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Service Manual

OL830Plus // OL850 LED Page Printers

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09/17/97

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Chapter 0 About This Manual

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Service Guide OL830Plus/OL850

Chapter 1 Product Specifications

1.1 GENERAL DESCRIPTION

1.1.01 General Information

The OL830-Plus and OL850 are desktop page printers, which use a stationary LED head and dry electrophotography as their exposure and development methods. The printers have a resolution of 300 x 300 dots per inch and a continuous print speed of 8 letter-sized sheets per minute.

A two megabyte page memory is standard on the OL830-Plus and OL850 Printers. This can be expanded to a total of four megabytes of printer memory. The OL830-Plus and OL850 feature Oki Smoothing Technology (OST). The OST LED head provides edge smoothing to reduce the jagged stair step effects of bit mapped images for improved print quality. The OST capability is selected through the Smoothing option of the printer menu. The default setting is Smoothing On.

The OL830-Plus provides PostScript capability, along with HP LJII and Diablo 630 ECS emulations. Seventeen Adobe PostScript fonts are standard on the OL830-Plus. In HP LaserJet II emulation, 26 bit-mapped fonts are available. The Diablo emulation includes 18 bit-mapped fonts. A Centronics Parallel Interface is standard on the OL830-Plus.

The OL850 provides PostScript capability, along with HP LJII and Diablo 630 ECS emulations. Sixty-five Adobe PostScript fonts (35 resident and 30 down-loadable) are standard on the OL850. In HP LaserJet II emulation, 26 bit-mapped fonts are available. The Diablo emulation includes 18 bit-mapped fonts. A Centronics parallel interface and an AppleTalk/ Serial Interface are standard on the OL850.

Each printer contains a font card slot. A variety of optional font cards are available. The OL830-Plus and the OL850 also accept downloadable fonts.

Two consumable kits are used in the printers. The toner cartridge kit contains a toner cartridge, a fuser cleaner pad, and an LED lens cleaner. The other consumable package, the image drum cartridge kit, includes an image drum cartridge and an ozone filter.

A letter-size paper tray is included with each printer. Legal, envelope, executive, and A4 trays are also available. Paper feeding can be done automatically or manually. A second paper feed unit is also available.

The printers will print on a variety of paper types, labels, envelopes, and transparencies.

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1.2 SPECIFICATIONS

1.2.01 Print Specifications

- Exposure method: Stationary LED Head
- Development method: Dry electrophotography

1.2.02 Print Speed

- First print: 14 seconds typical (letter size paper after warm-up)
- Continuous print: 8 sheets per minute (letter size)
- Warm-up time: 50 seconds

1.2.03 Paper Feed Methods

- Automatic Feed
- Manual Feed

1.2.04 Paper Delivery Methods

- Face down
- Face up

1.2.05 Print Resolution

- 300 x 300 dots/inch

1.2.06 Emulations

OL830-Plus

- Adobe PostScript
- HP LaserJet II
- Diablo 630 ECS

OL850

- Adobe PostScript
- HP LaserJet II
- Diablo 630 ECS

1.2.07 Symbol Sets

- HP II Emulation
- US ASCII
- ROMAN-8

- ROMAN EXTENSION
- LEGAL
- HP German
- HP Spanish
- INTERNATIONAL
- IBM Character
- Diablo Emulation
- Courier
- Courier Legal
- Multi-purpose 10

1.2.08 Available Fonts

OL830

- PostScript: 17 fonts / 5 families
- HP II Emulation: 26 bit-mapped fonts / 4 faces
- Diablo 630 ECS Emulation: 18 bit-mapped fonts

OL850

- PostScript: 65 fonts / 26 families
- 35 resident fonts
- 30 software fonts
- HP II Emulation: 26 bit-mapped fonts / 4 faces
- Diablo 630 ECS Emulation: 18 bit-mapped fonts

1.2.09 Interface Methods

- Centronics Parallel Interface
- AppleTalk - RS422 / RS-232C Interface (optional for OL830-Plus)

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1.3 PAPER SPECIFICATIONS

1.3.01 Paper Types

· Letter

- Size: 8.5" x 11" (216 mm x 279 mm)

- Feed: Automatic or Manual

- Weight

Minimum: 16 lbs. (60 g/m²)

Maximum: 24 lbs. (90 g/m²)

Recommended: 20 lbs. (75g/m²)

· Legal

- Size: 8.5" x 14" (216 mm x 356 mm)

- Feed: Automatic (with optional paper tray) or Manual

- Weight

Minimum: 16 lbs. (60 g/m²)

Maximum: 24 lbs. (90 g/m²)

Recommended: 20 lbs. (75g/m²)

· Executive

- Size: 7.25" x 10.5" (184 mm x 267 mm)

- Feed: Automatic (with optional paper tray) or Manual

- Weight

Minimum: 16 lbs. (60 g/m²)

Maximum: 24 lbs. (90 g/m²)

Recommended: 20 lbs. (75g/m²)

- A4

- Size: 8.27" x 11.69" (210 mm x 297 mm)

- Feed: Automatic (with optional paper tray) or Manual

- Weight

Minimum: 16 lbs. (60 g/m²)

Maximum: 24 lbs. (90 g/m²)

Recommended: 20 lbs. (75g/m²)

- Envelope

- Size

Minimum: 3.5" x 7.5" (89 mm x 191 mm)

Maximum: 7.2" x 10.1" (183 mm x 257 mm)

- Feed: Automatic (with optional paper tray) or Manual

- Weight

Minimum: 16 lbs. (60 g/m²)

Maximum: 24 lbs. (90 g/m²)

Recommended: 20 lbs. (75g/m²)

- Labels

- Manual feed / Face up delivery only

- Use labels designed specifically for laser printers.

- Transparencies

- Manual feed / Face up delivery only

- Must be able to withstand the heat of the fusing process.

CAUTION:

Envelopes, labels, and transparencies should only be fed from the top paper tray.

1.4 PHYSICAL SPECIFICATIONS

1.4.01 Outside Dimensions

- Width: 17.72" (450 mm)
- Height: 6.02" (153 mm)
- Depth: 23.4" (450 mm) [includes letter size paper tray]

1.4.02 Printer Weight

- 24 pounds without options (approximately 11 kg)
- 41 pounds with second paper feed unit and second paper tray (approximately 19 kg)

1.4.03 LED Array

- Number of LED Elements: 2560

CAUTION:

*The OST LED Head for the OL830-Plus / OL850 is **not** interchangeable with non-OST LED Page Printers.*

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1.5 POWER REQUIREMENTS

1.5.01 Input Power

- 120 VAC +5.5%, -15%
- 220/240 VAC +/-10%

1.5.02 Power Consumption

- Approximately 800 W maximum during operation
 - Approximately 22 W maximum during stand-by (Fuser is OFF)
-

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1.6 ENVIRONMENTAL CONDITIONS

1.6.01 Ambient Temperature and Relative Humidity

- While operating:
 - 50° to 90° F
 - 10° to 32° C
 - 20 to 80% Relative Humidity
- While in storage:
 - -4° to 110° F
 - -20° to 43° C

1.6.02 Printer Noise Level

- In operation: 52 dB maximum
 - In stand-by (QUIET Mode): 43 dB maximum
 - In stand-by (Non-QUIET Mode): 45 dB maximum
-

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1.7 AGENCY APPROVALS

- 120 VAC Type
- FCC Class B
- UL478 Version 5 (Partial Version 4)
- CSA 22.2 - 220
- Radio Interference Regulations of Canadian Department of Communications
- 220/240 VAC Type
- FCC Class A

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1.8 OPTIONS

1.8.01 RAM Expansion Board

- RAM Expansion Board (REXM): Two Mbyte

1.8.02 Font Card

- Refer to *Printer Handbook - Appendix G* or Okilink II for a listing of available cards.

1.8.03 AppleTalk / Serial Interface Board

- This board is standard on the OL850 Printer
- RS-232C Serial: Provides serial communication capability at speeds up to 19.2 Kbps
- AppleTalk / RS-422 (accessed in PostScript Mode only)

1.8.04 Second Paper Feed Mechanism

- The second paper feed mechanism allows paper feeding from two paper trays. A second paper tray must be purchased for use with the second paper feed mechanism.

1.8.05 Paper Trays

- Letter size
 - Legal size
 - Envelope
 - Executive
 - A4
-

1.9 MEMORY SPECIFICATIONS**1.9.01 ROM****(Read Only Memory)**

- Main Controller Program Rom
- OL830-Plus
- 1 Mbyte
- OL850
- 1 Mbyte
- Engine Controller ROM
- Not used; masked to the CPU

1.9.02 RAM**(Random Access Memory)**

- Resident RAM = 2 Mbytes
- Expansion RAM (Option)
- 2 Mbytes (RAM Expansion Board)

1.9.03 EEPROM**(Electrically Erasable Programmable Read Only Memory)**

- Main Controller EEPROM
 - 1024 x 1 bit serial input/output
 - Engine Controller EEPROM
 - 1024 x 1 bit serial input/output
-



1.10 CONSUMABLES

1.10.01 Image Drum Cartridge Kit

Includes:

- Image Drum Cartridge
- Ozone Filter

1.10.02 Toner Cartridge Kit

Includes:

- Toner Cartridge
- Fuser Cleaner Pad
- LED Lens Cleaning Pad

1.10.03 Toner Toxicity

- No carcinogen is contained
-

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1.11 PRINTER RELIABILITY**1.11.01 Mean Pages Between Failure (MPBF)**

- Approximately 32,000 pages

1.11.02 Mean Time To Repair (MTTR)

- Approximately 20 minutes

1.11.03 Estimated Printer Life

- Five Years or approximately 300,000 pages

1.11.04 Estimated Fuser Life

- Approximately 180,000 pages

1.11.05 Printer Duty Cycle

- Approximately 12,000 pages per month @ 5% print density
-



2.1 PRINTER OVERVIEW

2.1.01 General Information

This section describes the operation of the OL830-Plus/850 in the order listed below.

- Control Unit (CU)
- Printer Unit (PU)
- Mechanical Operation of the OL830-Plus/850
- OL830-Plus/850 Sensors and Switches

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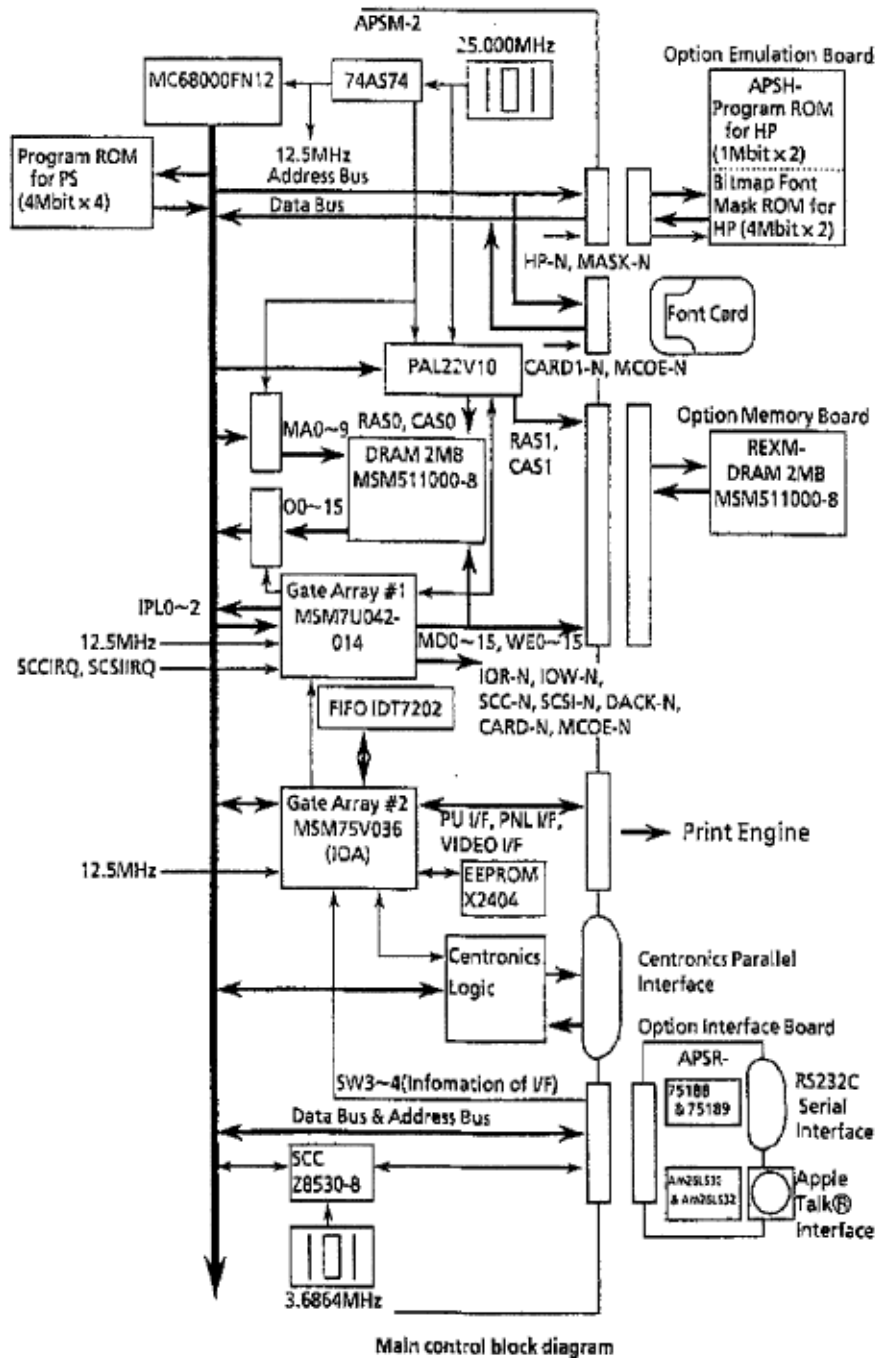
2.2 CONTROL UNIT (CU)

The control unit regulates the reception of data from the host system interface. After receiving data and commands from the host system, the CU generates bit image data. The CU transfers data and commands to the Printer Unit (PU).

The principal hardware components of the CU are listed below.

- Main controller board
- Serial interface board (Option on OL830-Plus)
- Emulation board
- Extended RAM board (Option)
- Font card (Option)

Control Unit (CU) - Block Diagram



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2.2.01 Main Controller Board Overview

The major components of the main controller board consist of a 25 Mhz oscillator, a Motorola 68000 Microprocessor (CPU), two 1 Mbyte Program ROMs (4 PROMs are used on the OL850), 2 Mbyte of RAM, an EEPROM, and a two Gate Arrays. The main controller board is connected to the host system through a Centronics parallel interface or the RS-232C serial / RS422 / AppleTalk interface. The RS232/RS422/AppleTalk interface is standard on the OL850. The main controller board is connected to the printer unit via CN7 on the main controller board and J7 on the printer units engine controller board.

Two Gate Arrays are located on the main control board. The Gate Arrays can read/write/ process data simultaneously in accordance with the 12.5 Mhz clock pulse. The Gate Arrays control the following functions:

- Gate Array #1
 - Controls reading data from, and writing data to, the dynamic RAM
 - Provides the dynamic RAM refresh
 - Sends a 12.5 Mhz clock signal to the microprocessor. This clock pulse governs the processing and executing of commands by the CPU.
 - Gate Array #2
 - Reads/Writes data from/to the EEPROM. The EEPROM, located on the main controller board, stores the default interface protocol information.
 - Controls the printer interface (parallel, serial and AppleTalk)
 - Controls the printer unit
-

2.2.02 Main Controller Board Functions

- Reception control
- Command analysis processing
- Font processing
- Raster buffer read operation
- Engine interface (I/F) processing
- Operation panel control

Reception Control

I-PRIME: Enable/Disable of the parallel interface port can be specified through the menu.
The RS-232C serial interface baud rate, parity, and busy control protocol are selected through the menu.

The RS422 / AppleTalk interface is active only in the PostScript operating mode.

Command Analysis Processing

The OL830-Plus/850 has the following emulation modes:

- PostScript
- Laser Jet Series II: Hewlett Packard
- Diablo 630 ECS

Font Processing

Outline fonts are used with the PostScript interpreter. Bit mapped fonts are available for HPLJ-II and Diablo emulations.

Raster Buffer Read Operation

Bit images written in the raster buffer are converted to serial data. The contents of the registers are transferred to the engine controller board.

Engine Interface (I/F)

Provides a control signal which governs the operation of the engine controller board when printing is requested.

2.2.03 Optional Extended RAM Board (REXM)

The extended RAM Board (REXM) contains 2 Mbyte of RAM. This board, plus the resident RAM on the main controller board, extends the RAM capacity to 4 Mbytes. The CPU detects the extended RAM board by sending the MEMEXIST signal. The RAM capacity is identified during the power-on sequence, and can be verified by the operator by requesting a MENU PRINT operation.

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2.2.04 Font Card

An optional font card (for additional bit mapped/scalable fonts) can be attached to the main control board. The printer must be OFF-LINE (the READY lamp is off) before the card can be inserted or removed. If the font card is inserted or removed while the printer is ON- LINE (the READY lamp is on), a CARD REMOVED ON-LINE error message will appear on the operator panel display.

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2.3 PRINTER UNIT (PU)

The principal hardware components of the printer unit are listed below.

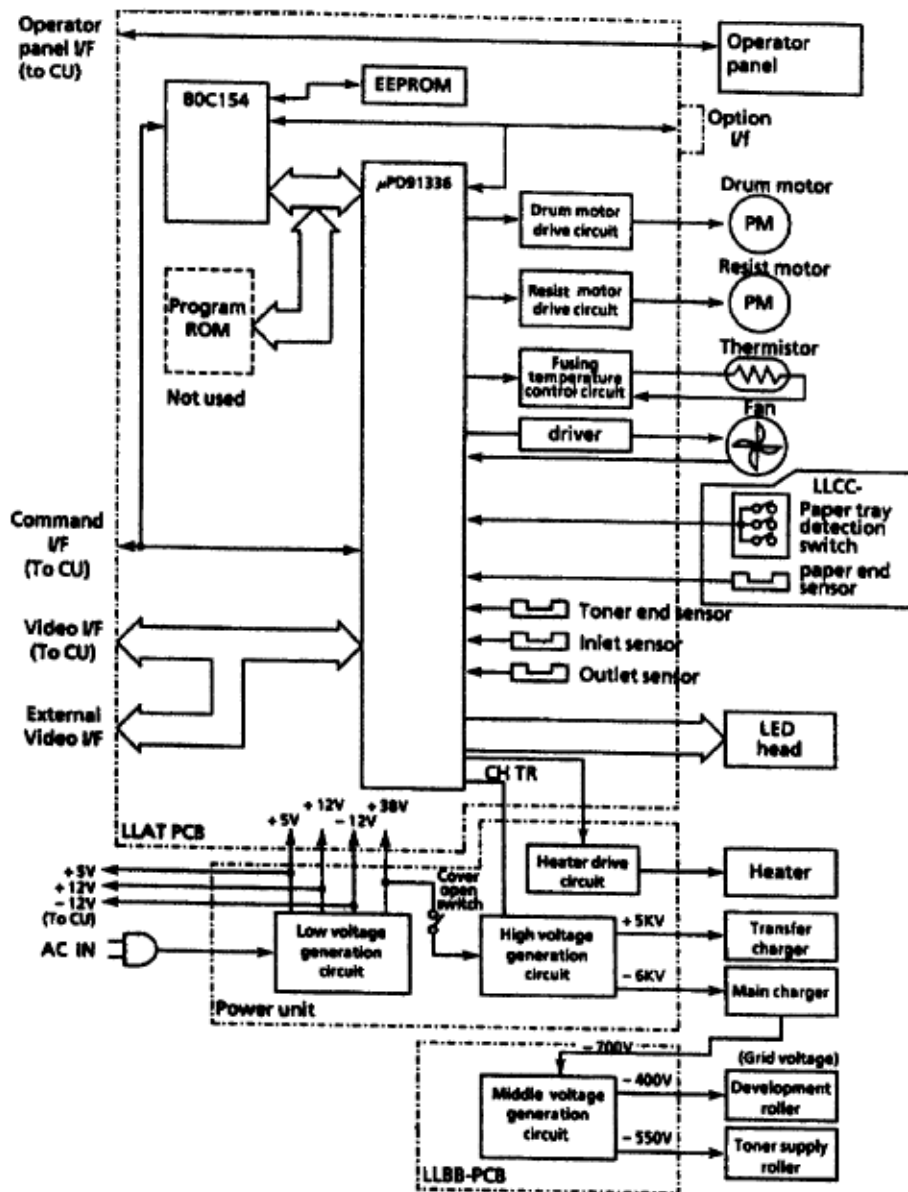
- Engine controller board
- Power supply unit
- Fuser unit
- Main motor
- LED array
- Resist motor
- DC fan
- Operation panel
- Second paper tray mechanism (Option)
- Image drum cartridge
- Sensors and Switches

Toner end sensor, inlet sensor, outlet sensor, paper out sensor, paper tray identification switch, cover open switch).

2.3.01 Engine Board Controller (LLAT)

The PUs engine controller board contains an eight bit microprocessor (which has 128 Kbyte of internal RAM, 32 I/O ports, and 5 interrupt lines). The engine controller board also contains a one Kbyte EEPROM, a 120 pin LSI (which contains 36 I/O ports), two drivers (IC5/IC8), toner end sensor, inlet sensor, outlet sensor, comparator IC7, latch IC4, four driver transistors T21-T24, and two oscillators OSC1/OSC2.

Printer Unit (PU) - Block Diagram



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2.3.02 Engine Controller Board Operations

After receiving signals and commands from the CUs main controller board, the microprocessor executes the commands. The CPU performs its operations in conjunction with OSC1, an LSI, and the program ROM. The engine controller board enables the fuser lamp and activates the preliminary print circuits. Upon the completion of the preliminary print functions, the engine controller board enables the LED array in conformance with the signals and commands received from the main controller board. The LED array illuminates, leaving a latent image on the photosensitive drum. The engine controller board also controls paper feed, paper transfer, and EP processing action.

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2.3.03 EEPROM Operation

The 128 Byte Electrically Erasable PROM (EEPROM) is loaded with the following data:

- Total number of sheets printed after installation
- Modified page count
- Total number of sheets printed with the current drum
- Total number of sheets printed with the current fuser
- Setting of time required from the completion of printing to Quiet Mode
- Feed time needed to feed the paper to a printable position
- Vertical registration
- LED array drive time.

The data stored in the EEPROM can be accessed by using SW1 on the engine controller board to place the printer in the Maintenance Mode (See Section 3 of the Service Handbook).

The count of the total number of sheets printed with the drum currently in use should be taken as a rough measure of the useful life of the drum.

Place the printer into Emulation mode. The drum counter will be set to zero by holding down the RESET switch and turning the power switch ON. This operation cannot be performed in PostScript Mode.



Service Guide OL830Plus/OL850

Chapter 2 Principles of Operation

2.3.04 Power Supply Unit

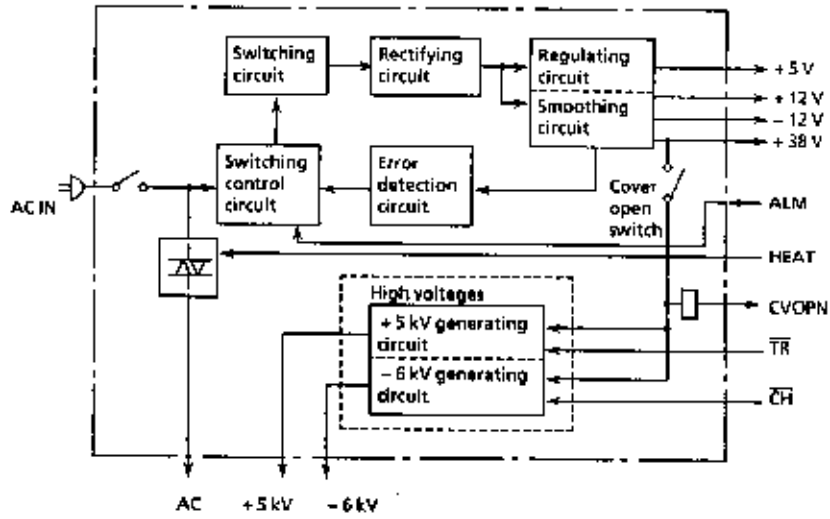
The power supply unit generates the following voltages from the AC input voltage:

Voltage	Purpose:
+5vdc	Logic Levels
+12vdc	Interface Line Voltage
-12vdc	Interface Line Voltage
+38vdc	Motor/Fan Drive Voltage: High Voltage Source
+5Kvdc	Transfer Charge Voltage
-6Kvdc	Drum Charge Voltage
-700vdc	Charge Grid Voltage
-550,-400vdc	Developer Bias Voltages

High-voltage Drive

The high-voltage circuit supplies the drum charge voltage (about -6 Kvdc) and the transfer charge voltage (about +5 Kvdc). These two charge voltages are generated by a high-voltage power supply unit, which is attached to the power supply unit. The grid is connected to ground via a varistor which maintains the grid at about -700 vdc during charging. The medium voltage circuit provides the grid voltage (about -700 vdc), and developer bias voltages (about -550 vdc and -400 vdc).

Power Supply - Block Diagram



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2.3.05 Fuser Unit

The fuser unit temperature is maintained at approximately 180 degrees Celsius by a thermistor, a comparator, an LSI, and the CPU. A thermal fuse, located within the fuser unit, prevents abnormal temperature rises should the temperature control circuits fail.

NOTE:

The CPU checks for an open circuit in the thermistor at POWER-ON, setting a fuser alarm if this error is detected.

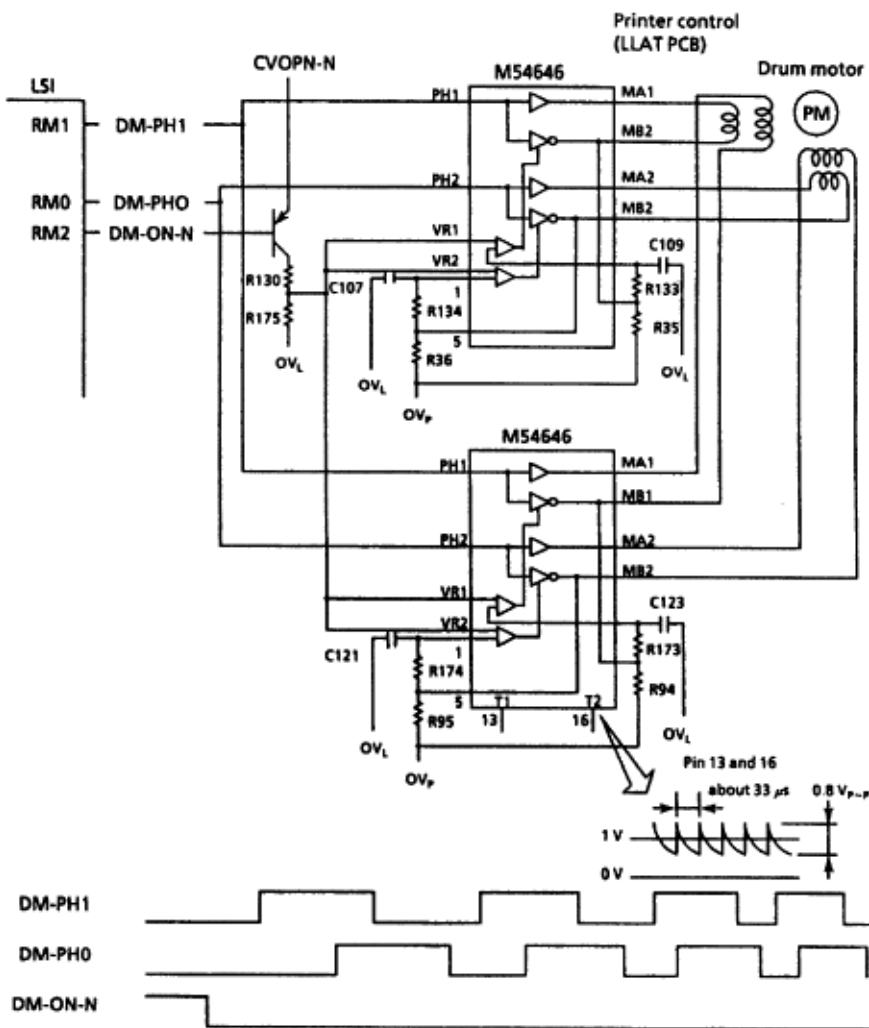
The CPU also sets a fuser alarm if the proper temperature is not attained within a specified period of time after power-on.

Upon detecting a fuser alarm, the CPU will halt (after printing the current page).

2.3.06 Main Motor (Drum Motor)

The main motor is driven by the motor drivers IC5 and IC8 (M54646). The main motor is a two-phase dc motor, driven by the DM-PH0,1 signals supplied by the LSI. T1 and T2 provide the internal switching frequency needed for proper phasing.

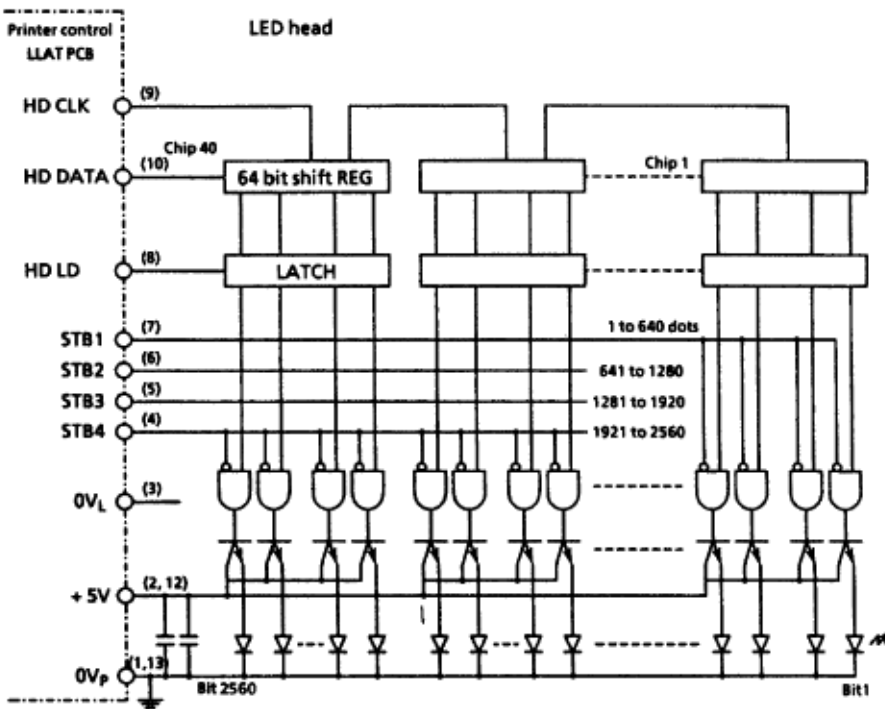
Main Motor - Diagram



2.3.07 LED Array

Data on the 2,560 LEDs is loaded into the shift register by the head clock signal (HD CLK). The data is loaded into the latch circuit by the load head signal (HD LD). The on/off states of the LEDs are controlled by the signals (STB1-STB4). The logic gates in the latch circuits determine the on/off time of the LEDs. The on/off time is a function of the HD CLK, HD LD, HD DATA signals.

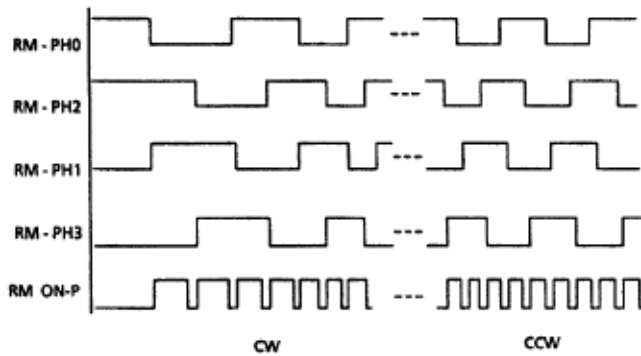
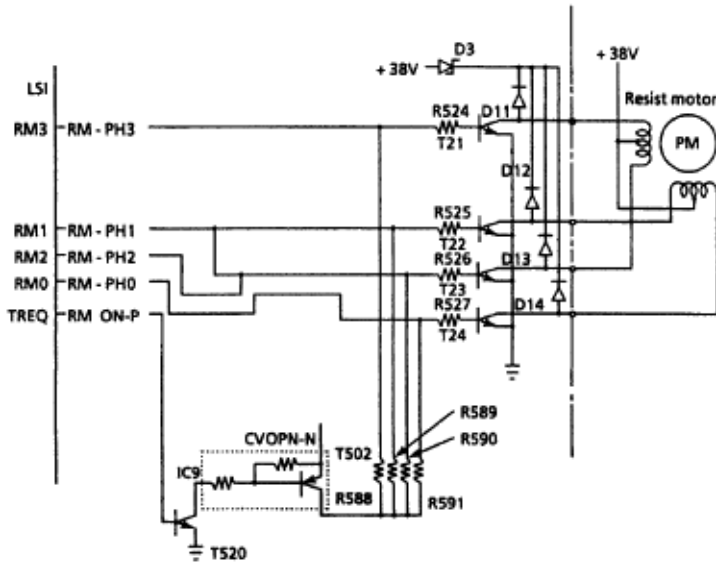
LED Array - Diagram



2.3.08 Resist Motor

The resist motor is a four-phase dc motor. It is driven clockwise (hopping), then counterclockwise (paper feed) by transistors TR-21,22,23,24.

Resist Motor - Diagram



2.3.09 DC Fan

The +38vdc fan is controlled by the FAN ON-P signal from the LSI.

NOTE:

*The fuser and the fan are not enabled when the cover is open. If the fan fails to run, the fuser will turn off and **FAN ALARM** is displayed on the operator panel. Printing will be disabled.*

*In accordance with the **TIME TO QUIET** setting of the Level 2 Menu, the fuser will maintain the proper fusing temperature for 1 or 8 minutes after the last page has been printed. If printing is not requested within the selected time frame, the fuser will turn OFF and the fan speed will be reduced 50%. Selecting **DISABLE** allows the fuser to maintain the proper fusing temperature continuously.*

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2.3.10 Operation Panel

The following components make up the operation panel:

- 4-bit MPU
- LCD control driver
- LCD display (16 characters x two lines)
- Operation panel sheet
- LEDs
- Operation buttons

The operation panel is connected to the main controller board via the engine connection board and engine controller board. The operation panel is controlled by the main controller board by the operation panel interface (I/F) signal.

The LCD control driver converts 4-bit character codes received from the main controller boards CPU into 8-bit character codes. Then the control driver retrieves the character pattern data (font) associated with the 8-bit character codes from the internal character generator (located on the operation panel board) for display on the LCD.

2.3.11 Second Paper Tray Mechanism

The optional second paper tray mechanism is controlled by the second tray driver board (LLFC). This board is attached to the left side of the second paper tray mechanism. The resist motor and paper tray detection sensors are mounted on this board.

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2.4 MECHANICAL OPERATION DESCRIPTION

2.4.01 Basic Principles - Electrostatic Printing

A - 700 vdc charge is placed on the photoconductive drum by supplying -6Kvdc from the power supply to the charge wire. The printer turns on the LED array in conformance with the data received from the CUs main controller board. Once the charged drum is exposed to this light, an electrostatic image is formed on the drum surface. This latent image is developed with toner. The toner image is then transferred and fused to the paper.

The electrostatic technology used in this printer is similar to that used in copying machines. The technology comprises the following processes.

Charging

The surface of the photoconductive drum is uniformly charged.

Exposure

The charged photoconductive drum is exposed to light, forming an electrostatic image associated with the print image on the drum.

Developing

Negatively charged toner is attracted to the latent image, making the image visible.

Transfer

The toner is attracted to positive charged paper.

Fusing

The toner image is fused to the paper using heat and pressure.

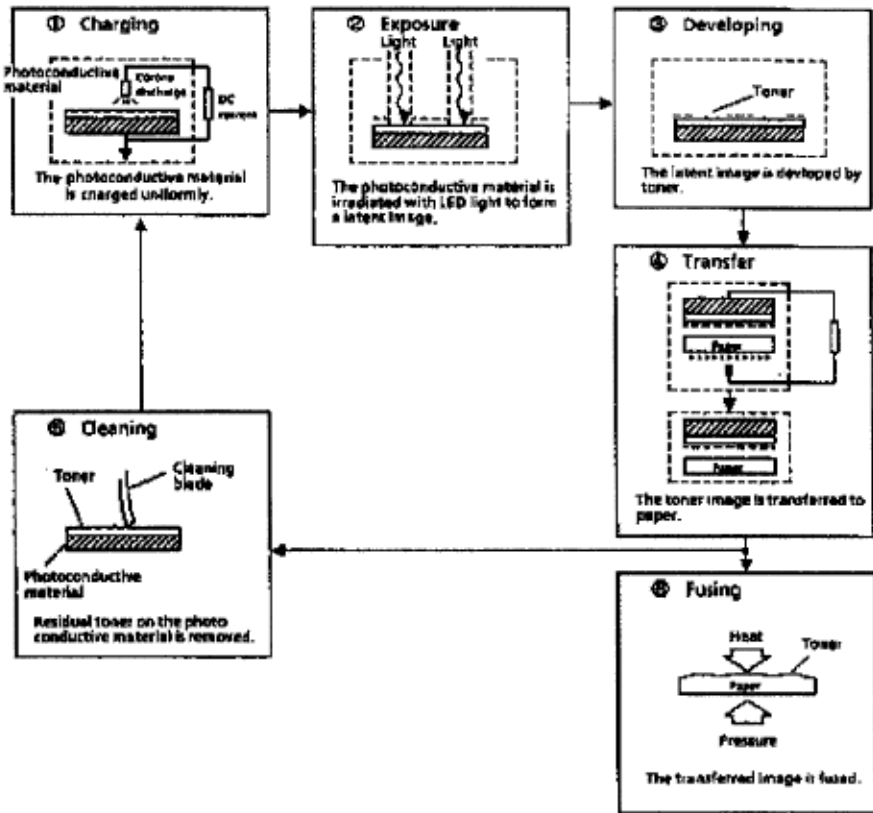
Cleaning

Residual toner is removed from the image drum surface.

Toner Recycling

Unused toner collected during cleaning is returned to the developer unit

Electrostatic Process - Diagram



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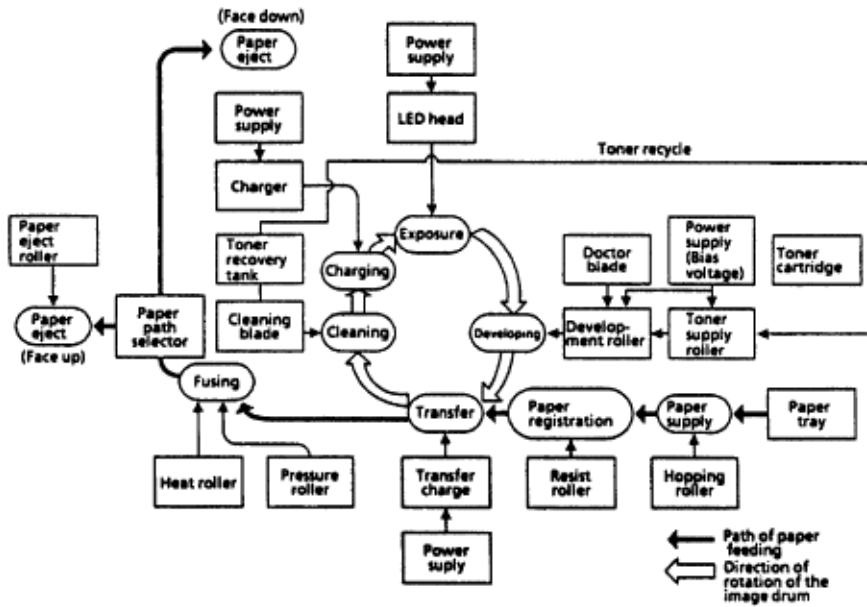
Service Guide OL830Plus/OL850

Chapter 2 Principles of Operation

2.4.02 OL830-Plus/850 Printing Process

Here is an illustration of the OL830-Plus/850s printing process. The white arrow marks designate the direction of rotation of the image drum; the black arrow marks designate the path of paper feeding.

Printing Process - Diagram



Printing Process

2.4.03 Process Descriptions

Hopping and Feeding

Hopping and feeding are accomplished by the resist motor, hopping roller, and resist rollers. Turning the resist motor in the clockwise direction drives the hopping roller. Turning the resist motor in the counter-clockwise direction drives the resist rollers.

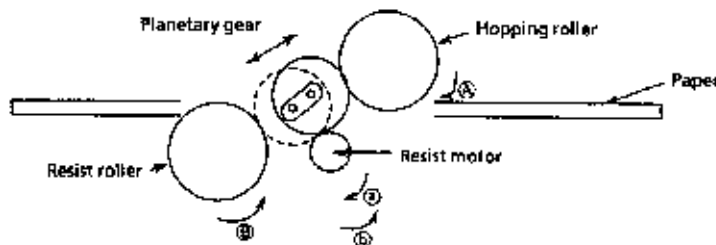
· *Hopping - loading paper from the tray*

The resist motor turns the hopping roller to advance the paper until the inlet sensor is enabled. After the paper has enabled the inlet sensor, the hopping roller continues to advance the paper a predetermined distance. The paper contacts the resist roller, which, along with the free-spinning upper metal pressure roller, removes paper skew.

· *Feeding - transporting paper through the printer*

At the end of the hopping process, the resist motor reverses direction and the resist rollers transport the paper through the printer.

Hopping and Feed - Diagram



Charging

-6 Kvdc is applied to the charge wire. This causes negative ions to be generated in the vicinity of the charge wire (corona discharge). The negative ions are discharged to the grid plate and the image drum surface. Since the drum surface is not conductive (in the dark), the negative charge (approximately -700 vdc) remains on the drum. To ensure that the drum surface is not charged with more than -700 vdc, a varistor is connected between the grid and ground. If the grid voltage exceeds -700 vdc, the varistor shunts this excess voltage to ground.

Exposure

Light emitted from the LED array strikes the image drum surface which is charged with negative ions. The areas of the drum struck by light become conductive. This causes the surface potential in these areas to drop (from -700 vdc to approximately -100 vdc). This forms a latent image on the image drum.

Developing

The toner supply roller is constructed of a porous material which absorbs toner. The toner supply roller contains a -550 vdc bias charge and the development roller contains a -400 vdc bias charge. Since the development roller charge is more positive than the toner supply roller charge, toner is transferred from the toner supply roller to the development roller.

The toner on the development roller is leveled by the doctor blade. This forms a thin coat of toner on the development roller surface.

Since the areas of the drum exposed to light are charged more positively (-100 vdc) than the toner (-400 vdc), toner is attracted to the exposed areas, making the latent image visible.

Transfer

As paper passes under the image drum surface, a positive charge (+5 Kvdc), is applied to the transfer charge wire. This causes the paper to acquire a positive charge through corona discharge. Since the papers charge (+5 Kvdc) is more positive than the toner charge (-100 vdc), the toner is transferred to the paper.

Cleaning

Upon completion of transfer, residual toner on the image drum is scraped off by the cleaning blade and collected in the toner recovery unit.

Fusing

The toner image is fused on the paper by placing it between the heat roller and the back-up (pressure) roller. The heat roller is teflon coated and contains a 400 watt quartz lamp. A thermistor regulates the temperature of the heat roller within a predetermined range (about 150 degree C). A thermostat removes the supply voltage to the heat roller in the event of an abnormal temperature rise. The back-up (pressure) roller springs produce a pressure of 6.5 pounds on the paper.

Paper Ejection

Paper is transported from the fuser unit by the back-up roller. If the face-up stacker is closed, paper is routed to the top of the printer for face-down delivery.

Toner Recycling

Toner in the toner recovery tank is moved to the toner cartridge for reuse.

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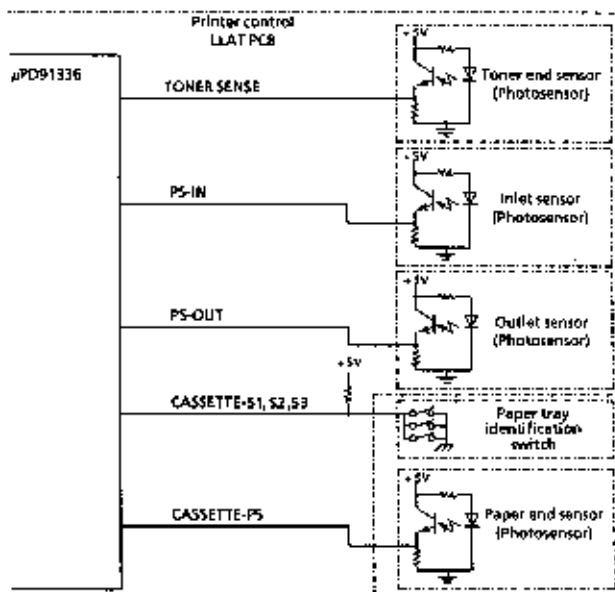
Chapter 2 Principles of Operation

2.5 SENSORS AND SWITCHES

2.5.01 Sensors and Switches

- Inlet Sensor (Photosensor)
- Outlet Sensor (Photosensor)
- Paper Tray Identification Switches
- Paper End Sensor (Photosensor)
- Cover Open Switch

Sensors and Switches - Diagram



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2.5.02 Sensor Functions

Power-On

The inlet and outlet sensors are checked for their on and off states at power on time.

- Inlet sensor on: **PAPER FEED JAM ERROR** (Paper supply jam)
- Outlet sensor on: **PAPER JAM ERROR** (Paper exit jam)

The thermistor sensor circuit detects if the temperature of the fusing unit reaches the normal temperature within the specified time. If it does not reach the normal temperature within the specified time, the thermistor sensor turns OFF the heater and generates an alarm.

Hopping

Whenever the inlet sensor fails to detect paper within a predetermined period of time after a feed command has been issued to the paper supply system (tray), the failure is counted. A hopping operation is then attempted up to three times, and if the paper still fails to feed properly, a paper feed jam error is established.

Feeding

If the leading part of the paper does not reach the outlet sensor within a predetermined period of time after the start of feeding by the resist motor, a paper jam error occurs.

Form Length Error Detection

Form length detection is not enabled for manually inserted paper or envelopes. Any form length other than those specified in Section One of the Service Handbook, will generate a form length error, which is displayed on the operator panel. To detect the form length, the processor measures the time interval between when the inlet sensor turns on until it turns off (after the start of the resist motor in the forward direction).

Outlet Jam Detection

Since paper is fed through the printer at a fixed speed, the outlet sensor must remain on for a predetermined amount of time. If the outlet sensor remains on in excess of this time, the controller assumes that an exit jam has occurred and an alarm is generated.

3.1 MAINTENANCE

3.1.01 General Information

This section lists the parts replacement, adjustment, cleaning, and lubrication procedures. Disassembly should not be performed unless absolutely necessary. **NEVER** perform disassembly on a malfunctioning unit until you have followed the failure analysis procedures in Section Four of this Service Handbook.

Follow the procedures listed in *Adjustments and Service Settings*. Adjustments may be required when either consumables or parts are replaced. Failure to perform these procedures could result in unnecessary service calls.

Cleaning procedures must be performed correctly if high print quality is to be achieved.

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3.1.02 Maintenance Tools

The following tools are required to service the unit.

- #2 Phillips Screwdriver (with magnetic tip)
 - Straight-slot Screwdriver
 - Needle Nose Pliers (4 Inch)
 - Digital Multimeter
 - Shop Vacuum (with toner filter)
 - Cloth (soft and lint-free)
 - Cotton Swabs
 - All-purpose Cleaner
 - Silicon Oil
-

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3.1.03 Maintenance Precautions

- Do **NOT** disassemble the unit if it is operating normally.
 - Before starting disassembly and assembly, always power OFF the unit and detach the power cord.
 - Detach the interface cable, if installed.
 - Do not remove parts unnecessarily. Try to keep disassembly to a minimum.
 - Use the recommended maintenance tools.
 - When disassembling, follow the listed sequence. Failure to follow the correct sequence may result in damaged parts.
 - Screws, collars and other small parts are easily lost. Temporarily attach these parts to their original positions.
 - When handling circuit boards use extreme care. Integrated circuits (microprocessors, ROM, and RAM) can be destroyed by static electricity.
 - Do not place printed circuit boards directly on conductive surfaces.
 - Follow the recommended procedures when replacing assemblies and units.
 - After replacing the drum cartridge, clear the drum counter by following the Drum Counter Reset Procedure in Section 3.3 of this Service Handbook.
 - After replacing the fusing unit, clear the fusing unit counter by following the Fuser Counter Reset Procedure in Section 3.3 of this Service Handbook.
 - After replacing the LED head, check to see if the LED Head Drive Time rating needs to be set. Use the Setting the LED Head Drive Time Procedure in Section 3.3 of this Service Handbook.
-

3.2 DISASSEMBLY/ASSEMBLY PROCEDURES

General Information

This section contains the printer disassembly procedures. Only the removal procedures are explained. Reverse the procedure for the installation.

At the bottom of each procedure is a listing of the parts covered in that procedure. The Okidata part number, item description, applicable product, comment (RSPL, Option, Consumable), and the cross-reference(s) to Appendix B are provided for each part. Items included in the Recommended Spare Parts List are indicated by the acronym RSPL. N/A appears where a part number is not available.

This Service Handbook lists the disassembly procedures for major components of the unit. Okidata does NOT recommend disassembling a unit which is operating normally. If you decide to perform disassembly during this training, Okidata recommends that you perform *only* the disassembly procedures for RSPL items. All other procedures are provided to assist you in identifying parts. It is not likely that you will perform these procedures while servicing the product.


Read all notes, cautions, and warnings. They contain important information regarding assembly/disassembly.

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3.2.01 Preliminary Items

- Turn the power switch (1) OFF.
- Detach the AC power cord (2) from printer.
- Detach the interface cable (3).
- Remove the font card (4), if installed.
- Remove the paper tray (5).
- Press the OPEN switch (6) and raise the stacker cover (7).
- Push the lock levers (8) toward the rear of the printer and open the LED holder (9).
- Lift and remove the image drum cartridge (10). To protect the image drum cartridge, place it back in the styrofoam shipping package.

NOTES:

The image drum counter should be reset when a new image drum is installed. [Refer to Section 3.3 of this Service Handbook for details](#) 

See Appendix B for paper tray and font card part numbers.

The image drum and the toner cartridge are available in the consumables kits listed below.

[P/N 56106601 Image Drum Kit Consumable Both B.2.13](#) 

Includes an Image Drum and Ozone Filter

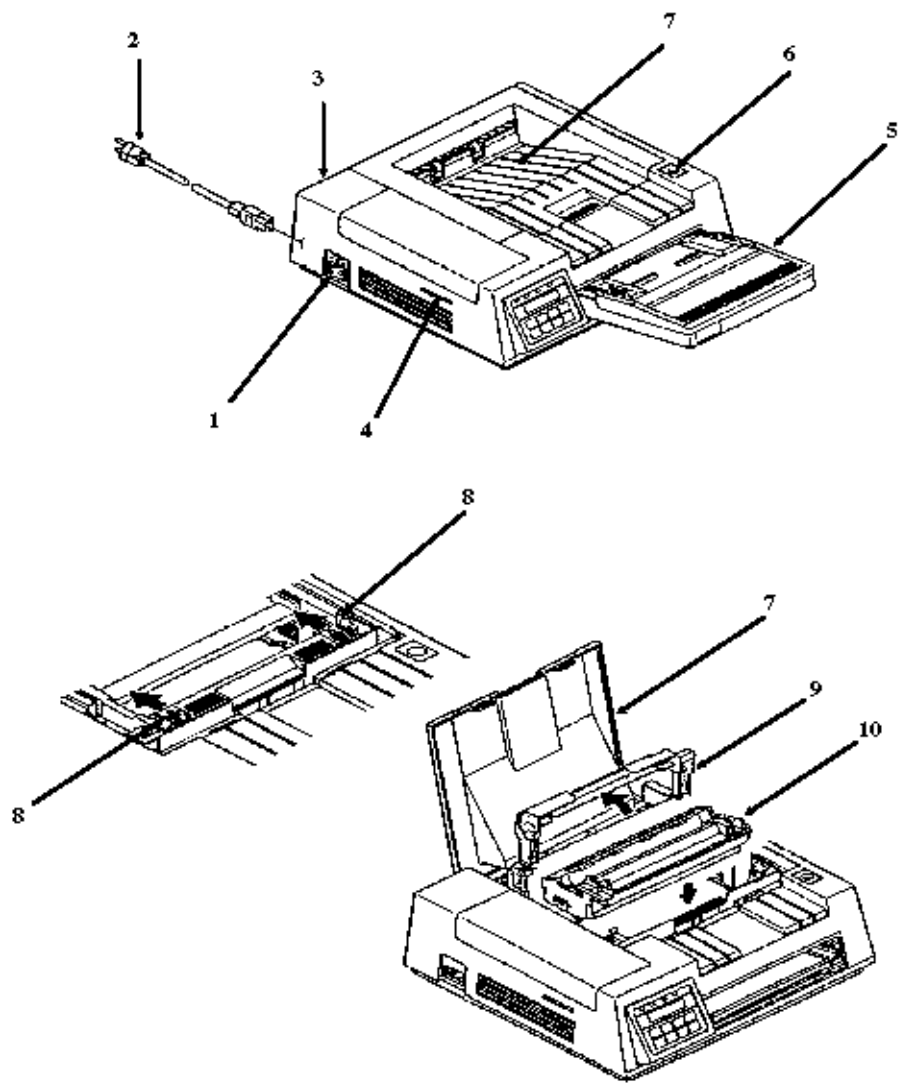
[P/N 52104201 Toner Cartridge Kit Consumable Both B.2.13](#) 

Includes a Toner Cartridge, a Fuser Cleaner Pad, and an LED Lens Cleaner Pad

[Refer to B.2.14 Paper Trays Option Both B.2.14](#) 

[P/N 56609701 Cord: AC \(120V\) RSPL Both B.2.01](#) 

[Refer to B.2.14 Font Cards Option Both B.2.14](#) 



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3.2.02 Upper Cover

Perform this procedure: 3.2.01 

- Grasp the operator panel assembly (1) at its bottom and detach it.
- Pull on the locking collar and then detach the connecting cable (2) from connector J1 (3) of the operator panel board (4).

NOTE: *When assembling the operator panel PCB, you must install the connecting cable with the blue strip to the left.*

- Press the OPEN switch (5) and raise the stacker cover (6).
- Remove the access cover (7).
- Remove the two screws (8) and lift the front side of the upper cover (9).
- Pivot the upper cover towards the rear and remove the upper cover.
- Remove the stacker cover and two reset springs (10).
- Remove the face-up stacker assembly (11).
- The lower unit (12) contains the boards, shields, paper feed mechanism, transfer charger assembly and rollers.

Installation

- Open the stacker cover.
- Align the square slots of the upper cover with the claws of the lower cover. The claws are located on the back of the lower cover, at the left and right sides.
- Lower the upper cover into position.

CAUTION: *If the cover is not installed properly, paper jams will result.*

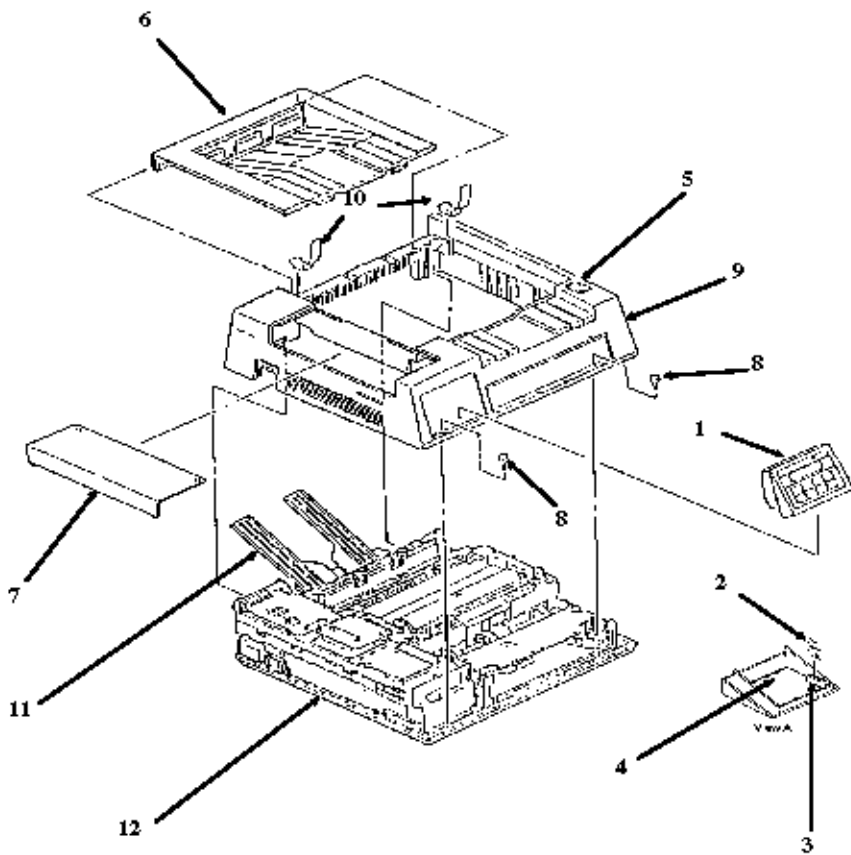
P/N 50066601 Stacker: Face-up Assembly RSPL Both B.2.01 

P/N 50213509 Panel: Operator Assembly RSPL Both B.2.01 

P/N 50213602 Unit: Lower RSPL Both B.2.01 

P/N 53338206 Cover: Upper Assembly RSPL 830+ B.2.01  (w/830+ Logo)

P/N 53338208 Cover: Upper Assembly RSPL 850 B.2.01 (w/850 Logo)



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3.2.03 Stacker Open Switch Assembly

· Perform these procedures: [3.2.01](#) , [3.2.02](#) 

- Turn the upper cover over and detach the spring (1).
- Work the pins of the shaft (2) from the arms of the upper cover and remove the shaft.
- Release the two claws and remove the metal plate and cover open switch (3).

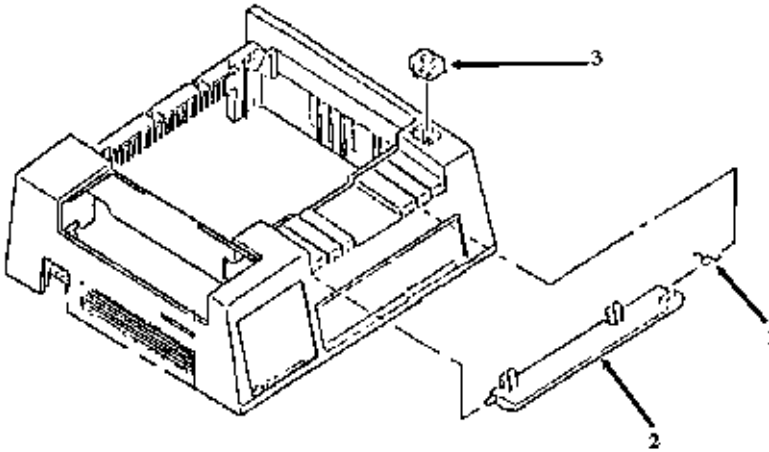
NOTE:

The claws and metal plate are not shown.

P/N 50917901 Spring Both B.2.01 

P/N 51111301 Shaft Both B.2.01 

P/N 53527401 Button Both B.2.01 



3.2.04 LED Head

Perform this procedure: 3.2.01

- Push the two blue lock levers (1) toward the rear of the printer and open the LED holder (2).
- Squeeze the LED head (3) and the LED holder together. This eases the tension on the springs (4).
- Use a screwdriver to remove the two clamps (5) on either side of the LED head.
- Remove the LED head.
- Remove the springs.

NOTES:

Avoid touching the LED array when squeezing the LED head.

Always clean the LED array with the LED lens cleaner provided in the toner cartridge kit.

LED Head Replacement

When you replace one LED head with another, the LED head drive time may need to be reset.

Refer to Section 3.3 of this Service Handbook for further information 

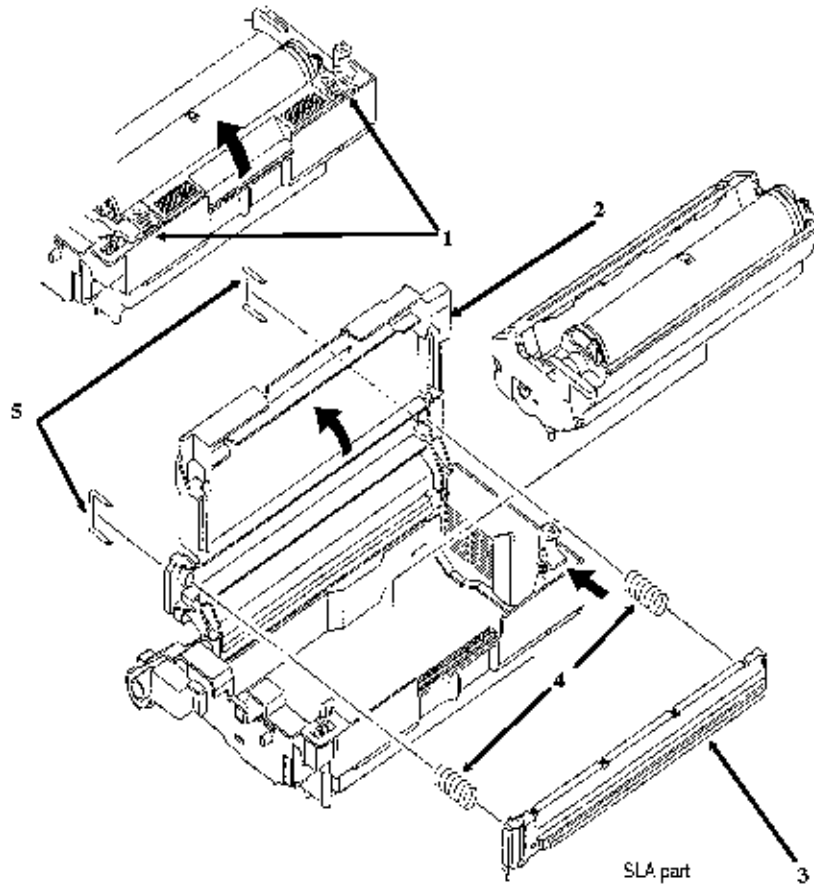
P/N 50914101 Spring: Bias (LED Head) RSPL Both B.2.05 

P/N 50914301 Spring: Clamp (LED) RSPL Both B.2.05 

P/N 55622301 Unit: LED Head (300 DPI OST) RSPL Both B.2.05 

P/N 52104201 Toner Cartridge Kit Consumable Both B.2.13 

Includes a Toner Cartridge, a Fuser Cleaner Pad, and an LED Lens Cleaner Pad



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3.2.05 RS232 Interface Board (APSR)

NOTE:

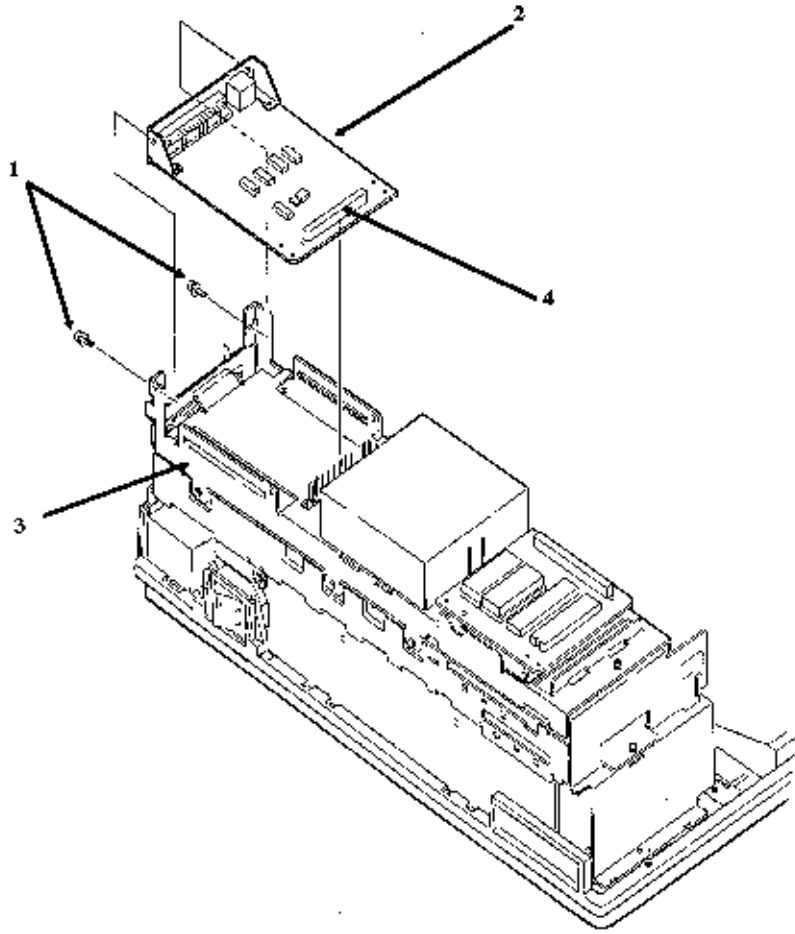
The RS232 Interface Board (APSR) is standard in the OL850. It is an option for the OL830-Plus.

Perform these procedures: 3.2.01 , 3.2.02 

- Remove the two mounting screws (1).
- Unlock the interface board (2) from shield plate B (3).
- Disconnect the connector (4).
- Lift and remove the interface board.

**P/N 55058001 PCB: APSR Serial I/F Option- 830+ Both B.2.08 .
RS-232C / AppleTalk RSPL - 850 B.2.14 **

P/N 70018701 Expansion Kit Option 830+ B.2.14  Serial Interface/AppleTalk



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3.2.06 RAM Expansion Circuit Board (REXM) Option

NOTE:

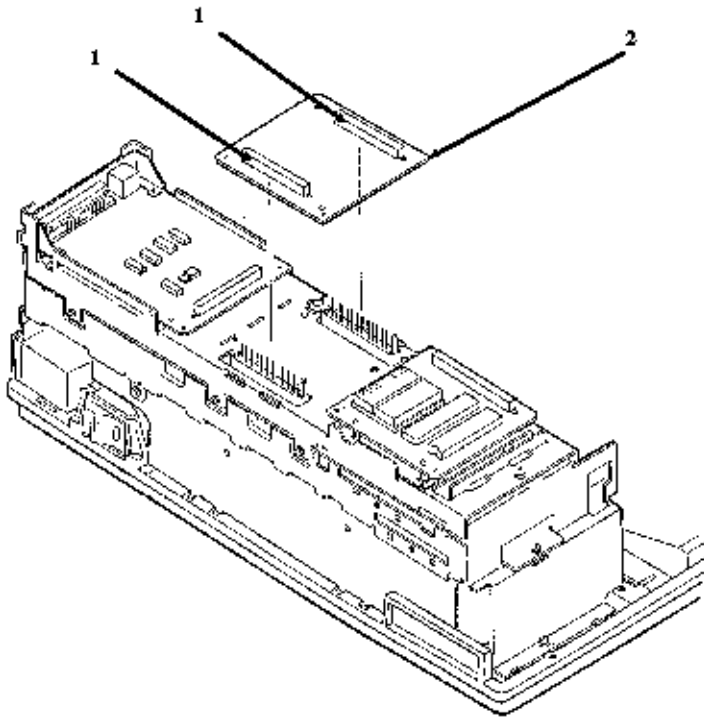
Refer to Section Four of this Service Handbook and the Users Documentation for changing menu settings when the memory expansion board is installed.

Perform this procedure: 3.2.01 

- Press the OPEN switch and raise the stacker cover.
- Remove the access cover.
- Disengage the connectors (1).
- Remove the memory board (2).

P/N 55051601 PCB: REXM 2 MB RSPL Option Both B.2.08  **RAM 2MB Memory Board (REXM) B.2.14** 

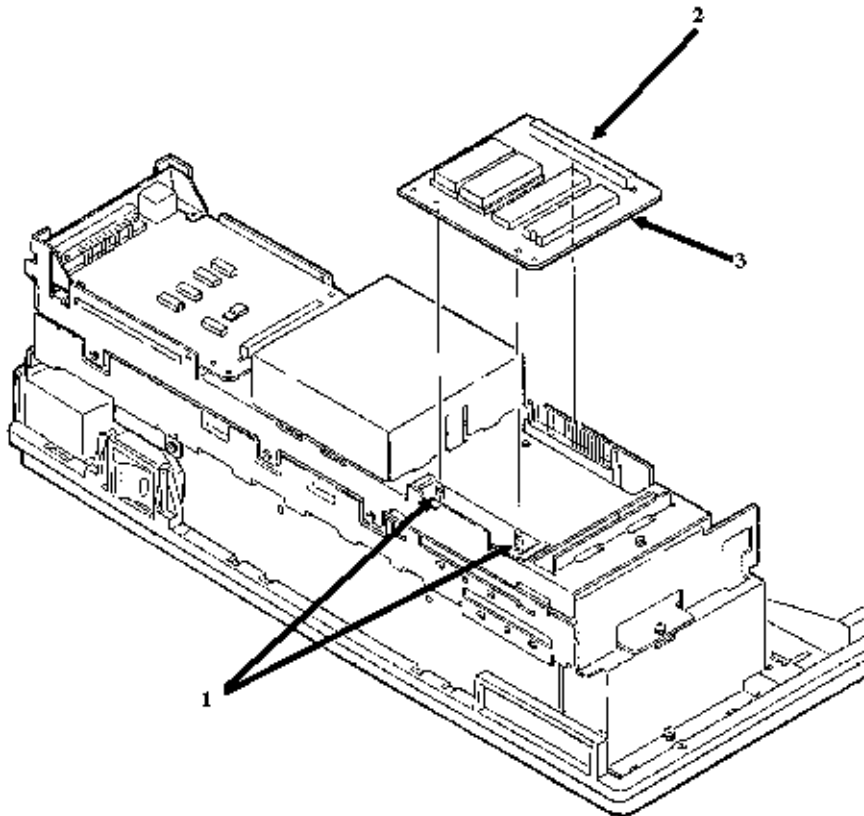
P/N 70016501 Memory Expansion Kit Option Both B.2.14 



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3.2.07 Emulation Board (APSH)**· Perform this procedure: 3.2.01**

- Press the OPEN switch and raise the stacker cover.
- Remove the access cover.
- Unlock the two circuit board supports (1).
- Disengage the connector (2).
- Remove the emulation board (3).

P/N 55058101 PCB: APSH Emulation RSPL Both B.2.08 w/o ROM

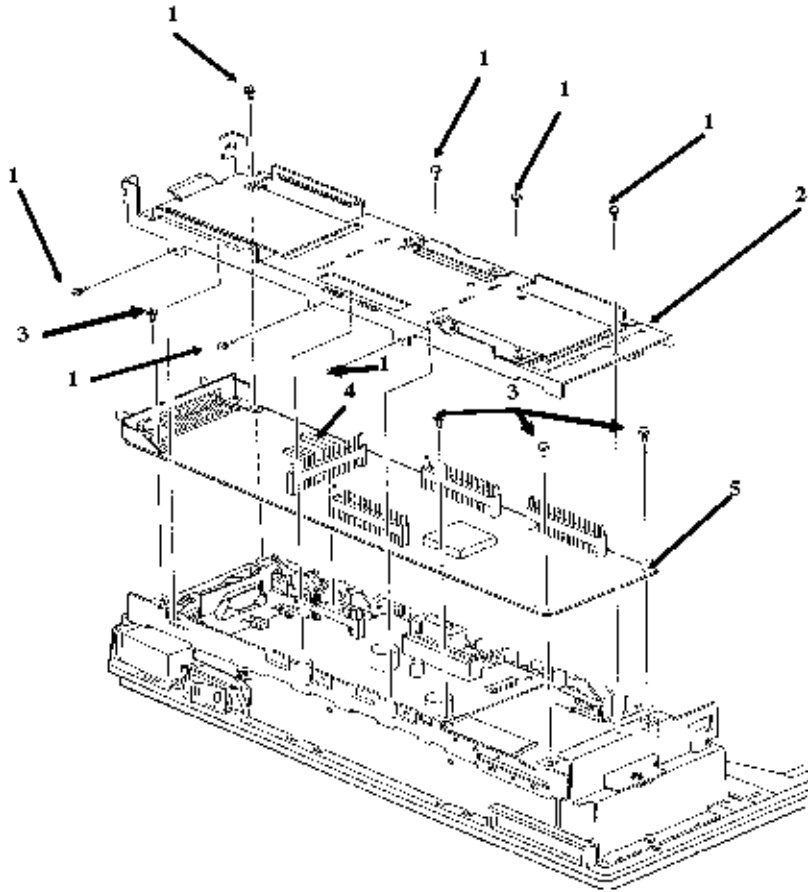
3.2.08 Main Controller Board (APSM)

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07
- Raise the upper unit.
- Remove the seven screws (1).
- Remove shield B (2).
- Remove the four screws (3).
- Disconnect the connector (4).
- Remove the main controller circuit board (5).

P/N 51008201 Plate: Shield B (OST) RSPL Both B.2.08 

P/N 55057902 PCB: APSM-4 Spare RSPL Both B.2.08  **w/o ROM Main Controller**

P/N 55934001 IC: CU EEPROM RSPL Both B.2.08  **X24CO4P-NW**



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Service Guide OL830Plus/OL850

Chapter 3 Maintenance & Disassembly

3.2.09 Engine Controller Board (LLAT)

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08 (sections of this chapter)
- Disconnect the cables from the connectors J1 - DC fan (1), J2 - fuser thermistor (2), and J5 - paper supply unit (3).
- Open the LED holder to allow access to the engine board mounting screw (4) and remove the mounting screw.
- Close the LED holder and raise the upper unit.
- Remove the three remaining mounting screws (5).
- Lift the engine controller board (6) to disconnect it from the interconnect board (7).

CAUTION:

Be careful not to lose the nylon spacer (8) located between the shield frame and the engine controller board. When installing the engine controller board, be sure that the spacer is in place or the engine controller board will short against the shield frame.

- On the engine controller board, press the pawls (9) to unlock and remove the print board cover (10).

Board Replacement

- Remove EEPROM (IC2) (11). The program ROM is masked to the CPU.
- Install the EEPROM on the new board.

Board Installation

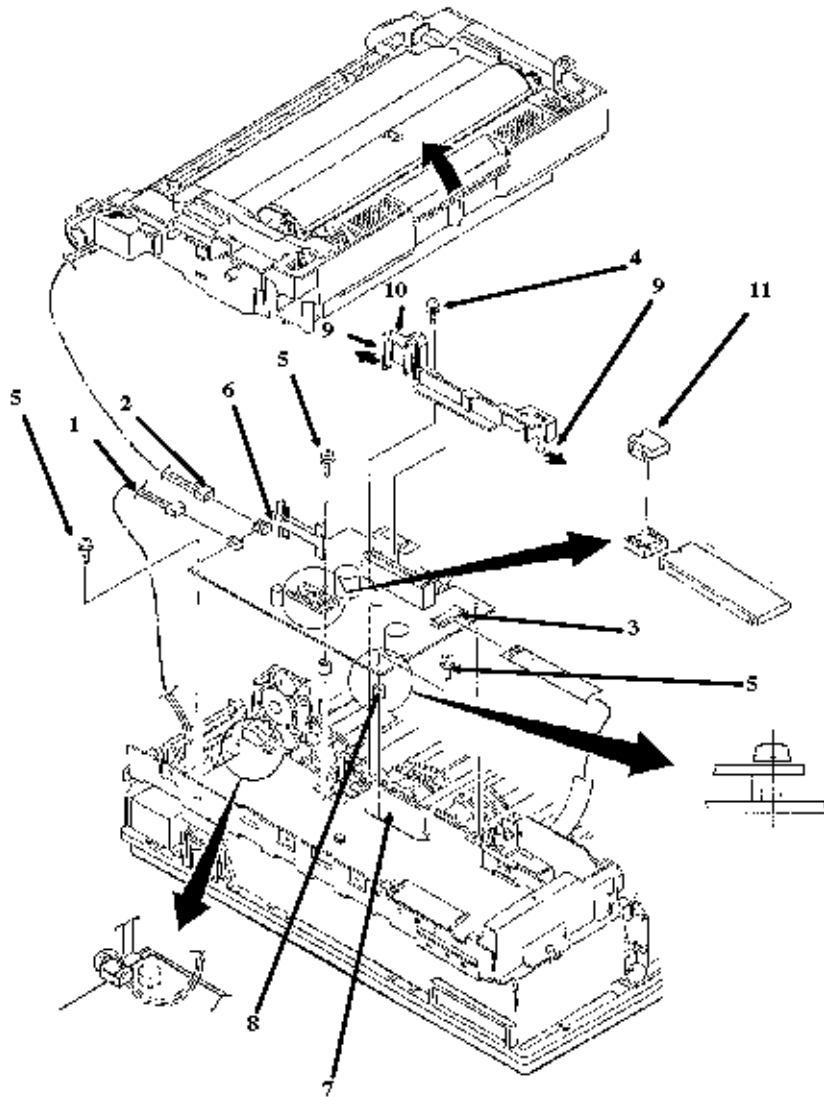
- Route the thermistor cable to J2 so it does not obstruct the outlet sensor.
- Connect the paper supply unit cable to the engine controller circuit board via the groove in the shield plate.

[P/N 50516201 Spacer: Board RSPL Both B.2.08](#)

[P/N 53528401 Board Cover Both B.2.08](#) 

[P/N 55067502 PCB: LLAT-8 Eng Cont RSPL Both B.2.08](#)  **[\(OST\) OL830+ /850](#)**

[P/N 55938201 IC: ENG EEPROM RSPL Both B.2.08](#)  **[BR93LC46A](#)**



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3.2.10 Pulse Motor (Main)

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09
- Remove the three mounting screws (1).
- Remove shield plate A (2), which has shield plate C (3) attached.
- Remove the screw (4).
- Remove the shield plate C.
- Remove the interconnect board (5). (Only the location of the board is shown)
- Remove the two high voltage wires from the motor cover. (Not shown)
- Working from the bottom of the printer, remove the motor cover (6) by releasing the two black claws (7).
- Remove the motor cover.
- Shift the main motor assembly (8) to the left and detach it from the posts of the lower unit .
- Remove the main motor assembly.
- Remove the two screws (9).
- Remove the main motor from the motor bracket (10).

P/N 51008101 Plate: Shield A Assembly (OST) RSPL Both B.2.08 

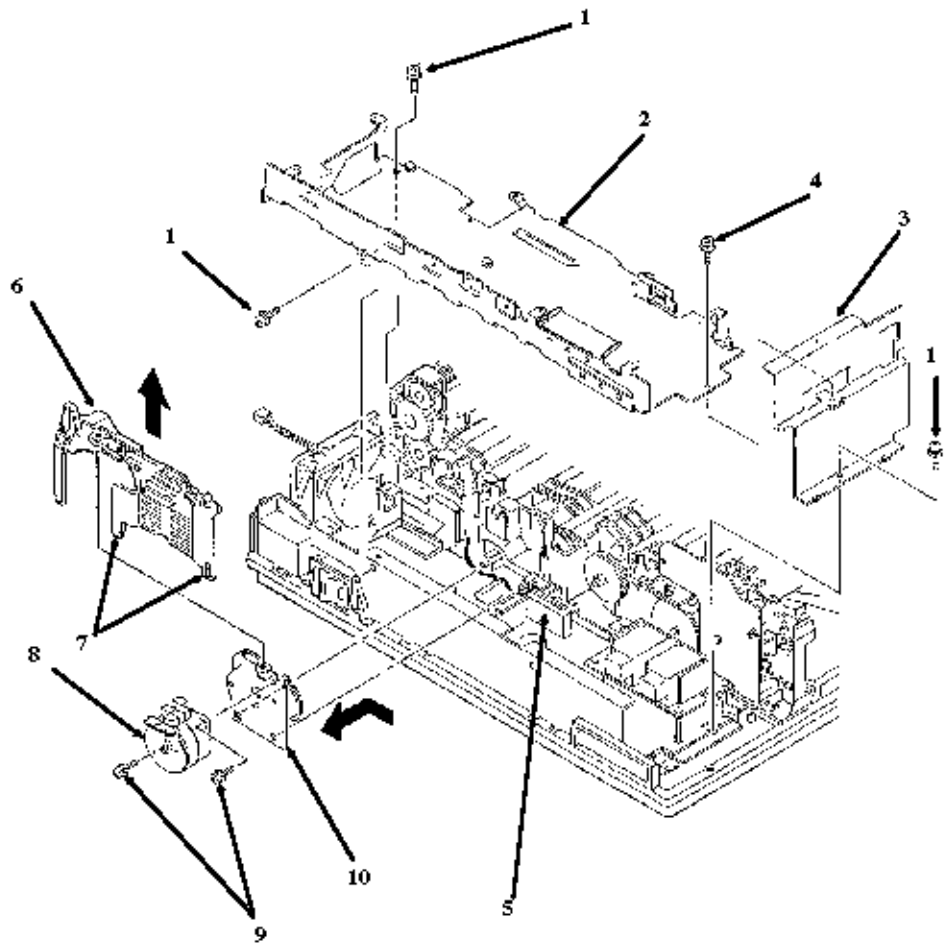
P/N 51008301 Plate: Shield C (OST) RSPL Both B.2.08 

P/N 53329301 Motor Cover Both B.2.07 

P/N 53329301 Motor Bracket Both B.2.07 

P/N 55046002 PCB: LLID RSPL Both B.2.08  (PR - POW Connection)

P/N 56507701 Motor: Pulse (Main) RSPL Both B.2.07 



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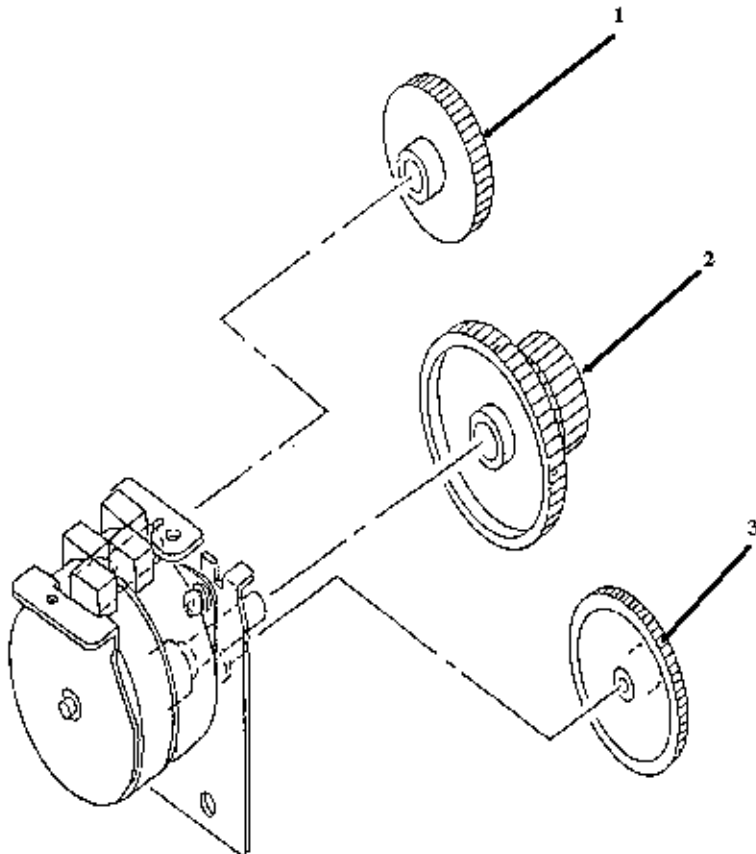
3.2.11 Idle Gear A, Idle Gear B, and Speed Reduction Gear

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10 (sections in this chapter)
- Remove the idle gear B (1). This is the white gear with large teeth.
- Remove the deceleration gear (2). This is the black double gear.
- Remove idle gear A (3). This is the white gear with small teeth.

P/N 51218501 Gear: Idle "B" RSPL Both B.2.07 

P/N 51218701 Gear: Speed Reduction RSPL Both B.2.07 

P/N 51225701 Gear: Idle "A" RSPL Both B.2.07 

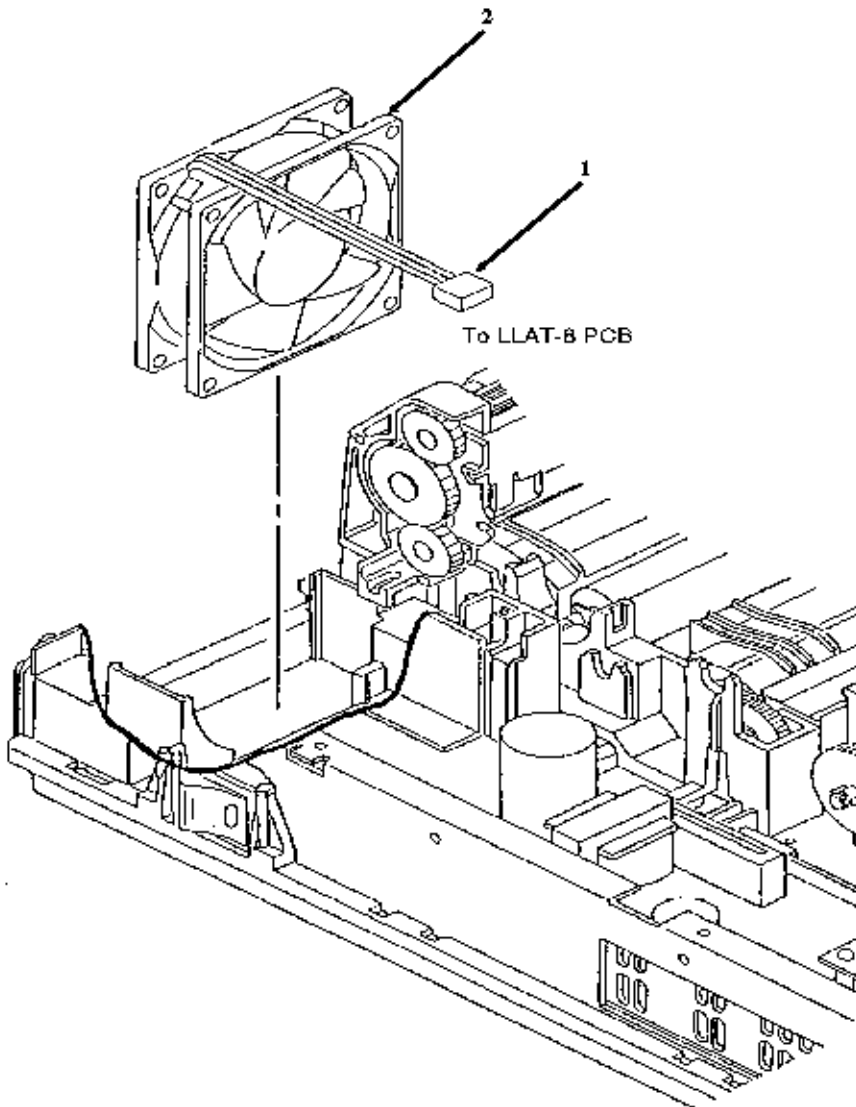


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3.2.12 DC Fan Assembly

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09 (sections in this chapter)
- Disconnect the cable (1).
- Remove the DC fan assembly (2).

P/N 56508501 Fan: DC (Assembly) RSPL Both B.2.06 



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3.2.13 Power Supply Unit

· Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12 (sections in this chapter).

· Disconnect the two high-voltage cables (1).

NOTE:

When installing, the cables are keyed for correct placement. The larger connector is to the front of the printer.

· Remove the screw (2) and detach the ground cable (3). [Only for 220/240 volt]

· Remove the three screws (4).

· Raise the upper unit .

· Use needle nose pliers to remove the left torsion spring (5).

· Lift the power supply unit (6) until it comes off the front guide (7) of the lower unit (8).

· Slide the power supply unit towards the front to detach it from the rear claws (9) for removal.

· Remove the AC cover (10) and AC contact plate (11). These items are located in the base frame.

You must remove the power supply unit to access these items. However, you do not have to remove these items to remove the power supply unit.

CAUTION

Installation

If the power supply is not seated under the rear claws, the unit will not initialize.

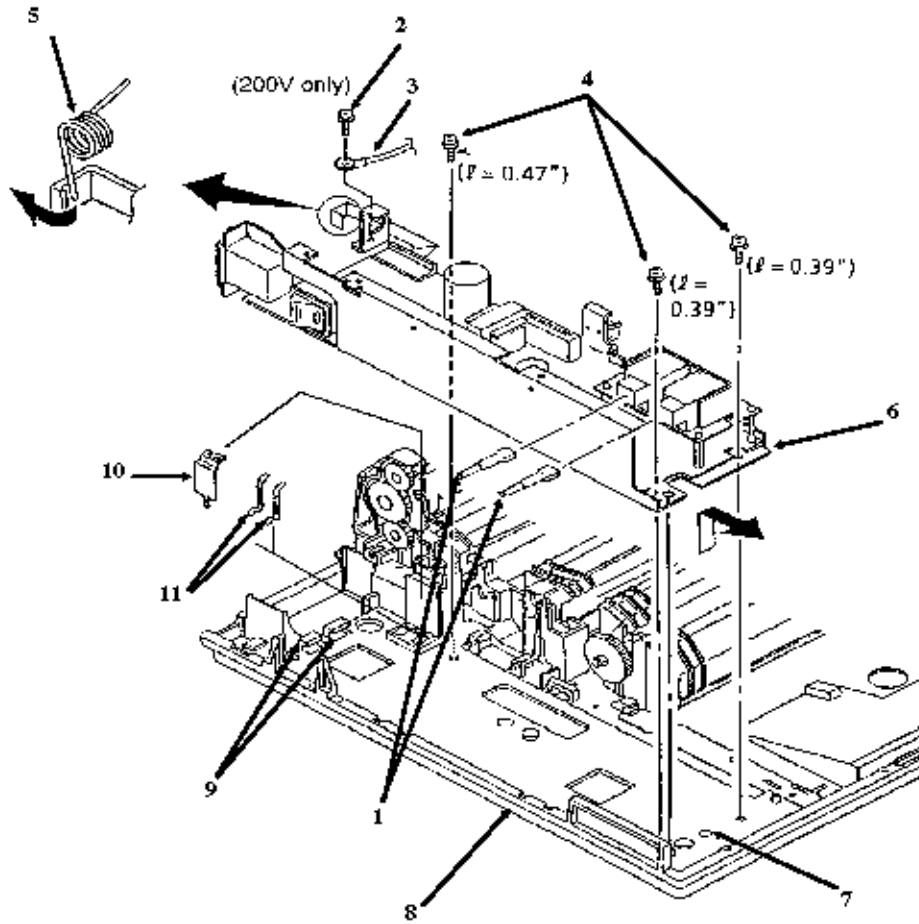
P/N 50918101 Torsion Spring (Left) Both B.2.03 

P/N 53057901 AC Contact Plate Both B.2.08 

P/N 53502301 AC Cover Both B.2.08 

P/N 56408708 Power Supply (220/240V) RSPL Option Both B.2.08 B.2.14 

P/N 56408710 Power Supply (120V) RSPL Both B.2.08 

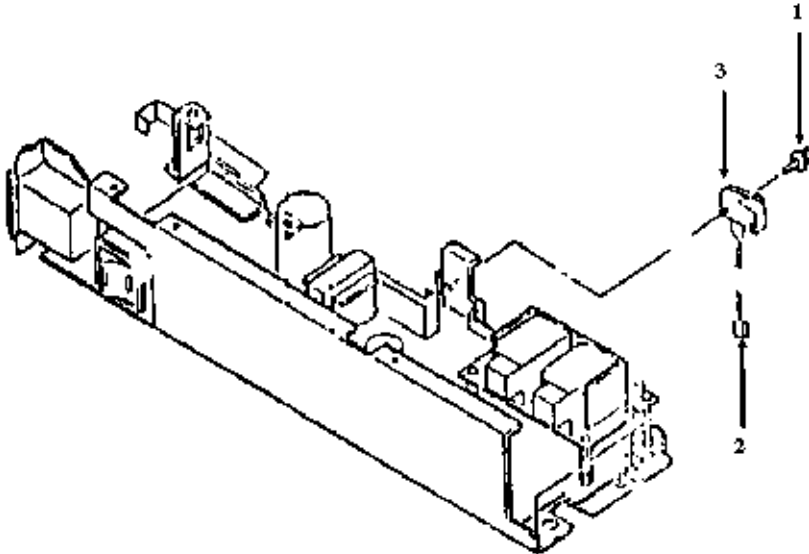


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3.2.14 Cover Open Microswitch Assembly

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09 (sections in this chapter).
- Remove the screw (1).
- Detach the connector (2).
- Remove the microswitch assembly (3).

P/N 55050721 Microswitch Assembly Both B.2.08  (AC 120 V)



3.2.15 Paper Eject Roller Assembly

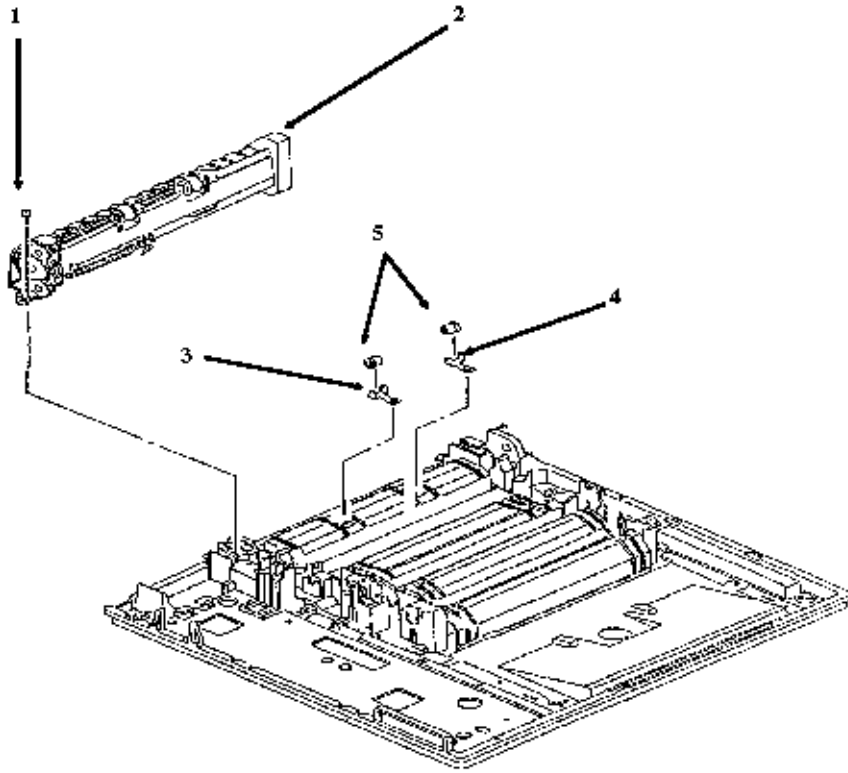
- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12 (sections in this chapter).
- Place the face-up stacker assembly, located at the rear of the printer, down.
- Press the lock lever and raise the upper unit.
- Remove the mounting screw (1).
- Remove the ground cable at the power supply (Not shown - 220/240 volt only).
- Slightly lift the paper eject roller assembly (2) at its left end and slide the left end backward using the right end as a pivot.
- Remove the paper eject roller assembly.
- Separate the left (3) and right (4) springs and remove the bias rollers (5).

P/N N/A Paper Eject Roller Assembly Both B.2.09 

P/N 50918401 Bias Spring (Left) Both B.2.06 

P/N 50918501 Bias Spring (Right) Both B.2.06 

P/N 53334601 Bias Roller Both B.2.06 



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3.2.16 Paper Eject Sensor Lever and Rollers

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12, 3.2.15 (sections in this chapter).
- Turn the paper eject roller assembly over and remove the paper eject sensor lever (1).
- Remove the E-ring (2) and remove the paper eject idle gear (3) from the sheet guide (4).
- Remove the face-up paper eject roller shaft (5) with paper eject rollers (6).
- Remove the paper eject roller shaft (7) with face-up paper eject rollers (8).
- Detach the sheet separator (9).

NOTE:

The face-up paper eject roller shaft and the paper eject roller shaft are the same roller and have the same part number.

P/N N/A Sheet Separator Both B.2.09 

P/N 50705301 E-Ring Both B.2.09 

P/N 51005201 Sheet Guide Both B.2.09 

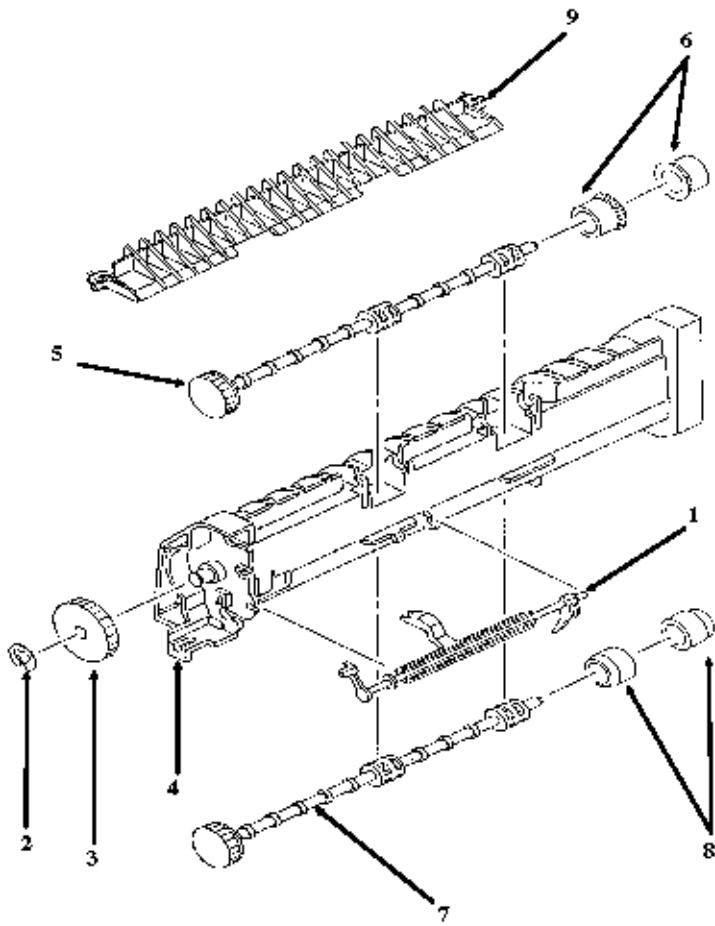
P/N 51111401 Paper Eject Roller Shaft Both B.2.09 

P/N 51222801 Idle Gear (Paper Eject) Both B.2.09 

P/N 53334401 Paper Eject Roller Both B.2.09 

P/N 53334501 Paper Eject Roller (Face-up) Both B.2.09 

P/N 53528101 Sensor Lever (Paper Eject) Both B.2.09 



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3.2.17 Upper Unit

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12, 3.2.15 (sections in this chapter)
- Use needle nose pliers to remove the left torsion spring (1).
- Use needle nose pliers to remove the right torsion spring (2).
- Loosen the two mounting screws (3).
- Lift the upper unit (4).
- Slide the upper unit to the right and work it free of the right slot to remove it.

CAUTION:

Be careful not to drop the fulcrum block (5) and the idle gear (6) when removing the upper unit.

P/N 50213706 Unit: Upper (120V)(OST) RSPL Both B.2.01 

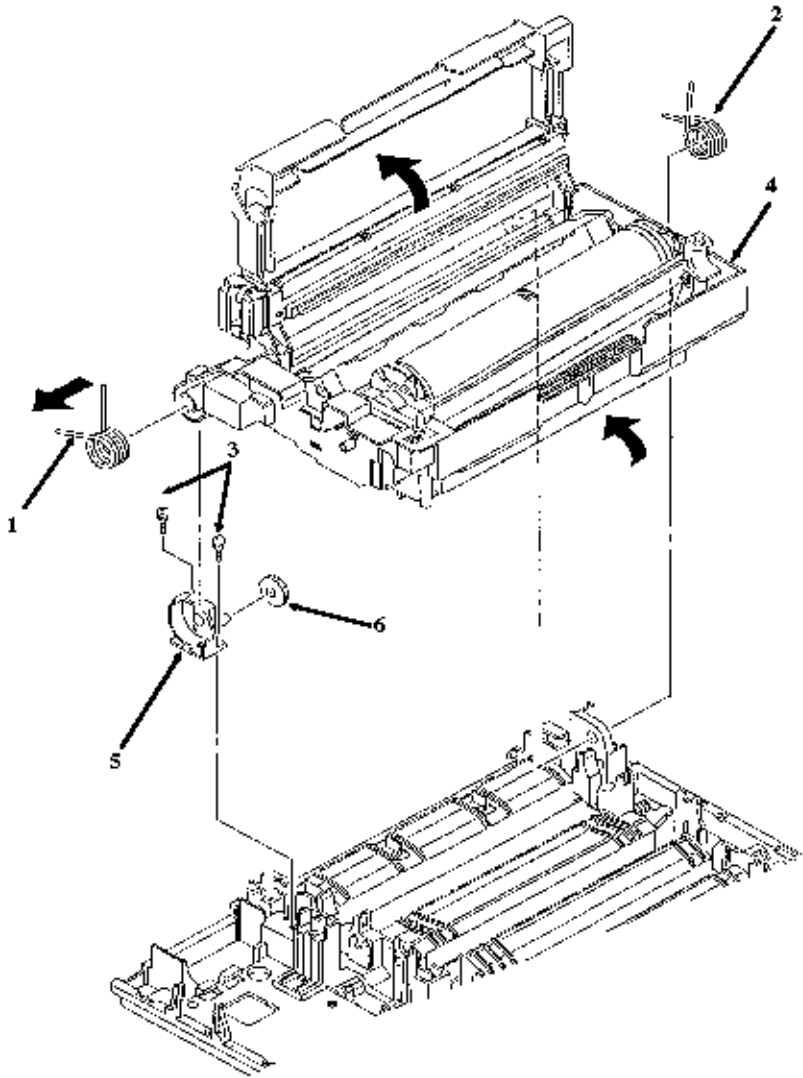
P/N 50213707 Unit: Upper (220/240V)(OST) RSPL Option Both B.2.01  **B.2.14** 

P/N 50918101 Torsion Spring (Left) Both B.2.03 

P/N 50918201 Torsion Spring (Right) Both B.2.03 

P/N 51005001 Fulcrum Block Both B.2.03 

P/N 51218501 Gear: Idle "B" RSPL Both B.2.03 

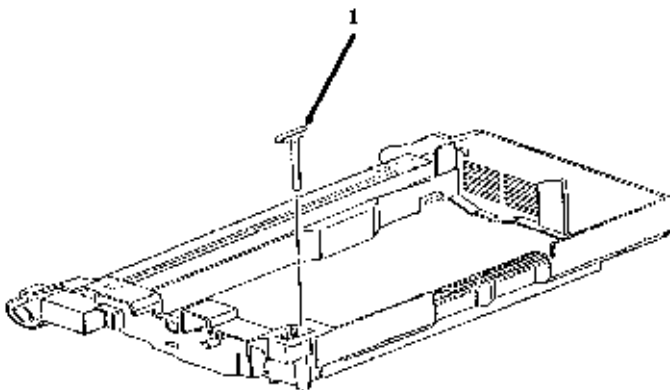


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3.2.18 Cover Open Switch Actuator

- Perform this procedure: 3.2.01 (this section in this chapter).
- Press the OPEN switch and raise the stacker cover.
- Push the lock lever back and raise the upper unit.
- Using a small screwdriver, push the actuator (1) from the bottom until it is released from the upper unit.
- Remove the actuator.

P/N 50312501 Actuator Both B.2.03 

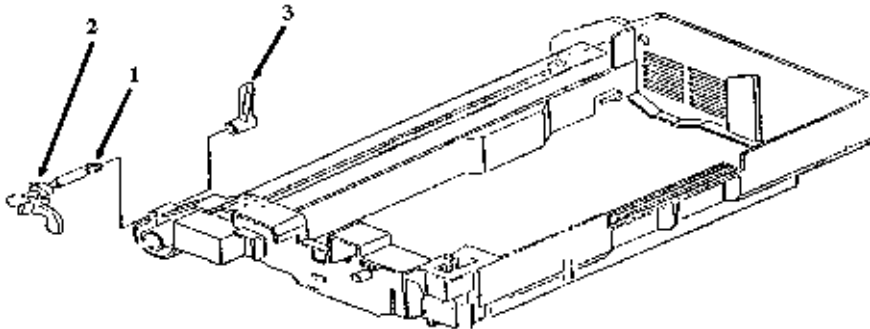


3.2.19 Paper Eject Sensor Levers B and C

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12, 3.2.15, 3.2.17 (sections found in this chapter).
- Use needle nose pliers to squeeze the claws (1) of the eject sensor "B" lever (2) to disengage it from the eject sensor "C" lever (3).
- Remove both levers.

[P/N 53527801 Paper Eject Sensor Lever B Both B.2.03](#) 

[P/N 53527901 Paper Eject Sensor Lever C Both B.2.03](#) 



3.2.20 Fusing Unit

WARNING:

Allow the printer to cool before servicing the fusing unit.

[Perform these procedures: 3.2.01](#) , **[3.2.02](#)** , **[3.2.05](#)** , **[3.2.06](#)** , **[3.2.07](#)** , **[3.2.08](#)** , **[3.2.09](#)** , **[3.2.10](#)** , **[3.2.12](#)** , **[3.2.15](#)** , **[3.2.17](#)** 


- Remove fuser cleaner pad (1).
- Detach the cable (2) from the cable guide (3) of the upper unit.
- Pass the connector (4) through the slot in the upper unit and work the cable from the upper unit guides.
- Position the upper unit, its underside is facing you, with the fusing unit (5) at the top.
- Squeeze the fusing unit against the upper unit until the two lock plates protrude from their slots. (Not shown)
- Slide the fusing unit to the right until the lock plates disengage from the grooves of the upper unit. (Not shown)
- Remove the fusing unit, being careful not to lose the springs (6).

Installation

The four separator claws must move freely within their grooves or paper jams will result. Carefully position the fusing springs. At the grounding point, the latch plate will be positioned through the spring.


Be careful not to pinch the thermistor cable as you install the fusing unit. Be sure that the cable is placed in the notch.

Make sure that the fuser temperature cable is behind the heat shield and out of the path of the fuser cleaner pad.

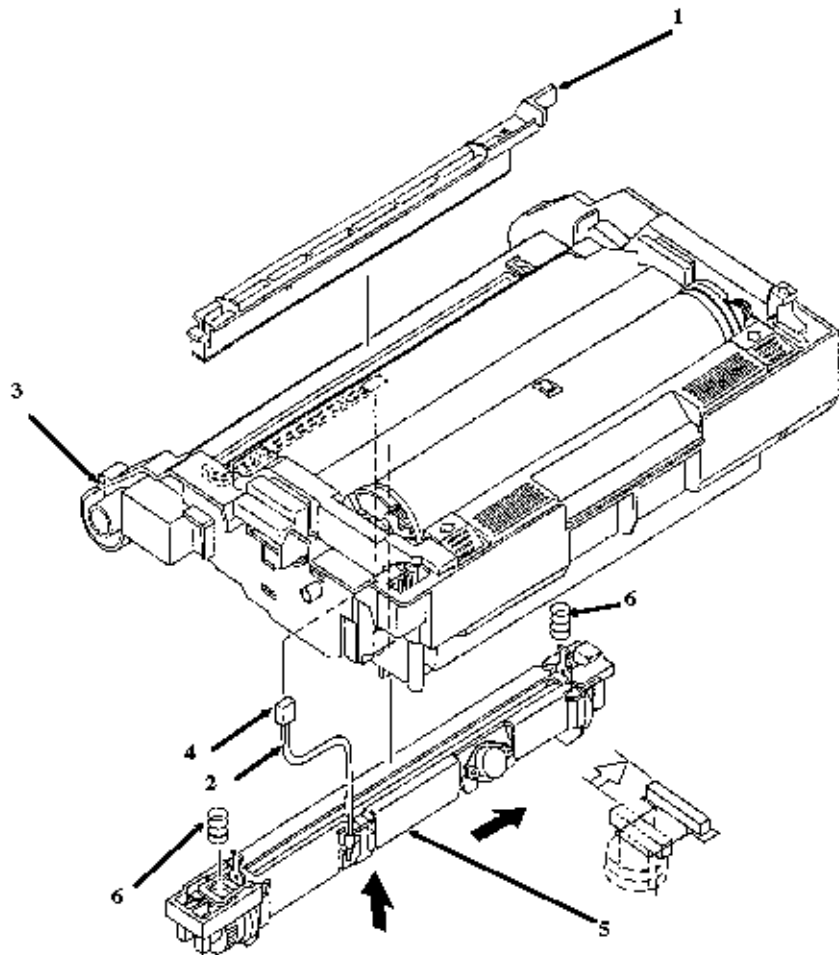
After installing the fusing unit, reset the fusing unit counter. (**[Refer to Section 3.3](#)** ) **[of this Service Handbook](#)**)

[P/N 50914601 Spring: Fusing Unit RSPL Both B.2.04](#) 

[P/N 53500901 Pad: Fuser Consumable Both B.2.03 In Toner Kit B.2.13](#) 

[P/N 55044901 Unit: Fusing \(120V\) RSPL Both B.2.04](#) 

P/N 55044902 Unit: Fusing (220/240V) RSPL Option Both B.2.04 (📄) B.2.14 (📄)



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3.2.21 Metal Pressure Roller Assembly

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12, 3.2.15, 3.2.17 (sections in this chapter)
- Turn the upper unit over.
- Firmly push down on both ends of the metal pressure roller (1) and slide the roller until the brackets (2) clear the guides. Be careful not to lose the springs (3).
- Remove the brackets.
- Remove the knock pin (4).
- Remove the pressure roller gear (5).
- Remove the resist ground plate (6).

P/N 50606208 Knock Pin Both B.2.04 

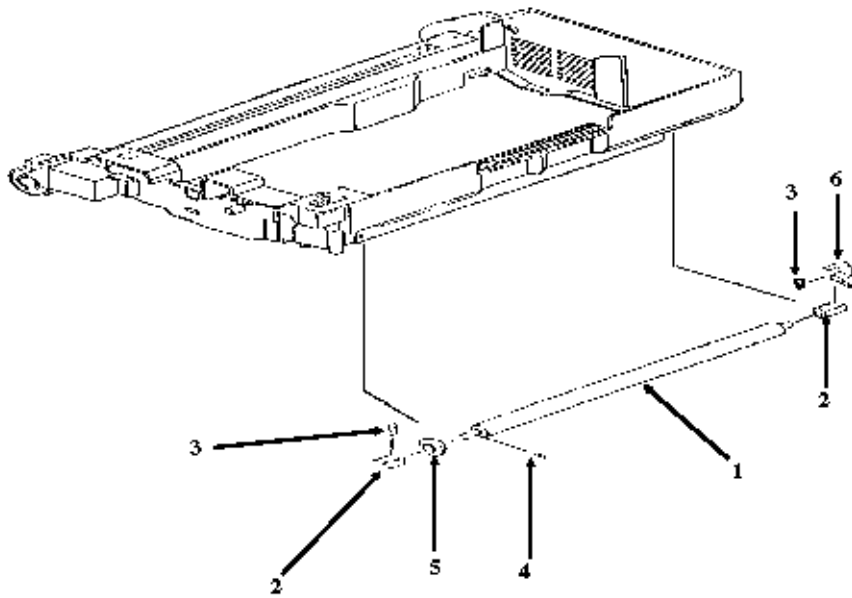
P/N 50914501 Pressure Spring Both B.2.04 

P/N 51222701 Pressure Roller Gear Both B.2.04 

P/N 51605802 Bearing Both B.2.04 

P/N 53334302 Pressure Roller Both B.2.04 

P/N 53508501 Ground Plate (Resist) Both B.2.04 



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3.2.22 Resist Sensor Lever and Toner Sensor Lever

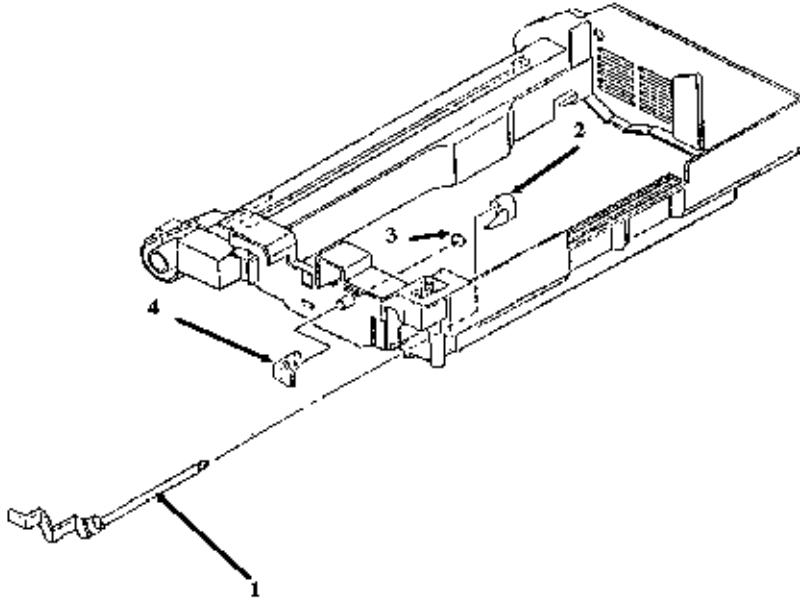
- Perform this procedure: 3.2.01 (section in this chapter)
- Press the lock lever and raise the upper unit.
- Use needle nose pliers to squeeze the claws of the resist sensor flag (1) together and remove it from the resist sensor lever (2).
- Use a small straight-slot screwdriver and detach the nylon rivet (3) from the toner sensor lever (4).

P/N 50606001 Rivet Both B.2.03 

P/N 53329601 Sensor Flag (Resist) Both B.2.03 

P/N 53503001 Sensor Lever (Resist) Both B.2.03 

P/N 53527701 Sensor Lever (Toner) Both B.2.03 



3.2.23 Lock Lever Assembly

- Perform this procedure: 3.2.01 (section is in this chapter).
- Press the lock lever and raise the upper unit.
- Detach the pressure springs (1) from the left (2) and right (3) lock levers.
- Detach the claw of the left lock lever from the lock lever shaft (4).
- Slide the left lock lever from the shaft until you can access the knock pin (5).
- Use needle nose pliers to remove the knock pin.
- Slide the lock lever shaft until you can remove the left lock lever.
- Use needle nose pliers to remove the knock pin.
- Remove the lock lever shaft and the right lock lever.

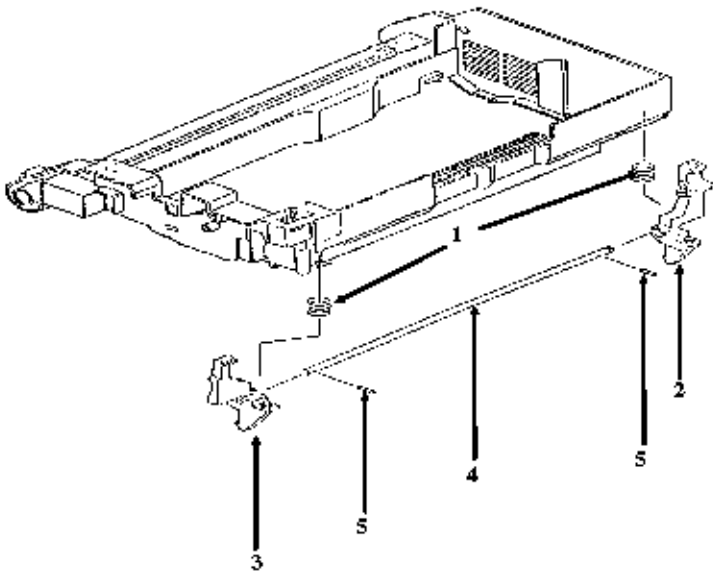
P/N 50606216 Knock Pin Both B.2.04 

P/N 50917205 Spring: Image Drum Tray RSPL Both B.2.04 

P/N 51110201 Lock Lever Shaft Both B.2.04 

P/N 53502601 Lock Lever (Left) Both B.2.04 

P/N 53502701 Lock Lever (Right) Both B.2.04 



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3.2.24 LED Head Holder

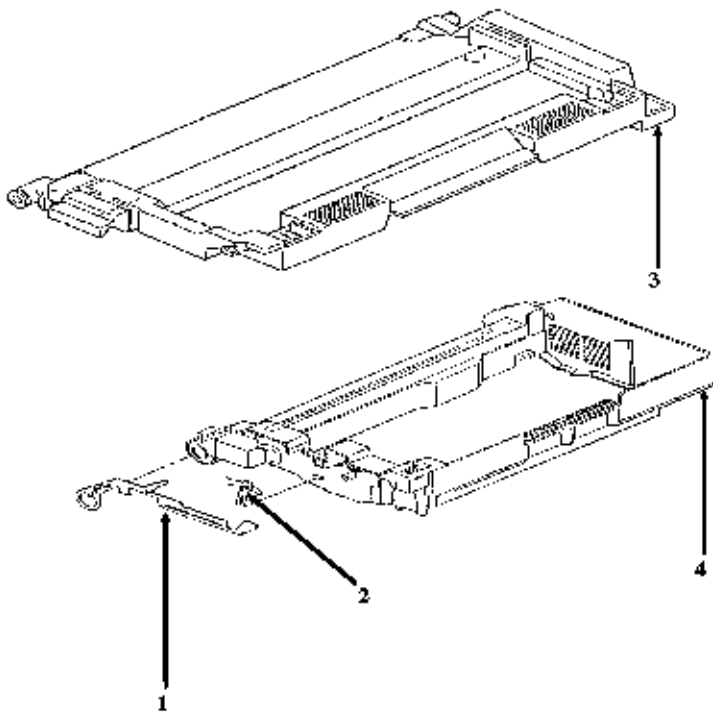
- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12, 3.2.15, 3.2.17 (sections are in this chapter)
- Press the release switches and open the LED head holder.
- Using a straight-slot screwdriver, work the left support plate (1) free, being careful not to lose the drum ground plate (2).
- Slide the LED head holder (3) until the shaft of the holder disengages from the point of the bracket of the upper frame (4).
- Work the extension free of the opening and remove the LED head housing.

P/N 53058201 Ground Plate (Drum) Both B.2.03 

P/N 53058901 Support Plate (Left) Both B.2.03 

P/N 53329701 Upper Frame Both B.2.03 

P/N 55619601 LED Head Housing Both B.2.05 



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3.2.25 LED Holder Ground Plate


- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12, 3.2.15, 3.2.17 (sections are in this chapter).
- Press the release switches (1) and open the LED holder (2).

CAUTION:

DO NOT REMOVE THE RELEASE KNOBS AND SPRINGS (3).

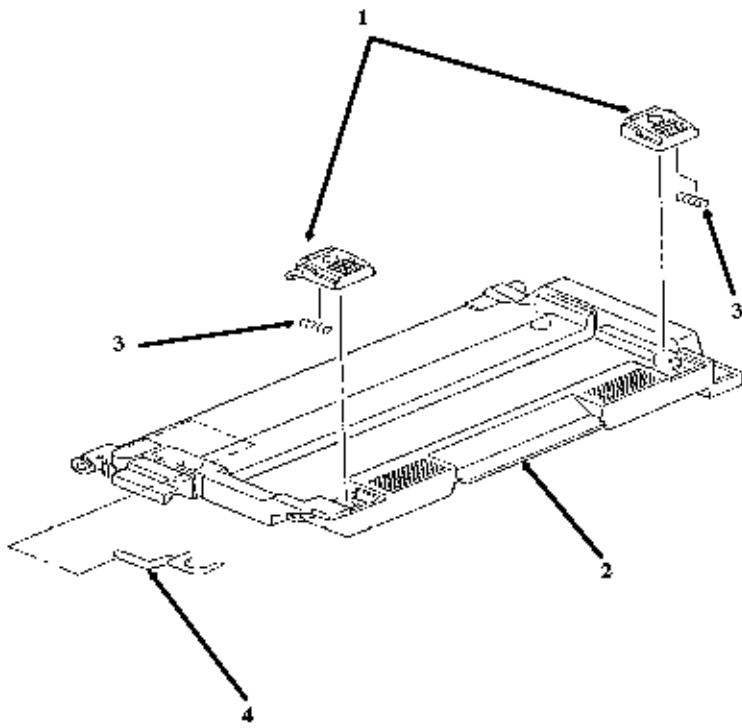
- Use a small straight slot screwdriver to pry the ground plate (4) free.
- Remove the ground plate.

P/N 50918301 Pressure Spring Both B.2.05 

P/N 51901301 Knob (Left) Both B.2.05 

P/N 51901401 Knob (Right) Both B.2.05 

P/N 53058401 Ground Plate (LED Head) Both B.2.05 



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3.2.26 Back-up Roller Assembly

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12, 3.2.15, 3.2.17 (sections are in this chapter)
- Remove the two mounting screws (1) and detach the sheet guide (2) and fusing guide (3).

NOTE:

You may have to use a straight slot screwdriver to detach the guides.

- Remove the back-up roller (4).
- Remove the back-up roller springs (5).
- Remove the reinforcement plate (6).

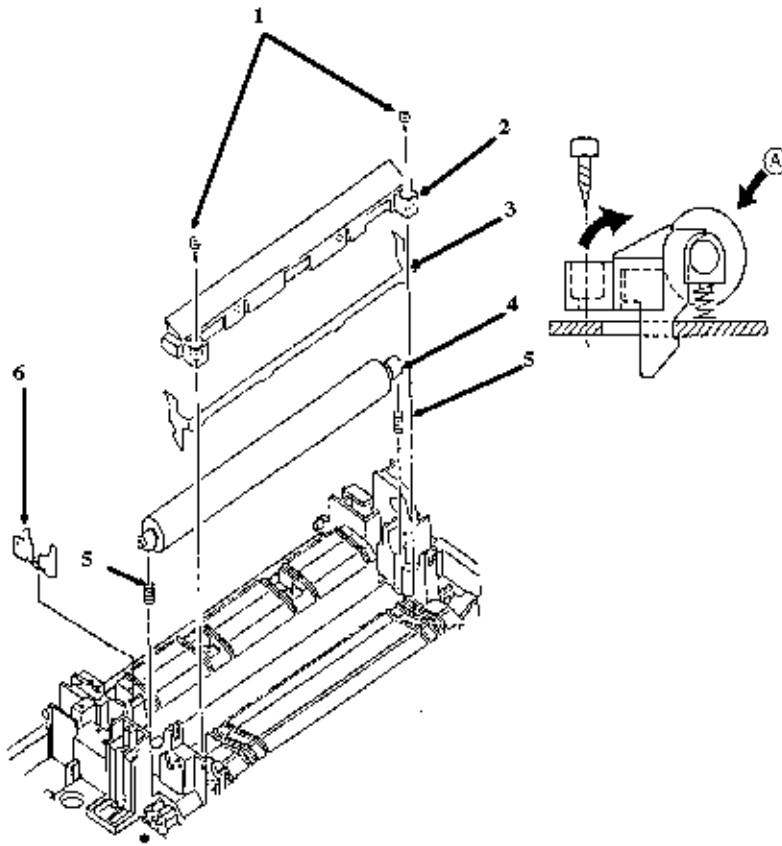
P/N 50079201 Roller: Back-up (Assembly) RSPL Both B.2.06 

P/N 50914801 Spring: Back-up Roller RSPL Both B.2.06 

P/N 51003601 Sheet Guide Both B.2.06 

P/N 51005101 Fusing Guide Both B.2.06 

P/N 53335601 Reinforcement Plate Both B.2.06 



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3.2.27 Transfer Charger Assembly

Perform this procedure: 3.2.01 (this section located in this chapter).

- Push the lock lever towards the back of the printer and raise the upper unit.
- Firmly push down and back on both sides (1) of the transfer charger assembly (2) until the lower cover claws are disengaged from the square holes on each end of the transfer charger assembly.

CAUTION:

When removing the transfer charger assembly, be careful not to break the tabs.

- Lift and remove the transfer charger assembly.
- Remove the end caps of the transfer charger assembly.
- Using a needle nose pliers, detach the spring.
- Detach the transfer wire from the clip and remove.
- When installing the transfer wire, place it so the notch matches the dot in the diagram engraved at the bottom of the assembly.

CAUTION:

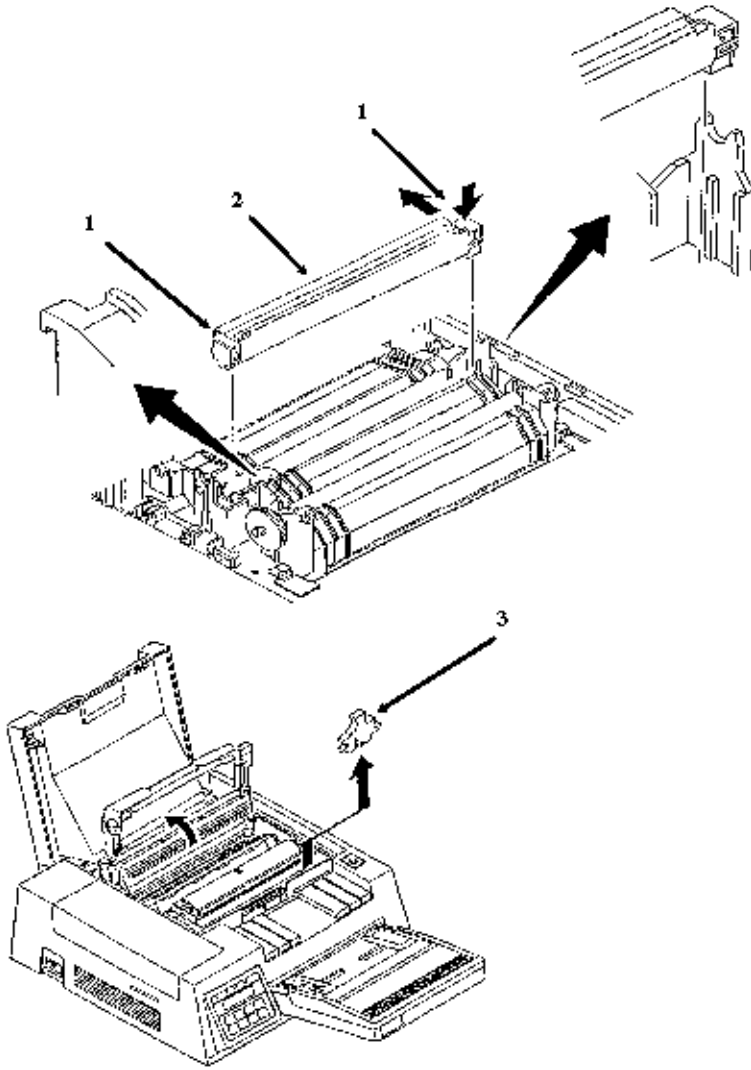
When installing the transfer charger assembly, make sure the assembly is locked under the claws. If the assembly is not locked, the image drum will be scratched.

NOTE:

When cleaning the transfer wire, use the cleaning tool (3) located under the LED holder. (Section 3.4, Cleaning)

[P/N 50087401 Charger: Transfer \(Assembly\) RSPL Both B.2.06](#) 

[P/N 53528001 Transfer Wire Cleaner Both B.2.03](#) 



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3.2.28 Registration Roller Assembly

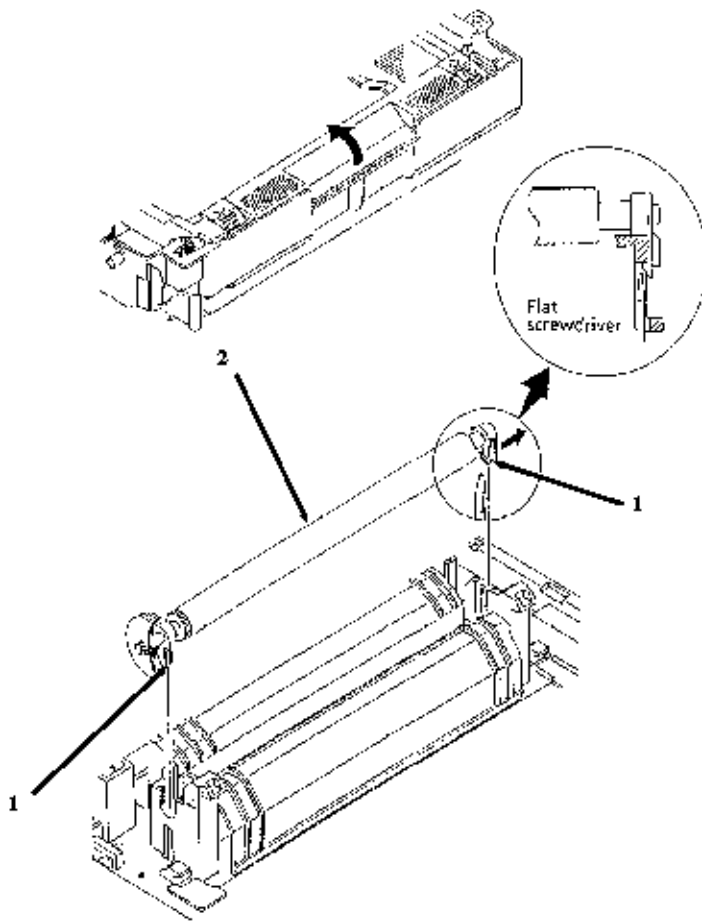
- Perform this procedure: 3.2.01 (this section located in this chapter).
- Push the lock lever towards the rear of the unit and raise the upper unit.
- Using a standard screwdriver, release the claws (1) from both sides of the resist roller assembly (2).

CAUTION:

The claws can be accessed from the bottom of the printer. Be careful when pushing on the claws. Too much force could break them.

- Remove the resist roller assembly.

[P/N 50079101 Roller: Registration \(Assembly\) RSPL Both B.2.06](#) 



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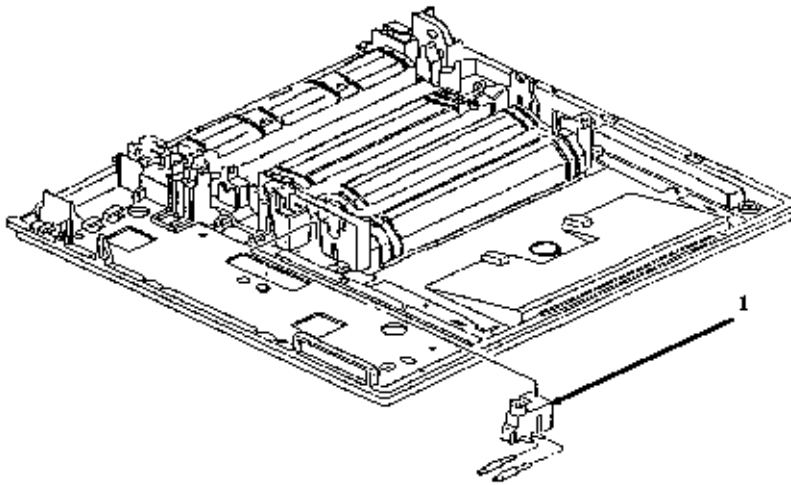
Service Guide OL830Plus/OL850

Chapter 3 Maintenance & Disassembly

3.2.29 High Voltage Connector

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.09, 3.2.10, 3.2.12, 3.2.15, 3.2.17, 3.2.28 (these sections are located in this chapter).
- Working from the bottom of the unit, release the claw of the high voltage connector (1).
- Set the unit down.
- Use a straight-slot screwdriver and work the high voltage connector free.
- Remove the high voltage connector.

P/N 56725901 High Voltage Connector Both B.2.07 



3.2.30 Idle Gear and Post

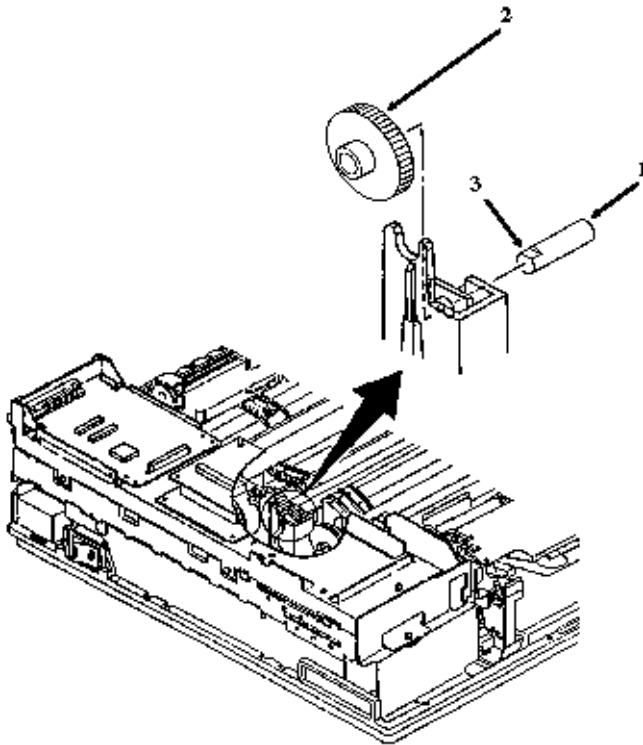
- Perform these procedures: 3.2.01, 3.2.27
- Use needle nose pliers to work the post (1) free of the guides.
- Remove the post.
- Remove idle gear C (2).

NOTE:

The cutout (3) on the post should be positioned to the left side of the printer and on the top when installing.

P/N 51218601 Gear: Idle (Base) RSPL Both B.2.07 

P/N 53329501 Post RSPL Both B.2.07 



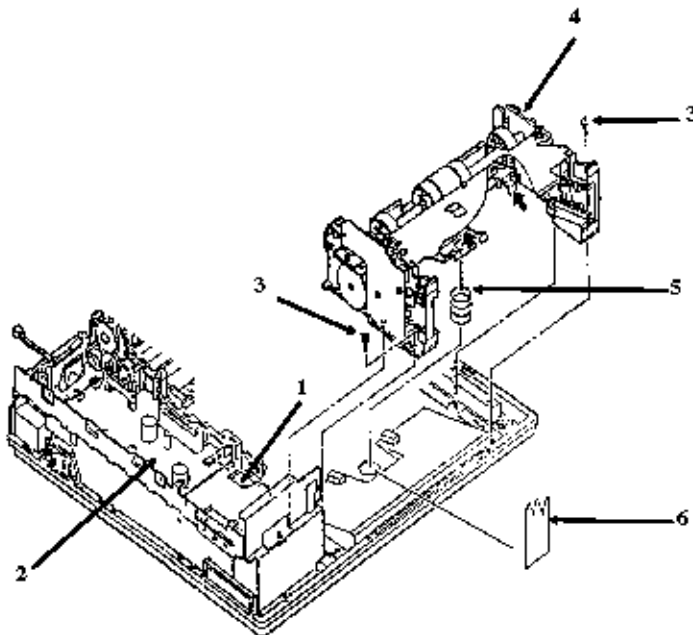
3.2.31 Paper Delivery Unit

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08 (these sections are located in this chapter).
- Press the lock lever backward and raise the upper unit.
- Disconnect the cable (1) from connector J5 (2) on the engine controller circuit board.
- Remove the two mounting screws (3).
- Lift the paper supply assembly (4) at its front until the frame of the unit comes off the guide pins, then move the unit towards you for removal.
- Be careful not to lose the cassette spring (5).
- Note the position of the dielectrification cloth (6).

P/N N/A Dielectrification Cloth Both B.2.07 📄

P/N 50214506 Unit: Paper Delivery RSPL Both B.2.06 📄

P/N 50917001 Spring: Cassette RSPL Both B.2.06 📄



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3.2.32 Resist Motor

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.31 (these sections are located in this chapter).
- Remove the screw (1).
- Remove the two mounting screws (2).
- Detach the resist motor (3) from the motor bracket (4).

NOTE:

Installation

Position the motor.

Drive the two screws in half-way.

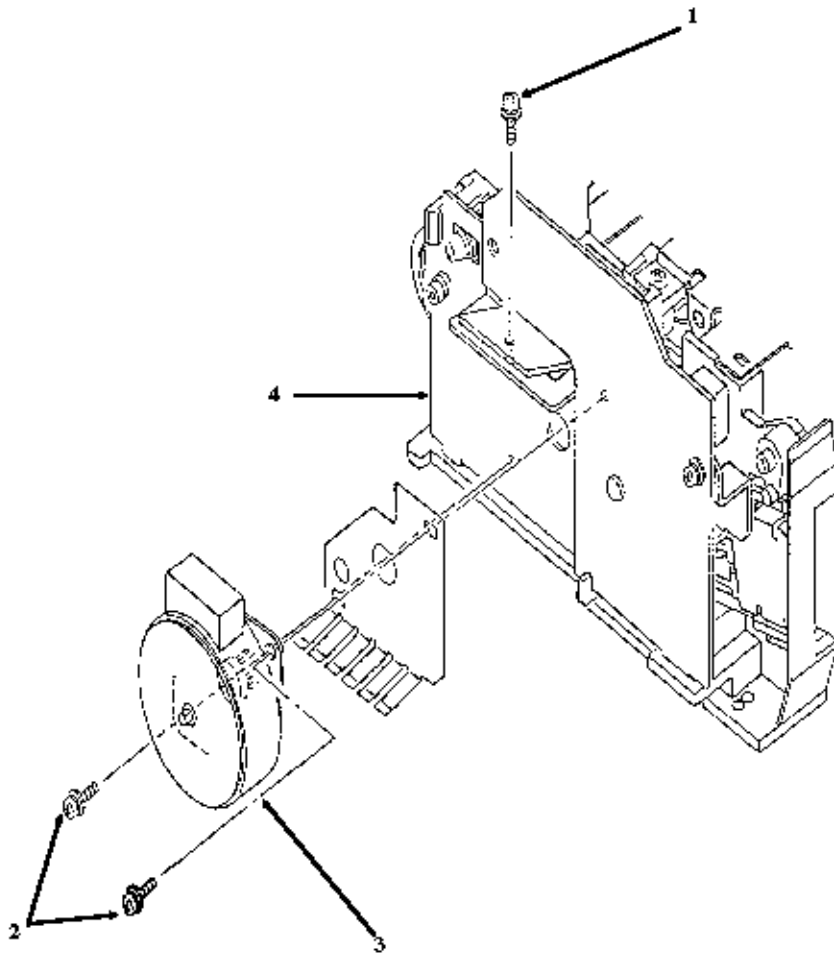
Rotate the motor clockwise until the gears are securely meshed.

Tighten the screws.

P/N 51223101 Idle Gear "B" Both B.2.10 

P/N 53335002 Motor Bracket Both B.2.10 

P/N 56507401 Motor: Pulse (Resist) RSPL Both B.2.10 

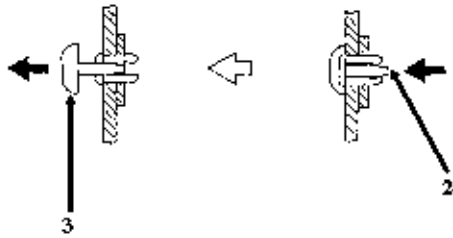
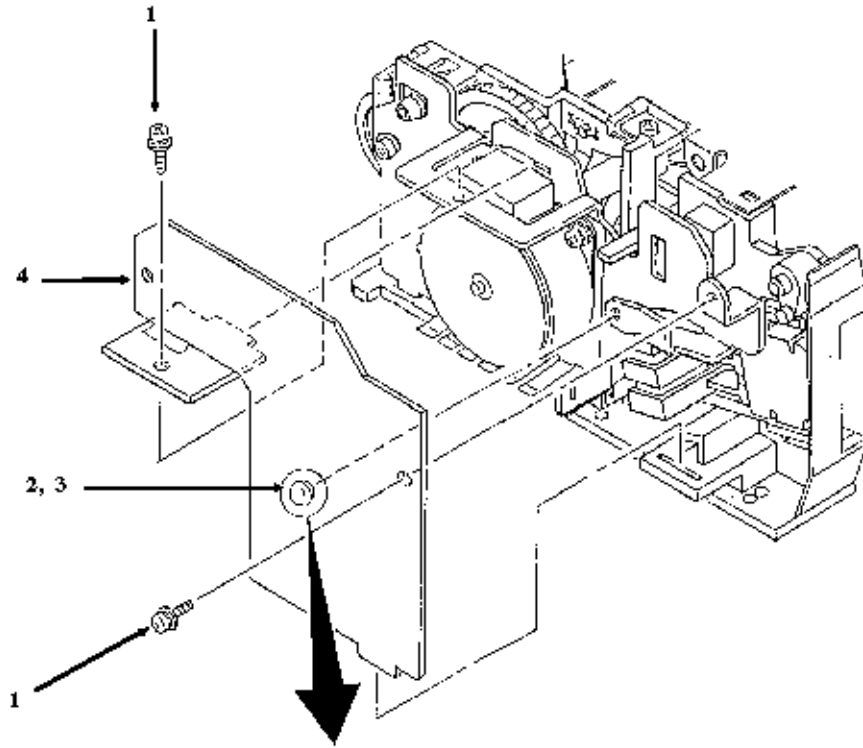


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3.2.33 Engine Connector Board, LLCC

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.31 (these sections are located in this chapter).
- Remove the two mounting screws. (1)
- On the paper supply unit, press the pointed end of the nylon latch (2) to push out the head (3)
- Remove the latch.
- Detach the engine connection board (4).

P/N 55044601 PCB: LLCC (Engine Connector) RSPL Both B.2.10 



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3.2.34 Hopping Roller A

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.31, 3.2.32, 3.2.33 (these sections are located in this chapter).
- Remove the two screws (1) and slide the upper plate assembly (2) until the claws (3) are unlocked.
- Push the paper lever (4) down.
- Remove the upper plate assembly.
- Remove the screw (5).
- Remove the ground plate (6).
- Press the hopping roller shaft (7), then remove the pin (8) from the hopping roller gear (9).
- Lift the right side of the hopping roller shaft and remove it.
- Remove hopping roller B (10).
- Remove the E-ring (11).
- Remove hopping roller A (12).

NOTE:

When installing, always mount the hopping roller shaft above the ground plate, which is on the left side of the printer.

P/N 50081701 Roller: Hopping (Assembly) RSPL Both B.2.10 

P/N 50705401 E-Ring Both B.2.10 

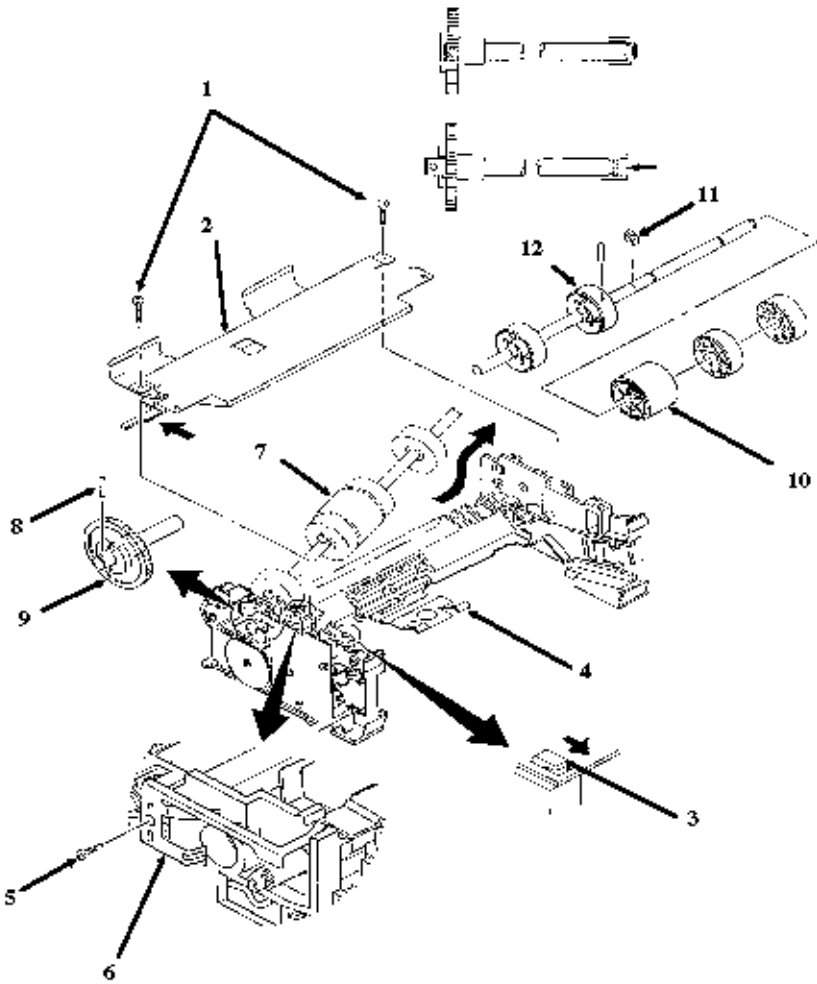
P/N 51111501 Hopping Roller Shaft Both B.2.10 

P/N 51222901 Hopping Gear Both B.2.10 

P/N 51223001 Planet Gear Both B.2.10 

P/N 53334901 Hopping Roller B Both B.2.10 

P/N 53528501 Paper End Lever Both B.2.10 



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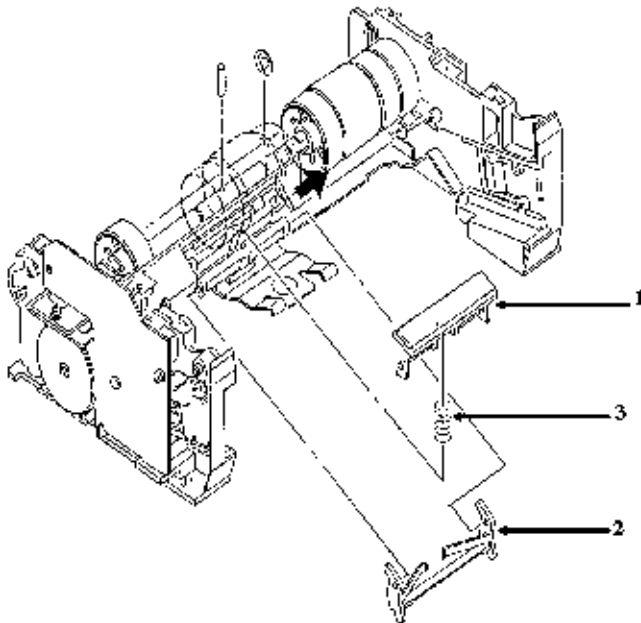
3.2.35 Separator

- Perform these procedures: 3.2.01, 3.2.02, 3.2.05, 3.2.06, 3.2.07, 3.2.08, 3.2.31, 3.2.32, 3.2.33, 3.2.34 (these sections can be located in this chapter).
- Hold the separator (1) down and remove the escape lever (2) from the pins on the paper supply unit. Be careful not to lose the separator spring (3).
- Remove the separator.

P/N 50917101 Spring: Separator RSPL Both B.2.10 

P/N 53500501 Separator RSPL Both B.2.10 

P/N 53528601 Escape Lever Both B.2.10 



3.2.36 Base Frame

NOTE

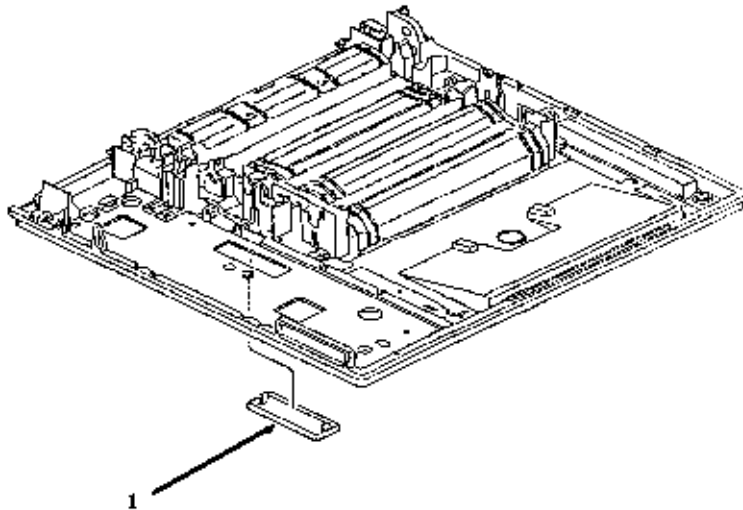
The base frame is the plastic base for the OL830-Plus and OL850. All previous disassembly procedures must be performed to reach the base frame.

The connector cap (1) may be accessed from the underneath the printer. No other disassembly procedures are required to access this part.

P/N 50213602 Unit: Lower RSPL Both B.2.01 

N/A Cap Both B.2.07 

P/N 53057801 Base Frame Both B.2.06 



3.2.37 Ozone Filter

NOTE:

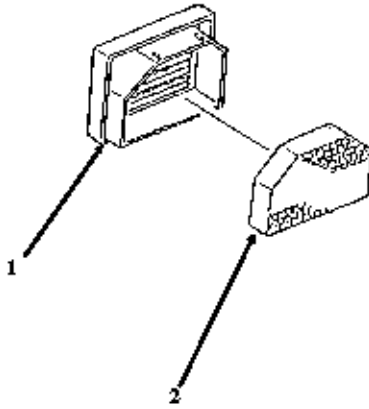
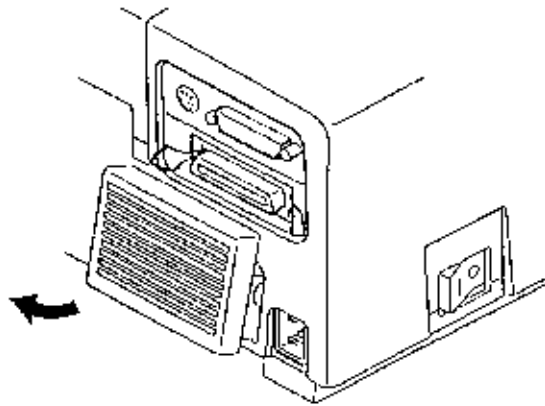
A replacement ozone filter is provided with the image drum cartridge kit. The filter should be replaced when the image drum cartridge is replaced.

- Power off the printer and detach the AC power cord.
- Using a screwdriver, insert the blade under the lower portion of the fan cover (1) and twist the screwdriver to remove the fan cover.
- Remove the ozone filter (2) from the fan cover.

P/N 56106601 Image Drum Kit Consumable Both B.2.13  Includes an Image Drum and Ozone Filter

P/N 53527301 Fan Cover Both B.2.01 

P/N 55503501 Filter: Ozone Consumable Both B.2.01 (in drum kit) B.2.13 



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3.2.38 Second Paper Feed Unit (Option)

- Lift the OL830-Plus/OL850 from the second paper feed unit (1).

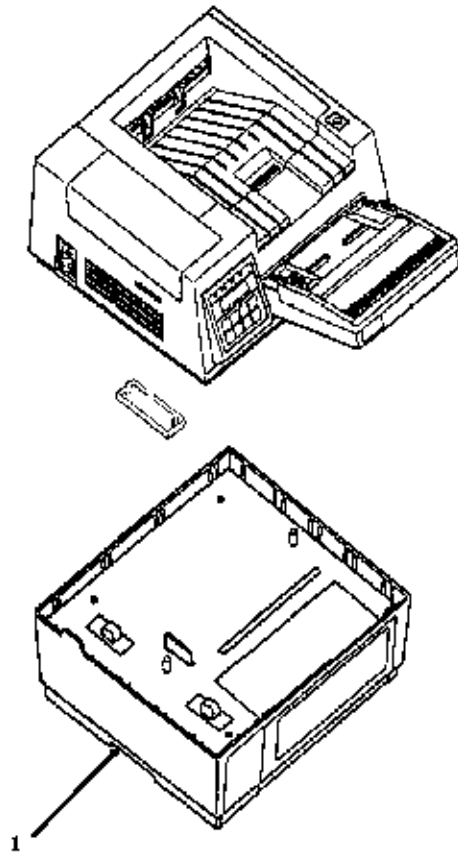
Installation

When installing the optional second paper feed unit, you must remove the connector cap. The cap is accessed from the bottom of the OL830-Plus/OL850.

- Use a small straight-slot screwdriver to release the tabs of the cap.
- Remove the cap.

P/N N/A Cap Both B.2.07 

P/N 70018601 Second Paper Feed Unit Option Both B.2.11 , **B.2.14** 



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3.2.39 Boards and Connectors (Second Paper Feed Unit)

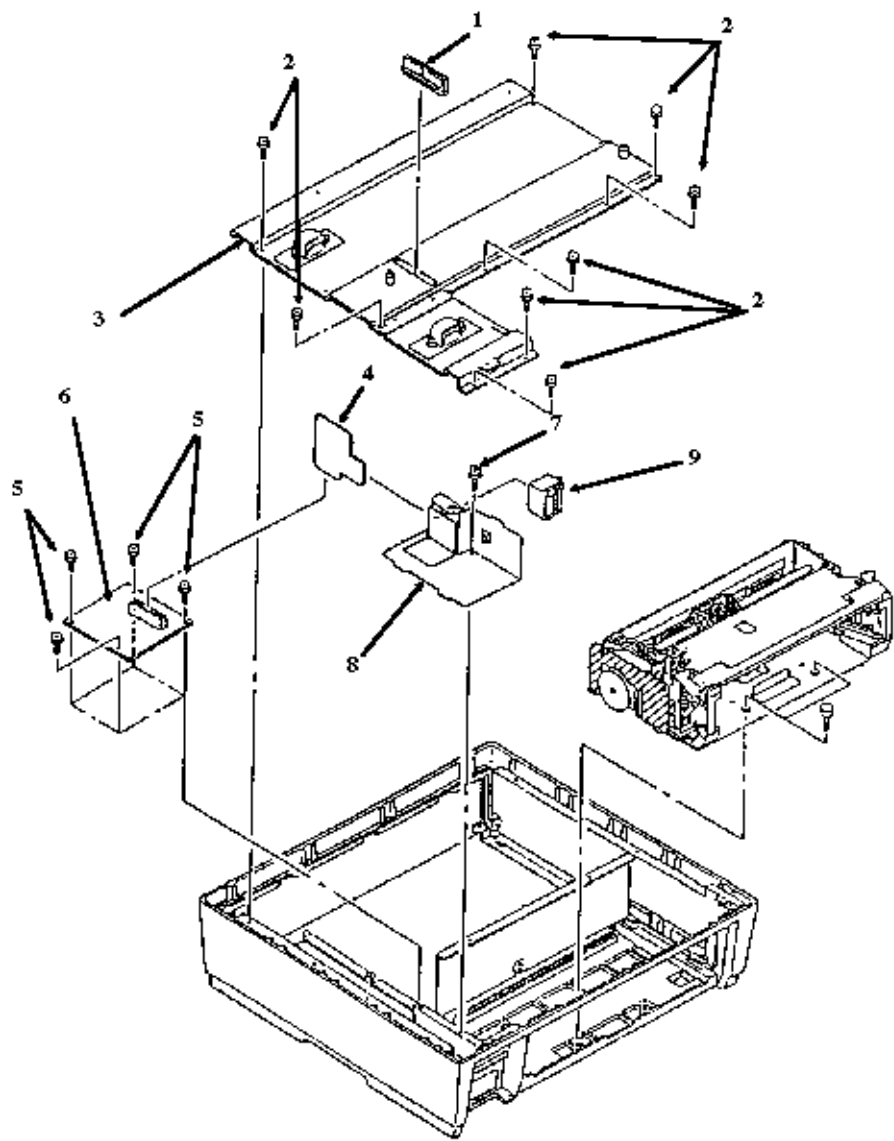
- Perform this procedure: 3.2.38 (this section is located in this chapter).
- Squeeze the clamps on the ends of the connector (1) and lift to remove it.
- Remove the eight screws (2).
- Remove the shield (3).
- Remove the connection board, LLIG (4).
- Remove the four screws (5).
- Remove the LLIF board (6).
- Remove the screw (7).
- Remove the shield (8) with connector AKJ-40AG (9).
- Work the connector free of the bracket and remove the connector.

P/N N/A LLIF PCB Both B.2.11 

P/N 55067101 Connection PCB (LLIG) Both B.2.11 

P/N 56725201 Connector AKJ-40AG Both B.2.11 

P/N 56726001 Connector PM8DOX Both B.2.11 

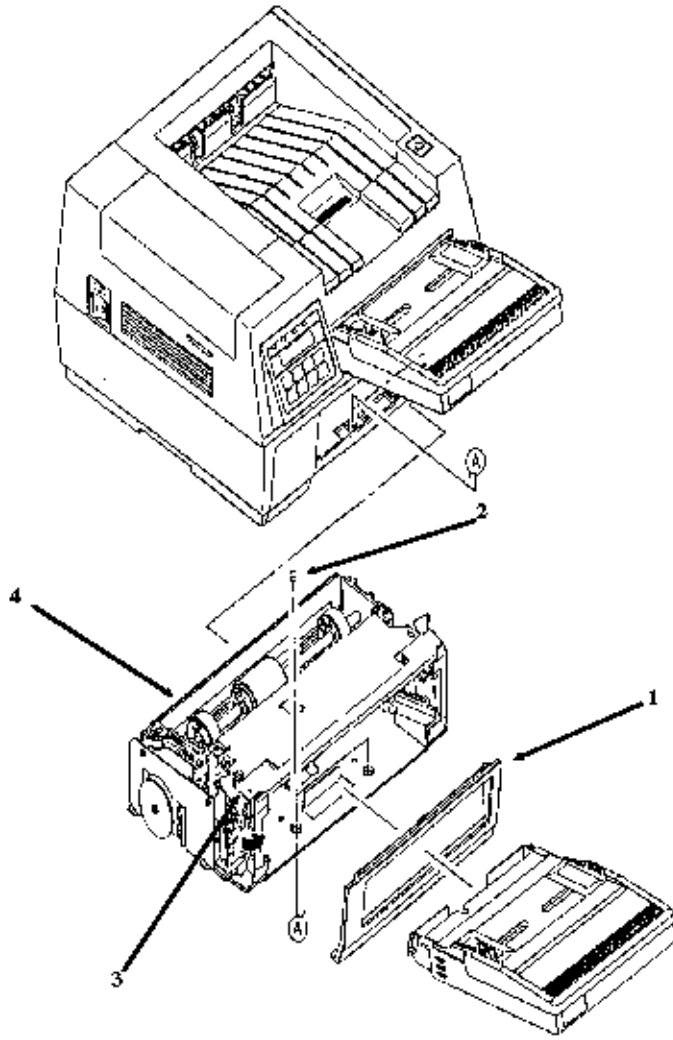


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3.2.40 Paper Delivery Unit (Second Paper Feed Unit)

- Remove the front panel (1).
- Remove the two screws (2).
- Press the paper delivery unit release lever (3) down.
- Remove the second paper delivery unit (4).

[P/N 50063501 Second Paper Delivery Unit Option Both B.2.11](#) 



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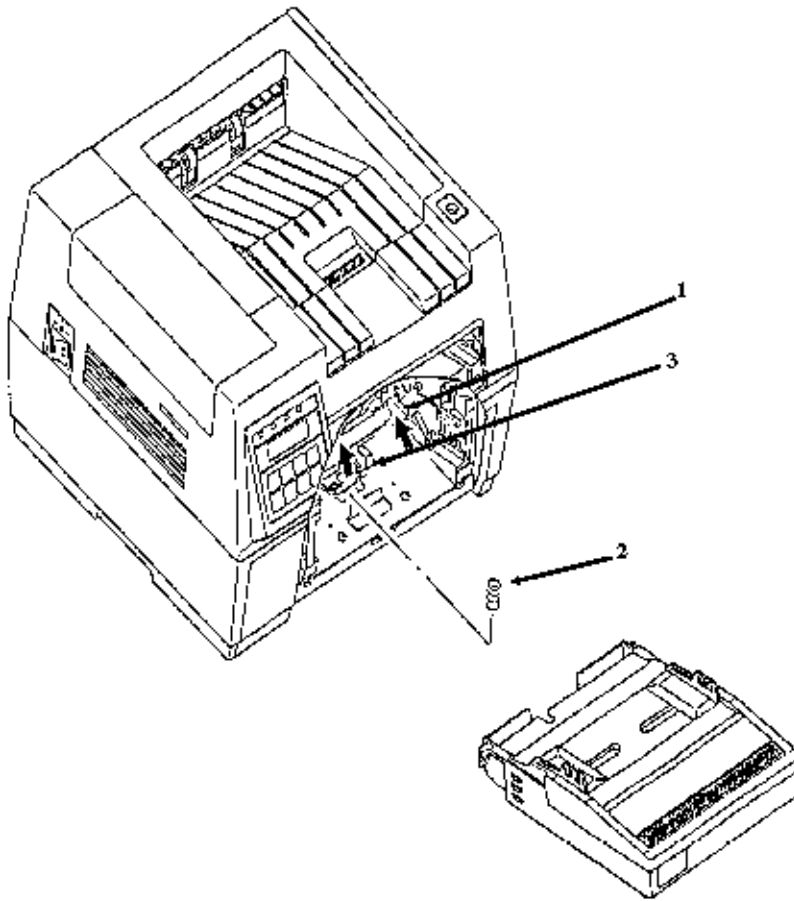
3.2.41 Cassette Spring (Second Paper Delivery Unit)

- Raise the latch lever (1).
- Remove the cassette spring (2).

Installation

When installing the cassette spring, keep the latch lever pressed down and the cassette set lever (3) pushed up. After the cassette spring is installed, press the cassette set lever down.

P/N 50917001 Spring: Cassette RSPL Both B.2.06 



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3.2.42 Resist Motor (Second Paper Delivery Unit)

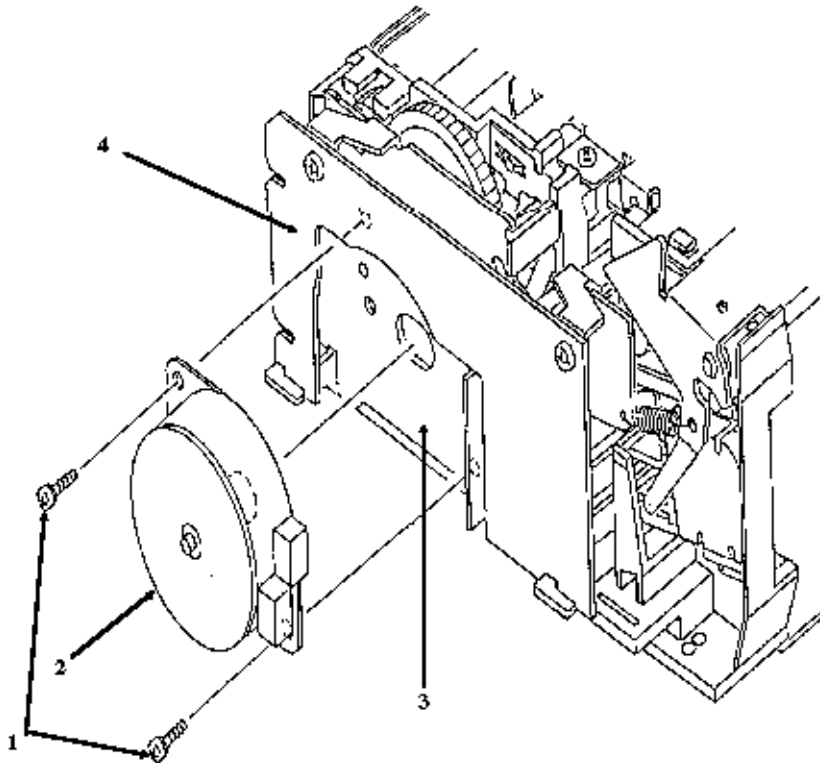
- Perform this procedure: 3.2.40 (this section located in this chapter)
- Remove the two screws (1) and detach the pulse motor (2), being careful not to damage the pins.

Installation

Set the pulse motor on the bracket (3). Be careful not to scrape the pins against the LLFC Circuit Board (4).

Check that the pins of the pulse motor are securely in contact with the LLFC Circuit Board. Then, attach the pulse motor with the two screws.

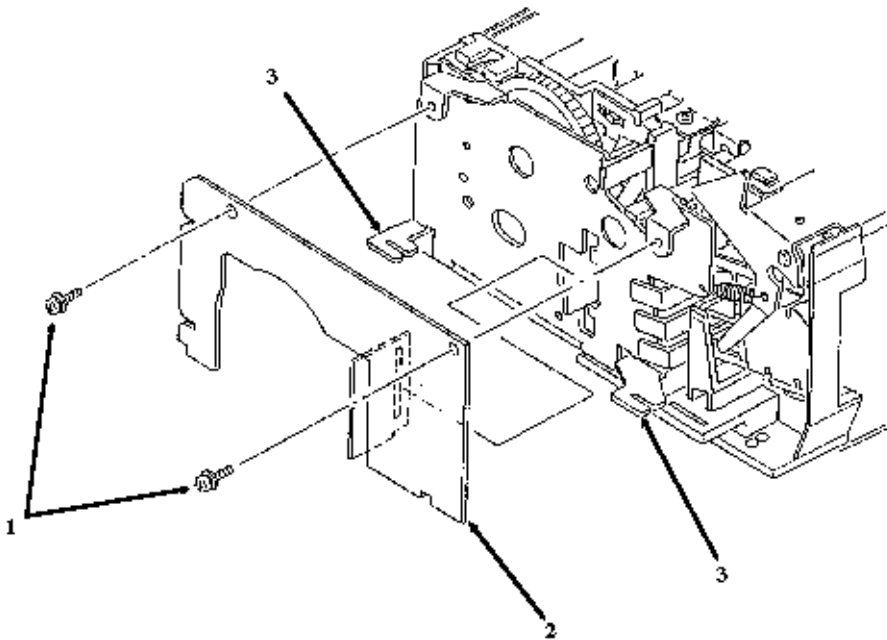
P/N 56507401 Motor: Pulse (Resist) RSPL Both B.2.10 



3.2.43 Control Board, LLFC (Second Paper Delivery Unit)

- Perform these procedures: 3.2.40, 3.2.42 (these sections are located in this chapter).
- Remove the two screws (1).
- Remove the second paper supply unit control board (2) from the guides (3).

P/N 55051401 PCB: LLFC (Second Tray) RSPL Option Both B.2.11  B.2.14 



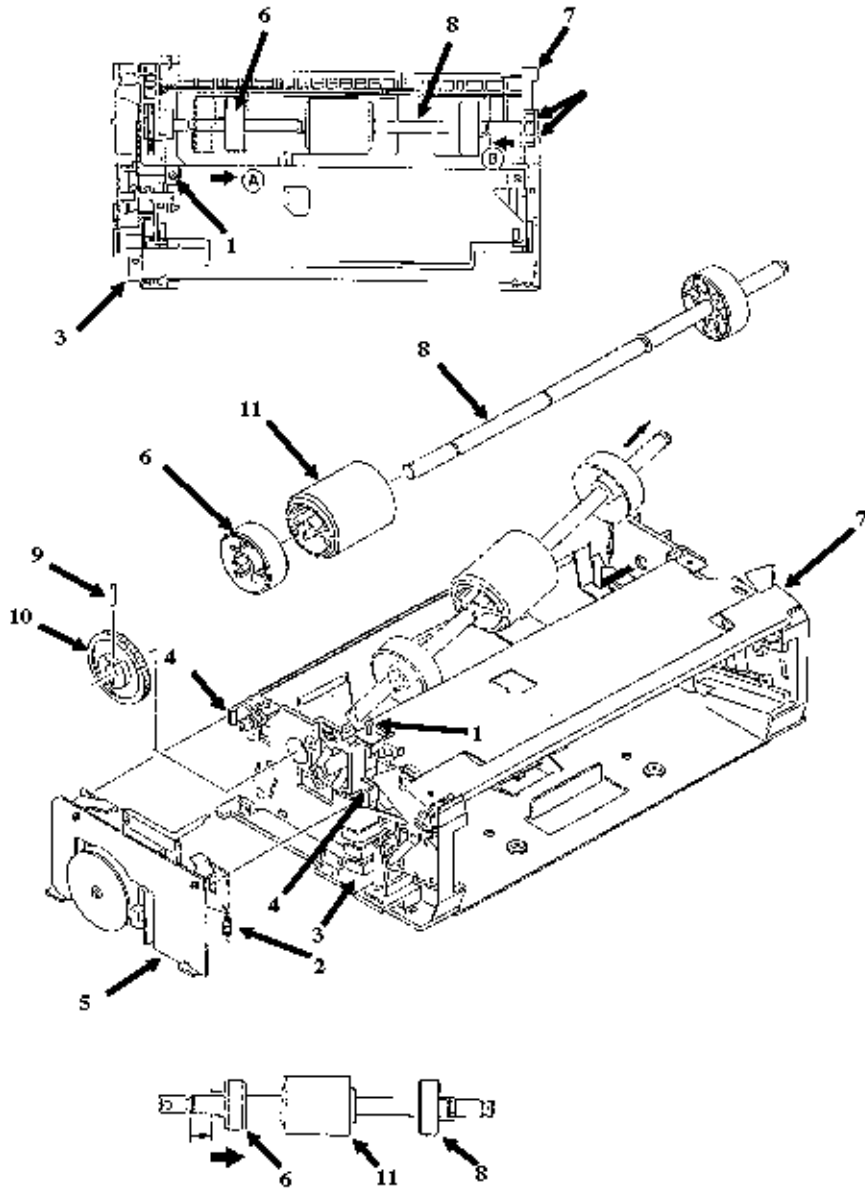
3.2.44 Hopping Roller (Second Paper Delivery Unit)

- Perform this procedure: 3.2.40 (this section is located in this chapter).
- Loosen the screw (1).
- Disconnect the lock lever spring (2) from the lock lever.
- Remove the two locks (3) from the left side frame (4).
- Remove the motor assembly (5).
- Push and slide the left idle roller (6) (in the direction of arrow A).
- Unsnap the claw of the right side frame (7).
- Slide the hopping roller shaft (8) (in the direction of arrow B) until the right side frame comes off.
- Remove the pin (9).
- Remove the hopping gear (10).
- Lift right end (near the right side frame) of the hopping roller shaft and remove the left side frame.
- Unsnap the claw of the left idle roller and remove it.
- Unsnap the claw of the hopping roller (11) and remove it.

NOTE:*Installation*

*When installing the hopping roller and left idle roller, be sure to position the claw correctly.
When installing the hopping roller shaft, put the left idle roller between the groove and the hopping roller.
Push the left idle roller towards the hopping roller until the claw comes off the groove and the left idle roller slides.*

[P/N 53334901 Hopping Roller B Both B.2.10](#) 



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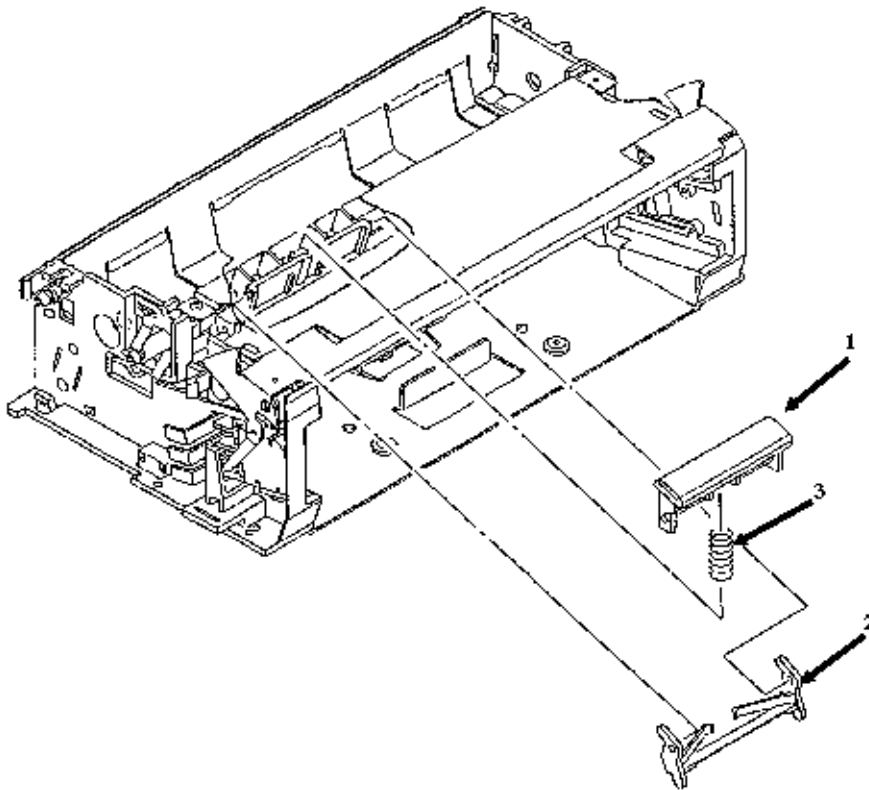
3.2.45 Separator (Second Paper Delivery Unit)

- Perform these procedures: 3.2.40, 3.2.44 (these sections are located in this chapter).
- While holding the separator (1), remove the escape lever (2).
- Slowly remove the separator. If the separator is removed too quickly, the separator spring (3) will spring out.

[P/N 50917101 Spring: Separator RSPL Both B.2.10](#) 

[P/N 53500501 Separator RSPL Both B.2.10](#) 

[P/N 53528601 Escape Lever Both B.2.10](#) 



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3.3 ADJUSTMENTS AND SERVICE SETTINGS

3.3.01 General Information

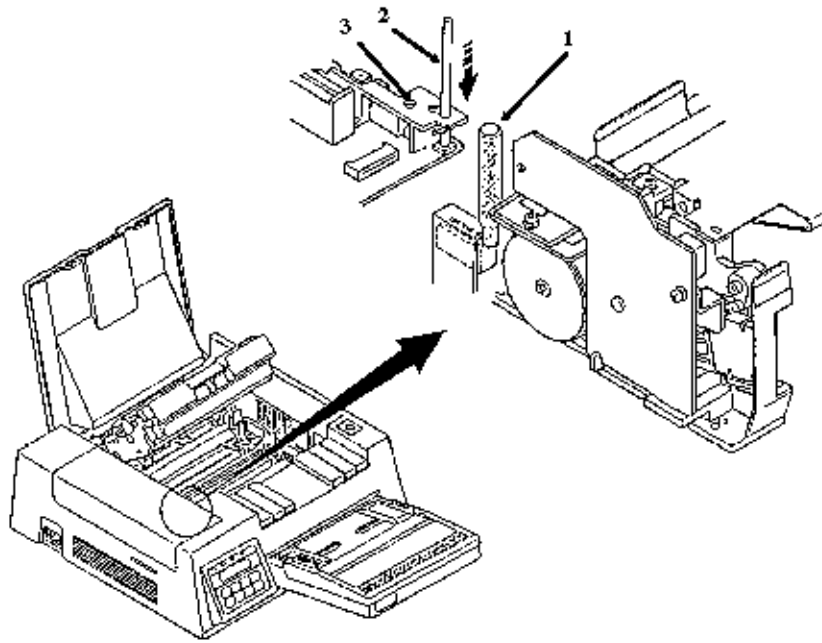
This section contains the procedures for resetting counters and performing adjustments and service settings. These procedures may be required when replacing either consumables or parts. The disassembly/reassembly procedures list the required adjustments and refer you to this section. Failure to perform these procedures may result in unnecessary service calls.

Some adjustments and service settings are accomplished through the operator panel. Others are accomplished through Switch 1 (SW1) on the engine controller board. SW1 accesses the addresses on the EEPROM located on the engine controller board.

To perform procedures which use SW1, setup the printer for maintenance mode.

Switch 1 Maintenance Mode

- Press the OPEN switch and raise the stacker cover.
- Press the two lock levers and open the LED holder.
- Lift and remove the image drum cartridge. To protect the image drum cartridge, place it back in its styrofoam shipping package.
- Close the LED holder.
- Press the lock lever and raise the upper unit.
- Override the cover open switch (1).
- Power ON the printer while pressing SW1 (2) on the engine controller board.
- The LED (3) will flash once, then pause. The LED will continue to flash once, then pause. This indicates that the printer is in EEPROM Address 1 of the maintenance mode.



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3.3.02 Actual Page Count


NOTE:

The actual page count cannot be changed.

The Actual Page Count is stored in EEPROM Address 1.

The Actual Page Counter counts the number of sheets printed by the printer.

The value of the Actual Page Counter will be displayed as follows:

- Setup the printer for Switch 1 Maintenance Mode.
- Press Switch 1 for five seconds.
- The LED will display the contents of EEPROM Address 1 (Actual Page Counter).
- The long flash indicates start of count.
- Short flashes indicate counter contents (most significant digit first). Ten flashes = 0.
- There will be a pause between digits.
- Upon completion of the count, a long flash will indicate start of count.
- This process will loop until you press Switch 1 for five seconds. **The Modified Page Count (refer to Section 3.3.03 ) will then be displayed.**
- Press Switch 1 for one second.
- Power OFF the printer.

Actual Page Count Example

The Actual Page Count = 235 pages.

Switch 1 Action	LED Display	Description
Press at Power ON	Flashes ON/OFF	EEPROM Address 1 selected
Press for 5 seconds	Long Flash	Start of Count
None	On-Off-On-Pause	1st Digit = 2

None	On-Off-On-Off-On-Pause	2nd Digit = 3
None	On-Off-On-Off-On-Off - On-Off-On-Pause	3rd Digit = 5
None	Long Flash	Start of Count
Press for 5 seconds	Long Flash	Start of Modified Page Count

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3.3.03 Modified Page Count


NOTE:

The Modified Page Count cannot be changed.

To access the Modified Page Count, you must first view the Actual Page Count.

The Modified Page Count is stored in EEPROM Address 1, along with the Actual Page Count. The Modified Page Counter combines the main motor revolution time and the number of printed sheets. Drum replacement is determined by the Modified Page Count. The Modified Page Count considers the type of printing being performed. For example, if the printer performs many single page print jobs, the Modified Page Count will be greater than the Actual Page Count.

The value of the Modified Page Count will be displayed as follows.

- Setup the printer for Switch 1 Maintenance Mode.
- **View the Actual Page Count (refer to Section 3.3.02 )).**
- Press Switch 1 for five seconds.
- The LED will display the contents of EEPROM Address 1 (Modified Page Count).
- The long flash indicates start of count.
- Short flashes indicate counter contents (most significant digit first). Ten flashes = 0.
- There will be a pause between digits.
- Upon completion of the count, a long flash will indicate start of count.
- This process will loop until you press Switch 1.
- To end this procedure, press Switch 1 for 1 second.
- The LED will perform one short flash to indicate EEPROM Address 1 is selected.
- Power OFF the printer.

Modified Page Count Example

The Modified Page Count = 142 pages.

The first step in this table is also the last step in the Actual Page Counter Example Table

Switch 1 Action	LED Display	Description
Press for 5 seconds	Long Flash	Start of Modified Page Count
None	On-Pause	1st Digit = 1
None	On-Off-On-Off-On-Off-On-Pause	2nd Digit = 4
None	On-Off-On-Pause	3rd Digit = 2
None	Long Flash	Start of Count

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3.3.04 Drum Counter Reset

The drum counter is stored in EEPROM Address 2.

Reset the drum counter after a new image drum is installed.

The drum counter is reset through the operator panel.

- Power ON the printer.
- Press the ON-LINE switch to place the printer Off-Line.
- Press the MENU 1 / Menu 2 switch.
- Press the NEXT / + switch five times.
- The message MAINTENANCE MODE will be displayed on the operator panel.
- Press the ENTER / Reset switch twice.
- The message DRUM LIFE - CLEAR DRUM OK? will be displayed on the operator panel.
- Press the ENTER / Menu Reset switch.
- The message DRUM CLEARED will be displayed briefly.
- The printer will then return to an ON-LINE condition.

NOTE:

The CHANGE DRUM message will appear on the operator panel display when the image drum reaches 90% of its life. If a new image drum is installed, but the counter is not reset, the message will continue to be displayed.

3.3.05 Fuser Counter Reset

The fuser counter is stored in EEPROM Address 3.

This counter should be reset when a new fusing unit is installed.

Follow this procedure to reset the fuser counter.

- Setup the printer for Switch 1 Maintenance Mode.
 - Press Switch 1 twice (one second each time) to access EEPROM Address 3.
 - The LED will flash three times, indicating EEPROM Address 3.
 - Press Switch 1 once for five seconds.
 - The LED will display the contents of EEPROM Address 3.
 - The long flash indicates start of count.
 - Short flashes indicate counter contents (most significant digit first). Ten flashes = 0.
 - There will be a pause between digits.
 - Upon completion of the count, a long flash will indicate start of count.
 - This process will loop until you press Switch 1.
 - Press Switch 1 for five seconds. This will reset the counter to zero.
 - To store the new value, press Switch 1 for five seconds.
 - The LED will flash three times, indicating EEPROM Address 3.
 - Power OFF the printer.
-



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3.3.06 Vertical Print Start Position Adjustment

The Vertical Printer Start Position is stored in EEPROM Address 9.

The Vertical Print Start Position Adjustment is used to set the top of form position. Use this adjustment to correct print start variations between different printers, or to achieve 4.6 mm Vertical Print Start Position, the default value.

Follow this procedure to change the Vertical Print Start Position.

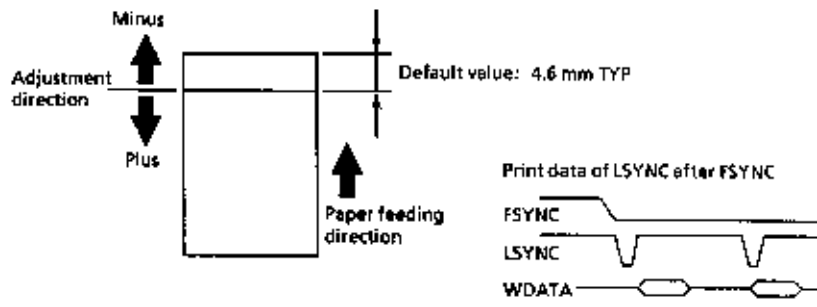
- Setup the printer for Switch 1 Maintenance Mode.
- Press Switch 1 eight times (one second each time) to access EEPROM Address 9.
- The LED will flash nine times, indicating EEPROM Address 9.
- Press Switch 1 once for five seconds.
- The LED will display the contents of EEPROM Address 9.
- The long flash indicates start of count.
- Short flashes indicate counter contents (most significant digit first). Ten flashes = 0.
- There will be a pause between digits.
- Upon completion of the count, a long flash will indicate start of count.
- This process will loop.
- Press Switch 1, X number of times. X = the increments needed to move from the stored value to the desired value. To move from the default position of 0 mm (value of 0) to -1 millimeter (value of 15), press Switch 1, fifteen times.
- To store the new value, press Switch 1 for five seconds.
- The LED will flash nine times, indicating EEPROM Address 9.
- Power OFF the printer.

Chart of EEPROM ADDRESS 9 Values / Associated Print Start Positions

0 follows 15 when incrementing through the values.

EEPROM Value	Print Start Position (in millimeters)
--------------	---------------------------------------

0	+/- 0.0
1	+ 0.5
2	+1.0
3	+1.5
4	+2.0
5	+2.5
6	+3.0
7	+3.5
8	-4.0
9	-3.5
10	-3.0
11	-2.5
12	-2.0
13	-1.5
14	-1.0
15	-0.5



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3.3.07 Darkness Control

The Darkness Control Setting is stored in EEPROM Address 10.

It is adjusted from the MENU. This adjustment changes the degree of character density.

The default value is 0. You may choose between -2, -1, 0, +1, and +2.

The setting for Darkness Control does not change when the printers emulation is changed.

- Place the printer OFF-LINE.
 - Press the MENU 1 / Menu 2 switch.
 - Press the NEXT / + switch four times.
 - The Operator Panel will display, MENU MISCELLANEOUS.
 - Press the ENTER / Menu Reset switch once.
 - Press the NEXT / + switch three times.
 - The Operator Panel will display MISCELLANEOUS DARKNESS.
 - Press the ENTER / Menu Reset switch once. The word "DARKNESS" along with the current setting will appear on the display.
 - Press the NEXT / + switch to toggle the values until the desired setting is reached.
 - Press ENTER / Menu Reset switch to store the new setting.
 - Press the ON-LINE switch to exit the menu and place the printer On-Line.
-

3.3.08 Smoothing Select

The Smoothing Select setting is stored in EEPROM Address 11.

Smoothing may be set ON or OFF. The default value is ON. With Smoothing ON, the OL830-Plus/OL850 utilizes Okidata Smoothing Technology (OST).

- Place the printer OFF-LINE.
 - Press the MENU 1 / Menu 2 switch.
 - Press the NEXT / + switch four times.
 - The Operator Panel will display, MENU MISCELLANEOUS.
 - Press the ENTER / Menu Reset switch once.
 - Press the LAST / - switch once.
 - The Operator Panel will display, MISCELLANEOUS SMOOTHING.
 - Press the ENTER / Menu Reset switch once. The word "SMOOTHING" along with the current setting will appear on the display.
 - Press the NEXT / + switch to toggle between the values until the desired setting is reached.
 - Press ENTER / Menu Reset switch to store the new setting.
 - Press the ON-LINE switch to exit the menu and place the printer On-Line.
-

3.3.09 Setting the LED Head Drive Time

The LED Head Drive Time setting is stored in EEPROM Address 13.

This adjustment may need to be performed when an LED head is replaced. However, if the luminous energy ratings of the new and original LED Heads are the same, adjustment is not necessary. The luminous energy rating is on the label on the LED Head. The third and second digits, reading from the right, are the drive time rating.

Follow this procedure to change the LED Head Drive Time.

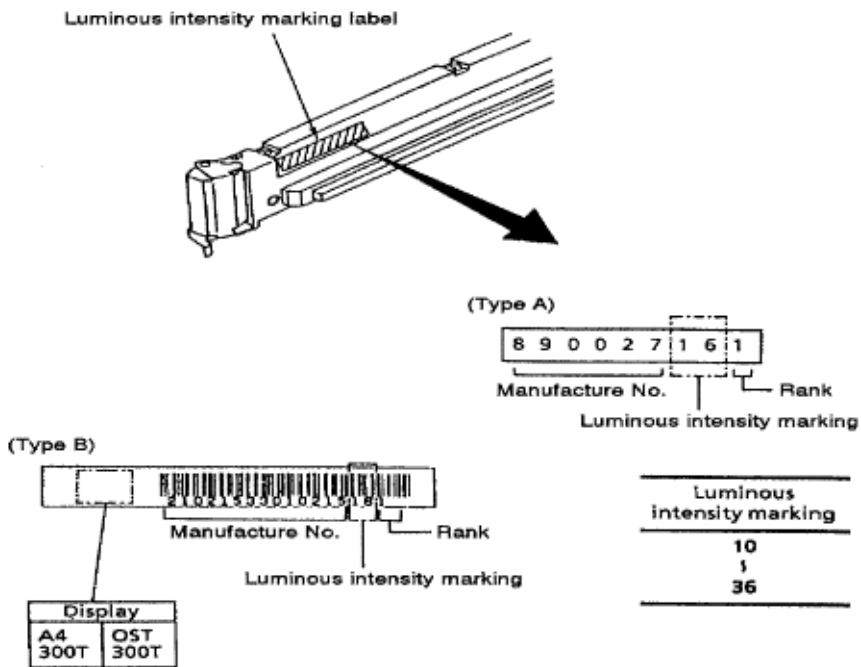
- Setup the printer for Switch 1 Maintenance Mode.
- Press Switch 1 twelve times (one second each time) to access EEPROM Address 13.
- The LED will flash thirteen times, indicating EEPROM Address 13.
- Press Switch 1 once for five seconds.
- The LED will display the contents of EEPROM Address 13.
- The long flash indicates start of count.
- Short flashes indicate counter contents (most significant digit first). Ten flashes = 0.
- There will be a pause between digits.
- Upon completion of the count, a long flash will indicate start of count.
- This process will loop until you press Switch 1.
- Press Switch 1 X times. X = the increments needed to move from the stored value to the desired value. The moves are incremental.
- To store the new setting, press Switch 1 once for five seconds.
- The LED will flash thirteen times, indicating EEPROM Address 13.
- Power OFF the printer.
- Perform a Continuous Print Test. If the print quality is not satisfactory, reset the drive time to the value immediately before or after the value just set. Determine which value is appropriate by comparing print samples.

Chart of LED Head Drive Time Settings

NOTE:

O follows 15 when incrementing the values.

Luminous Intensity Rating on LED Head	Drive Time Setting (Value)
14 and 15	0
12 and 13	1
11	2
10	3
	4
	5
30	10
26 to 29	11
23 to 25	12
20 to 22	13
18 and 19	14
16 and 17	15



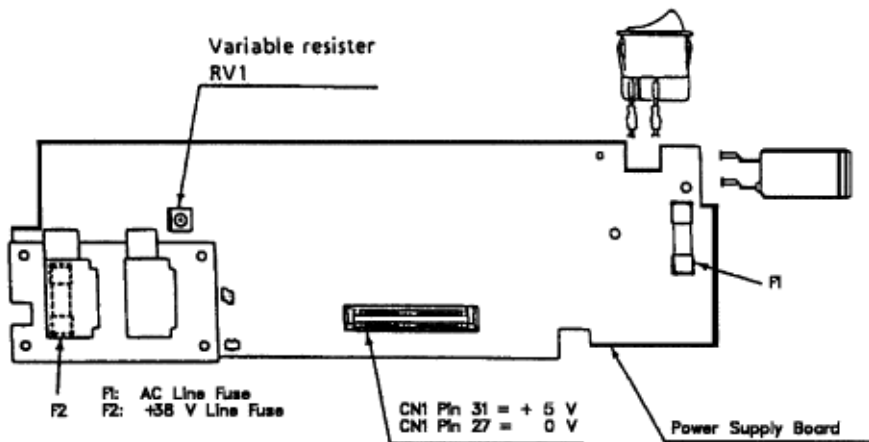
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3.3.10 DC Voltage Check (+5 vdc)

NOTE:

You can check the voltage level, but it cannot be adjusted.

- Remove the upper cover.
- Remove the image drum cartridge.
- Remove the paper supply unit.
- Remove the engine controller circuit board (LLAT).
- Remove the main motor assembly.
- Use a digital multimeter which has an input impedance of 10M ohms and is capable of displaying to the second decimal place or farther.
- Check the voltage at CN1 of the interconnect board between Pin 31, 5V and Pin 27, 0V
- The value should be + 5.0 vdc (+/- 0.1)



3.4 CLEANING

3.4.01 General Information

Routine inspection and cleaning should be performed every six months.

- Remove any dropped toner and dust.
- Clean inside and around the printer with a vacuum cleaner (designed to pick-up toner) when necessary.

CAUTION

If you use a vacuum cleaner that does not have a toner filter, you may severely damage the vacuum cleaner.

3.4.02 Cleaning Table

Item	Cleaning Method	
Static Charger	Wire cleaner attached to static charger	Move the wire cleaner across the static charger several times. Return the cleaner to its original position.
Transfer Charger	Detachable cleaning tool in image drum unit.	Slide the wire cleaner across the transfer charger wire several times.
LED Lens Array	LED lens cleaner in the toner cartridge kit.	Slide the cleaner pad across the LED lens array several times. Use a clean portion of the pad on each pass.
Hopping Roller	Ethyl alcohol	
Resist Roller	Ethyl alcohol	
Back-up Roller	Ethyl alcohol	
Printer Unit	Shop vacuum (with toner filter)	
Covers	Soft lint free cloth and general purpose cleaner	

3.4.03 Static Charger

Clean the static charger when vertical black lines, vertical black stripes, or toner blotching are present on printer output.

- Power OFF the printer.
- Press the OPEN switch raise the stacker cover.
- Move the wire cleaner (1) of the image drum cartridge all the way to the left and then back to the right.

NOTE:

After the cleaning, be sure to return the wire cleaner to its original position. If you do not, a vertical black stripe will appear on the printers output.

3.4.04 Hopping Roller

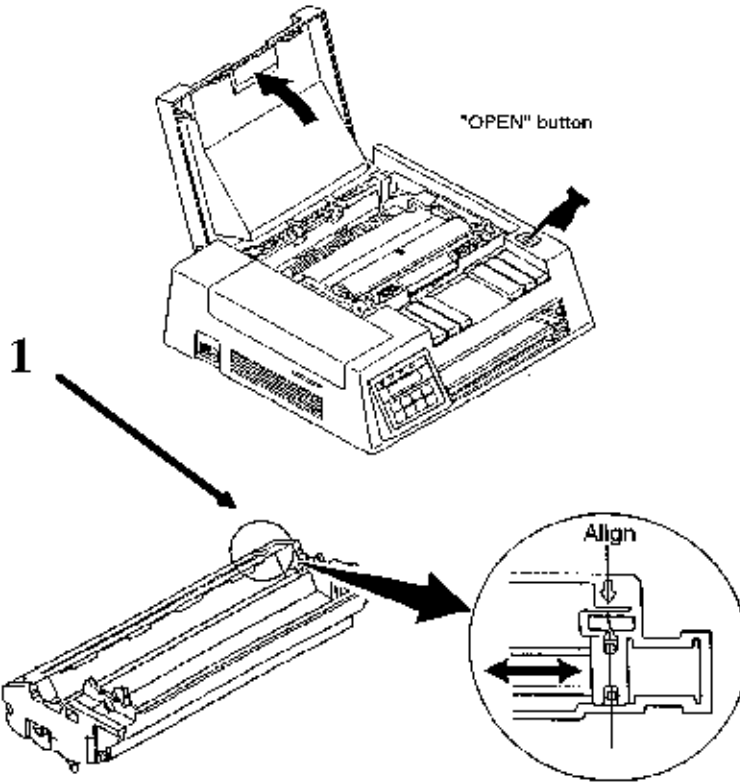
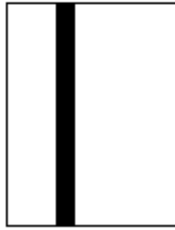
- Clean with ethyl alcohol.

NOTE:

Remember to clean the hopping roller on the second paper supply, if installed.

3.4.05 Printer Unit

- Clean the inside of the unit with a vacuum cleaner designed to handle toner. If you use a vacuum cleaner that does not have a toner filter, you may severely damage the vacuum cleaner.



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3.4.04 Hopping Roller

- Clean with ethyl alcohol.

NOTE:

Remember to clean the hopping roller on the second paper supply, if installed.

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3.4.05 Printer Unit

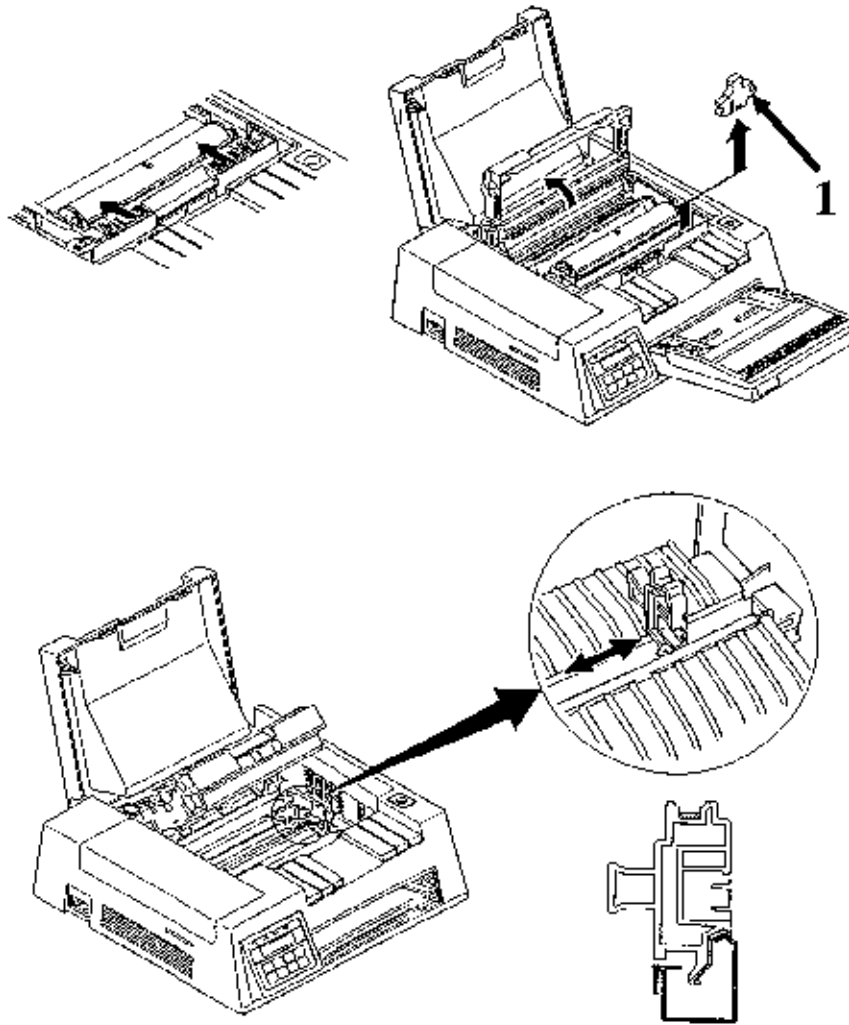
· Clean the inside of the unit with a vacuum cleaner designed to handle toner. If you use a vacuum cleaner that does not have a toner filter, you may severely damage the vacuum cleaner.

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3.4.06 Transfer Charger

Clean the transfer charger when vertical white lines or stripes (printed lightly) are present on printer output.

- Turn OFF the power supply switch.
- Press the OPEN switch and raise the stacker cover.
- Push the lock lever backward to lift the LED holder.
- Take out the wire cleaner (1).
- Position the wire cleaner in the transfer charger assembly as shown.
- Slide the wire cleaner left and right several times across the wire. This cleans the transfer wire. Do not press strongly when wiping or you will break the wire.
- Return the wire cleaner to its storage clip.

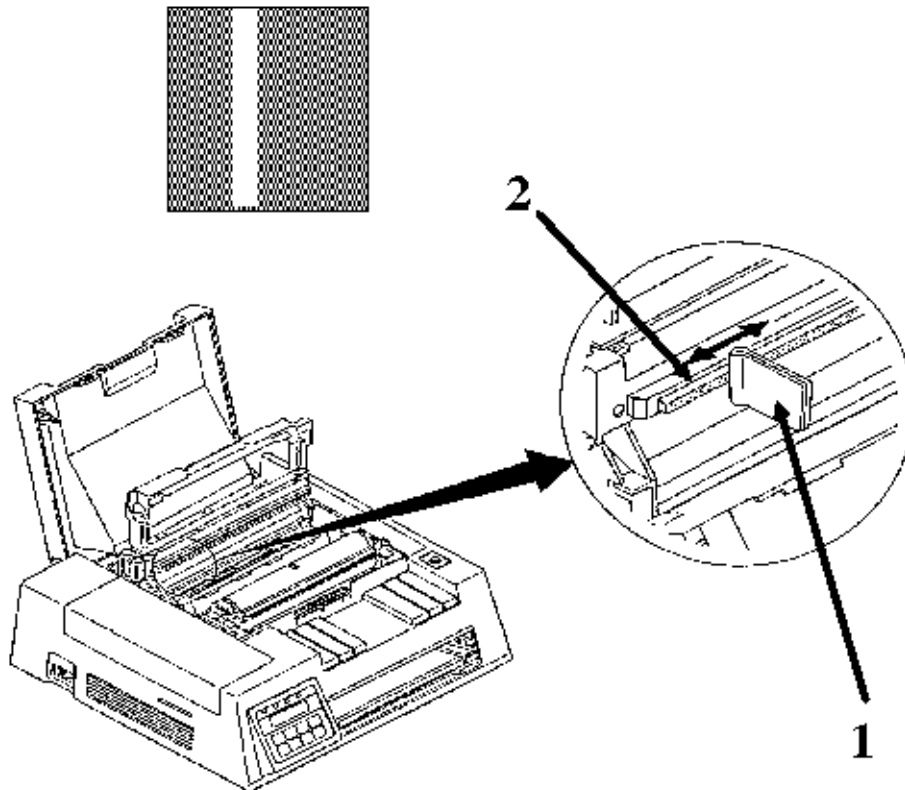


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3.4.07 LED Lens Array

Clean the LED lens array when vertical white lines or stripes (voids and/or light printing) are present on printer output.

- Use the LED lens cleaner provided in the image drum kit.
- Place the LED head cleaner pad (1) against the LED lens array (2).
- Slide the cleaner pad across the lens array several times to clean the head. Use a clean portion of the pad on each pass.
- Discard the used pad.





Service Guide OL830Plus/OL850

Chapter 3 Maintenance & Disassembly

3.5 LUBRICATION

3.5.01 General Information

Silicone oil should be applied once a year to the following parts:

- Gears
-

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4.1 OVERVIEW

4.1.01 Introduction

This section is used to isolate problems to the assembly level. Application problems and detection of faulty components on the printed circuit boards are NOT addressed.

When troubleshooting a defective unit, refer first to [Section 4.4](#) of this Service Handbook. This section contains tips on preventing problems as well as a list of common problems.

[Next, refer to Section 4.6. Repair Analysis Procedures \(RAPs\)](#) will ask you questions or require you to make observations. The answers to these questions and the results of your observations determine your next course of action. Use the RAP Index to identify which RAP should be used to resolve the problem with the machine.

If you encounter a situation that is NOT addressed by the documentation in this kit, please report the problem to Okidata. Send your report to the Okidata Technical Training Group. Refer to the Service Center Reference Guide for information on contacting Okidata.

The following information is provided to detect and analyze failures.

- Okilink II, Faxable Facts, Technical Service Bulletins
- Troubleshooting Tips
- LCD Error Messages
- Sample Abnormal Outputs
- Repair Analysis Procedures
- Printer Tests



4.2 TROUBLESHOOTING UPDATES

4.2.01 General Information

Okidata distributes updated troubleshooting information in three ways.

- Okilink II
- Faxable Facts
- Technical Service Bulletins

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4.2.02 Okilink II

Okilink II is Okidata's Bulletin Board Service. This service is available to all Okidata Certified Service Technicians. Okilink II provides troubleshooting and service information. Technicians can download files, ask questions of Okidata's technical support personnel, and participate in round table discussions about Okidata products and services. Technical Service Bulletins, Recommended Spare Parts Lists, Printer Drivers, Product Specifications, and Service Training Information are also available.

Refer to the Service Center Reference Guide for information on accessing Okilink II.

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4.2.03 Faxable Facts

Okidata's Faxable Facts is an automated fax document retrieval system. It is maintained by Okidata's Customer Information Center. Answers to common questions about Okidata products are available through Faxable Facts.

Refer to the Service Center Reference Guide for information on accessing Faxable Facts.

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4.2.04 Technical Service Bulletins

Okidata's Technical Service Bulletins (TSBs) contain technical information developed after product release. Firmware updates, part number changes, and procedural changes are some of the subjects covered by these bulletins. The TSB's are distributed through Okilink II.

Refer to the Service Center Reference Guide for information on accessing Okilink II.

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Service Guide OL830Plus/OL850

Chapter 4 Failure & Repair Analysis

4.3 REPORTING PROBLEMS

4.3.01 General Information

Okidata strives to provide accurate and detailed service information through its training materials. The Technical Training Group realizes that service technicians have valuable experience, knowledge, and opinions. Okidata strongly encourages you to report any problems you may encounter when using the materials of this training kit. Please be as specific and detailed as possible. Your comments, suggestions, and criticisms are used to update and revise training kits.

You should reference the training materials when servicing Okidata products. Most problems can be solved by using the information provided in the training materials. If you encounter a situation that cannot be solved, please let Okidata know.

Refer to the Service Center Reference Guide for information on contacting Okidata.

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4.3.02 Problem Lists

Technicians frequently request a list of common problems specific to a product. Technical Training Kits are written before a product is shipped to customers. Therefore, such information is NOT available when a product is first released.

However, Okidata wants to respond to these requests. Okilink II provides round-table discussions on technical problems. Errors and corrections in the training materials are listed in the Training Section of Okilink II. The Technical Service Bulletins (also known as Okidata's Monthly Mail) are available via Okilink II. Situations that are NOT addressed in the reference documentation, technical service bulletins, or round tables may be reported to the Dealer Service and Support Engineers (Contact Technical Supports) or the Technical Training Group. You will receive a response to your message within one business day.

The information on Okilink II is the most accurate and up-to-date technical information available from Okidata. This is only possible with your assistance. By reporting your suggestions, concerns, and problems, Okidata can provide the best possible information.

Your cooperation is greatly appreciated. Thank you for your help!

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4.3.03 Reporting Methods

Okilink II

You may use Okilink II to report your findings. Refer to the Service Center Reference Guide for information on using Okilink II.

Course Critique

Use the Course Critique to report any problems you find as you are completing the self-paced training.

Fax Number

If you wish to fax your response, please use the numbers listed in the Service Center Reference Guide.

Mailing Address

If you respond by mail, please use the appropriate address listed in the Service Center Reference Guide.

Information Provided

Please provide the following information when reporting problems.

- Okidata Dealer Number
- Technician's Name
- Company Name
- Company's Address (Street, City, State/Province, ZIP / Postal Code, Country)
- Telephone and Fax Numbers (with area / country access codes)
- Product Name
- Units Serial Number
- Firmware Revision Level
- Description of Problem
- Document Name (with page number or procedure) with error or problem.

4.4 TROUBLESHOOTING TIPS

4.4.01 Preliminary Checks

- Is the product being operated under the proper ambient conditions?
 - Is the paper being used made specifically for xerographic printing?
 - Have the toner cartridge and image drum cartridge been replaced as recommended?
 - Are the correct software printer drivers being used?
 - Is Okidata toner being used?
-

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4.4.02 Tips for Preventing Image Problems

- Do not let anything touch the surface of the image drum.
 - NEVER expose the image drum to direct sunlight.
 - Do not touch the fuser unit. Oil from your skin can cause uneven fusing temperature.
 - Do not expose the image drum to light for more than 5 minutes.
-

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4.5 LCD ERROR MESSAGES

4.5.01 Using the Error Message Charts

The LCD Error Message Charts provide the following information:

- LCD Display Message
- Description of the Error Message
- Possible solution to the problem

There are two groups of LCD Error Messages:

· [Section 4.5.02 - the Service Lamp is ON](#) .

· [Section 4.5.03 - the Service Lamp is OFF](#) .







Make sure you refer to the appropriate section when troubleshooting.





Service Guide OL830Plus/OL850

Chapter 4 Failure & Repair Analysis

4.5.02 Error Messages (Service Lamp ON)

Category	LCD Display Message	Description	Solution
Printer Unit (PU) Errors	ERROR ENGINE	LLAT board ROM errors EEPROM errors optional (IPT) errors	Refer to RAP 06(). Replace the LLAT engine control board or ROM
	ERROR ENGINE FAN PROBLEM	The DC Fan has stopped or the +38 vdc is NOT being supplied to the fan.	Refer to RAP 15().
	ERROR ENGINE FUSER PROBLEM	The fuser temperature has NOT reached the prescribed setting.	Refer to RAP 05().
Interface Errors	ERROR OP-PANEL I/F TIMEOUT	A communication error has occurred between the Control Unit (CU) and the Operator Panel.	Refer to RAP 07().
	ERROR PRINTER I/F TIMEOUT	A communication error has occurred between the Control Unit (CU) and the Printer Unit (PU).	Refer to RAP 08().
	ERROR OPTION I/F TIMEOUT	After the CU sends data no response is received from the Option.	Replace the LLAT engine control board Replace the Option.
	ERROR LOOP TEST (Only in the emulation mode)	An error has occurred on the serial interface board.	Check the serial I/F settings in the printer menu. Replace the serial I/F board.
EEPROM Error	ERROR EEPROM (The Service Lamp is off)	While the EEPROM was being written to power was removed from the printer. EEPROM data was erased.	Press the RECOVER switch. This will reset the EEPROM to factory (default) settings.
Controller Errors	ERROR OPTION RAM CHECK	A RAM Write/Read compare error occurred on the optional RAM Board.	Refer to RAP 10().

	ERROR RESIDENT RAMCHECK	A RAM Write/Read compare error occurred on the of the Main Controller Board.	Refer to RAP 10().
	ERROR FONT ROM CHECK	There is a checksum error in the resident font ROM of the (APSH).	Replace the emulation board (APSH)
	ERROR PROGRAM ROM CHECK	There is a checksum error in the Program ROM of the Main Controller Board.	Refer to RAP 11().

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4.5.03 Error Messages (Service Lamp OFF)

Category	LCD Display Message	Description	Solution
Requests for Manual Paper Loading	EXECUTIVE PAPER MANUAL REQUEST	Legal size (14 inch) paper is requested.	Load the appropriate paper or envelope in the manual tray and press the FORM FEED Switch.
	LETTER PAPER MANUAL REQUEST		
	LEGAL PAPER MANUAL REQUEST (Only in the .PS mode)		
	LEGAL 13 INCH MANUAL REQUEST	Legal size (13 inch) paper is requested.	
	LEGAL 14 INCH MANUAL REQUEST	Legal size (14 inch) paper is requested.	
	A4 PAPER MANUAL REQUEST	A4 size paper is requested.	
	A5 PAPER MANUAL REQUEST	A5 size paper is requested.	
	A6 PAPER MANUAL REQUEST	A6 size paper is requested.	
	B5 PAPER MANUAL REQUEST		
	MONARCH ENVELOPE MANUAL REQUEST		
	COM-10 ENVELOPE MANUAL REQUEST		
	DL ENVELOPE MANUAL REQUEST		
	C5 ENVELOPE MANUAL REQUEST		

Font Card Errors	ERROR CARD CHECK	There is a checksum error on the font card.	Refer to RAP 12().
	ERROR CARD REMOVED ON-LINE	The font card was removed while the printer was on-line.	Turn the power off then on.
Cover Open	COVER OPEN	The upper cover was opened.	Close the upper cover. Replace the cover open switch. Replace the engine controller board.
Card Errors	CARD NOT FOUND	The CU could NOT detect the font card.	Replace the font card Replace the main controller board.
Jam Errors	PAPER FEED JAM <i>n</i>	A jam occurred in the paper tray area. The top edge of the paper failed to reach the resist sensor within two seconds after hopping.	Refer to RAP 02().
	PAPER JAM <i>n</i>	The top edge of the paper failed to reach the exit sensor within 4.8 seconds after passing the resist sensor.	Refer to RAP 03().
	SIZE TRAY <i>n</i> ERROR	This error occurs when the actual paper length (detected by the resist sensor) differs from the paper length indicated by the tray identification switches.	Refer to RAP 04().
Tray Requests (Only in the .PS mode)	EXECUTIVE TRAY <i>n</i> REQUEST	Executive Tray is requested.	Replace with the appropriate tray or press the RECOVER/Reset Switch to force printing with existing tray.
	LETTER TRAY <i>n</i> REQUEST	Letter Tray is requested.	
	A4 TRAY <i>n</i> REQUEST	A4 Tray is requested.	
	A5 TRAY <i>n</i> REQUEST	A5 Tray is requested.	
	LEGAL TRAY <i>n</i> REQUEST	Legal Tray is requested.	

	B5 TRAY <i>n</i> REQUEST	B5 Tray is requested.	
	UNIVERSAL (A6) TRAY <i>n</i> REQUEST	A6 Tray is requested.	
Tray Requests	COM-10 ENVELOPE TRAY 1 REQUEST	Com-10 Tray is requested.	Replace with the appropriate tray or press the RESET Switch to force printing with existing tray.
	MONARCH ENVELOPE TRAY 1 REQUEST	Monarch Tray is requested.	
	DL ENVELOPE TRAY 1 REQUEST	DL Tray is requested.	
	C5 ENVELOPE TRAY 1 REQUEST	C5 Tray is requested.	
Buffer Overflow (Only in the emulation mode)	ERROR RECEIVE BUFFER OVERFLOW	The receive buffer received too much data to be printed on a page.	Install more memory. Reduce the amount of print data. Reduce the number of DLL fonts or Macro's cataloged. Refer to RAP 13().
	ERROR PAGE BUFFER OVERFLOW	The page buffer received too much data to be printed on a page.	
	ERROR DLL BUFFER OVERFLOW	The DLL buffer received too much data.	
	ERROR MACRO BUFFER OVERFLOW	The macro buffer received too much data.	
	ERROR PRINT OVERRUN	Page is too complicated to be printed.	Modify the page make-up (reduce the number of data overlays).
Connection Error	Block Character displayed or missing display	If the block character or missing display occurs for over 30 seconds there is an operator panel malfunction.	Refer to RAP 01().
Paper Out	PAPER OUT TRAY <i>n</i>	The tray has run out of paper.	Load paper into the tray. Check the paper-end sensor for proper operation.

Reset Operation Error (Only in the emulation mode)	RESET TO SAVE	With data remaining in the print buffer a menu setting that would affect the print result was requested to be changed.	1-Press the ON-LINE Switch. The printer will be placed on-line without affecting the current setting. 2-Press the RECOVER Switch (for less than 2 seconds). The printer will be placed off-line without affecting the current settings. 3-Press the RESET Switch (for more than 2 seconds). The current setting is changed the unprinted data in the buffer is erased and the printer is placed on-line.
Daily Status (Only in the emulation mode) .xx Represents the active emulation	DATA PRESENT .xx	Received data is in the page buffer.	Press the FORM FEED Switch in the off-line mode to force printing.
	ON-LINE .xx	The printer is ON-LINE.	Normal Operation
	OFF-LINE .xx	The printer is OFF-LINE .	
	PRINT FONTS	The printer is printing all available fonts.	
	CONTINUOUS PRINT	This message is displayed while the printer is performing the self test.	
	DEMO PAGE PRINT	The demonstration page is being printed.	
	TONER LOW	The toner cartridge is running low.	
	PRINT MENU	The menu is being printed.	
	WARMING UP	The thermal fuser has NOT yet reached the proper temperature.	
	RESET	The internal status of the printer has been reset.	

	MENU RESET	The printer menu will default to factory settings.	
Daily Status (Only in the emulation mode)	CHANGE DRUM	The image drum cartridge needs to be replaced	Replace the image drum cartridge then turn on the power while pressing the RECOVER/Reset Switch.
	FUSER LIFE	End of thermal fuser life reached (180,000 pages).	Replace the fuser unit then reset the fuser counter (refer to Section 3 of this Service Handbook).
Daily Status (Only in the .PS -postscript mode)	ON-LINE .PS IDLE	The printer is the on-line mode	Normal Operation
	OFF-LINE .PS	The printer is in the OFF - line mode. The printer receives data but does NOT process any data.	
	ON-LINE.PS PROCESSING	Processing the receive data.	
	ON-LINE .PS WAITING	Waiting for receive data.	
	ON-LINE .PS PRINTING	Printing.	
	ON-LINE .PS FLUSHING JOB	After PRINTER BUSY appeared the RESET key was pressed and all of the data in the receive buffer were invalidated.	Automatically returns to IDLE.
	DOING START PAGE	The start page setting was on when the power was turned on. Printing starts from the start page in about one minute.	Normal Operation

	ON-LINE .PS IDLE CHANGE DRUM	The service life of the drum has expired.	Replace the drum change the software to the emulation mode hold down the RESET key and turn on the power. Check that DRUM CTR RESET appears on the LCD.
	ON-LINE .PS PRINTER BUSY	The ON- LINE key is pressed doing processing waiting printing.	Recovers automatically otherwise press the RESET key to return to IDLE.

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4.5.04 Samples of Abnormal Output



Light Output:
Refer to RAP 15 (📄)



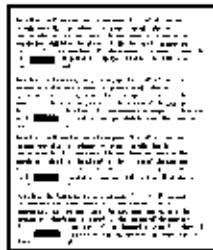
Dark Background:
Refer to RAP 16 (📄)



Blank Output:
Refer to RAP 17 (📄)



Missing Output:
Refer to RAPs 20(📄)/21(📄)



Repetitive Marks:
Refer to RAP 19(📄)



Black Vertical Streaks:
Refer to RAP 18(📄)




Black Output:
Refer to RAP 22(📄)

4.6 REPAIR ANALYSIS PROCEDURES

4.6.01 Using the RAPs

When using the Repair Analysis Procedures, follow these steps:

- Use the RAP INDEX to find the RAP which is associated with the printers problem.
- Go to the appropriate RAP.
- All of the RAPs begin with a START statement, followed by questions or another type of statement.

· If the RAPs do not lead you to the cause of a problem, please report this to Okidata. Refer to Section 4.3 for details .

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4.6.02 RAP Index

RAP	Problem Description
1	Printer Does NOT Initialize
2	Paper Feed Jam
3	Paper Jam
4	Paper Size Error
5	Fusing Problem
6	PU Error
7	Operator Panel Communication Error
8	Communication Error Between PU and CU
9	Loop Test Failure (RS232-C)
10	Resident/Optional RAM Failure
11	Program ROM Failure
12	Optional Font Card Failure
13	Receive Buffer Overflow
14	No Display on Operator Panel
15	Images are Light or Blurred
16	Dark Background Density
17	Blank Paper Is Output
18	Black Vertical Stripes
19	Repetitive Spaced Marks on Output
20	Random Missing Output
21	White Vertical Stripes
22	Black Page Is Output

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4.6.03 Start Here Flowchart

START

The printer is NOT operating properly.

The symptoms of the problem are:

Unacceptable or missing output.

Refer to Section 4.5.04 Output Samples 

Is there a sample resembling the problem?

YES Refer to the specified RAP.

NO Contact Okidata Technical Support.

Error Message displayed on the operator panel.

Is the Service Lamp ON?

YES Refer to Section 4.5.02 

NO Refer to Section 4.5.03 

Printer does not initialize.

Refer to RAP 01 

RAP 01: Printer Does Not Initialize

START

Check the F1 (8 amp AC line fuse). Replace if necessary.

Power OFF the unit, then power ON. Do the operator panel lamps light?

YES Go to A

NO Go to B

A

Do the fan and motor power ON?

YES Does the fuser lamp power ON?

NO Refer to RAP 05 .

YES The following are the most likely defective assemblies. Replace in the order listed, checking for proper operation before going to the next item listed.

1. Main control board PROM.
2. Engine controller board.

Is the problem resolved?

YES End of procedure.

NO Contact Okidata Technical Support.

NO Remove the main control board.

Do the fan and main motor turn on?

YES Replace the main controller board.

NO Measure the voltage between pin 14 and pin 15 of connector J6 on the engine controller board.

Does it measure approximately +38 vdc?

YES The following are the most likely defective assemblies. Replace in the order listed, checking for proper operation before going to the next item listed.

1 - Cover Open Switch

2 - Engine Controller Board

3 - Power Supply Unit

NO Go to C

B

Measure the voltage between pin 1 and pin 3 of connector (PU) on the main controller board.

Does it measure +4.75vdc to +5.25vdc?

YES The following are the most likely defective assemblies. Replace in the order listed, checking for proper operation before going to the next item listed.

1 - Operator Panel

2 - LLCC Board

3 - Main Controller Board

NO Remove the main controller board.

Measure the voltage between pin 32 and pin 34 of connector J6 on the engine controller board.

Does it measure +4.75vdc to +5.25vdc?

YES Replace the main controller board.

NO Remove the engine controller board.

Measure the voltage between pin 32 and pin 34 of connector CN1 on the power supply unit.

Does it measure +4.75vdc to +5.25vdc?

NO Replace the power supply unit.

YES Replace the possible defective assemblies in the order listed.

1 - Engine Controller Board

2 - LLCC Board

3 - Operator Panel

C

Remove the AC power from the printer.

Check F2 (2 amp, +38vdc circuit fuse) on the power supply unit.

Is the fuse open?

NO Replace the power supply unit.

YES Replace the fuse (soldered).

Install the engine controller board.

Measure the resistance between pin 14 and pin 15 of connector J6 on the engine controller board.

Is the resistance 0 ohms?

YES Replace the possible defective assemblies in the order listed.

1 - Engine Controller Board

2 - Main Motor

3 - Fan

4 - Resist Motor

NO Install remaining assemblies. Test printer.

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RAP 02: Paper Feed Jam

START

When does the paper jam alarm occurs?

As soon as the unit is powered ON. Go to A.

After the printer attempts to print. Go to B.

A

Is paper jammed at the resist sensor?

YES Remove the paper.

NO Raise the stacker cover

Lift the upper unit

Block the resist sensor with a piece of paper

Override the cover open switch.

Is the jam error cleared?

YES Remove the paper

Replace all printer covers

Check the resist sensor lever for normal operation.

NO Replace the engine controller board.

B

Is the paper moving?

YES Go to C.

NO Go to D.

C

Is the paper reaching the resist sensor lever?

YES Raise the stacker cover.

Lift the upper unit

Block the resist sensor with a piece of paper

Override the cover open switch.

Is the jam error cleared?

YES Remove the paper.

Replace all printer covers.

Check the resist sensor lever for normal operation.

NO Replace the engine controller board.

NO Are there obstructions in the paper path?

NO Replace the possible defective assemblies in the order listed.

1 - Resist Motor

2 - Paper Supply Unit

3 - Engine Controller Board

YES Remove the obstructions.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

D

Measure the voltage at Connector J5 between pins 12, 13, 14, 15, 16 (Resist Motor Drive) and pin 6 (Ground).

Which voltage was measured?

0 vdc

Replace the engine controller board.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

+38vdc

Does the resist motor turn when attempting to feed paper?

NO Replace the possible defective assemblies in the order listed.

1 - Resist Motor

2 - Paper Supply Unit

3 - Engine Controller Board

YES Replace the possible defective assemblies in the order listed.

1 - Paper Supply Unit

2 - Resist Motor

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RAP 03: Paper Jam

START

When does the paper jam alarm occurs?

As soon the unit is powered ON. Go to A.

After the printer attempts to print. Go to B.

A

Is paper at the resist or exit sensor?

YES Remove the paper.

NO Remove the upper cover.

Detach the main controller board.

Measure the voltage at IC3 pin 37 of the engine controller board as you lift and lower the paper exit sensor lever.

Does the voltage reading change between 0 vdc and +5 vdc as you move the lever?

NO Replace the engine controller board.

YES Replace the possible defective assemblies in the order listed.

1 - Engine Controller Board

2 - Paper Exit Sensor Lever

3 - Main Controller Board

B

Does the paper move beyond the resist sensor?

NO Replace the possible defective assemblies in the order listed.

1 - Engine Controller Board

2 - Main Motor

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

YES Is the paper reaching the paper exit sensor lever?

YES Raise the stacker cover.

Lift the upper unit.

Block the resist sensor with a piece of paper.

Override the cover open switch.

Is the jam error cleared?

YES Remove the paper

Replace all printer covers.

Check the paper exit sensor lever for normal operation.

NO Replace the engine controller board.

NO Are there obstructions in the paper path?

NO Replace the possible defective assemblies in the order listed.

1 - Resist Motor

2 - Paper Supply Unit

3 - Engine Controller Board

YES Remove the obstructions.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support



RAP 04: Paper Size Error

START

Use the paper length specified on the paper tray.

Raise the stacker cover

Lift the upper unit.

Check the resist sensor lever for normal operation.

Does the resist sensor lever move freely?

NO Replace the resist lever sensor.

YES Does the paper exit sensor lever move freely?

NO Replace the resist lever sensor.

YES Are there obstructions in the paper path?

NO Possible defective assemblies:

1 - Tray detection switches on LLCC board

2 - Engine Controller Board

3 - Paper Supply Unit

4 - Main Controller Board

YES Remove the obstructions.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

RAP 05: Fusing Problem

START

Look through the right side vent of the printer. Does the fuser lamp light?

YES

Measure the resistance between pins 1 and 2 of the cable connected to J2 on the engine controller board.

Is the resistance approximately 100K Ohm?

NO Replace the possible defective assemblies in the order listed.

1 - Thermistor Assembly

2 - Engine Controller Board

YES Replace the possible defective assemblies in the order listed.

1 - Engine Controller Board

2 - Main Controller Board

3 - Fuser Assembly

NO

Open the upper cover.

Lift the upper unit. Verify that the heaters AC connections are NOT recessed into the holder.

Measure the resistance between the heaters AC connections.

Is the resistance approximately zero ohms?

NO Replace the fuser assembly.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

YES Check the voltage at J6 pin 37 on the engine controller board.

Is the measurement approximately +5 vdc?

NO Replace the engine controller board.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

YES Is the power supply placed under the rear claws of the printer base?

NO Install the power supply properly.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

YES Replace the power supply unit.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support



RAP 06: PU Error

START

Replace the engine controller board.

Has the problem been resolved?

YES End of procedure

NO Replace the main controller board.

Has the problem been resolved?

YES End of procedure.

NO Contact Technical Support

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RAP 07: Operator Panel Communication Error

START

Check the ribbon cable connections at the operator panel and J5 of the engine controller board.

Is it properly connected?

YES Go to A

NO Connect it properly.

Is the problem resolved?

YES End of procedure

NO Go to A

A

Replace the operator panel assembly.

Is the problem resolved?

YES End of procedure

NO Replace the main controller board.

Is the problem resolved?

YES End of procedure

NO Replace the possible defective assemblies in the order listed.

1 - LLCC Board

2 - Engine Controller Board



RAP 08: Communication Error Between PU and CU

START

Check that connector (PU) on the main controller board making good contact with J7 of the engine controller board.

Are CN7 and J7 properly connected?

NO Connect them properly.

YES Replace the main controller board.

Is the problem resolved?

YES End of procedure

NO Replace the engine controller board.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

RAP 09: Loop Test Failure (RS-232C)

START

Is the loop test connector installed?

NO Install the loop test connector.

Refer to Section 4.7  for a wiring diagram.

Perform Serial Loop Test.

YES Replace the serial interface board (option).

Is the problem resolved?

YES End of procedure

NO Replace the main controller board.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support



RAP 10: Resident/Optional RAM Failure

START

Remove the optional RAM board (REXM).

Is the problem resolved?

NO Replace the main controller board.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

YES Reinstall the optional RAM (REXM) board.

Is the problem resolved?

YES End of procedure

NO Replace the optional RAM board.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

RAP 11: Program ROM Failure

START

Replace the Program ROM on the main controller board.

Is the problem resolved?

YES End of Procedure.

NO Replace the emulation board (APSH).

Is the problem resolved?

YES End of Procedure.

NO Remove the main controller board.

Perform Engine Test - B refer to 4.7.05.

Does the test run properly?

YES Go to A.

NO Replace the engine controller board.

Does the engine test run properly?

NO Contact Technical Support

YES Go to A.

A

Reinstall the main controller board.

Perform the Continuous Print Test (refer to 4.7.2.

Is the problem resolved?

YES End of Procedure.

NO Replace the main controller board.

Is the problem resolved?

YES End of procedure.

NO Contact Technical Support

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RAP 12: Optional Font Card Failure

START

Replace the font card.

Is the problem resolved?

YES End of procedure

NO Make sure the font card board is firmly attached to the main controller board.

Is the problem resolved?

YES End of procedure

NO Replace the main controller board.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support



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RAP 13: Receive Buffer Overflow

START

Determine the method of flow control being used by the Host and the printer (X-ON/X-OFF or READY BUSY).

Is the same method being used at the Host and on the printer?

NO Set the flow control via the Level 2 MENU.

Is the problem resolved?

YES End of procedure

NO Go to the next step listed below.

YES Replace the possible defective assemblies in the order listed.

1 - Interface Cable configuration is incorrect

2 - Interface Cable

3 - Serial Interface Board

4 - Main Controller Board

Is the problem resolved?

YES End of procedure

NO Contact Okidata Technical Support

RAP 14: No Display on Operator Panel

START

Check the ribbon cable connections at the operator panel and J5 of the engine controller board.

Is the problem resolved?

YES End of procedure

NO Measure the voltage between pin 1 and pin 3 at connector PU on the main controller board.

Is the voltage between +4.75vdc and +5.25vdc?

YES Go to RAP 07.

NO Remove the main controller board.

Measure the voltage between pin 13 and pin 14 at J6 on the engine controller board.

Is the voltage between +4.75vdc and +5.25vdc?

YES Replace the main controller board.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

NO Remove the cable from J5 on the engine controller board.

Measure the voltage between pins 13 pin 14 at J6 on the engine controller board.

Is the voltage between +4.75vdc and +5.25vdc?

NO Replace the power supply unit.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

YES Replace the possible defective assemblies in the order listed.

1 - LLCC Board

2 - Operator Panel Assembly

3 - Engine Controller Board

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RAP 15: Images are Light or Blurred

START

Does the printer contain sufficient toner?

NO Add toner.

YES Is the paper recommended for use in a laser printer?

NO Use paper recommended for a laser printer.

YES Print the menu.

Raise the stacker cover to stop the print cycle just as the bottom of the paper goes under the hopping roller.

Lift the upper unit, remove the paper and look at the image drum.

Is there a dark toner image on the drum?

YES Replace the possible defective assemblies in the order listed.

1 - Transfer Charger Assembly

2 - High Voltage Power Supply

3 - Engine Controller Board

NO Clean the LED head.

Is the problem resolved?

YES End of procedure

NO Replace the possible defective assemblies in the order listed.

1 - Image Drum Cartridge

2 - Engine Controller Board

3 - High Voltage Power Supply

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

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RAP 16: Dark Background Density

START

Clean the charge wire.

Is the problem resolved?

YES End of procedure

NO Has the image drum been exposed to external light?

YES Test the printer after 30 minutes. This will allow the drum surface to recover its photoconductive properties.

Is the problem resolved?

NO Go to A.

YES End of procedure

NO Go to A.

A

Replace the fuser cleaner pad.

Is the problem resolved?

YES End of procedure

NO Possible defective assemblies. Replace in the order listed.

1 - Image Drum Cartridge

2 - High Voltage Power Supply Unit

3 - Engine Controller Board

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

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RAP 17: Blank Paper is Output

START

Inspect the transfer wire.

Is the transfer wire broken?

YES Replace the transfer wire.

Is the problem resolved?

YES End of procedure

NO Go to the next step listed below.

NO Replace the high voltage power supply unit.

Is the problem resolved?

YES End of procedure

NO Clean the ground contact of the image drum cartridge.

Is the problem resolved?

YES End of procedure

NO Replace the image drum cartridge.

Is the problem resolved?

YES End of procedure

NO Remove the main controller board.

Perform Engine Test - B refer to 4.7.05().

Does the test run properly?

YES Go to A

NO Replace the engine controller board.

Does the engine test run properly?

NO Contact Okidata Technical Support

YES Go to A*

A

Reinstall the main controller board.

Perform the Continuous Print Test (refer to 4.7.02 ).

Is the problem resolved?

YES End of procedure

NO Replace the main controller board.

Is the problem resolved?

YES End of procedure

NO Replace the LED head.

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

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RAP 18: Black Vertical Stripes

START

Is the charge wire cleaning tab in the storage position?

NO Move the tab to the right side of the image drum cartridge.

Is the problem resolved?

YES End of procedure

NO Go to the next step listed below.

YES Clean the charge wire.

Is the problem resolved?

YES End of procedure

NO Possible defective assemblies are listed below. Replace in the order listed.

1 - Image Drum Cartridge. Reset the drum counter

2 - Engine Controller Board

3 - LED Head

Is the problem resolved?

YES End of procedure

NO Contact Technical Support.

RAP 19: Evenly Spaced Marks on Output

START

Measure the distance between the marks. Find the distance below and perform the suggested correction.

· 2.0 inches resist

Clean/replace the resist rollers.

· 2.27 inches

Check/replace the image drum cartridge.

· 2.47 inches fuser

Clean/replace the fuser cleaner pad / fuser assembly.

· 2.72 inches backup

Clean/replace backup roller.

· 3.7 inches

Check/replace the image drum cartridge.

· 4.75 inches hopping

Check/replace the hopping roller.

RAP 20: Random Missing Output

START

Does the printer contain sufficient toner?

NO Add toner.

YES Is the paper recommended for use in a laser printer?

NO Use paper recommended for a laser printer.

YES Perform the Continuous Print Test.

Raise the stacker cover to stop the print cycle just as the bottom of the paper goes under the hopping roller.

Lift the upper unit, remove the paper and look at the image drum.

Is there a complete toner image on the drum?

YES Possible defective assemblies are listed below. Replace in the order shown.

1 - Fuser Cleaner Pad

2 - Clean the Fuser Roller (A dirty rollers can cause uneven temperature.)

3 - Transfer Charger Assembly

4 - Engine Controller Board

5 - High Voltage Power Supply

6 - Fuser Assembly

NO Clean the LED head.

Is the problem resolved?

YES End of procedure

NO Possible defective assemblies (replace in the order shown)

1 - Image Drum Cartridge

2 - Engine Controller Board

3 - High Voltage Power Supply

4 - Main Controller Board

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

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RAP 21: White Vertical Stripes

START

Does the printer contain sufficient toner?

NO Add toner.

YES Is the paper recommended for use in a laser printer?

NO Use paper recommended for a laser printer.

YES Perform the Continuous Print Test.

Raise the stacker cover to stop the print cycle just as the bottom of the paper goes under the hopping roller.

Lift the upper unit, remove the paper and look at the image drum.

Is there a complete toner image on the drum?

YES Possible defective assemblies are listed below. Replace in the order shown.

1 - Fuser Cleaner Pad

2 - Fuser Roller (Uneven temperature can be caused by a dirty roller)

3 - Transfer Charger Assembly

4 - Engine Controller Board

5 - High Voltage Power Supply

6 - Fuser Assembly

NO Clean the LED head.

Is the problem resolved?

YES End of procedure

NO Possible defective assemblies (replace in the order shown)

1 - Image Drum Cartridge

2 - Engine Controller Board

3 - High Voltage Power Supply

4 - Main Controller Board

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

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RAP 22: Black Page is Output

START

Examine the charge wire (you can see it through the top of the image drum cartridge).

Is the charge wire broken?

YES Replace the image drum cartridge. [Reset the drum counter Refer to 3.3\(!\[\]\(003082e50e3009141f59bd5df831749f_img.jpg\)\).](#)

NO Replace the high voltage power supply.

Is the problem resolved?

YES End of procedure

NO Replace the LED Head.

Is the problem resolved?

YES End of procedure

NO Replace the engine controller board.

Is the problem resolved?

YES End of procedure

NO Replace the image drum cartridge. [Reset the drum counter refer to 3.3\(!\[\]\(56549452e01ca28bdf2500ced9653143_img.jpg\)\).](#)

Is the problem resolved?

YES End of procedure

NO Contact Technical Support

4.7 PRINTER TESTS

4.7.01 Font Sample Test

The Font Sample Test prints samples of the various fonts that can be accessed in the current emulation.

To perform the Font Sample Test:

- Turn the printer power ON and wait for the printer to go On-line.
- Press the ON-LINE switch to take the printer Off-line.
- Press the PRINT FONTS/*Print Menu* switch for 1 second.
- The DATA lamp will turn ON, the READY lamp will flash and the message PRINT FONTS will be displayed on the operator panel.
- Samples of the available fonts will be printed.
- When printing is completed, the printer will be off-line. Press the ON-LINE switch to place the printer On-line.

NOTES:

The printer will print the Font Sample Test only when the printer is in the emulation mode. Following these procedures when the printer is in the PostScript mode, causes the start page to be printed.

OL800 LED PAGE PRINTER

IP Series-11 Emulation		Print	Print	Print	Print
Job	Type	Lines	Size	Mode	Print Length
resident					
109	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
101	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
102	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
103	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
104	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
105	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
106	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
107	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
108	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
109	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
110	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
111	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
112	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
113	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
114	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
115	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
116	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
117	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
118	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
119	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
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122	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
123	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
124	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
125	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
126	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
127	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
Card					
Ref: P&S					

OL800 LED PAGE PRINTER

IP Series-12 Emulation		Print	Print	Print	Print
Job	Type	Lines	Size	Mode	Print Length
resident					
100	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
101	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
102	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
103	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
104	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
105	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
106	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
107	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
108	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
109	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
110	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
111	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
112	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
113	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
114	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
115	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
116	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
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124	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
125	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
126	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
127	Letter	10	10	Normal	0123456789ABCDEF0123456789ABCDEFGHIJKL
Card					
Ref: P&S					



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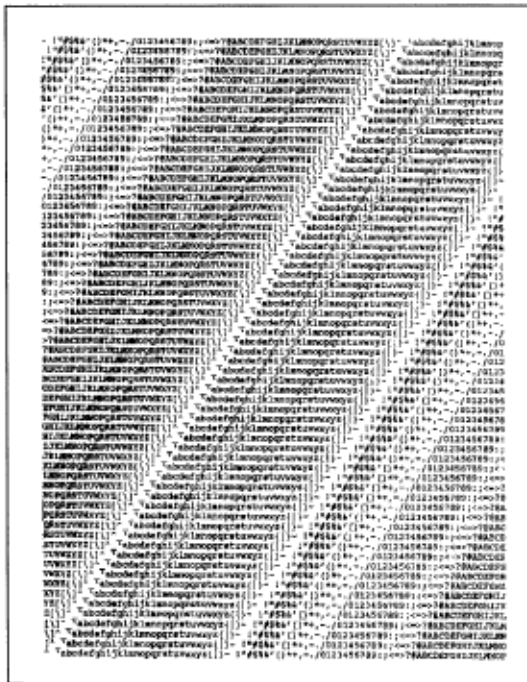
Chapter 4 Failure & Repair Analysis

4.7.02 Continuous Print (Rolling ASCII) Test

The Rolling ASCII Test will continually print the ASCII Character Set (shifting the characters one position to the right on subsequent lines). This test can be used to examine the character density across an entire page.

To perform the Rolling ASCII Test:

- Turn the printer power ON and wait for the printer to go ON-LINE.
- Press the ON-LINE switch to take the printer Off-line.
- Press the and hold the LAST/- switch until the message CONTINUOUS PRINT is displayed on the operator panel.
- The test will begin to print.
- Press the ON-LINE switch to stop the test and return the printer to normal operation.





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4.7.03 Serial Interface Diagnostic

The Serial Interface Diagnostic is used to verify the proper operation of the serial port and its associated circuitry.

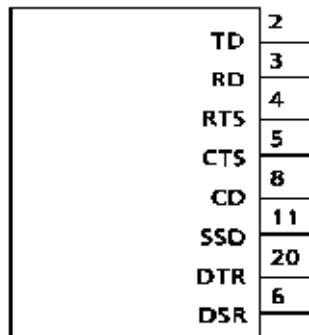
To perform the Serial Interface Diagnostic:

- Place a DB-25P Loopback Test Connector on the serial port (configuration is shown below).
- Select the serial interface through the Menu.
- Press and hold the PRINT FONTS/*Print Menu* switch as you Power ON the printer.
- After approximately 10 seconds, the test will begin.

NOTE:

The number of times the test passes will be displayed in the lower right corner of the operator panel display. If this diagnostic fails, LOOP TEST FAILURE will be displayed. [Refer to RAP !\[\]\(0b5e7e25e8775f7e7e80906ada4f0021_img.jpg\) if test fails.](#)

- To return the printer to normal operation, turn the power OFF, then ON.





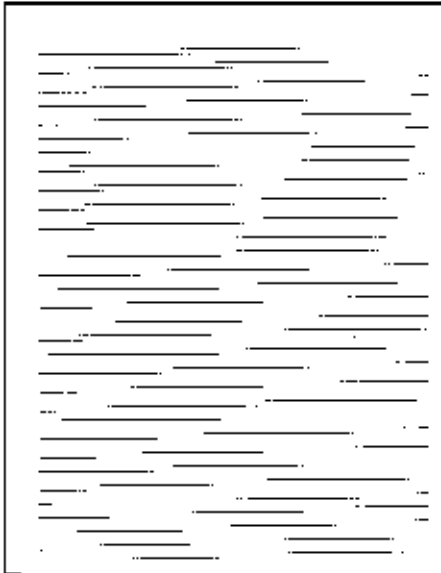
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Chapter 4 Failure & Repair Analysis

4.7.04 Engine Test - A

The Engine Test - A provides the technician with a method for testing the print engine mechanism independent of the main controller board.

- Remove the upper cover.
- Override the cover interlock switch and power on the printer.
- Allow approximately one minute for the printer to initialize, then press switch SW1 on the engine controller board for one second.
- The printer will start printing repetitive horizontal lines.
- To stop printing, press switch SW1 on the engine controller board.



4.7.05 Engine Test - B

The Engine Test - B provides the technician with a method for printing the following information, independent of the main controller board.

Engine Firmware Revision Level

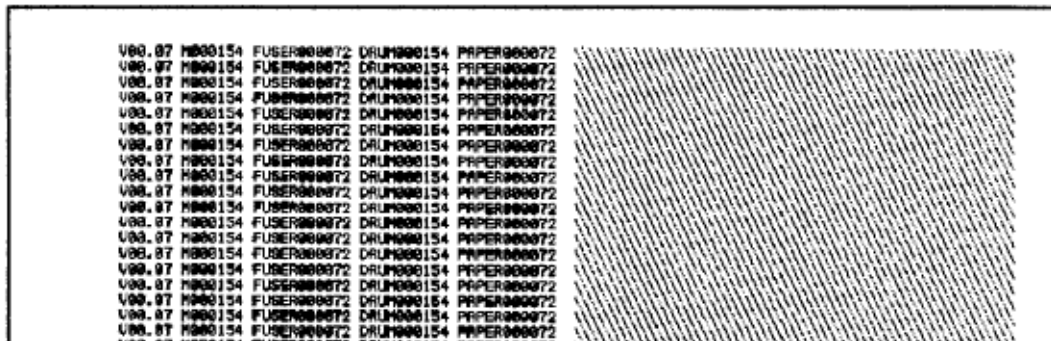
Modified Page Count

Fuser Count

Drum Count

Actual Page Count

- Remove the upper cover.
- Override the cover interlock switch and power on the printer.
- Allow approximately one minute for the printer to initialize, then press switch SW1 on the engine controller board for three seconds.
- The printer will start printing the requested data.
- To stop printing, press switch SW1 on the engine controller board.



4.7.06 Menu Print

The Menu Print provides the following information to the service technician:

- Program ROM Revision Level (CU and PU)
- Font ROM Revision Level
- Amount of Printer Page Memory
- Factory Menu Settings
- User Selected Menu Settings

NOTE:

Before you select this test, place the printer in the emulation mode. To print the Menu, follow this procedure.

- Turn the printer power ON and wait for the printer to go On-line.
- Press the ON-LINE switch to take the printer Off-line.
- Press the PRINT FONTS/*Print Menu* switch for 3 seconds.
- The DATA lamp will turn ON, the READY lamp will flash and the message MENU PRINT will be displayed on the operator panel.
- The Menu will be printed.
- When printing is completed, the printer will be off-line. Press the ON-LINE switch to place the printer ON-LINE.

OL830 LED PAGE PRINTER

PROGRAM ROM : CU 63.03 A00 PU 00.12
 PAGE MEMORY : 2.0k bytes installed

OPERATOR PANEL MENU SETTINGS	FACTORY	USER
LEVEL 1		
COMMON		
EMULATION	HP SERIES II	DIABLO 630
COPIES	3	1
HANDAL FEED	OFF	OFF
TRAY 1 SIZE	UNIVERSAL/LETTR	UNIVERSAL/LETTR
LEGAL SIZE	14 INCH	14 INCH
HP SERIES II		
ORIENTATION	PORTRAIT	PORTRAIT
FONT SOURCE	RESIDENT	RESIDENT
FONT SELECT	100	100
SYMBOL SET	ROMAN-8	ROMAN-8
HP CARTRIDGE	82-F	82-F
8418000-1	OFF	OFF
DIABLO 630		
ORIENTATION	PORTRAIT	PORTRAIT
FONT SOURCE	RESIDENT	RESIDENT
FONT SELECT	1000	1000
CHAR FEED	10 CPI	10 CPI
ASCII MODE	7 BIT	7 BIT
AUTO LF	OFF	OFF
AUTO CR	OFF	OFF
COMMON		
AUTO EMULATION	ON	ON
AUTO CONTINUE	OFF	OFF
LEVEL 2		
SMOOTHING	ON	ON
INTERFACE	PARALLEL	PARALLEL
I-PRINR	OFF	OFF
CARTRIDGE	0	0
TIME TO QUIET	5 MINUTES	5 MINUTES

OL850 LED PAGE PRINTER

PROGRAM VER : CU 03.01 AND PU 00.11
 PAGE MEMORY : 3.0M bytes installed

OPERATOR PANEL MENU SETTINGS	FACTORY	USER
LEVEL 1		
COMMON		
EMULATION	EP SERIES II	EP SERIES II
COPIES	1	1
REAR FEED	OFF	OFF
TRAY 1 SIZE	UNIVERSAL+LETTR	UNIVERSAL+LETTR
LEGAL SIZE	14 INCH	14 INCH
EP SERIES II		
ORIENTATION	PORTRAIT	PORTRAIT
FONT SOURCE	RESIDENT	RESIDENT
FONT SELECT	100	100
SYMBOL SET	Roman-8	Roman-8
RF CARTRIDGE	SI-P	SI-P
A4(80CM-1)	OFF	OFF
STARGO 610		
ORIENTATION	PORTRAIT	PORTRAIT
FONT SOURCE	RESIDENT	RESIDENT
FONT SELECT	1000	1000
CHAR PITCH	10 CPI	10 CPI
ASCII MODE	7 bit	7 bit
AUTO LF	OFF	OFF
AUTO CR	OFF	OFF
COMMON		
AUTO EMULATION	ON	ON
AUTO CONTINUE	OFF	OFF
LEVEL 2		
SMOOTHING	ON	ON
INTERFACE	PARALLEL	PARALLEL
I-FRAME	OFF	OFF
DARKNESS	0	0
TIME TO QUIET	8 MINUTES	8 MINUTES

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4.7.07 Demo Page Print

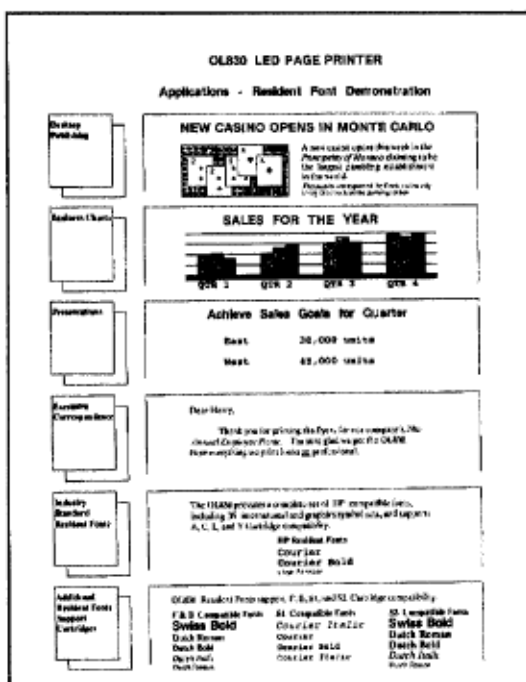
The Demo Page provides a sample of the capabilities of the printer.

NOTE:

Before you select this test, place the printer in the emulation mode.



To perform the Demo Page Print:

- Turn the printer power ON and wait for the printer to go On-line.
- Press the ON-LINE switch to take the printer Off-line.
- Press the NEXT/+ switch for 3 seconds.
- The DATA lamp will turn ON, the READY lamp will flash and the message DEMO PAGE PRINT will be displayed on the operator panel.
- The Demo Page will be printed in approximately five seconds.
- When printing is completed, the printer will be off-line. Press the ON-LINE switch to place the printer On-line.



OL860 LED PAGE PRINTER

Applications - Resident Font Demonstration

Desktop Publishing	<p>NEW CASINO OPENS IN MONTE CARLO</p>  <p>A new casino opens in Monte Carlo. The quality of most casinos is the largest, gambling establishments in the world. The amount of capital invested in the industry has increased.</p>																		
Business Charts	<p>SALES FOR THE YEAR</p> 																		
Presentations	<p>Achieve Sales Goals for Quarter</p> <p>Best: 35,000 units Weak: 25,000 units</p>																		
Executive Communications	<p>Dear Gary,</p> <p>Thank you for your inquiry. For our company, the Journal/Employee News is available in the OL860. New technology is providing professional</p>																		
Industry Standard Business Forms	<p>The OL860 provides excellent print output quality, including 24 horizontal and graphics symbols, and supports A, B, C, and Y carriage compatibility.</p> <p>80 Column Form Courier Line Courier Bold etc. (more)</p>																		
Address, Standard Form, Reports, Lists/Lists	<p>OL860 Resident Font supports P, R, S, and S2 Carriage compatibility.</p> <table border="0"> <tr> <td>P, R, S, Compatible Fonts</td> <td>S2 Compatible Fonts</td> <td>S2 Compatible Fonts</td> </tr> <tr> <td>Swiss Bold</td> <td>Courier 10/10</td> <td>Swiss Bold</td> </tr> <tr> <td>Dark Roman</td> <td>Courier</td> <td>Dark Roman</td> </tr> <tr> <td>Book Bold</td> <td>Courier Bold</td> <td>Book Bold</td> </tr> <tr> <td>Book Italic</td> <td>Courier Italic</td> <td>Book Italic</td> </tr> <tr> <td>Book Underline</td> <td></td> <td>Book Underline</td> </tr> </table>	P, R, S, Compatible Fonts	S2 Compatible Fonts	S2 Compatible Fonts	Swiss Bold	Courier 10/10	Swiss Bold	Dark Roman	Courier	Dark Roman	Book Bold	Courier Bold	Book Bold	Book Italic	Courier Italic	Book Italic	Book Underline		Book Underline
P, R, S, Compatible Fonts	S2 Compatible Fonts	S2 Compatible Fonts																	
Swiss Bold	Courier 10/10	Swiss Bold																	
Dark Roman	Courier	Dark Roman																	
Book Bold	Courier Bold	Book Bold																	
Book Italic	Courier Italic	Book Italic																	
Book Underline		Book Underline																	

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A.1 BOARD DIAGRAMS

A.1.01 General Information

This section describes the characteristics of the printed circuit boards used in the printers.

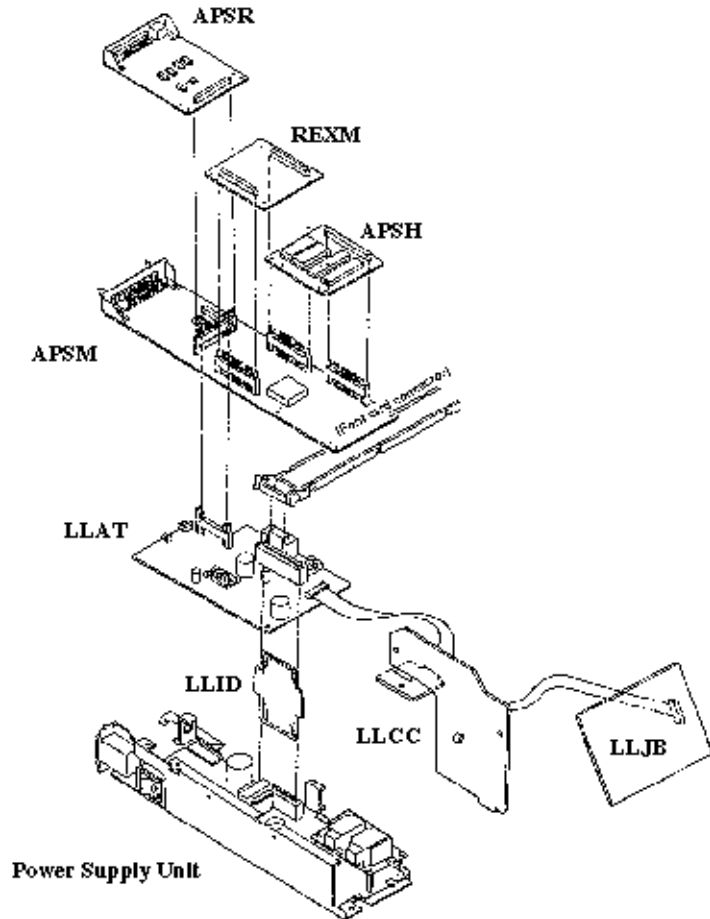
The following areas are covered.

- Firmware
- Fuses
- Jumpers
- Sensors
- Switches
- Test Points

Where an item is not applicable, the word *NONE* will be listed.

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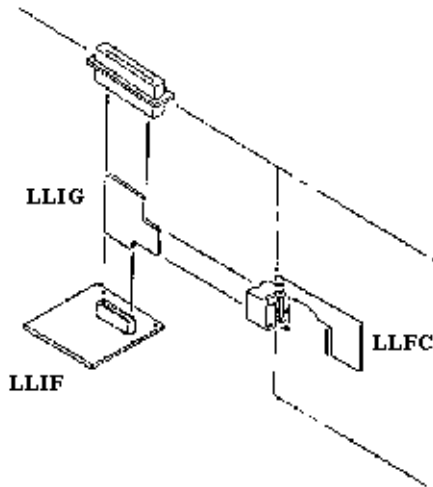
A.2 INDEX TO CHARTS



Description	Board Designation	Section
Main Controller Board	AP5M	A.2.01
Engine Control Board	LLAT	A.2.02
Operator Panel Board	LLJB	A.2.03
Engine Connection Board	LLCC	A.2.04
Power Connection Board	LLID	A.2.05

Serial Interface Board Option on OL830-Plus Standard on OL850	APSR	A.2.06
Memory Expansion Board (Option)	REXM	A.2.07
Emulation Board	APSH	A.2.08
Power Supply Unit	N/A	A.2.09

Second Paper Tray Mechanism



Description	Board Designation	Section
2nd Paper Supply Unit	LLIG Board	A.2.10
2nd Paper Supply Unit	LLFC Board	A.2.11
2nd Paper Supply Unit	LLIF Board	A.2.12

A.2.01 Main Controller Board (APSM)**Firmware**

IC5: Control Program, PostScript Interpreter, Fonts

IC6: Control Program, PostScript Interpreter, Fonts

IC7: (OL850 only) Control Program, PostScript Interpreter, Fonts

IC8: (OL850 only) Control Program, PostScript Interpreter, Fonts

Fuses

F1

Microfuse used to protect the +5vdc circuit (1 amp) on pin 18 of the parallel interface.

Jumpers

S1: OST Selection while in PostScript Mode

Position 1-2: No OST (not used)

Position 2-3: OST (soldered in this position)

T1: +5vdc enable

Position 1-2: +5vdc is NOT supplied to pin 18 of the parallel interface

Position 2-3: +5vdc is supplied to pin 18 of the parallel interface

Sensors

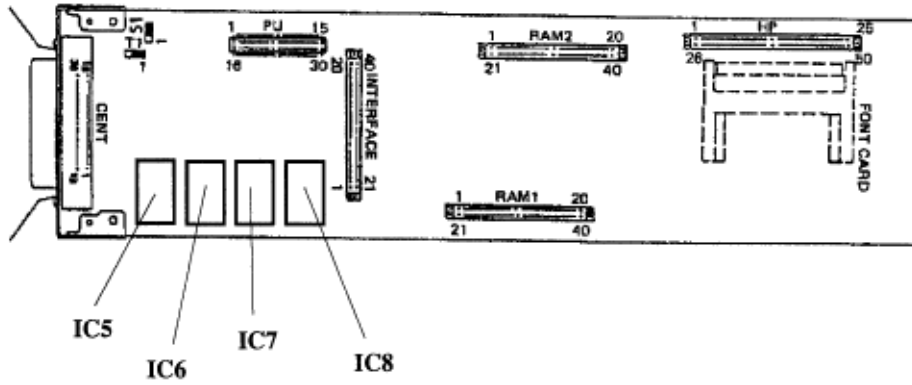
NONE

Switches

NONE

Test Points

CN1, Pin 18: +5vdc



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A.2.02 Engine Control Board (LLAT)**Firmware**

IC2 - EEPROM: contains printer engine settings such as darkness and print start position.

The print engine control program is masked to the microprocessor (IC1)

Fuses

NONE

Jumpers

NONE

Sensors

PT1: Toner End Sensor

PS2: Resist Sensor

PS1: Outlet (Paper Exit) Sensor

Switches

SW1: Used to initialize the Engine Test. Also used for printer adjustments.

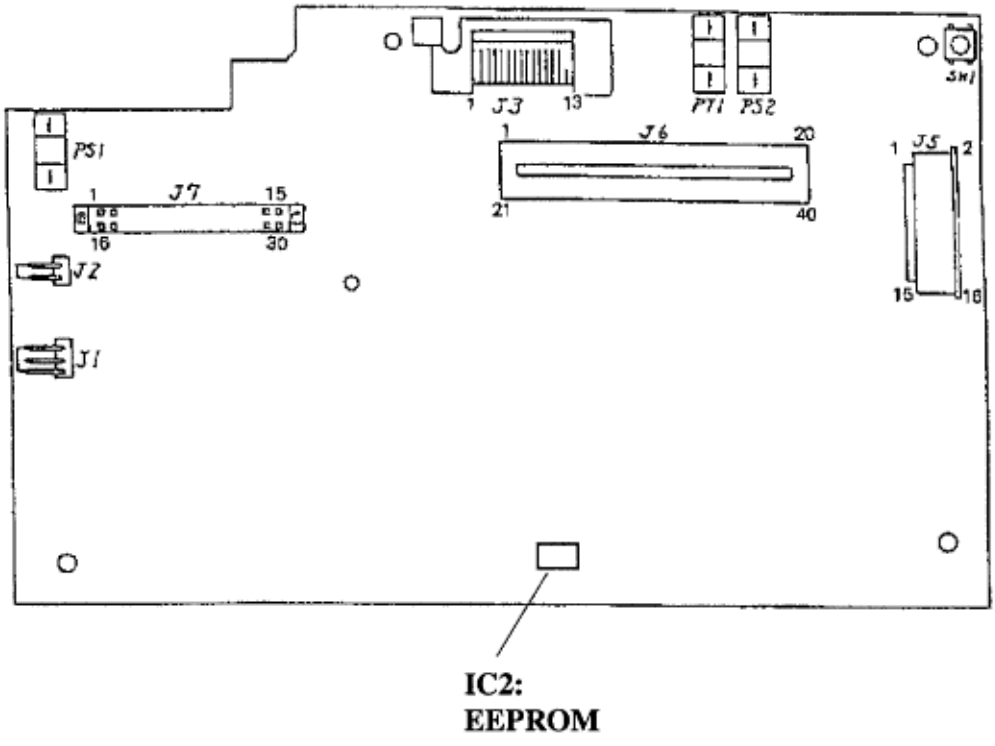
Test Points

J6, Pins 13, 31, 32: +5vdc

J6, Pin 12: +12vdc

J6, Pin 11: -12vdc

J6, Pin 15: +38vdc



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A.2.03 Operator Panel Board (LLJB)**Firmware***NONE***Fuses***NONE***Jumpers***NONE***Sensors***NONE***Switches**

SW1: NEXT / +

SW2: LAST / -SW3:

ENTER / Menu Reset

SW4: MENU 1 / Menu 2

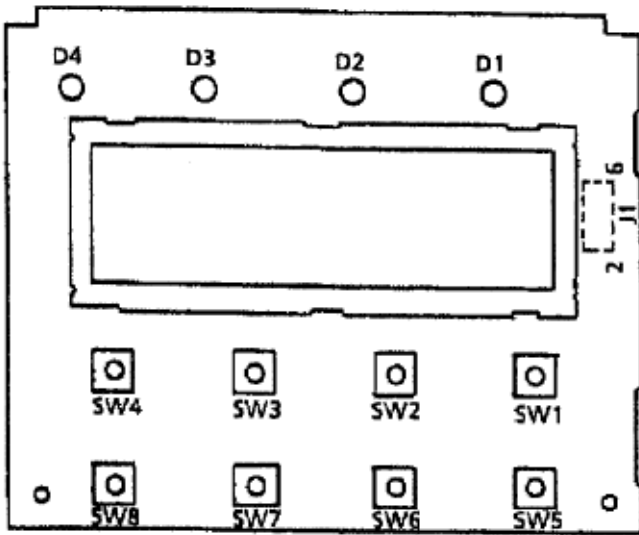
SW5: ON-LINE

SW6: FORM FEED

SW7: PRINT FONTS / Print Menu

SW8: RECOVER / Reset

Test Points*NONE*



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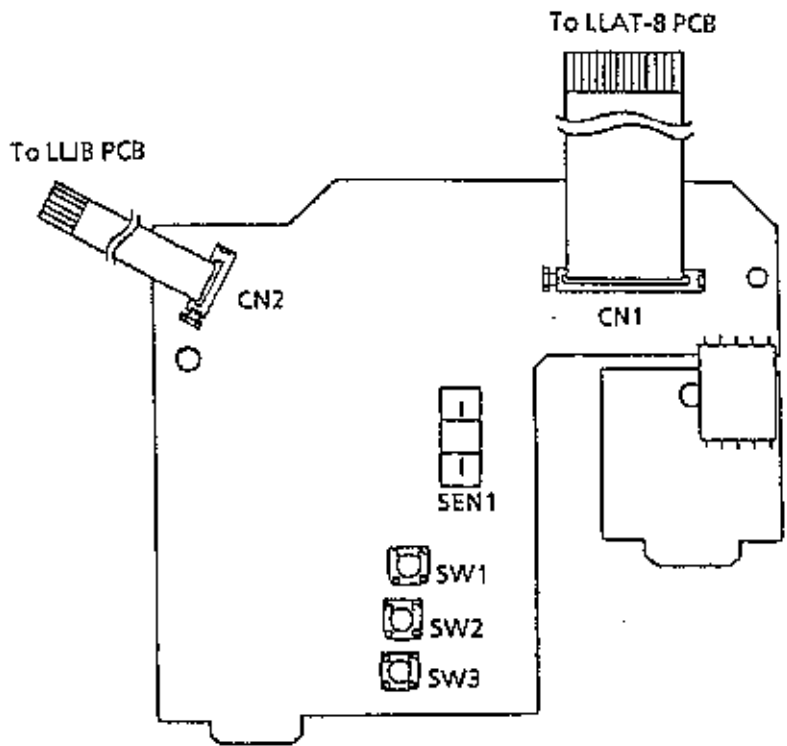
A.2.04 Engine Connection Board (LLCC)**Firmware***NONE***Fuses***NONE***Jumpers***NONE***Sensors**

SEN1: Paper-end sensor

Switches

SW1, SW2, SW3: Tray size detection switches

Test Points*NONE*



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A.2.05 Power Connection Board (LLID)

Firmware

NONE

Fuses

NONE

Jumpers

NONE

Sensors

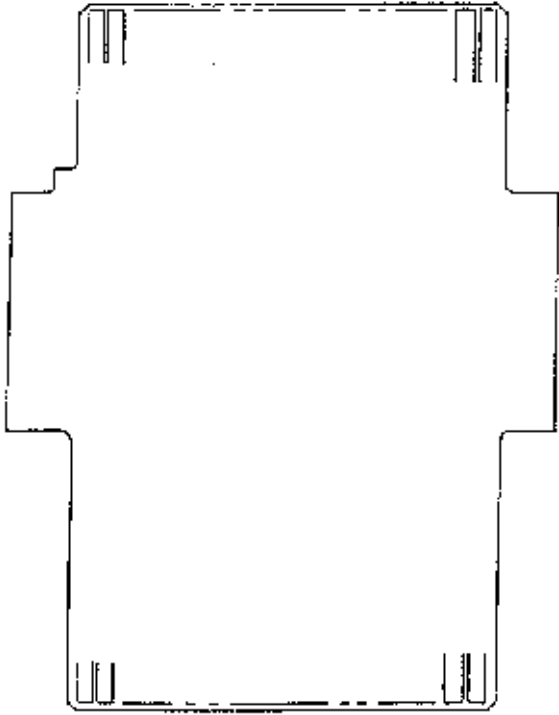
NONE

Switches

NONE

Test Points

NONE



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A.2.06 AppleTalk/Serial Interface Board (APSR)**NOTE:**

Optional on OL830-Plus

Firmware

NONE

Fuses

F1:

Microfuse used to protect the +5vdc circuit (1 amp) on pin 18 of the RS232 interface.

Jumpers

T1: +5vdc enable

Position 1-2: +5vdc is NOT supplied to pin 18 of the RS232 interface

Position 2-3: +5vdc is supplied to pin 18 of the RS232 interface

T2: DTR Select

Position 1-2: DTR is controlled by the printer microprocessor

Position 2-3: DTR is always active

Sensors

NONE

Switches

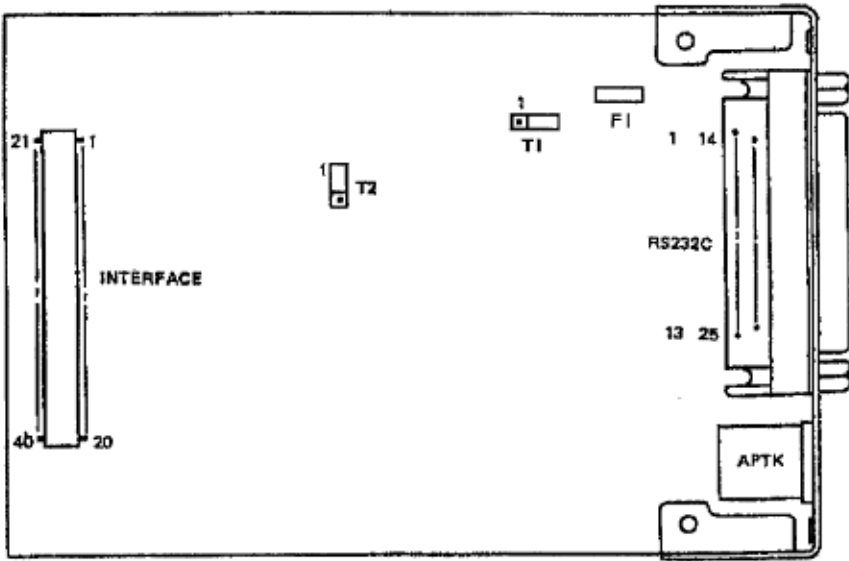
NONE

Test Points

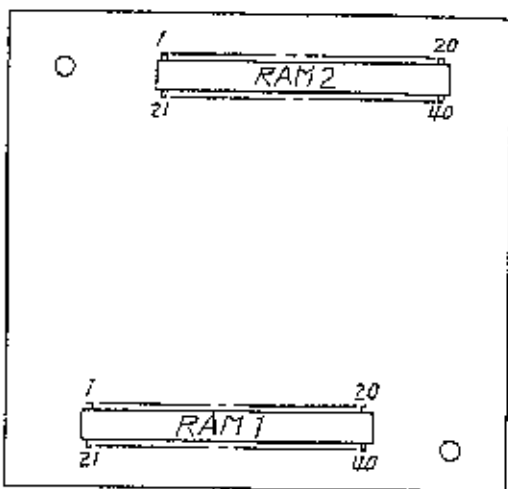
CN3, Pin 30: +12vdc

CN3, Pin 15: -12vdc

CN3, Pin 12, 13, 14: +5vdc



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A.2.07 Memory Expansion Board (REXM) Option**Firmware***NONE***Fuses***NONE***Jumpers***NONE***Sensors***NONE***Switches***NONE***Test Points***NONE*

Partner Exchange (BPX) for any updates to this material. (<http://bpx.okidata.com>)

A.2.08 Emulation Board (APSH)

Firmware

01A: Emulation Program

02A: Emulation Program

03A: Font ROM (soldered)

04A: Font ROM (soldered)

Fuses

NONE

Jumpers

NONE

Sensors

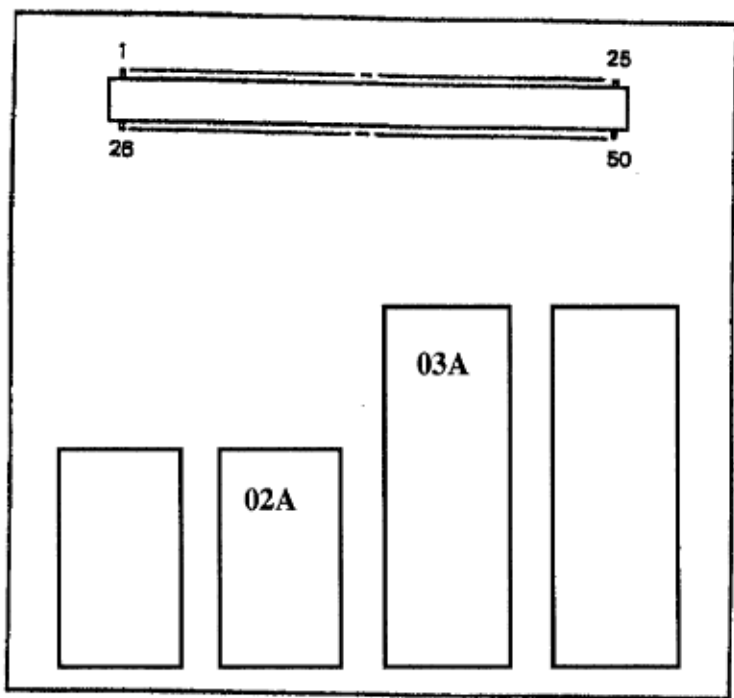
NONE

Switches

NONE

Test Points

NONE



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A.2.09 Power Supply Unit**Firmware**

NONE

Fuses

F1: 250 volt, 8 amp fuse - AC line fuse

F2:

125 volt, 2 amp fuse - (micro fuse soldered to the board)

protects the + 38vdc circuit

Jumpers

NONE

Sensors

NONE

Switches

SW1: Power Switch

Cover Open Interlock Switch

Test Points

CN1, Pin 15: +38vdc

CN1, Pins 13, 31, 32: +5vdc

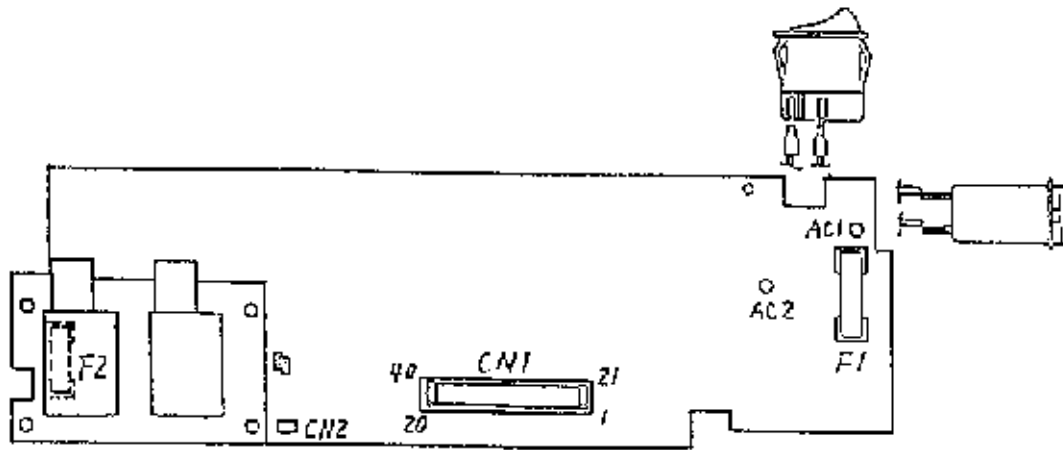
CN1, Pin 12: +12vdc

CN1, Pin 11: -12vdc

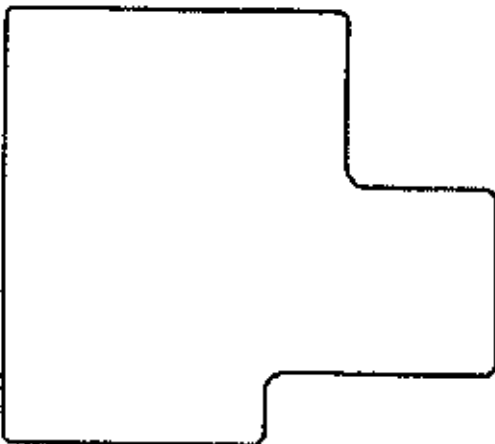
CN1, Pin 37: HEAT Signal

Received from the Engine Controller Board.

When this signal is approximately +3.25 vdc, the Power Supply Unit will provide AC Voltage to the Fuser Lamp.



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A.2.10 Second Paper Supply Unit Board (LLIG)**Firmware***NONE***Fuses***NONE***Jumpers***NONE***Sensors***NONE***Switches***NONE***Test Points***NONE*

A.2.11 Second Paper Supply Unit Board (LLFC)**Firmware***NONE***Fuses**

F1:

125 volt, 1 amp fuse - (micro fuse soldered to the board)

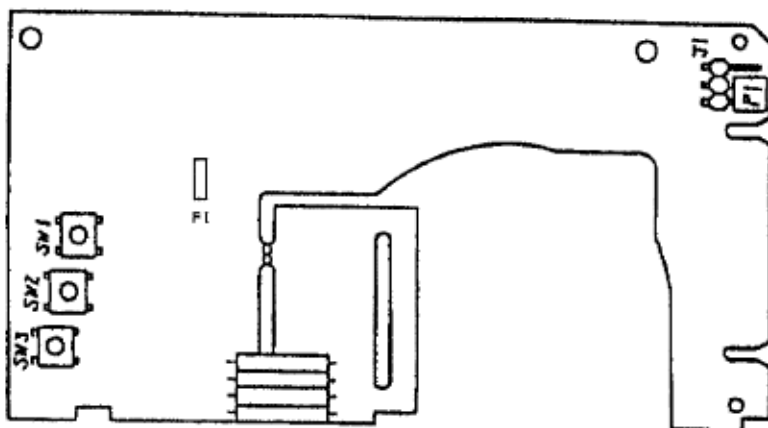
protects the +38vdc circuit

Jumpers*NONE***Sensors**

SEN1: Paper-end sensor for second paper tray

Switches

SW1, SW2, SW3: Second Paper Tray size detection switches

Test Points*NONE*

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A.2.12 Second Paper Supply Unit Board (LLIF)

Firmware

NONE

Fuses

NONE

Jumpers

NONE

Sensors

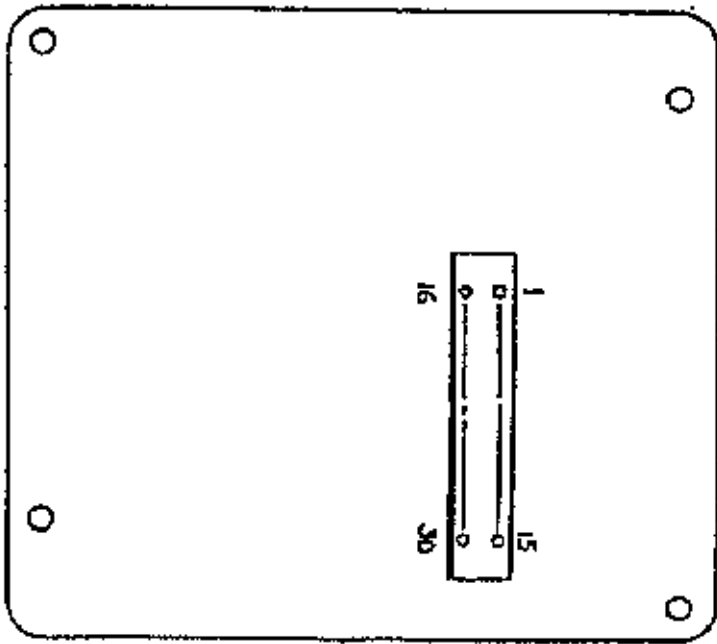
NONE

Switches

NONE

Test Points

NONE



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Service Guide OL830Plus/OL850

Chapter B Illustrated Parts Listing

B.1 ILLUSTRATED PARTS LISTING

B.1.01 General Information

This appendix will assist you in identifying the assemblies and parts of the printers. Once you have used Section Four (Failure Analysis) to find a defective part, you can locate the part number in this section. This appendix is cross-referenced to Section Three (Maintenance) to assist you in servicing the printers.

The format for this appendix is a series of tables with diagrams. The table contains the item reference number, the Okidata and Oki-Japan (Oki-J) part numbers, the part description, a comments section, and the disassembly procedure. Items with the comment RSPL (Recommended Spare Parts List), Consumable, or Option are available from Okidata. Items without these comments are usually not stocked. Also note that some items are only available as assemblies. Every effort has been made to clearly indicate which items are in assemblies and which are not.

N/A will appear where a part number is not available.

Please read the Definition of Terms in the following section carefully. It is important that you understand the different types of classifications and their availability.

Please refer to the following resources for current part numbers and pricing.

- Okidatas Bulletin Board (Okilink II) contains current part numbers, prices, and recommended stocking levels for each item listed as a recommended spare part. For instructions on accessing Okilink II, refer to the Service Center Reference Guide.
- Okidatas Faxeable Facts is an automated fax document retrieval system. Part numbers and pricing are available through Faxeable Facts. For instructions on accessing Faxeable Facts, refer to the Service Center Reference Guide.
- Okidata's Technical Information Group is a telephone support line reserved for Authorized Dealers. Part numbers and pricing are available through Technical Information. For instructions on accessing Technical Information, refer to the Service Center Reference Guide.

REMEMBER

Current part numbers, recommended stocking levels, and pricing information are available through Okilink II, Faxeable Facts, and Technical Information. Refer to the Service Center Reference Guide for information on accessing these resources.

B.1.02 Definitions of Terms

B.1.02 Definitions of Terms

RSPL

Okidata recommends that this part/assembly be on hand for servicing.

Consumable

A consumable is a supply item which has a specified life and needs to be replaced periodically. It is purchased and installed by the end user. Okidata machines are designed to work *exclusively* with Okidata consumables. By using genuine Okidata consumable products, the investment made in the equipment will be protected.

Option

An option is a part/assembly which is added to a product and expands the products functionality. An option may or may not be installed by the end-user. Instructions for installation accompany each option.

Option RSPL

Okidata recommends that this part/assembly be on hand for servicing installed options.

Document

A document is a printed item which supports the service and marketing of a product. Various documents are available from Okidata.

Blank

Okidata does not recommend stocking this item. This item should be purchased on an **As Required Basis** *only*. The availability of this item is NOT guaranteed by Okidata.

830+

This part is specific for the OL830-Plus (OST) LED page printer.

850

This part is specific for the OL850 (OST) LED page printer.

Both

This part is used for both the OL830-Plus (OST) and the OL850 (OST) LED page printers.

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B.1.03 Parts Ordering Information

General Information

All authorized Okidata Dealers may order spare parts and consumables for Okidata products. Orders are placed through Okidata's Logistics Department.

When a technician has successfully completed a product certification course and the Dealer has become service authorized, an information package will be provided to the Dealer. The Okidata Service Center Reference Guide outlines the following.

- Responsibilities of Okidata Service Centers
- Spare parts and consumables information
- Procedures for warranty repairs
- Product training, certification, and authorization
- Product support information
- Okidata depot information and services
- Third party service information
- Information about Okidatas Customer Information Center
- Okidata service and support telephone numbers.

The Service Center Reference Guide contains detailed procedures to follow when ordering parts. Please *read, understand, and follow* these procedures. Service authorization for a specific product *must* be obtained before a Dealer can submit warranty claims.

Questions regarding the Service Center Reference Guide should be directed to Okidata Dealer Service.

Placing a Parts Order

Please refer to the Service Center Reference Guide for details on ordering parts.

The following information **MUST** be available *before* an order is placed.

- Okidata Dealer Authorization Number
- Purchase Order number
- Serial Number / Revision Level of the printer(s)

· Okidata Part Number(s)

Use this Appendix, Okilink II, Faxable Facts, or Technical Information to find the correct part number. Refer to the Service Center Reference Guide for information on contacting Okidata.

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B.2 CHARTS

Below is an index to the illustrated parts listing charts.

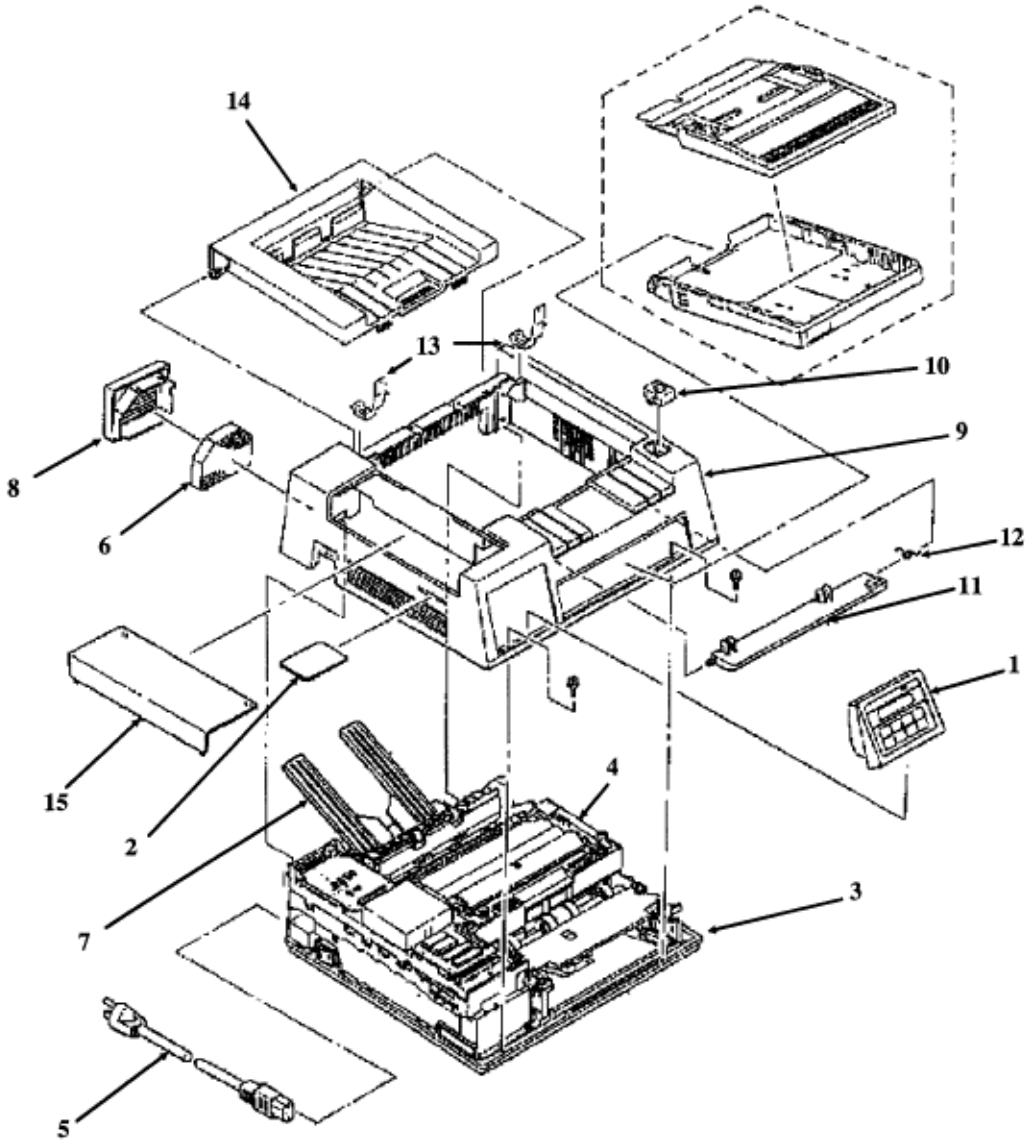
Description	Section
Printer Unit	B.2.01
Paper Trays	B.2.02
Upper Unit (1 of 2)	B.2.03
Upper Unit (2 of 2)	B.2.04
LED Holder	B.2.05
Lower Unit (1 of 2)	B.2.06
Lower Unit (2 of 2)	B.2.07
Boards	B.2.08
Paper Eject Roller Assembly	B.2.09
Paper Supply Unit	B.2.10
Second Paper Feed Unit	B.2.11
Packing Materials	B.2.12
Consumables	B.2.13
Options	B.2.14



Service Guide OL830Plus/OL850

Chapter B Illustrated Parts Listing

B.2.01 Printer Unit



Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
------	-------------	--------------------------	--------------------------	----------	---------

1	Panel: Operator Assembly (OL830-Plus/O L850)	50213509 4YA4083-5012 G9	3.2.02	RSPL	Both
2	Font Card	Refer to B.2.14()	3.2.01	Option	Both
3	Unit: Lower	50213602 1YX4083-2002 G2	3.2.02	RSPL	Both
4	Unit: Upper (120V) (OST)	50213706 1YX4083-2060 G6	3.2.17	RSPL	Both
	Unit: Upper (220/240V) (OST)	50213707 1YX4083-2060 G7	3.2.17	RSPL Option	Both
5	Cord: AC (120V)	56609701 3YS4011-1026 P1	3.2.01	RSPL	Both
	Cord: AC 220 Volt (OL Series)	56624301 3YS4011-1266 P1	3.2.01	RSPL Option	Both
	Cord: AC 240 Volt (OL Series) UK	56624501 3YS4011-1270 P1	3.2.01	RSPL Option	Both
6	Filter: Ozone	55503501 3PB4083-2816 P2	3.2.37	Consumable (in drum kit)	Both
7	Stacker: Face-up Assembly	50066601 2PA4083-2055 G1	3.2.02	RSPL	Both
8	Fan Cover	53527301 2PP4016-6836 P1	3.2.37		Both
9	Cover: Upper Assembly (w/830+ Logo)	53338206 2PP4083-3243 G6	3.2.01	RSPL	830+
9	Cover: Upper Assembly (w/850 Logo)	53338208 2PP4083-3243 G8	3.2.02	RSPL	850
10	Button	53527401 3PP4016-6832 P1	3.2.03		Both

11	Shaft	51111301 2PP4016-6831 P1	3.2.03		Both
12	Spring	50917901 4PP4016-6833 P1	3.2.03		Both
13	Reset Spring	50918001 4PP4083-2585 P1	3.2.02		Both
14	Stacker Cover Assembly	N/A 2PA4083-3225 G1	3.2.02		Both
15	Access Cover	N/A IPP4083-3223P 1	3.2.02		Both

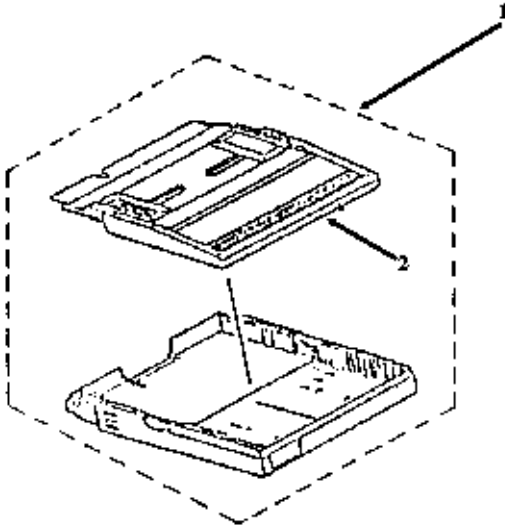
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Chapter B Illustrated Parts Listing

B.2.02 Paper Trays

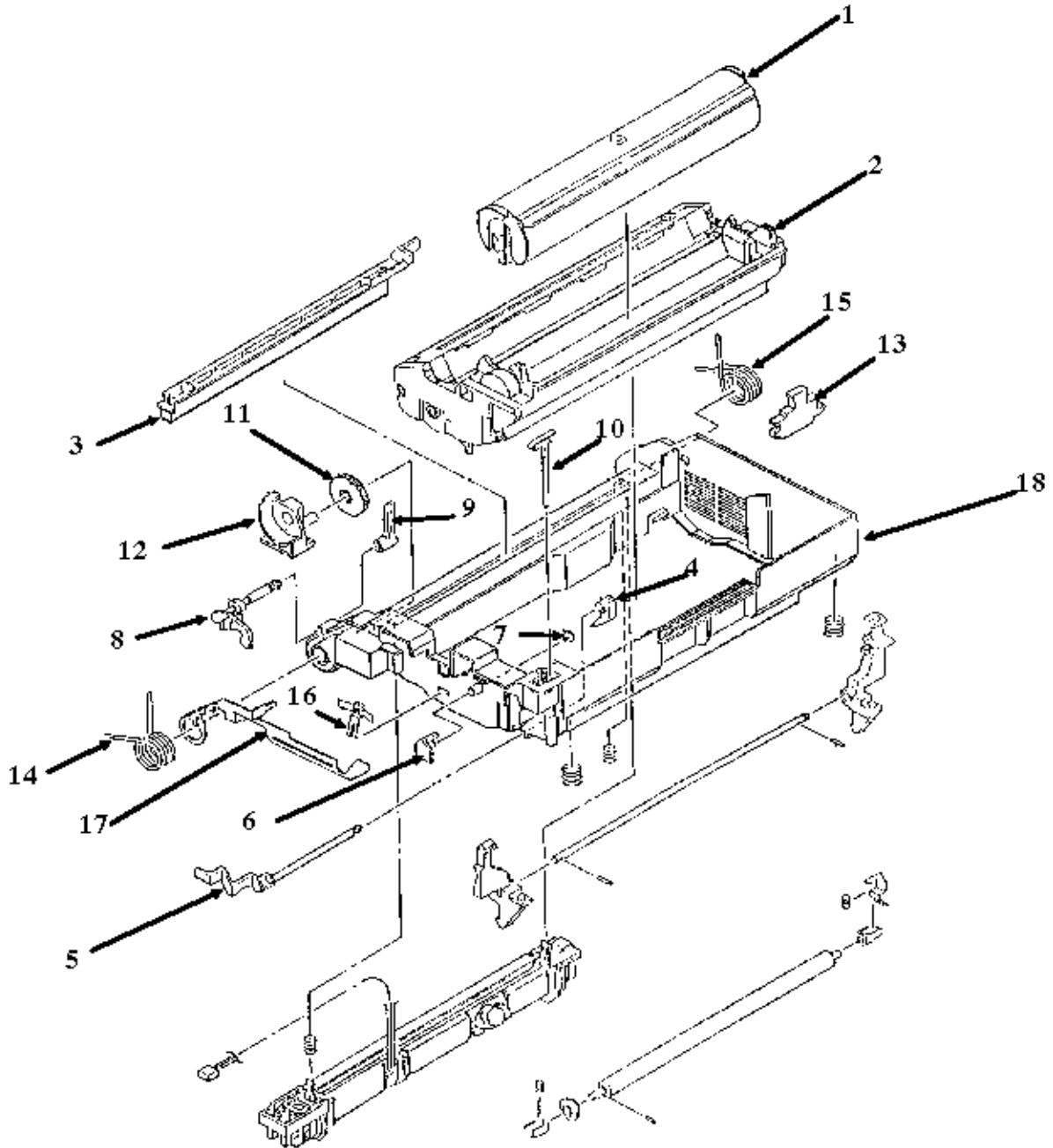


Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
1	Paper Tray (Letter)	70013601 4YA4083-2413 G1	3.2.01		Both
	Paper Tray (Legal)	70013701 4YA4083-3207 G1	3.2.01	Option	Both
	Paper Tray (Envelope)	70013801 4YA4083-2419 G1	3.2.01	Option	Both
	Paper Tray (A4)	70016701	3.2.01	Option	Both
	Paper Tray (Executive)	70016801	3.2.01	Option	Both
	Paper Tray (Universal)	50091001 4YA4083-3206 G1	3.2.01	Option	Both

2	Tray Cover (Letter)	53527601 1PA4083-2321 G1	3.2.01		Both
	Tray Cover (Legal)	53527602 1PA4083-2321 G2	3.2.01		Both

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B.2.03 Upper Unit (1 of 2)



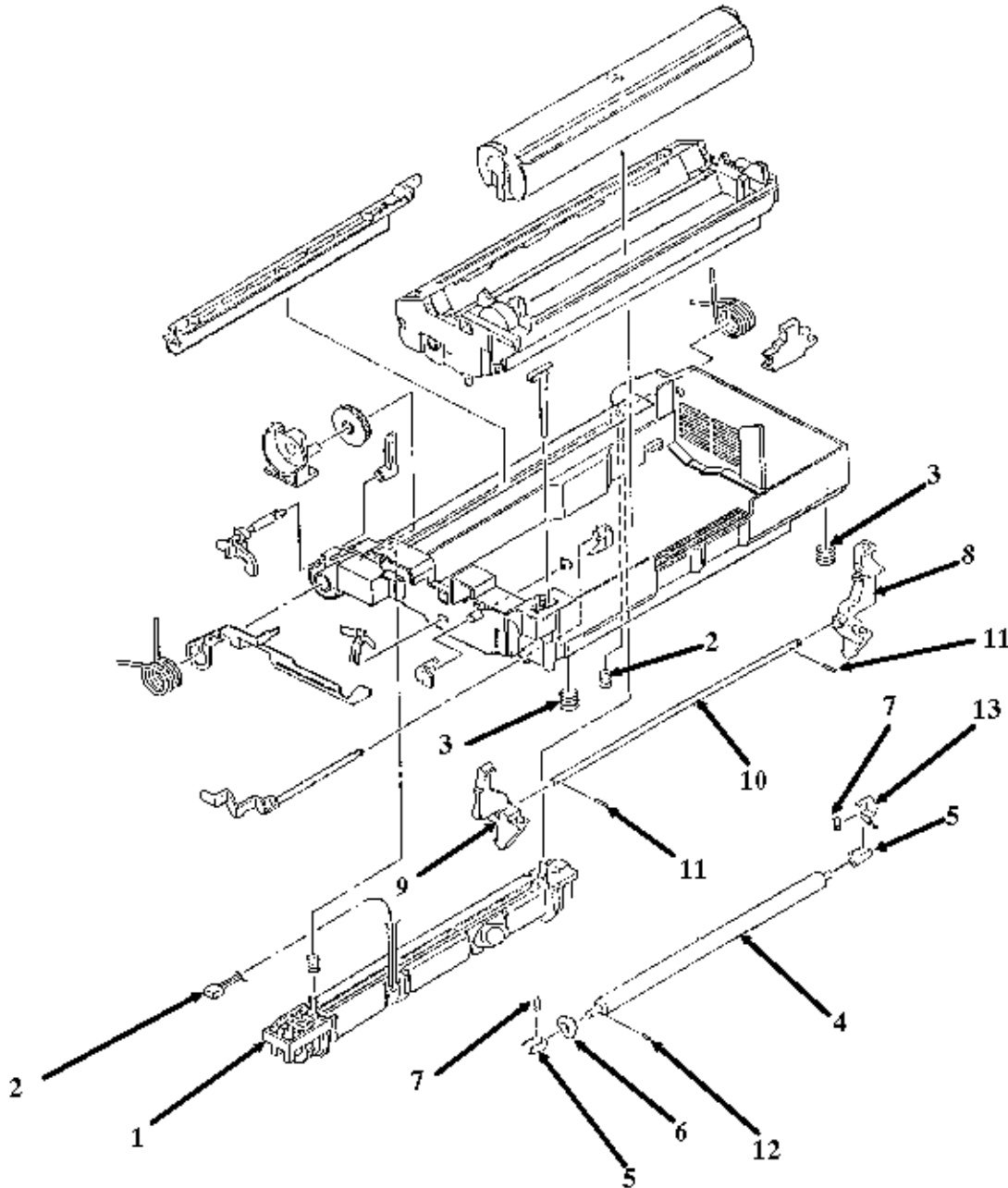
Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
1	Toner Cartridge	N/A N/A	3.2.01	Consumable <i>In Toner Kit</i>	Both
2	Image Drum Cartridge	N/A N/A	3.2.01	Consumable <i>In Drum Kit</i>	Both
3	Pad: Fuser	53500901 3PB4083-2096P1	3.2.20	Consumable <i>In Toner Kit</i>	Both
4	Sensor Lever (Resist)	53503001 4PP4083-2068P1	3.2.22		Both
5	Sensor Flag (Resist)	53329601 3PP4083-2069P1	3.2.22		Both
6	Sensor Lever (Toner)	53527701 4PP4083-2732G 1	3.2.22		Both
7	Rivet	50606001 4PP4083-2584P1	3.2.22		Both
8	Paper Eject Sensor Lever B	53527801 4PP4083-2578P1	3.2.19		Both
9	Paper Eject Sensor Lever C	53527901 4PP4083-2589P1	3.2.19		Both
10	Actuator	50312501 4PP4083-2095P1	3.2.18		Both
11	Gear: Idle "B"	51218501 4PP4083-3130P1	3.2.17	RSPL	Both
12	Fulcrum Block	51005001 3PP4083-2093P1	3.2.17		Both
13	Transfer Wire Cleaner	53528001 4PP4083-2757G 1	3.2.27		Both
14	Torsion Spring (Left)	50918101 4PP4083-2093P1	3.2.17		Both
15	Torsion Spring (Right)	50918201 4PP4083-2094P1	3.2.17		Both
16	Ground Plate (Drum)	53058201 4PP4083-2067P1	3.2.24		Both
17	Support Plate (Left)	53058901 3PP4083-2065P1	3.2.24		Both

18	Upper Frame	53329701 1PP4083-2061P1	3.2.24		Both
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* Item #11, Gear: Idle "B" in the Upper Unit (B.2.03) is the same part as item #4, Gear: Idle "B" in the Lower Unit (B.2.07).

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B.2.04 Upper Unit (2 of 2)

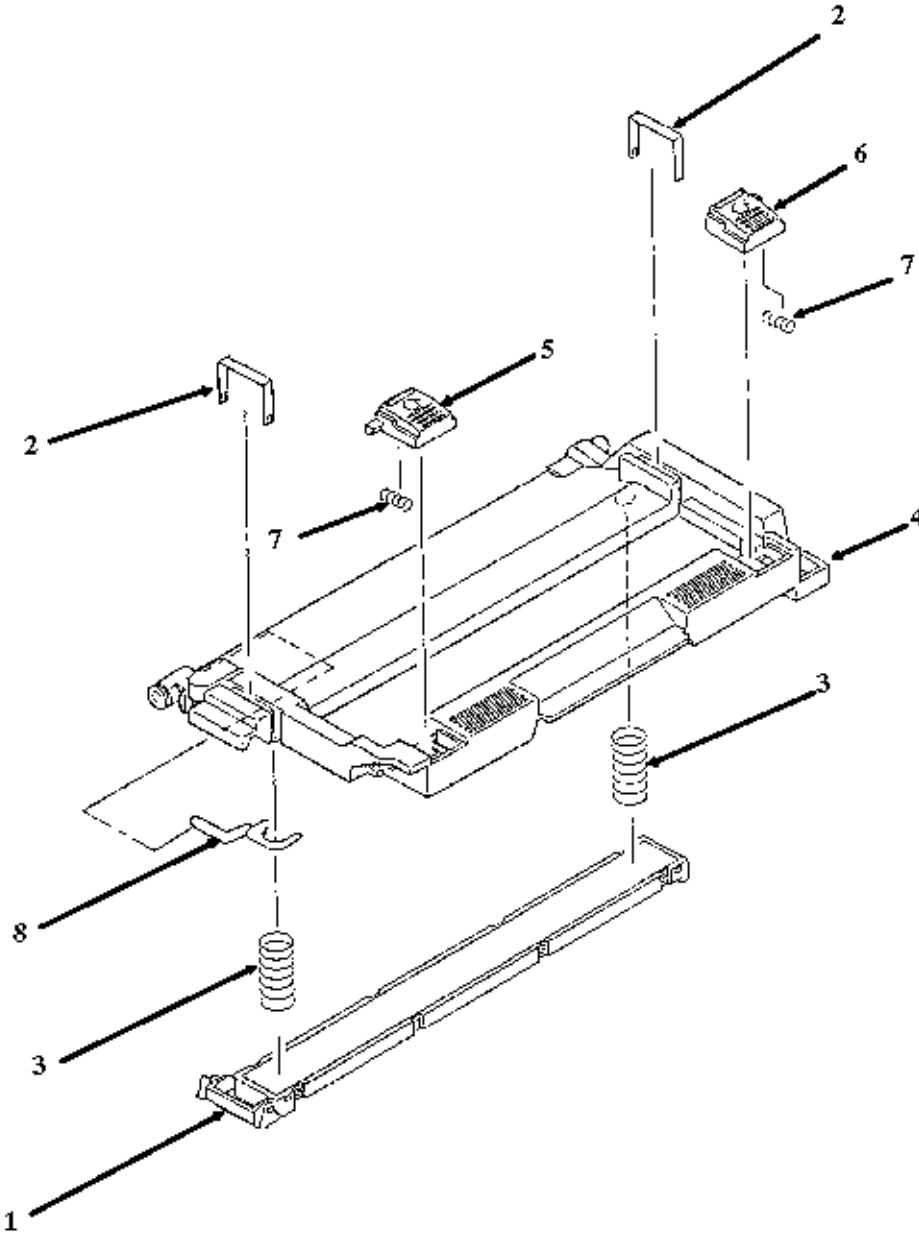


Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
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1	Unit: Fusing (120V)	55044901 2YX4083-2073G1	3.2.20	RSPL	Both
	Unit: Fusing (220/240V)	55044902 2YX4083-2073G4	3.2.20	RSPL Option	Both
2	Spring: Fusing Unit	50914601 4PP4083-2091P1	3.2.20	RSPL	Both
3	Spring: Image Drum Tray	50917205 4LB-191200-5	3.2.23	RSPL	Both
4	Pressure Roller	53334302 4PP4083-2848P1	3.2.21		Both
5	Bearing	51605802 4PP4083-2071P2	3.2.21		Both
6	Pressure Roller Gear	51222701 4PP4083-2819P1	3.2.21		Both
7	Pressure Spring	50914501 4PP4083-2072P1	3.2.21		Both
8	Lock Lever (Left)	53502601 3PP4083-2062P1	3.2.23		Both
9	Lock Lever (Right)	53502701 3PP4083-2063P1	3.2.23		Both
10	Lock Lever Shaft	51110201 4PP4083-2064P1	3.2.23		Both
11	Knock Pin	50606216 NK2-16-SUS	3.2.23		Both
12	Knock Pin	50606208 NK1.6-8-SUS	3.2.21		Both
13	Ground Plate (Resist)	53508501 4PP4083-2066P1	3.2.21		Both

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B.2.05 LED Holder

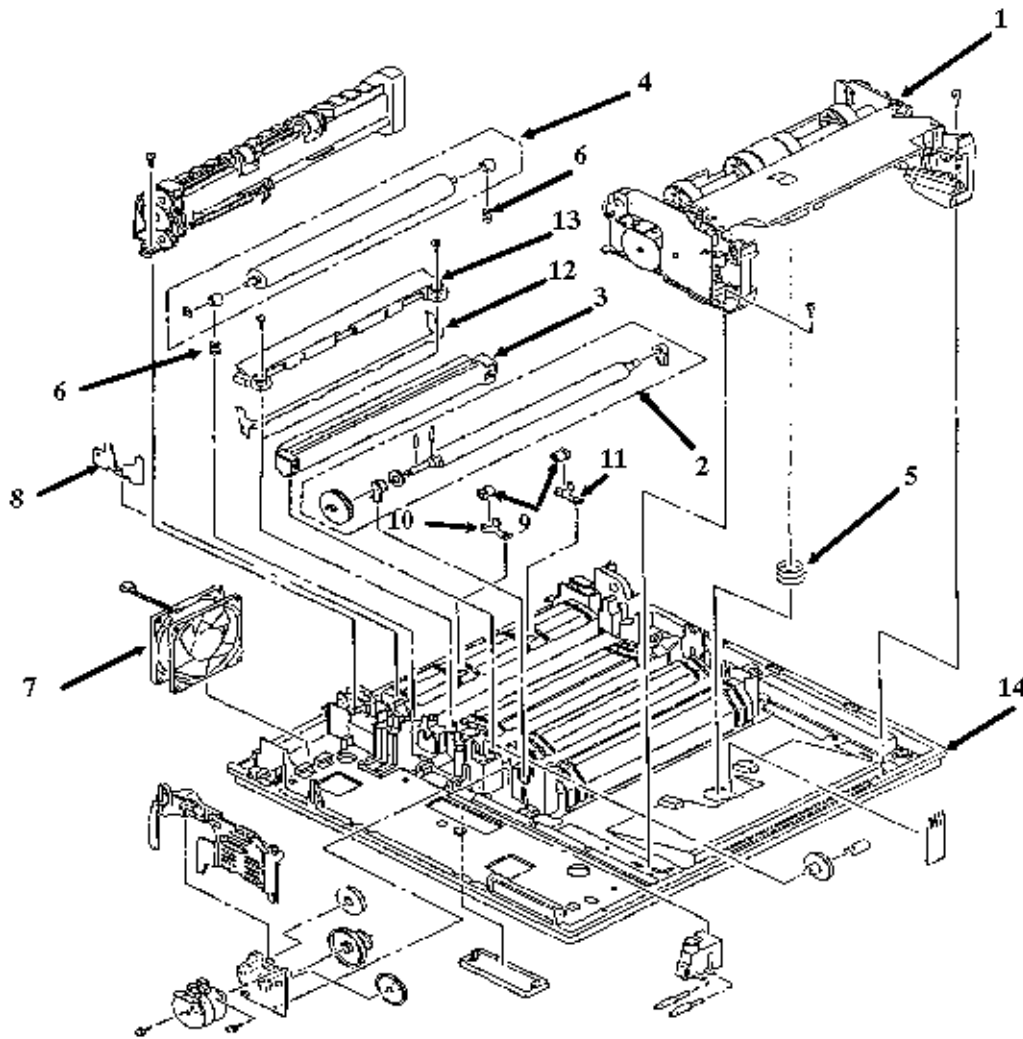


Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
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1	Unit: LED Head (300 DPI OST)	55622301 4YA4116-1101G1	3.2.04	RSPL	Both
2	Spring: Clamp (LED)	50914301 4PP4083-2099P1	3.2.04	RSPL	Both
3	Spring: Bias (LED Head)	50914101 4PP4083-2088P1	3.2.04	RSPL	Both
4	LED Head Housing	55619601 4PP4083-2087P1	3.2.24		Both
5	Knob (Left)	51901301 3PP4083-2594P1	3.2.25		Both
6	Knob (Right)	51901401 3PP4083-2595P1	3.2.25		Both
7	Pressure Spring	50918301 4PP4083-2596P1	3.2.25		Both
8	Ground Plate (LED Head)	53058401 4PP4083-2090P1	3.2.25		Both

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B.2.06 Lower Unit (1 of 2)

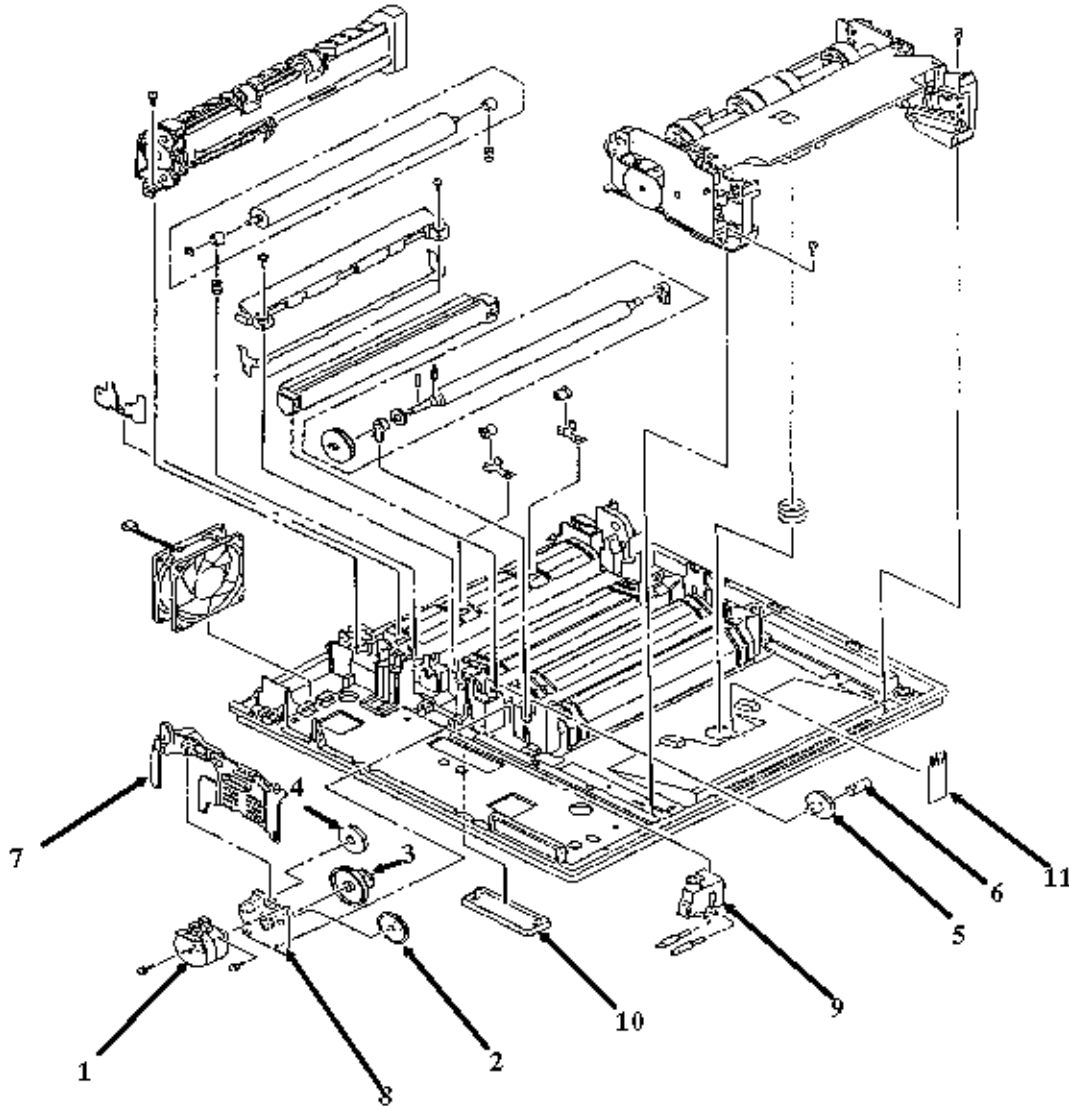


Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
1	Unit: Paper Delivery	50214506 4YA4083-2124G6	3.2.31	RSPL	Both
2	Roller: Registration (Assembly)	50079101 3PA4083-2897G1	3.2.28	RSPL	Both

3	Charger: Transfer (Assembly)	50087401 3PA4083-3143G1	3.2.27	RSPL	Both
4	Roller: Back-up (Assembly)	50079201 4PA4083-2896G1	3.2.26	RSPL	Both
5	Spring: Cassette	50917001 4PP4083-2295P1	3.2.31	RSPL	Both
6	Spring: Back-up Roller	50914801 4PP4083-2023P1	3.2.26	RSPL	Both
7	Fan: DC (Assembly)	56508501 270A2290P0001	3.2.12	RSPL	Both
8	Reinforcement Plate	53335601 4PP4083-3041P1	3.2.26		Both
9	Bias Roller	53334601 4PP4083-2760P1	3.2.15		Both
10	Bias Spring (Left)	50918401 4PP4083-2776P1	3.2.15		Both
11	Bias Spring (Right)	50918501 4PP4083-2777P1	3.2.15		Both
12	Fusing Guide	51005101 3PP4083-2566G1	3.2.26		Both
13	Sheet Guide	51003601 3PP4083-2035P1	3.2.26		Both
14	Base Frame	53057801 1PP4083-2003P1	3.2.36		Both

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B.2.07 Lower Unit (2 of 2)



Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
1	Motor: Pulse (Main)	56507701 3PB4083-2110P1	3.2.10	RSPL	Both
2	Gear: Idle "A"	51225701 4PP4083-2593P1	3.2.11	RSPL	Both

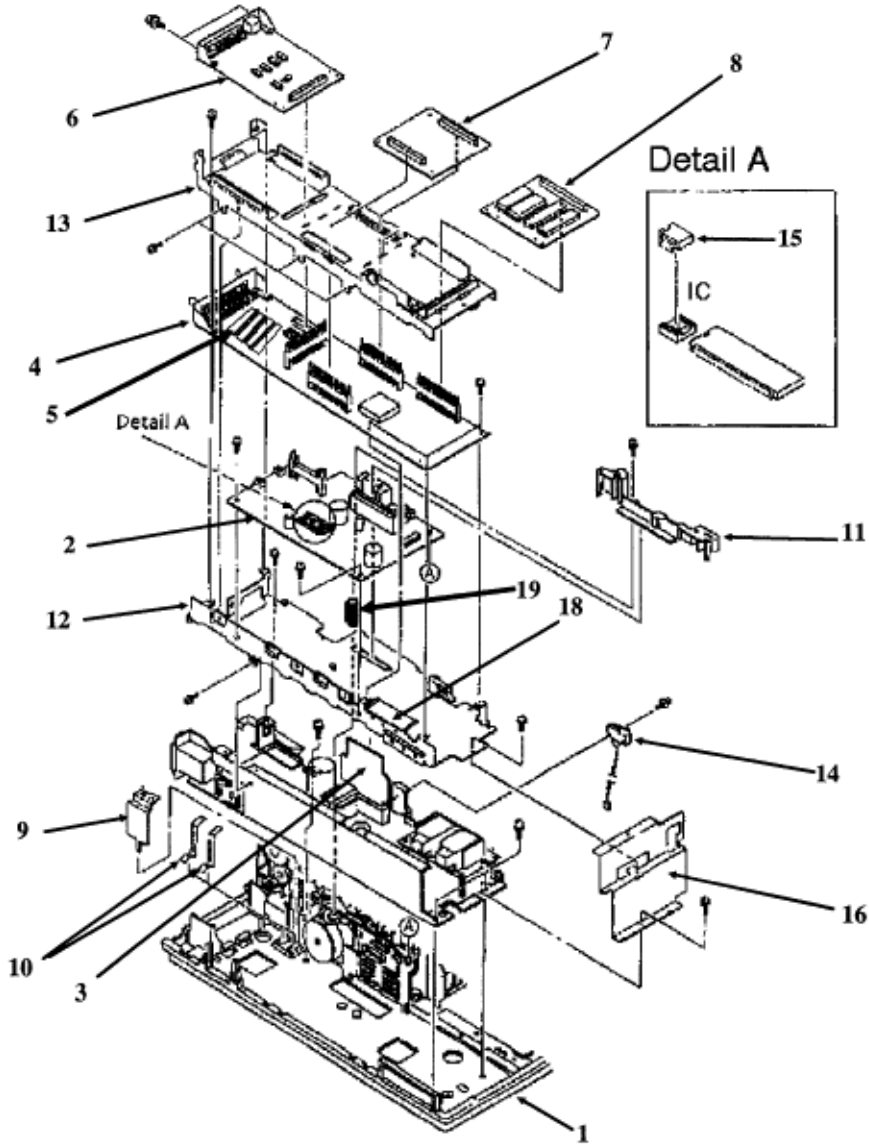
3	Gear: Speed Reduction	51218701 3PP4083-2044P1	3.2.11	RSPL	Both
4	Gear: Idle "B"	51218501 4PP4083-3130P1	3.2.11	RSPL	Both
5	Gear: Idle (Base)	51218601 4PP4083-2045P1	3.2.30	RSPL	Both
6	Post	53329501 4PP4083-2046P1	3.2.30	RSPL	Both
7	Motor Cover	53329301 2PP4083-2575P1	3.2.10		Both
8	Motor Bracket	53329301 4PP4083-3059G1	3.2.10		Both
9	High Voltage Connector	56725901 3PB4083-2108P1	3.2.29		Both
10	Cap	N/A 3PB4083-2588P1	3.2.38		Both
11	Diselectrification Cloth	N/A 4PB4083-2938P1	3.2.31		Both

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B.2.08 Boards



Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
1	Power Supply (120V)	56408710 4YA4083-5017G10	3.2.13	RSPL	Both

	Power Supply (220/240V)	56408708 4YA4083-5017G8	3.2.13	RSPL Option	Both
2	PCB: LLAT-8 Eng Cont (OST) OL830+ /850 Engine Controller	55067502 4YA4087-1022G00 2	3.2.09	RSPL	Both
3	PCB: LLID (PR - POW Connection)	55046002 3PU4003-5928P2	3.2.10	RSPL	Both
4	PCB: APSM-4 Spare w/o ROM Main Controller	55057902 4YA4046-1478G2	3.2.08	RSPL	Both
5	IC: CU EEPROM X24CO4P-NW	55934001 816A2322M0000	3.2.08	RSPL	Both
6	PCB: APSR Serial I/F RS-232C / AppleTalk	55058001 4YA4046-1480G1	3.2.05	Option - 830+ RSPL - 850	Both
7	PCB: REXM 2 MB RAM 2MB Memory Board (REXM)	55051601 4YA4046-1375G1	3.2.06	RSPL Option	Both
8	PCB: APSH Emulation w/o ROM	55058101 4YA4046-1481G1	3.2.07	RSPL	Both
9	AC Cover	53502301 4PP4083-2103P1	3.2.13		Both
10	AC Contact Plate	53057901 4PP4083-2048P1	3.2.13		Both
11	Board Cover	53528401 3PP4083-2742P1	3.2.09		Both
12	Plate: Shield A Assembly (OST)	51008101 3PA4083-3232G1	3.2.10	RSPL	Both
13	Plate: Shield B (OST)	51008201 3PA4083-3228P1	3.2.05	RSPL	Both
14	Microswitch Assembly (AC 120 V)	55050721 4YX4056-3735G1	3.2.14		Both

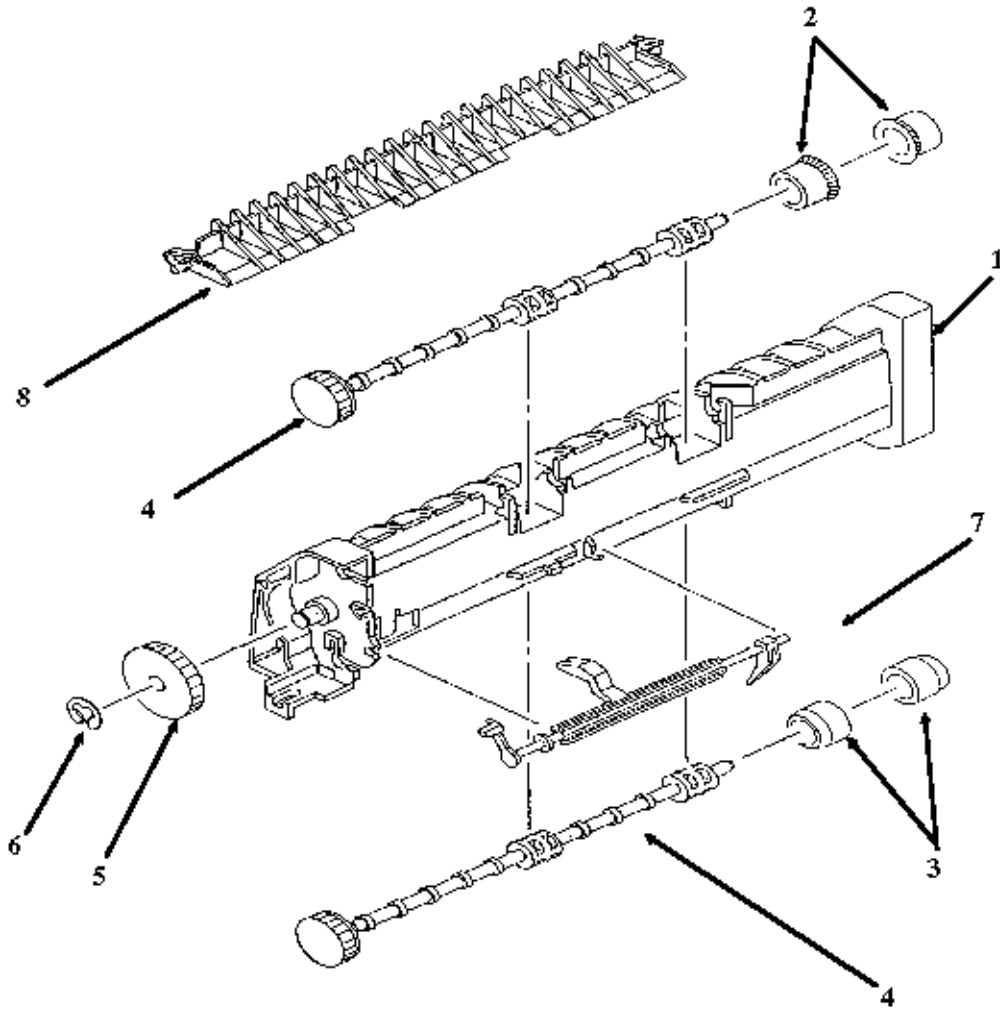
15	IC: ENG EEPROM BR93LC46A	55938201 4YA4087-1025G1	3.2.09	RSPL	Both
16	Plate: Shield C (OST)	51008301 3PP4083-3233P1	3.2.10	RSPL	Both
18	Guide: Card (C) (OST)	51008401 4PP4083-3231P1	3.2.08	RSPL	Both
19	Spacer: Board	50516201 143A1047P0001	3.2.09	RSPL	Both

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 Chapter B Illustrated Parts Listing

B.2.09 Paper Eject Roller Assembly



Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
	Paper Eject Roller Assembly	N/A N/A	3.2.15	Includes all items shown	Both
1	Sheet Guide	51005201 2PP4083-2027P1	3.2.15		Both

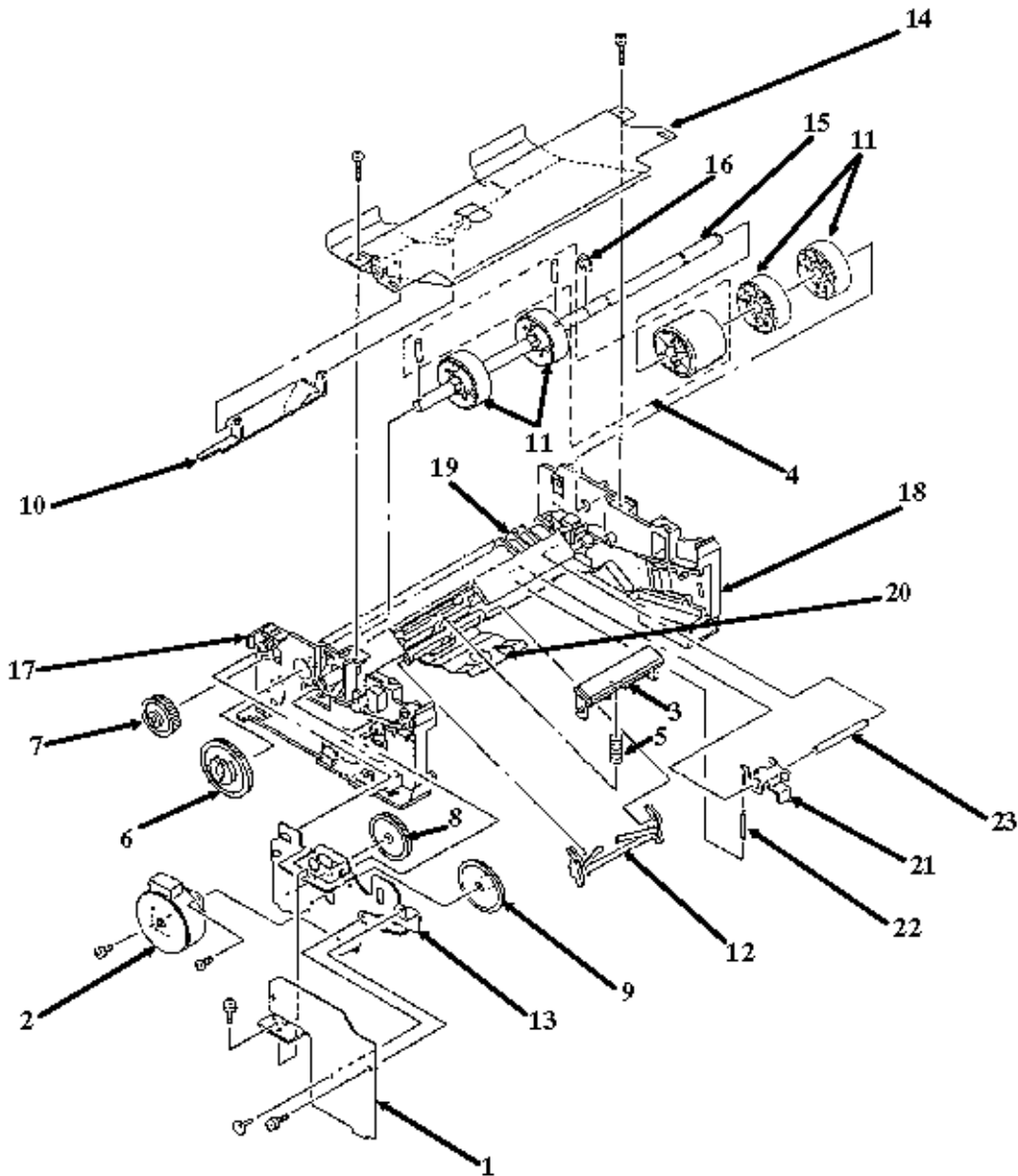
2	Paper Eject Roller	53334401 4PB4083-2028P1	3.2.16		Both
3	Paper Eject Roller (Face-up)	53334501 4PP4083-2515P1	3.2.16		Both
4	Paper Eject Roller Shaft	51111401 3PP4083-2029P1	3.2.16		Both
5	Idle Gear (Paper Eject)	51222801 4PP4083-2344P1	3.2.16		Both
6	E-Ring	50705301 RE6-SUS	3.2.16		Both
7	Sensor Lever (Paper Eject)	53528101 3PP4083-2032P1	3.2.16		Both
8	Sheet Separator	N/A 3PP4083-2881P1	3.2.16		Both

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B.2.10 Paper Delivery Unit



Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
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1	PCB: LLCC (Engine Connector)	55044601 4YA4083-5011G1	3.2.33	RSPL	Both
2	Motor: Pulse (Resist)	56507401 4PB4083-2275P1	3.2.32	RSPL	Both
3	Separator	53500501 4PP4083-2255G1	3.2.35	RSPL	Both
4	Roller: Hopping (Assembly)	50081701 4PA4083-3105G1	3.2.34	RSPL	Both
5	Spring: Separator	50917101 4PP4083-2270P1	3.2.35	RSPL	Both
6	Hopping Gear	51222901 3PP4083-2265P1	3.2.34		Both
7	Planet Gear	51223001 4PP4083-2282P1	3.2.34		Both
8	Idle Gear "B"	51223101 4PP4083-2279P1	3.2.32		Both
9	Idle Gear (OL 800)	51223201 4PP4083-2280P1	3.2.15	RSPL	Both
10	Paper End Lever	53528501 3PP4083-2268P1	3.2.34		Both
11	Hopping Roller B	53334901 3PP4083-2261P1	3.2.34		Both
12	Escape Lever	53528601 3PP4083-2256P1	3.2.35		Both
13	Motor Bracket	53335002 4PP4083-3057G2	3.2.32		Both
14	Upper Plate	53335101 2PP4083-2269P1	N/A		Both
15	Hopping Roller Shaft	51111501 3PP4083-3092P1	3.2.34		Both
16	E-Ring	50705401 RE6-SUS	3.2.34		Both
17	Side Frame Assembly (Left)	53335201 3PA4083-2562G1	N/A		Both
18	Side Frame Assembly (Right)	53335301 1PP4083-2252P1	N/A		Both

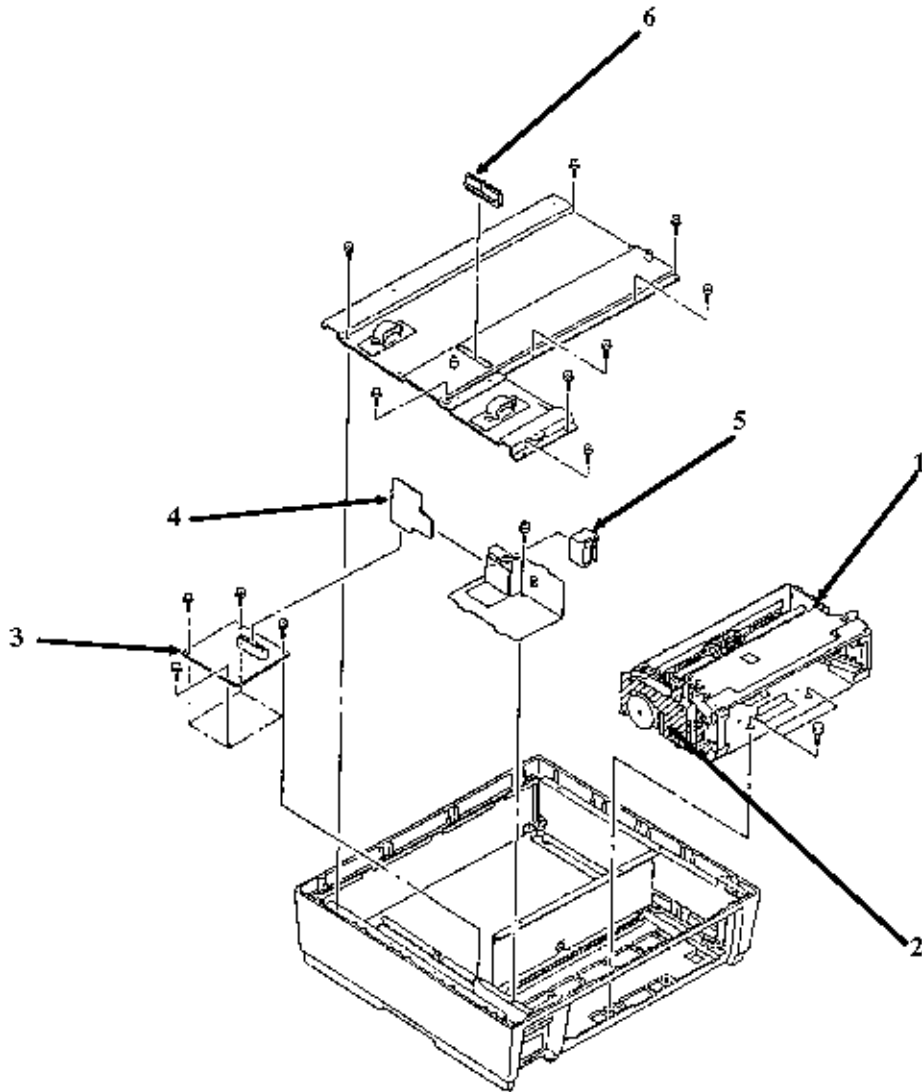
19	Separator Frame	53335401 1PP4083-2253P1	N/A		Both
20	Setting Lever	53528701 3PP4083-2266P1	N/A		Both
21	Latch Lever	53528801 4PP4083-2267P1	N/A		Both
22	Latch Spring	50918601 4PP4083-2271P1	N/A		Both
23	Latch Shaft	51111601 4PP4083-2296P1	N/A		Both

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 Chapter B Illustrated Parts Listing

B.2.11 Second Paper Feed Unit

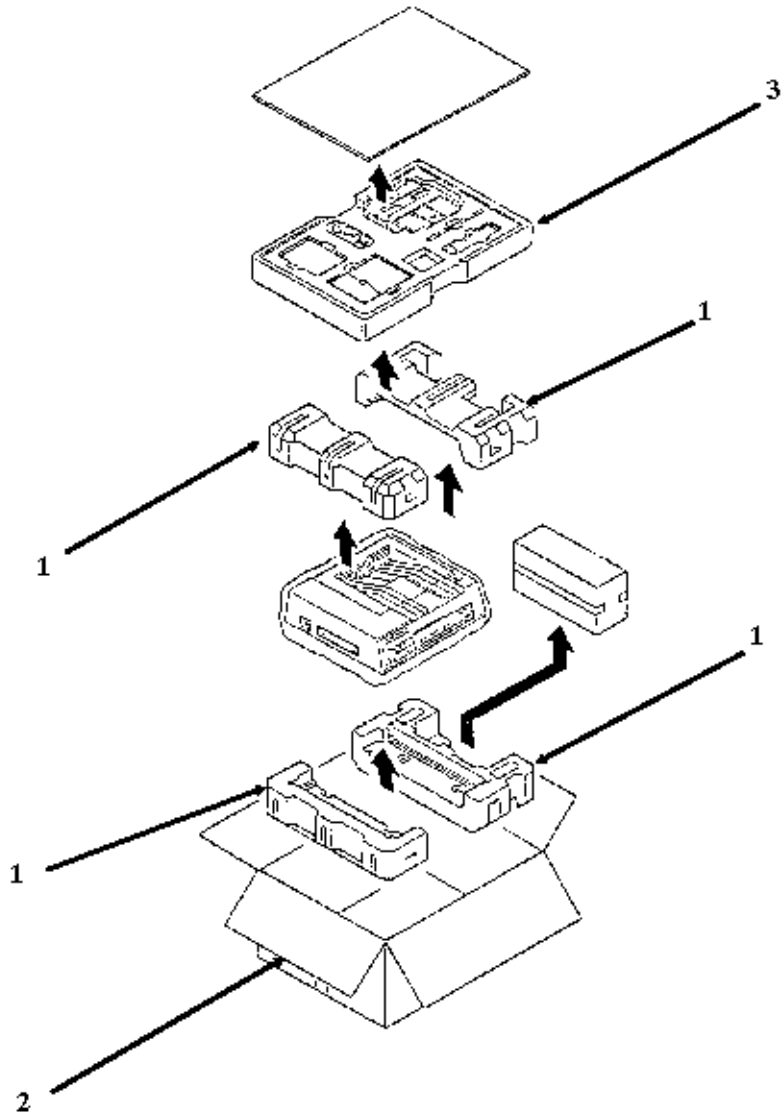


Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
	Second Paper Feed Unit	70018601 N/A	3.2.38	Option Inc. all items shown	Both

1	Second Paper Supply Unit	50063501 1YX4083-2285G1	3.2.40	Option	Both
2	PCB: LLFC (2nd Tray)	55051401 4YA4083-5015G1	3.2.43	RSPL Option	Both
3	LLIF PCB	N/A 4YA4046-1496G1	3.2.39		Both
4	Connection PCB (LLIG)	55067101 3PU4009-1238P1	3.2.39		Both
5	Connector PM8DOX	56726001 224A1282P0081	3.2.39		Both
6	Connector AKJ-40AG	56725201 224A1157P0401	3.2.39		Both
7	Blind Cover	N/A 2PP4016-6855P1			Both
8	Blind Cover	N/A 1PP4016-6792P1			Both
9	Blind Cover or Rear Panel	N/A 3PA4094-4233G1			Both
10	Thumb Screw	N/A 4PP4083-3109P1			Both
11	Lower Base	N/A 1PP4016-6791P1			Both
12	Shield Base	N/A 2PP4094-4999G1			Both
13	Top Plate Assembly	N/A 2PA4094-5002G2			Both
14	Rubber Foot	N/A 4PB4020-1510P1			Both

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B.2.12 Packing Materials

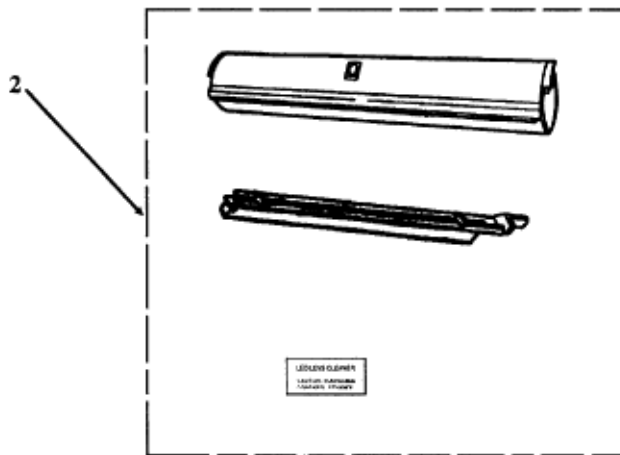
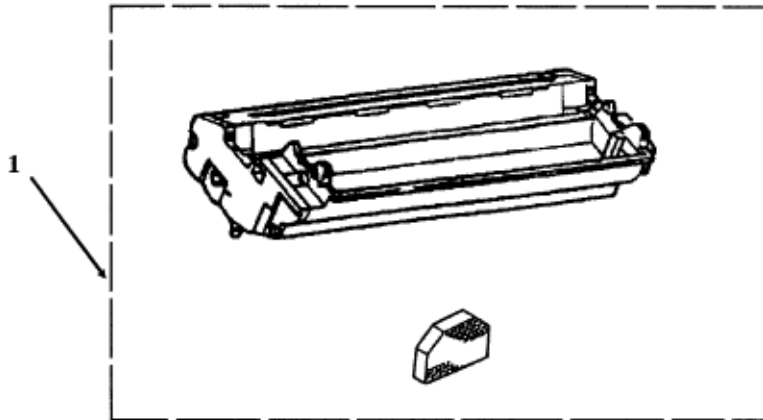


Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
1	Foam: Packaging	53557201 3PP4083-3250P1	N/A	RSPL	Both

2	Box: Graphic (OL830-Plus)	53553603	N/A	RSPL	830+
	Box: Graphic (OL850)	53564001	N/A	RSPL	850
3	Tray: OL Series Accessory	53564801	N/A	RSPL	Both
	Foam: Packaging EP Cartridge	53531803 4PP4083-3026P3	N/A	RSPL	Both
	Assembly: Image Drum Repackaging	53562003	N/A	RSPL	Both

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B.2.13 Consumables



Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
1	Image Drum Kit	56106601 4YA4083-3201G1	N/A	Consumable	Both
	Includes:				
	Image Drum Cartridge	53500901 4YA4083-3201G1	3.2.01	Consumable <i>In Drum Kit</i>	

	Filter: Ozone	55503501 3PB4083-2816P2	3.2.37	Consumable <i>In Drum Kit</i>	
2	Toner Cartridge Kit	52104201 N/A		Consumable	Both
	Includes:				
	Toner Cartridge	N/A N/A	3.2.01	Consumable <i>In Toner Kit</i>	
	Pad: Fuser	53500901 3PB4083-2096P1	3.2.20	Consumable <i>In Toner Kit</i>	
	LED Lens Cleaner	N/A N/A	N/A	Consumable <i>In Toner Kit</i>	

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B.2.14 Options

Item	Description	Okidata P/N Oki-J P/N	Disassembly Procedure	Comments	Product
	Tax Font Card (HP Fonts)	70014401 4YB4060-4144P7	3.2.01	Option	Both
	Prestige Elite Font Card (HP Fonts)	70014201 4YB4060-4145P18	3.2.01	Option	Both
	Letter Gothic Font Card (HP Fonts)	70014501 4YB4060-4145P20	3.2.01	Option	Both
	Bar Codes Plus Font Card (HP Fonts)	70017101	3.2.01	Option	Both
	MICRO DOCS Font Card (HP Fonts)	70017201	3.2.01	Option	Both
	OKIPRO 65 Font Card (HP Fonts)	70017301	3.2.01	Option	Both
	Essentials Font Card (PostScript Fonts)	70019101	3.2.01	Option	Both
	Futura and More Font Card (PostScript Fonts)	70017601	3.2.01	Option	Both
	Garamond & More Font Card (PostScript Fonts)	70017501	3.2.01	Option	Both
	Optima and More Font Card (PostScript Fonts)	70017701	3.2.01	Option	Both

	Paper Tray (Legal)	70013701 4YA4083-3207G1	3.2.01	Option	Both
	Paper Tray (Envelope)	70013801 4YA4083-2419G1	3.2.01	Option	Both
	Paper Tray (A4)	70016701	3.2.01	Option	Both
	Paper Tray (Executive)	70016801	3.2.01	Option	Both
	Paper Tray (Universal)	50091001 4YA4083-3206G1	3.2.01	Option	Both
	Serial Interface/AppleTalk Expansion Kit	70018701	3.2.05	Option	830+
	PCB: APSR Serial I/F RS-232C / AppleTalk	55058001 4YA4046-1480G1	3.2.05	Option - 830+ RSPL - 850	Both
	Memory Expansion Kit	70016501	3.2.06	Option	Both
	PCB: REXM 2 MB RAM 2MB Memory Board (REXM)	55051601 4YA4046-1375G1	3.2.06	RSPL Option	Both
	Unit: Upper (220/240V) (OST)	50213707 1YX4083-2060G7	3.2.17	RSPL Option	Both
	Cord: AC 220 Volt (OL Series)	56624301 3YS4011-1266P1	3.2.01	RSPL Option	Both
	Cord: AC 240 Volt (OL Series) UK	56624501 3YS4011-1270P1	3.2.01	RSPL Option	Both
	Unit: Fusing (220/240V)	55044902 2YX4083-2073G4	3.2.20	RSPL Option	Both
	Power Supply (220/240V)	56408708 4YA4083-5017G8	3.2.13	RSPL Option	Both
	Second Paper Feed Unit	70018601 N/A	3.2.38	Option	Both
	Second Paper Supply Unit	50063501 1YX4083-2285G1	3.2.40	Option	Both

	PCB: LLFC (2nd Tray)	55051401 4YA4083-5015G1	3.2.43	RSPL Option	Both
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