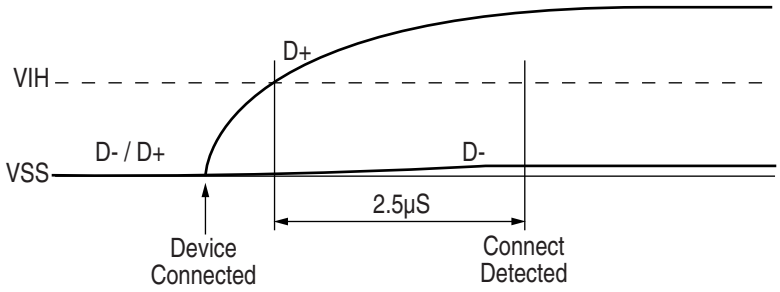
a. Packet Voltage Levels



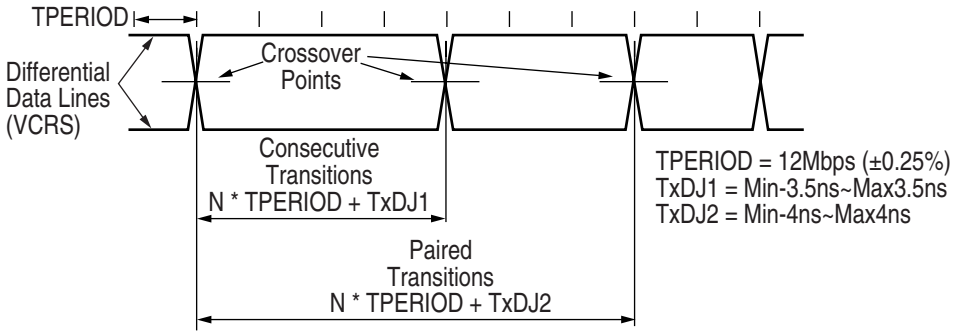
b. Disconnect Detection



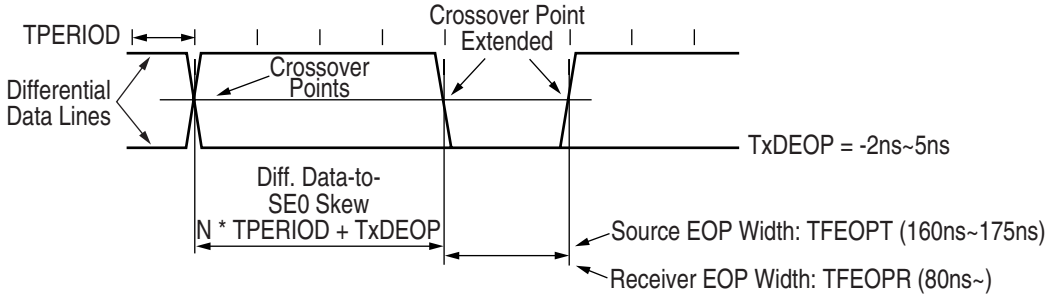
c. Full-speed Device Connect Detection



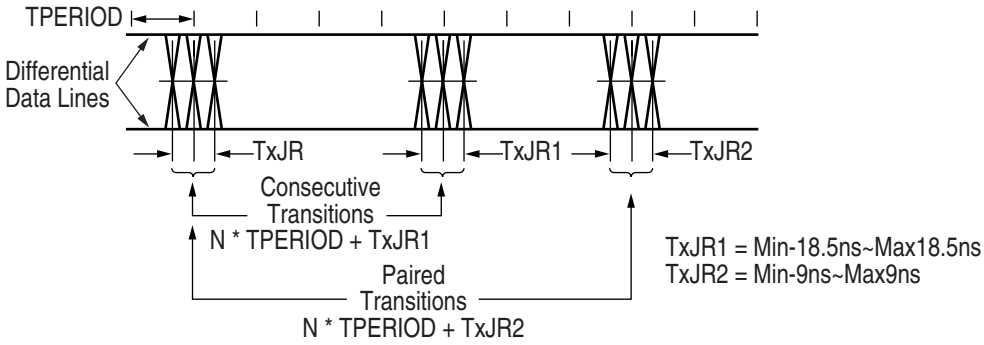
d. Differential Data Jitter



e. Differential-to-EOP Transition Skew and EOP Width



f. Receiver Jitter Tolerance



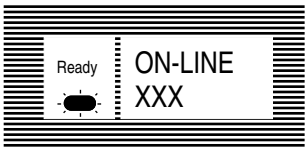
Press MENU key several times.

Press ITEM key to display the item on the LCD to set up.

Press VALUE key to display the value on the LCD to set up.

Press SELECT key, and display "*" mark on the right side of the value:

By pressing the ON LINE key, menu setting mode is completed and the printer returns to on-line state.

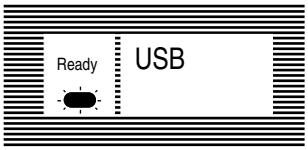


XXX : PCL, AUTO, PSE*, HEX DUMP, PRR or FX

* PSE means POSTSCRIPT3 EMULATION.

Press the MENU key 10 times.
(If RS232C is installed, press the MENU key 11 times.)

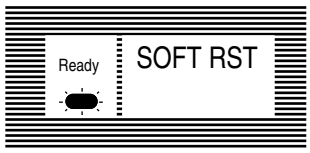
Press the ITEM key.



Item	USB I/F
Contents of Display	Function
ENABLE	ENABLE
DISABLE	DISABLE

Factory Setting: ENABLE

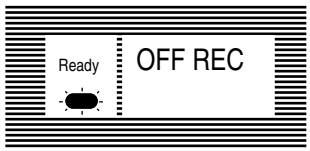
Press the ITEM key.



Item	Sets Soft Reset command
Contents of Display	Function
ENABLE	ENABLE
DISABLE	DISABLE

Factory Setting: DISABLE

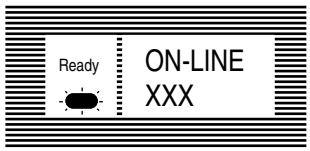
Press the ITEM key.



Item	USB I/F OFF-LINE RECEIVE
Contents of Display	Function
ENABLE	ENABLE
DISABLE	DISABLE

Factory Setting: DISABLE

Press the ON LINE key.



Setting completed.

XXX : PCL, AUTO, PSE, HEX DUMP, PRR or FX

Appendix D Diagnostics Test

1. Maintenance Modes

- The maintenance modes consist of the user maintenance mode which is released to the user, and the system and engine maintenance modes in the maintenance personnel level not released to the user.
- Press the MENU key to update each category. The operation returns to the first category after updating the last category, in a loop.
- Press the Enter key to execute the function being displayed.
- To exit from any of these modes during a category display, press the Recover or ON LINE key and the operation mode will start.

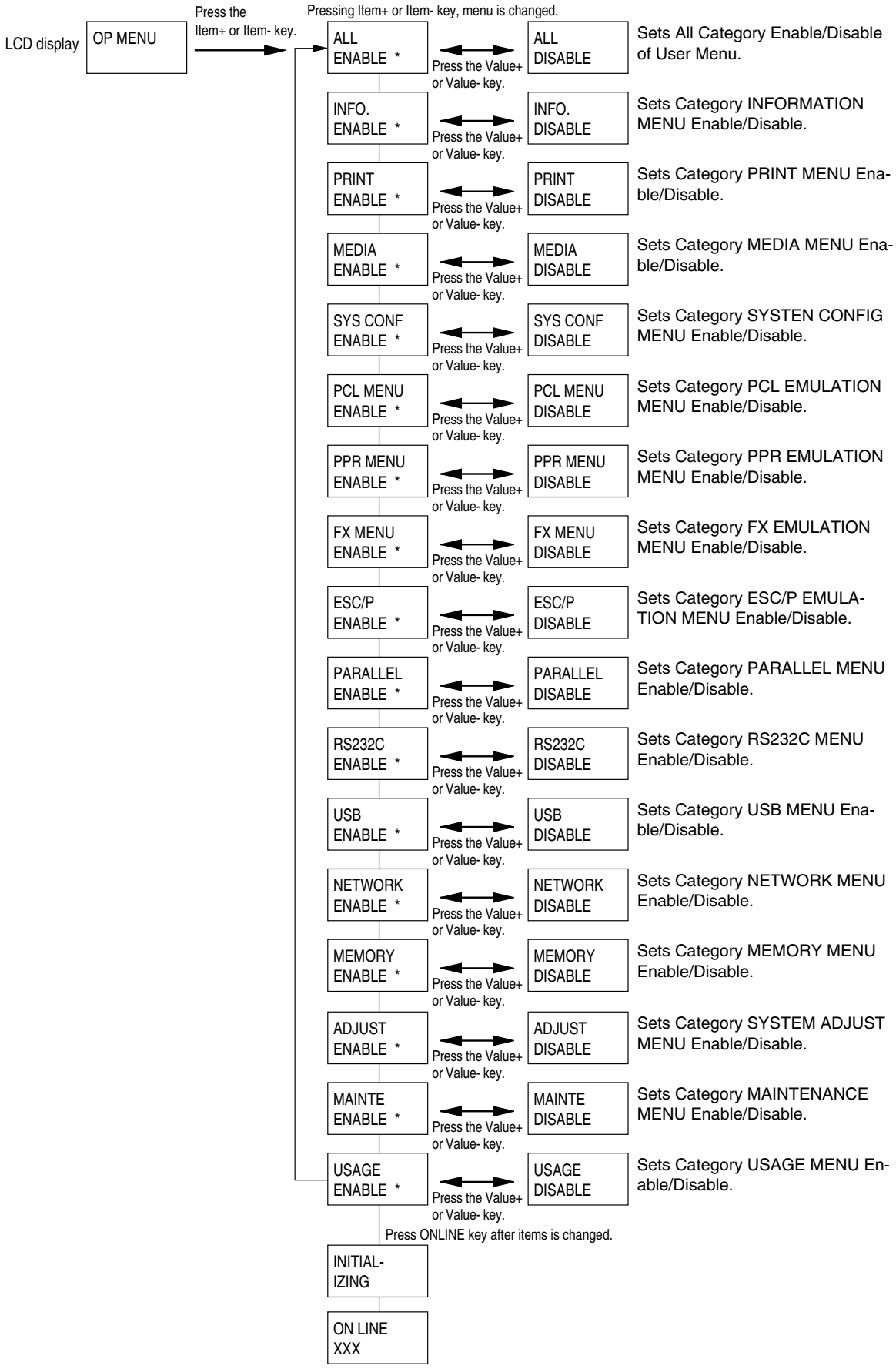
A. Administrator Mode

To enter the administrator mode, turn the power on while keeping the ITEM+/ITEM- key pressed down.

- This mode uses the menu for function selection.
- The administrator mode provides the following functions.

Op Menu

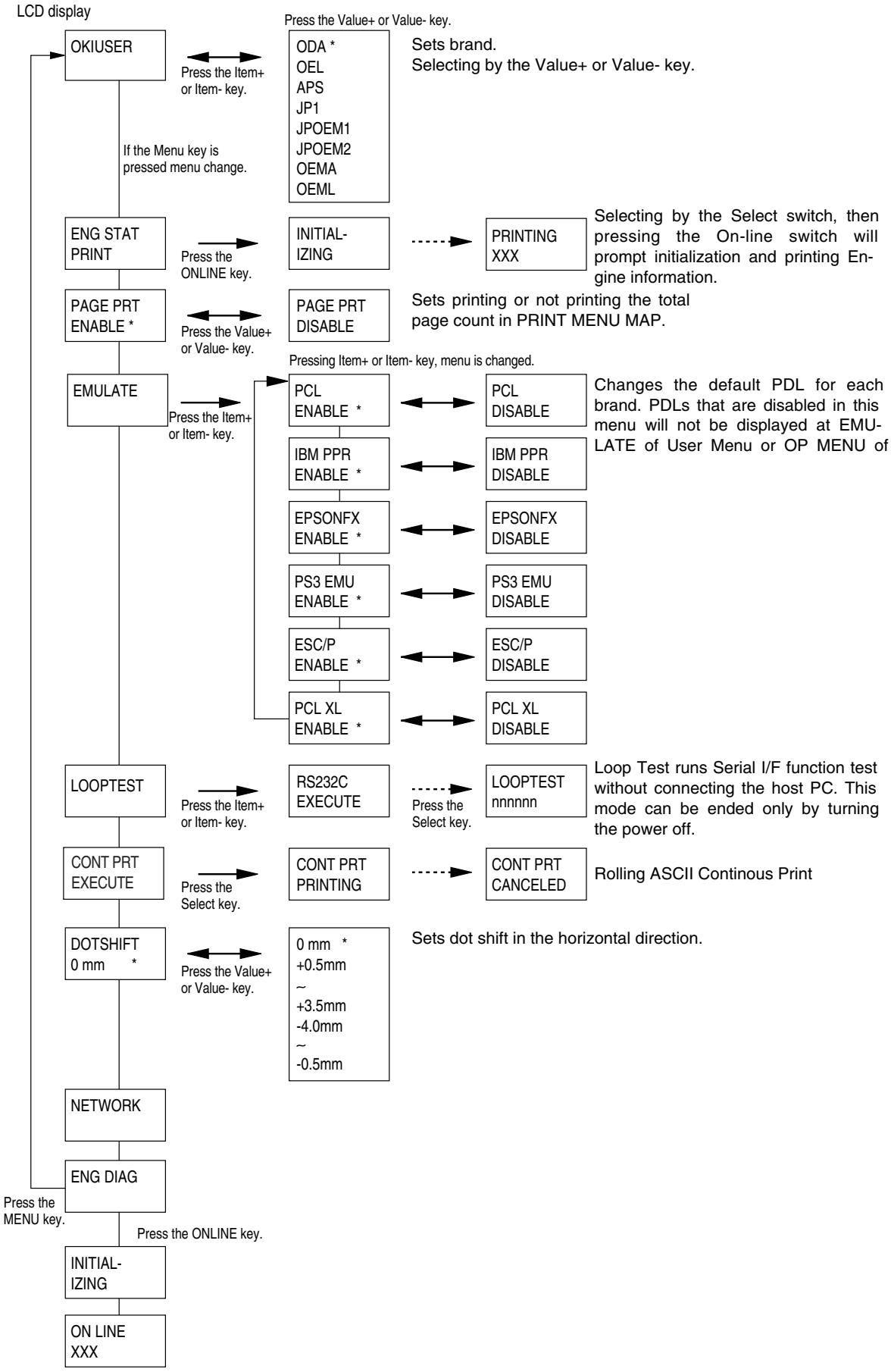
- This function sets each user menu Enable or Disable.



B. System Maintenance Mode

- To enter the system maintenance mode, turn the power on while keeping the Menu/ITEM+/VALUE-/CANCEL keys pressed down.
- This mode adopts the menu for function selection.
- The system maintenance mode provides the following functions:

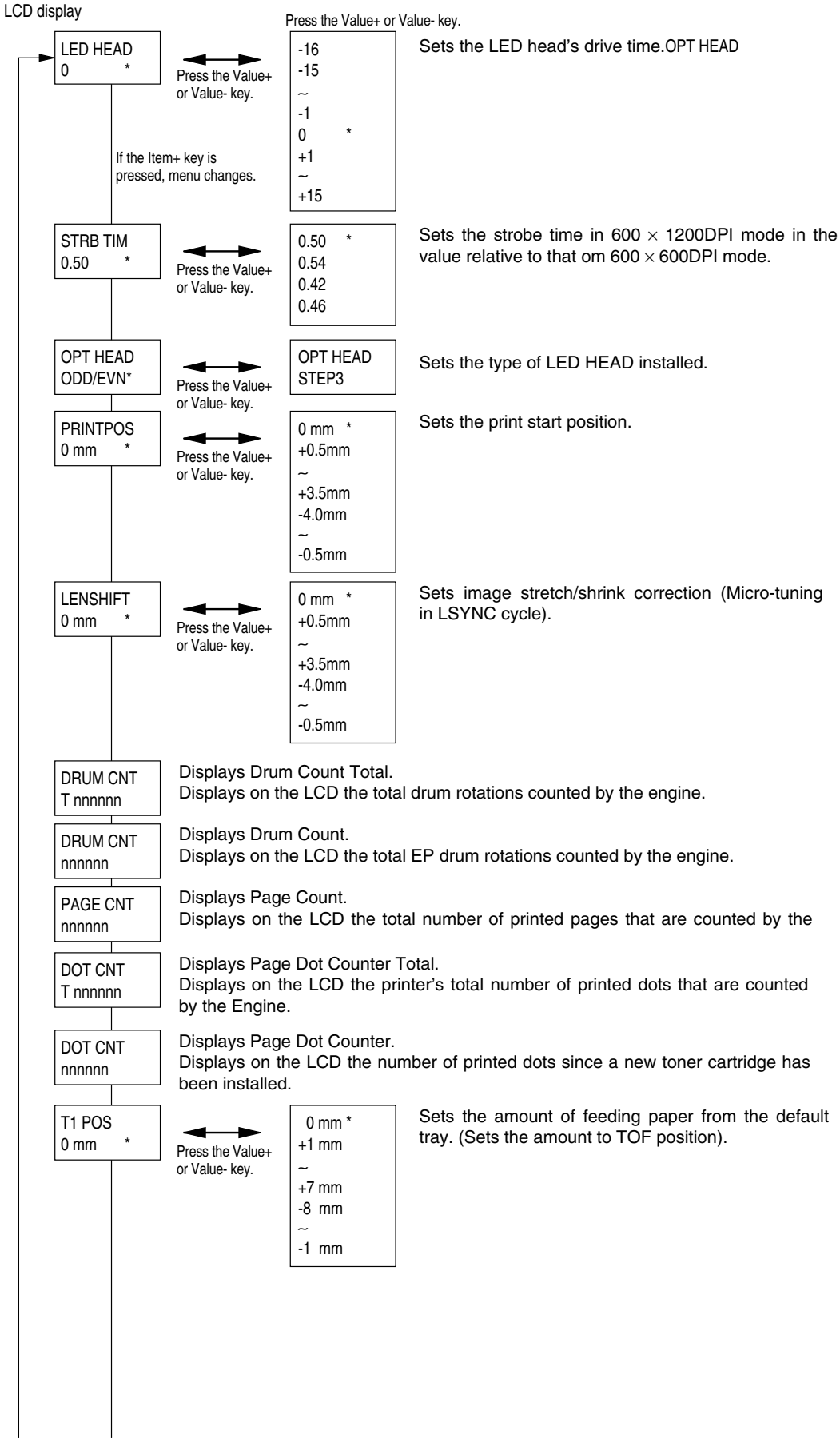
1. Oki User
   - Brand is set.
2. Engine Start Print
   - Engine menu is printed.
3. Page Count Display
   - This function allows the selection to include (enable) or exclude (disable) the total number of printed pages counted at the engine block at the time of menu printing.
4. Emulate
   - Emulate determines the default PDL for each brand.
5. Loop Test
   - The loop test is for testing the serial I/F functions without connecting the printer to the host.
   - The data is sent and received by loop back in the loop test.
   - The loop test is performed even when another interface is being selected in Menu level-2.
   - Installation of the loop connector is necessary for the loop test (refer to Appendix C, LOOP TEST (RS-232C INTERFACE)).
6. Rolling ASCII Continuous Printing
   - The rolling ASCII pattern is printed continuously for various engine tests.
   - Press the ON LINE key to cancel this mode.
7. Network
8. ENG DIAG
   - This function can enter the Engine Maintenance Mode.

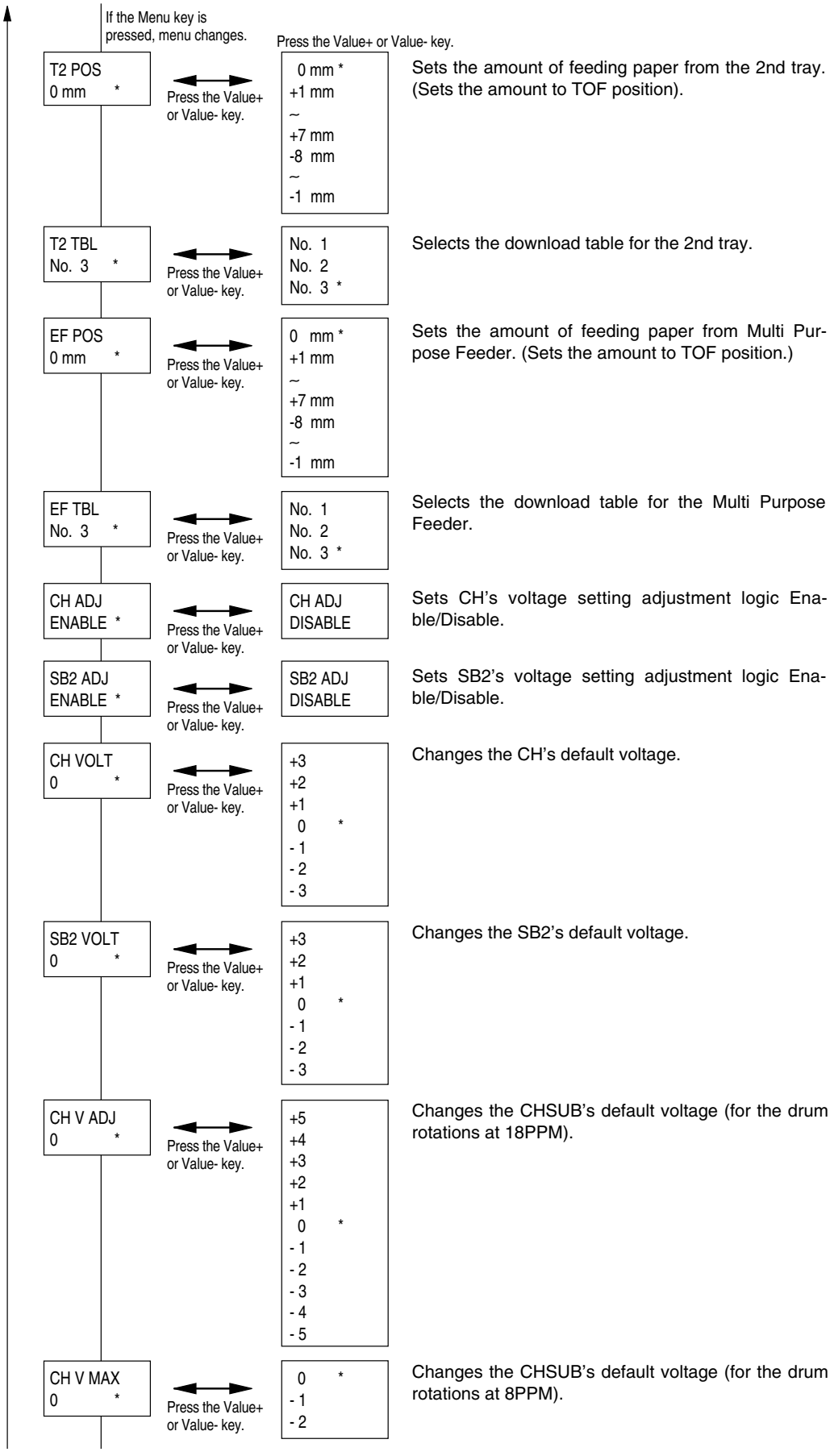

LCD display
Press the Value+ or Value- key.
OKIUSER
Press the Item+ or Item- key.
ODA *
OEL
APS
JP1
JPOEM1
JPOEM2
OEMA
OEML
Sets brand.
Selecting by the Value+ or Value- key.
If the Menu key is pressed menu change.
ENG STAT PRINT
Press the ONLINE key.
INITIAL- IZING
PRINTING XXX
Selecting by the Select switch, then pressing the On-line switch will prompt initialization and printing Engine information.
PAGE PRT ENABLE *
Press the Value+ or Value- key.
PAGE PRT DISABLE
Sets printing or not printing the total page count in PRINT MENU MAP.
Pressing Item+ or Item- key, menu is changed.
EMULATE
Press the Item+ or Item- key.
PCL ENABLE *
PCL DISABLE
IBM PPR ENABLE *
IBM PPR DISABLE
EPSONFX ENABLE *
EPSONFX DISABLE
PS3 EMU ENABLE *
PS3 EMU DISABLE
ESC/P ENABLE *
ESC/P DISABLE
PCL XL ENABLE *
PCL XL DISABLE
Changes the default PDL for each brand. PDLs that are disabled in this menu will not be displayed at EMULATE of User Menu or OP MENU of
LOOPTEST
Press the Item+ or Item- key.
RS232C EXECUTE
Press the Select key.
LOOPTEST nnnnnn
Loop Test runs Serial I/F function test without connecting the host PC. This mode can be ended only by turning the power off.
CONT PRT EXECUTE
Press the Select key.
CONT PRT PRINTING
CONT PRT CANCELED
Rolling ASCII Continous Print
DOTSHIFT 0 mm *
Press the Value+ or Value- key.
0 mm *
+0.5mm
~
+3.5mm
-4.0mm
~
-0.5mm
Sets dot shift in the horizontal direction.
NETWORK
ENG DIAG
Press the MENU key.
Press the ONLINE key.
INITIAL- IZING
ON LINE XXX

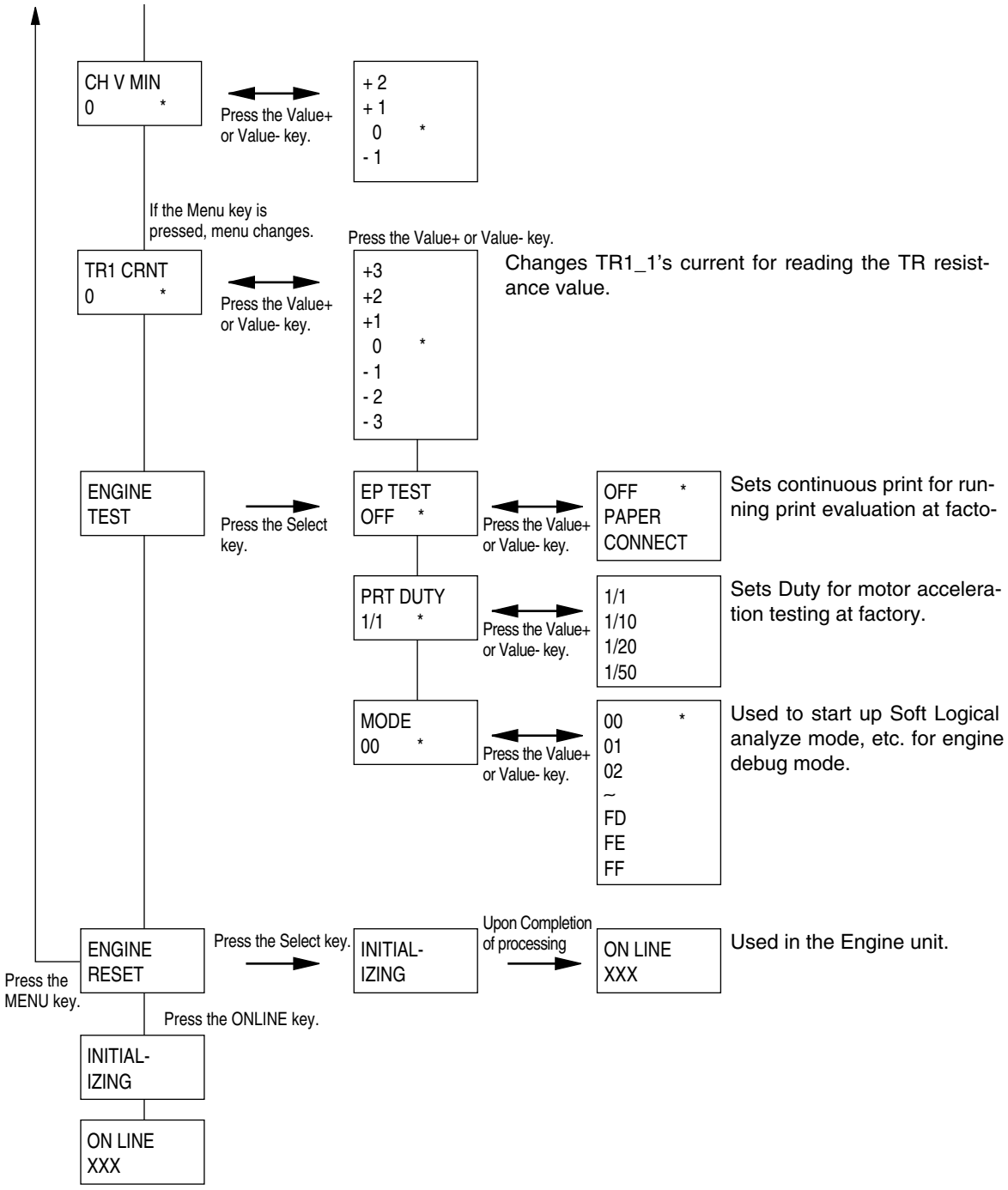
C. Engine Maintenance Mode

- To enter engine maintenance mode, enter system maintenance mode and press the Item+ key when "ENG DIAG" is displayed.
- This mode adapts the menu for function selection.
- The method for exit from this mode depends on the setting.
- The engine maintenance mode provides the following functions:

1. Head Drive Time Setting
   - Sets the drive time of the LED head.
2. 600 x 1200 DPI strobe time
   - Do not change the default setting.
3. Printing Start Position Setting
   - Sets the printing start position.
4. Length Shift
5. Dot Shift
6. Drum Count Total Display
   - Displays on the LCD the total number of drum revolutions of the unit, counted at the engine block.
7. Drum Count Display
   - Displays on the LCD the total number of EP drum revolutions counted at the engine block.
8. Factory Adjustment (for High Capacity Second Paper Feeder/Power Envelope Feeder)
   - Do not change the default settings since these are factory settings and were set at the factory.
9. Engine Reset
   - No items subjected to, All except counters are subjected to reset, As a common spec.


LCD display
Press the Value+ or Value- key.
LED HEAD
0 *
Press the Value+
or Value- key.
-16
-15
~
-1
0 *
+1
~
+15
Sets the LED head's drive time.OPT HEAD
If the Item+ key is
pressed, menu changes.
STRB TIM
0.50 *
Press the Value+
or Value- key.
0.50 *
0.54
0.42
0.46
Sets the strobe time in 600 × 1200DPI mode in the value relative to that om 600 × 600DPI mode.
OPT HEAD
ODD/EVN*
Press the Value+
or Value- key.
OPT HEAD
STEP3
Sets the type of LED HEAD installed.
PRINTPOS
0 mm *
Press the Value+
or Value- key.
0 mm *
+0.5mm
~
+3.5mm
-4.0mm
~
-0.5mm
Sets the print start position.
LENSHIFT
0 mm *
Press the Value+
or Value- key.
0 mm *
+0.5mm
~
+3.5mm
-4.0mm
~
-0.5mm
Sets image stretch/shrink correction (Micro-tuning in LSYNC cycle).
DRUM CNT
T nnnnnn
Displays Drum Count Total.
Displays on the LCD the total drum rotations counted by the engine.
DRUM CNT
nnnnnn
Displays Drum Count.
Displays on the LCD the total EP drum rotations counted by the engine.
PAGE CNT
nnnnnn
Displays Page Count.
Displays on the LCD the total number of printed pages that are counted by the
DOT CNT
T nnnnnn
Displays Page Dot Counter Total.
Displays on the LCD the printer's total number of printed dots that are counted by the Engine.
DOT CNT
nnnnnn
Displays Page Dot Counter.
Displays on the LCD the number of printed dots since a new toner cartridge has been installed.
T1 POS
0 mm *
Press the Value+
or Value- key.
0 mm *
+1 mm
~
+7 mm
-8 mm
~
-1 mm
Sets the amount of feeding paper from the default tray. (Sets the amount to TOF position).


If the Menu key is pressed, menu changes.
Press the Value+ or Value- key.
T2 POS
0 mm *
Press the Value+ or Value- key.
0 mm *
+1 mm
~
+7 mm
-8 mm
~
-1 mm
Sets the amount of feeding paper from the 2nd tray. (Sets the amount to TOF position).
T2 TBL
No. 3 *
Press the Value+ or Value- key.
No. 1
No. 2
No. 3 *
Selects the download table for the 2nd tray.
EF POS
0 mm *
Press the Value+ or Value- key.
0 mm *
+1 mm
~
+7 mm
-8 mm
~
-1 mm
Sets the amount of feeding paper from Multi Purpose Feeder. (Sets the amount to TOF position.)
EF TBL
No. 3 *
Press the Value+ or Value- key.
No. 1
No. 2
No. 3 *
Selects the download table for the Multi Purpose Feeder.
CH ADJ
ENABLE *
Press the Value+ or Value- key.
CH ADJ
DISABLE
Sets CH's voltage setting adjustment logic Enable/Disable.
SB2 ADJ
ENABLE *
Press the Value+ or Value- key.
SB2 ADJ
DISABLE
Sets SB2's voltage setting adjustment logic Enable/Disable.
CH VOLT
0 *
Press the Value+ or Value- key.
+3
+2
+1
0 *
- 1
- 2
- 3
Changes the CH's default voltage.
SB2 VOLT
0 *
Press the Value+ or Value- key.
+3
+2
+1
0 *
- 1
- 2
- 3
Changes the SB2's default voltage.
CH V ADJ
0 *
Press the Value+ or Value- key.
+5
+4
+3
+2
+1
0 *
- 1
- 2
- 3
- 4
- 5
Changes the CHSUB's default voltage (for the drum rotations at 18PPM).
CH V MAX
0 *
Press the Value+ or Value- key.
0 *
- 1
- 2
Changes the CHSUB's default voltage (for the drum rotations at 8PPM).


CH V MIN
0 *
Press the Value+ or Value- key.
+ 2
+ 1
0 *
- 1
If the Menu key is pressed, menu changes.
Press the Value+ or Value- key.
TR1 CRNT
0 *
Press the Value+ or Value- key.
+3
+2
+1
0 *
- 1
- 2
- 3
Changes TR1_1's current for reading the TR resistance value.
ENGINE TEST
Press the Select key.
EP TEST
OFF *
Press the Value+ or Value- key.
OFF *
PAPER
CONNECT
Sets continuous print for running print evaluation at facto-
PRT DUTY
1/1 *
Press the Value+ or Value- key.
1/1
1/10
1/20
1/50
Sets Duty for motor acceleration testing at factory.
MODE
00 *
Press the Value+ or Value- key.
00 *
01
02
~
FD
FE
FF
Used to start up Soft Logical analyze mode, etc. for engine debug mode.
ENGINE RESET
Press the Select key.
INITIAL-IZING
Upon Completion of processing
ON LINE
XXX
Used in the Engine unit.
Press the MENU key.
Press the ONLINE key.
INITIAL-IZING
ON LINE
XXX

Appendix E High Capacity Second Paper Feeder

1. Outline

A. Function

The printer is mounted on top of this High Capacity Second Paper Feeder. The High Capacity Second Paper Feeder supplies paper automatically through the operation of pulse motor (hopping), which is driven by signals sent from the printer.

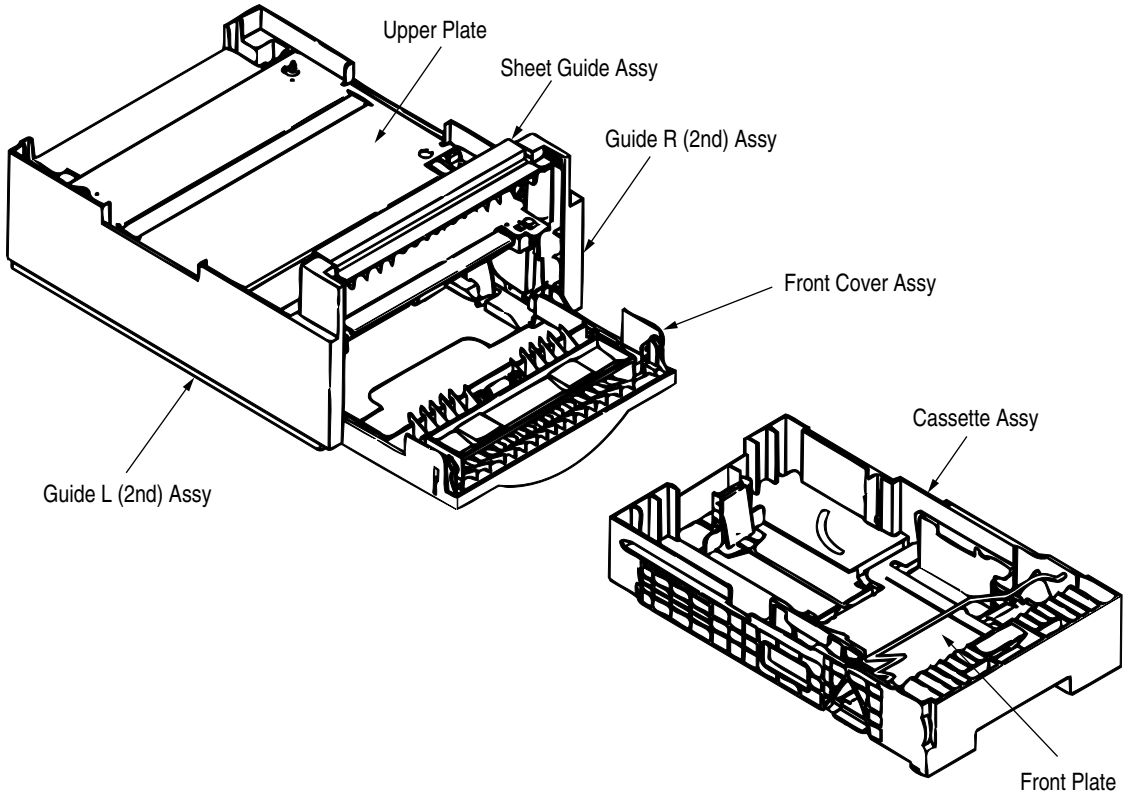
Paper Types

- Standard paper: Xerox 4200 (20-lb)
- Special paper: OHP sheets (for PPC), Label sheets (PPC sheets); use of envelopes or thick paper is not possible.
- Cut sheet size: Letter, Executive, Legal13, Legal14, A4, A5, B5
- Special size: Width: 5.83" to 8.50" (148 to 216mm)
- Length: 8.27" to 14.00" (210 to 355.6mm)

Weight and Thickness

- 16-lb to 24-lb (60~90 g/m^2)
- Paper setting quantity: 500 sheets of paper weighing 64 g/m^2

B. External View and Component Names



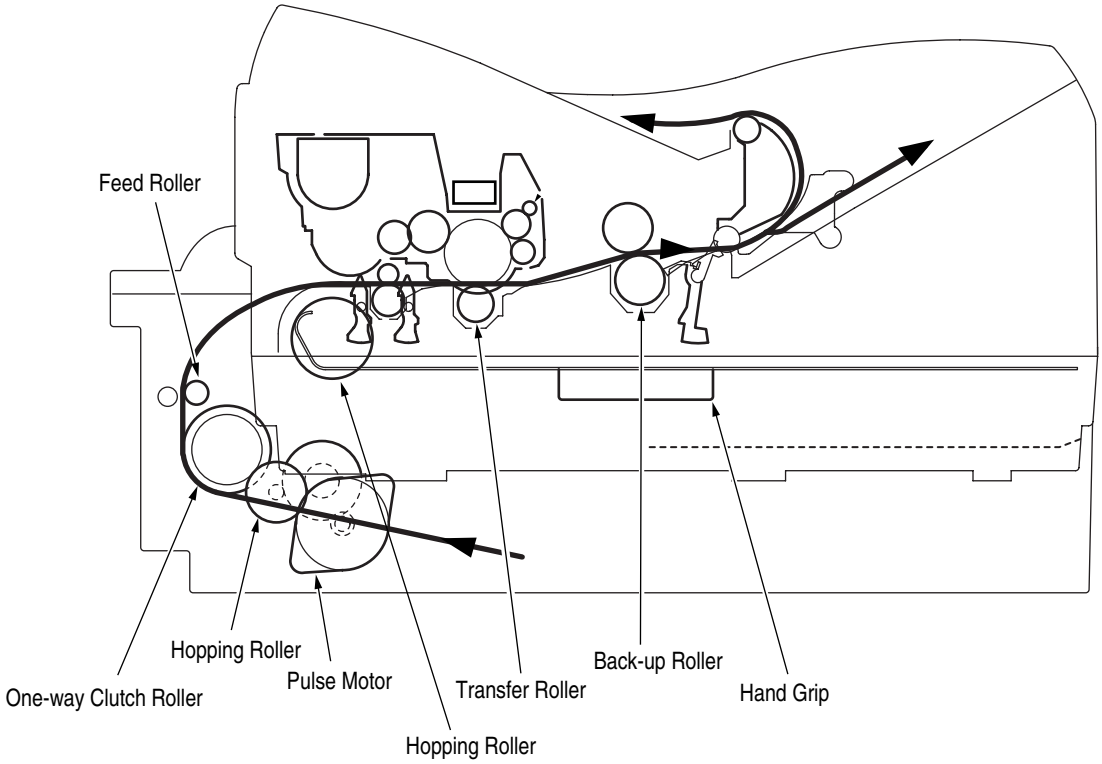
2. Mechanism Description

A. General Mechanism

The High Capacity Second Paper Feeder feeds the paper into the printer by receiving the signal from the printer, which drives the pulse motor inside the High Capacity Second Paper Feeder, which is transmitted to rotate the one-way clutch of the hopping frame assembly. The paper is delivered from the hopper into the printer through the turning of the hopping roller and feed roller. Once delivered into the printer, the paper is then controlled and fed through by pulse motor (registration) of the printer.

B. Hopper Mechanism

The hopper automatically feeds the printer with the paper being set, single sheet at a time. The paper is loaded in the paper cassette, then transported by the pulse motor with the brake shoe one sheet at a time.



3. Parts Replacement

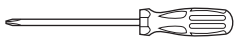
This section covers the procedures for the disassembly, reassembly and installations in the field. For reassembly procedures, follow the disassembly procedures in the reverse order.

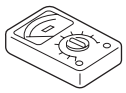
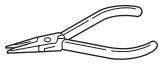
A. Precautions Concerning Parts Replacement

1. Parts replacements must be carried out by first turning the printer power switch off "O" and removing the printer from the High Capacity Second Paper Feeder.
2. Do not disassemble the High Capacity Paper Feeder if it is operating normally.
3. Establish the extent of disassembly suitable for the purpose of the procedure and do not disassemble any more than necessary.
4. Only specified service tools may be used.
5. Disassembly must be carried out according to the prescribed procedures. Parts may be damaged if such procedures are not followed.
6. Small parts such as screws and collars can easily be lost, therefore these parts should be temporarily fixed in the original location.
7. When handling printed circuit boards, do not use any glove which may generate static electricity.
8. Do not place the printed circuit boards directly on the equipment or floor.

Service Tools

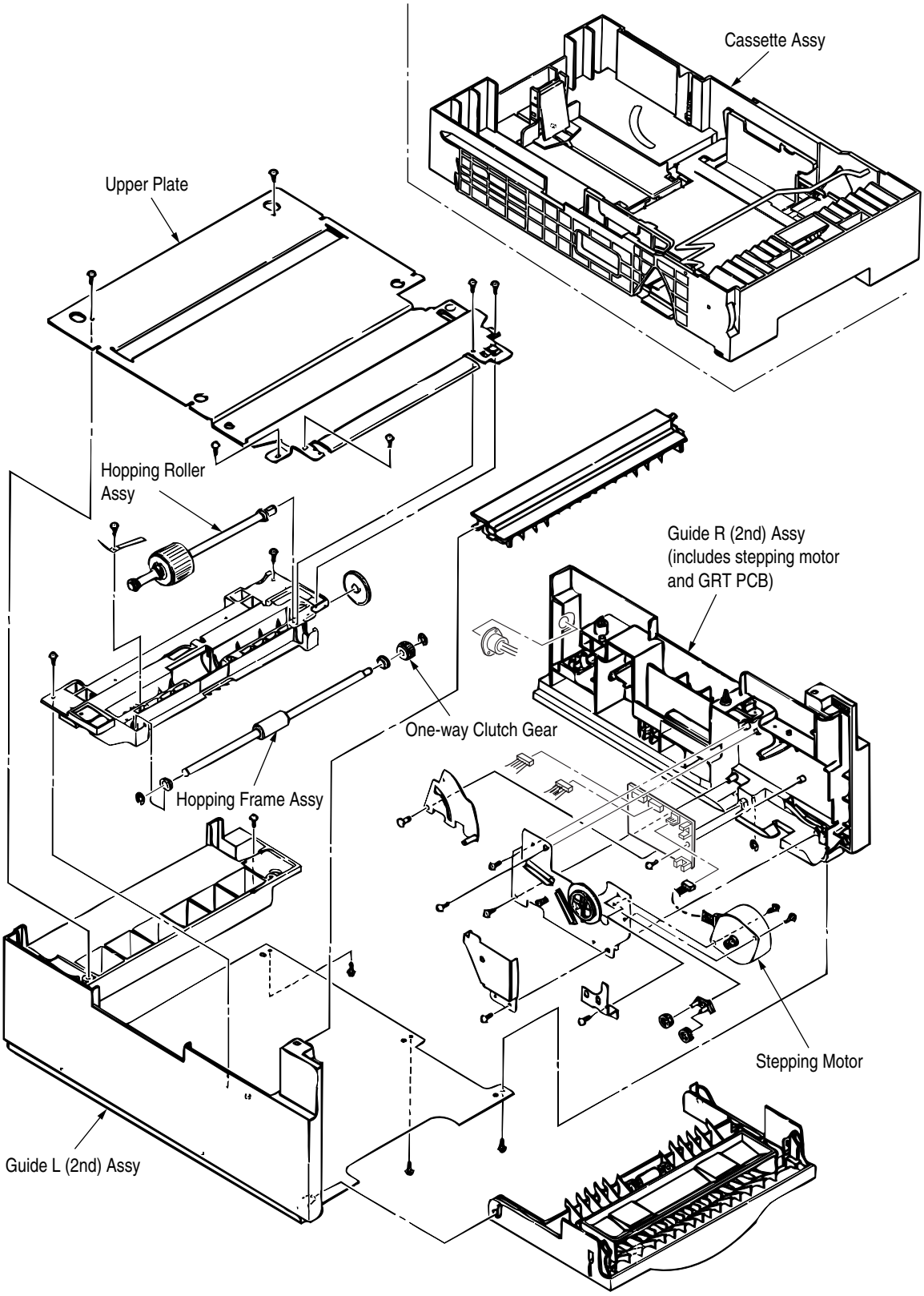
The table below shows the tools required for the replacement of printed circuit boards, assemblies and units in the field.

No.	Service Tools		Qty.	Application
1		No. 1-100 Phillips screwdriver	1	2~2.5 mm screws
2		No. 2-100 Phillips screwdriver	1	3~5 mm screws

No.	Service Tools		Qty.	Application
3		No. 3-100 screwdriver	1	
4		Digital multimeter	1	
5		Pliers	1	

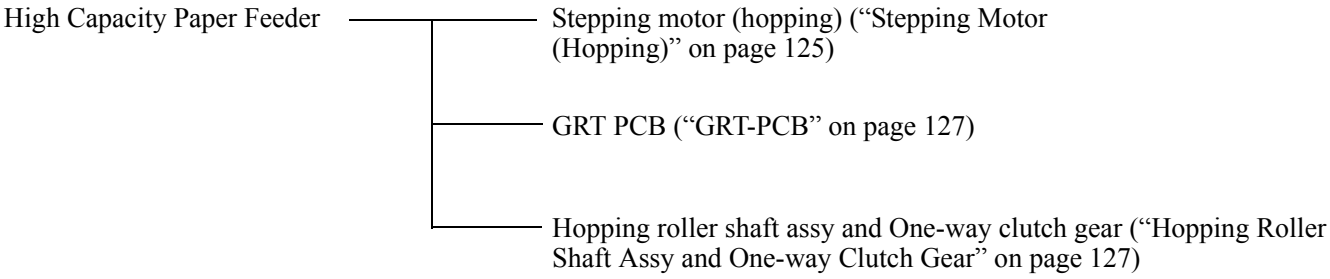
B. Parts Layout

This section describes the layout of the main components.



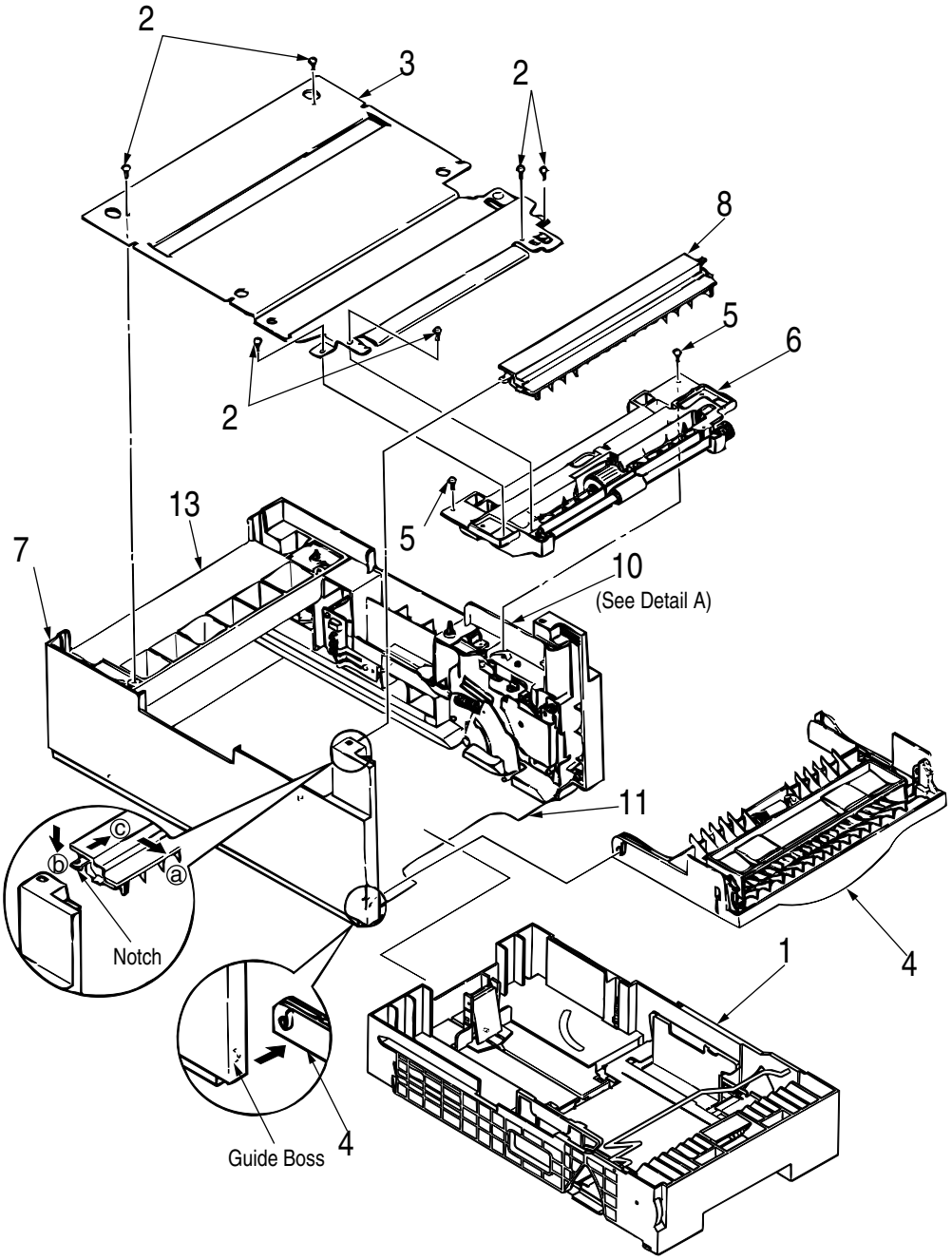
C. Parts Replacement Methods

This section describes the parts replacement methods for the components listed in the disassembly order diagram below.



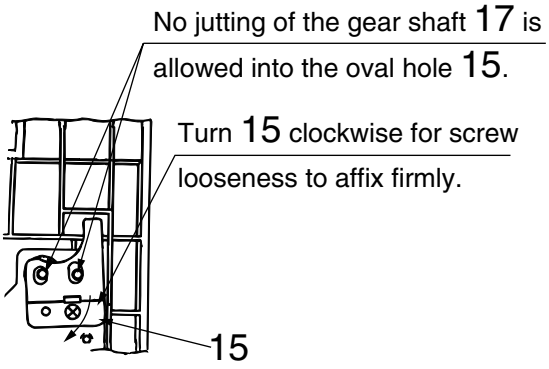
Stepping Motor (Hopping)

1. Turn the printer power switch off, pull out the AC cord from the outlet. Remove the printer off High Capacity Second Paper Feeder.
2. Take the paper cassette assy (1) out of High Capacity Second Paper Feeder.
3. Remove six screws (2) and remove the upper plate (3). Remove two screws (5) and remove the hopping frame assy (6).
4. Remove the front cover assy 4 off the guide boss on the guide L (2nd) assy (7) by bending the guide L (2nd) assy (7) in the direction of arrow shown in the magnified view below.
5. Pull the sheet guide assy (8) in the direction of arrow ⓐ and also push in the direction of arrow ⓑ to unlock the notch, and bring the sheet guide assy (8) in the direction of arrow ⓒ to remove the sheet guide assy (8).

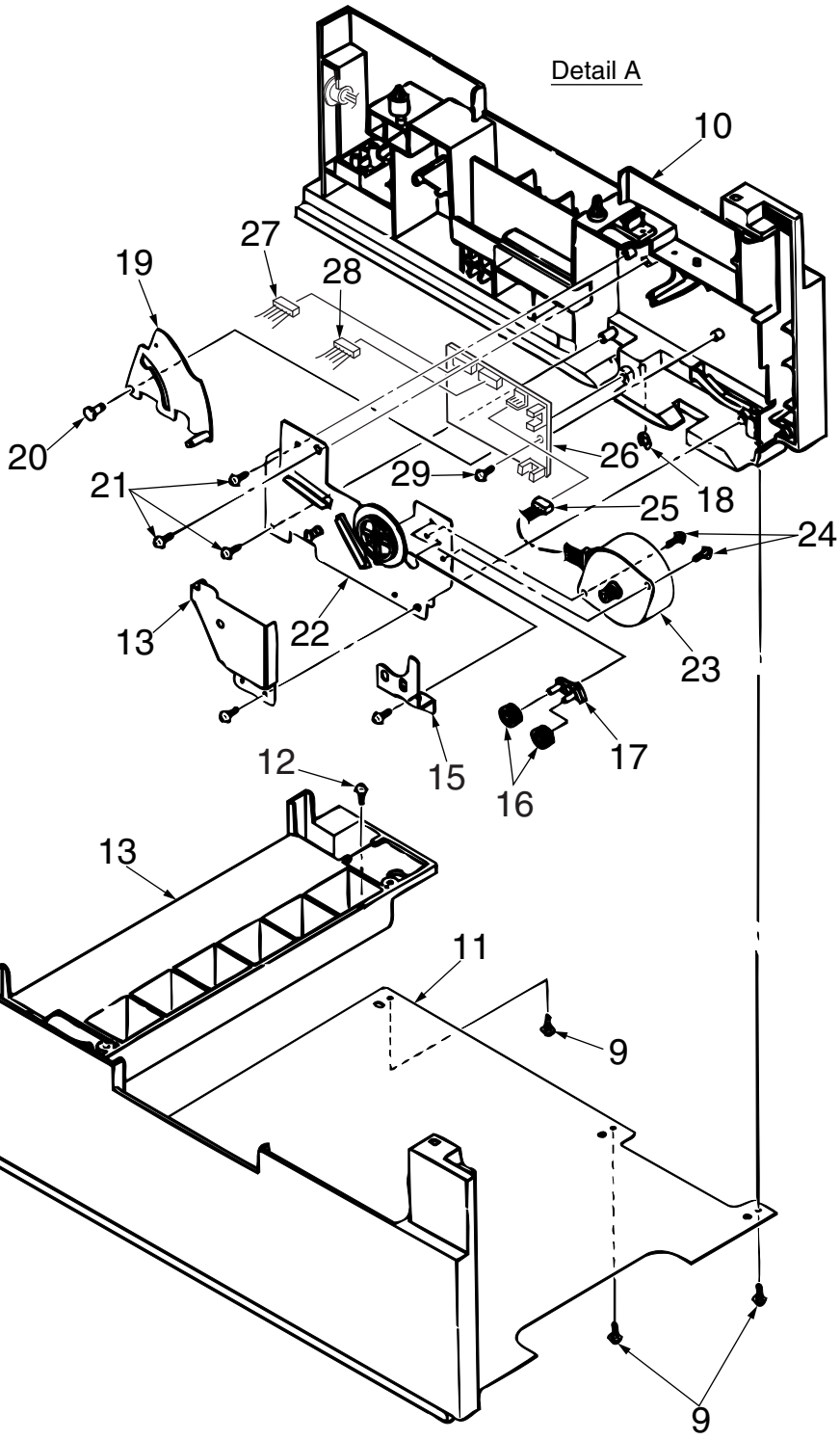


6. Remove three screws (9) which are holding the guide R (2nd) assy (10) to the bottom plate (11). Remove the screw (12) which is keeping the rear cover (13) and guide R (2nd) assy (10). Remove the guide R (2nd) assy (10).
7. Remove the protect (M) (14), guide bracket (15), planet gears (16) and planet gear bracket (17).
8. Remove the E-ring (18) which is keeping the sheet link (19) on the guide R (2nd) assy (10), and pull out the hinge stand (20).

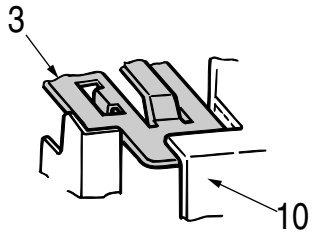
9. Remove three remaining screws (21) which are keeping the motor on the motor bracket (22), and remove the connector off the Stepping Motor (23).
10. Remove two screws (24) on the Stepping Motor (23).



Note: The guide bracket (15) must be attached as shown in the following illustration:



Note: The upper plate (3) must be attached as shown in the following illustration.



GRT-PCB

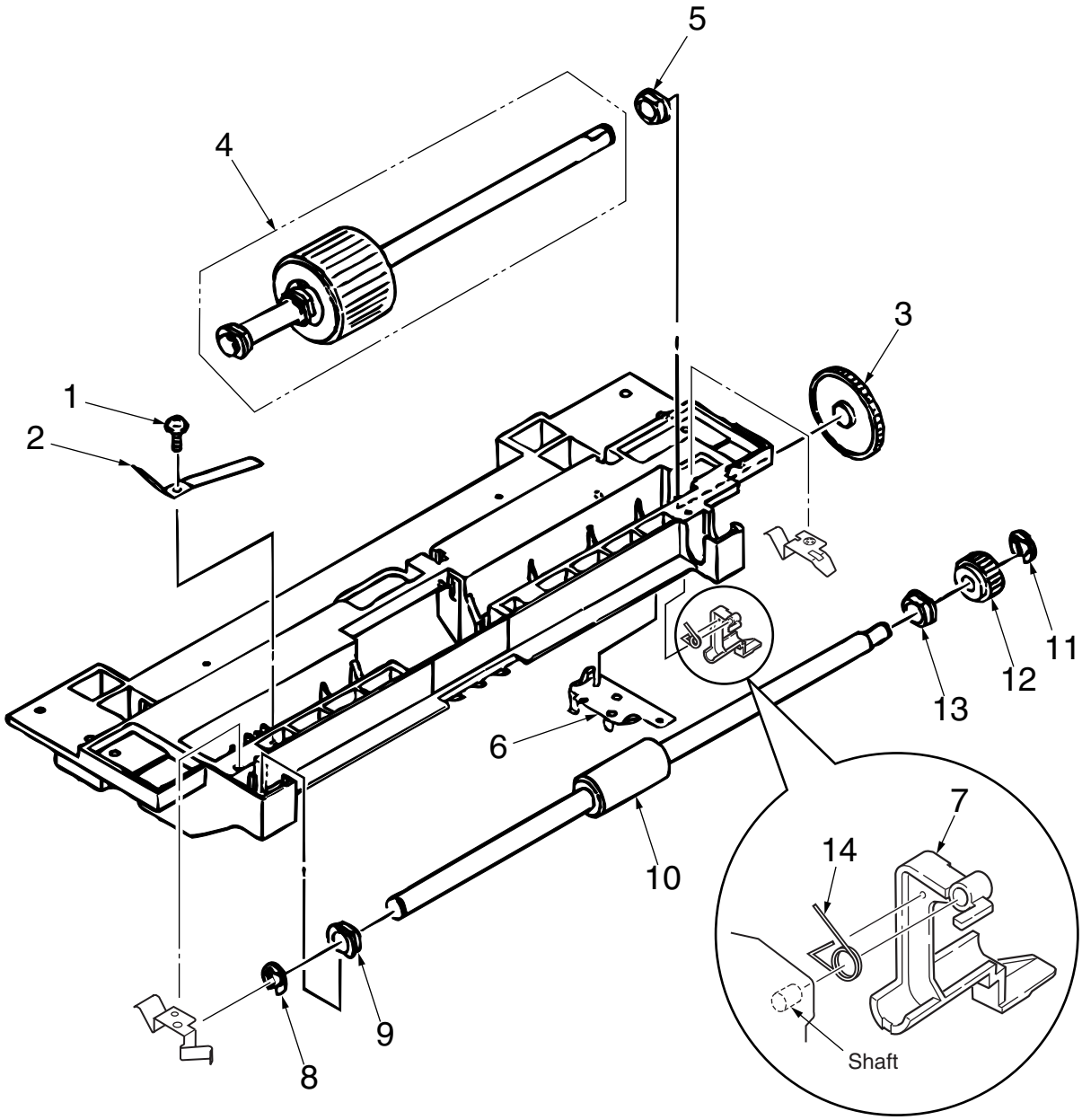
Note : Refer to Detail A on the previous page.

1. Remove the pulse motor (see “Stepping Motor (Hopping)” on page 125).
2. Remove the connectors (27, 28) from the GRT PCB (26).
3. Remove the screw (29) and remove the GRT PCB (26).

Hopping Roller Shaft Assy and One-way Clutch Gear

1. Follow up to step (3) of (see “Stepping Motor (Hopping)” on page 125) and remove the hopping frame assy.
2. Remove the screw (1) and remove the earth plate (2). Remove the sensor lever (T) (7) and remove the tension spring (14) and remove the ground plate (6). Remove the gear (3) and remove the metal bush (5) and hopping roller shaft assy (4).
3. Remove the E-ring (11) and remove the one-way clutch gear (12) on the right side of the feed roller (10).

   Note : The metal bush (13) also comes off. Be careful not to lose it.



Note: The tension lever and the sensor lever require concurrent replacing.

4. Troubleshooting

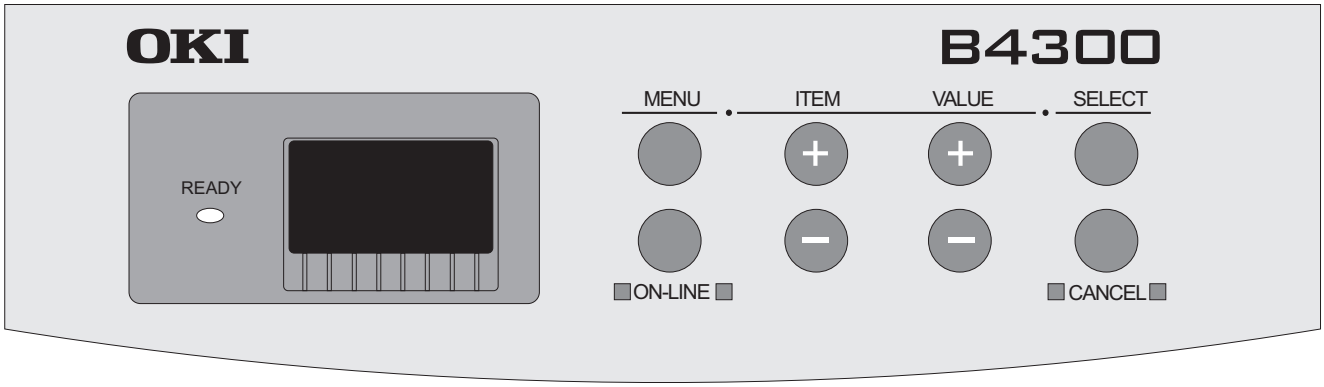
A. Troubleshooting Tips

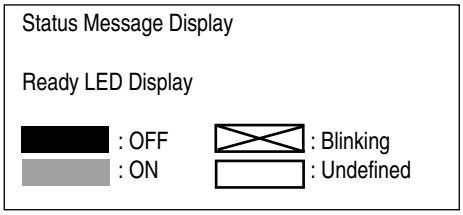
1. Check the troubleshooting section in the User's Guide.
2. Gather as much information about the situation as possible.
3. Inspect the equipment under the conditions close to those in which the problem had occurred.

B. Preparation for Troubleshooting

A. Operator Panel Display

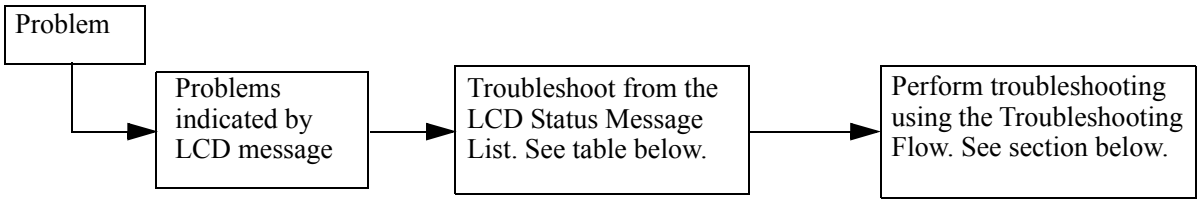
The failure status of the printer is displayed by the liquid crystal display (LCD) of the operator panel. Take proper corrective action as directed by messages which are being displayed on the LCD.





B. Troubleshooting Method

When a problem occurs, go through the troubleshooting according to the following procedure.



LCD Status Message List

The listing of the statuses and problems displayed in the form of messages on the LCD is provided in the Table below.

Classification	LCD Status Message	Description	Recovery method
Jam error (feeding)	OPEN UPPER COVER PAPER JAM CHECK TRAY2 PAPER JAM	Notifies of occurrence of jam while the paper is being fed from High Capacity Second Paper Feeder. Scroll display.	• Check the paper in the High Capacity Second Paper Feeder. • Carry out the recovery printing by opening and closing the cover, and turn the error display off. • When the problem occurs frequently, go through the Troubleshooting.

Classification	LCD Status Message	Description	Recovery method
Jam error (ejection)	[redacted] OPEN UPPER COVER EXIT JAM	Notifies of occurrence of jam while the paper is being ejected from the printer. Scroll display.	• Check the paper in the printer. Carry out the recovery printing by opening and closing the cover, and turn the error display off.
Paper size error	[redacted] OPEN UPPER COVER PAPER SIZE ERROR	Notifies of incorrect size paper feeding from High Capacity Second Paper Feeder. Scroll display.	• Check the paper in the High Capacity Second Paper Feeder. • Also check to see if there was a feeding of multiple sheets. • Carry out the recovery printing by opening and closing the cover, and turn the error display off.
Tray paper out	[redacted] LOAD mmmm TRAY2 EMPTY mmmm: Paper Size (Letter, A4, etc.)	Notifies of no paper state of the High Capacity Second Paper feeder. Scroll display.	• Load the paper in High Capacity Second Paper Feeder.
Paper size request	[redacted] CHANGE PAPER TO mmmm/pppp TRAY2 SIZE MISTMATCH mmmm: Paper Size (Letter, A4, etc.) pppp: Media Type (Plain, Transparency, etc.)	Notifies correct paper size for the High capacity Second Paper Feeder. Scroll display.	• Load the requested size paper in the High Capacity Second Paper Feeder.

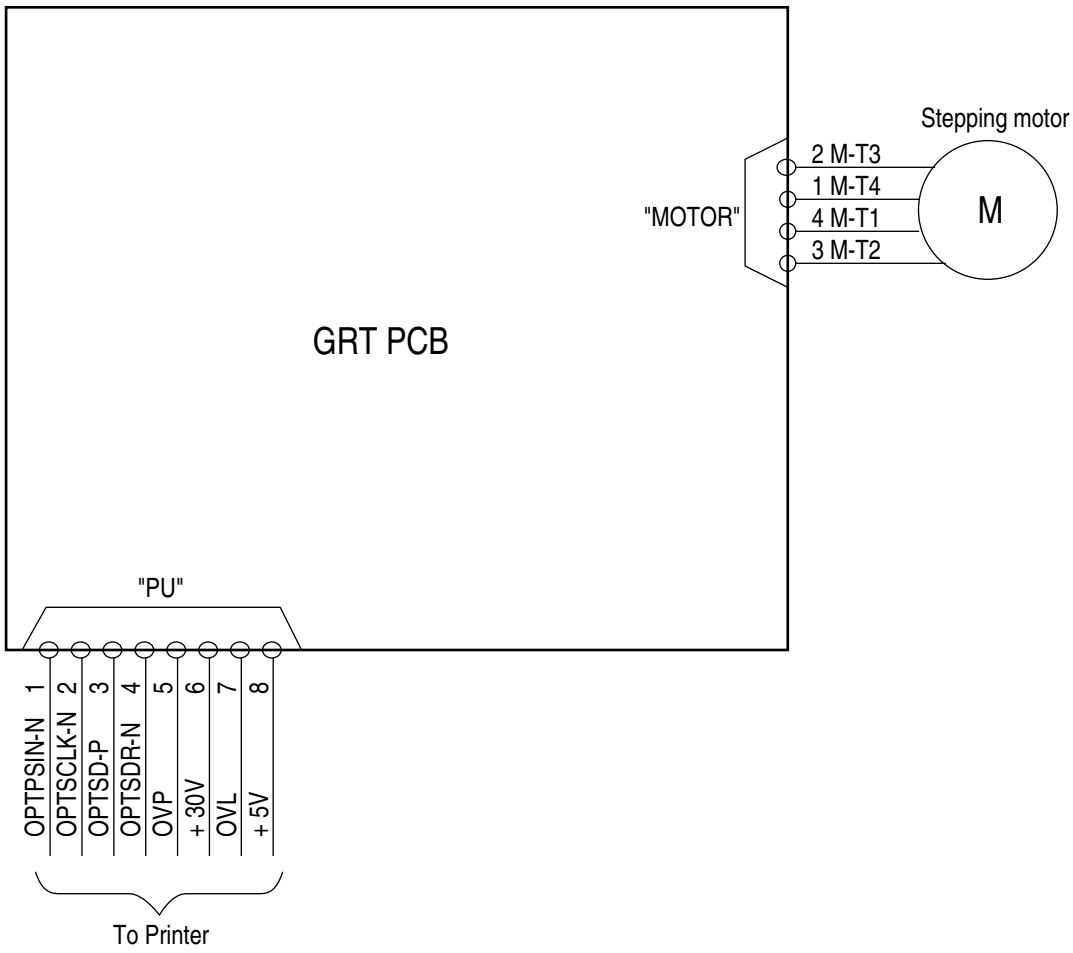
JAM Error Troubleshooting Flowchart

Paper Inlet Jam.

- Does paper jam at the inlet when the power is turned on?
  - Yes — Is the paper located above the sensor plate (inlet)?
    - Yes — Remove the paper.
  - No — Is the sensor plate (inlet) operating normally?
    - No — Replace the sensor plate (inlet).
  - Yes — Replace the power supply/sensor board or inlet sensor.
- No — When the paper is fed in, does the paper inlet jam occur?
  - Yes — Is the paper being fed to above sensor plate (inlet)?
    - Yes — Is the sensor plate (inlet) operating normally?
      - No — Replace the sensor plate. (inlet)
    - Yes — Clean the inlet sensor on the power supply/sensor board or replace the power supply/sensor board or inlet sensor.
  - No — Replace the hopping roller shaft assy or paper cassette.
- No — Are the hopping roller and feed roller rotating?
  - Yes — Set the paper properly.
- No — Is the pulse motor turning?
  - Yes — Replace the hopping roller shaft assy or one-way clutch gear on the feed roller assy.
- No — Is the connector being connected properly?
  - No — Connect the connector properly.
- Yes — Check the coil resistance (approx. 4.3Ω) of the pulse motor. Is it normal?
  - No — Replace the stepping motor.
- Yes — Replace the GRT PCB.

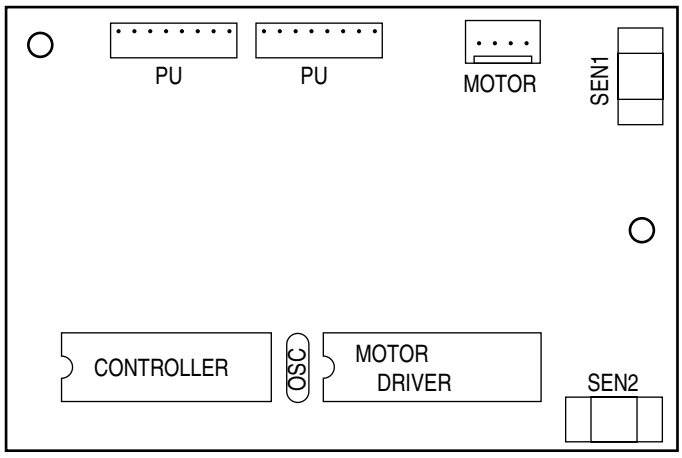
5. Connection Diagram

A. Interconnection Diagram



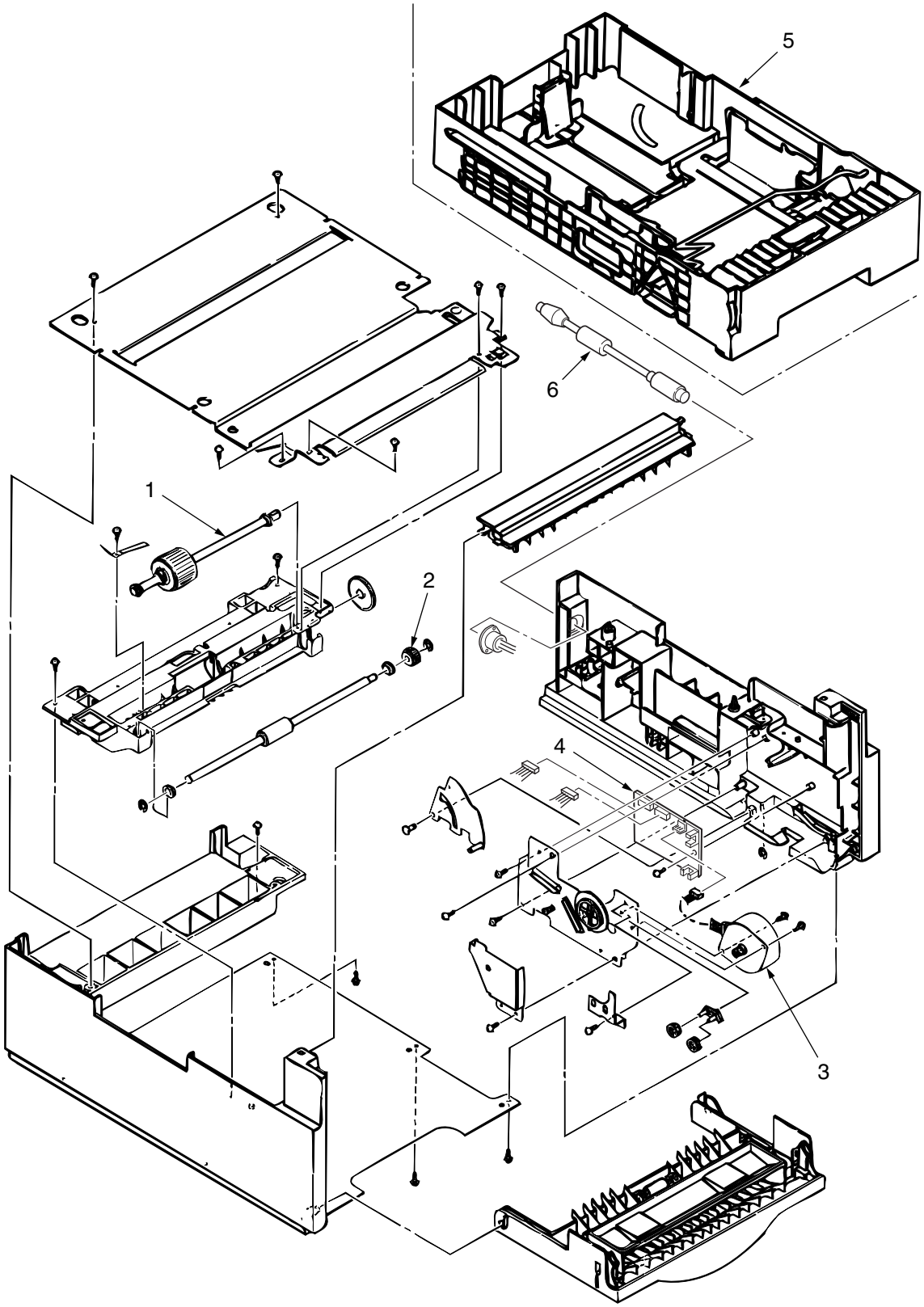
B. PCB Layout

GRT-PCB



6. Parts List

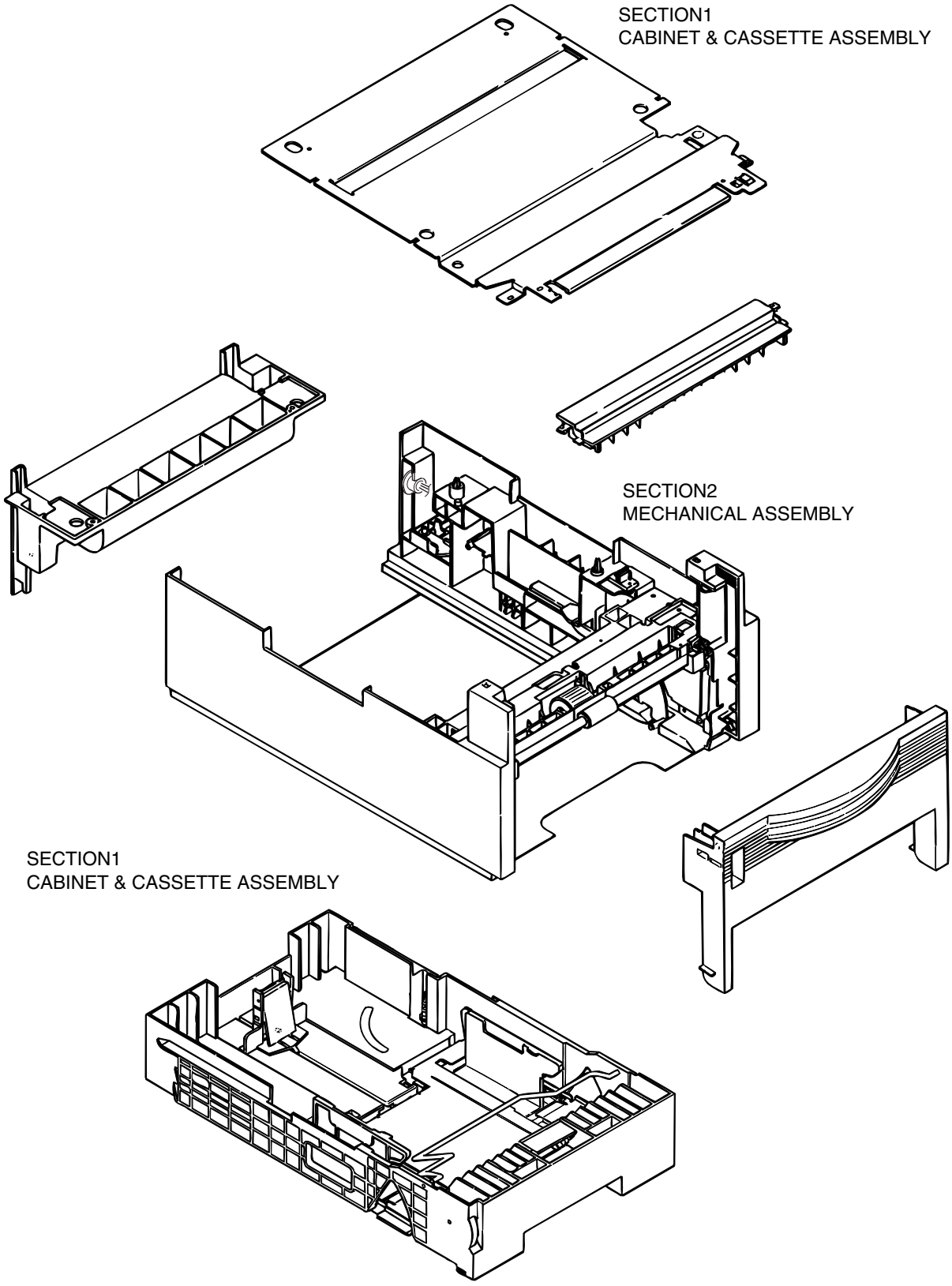
High Capacity Second Paper Feeder



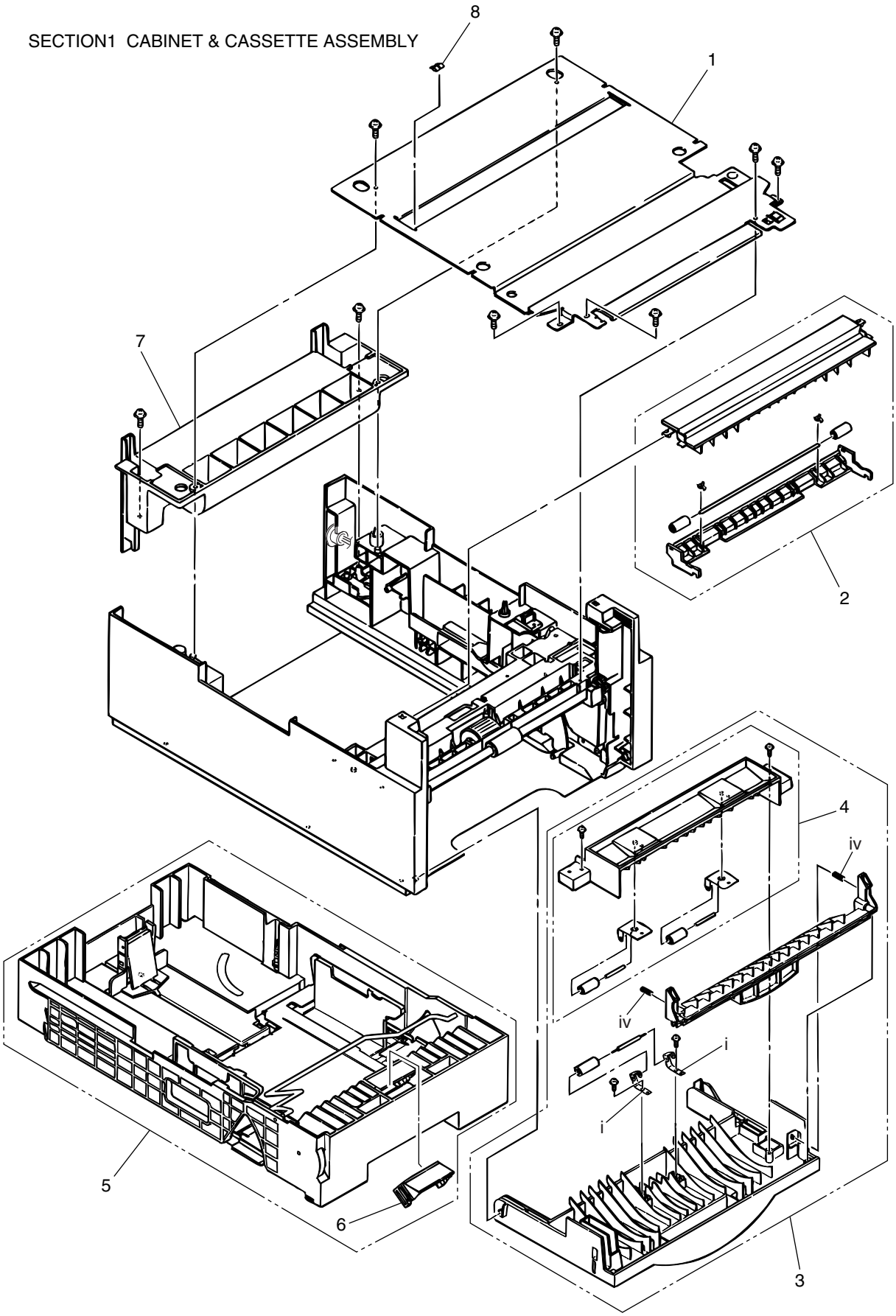
A. High Capacity Paper Feeder List

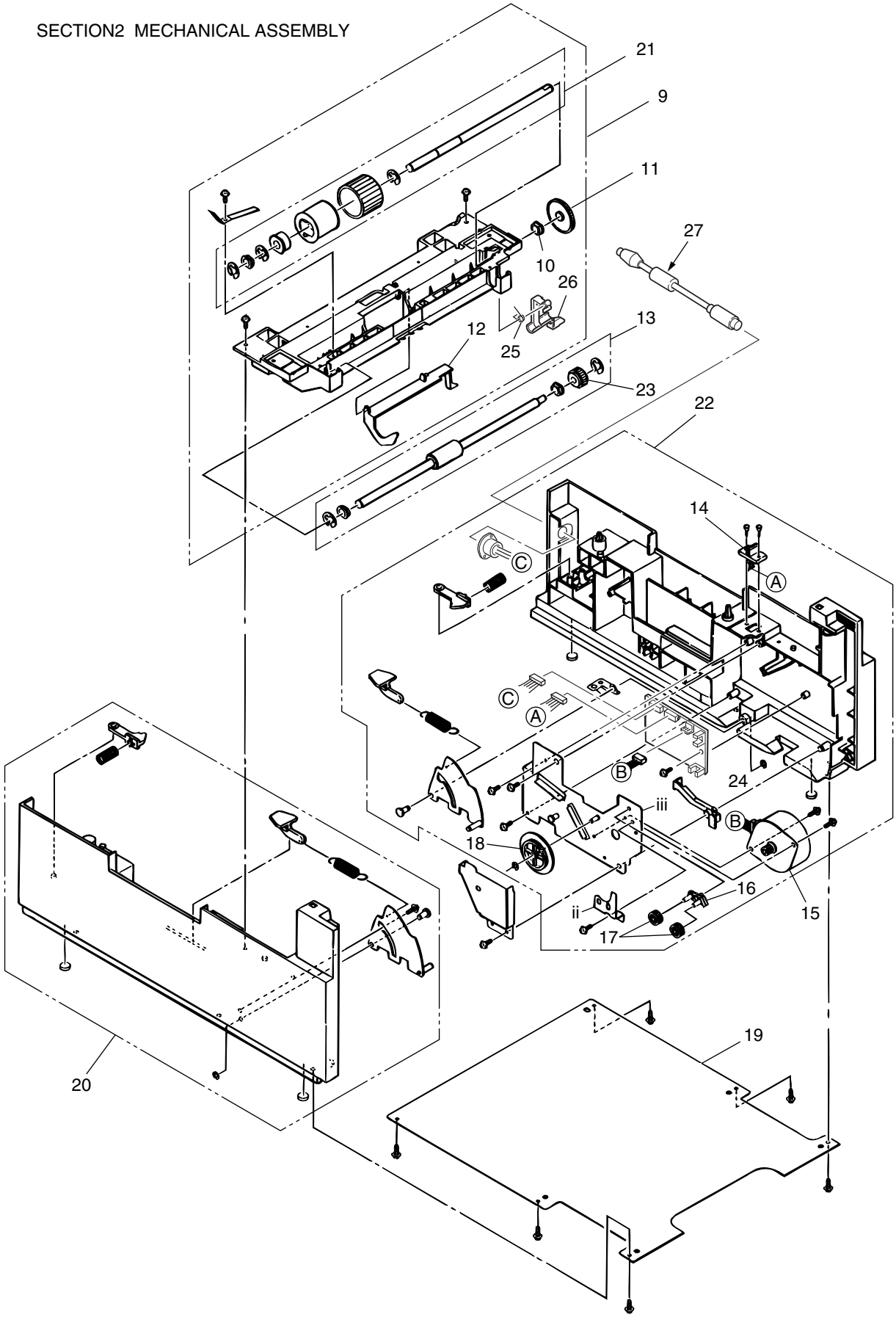
No.	Description	Part Number	Q'ty.	Remark
1	Hopping roller shaft assy		1	
2	One-way clutch gear		1	
3	Stepping motor		1	
4	GRT PCB		1	
5	Cassette assy (2nd tray)		1	
6	DIN8P-DIN8P Connector Cord		1	

2nd Tray ASSEMBLY



SECTION1 CABINET & CASSETTE ASSEMBLY




21
9
11
27
10
26
25
12
13
23
22
14
A
C
C
A
B
24
iii
B
18
16
15
ii
17
19
20

B. 2nd Tray Parts List

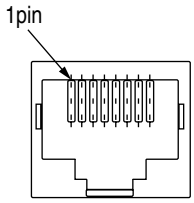
No.	Description	Part Number	Q'ty.	Remark
1	Plate, upper		1	
2	Sheet guide assembly		1	
3	Front cover assembly		1	
4	Inner guide assembly		1	
5	Cassette assembly (2nd tray)		1	
6	Separation frame assembly		1	
7	Cover, rear		1	
8	Stick finger		1	
9	Hopping flame assembly		1	
10	Bush, metal (ADF)		1	
11	Gear (z70)		1	
12	Lever, sensor (p)		1	
13	Feed roller assembly		1	
14	Cable & connector		1	
15	Stepping motor		1	
16	Bracket		1	
17	Gear (z24)		2	
18	Gear (z87/z60)		1	
19	Plate, bottom		1	
20	2nd cassette guide (L) assy		1	
21	Hopping roller assembly		1	
22	2nd cassette guide (R) assy		1	
23	One-way clutch gear		1	
24	Board GRT		1	
25	Spring, Tension		1	
26	Lever, sensor (T)		1	
27	DIN8P-DIN8P Connector Cord		1	

Appendix F Network Interface

1. Connector
   - 8-pin modular jack
2. Cable
   - 10BASE/T
3. Signal

Contact No.	Plug	Jack	Polarity
1	Power feeder3	-	+
2	Power feeder3	-	-
3	Send	Receive	+
4	Receive	Send	+
5	Receive	Send	-
6	Send	Receive	-
7	Power feeder2	Power feeder2	-
8	Power feeder2	Power feeder2	+

4. Appearance



5. Physical dimensions
   a. Transmission method by CSMA/CD
   b. Transmission protocol

Packet Type	Support	Remarks
Ethernet ll	○	
IEEE802.3	○	
IEEE802.3+IEEE802.2	○	
IEEE802.3+IEEE802.2+SNAP	○	

6. List of protocols

Protocol	Print	Configuration	Etc.
TCP/IP	LPR IPP FTP SMTP/POP3 HTTP (Except IPP)	HTTP Telnet FTP NetBEUI SNMP DHCP/BOOTP RARP AutoIP DNS UPnP SLP	TCP, IP, ICMP, ARP UDP
NetBEUI	SMB, CIFS	WINS	NetBIOS
NetWare	Q-Server over IPX Q-Server over IP R-Printer N-Printer	NCP SNMP	SPX, IPX, SAP, RIP
EtherTalk	PAP	NBP	ELAP, AARP, DDP, AEP, ZIP, RTMP, ATP

7. TCP/IP
   a. Support OS
   SunOS 4.1.1, SunOS 4.1.2, SunOS 4.1.3
   Solaris 2.1, Solaris 2.2, Solaris2.4, Solaris2.5
   HP-UX 9.X
   Windows3.0+TCP/IP
   Windows3.1+TCP/IP
   Windows3.11+TCP/IP
   Windows95/98
   WindowsNT 3.5+TCP/IP
   WindowsNT 3.5.1
   WindowsNT 4.0
   Windows2000
   WindowsXP

   b. LPR
   The LPR is an application to process the print data. The LPR of this system supports multiple clients. Furthermore, it provides multiple connections for one client.

Item	Factory Default	Setup Range	Description
Number of clients connected	1 to 8 clients	1 to 8 clients	Indicates the number of clients that can be connected simultaneously. Allows simultaneous connection of a maximum of four clients.

First command character	LPR option	Objective	Support
H	Specify by default.	Host name of the machine to which the LPR is called. Host name printed on the banner sheet	○
P	Specify by default.	Log-in name of the user having called the LPR. User name printed on the banner sheet	○
J	Specify by -J option.	Job name printed on the banner sheet Default: File name	○

First command character	LPR option	Objective	Support
C	Specify by -C option.	Job type printed on the banner sheet Default: System name	○
L	Specify by default. Cancel the specification by -h option.	Specify literal banner sheet printing.	○
f	Specify the number of volumes by -# option.	Name of the data file to be printed. The number of character strings of this command varies according to the number of volumes. (Not supported)	○
U	Specify by default.	Name of the file to be deleted at completion of printing	—
I	Specify by -i option.	Number of indent characters in the output line	—
W	Specify by -w option.	Specify page width.	—
M	Specify by -m option.	Specify sending of a mail at completion of printing	—
S	Specify by -s option.	Specify the symbolic link to the data file.	○
1/2/3/4	Specify by -1/-2/-3/-4 options.	Specify the font.	—

c. FTP
FTP is an application to process the print data. The FTP of this system supports multiple clients. Furthermore, it provides multiple connections for one client.

Item	Factory Default	Setup Range	Description
Number of clients connected		1 to 8 clients	Indicates the number of clients which can be connected simultaneously. Allows simultaneous connection of a maximum of four clients.

d. Telnet
Telnet is an application to reference and change the menu of the Network/Printer. The TELNET of this system supports simultaneous connection of multiple clients for the personal user. Furthermore, it provides multiple connections for one client. But it cannot provide two or more simultaneous connections for super users.

Item	Factory Default	Setup Range	Description
Number of clients connected		1 client	Indicates the number of clients which can be connected simultaneously. Allows simultaneous connection of a maximum of four clients.
Terminal mode	VT-100	VT-100	Indicates the control mode of the terminal of the connected client. Only the VT-100 alone is the support terminal mode.
Number of columns	80 columns	80 columns	Indicates the number of the digits of the terminal of the connected client. The number of the support digits is fixed at 80.
Number of rows	25 rows	25 rows	Indicates the number of the digits of the terminal of the connected client. The number of the support digits is fixed at 25.
Expiration of idle time	300 sec.	60 to 7200 sec.	Indicates the time when the idle time of the connected clients expires.

e. HTTP
The HTTP is an application to reference and change the menu of the Network/Printer. The HTTP of this system supports simultaneous connection of multiple clients for the personal user. Furthermore, it provides multiple connections for one client.

Item	Factory Default	Setup Range	Description
HTTP Version	1.0	1.0	Indicates the version of the HTTP being implemented.

f. SNMP
SNMP is an application to reference and change the menu of the Network/Printer. The SNMP of this system supports simultaneous connection of multiple clients for the personal user. Furthermore, it provides multiple connections for one client.

8. Netware

a. Support OS
Netware File Server 2.2C, 3.X,4.X,5 (Bindery Model/ NDS support)

b. R-printer
The R-printer is an application to process the print data. The R-printer of this system supports multiple print serves. Furthermore, it provides one connection for one printer server; it does not allow multiple connections for one printer server.

Item	Shipment from factory	Setup Range	Description
Number of connected print servers		1 to 8 servers	Indicates the number of print servers which can be connected simultaneously. Each print server need not be started in advance. Even when the printer is ready for operation, connection is achieved only by starting the print server.
Print Server Name	OIxxxxxx Etherxxxxxx	Maximum four servers *Maximum 31 characters	Indicates the name of the connected print server. Each print server name can be registered up to a maximum of 31 characters. The default xxxxxx of the print server name is set to the lower three bytes of the MAC address of the print server. Overseas: Olxxxxxx OEM: Etherxxxxxx The print server name must be preset on a NetWare server using a Novell tool.
Printer Name	(Print Server Name)-prn1		Takes the form of the above server name followed by -prn1, by default.
Job Time out	10	4-255 seconds	A timeout value that functions only when a specific size job is received.

c. Q-Server
The Q-Server is an application to process the print data. The Q-Server of this system supports multiple file serves. Furthermore, it allows connection of multiple print servers for one file server.

Item	Shipment from factory	Setup Range	Description
Number of connected print servers		1 to 8 servers	Indicates the number of print servers which can be connected simultaneously. Each print server need not be started in advance. Even when the printer is ready for operation, connection is achieved only by starting the print server.
Print Server Name	OIxxxxxx Etherxxxxxx	Maximum four servers *Maximum 31 characters	Indicates the name of the connected print server. Each print server name can be registered up to a maximum of 31 characters. The default xxxxxx of the print server name is set to the lower three bytes of the MAC address of the print server. Overseas: Olxxxxxx OEM: Etherxxxxxx The print server name must be preset on a NetWare server using a Novell tool.
Printer Name	(Print Server Name)-prn1		Takes the form of the above server name followed by -prn1, by default.
File Server Name	NULL	Maximum four servers *Maximum 47 characters	Entered with the name of a connecting file server. The file server is that whose settings have been set using a Novell tool. The entry of this file server name is optional. When the field is left blank, SoftNIC can automatically discover and connect a file server to connect to.
Password for File servers	NULL	Maximum 31 characters	Entered with a password for the connection to a file server. The password must be preset on a NetWare server using a Novell tool. When this field, which is optional, is left blank, no password is used for connection to a file server. In such cases, the password for the file server must not be set on the file server.
Job Polling Rate	4	2-255 seconds	Specified with a time interval for checking whether a job occurs. When this field, which is optional, is left blank, the default four seconds takes effect.

9. EtherTalk
   a. Support OS
      System7.0, 7.1, 7.1.X
      System7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.5
      MAC OS7.6, 8.X, 9
   b. PAP
      The PAP is an application to process the print data.

Item	Shipment from factory	Setup Range	Description
Number of connected clients	1 client	1 client	Indicates the number of clients which can be connected simultaneously. Simultaneous connection is possible up to one client.
Printer name	B4300	One item by max. 32 characters	Indicates the printer name which can be set on the printer.
Zone Name		One item by max. 32 characters	Indicates the zone to which the printer belongs.

10. NetBEUI
    a. Support OS
       Windows 95/98
       Windows NT4.0
       Windows 2000
    b. NetBIOS

Item	Shipment from factory	Setup Range	Description
Host name	OLxxxxxx MLxxxxxx	1 to 15 characters	Indicates the NetBIOS Host name. OL: Overseas machines ML: Japan Domestic machines xxxxxx is the last six digits of the MAC address.
Work Group name	Print Server	1 to 15 characters	Indicates the NetBIOS Work Group name.

11. OKI Original Port
    The OKI Original Port provides special processing which is beyond the scope of normal menu operation.

Item	Description
Initial recognition	Executes the processing of finding out the printer by the setup utility when the printer is connected to the network.
Flash Down Load	Provides download processing of the program for the flash ROM.
PJL command / response	Serves as a PJL port to send and receive the PJL command.

12. Others
    a. Hot Protocol
       The Hot Protocol provides a function of simultaneous meeting of requests for connection from multiple clients using different transport layer protocols.
    b. Multi-user
       The Multi-user provides a function of simultaneous meeting of requests for connection from multiple clients using the same transport layer protocol.

c. Permissible connection

	Number of connections
Total number of connections	10
Number of connections for simultaneous use of management APs (Telnet, SMP, Web, OKI Original Port)	2
Number of connections for simultaneous use of printing APs	8

13. Setup
Each setup item can be set by the menu and network management tool.

Classification	Setup Item	Menu Change	Management Tool Change	Description
Common	Network valid/invalid	○	○	Valid/invalid for entire network
	Frame type	X	○	Frame type for transmission and reception
TCP/IP	TCP/IP valid/invalid	○	○	TCP/IP valid/invalid
	IP address	○	○	
	IP subnet mask	○	○	
	Default gateway	○	○	
Netware	Netware valid/invalid	○	○	Netware valid/invalid
	Netware mode	X	○	R-Printer/Q-server
	Netware address	X	X	
	Q-server print server name	X	○	
	Q-server connection file server name	X	○	
	Q-server polling rate	X	○	
	NDS Tree name	X	○	
	NDS Context name	X	○	
	R-Printer printer name	X	○	
	R-Printer connection print server name	X	○	
NetBEUI	NetBEUI valid/invalid	○	○	NetBEUI valid/invalid
	Net BIOS Host name	X	○	
	NetBIOS Work Group name	X	○	
AppleTalk	EtherTalk valid/invalid	X	○	EtherTalk valid/invalid
	printer name	X	○	
	Ether Talk zone name Specify by -1/-2/-3/-4 options.	X	○	Name of the zone to which the printer belongs
	Ether Talk Printer name	X	○	Name of the printer