OKI

# C5300/C5100
# Color LED Page Printer
## MAINTENANCE MANUAL

ODA/OEL/INT

2003-09-03 Rev.3

**Document Revision History**

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| 3 | 2003-09-03 | | | Add C5300VE | CN12 Ii |

# PREFACE

This manual describes the procedures of the maintenance of the C5300/C5100 printers.

The document is produced for maintenance personnel use. For details on the procedures for handling the C5300/C5100 of printers, see its user documentation.

***Note!***
- The descriptions in this manual are subject to change without prior notice.
- In preparing the document, efforts have been made to ensure that the information in it is accurate. However, errors may be crept into the document. Oki Data assumes no responsibility for any damage resulting from, or claimed to be the results of, those repairs, adjustments or modifications to the printers which are made by users using the manual.
- The parts used for the printers are sensitive and, if handled improperly, may be damaged. It is strongly recommended that the products are maintained by maintenance men registered with Oki Data.

# CONTENTS

# 1. SPECIFICATIONS

## 1.1 System Configuration

### C5300

Figure 1-1-1 shows the system configuration of C5300.

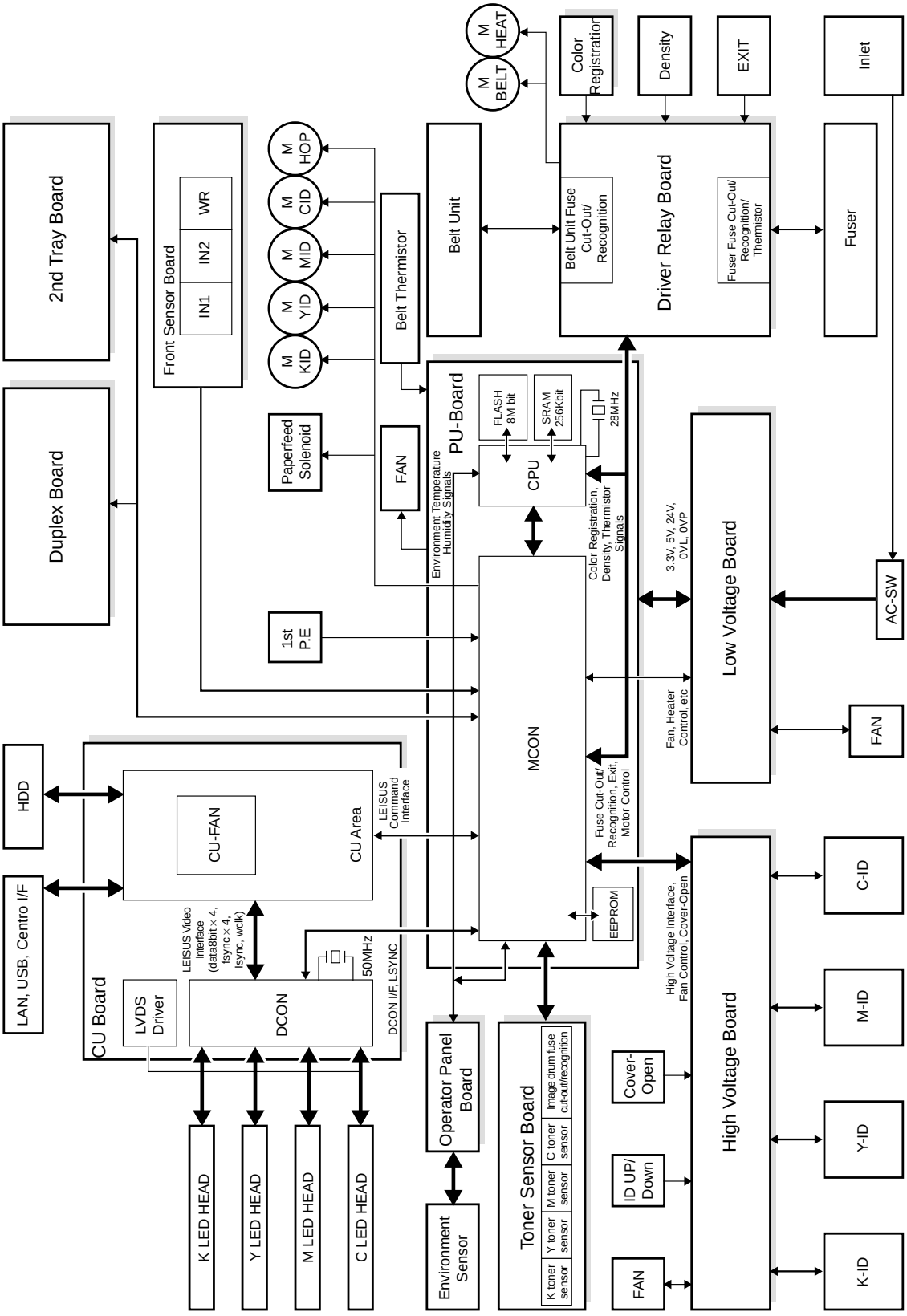



Figure 1-1-1

## C5100

Figure 1-1-2 shows the system configuration of C5100.

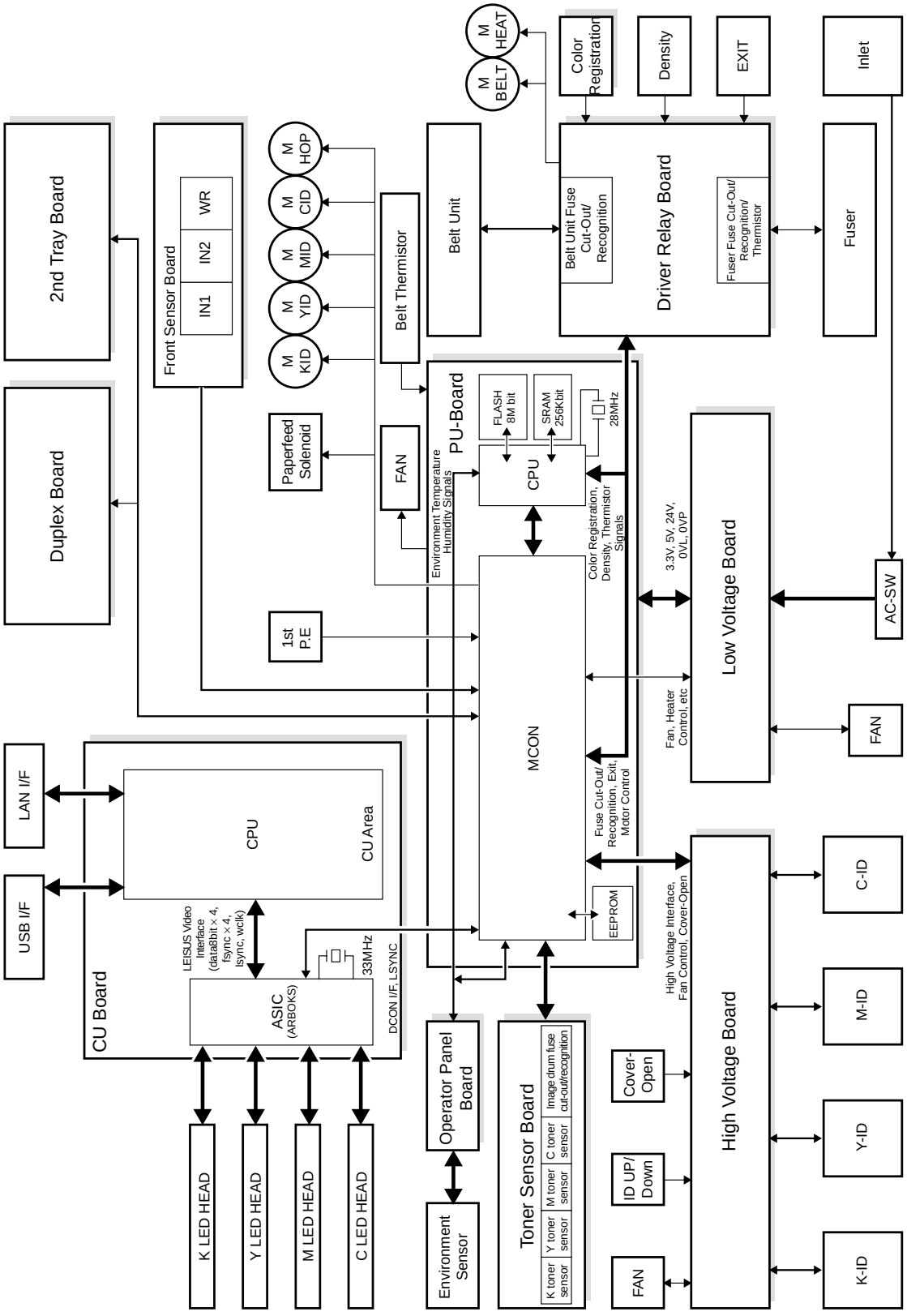



Figure 1-1-2

## 1.2 Printer Configuration

The inside of C5300 printers is composed of the following:

- Electrophotographic Processor
- Paper Paths
- Controller Block (CU and PU)
- Operator Panel
- Power Units (High Voltage Unit and Low Voltage Unit)

Figure 1-2-1 shows the configuration of each printer.

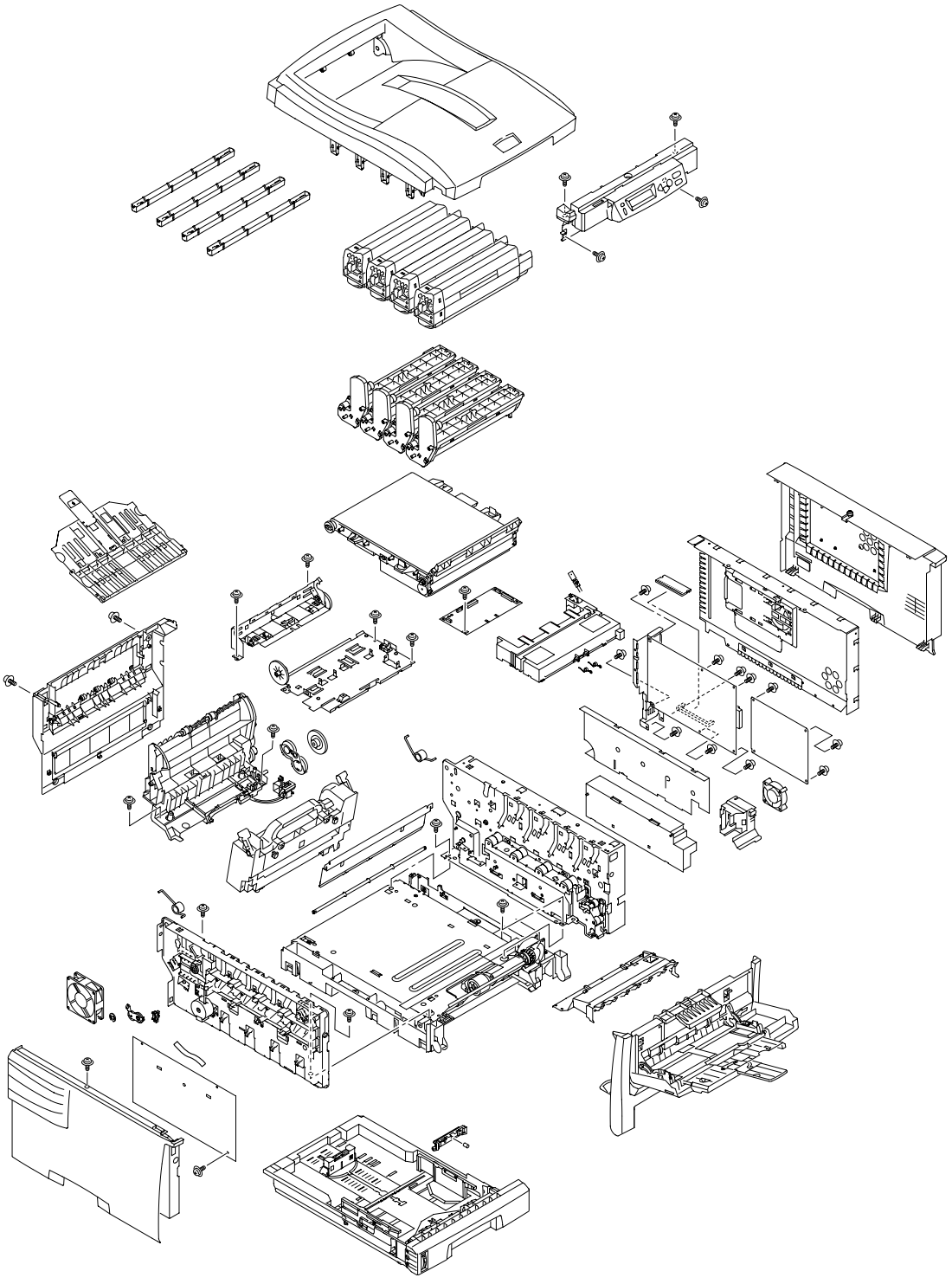


Figure 1-2-1

The inside of C5100 printers is composed of the following:

- Electrophotographic Processor
- Paper Paths
- Controller Block (CU and PU)
- Operator Panel
- Power Units (High Voltage Unit and Low Voltage Unit)

Figure 1-2-2 shows the configuration of each printer.

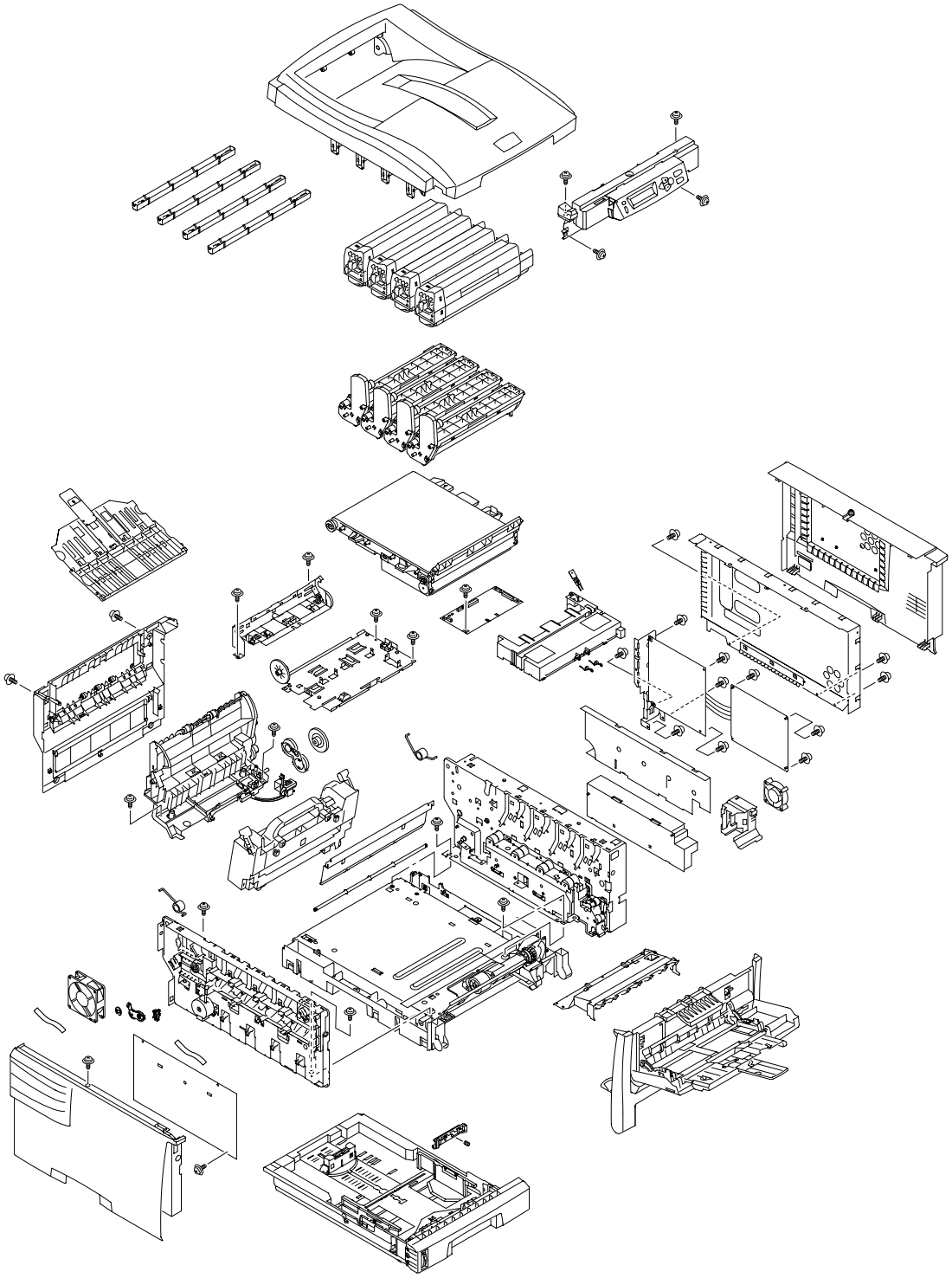
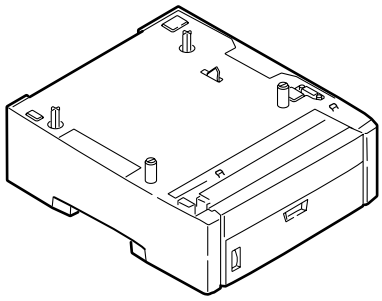


Figure 1-2-2

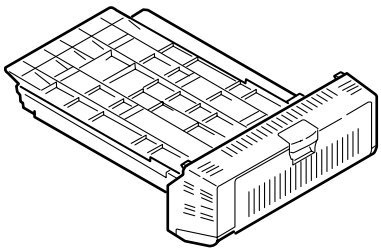
## 1.3 Option Configuration

The following options are available for C5300/C5100.

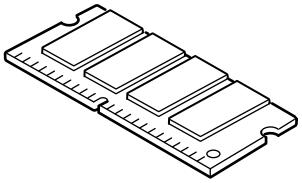
(1) 2nd Tray



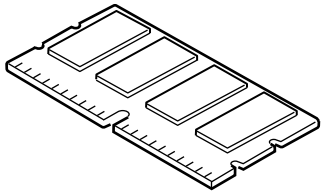
(2) Duplex Unit



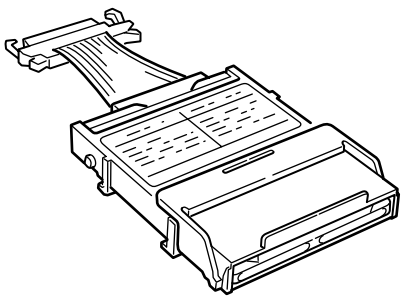
(3) Expansion Memory (C5300) 64 MB



(4) Expansion Memory (C5100) 64/256 MB



(5) Hard Disk (C5300)



## 1.4 Specifications

(1) External Dimensions
Height: 345 mm. Width: 422 mm. Length: 561 mm.

(2) Weight
Approx. 20 kg (except consumables)

(3) Paper
Type: Plain paper, Transparencies (Recommended: MLOHP01)
Size: Postal card, Legal 13" or 14", Executive, A4, A5, B5, A6 (A6 held in and fed from only 1st tray and front feeder)
Weight: 1st tray 55 kg to 103 kg (64 to 120 g/$m^2$)
Front feeder 55 kg to 172 kg (64 to 203 g/ $m^2$)

(4) Print Speed
Color: 12 pages per minute (Transparencies: 6 pages per minute)
Monochrome: 20 pages per minute (Transparencies: 12 pages per minute)
Postal Cards, Labels, Thick Paper: 8 pages per minute

(5) Resolution
600 × 1200 dots per inch

(6) Power Input
100 VAC ±10%

(7) Power Consumption
Peak: 850W
Normal Operating: 400W (5% duty)
Idle: 80W
Power Save Mode: 18W or less

(8) Frequency
50Hz or 60Hz ± 2 Hz

(9) Noise
Operating: 54 dB (Without duplex unit and 2nd tray)
Standby: 40 dB
Power Saving: Background noise

(10) Consumable Life
Toner Cartridges: 5,000 pages (images) (5% duty, Each of Y, M, C and K)
Image Drums: 22,000 pages (images) (5% duty, Continuous printing, Each of Y, M, C and K)

(11) Parts Replaced Periodically
Fuser Unit: Every 45,000 pages (prints)
Belt Unit: Equivalent of 50,000 pages (images) (3 pages/job)

(12) Temperature and Relative Humidity

Temperatures

Temperature condition

| | Celsius | Remarks |
|---|---|---|
| Operating | 10 to 32 | 17 to 27 Celsius (Temperatures to assure full color print quality) |
| Non-Operating | 0 to 43 | Power off |
| Storage (Max. One Year) | -10 to 43 | With drum and toner |
| Delivery (Max. One Month) | -29 to 50 | With drum and without toner |
| Delivery (Max. One Month) | -29 to 50 | With drum and toner |

Humidities

Humidity condition

| | Relative Humidity (%) | Max. Wet-Bulb Temperature (Celsius) | Remarks |
|---|---|---|---|
| Operating | 20 to 80 | 25 | 50 to 70% (for assurance of full color print quality) |
| Non-Operating | 10 to 90 | 26.8 | Power off |
| Storage | 10 to 90 | 35 | |
| Delivery | 10 to 90 | 40 | |

(13) Printer Life

420,000 pages (on a A4-size basis) or five years

# 2. PARTS REPLACEMENT

This section describes the procedure for replacing the parts, assemblies and units in the field. The replacing procedure is given for detachment. To attach, use the reverse procedure.

## 2.1 Precautions in Replacing Parts

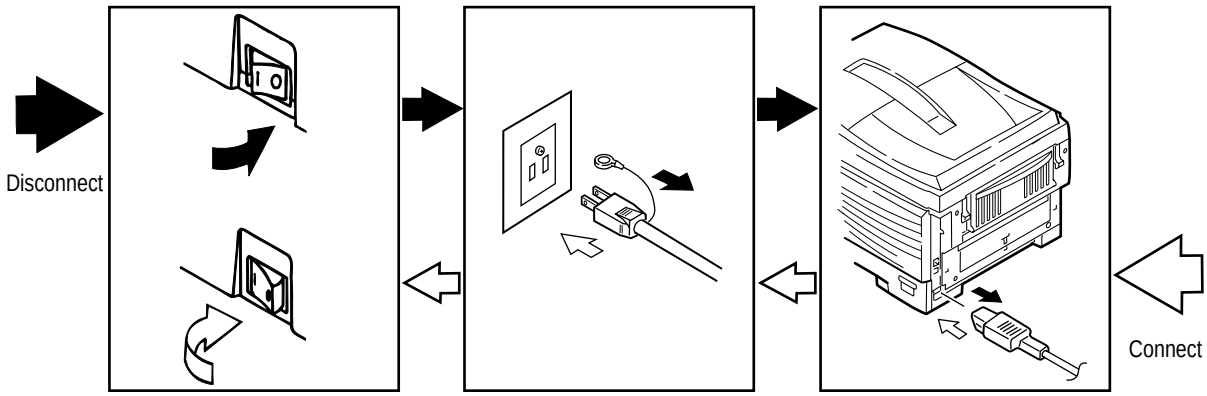
(1) Before replacing the parts, be sure to remove the AC cable and the interface cable.

(a) To remove the AC cable, always use the following procedure.

i) Flip the power switch of the printer off (to “O”).
ii) Pull the AC inlet plug of the AC cable out of the AC receptable.
iii) Remove the AC cable and the interface cable from the printer.

(b) To connect the printer again, always use the following procedure.

i) Connect the AC cable and the interface cable to the printer.
ii) Insert the AC inlet plug into the AC receptacle.
iii) Flip the power switch of the printer on (to “I”).




(2) Do not disassemble the printer so long as it operates properly.

(3) Minimize the disassembly. Do not detach parts other than those shown in the replacing procedure.

(4) For maintenance, use designated tools.

(5) Follow the order instructed to disassemble the printer. Incorrect order may damage the parts.

(6) Small parts such as screws and collars tend to get lost, so temporarily place and fix them in their original positions.

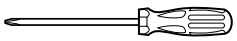
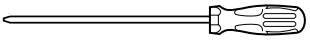
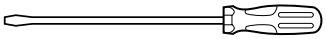
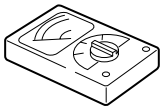
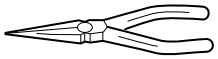
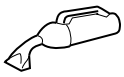
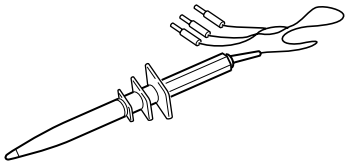
(7) When handling ICs and circuit boards such as microprocessors, ROMs and RAMs, do not use gloves that likely to have static.

(8) Do not place the printed circuit boards directly on the printer or the floor.

[Maintenance Tools]

Table 2-1 lists tools necessary to replace the printed circuit boards and the units.

Table 2-1 Maintenance Tools

| No. | Service Tools | | Q' ty | Place of use | Remarks |
|---|---|---|---|---|---|
| 1 |  | No. 1-100 Philips screwdriver | 1 | 2~2.5 mm screws | |
| 2 |  | No. 2-200 Philips screwdriver, Magnetized | 1 | 3~5 mm screws | |
| 3 |  | No. 3-100 screwdriver | 1 | | |
| 4 |  | No. 5-200 screwdriver | 1 | | |
| 5 |  | Digital multimeter | 1 | | |
| 6 |  | Pliers | 1 | | |
| 7 |  | Handy cleaner | 1 | | |
| 8 |  | LED Head cleaner P/N 4PB4083-2248P001 | 1 | Cleans LED head | |
| 9 |  | High voltage probe | 1 | | |

## 2.2 Part Replacement Procedures

This section describes the procedures for replacing the parts and assemblies shown in the following disassembly chart:

### 2.2.1 Top Cover

(1) Open the top cover assy.

(2) Remove the ten screws (black) ① to detach the cable cover ② and the top cover ③.

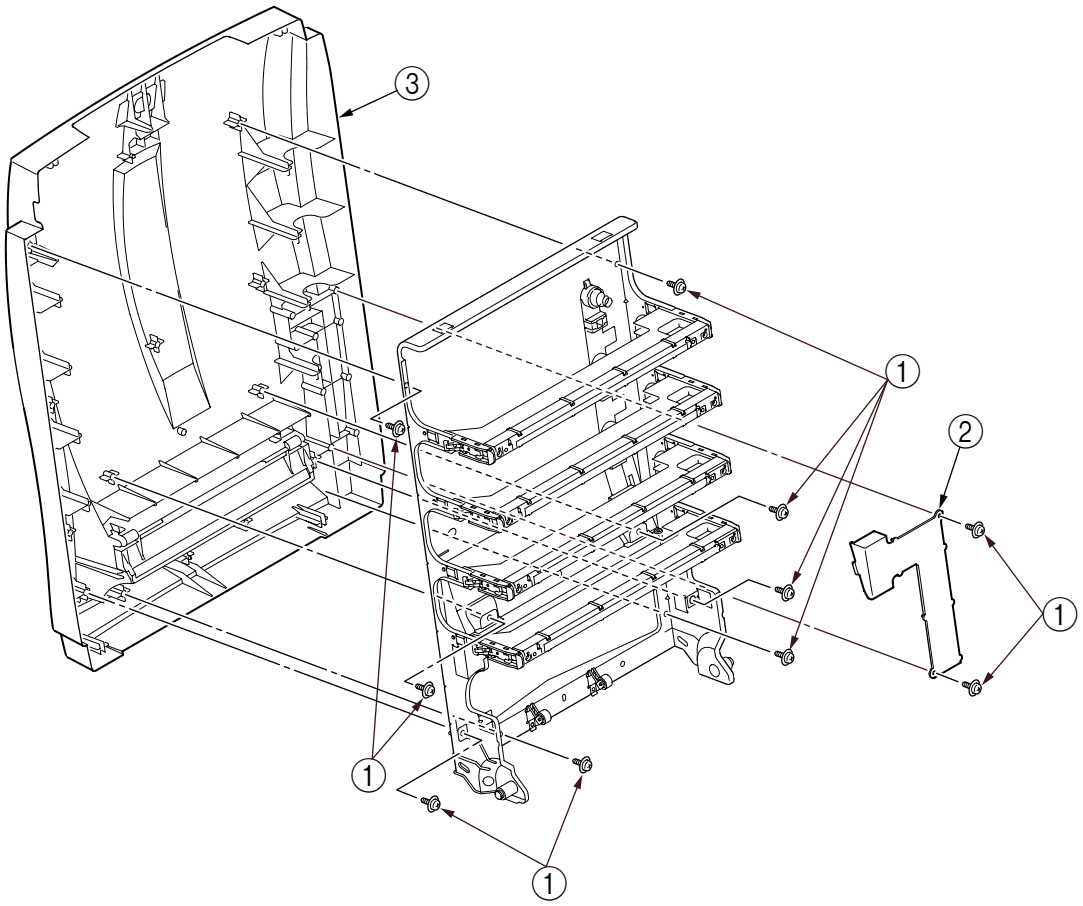



Figure 2-2-1 Top Cover

### 2.2.2 Left Side Cover

(1) Open the top cover ①.

(2) Open the feeder unit ②.

(3) Remove the screw (gold) ③ to detach the left side cover ④.

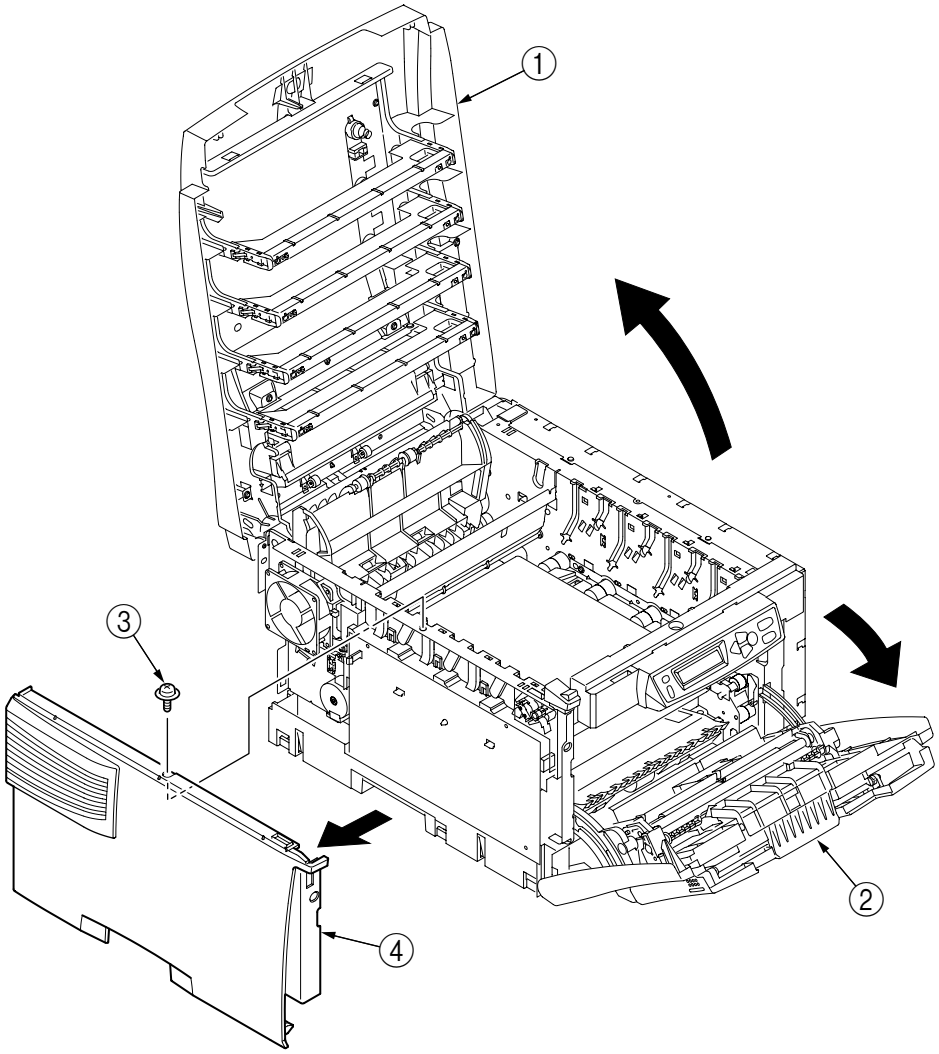



Figure 2-2-2 Left Side Cover

### 2.2.3 Right Side Cover

(1) Open the top cover ①.

(2) Open the feeder unit ②.

(3) Loosen the screw ③ to detach the right side cover ④.

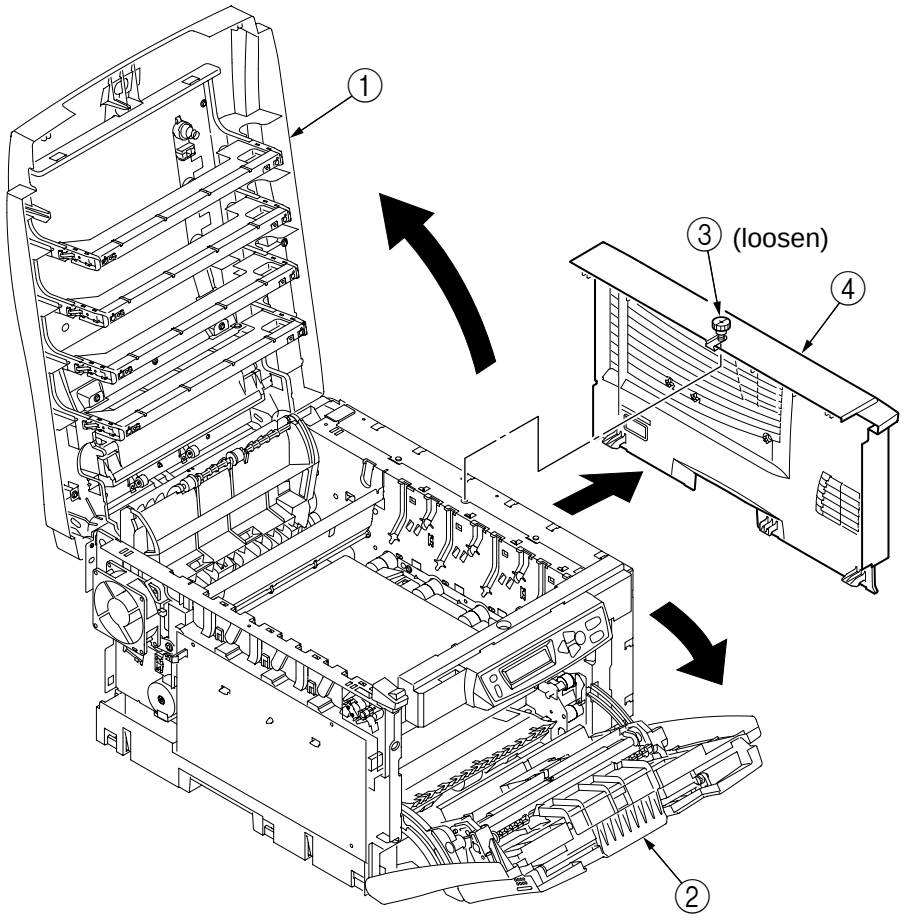



Figure 2-2-3 Right Side Cover

### 2.2.4 Face-Up Tray

(1) Open the face-up tray ① in the direction of the arrow, and disengage it at its two places to detach it.

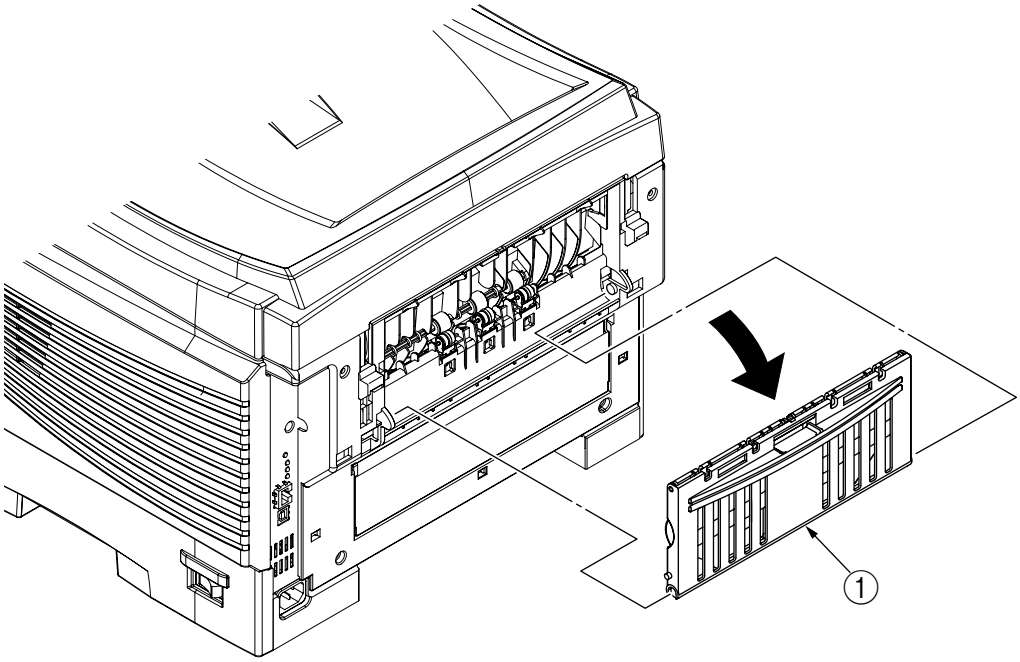



Figure 2-2-4 Face-Up Tray

### 2.2.5 Rear Cover

(1) Remove the face-up tray (see section 2.2.4).

(2) Remove the two screws (gold) ①.

(3) Insert a flat-blade driver into the hole A to disengage the claw A, at each of the two places, and pull in an arc the rear cover ② in the direction of the allow A.

(4) Push the lower part of the rear cover ② in the direction of the allow B to disengage the three claws B, then detach the rear-cover ② in the direction of the allow C.

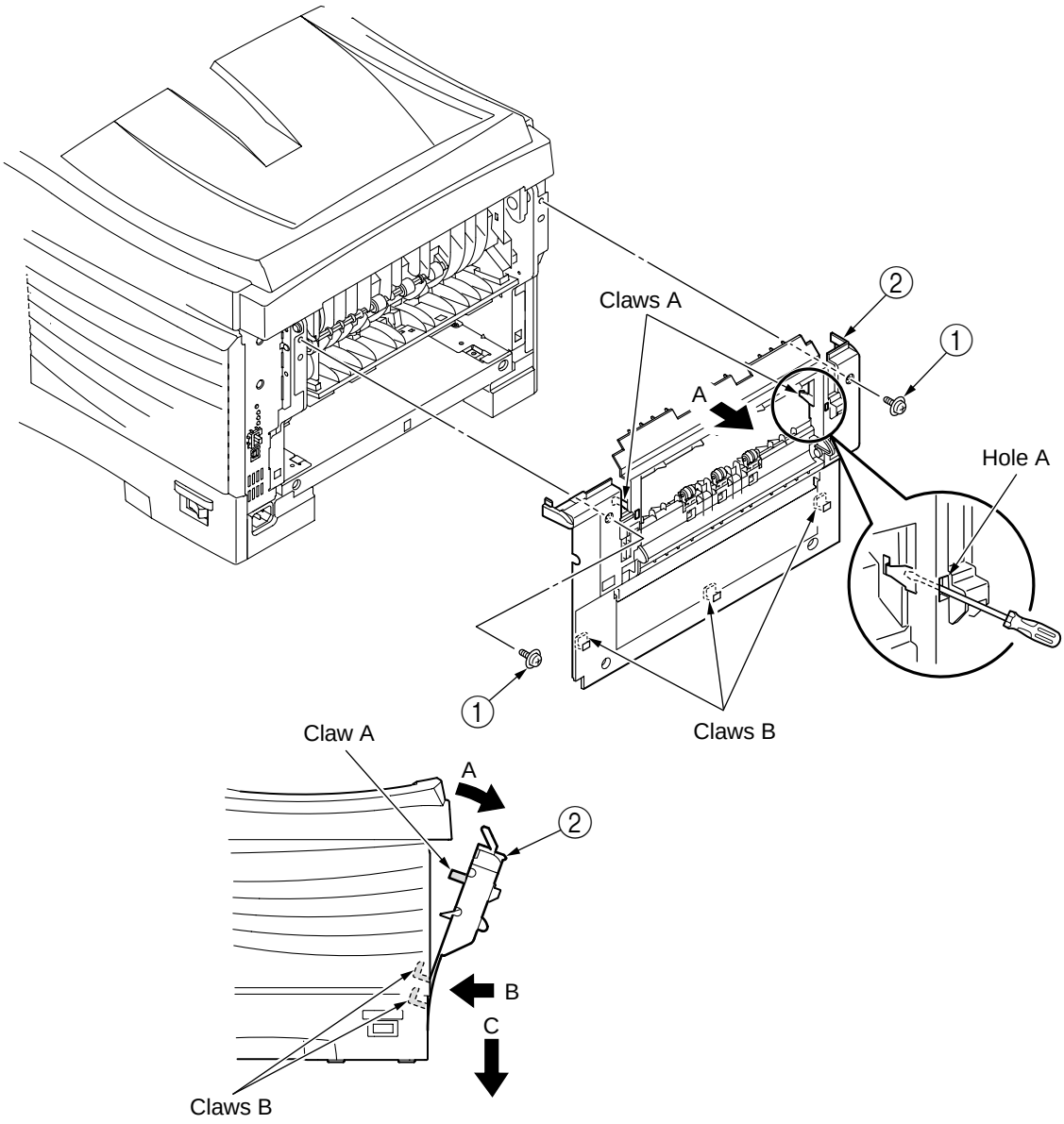



Figure 2-2-5 Rear Cover

### 2.2.6 LED Assy / LED Assy Springs

(1) Open the top cover ①.

(2) Remove the cable connection of, and disengage the two hooks of, the LED assy ② to detach the assy (the two springs ③ become detached together with the LED Assy ②).

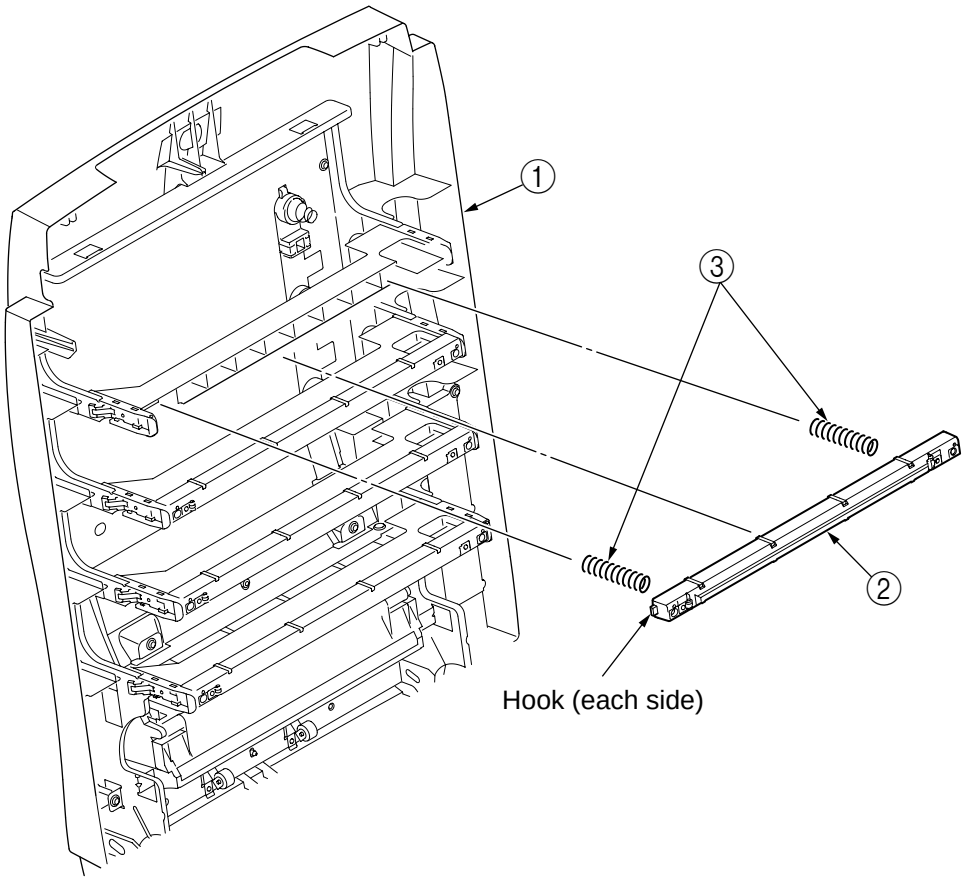



Figure 2-2-6 LED Assy / LED Assy Springs

### 2.2.7 Controller PWB

#### C5300

(1) Remove the Print Engine Controller PWB (see section 2.2.8).

(2) Remove the screw ① and then the head cable ②.

(3) Remove the eight screws (gold) ③, then detach the controller PWB ④.

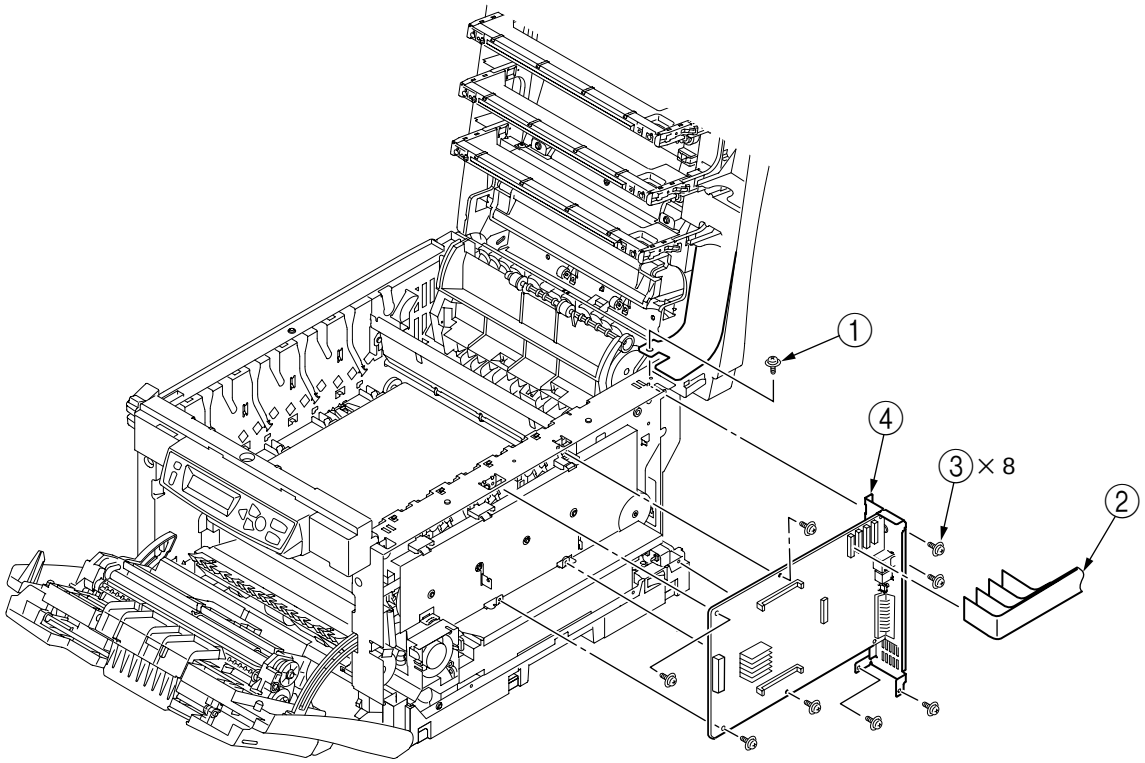



Figure 2-2-7-1 Controller PWB (C5300)

## C5100

(1) Open the top cover.

(2) Remove the right side cover (see section 2.2.3).

(3) Unscrew the three screws (gold) ① to remove the plate-shield assy (GDI) ②.

(4) Remove the screw (gold) ③ and then the head cable ④.

(5) Remove the six screws (gold) ⑤ and the connector ⑥, then detach the controller PWB ⑦.

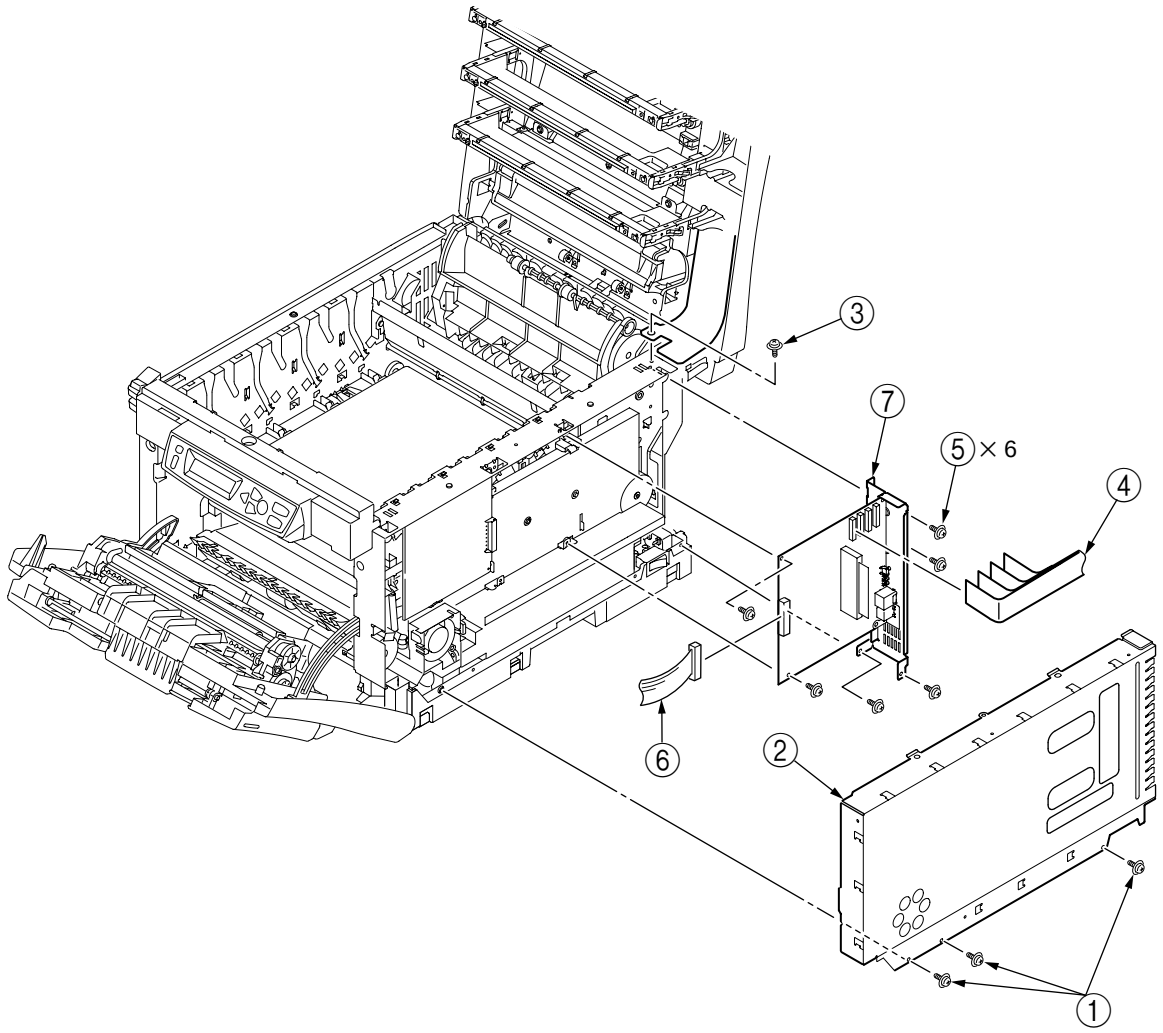



Figure 2-2-7-2 Controller PWB (C5100)

2.2.8 Print Engine Controller PWB

## C5300

(1) Open the top cover.

(2) Remove the right side cover (see section 2.2.3).

(3) Remove the connector ①, and disengage the two hooks ② of to detach the FAN (CU) ③.

(4) Remove the three screws (gold) ④ to detach the plate shield assy (PCL) ⑤.

(5) Remove the three screws (gold) ⑥ and all the connectors to detach the print engine controller PWB ⑦.

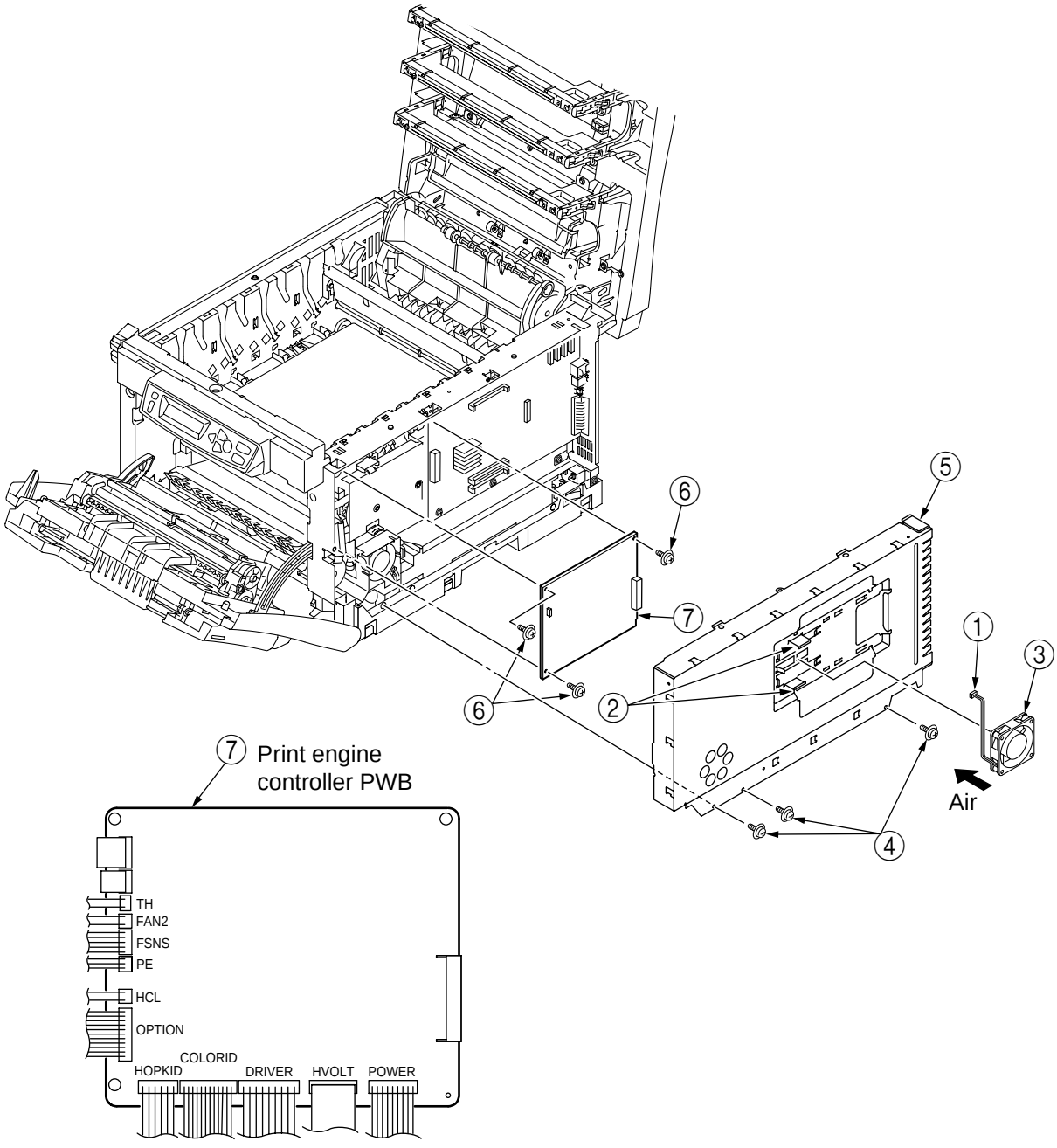



Figure 2-2-8-1 Print Engine Controller PWB (C5300)

C5100

(1) Remove the plate shield assy (GDI) [see section 2.2.7, steps (1) to (3)].

(2) Remove the three screws (gold) ① and all the connectors to detach the print engine controller PWB ②.

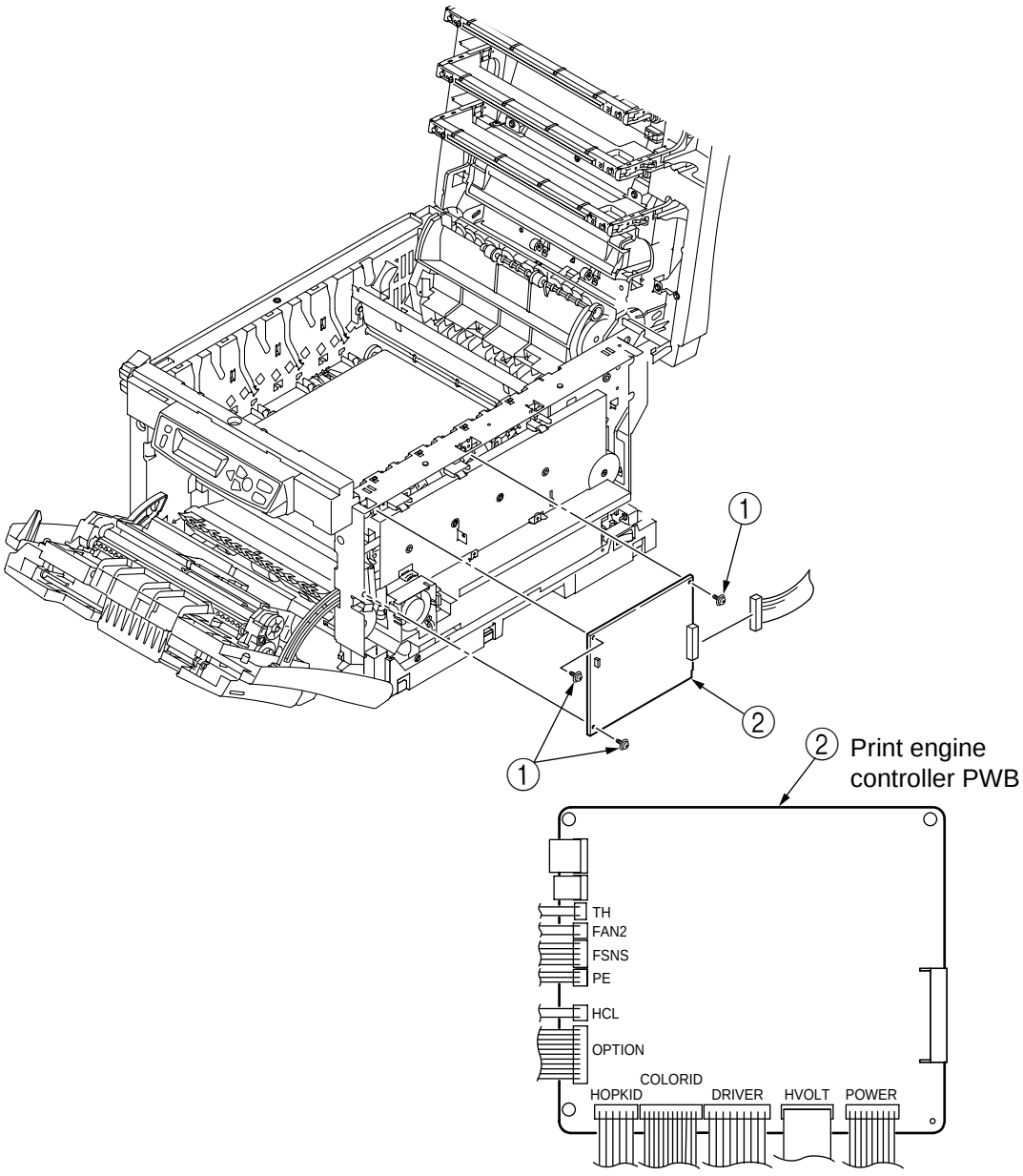



Figure 2-2-8-2 Print Engine Controller PWB (C5100)

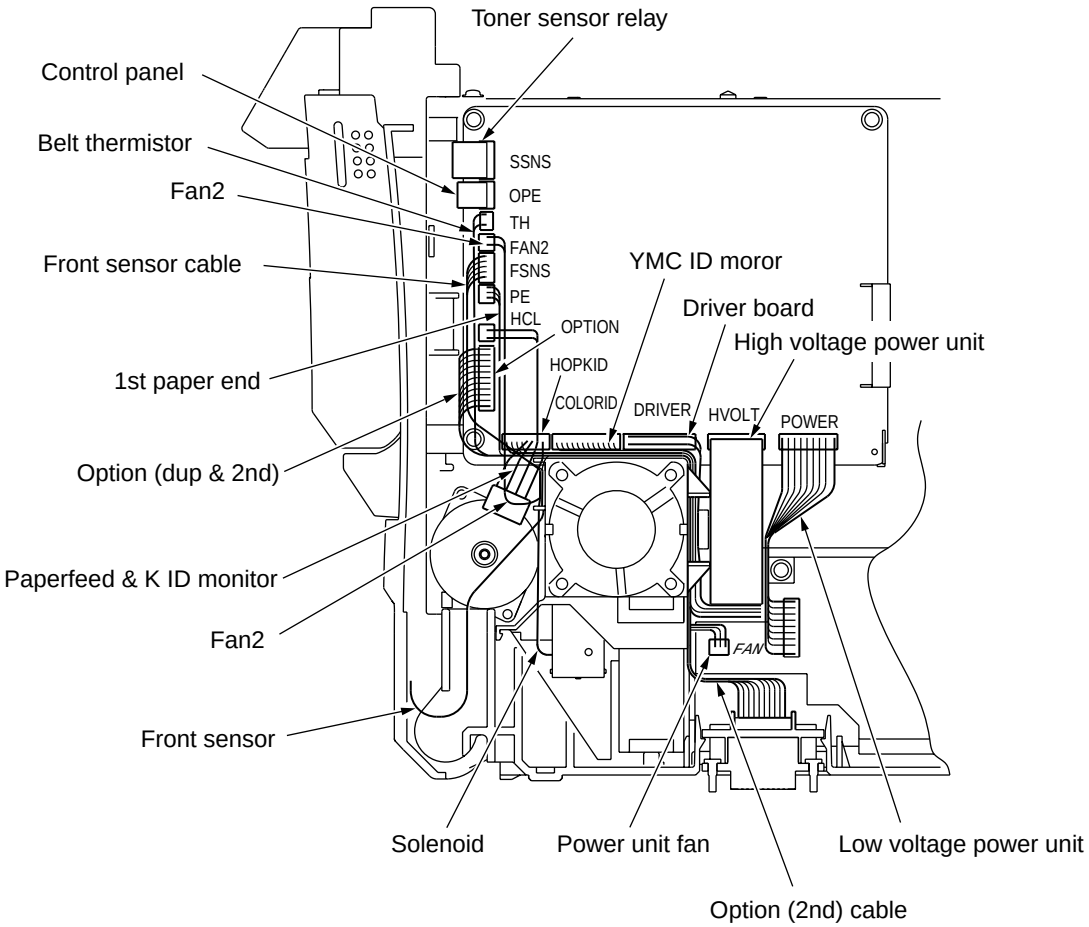



Figure 2-2-8-3 Print Engine Controller Board Cable Route

2.2.9 Top Cover Unit.

(1) Remove the top cover (see section 2.2.1).

(2) Remove the left side cover (see section 2.2.2).

(3) Remove the right side cover (see section 2.2.3).

(4) Remove the rear side cover (see section 2.2.5).

(5) Remove the plate-shield assy (GDI) [see section 2.2.7, step (2)].

(6) Remove the two E-shaped rings ① and the two springs - torsion ②, then detach the top cover unit ③.

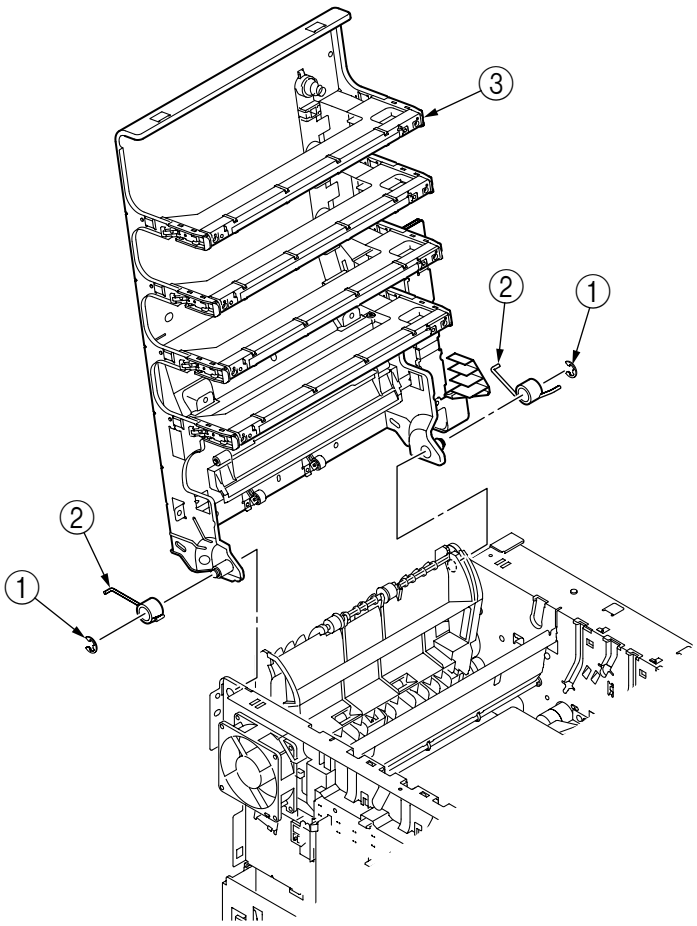



Figure 2-2-9 Top Cover Unit

2.2.10 Controller Panel Assy

(1) Open the top cover.

(2) Open the feeder unit.

(3) Remove the right side cover (see section 2.2.3).

(4) Remove the plate-shield assy (GDI) [see section 2.2.7, step (2)].

(5) Make control panel assy connector removal (see section 2.2.8).

(6) Remove the four screws (gold) ①, then detach the control panel assy ②.

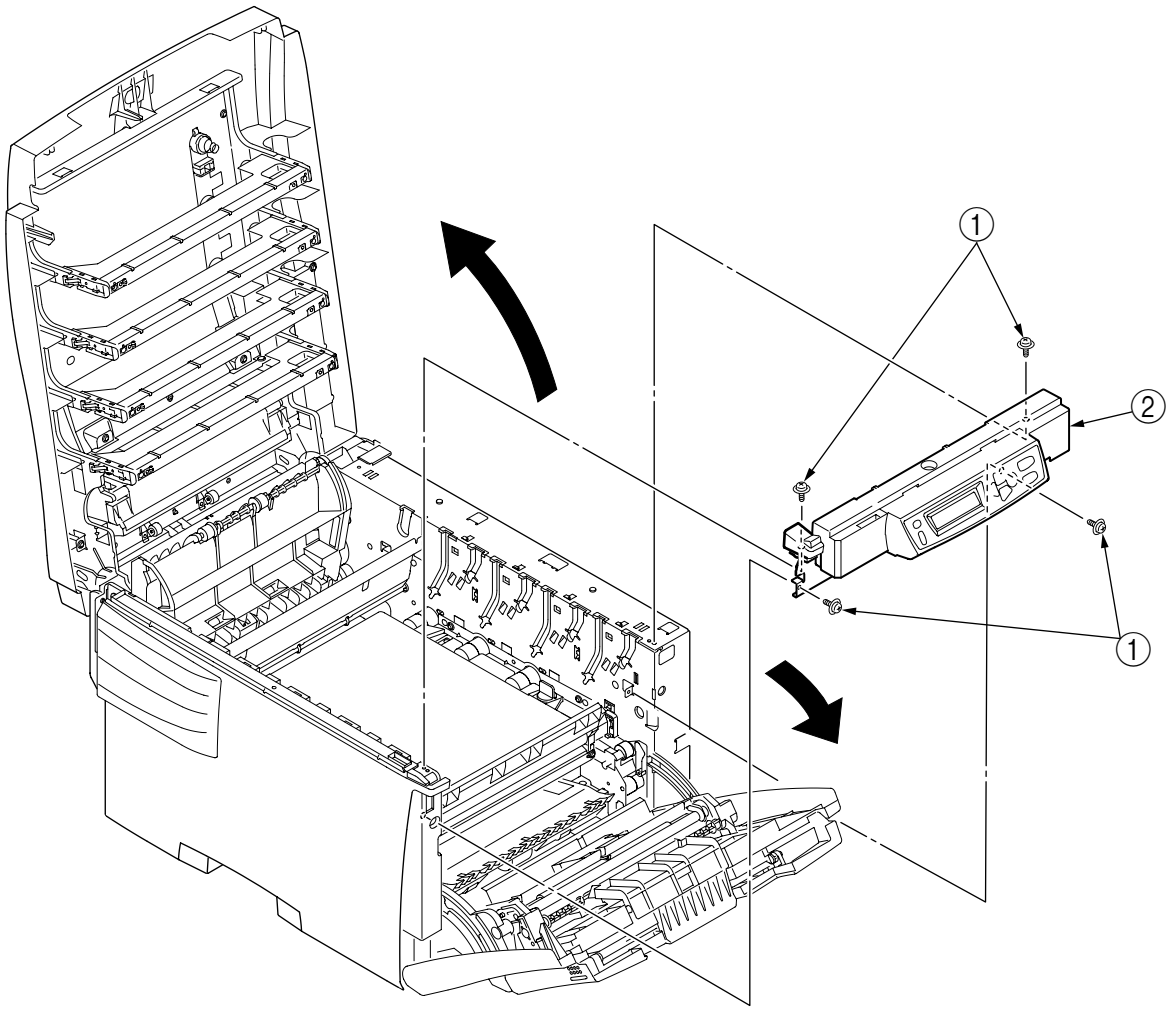



Figure 2-2-10 Control Panel Assy

2.2.11 Board RSP / Environment Sensor / Top Cover Handle

(1) Remove the control panel assy (see section 2.2.10).

(2) Disengage the two claws A of the lever-lock ② to remove the frame OP ①, and remove the lever-lock ② and the spring-compression ③.

(3) Disengage the two claws B of the cover assy OP ④ to remove it, and remove the springs torsion ⑤.

(4) Detach the board RSP ⑥, the environment sensor ⑦, the cable ⑧ and the harness ⑨.

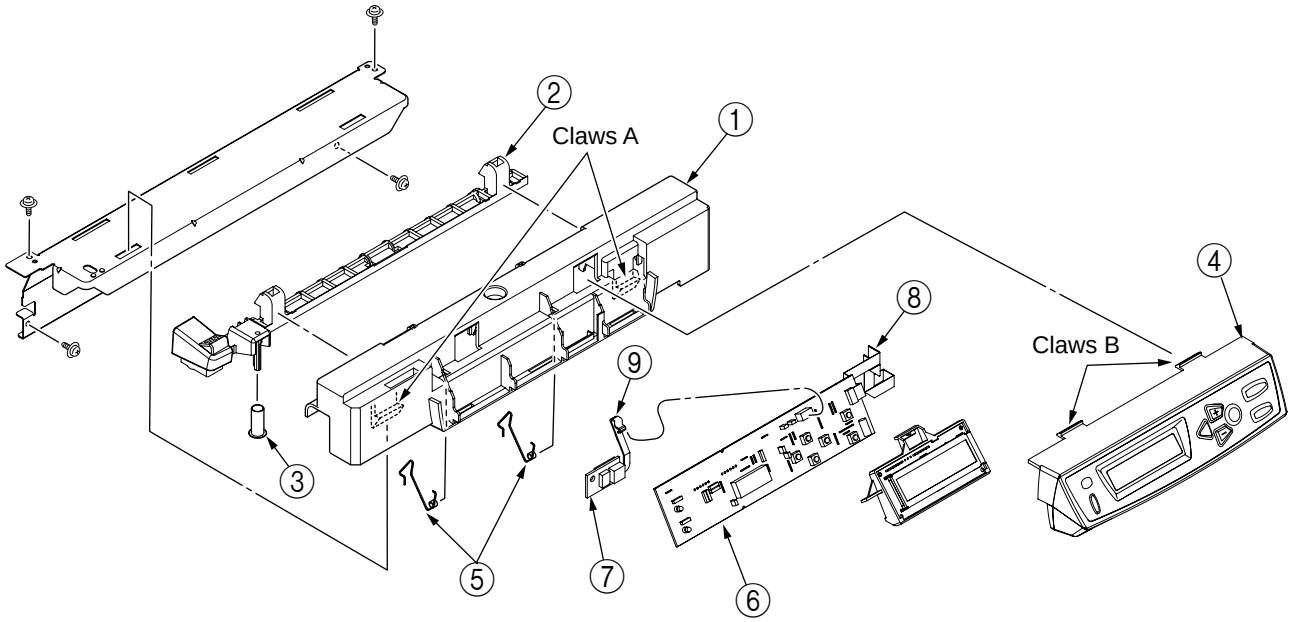



Figure 2-2-11 Board RSP / Environment Sensor / Top Cover Handle

2.2.12 Low Voltage Power Unit / FAN (ID) / FAN (PowL) / Hopping Motor / Fuser Motor

(1) Remove the print controller PWB (see section 2.2.8).

(2) Remove the controller PWB (see section 2.2.7).

(3) Remove the film ① and the frame duct ② to demount the FAN (ID) ③.

(4) Remove the two screws (gold) ④ and the four connectors to demount the POW unit ⑤.

(5) Demount the FAN (PowL) ⑥ by releasing claw engagement.

(6) Remove the two screws (black) ⑦ and the connector to detach the hopping motor ⑧.

(7) Remove the two screws (black) ⑨ and the connector to detach the fuser motor ⑩.

***Note!*** When reassembling the FAN (PowL) ⑥, check the attachment direction.

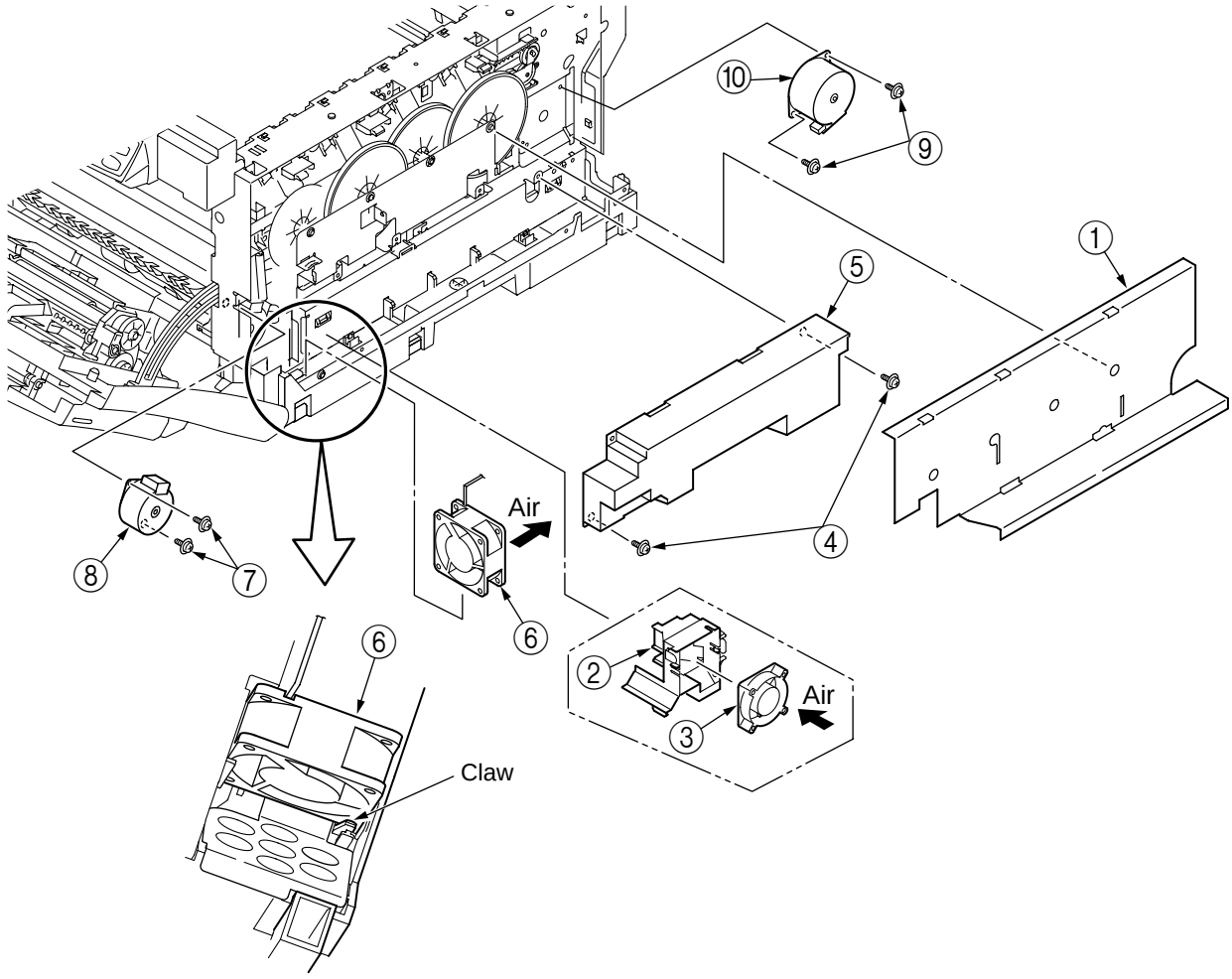



Figure 2-2-12 Low voltage Power Unit / FAN (ID) / FAN (PowL) / Hopping Motor / Fuser Motor

2.2.13 Board-PRD

(1) Remove the right side cover (see section 2.2.3).

(2) Remove the print engine controller PWB and the controller PWB (see sections 2.2.7 and 2.2.8).

(3) Remove the film and the low voltage power unit (see section 2.2.12).

(4) Remove the three screws (gold) ① and the two E-shaped snaps ② to remove the plate-outer ③.

(5) Remove the gear-idle-ID - K ④, Y and C ⑤, each in one piece, and M ⑥, and the spring ⑦ of the solenoid.

(6) Unlatch, and remove by sliding the guide assy - side R ⑧, the assy and detach the board-PRD ⑨ and the nine springs ⑩.

***Note!*** When reassembling the board-PRD, do not forget to attach the spring of the solenoid ⑦.

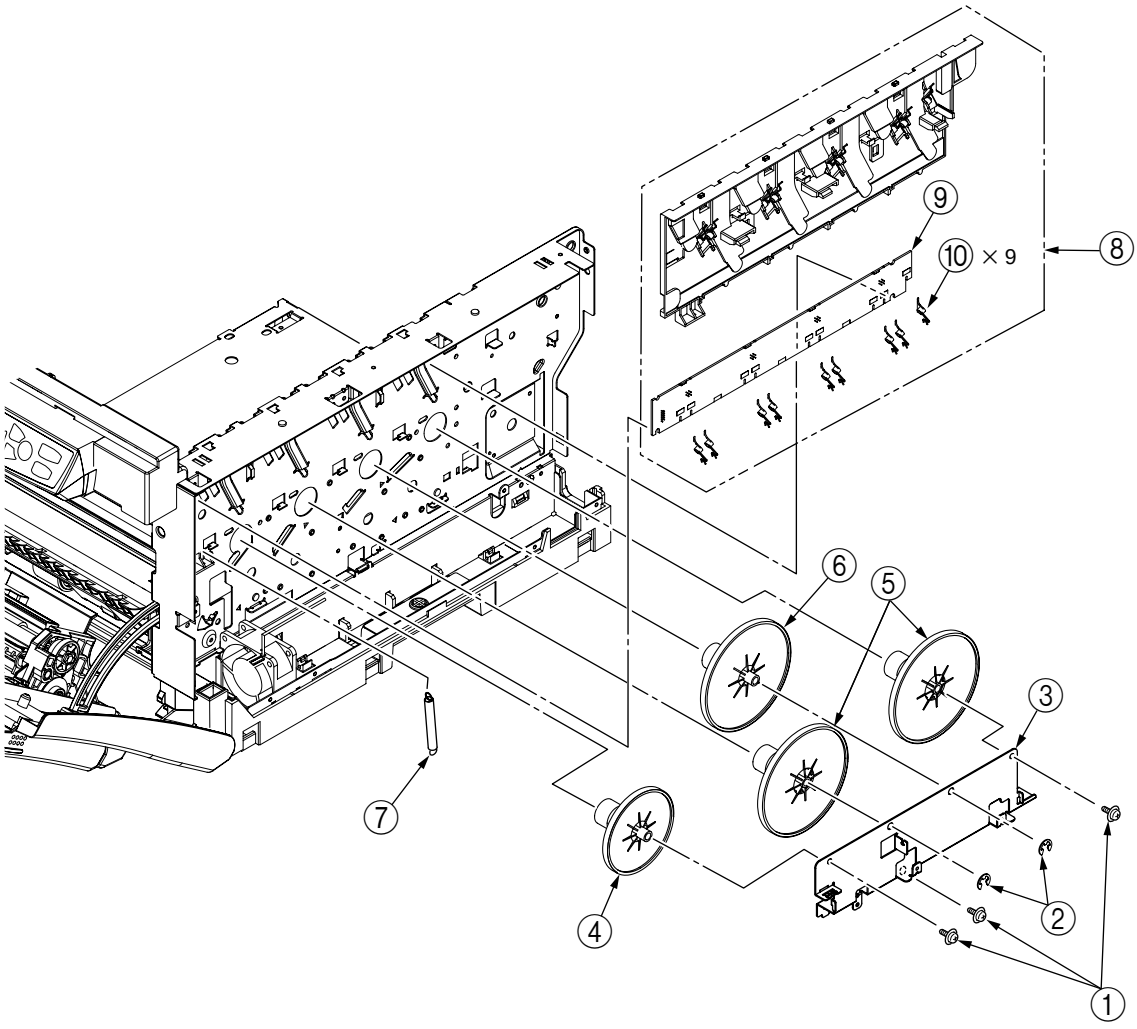



Figure 2-2-13 Board-PRD

2.2.14 Guide - Eject Assy / Color Registration Assy / Board-RSM

(1) Remove the left side cover, the write side cover, the rear cover and the top cover unit (see sections 2.2.2, 2.2.3, 2.2.5 and 2.2.9).

(2) Remove the engine controller PWB, the controller PWB and the film [see sections 2.2.7 and 2.2.8, and step (3) of section 2.2.12].

(3) Unscrew the two screws (gold) ① to remove the plate-heat ②.

(4) Remove the two springs - torsion ③ and disengage the two claws to remove the cover-driver ④.

(5) Make screw (gold) ⑨ and connector removal to detach the board-RSM ⑩.

(6) Make two-screw (gold) ⑤ removal to detach the color registration assy ⑥.

(7) Make two-screw (gold) ⑦ removal to detach the guide eject assy ⑧.

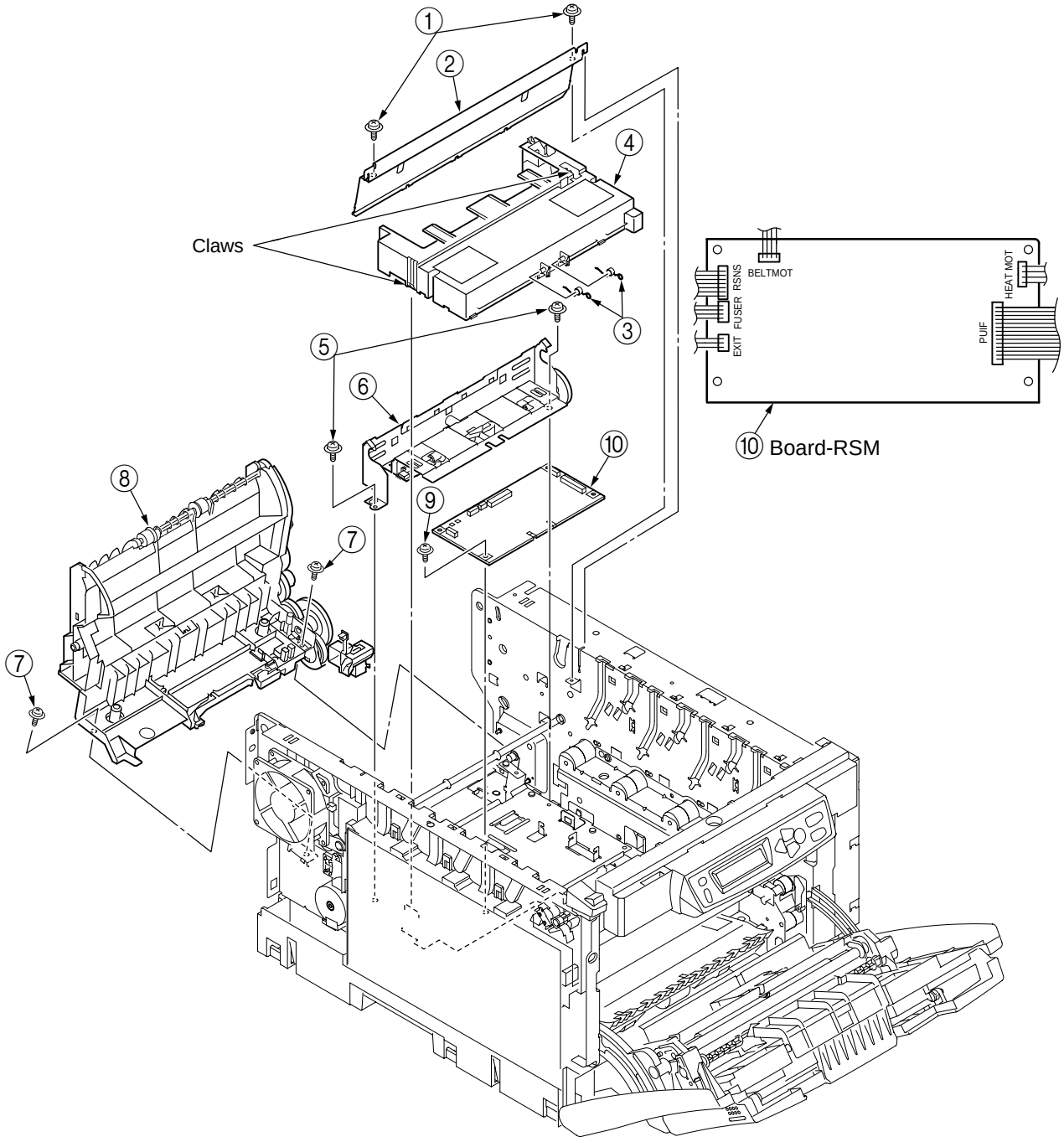



Figure 2-2-14-1 Guide - Eject Assy / Color Registration Assy / Board-RSM

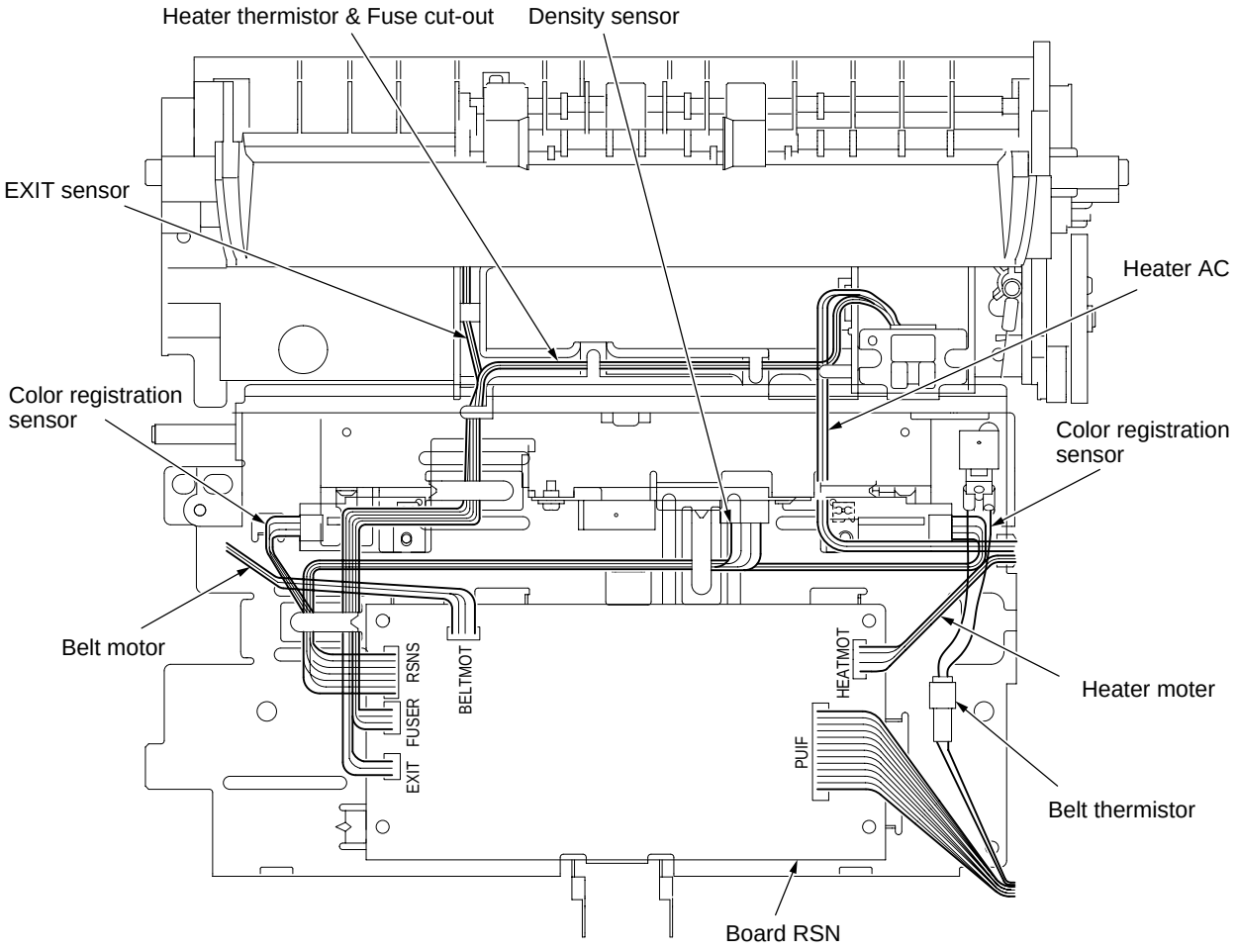



Figure 2-2-14-2 Board-RSM Cable Route

2.2.15 FAN (Fuser) / Belt Motor / High Voltage Power Supply Board / Cover Open Switch / Image Drum Up/Down Sensor

(1) Remove the left side cover (see section 2.2.2).

(2) Make screw (gold) ① and connector removal to detach the belt motor ②.

(3) Remove the screw (gold) ③, disengage the latch and make connector removal to detach the high voltage power supply board ④.

(4) Remove the two screws (gold) ⑤ to remove the cover-rear ⑥.

(5) Remove the connector and, turning the FAN (Fuser) ⑦, detach the FAN (Fuser) ⑦.

(6) Remove the connector and unlatch the cover open switch ⑧ to detach the switch.

(7) Remove the connector and pull out the lock-piece ⑨ to detach the image drum up/down sensor ⑩.

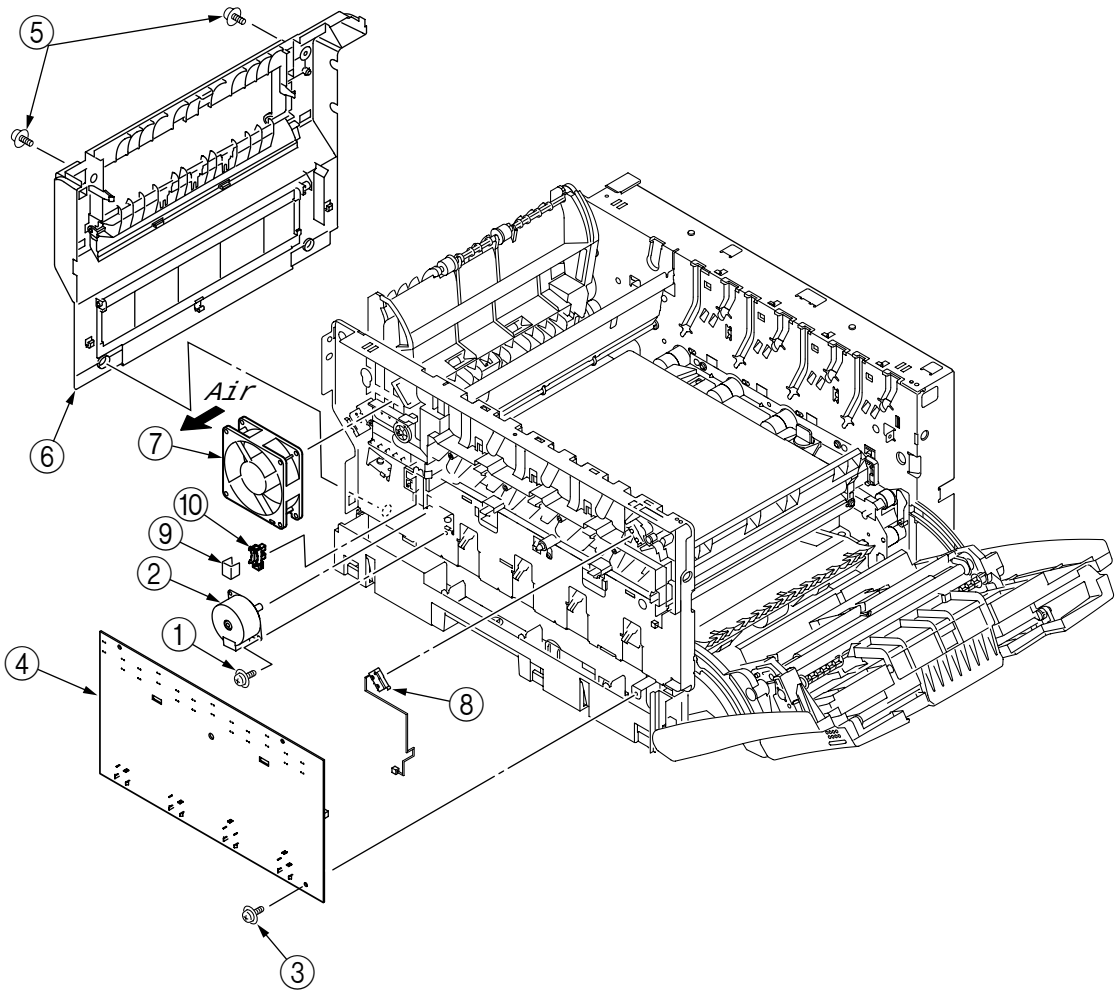



Figure 2-2-15 FAN (Fuser) / Belt Motor / High Voltage Power Supply Board / Cover Open Switch / Image Drum Up/Down Sensor

2.2.16 Multipurpose Tray (MPT) Assy

(1) Open the MPT assy ①.

(2) Remove the two stoppers and the two supports to detach the MPT assy ①.

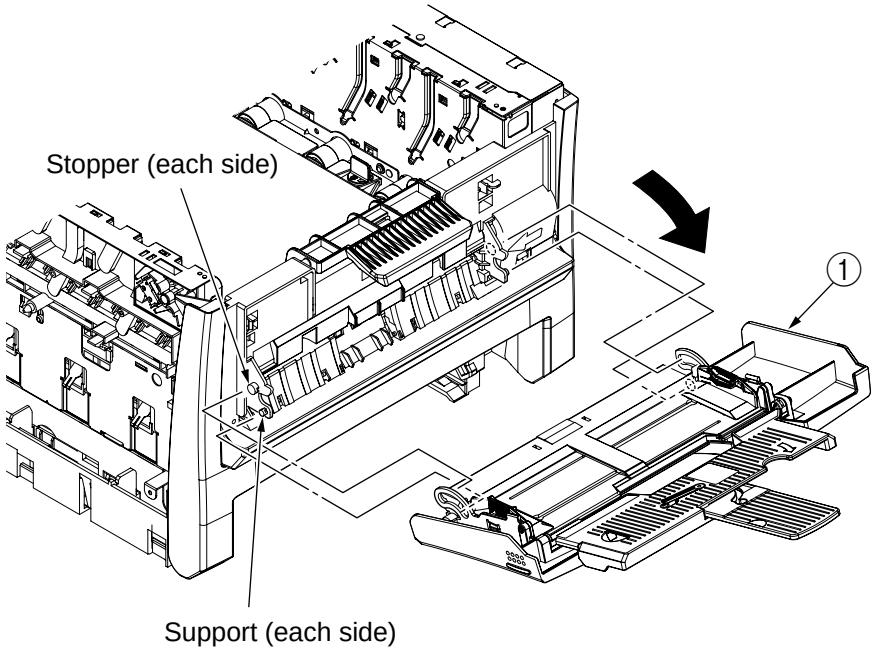



Figure 2-2-16 MPT Assy

2.2.17 Feeder Unit / Board-RSF / Multipurpose Tray (MPT) Hopping Roller / Multipurpose Tray (MPT) Frame Separator / Cover-Front

(1) Open the top cover.

(2) Remove the left side cover (see section 2.2.3).

(3) Make plate-shield (GDI) and connector removal (see section 2.2.7).

(4) Disengage the claws of the stay L ① and the stay R ②, sliding the feeder unit ③, detach the feeder unit.

(5) Remove the cover sensor ④ by releasing claw engagement.

(6) Make connector removal to detach the board-RSF ⑤.

(7) Remove the lever ⑥ by turning it until it is unlocked.

(8) Remove the two screws (black) ⑦ to remove the stay L ①.

(9) Remove the four screws (black) ⑧, disengage the front two claws A and remove the feed Assy ⑨.

(10) Remove the two lock shafts ⑩ and the two springs ⑪ and disengage the four claws to detach the hopping roller assy ⑫.

(11) Remove the hopping roller shaft ⑬.

(12) Remove the two supports to detach the MPT frame separator ⑭, and remove the spring ⑮.

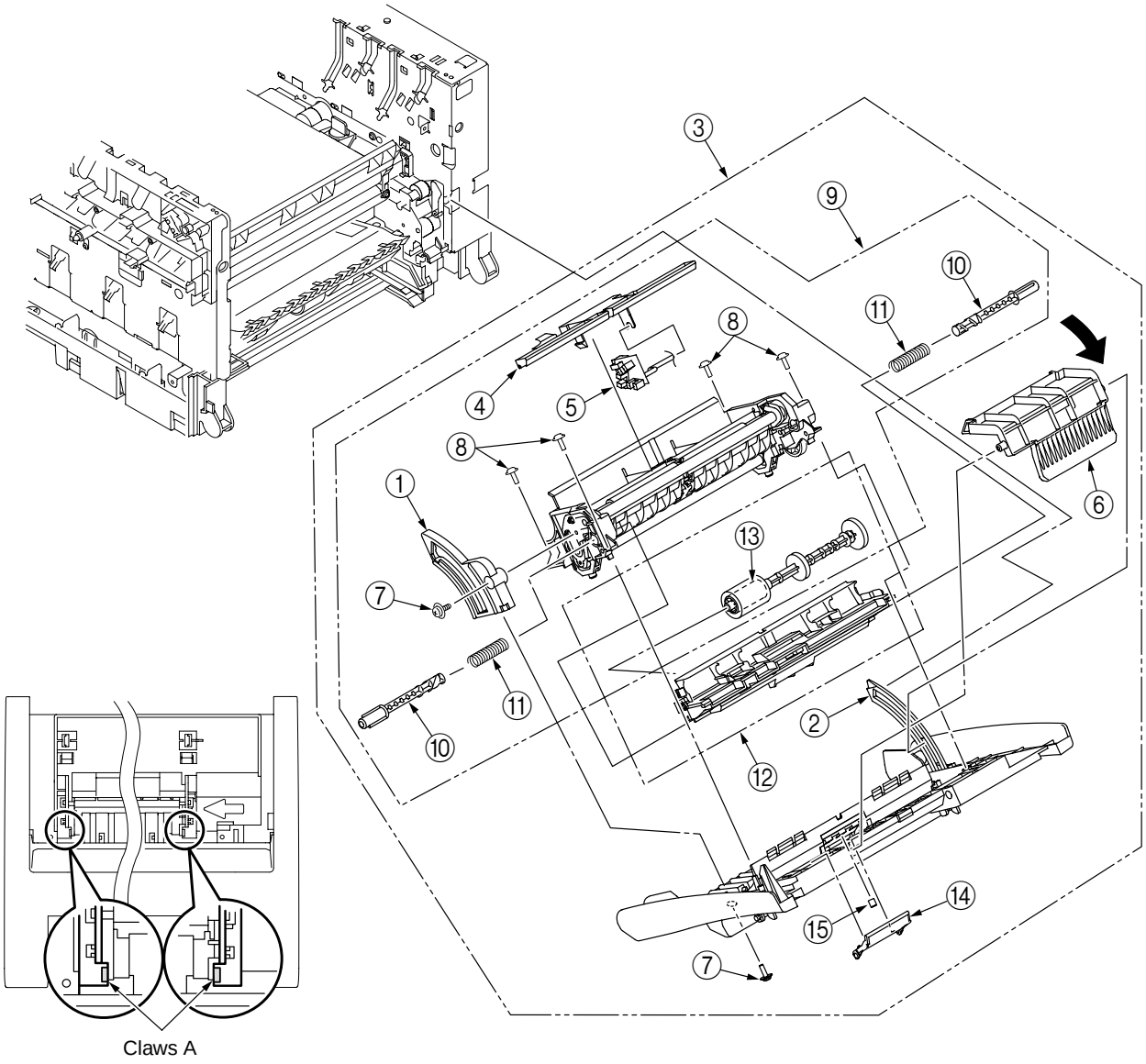



Figure 2-2-17 Feeder Unit / Board-RSF / MPT Hopping Roller / MPT Frame Separator / Cover-Front

2.2.18 Main Motors / Solenoid / Paper-End Sensor

(1) Remove the left side cover, the right side cover, the rear side cover, the top cover unit and the feeder unt (see sections 2.2.2 , 2.2.3, 2.2.5, 2.2.9 and 2.2.17).
(2) Remove the print engine controller PWB, the controller PWB and the film [see sections 2.2.7, 2.2.8 and 2.2.12 (3)].
(3) Remove the fan (ID), the frame duct, the fan (Pow L) and the low voltage power unit (see section 2.2.12).
(4) Remove the plate-heat, the eject assy, the cover-driver, the color-registration assy and the board-RSM (see section 2.2.14).
(5) Unscrew the two screws (gold) ① to remove the plate-driver ②.
(6) Disengage the latch to remove the cover-hopping ③.
(7) Remove the fan (fuser) and the image drum up/down sensor ④ (see section 2.2.15).
(8) Disengage the latch to remove the gear assy - planet ⑤, the shaft ⑥ and the three rollers ⑦.
(9) Unscrew the two screws (gold) ⑧ to remove the side plate R assy ⑨.
(10) Remove the three screws (gold) ⑩ and the two E rings ⑪, then remove the plate-outer ⑫, the gear-idle K ⑬, and Y and C ⑭, and M ⑮.
(11) Remove the three screws (gold) ⑯ to remove the plate-lock-out-ID ㉚ and the plate-inner ⑰.
(12) Remove the screws (gold) ⑱ (one screws each motor-ID ⑲) and the connectors, then uninstall the motors-ID ⑲.
(13) Remove the screw (gold) ⑳ and the two screws (black) ㉛ to remove the gear assy - HP ㉑.
(14) Remove the screw (gold) ㉒ to uninstall the solenoid ㉓.
(15) Remove the spring ㉔, disengage the claw and remove the bushing ㉕, the hopping roller shaft ㉖ and the frame-hopping ㉗.
(16) Detach the paper-end sensor ㉘ and the paper-end lever ㉙.

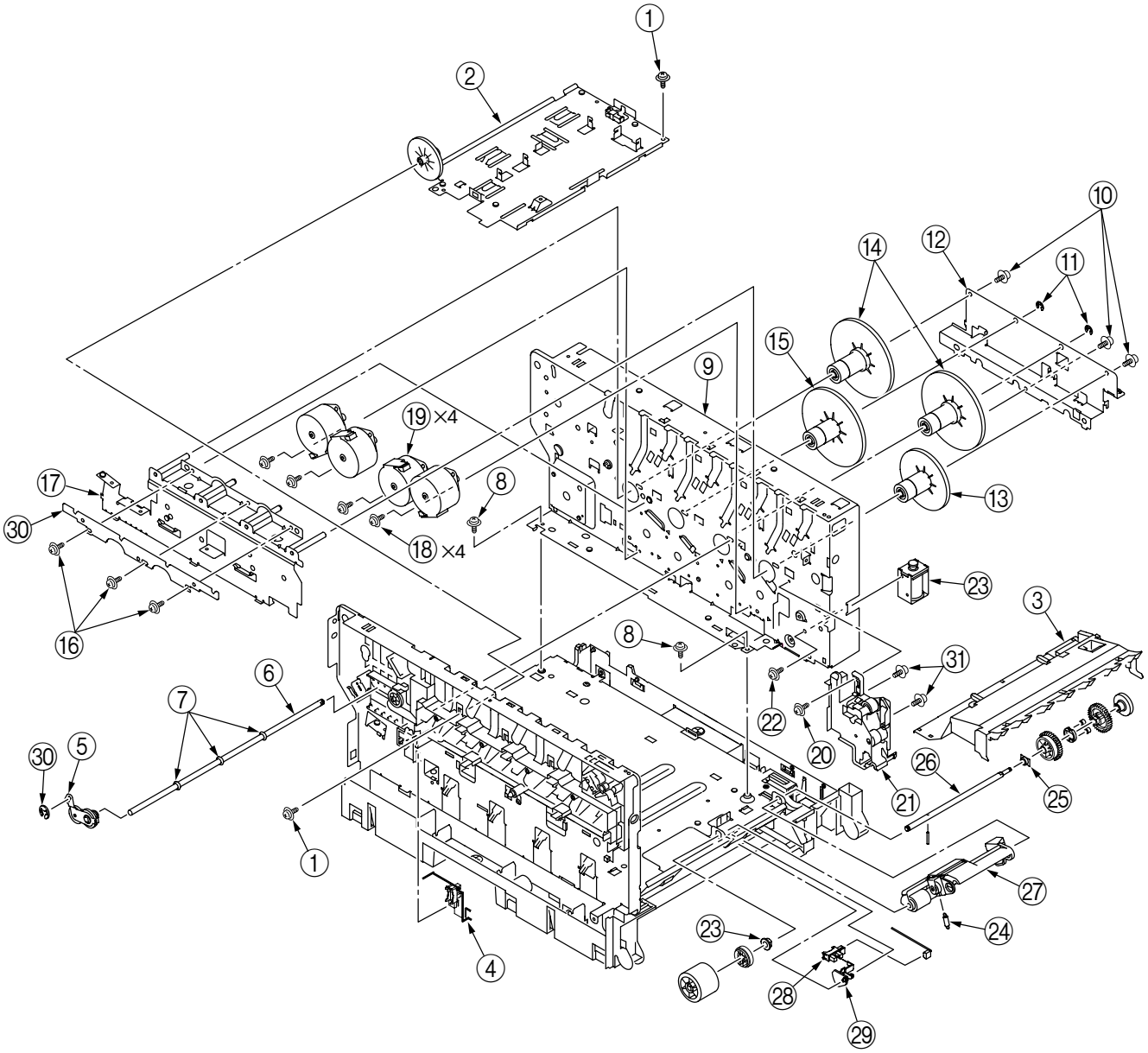



Figure 2-2-18 Main Motors / Solenoid / Paper-End Sensor

### 2.2.19 Feed Roller

(1) Remove the cassette.

(2) Unlatch and detach the feed roller ①.

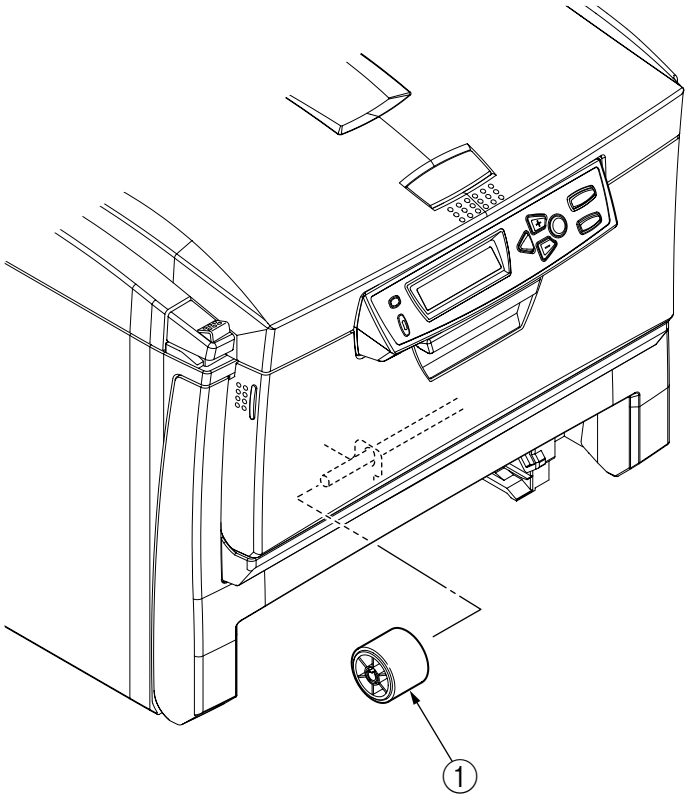



Figure 2-2-19 Feed Roller

2.2.20 Shaft Eject Assy (FU) / Shaft Eject Assy (FD) / Eject Sensor

(1) Detach the eject assy ①.

(2) Disengage the latch to separate the guide-eject-lower ② and the guide-eject-upper ③.

(3) Remove the gear-idle-eject ④, then detach the shaft assy - eject (FU) ⑤ and the shaft assy - eject (FD) ⑥.

(4) Make connector and guide-cable R ⑦ removal.

(5) Detach the lever - eject sensor ⑧ and then the eject sensor ⑨.

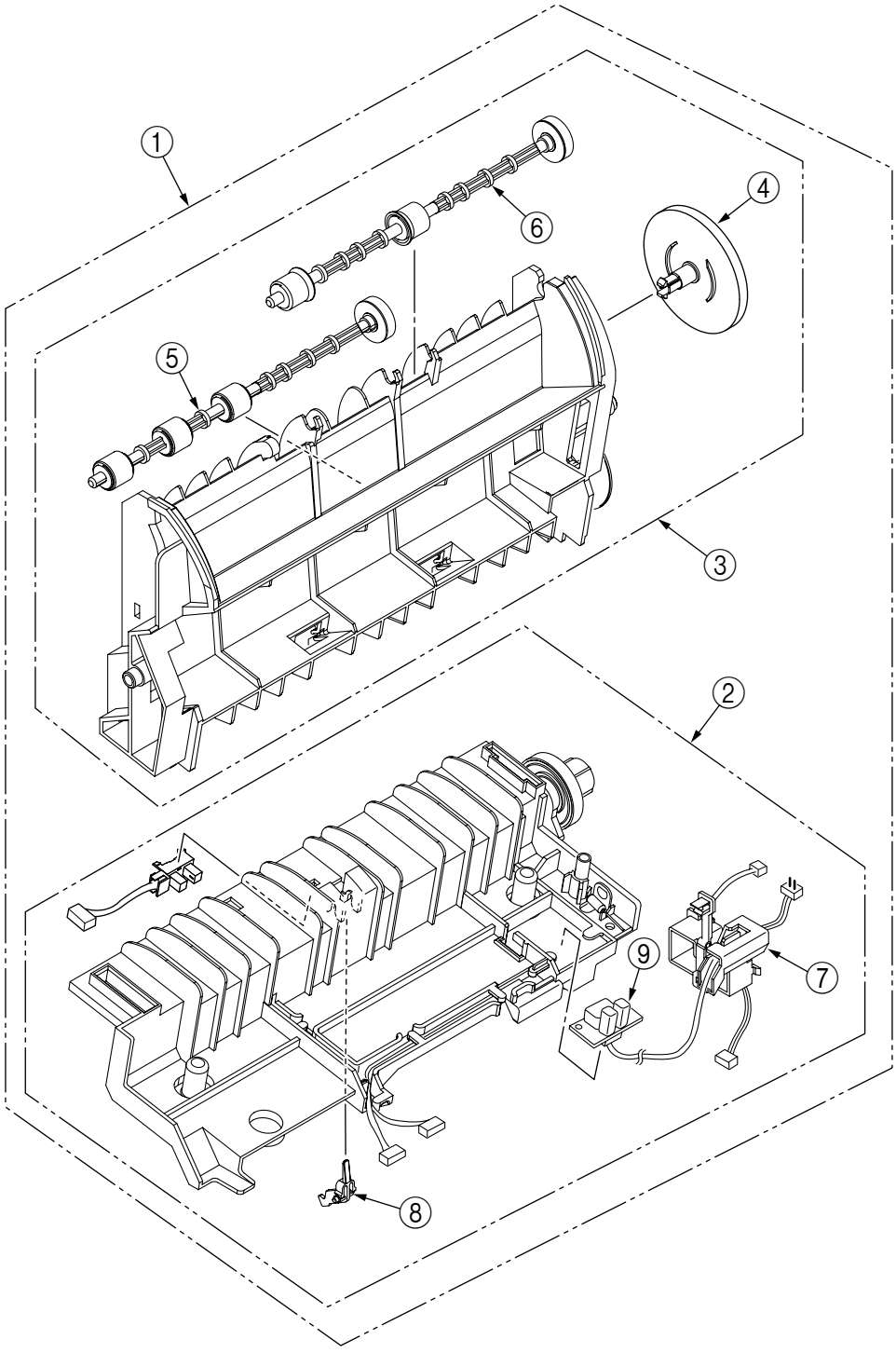



Figure 2-2-20 Shaft Eject Assy (FU) / Shaft Eject Assy (FD) / Eject Sensor

2.2.21 Fuser Unit

(1) Open the top cover ①.

(2) Rise the fuser unit lock levers (two blue portions) ② in the directions of the arrows to detach the fuser unit ③.

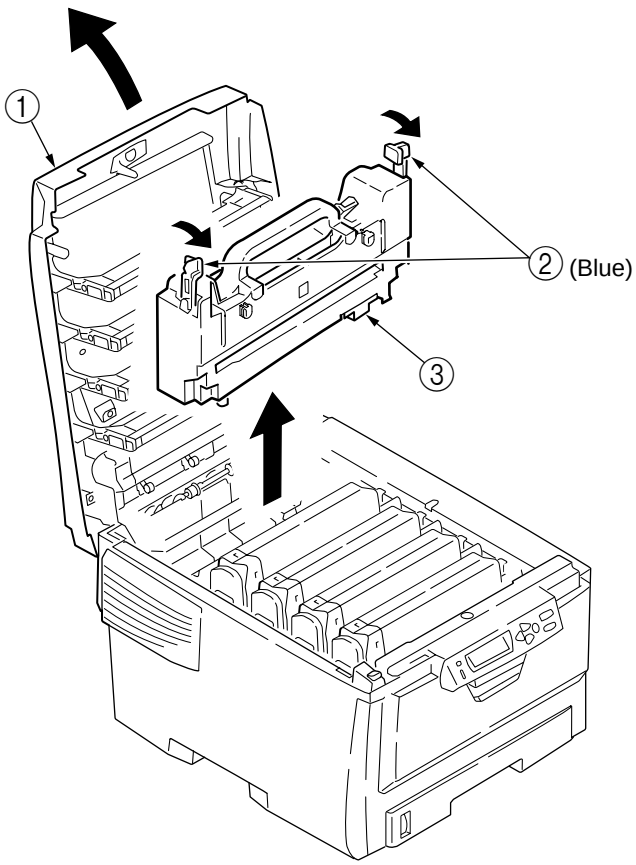



Figure 2-2-21 Fuser Unit

2.2.22 Belt Unit

(1) Open the top cover ①.
(2) Remove the image drum unit.
(3) Turn the lock levers (two blue portions) ② in the direction of the arrow ( ) and, grasping the lever (blue) ③, detach the belt unit ④.

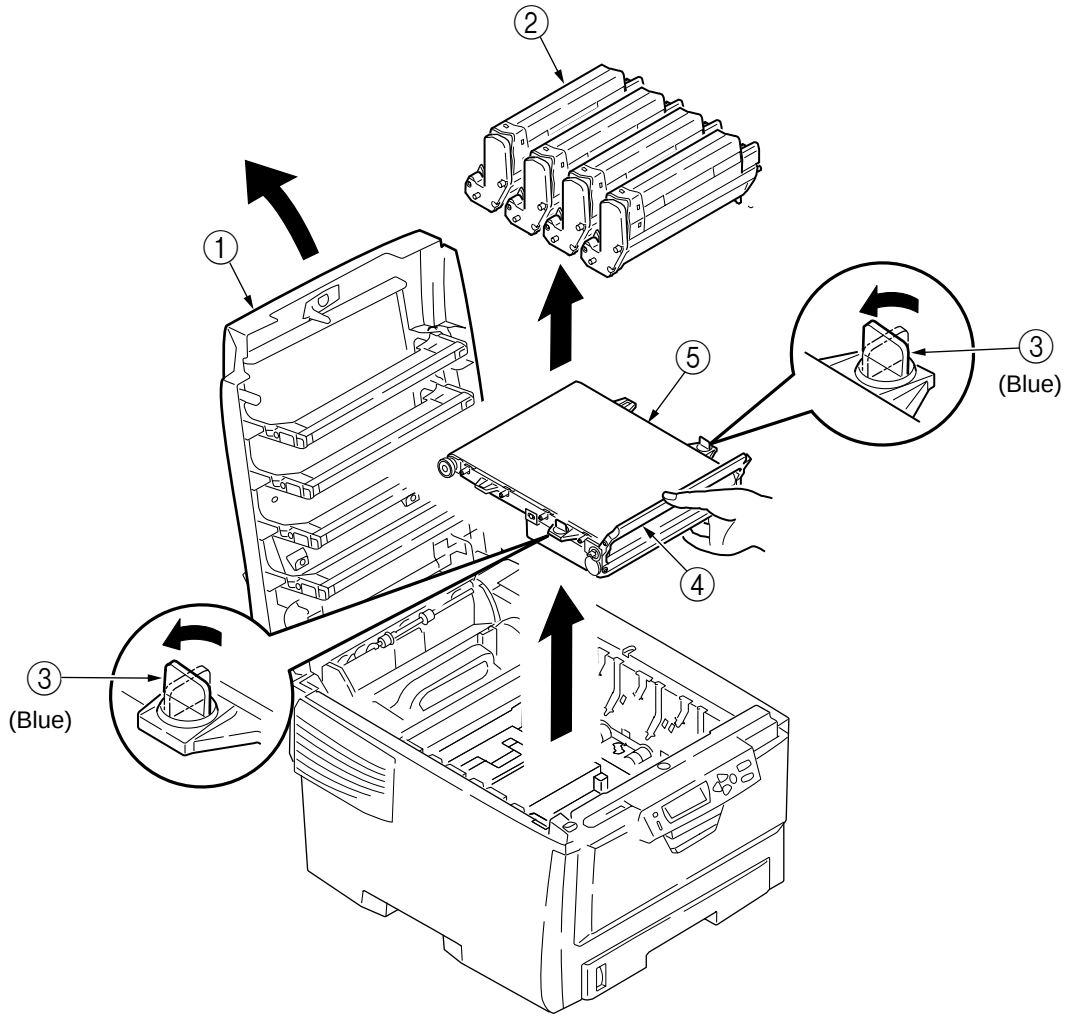



Figure 2-2-22 Belt unit

# 3. ADJUSTMENTS

Adjustments of C5300/C5100 printers can be made using maintenance utility software and key input from their operator panels. In addition to a standard menu, there is a maintenance menu in the display of their operator panels. The menu that serves the purpose of intended adjustment is to be selected.

## 3.0.1 System Maintenance Menu

Turning on printer power while holding the MENU+ and MENU- keys down activates System Maintenance menu. The menu is only displayed in English on a printer to any destination.

***Note!*** System Maintenance menu, from which settings such as printer destinations can be changed, is hidden from users' view.

Table 3-0-1 Maintenance Menu Display Table

| Category | Item(1st Line) | Value(2nd Line) | DF | Function |
|---|---|---|---|---|
| OKIUSER | OKIUSER | ODA<br>OEL<br>APS<br>JP1<br>JPOEM1<br>OEMA<br>OEML | | Sets Brand and Destination.<br>JPOEM1: Japan OEM<br>OEMA: Overseas OEM for A4 default<br>OEML: Overseas OEM for Letter default<br>Boots up automatically when a brand is selected. |
| MAINTENANCE MENU | HDD FORMAT | EXECUTE | | Format for HDD.<br>Process as same as connecting for new HDD. |
| | FLASH FORMAT | EXECUTE | | Format for Resident FLASH.<br>NIC Program is elased. |
| | MENU RESET | EXECUTE | | Sets factory default for EEPROM of CU board. |
| CONFIG MENU | CODESET | TYPE1<br>TYPE2 | * | TYPE1: Russian/Greek does not appear.<br>TYPE2: Russian/Greek appear.<br>When you select TYPE2, LANGUAGE selections in SYS CONFIG MENU in USER MENU display RUSSIAN and GREEK. (The value change is enabled after rebooting.) |
| ENG STATUS PRINT | ENG STATUS PRINT | EXECUTE | | Selecting by the ENTER key, then pressing the On-line switch will prompt initialization and printing Engine information. |
| TEST PRINT MENU (C5300) | TEST PRINT MENU | ENABLE<br>DISABLE | * | Switches ENABLE and DISABLE to display the TEST PRINT MENU category in the User Menu. |
| PAGE CNT PRINT | PAGE CNT PRINT | ENABLE<br>DISABLE | * | Sets printing or not printing the total page count in PRINT MENU MAP. |
| FUSE KEEP MODE | FUSE KEEP MODE | EXECUTE | | When ENTER key is pressed, CU issues a command to PU, and the printer becomes ON LINE. With the power on, replace the consumables with new ones and check the printer behavior. (At this point, fuse of new consumables is not cut, and operation count will not be added to the value of old consumables.) When the power is turned off, the printer exits check mode, and it becomes disabled when you turn on the power. |

| Category | Item(1st Line) | Value(2nd Line) | DF | Function |
|---|---|---|---|---|
| PERSONALITY (C5300) | PCL | ENABLE<br>DISABLE | * | Changes the default PDL language for each brand. PDLs that are disabled in this menu will not be displayed on User Menu's or Admin Menu's PERSONALITY.<br>When print data in the PDL language set to DISABLE is received, the printer will display INVALID DATA and discard received data.<br>(HP-GL/2 is under development, and there is no plan to implement as yet in the product.)<br>PX715: Cannot disable PS3 (PostScript). Same as PX711/713.(Only menu is implemented for future expansion.)<br>When PCL is set to DISABLE, the data of HP-GL/2 or PCL XL will not be printed even though it is set to ENABLE. The data is processed as invalid.<br>Setting ENABLE to IBM PPR III XL or EPSON FX in Japanese brands will not assure the normal operation.<br>Setting ENABLE to ESPC/ P in overseas brands will not assure the normal operation. |
| | IBM PPR III XL | ENABLE<br>DISABLE | *E<br>*J | |
| | EPSON FX | ENABLE<br>DISABLE | *E<br>*J | |
| | PS3 EMULATION (C5300) | ENABLE<br>DISABLE | * | |
| | ESC/ P | ENABLE<br>DISABLE | *J<br>*E | |
| | HP-GL/2 | ENABLE<br>DISABLE | *JE | |
| | PCL XL | ENABLE<br>DISABLE | *JE | |
| ESC/ P EMULATION (Not available for overseas model) (C5300) | nSelectin | DISABLE<br>ENABLE | * | Specifies the function of SELECT IN signal for DC1, DC3 command.<br>When "ENABLE" is selected, if SELECT IN signal is high level in power on sequence, DC1, DC3 command is effective. When "DISABLE" is selected, DC1, DC3 command is ignored all the time (SELECT IN signal is LOW level only).<br>Even if "EMULATION" setting of "SYS CONFIG MENU"is "AUTO", this item is effective in ESC/ P Emulation. |
| | NAutoFd | DISABLE<br>ENABLE | * | Specifies the function of AUTO FEED XT signal.<br>When "ENABLE" is selected, if AUTO FEED XT signal is low level in power on sequence, Line feed for CR code is performed. When "DISABLE" is selected, line feed for CR code is not performed (AUTO FEED XT signal is HIGH level only).<br>Even if "EMULATION" setting of "SYS CONFIG MENU"is "AUTO", this item is effective in ESC/ P Emulation. |
| | IMAGE | REGULAR<br>PHOTO | * | Specifies the conversional method of transformation from 180dpi to 300dpi. |
| NETWORK | | | | This menu is for feature expansion and No Item or Value is displayed. |
| ENGINE DIAG MODE | | | | Enters engine self-diagnostic mode. |

The switch operation and LCD display during an engine self-diagnostic mode, which are specified by engine firmware, differ from controller firmware operating specifications. The engine self-diagnostic mode is enabled in a controller board removed configuration.

* Operation in such a configuration is not assured.

Refer to the engine block specification for C5100 for further details if necessary.

### 3.0.2 Maintenance Utility

Maintenance utility software is used to make adjustments shown in table 3-4. Refer to the following for details on the maintenance utility software.

1) Maintenance utility system specification: 42514501FS01
2) Maintenance utility operating guide: 42514501FS02
3) Maintenance utility software programs:
   * The programs can be downloaded from ftp//.

| Applicable Operating System | File Name |
|---|---|
| Win9xMe (Japanese version) | MuWin_JPN_Win9x.zip |
| WinNT/2000/XP (Japanese version) | MuWin_JPN_WinNT.zip |
| Win9xMe (English version) | MuWin_ENU_Win9x.zip |
| WinNT/2000/XP (English version) | MuWin_ENU_WinNT.zip |

Table 3-0-2 Maintenance Utility Adjustment Items

| | Item | Maintenance Utility | Adjustment | Operation on Operator Panel |
|---|---|---|---|---|
| 1 | PU (RSN) Board Replacement | PU board replacement function | Reprogramming of PU board EEPROM settings | Unavailable |
| 2 | CU (ARC/OWL/SPA) Board Replacement | CU board replacement function | Reprogramming of CU board EEPROM settings | Unavailable |
| 3 | Consumable Counter Display | Counter value and remaining toner amount check function | Display of printer counter values and remaining toner amounts<br>• Drum counters (Y, M, C and K)<br>• Fuser counter<br>• Belt counter<br>• Toner counters (Y, M, C and K)<br>• Remaining toner amounts (Y, M, C and K)<br>• Half toner remaining (Y, M, C and K) | Section 3.1.2.6 |
| 4 | Test Printing | Test print function | Execution of printer's local print function | Section 3.1.2.5 |
| 5 | Print Density Adjustment (Calibration Chip) | | Print density calibration chip density input | Section 3.4 |
| 6 | USB Software Update | USB software update function | USB software update | Unavailable |
| 7 | NIC Software Update | NIC software update function | NIC software update | Unavailable |
| 8 | NIC Web Page Update | NIC Web page update function | NIC Web page update | Unavailable |
| 9 | Mac Address Setting | Mac address setting function | Change of Mac addresses | Unavailable |
| 10 | Menu Setting Checking | Check function of each menu setting | Checking of menu settings that have been set inside printer | On menu map |
| 11 | Destination and PnP Information Checking | Destination and PnP information check function | Checking of printer destination, device ID and USB ID. | On menu map |
| 12 | Printer Information Checking | Printer information check function | Checking of printer Mac addresses and firmware versions | On menu map |
| 13 | Contained CPU and Memory Checking | Contained CPU and memory check function | Checking of information on CPU and on memory contained in printer | On menu map |
| 14 | Specified File Printing | Specified file print function | PRN file printing | Unavailable |

## 3.1 Maintenance Modes and Their Functions

### 3.1.1 Maintenance Menu

Maintenance menu is contained in a standard menu category. Items that can be set from Maintenance menu are as follows:

Maintenance Menu

Values in shaded areas are initial settings.

| Category | Operator Panel Display | | Function |
|---|---|---|---|
| | Item (Upper Display) | Value (Lower Display) | |
| Maintenance Menu | RESET MENU | ENTER | Initializes menu settings. |
| | SAVE MENU SETTING(S) | ENTER | Stores current menu settings. |
| | RESTORE STORED MENU SETTING(S) | ENTER | Changes menu settings to stored ones. Displayed only when menu settings have been stored. |
| | POWER SAVING | ENABLE<br>DISABLE | Sets Power Save mode enabled/disabled. Shift time to enable Power Save mode can be changed using "POWER SAVE SHIFT TIME" on "SYSTEM CONFIG. MENU". |
| | NORMAL PAPER BLACK SETTING | 0<br>+1<br>+2<br>-2<br>-1 | Corrects print nonuniformity due to temperature variation.<br>With faded images, change the value.<br>With scattering or snowing images in print output of high print density, decrement the value. With faded images in print output of high print density, increment the value. |
| | NORMAL PAPER CLOLR SETTING | 0<br>+1<br>+2<br>-2<br>-1 | Corrects print nonuniformity due to temperature variation.<br>With faded images, change the value.<br>With scattering or snowing images in print output of high print density, decrement the value. With faded images in print output of high print density, increment the value. |
| | TRANSPAR-ENCY BLACK SETTING | 0<br>+1<br>+2<br>-2<br>-1 | Corrects print nonuniformity due to temperature variation.<br>With faded images on transparency sheets, change the value.<br>With scattering or snowing images in print output of high print density, decrement the value. With faded images in print output of high print density, increment the value. |
| | TRANSPAR-ENCY COLOR SETTING | 0<br>+1<br>+2<br>-2<br>-1 | Corrects print nonuniformity due to temperature variation.<br>With faded images on transparencies, change the value.<br>With scattering or snowing images in print output of high print density, decrement the value. With faded images in print output of high print density, increment the value. |

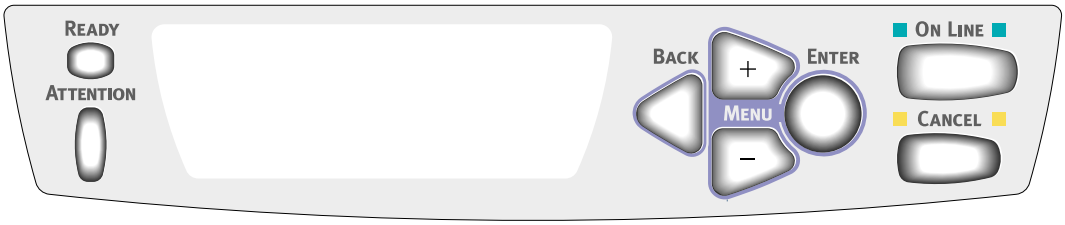
### 3.1.2 Engine Maintenance Mode

Engine Maintenance mode includes three modes, levels 1 to 3. The level 1 is intended for assistance in checking media transport systems and the basic operations of printing systems etc. The level 2, which sets consumable counters and tests color registration adjustment function, does not require relatively special knowledge. Working, including process parameter setting, with the level 3, which contains PU individual experimental elements, takes expertise. Basically items other than those in the level 1 must not be used.

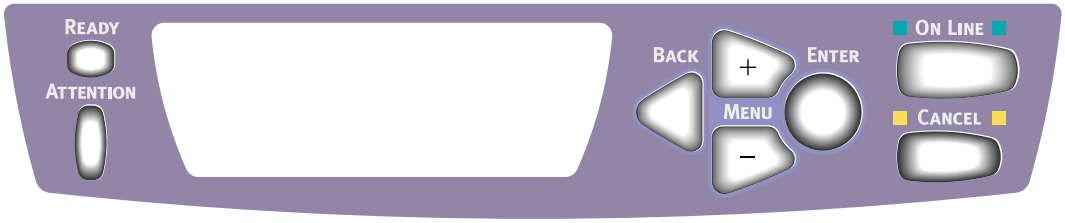
#### 3.1.2.1 Operator panel

Operating descriptions on self-diagnosis are premised on the following operator panel layout.

For ODA




For OEL/AOS




#### 3.1.2.2 Normal self-diagnostic mode (level 1)

The following is the menu of a normal self-diagnostic mode.

- Switch Scan Test
- Motor and Clutch Test
- Test Pattern Execution
- Consumable Counter Display
- Consumable Counter Display - Continuous
- Color Registration Adjustment Test
- Print Density Adjustment Test

3.1.2.2.1 Entering self-diagnostic mode (level 1)

1. While holding the MENU+ and MENU- keys down at the same time, turn printer power on to enter System Maintenance mode.
2. Use MENU+ or MENU- key keystrokes until “ENGINE DIAG MODE” appears (a few keystrokes), and then press the ENTER key to display “DIAGNOSTIC MODE”.

| DIAGNOSTIC MODE |
| --- |
| XX.XX.XX FACTORY/SHIPPING |

3. XX.XX.XX in the display indicates a ROM version. A factory working mode setting, which is usually set to S-MODE of SHIPPING, is at the right of the lower display.
4. Go to each self-diagnosis step by using the MENU+ or MENU- key (pressing the MENU+ or MENU- key rotates menu items).

3.1.2.2.2 Exiting self-diagnostic mode

1. Turn printer power off and, after ten seconds, on again.

3.1.2.3 Switch scan test

This self-diagnosis is used when input sensor and switch checking is made.

1. Enter the normal diagnostic mode, and press the MENU+ or MENU- key until “SWITCH SCAN” is shown on the upper display (the MENU+ key increments a test item and the MENU- key decrements a test item).

| SWITCH SCAN |
| --- |
| |

2. Table 3-1 lists SWITCH SCAN numbers. Press and the MENU+ or MENU- key until the SWITCH SCAN number for unit(s) to be tested shows up on the upper display (the MENU+ key increments an item and the MENU- key decrements an item).
3. In response to the press of the ENTER key, the test on the unit(s), the SWITCH SCAN number begins blinking and, carrying the current status of the unit(s) being tested, the number(s) (1 to 4) corresponding to the unit(s) are displayed.

| SWITCH SCAN 00 |
| --- |
| 1=H 2=L 3=H 4=L |

   Operate the unit(s) (figure 3-1). Indications for each unit are provided in their portion of the LCD display (Indicated meanings vary with units (sensors etc). See table 3-1 for details).
4. When the CANCEL key is pressed, the SWITCH SCAN number goes back to an indication view (stops blinking).
5. Repeat steps 2 through 4 as necessary.
6. To end the test, press the BACK key (the display is restored to the view of step 1).

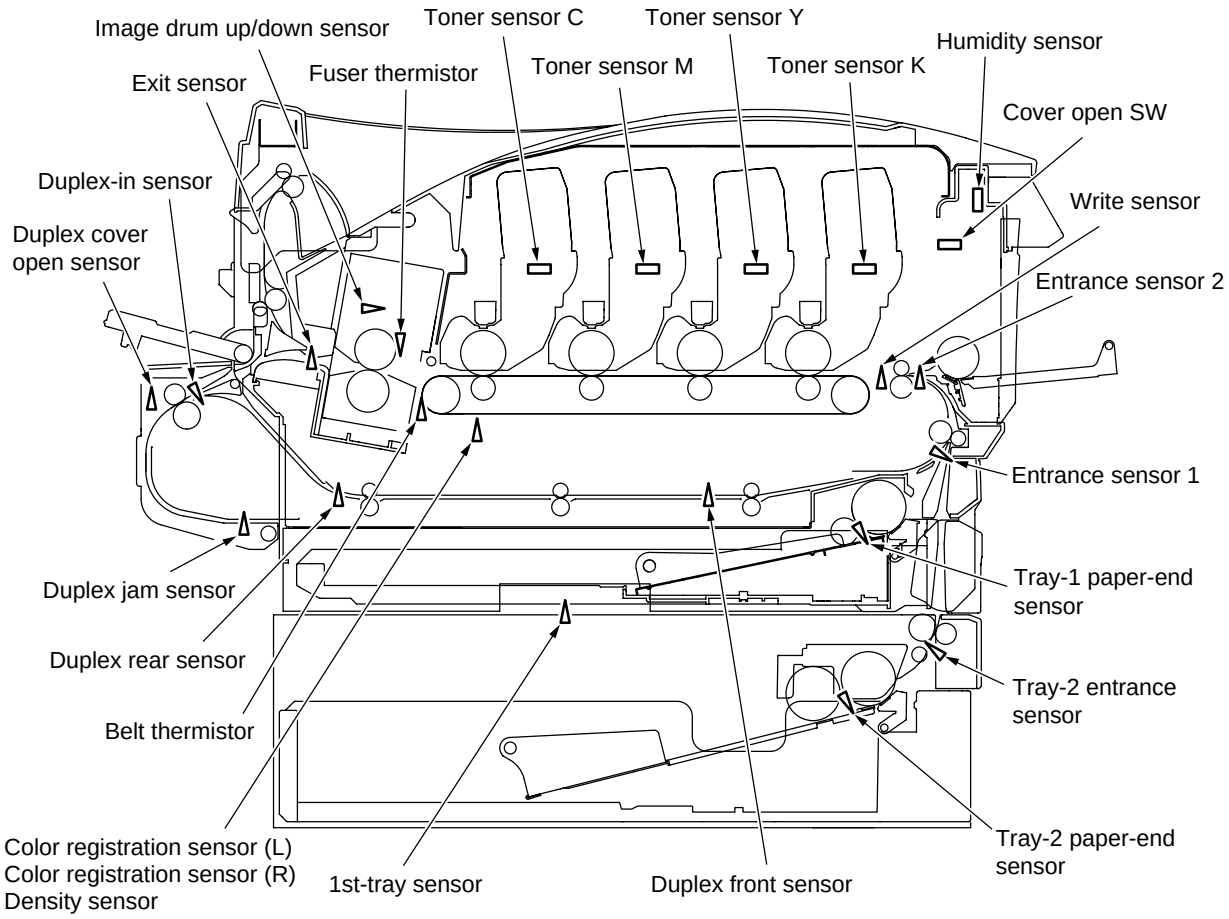



Figure 3-1 Switch Sensor Positions

Table 3-1 SWITCH SCAN Display Detail

| ROW SCAN NO. | 1 | Display | 2 | Display | 3 | Display | 4 | Display |
|---|---|---|---|---|---|---|---|---|
| SWITCHSCAN00 | Tray-1 paper-end sensor | L: Paper present<br>H: Paper absent | | | Entrance sensor 1 | L: Paper present<br>H: Paper absent | Entrance sensor 2 | L: Paper present<br>H: Paper absent |
| SWITCHSCAN01 | Write sensor | L: Paper present<br>H: Paper absent | Exit sensor | L: Paper present<br>H: Paper absent | | | | |
| SWITCHSCAN02 | Toner sensor K | L: Light reflected<br>H: Light shielded | Toner sensor C | L: Light reflected<br>H: Light shielded | Toner sensor M | L: Light reflected<br>H: Light shielded | Toner sensor Y | L: Light reflected<br>H: Light shielded |
| SWITCHSCAN03 | Cover open | L: Cover open<br>H: Cover close | | | | | | |
| SWITCHSCAN04 | | | | | | | | |
| SWITCHSCAN05 | | | | | | | | |
| SWITCHSCAN06 | | | | | | | | |
| SWITCHSCAN07 | | | | | | | | |
| SWITCHSCAN08 | Color alignment sensor (L) | AD Value ***H | Color alignment sensor (R) | AD Value ***H | Density sensor | AD Value ***H | | |
| SWITCHSCAN09 | Fuser thermistor | AD Value ***H | | | | | | |
| SWITCHSCAN10 | Humidity sensor | AD Value ***H | Temperature sensor | AD Value ***H | Belt thermistor | AD Value ***H | | |
| SWITCHSCAN11(Option) | Duplex-in sensor | L: Paper absent<br>H: Paper present | Duplex rear sensor | L: Paper absent<br>H: Paper present | Duplex cover open sensor | L: Cover open<br>H: Cover close | Duplex front sensor | L: Paper absent<br>H: Paper present |
| SWITCHSCAN12(Option) | Duplex bottom sensor | L: Absence detected<br>H: Presence detected | | | | | | |
| SWITCHSCAN13(Option) | Tray-2 paper-end sensor | L: Paper absent<br>H: Paper present | | | 1st-tray sensor | L: Paper absent<br>H: Paper present | | |
| SWITCHSCAN14(Option) | | | | | Tray-2 entrance sensor | L: Paper absent<br>H: Paper present | | |
| SWITCHSCAN15(Option) | | | | | | | | |
| SWITCHSCAN16(Option) | | | | | | | | |
| SWITCHSCAN17(Option) | | | | | | | | |
| SWITCHSCAN18(Option) | | | | | | | | |
| SWITCHSCAN19(Option) | | | | | | | | |
| SWITCHSCAN20(Option) | | | | | | | | |
| SWITCHSCAN21(Option) | | | | | | | | |
| SWITCHSCAN22(Option) | | | | | | | | |
| SWITCHSCAN23(Option) | | | | | | | | |
| SWITCHSCAN24 | | | | | | | | |
| SWITCHSCAN25 | Image drum up/down sensor | | | | | | | |

3.1.2.4 Motor and clutch test

This self-check routine is used for motor and clutch testing.

1. Go into the self-diagnostic (level 1) mode, press the MENU+ or MENU- key until upper display of “MOTOR & CLUTCH TEST” is brought up, and press the ENTER key (the MENU+ key increments a test item and the MENU- key decrements a test item).
2. The names of units to be tested are listed in table 3-2. Use the MENU+ or MENU- key until the name of a unit that is to be tested appears on the lower display (the MENU+ key increments an item and the MENU- key decrements an item).

| MOTOR & CLUTCH TEST |
| --- |
| K - ID - ID MOTOR |

3. Pressing the ENTER key starts the test of the unit, blinking the displayed name of the unit. The unit is driven for 10 seconds (refer to figure 3-3).

***Note!*** The view of step 2 is restored after the 10-second driving, and the unit is driven again with the press of the corresponding switch.

- Clutch solenoid on-off operations are repeated in normal printing driving (solenoids whose mechanical structures do not permit their single driving operate motors concurrently with them).

4. Use the CANCEL key to stop the drive of the unit (the display for the unit remains the same).
5. Repeat the cycle of steps 2 through 4 as needed.
6. Pressing the BACK key ends the test (the display is restored to step 1).

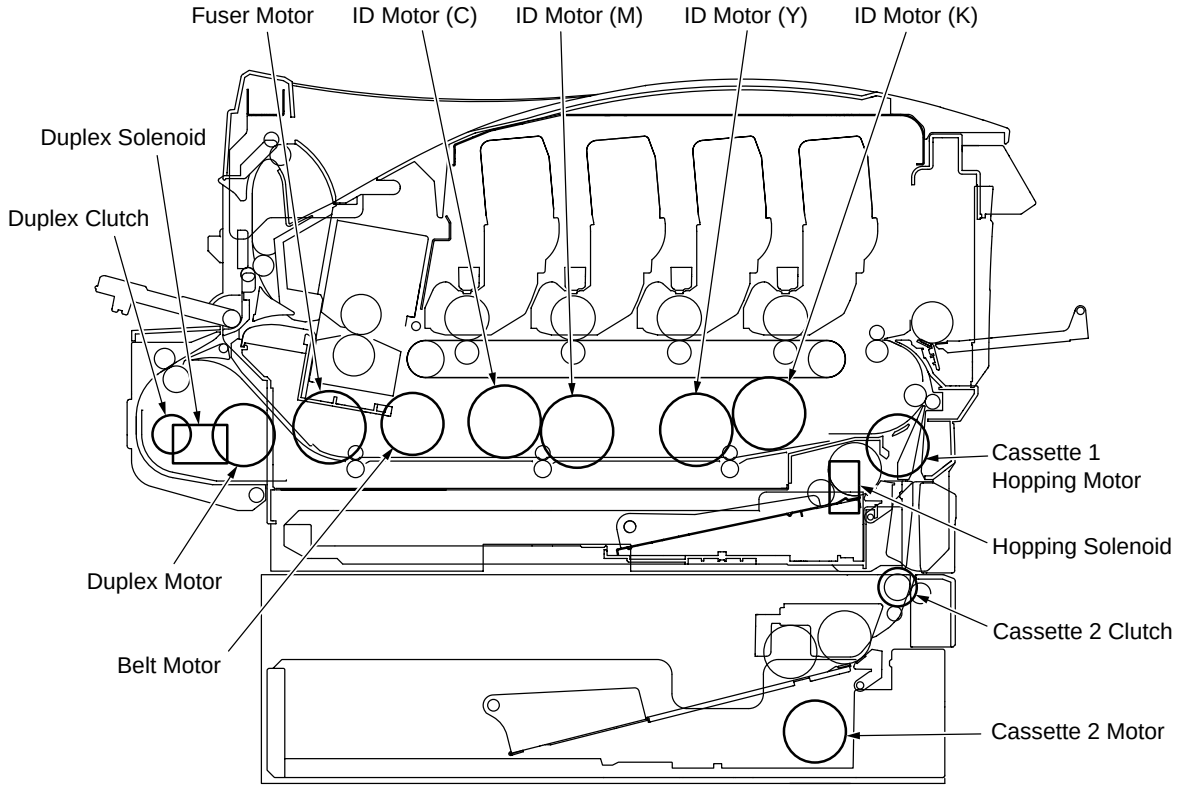



Figure 3-3

Table 3-2

| Unit Name | Description of Control for Unit Driving | Control for Unit Driving |
|---|---|---|
| ID Motor (K) | Remove all the image drums (black, yellow, magenta and cyan) to drive. | Removal of IDs |
| ID Motor (Y) | Remove all the image drums (black, yellow, magenta and cyan) to drive. | Removal of IDs |
| ID Motor (M) | Remove all the image drums (black, yellow, magenta and cyan) to drive. | Removal of IDs |
| ID Motor (C) | Remove all the image drums (black, yellow, magenta and cyan) to drive. | Removal of IDs |
| Belt Motor | Remove all the image drums (black, yellow, magenta and cyan) to drive. | Removal of IDs |
| Fuser Motor | – | – |
| Cassette 1 Hopping Motor | Remove the cassette 1 to drive. | Removal of Cassette 1 |
| Hopping Solenoid | – | – |
| Duplex Motor | – | – |
| Duplex Clutch | – | – |
| Duplex Solenoid | – | – |
| Cassette 2 Motor | Remove the cassette 2 to drive. | Removal of Cassette 2 |
| Cassette 2 Clutch | – | – |
| ID Up/Down | – | – |
| Fan1 Test (Power Supply Fan) | – | – |
| Fan2 Test (Fuser Fan) | – | – |

3.1.2.5 Test printing

This self-diagnostic routine is used when PU-inside test patterns are printed. The other test patterns are in controller's storage.

1. Go into the self-diagnostic (level 1) mode, press the MENU+ or MENU- key until "TEST PRINT" comes into view in the upper display, and press the ENTER key (the MENU+ key is for test item increment, and the MENU- key for test item decrement).
2. Items applied only to test printing are shown on the lower display. Press the MENU+ or MENU- key until an item to be set appears, and hit the ENTER key (the MENU+ key is for item increment, and the MENU- key for item decrement) [When items need not be set (must be left at their defaults), go to step 5].
3. Press the MENU+ or MENU- key and, when the item that has been set in step 2 is reached, press the Enter key. The item and its setting are displayed on the upper and lower panel, respectively. The setting is incremented by pressing the MENU+ key, and decremented by pressing the MENU- key (the last displayed setting is applied). Pressing the BACK key determines the setting, restoring the view of step 2. Repeat step 3 as necessary.

| TEST PATTERN |
|---|
| 1 |

| Display | Set Value | Function |
|---|---|---|
| PRINT EXECUTE | — | Starts printing at the press of the ENTER key, and ends the printing at the press of the CANCEL key. (Page basis) |
| TEST PATTERN | 0 | 0: Prints a blank page.<br>1 to 7: (Print a pattern).<br>8 to 15: Print a blank page. |
| CASSET | TRAY1 | Selects a unit in which paper is to be loaded. |
| | TRAY2 | When the printer is not equipped with the tray 2, TRAY2 is not displayed. |
| | FF | |
| PAGE | 0000 | Sets the number of test pages printed. |
| COLOR | ON | Selects color or monochrome printing. |
| | OFF | |
| DUPLEX | 2 PAGES STACK | Performs two-page stack duplex printing. |
| | OFF | Establishes duplex-off printing. |
| | 1PAGES STACK | Performs one-page stack duplex printing. |

- Values in shaded areas are initial settings. Values established are applicable only to this test mode (they are not written into EEPROM).

***Notes!***

PAGE Setting ..... Should the ONLINE key be pressed after a digit is shifted by a touch of the MENU+ or MENU- key, the setting is incremented. In the event of the press of the CANCEL key after such a digit shift, the setting is decremented.

COLOR Setting ..... While the COLOR setting is set to ON, pressing the ENTER key displays the following on the panel.

Print Setting for Colors ... The press of the MENU+ or MENU- key shifts a value. The ONLINE or CANCEL key is used for switching between ON and OFF. The BACK key restores original display.

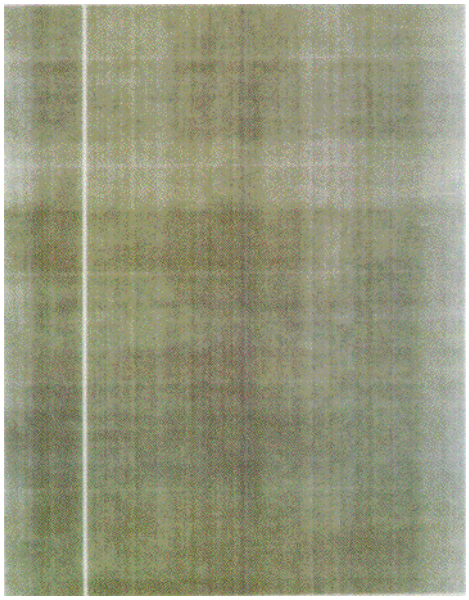
| | | |
|---|---|---|
| COLOR | → | Y:ON M:ON |
| ON | | C:ON K:ON |

4. With “PRINT EXECUTE” on the lower display after step 2, when the ENTER key is pressed, test printing is executed using the values set in steps 2 and 3. Pressing the CANCEL key stops the test printing.

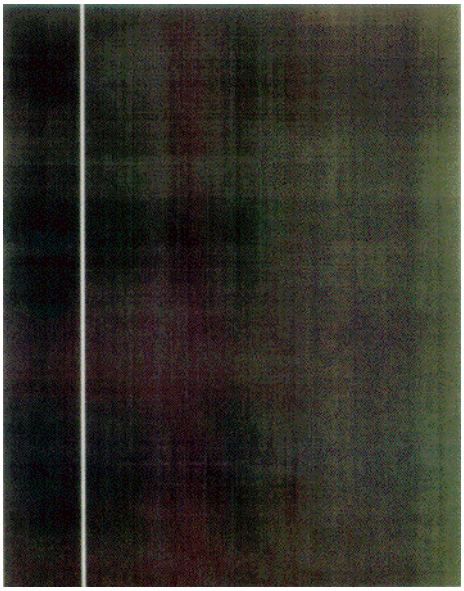
   Any of the alarms shown in the table of operator panel display description (see below), which has been detected during the initiation or progression of test printing, appears on the panel display, suspending the printing (for the description of errors, see section 3.1.2.9 Operator Panel Display, which messages differ from those displayed in PU test printing).

Print Patterns

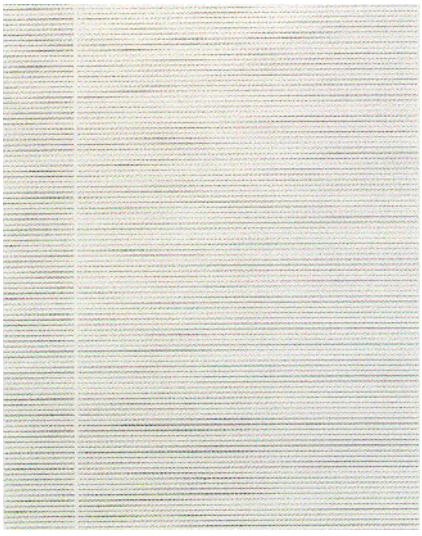
Patterns 0 and 8 to 15 ... print a blank page.



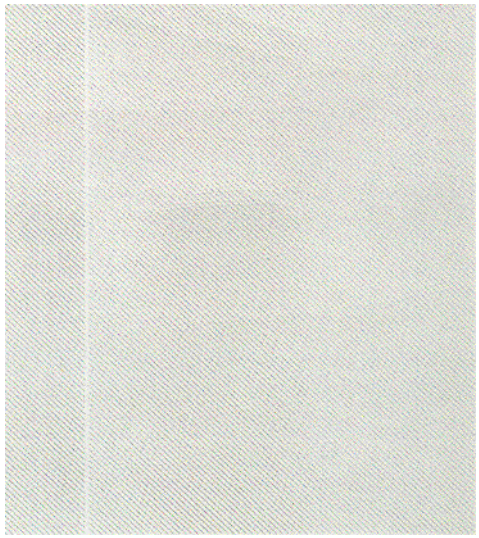
Pattern 1



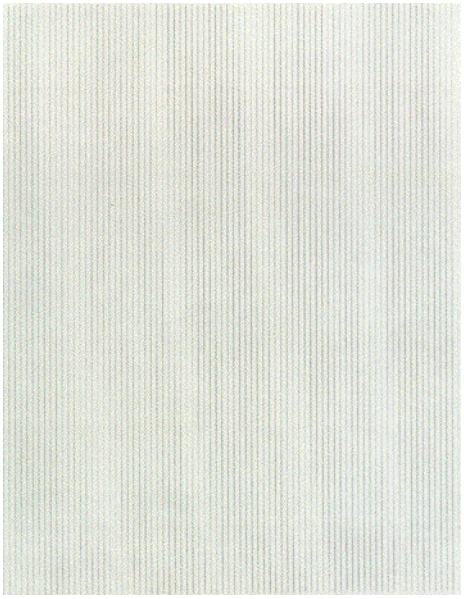
Pattern 2



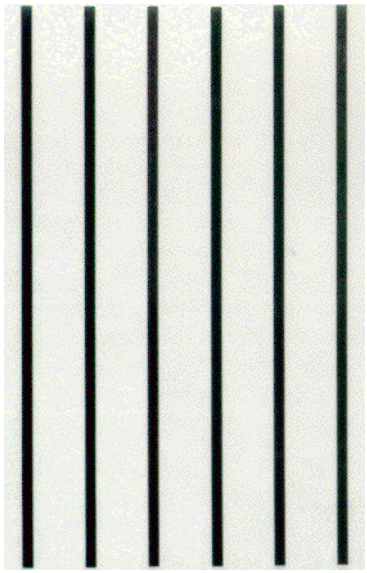
Pattern 3



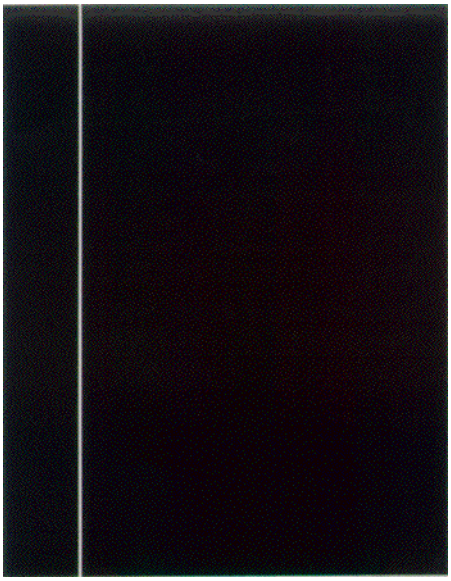
Pattern 4



Pattern 5



Pattern 6



Pattern 7

- The following messages are showing during printing.

| |
|---|
| P=*** |
| W=*** |

P: Number of test pages printed (prints)
W: Wait time for printing (in seconds)

- Use the MENU+ key to change the display.

| |
|---|
| T=*** U=***[***] |
| H=***% B=***[***] |

T: Environment temperature measurement (in Celsius)
U: Heater temperature measurement (in Celsius)
H: Environment humidity measurement (in percent)
B: Belt humidity measurement (in Celsius)

- With the press of the MENU+ key, the display is changed.

| |
|---|
| KTR=*.*** YTR=*.*** |
| MTR=*.*** CTR=*.*** |

YTR, MTR, CTR and KTR are colors' respective transfer voltage settings (in KV).

- Pressing the MENU+ key changes the display.

| |
|---|
| KR=**** YR=**** |
| MR=**** CR=**** |

YR, MR, CR and KR are colors' respective image drum resistance values (in megohms).

- The display is switched by pressing the MENU+ key.

| |
|---|
| ETMP=*** UTMP=*** |
| REG=**** EXIT=**** |

ETMP: Environment temperature measurement (in Celsius)
UTMP: Heater temperature measurement (in Celsius)
REG: Hopping motor speed setting
EXIT: Fuser motor speed setting

- The MENU+ key switches the display.

| |
|---|
| KID=*** YID=*** |
| MID=*** CID=*** |

KID, YID, MID and CID are image drum motor speed settings.

- Pressing the MENU+ key changes the display.

| BELT=**** |
| --- |
| |

BELT: Belt motor speed setting

- With the press of the MENU+ key, the display is switched.

| HT:**** CH:**** |
| --- |
| DB:**** |

HT, CH and DB are high-voltage table IDs.

- Pressing the MENU+ key changes the display.

| TR1:********** |
| --- |
| TR2:******** |

TR1 and TR2 are high-voltage table IDs.

5. Repeat steps 2 through 4 if necessary.
6. Press the CANCEL key to end the test (the display is restored to step 1).

3.1.2.6 Consumable counter display

The self-diagnosis is used to indicate consumable consumption status.

1. After entering the normal self-diagnostic mode, press the MENU+ or MENU- key until “CONSUMABLE STATUS” appears on the upper display, and hit the ENTER key (the MENU+ key is for test item increment, and the MENU- key for test item decrement).
2. By pressing the MENU+ or MENU- key, the consumption status of consumables comes into view item by item (the ONLINE and CANCEL keys are invalid).
3. Pressing the BACK key ends the test (the display of step 1 is restored).

| Item | Top Display | Bottom Display | Format | Unit | Details |
|---|---|---|---|---|---|
| Fuser unit | FUSER UNIT | ******** PRINTS | Decimal | Print | Shows the number of pages printed (prints) after installation of a new fuser unit to date. |
| Belt unit | TR BELT UNIT | ******** IMAGES | Decimal | Image | Converts into a count on an A4-size-page basis at 3 pages per job, and shows, the number of pages impressed (images) after installation of a new belt unit to date. |
| ID unit - black | BLACK ID UNIT | ******** IMAGES | Decimal | Print | Convert the numbers of revolutions of image drum units after the installation of those units to date into counts on a letter-(A4-) size-page basis at 3 pages per job and show it. |
| ID unit - yellow | YELLOW ID UNIT | ******** IMAGES | Decimal | Print | |
| ID unit - magenta | MAGENTA ID UNIT | ******** IMAGES | Decimal | Print | |
| ID unit - cyan | CYAN ID UNIT | ******** IMAGES | Decimal | Print | |
| Toner - black | BLACK TONER | ***% | Decimal | % | Show the amounts of toner used. |
| Toner - yellow | YELLOW TONER | ***% | Decimal | % | |
| Toner - magenta | MAGENTA TONER | ***% | Decimal | % | |
| Toner - cyan | CYAN TONER | ***% | Decimal | % | |

3.1.2.7 Consumable counter display - continuous

The self-diagnosis is used to indicate the consumable life-cycle consumption status of a printer. The status means those count values for consumables which are not initialized even after replacement of the consumables, and is counted without break.

1. Enter the normal self-diagnostic mode, press MENU+ or MENU- key until the upper display “PRINTER STATUS” appears, and press the Enter key (the MENU+ key is for item increment, and the MENU- key for item decrement).
2. When the MENU+ or MENU- key is pressed, the life-cycle consumption status of the consumables shows up item by item (the ONLINE and CANCEL keys are invalid).
3. Pressing the BACK key ends the test (flips the display back to step 1).

| Item | Top Display | Bottom Display | Format | Unit | Details |
|---|---|---|---|---|---|
| Total sheets fed | TOTAL SHEETS FEED | ******** PRINTS | Decimal | Print | Shows the total number of sheets fed, including blank pages. |
| Print - black | BLACK IMPRESSIONS | ******** IMAGES | Decimal | Print | Show the numbers of pages (images) impressed using image drums. |
| Print - yellow | YELLOW IMPRESSIONS | ******** IMAGES | Decimal | Print | |
| Print - magenta | MAGENTA IMPRESSIONS | ******** IMAGES | Decimal | Print | |
| Print - cyan | CYAN IMPRESSIONS | ******** IMAGES | Decimal | Print | |

### 3.1.2.8 Operator panel display

Display

| LCD (English)<br>(□ means no display in upper line) | Ready LED | Attention LED | Description | Level |
|---|---|---|---|---|
| ONLINE .xxxx<br>tttttt | ON | Varies | Shows on-line status. | Normal |
| OFFLINE .xxxx<br>tttttt | OFF | Varies | Shows off-line status. | Normal |
| FILE ACCESSING | Varies | Varies | Device accessing during the operation of accounting system operating. | Normal |
| DATA ARRIVE .xxxx<br>tttttt | Varies | Varies | Data receiving, process not started yet. Displayed mainly during PJL process without text print data or during job spooling. | Normal |
| PROCESSING .xxxx | Blink | Varies | Data receiving or output processing. | Normal |
| DATA .xxxx | Varies | Varies | Un-printed data remains in Buffer. Waiting for data to follow. | Normal |
| PRINTING<br>tttttt | Varies | Varies | A printer is printing. | Normal |
| PRINT DEMO PAGE | Varies | Varies | Performing Demo Print. Not displayed when printing user defined demo-pages (Shows “PRINTING” in this case) | Normal |
| PRINT FONT | Varies | Varies | Printing Fonts.<br>Same as in all fonts (PCL,PSE,IBMPPR,EPSON FX) | Normal |
| PRINT MENU MAP | Varies | Varies | Printing Menu Map. | Normal |
| PRINT FILE LIST | Varies | Varies | Printing File List. | Normal |
| PRINT ERROR LOG | Varies | Varies | Printing Error Logs. | Normal |
| □<br>COLLATE COPY iii/jjj | Varies | Varies | Collate printing. iii: The number of copy in printing. jjj: The total number of printing. When the total number of printing is 1, it is a normal printing display. | Normal |
| □<br>COPY kkkk/llll | Varies | Varies | Copy printing. kkk: The number of pages in printing. lll: The total number of printing. When the total number of copy is 1, it is a normal printing display. | Normal |
| CANCELING JOB | Blink | Varies | Indicates that job cancellation has been instructed and data is being ignored until the job completion.<br>(Display for a certain period (seconds) is requested. If it immediately disappears, cannot tell whether or not it was cancelled.) | Normal |
| CANCELING JOB<br>(USER DENIED) | | | Job cancelled because of no permission for printing<br>(Related to JobAccount)<br>1. Job received from a user not permitted to print.<br>2. Color Job received from a user not permitted to print in color. | |

| LCD (English)<br>(□ means no display in upper line) | Ready LED | Attention LED | Description | Level |
|---|---|---|---|---|
| CANCELING JOB<br>(BUFFER FULL) | Blink | Varies | Job cancelled because the log saving area in printer is running out and “Job cancelled when log full occurs” is set. (Related to JobAccount) | Normal |
| CANCELING JOB<br>(JAM) | | | Job cancelled and the data is being discarded till the end of the Job because JAM occurs when “JAM RECOVERY ” is set to OFF. | |
| □<br>WARMING UP | Varies | Varies | Warming up. | Normal |
| □<br>OPTIMIZING TEMP | Varies | Varies | Because the drum temperature is high, printing is temporarily suspended. Or, the printer is waiting for implementation of heat measure for media switch from narrow paper to wide paper. | Normal |
| □<br>POWER SAVE | Varies | Varies | A printer is in power save mode. Displayed in a combination of other message in the first line. | Normal |
| □<br>ADJUSTING COLOR | Varies | Varies | Auto registration adjusting in progress | Normal |
| □<br>ADJUSTING DENSITY | Varies | Varies | Auto tone adjusting in progress | Normal |
| □<br>ADJUSTING DENSITY | Varies | Varies | Auto density adjusting in progress | Normal |
| | | | Downloading PU firmware (Displayed messages are output by the PU firmware.) | Normal |
| □<br>ORDER * TONER | Varies | ON | Toner low. Displayed in a combination of other message in the first line.<br>If ”LOW TONER=STOP” is set in menu, ATTENTION LED blinks and the printer shifts to Off-line. When a user presses On-line switch, ATTENTION LED (stops blinking and) lights on and printing can continue until TONER EMPTY.<br>Y<br>M<br>C<br>K<br>This message is also displayed when * waste toner box is near full. | Warning |
| □<br>* WASTE TONER FULL.REPLACE TONER | Varies | ON | The printer can still print. Allows printing about 50 pages of A4 size at 5% density, then stops with Waste Toner Full Error(414,415,416) again. The LCD message indicates that the Waste Toner box is full.<br>Y<br>M<br>C | Warning |
| PRESS ONLINE SW<br>INVALID DATA | Varies | Varies | Invalid data was received. Press the On-line switch and eliminate the warning.<br>Displayed when unsupported PDL command is received or a spool command is received without HDD. | Warning |

| LCD (English)<br>(□ means no display in upper line) | Ready LED | Attention LED | Description | Level |
|---|---|---|---|---|
| □<br>PS3 EMUL ERROR | Blink | Varies | Interpreter has detected an error due to the following reason. Receive data after this is ignored until the job completion. When the job is completely received, this is automatically cleared.<br>- The job has a grammatical error.<br>- The page is complicated, and VM was used up. | Warn-ing |
| □<br>ORDER * IMAGE DRUM | Varies | ON | Drum near life. (warning) Displayed in a combination of other message in the first line.<br>Y<br>M<br>C<br>K | Warn-ing |
| □<br>ORDER FUSER | Varies | ON | Fuser unit near life. (Warning) | Warn-ing |
| □<br>ORDER BELT | Varies | ON | Belt unit near life. (warning) | Warn-ing |
| □<br>FUSER LIFE | Varies | ON | If a fuser life error occurs and a user opens/closes the cover or reboots the printer, this phenomenon happens. When the printer printed 500 pages, the error occurs again. | Warn-ing |
| □<br>BELT LIFE | Varies | ON | If a belt life error occurs and a user opens/closes the cover or reboots the printer, this phenomenon happens. When the printer printed 500 pages, the error occurs again. | Warn-ing |
| □<br>* TONER EMPTY | Varies | ON | If a toner empty occurs and a user opens/closes the cover or reboots the printer, this phenomenon happens. When the printer printed approx. 50 pages (A4, density 5%), the error occurs again.<br>Y<br>M<br>C<br>K | Warn-ing |
| □<br>* DRUM LIFE | Varies | ON | If a drum life error occurs and a user opens/closes the cover or reboots the printer, this phenomenon happens. When the printer printed 500 pages, the error occurs again.<br>Y<br>M<br>C<br>K | Warn-ing |
| □<br>BELT REFLEX ERROR | Varies | ON | Belt Reflex Check error.<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>DENSITY SHUTTER ERROR2 | | | This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>DENSITY SHUTTER ERROR1 | | | This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |

| LCD (English)<br>(□ means no display in upper line) | Ready LED | Attention LED | Description | Level |
|---|---|---|---|---|
| □<br>DENSITY COLOR CALIBRATION ERROR | | | This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>DENSITY COLOR SENSOR ERROR | | | This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>DENSITY BLACK CALIBRATION ERROR | | | This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>DENSITY BLACK SENSOR ERROR | | | This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>* IMAGE DRUM SMEAR ERROR | | | This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.)<br>Y,M,C,K | Warn-ing |
| □<br>* LOW DENSITY ERROR | | | This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.)<br>Y,M,C,K | Warn-ing |
| □<br>REGISTRATION ERROR 1 | Varies | ON | Registration error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>SENSOR CALIBRATION ERROR | Varies | ON | Sensor calibration error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>REGISTRATION ERROR 2 | Varies | ON | Gamma error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>REGISTRATION ERROR 3 | Varies | ON | Gamma error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>REGISTRATION ERROR 4 | Varies | ON | Gamma error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>REGISTRATION ERROR 5 | Varies | ON | Gamma error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>REGISTRATION SENSOR ERROR 2 | Varies | ON | Registration sensor error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>REGISTRATION SENSOR ERROR 3 | Varies | ON | Registration sensor error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>REGISTRATION SENSOR ERROR 4 | Varies | ON | Registration sensor error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |

| LCD (English)<br>(□ means no display in upper line) | Ready LED | Attention LED | Description | Level |
|---|---|---|---|---|
| □<br>REGISTRATION SENSOR ERROR 5 | Varies | ON | Registration sensor error<br>This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Maintenance Manual.) | Warn-ing |
| □<br>ttttt EMPTY | Varies | Varies | “ttttt” tray is empty. Treated as Warning until printing to the empty tray is designated.<br>MPTRAY EMPTY is displayed when paper feed from MPTRAY is attempted, but the tray is empty. When printing of the job is completed, this warning disappears if a user opens/closes the cover or reboots the printer. | Warn-ing |
| □<br>HARD DISK FULL | Varies | ON | Disk-full has occurred. Because this is a temporary warning, it remains until the end of the job and disappears. | Warn-ing |
| □<br>DISK WRITE DISABLED | Varies | ON | An attempt to write in a read-only file was done.<br>Because this is a temporary warning, it remains until the end of the job and disappears. | Warn-ing |
| □<br>COLLATE FAIL | Varies | OFF | The data of MOPY is memory-full. | Warn-ing |
| □<br>INVALID ID. JOB REJECTED | Varies | ON | Job cancelled because of no permission for printing (Related to JobAccount) Cleared by pressing ON-LINE switch.<br>1. Job received form a user not permitted to print<br>2. Color Job received form a user not permitted to print in color. | Warn-ing |
| □<br>LOG BUFFER FULL. JOB REJECTED | | | Job cancelled because the log saving area in printer is running out and “Job cancelled when log full occurs” is set.<br>(Related to JobAccount)Cleared by pressing ON-LINE switch. | |
| □<br>DISK USE FAILED | Varies | ON | A disk error other than No.29/30 has occurred. Operation that does not involve a disk is available. | Warn-ing |
| □ | Varies | Varies | An error occurred when renewing PU firmware. This is not a user-level error. (Displayed messages are output by the PU firmware.) | Warn-ing |
| LOAD mmm IN MP TRAY<br>AND PRESS ONLINE SWITCH | ON | OFF | Manual paper feed is required. Manually insert the paper shown by mmm. | Warn-ing |

3.1.2.9 Color registration adjustment test

This self-diagnosis (color registration adjustment test) is used to adjust and diagnose printer's color registration. Appropriate troubleshooting steps are to be used for recovery from errors occurred in the color registration adjustment test.

1. Enter the self-diagnostic mode (level 1), press and hold the MENU+ and MENU- keys until "REG ADJUST TEST" appears on the upper display, and then press the ENTER key (the MENU+ key increments an item and the MENU- key decrements an item).
2. Press and hold the MENU+ and MENU- keys until a color registration adjustment test item to be tested is displayed.
3. With the press of the ENTER key, the test that is showing is executed. * Pressing the CANCEL key during the test suspends the test.
4. Upon completion of the test, the result of the test (OK or a NG error name) is provided on the upper display, and "****RESULT" on the lower display, the operation of the step 2 being enabled.
5. Repeat the steps 2 to 3 when necessary.
6. Press the BACK key to end the test.

Color Registration Adjustment Items

| SUB MENU | Description |
|---|---|
| REG ADJ EXECUTE | Performs color registration adjustment. |
| REG ADJ RESULT | Used to see the result of color registration adjustment. |
| BLT REFLECT TEST | Performs the OK or NG judgment of color registration adjustment belt reflectivity. |
| BLT REFLECT RSLT | Used to see the result of OK or NG judgment of color registration adjustment belt reflectivity. |

3.1.2.10 Print density adjustment test

This self-diagnosis is used to perform the test with respect to printer's print density adjustment function and to see the result of the test. The test determines whether printer's print density adjustment system is proper.

1. Enter the self-diagnostic mode (level 1), press and hold the MENU+ and MENU- keys until "DENSITY ADJUST TEST" appears on the upper display, and then press the ENTER key (the MENU+ key increments an item and the MENU- key decrements an item).
2. Press and hold the MENU+ and MENU- keys until a print density adjustment test item to be tested is displayed.
3. With the press of the ENTER key, the test that is showing is executed. * Pressing the CANCEL key during the test suspends the test.
4. Upon completion of the test, the result of the test (OK or a NG error name) is provided on the upper display, and "****RESULT" on the lower display, the operation of the step 2 being enabled.
5. Repeat the steps 2 to 3 when necessary.
6. Press the BACK key to end the test.

Print Density Adjustment Test Items

| SUB MENU | Description |
|---|---|
| DENS ADJ EXECUTE | Performs print density adjustment. |
| DENS ADJ RESULT | Used to see the result of print density adjustment. |
| DENS SENSOR TEST | Performs the OK or NG judgment of the print density adjustment sensor. |

### 3.1.3 Printing on Controller-Equipped Printer on a Standalone Basis

Menu Map Printing

Information, including program versions, controller block configuration and network configuration, is printed.

Operation:

1. Press the MENU+ key several times to display “INFORMATION MENU”;
2. Press the ENTER key to display “PRINT MENUMAP/EXECUTE”; and
3. Press the ENTER key, or

Alternatively press the push switch located above the network connector on the back of the printer main body for two seconds or more.

Demo Printing

Demonstration patterns for destinations stored in ROM are printed.

Operation:

1. Press the MENU+ key several times to display “INFORMATION MENU”.
2. Press the ENTER key.
3. Press the MENU+ key several times to display “DEMO1/EXECUTE”.
4. Press the ENTER key.

### 3.1.4 Switch Press Functions at Printer Power-On

Switch functions at printer power-on are as follows. The following switches are enabled, when pressed and held until “RAM CHECK” appears on the upper LCD display and, on the lower LCD display, three or four asterisks (*) appear.

1. BACK key, MENU- key and CANCEL key

   Enabled only for CU-F/W G1.26/X1.26 and earlier versions. After switch press is recognized, CU firmware activation is performed to restore CU board EEPROM to its factory shipped configuration.

2. BACK key, MENU+ key and CANCEL key

   Enabled only for CU-F/W G1.26/X1.26 and earlier versions. Performs forced HDD initialization. It should be noted that data, such as not-yet-printed data and JobAccount log data, is erased with the initialization (see 5.5.4 “Actions Taken after Forced HDD/Flash Initialization”).

3. MENU+ key, MENU- key and CANCEL key

   Enabled only for CU-F/W G1.26/X1.26 and earlier versions. Performs forced resident Flash initialization. The initialization causes network inoperability because the initialization erases data, such as NIC firmware and Mac addresses (see 5.5.4 “Actions Taken after Forced HDD/Flash Initialization”).
   For CU-FW *1.27 and later versions, the functions of the above (1) to (3) are replaced with those of the system maintenance menu, MAINTENANCE MENU.

4. MENU+ key, MENU- key and ENTER key

   Performs printer activation in CU program update mode. Printer activation in that mode causes network inoperability because the activation disables DLM function.

5. BACK key, ONLINE key and CANCEL key

   Performs CU program activation without activating object(s) which have been added in download mode etc.

6. MENU+ key an MENU- key

   Performs system maintenance menu activation.

7. BACK key, MENU- key and ENTER key

   Performs printer activation in a mode which ignores warnings/errors and which at all times keeps printer on-line state (a factory support function).

8. ONLINE key

   Performs printer activation in an exclusive mode which downloads objects, such as networks and USBs.

9. ENTER key

   Performs Admin menu activation.

## 3.2 Adjustments after Parts Replacement

Adjustments required after parts replacement are described below. The adjustment and correction of color registration must be performed without exception.

| Replaced Part | Adjustment |
|---|---|
| LED Head | Not required. |
| Image Drum Cartridge (Any of Y, M, C and K) | Not required. |
| Fuser Unit | Not required. |
| Belt Unit | Not required. |
| PU (RSN Board) | Copying of EEPROM data *Note |
| CU (ARC Board / OWL Board / SPA Board) | Copying of EEPROM data *Note |
| Shutter | Setting of correction value for density detection calibration chip |

***Note:*** When a PU (RSN board) is replaced with a new one, data may not be read out of its EEPROM. In such cases, color balance must be adjusted.

### 3.2.1 Precautions in replacing engine controller board

When replacing an engine controller board (RSN PWB), read EEPROM data from the board and copy it onto a new board, using maintenance utility software. When SERVICE CALL 105 (an engine EEPROM error) appears on the operator panel, engine controller board replacement to a new board should be made.
Version read function (fuse cut-off) is disabled when EEPROM data cannot be copied from a engine controller board (RSN PWB) being replaced, or after an engine controller board is replaced with a new one. In such cases, printer mode switching from Factory to Shipping must be processed by the PJL command.

**Procedure 1 for changing printer mode from Factory to Shipping**

**(Operation from Control Panel)**

1. Enter the self-diagnostic mode by turning the printer on while holding the MENU+ and MENU- keys down concurrently.
2. Press and hold the MENU+ and MENU- keys until “LOCAL PARAMETER SET” appears on the upper display, and then press the ENTER key.
3. Press MENU+ and MENU- keys to show “FACTORY MODE” on the upper display and, on the lower display, either “FACTORY MODE” or “SHIPPING MODE” to be desired to be set.
4. Use the combination of the CANCEL and ONLINE keys for three seconds to complete the programming.
5. Press the Back key to end the test.

| Upper Display | Lower Display | Function Detail |
|---|---|---|
| FACTORY MODE | FACTORY MODE | Fuse cut-off disabling mode |
| | SHIPPING MODE | Fuse cut-out enabling mode |

**Procedure 2 for changing printer mode from Factory to Shipping**

**(Operation by PJL Commands)**

[Description]

1. Sending appropriate PJL file to printer to establish Shipping mode.
2. Turning printer’s power on or sending reboot command (PJL file), to complete setting.

[Procedure]

Perform the following steps in response to MS-DOS prompts:

1. Execute Copy /b Pjl_ship.bin prn.
2. Execute Copy /b Pjl_reboot.bin prn, or turn the printer off and on again.

[PJL Files Required]

1. Pjl_ship.bin
2. Pjl_reboot.bin

***Note!*** Note that, because EEPROM (engine controller board) replacement clears information on the life of a belt unit, toner, image drum units, etc., errors are introduced in the control of the life until they are replaced after the EEPROM replacement. Counts cleared upon EEPROM replacement are as follows. The counts except Total Sheets Fed are cleared, the errors being eliminated, at the point where the units for which the counts are provided have been replaced with new ones.

| Item | Description | Count Description |
|---|---|---|
| Fuser unit | Fuser unit life count | A value converted on a A4-size-paper basis from number of pages printed (prints) after installation of a new fuser unit |
| Belt unit | Belt unit life count | A value converted on a A4-size-paper basis from number of pages impressed (images) after installation of a new belt unit |
| Image drum unit - Black<br>Image drum unit - Yellow<br>Image drum unit - Magenta<br>Image drum unit - Cyan | Respective life counts of image drum units | Values converted on a A4-size-paper basis from numbers of revolutions after installation of new image drum units |
| Toner - Black<br>Toner - Yellow<br>Toner - Magenta<br>Toner - Cyan | Respective counts of toner amounts used | Numbers of dots printed |
| Total number of sheets fed | Printer life count | Total number of sheets fed |
| Pages - Black<br>Pages - Yellow<br>Pages - Magenta<br>Pages - Cyan | Respective numbers of pages impressed (images) with image drums | Numbers of pages impressed (images) from installation of new image drum units. |

### 3.2.2 EEPROM Setting after ARC Board / OWL Board / SPA Board Replacement

When ARC/OWL/SPA board replacement, data in user-used board EEPROM is to be copied onto new boards using maintenance utility software (to allow new boards to inherit user-defined information and font installation information). When user-used EEPROMs are unusable due to its problem, new boards, whose destinations and must have been set, are to be used. Also new-EEPROM destinations must have been set.

### 3.2.3 Destination Setting (Check Method: Printing demo page)

Destination setting is to be conducted at final setting after part installation in printers. The destination setting for each printer, which defaults to OEL, is to be set to the destination of the printer without exception at the time it is shipped.

***Note!*** Destination settings are stored in ARC board / OWL board / SPA board EEPROM.

1. Maintenance-use boards: Destination setting for maintenance-use boards to Japan indirect sales, ODA, OEL and APS is not performed. They are shipped with the destination settings set to their default.
2. Setting from operator panel: Each printer is booted in Maintenance mode and its destination is set.
   - While holding the MENU+ and MENU- keys down, turn on the printer.
   - After “MAINTENANCE MENU” appears, the display changes to “OKIUSER.”
   - Press the MENU+ key, select destination-setting “OKIUSER” and press the ENTER key.
   - “JP*” is shown on the lower display.
   - Press the ENTER key, select a destination using the MENU+ or MENU- key, and hit the ENTER key.
   - Press the BACK key to confirm the selection.
   - With the two presses of BACK key or the one press of ONLINE key, the printer is restarted with the destination changed.
3. Description
   C5100/5300 printers to Japan domestic and overseas destinations share a ROM. Destination setting must be performed where the ROM is used in printers to other-than-OEL destinations (destination settings default to OEL). Destination settings are stored in ARC board EEPROM. Program ROM version changes return destination settings to their initial values. Destination setting for maintenance-use boards, which destinations are not set at the time of shipment, is to be carried out when they are used.

   If destination is OEL and Russian compatible panel is installed, you need to change CODESET in CONFIG MENU in SYSTEM MAINTENANCE MENU to TYPE2 and reboot. (Refer to Section 3.0.1 System Maintenance Menu.)

## 3.3 Print Density Adjustment

Auto Density Adjustment mode is set to [AUTO] at printer shipment, which may cause print density to be out of its appropriate balance during printer operation. In such cases, the density is to be adjusted.

***Notes!*** Print density adjustment is to be performed with printers at rest. Do not adjust print density during printer warming-up.

1. Press the MENU+ or MENU- key several times to show [COLOR MENU], and press the ENTER key.
2. Press the MENU+ or MENU- key to display [DENSITY ADJUSTMENT/ RESET].
3. Press the ENTER key.

Auto print density adjustment starts.

## 3.4 Print Density Adjustment (Calibration Chip)

Print Density Input to Print Density Detection Calibration Chip

1. Each PU is to be programmed with a calibration target correction value (the last two characters of barcode information, about which see the illustration shown below) that is a shutter label marking.

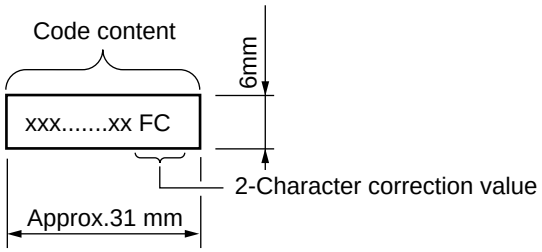
With shutter, sheet color, print density sensor or PU board replacement, correction value reprogramming must be performed.

Setting from operator panel:

- While holding the MENU+ and MENU- keys down, turn the printer on.
- After “MAINTENANCE MENU” appears, the display changes to “OKIUSER.”
- Press the MENU+ key seven times to select “DIAGNOSTIC MODE.”
- Press the MENU+ and ONLINE key. “ENGINE DIAG LEVEL2” is displayed.
- Press the MENU key two times to select “ENGINE PARAMETER SET.”
- Press the ONLINE or CANCEL key to show “CHIP DISPERSION ADJUST 00H.”
- Pressing the ENTER key blinks the first or second character of the display.
- Press the ONLINE or CANCEL key to set a correction setting.
- Press and hold the ONLINE or CANCEL key about two seconds to confirm the correction setting. The blinking correction setting becomes stay illuminated, bearing with an asterisk (*).
- The printer restarts and the correction setting takes effect.

① Information written

From left: One asterisk (*) character
Four-digit date (ID barcode) system
One-digit year (only one-digit x of 200x)
One-digit month (X, Y and X, for Oct., Nov. and Dec.)
Two-digit day
Four digits Filled with zeros 0000
Two-digit correction value
(In the same format as that for data manually input to printer)
00 to 04, for 0 to 4. FF to FC, for -1 to -4.



# 4. REGULAR MAINTENANCE

## 4.1 Parts Replaced Regularly

Users are recommended to replace parts periodically according to the table below. (Print quality cannot be assured and damages may occur, when the parts are not replaced.)

| Part Name | Time of Replacement | Condition for Replacement | Adjustment (after replacement) |
|---|---|---|---|
| Toner cartridge | When [REPLACE TONEER] is displayed. | 5,000 pages are printed. (5% duty) | |
| ID | When [REPLACE IMEGE DRUM] is displayed. | 15,000 pages are printed. (3P/J) | |
| Fuser unit | When [REPLACE FUSER] is displayed. | 45,000 pages are printed. | |
| Belt unit | When [REPLACE BELT] is displayed. | 50,000 pages are impressed. (3P/J) | |

Parts are replaced periodically by users.

## 4.2 Cleaning

Clean the internal and external sections of the printer with waste and a small vacuum cleaner as required.

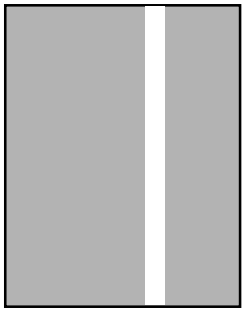
***Note:*** Do not touch the image drum terminals, the LED lens array, and the LED head connecter.

## 4.3 Cleaning the LED Lens Array

Clean the LED head array while white bands or lines (white-out, faint print) appear in the vertical direction on a printed page.

***Note:*** Be sure to clean the LED lens array with the LED lens array cleaner. (the LED head cleaner is packed together with the toner cartridge.)

White band, white stripe
(Void or light printing)



## 4.4 Cleaning the Pick-up Roller

Clean the pick-up roller if lines appear in the vertical direction on the printed page.

***Note:*** Use a soft cloth in order to avoid scratching the roller surface.

# 5. TROUBLESHOOTING PROCEDURES

## 5.1 Precautions before troubleshooting

(1) Confirm the basic inspection items described in the user manual.

(2) Obtain as much information regarding the problem from the user as possible.

(3) Check the printer in a condition close to that upon generating the problem.

## 5.2 Precautions before handling an abnormal image

(1) Confirm that the environment for using this printer is appropriate.

(2) Confirm that consumables (toner, drum cartridge) are replaced appropriately.

(3) Confirm that paper is accurate. Refer to paper specifications.

(4) Confirm that the drum cartridge is set appropriately.

## 5.3 Precautions upon handling an abnormal image

(1) Do not touch or allow foreign objects to contact the OPC drum surface.

(2) Do not expose the OPC drum to direct sunlight.

(3) Do not touch the fuser unit as it is heated significantly.

(4) Do not expose the image drum to light for longer than five minutes in room temperature.

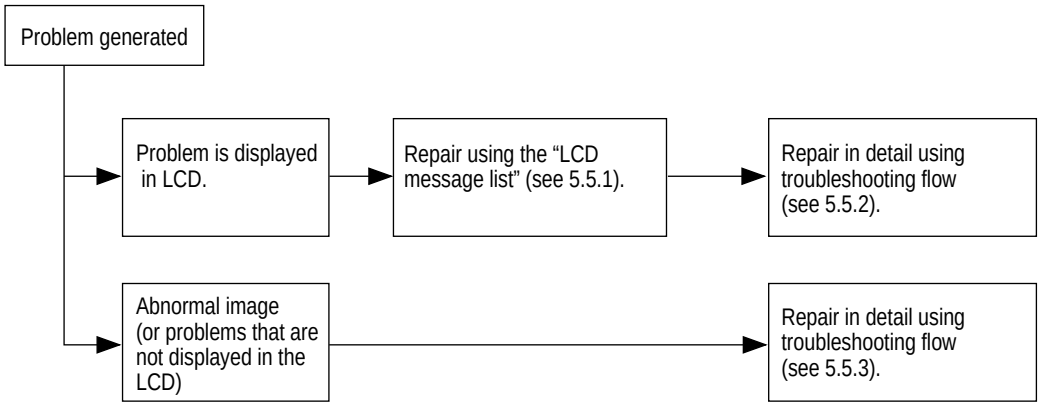
## 5.4 Preparing for Troubleshooting

(1) Operator panel display

Problems that occur with the printer are indicated in the LCD.
Apply proper remedies according to the message indicated in the LCD.

## 5.5 Troubleshooting Procedure

Confirm the problem in the following method when the printer generates a problem.



### 5.5.1 LCD message list

When the printer detects a non-recoverable error, the following service call error is displayed in the LCD.

Service call
nnn: error

***Note:*** nnn is an error code.

When [Service call] is displayed, error information that corresponds to the error code appears in the bottom line in the LCD. Be sure to make a note of, and report to related departments, the descriptive information (such as numeric values that indicate addresses), which is used for troubleshooting. Error codes, their definitions and remedies are described in Table 5-1-1.

Table 5-1-1 Operator Alarm (1/5)

| Display on Operator Panel | Ready LED | Attention LED | Description | Code nnn |
|---|---|---|---|---|
| LOAD mmm/ppp AND PRESS ONLINE SWITCH<br>nnn: ttttt MEDIA MISMATCH | OFF | Blink | The media type in the tray does not match the print data. Load mmm/ppp paper in ttttt tray.<br>MPTRAY (MP Tray)<br>TRAY1 (Tray 1)<br>TRAY2 (Tray 2) | <br><br>460<br>461<br>462 |
| LOAD mmm/ppp AND PRESS ONLINE SWITCH<br>nnn: ttttt SIZE MISMATCH | OFF | Blink | The media size or both media size and media type in the tray does not match the print data. Load mmmmmmmmm/ppppppp paper in ttttt tray.<br>MPTRAY (MP Tray)<br>TRAY1 (Tray 1)<br>TRAY2 (Tray 2) | <br><br>460<br>461<br>462 |
| NETWORK CONFIG<br>WRITING | ON | ON | Saving the Network configration to Flash memory when setting item which relate to Network was changed. | |
| NETWORK INITIAL<br>WAIT A MOMENT | Varies | Varies | Network initializing. | |
| LOAD mm<br>nnn: ttttt EMPTY | OFF | Blink | Printing request is issued to an empty ttttt tray. Printing request is issued to Tray2 which is opened.. Printing request is issued to Tray1 which is opened when Tray2 is not exist.<br>Load Mmmmmmmmm paper.<br>TRAY1 (Tray 1)<br>TRAY2 (Tray 2) | <br><br><br><br>491<br>492 |
| LOAD mmm AND PRESS ONLINE SWITCH<br>nnn:MP TRAY EMPTY | OFF | Blink | Paper feed from MPTRAY is attempted, but the tray is empty. Loading mmm paper and pressing the On-line switch will start printing.<br>MP TRAY (MP Tray) | <br><br><br>490 |
| INSTALL PAPER CASSETTE<br>nnn:TRAY1 OPEN | OFF | Blink | Tray1 cassette that is a paper path for the paper loaded from Tray2 to be printed to is removed. | 440 |
| INSTALL PAPER CASSETTE<br>nnn:TRAY1 MISSING | OFF | Blink | Tray1 cassette of paper to which printing is intended is removed, and paper cannot be fed.(When Tray2 exists) | 430 |
| ADD MORE MEMORY<br>nnn: MEMORY OVERFLOW | OFF | Blink | Memory capacity overflows. Press ON-LINE switch so that printing continues. Install expansion RAM or decrease data size. | 420 |

Table 5-1-1 Operator Alarm (2/5)

| Display on Operator Panel | Ready LED | Attention LED | Description | Code nnn |
|---|---|---|---|---|
| REPLACE TONER<br>nnn:* WASTE TONER FULL | OFF | Blink | * waste toner will fill up the box.Toner replacement is necessary.<br>Y<br>M<br>C | <br><br>414<br>415<br>416 |
| HAVE YOU REPLACED * TONER?<br>Y=ENTER/N=CANCEL | OFF | Blink | Displayed to confirm whether the user has replaced the * toner after Cover Open/Close. (This is because in case of Waster Toner Full, toner replacement cannot be automatically recognized.). The press of ENTER will reset the toner counter while clearing WASTE TONER FULL error. The press of CANCEL will bring the printer to waste toner full warning status.<br>Y<br>M<br>C | |
| REPLACE TONER<br>nnn: * TONER EMPTY | OFF | Blink | ******* toner empty<br>Y<br>M<br>C<br>K<br>Warning status takes effect at Cover Open/Close, while allowing printing approx 50 pages (T.B.D). (A4, density 5%). | <br>410<br>411<br>412<br>413 |
| CHECK TONER CARTRIDGE<br>nnn:* TONER SENSOR ERROR | OFF | Blink | Something is wrong with Toner Sensor. If the Engine setting is Factory mode, error display appears as mentioned later. (This warning has appeared since PU/FW 00.83)<br>Y<br>M<br>C<br>K | <br><br>540<br>541<br>542<br>543 |
| OPEN FRONT COVER<br>nnn: PAPER SIZE ERROR | OFF | Blink | Inappropriate size paper was fed from a tray. Check the paper in the trays or check for Multiple-feed. Open and close the cover to perform recovery printing, and continue. | 400 |
| CHECK MP TRAY<br>nnn: PAPER JAM | OFF | Blink | JAM has occurred.<br>MP TRAY1 | <br>390 |
| OPEN FRONT COVER<br>nnn: PAPER JAM | OFF | Blink | JAM has occurred.<br>TRAY1<br>TRAY2<br>FEED<br>DUPLEX | <br>391<br>392<br>380<br>372 |
| OPEN TOP COVER<br>nnn: PAPER JAM | OFF | Blink | JAM has occurred in paper path.<br>Transport<br>Exit<br>Duplex Entry<br>Printing Page Lost | <br>381<br>382<br>383<br>389 |

Table 5-1-1 Operator Alarm (3/5)

| Display on Operator Panel | Ready LED | Attention LED | Description | Code nnn |
|---|---|---|---|---|
| OPEN DUPLEX COVER<br>nnn: PAPER JAM | OFF | Blink | JAM has occurred nearby DUPLEX unit.<br>Duplex Reversal<br>Duplex Input<br>Multifeed in Duplex Unit. | <br>370<br>371<br>373 |
| INSTALL DUPLEX UNIT<br>nnn: DUPLEX UNIT OPEN | OFF | Blink | Displayed if jam is occurring in Duplex Unit and the Duplex unit is removed. If a user removes the Duplex Unit when jam is not occurring in the Duplex unit, Service Call Error 181 occurs. | 360 |
| REPLACE IMAGE DRUM<br>nnn: * DRUM LIFE | OFF | Blink | Drum life. Warning status takes effect at cover open/close. When the printer printed 500 pages (value of PU/FW 00.80. PU/FW 00.79‡ 20 pages), the error occurs again.<br>Y<br>M<br>C<br>K | <br><br><br><br><br>350<br>351<br>352<br>353 |
| REPLACE FUSER<br>nnn: FUSER LIFE | OFF | Blink | Fuser life. Warning status occurs at cover open/close. When the printer printed 500 pages, the error occurs again. | 354 |
| REPLACE BELT<br>nnn: BELT LIFE | OFF | Blink | Belt life. Warning status takes effect at cover open/close. When the printer printed 500 pages (value of PU/FW 00.80. PU/FW 00.79‡ 20 pages), the error occurs again. | 355 |
| REPLACE BELT<br>nnn: BELT LIF | OFF | Blink | Water toner full. Warning status takes effect at cover open/close. When the printer printed 500 pages, the error occurs again. | 356 |
| CHECK IMAGE DRUM<br>nnn: * DRUM MISSING | OFF | Blink | Drum is not correctly installed.<br>Y<br>M<br>C | <br>340<br>341<br>342 |
| CHECK IMAGE DRUM & BELT LOCK<br>nnn: K DRUM MISSING | OFF | Blink | Belt is unlocked or black drum is not correctly installed.<br>K | 343 |
| CHECK BELT<br>nnn: BELT MISSING | OFF | Blink | Belt unit is not correctly installed. | 330 |
| CHECK FUSER<br>nnn: FUSER MISSING | OFF | Blink | Fuser unit is not correctly installed. | 320 |
| CLOSE COVER<br>nnn:COVER OPEN | OFF | Blink | Cover is open.<br>TOP (Top Cover)<br>FRONT (Front Cover)<br>(When either the upper or front cover is open, 310 and 311 appear in toggle because the sensor cannot identify which cover is open.) | <br>310<br>311 |
| CLOSE COVER<br>nnn: DUPLEX COVER OPEN | OFF | Blink | Cover is open.<br>DUPLEX | 316 |

Table 5-1-1 Operator Alarm (4/5)

| Display on Operator Panel | Ready LED | Attention LED | Description | Code nnn |
|---|---|---|---|---|
| DOWNLOAD MODE<br>DATA RECEIVE | OFF | ON | Download mode when download data is received in normal operation. Show download data is receiving. | |
| DOWNLOAD MODE<br>DATA RECEIVED OK | | | Receiving download data has finished. | |
| DOWNLOAD MODE<br>REC DATA ERROR * | | | An error occurs when receiving download data.<br>1 FSize error<br>2 Checksum error<br>3 Print model No. error<br>4 Module I/F version error<br>5 FAT Version error | |
| DOWNLOAD MODE<br>DATA WRITING | | | Download data is writing. | |
| DOWNLOAD MODE<br>DATA WRITTEN OK | | | Writing download data has finished. | |
| DOWNLOAD MODE<br>DATA WRITE ERROR | | | An error occurs when writing download data.<br>1 Memory alloc error<br>2 Download File error<br>3 Device free-space reserving error<br>4 Device free-space insufficient error<br>5 File Write error<br>6 CU-F/W Mismatch error | |
| POWER OFF/ON<br>nnn: NETWORK ERROR | OFF | Blink | A network error is occurring. | 300 |
| REBOOTING d | OFF | ON | Rebooting. d: Decimal value (1 digit). Shows a cause of the rebooting.<br>d = 0 Not listed below<br>= 1 PJL command<br>= 2 Changing the menu<br>= 3 QUIT operator in PostScript language<br>= 4 Changing the NIC setting (including from Web Page) | |
| POWER OFF/ON AND WAIT FOR A WHILE<br>nnn:CONDENSING ERROR | OFF | Blink | (See the list of Service Calls.) | Fatal |
| POWER OFF/ON<br>nnn: FATAL ERROR | OFF | Blink | (See the list of Service Calls.) | Fatal |
| SERVICE CALL<br>nnn: FATAL ERROR | OFF | Blink | (See the list of Service Calls.) | Fatal |
| DOWNLOAD MODE | ON | OFF | Download Mode after the printer was powered on with pressing the Online switch.<br>The mode that the printer to ready to receive download data. | |
| DOWNLOAD MODE<br>DATA RECEIVE | Blink | OFF | Receiving download data. | |

Table 5-1-1 Operator Alarm (5/5)

| Display on Operator Panel | Ready LED | Attention LED | Description | Code nnn |
|---|---|---|---|---|
| DOWNLOAD MODE<br>DATA RECEIVED OK | ON | OFF | Finished receiving download data. | |
| DOWNLOAD MODE<br>REC DATA ERROR <No.***> | ON | ON | An error occurs when receiving download data<br>001 Size error<br>002 ChechSUM error<br>003 Printer model No. error<br>004 Module I/F version error<br>005 FAT Version error | |
| DOWNLOAD MODE<br>DATA WRITING | Blink | OFF | Writing download data. | |
| DOWNLOAD MODE<br>DATA WRITTEN OK | ON | OFF | Finished writing download data. | |
| DOWNLOAD MODE<br>DATA WRITE ERROR <No.***> | ON | ON | An error occurs when writing download data<br>011 Memory alloc error<br>012 Download File error<br>013 Device free-space reserving error<br>014 Device free-space insufficient error<br>015 File Write error<br>016 CU-F/W Mismatch error | |
| INITIALIZING | OFF | OFF | The controller side is initializing. | |
| RAM CHECK\<br>********** | OFF | OFF | RAM checking.<br>* appears after every 1/16 of the total amount has been checked. | |

Table 5-1-2 Service Call Error (1/5)

| Message | Cause | Error Description | | Solution |
|---|---|---|---|---|
| Service call<br>001:Error(C5300 only) | Machine Check Exception<br>Hardware fault detected. (Board defectiveness or Shortage of power supply volume) | | | Replace OWL/SPA board. |
| Power off/on<br>002:Error<br>~<br>006:Error<br>007:Error(C5300 only) | CPU Exception | Does error display reappear? | Yes | Power OFF/ON<br>Replace ARC/OWL/ SPA board. |
| service<br>020:Error | CU ROM Hash Check Error | Does error display reappear? (the case of a device which program ROM is attached to board directly.) | Yes | Power OFF/ON<br>Replace ARC/OWL/ SPA board. |
| Service call<br>020:Error(C5300 only) | CU Program ROM Hash Check Error | Is program ROM DIMM set properly?<br><br>Is error recovered by replacing program ROM DIMM? (the case of a device which program ROM is set to DIMM Slot.) | No<br>Yes<br><br>No | Reset ROM DIMM<br>Replace program ROM DIMM.<br>Replace OWL/SPA board. |
| Service call<br>023:Error(C5300 only) | CU Font ROM Hash Check Error | Does error display reappear? | Yes | Power OFF/ON<br>Replace OWL/SPA board. |
| Service call<br>030:Error | CU RAM Check Error | Does error display reappear? | Yes | Power OFF/ON<br>Replace ARC/OWL/ SPA board. |
| Service call<br>031:Error | CU Optional RAM Check Error | Is RAM DIMM set properly?<br><br>Is error recovered by replacing RAM DIMM? | No<br>Yes<br>No | Reset RAM DIMM.<br>Replace RAM DIMM.<br>Replace ARC/OWL/ SPA board. |
| Service call<br>035:Error(C5300 only) | CU Optional RAM Spec Error<br>CU RAM DIMM is not adjust to the specification. | Is RAM DIMM genuin?<br><br>Is RAM DIMM set properly?<br><br>Is error recovered by replacing RAM DIMM? | No<br><br>No<br>Yes<br>No | Use genuine RAM DIMM.<br>Reset RAM DIMM.<br>Replace RAM DIMM.<br>Replace OWL/SPA board. |
| Service call<br>040:Error | CU EEPROM Error | Does error display reappear? | Yes | Power OFF/ON<br>Replace ARC/OWL/ SPA board. |
| Service call<br>041:Error | CU Flash Error<br>Flash ROM Error on the CU board. | Does error display reappear? | Yes | Power OFF/ON<br>Replace ARC/OWL/ SPA board. |

Table 5-1-2 Service Call Error (2/5)

| Message | Cause | Error Description | | Solution |
|---|---|---|---|---|
| Service call<br>042:Error<br>~<br>044:Error | Flash File System Error | Failed access to Flash set directly on CU board. | | Run forced initialization of Flash.(Note that NIC-F/W and Mac address is deleted. After the initialization, it is need to download NIC-F/W and/or Mac address by Maintenance utility.)<br>In the case of before CU-F/W G1.26/X1.26, Press "+", "-", "CAN-CEL" to turn power ON. And after CU-F/W G1.27/X1.27, execute FLASH FORMAT of MAINTENANCE MENU of SYSTEM MAINTE-NANCE MENU.<br>Release buttons when [FLASH FORMAT] appears, wait until [ON-LINE] (2min) and Replace ARC/OWL/ SPA board if symptom does not change. |
| Service call<br>051:Error(C5300 only) | CU Fan Error<br>Abnormal CPU cooling fan on CU board. | Is CU Fan connector set prop-erly?<br>Is error recovered by replacing fan? | No<br>Yes<br>No | Connect properly.<br>Replace fan.<br>Replace OWL/SPA board. |
| Power off/on<br>070:Error(C5300 only) | PSE firmware fault detected. | Does error reoccur? | Yes | Power OFF/ON.<br>Replace OWL/SPA board. |
| Power off/on<br>072:Error xx | Engine I/F Error<br>I/F error between PU-CU. | Is CU assembly set properly?<br><br>Is error recovered by replacing ARC/OWL board? | No<br>Yes<br><br>No | Set properly.<br>Replace ARC/OWL/ SPA board.<br>Replace PU board (RSN) |
| Power off/on<br>073:Error xxxxxxxx | Video Error<br>Fault detected when image data is extended. | [C5100]<br>Is CU assembly set properly?<br><br><br><br>Fault again? | <br>No<br>Yes<br><br><br><br>Yes | <br>Set properly.<br>Replace to high-performance PC or drop resolution of data and print again.<br>Replace ARC board |
| | | [C5300]<br>Is CU assembly set properly? | <br>No<br>Yes | <br>Set properly.<br>Replace OWL/SPA board. |
| Power off/on<br>074:Error xxxxxxxx<br>075:Error xxxxxxxx | Video Error<br>Fault detected when image data is extended. | Is CU assembly set properly? | No<br>Yes | Set properly.<br>Replace ARC/OWL/ SPA board. |

Table 5-1-2 Service Call Error (3/5)

| Message | Cause | Error Description | | Solution |
|---|---|---|---|---|
| Service call 104:Error | Engine EEPROM setting check is OK when power ON. Then detect read/ write error. | Does error reoccur? | Yes | Power OFF/ON<br>Replace PU board (RSN) |
| Service call 105:Error | Read/ write error in the setting check of engine EEPROM when power on. | Does error reoccur? | Yes | Power OFF/ON<br>Replace PU board (RSN) |
| Service call 106:Error | Abnormal engine control logic. | Does error reoccur? | Yes | Power OFF/ON<br>Replace PU board (RSN) |
| Service call 121:Error | High-voltage power supply I/F error. | Is cable between PU board and high-voltage power unit connected properly?<br>Is there no improperly connections? | No<br>Yes<br>No | Connect properly.<br>Check improper connections for high-voltage.<br>Replace high-voltage power supply? |
| Service call 122:Error | Low-voltage power supply fan error.<br>Low-voltage power supply temperature error. | Is fan in low-voltage power supply unit operating?<br>Is fan connector connected properly? | No<br>Yes<br>No<br>Yes | Check connections for connector of fan.<br>Replace low-voltage power supply.<br>Replace fan motor.<br>Replace low-voltage power supply. |
| Service call 123:Error | Abnormal environment humidty / Not connected humidity sensor. | Does error reoccur? | Yes | Power OFF/ON<br>Replace humidity sensor |
| Service call 124:Error | Abnormal environment temperature. | Does error reoccur? | Yes | Power OFF/ON<br>Replace humidity sensor |
| Service call 127:Error | Error detected at the fuser unit cooling fan. | Is fan connector connected properly?<br>Does error reoccur? | No<br>Yes<br>No | Connect properly again.<br>Replace fan motor<br>Replace PU board (RSN) |
| Service call 131:Error ~ 134:Error | LED head fault detected. (131 = Y, 132 = M, 133 = C, 134 = K) | Is LED head properly set?<br>Does error reoccur? | No<br>Yes<br>Yes | Set properly for LED head unit.<br>Turn power ON again.<br>Replace LED head unit |
| Service call 142:Error | Error detented at ID position of Up/ Down | Is ID unit set properly?<br>Does error reoccur? | Yes<br>No<br>Yes | Reset ID unit.<br>Turn power ON again.<br>Replace ID Up/Down sensor. |
| Service call 150:Error ~ 153:Error | ID unit fuse cannot be disconnected. (150 = Y, 151 = M, 152 = C, 153 = K) | Is ID unit setting proper?<br>Does error reoccur?<br>Is error recovered by replacing PRD board? | No<br>Yes<br>Yes<br>No | Reset ID unit.<br>Turn power ON again.<br>After check connections of cable between PRD board and PU board, replace PRD board.<br>Replace PU board (RSN) |

Table 5-1-2 Service Call Error (4/5)

| Message | Cause | Error Description | | Solution |
|---|---|---|---|---|
| Service call<br>154:Error | Belt unit fuse cannot be disconnected. | Is belt unit setting proper?<br><br>Does error reoccur? | No<br>Yes<br>Yes | Reset belt unit.<br>Turn power ON again.<br>Check cable connections and, replace PU board(RSN) |
| Service call<br>155:Error | Fuser unit fuse cannot be disconnected. | Is fuser unit set properly?<br><br>Does error reoccur? | No<br><br>Yes<br>Yes | After cleaning for fuser connector, reset.<br>Turn power ON again.<br>Check cable connections and replace PU board (RSN) |
| Service call<br>160:Error<br>~<br>163:Error | Error detected by toner sensor. (160 = Y, 161 = M, 162 = C, 163 = K)<br>It does not occure in factory default setting. | Is toner cartridge setting?<br>Is toner lock lever setting?<br><br>Does error reoccur? | No<br>No<br><br>Yes | Set toner cartridge.<br>Turn a lock lever of toner to a fixed position.<br>Replace toner sensor or assembly. |
| Service call<br>170:Error<br>171:Error | Short circuit in fuser thermistor or open detected. | Does error reoccur? | Yes | Turn power ON again.<br>Replace fuser unit. |
| Service call<br>172:Error<br>173:Error | Abnormal temperature detected by fuser thermistor (high-temp or low temp.) | Does error reoccur? | Yes | Turn power ON again.<br>Replace fuser unit. |
| Service call<br>181:Error<br>182:Error | Option unit I/F error. (181 = Duplex Unit, 182 = Option Tray) | Does error reoccur? | Yes | Turn power ON again.<br>After checking connection parts of connector, replace option unit. |
| Power off/on<br>190:Error | System Memory Overflow. | Does error reoccur? | Yes | Turn power ON again.<br>Add option RAM DIMM. |
| Service call<br>200:Error<br>~<br>202:Error | PU Firmware download Error. | Error occurered while writing over the PU firmware. | | Turn the printer OFF/ON, and retry to download the PU firmware again.<br>(Usually, the procedure (PU firmware download) which isn't done, so this is not occur.) |
| Power off/on<br>209:Download Error | Media Table download Error. | Downloading Media Table to PU has failure.(Related to Custom Media Type) | | Turn the printer OFF/ON, and retry to download the PU firmware, again.<br>(Usually, the procedure isn't done, so this is not occur.) |

Table 5-1-2 Service Call Error (5/5)

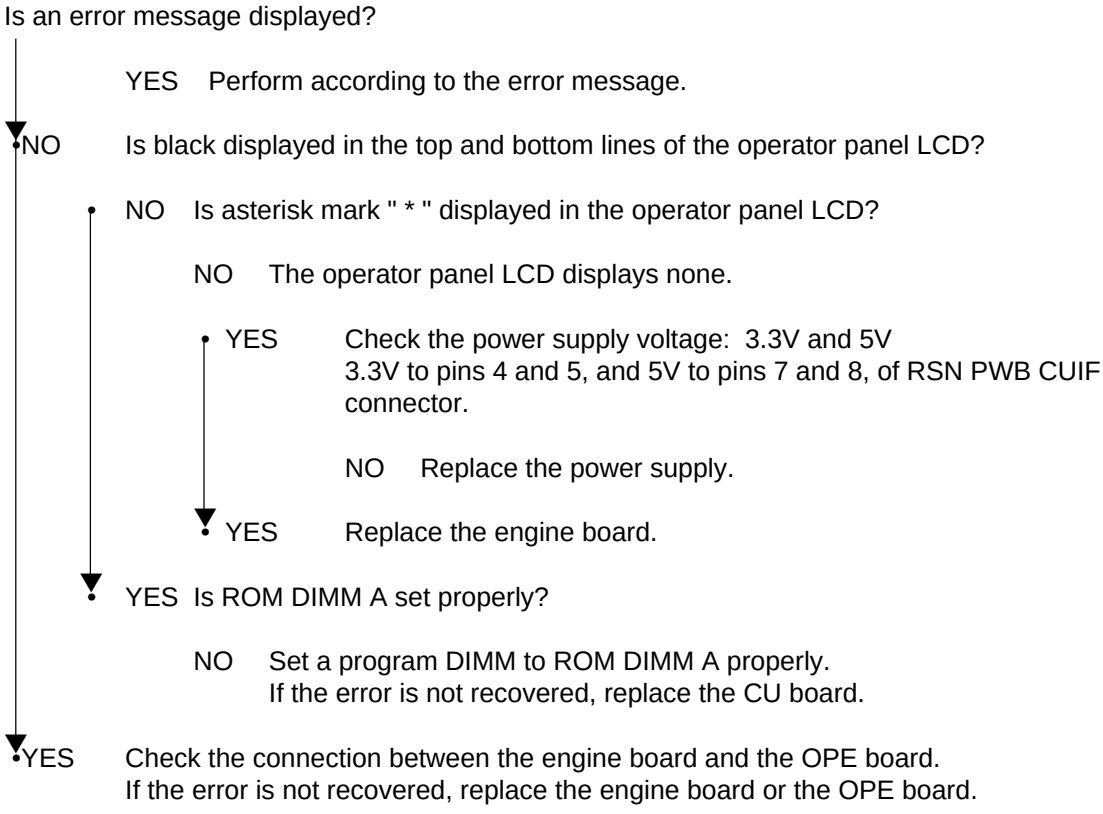
| Message | Cause | Error Description | | Solution |
|---|---|---|---|---|
| Power off/on<br>203:Error<br>204:Error<br>207:Error<br>208:Error<br>210:Error<br>~<br>214:Error<br>F0C:Error<br>F0D:Error(C5300 only)<br>FFE:Error(C5300 only)<br>FFF:Error | An error was detected of the CU program. (203~214 is not occure in usual operating.) | Reinstall the CU board.<br>Is the error message displayed again? | | After turn power OFF, check connections between CU board and PU board. Then turn power ON again. |
| Service call<br>220:Error | False setting of a record medium detected by a print statistics. | Take off the HDD or replaced? | Yes | Reset original HDD. |
| Power off/on<br>901:Error<br>902:Error | Short or open in belt thermistor detected. | Is belt thermistor cable setting proper?<br><br>Does error reoccur? | No<br><br>Yes<br>Yes | Connect cable set properly again.<br>Turn power ON again.<br>Replace belt thermistor. |
| Power off/on<br>903:Error<br>904:Error | Abnormal temperature detected by belt thermistor (high-temp or low temp.) | Is belt thermistor cable setting proper?<br><br>Does error reoccur? | No<br><br>Yes<br>Yes | Connect cable set properly again.<br>Turn power ON again.<br>Replace belt thermistor and leave aside for 30 min. Then turn power ON again. |

5.5.2 Preparing for troubleshooting

(1) Operator panel display
Problems that are generated in this device are indicated in the LCD.
Apply proper measures according to the message displayed in the LCD.

| No. | Problem | Flow Chart No. |
|---|---|---|
| 1 | Printer Malfunction after Turn-on. | ① |
| 2 | Jam Errors<br>Paper Loading Jam (1st tray)<br>Paper Loading Jam (Multipurpose tray)<br>Paper Feed Jam<br>Paper Exit Jam<br>Duplex Print Jam | <br>②-1<br>②-2<br>②-3<br>②-4<br>②-5 |
| 3 | Paper Size Error | ③ |
| 4 | Image Drum Up/Down Operation Error | ④ |
| 5 | Fuser Unit Error | ⑤ |
| 6 | Motor Fan Error | ⑥ |

***Note:*** When replacing engine boards (RSN PWBs), read in the EEPROM chip data from the boards and copy it onto installed new boards.



① The printer does not operate properly after it is turned on.

- Turn the printer off and on again.
- Does ■■■■■■■■■■■■ appear (for about one second)?

  - NO Is the AC cable connected properly?

    NO Connect the AC cable properly.

  - YES Is +5V being output to the operator panel connector (OPE connector) on the engine board (RSN PWB)?
    Pin 4: +5V. Pin 7: 0V.

    YES Is +5V being output to the connector CN1 on the OPE board (RSP PWB)?
    Pin 4: +5V. Pin 7: 0V.

    - NO Is the operator panel cable connected properly?

      NO Connect the cable properly.

    - YES Replace the operator panel cable. Has the printer recovered from the error?

      NO Replace the OPE board.

    - YES End.

  - NO Is +5V being output to the POWER connector on the engine board (RSN PWB)?
    Pins 7 to 9: +5V. Pins 1 to 3, and 13 to 17: 0V.

    NO Replace the low voltage power unit after checking the connection of the POWER connector.

  - YES Replace the engine board.

- YES Are the following voltages being output to the CU board PUIF connector?
  Pins 7 and 8: +5V. Pins 4 and 5: +3.3V. Pins 1, 2, 3 and 6: 0V.

  YES Replace the CU Board.

- NO Are the following voltages being output to the POWER connector on the engine board?
  Pins 7 to 9: +5V. Pins 10 to 12: +3.3V. Pins 4 to 6: +24V. Pins 1 to 3, and 13 to 17: 0V.

  YES Replace the engine board.

- NO Replace the low voltage power unit.

②-1 Paper Loading Jam (1st tray)

- Does a paper loading jam occur immediately after the printer is turned on?
  - YES Is paper jammed at the entrance sensor 1 or the entrance sensor 2?
    - YES Remove the jammed paper.
    - (A)
  - NO Do the levers (of entrance sensor1 and the entrance sensor 2) move properly?
    - NO Replace defective sensor lever(s).
  - YES Do the sensors operate properly? [Operate each sensor lever to check the signals on FSNS connector pins of the engine board (RSN PWB)]. Pin 4: Entrance sensor 1, Pin 2: Entrance sensor 2.
    - NO Replace the front sensor board (RSF PWB) after checking signal cable connection.
  - YES Replace the engine board after checking signal cable connection.
- NO Does a paper loading jam occur moments after paper is drawn into the printer?
  - YES Has paper reached the entrance sensor 1 or the entrance sensor 2?
    - YES Go to (A).
  - NO Replace the feed roller or the paper cassette's paper separation frame assy.
- NO Is the 1st hopping motor running?
  - YES Is the solenoid operating properly?
    - NO Replace the solenoid.
  - YES Does the solenoid have a rated resistance (approx. 8.9Ω)?
    - NO Replace the solenoid.
  - YES Replace the feed roller or the paper cassette's paper separation frame assy.
- NO Does the 1st hopping motor have a rated resistance (approx. 3.5Ω)?
  - NO Replace the 1st hopping motor.
- YES Is 24V being output to the fuse F2 on the engine board?
  - NO Replace the low voltage power unit.
- YES Replace the engine board after checking gear engagement and cable connection.

②-2 Paper Loading Jam (Multipurpose tray)

- Does a paper loading jam occur immediately after the printer is turned on?
  - YES Is paper jammed at the entrance sensor 1 or the entrance sensor 2?
    - YES Remove the jammed paper.

    (A)
  - NO Does the lever of the entrance sensor 2 move properly?
    - NO Replace the lever.
  - YES Does the entrance sensor 2 work properly? [Operate the lever to check, through the switch scan test of System Maintenance mode, the sensor for proper working, or to check the signal on a corresponding FSNS connector pin of the engine board (RSN PWB).]
    Pin 3: Entrance sensor 2
    - NO Replace the front sensor board (RSF PWB) after checking signal cable connection.
  - YES Replace the engine board after checking signal cable connection.
- NO Does a paper loading jam occur at the instant after paper is drawn into the printer?
  - YES Has paper reached the entrance sensor 2?
    - YES Go to (A).
  - NO Replace the multipurpose tray assy.
- NO Is the hopping motor running?
  - NO Is +24V being output to the fuse F2 on the engine board?
    - NO Replace the low voltage power unit.
  - YES Replace the engine board after checking cable connection.
- YES Is the MPT feed roller turning?
  - NO Replace the gear assy - hopping.
- YES Replace the engine board after checking cable connection.

②-3 Paper Feed Jam

- Does the printer have a paperfeed jam immediately after it is turned on?
  - YES Is paper jammed at the write sensor?
    - YES Remove the jammed paper.
    - (A)
  - NO Does the write sensor lever move properly?
    - NO Replace the lever.
  - YES Does the write sensor work properly? [Operate the sensor lever to check the signal on a corresponding FSNS connector pin of the engine board (RSN PWB)].
    Pin2: Entrance belt sensor
    - NO Replace the front sensor board (RSF PWB) after checking cable connection.
  - YES Replace the engine board.
- NO Does the printer have a paperfeed jam immediately after the printer draws paper into it?
  - YES Has paper reached the write sensor?
    - YES Go to (A).
  - NO Is the hopping motor running?
    - NO Does the hopping motor have a rated resistance (approx. 3.5Ω)?
      - NO Replace the hopping motor.
    - YES Replace the engine board after checking gear engagement.
  - YES Replace the registration roller.
- NO Does a paperfeed jam occur during paper loading?
  - YES Is the belt motor running?
    - NO Does the belt motor have a rated resistance (approx. 3.5Ω)?
      - NO Replace the belt motor.
    - YES Is 24V being output to the DRIVER connector pin 1 on the engine board?
      - NO Replace the engine board.
    - YES Replace the engine board after checking gear engagement.
  - YES Replace the belt unit after checking gear engagement.
- NO End

②-4 Paper Exit Jam

- Does a paper exit jam occur immediately following the printer is turned on?
  - YES Is paper jammed at the exit sensor?
    - YES Remove the jammed paper.
  - NO Does the paper exit sensor lever move properly?
    - NO Replace the lever.
  - YES Does the paper exit sensor work properly? [Operate the paper exit sensor lever to check, through the switch scan test of System Maintenance mode, the sensor for proper working, or to check the signal on the DRIVER connector pin 8 on the engine board (RSN PWB).]
    - NO Replace the paper exit sensor after checking signal cable connection.
  - YES Replace the engine board.
- NO Is the face-up stacker cover completely open or closed?
  - NO Completely open or close the cover.
- YES Is the heat motor running?
  - NO Does the heat motor have a rated resistance (approx. 6.0Ω)?
    - NO Replace the heat motor.
  - YES Is 24V being output to the DRIVER connector pin 1 on the engine board?
    - NO Replace the engine board.
  - YES Replace the driver board after checking cable connection.
- YES Does the exit guide assy work properly?
  - NO Replace the exit guide assy.

②-5 Duplex Print Jam

Does a paperfeed jam occur at the instant following the printer is turned on?

YES Does paper exist in the duplex unit?

YES Remove the jammed paper.

(A)

NO Do the duplex-in sensor, rear sensor and front sensor levers move properly?

NO Replace problem sensor lever(s).

YES Do the duplex-in, rear and front sensors function properly? (Through the switch scan test of System Maintenance mode, check the sensors are placed at the paper absence detection level.)

NO Replace malfunctioned sensor(s) after checking cable connection.

YES Replace the duplex controller board (V7X PWB).

NO Does a paperfeed jam occur moments after paper is drawn into the printer?

YES Has paper reached the duplex rear sensor?

YES Proceed to (A).

NO Is the duplex motor running?

NO Does the duplex motor have a rated resistance (approx. 6.0Ω)?

NO Replace the duplex motor.

YES Replace the duplex board (V7X PWB) after checking gear engagement.

YES Replace the registration roller A or B.

NO Replace the duplex unit.

③ Paper Size Error

Is proper size paper being used?

NO Use proper size paper.

YES Is paper jammed at the entrance sensor 2?

YES Remove the jammed paper.

NO Does the lever of the entrance sensor 2 move properly?

NO Replace the lever.

YES Does the entrance sensor 2 work properly? (Operate the entrance sensor lever to check the signal on a corresponding FSNS connector pin on the engine board RSN PWB.)
Pin 2: Entrance sensor 2

NO Replace the sensor board (RSF PWB) after checking cable connection.

YES Does the lever of the write sensor move properly?

NO Replace the lever.

YES Does the write sensor work properly? (Operate the write sensor lever to check, through the switch scan test of System Maintenance mode, the sensor for proper operation. The signal on a corresponding FSNS connector pin of the engine board (RSN PWB) is to be checked.)
Pin 3: Entrance write sensor

NO Replace the sensor board (RSF PWB) after checking cable connection.

YES Replace the engine board after checking cable connection.

④ Image Drum Unit (ID) Up/Down Operation Error

- Power the printer off and, after a few seconds, on again.

Are all the ID drums properly revolving during printing?

NO Does the ID motor (C) have a rated resistance (approx. 3.5Ω)?

NO Replace the ID motor(C).

YES Is 24V being output to the F1 of the engine board?

NO Replace the low voltage power unit.

YES Replace the engine board after checking cable connection.

YES Is ID up-and-down operation being performed (is the operation performed by ID UP/DOWN on motor and clutch testing)?

NO Replace the gear assys - planet L and R.

YES Does the ID up/down sensor work properly? (Check the signals on the high voltage power unit CN3, pin 2.)
Are: 5V with the sensor light unshielded; and
0V with sensor light shielded
being output?

NO Replace the high voltage power unit.

YES Replace the engine board after checking the cable connection between the high voltage power unit and the engine board (RSN PWB)

⑤ Fuser Unit Error

Does a fuser unit error occur immediately after the printer is turned on?

(A)

- YES Is the heat roller thermistor broken or short-circuited (see figure 5-1)? (approx. 190 k to 980 kΩ at room temperatures of 0 to 43˚C)
  - YES Replace the fuser unit.
- NO

NO Does a fuser unit error occur about one minute after printer is turned on?

- NO Go to (A).

YES Is the heater of the fuser unit on (Is it hot)?

- YES Replace the engine board. Has the problem been corrected?
  - YES End.
- NO Replace the fuser unit.

NO Is AC voltage being output between the low voltage unit CN2 connector pins 1 and 3?

- NO Replace the low-voltage power unit. Has the problem been corrected?
  - YES End.
- NO Replace the engine board.

YES Replace the fuser unit.

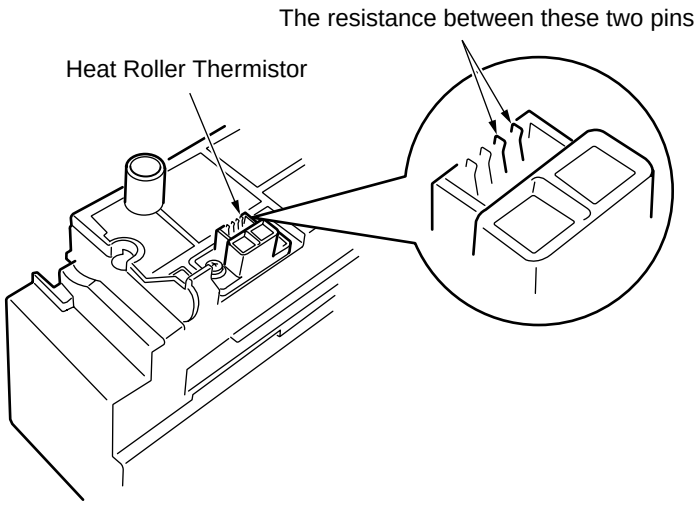



Figure 5.1

⑥ Motor Fan Error

Does the low voltage power supply fan run after the printer is turned on?

- NO Is 24V being output to the POWER connector on the engine board (RSN PWB)? 24V: Pins 4, 5 and 6
  - NO Replace the low voltage power unit after checking cable connection.
- YES Has the low voltage power unit fan replaced?
  - YES End.
- NO Replace the low voltage power unit fan.

YES Does the fuser unit fan fan rotate after the printer is turned on again?

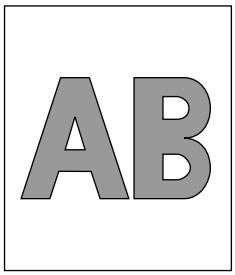
- NO Is 24V being output to the fuse 3 on the engine board (RSN PWB)?
  - NO Is 24V being output to the POWER connector on the engine board (RSN PWB)? 24V: Pins 4, 5 and 6
    - NO Replace the low voltage power unit after checking cable connection.
  - YES Replace the engine board.
- YES Replace the high voltage power unit fan.

YES End.

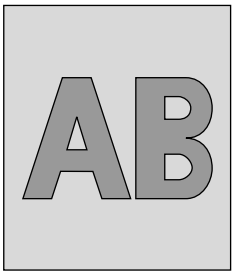
### 5.5.3 Image Problem Troubleshooting

When printout images are not satisfactory as illustrated below, follow the troubleshooting steps listed below.

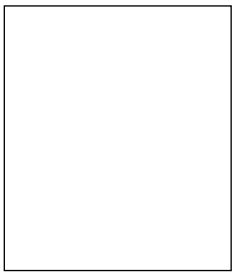
| Abnormal Image | Flowchart No. |
|---|---|
| Light or faded image, or color misalignment, on whole page (Figure 5.2-Ⓐ) | ① |
| Dirty background (Figure 5.2-Ⓑ) | ② |
| Blank page (Figure 5.2-Ⓒ) | ③ |
| Vertical belt or line (black or color) (Figure 5.2-Ⓓ) | ④ |
| Vertical belt or line (white or uneven-color) (Figure 5.2-Ⓕ) | ⑤ |
| Poor fusing (ink spreads or peels when touched with fingers.) | ⑥ |
| Defective image of regular interval (Figure 5.2-Ⓔ) | ⑦ |
| Missing image | ⑧ |
| Color misalignment | ⑨ |
| Color different from original one | ⑩ |



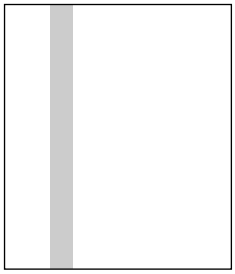

Ⓐ Light or faded image on whole page



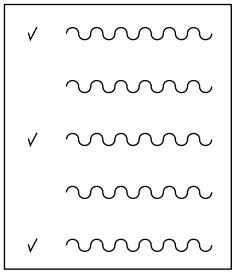

Ⓑ Dirty Background



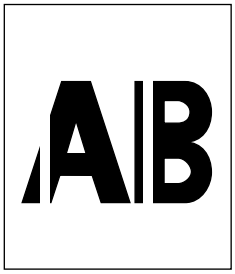
Ⓒ Blank



Ⓓ Vertical black belt or line



Ⓔ Defective image of regular interval




Ⓕ Vertical white belt or line

Figure 5.2

① Light or faded image, or color misalignment, on whole page (Fig 5-2 Ⓐ)

Is toner running short (Is TONER LOW displayed)?

YES Supply toner.

NO Is proper paper being used?

NO Use proper paper.

YES Are the LED head lenses dirty?

YES Clean dirty lens(es).

NO Are the LED head assys all connected to the CU board (ARC PWB / OWL PWB / SPA PWB) properly?

NO Connect the cable(s) between not properly connected LED head(s) and the engine board correctly.

YES Are +5V and +3.3V being output from the CU board (ARC PWB / OWL PWB / SPA PWB) to the LED head assys?
+3.3V: 14
+5V: 16, 18, 29, 22 and 24

NO Replace the CU board (ARC PWB / OWL PWB / SPA PWB).

YES Replace the LED head assys after checking cable connection. Has the problem been corrected?

YES End.

NO Replace the high voltage power unit or the belt unit after checking cable connection. Has the problem been corrected?

YES End.

NO Are the image drum unit pins connected to the contact assy properly (see figure 5-2)?

NO Connect not properly connected image drum unit(s) to the contact assy correctly.

YES Replace the image drum units.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

② Dirty background (Fig. 5-2 Ⓑ)

Were the image drums exposed to external light for a long time?

YES Replace exposed image drum unit(s).

NO Are the rollers of the fuser unit dirty?

YES Replace the fuser unit.

NO Is MEDIA WEIGHT set correctly?
LIGHT: 64 to 74 g/m$^2$. MEDIUM: 75 to 104 g/m$^2$. HEAVY: 105 to 120 g/m$^2$.
ULTRAHEAVY: 121 to 203 g/m$^2$. TRANSPAREMCY.

NO Set the MEDIA WEIGHT correctly.

YES Are the LED head assys connected to the CU board (ARC PWB / OWL PWB / SPA PWB) properly?

NO Connect not properly connected LED head assy(s) to the CU board (ARC PWB / OWL PWB / SPA PWB) correctly.

YES Are +5V and +3.3V being output to the CU board (ARC PWB / OWL PWB / SPA PWB) K, Y, M and C LED HEAD connector pins?
+3.3V: 14
+5V: 16, 18, 20, 22 and 24

NO Replace the CU board (ARC PWB / OWL PWB / SPA PWB).

YES Replace the LED head assys after checking cable connection. Has the problem been corrected?

YES End.

NO Replace the engine board. Has the problem been corrected?

YES End.

NO Replace the high voltage power unit or the belt unit after checking cable connection. Has the problem been resolved?

YES End.

NO Be sure cable connection is established. Are the pins of the image drum units connected to the contact assy properly (see figure 5-3)?

NO Connect not properly connected pin(s) to the contact assy correctly.

YES Replace the image drum units.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

③ Blank page (Fig 5-2 Ⓒ)

Are the LED head assys connected to the CU board (ARC PWB / OWL PWB / SPA PWB) properly?

NO Check the cable connection between not properly connected LED assy(s) and CU board (ARC PWB / OWL PWB / SPA PWB), and connect them correctly.

YES Are +5V and +3.3V being output to the CU board (ARC PWB / OWL PWB / SPA PWB) K, Y, M and C HEAD connector pins?
+5V: Pins 16, 18, 20, 22 and 24
+3.3V: Pin 14

YES Replace the LED head assys after checking cable connection.

NO Are +5V and +3.3V being output to the engine board (RSN PWB) CUIF connector?
+5V: Pins 7, 8 and 9
+3.3V: Pins 10, 11 and 12

NO Replace the low voltage power unit after checking cable connection.

YES Is 24V being output to the engine (RSN PWB) HVOLT connector pin 15?

NO Replace the engine board.

YES Replace the high voltage power unit or the belt unit after checking cable connection.
Has the problem been corrected?

YES End.

NO Are the image drum pins connected to the contact assy properly (see figure 5-2)?

NO Connect not properly connected image drum pin(s) to the contact assy correctly.

YES Replace the image drum units.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

④ Vertical belt or line (black or color) (Fig. 5-2 Ⓓ)

Connect not properly connected LED head assy(s) to the CU board correctly.

NO Connect the LED head assembly to the connection board properly.

YES Is the pin connection of the image drum unit(s) to the contact assy proper (see figure 5-3)?

NO Connect not properly connected pin(s) to the contact assy correctly.

YES Replace the image drum unit(s).

Replace the LED head assys after checking cable connection. Has the problem been corrected?

YES End.

NO Replace the CU board (ARC PWB / OWL PWB / SPA PWB) after checking cable connection. Has the problem been resolved?

YES End.

NO Is the engine board (RSN PWB) connected to the CU board (ARC PWB / OWL PWB / SPA PWB) properly?

NO Connect the engine board to the connection board correctly.

YES Replace the engine board (RSN PWB) after checking cable connection. Has the problem been corrected?

YES End.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

⑤ Vertical belt or line (white or uneven-color) (Fig. 5-2 Ⓕ)

Are the LED heads dirty?

YES Clean dirty LED head(s).

NO Are the image drum pins connected to the contact assy properly (see figure 5-3 D)?

NO Connect not properly connected pin(s) to the contact assy correctly.

YES Replace the image drum units.

Are the LED head assys connected to the CU board (ARC PWB / OWL PWB / SPA PWB) properly?

NO Connect not properly connected LED head assy(s) to the CU board (ARC PWB / OWL PWB / SPA PWB) correctly.

YES Replace LED head assys after checking cable connection. Has the problem been corrected?

YES End.

NO Replace the high voltage belt unit. Has the problem been corrected?

YES End.

NO Replace the connection board (Y73 PWB) after checking cable connection. Has the problem been resolved?

YES End.

NO Is the I/D terminal connected properly to the contact assembly? (See Fig. 5-3)

NO Is the engine board (RSN PWB) connected to the CU board properly?

YES Replace the engine board (RSN PWB) after checking cable connection. Has the problem been corrected?

YES End.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

⑥ Poor fusing (Ink spreads or peels when touched lightly with fingers.)

Is proper paper being used?

NO Use proper paper.

YES Are the contact of the fuser unit connected properly?

NO Connect the contact of the fuser unit properly.

YES Are the rollers of the fuser unit dirty?

YES Replace the fuser unit.

NO Is MEDIA WEIGHT (menu 1) set properly?
LIGHT: 64 to 74 g/m$^2$. MEDIUM: 75 to 104 g/m$^2$. HEAVY: 105 to 120 g/m$^2$.
ULTRAHEAVY: 121 to 203 g/m$^2$. TRANSPAREMCY.

NO Set the MEDIA WEIGHT correctly.

YES Is AC voltage being output between the CN2 connector pins 1 and 3 of the low voltage power unit?

NO Replace the low voltage power unit.

YES Does the heat roller thermistor have a rated resistance (approx. 180 k to 980 kΩ at room temperatures of 0 to 43˚C) (see figure 5-1)?

NO Replace the fuser unit.

YES Does the fuser temperature agree with its specification? Check the fuser temperature on the LCD display of Engine Maintenance mode.
Heat Roller: 145 to 155˚C
155 to 174˚C (when MEDIA WEIGHT is set to LIGHT)

NO Replace the fuser unit.

YES Replace the fuser unit.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

⑦ Defective image of regular interval (Figure 5.2-Ⓔ)

| Interval | Problem | Troubleshooting |
|---|---|---|
| 94.2 mm | Image Drum | Replace the image drum unit. |
| 50.24 mm | Developing Roller | Replace the image drum unit. |
| 47.10 mm | Toner Supply Roller | Replace the image drum unit. |
| 37.68 mm | Charging Roller | Replace the image drum unit. |
| 85.41 mm | Fuser Upper Roller | Replace the fuser unit. |
| 87.92mm | Fuser Lower Roller | Replace the fuser unit. |
| 50.24mm | Transfer Roller (K) | Replace the belt unit. |
| 43.96mm | Transfer Roller (Color) | Replace the belt unit. |

***Note:*** The life counts of the image drum units, fuser unit and belt unit are automatically reset at their respective replacements.

⑧ Missing image

Are the LED heads dirty?

YES Clean dirty LED head(s).

NO Are the LED head assys connected to the CU board (ARC PWB / OWL PWB / SPA PWB) properly?

NO Check the connection cables between not properly connected LED head(s) and the CU board, and connect them correctly.

YES Are +5V and +3.3V being output to the following HEADPOW connector pins of the CU board (ARC PWB)?
+5V: Pins 16, 18, 20, 22 and 24
+3.3V: Pin 14

YES Is +5V being output from the CU board (ARC PWB / OWL PWB / SPA PWB) to the LED heads?

NO Replace the CU board (ARC PWB / OWL PWB / SPA PWB).

YES Replace the LED head assys after checking cable connection. Has the problem been resolved?

NO Replace the driver board (RSM PWB) after checking cable connection. Has the problem been corrected?

YES End.

NO Is 24V being output to the POWER connector on the engine board (RSN PWB)?
+24V: Pins 2, 4, and 6

NO Replace the low voltage power unit after checking cable connection.

YES Is 24V being output to the HVOLT connector pin 15 of the engine board (RSN PWB)?

NO Replace the engine board.

YES Replace the high voltage power unit or the belt unit after checking cable connection.

YES End.

NO Are the pins of the image drum units are connected to the contact assy properly (see figure 5-3)?

NO Connect not properly connected pins to the contact assy correctly.

YES Replace the image drum units.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

⑨ Color misalignment

"TONER LOW" is showing on the display.

YES Supply toner. Has the problem been resolved?

YES End.

NO Conduct a color registration test of Engine Maintenance mode.
Procedure: Enter the self-diagnostic mode (level 1) of Engine maintenance mode.

| DIAGNOSTIC MODE |
|---|
| XX.XX.XX |

Pressing the MENU+ or MENU- key three times displays "REG ADJUST TEST."

| REG ADJUST TEST |
|---|
| |

Press the ENTER key once to show "REG ADJUST EXECUTE."

| REG ADJUST EXECUTE |
|---|
| |

Press the ENTER key to execute auto color registration adjustment (the motor starts running and color registration adjustment is performed).

Has the symptom that the color registration adjustment operation is not performed (the motor does not run) and "OK" is immediately displayed occurred?

YES An other-than-color-misalignment error occurred. Correct the error. Has the color misalignment resolved?

YES End.

(A)

(A)

NO Is “NG CALIBRATION LEFT/RIGHT” displayed?

YES Is the color registration sensor cover dirty?

YES: A malfunction of the sensor cover front surface cleaning operation of the cleaning blade placed on the back of the shutter occurred. Replace the shutter and the sensor cover to restore cleanability.

NO Make sure of color registration sensor board (Z71 PWB) connector, and engine board (RSN PWB) RSNS and PUIF connector connections. Has the problem been corrected?

YES End.

NO Replace the driver board. Has the problem been resolved?

YES End.

NO Replace the engine board. Has the problem been resolved?

YES End.

NO Replace the color registration sensor board and driver board connection cable. Has the problem been corrected?

YES End.

NO Replace the driver board and PU connection cable. Has the problem been resolved?

YES End.

NO Is “DYNAMICRANGE LEFT/RIGHT” displayed?

YES Is the color registration sensor cover dirty?

YES A malfunction of the sensor cover front surface cleaning operation of the cleaning blade placed on the back of the shutter occurred. Replace the shutter and the sensor cover to restore cleanability.

NO Are there any problems in shutter opening and closing operation?

YES Replace the shutter.

NO Replace the belt unit. Has the problem been corrected?

YES End.

NO Replace the image drum units. Has the problem been resolved?

YES End.

(B)

(B)

- [Is “YELLOW/MAGENTA/CYAN LEFT/RIGHT/HORIZONTAL” displayed?

  YES Replace the belt unit. Has the problem been corrected?

  YES End.

  NO Replace the image drum unit. Has the problem been resolved?

  YES End.

  NO Are there any problems in the gear assys of the image drums, multipurpose tray, belt unit, belt motor etc.?

  YES Replace damaged gear assy(s).

  NO Replace the driver board. Has the problem been corrected?

  YES End.

  NO Are the LED head units connected to the CU board (ARC PWB / OWL PWB / SPA PWB) properly?

  NO Connect not properly connected LED head unit(s) to the connection board correctly.

  YES Replace the LED head assys after checking cable connection. Has the problem been resolved?

  YES End.

  NO Replace the CU board (ARC PWB / OWL PWB / SPA PWB) after checking cable connection. Has the problem been corrected?

  YES End.

  NO Is the engine board (RSN PWB) connected to the CU board (ARC PWB / OWL PWB / SPA PWB) properly?

  NO Connect the engine board to the connection board correctly.

  NO Replace the engine board. Has the problem been resolved?

  YES End.

  NO Are the pins of the image drum units connected to the contact assy properly (see figure 5-3)?

  NO Connect not properly connected pins to the contact assy correctly.

  YES Replace the image drum units.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

⑩ Color different from original one

Are the LED head lenses dirty?

YES Clean dirty LED head lens(es).

NO Are the LED head assys connected to the connection board (ARC PWB / OWL PWB / SPA PWB) properly?

NO Check the cable connection between not properly connected LED assy(s) and the connection board, and connect them correctly.

YES Are +5V and +3.3V being output to the CU board (ARC PWB / OWL PWB / SPA PWB) HEAD connector pins?
+5V: Pins 16, 18, 20, 22 and 24
+33.V: Pin 14

YES Is +5V being output to the CU board (ARC PWB / OWL PWB / SPA PWB)?

NO Replace the CU board (ARC PWB / OWL PWB / SPA PWB).

YES Replace the LED head assys after checking cable connection. Has the problem been corrected?

YES End.

NO Replace the driver board (RSM PWB) after checking cable connection. Has the problem been resolved?

YES End.

NO Is 5V being output to the engine board (RSN PWB) POWER connector?
+5V: Pins 7, 8 and 9

NO Replace the low voltage power unit after checking cable connection.

YES Is 24V being output to the engine board (RSN PWB) HVOLT connector pin 15?

NO Replace the engine board.

YES Replace the high voltage power unit or the belt cassette assy after checking cable connection. Has the problem been corrected?

YES End.

NO Are the pins of the image drum units connected to the contact assy properly (see figure 5-3)?

NO Connect not properly connected pin(s) to the contact assy correctly.

YES Replace the imaged drum units.

***Note:*** When replacing the engine board (RSN PWB), extract EEPROM data from it and copy the data onto a new engine board.

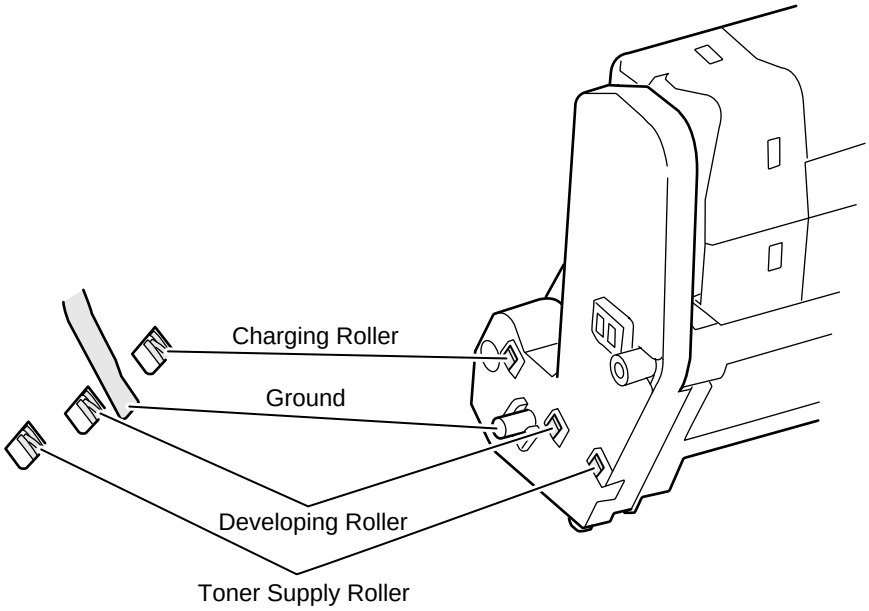



Figure 5.3

5.5.4 Actions Taken after Forced HDD/Flash Initialization

This section describes actions taken after forced HDD or Flash initialization in the event of problems in HDDs or Flash.

1) Actions after Forced HDD Initialization
Forced HDD initialization erases the following data. There are no data recovery methods.
- Internal not-yet-printed data
- JobAccount log data (when JobAccount has been activated)

2) Actions after Forced Flash Initialization
Forced Flash initialization erases the following data, causing network inoperability.
- NIC firmware
- Mac addresses
- Web page data
- OEM-oriented demonstration page data (in printers to OEM purchasers)

Using maintenance utility software, Flash must be programmed with the above NIC-firmware, Mac addresses and Web page data.

## 5.6 Fuse Checking

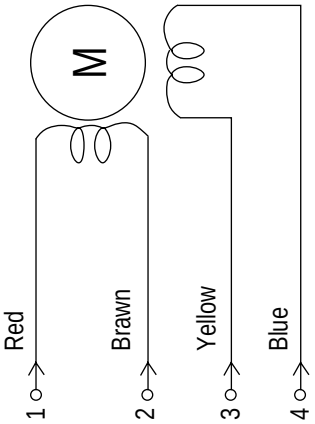
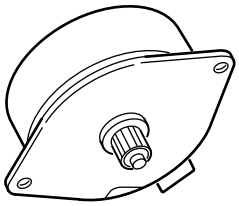
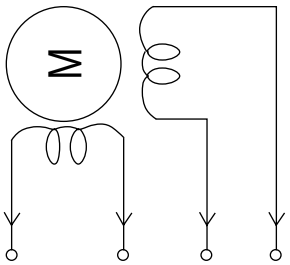
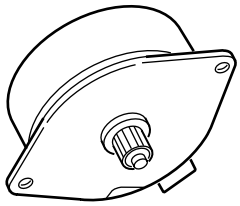
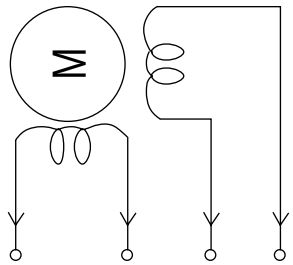
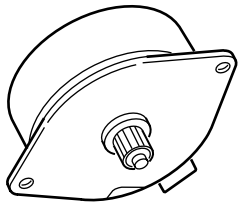
When the following errors occur, that fuse on the high voltage board which is associated with each error is to be checked (see table 5-6).

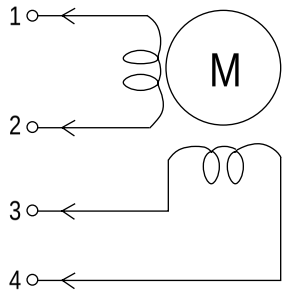
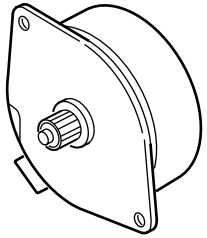
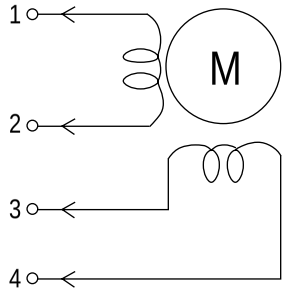
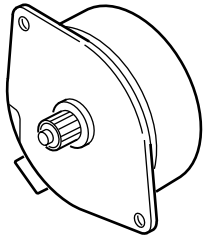
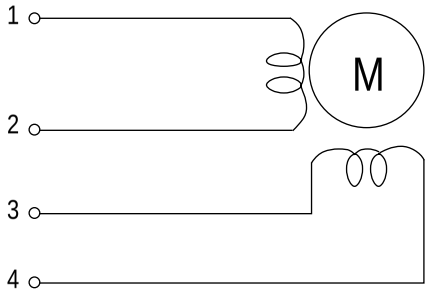
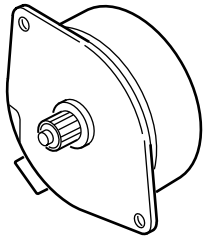
Table 5-6 Fuse Error

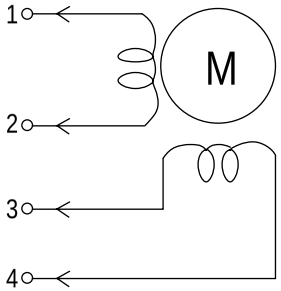
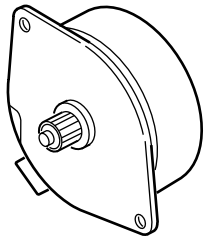
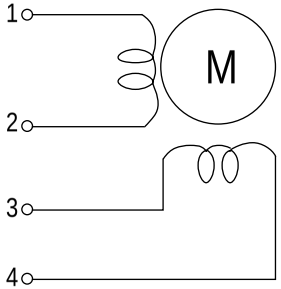
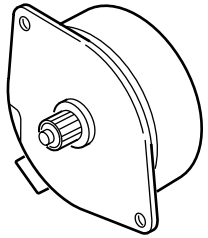
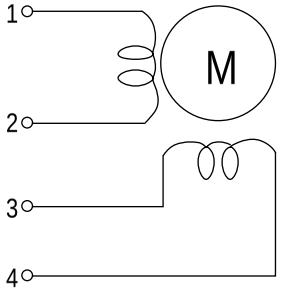
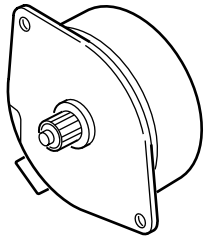
| Fuse Name | | Error Description | Insert Point |
|---|---|---|---|
| Engine Board (RSN PWB) | F1 | M or C toner sensor error | M-ID and C-ID motor 24V |
| | F2 | K toner sensor error | Hop and K-ID motor 24V |
| | F3 | Cover open error | High voltage, fan, Ver and Y-ID 24V |
| | F4 | 2nd tray or duplex unit paper jam | 2nd tray and duplex 24V |
| | F5 | Paper jam during printing | Belt fuser motor 24V |
| | F6 | No operator panel display | 5V sensor system |
| High Voltage Board | IP102 | Cover open error | High voltage 24V |

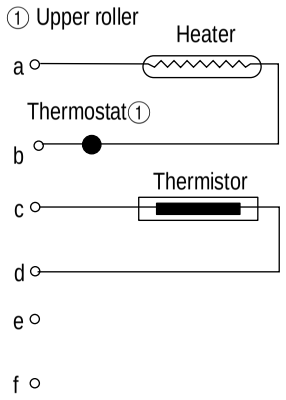
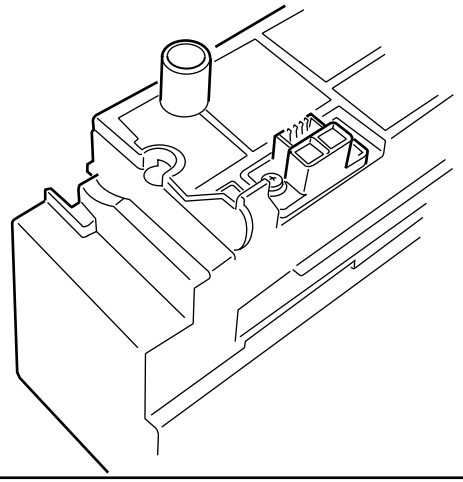
# 6. CONNECTION DIAGRAM

## 6.1 Resistance Checks

| Unit | Circuit Diagram | Illustration | Resistance |
|---|---|---|---|
| Transport Belt Motor |  |  | Between pins 1 and 2: 3.5Ω<br>Between pins 3 and 4: 3.5Ω |
| Main Motor (Y) |  |  | Between pins 1 and 2: 6.0Ω<br>Between pins 3 and 4: 6.0Ω |
| Main Motor (M) |  |  | Between pins 1 and 2: 6.0Ω<br>Between pins 3 and 4: 6.0Ω |

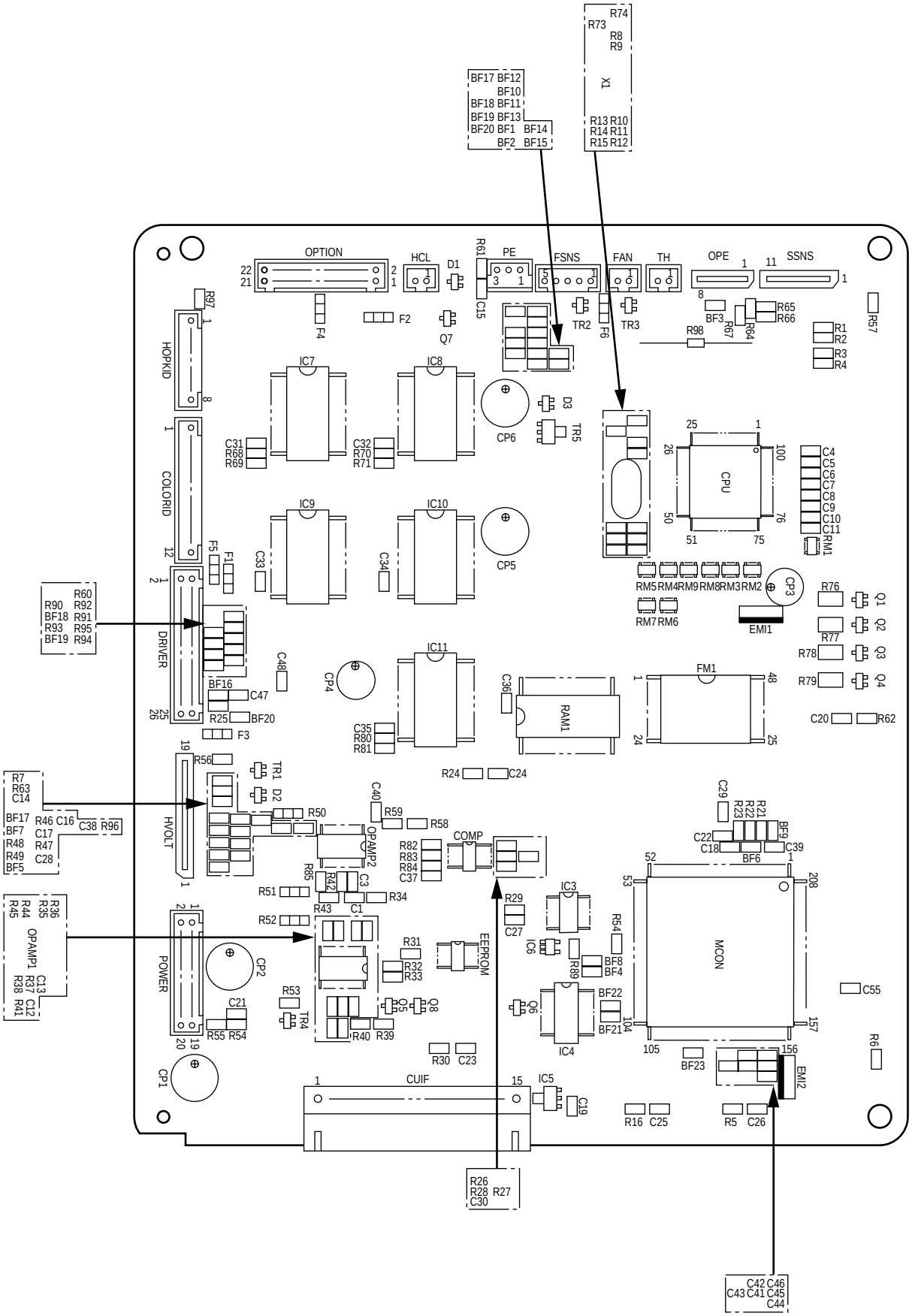
| Unit | Circuit Diagram | Illustration | Resistance |
|---|---|---|---|
| Main Motor (C) |  |  | Between pins 1 and 2: 6.0Ω<br>Between pins 3 and 4: 6.0Ω |
| Main Motor (K) |  |  | Between pins 1 and 2: 6.0Ω<br>Between pins 3 and 4: 6.0Ω |
| Fuser Motor |  |  | Between pins 1 and 2: 6.0Ω<br>Between pins 3 and 4: 6.0Ω |

| Unit | Circuit Diagram | Illustration | Resistance |
|---|---|---|---|
| Feeder Motor |  |  | Between pins 1 and 2: 3.5Ω<br>Between pins 3 and 4: 3.5Ω |
| Duplex Motor |  |  | Between pins 1 and 2: 3.5Ω<br>Between pins 3 and 4: 3.5Ω |
| 2nd tray Feeder Motor |  |  | Between pins 1 and 2: 3.5Ω<br>Between pins 3 and 4: 3.5Ω |

| Unit | Circuit Diagram | Illustration | Resistance |
|---|---|---|---|
| Fuser Unit |  |  | 1. Upper Roller Side<br>Between pins “a” and “b”:<br>Between pins “c” and “d”: 363k Ω (at 25˚C)<br>Between pins “e” and “f”: Open |

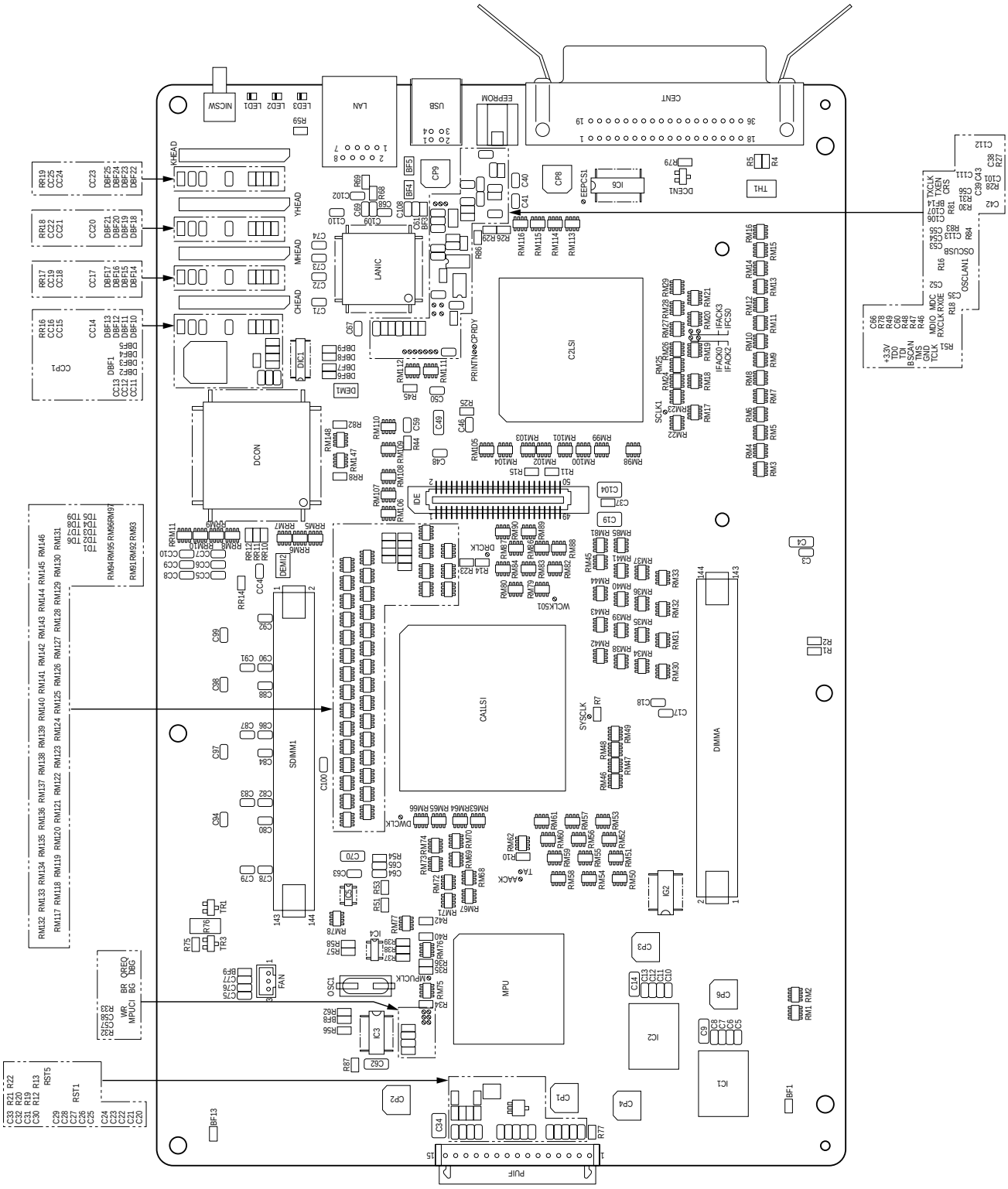
## 6.2 Program/Font ROM Layouts

(1) Print Engine Controller PWB (RSN-1 PWB)



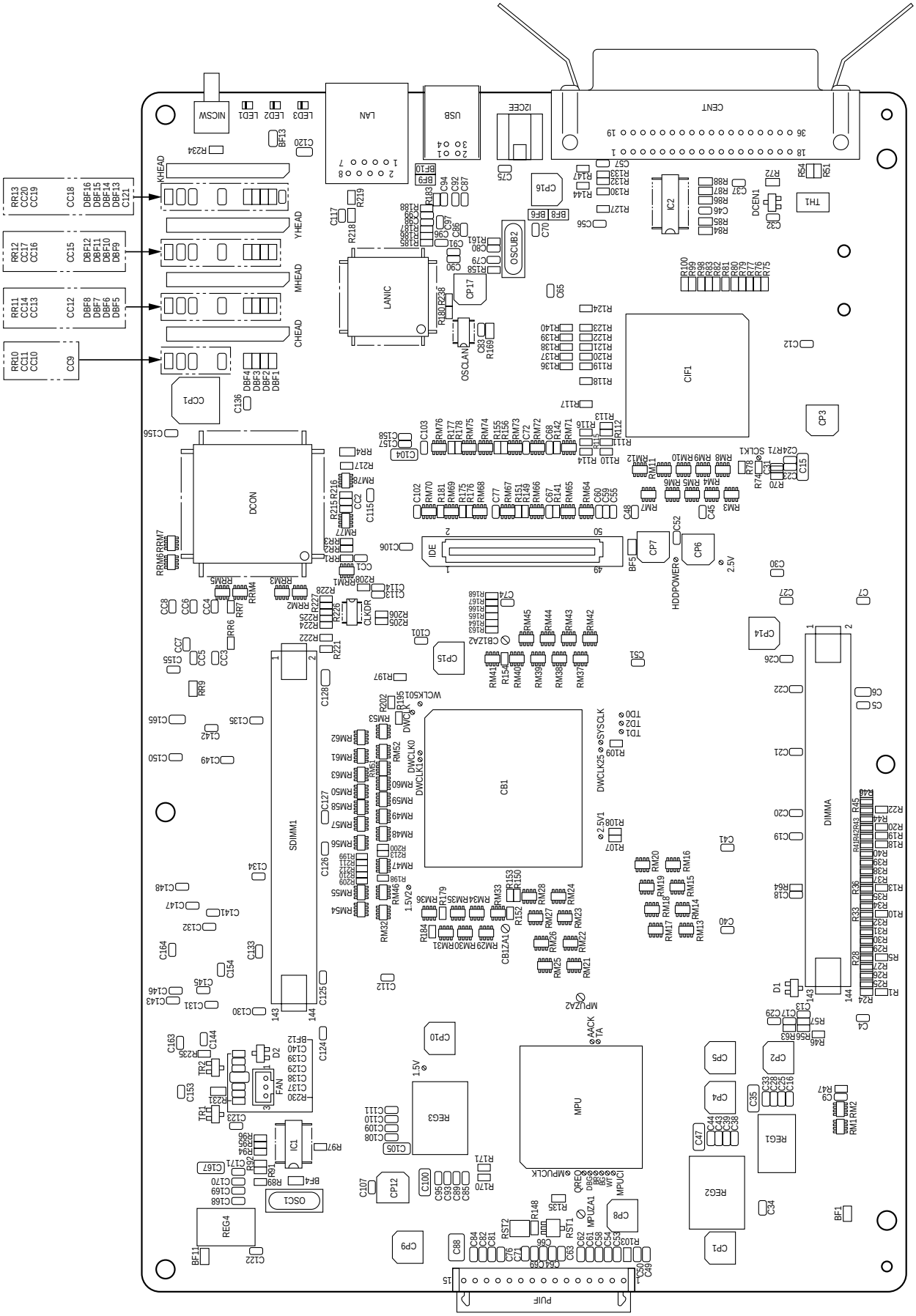
(2) Main Controller PWB (OWL PWB) (For C5300)

Serial No. … " nnnAxxxxxx "

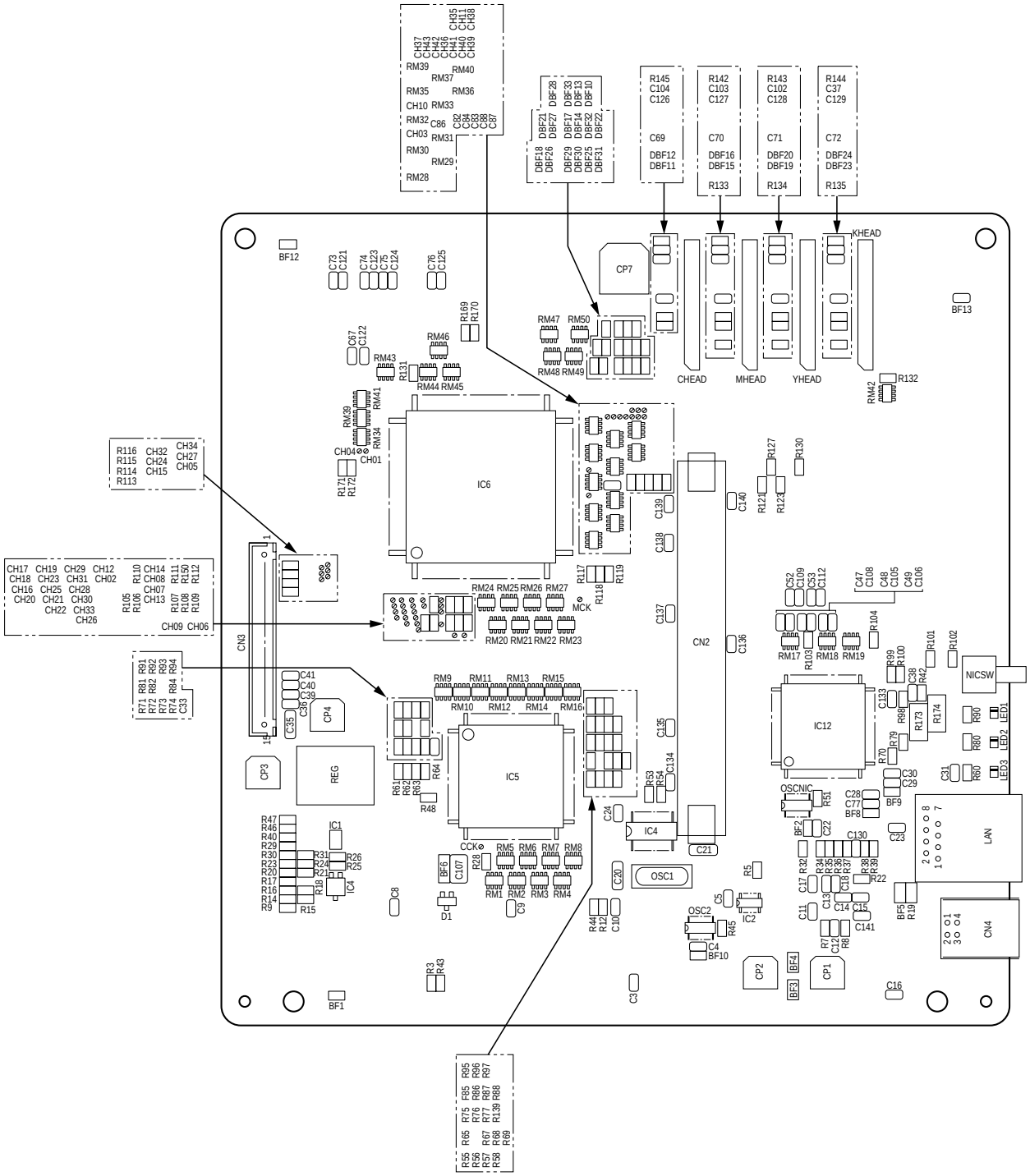


(3) Main Controller PWB (SPA PWB) (For C5300VE version)

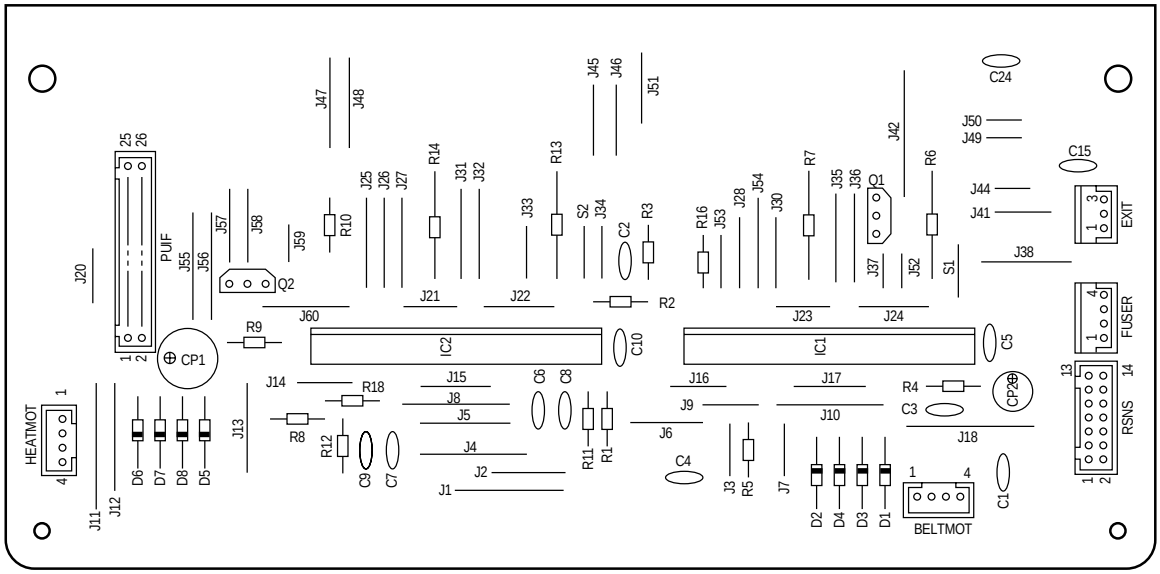
Serial No. … " nnnBxxxxxx "



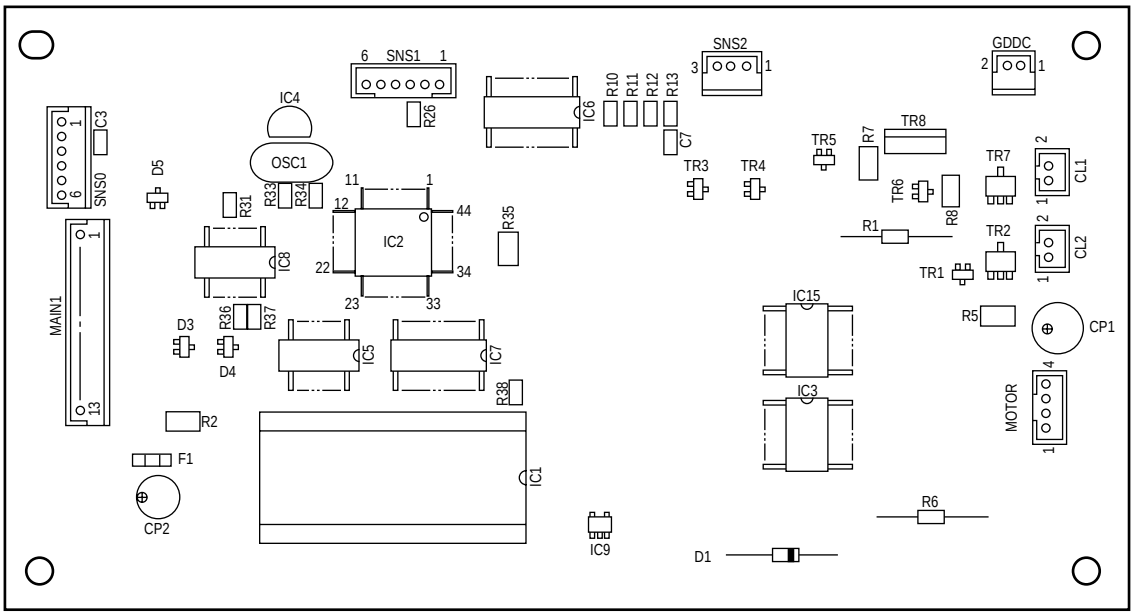
(4) Main Controller PWB (ARC PWB) (For C5100)



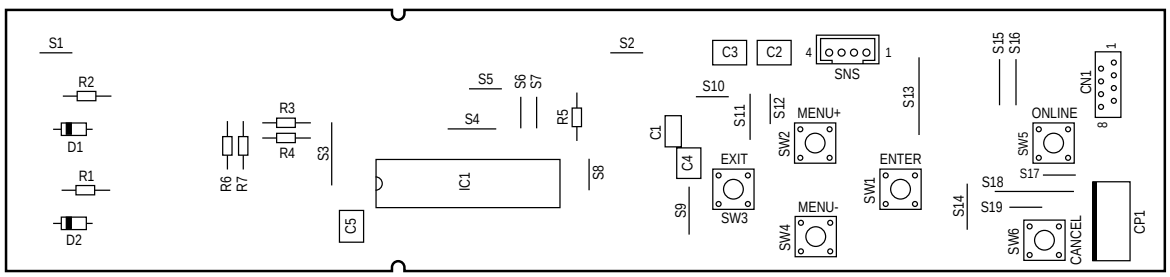
(5) Driver PWB (RSM PWB)




(6) Duplex Controller PWB (V7X PWB)

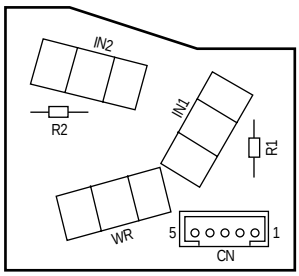



(7) Control Panel PWB (RSP PWB)

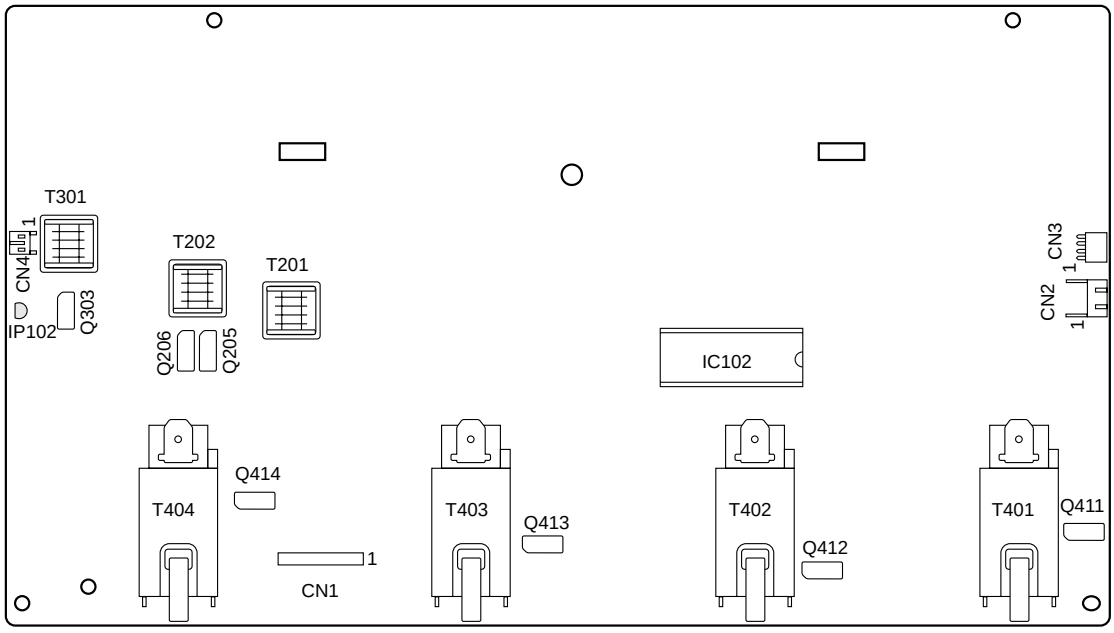


(8) Toner Low Sensor PWB (PRD-PWB)

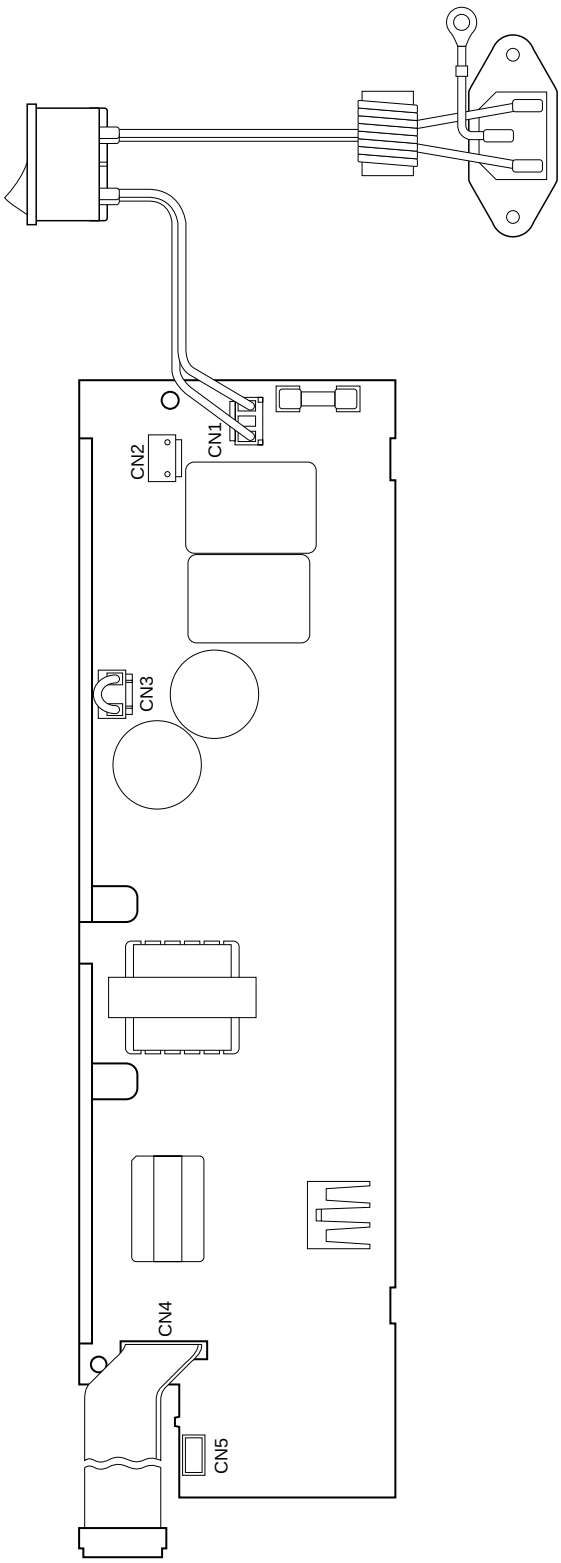

(9) Entrance Sensor PWB (RSF PWB)




(10) High voltage power supply PWB



(11) Low voltage power supply PWB



## 7. PARTS LIST

C5300

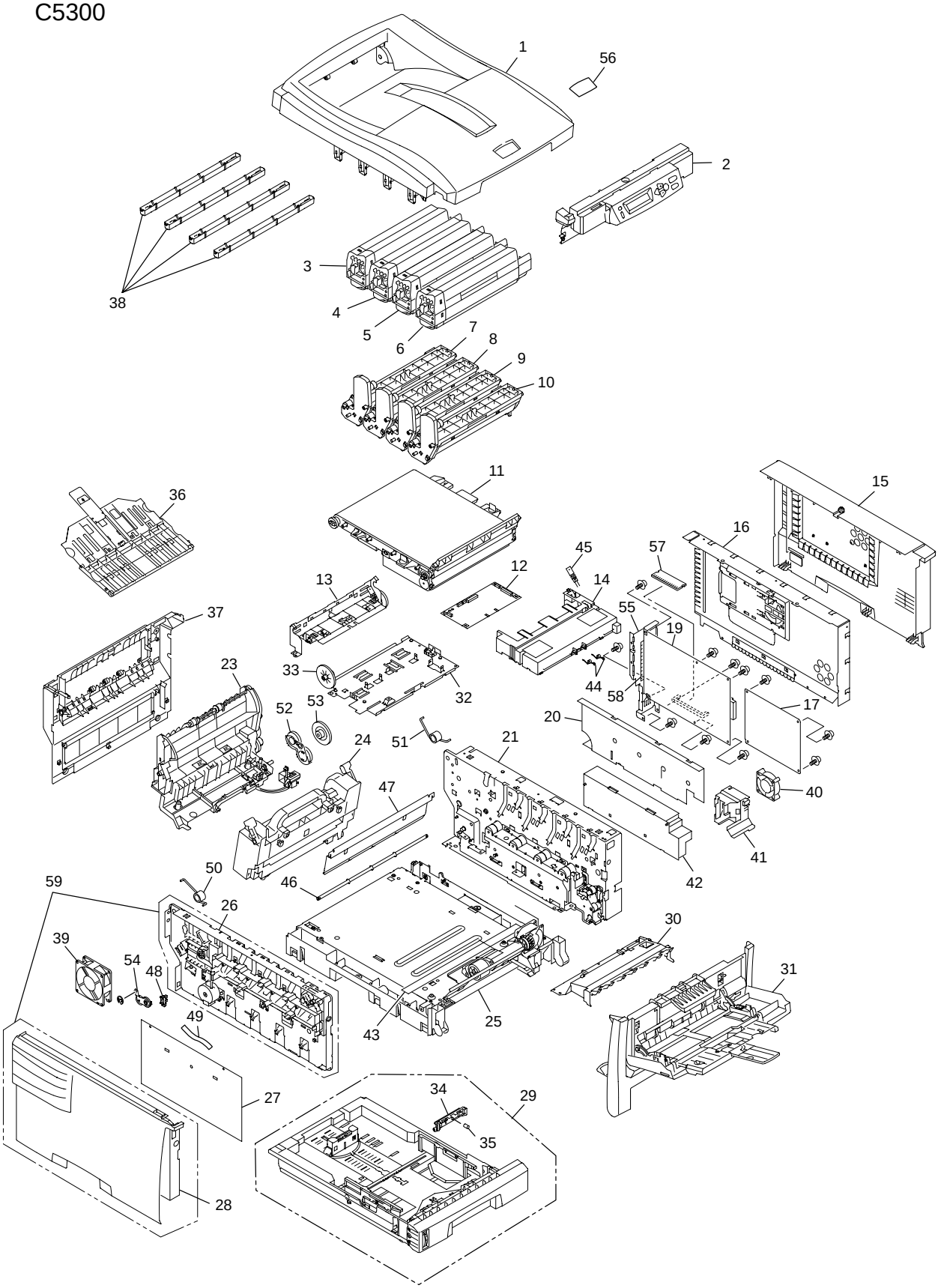



Figure 7-1-1 Parts Layout (C5300)

C5100

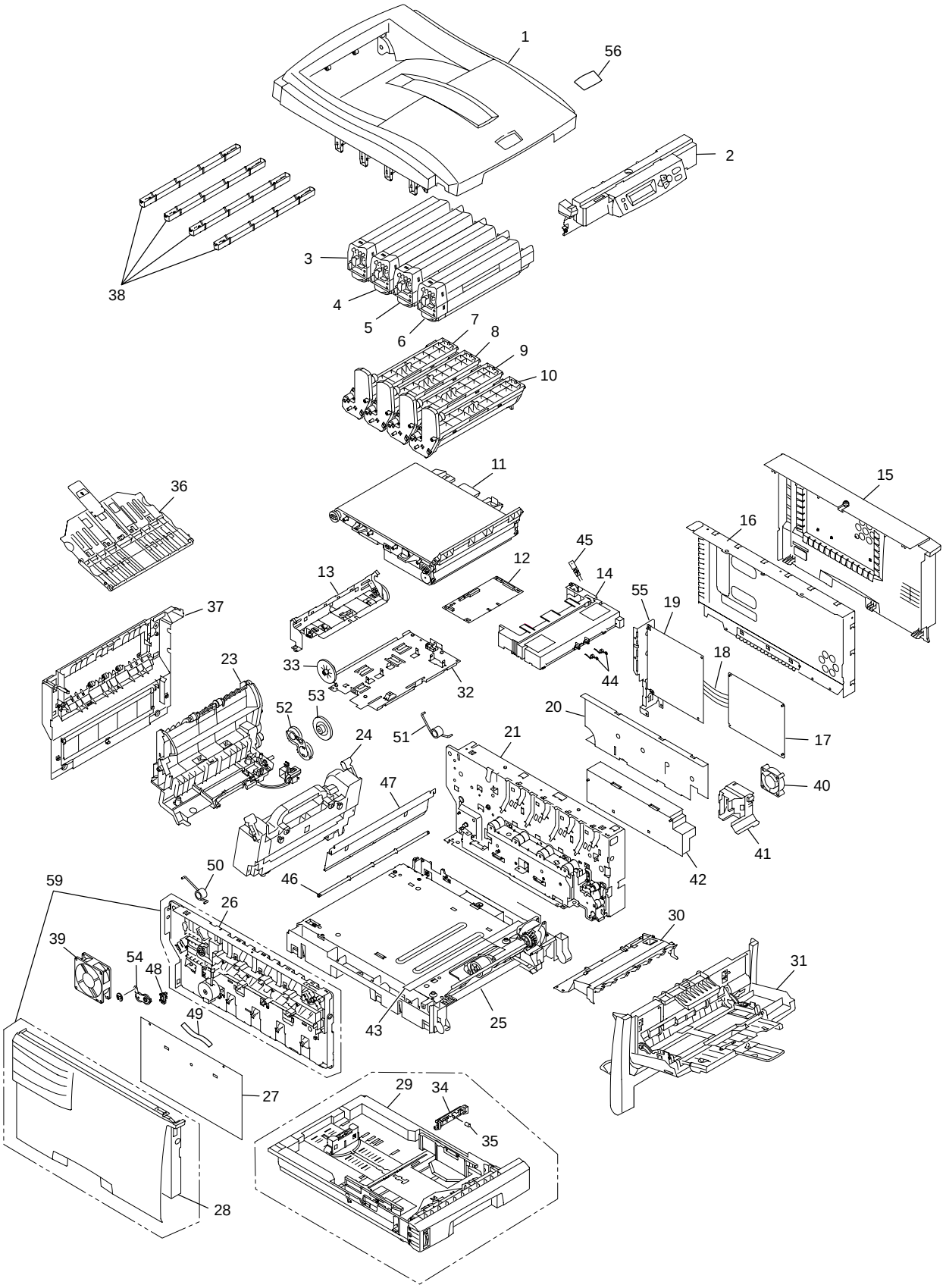



Figure 7-1-2 Parts Layout (C5100)

Table 7-1 (1/3)

# Parts_Layout

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42074501 | Top Cover Assy | 1 | 2 | 4 | 8 | |
| 2 | 42067501 | Control Panel Assy | 1 | 2 | 4 | 8 | ODA/AOS |
| | 42067502 | Control Panel Assy | 1 | 2 | 4 | 8 | OEL |
| 3 | ~~42127415~~ | ~~Toner-C~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42127403 | Toner-C (ODA) | 1 | - | - | - | Packed in box. |
| | 42127407 | Toner-C (OEL) | 1 | - | - | - | Packed in box. |
| | 42127411 | Toner-C (AOS) | 1 | - | - | - | Packed in box. |
| 4 | ~~42127414~~ | ~~Toner-M~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42127402 | Toner-M (ODA) | 1 | - | - | - | Packed in box. |
| | 42127406 | Toner-M (OEL) | 1 | - | - | - | Packed in box. |
| | 42127410 | Toner-M (AOS) | 1 | - | - | - | Packed in box. |
| 5 | ~~42127413~~ | ~~Toner-Y~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42127401 | Toner-Y (ODA) | 1 | - | - | - | Packed in box. |
| | 42127405 | Toner-Y (OEL) | 1 | - | - | - | Packed in box. |
| | 42127409 | Toner-Y (AOS) | 1 | - | - | - | Packed in box. |
| 6 | ~~42127416~~ | ~~Toner-K~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42127404 | Toner-K (ODA) | 1 | - | - | - | Packed in box. |
| | 42127408 | Toner-K (OEL) | 1 | - | - | - | Packed in box. |
| | 42127412 | Toner-K (AOS) | 1 | - | - | - | Packed in box. |
| 7 | ~~42126615~~ | ~~ID-C~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42126603 | ID-C (ODA) | 1 | - | - | - | Packed in box. |
| | 42126607 | ID-C (OEL) | 1 | - | - | - | Packed in box. |
| | 42126611 | ID-C (AOS) | 1 | - | - | - | Packed in box. |
| 8 | ~~42126614~~ | ~~ID-M~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42126602 | ID-M (ODA) | 1 | - | - | - | Packed in box. |
| | 42126606 | ID-M (OEL) | 1 | - | - | - | Packed in box. |
| | 42126610 | ID-M (AOS) | 1 | - | - | - | Packed in box. |
| 9 | ~~42126613~~ | ~~ID-Y~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42126601 | ID-Y (ODA) | 1 | - | - | - | Packed in box. |
| | 42126605 | ID-Y (OEL) | 1 | - | - | - | Packed in box. |
| | 42126609 | ID-Y (AOS) | 1 | - | - | - | Packed in box. |
| 10 | ~~42126616~~ | ~~ID-K~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42126604 | ID-K (ODA) | 1 | - | - | - | Packed in box. |
| | 42126608 | ID-K (OEL) | 1 | - | - | - | Packed in box. |
| | 42126612 | ID-K (AOS) | 1 | - | - | - | Packed in box. |
| 11 | ~~42158704~~ | ~~Belt-Unit~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42158701 | Belt-Unit (ODA) | 1 | - | - | - | Packed in box. |
| | 42158702 | Belt-Unit (OEL) | 1 | - | - | - | Packed in box. |
| | 42158703 | Belt-Unit (AOS) | 1 | - | - | - | Packed in box. |
| 12 | 42135601 | Board-RSM | 1 | 2 | 4 | 8 | |
| 13 | 42065101 | Sensor-Assy-Color-Regist | 1 | 2 | 4 | 8 | |

Table 7-1 (2/3)

# Parts_Layout

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 14 | 42066901 | Cover-Driver | 1 | 1 | 2 | 4 | |
| 15 | 42079601 | Cover-Assy-SideR | 1 | 2 | 4 | 8 | |
| 16 | 42294101 | Plate-Assy-Shield (GDI) | 1 | 2 | 4 | 8 | C5100 |
| | 42079101 | Plate-Assy-Shield (PCL) | 1 | 1 | 2 | 4 | C5300 |
| 17 | 42135501 | Print Engine Controller PWB | 1 | 1 | 2 | 4 | Board PU |
| 18 | 42141601 | CONN Cord | 1 | 1 | 2 | 4 | PU-CU C5100 |
| 19 | 42373501 | Controler Board CU (GDI) (ARC PWB) | 1 | 1 | 2 | 4 | Board CU C5100 |
| | 42373401 | Controler Board CU (PCL) (OWL PWB) | 1 | 2 | 4 | 8 | Board CU C5300 |
| | 42493401 | Controler Board CU (PCL) (SPA PWB) | 1 | 2 | 4 | 8 | Board CU C5300VE<br>ECO-C5300-012 |
| 20 | 42078701 | Film-Insulation | 1 | 2 | 4 | 8 | |
| 21 | 42053501 | Plate-Assy-Side-R | 1 | 3 | 6 | 12 | |
| 22 | | | | | | | |
| 23 | 42063001 | Eject-Assy | 1 | 1 | 2 | 4 | |
| 24 | ~~42158605~~ | ~~Fuser-Unit~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42158601 | Fuser-Unit (ODA 120V) | 1 | - | - | - | Packed in box. |
| | 42158602 | Fuser-Unit (ODA 230V) | 1 | - | - | - | Packed in box. |
| | 42158603 | Fuser-Unit (OEL) | 1 | - | - | - | Packed in box. |
| | 42158604 | Fuser-Unit (AOS) | 1 | - | - | - | Packed in box. |
| 25 | 42049501 | Base-Assy | 1 | 2 | 4 | 8 | |
| 26 | 42060001 | Plate-Assy-Side-L | 1 | 2 | 4 | 8 | SA9-1125 |
| 27 | 41978801 | Power Unit High Voltage | 1 | 2 | 4 | 8 | |
| 28 | ~~42465401~~ | ~~Cover-SideL~~ | ~~1~~ | ~~1~~ | ~~2~~ | ~~4~~ | ~~SA9-1287~~ |
| | 42465402 | Cover-SideL | 1 | 1 | 2 | 4 | |
| 29 | 42087001 | Cassette Assy | 1 | 1 | 2 | 4 | |
| 30 | 42061501 | Cover Assy-Hopping | 1 | 2 | 4 | 8 | |
| 31 | 42069001 | Feeder-Unit | 1 | 2 | 4 | 8 | |
| 32 | 42062101 | Plate-Driver | 1 | 1 | 2 | 4 | |
| 33 | 42062401 | Gear-Idle-Belt | 1 | 1 | 2 | 4 | |
| 34 | 42088801 | Friction Pad Assy | 1 | 3 | 6 | 12 | SA9-1332<br>Color silver gray<br>→ white |
| 35 | 42089001 | Friction Pad Assy-Springs | 1 | 3 | 6 | 12 | |
| 36 | 42078301 | Cover Assy Face Up | 1 | 1 | 2 | 4 | |
| 37 | 42077601 | Cover Sub Assy Rear | 1 | 1 | 2 | 4 | |
| 38 | 42143101 | LED HEAD Unit 51MXE | 4 | 2 | 4 | 8 | 600DPI |
| 39 | ~~42489901~~ | ~~Electrical Cooling FAN (80)~~ | ~~1~~ | ~~1~~ | ~~2~~ | ~~4~~ | ~~Fuser SA9-1247~~ |
| | 42396101 | Electrical Cooling FAN (80) | 1 | 1 | 2 | 4 | Fuser SA9-1238 |
| 40 | 42295501 | Electrical Cooling FAN (ID) | 1 | 1 | 2 | 4 | |
| 41 | 42295401 | Frame Duct | 1 | 1 | 2 | 4 | |
| 42 | 41992701 | Power Unit (LOW Voltage) | 1 | 2 | 4 | 8 | 100-120V |
| | 42408601 | Power Unit (LOW Voltage) | 1 | 2 | 4 | 8 | 230V |

Table 7-1 (3/3)

# Parts_Layout

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 43 | 2381031P0003 | TW VF 19-01X06-460 | 1 | 2 | 4 | 8 | FFC High Volt. |
| 44 | 42067001 | Spring Belt Fuse | 2 | 1 | 2 | 4 | |
| 45 | 42303301 | Thermistor | 1 | 2 | 4 | 8 | |
| 46 | 42066001 | Shaft Lift Up | 1 | 1 | 2 | 4 | |
| 47 | 42067101 | Plate Heart | 1 | 1 | 2 | 4 | |
| 48 | 40135301 | Photo Interrupter | 1 | 1 | 2 | 4 | |
| 49 | 42141103 | CONN CORD AMP3P-AMP3P | 1 | 2 | 4 | 8 | ID Up/Down |
| 50 | 42076901 | Spring Torsion (L) | 1 | 1 | 2 | 4 | |
| 51 | 42077001 | Spring Torsion (R) | 1 | 1 | 2 | 4 | |
| 52 | 42063701 | Gear Assy Planet | 1 | 2 | 4 | 8 | |
| 53 | 42064101 | Gear Idle Heat (Z14-102) | 1 | 2 | 4 | 8 | |
| 54 | 42066501 | Gear Assy Planet L | 1 | 2 | 4 | 8 | |
| 55 | 42134901 | Plate Shield CU (GDI) | 1 | 1 | 2 | 4 | C5100 |
| | 42078801 | Plate Shield CU (PCL) | 1 | 1 | 2 | 4 | C5300 |
| 56 | ~~42076502~~ | ~~Plate-Logo~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~C5100~~ |
| | 42076501 | Plate-Logo | 1 | - | - | - | C5100 |
| | ~~42076504~~ | ~~Plate-Logo~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~C5300~~ |
| | 42076503 | Plate-Logo | 1 | - | - | - | C5300 |
| 57 | ~~42343002~~ | ~~ROM DIMM~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~C5300~~ |
| | ~~42343001~~ | ~~ROM DIMM~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~C5300~~ |
| | 42010602 | ROM DIMM (P-ROM) for OWL PWB | 1 | - | - | - | C5300 (Ver X1.35) |
| | 42010502 | ROM DIMM (Flash) for OWL PWB | 1 | - | - | - | C5300 |
| | 42010606 | ROM DIMM (P-ROM) for SPA PWB | 1 | - | - | - | C5300VE (Ver X2.12) |
| | 42010506 | ROM DIMM (Flash) for SPA PWB | 1 | - | - | - | C5300VE |
| 58 | 42078901 | Plate FG Connector (PCL) | 1 | 1 | 2 | 4 | C5300 |
| 59 | 42561901 | Maintenance kit for C5100/5300 | 1 | 1 | 2 | 4 | Except for CN-5100-011 Affected Printers |

***Note:*** ROM DIMM (P-ROM) is not re-writable.
ROM DIMM (Flash) is re-writable, but high-price.
The newest firm-ware is written to ROM DIMM (Flash) at the time of factory shipments.

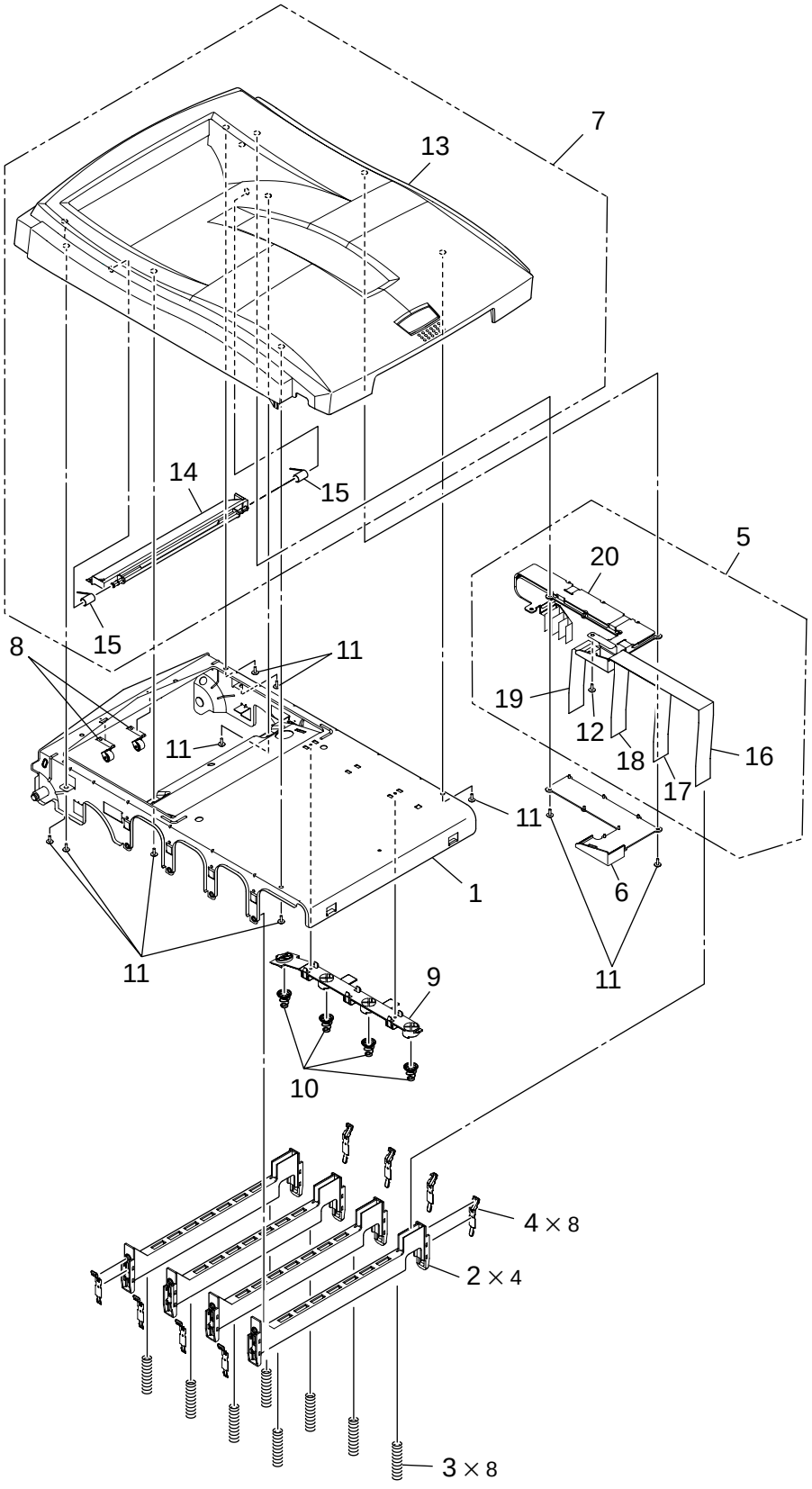



Figure 7-2 Top_Cover_Assy

Table 7-2

# Top_Cover_Assy

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42074601 | Plate-Inner (Caulking) | 1 | 1 | 2 | 4 | |
| 2 | 42075001 | Holder-Head | 4 | 1 | 2 | 4 | |
| 3 | 42075101 | Spring-Head | 8 | 1 | 2 | 4 | |
| 4 | 42075301 | Plate-FG-Head | 8 | 1 | 2 | 4 | |
| 5 | 42075501 | Cable-Assy.-Head | 1 | 2 | 4 | 8 | |
| 6 | 42076201 | Cover-Cable | 1 | 1 | 2 | 4 | |
| 7 | 42076301 | Cover-Ass..-Top (Sub) | 1 | 1 | 2 | 4 | |
| 8 | 42076601 | Roller Assy.-Idle (FD) | 2 | 2 | 4 | 8 | |
| 9 | 42373601 | Holder-SP (Inner) | 1 | 1 | 2 | 4 | SP7-1352 |
| 10 | 42392501 | Spring-Compression (ID) | 4 | 1 | 2 | 4 | |
| 11 | 4PB4083-2500P008 | Tapping Screw B2 | 10 | - | - | - | |
| 12 | 4PB4013-3100P006 | Cup Screw A | 1 | - | - | - | |
| 13 | 42076401 | Top Cover | 1 | 1 | 2 | 4 | |
| 14 | 42115701 | Cover Top Sub | 1 | 1 | 2 | 4 | |
| 15 | 42293101 | Spring Torsion (Sub) | 2 | 1 | 2 | 4 | |
| 16 | 42075601 | LED Harness K | 1 | 2 | 4 | 8 | |
| 17 | 42075701 | LED Harness Y | 1 | 2 | 4 | 8 | |
| 18 | 42075801 | LED Harness M | 1 | 2 | 4 | 8 | |
| 19 | 42075901 | LED Harness C | 1 | 2 | 4 | 8 | |
| 20 | 42076101 | Film FG | 1 | 1 | 2 | 4 | |

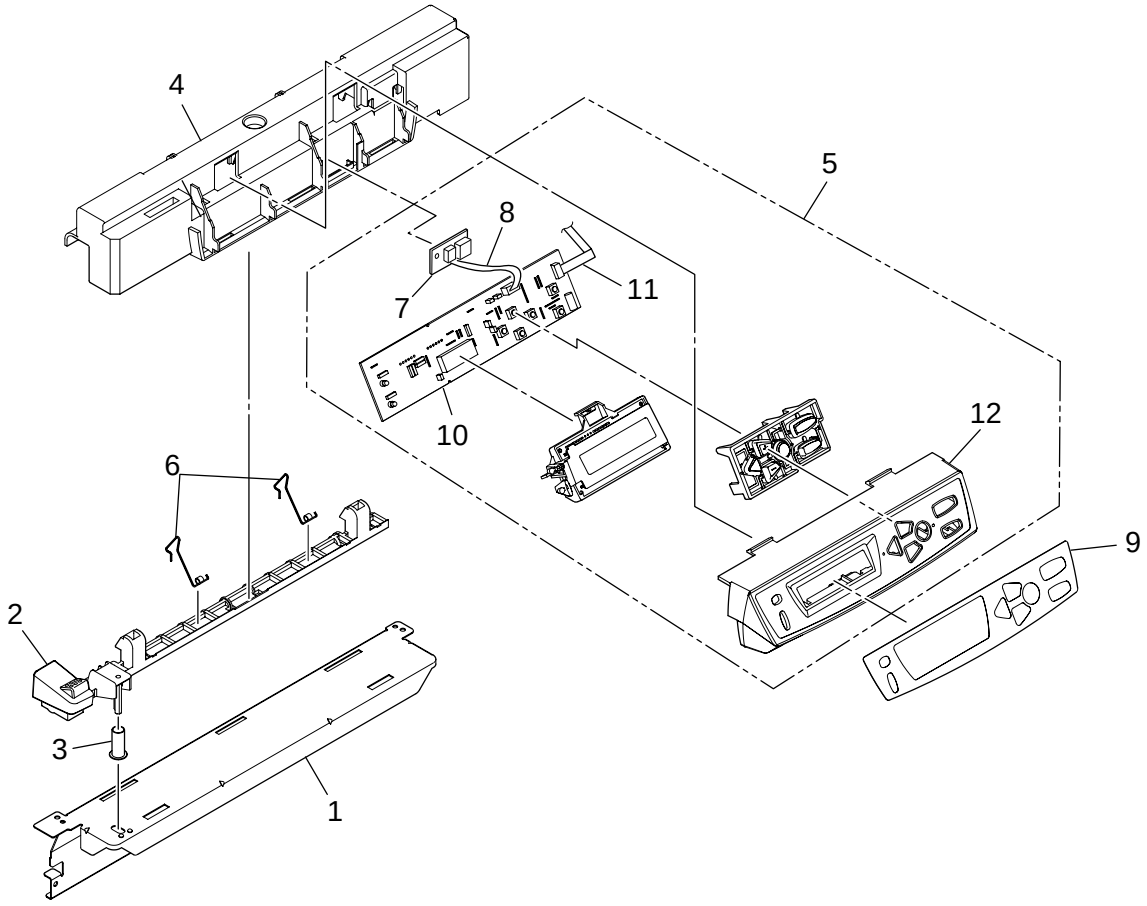



Figure 7-3 Frame_Assy-OP

Table 7-3

# Frame_Assy-OP

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42067601 | Plate-Front | 1 | 1 | 2 | 4 | |
| 2 | 42067701 | Lever-Lock (Top) | 1 | 1 | 2 | 4 | |
| 3 | 42067801 | Spring-Compression (Lock) | 1 | 1 | 2 | 4 | |
| 4 | 42067901 | Frame-OP panel | 1 | 1 | 2 | 4 | |
| 5 | 42068001 | Cover-Assy. -OP | 1 | 2 | 4 | 8 | |
| 6 | 42293201 | Spring-Torsion (FG) | 2 | 1 | 2 | 4 | |
| 7 | 5602002P0001 | SENSOR-Temp | 1 | 1 | 2 | 4 | |
| 8 | 42141703 | CONN CORD JST4P-JST4P | 1 | 1 | 2 | 4 | OP-Temp |
| 9 | ~~42068403~~ | ~~Control Panel Sheet~~ | ~~1~~ | ~~1~~ | ~~2~~ | ~~4~~ | ~~Domestic~~ |
| | 42068401 | Control Panel Sheet | 1 | 1 | 2 | 4 | ODA |
| | 42068402 | Control Panel Sheet | 1 | 1 | 2 | 4 | OEL/AOS |
| 10 | 42290901 | Board RSP | 1 | 2 | 4 | 8 | Control Panel |
| 11 | 2381031P0001 | TW VF 8-01X06-230 | 1 | 1 | 2 | 4 | FFC Control Panel |
| 12 | 42068101 | Cover-OP-Panel | 1 | 1 | 2 | 4 | |

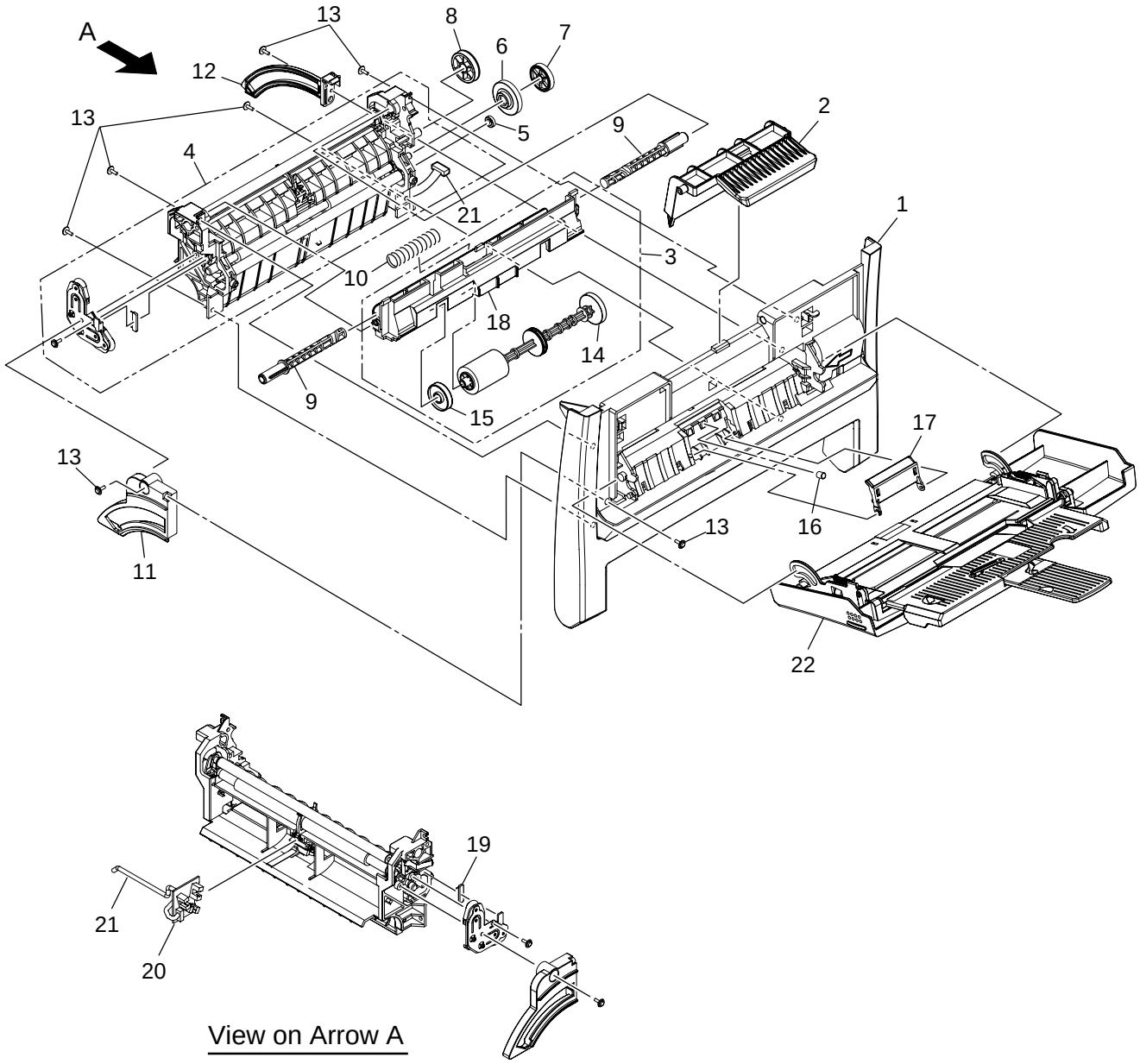



Figure 7-4 Feeder_Unit

Table 7-4

# Feeder_Unit

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42069201 | Cover Assy-Front | 1 | 1 | 2 | 4 | |
| 2 | 42069601 | Lever-Release-F | 1 | 1 | 2 | 4 | |
| 3 | 42070001 | Guide-Assy-Top | 1 | 1 | 2 | 4 | |
| 4 | 42070501 | Feeder-Assy-Resist | 1 | 2 | 4 | 8 | |
| 5 | 42072201 | Gear-Puressure | 1 | 2 | 4 | 8 | |
| 6 | 42072401 | Gear-Regist-L (24-54) | 1 | 2 | 4 | 8 | |
| 7 | 42057601 | Gear-Z42 | 1 | 2 | 4 | 8 | |
| 8 | 42072501 | Gear-Idle-MPT (26-50) | 1 | 2 | 4 | 8 | |
| 9 | 42072701 | Post-Slide | 2 | 1 | 2 | 4 | |
| 10 | 42072801 | Spring-Release-F | 2 | 1 | 2 | 4 | |
| 11 | 42074001 | Stay-Front-L | 1 | 1 | 2 | 4 | |
| 12 | 42074101 | Stay-Front-R | 1 | 1 | 2 | 4 | |
| 13 | 4PB4083-2500P008 | Tapping Screw B2 | 7 | 1 | 2 | 4 | |
| 14 | 42070301 | Shaft Assy MPT | 1 | 3 | 6 | 12 | |
| 15 | 42299701 | Roller Guide | 1 | 1 | 2 | 4 | |
| 16 | 42069901 | Spring Separator | 1 | 3 | 6 | 12 | |
| 17 | 42069701 | Frame Separator | 1 | 3 | 6 | 12 | |
| 18 | 42070101 | Guide Sheet Top | 1 | 1 | 2 | 4 | |
| 19 | 3263103K0107 | MRH100MK | 1 | 1 | 2 | 4 | |
| 20 | 42135801 | Board RSF | 1 | 2 | 4 | 8 | |
| 21 | 42141001 | CONN Cord JST5P-JST5P | 1 | 2 | 4 | 8 | RSF-PU |
| 22 | 42072901 | MPT Cover Assy | 1 | 2 | 4 | 8 | |

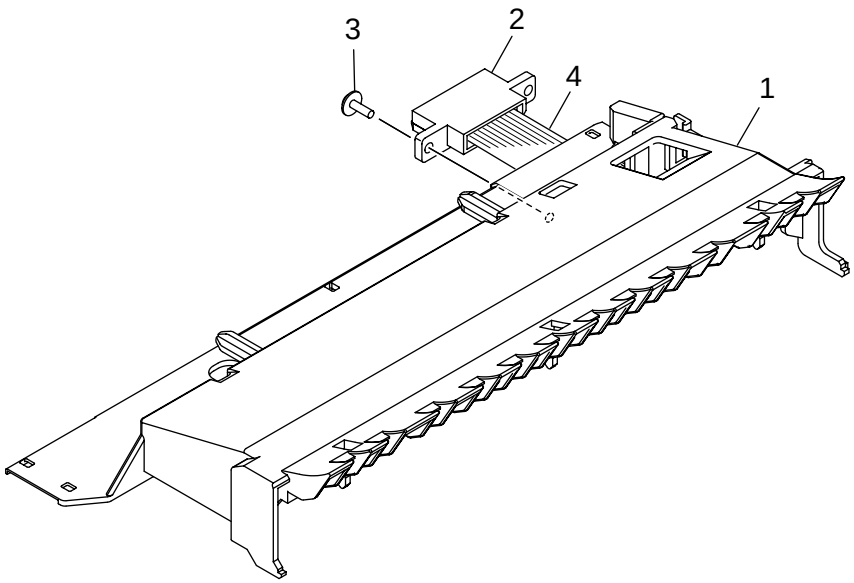



Figure 7-5 Cover_Assy-Hopping

Table 7-5

# Cover_Assy-Hopping

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42061601 | Cover Hopping | 1 | 1 | 2 | 4 | |
| 2 | 2233013P0110 | Connector (9715B-11Z02) | 1 | 2 | 4 | 8 | |
| 3 | PB4083-2500P008 | TAPPING SCREW B2 | 1 | - | - | - | |
| 4 | 42141201 | CONN Cord | 1 | 1 | 2 | 4 | Dup-PU |

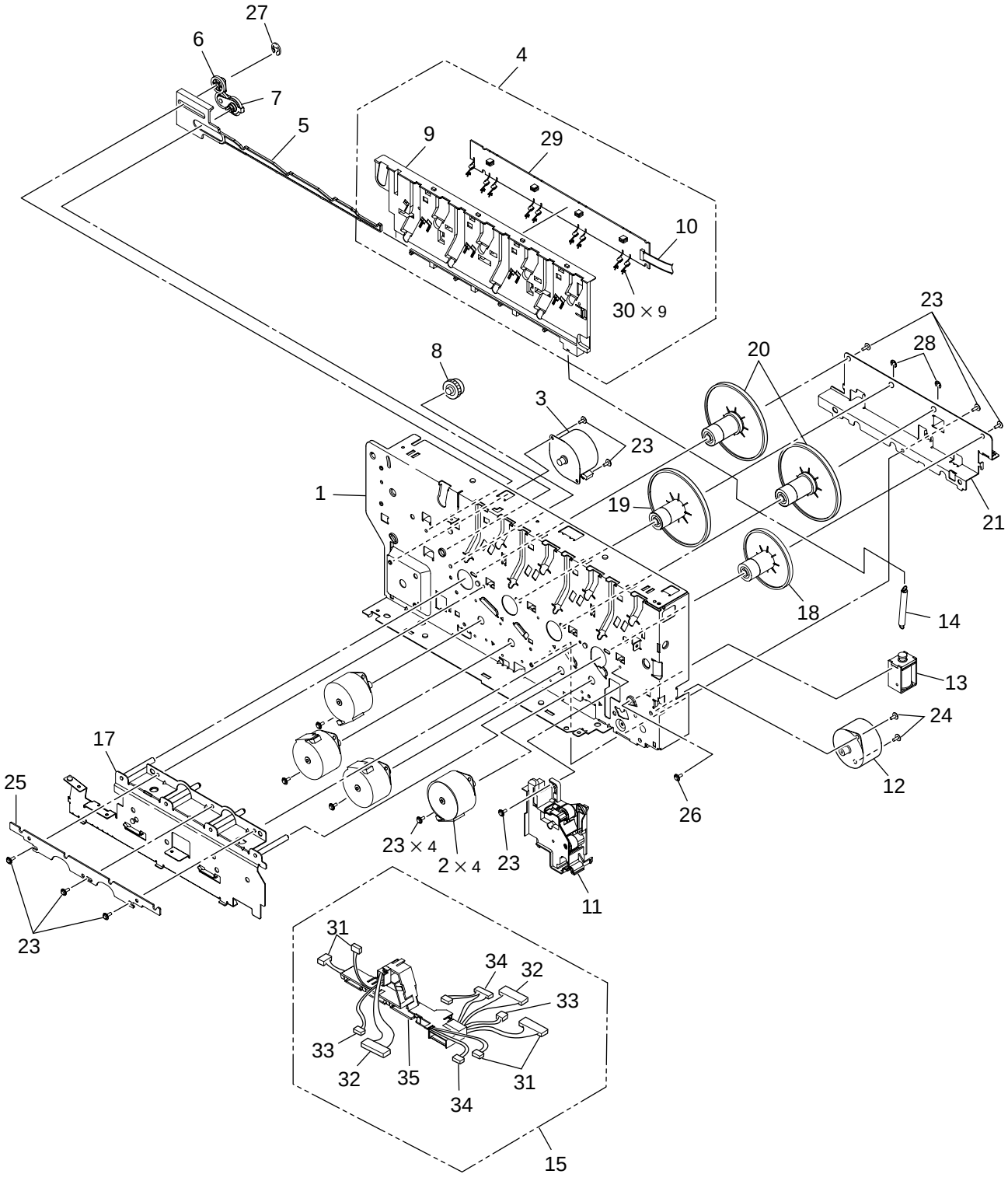



Figure 7-6 Plate_Assy-Side_R

Table 7-6

# Plate_Assy-Side_R

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42053801 | Plate-Side-R (Caulking) | 1 | 1 | 2 | 4 | |
| 2 | 42054501 | Motor-Pulse-ID (K) | 4 | 2 | 4 | 8 | |
| 3 | 42054801 | Motor-Pulse-Fuser | 1 | 2 | 4 | 8 | |
| 4 | 42054901 | Guide Assy-Side-R | 1 | 1 | 2 | 4 | |
| 5 | 42055501 | Link-Liftup-R | 1 | 2 | 4 | 8 | |
| 6 | 42055701 | Gear-Planet | 1 | 2 | 4 | 8 | |
| 7 | 42055901 | Gear Assy-Planet-R | 1 | 2 | 4 | 8 | |
| 8 | 42057101 | Gear-Idle-Liftup | 1 | 2 | 4 | 8 | |
| 9 | 42055101 | Cover-Plate-R | 1 | 1 | 2 | 4 | |
| 10 | 2381031P0002 | TW-VF-11-01X06-80 | 1 | 2 | 4 | 8 | PRD-PU |
| 11 | 42057301 | Gear Assy-HP | 1 | 2 | 4 | 8 | |
| 12 | 42058201 | Motor-Resist | 1 | 2 | 4 | 8 | |
| 13 | 42058303 | Solenoid | 1 | 2 | 4 | 8 | SA9-1121 |
| 14 | 42058401 | Spring-Solenoid | 1 | 1 | 2 | 4 | |
| 15 | 42293401 | Guide Assy-Cable-F | 1 | 2 | 4 | 8 | |
| 16 | | | | | | | |
| 17 | 42058601 | Bracket-Inner (Caulking) | 1 | 1 | 2 | 4 | |
| 18 | 42059001 | Gear-Idle-Drum-K | 1 | 2 | 4 | 8 | |
| 19 | 42059101 | Gear-Idle-Drum-M | 1 | 2 | 4 | 8 | |
| 20 | 42059201 | Gear-Idle-Drum-YC | 2 | 2 | 4 | 8 | |
| 21 | 42059301 | Bracket-Outer | 1 | 1 | 2 | 4 | |
| 22 | | | | | | | |
| 23 | 4PB4013-3100P006 | Cup Screw A | 13 | - | - | - | |
| 24 | 4PB4083-2500P008 | Tapping Screw B2 | 4 | - | - | - | |
| 25 | 42437301 | Plate-Lockout-ID | 1 | 1 | 2 | 4 | SA9-0971 |
| 26 | PSW3-4C | Screw | 1 | - | - | - | SA9-0992 |
| 27 | RE3-SK | Ring | 1 | - | - | - | |
| 28 | RE4-SK | Ring | 2 | - | - | - | |
| 29 | 42135701 | Board-PRD | 1 | 2 | 4 | 8 | |
| 30 | 42055201 | Spring-Contact-TL | 9 | 1 | 2 | 4 | |
| 31 | 42141401 | CONN Cord-JST12P-JST4PX3 | 1 | 2 | 4 | 8 | PU-Y.M.C motor |
| 32 | 42141501 | CONN Cord-JST26P-JST26P | 1 | 2 | 4 | 8 | PU-RSM |
| 33 | 42303501 | CONN Cord-JST2P-JST2P | 1 | 2 | 4 | 8 | PU-BELT Thermistor |
| 34 | 42141301 | CONN Cord-JST8P-JST4PX2 | 1 | 2 | 4 | 8 | PU-HOP, K motor |
| 35 | 42058501 | Guide-Cable F | 1 | 1 | 2 | 4 | |
| 36 | RE2-SK | Ring | 1 | - | - | - | SA9-1237 |

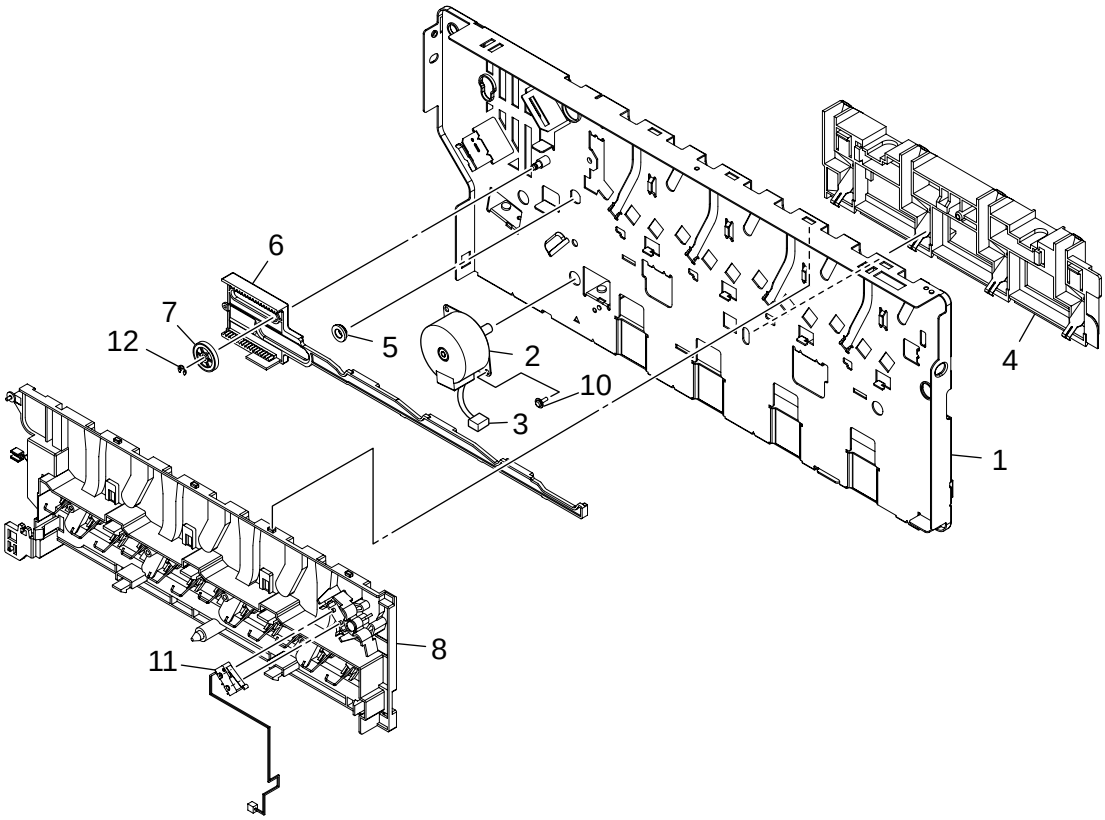



Figure 7-7 Plate_Assy-Side_L

Table 7-7

# Plate_Assy-Side_L

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42060101 | Plate-Side-L (Caulking) | 1 | 1 | 2 | 4 | |
| 2 | 42054601 | Motor-Pulse-ID-Belt | 1 | 2 | 4 | 8 | |
| 3 | 42141701 | CONN Cord-JST4P-JST4P | 1 | 2 | 4 | 8 | |
| 4 | 42060401 | Contact-Assy | 1 | 2 | 4 | 8 | |
| 5 | 42060701 | Bush | 1 | 1 | 2 | 4 | |
| 6 | 42060801 | Link-Liftup-L | 1 | 2 | 4 | 8 | |
| 7 | 42055701 | Gear-Planet | 1 | 2 | 4 | 8 | |
| 8 | 42060901 | Guide Assy-Side-L | 1 | 2 | 4 | 8 | |
| 9 | | | | | | | |
| 10 | 4PB4013-3100P006 | Cup Screw A | 1 | - | - | - | |
| 11 | 42025701 | Micro switch-Assy | 1 | 2 | 4 | 8 | |
| 12 | RE3-SK | Ring | 1 | - | - | - | |

C5300

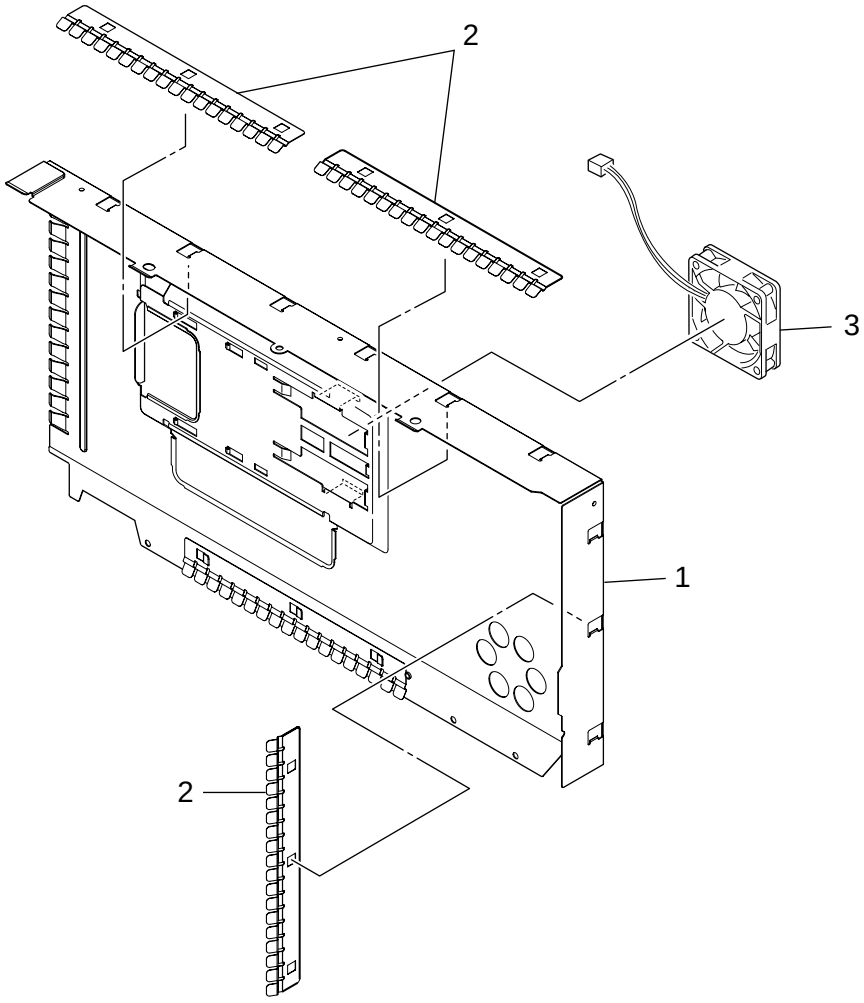



Figure 7-8-1 Plate_Assy-Shield (C5300)

C5100

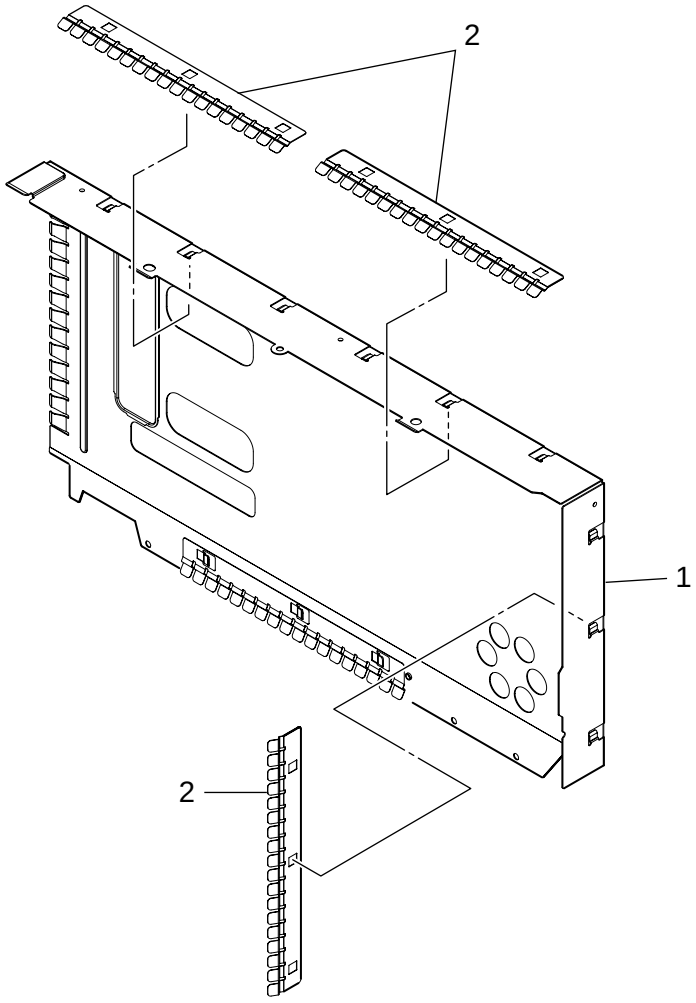



Figure 7-8-2 Plate_Assy-Shield (C5100)

Table 7-8

# Plate_Assy-Shield

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42466301 | Plate-Side (PCL) | 1 | 1 | 2 | 4 | C5300 |
| | 42466401 | Plate-Side (GDI) | 1 | 1 | 2 | 4 | SA9-1130 C5100 |
| 2 | 42079301 | Plate_Contact-Shield | 3 | 1 | 2 | 4 | |
| 3 | 41410201 | Electrical Cooling FAN (60) | 1 | 1 | 2 | 4 | CU Board |

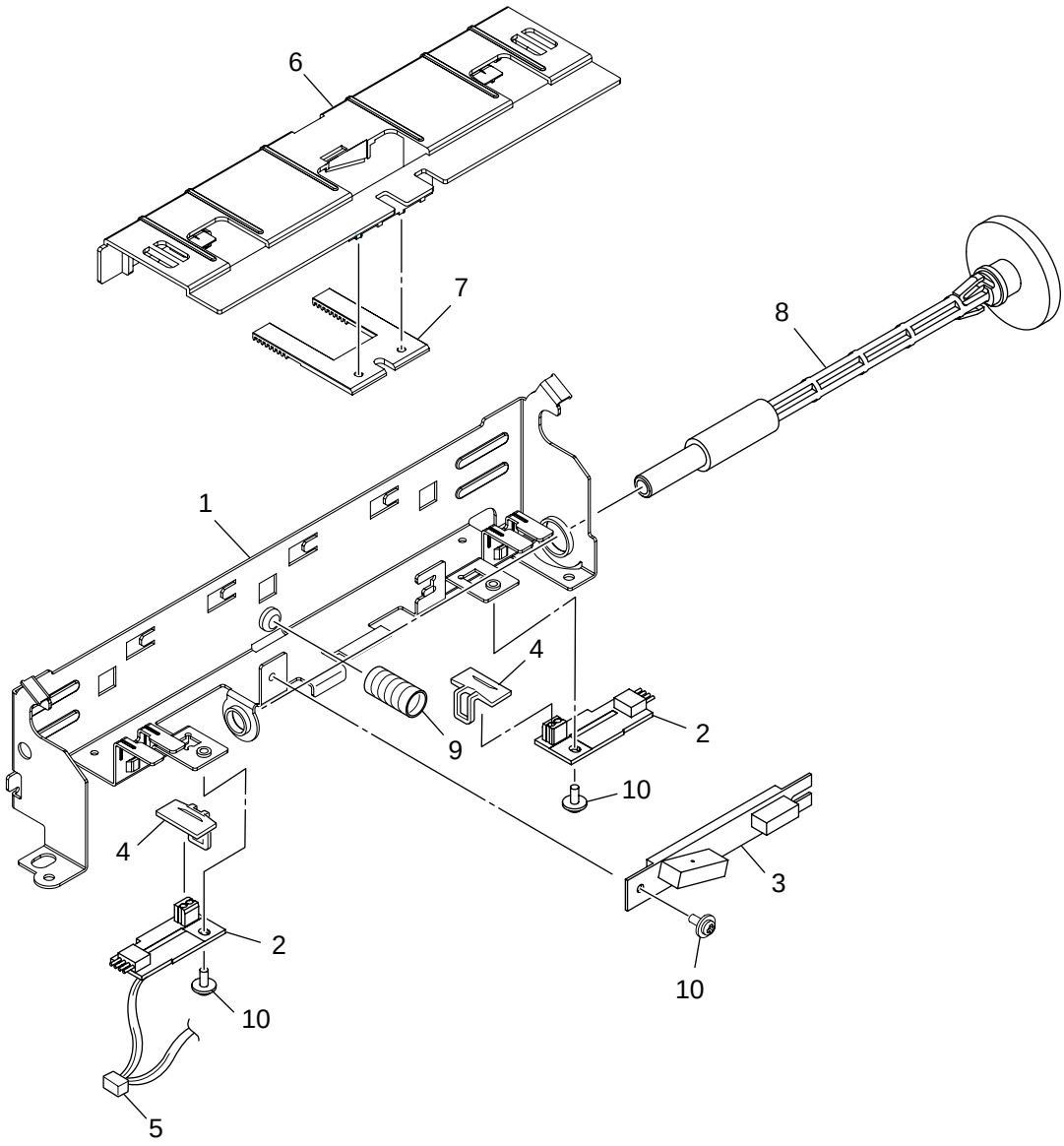



Figure 7-9 Sensor_Assy-Regist

Table 7-9

# Sensor_Assy-Color_Regist

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42065201 | Plate-Sensor-C Regist | 1 | 1 | 2 | 4 | |
| 2 | 41258601 | Board-Z71 | 1 | 3 | 6 | 12 | Color Regist |
| 3 | 5654200P0001 | GP2TCS SENSOR-Density | 1 | 3 | 6 | 12 | Density |
| 4 | 42220901 | Plate_Guard-sensor | 2 | 1 | 2 | 4 | |
| 5 | 42141801 | CONN Cord-JST14P MOLEX5PJST4PX2 | 1 | 2 | 4 | 8 | RSM-Color Registration and Density SNSs |
| 6 | 42065301 | Cover-C.Resist (Adhesive) | 1 | 1 | 2 | 4 | |
| 7 | 42065701 | Gear-Cover-Sensor (Rack) | 1 | 2 | 4 | 8 | |
| 8 | 42065801 | Shaft-Cover-Sensor | 1 | 2 | 4 | 8 | |
| 9 | 42065901 | Spring-Cover-Sensor | 1 | 1 | 2 | 4 | |
| 10 | 4PB4013-3100P006 | Cup Screw A | 3 | - | - | - | |

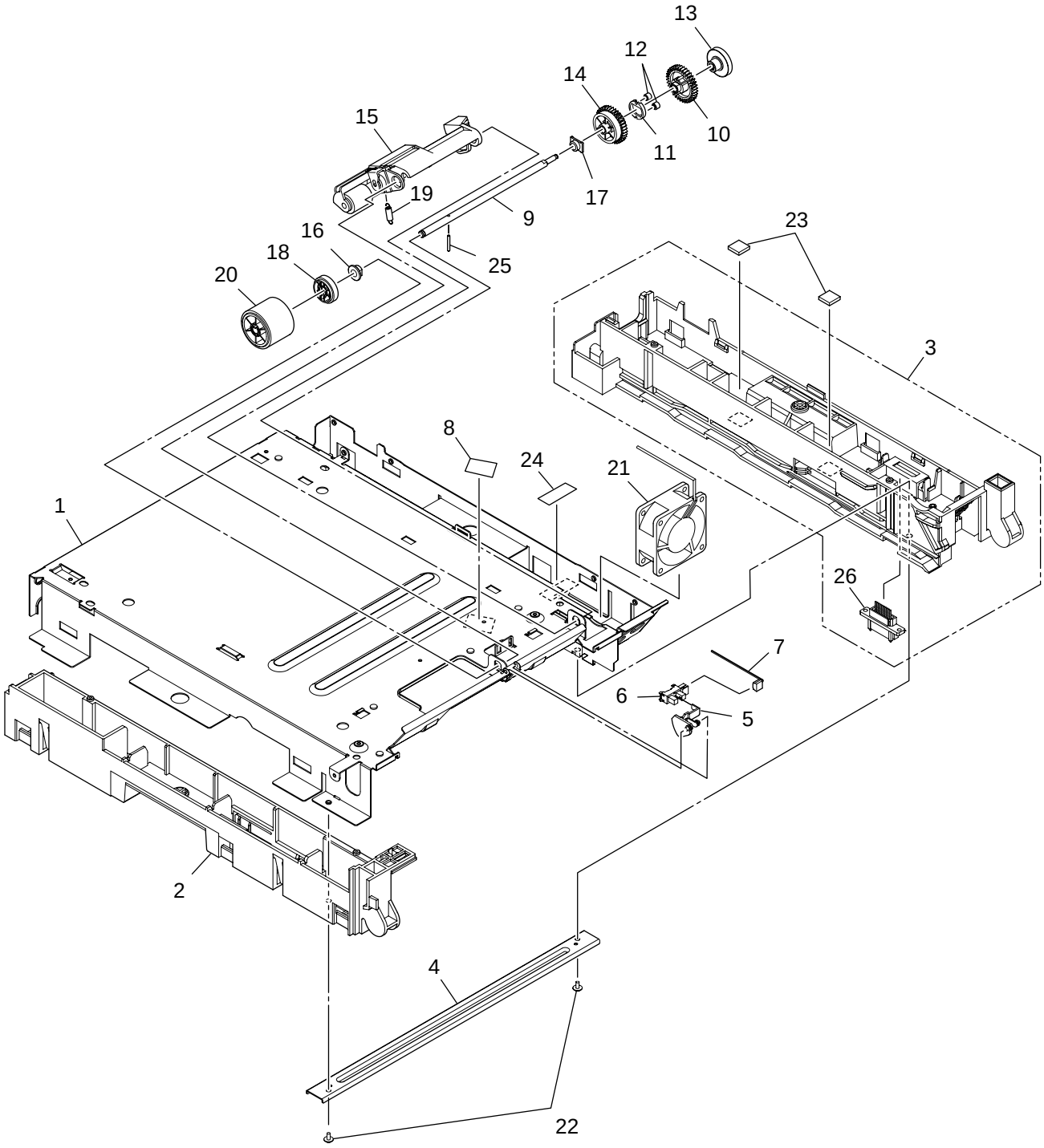



Figure 7-10 Plate_Assy-Base

Table 7-10

# Plate_Assy-Base

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42049601 | Plate-Base | 1 | 1 | 2 | 4 | |
| 2 | 42049701 | Guide Assy.-Cassette-L | 1 | 1 | 2 | 4 | |
| 3 | 42050101 | Guide Assy.-Cassette-R | 1 | 1 | 2 | 4 | |
| 4 | 42050301 | Plate-Beam | 1 | 1 | 2 | 4 | |
| 5 | 42050401 | Lever-End | 1 | 1 | 2 | 4 | |
| 6 | 40135301 | Photo-Interrupter | 1 | 2 | 4 | 8 | SNS-END |
| 7 | 42141101 | CONN Cord-AMP3P-AMP3P | 1 | 2 | 4 | 8 | PU-P-END |
| 8 | 4YC4061-1026P001 | Tape | 1 | - | - | - | L=30mm |
| 9 | 42050701 | Shaft-Hopping | 1 | 1 | 2 | 4 | |
| 10 | 42050801 | Stopper-HP | 1 | 2 | 4 | 8 | |
| 11 | 42050901 | Holder-Planet-HP | 1 | 2 | 4 | 8 | |
| 12 | 42051001 | Gear-Planet (Z12)-HP | 2 | 2 | 4 | 8 | |
| 13 | 42051101 | Gear-Z24-50-HP | 1 | 2 | 4 | 8 | |
| 14 | 42051201 | Stopper-Z45-48-HP | 1 | 2 | 4 | 8 | |
| 15 | 42051401 | Bracket-Assy.-Sub | 1 | 2 | 4 | 8 | |
| 16 | 41513401 | Bearing-Metal | 1 | 1 | 2 | 4 | |
| 17 | 4PP4083-6022P002 | BEARING A | 1 | 1 | 2 | 4 | |
| 18 | 42052301 | Gear-Hopping (Z38)-HP | 1 | 2 | 4 | 8 | |
| 19 | 42052501 | Spring-Sub | 1 | 1 | 2 | 4 | |
| 20 | 42052601 | Roller Assy.-Hopping | 1 | 3 | 6 | 12 | |
| 21 | 42368501 | Motor-Fan (60)PowL | 1 | 1 | 2 | 4 | SA9-1016 |
| 22 | 4PB4013-3100P006 | Cup Screw A | 2 | 1 | 2 | 4 | |
| 23 | 42423301 | Plate-Patch | 2 | 1 | 2 | 4 | SA9-0926 |
| 24 | 42104603 | Tape AL Film | 1 | - | - | - | L=35mm SA9-0980 |
| 25 | NK2-16SUS | Pin | 1 | - | - | - | |
| 26 | 2233013P0100 | Connector (9715B-10Z02) | 1 | 2 | 4 | 8 | 2nd Tray |

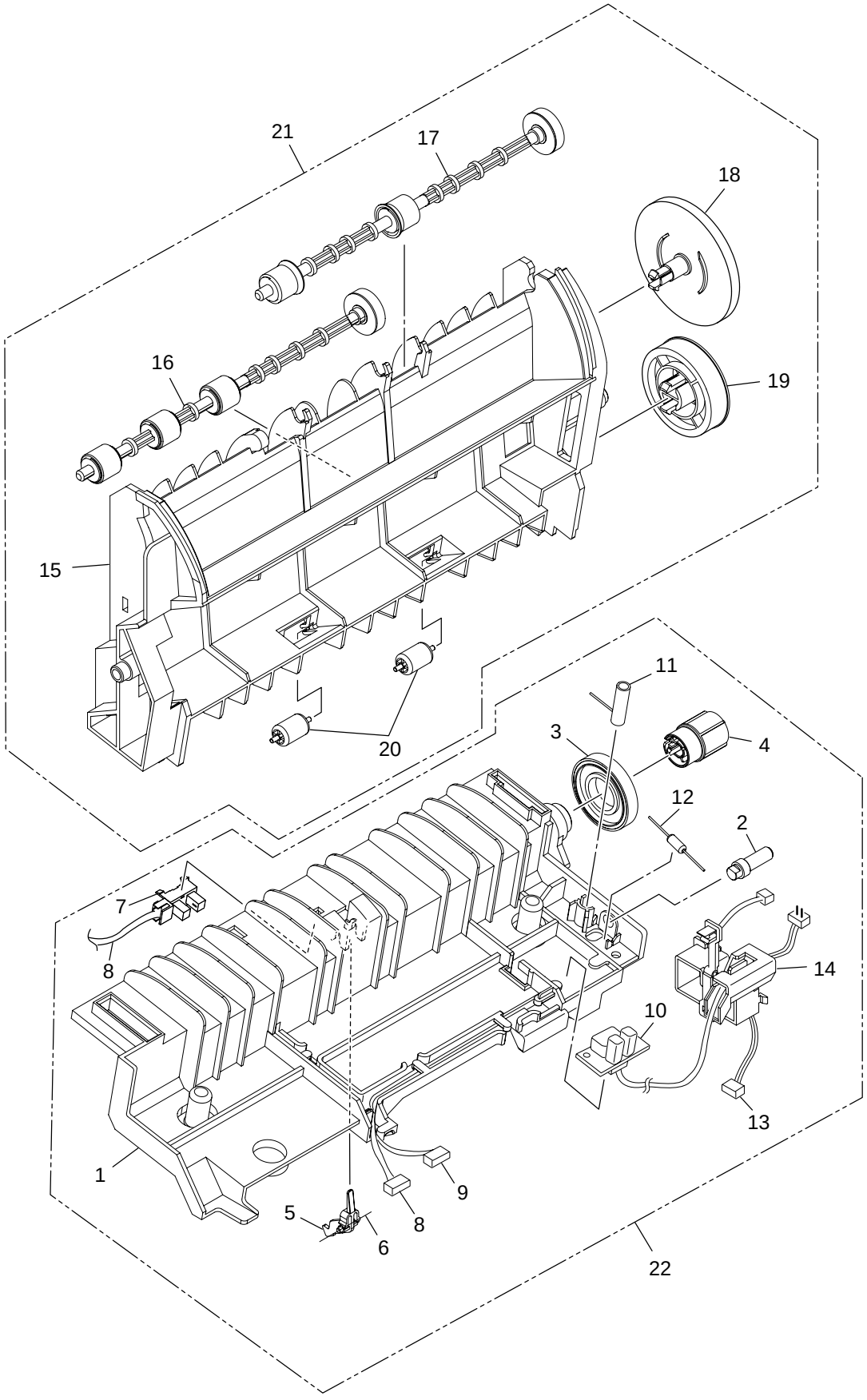



Figure 7-11 Eject_Assy

Table 7-11

# Guide_Assy-Eject-L

| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42063201 | Guide-Eject-Lower | 1 | 2 | 4 | 8 | |
| 2 | 42278501 | Post-Gear-Idle-Heat | 1 | 1 | 2 | 4 | |
| 3 | 42063801 | Gear-Idle-Exit (Z33) | 1 | 2 | 4 | 8 | |
| 4 | 42221001 | Post-G.E.L.-Z33 | 1 | 1 | 2 | 4 | |
| 5 | 42063301 | Lever-Eject-Sensor | 1 | 2 | 4 | 8 | |
| 6 | 40386501 | Spring-SNS (F/R) | 1 | 1 | 2 | 4 | |
| 7 | 40135301 | Photo-Interrupter | 1 | 1 | 2 | 4 | |
| 8 | 42141101 | CONN Cord-AMP3P-AMP3P | 1 | 2 | 4 | 8 | RSM-Exit |
| 9 | 42142001 | CONN Cord-AMP4P-AMP4P | 1 | 2 | 4 | 8 | RSM-Fuse |
| 10 | 42142101 | CONN Cord-AMP2P-JST3P | 1 | 2 | 4 | 8 | Fuse-Low Vol |
| 11 | 42063601 | Spring-FG | 1 | 1 | 2 | 4 | |
| 12 | 3263124K0107 | GS1/2A100MWK-T52<br>RES-MET solid - Q | 1 | 1 | 2 | 4 | |
| 13 | 42141702 | CONN Cord-JST4P-JST4P | 1 | 2 | 4 | 8 | PU-Heater Motor |
| 14 | 42059401 | Guide-Cable-R | 1 | 1 | 2 | 4 | |
| 15 | 42064401 | Guide-Eject-Upper | 1 | 1 | 2 | 4 | |
| 16 | 42308001 | Shaft Assy-Eject (FU) | 1 | 1 | 2 | 4 | |
| 17 | 42308101 | Shaft Assy-Eject (FD) | 1 | 1 | 2 | 4 | |
| 18 | 42064501 | Gear-Idle-Exit (Z58) | 1 | 1 | 2 | 4 | |
| 19 | 42064701 | Gear-Idle-Exit (Z41) | 1 | 1 | 2 | 4 | |
| 20 | 42278301 | Roller-Sub-G.E.U. | 2 | 1 | 2 | 4 | |
| 21 | 42064301 | Guide-Assy-Eject-U | 1 | 2 | 4 | 8 | |
| 22 | 42063101 | Guide-Assy-Eject-L | 1 | 2 | 4 | 8 | |

# APPENDIX A INTERFACE SPECIFICATIONS

## 1. Parallel Interface Specifications (C5300)

### 1.1 Parallel Interface

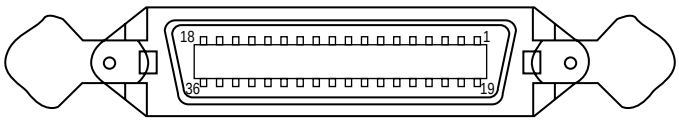
| Item | Description |
|---|---|
| Mode | Compatibility mode, Nibble mode, ECP mode |
| Data bit length | 8 bits: Compatibility mode, 4bits: Nibble mode,9 bits: ECP mode |

### 1.2 Parallel Interface Connector and Cable

1) Connector

Printer side: 36-pin receptacle
Type 57LE-40360-12 (D56) (made by Daiichi Denshi) or equivalent

Cable side: 36-pin plug
Type 57FE-30360-20N (D8) (made by Daiichi Denshi) or equivalent




Connector Pin Arrangement Viewed from Cable Side

2) Cable

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

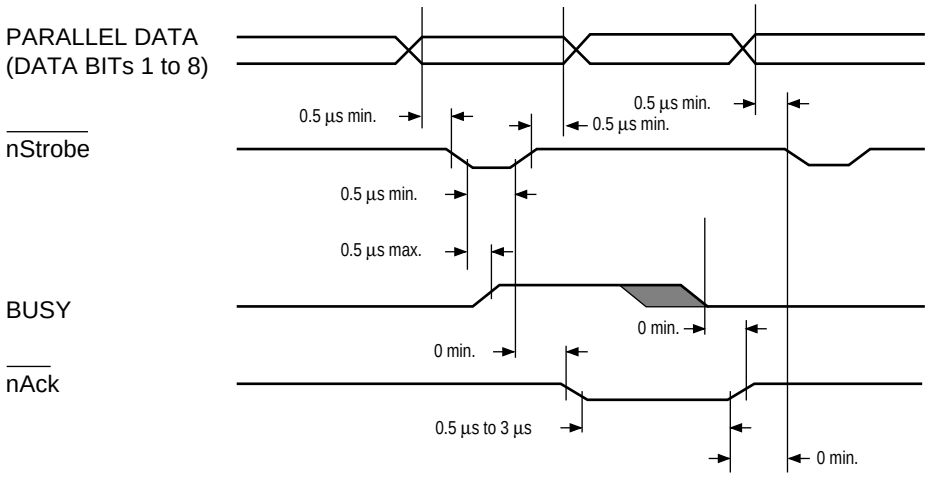
### 1.3 Parallel Interface Level

LOW: 0 V to +0.8 V
HIGH: +2.4 V to 5.0 V

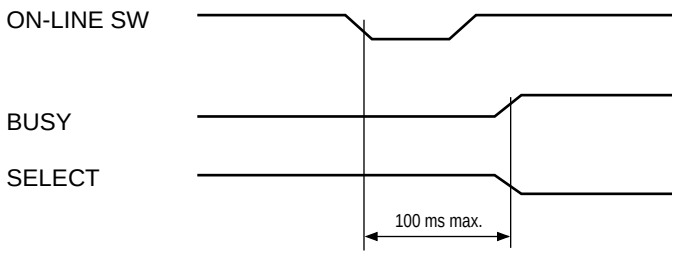
## 1.4 Timing Charts

Compatible mode

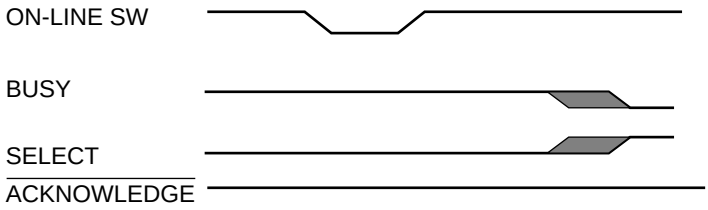
a) Data receiving timing



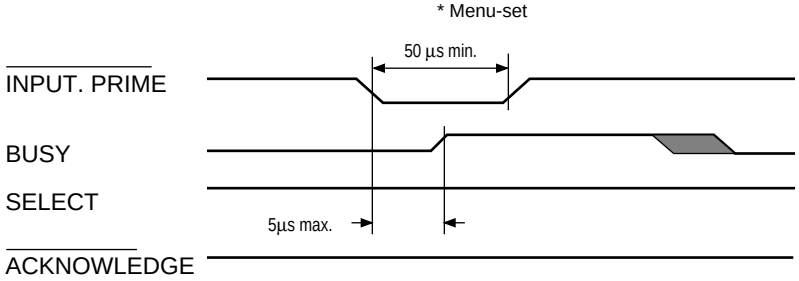

b) On-line (off-line switching timing by ON-LINE SW)




c) Off-line (on-line switching timing by ON-LINE SW)




d) nInit timing (invalid by default)



## 1.5 Parallel I/F Signals

Table 8-1 shows interface signal names and pin numbers.

Table 8-1 Signals

| Pin No. | Signal Name | Signal Direction | Functions |
|---|---|---|---|
| 1 | Nstrobe (HostClk) | →PR | Pulse for reading data in at trailing edge. |
| 2 | DATA 1 | →PR | 8-bit parallel data. Each signal is HIGH when data is logical 1 and LOW when it is logical 0. |
| 3 | DATA 2 | | |
| 4 | DATA 3 | | |
| 5 | DATA 4 | | |
| 6 | DATA 5 | | |
| 7 | DATA 6 | | |
| 8 | DATA 7 | | |
| 9 | DATA 8 | | |
| 10 | nAck (PtrClk) | ←PR | Indicates the completion of data reception. |
| 11 | Busy (PtrBusy) | ←PR | Indicates whether the printer is ready for receiving data. Data cannot be received while the signal is HIGH. |
| 12 | PError (AckDataReq) | ←PR | Indicates paper error when held HIGH. |
| 13 | Select (Xflag) | ←PR | HIGH without exception when the parallel interface is enabled. |
| 14 | NAutoFd (HostBusy) | →PR | Used in bidirectional communication. |
| 15 | - | - | Unassigned. |
| 16 | GND | - | Signal ground. |
| 17 | FG | - | Chassis ground. |
| 18 | +5V | ←PR | Used for supplying +5V. Power cannot be supplied to the outside of the printer. |
| 19 ~ 30 | GND | - | Signal ground. |
| 31 | Nlnit (nlnit) | →PR | Initializes the printer when held LOW. |
| 32 | NFault (nDataAvail) | ←PR | LOW during alarm. |
| 33 | GND | - | Signal ground. |
| 34 | - | - | Unassigned. |
| 35 | HILEVEL | ←PR | Pulled up to +5V at 3.3KΩ inside the printer. |
| 36 | Nselectin (IEEE 1284 active) | →PR | Used in bidirectional communication. Low without exception in compatible mode. |

***Note:*** Parenthesized signal names are used in nibble mode.
Only functions in compatible mode are listed.
This printer supports the IEEE std 1284-1994 nibble mode. Note that, when used with personal computers or cables that do not comply with the standards, the printers may exhibit unpredictable behavior.

# 2. Universal Serial Bus (USB) Interface Specifications

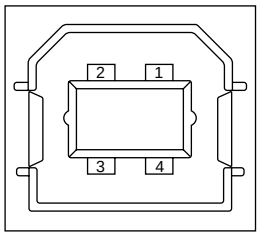
## 2.1 USB Interface

(1) Basic specifications
Conforms to USB specification, revision 1.1.
(2) Transmission mode
Full speed (max. 12 Mbps + 0.25%)
(3) Power Control
Self-power device

## 2.2 USB Interface Connector and Cable

(1) Connector
Printer side: Type B receptacle
Upstrem port
UBB-4R-D14T-1 (made by JST) or equivalent

Connector pin layout




Cable side: Type B plug

(2) Cable
Cable length: 5 m max. (cable compliant with USB specification, revision 1.1)
(A shielded cable must be used.)

## 2.3 USB Interface Signals

| | R1 | Function |
|---|---|---|
| 1 | Vbus | Power Supply (+5V) (red) |
| 2 | D - | Data transmission (white) |
| 3 | D + | Data transmission (green) |
| 4 | GND | Signal ground (black) |
| Shell | Shield | |

# 3 Network Interface Specifications

## 3.1 Network Interface

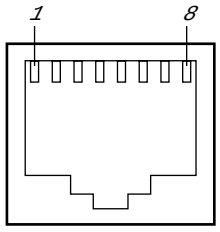
(1) Basic specifications
Network protocol
TCP/IPSpecification

Network layer
ARP, RARP, IP, ICMP
Transport layer
TCP, UDP
Application layer
LPR, FTP, TELNET, HTTP, BOOTP, SMTP

## 3.2 Network Interface Connector and Cable

(1) Connector
100 BASE-TX / 10 BASE-T

Connector pin layout




(2) Cable
RJ-45 anti-Shield twist pair cable with connector (Category 5 recommended)

## 3.3 Network Interface Signals

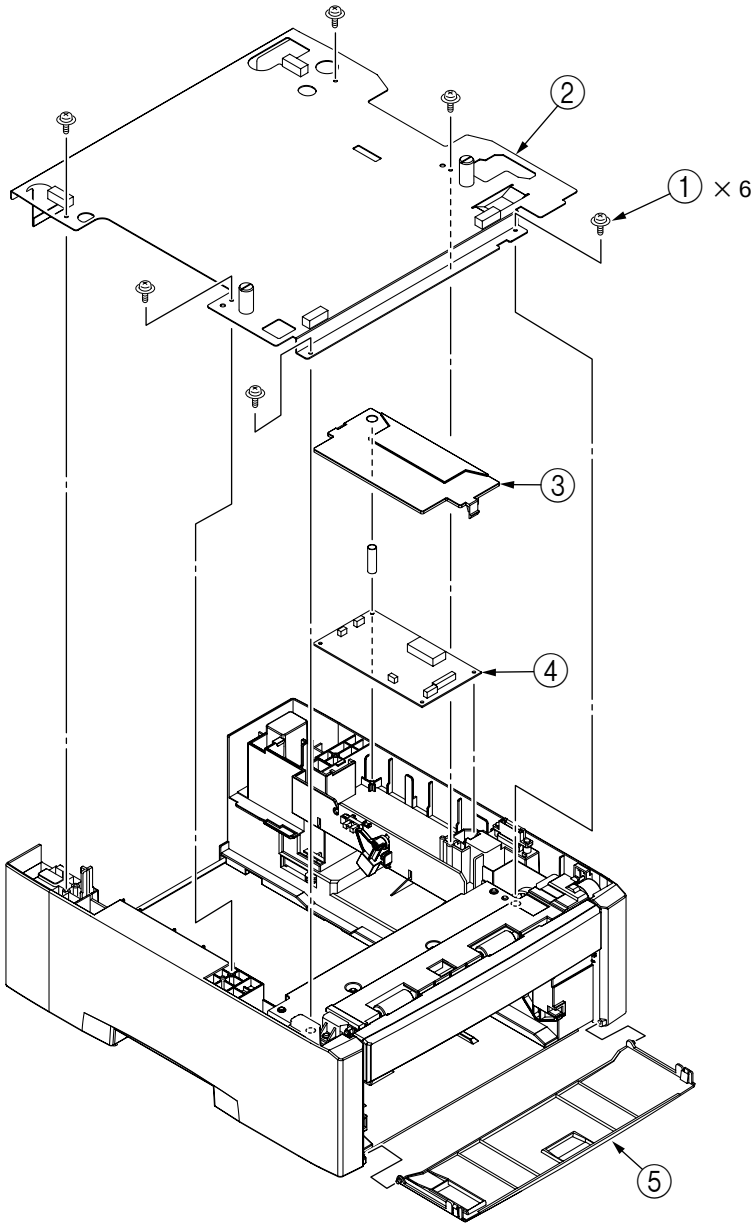
| Pin No. | Signals | Signal Direction | Functions |
|---|---|---|---|
| 1 | TXD+ | FROM PRINTER | Send Data + |
| 2 | TXD- | FROM PRINTER | Send Data - |
| 3 | RXD+ | TO PRINTER | Received Data + |
| 4 | - | - | Unassigned |
| 5 | - | - | Unassigned |
| 6 | RXD- | TO PRINTER | Received Data - |
| 7 | - | - | Unassigned |
| 8 | - | - | Unassigned |

# APPENDIX B 2ND TRAY MAINTENANCE

## 1. Parts Replacement

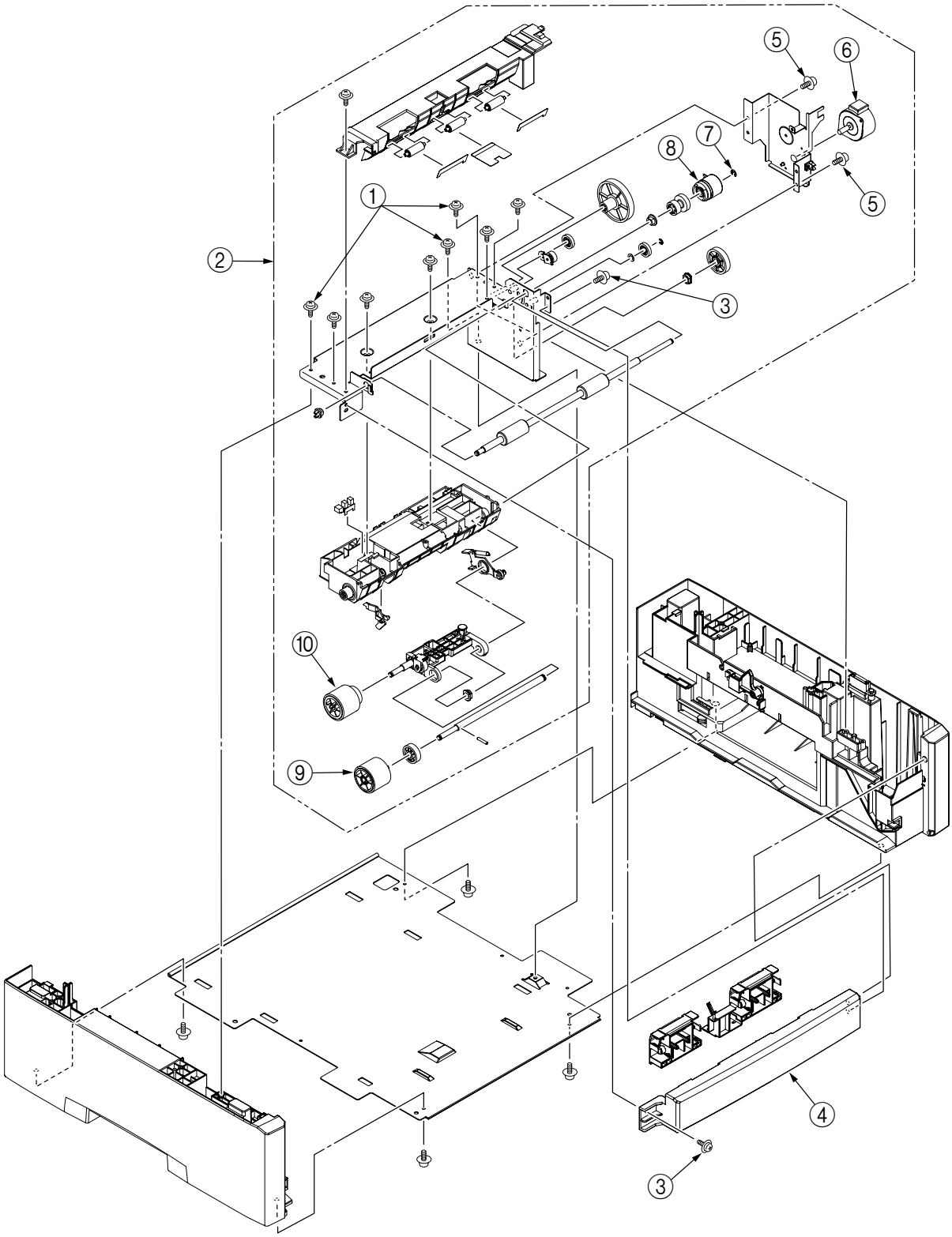
### 1.1 PCB

(1) Unscrew the six screws ① to remove the plate-top ②.
(2) Remove the cover-side R ③.
(3) Remove the connectors (at five places), then uninstall the board ④.
(4) Remove the cover - 2nd tray ⑤.

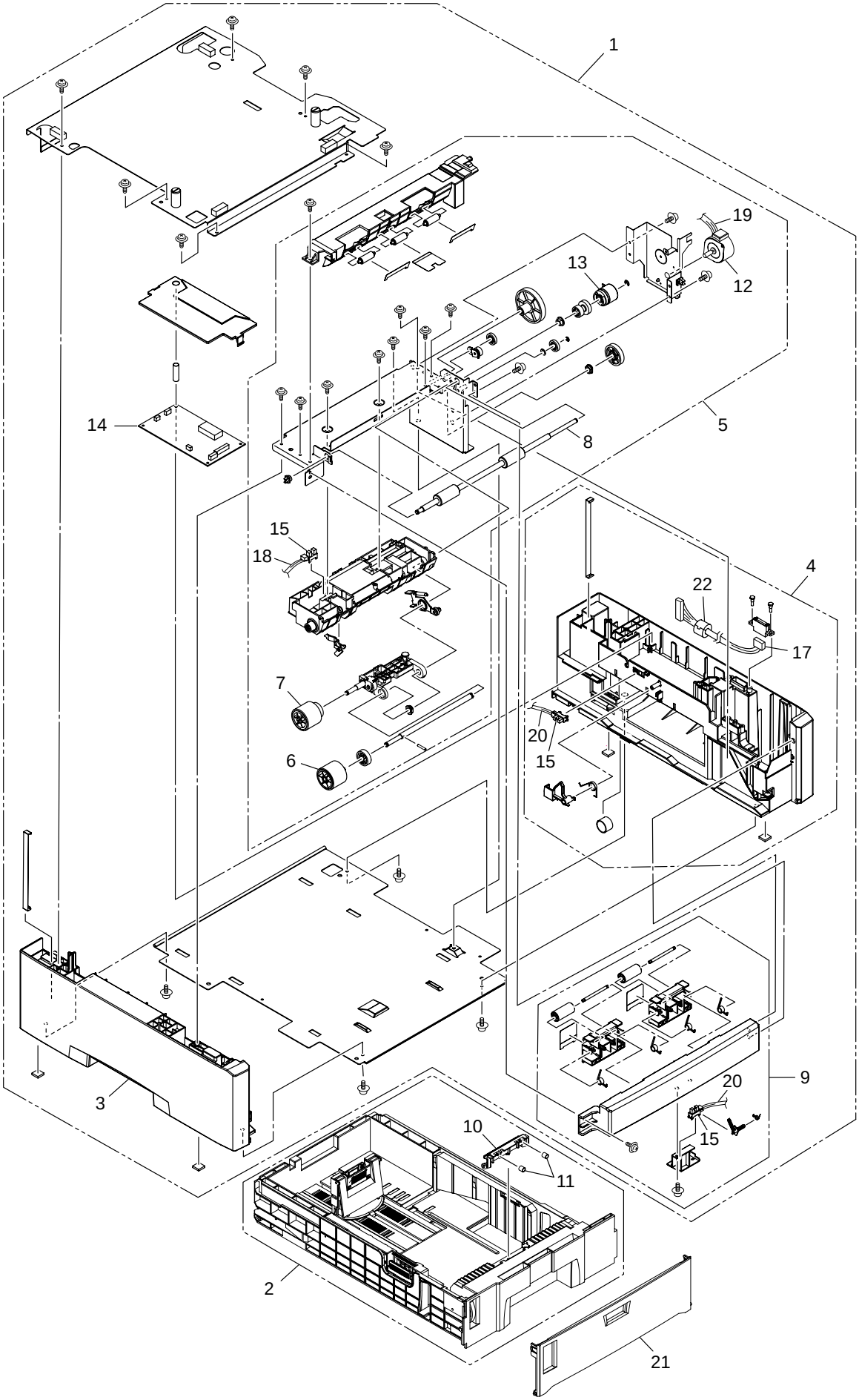


## 1.2 Frame Assy- Hopping

(1) Remove the PCB (see section 1.1).
(2) Remove the three screws ① to uninstall the hopping assy ②.
(3) Unscrew the two screws ③ to remove the cover assy - front ④.
(4) Unscrew the two screws ⑤ to remove the motor ⑥.
(5) Remove the E ring ⑦ to remove the clutch ⑧.
(6) Remove the roller assy - hopping ⑨.
(7) Remove the roller assy - feed ⑩.



## 2. PARTS LIST



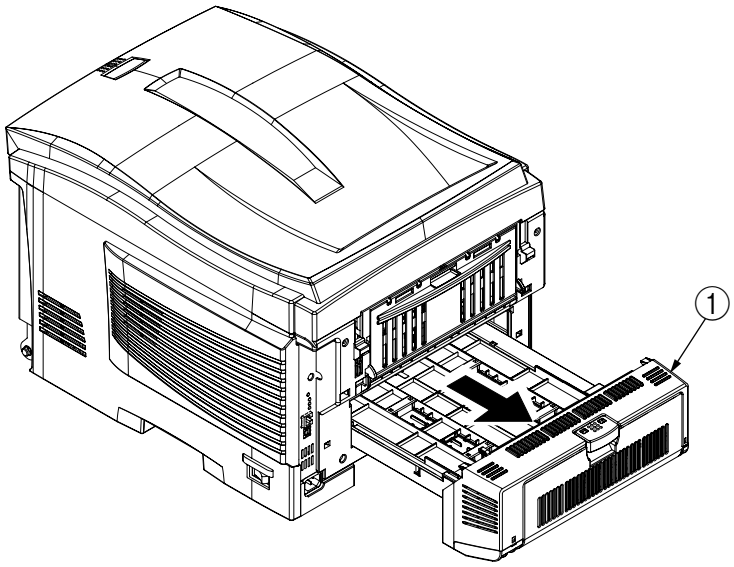
| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | ~~42158504~~ | ~~Second Tray Unit~~ | ~~1~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~Packed in box.~~ |
| | 42158501 | Second Tray Unit (ODS) | 1 | - | - | - | Packed in box. |
| | 42158502 | Second Tray Unit (OEL) | 1 | - | - | - | Packed in box. |
| | 42158503 | Second Tray Unit (AOS) | 1 | - | - | - | Packed in box. |
| 2 | 42139801 | Cassette Assy | 1 | 1 | 2 | 4 | |
| 3 | 42136601 | Guide Assy-Cassette-L | 1 | 1 | 2 | 4 | |
| 4 | 42136801 | Guide Assy-Cassette-R | 1 | 1 | 2 | 4 | |
| 5 | 42137101 | Frame Assy-Hopping | 1 | 2 | 4 | 8 | |
| 6 | 42052601 | Roller Assy-Hopping | 1 | 2 | 4 | 8 | |
| 7 | 40313201 | Roller Assy-Feed | 1 | 1 | 2 | 4 | |
| 8 | 41400001 | Shaft-Roller | 1 | 1 | 2 | 4 | |
| 9 | 42138601 | Cover-Assy-Front | 1 | 2 | 4 | 8 | |
| 10 | 41438401 | Frame-Separation Assy | 1 | 2 | 4 | 8 | SA2-0088 |
| 11 | 41439401 | Spring-Separation | 2 | 2 | 4 | 8 | |
| 12 | 42058201 | Motor-Registration | 1 | 2 | 4 | 8 | |
| 13 | 42197702 | Feeder Cluch | 1 | 2 | 4 | 8 | |
| 14 | 41780308 | Board-V7X | 1 | 3 | 6 | 12 | |
| 15 | 40135301 | Photo Interrupter | 3 | 2 | 4 | 8 | |
| 16 | 2233014P0100 | Connector-Plug | 1 | 1 | 2 | 4 | V7X-Plug |
| 17 | 42142201 | Connection Cord | 1 | 1 | 2 | 4 | V7X-P-End |
| 18 | 42141102 | Connection Cord | 1 | 1 | 2 | 4 | V7X-Motor |
| 19 | 42141704 | Connection Cord | 1 | 1 | 2 | 4 | SA2-0072 |
| 20 | 42142802 | Connection Cord | 1 | 1 | 2 | 4 | V7X-Paper Loading and 1st-Tray SNS |
| 21 | 42145401 | Cover-2nd Tray | 1 | 1 | 2 | 4 | |
| 22 | 1051010C0001 | Core | 1 | 1 | 2 | 4 | SA2-0087 |

# APPENDIX C DUPLEX UNIT MAINTENANCE

## 1. Parts Replacement

### 1.1 Duplex Unit

(1) Slide out the duplex unit ①.

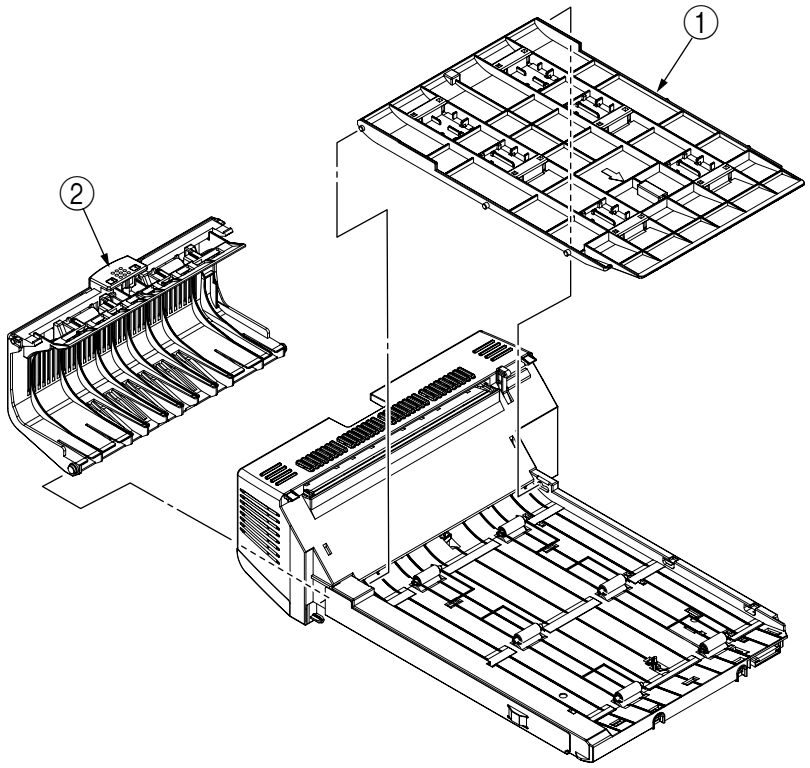


1.2 Upper Assy / Rear Assy

(1) Remove the duplex unit (see section 2.2.20).

(2) Warping the upper assy ①, detach it.

(3) Warping the rear assy ②, detach it.



## 1.3 Duplex Transport Assy

(1) Turn over the duplex transport assy.

(2) Unscrew the three screws ① to remove the plate ②.

(3) Make connector removal and claw disengagement to remove the PCB-V7X ③.

(4) Disengage and remove the cover ④.

(5) Unscrew the screw ⑤ to remove the motor assy ⑥.

(6) Remove the gear ⑦ and the bushing ⑧ to remove the roller ⑨. Then the earth ⑩ and the bushing ⑪ become detached.

(7) Remove the pulleys ⑫. The mini-pitch belts ⑬ become detached together with the pulley.

(8) Remove the holders ⑭ and the bushings ⑮ to remove the rollers ⑯. The earth spring becomes detached together with each roller.

(9) Remove the fan ⑰.

(10) Remove the spring ⑱ to remove the solenoid ⑲.

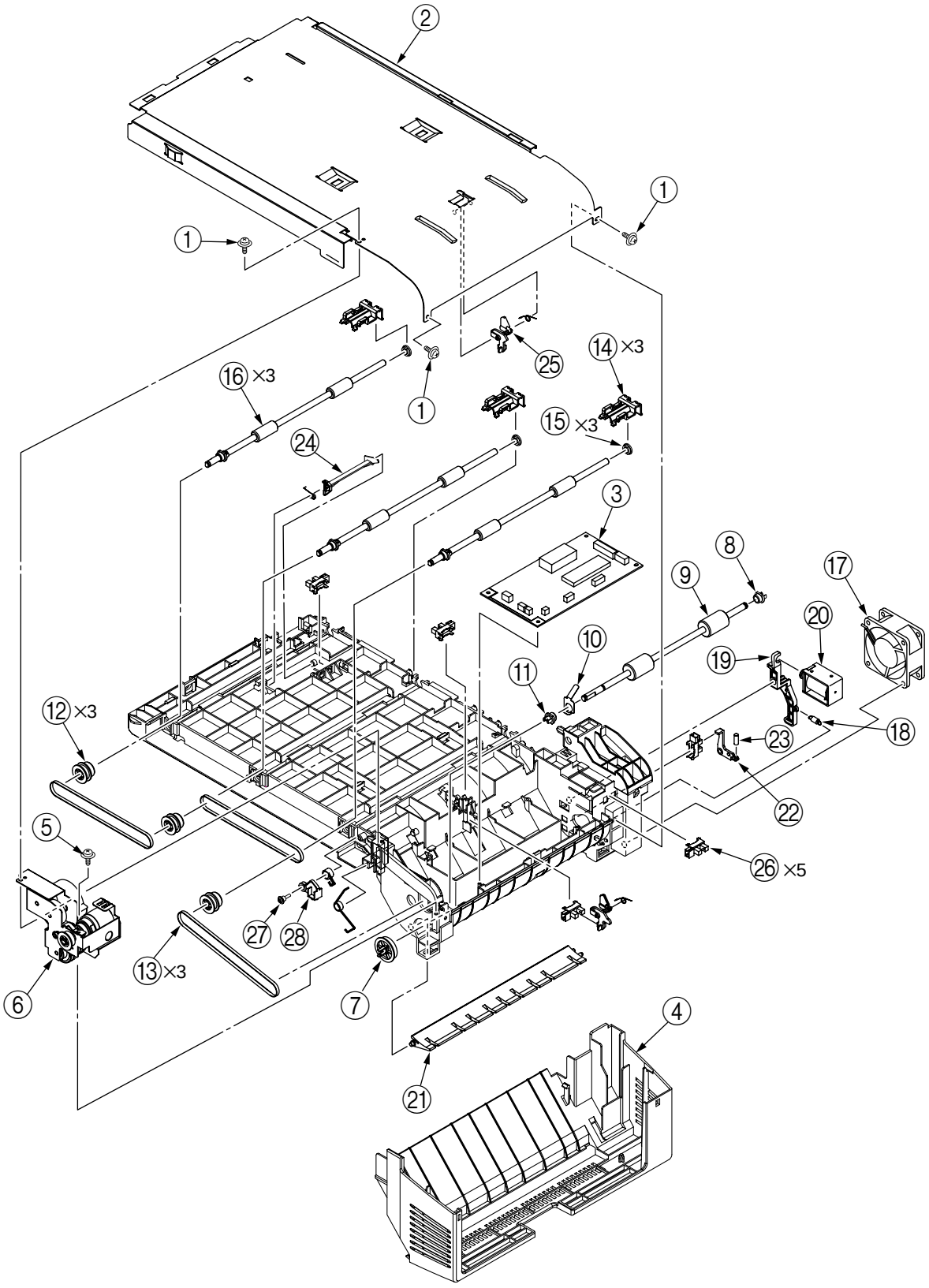
(11) Release claw engagement to remove the solenoid ⑳.

(12) Remove the lever ㉑. The lever ㉒ and the spring ㉓ become detached together with the lever ㉑.

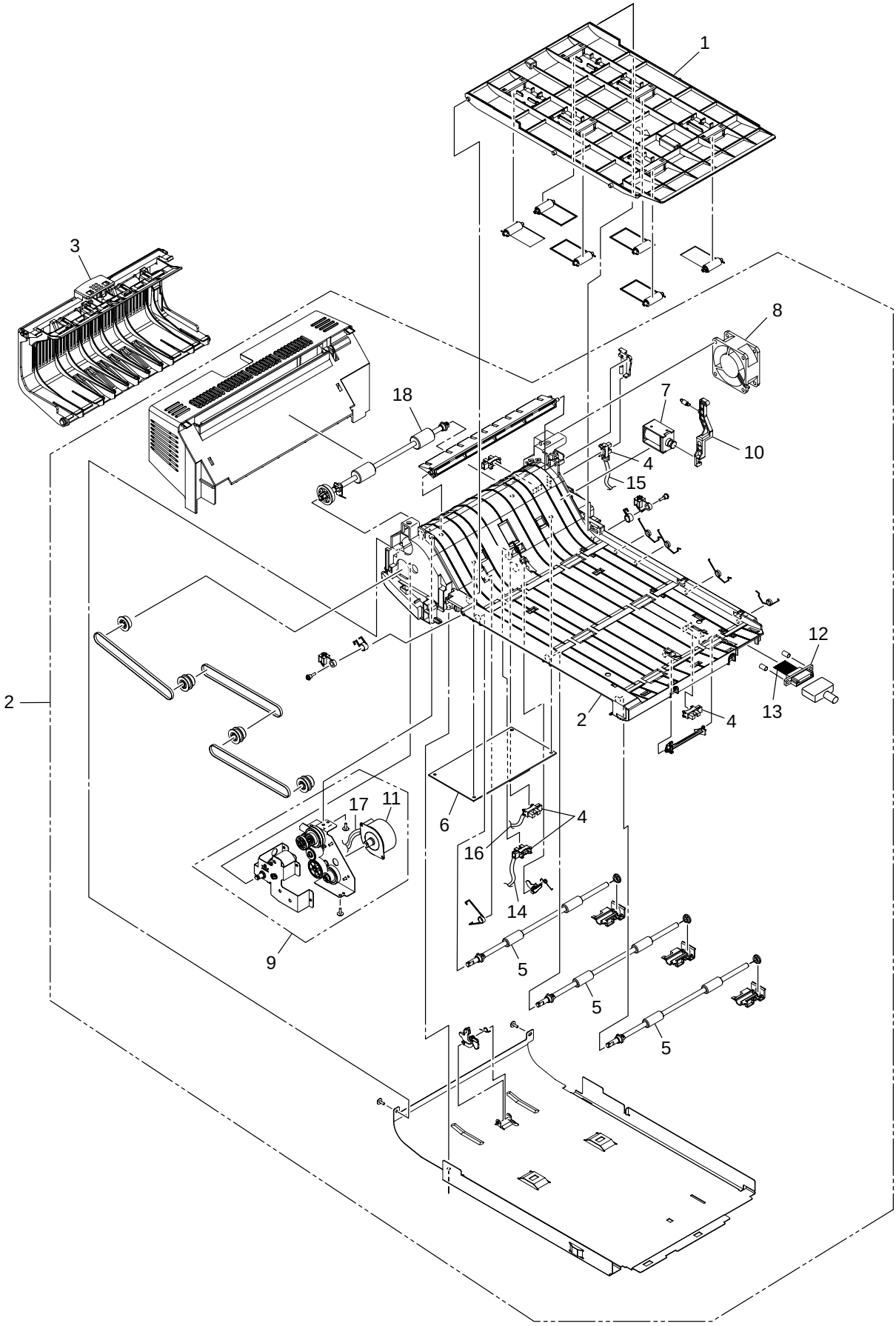
(13) Remove the actuators ㉔ and ㉕.

(14) Remove cable connection and then, by claw warping, detach the five transport sensors ㉖.

(15) Unscrew the screw ㉗ to remove the lock lever ㉘. Then the spring becomes detached.


2
1
1
1
25
14 ×3
16 ×3
15 ×3
24
3
8
9
17
20
19
10
11
12 ×3
18
23
22
5
26 ×5
27
28
13 ×3
6
7
4
21

## 2. PARTS LIST



| No. | Parts No. | Name | Q'ty /Unit | Recommended Q'ty/Year | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | per 500 | per 1000 | per 2000 | |
| 1 | 42160301 | Frame-Assy-Upper | 1 | 1 | 2 | 4 | |
| 2 | 42160401 | Frame-Assy-Lower | 1 | 1 | 2 | 4 | |
| 3 | 42160501 | Frame-Assy-Rear | 1 | 1 | 2 | 4 | |
| 4 | 40135301 | Photo-Interrupter | 5 | 1 | 2 | 4 | |
| 5 | 42194801 | Roller-Feed (H) | 3 | 1 | 2 | 4 | |
| 6 | 41780309 | Board-V7X | 1 | 2 | 4 | 8 | |
| 7 | 42058302 | Solenoid | 1 | 1 | 2 | 4 | |
| 8 | 42396201 | Motor-Fan | 1 | 1 | 2 | 4 | |
| 9 | 42160601 | Gear-Assy | 1 | 1 | 2 | 4 | |
| 10 | 42162001 | Gear-Assy-Clutch | 1 | 2 | 4 | 8 | |
| 11 | 42058201 | Motor-Regist | 1 | 1 | 2 | 4 | |
| 12 | 2233014P0110 | Connector-Plug | 1 | 1 | 2 | 4 | |
| 13 | 42142601 | Connection-Cord | 1 | 1 | 2 | 4 | V7X-Plug |
| 14 | 42142801 | Connection-Cord | 1 | 1 | 2 | 4 | V7X-Front and Rear SNS |
| 15 | 42142701 | Connection-Cord | 1 | 1 | 2 | 4 | V7X-In and Cover SNS |
| 16 | 42141104 | Connection-Cord | 1 | 1 | 2 | 4 | V7X-Bottom SNS |
| 17 | 42141705 | Connection-Cord | 1 | 1 | 2 | 4 | V7X-Motor |
| 18 | 42194701 | Roller-Feed (Rv) | 1 | 1 | 2 | 4 | |