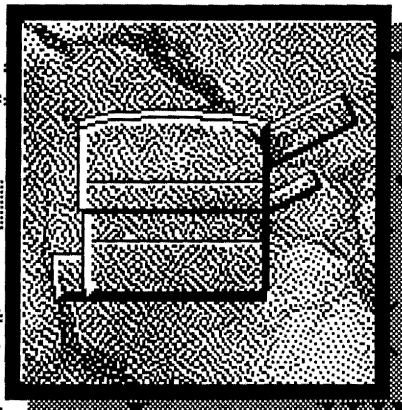
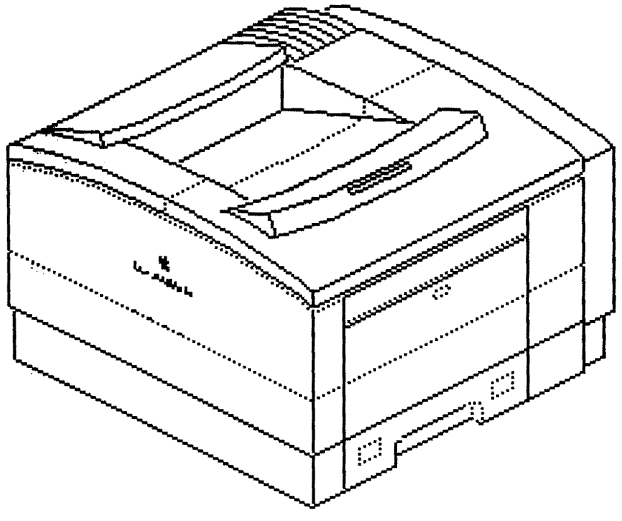
LaserWriter Pro





The printers covered in this manual are

LaserWriter Pro 600
LaserWriter Pro 630

Compatibility: Except for the I/O boards, all parts are identical between the two models.

Note: Refer to the following chapters in the LW Pro Envelope Feeder and LW Pro Sheet Feeder manuals for additional information on feeder options.

- Take-Apart
- Additional Procedures
- Adjustments
- Illustrated Parts

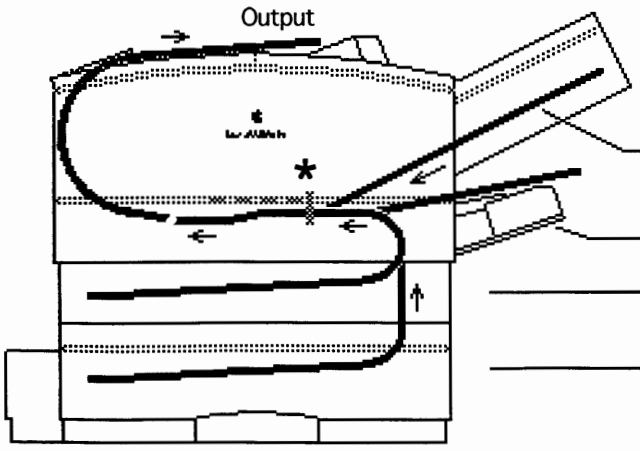
LaserWriter Utility

Note: Refer to the user's guide for complete information regarding LaserWriter Utility. This application gives you software control over the LaserWriter Pro that is essential to its operation. Some of features of LaserWriter Utility include:

- Naming the printer
- Setting default printer resolution
- Turning on FinePrint
- Turning on PhotoGrade (if available)
- Setting default paper-handling options
- Setting print density
- Setting communication protocols
- Printing configuration page
- Turning off the startup test page

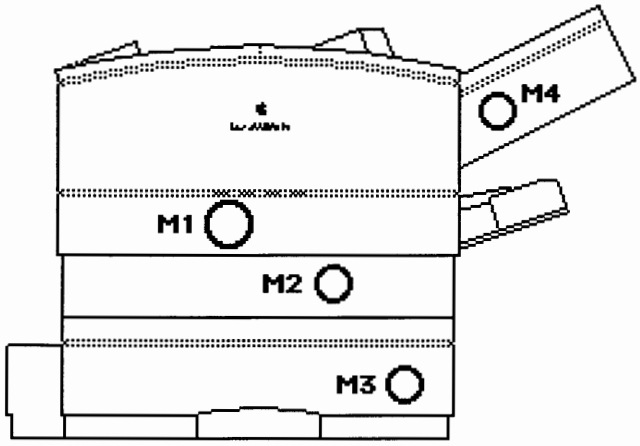
Note: You must use LaserWriter Utility version 7.4 or later. You can override some default settings through the Print dialog (LaserWriter driver version 7.2 or later).

There are four paper sources and one output tray in a complete system.



Note: The asterisk denotes a synchronization pause. See PS602 in "Sensing System Theory" in this chapter.

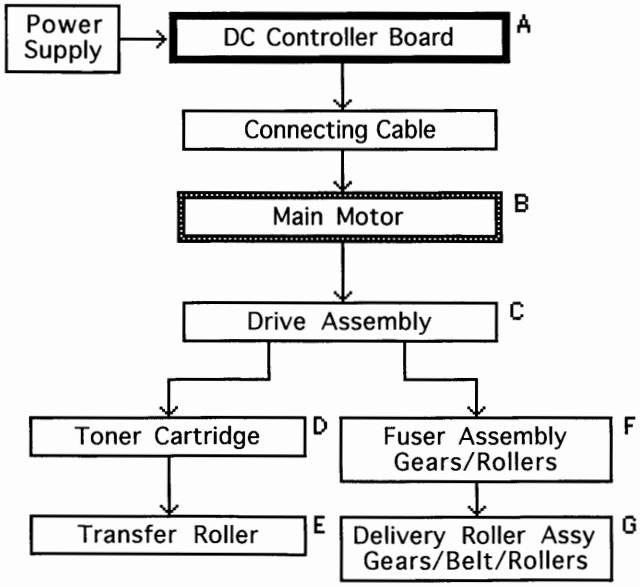

Animation



There are four motors and four separate drive trains in a complete system. Two are in the printer engine and one is in each of the optional feeders.

M1 Main Motor
M2 Pickup Block Motor
M3 Sheet Feeder Motor
M4 Envelope Feeder Motor

Note: The DC controller board synchronizes mechanical drive speed with laser scan rate so that the image is positioned squarely on the page without any vertical distortion.

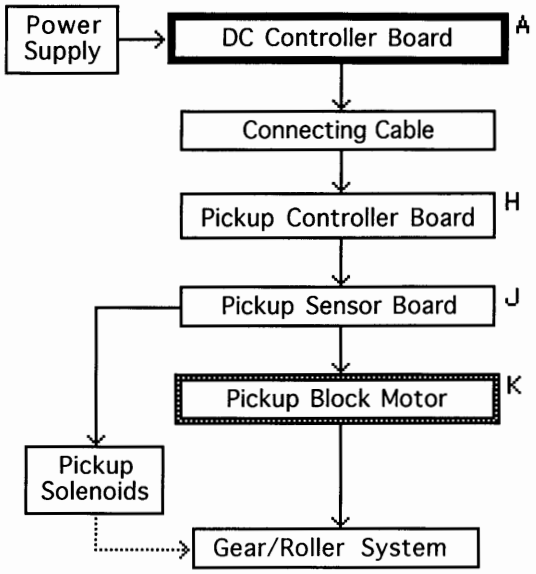


M1 Main Motor Drive

The main motor powers the system that transports paper from the toner cartridge to the delivery tray on top of the printer.

Note: The letters next to the boxes correspond to the labels in the QuickTime movie.

Overview

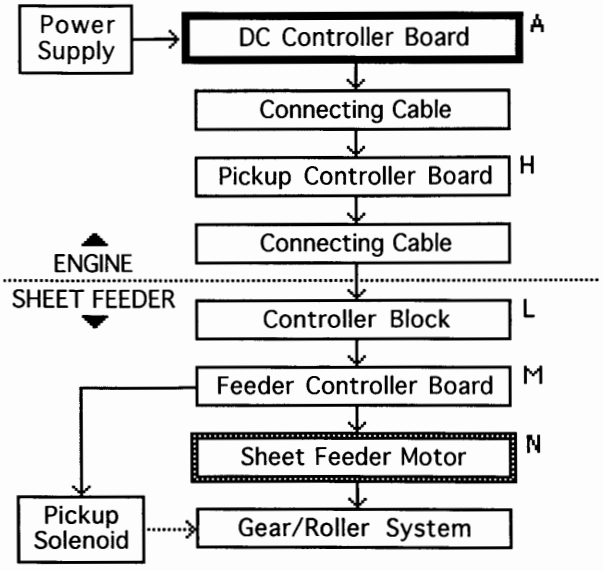


M2 Pickup Block Motor Drive

The pickup block motor powers the system that transports paper into the engine, through the pickup block, and up to the toner cartridge.

Note: The DC controller board does not connect directly to the pickup block motor. Make sure to troubleshoot the three intermediate blocks if there is a failure in pickup block drive. All three blocks are available separately from Apple.


Overview

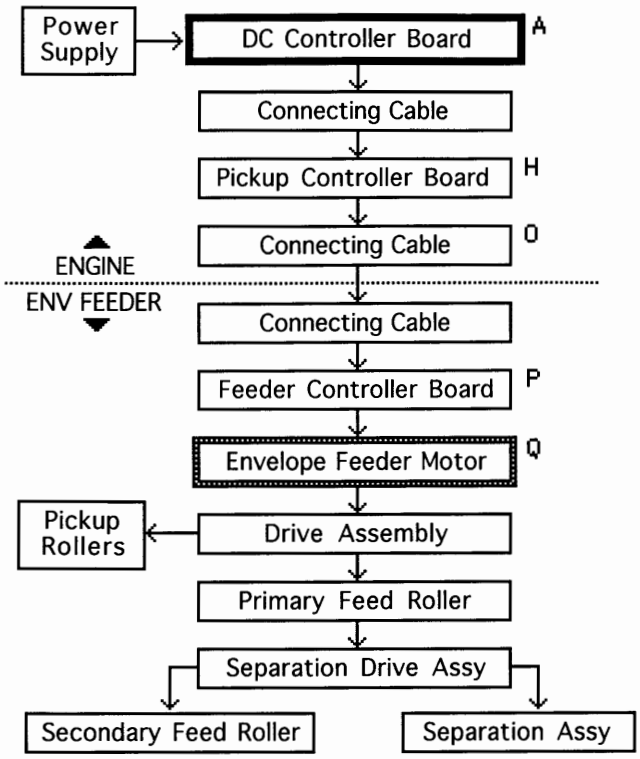


M3 Sheet Feeder Motor Drive

The sheet feeder motor powers the system that transports paper from the 500-sheet cassette upward into the printer engine.

Note: Once the paper reaches the lower feed roller in the pickup block, engine components supply mechanical drive.


Overview



M4 Envelope Feeder Motor Drive

The envelope feeder motor powers the system that separates envelopes and feeds them into the printer engine.

Note: Once an envelope reaches the upper feed rollers in the pickup block, engine components supply mechanical drive.

Overview

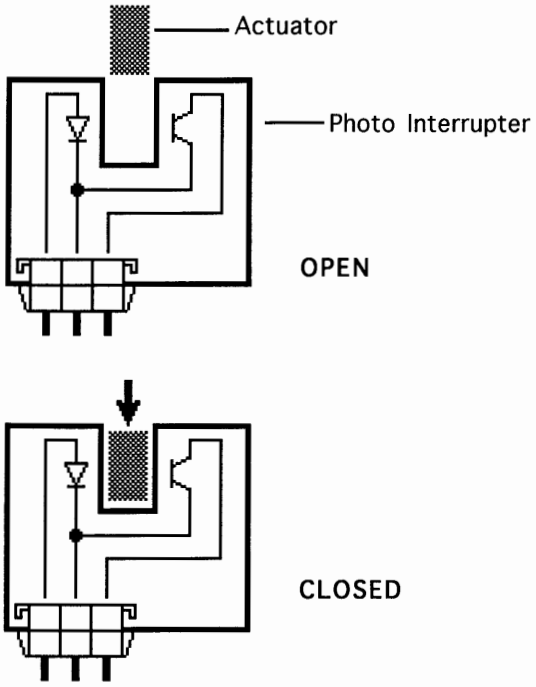
There are six paper sensors, one dual-action sensor, and seven sensing switches in a LaserWriter Pro system:

Paper Sensors

- **PS601:** Cassette Paper Sensor
- **PS602:** Registration Paper Sensor (see "Registration Adjustment" in Adjustments)
- **PS701:** Multipurpose Paper-End Sensor
- **PS702:** Multipurpose Paper-Present Sensor
- **PS851:** Sheet Feeder Paper-Present Sensor
- **PS931:** Envelope Paper-Present Sensor
- **PS201:** Delivery/Interlock Sensor

Sensing Switches

- **SW601:** Top Cover Interlock Switch
- **SW603:** Upper Cassette Size Sensing Switch
- **SW604:** Upper Cassette Size Sensing Switch
- **SW605:** Upper Cassette Size Sensing Switch
- **SW851:** Lower Cassette Size Sensing Switch
- **SW852:** Lower Cassette Size Sensing Switch
- **SW853:** Lower Cassette Size Sensing Switch



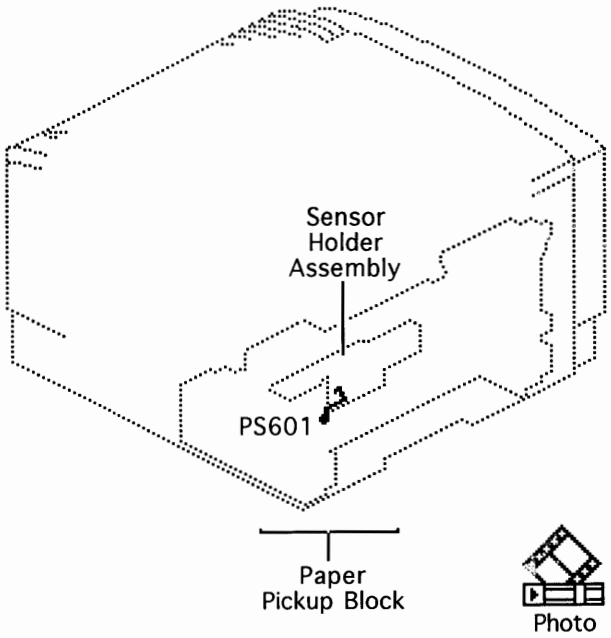
Paper Sensors

Paper sensors consist of an actuator, a U-shaped photo interrupter, and circuitry. Sensors are tripped as the actuator swings against movement of paper and blocks the gap of the U. An actuator can be passive (governed by gravity) or spring-loaded.

Note: Sensor failure can be either mechanical or electrical. When troubleshooting sensors, first confirm that the arm or lever moves freely without snagging, that any springs are applying correct resistance, and that the actuator is not broken. Then check that all cable connections are secure. If you have eliminated mechanical issues, proceed with electrical troubleshooting.

PS601
Cassette Paper Sensor

Actuator: A passive lever in the sensor holder assembly is tripped by insertion of a loaded cassette tray.



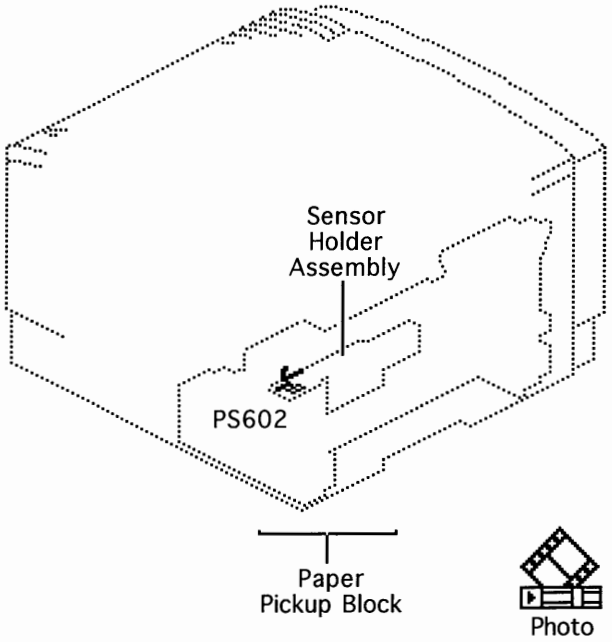
PS602
Registration Paper Sensor

Actuator: A spring-loaded lever in the sensor holder assembly is tripped by arriving paper.

All paper stops at PS602 and waits for proper synchronization with drum rotation and mechanical drive.

Note: If paper does not reach sensor PS602 within the prescribed time after the pickup signal is issued, a pickup unit delay jam exists and the controller stops printing.

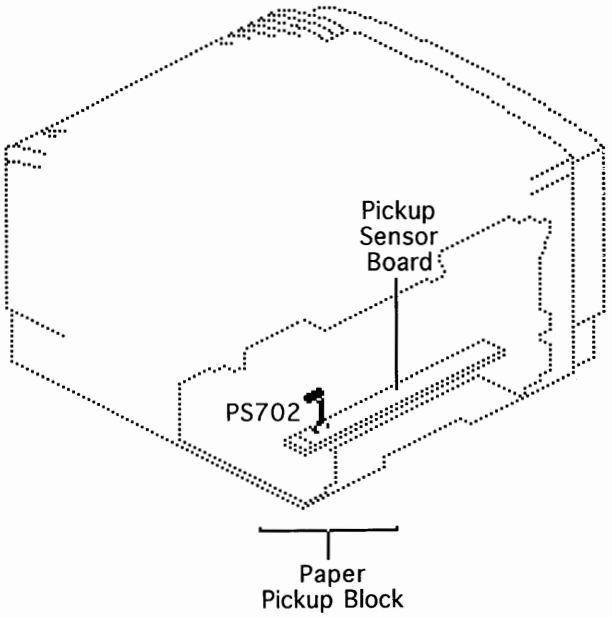
If paper reaches the sensor but does not clear it within the correct time, a pickup unit stationary jam exists. The time allowed for paper to clear is a function of paper size, which is detected by PS701 (for manually fed paper) and by sensing switches (for cassette-fed paper).



Photo

PS702
Multipurpose Paper-Present Sensor

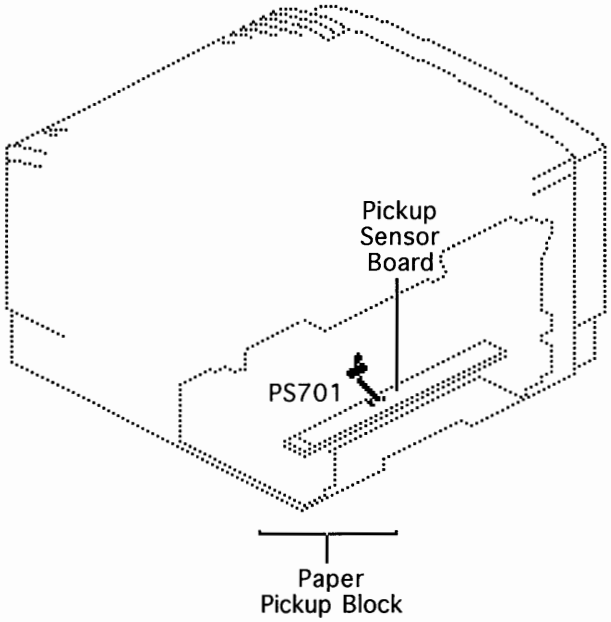
Actuator: A spring-loaded lever in the paper pickup block is tripped by the leading edge of paper as it is loaded in the multipurpose tray.



PS701
Multipurpose Paper-End Sensor

Actuator: A passive lever in the paper pickup block is tripped by the trailing edge of paper leaving the multipurpose tray.

Sensor PS701 detects the size of paper fed from the multipurpose tray.



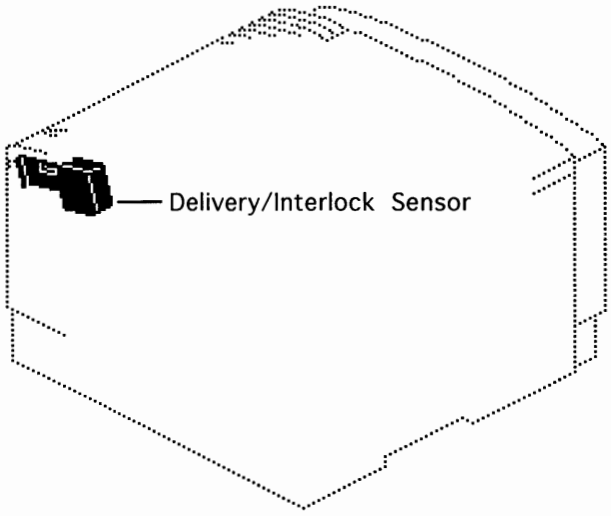
PS201
Delivery/Interlock Sensor

Actuator: A plastic tab on the fuser door and a sensing lever in the fuser assembly act independently to trip a photo interrupter.

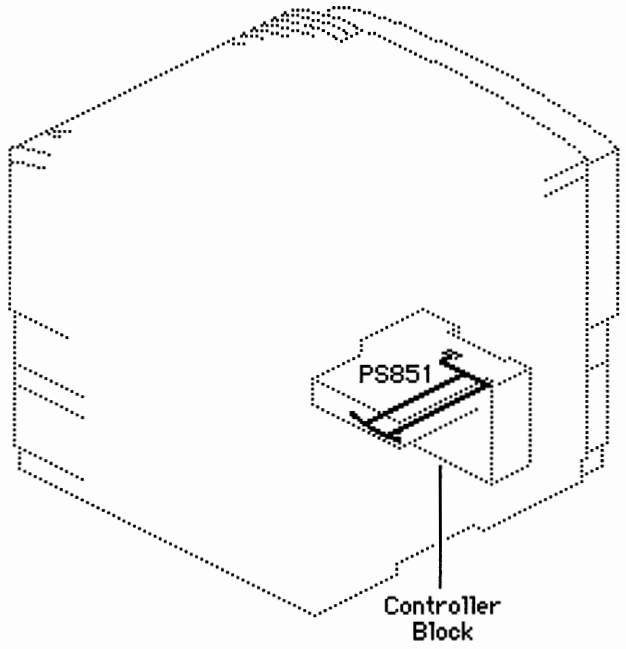
PS201 detects two things: paper exiting the fuser and closure of the fuser door.

Note: If paper does not reach sensor PS201 within 5.2 seconds after it reached registration sensor J602, a delivery unit delay jam exists and the controller stops printing.

If paper reaches the sensor but does not clear it within the correct time, a delivery unit stationary jam exists. The time allowed for paper to clear is a function of paper size, which is detected by PS701 (for manually fed paper) and by sensing switches (for cassette-fed paper).

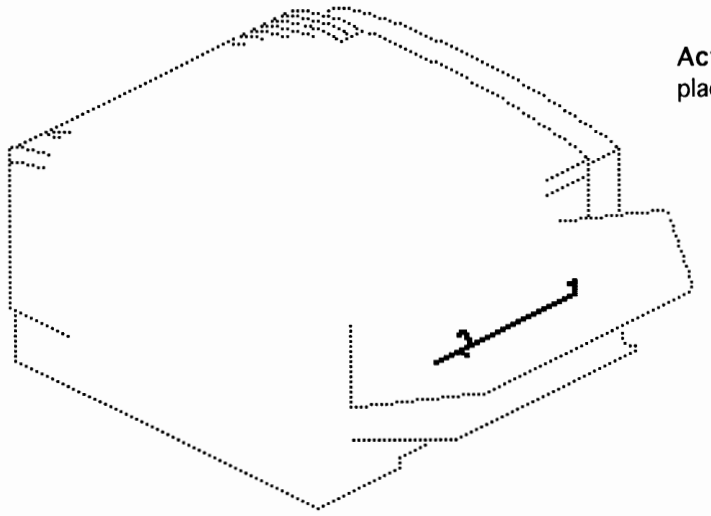


Animation



PS851
Sheet Feeder Paper-Present Sensor

Actuator: A passive lever in the controller block is tripped by insertion of a loaded cassette tray.



PS931
Envelope Feeder Paper-Present Sensor

Actuator: A spring-loaded lever is tripped by placement of envelopes into the feeder.

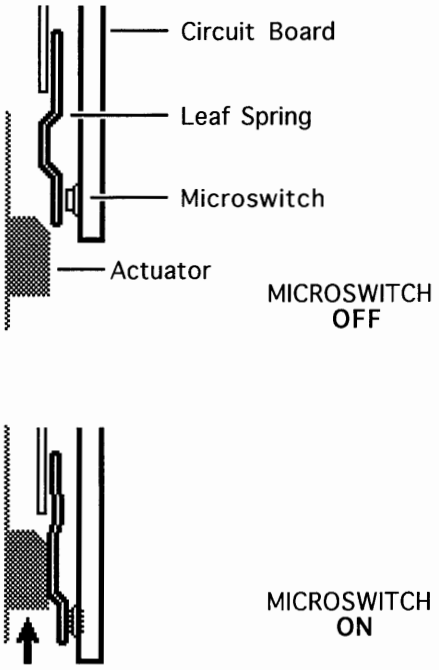
Sensing Switches

Sensing switches attach to a circuit board and do not use photo interrupters.

Switches are actuated by leaf springs that press inward as you insert a cassette tray or close the top cover.

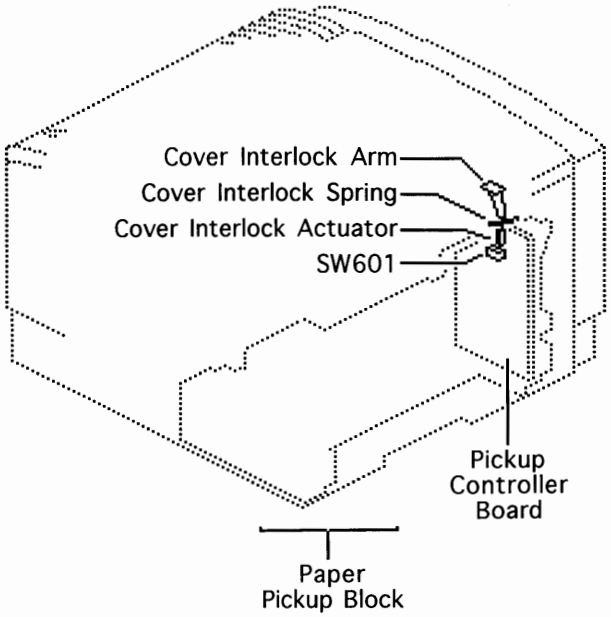
Note: Failure in sensing switches can be either mechanical or electrical. When troubleshooting switches, first confirm that the actuator has not broken off and then confirm that the leaf springs are not bent or misshapen. You should be able to press the leaf spring with your finger and hear the clicking of the microswitch.

If you have eliminated mechanical issues, proceed with electrical troubleshooting.



SW601
Top Cover Interlock Switch

Actuator: A tab on the top cover actuates a leaf spring and pin, which press the microswitch on the pickup controller board. See "Troubleshooting Tips" in this chapter for information on defeating the top cover interlock switch.

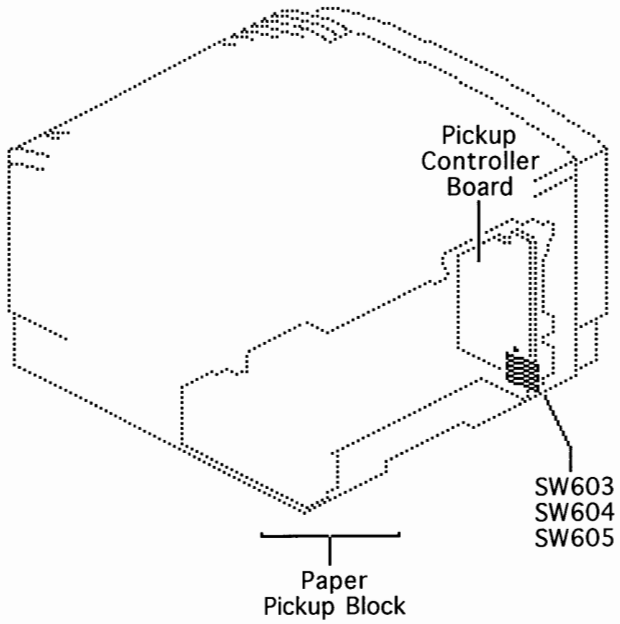


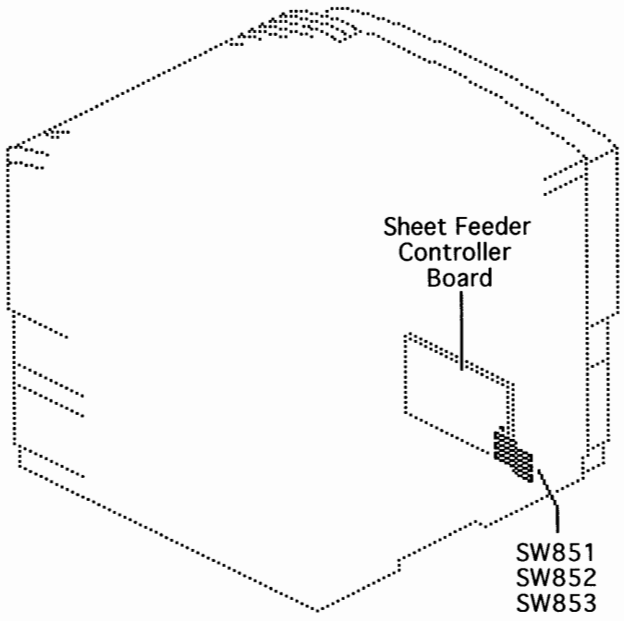
SW603, SW604, SW605 Cassette Size Sensing Switches (Upper)

Actuator: Plastic tabs on the side of the cassette trays actuate leaf springs, which press microswitches on the pickup controller board. The tab/switch configurations are shown below:

Cassette Type	SW603	SW604	SW605
(no cassette)	OFF	OFF	OFF
Legal	ON	ON	OFF
Letter	ON	OFF	ON
A4	OFF	OFF	ON
Executive	OFF	ON	ON
B5	OFF	ON	OFF

Note: See the next card for a note regarding the 250-sheet universal cassette.





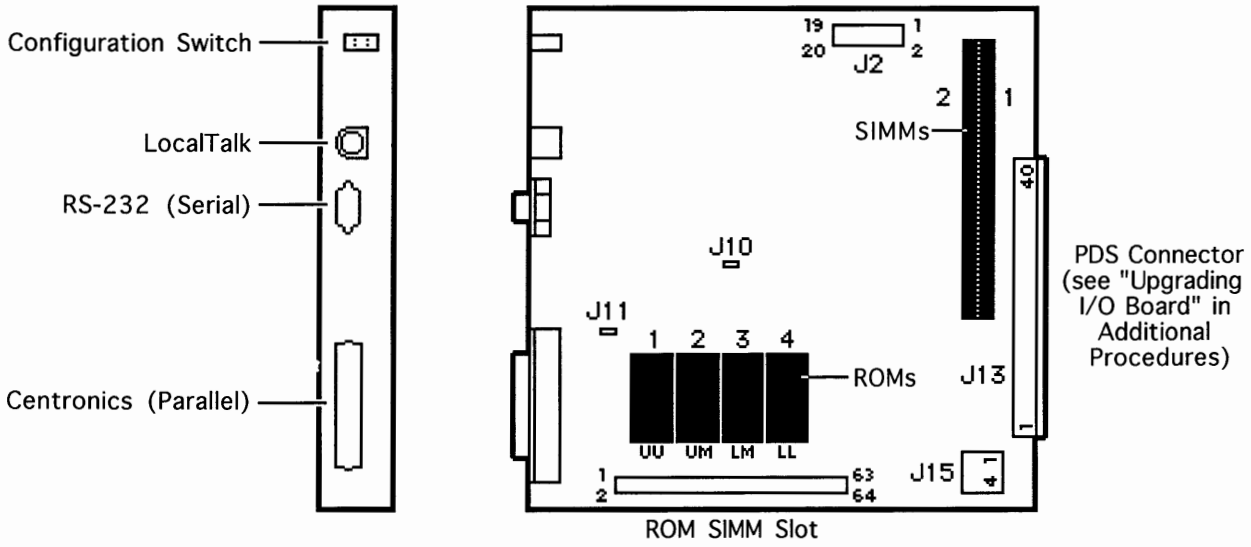
SW851, SW852, SW853 Cassette Size Sensing Switches (Lower)

Actuator: Plastic tabs on the side of a cassette tray actuate leaf springs, which press micro-switches on the sheet feeder controller board.

Note: The sheet feeder uses a 500-sheet universal cassette. As with the upper 250-sheet universal cassette, the tabs are set manually by adjusting a selection dial on the cassette. When you are troubleshooting, be aware that human error can be a factor in paper-size sensing for these universal cassettes.

LaserWriter Pro 600 I/O Board

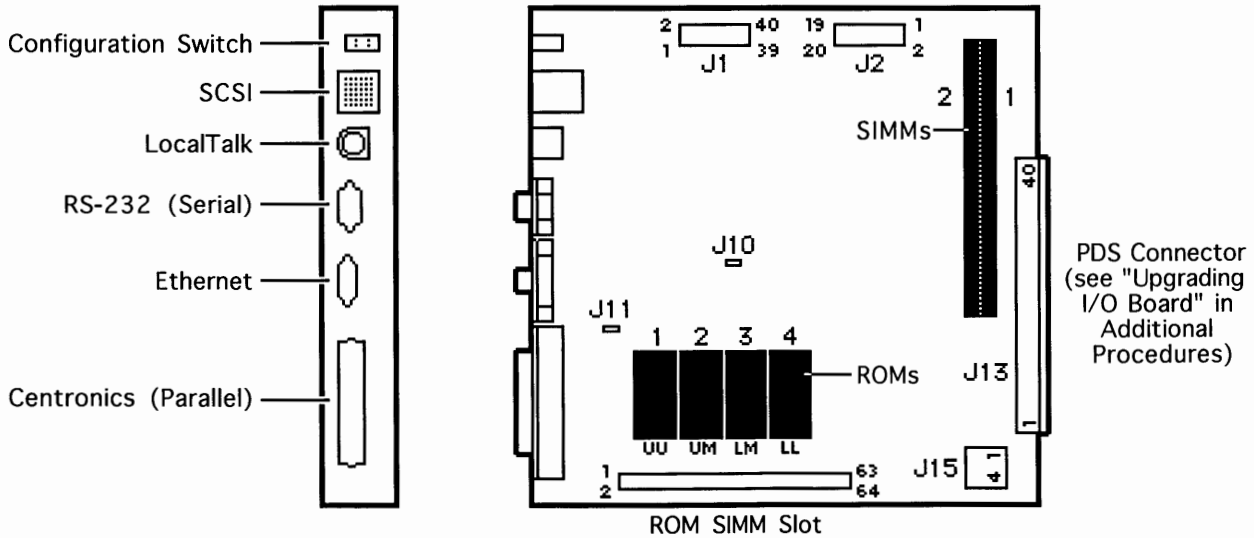
Note: Refer to the user's guide for configuration settings. LaserWriter Utility settings override the configuration switch.



ROM SIMM Slot

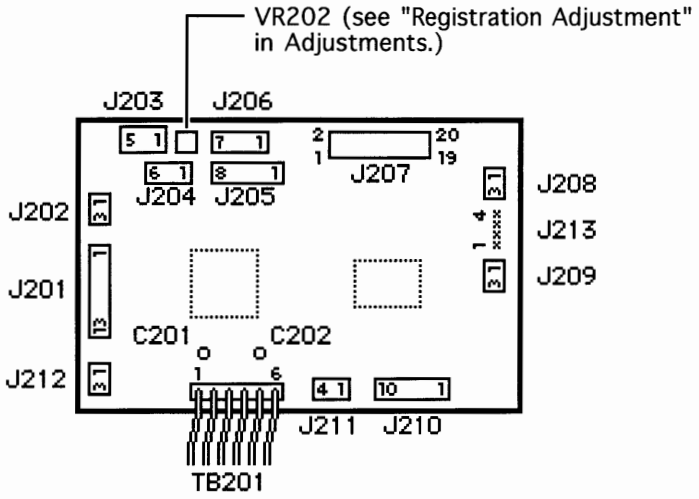
LaserWriter Pro 630 I/O Board

Note: Refer to the user's guide for configuration settings. LaserWriter Utility settings override the configuration switch.

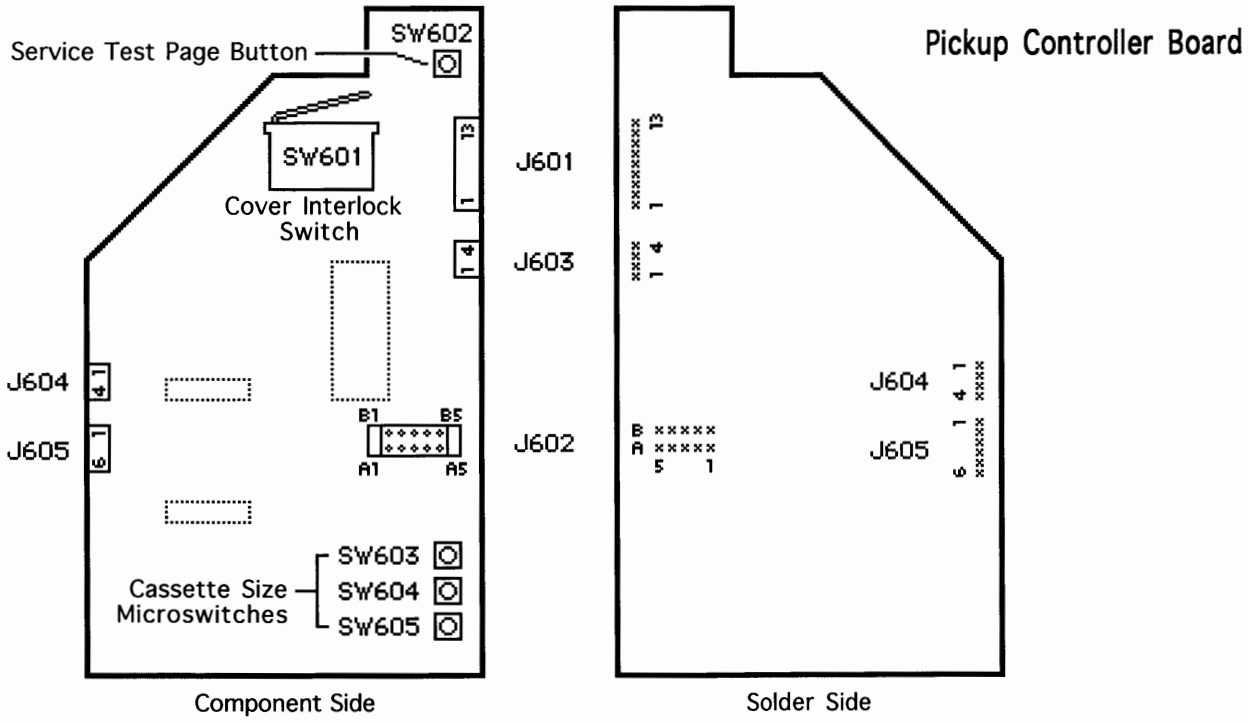


ROM SIMM Slot

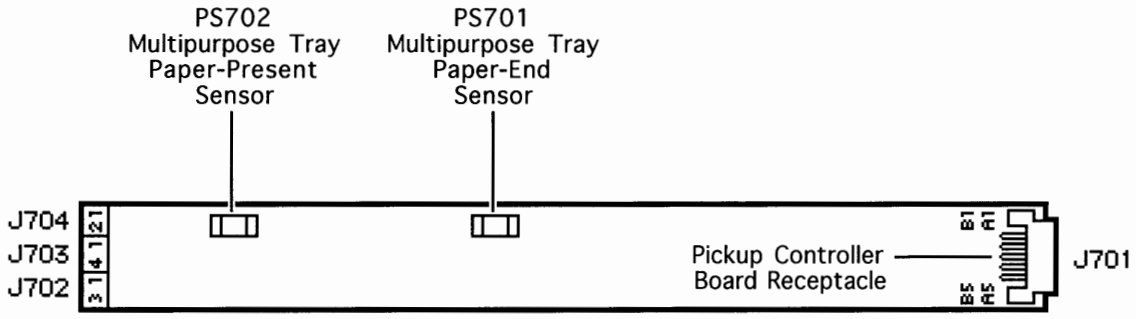
DC Controller Board



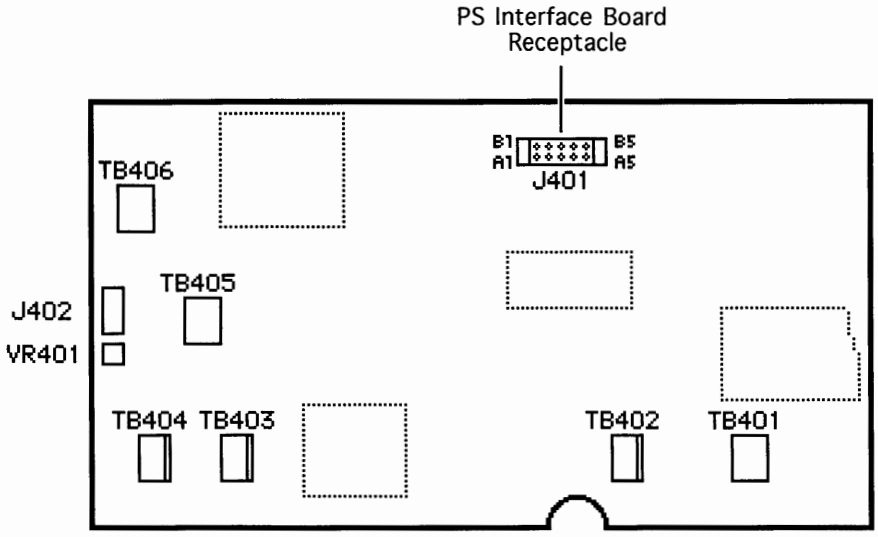
Pickup Controller Board



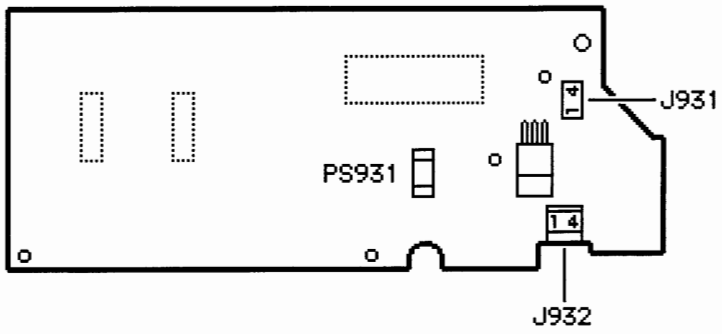
Pickup Sensor Board



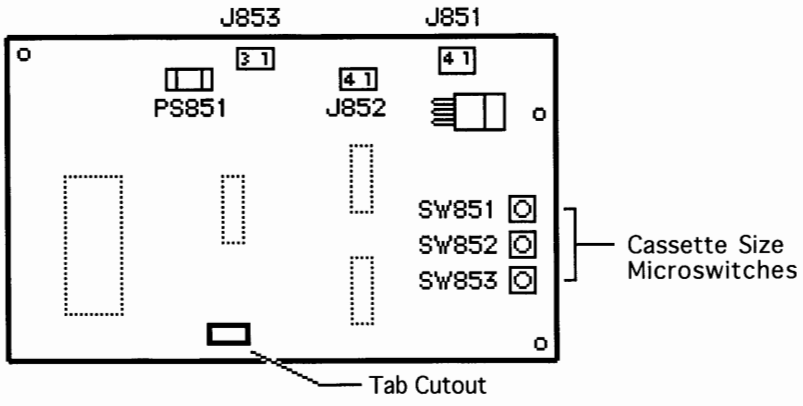
High-Voltage Power Supply



Envelope Feeder Controller Board



Sheet Feeder Controller Board



Wiring Diagram

The LaserWriter Pro wiring diagram is available on-line in an interactive QuickTime window.

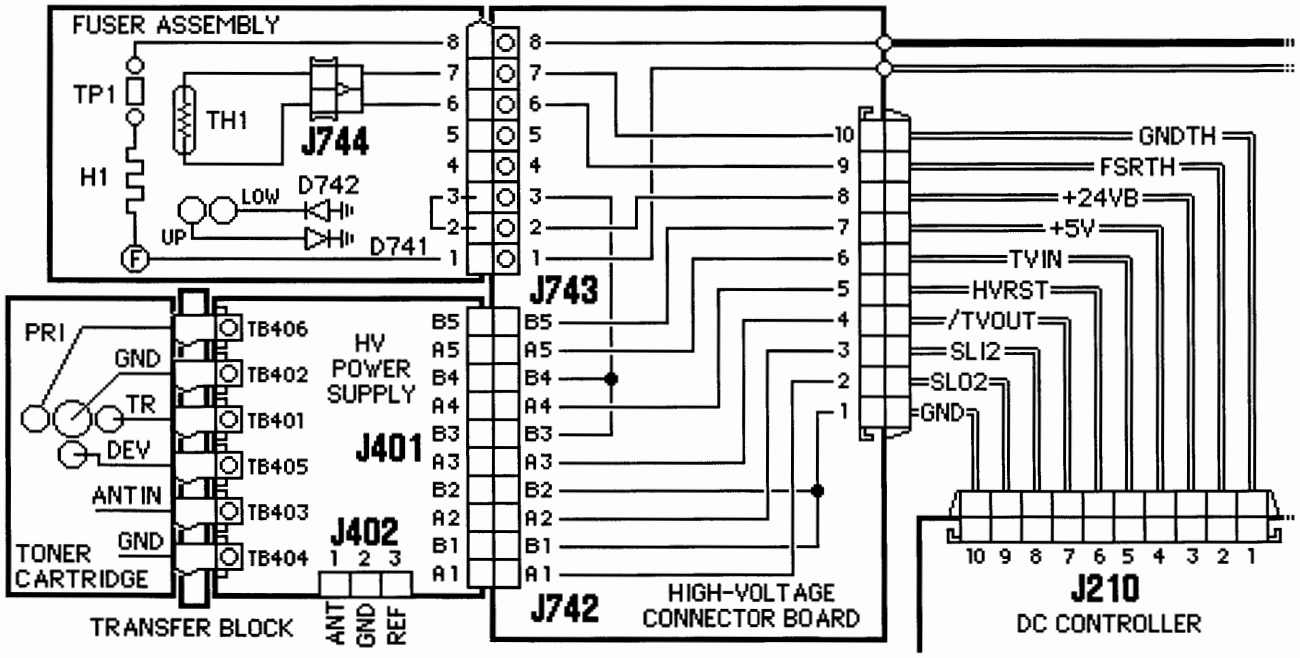
Note: The on-line wiring diagram will be available at any point within Flowcharts. If you would like to reference the diagram at any other time you can return to this topic in Basics.

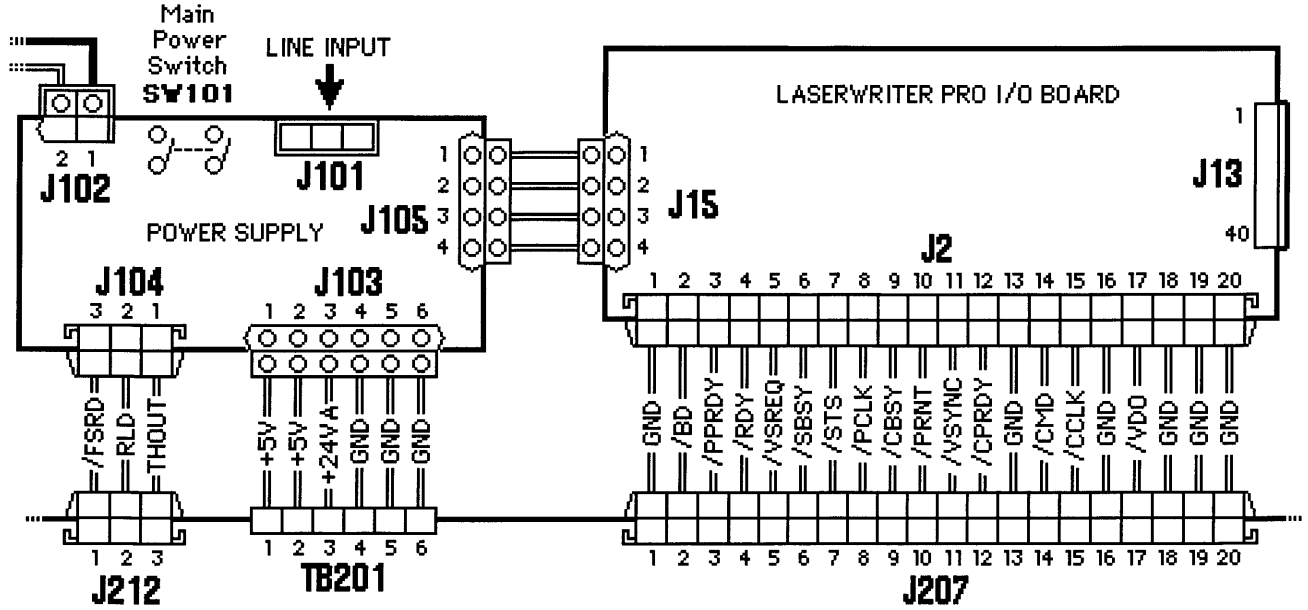
A non-interactive version of the wiring diagram is provided on cards 2-10 of this topic for those who are not QuickTime-compatible.

If you want to print the wiring diagram, select "Print" from the Do menu, and click on the button next to "Topic."

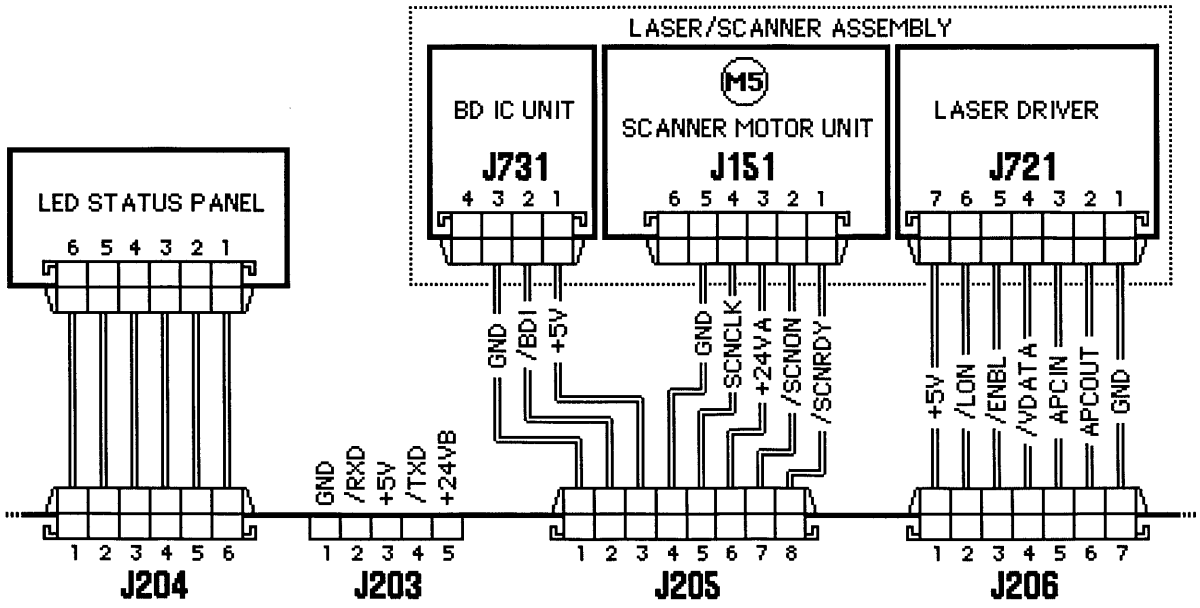
Note: A partial list of controller input/output signals and abbreviations used in the diagram appears at the end of this topic.

Wiring Diagram

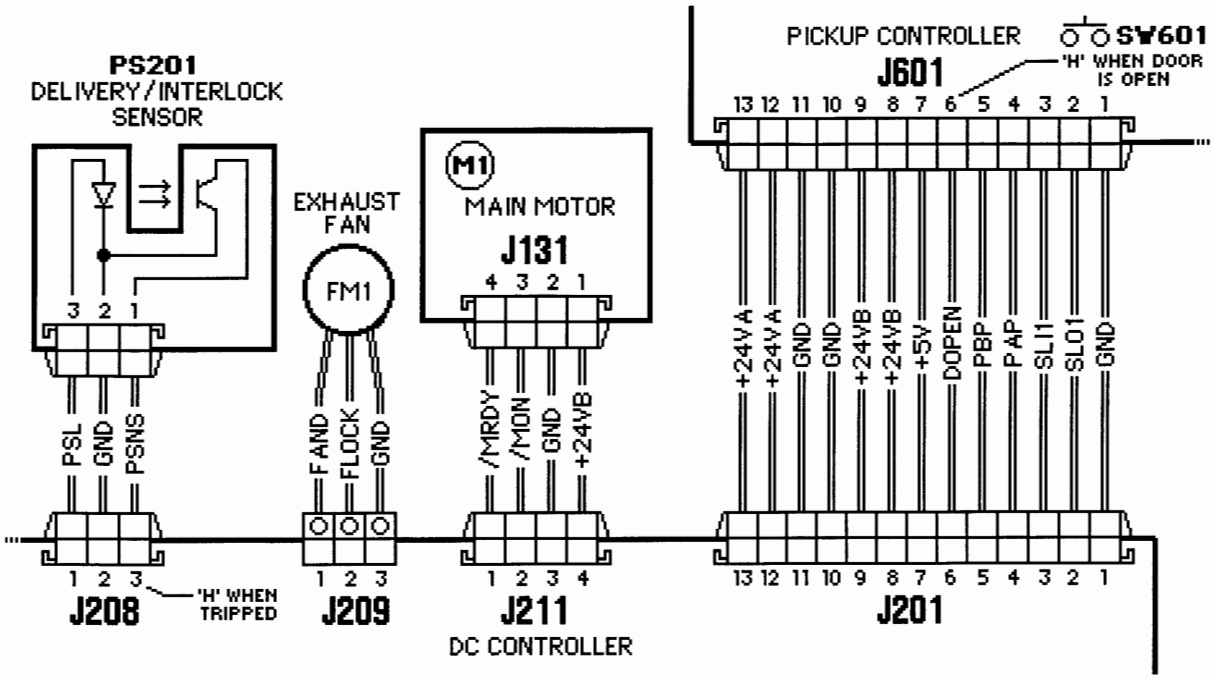


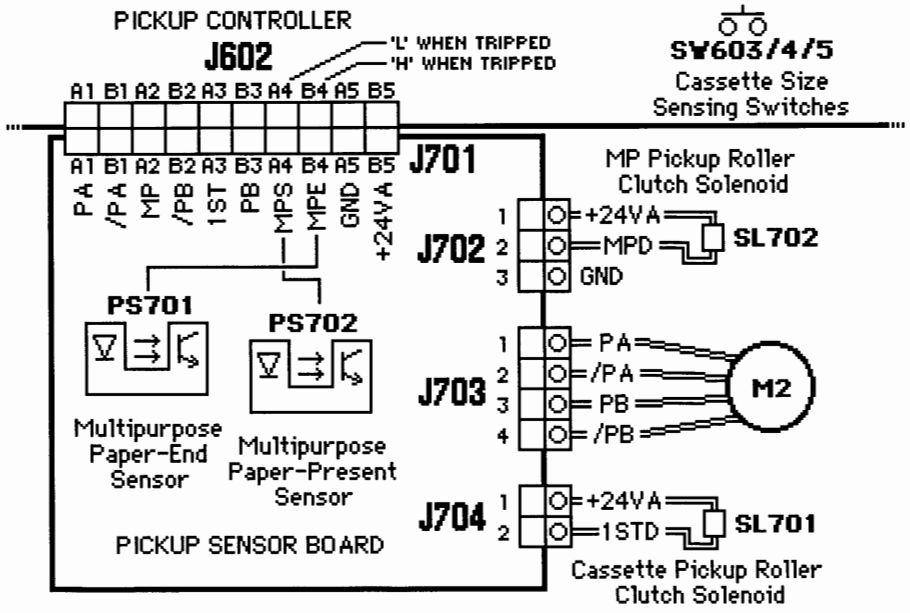


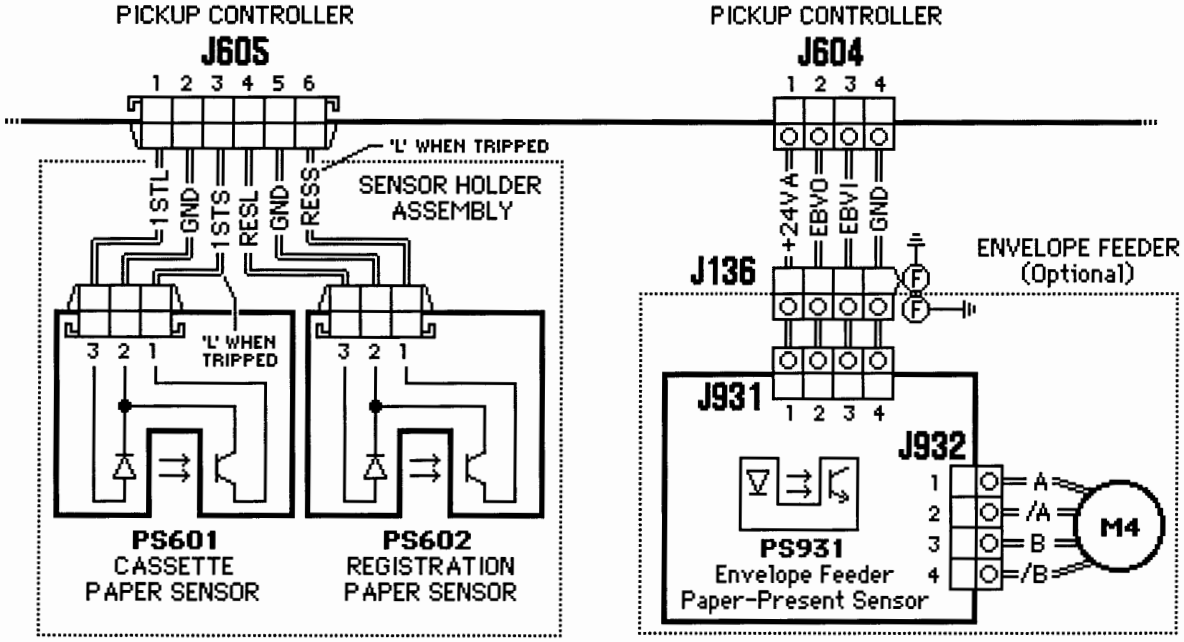
DC CONTROLLER

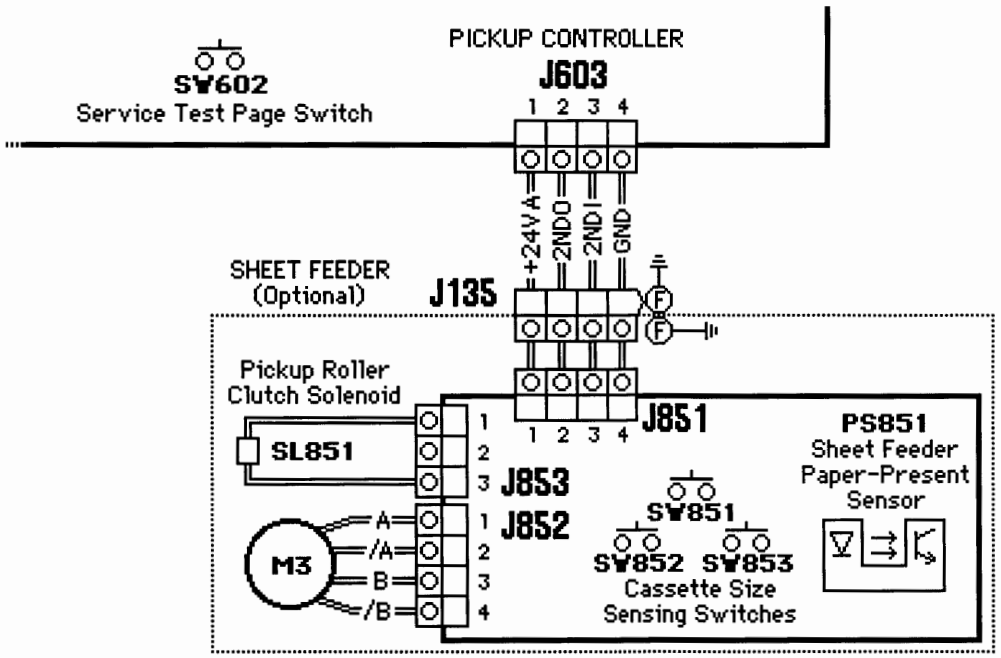


DC CONTROLLER

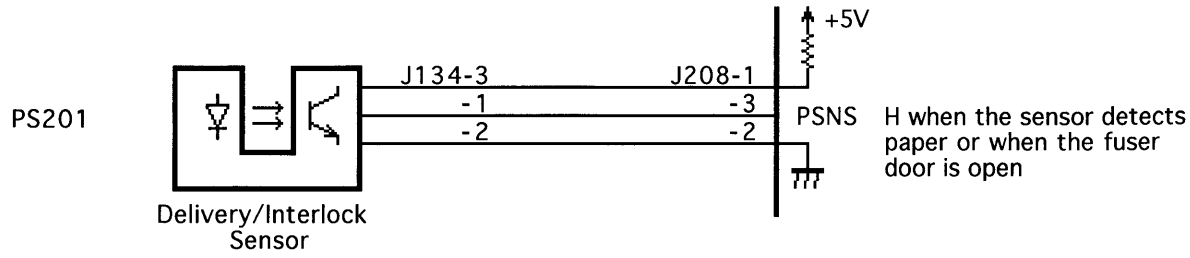

PS201
DELIVERY/INTERLOCK SENSOR
3 2 1
PSL
GND
PSNS
1 2 3
J208
'H' WHEN TRIPPED
EXHAUST FAN
FM1
FAND
FLOCK
GND
1 2 3
J209
M1
MAIN MOTOR
J131
4 3 2 1
/MRDY
/MON
GND
+24VB
1 2 3 4
J211
DC CONTROLLER
PICKUP CONTROLLER
J601
SW601
'H' WHEN DOOR IS OPEN
13 12 11 10 9 8 7 6 5 4 3 2 1
+24VA
+24VA
GND
GND
+24VB
+24VB
+5V
DOPEN
PBP
PAP
SLI1
SLO1
GND
13 12 11 10 9 8 7 6 5 4 3 2 1
J201


PICKUP CONTROLLER
J602
'L' WHEN TRIPPED
'H' WHEN TRIPPED
A1 B1 A2 B2 A3 B3 A4 B4 A5 B5
SW603/4/5
Cassette Size Sensing Switches
A1 B1 A2 B2 A3 B3 A4 B4 A5 B5
PA /PA MP /PB 1ST PB MPS MPE GND +24VA
J701
MP Pickup Roller Clutch Solenoid
J702
1 +24VA
2 MPD
3 GND
SL702
PS701
PS702
Multipurpose Paper-End Sensor
Multipurpose Paper-Present Sensor
J703
1 PA
2 /PA
3 PB
4 /PB
M2
J704
1 +24VA
2 1STD
SL701
PICKUP SENSOR BOARD
Cassette Pickup Roller Clutch Solenoid

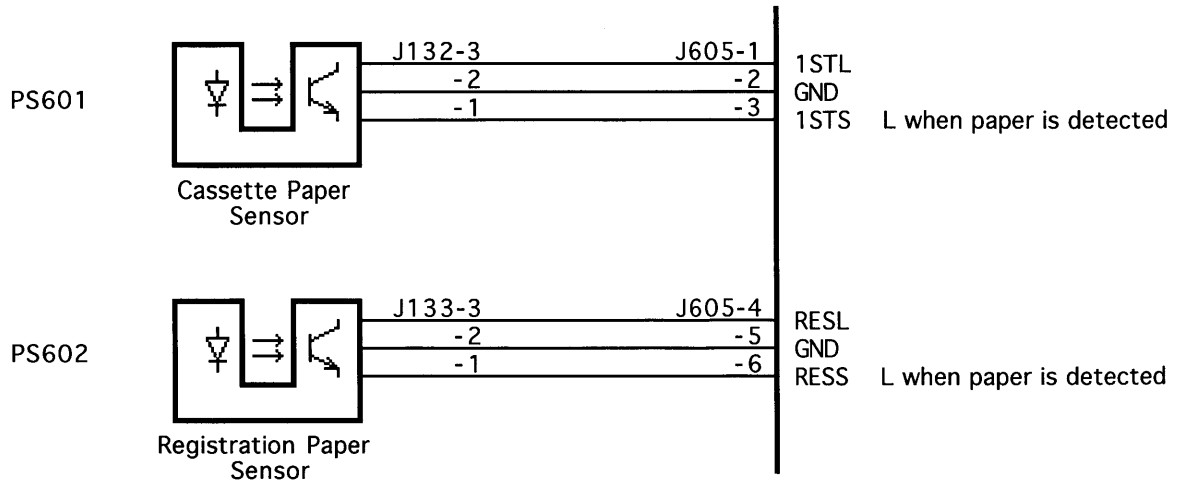

PICKUP CONTROLLER
J605
1 2 3 4 5 6
'L' WHEN TRIPPED
SENSOR HOLDER ASSEMBLY
1STL
GND
1STS
RESL
GND
RESS
'L' WHEN TRIPPED
3 2 1
3 2 1
PS601
CASSETTE PAPER SENSOR
PS602
REGISTRATION PAPER SENSOR
PICKUP CONTROLLER
J604
1 2 3 4
+24VA
EBVO
EBVI
GND
ENVELOPE FEEDER (Optional)
J136
J931
1 2 3 4
J932
1
2
3
4
A
/A
B
/B
M4
PS931
Envelope Feeder Paper-Present Sensor


SW602
Service Test Page Switch
PICKUP CONTROLLER
J603
1 2 3 4
+24VA
2NDO
2NDI
GND
SHEET FEEDER (Optional)
J135
Pickup Roller Clutch Solenoid
SL851
J851
1 2 3 4
PS851
Sheet Feeder Paper-Present Sensor
J853
J852
M3
A
/A
B
/B
SW851
SW852
SW853
Cassette Size Sensing Switches

DC CONTROLLER BOARD

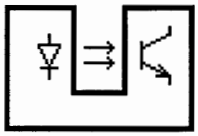


PICKUP CONTROLLER BOARD



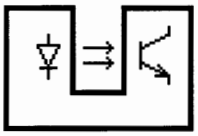
PICKUP CONTROLLER BOARD

PS701



Multipurpose Paper-End Sensor

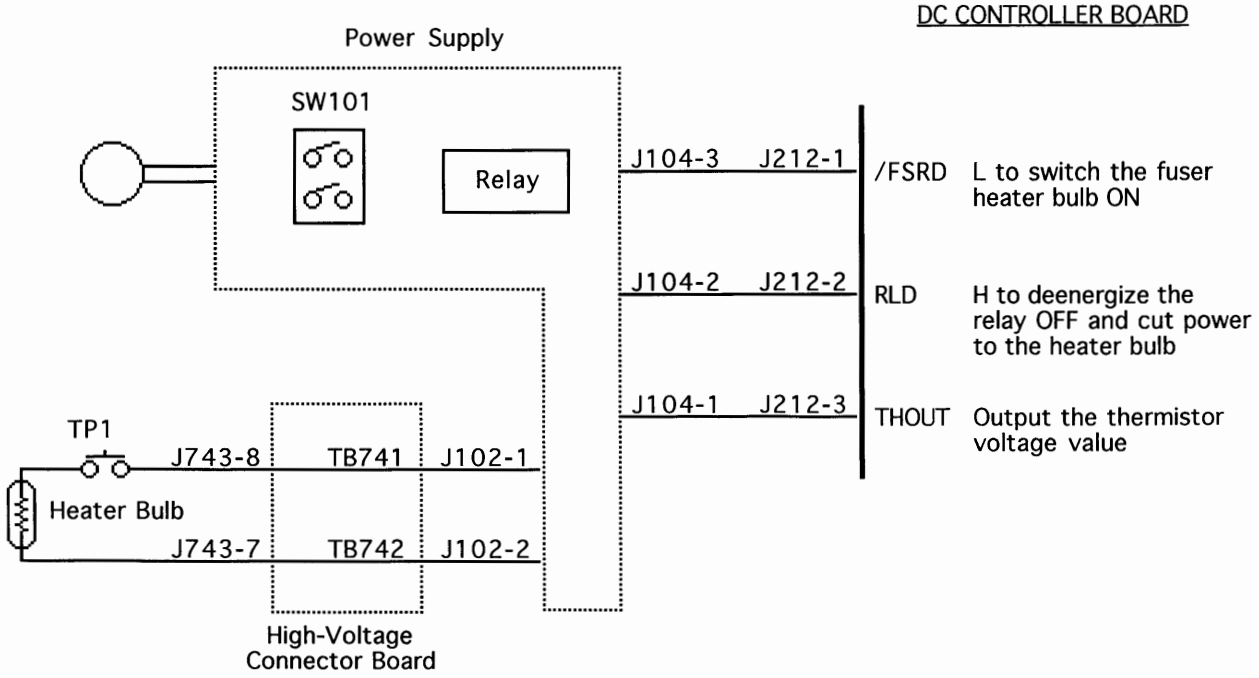
PS702

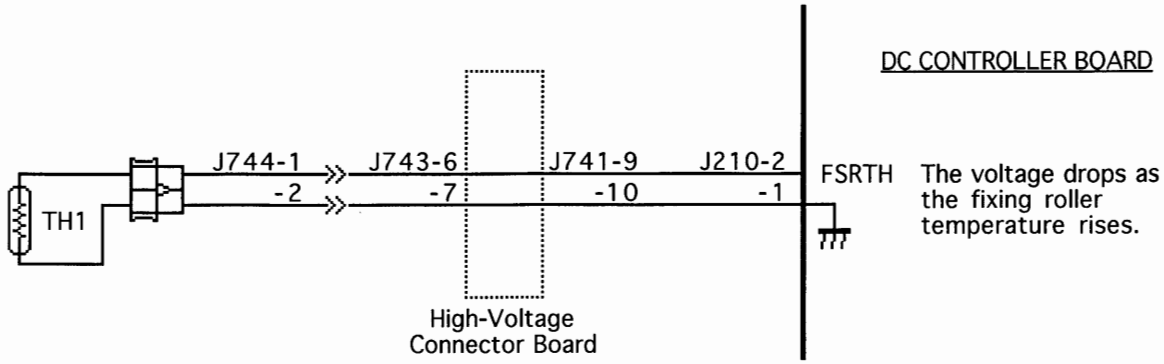


Multipurpose Paper-Present Sensor

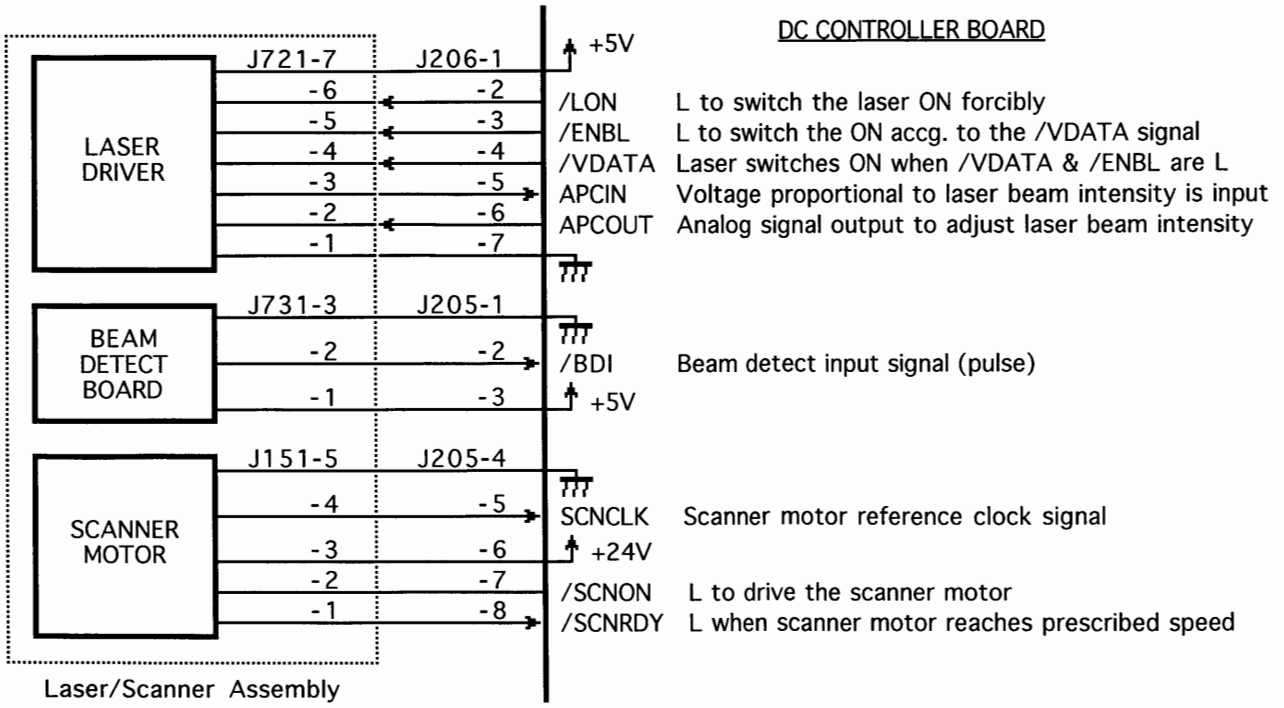
J701/602-A1	PA	
-B1	/PA	
-A2	MP	
-B2	/PB	
-A3	1ST	
-B3	PB	
-A4	MPS	L when paper is detected
-B4	MPE	H when paper is detected
-A5	GND	
-B5	+24VA	

DC CONTROLLER BOARD





The voltage drops as the fixing roller temperature rises.



List of Signals

APCIN	AUTOMATIC POWER CONTROL INPUT signal (analog)
APCOUT	AUTOMATIC POWER CONTROL OUTPUT signal (analog)
/BD	BEAM DETECTION (horizontal sync pulse) signal
/BDI	BD INPUT signal
/CBSY	COMMAND BUSY signal
/CCLK	CONTROLLER CLOCK signal
/CMD	COMMAND signal
/CPRDY	CONTROLLER POWER READY ready
/DOPEN	DOOR OPEN DETECT signal
/ENBL	VIDEO DATA ENABLE signal
FAND	EXHAUST FAN DRIVE signal
FLOCK	EXHAUST FAN LOCK DETECT signal
/FSRTH	FIXING ROLLER SURFACE TEMPERATURE signal
HVRST	HVT RESET signal

List of Signals (continued)

INTR	INITIAL ROTATIONS
/LON	FORCIBLE LASER ON signal
LSTR	LAST ROTATION
/MON	MAIN MOTOR DRIVE signal
/MRDY	MAIN MOTOR READY signal
/PCLK	PRINTER CLOCK signal
/PPRDY	PRINTER POWER READY signal
/PRNT	PRINT signal
PSNS	DELIVERY PAPER SENSOR signal
/RDY	READY signal
RLD	RELAY DRIVE signal
SCNCLK	SCANNER REFERENCE CLOCK signal
/SCNON	SCANNER MOTOR DRIVE signal
/SCNRDY	SCANNER MOTOR READY signal

List of Signals (continued)

/SBSY	STATUS BUSY signal
STBY	STANDBY
/STS	STATUS signal
SLI1	INPUT SERIAL LINE 1
SLI2	INPUT SERIAL LINE 2
SLO1	OUTPUT SERIAL LINE 1
SLO2	OUTPUT SERIAL LINE 2
THOUT	THERMOSWITCH MONITOR signal
TVIN	HVT MONITOR signal
/TVOUT	CONSTANT VOLTAGE OUTPUT signal
/VDATA	LASER DRIVE signal
/VDO	VIDEO signal
/VSREQ	VERTICAL SYNC REQUEST signal
/VSYNC	VERTICAL SYNC signal

Note: Refer to the user's guide for initialization requirements for previously used hard drives.

External Hard Drives

You can connect up to seven external hard drives to the LaserWriter Pro 630. You cannot connect a SCSI device to the LaserWriter Pro 600.

Note: The SCSI ID assigned to the LaserWriter Pro 630 is 6. Any SCSI device connected to the printer must have a different number.

Caution: The push button switch is for configuring communication parameters. It is not a SCSI ID switch.

Internal Hard Drives

Internal hard drives are currently available only through third-parties. They should come with mounting bracket, data cable, and documentation.

Note: The data cable for an internal hard drive connects into J1 on the LaserWriter Pro 630 I/O board. Connector J1 is a 40 pin connector with non-standard 2 mm pin spacing.

Test/Configuration Pages

There are three special pages that an operational LaserWriter Pro can print. Each indicates information that can isolate problems and/or identify the configuration of the printer.

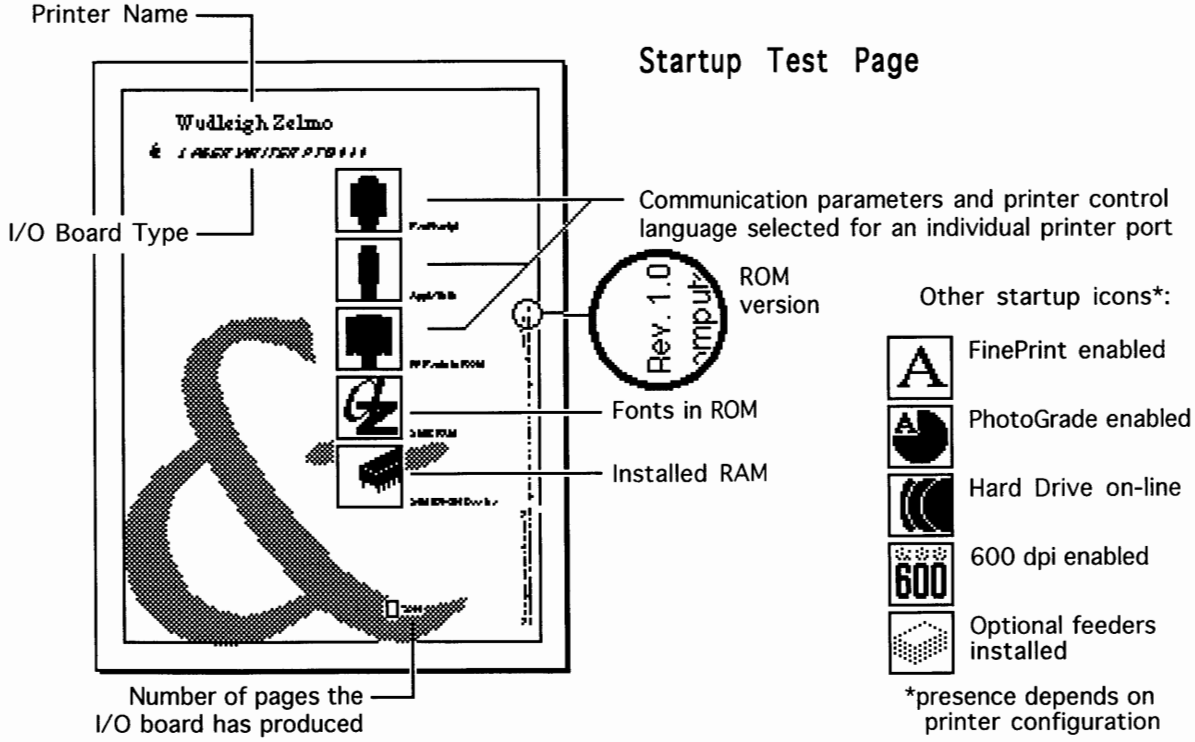
Startup Test Page: The printer generates a startup test page 2-3 minutes after you switch on the printer. Successful printing of this page indicates that the I/O board is operational.

Note: The startup test page may not print due to software disabling (see "LaserWriter Utility" in Basics).

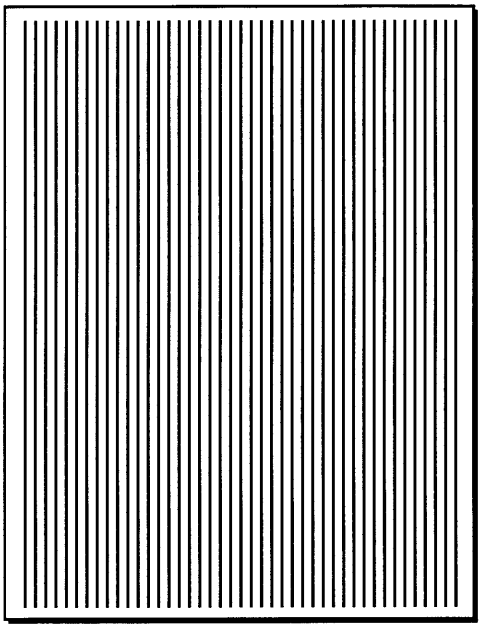
Service Test Page: The printer generates a service test page when you press the service test page button. Successful printing of this page indicates that the printer engine is operational.

Configuration Page: The printer generates a configuration page when you issue the "Print Configuration Page" command with LaserWriter Utility.

LaserWriter Pro Basics - Test/Configuration Pages
Do Manuals Chapters ? « 2 of 4



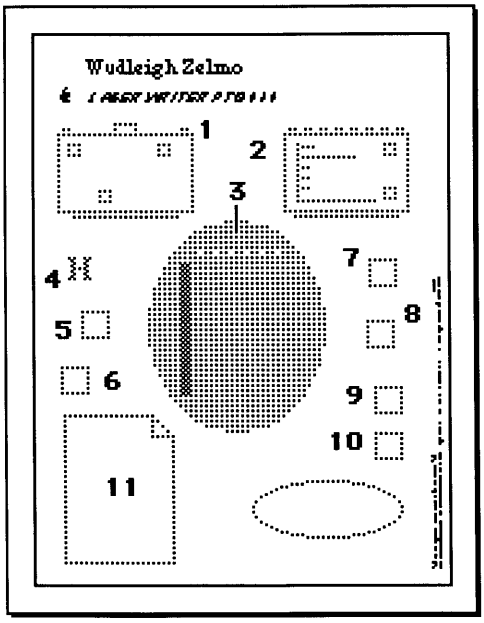
Startup Test Page



Service Test Page

Note: To access the service test page button, open the multipurpose tray. The button is located in the upper right corner of the opening near the envelope feeder receptacle (the multipurpose closure panel might conceal the receptacle). The button is small and difficult to see against the black plastic. Use a paper clip or similar tool to press the button.

Photo



Configuration Page

Note: This page provides the following valuable information to the service technician.

1 Network address settings
2 Amount and allocation of RAM memory and readout of EEROM integrity.
3 Switch configurations
4 HP LaserJet® emulator version
5 Startup page setting (on or off)
6 LaserWriter serial number
7 Timeout settings
8 System administrator password
9 SCSI ID (LaserWriter Pro 630 only)
10 Halftone screen settings
11 Default margin offsets

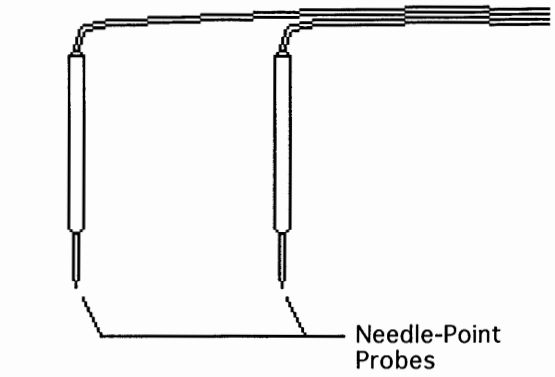
If possible, always print a configuration page before calling Apple Technical Assistance Center.

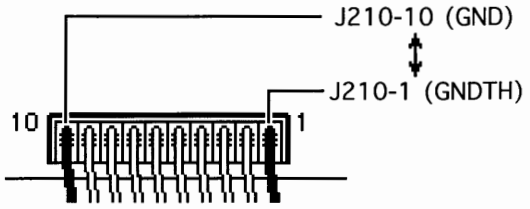
Multimeter Probes

The connectors within the LaserWriter Pro are very small and require sharp needle-point probes to make good contact. Do not use probes that do not make proper contact.

Note: To see whether a set of probes works properly, test resistance at connector J210 on the DC controller board in the following manner (the cable must connected to the board):

Set your multimeter to resistance and insert the probes at pins 1 and 10. If the reading indicates continuity then the probes are making good contact. If the reading indicates infinite resistance, then the probes do not make contact and should not be used with the LaserWriter Pro.





J210 (Cable Connected)

Forcing a Feed Cycle

If you want to print from anything other than the standard 250-sheet cassette tray, you must be connected to a CPU and select the feed option that you want.

Note: It is not possible to print a service test page from any source other than the standard cassette.

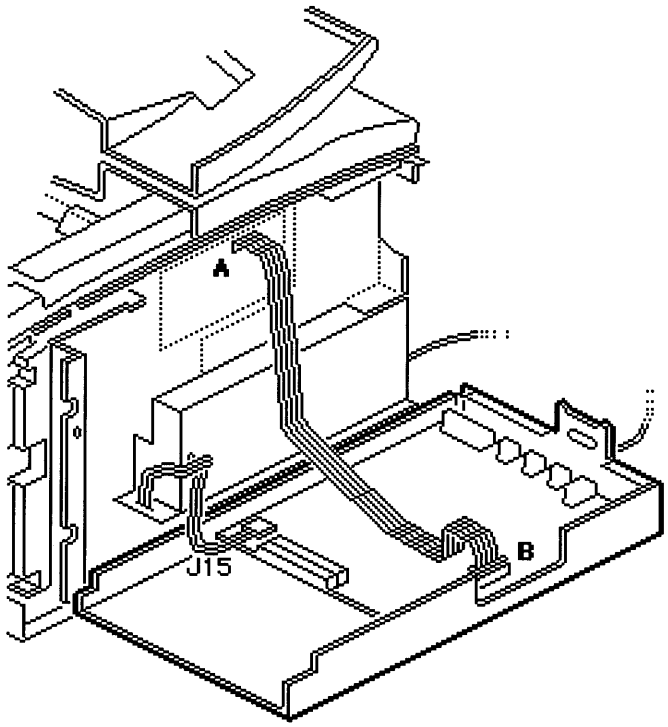
Interrupting a Print Cycle

Note: Interrupting a print cycle and inspecting the photosensitive drum can help isolate the cause of print quality problems.

If the image on the surface of the drum exhibits the same problem as the printed page, the fault is before the drum, probably somewhere in the imaging system.

If the image on the drum is OK, the fault is after the drum, probably in the fuser assembly, transfer block, or high-voltage power supply.

To inspect the drum, run a print and wait until the paper clears the synchronization pause at the registration paper sensor. Open the toner access door, remove the toner cartridge, and pull back the shield to inspect the drum.



Maintaining I/O Connectivity

Remove the printer interface cable and temporarily install a Quadra 900/950 floppy drive 20-pin cable between A and B. This cable has the extra length needed for the I/O shield to rest flat on the work surface.

Note: Do not disconnect power supply cable J15, the I/O-CPU cabling, or the AC power cable.

Maintaining Pickup Connectivity

Note: This technique enables you to take voltage readings from the paper pickup block, and allows you to visually inspect a pickup cycle.

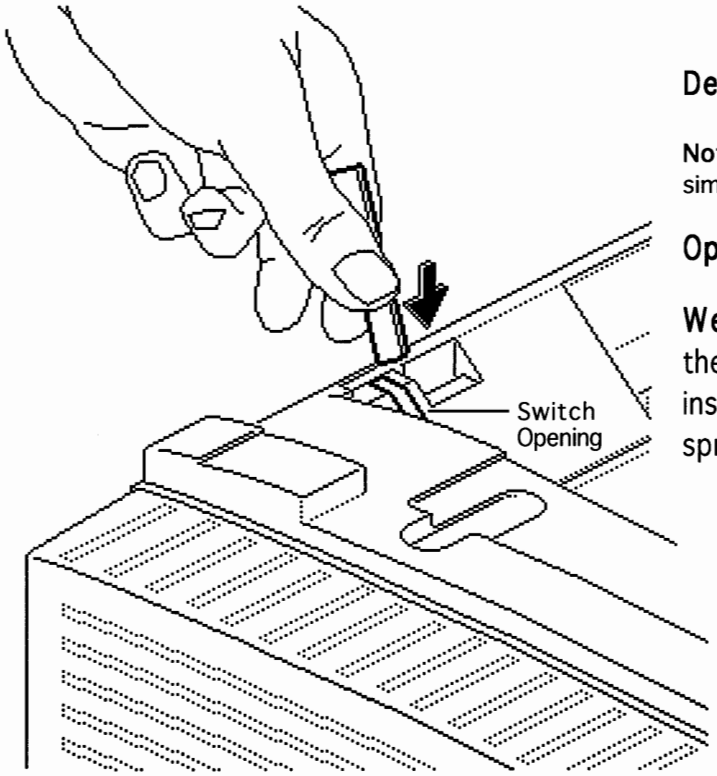
First disable the startup test page (see "LaserWriter Utility" in Basics). Then remove the pickup block, set it at an angle to the printer, and perform these steps:

- Reconnect cables J601 and J603.
- Insert the cassette tray into the pickup block.
- Press down the top cover interlock actuator and force the interlock switch closed by wedging in the hooked end of the green cleaning brush.
- Reinstall the top cover and cover liner and close the lid.
- You may install the envelope feeder or multipurpose tray if you need to test feed from those sources.

Note: If you want to test pickup from the multi-purpose tray or the envelope feeder, you must maintain I/O connectivity (see previous card). You cannot run a service test page from any source other than the standard 250-sheet cassette. Make sure to enable the startup test page before returning the printer to the customer.

Caution: Do not let the pickup controller board brush up against the metal chassis when performing this procedure.

Photos



Defeating the Top Cover Interlock

Note: Defeating the top cover interlock simulates a "top cover shut" condition.

Open the toner access cover.

Wedge a stiff, non-metallic insert into the interlock switch opening and **push** the insert down to depress the interlock leaf spring.

Show Me

Defeating the Fuser Door Interlock

Note: Defeating the fuser door interlock simulates a "fuser door shut" condition and allows you to view paper as it exits the fuser rollers. Review "Sensing System Theory" in this chapter for more information on delivery/interlock sensor PS201.

Open the fuser access door and **wedge** the brush end of the green cleaning brush into the delivery/interlock sensor.

Caution: Do not insert the brush too far into the sensor. After removing the brush, make sure that the delivery sensing arm moves freely and is not snagged.

Photo

Sheet Feeder Bypass

Note: This procedure allows you to troubleshoot a functioning stand-alone sheet feeder. The procedure requires an extra sheet feeder interface cable (P/N 922-0219). First remove the top cover, rear panel, and right corner panel, and disable the startup test page.

Disconnect J603 from the exposed edge of the pickup controller board and **reconnect** the extra sheet feeder interface cable.

Plug the opposite end of the interface cable into the sheet feeder receptacle.

Photo

Observing Envelope Feed

Note: This procedure allows you to visually inspect and/or take multimeter readings from a fully functioning envelope feeder.

Remove the left, right, and bottom covers of the envelope feeder and **replace** the envelope weight.

Install the envelope feeder into the printer and **load** it with envelopes.

Note: The envelope feeder will operate in normal fashion.

Photo

Note: Refer also to "Safety Information" under the Do menu for general safety information.

Unplug Printer

LaserWriter printers operate at high voltages. To prevent serious injury, always switch off the printer and unplug the AC power cord before servicing the printer.

Laser Beam Safety

Never disconnect the beam-detect cabling or laser shutter when the printer is switched on. Also be careful not to place screwdrivers or other shiny objects in the path of the laser beam. The reflected laser beam, though invisible, can permanently damage your eyes.

Never remove the cover of a laser/scanner assembly, whether the printer is powered on or not.

Fuser Heat

The fuser assembly rollers become very hot during printer operation. Before servicing the fuser assembly, switch off the printer for at least 5 minutes to allow the fuser assembly roller to cool.

Toner Safety

Toner is a nontoxic substance composed of plastic, iron, and a small amount of pigment. Clean skin and clothing by removing as much toner as possible with a dry tissue, then washing with cold water. Hot water causes toner to jell and permanently fuse into clothing. Toner attacks vinyl materials, so avoid contact with vinyl.

Weight

LaserWriter printers are heavy. When lifting or moving the printer, be careful not to strain your back.

Engine	Canon LBP engine
Printing Method	Electrophotography using single-component microfine toner
Optical System	Semiconductor laser and a rotating six-faced prism scanning mirror
Resolution	**LaserWriter Pro 600:** 600 dpi* **LaserWriter Pro 630:** 600 dpi (300 dpi when PhotoGrade is enabled) *The LaserWriter Pro 600 requires 8 MB of RAM in order to print in PhotoGrade or to print at 600 dpi.

Dimensions

Height: 11.61 in. (295 mm)
Width: 16.69 in. (424 mm)
Depth: 16.37 in. (416 mm)

Clearance Required

50.4" x 24.25" x 19.75" high (1282 x 616 x 501 mm)

Weight

Printer with cassette: 40.7 lb. (18.5 kg):
Toner cartridge: 3.3 lb. (1.5 kg)

Operating Environment

Temperature: 50-90.5° F (10-32.5° C)
Humidity: 20-80% relative humidity
Atmospheric Pressure: 570-760 mmHg

Power Consumption

Approximately 0.66 kW at 71° F (20° C)

Printing Speed	8 pages per minute (letter or A4) 6 envelopes per minute (optional envelope feeder)
Duty Cycle	No limit in pages per month
Consumables Service Life	Pickup Rollers: 200,000 pages Separation Pad: 200,000 pages Fuser Assembly: 200,000 pages Transfer Roller: 200,000 pages Exhaust Fan: 25,000 hours Replace the multipurpose pickup roller and separation pad together. The separation pad is contained in the multipurpose tray guide assembly.

Macintosh Requirement	System Software 6.0.5 or later
Printable Area (in inches)	**US Letter** 8.11 by 10.79 **US Legal** 8.11 by 13.79 **A4** 7.89 by 11.44 **B5** 6.72 by 9.81

CPU	Motorola 68030 (25 MHz)
RAM	**LaserWriter Pro 600:** 8 MB, expandable to 32 MB * **LaserWriter Pro 630:** 8 MB, expandable to 32 MB
ROM	2 MB standard
Expansion	40-pin processor direct slot (PDS) provided

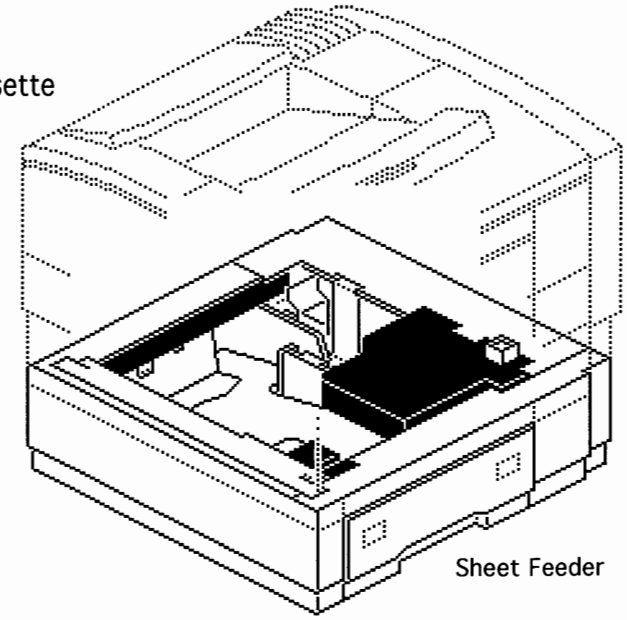
In early 1993 some LaserWriter Pro 600's shipped with 4 MB of RAM and a free upgrade kit that dealers were instructed to install. No LaserWriter Pro in the marketplace was to have been sold with less than 8 MB of RAM.

Pinouts	**LaserWriter Pro 600:** LocalTalk, RS-232, Centronics **LaserWriter Pro 630:** LocalTalk, RS-232, Centronics, SCSI, Ethernet
Settings	Use configuration switch or LaserWriter Utility to set communication protocols. The setting of the configuration switch affects the configuration of all the pinouts. See the user's guide for switch settings.
Imaging Languages Supported	QuickDraw, PostScript Level 1 and 2, a subset of the Diablo 630 printer, and HP PCL 4

Dimensions
Height: 5.19 in. (132 mm)
Width: 16.38 in. (416 mm)
Depth: 18.50 in. (470 mm)

Weight
12.98 lb. (5.9 kg) with cassette

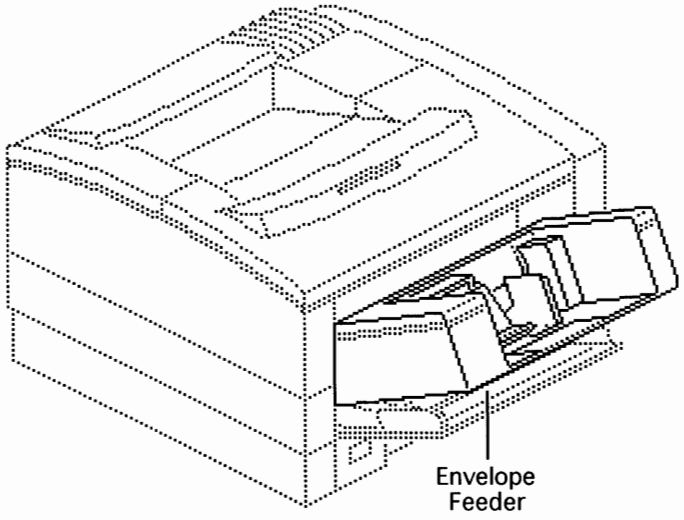
Power Consumption
24 VDC
supplied by printer



Dimensions
Height: 5.03 in. (127.8 mm)
Width: 12.04 in. (306.5 mm)
Depth: 11.53 in. (293 mm)

Weight
5.72 lb. (2.6 kg)

Power Consumption
24 VDC
supplied by printer



Input Sources and Capacities

Standard cassette (250)
Multipurpose tray (100)
Lower cassette (500)
Envelope feeder (75)

Output Source

Face-down delivery tray

Paper Sizes

Standard Cassette:
A4, B5, legal, letter, or executive plain paper (16-24 lb.)
Cassettes available: letter, A4, or universal

Multipurpose Tray
Plain paper from 7.16 in. by 10.1 in. to 8.5 in. by 14 in. (16-32 lb.), envelopes, and fuser-compatible labels and film

Lower Cassette
A4, B5, legal, letter, or executive plain paper (16-24 lb.)
Cassette available: universal

Envelope Feeder
COM-10, DC, Monarch, C5, B5 (recommended envelope); from 3.54 in. by 7.44 in. to 7.0 in. by 10.0 in.
Do not use envelopes with clasps, snaps, windows, or synthetic materials. Envelopes with peel-off adhesive strips or double sealable flaps must use fuser-compatible adhesive.

Task Done

Back Up

Print Engine Check

Caution: Non-standard multimeter probes are required for LaserWriter Pro connectors. Review "Troubleshooting Tips" in Basics before proceeding.

Connect the printer to a known-good computer, install a toner cartridge, and fill the cassette tray. Place your hand over the fan vent on the top of the printer and switch on the printer.

Does the fan come on when you switch on the printer?

Wiring Diagram

128536

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Fan does not come on when you turn on the printer.

Note: Confirm that line voltage is good, and that the main power cable is intact.

Remove the rear panel and I/O shield and restart the printer.

Do any of the motors rotate after printer startup?

Wiring Diagram

263474

Task Done

Back Up

Symptom: Fan does not come on when you turn on the printer, but the motors do rotate.

Replace the fan.

If problem persists, replace the DC controller board.

Wiring Diagram

264347

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Fan does not come on when you turn on the printer, and the motors do not rotate.

Note: Make sure that J103 is connected at the power supply. If TB201 is detached from the DC controller then replace the DC controller board. Otherwise perform the following tasks.

Replace power supply.

If problem persists, replace DC controller board.

Wiring Diagram

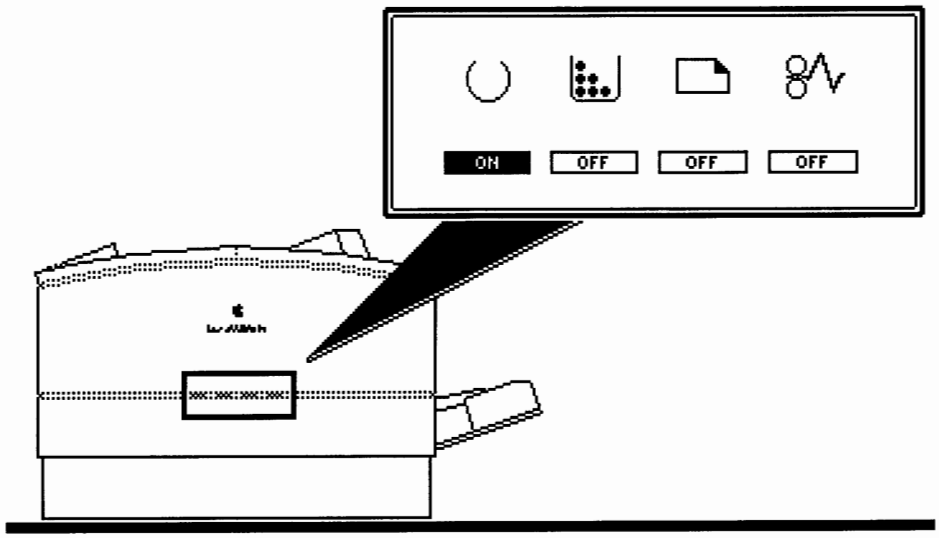
264549

Task Done

Wait about 2-3 minutes while the printer warms up.

Does the green LED glow steadily after printer warmup?

Back Up



Wiring Diagram

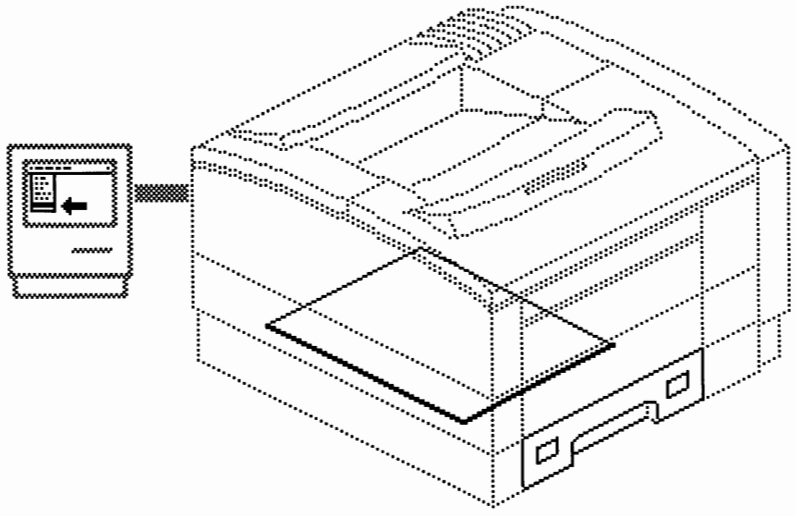
263823

Task Done

Print from a computer, using the standard cassette as the paper source.

Does the printer pick up a page from the standard cassette?

Back Up



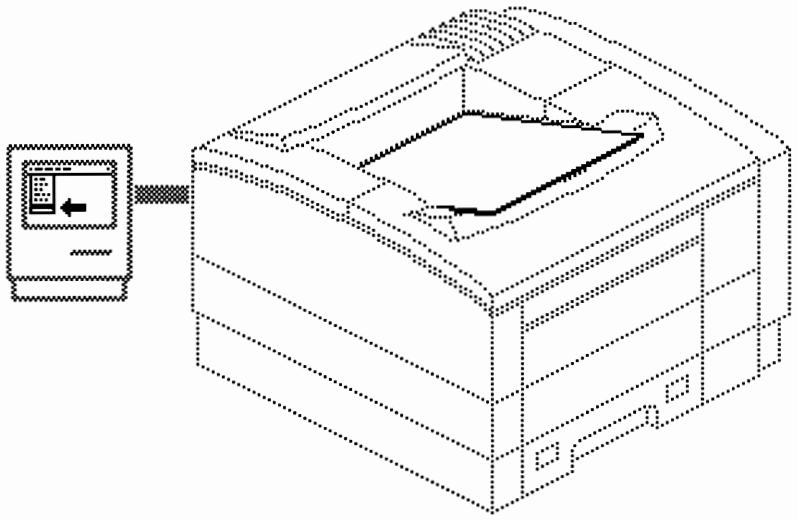
Wiring Diagram

250178

Task Done

Does the printer deliver the page to the output tray?

Back Up



Wiring Diagram

270479

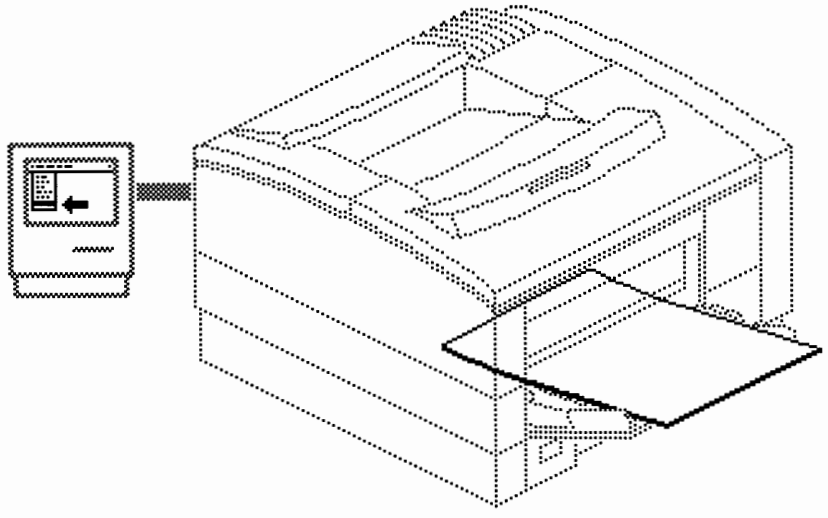
LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Print again, using the multipurpose tray as the paper source.

Does the printer pick up a page from the multipurpose tray?

Back Up



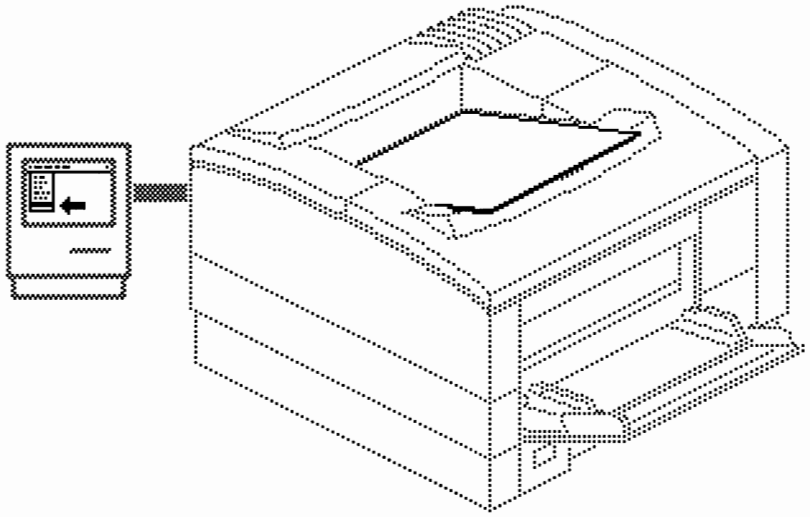
Wiring Diagram

269384

Task Done

Does the printer deliver the page to the output tray?

Back Up



Wiring Diagram

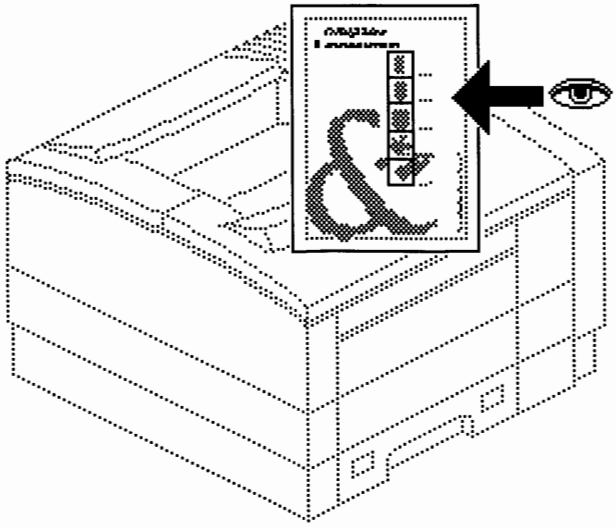
269924

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Is the quality and fusing of the printed page OK?

Back Up



Wiring Diagram

268530

Task Done

The printer is operational.

Back Up

If an optional feeder is present, confirm its functionality by selecting it as the paper source and printing a document. If paper does not feed correctly, go to "Paper Transport" in this chapter. If you are having problems printing in PhotoGrade or at 600 dpi resolution, refer to "Setup Problems" in Symptom Charts.

Reset LaserWriter Utility preferences.

If you have changed any preferences using LaserWriter Utility, reset them prior to returning the printer to the customer, or notify the customer what setting you have changed and why. Inform customers how to use LaserWriter Utility to set these values themselves. Some settings which cause the greatest confusion are:

Startup page: Many users associate a startup page with "printer-readiness."

Automatic tray switching: Some users must have this on (for example, a sheet feeder that creates a "virtual" 750-sheet paper cassette), whereas others who print to two kinds of paper must have it off.

Default resolution: Although it can be overridden by the printer driver, many will only notice that the output is not what is was before.

Wiring Diagram

269106

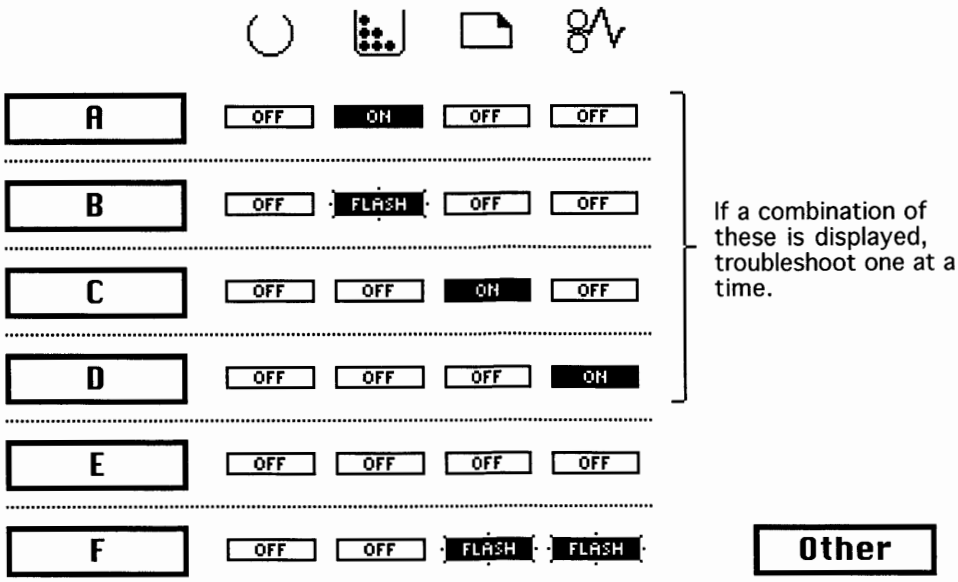
LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Symptom: The green "printer-ready" LED does not glow after startup.

Back Up

Which LED configuration is displayed?



Wiring Diagram

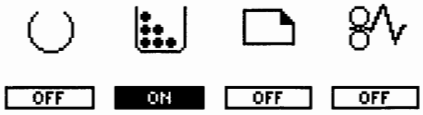
251083

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

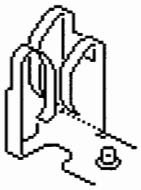


A solid low-toner LED normally means that the toner level is low.

Note: Try a known-good toner cartridge. If the problem persists, remove the toner cartridge and inspect all the toner contacts for damage or excess toner buildup. Take special note of TB403, which is the pronged contact that the toner cartridge mates into. This is the contact that ties into the toner sensor inside the cartridge.

If you have recently serviced the printer and this symptom has existed ever since, there is a good chance that the high-voltage power supply, connector block, or transfer block assembly has not been seated correctly, or that connector J210 on the DC controller board is not secure. Refer back to the Take Apart procedures for more information.

Does problem persist?



TB403

Wiring Diagram

251192

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

A flashing low-toner LED normally means the toner cartridge is missing.

Note: Try a known-good toner cartridge. If the problem persists, remove the toner cartridge and inspect all the toner contacts for damage.

If you have recently serviced the printer and this symptom has existed ever since, then there is a good chance that the high-voltage power supply, connector block, or transfer block assembly has not been seated correctly, or that connector J210 on the DC controller board is not secure. Refer back to the Take Apart procedures for more information.

Does problem persist?

Wiring Diagram

251763

LaserWriter Pro Flowcharts - Print Engine Check

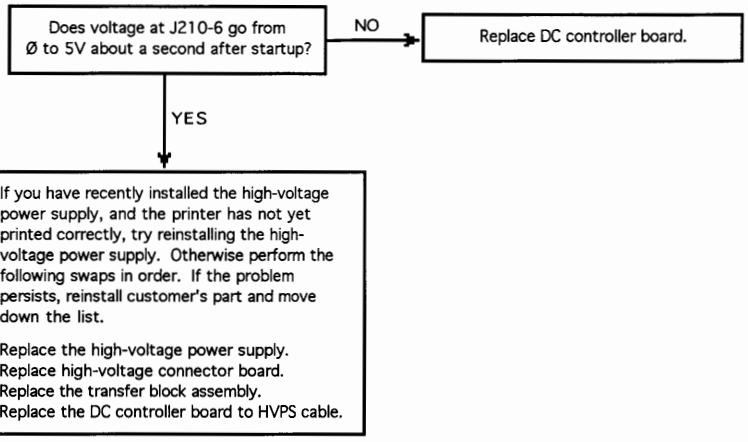
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Toner LED illuminates or flashes after printer startup. Toner cartridge is known to be good and contacts and connectors have been inspected.

Note: Click "Task Done" to continue the flowchart. If you want a quick reference printout of the remaining steps, print this card (select "Print" from the "Do" menu).



271871 For quick reference only. See on-line flowcharts for complete description of these steps, and for a full summary of troubleshooting prior to this point.

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Toner LED illuminates or flashes after printer startup. Toner cartridge is known to be good and contacts and connectors have been inspected.

Note: High voltage is not getting through to all the toner cartridge contacts. Some part in the following group has failed:

- DC controller board
- High-voltage power supply
- Transfer block assembly
- High-voltage connector board
- DC controller to HVPS cable

Remove rear panel and I/O shield. Place probes between J210-6 (HVRST) and J210-10 (GND) and switch on the printer.

Does voltage change from 0 to 5 VDC about 1 second after startup?

Wiring Diagram

253243

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Toner LED illuminates or flashes after printer startup. Toner cartridge is known to be good and contacts and connectors have been inspected. Correct voltage is being issued by the DC controller board.

If you have recently installed the high-voltage power supply, and the printer has not yet printed correctly, try reinstalling the high-voltage power supply. Otherwise perform the following swaps in order. If the problem persists reinstall customer's part and move down the list.

Replace the high-voltage power supply.

Replace high-voltage connector board.

Replace the transfer block assembly.

Replace the DC controller board to HVPS cable.

Wiring Diagram

253538

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Toner LED illuminates or flashes after printer startup. Toner cartridge is known to be good and contacts and connectors have been inspected. Voltage at J210-6 is not correct.

Replace the DC controller board.

Wiring Diagram

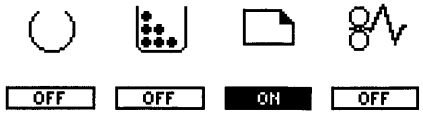
254976

LaserWriter Pro — Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up



A solid paper-out LED normally means that the standard cassette is empty or that it is not installed. A flashing paper-out LED occurs when you try to print to a multipurpose tray that does not have paper.

Note: First make sure that paper and cassette are present, then remove the cassette and inspect the paper sensing lever. If the lever is broken, replace the sensor holder assembly.

If the lever is OK, defeat the lever by pushing it in and holding it (as if a cassette tray were present). With your other hand press the three microswitch leaf springs all at the same time. If the ready LED illuminates after a couple of seconds, either the microswitch array is faulty or the actuator tabs on the cassette are broken. If the tabs are broken, replace the cassette tray; if the microswitches are faulty, replace the pickup controller board.

Wiring Diagram

Does the problem persist?

252216

LaserWriter Pro — Flowcharts - Print Engine Check

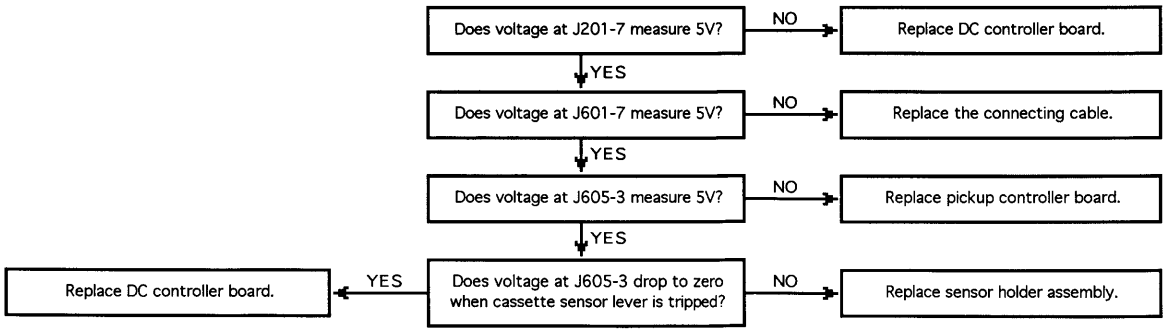
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged.

Note: Click "Task Done" to continue the flowchart. If you want a quick reference printout of the remaining steps, print this card (select "Print" from the "Do" menu).



271947 For quick reference only. See on-line flowcharts for complete description of these steps, and for a full summary of troubleshooting prior to this point.

Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged.

Note: The problem is in the sensing system. First check the DC controller board.

Remove rear panel and I/O shield. Place probes between pins J201-7 (+5V) and J201-1 (GND) on the DC controller board. Switch on the printer.

Does voltage measure 5 V?

Note: Presence of 5 V at J201-7 means that logic power is leaving the DC controller in the direction of the pickup block.

Wiring Diagram

255364

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. 5 V power is not present at J201-7 on the DC controller board.

Replace DC controller board.

Wiring Diagram

255791

Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. 5 V power is leaving the DC controller.

Remove the paper pickup block and maintain pickup connectivity (see "Troubleshooting Tips" in Basics).

Note: The next measurements will be taken from the solder-side of the pickup controller board.

Wiring Diagram

254055

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

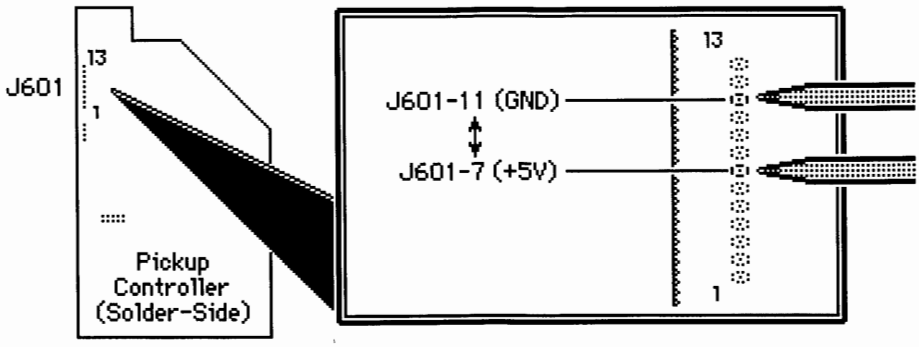
Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. 5 V power is leaving the DC controller.

Place probes between between J601-11 (GND) and J601-7 (+5V).

Does voltage measure 5 V?

Note: Presence of 5V establishes that logic power is reaching the pickup block



Wiring Diagram

255534

Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. 5 V power is getting as far as J601 on the pickup controller board.

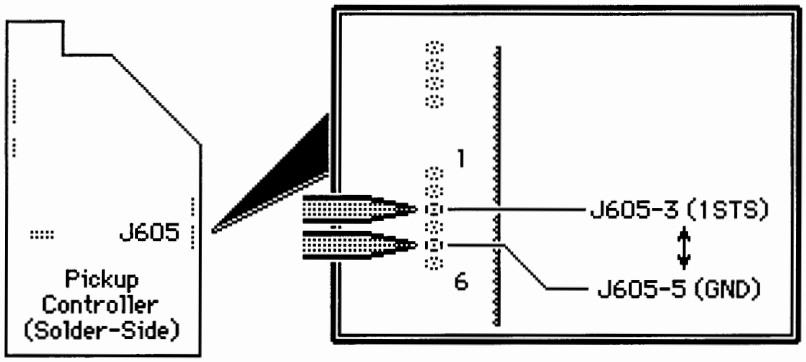
Measure voltage between J605-5 (GND) and J605-3 (1STS).

Does voltage measure 5 V?

Note: Presence of 5V establishes that logic power is reaching the connector serving the cassette paper sensor circuitry.

Wiring Diagram

254764



LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

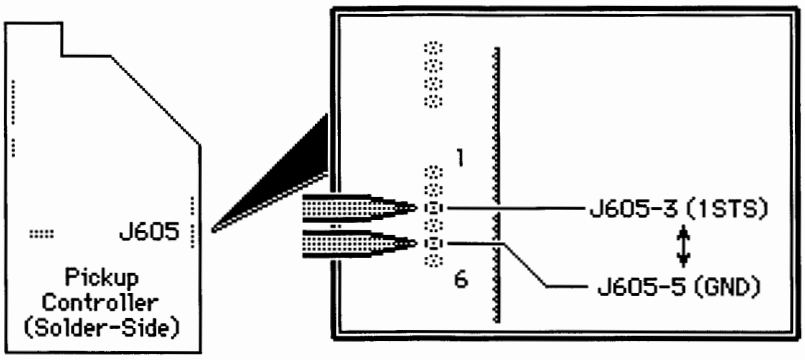
Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. 5 V power is getting into the pickup controller board at J601 and is present at J605 on the same board.

Keep the probes at J605-5 (GND) and J605-3 (1STS) and this time manually trip the cassette sensor lever.

Does voltage drop to zero when the lever is tripped?

Wiring Diagram

256900



Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. Correct power is getting through to the cassette paper sensor and correct voltage is returned when the lever is tripped.

Note: The problem must be with the microswitch circuitry.

Replace the pickup controller board.

Wiring Diagram

257251

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. 5 V power is getting into the pickup controller board at J601 and is present at J605 on the same board. However it does not register low when the paper sensing lever is tripped.

Replace sensor holder assembly.

Wiring Diagram

257719

Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. 5 V power is getting to J601 on the pickup controller board but is not to J605.

Replace pickup controller board.

Wiring Diagram

257428

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-out LED illuminates after printer startup even though paper and cassette are present. Lever and actuators are not damaged. 5 V power is leaving the DC controller but is not present at J601 on the pickup controller board.

Replace the DC controller to pickup controller cable.

Wiring Diagram

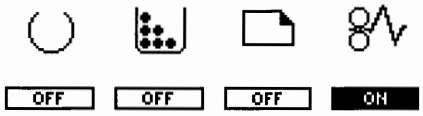
256697

LaserWriter Pro — Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up



A paper-jam LED directly after printer startup normally means that paper is jammed at the registration sensor or delivery/interlock sensor.

Is there actually a paper jam in the printer?

Note: Look also for paper fragments that could be snagging one of these two sensors.

Wiring Diagram

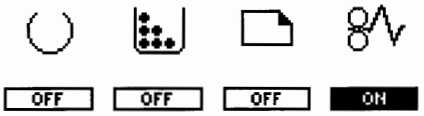
252765

LaserWriter Pro — Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up



Symptom: Paper-jam LED illuminates on startup even though there is no jam.

This symptom is almost certainly a failure in the sensing system. First check for mechanical damage or snagging.

Open the fuser door and carefully check delivery/interlock sensor PS201 (click on the "Sensor Animation" button and note how the spring and the boomerang-shaped primary actuator work). The spring should be straight. If it is bowed then the primary actuator has been pushed in too far and has snagged against the sensor housing. You can also confirm this by trying to defeat the sensor as described in "Troubleshooting Tips" in Basics. If the actuator is snagged, it doesn't spring back and forth as you try to trip it.

Sensor Animation

Is the delivery/interlock spring OK?

Wiring Diagram

258089

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam.

Remove the top cover and delivery roller assembly.

Clear the delivery/interlock actuator.

Delivery/Interlock

Wiring Diagram

259021

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. Delivery/interlock sensor is not snagged.

Check also to see that the delivery-sensing lever in the fuser assembly is OK. Test it by opening the lower separation guide (the spring-loaded part that covers the fuser rollers), and flicking the end of the lever immediately outside the fuser rollers. It should move back and forth freely. If it doesn't move freely, remove the top cover and delivery roller assembly and see what is happening. If necessary, remove the fuser assembly and replace the delivery-sensing lever.

If the problem persists, remove the toner cartridge and test the arm for registration paper sensor PS602 in the same way as described above. (Click on the magnifier icon at PS602 in the wiring diagram to see a photograph of the sensor arm). It should also move freely without resistance. If it is broken or snagged, remove the pickup block and troubleshoot further. If necessary, replace the sensor holder assembly. If the problem still persists, there is probably a circuitry failure in the sensing system.

Sensor Animation

Does the problem persist?

Wiring Diagram

259441

LaserWriter Pro — Flowcharts - Print Engine Check

Do | Manuals | Chapters | ? | «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged.

Note: Remove top cover and delivery roller assembly, and remove the rear panel and I/O shield. Confirm that the purple cable between the delivery/interlock sensor and J208 on the DC controller board is securely connected at each end.

Sensor Animation

Place probes between J208-2 (GND) and J208-3 (PSNS) on the DC controller board and switch on the printer. Open and close the fuser access door and observe the voltage readout.

Does voltage rise from 0 to 5 VDC as the door is opened?

Note: In normal operation the delivery/interlock sensor returns 5 volts when paper is sensed or when the fuser door is open.

Wiring Diagram

259286

LaserWriter Pro — Flowcharts - Print Engine Check

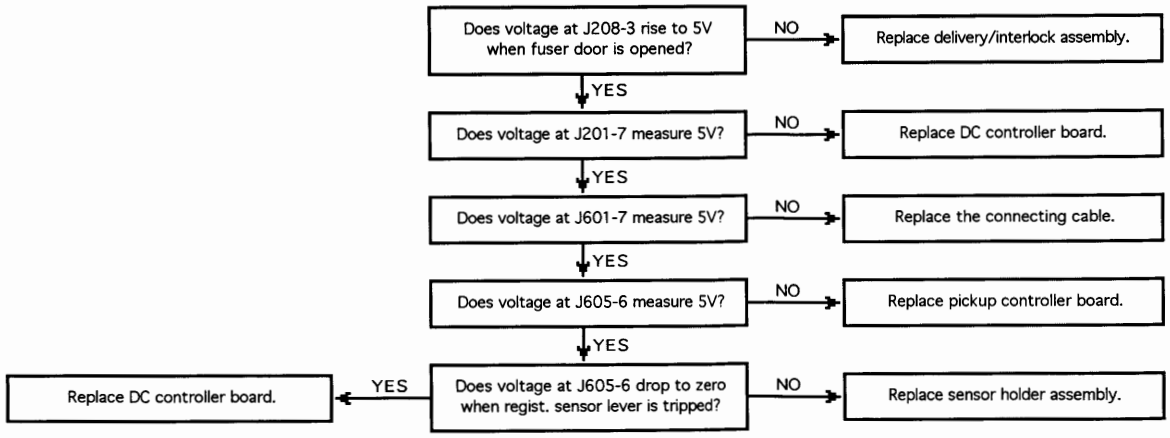
Do | Manuals | Chapters | ? | «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged.

Note: Click "Task Done" to continue the flowchart. If you want a quick reference printout of the remaining steps, print this card (select "Print" from the "Do" menu).



Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational.

Place probes between pins J201-7 (+5V) and J201-1 (GND) on the DC controller board. Switch on the printer.

Does voltage measure 5 VDC?

Note: Presence of 5 V at J201-7 means that logic power is leaving the DC controller in the direction of the pickup block.

Wiring Diagram

259777

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational, and 5 V power is leaving the DC controller in the direction of the pickup block.

Remove the paper pickup block and maintain pickup connectivity (see "Troubleshooting Tips" in Basics).

Note: The next measurements will be taken from the solder-side of the pickup controller board.

Wiring Diagram

249906

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational, and 5 V power is leaving the DC controller in the direction of the pickup block.

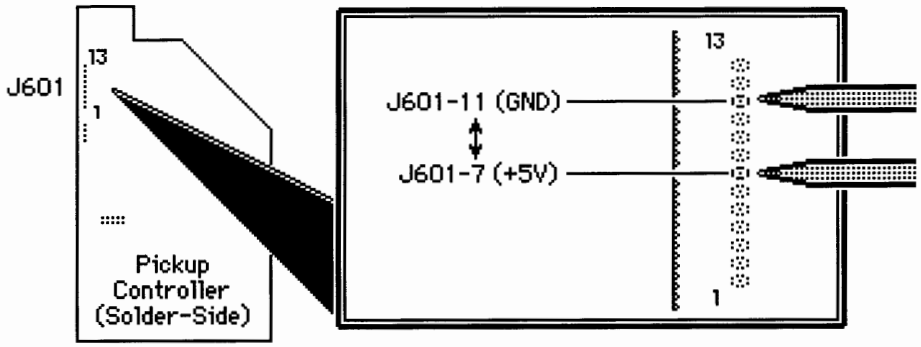
Place probes between between J601-11 (GND) and J601-7 (+5V).

Does voltage measure 5 V?

Note: Presence of 5V establishes that logic power is reaching the pickup block

Wiring Diagram

260398



LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

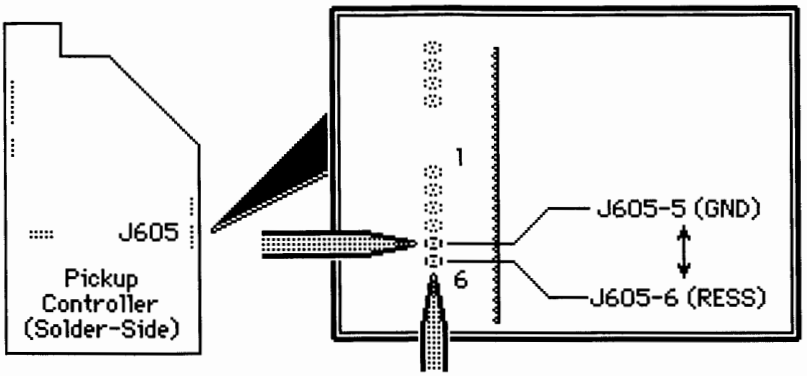
Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational, and 5 V power is arriving at J601 on the pickup controller board.

Measure voltage between J605-5 (GND) and J605-6 (RESS).

Does voltage measure about 5 V?

Wiring Diagram

260669



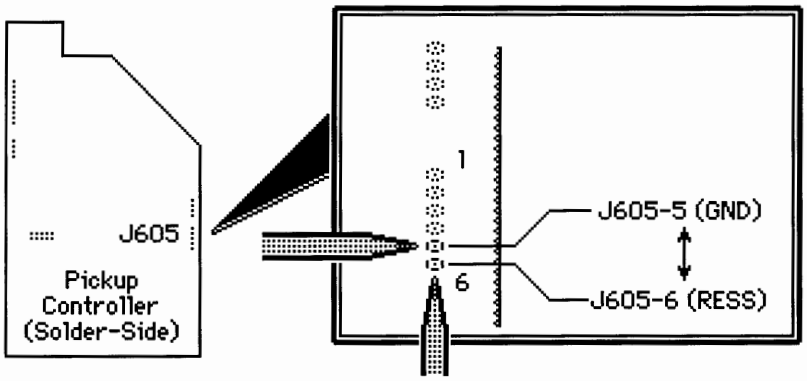
Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational, and 5 V power is arriving at J605 on the pickup controller board.

Keep the probes at J605-5 (GND) and J605-6 (RESS) and manually trip the registration sensor arm.

Does voltage drop to zero when the lever is tripped?



Wiring Diagram

261748

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. The delivery/interlock sensor and the paper registration sensor are fully operational.

Replace the DC controller board.

Wiring Diagram

262638

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational, and 5 V power is arriving at J601 on the pickup controller board, the voltage doesn't drop when the paper registration lever is tripped.

Replace the sensor holder assembly.

Wiring Diagram

263131

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational. 5 V power is getting to the pickup block but is not getting to J605-6.

Replace the pickup controller board.

Wiring Diagram

262159

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational, and 5 V power is leaving the DC controller in the direction of the pickup block, but is not arriving at the pickup controller board.

Replace the DC controller to pickup controller cable.

Wiring Diagram

261413

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. The delivery/interlock sensor is operational. 5 V is not leaving the DC controller in the direction of the pickup block.

Replace DC controller board.

Wiring Diagram

260121

Task Done

Back Up

Symptom: Paper-jam LED illuminates on startup even though there is no jam. None of the sensing arms is snagged or otherwise damaged. Delivery/interlock sensor does not return 5 V when fuser door is open.

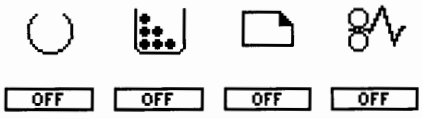
Replace the delivery/interlock assembly.

Wiring Diagram

260049

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done



Back Up

A blank LED display normally means the top cover or fuser door is open.

Note: First make sure that the two doors are fully closed, and confirm that the plastic tab actuators on the doors are intact. Then remove the toner cartridge and check to see that the cable is connected at the display panel (you can see the connector through a cutout in the metal chassis). If the problem persists, remove rear panel and I/O shield and check the cable connection at J204 on the DC controller.

If a startup page printed, and everything except the status panel operates normally, the problem is with the status panel itself or its connecting cable. Since the fan works when the printer starts up, power is getting to the DC controller. If everything above checks out, the fault is likely in the circuitry to delivery/interlock sensor PS201 or top cover interlock switch SW601.

Does the problem persist?

Wiring Diagram

254229

LaserWriter Pro — Flowcharts - Print Engine Check

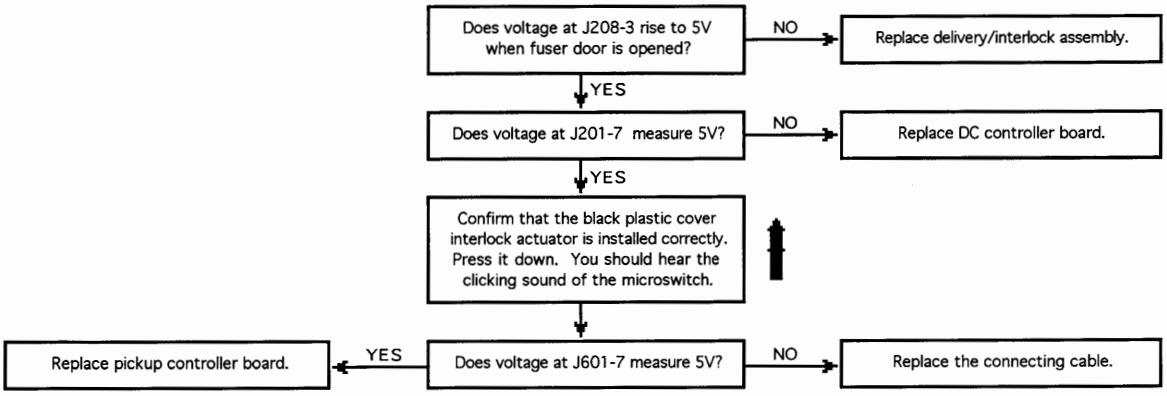
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure.

Note: Click "Task Done" to continue the flowchart. If you want a quick reference printout of the remaining steps, print this card (select "Print" from the "Do" menu).



272538 For quick reference only. See on-line flowcharts for complete description of these steps, and for a full summary of troubleshooting prior to this point.

LaserWriter Pro — Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure.

Note: Remove top cover and delivery roller assembly. Confirm that the purple cable between the delivery/interlock sensor and J208 on the DC controller board is securely connected at each end.

Place probes between J208-2 (GND) and J208-3 (PSNS) on the DC controller board and switch on the printer. Open and close the fuser access door and observe the voltage readout.

Sensor Animation

Does voltage rise from 0 to 5 VDC as the door is opened?

Note: In normal operation the delivery/interlock sensor returns 5 volts when paper is sensed or when the fuser door is open. Click on "Sensor Animation" to review the operation of the delivery/interlock sensor.

Wiring Diagram

262758

Task Done

Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure. The delivery/interlock sensor is operational.

Place probes between pins J201-7 (+5V) and J201-1 (GND) on the DC controller board. Switch on the printer.

Does voltage measure 5 VDC?

Note: Presence of 5 V at J201-7 means that logic power is leaving the DC controller in the direction of the pickup block.

Wiring Diagram

249715

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure. The delivery/interlock sensor is operational, and 5 V power is leaving the DC controller in the direction of the pickup block.

Remove the paper pickup block and maintain pickup connectivity (see "Troubleshooting Tips" in Basics).

Note: Voltage readings from the pickup controller board are taken from the solder-side of the board.

Caution: Confirm that the black plastic cover interlock actuator is in place behind the top of the pickup controller board. Press it down. You should hear the clicking sound of the microswitch. If you don't hear it, remove the pickup controller and make sure that the actuator is installed correctly. This actuator is very easy to lose once the pickup controller board is removed.

Top Cover Interlock Actuator

Wiring Diagram

265694

Task Done

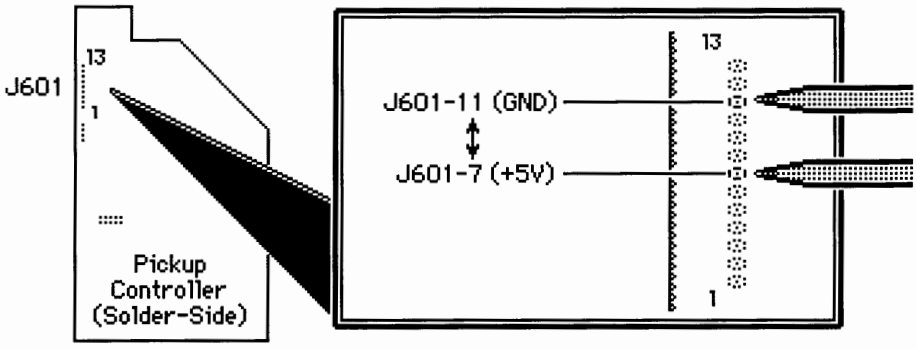
Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure. The delivery/interlock sensor is operational, and 5 V power is leaving the DC controller in the direction of the pickup block.

Place probes between between J601-11 (GND) and J601-7 (+5V).

Does voltage measure 5 V?

Note: Presence of 5V establishes that logic power is reaching the pickup block



Wiring Diagram

266217

LaserWriter Pro Flowcharts - Print Engine Check
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure. The delivery/interlock sensor is operational, and 5 V power is reaching the entry connector of the pickup controller board.

Replace pickup controller board.

Wiring Diagram

266335

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure. The delivery/interlock sensor is operational. 5 V power is leaving the DC controller in the direction of the pickup block, but is not arriving at the pickup controller board.

Replace the DC controller to pickup controller cable.

Wiring Diagram

267295

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure. The delivery/interlock sensor is operational. 5 V is not leaving the DC controller in the direction of the pickup block.

Replace DC controller board.

Wiring Diagram

265900

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up

Symptom: The LED display is blank after printer startup. Top cover and fuser door actuators are intact and status panel connections are secure. Delivery/interlock sensor does not return 5 V when fuser door is open.

Replace the delivery/interlock assembly.

Wiring Diagram

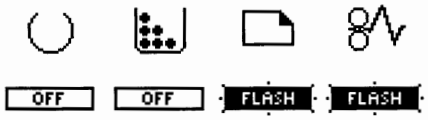
263235

LaserWriter Pro Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up



This LED display indicates an engine error.

Run the printer diagnostic (see "Diagnostic LEDs" in Additional Procedures).

Wiring Diagram

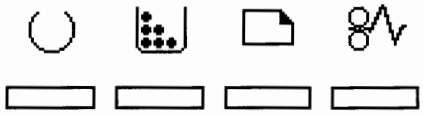
253703

LaserWriter Pro — Flowcharts - Print Engine Check

Do Manuals Chapters ? «

Task Done

Back Up



(Unknown LED display)

Note: Make sure you have waited a full 2-3 minutes after startup. If the green printer-ready LED continues to flash without stopping, disconnect the printer from the computer or network, and see if the problem persists.

If you have just performed the engine diagnostic, confirm that there is not still a jumper in the DB-9 serial connector.

Wiring Diagram

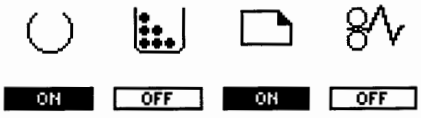
267903

LaserWriter Pro — Flowcharts - I/O Board Error

Do Manuals Chapters ? «

Task Done

Back Up



I/O Board Error Indicated
(Status Panel LEDs in Diagnostic Mode)

Start flowcharts here if jumpered LEDs indicate an I/O board error.

Note: See "Diagnostic LEDs" in Additional Procedures for additional information.

Replace I/O board.

Wiring Diagram

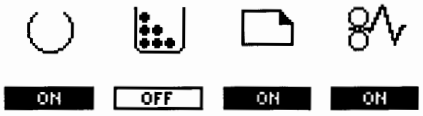
129405

LaserWriter Pro — Flowcharts - Fuser Assembly Error

Do Manuals Chapters ? «

Task Done

Back Up



Fuser Assembly Error Indicated
(Status Panel LEDs in Diagnostic Mode)

Start flowcharts at this card if jumpered LEDs have indicated a fuser assembly error, or if your experience suggests a fuser-related problem.

Note: See "Diagnostic LEDs" and "Capacitor Discharge" in Additional Procedures for additional information on fuser errors.

Remove the rear panel and I/O shield and confirm that DC controller board connector J210 is secure and that the power supply is firmly seated.

Wiring Diagram

129963

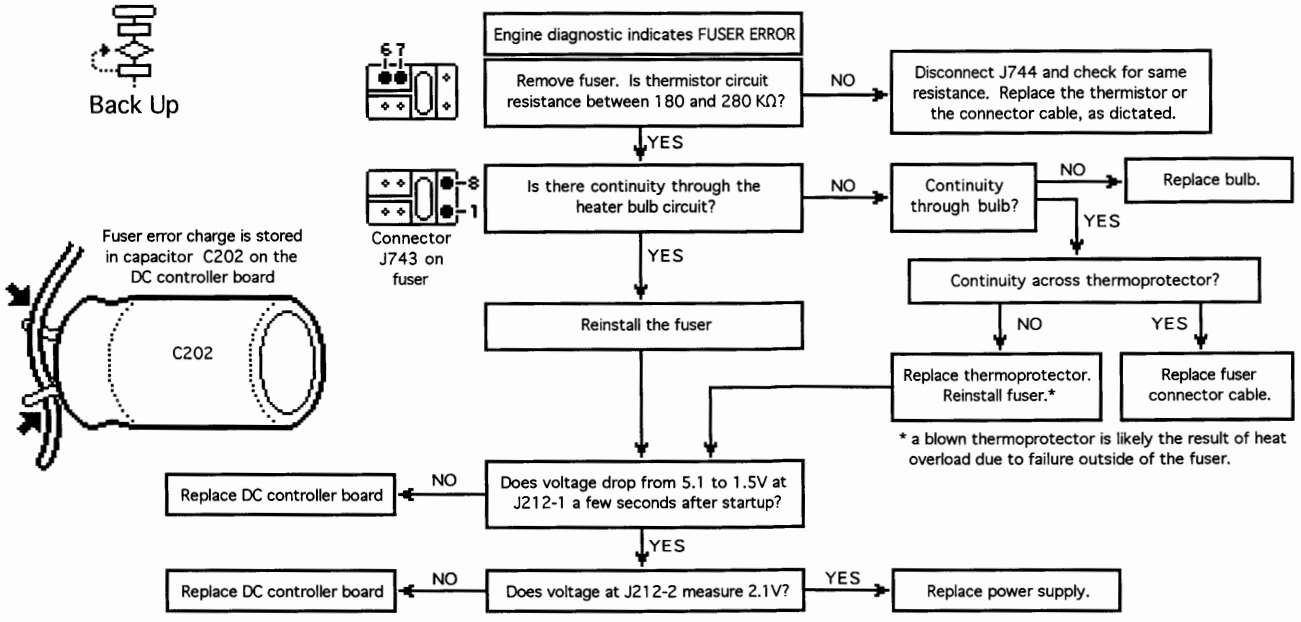
LaserWriter Pro — Flowcharts - Fuser Assembly Error

Do Manuals Chapters ? «

Task Done

Back Up

Note: Click "Task Done" to continue the flowchart. If you want a quick reference printout of the remaining steps, print this card (select "Print" from the "Do" menu).



272940 For quick reference only. See on-line flowcharts for complete description of these steps, and for a full summary of troubleshooting prior to this point.

Task Done

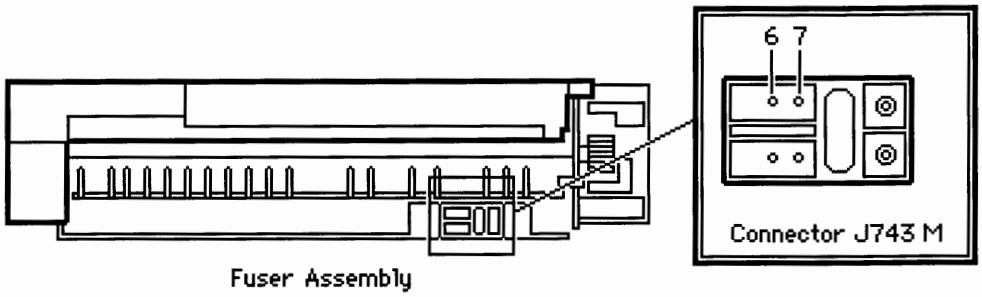
Back Up

Remove the fuser assembly from the printer.

Note: Let the fuser assembly cool to room temperature. You will be taking a series of resistance readings to determine if a component within the fuser assembly is bad. The first measurement tests the fuser thermistor and its circuitry.

Measure resistance between J743-6 and J743-7.

Is the resistance between 180 and 280 KΩ?



Wiring Diagram

131348

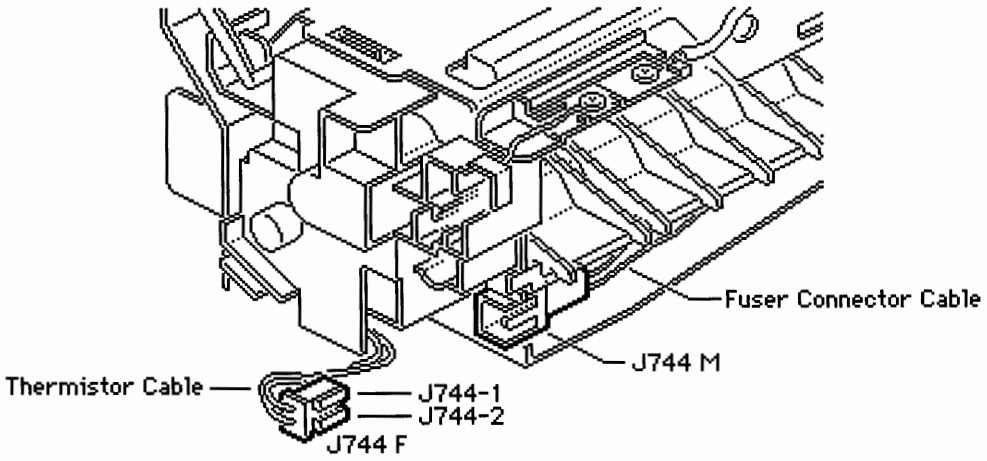
Task Done

Back Up

Note: The thermistor or the fuser connector cable is bad. To determine which, you must measure resistance at the point where the two join.

Remove the fuser cable cover, and disconnect J744. Measure resistance between the two pins of connector J744 F.

Is the resistance between 180 and 280 KΩ?



Wiring Diagram

136974

Task Done

Note: The resistance in the thermistor is correct, so the fault must be in the fuser connector cable.

Back Up

Replace the fuser connector cable.

Wiring Diagram

140215

LaserWriter Pro Flowcharts - Fuser Assembly Error
Do Manuals Chapters ? «

Task Done

Note: The resistance in the thermistor is not correct.

Back Up

Replace the fuser thermistor.

Wiring Diagram

140657

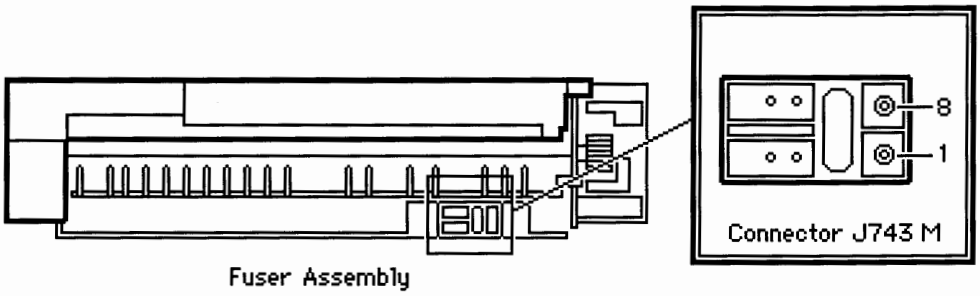
Task Done

Back Up

Note: The thermistor circuitry is OK. The next resistance measurement will test whether there is continuity through the heater bulb and its circuitry.

Measure resistance between J743-1 and J743-8.

Is resistance approximately 3 ohms or less?



Wiring Diagram

141045

LaserWriter Pro Flowcharts - Fuser Assembly Error
Do Manuals Chapters ? «

Task Done

Back Up

Note: The thermistor and fuser bulb circuitry checks out OK, so the problem is outside the fuser assembly, probably in the DC controller board, power supply, or high-voltage connector board.

Reinstall the fuser assembly and close the fuser access door.

Wiring Diagram

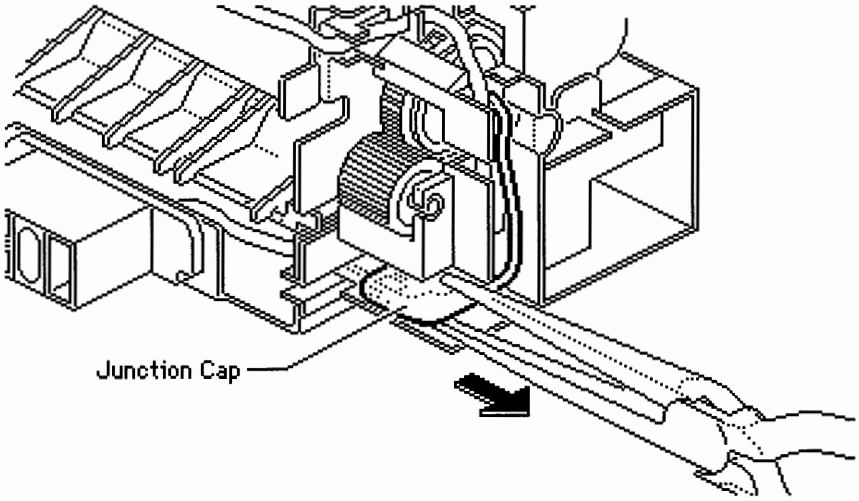
141707

Task Done

Back Up

Note: There is not continuity through the heater bulb circuit. Check continuity through the heater bulb itself.

Remove the left cover cap at the gear end of the fuser. Expose the spade connector that connects the heater bulb to the fuser connector cable by sliding away the rubber junction cap.



Wiring Diagram

141992

LaserWriter Pro Flowcharts - Fuser Assembly Error
Do Manuals Chapters ? «

Task Done

Back Up

Place one probe on the spade connector and the other probe on the thermoprotector contact farthest from the gear end of the fuser.

Is resistance approximately 3 ohms or less?

Wiring Diagram

142408

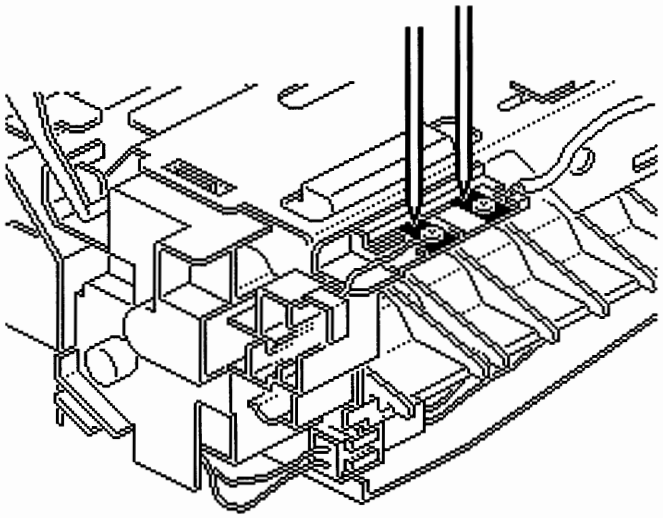
Task Done

Back Up

Note: The fuser heater bulb has continuity. Next measure resistance through the fuser thermoprotector.

Place a probe on each of the two thermoprotector contacts.

Is resistance approximately 3 ohms or less?



Wiring Diagram

143091

LaserWriter Pro Flowcharts - Fuser Assembly Error
Do Manuals Chapters ? «

Task Done

Back Up

Note: The measurement at connector J743 indicated that the fuser bulb circuit is open. The next two measurements confirmed continuity through the fuser bulb and thermoprotector. The fault lies in the cable that closes the heater bulb circuit.

Replace the fuser connector cable.

Wiring Diagram

143566

Task Done

Back Up

Note: The thermoprotector has blown, probably as a result of a power overload caused by a faulty DC controller board, power supply, or high-voltage connector board. After performing the following procedure, you will take voltage readings at the DC controller board.

Replace the fuser thermoprotector, reinstall the fuser assembly, and close the fuser access door.

Wiring Diagram

143733

LaserWriter Pro Flowcharts - Fuser Assembly Error
Do Manuals Chapters ? «

Task Done

Back Up

Note: The FSRD signal directs the power supply to turn the fuser bulb on and off. In normal operation voltage drops occur at J212-1 in sync with the bulb coming on.

Place the probes at J212-1 (/FSRD) and TB201-6 (GND) on the DC controller board and switch on the power.

Does the voltage change from approximately 5.1 VDC to 1.5 VDC a few seconds after startup?

Wiring Diagram

143899

LaserWriter Pro Flowcharts - Fuser Assembly Error

Do Manuals Chapters ? «

Task Done

Back Up

Note: Control of fuser bulb power is not getting to the power supply.

Replace the DC controller board.

Wiring Diagram

144179

LaserWriter Pro Flowcharts - Fuser Assembly Error

Do Manuals Chapters ? «

Task Done

Back Up

Note: The RLD signal controls the relay that cuts power to the fuser bulb. In operational mode the voltage is approximately 2.1 VDC. High voltage turns the relay off and cuts power to the fuser bulb.

Switch off the printer. Place the probes at J212-2 (RLD) and TB201-6 (GND) on the DC controller board and switch on the power.

Does the voltage measure approximately 2.1 VDC?

Wiring Diagram

144659

Task Done

Back Up

Note: Correct signals are leaving the DC controller but aren't reaching the fuser.

Replace the power supply.

Note: If the problem persists, check continuity through the following parts:

- Power supply to DC controller board cable (P/N 922-0215)
- Connecting block board (P/N 922-0204)

Refer to the wiring diagram for a map and photos of the circuitry through the high-voltage connecting block board. If resistance isn't about an ohm or less through each circuit of these two parts, then replace the part.

Wiring Diagram

145057

LaserWriter Pro Flowcharts - Fuser Assembly Error
Do Manuals Chapters ? «

Task Done

Back Up

Note: Control of the fuser bulb power relay is not getting to the power supply.

Replace the DC controller board.

Wiring Diagram

145202

Task Done

Back Up

Note: If the resistance through the fuser bulb exceeds 3 ohms at room temperature then the bulb has blown.

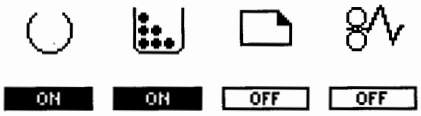
Replace the fuser heater bulb.

Wiring Diagram

145422

Task Done

Back Up



Laser/Scanner Error Indicated
(Status Panel LEDs in Diagnostic Mode)

Start flowcharts at this card if jumpered LEDs have indicated a laser/scanner error, or if your experience suggests a laser/scanner problem.

Scanner Motor

Note: See "Diagnostic LEDs" in Additional Procedures for additional information. Click on "Scanner Motor" to hear how the scanner sounds in normal operation.

Remove the rear panel and I/O shield

Note: Maintain I/O connectivity (see "Troubleshooting Tips" in Basics). You may need to perform the engine diagnostic test during this procedure.

Are DC controller board connectors J205 and J206 secure?

Wiring Diagram

145719

Task Done

Secure the connector(s).

Back Up

Wiring Diagram

146210

LaserWriter Pro Flowcharts - Laser/Scanner Error
Do Manuals Chapters ? «

Task Done

Remove the top cover and delivery roller assembly.

Are all three laser/scanner assembly connectors secure?

Back Up

Wiring Diagram

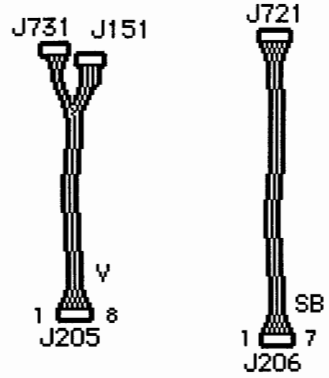
146764

Task Done

Back Up

Remove the two cables that run from the DC controller board to the laser/scanner assembly and check resistance of each wire.

Is resistance approximately 1 ohm or less for each wire?



Wiring Diagram

147117

LaserWriter Pro Flowcharts - Laser/Scanner Error
Do Manuals Chapters ? «

Task Done

Replace the defective cable.

Back Up

Wiring Diagram

147587

LaserWriter Pro Flowcharts - Laser/Scanner Error

Do Manuals Chapters ? «

Task Done

Back Up

Replace the laser/scanner assembly.

Note: Defeat the interlocks for the top cover and fuser door (see "Troubleshooting Tips" in Basics) and perform the engine diagnostic (see "Diagnostic LEDs" in Additional Procedures). If the problem persists, reinstall the original module and continue to the task below.

Replace the DC controller board.

Wiring Diagram

147887

LaserWriter Pro Flowcharts - Main Motor Error

Do Manuals Chapters ? «

Task Done

Back Up

Main Motor Error Indicated
(Status Panel LEDs in Diagnostic Mode)

Start flowcharts at this card if jumpered LEDs have indicated a main motor error, or if your experience suggests a main motor problem.

Note: See "Diagnostic LEDs" in Additional Procedures for additional information.

Remove the rear panel and I/O shield and confirm that DC controller board connector J211 is secure.

Wiring Diagram

148334

LaserWriter Pro — Flowcharts - Main Motor Error

Do Manuals Chapters ? «

Task Done

Back Up

Replace main motor.

If problem persists, replace DC controller board.

If problem persists, replace main motor cable.

Wiring Diagram

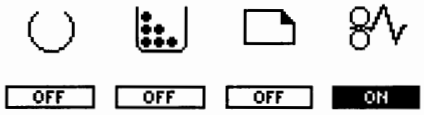
148874

LaserWriter Pro — Flowcharts - Fan Error

Do Manuals Chapters ? «

Task Done

Back Up



Fan Error Indicated
(Status Panel LEDs in Diagnostic Mode)

Note: This topic assumes that you have run on-board diagnostic and have received the error above. See "Diagnostic LEDs" in Additional Procedures for additional information.

Remove the rear panel and I/O shield and confirm that DC controller board connector J209 is secure.

Wiring Diagram

149220

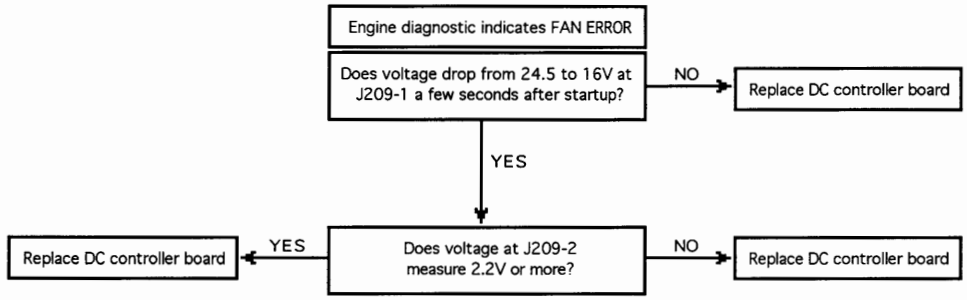
LaserWriter Pro Flowcharts - Fan Error

Do Manuals Chapters ? «

Task Done

Back Up

Note: Click "Task Done" to continue the flowchart. If you want a quick reference printout of the remaining steps, print this card (select "Print" from the "Do" menu).



273435 For quick reference only. See on-line flowcharts for complete description of these steps, and for a full summary of troubleshooting prior to this point.

LaserWriter Pro Flowcharts - Fan Error

Do Manuals Chapters ? «

Task Done

Back Up

Place the probes at J209-1 (FAND) and J209-3 (GND) on the DC controller board and switch on the power.

Does the voltage change from approximately 24.5 VDC to 16 VDC a few seconds after startup?

Wiring Diagram

149697

Task Done

Switch off the printer. Place the probes at J209-2 (FLOCK) and J209-3 (GND) on the DC controller board and switch on the power.

Does the voltage measure 2.2 VDC or more?

Back Up

Wiring Diagram

149895

LaserWriter Pro Flowcharts - Fan Error
Do Manuals Chapters ? «

Task Done

Replace the fan.

Back Up

Wiring Diagram

150148

LaserWriter Pro Flowcharts - Fan Error

Do Manuals Chapters ? «

Task Done

Replace the DC controller board.

Back Up

Wiring Diagram

150419

LaserWriter Pro Flowcharts - Fan Error

Do Manuals Chapters ? «

Task Done

Replace the DC controller board.

Back Up

Wiring Diagram

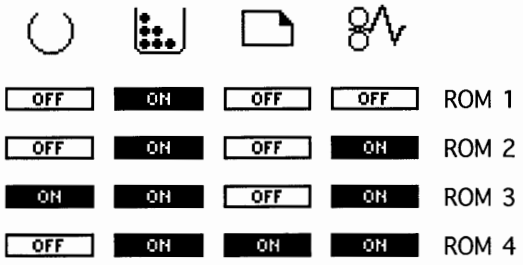
150646

LaserWriter Pro — Flowcharts - ROM Error

Do Manuals Chapters ? «

Task Done

Back Up



ROM Error Indicated
(Status Panel LEDs in Diagnostic Mode)

Note: This topic assumes that you have run on-board diagnostic and have received one of the errors above. See "Diagnostic LEDs" in Additional Procedures for additional information. As of this release, there is no lower-level troubleshooting possible for ROM errors.

Replace I/O board.

Wiring Diagram

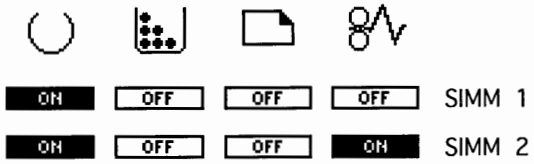
151019

LaserWriter Pro — Flowcharts - SIMM Error

Do Manuals Chapters ? «

Task Done

Back Up



SIMM Error Indicated
(Status Panel LEDs in Diagnostic Mode)

Note: This topic assumes that you have run on-board diagnostic and have received one of the errors above. See "Diagnostic LEDs" in Additional Procedures for additional information. See "Upgrading RAM" in Additional Procedures for rules that govern configuration of RAM SIMM.

Replace the RAM SIMM that is indicated.

Wiring Diagram

151551

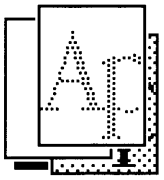
Task Done

Print Quality Problem Set

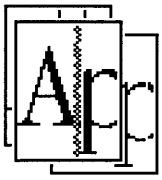
Back Up

Note: You should try printing with a known-good toner cartridge before proceeding. The "Print Quality" problem set won't consider the toner cartridge in troubleshooting.

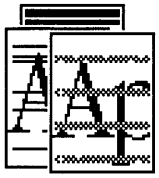
Click on the icon that describes the general defect:



Density
Problems



Vertical
Defects



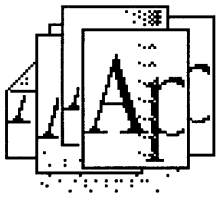
Horizontal
Defects

Distortion

Wiring Diagram

151862

Other Symptoms



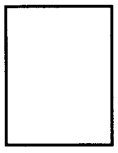
LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Density Problems

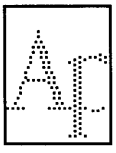
Back Up

Note: Click on the icon that most closely represents the defect.

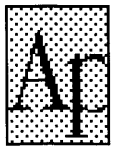


All-Blank Page

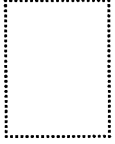
All-Black Page

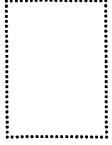


Light/Faded Image
Uniform lightness over entire page.



Dark Image
Uniform darkness over entire page.





Wiring Diagram

152676

Task Done

Vertical Defects

Back Up

Note: Click on the icon that most closely represents the defect.

Black line(s)
Sharp and well defined

White line(s)
Sharp and well defined

Wiring Diagram

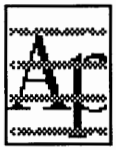
153370

Task Done

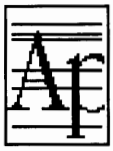
Horizontal Defects

Back Up

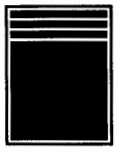
Note: Click on the icon that most closely represents the defect.



Banding
Smudged, evenly spaced



Black lines
Sharp and well defined



White stripes
On solid black page

Wiring Diagram

154566

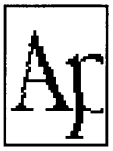
Task Done

Image Distortion

Back Up

Note: Click on the icon that most closely represents the defect.

Bad Registration
Image cut off



Stairstepping

Vertical distortion
Elongation or foreshortening

Wiring Diagram

155587

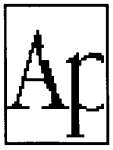
Task Done

Other Symptoms

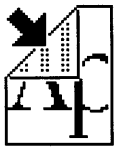
Back Up

Note: Click on the icon that most closely represents the defect.

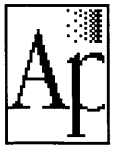
Bad Fusing
Toner smudges on contact



Blank Spots
Random pattern or location.



Toner on Back



Grayscale/Resolution
No PhotoGrade or no 600 dpi

Repetitive Defects
Miscellaneous staining

Wiring Diagram

155919

Task Done

Symptom: ALL-BLANK PAGE

Back Up

Note: First confirm that the sealing tape has been removed from the toner cartridge and that the laser shutter is installed correctly (see "Laser/Scanner Assembly" in Take Apart). Also check for anything else that could be blocking the laser beam.

Does the all-blank page problem occur ONLY with envelopes?

Wiring Diagram

238660

Task Done

Symptom: ALL-BLANK PAGE

Back Up

Note: The bottom edge is the baseline in the LaserWriter Pro. If you print envelopes from documents set for top-edge baseline (for example, if the document has always been printed to a Personal LaserWriter), the image may completely miss the envelope to the top, thereby resulting in an all-blank symptom.

Instruct the customer to adjust margins in the document.

Wiring Diagram

245738

Task Done

Symptom: ALL-BLANK PAGE

Back Up

Note: Run the printer diagnostic (see "Diagnostic LEDs" in Additional Procedures). If no error is found, continue along this path.

Remove rear panel and I/O shield. Place probes between J210-6 (HVRST) and J210-10 (GND) and switch on the printer.

Does voltage change from 0 to 5 VDC about 1 second after startup?

Wiring Diagram

245466

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Symptom: ALL-BLANK PAGE

Back Up

Place probes between J210-9 (SLO2) and J210-10 (GND) and switch on the printer.

Does voltage read about 0.7 VDC about 1 second after the main motor starts?

Wiring Diagram

245924

Task Done

Back Up

Symptom: ALL-BLANK PAGE

Note: Confirm that the toner cartridge is fully seated and making good contact with the transfer block assembly. If you have recently installed the high-voltage power supply, and the printer has not yet printed correctly, try reinstalling the high-voltage power supply. Otherwise perform the following swaps in order. If the problem persists reinstall customer's part and move down the list.

Replace the high-voltage power supply.

Replace high-voltage connector board.

Replace the transfer block assembly.

Wiring Diagram

246629

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: ALL-BLANK PAGE

Replace the DC controller board.

Wiring Diagram

246981

Task Done

Symptom: ALL-BLANK PAGE

Back Up

Replace the DC controller board.

Wiring Diagram

246027

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Symptom: ALL-BLACK PAGE

Back Up

Note: Run the printer diagnostic (see "Diagnostic LEDs" in Additional Procedures). If no error is found, continue along this path.

Place probes between J210-9 (SLO2) and J210-10 (GND) and switch on the printer.

Does voltage read about 0.7 VDC about 1 second after the main motor starts?

Wiring Diagram

240968

Task Done

Symptom: ALL-BLACK PAGE

Back Up

Replace the high-voltage power supply.

If problem persists, replace high-voltage connector board.

Wiring Diagram

247260

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Symptom: ALL-BLACK PAGE

Back Up

Replace the DC controller board.

Wiring Diagram

247465

Task Done

Symptom: LIGHT OR FADED IMAGE/Uniform lightness over entire page

Note: Perform the following tasks in order. If the problem persists return printer to original setting or condition and move down the list.

Back Up

Use LaserWriter Utility to adjust density and print about a dozen test pages.

Try printing with known-good paper.

Confirm that the high-voltage power supply is installed correctly, and that good contact is being made with the transfer block assembly.

Replace the transfer roller with a known-good transfer roller.

If the problem persists, click "Task Done."

Wiring Diagram

241224

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Symptom: LIGHT OR FADED IMAGE/Uniform lightness over entire page

Note: Run the printer diagnostic (see "Diagnostic LEDs" in Additional Procedures). If no error is found, continue along this path.

Back Up

Remove rear panel and I/O shield. Place probes between J210-9 (SLO2) and J210-10 (GND) and switch on the printer.

Does voltage read about 0.7 VDC about 1 second after the main motor starts?

Wiring Diagram

247835

Task Done

Symptom: LIGHT OR FADED IMAGE/Uniform lightness over entire page

Back Up

Replace the high-voltage power supply.

If problem persists, replace high-voltage connector board.

Wiring Diagram

248128

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Symptom: LIGHT OR FADED IMAGE/Uniform lightness over entire page

Back Up

Replace DC controller board.

Wiring Diagram

248333

Task Done

Symptom: DARK IMAGE/Uniform darkness over entire page

Back Up

Note: Perform the following tasks in order. If the problem persists return printer to original setting or condition and move down the list.

Use LaserWriter Utility to adjust density and print about a dozen test pages.

Try printing with known-good paper.

Clean the printer drum grounding contact and cartridge contact and print a test page.

If the problem persists, click "Task Done."

Wiring Diagram

241548

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Symptom: DARK IMAGE/Uniform darkness over entire page

Back Up

Note: Run the printer diagnostic (see "Diagnostic LEDs" in Additional Procedures). If no error is found continue along this path.

Remove rear panel and I/O shield. Place probes between J210-6 (HVRST) and J210-10 (GND) and switch on the printer.

Does voltage change from 0 to 5 VDC about 1 second after startup?

Wiring Diagram

248676

Task Done

Symptom: DARK IMAGE/Uniform darkness over entire page

Back Up

Replace high-voltage power supply.

If problem persists, replace high-voltage connector board.

Wiring Diagram

249061

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Symptom: DARK IMAGE/Uniform darkness over entire page

Back Up

Replace DC controller board.

Wiring Diagram

249101

Task Done

Back Up

Symptom: VERTICAL DEFECT/Dark, well defined lines

Note: If the problem appears on normal prints, but definitely does not appear on a service test page, then replace the I/O board. Make sure that you have tried a known-good toner cartridge before performing the swaps below.

Replace the fuser assembly.

If problem persists, replace the laser/scanner assembly.

Wiring Diagram

241892

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: VERTICAL DEFECT/white, well defined lines

Note: Make sure that there isn't a hair or other physical obstruction near the laser opening that could be casting a shadow on the photosensitive drum.

If the problem appears on normal prints, but definitely does not appear on a service test page, then replace the I/O board.

If problem persists, replace the laser/scanner assembly.

Wiring Diagram

242144

Task Done

Back Up

Symptom: HORIZONTAL DEFECT/Smudged, evenly spaced banding

Note: This is almost certainly a result of toner buildup on the fuser rollers or the photosensitive drum. These are the two instances where a roller extends the full width of the printed side of the paper.

Interrupt a print cycle (see "Troubleshooting Tips" in Basics). If the defect is on the photosensitive drum, then replace the toner cartridge.

If the image on the drum is OK, clean or replace the fuser roller(s) as required.

Wiring Diagram

242544

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: HORIZONTAL DEFECT/Sharp, well-defined black lines

Note: If these lines are evenly spaced, the problem is almost certainly with the toner cartridge.

If the toner cartridge is known-good, then replace the laser/scanner assembly.

Wiring Diagram

242763

Task Done

Back Up

Symptom: HORIZONTAL DEFECT/White stripes on solid black page

Note: This is a problem with the beam detect signal.

Go to "Laser/Scanner Error" flowchart.

Wiring Diagram

243183

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: BAD REGISTRATION/Image cut off

Note: Run a print from another paper source. If registration is OK from the second source, then there is problem in the first paper source with one of the following:

- Overloading of paper
- Worn or incorrectly installed pickup roller
- Paper type that is not within specification

If bad registration occurs regardless of paper source perform the following tasks:

Perform registration adjustment (see Adjustments chapter).

If problem persists, replace sensor holder assembly.

Note: The sensor holder assembly contains registration paper sensor PS602.

Wiring Diagram

243341

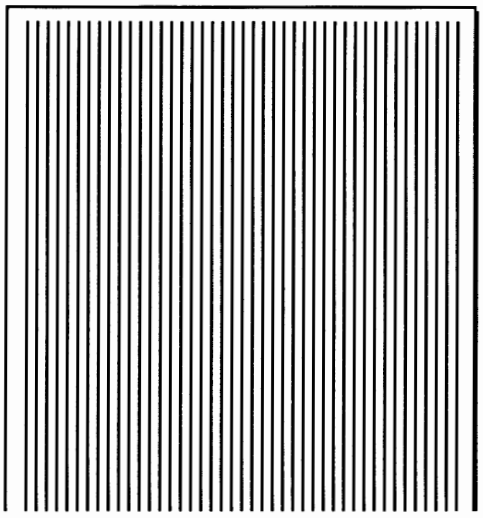
Task Done

Back Up

Symptom: STAIRSTEPPING/Vertical lines jagged or shaky

Run a service test page (see "Test/Configuration Pages" in Basics).

Is the symptom present on a service test print.



Wiring Diagram

264869

LaserWriter Pro Flowcharts - Print Quality
Do Manuals Chapters ? «

Task Done

Back Up

Symptom: STAIRSTEPPING/Vertical lines jagged or shaky. Symptom appears on service test page.

Note: Run the printer diagnostic (see "Diagnostic LEDs" in Additional Procedures). If a specific error is found, go to the applicable flowchart in this chapter. Otherwise perform the following tasks.

Replace laser/scanner assembly

Replace DC controller board.

Wiring Diagram

265413

Yes | No

Back Up

Paper Transport Problem Set

This topic addresses paper pickup and jamming problems.

Note: Review "Mechanical Drive Theory" and "Sensing System Theory" in Basics for more information. Make sure that the top cover and fuser door are shut, and that a cassette and toner cartridge are installed.

Is paper being picked up at the selected paper source?

Wiring Diagram

156470

Symptoms:

- Cannot print in PhotoGrade
- Cannot print in PhotoGrade (continued)
- Cannot print in PhotoGrade (continued)
- Cannot print in PhotoGrade (continued)

Cures:

1) LaserWriter Pro 600 with 4 MB RAM cannot print in PhotoGrade. Upgrade RAM to 8 MB or more.
2) Turn on PhotoGrade by clicking "Options" in the Print dialog. Note that LaserWriter driver 7.2 or later must have been used to select the printer, otherwise these options are not available. (Refer to the user's guide for additional information.)
3) If an application does not allow you access to the print options dialog, then you must use "Imaging Options" in the LaserWriter Utility (version 7.4 or later) to set resolution and grayscale defaults.

LaserWriter Pro Symptom Charts - Setup Problems
Do Manuals Chapters ? « 1 of 3

Symptoms:

- Cannot print in PhotoGrade
- Cannot print in PhotoGrade (continued)
- Cannot print in PhotoGrade (continued)
- Cannot print in PhotoGrade (continued)

Cures:

4) Print a startup page. If the "PhotoGrade" icon appears, then PhotoGrade is enabled and the problem may be solved by steps 5-7. If the icon doesn't appear, confirm steps 1-3. If the icon still doesn't appear, go to step 8.
5) Select Color/Grayscale in the print options dialog box. This does not turn PhotoGrade on or off, but it does affect how grays are rendered.

Symptoms:

- Cannot print in PhotoGrade
- Cannot print in PhotoGrade (continued)
- Cannot print in PhotoGrade (continued)
- Cannot print in PhotoGrade (continued)

Cures:

6) Print a number of test pages using various line screen settings in the "Imaging Options" dialog. This does not turn PhotoGrade on or off, but it does affect how grays are rendered.
7) If the problem is with a certain application, select the "Use Printer Defaults" option if the application has one. If it allows you to control the line screen settings, change the settings to 106 lines and 45 degrees.

LaserWriter Pro Symptom Charts - Setup Problems
Do Manuals Chapters ? « 1 of 3

Symptoms:

- Cannot print in PhotoGrade
- Cannot print in PhotoGrade (continued)
- Cannot print in PhotoGrade (continued)
- Cannot print in PhotoGrade (continued)

Cures:

8) Print a configuration page and confirm that the printer is PhotoGrade capable. (See "Test/Configuration Pages" in Basics.) Please have the configuration page at hand if you call the Apple Technical Assistance Center.

Symptoms:

Cures:

Cannot print at 600 dpi

Cannot print at 600 dpi (continued)

1) LaserWriter Pro 600 with 4 MB RAM cannot print at 600 dpi. RAM must be upgraded to 8 MB or more.
2) You cannot print in PhotoGrade at 600 dpi. Turn off PhotoGrade by clicking "Options" in the Print dialog. Note that LaserWriter driver 7.2 or later must have been used to select the printer, otherwise these options are not available. (Refer to the user's guide for additional information.)
3) If an application does not allow you access to the print options dialog, then you must use "Imaging Options" in the LaserWriter Utility (version 7.4 or later) to turn off PhotoGrade.

LaserWriter Pro Symptom Charts - Setup Problems
Do Manuals Chapters ? « 2 of 3

Symptoms:

Cures:

Cannot print at 600 dpi

Cannot print at 600 dpi (continued)

4) Reduce memory requirements of your document by following guidelines in the user's guide and its accompanying "Read Me" file.
5) Print a startup page. If the "600 dpi" icon appears, then it is likely that the LaserWriter Pro is in fact printing at 600 dpi. If the icon does not appear, confirm steps 1-4.
6) If the problem persists, print a configuration page and confirm that the resolution setting is 600 dpi. (See "Test/Configuration Pages" in Basics.) Please have the configuration page at hand if you call the Apple Technical Assistance Center.

Symptoms:

Cures:

Symptoms:	Cures:
The "Print" dialog does not indicate the presence of an optional feeder.	1) Turn off the printer, install the optional feeder, and restart the printer. A feeder will be recognized only during printer initialization. 2) Go to the Chooser and select the printer. With the option key pressed, click on "Setup" (or "Review"), and make sure that the feeder has been selected. This setting determines whether a feeder appears in print dialog boxes for that host computer.
Cannot feed paper from the multipurpose tray.	
Toner is not fused to the paper.	
Print dialog preferences are not consistent throughout the network.	

LaserWriter Pro Symptom Charts - Setup Problems
Do Manuals Chapters ? « 3 of 3

Symptoms:

Cures:

Symptoms:	Cures:
The "Print" dialog does not indicate the presence of an optional feeder.	1) Select "Multipurpose Tray" in the "Print" dialog (LaserWriter driver 7.2 or later). Unlike earlier printers that had fewer feed options, the LaserWriter Pro requires user selection to override the default paper source. Placing paper on the multipurpose tray does not mean that the printer will feed from there. If the problem persists, go to "Paper Transport" in Flowcharts.
Cannot feed paper from the multipurpose tray.	
Toner is not fused to the paper.	
Print dialog preferences are not consistent throughout the network.	

Symptoms:

- The "Print" dialog does not indicate the presence of an optional feeder.
- Cannot feed paper from the multipurpose tray.
- **Toner is not fused to the paper.**
- Print dialog preferences are not consistent throughout the network.

Cures:

1) Make sure that the fuser roller release levers have been set to "Print" mode. See "Fuser Roller Modes" in Additional Procedures.

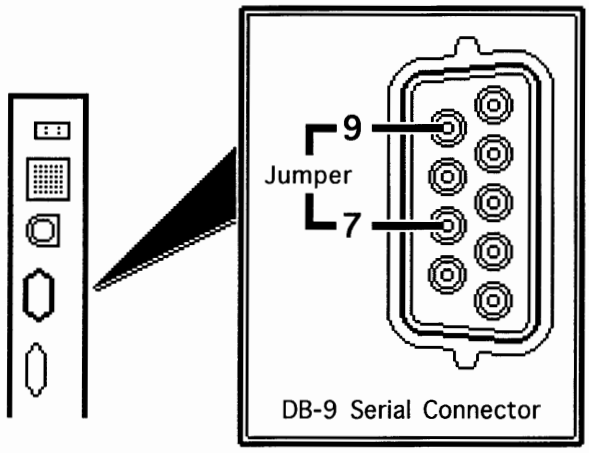
LaserWriter Pro Symptom Charts - Setup Problems
Do Manuals Chapters ? « 3 of 3

Symptoms:

- The "Print" dialog does not indicate the presence of an optional feeder.
- Cannot feed paper from the multipurpose tray.
- Toner is not fused to the paper.
- **Print dialog preferences are not consistent throughout the network.**

Cures:

1) When you use "Setup" in the Chooser, LaserWriter driver (version 7.2 or later) creates a preferences file that is saved in the System Folder of your computer. Once a preferences file is created the button will appear as "Review" in the Chooser. Preferences can vary throughout the network.



First:

Switch Off Printer
Install Cassette Tray
Install Toner Cartridge

Note: This procedure enables the status panel LEDs to give diagnostic feedback on major areas within the LaserWriter Pro.

Jumper pins 7 and 9 on the I/O board DB-9 connector and **switch on** the printer.

Note: Under normal conditions, LEDs should flash during startup for about 15 seconds and then fix on the "diagnostic executing" configuration for about 2 minutes. If no error is found, all LEDs come on and two pages print. See next card for "error-found" configurations.

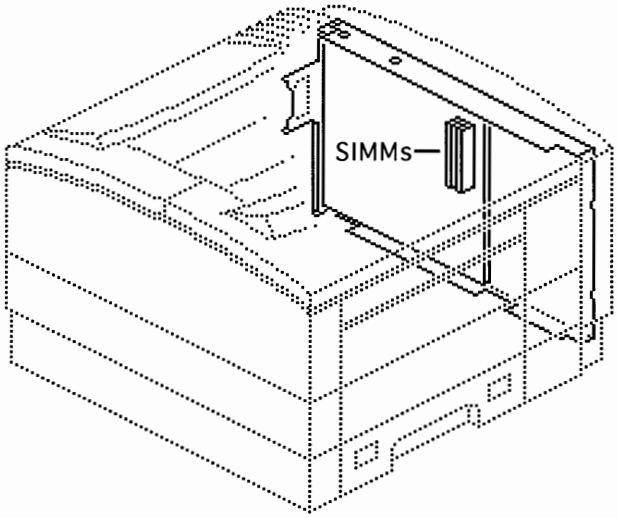
Diagnostic Executing	OFF	ON	ON	OFF
No Error Found	ON	ON	ON	ON

Diagnostic Executing	OFF	ON	ON	OFF
No Error Found	ON	ON	ON	ON
I/O Board	ON	OFF	ON	OFF
Fuser Assembly	ON	OFF	ON	ON
Laser/Scanner	ON	ON	OFF	OFF
Main Motor	ON	ON	ON	OFF
Fan Motor	OFF	OFF	OFF	ON
ROM 1	OFF	ON	OFF	OFF
ROM 2	OFF	ON	OFF	ON
ROM 3	ON	ON	OFF	ON
ROM 4	OFF	ON	ON	ON
SIMM 1	ON	OFF	OFF	OFF
SIMM 2	ON	OFF	OFF	ON

Note: If the "diagnostic executing" LEDs persist longer than 2 or 3 minutes, an unknown error exists.

An "error-found" configuration could indicate a fault anywhere from the DC controller outward to the module or component. Go to the topic in Flowcharts that corresponds to the error.

WARNING: Remember to remove the jumper after completing this procedure.

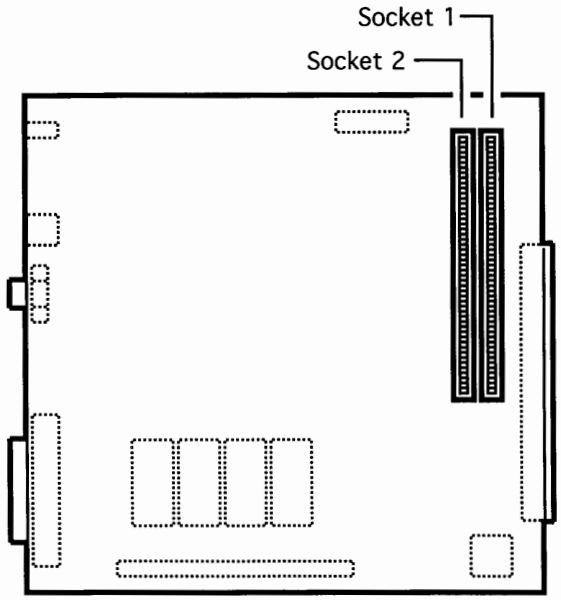


First:

Remove Rear Panel
Remove I/O Shield

To remove and install SIMMs, refer to "Angle SIMM Removal" in the Additional Procedures chapter of the SIMMs manual.

Note: If you are upgrading the RAM in a LaserWriter Pro 600 from 4 MB to 8 MB or more, perform the "PhotoGrade Medallion" procedure. The LaserWriter Pro 600 requires 8 MB of memory to print at 600 dpi or to print PhotoGrade images.

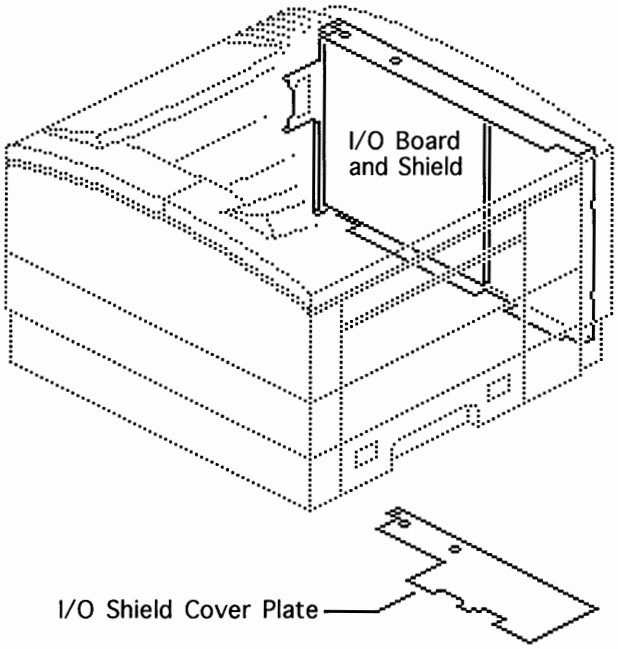


Note: Refer to the SIMMs manual for all configuration and illustrated parts information for SIMMs. The following governs SIMM configuration for the LaserWriter Pro:

Socket 1 can hold a SIMM with one or two DRAM banks.

Socket 2 can hold a SIMM with one RAM bank. Socket 2 must never contain a two-bank SIMM.

Socket 2 may be loaded with a single-bank SIMM only if socket 1 contains a single-bank SIMM.



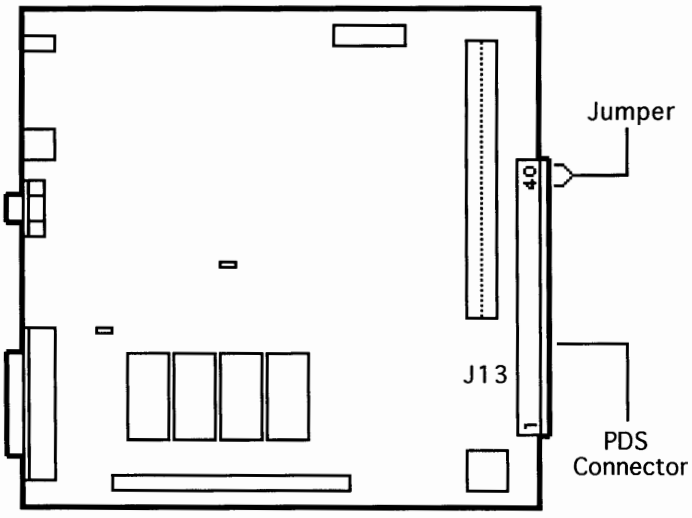
First:

Remove Rear Panel
Remove I/O Shield

Note: The Laser Writer Pro Upgrade Kit consists of a LaserWriter Pro 630 I/O board with a single 8 MB RAM SIMM. The board comes fully configured in a labelled I/O shield.

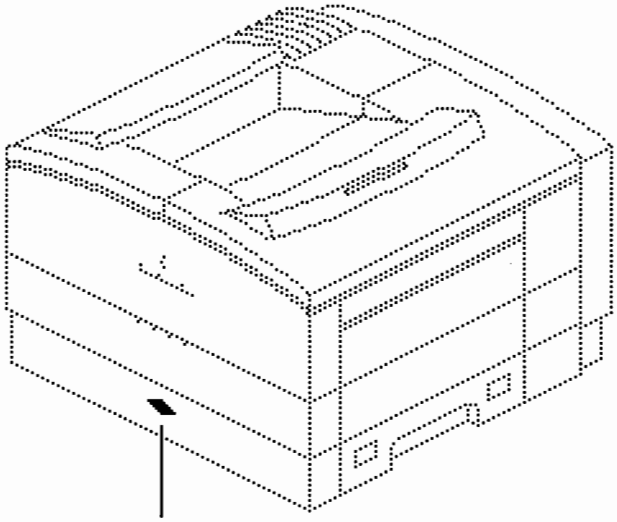
Return the old I/O board to Apple with the I/O shield attached and with 4 MB of RAM. Save the I/O shield cover plate to use with the new board and shield. If the customer has previously upgraded memory beyond 4 MB, remove the additional RAM and return it to the customer.

Perform the "PhotoGrade Medallion" procedure after completing this upgrade.



Note: You can add third-party expansion boards to the LaserWriter Pro I/O board by connecting them to the Processor Direct Slot (PDS) connector. Follow installation instructions that come with the product.

Caution: If a small orange jumper is present on the PDS connector, make sure to remove the jumper prior to installing an expansion board.



Overview

First:

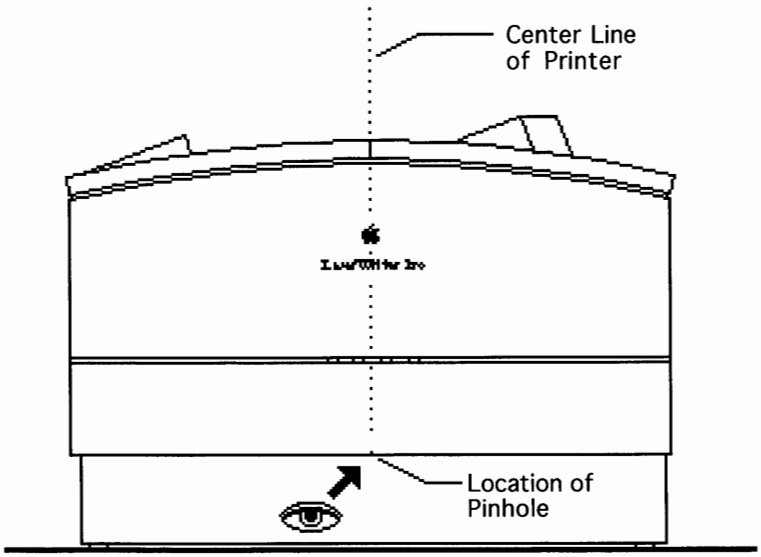
Perform RAM or Board Upgrade

Note: You affix the PhotoGrade medallion to the front panel of the printer after you have performed one of the following tasks:

- Upgrading the RAM to 8 MB or more on a LaserWriter Pro 600 I/O board (see "Upgrading RAM")
- Upgrading the printer from a LaserWriter Pro 600 to a LaserWriter Pro 630 (see "Upgrading I/O Board")

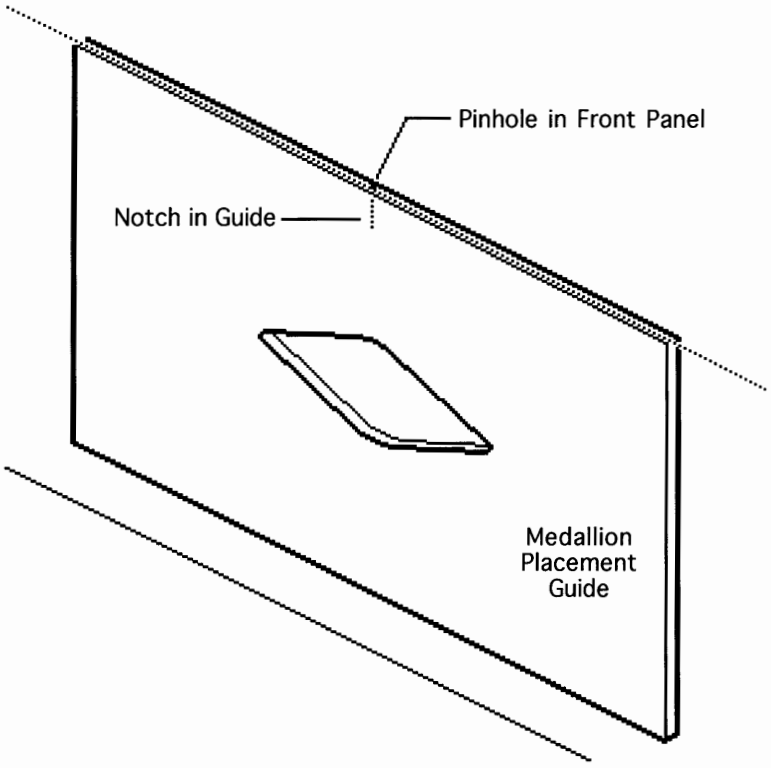
Remove the medallion and the placement guide from the upgrade package.

LaserWriter Pro Additional Procedures - PhotoGrade Medallion
Do Manuals Chapters ? « 2 of 6



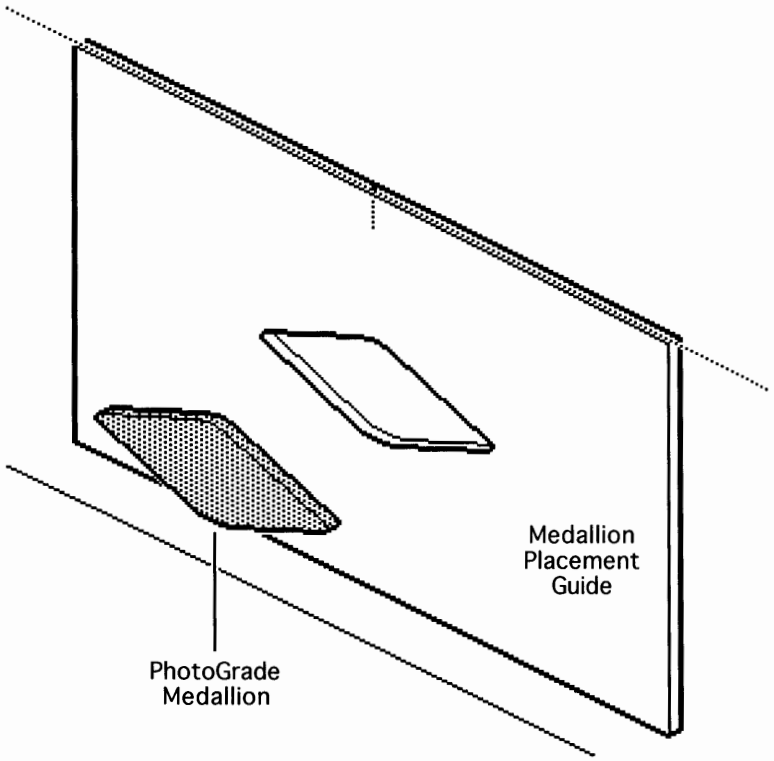
Note: There is a tiny pinhole in the front panel that you use as a guide to position the PhotoGrade medallion. The pinhole is aligned with the Apple logo and is located on the edge of the lower ridge of the front panel.

Locate the pinhole on the front panel.

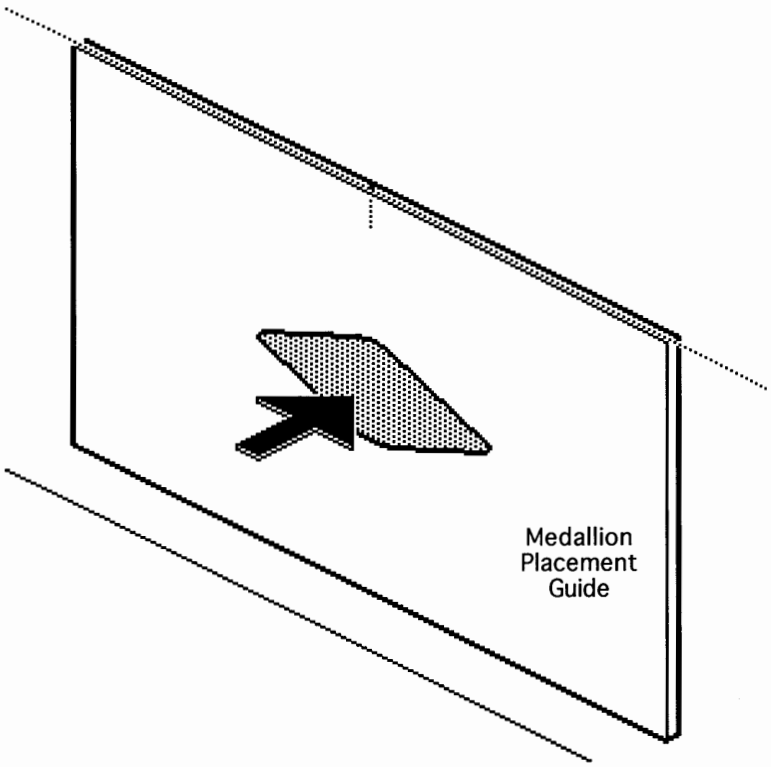


Position the placement guide on the front panel with the top edge of the guide flush with the ridge on the front panel.

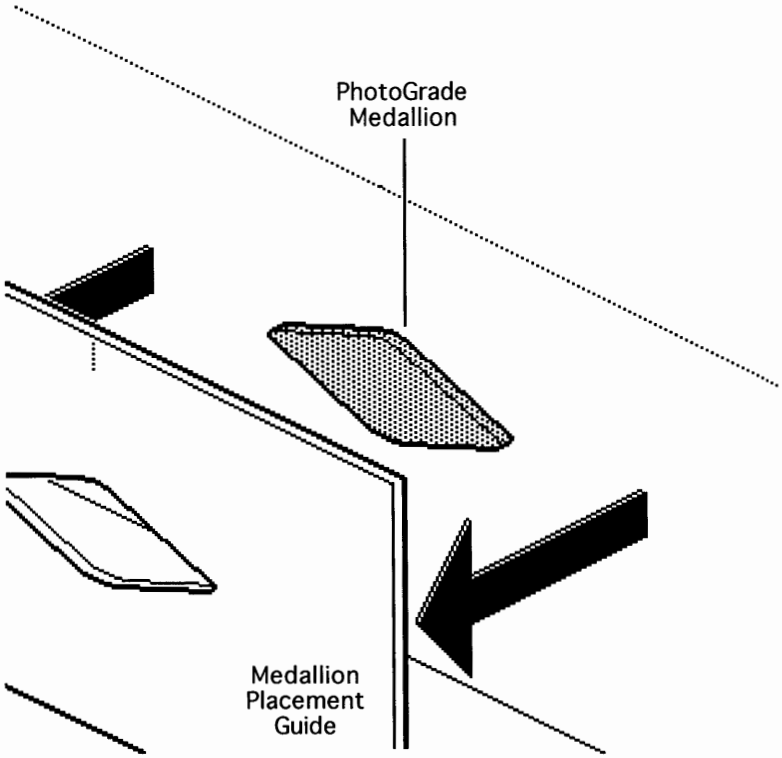
Align the notch in the guide with the pinhole in the front panel.



Remove the liner from the back of the medallion and **position** the medallion in front of the placement guide.



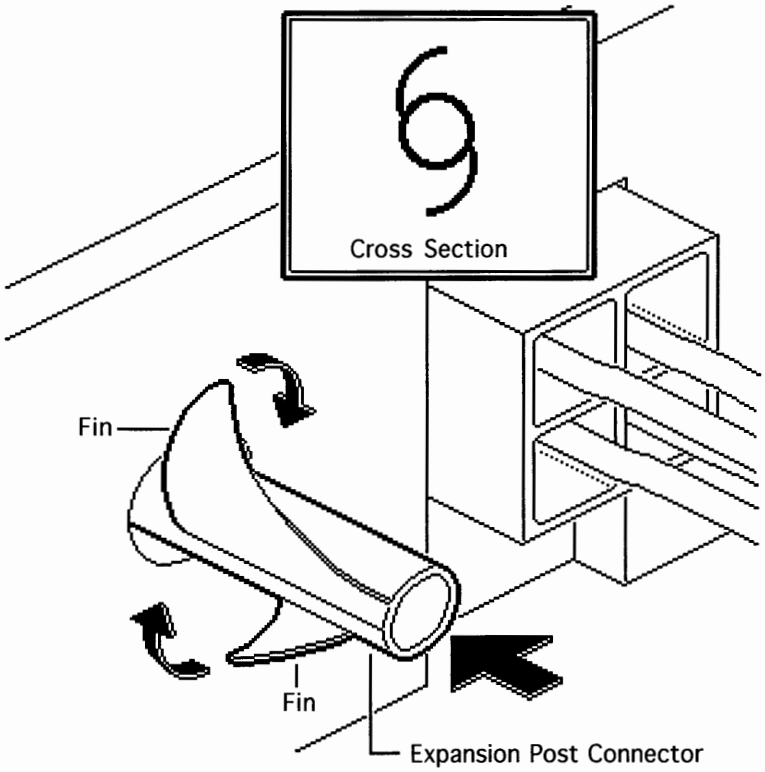
Affix the medallion to the panel through the opening in the placement guide.



Remove the placement guide.

LaserWriter Pro Additional Procedures - Expansion Post Connectors

Do Manuals Chapters ? « 1 of 1



First:

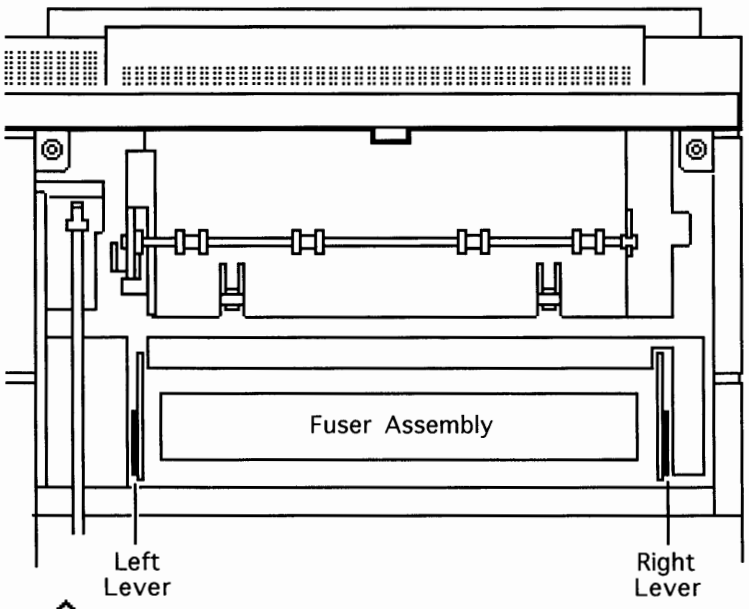
No First Steps Required

Note: The LaserWriter Pro has several cable receptacles that are secured to the printer by finned post connectors. The fins expand when you insert the connector, but once the connector is installed it can be difficult to remove. Listed below are some removal tools that you can try:

- Fingers
- Small bent-nose pliers
- Grip-rings forced around the post in collar fashion
- 5 mm nut driver

LaserWriter Pro Additional Procedures - Fuser Roller Modes

Do Manuals Chapters ? « 1 of 1



Show Me

First:

Open Fuser Access Door

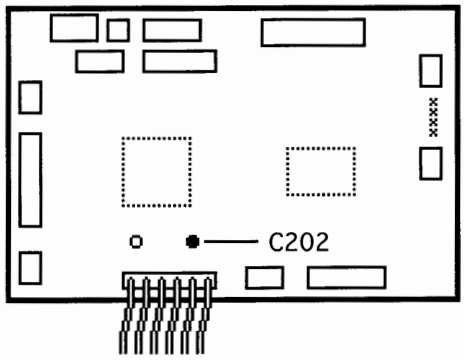
Note: Two small levers at each end of the fuser set the fuser rollers into either print mode or jam-release mode. Apple ships the printer with the rollers in jam-release mode.

Jam-Release Mode:

Disengage the rollers by setting the two levers in an "UP" position. (Click "Show Me.")

Print Mode:

Engage the fuser rollers by setting the two levers in a "DOWN" position.



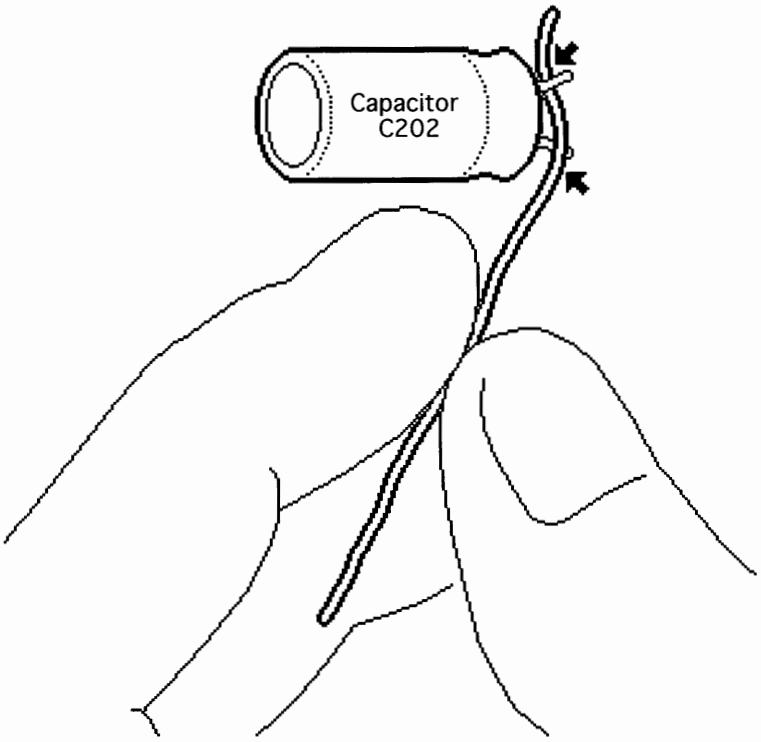
DC CONTROLLER BOARD

First:

Switch Off Printer
Unplug Printer
Remove Rear Panel
Remove I/O Shield

Note: When there is a failure of the fusing system, the DC controller board shuts off current to the fuser roller heater and charges capacitor C202 to prevent overheating. If there is a failure of the fusing system, you must turn the power off for about 10 minutes or manually discharge the capacitor before switching power back on.

Caution: Be sure to switch off power and unplug the printer before performing this procedure.

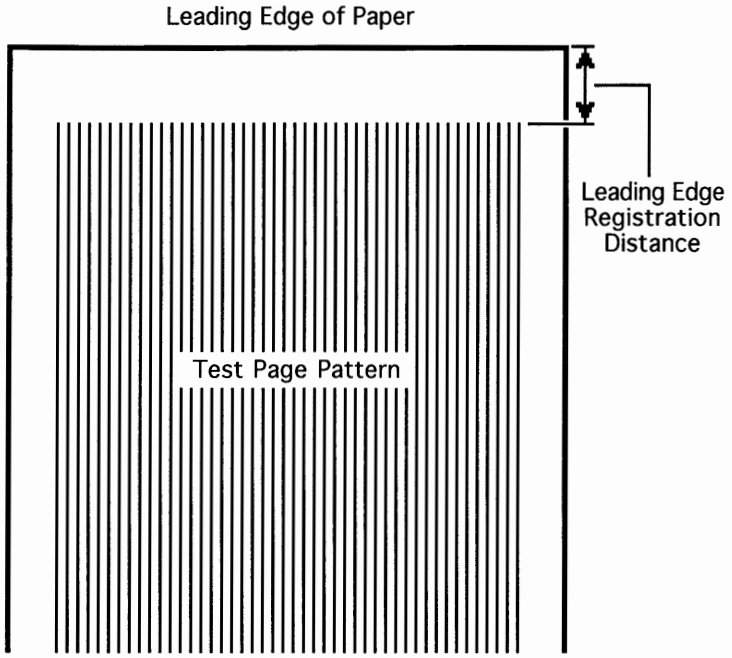


Locate the capacitor on the DC controller board.

Carefully **jumper** the two wires at the base of the capacitor using some kind of conductive tool.

Caution: Take care not to damage the board tracings or the components neighboring the capacitor.

Note: There are many different tools that can be used to discharge the capacitor: a flat blade screwdriver, paper clip, or aluminum foil doubled over. The tool illustrated is a length of lead solder. It has the advantage of being ductile and is less apt to damage the controller board.



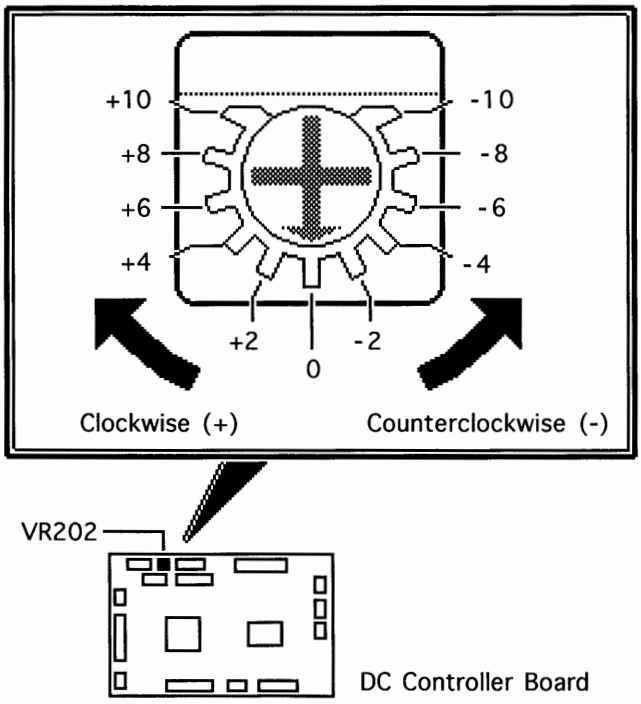
First:

Remove Rear Panel
Remove Top Cover
Switch Off Printer

Note: Perform this procedure whenever you replace the DC controller board, paper pickup block, or the laser/scanner assembly.

The DC controller board calculates registration based on input from registration paper sensor PS602 (see "Sensing System Theory" in Basics) and adjustments made to varistor VR202 on the DC controller board.

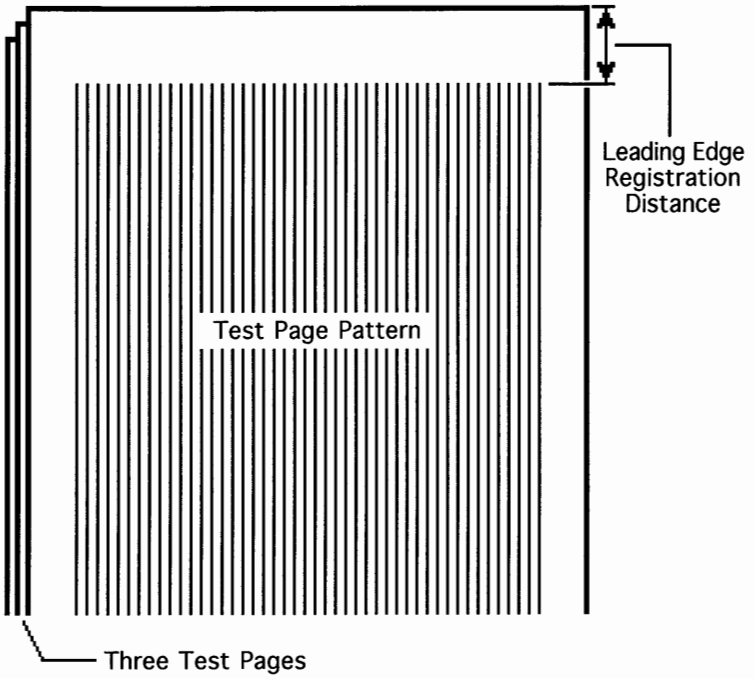
Optimum leading edge registration distance is 2 mm.



Using a jeweler's screwdriver, **reset** VR202 on the DC controller board to "0."

Switch on the printer and **wait** for the printer to warm up.

Press the service test page button three times to make three service test pages.



Measure the distance from the top of each page to the edge of the printed test page pattern.

Calculate the average distance by adding the three measurements and dividing by three.

LaserWriter Pro Adjustments - Registration Adjustment
Do Manuals Chapters ? « 4 of 4

(+) Clockwise
(Avg. distance < 2.0 mm)

Difference (mm)	VR202 Setting
+3.02	+10
+2.71	+9
+2.41	+8
+2.11	+7
+1.81	+6
+1.51	+5
+1.21	+4
+0.90	+3
+0.60	+2
+0.30	+1

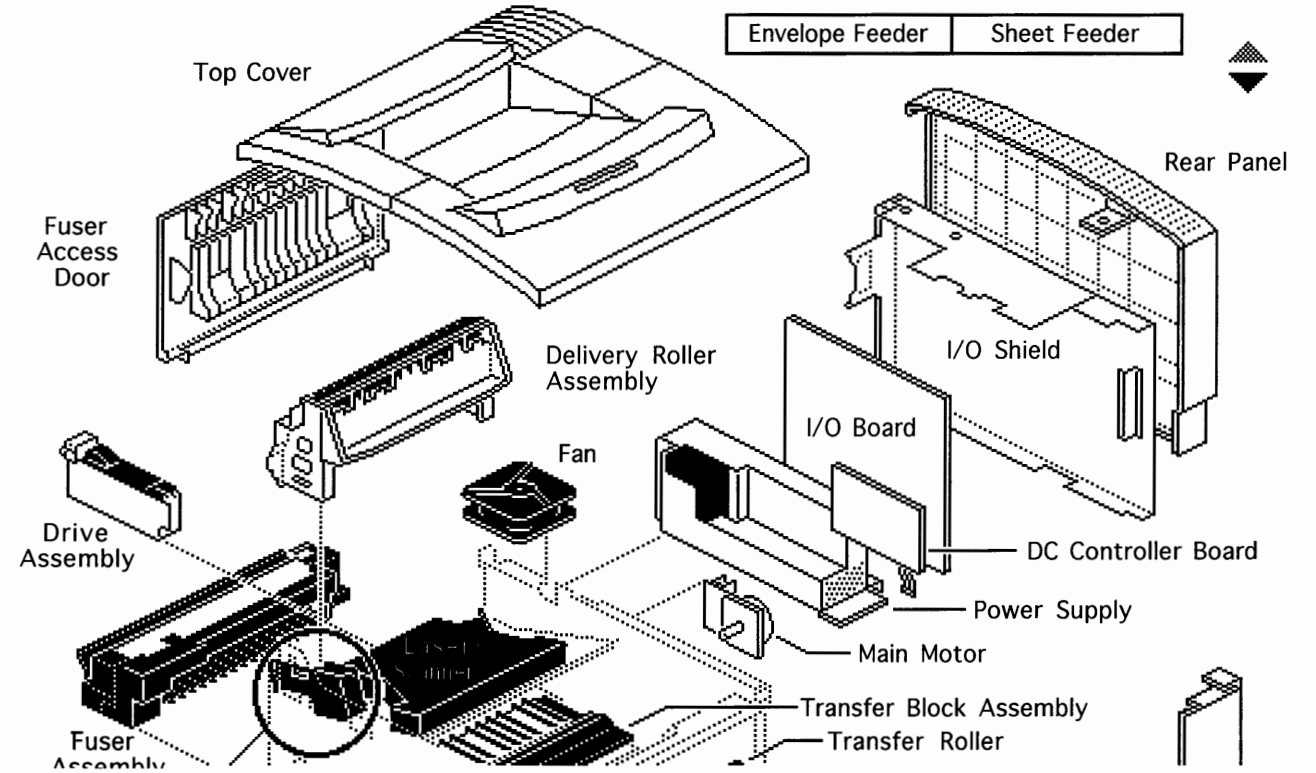
(-) Counterclockwise
(Avg. distance > 2.0 mm)

Difference (mm)	VR202 Setting
-.30	-1
-.60	-2
-.90	-3
-1.21	-4
-1.51	-5
-1.81	-6
-2.11	-7
-2.41	-8
-2.71	-9
-3.02	-10

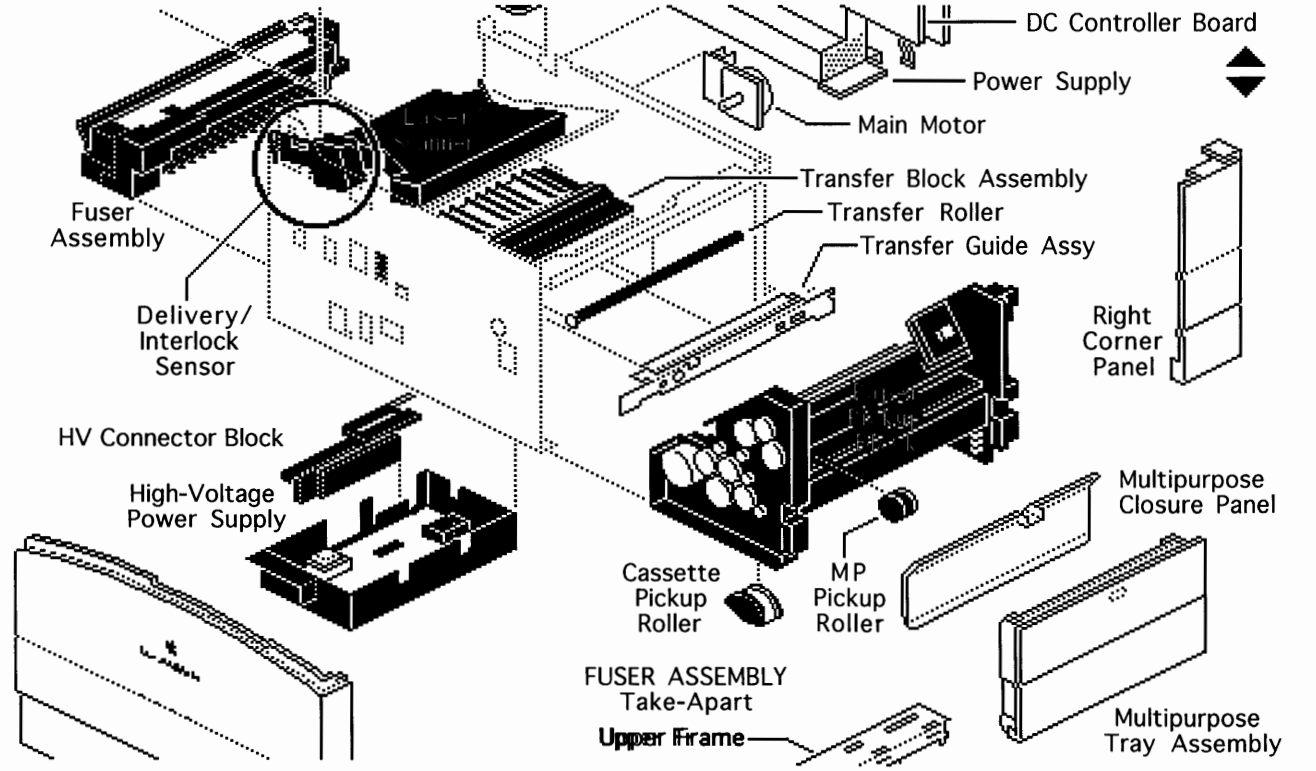
Adjust VR202 so that the average value becomes 2.0 mm (see the table to the left).

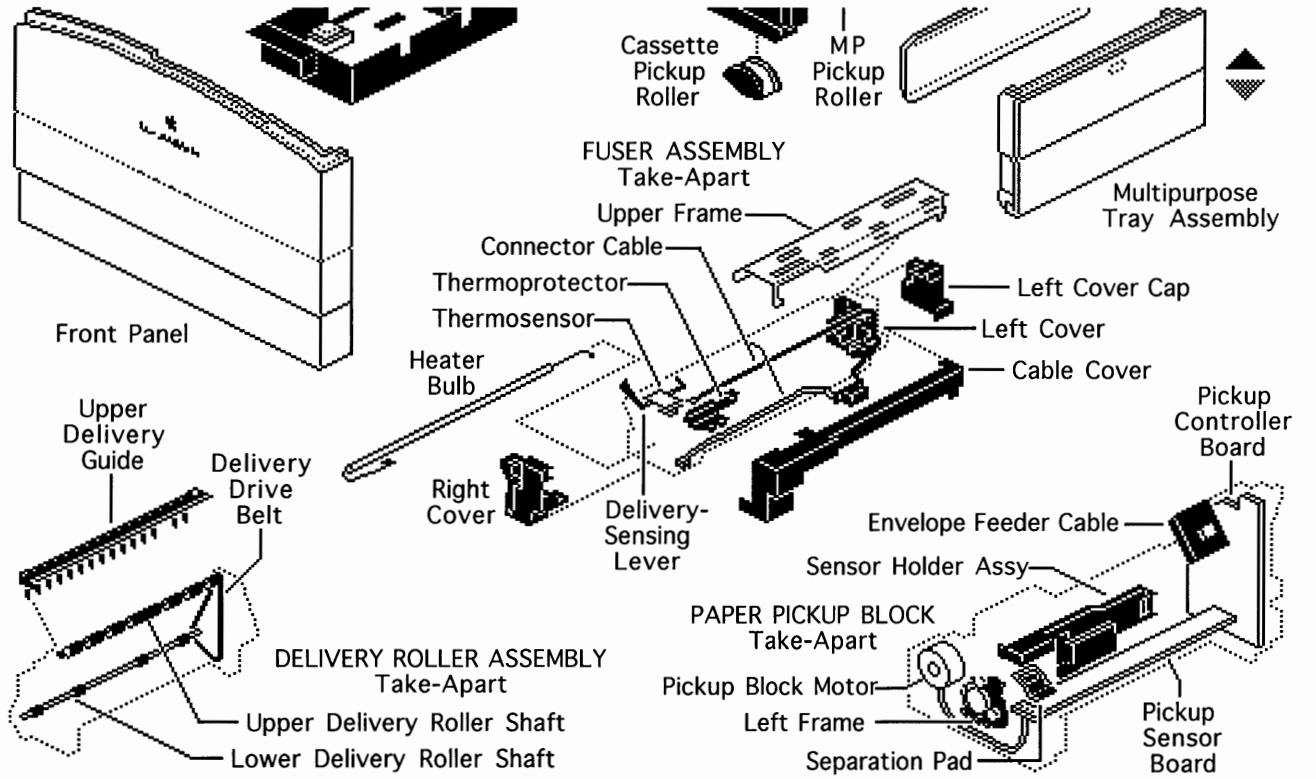
Note: For example, if your average distance is 2.6 mm, the difference is 0.6 mm and you should set VR202 to a setting of +2.

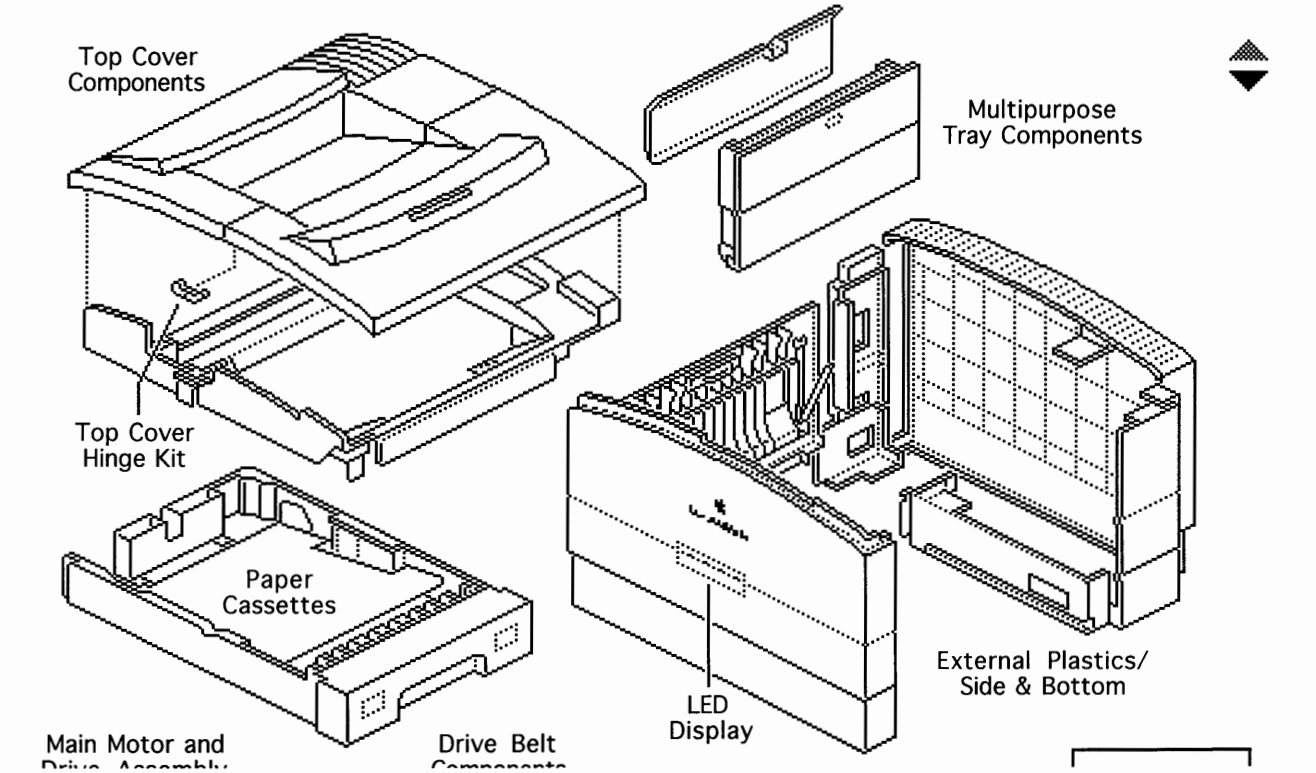
Print three more test pages. If the average registration distance is not 2.0 mm, repeat this procedure.



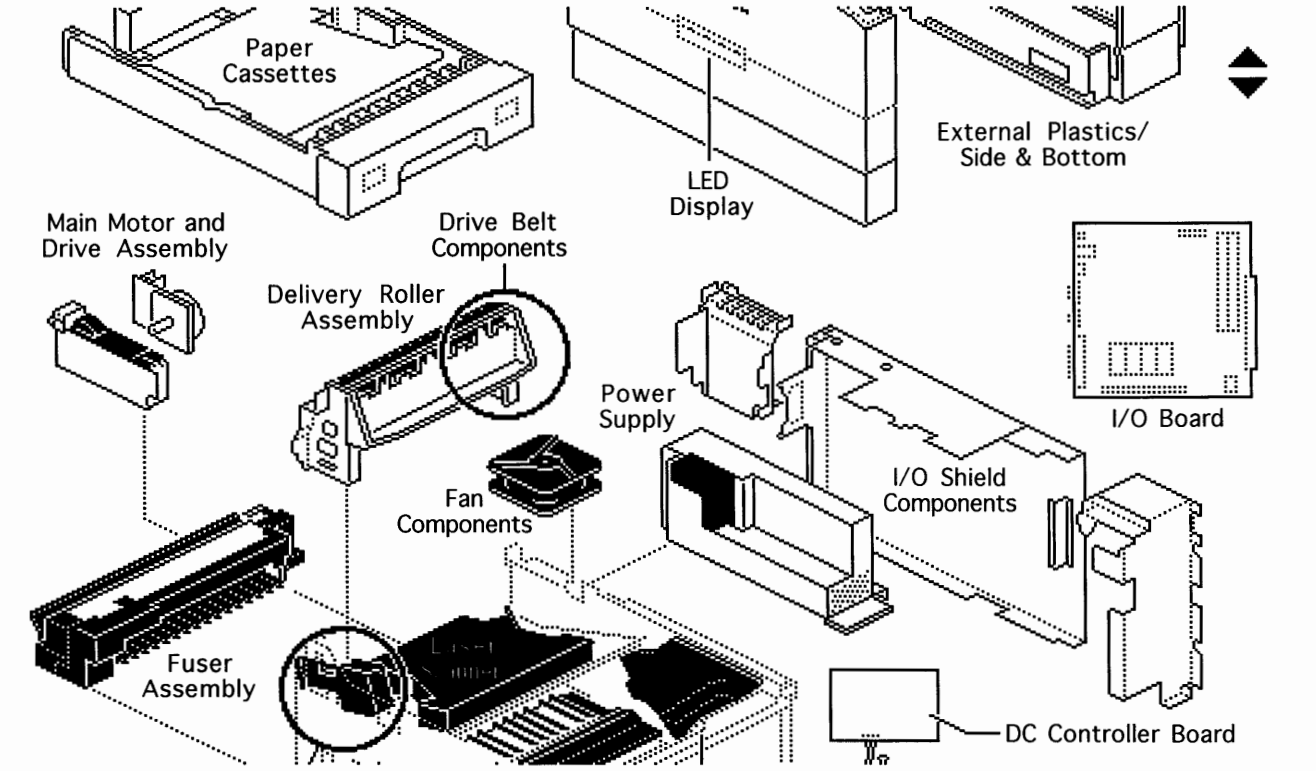
LaserWriter Pro Take Apart - By Exploded View
Do Manuals Chapters ? «

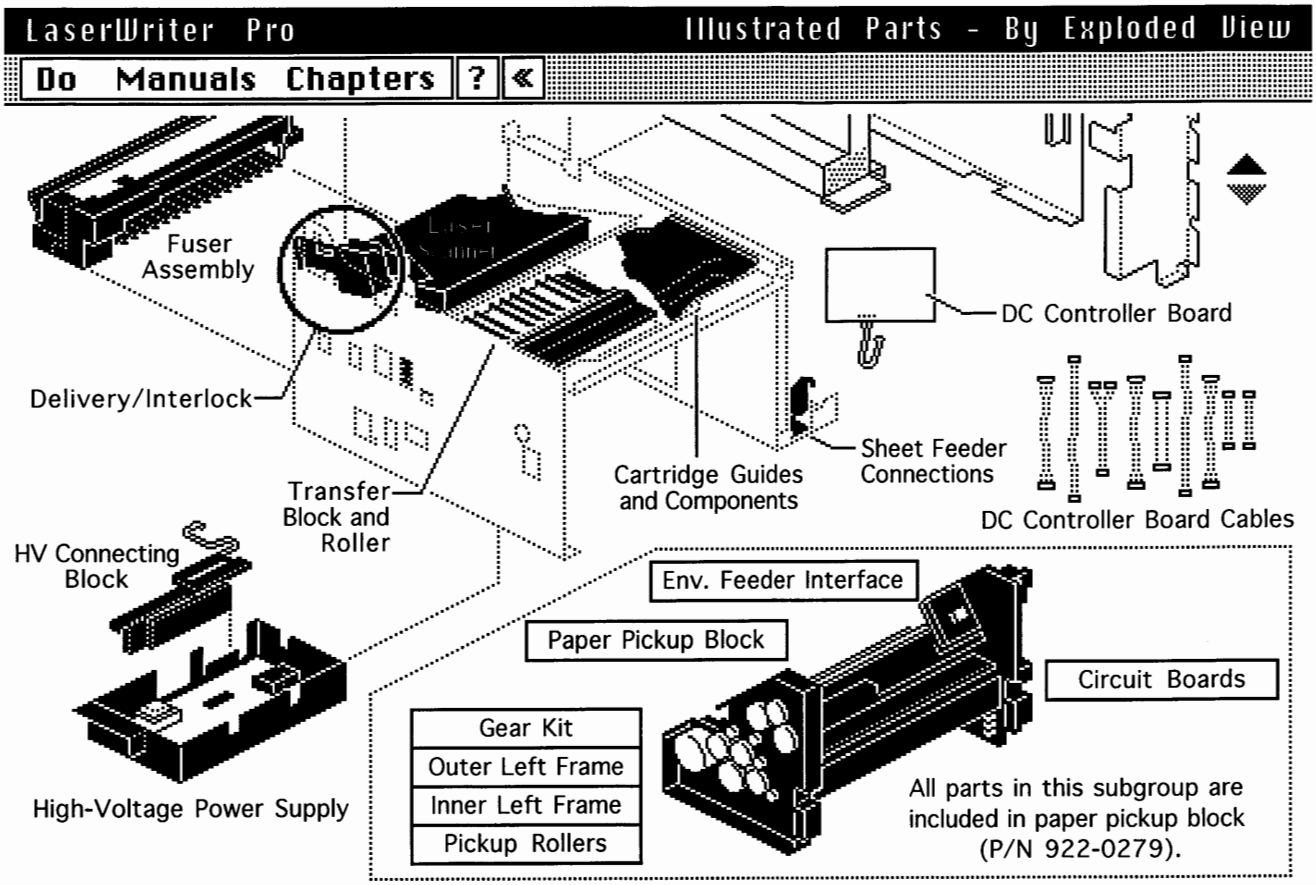


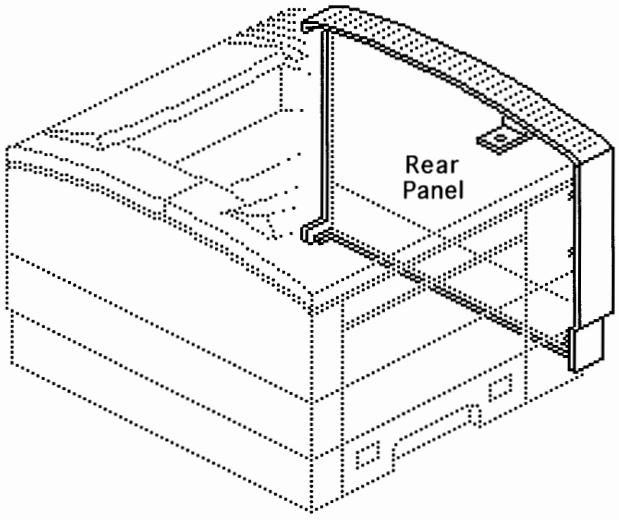

Cassette Pickup Roller
MP Pickup Roller
FUSER ASSEMBLY Take-Apart
Upper Frame
Connector Cable
Thermoprotector
Thermosensor
Heater Bulb
Multipurpose Tray Assembly
Left Cover Cap
Left Cover
Cable Cover
Front Panel
Upper Delivery Guide
Delivery Drive Belt
Right Cover
Delivery-Sensing Lever
Pickup Controller Board
Envelope Feeder Cable
Sensor Holder Assy
PAPER PICKUP BLOCK Take-Apart
DELIVERY ROLLER ASSEMBLY Take-Apart
Pickup Block Motor
Left Frame
Upper Delivery Roller Shaft
Lower Delivery Roller Shaft
Separation Pad
Pickup Sensor Board



LaserWriter Pro Illustrated Parts - By Exploded View
Do Manuals Chapters ? «



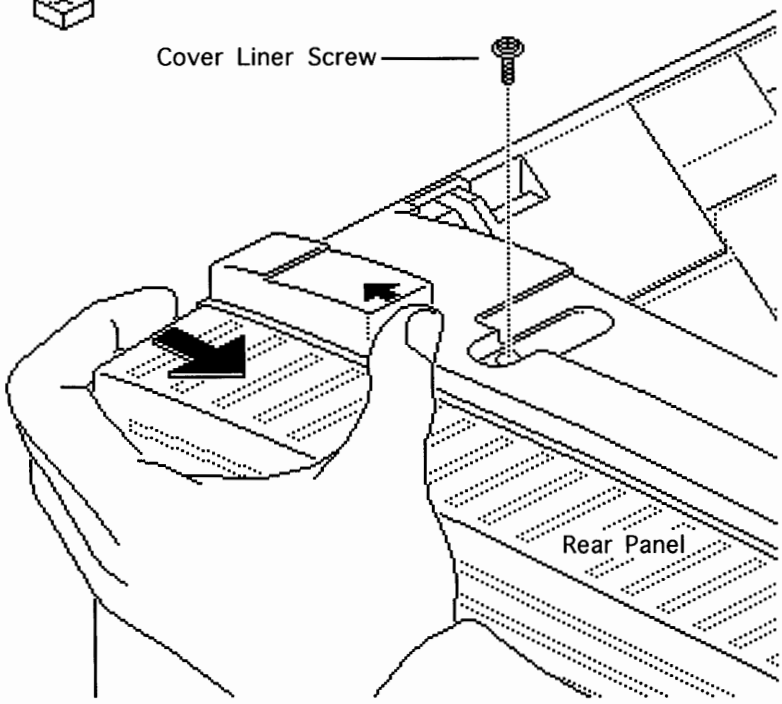

LaserWriter Pro
Illustrated Parts - By Exploded View
Do
Manuals
Chapters
?
«
Fuser Assembly
Delivery/Interlock
Transfer Block and Roller
HV Connecting Block
High-Voltage Power Supply
Cartridge Guides and Components
Sheet Feeder Connections
DC Controller Board
DC Controller Board Cables
Env. Feeder Interface
Paper Pickup Block
Circuit Boards
Gear Kit
Outer Left Frame
Inner Left Frame
Pickup Rollers
All parts in this subgroup are included in paper pickup block (P/N 922-0279).



First:

No First Steps Required

Overview



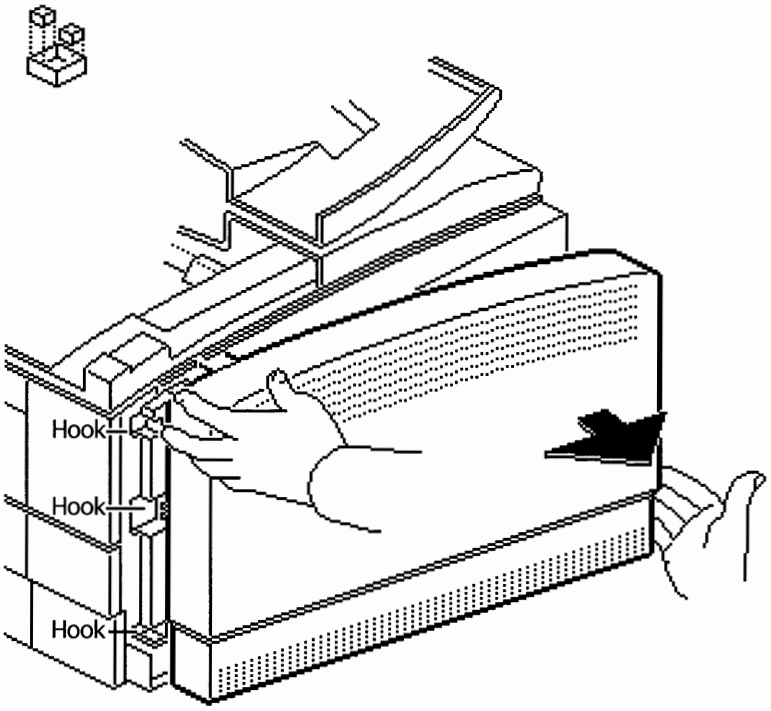
Open the toner access cover and **remove** the cover liner screw.

Grip the upper corner of the rear panel with your left hand as shown and **squeeze** so that the rear panel shifts about 1/8 inch.

Note: This action helps dislodge the two positioning pins on the I/O-label end of the rear panel.

LaserWriter Pro — Take Apart - Rear Panel

Do Manuals Chapters ? « 3 of 3

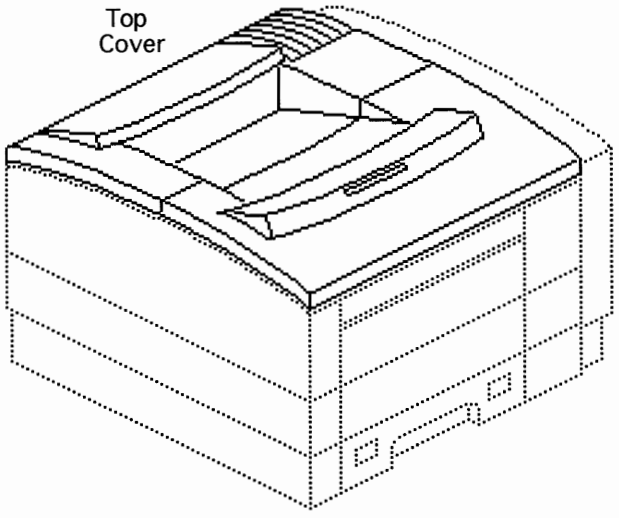


Place your right fingertips on the I/O-label end of the rear panel, **swing** the panel outwards, and **remove** the panel from the printer.

Replacement Note: Angle the three hooks in the rear panel into the openings in the right rear panel. Then swing the rear panel closed, being sure to slide the tab beneath the cover liner. If the cover liner screw hole does not line up, gently strike the I/O-label end of the panel with the base of your palm to position the panel properly.

LaserWriter Pro — Take Apart - Top Cover

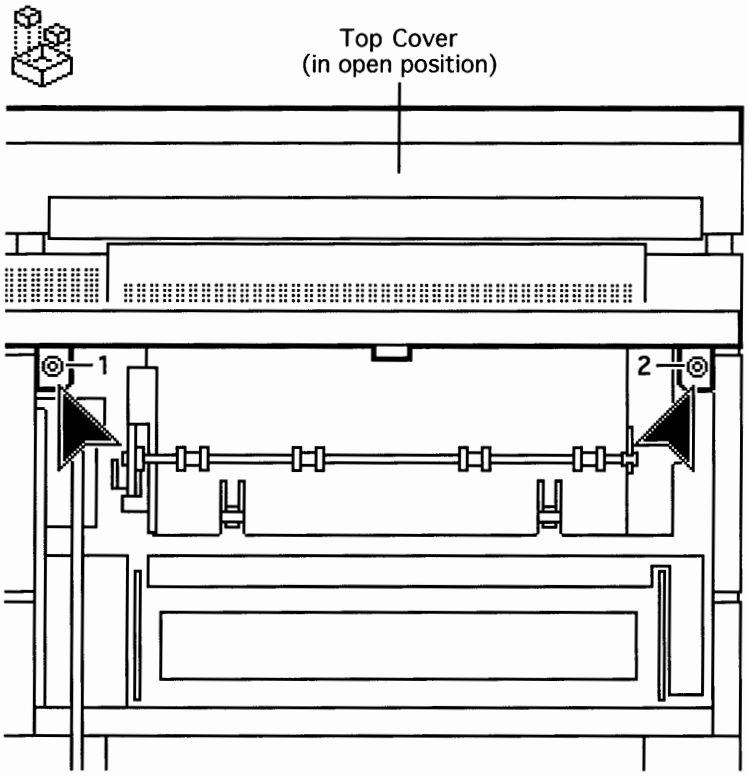
Do Manuals Chapters ? « 1 of 6



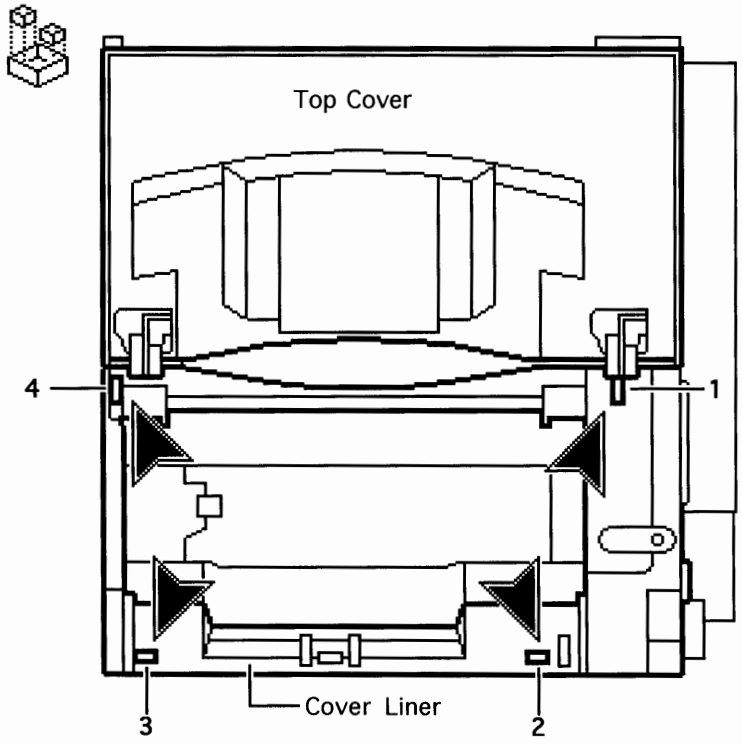
First:

Remove Rear Panel
Open Multipurpose Tray

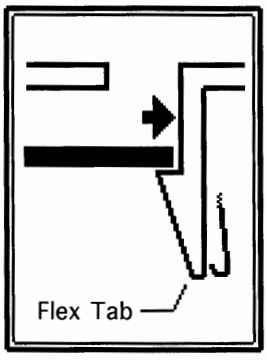
Note: The cover liner comes off with the removal of the top cover.



Remove the two screws inside the fuser access door.

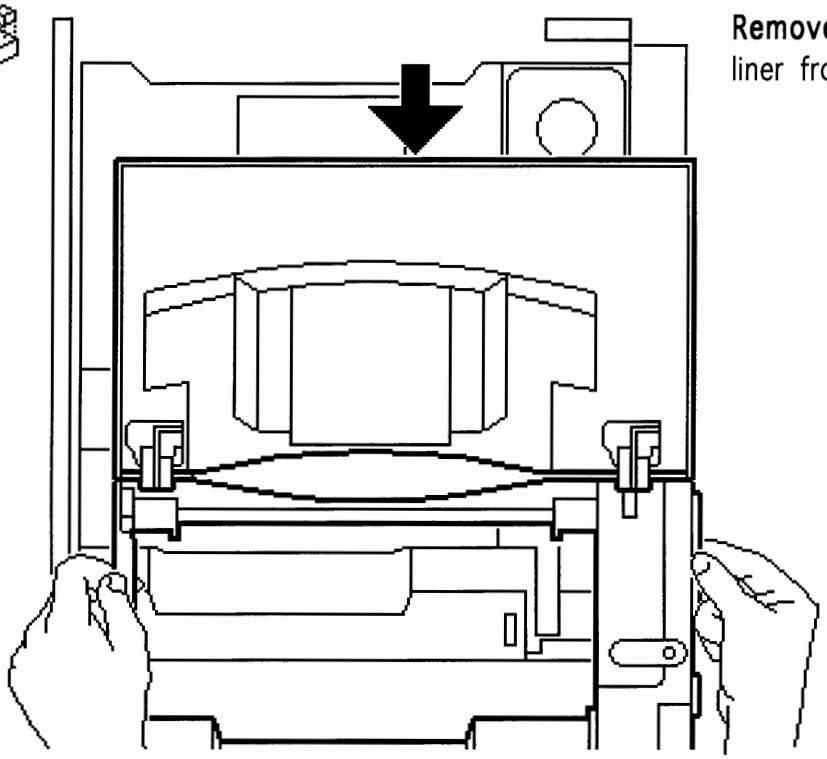


Using the hook end of the green cleaning brush, **release** the four flex tabs in the order indicated and **separate** the liner from the printer.



LaserWriter Pro Take Apart - Top Cover

Do Manuals Chapters ? « 4 of 6



Remove the top cover and cover liner from the printer.

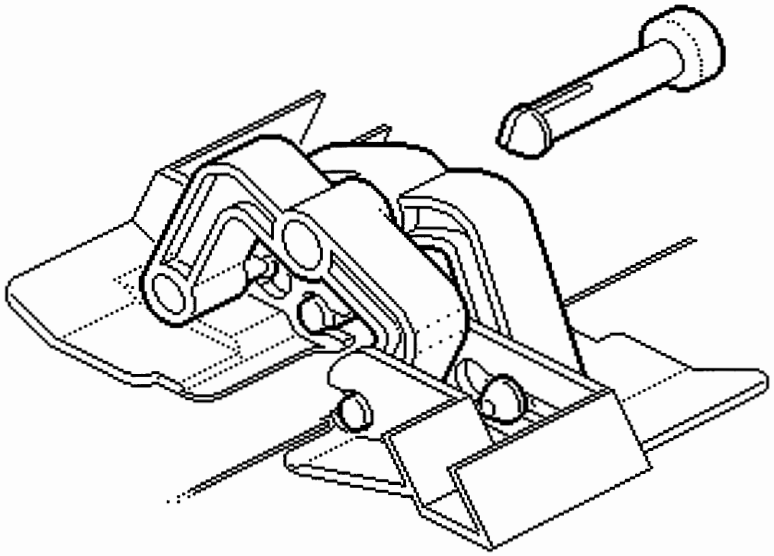
LaserWriter Pro Take Apart - Top Cover

Do Manuals Chapters ? « 5 of 6

Replacement Note: First replace the cover liner, making sure that all tabs engage fully. With the cover folded open, engage the two hooks into the liner and lower the cover until it is nearly flush with the delivery roller assembly.

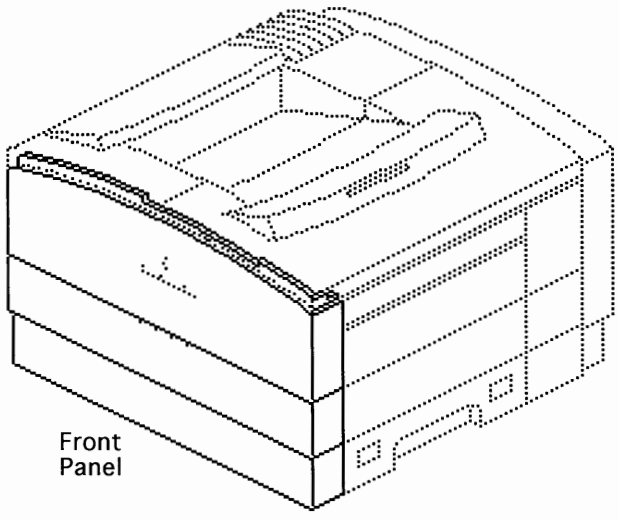
Reach through and gently press the delivery surface until the levelling pin pops into place. See "Show Me" movie. Then replace the two screws inside the fuser access door.

Show Me



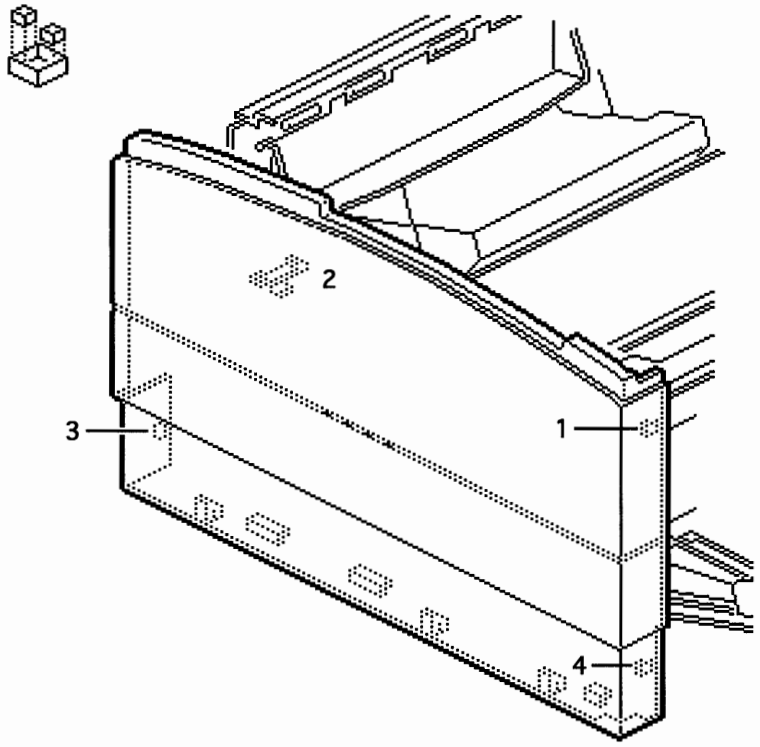
Replacement Note: The two hinge assemblies are identical and are fully interchangeable. The components are also universal (that is, each of the four arms, four housings, and two pins are identical.)

The illustration shows the hinge assembly in its correct intact state with the pin exploded out for clarity.

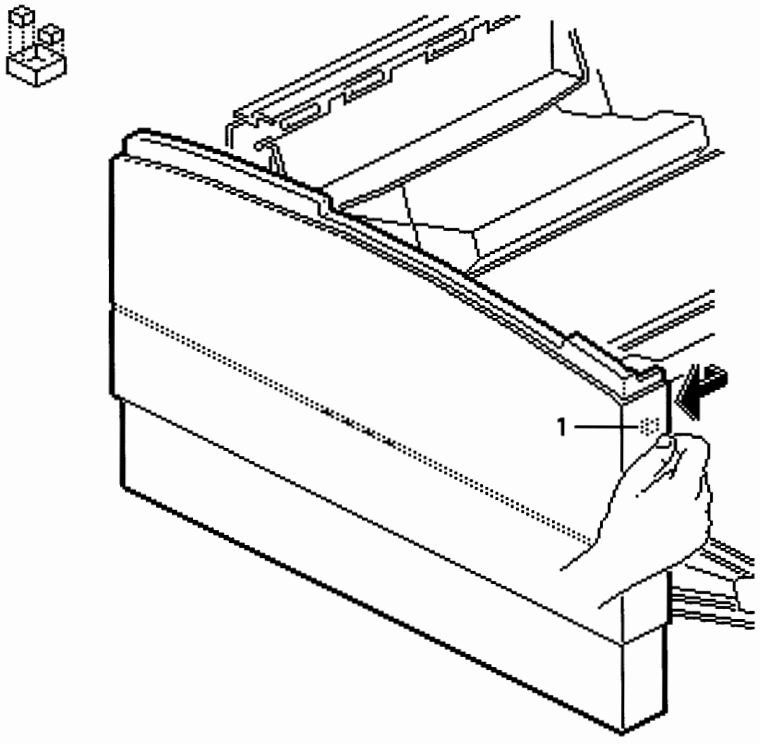


First:

Remove Rear Panel
Remove Top Cover
Open Multipurpose Tray

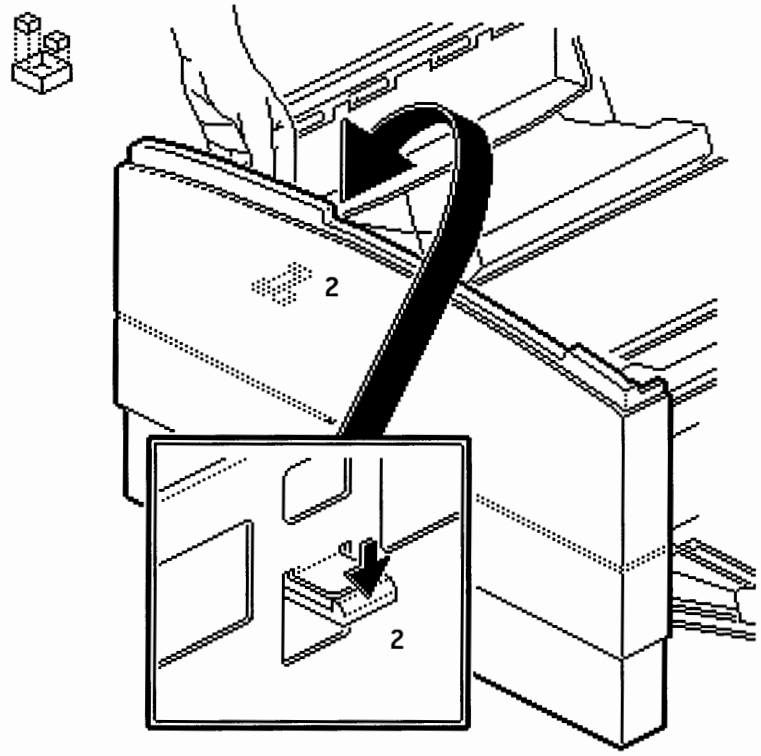


Note: The front panel is secured to the printer by three fixed wrap-around tabs (**1**, **3**, **4**), one flex tab (**2**), and six positioning tabs and blocks along the base. The following cards describe the order of tab release.



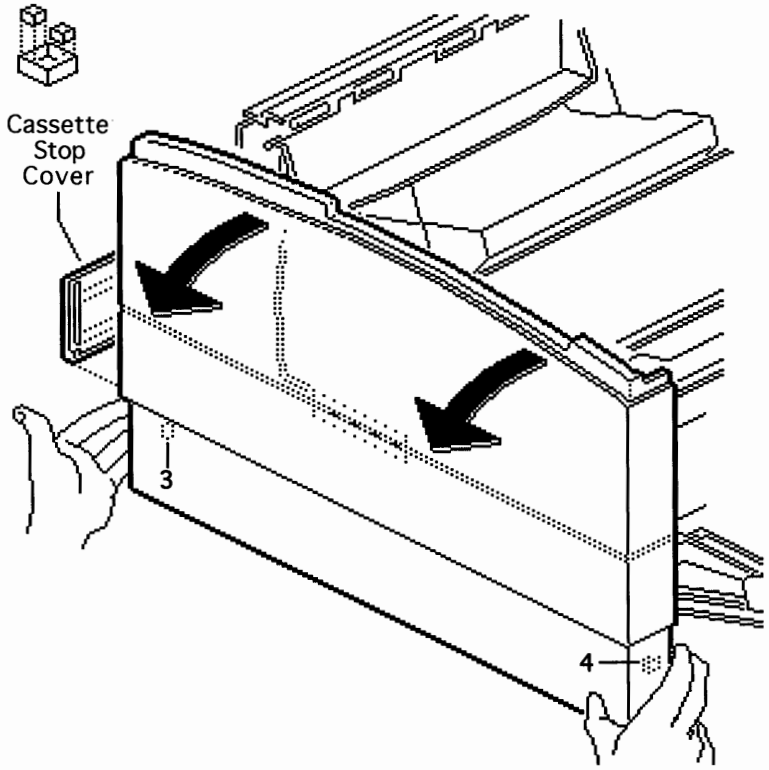
Releasing Tab 1

Grasp the front panel with your fingertips and **pull** it outward slightly to release the upper fixed tab on the right side.



Releasing Tab 2

Reach behind the front panel and **release** the flex tab that secures the front panel to the chassis.



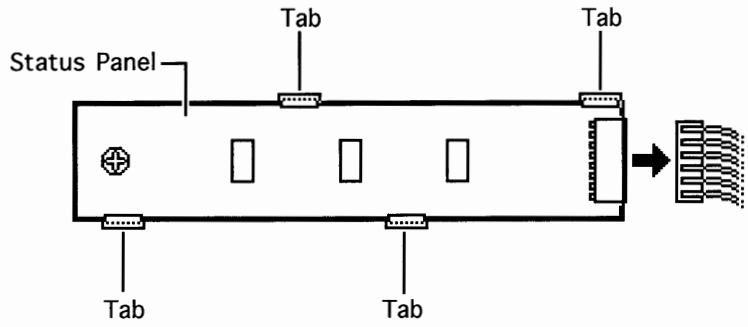
Releasing Tabs 3 and 4

Remove the cassette stop cover.

Grip the bottom-left and bottom-right corners with your fingertips, **release** tabs 3 and 4, and **swing** the front panel downward.

Note: The status panel will still connect the chassis to the front panel.

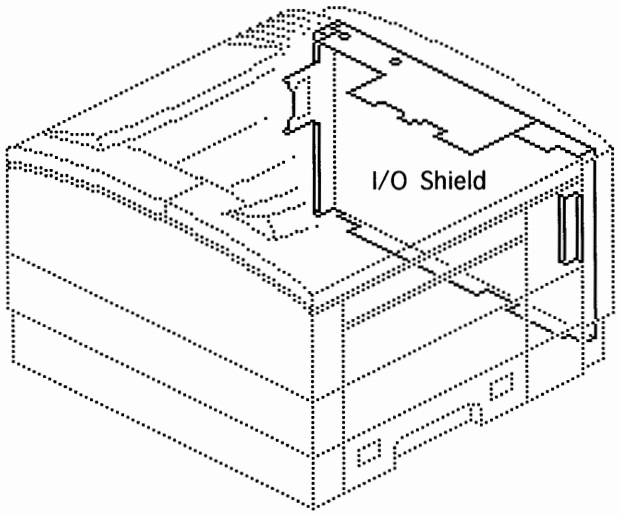
Disconnect the cable from the status panel connector and **remove** the front panel.

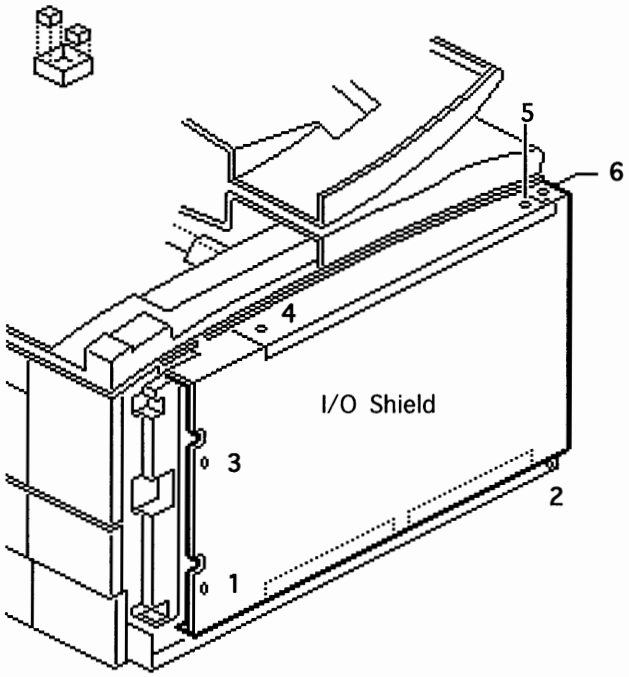


Note: If you need to monitor LEDs after you remove the panel, don't disconnect the connector. Simply release the tabs and lift off the whole status panel.

First:

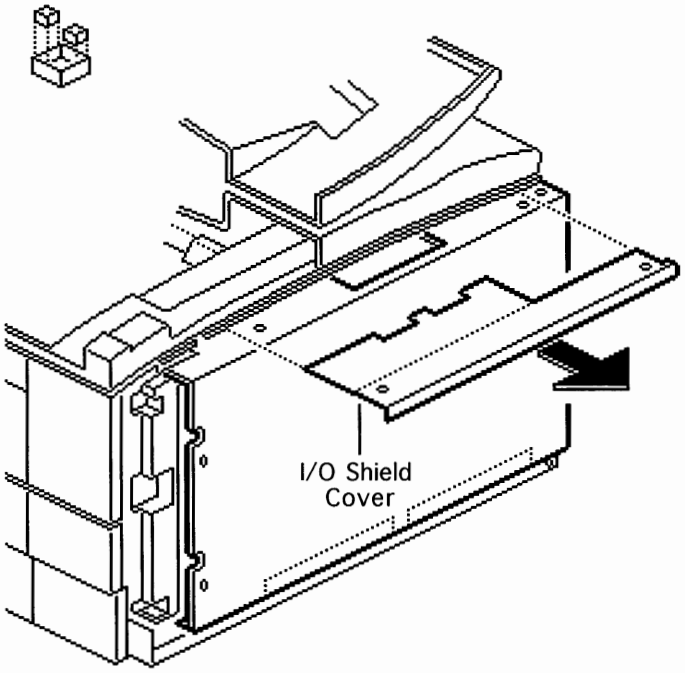
Remove Rear Panel





Remove the six screws in the order shown.

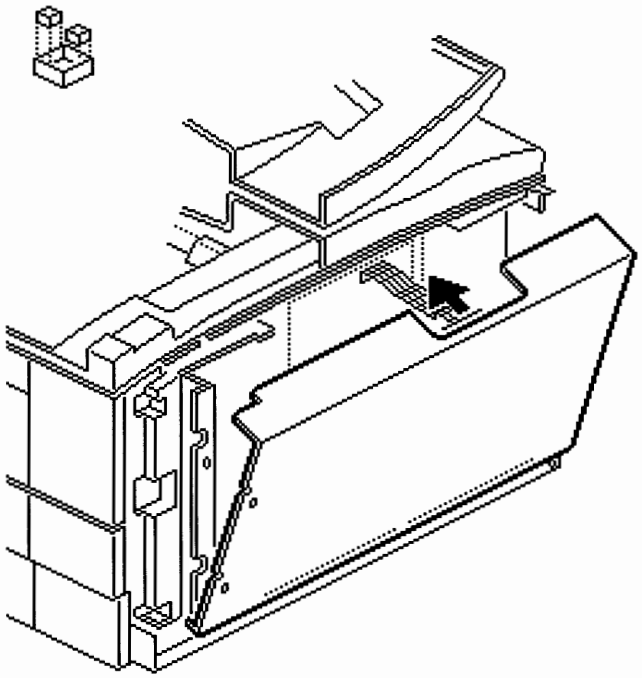
Replacement Note: Tighten screw 1 first and screw 2 second, then tighten the remaining screws.



Slide out the I/O shield cover plate.

LaserWriter Pro — Take Apart - I/O Shield

Do Manuals Chapters ? « 4 of 5

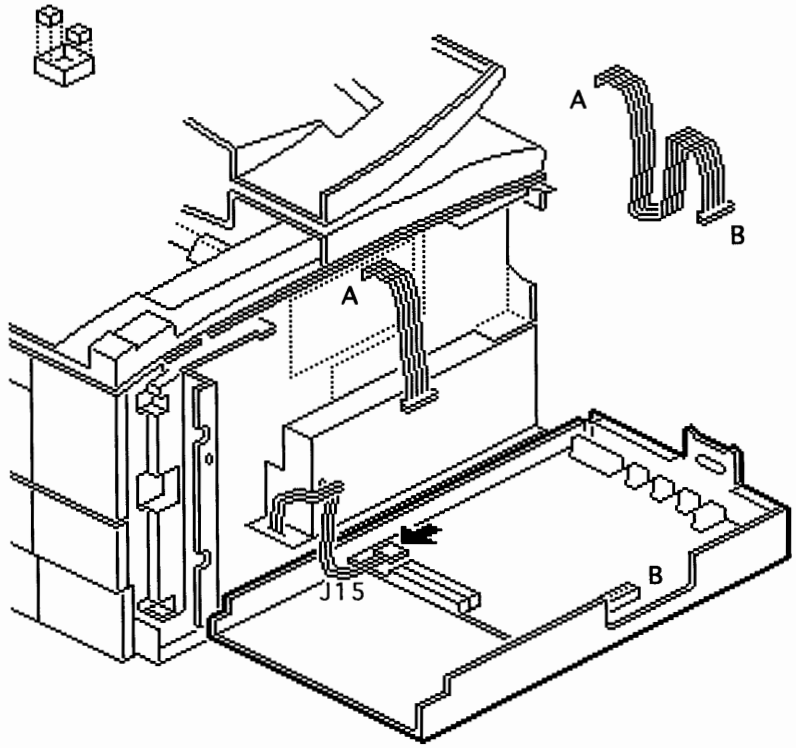


Swing the I/O shield downward as far as it will go.

Disconnect the engine interface cable from the I/O board.

LaserWriter Pro — Take Apart - I/O Shield

Do Manuals Chapters ? « 5 of 5

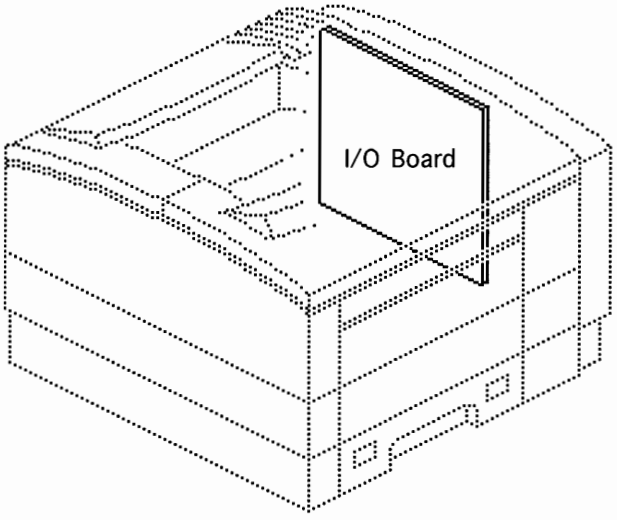


Swing the I/O shield all the way down and **rest** it on your work surface.

Note: If you need to maintain I/O board connectivity while troubleshooting the LaserWriter Pro, remove the printer interface cable and temporarily install a Quadra 900/950 floppy drive 20-pin cable between A and B. This cable has the extra length needed for the I/O shield to rest flat on the work surface.

Disconnect the power supply cable from connector J15 on the I/O board.

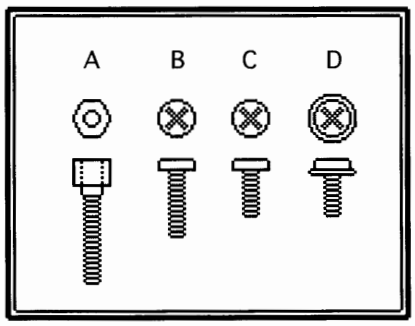
Replacement Note: The grounds at the bottom of the shield should rest on top of the chassis flange.



First:

Remove Rear Panel
Remove I/O Shield

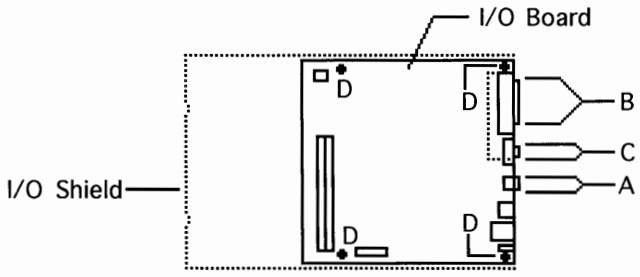
Note: This topic covers removal and replacement of a defective I/O board. Do not detach the I/O board from the shield if you are performing an upgrade. See Additional Procedures for I/O board upgrade information.



Remove the screws that secure the I/O connectors to the I/O shield flange.

Note: Screw C goes to the Ethernet connector and is not present on the LaserWriter Pro 600 I/O board.

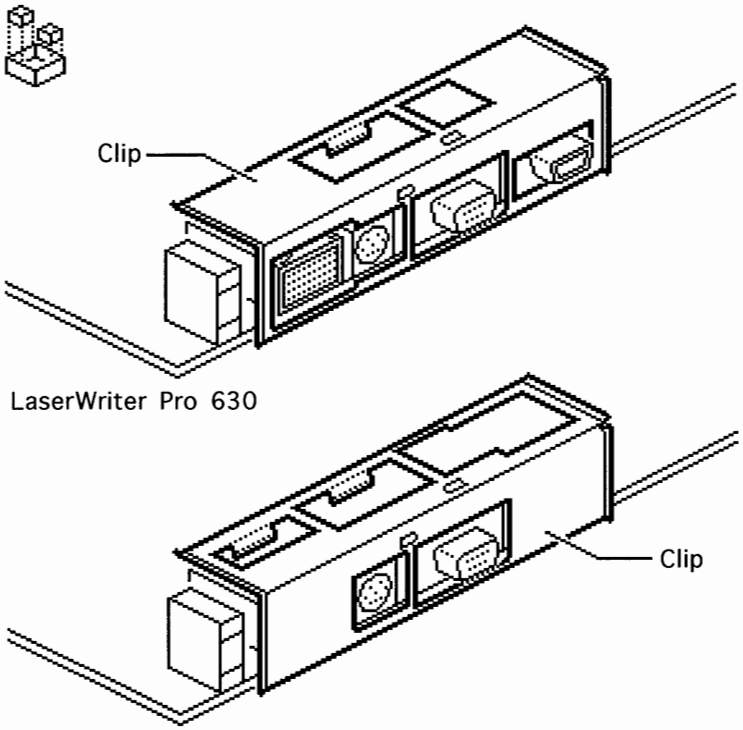
Replacement Note: Make sure that you replace the screws like for like.



Remove the four screws (**D**) that secure the board to the shield and **lift** the board off the shield.

LaserWriter Pro — Take Apart - I/O Board

Do Manuals Chapters ? « 3 of 3



LaserWriter Pro 630

LaserWriter Pro 600

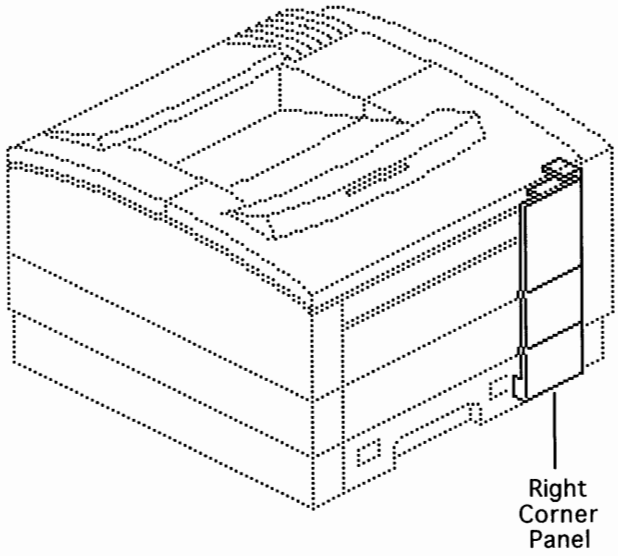
Remove the sheet metal clip from the connector end of the I/O board.

Replacement Note: This clip fits both the LaserWriter Pro 600 and 630 boards. For the LaserWriter Pro 630 board, install the clip so that all four I/O connectors line up with the openings in the sheet metal. For the LaserWriter Pro 600 board, which has no SCSI or Ethernet connector, you must install the clip so that it covers the SCSI and Ethernet slots.

Note: Remove the SIMMs before returning a defective I/O board to Apple.

LaserWriter Pro — Take Apart - Right Corner Panel

Do Manuals Chapters ? « 1 of 2



First:

Remove Rear Panel
Remove Top Cover

LaserWriter Pro — Take Apart - Right Corner Panel

Do Manuals Chapters ? « 2 of 2

Remove the two screws that secure the right corner panel to the chassis.

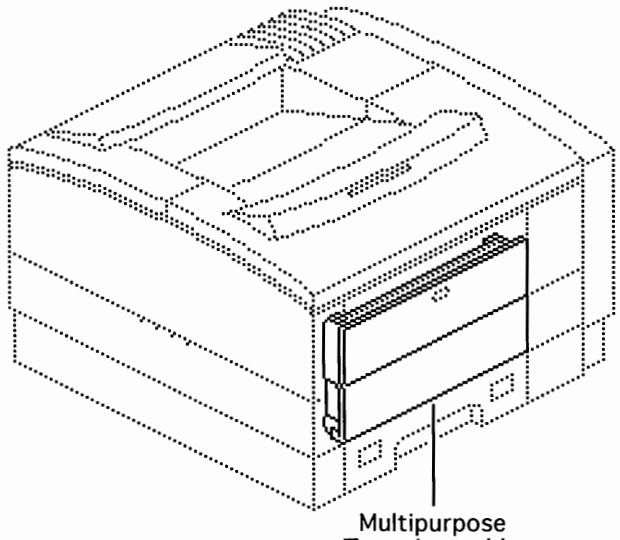
Reach into the access hole, **release** the hidden flex tab, and **remove** the right corner panel from the printer.

Note: The QuickTime photo shows the access to the flex tab.

Photo

LaserWriter Pro — Take Apart - Multipurpose Tray Assembly

Do Manuals Chapters ? « 1 of 2



First:

Remove Rear Panel
Remove Top Cover
Remove Right Corner Panel
Remove Front Panel

Note: The multipurpose tray assembly comprises three parts:

- Multipurpose Tray
- Multipurpose Tray Extension
- Multipurpose Tray Cover

Caution: Make sure you have removed the cassette tray from the printer.

Push on the rounded recess at the top of the tray cover and **open** the multipurpose tray.

Note: Sliding pin connections secure the multipurpose tray to the cover.

Bend the edge guide outward and **release** the left pin and then the right pin. **Tilt** the tray up into its normal closed position.

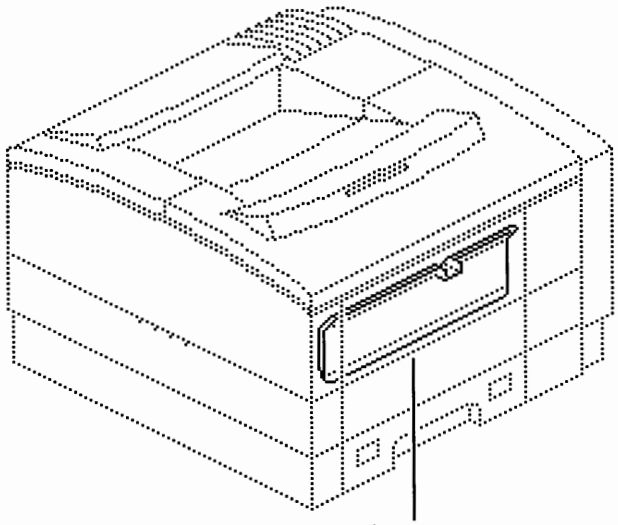
Note: The tray cover and extension guide should now be in an open position. (Click "Photo" below.)

Photo

Grasp the sides of the cover and **bend** the center with your thumbs until the cover pops loose from its pin hinges. **Remove** the multipurpose tray cover from the printer.

Remove the two screws and **lift off** the lateral brace.

Open the multipurpose tray until it angles downward and **slide** the tray off the holding pins.



Overview

First:

No First Steps Required

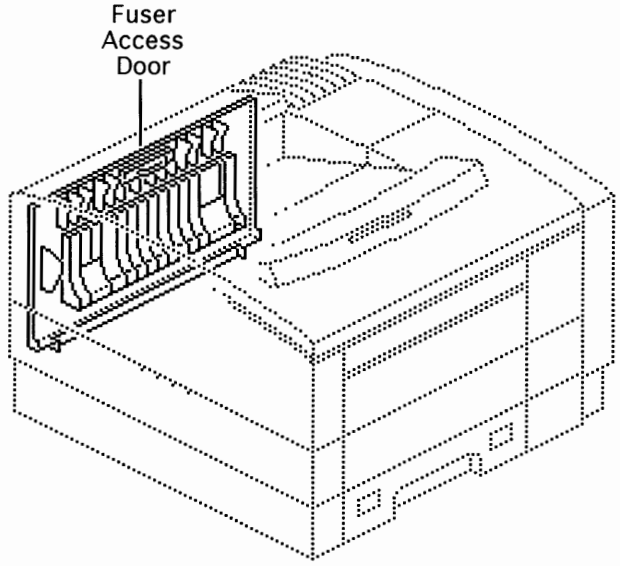
Note: The user removes this panel prior to installing the envelope feeder.

Open the mulitpurpose tray cover.

Grasp the squared notch at the top of the panel between your thumb and forefinger, **press down** slightly, and **lift out** the panel.

LaserWriter Pro — Take Apart - Fuser Access Door

Do Manuals Chapters ? « 1 of 3

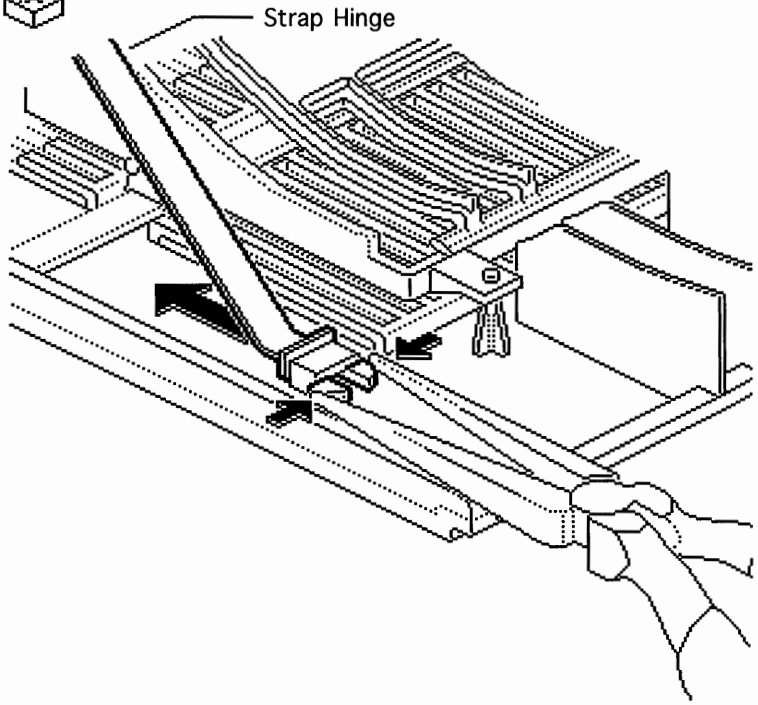


First:

No First Steps Required

LaserWriter Pro — Take Apart - Fuser Access Door

Do Manuals Chapters ? « 2 of 3

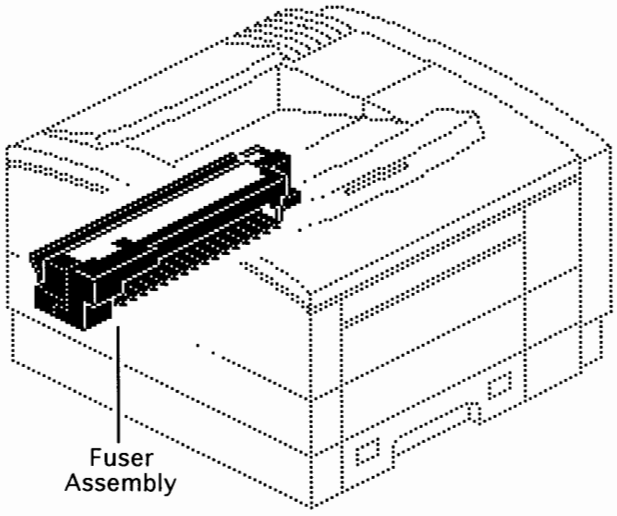


Open the fuser access door.

Using needlenose pliers, **squeeze** the fishhook end of the strap hinge and **remove** it from its mount.

Grasp the sides of the door and **bend** the center with your thumbs until the door pops loose from its pin hinges.

Photo



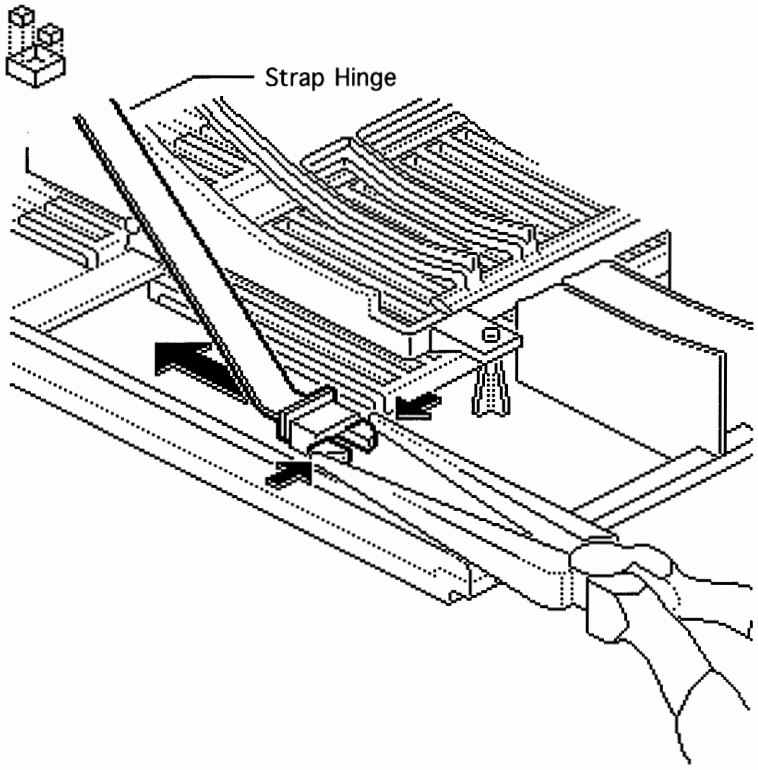
First:

No First Steps Required

Note: Refer to the following take-apart topics for further disassembly of the fuser assembly:

- Fuser Cable Cover
- Left Fuser Cover Cap
- Left Fuser Cover
- Fuser Connector Cable
- Fuser Thermoprotector
- Right Fuser Cover
- Fuser Heater Bulb
- Upper Fuser Frame
- Fuser Thermosensor
- Delivery-Sensing Lever

Note: Unless noted otherwise, left and right are defined by viewing the printer through the fuser door opening.



Open the fuser access door.

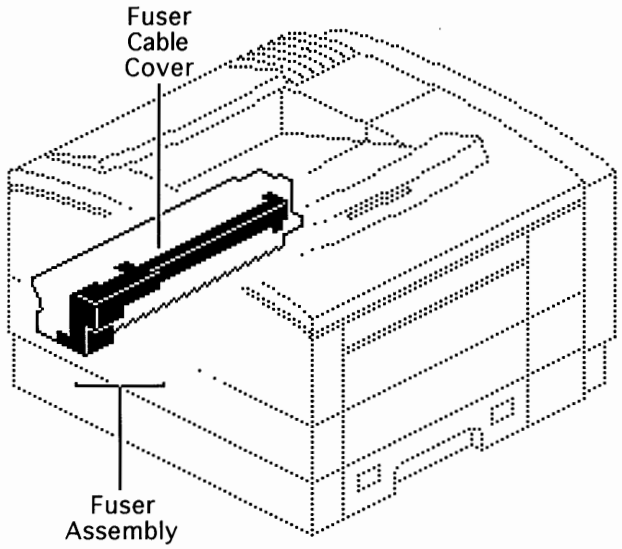
Using needlenose pliers, **squeeze** the fishhook end of the strap hinge and **remove** it from its mount.

Remove the two screws.

Raise the fuser slightly to clear the two positioning nibs, **press down** on the green jam-release arm, and **pull out** the fuser.

Note: There is a receptacle left of center on the rear face of the fuser assembly. The receptacle mates with the high-voltage power supply and may cause slight resistance when you are pulling out the fuser.

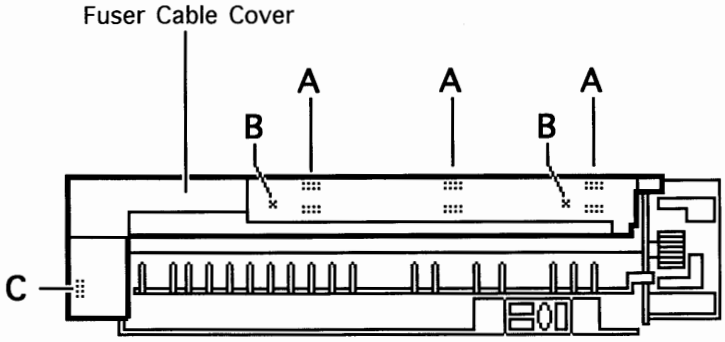
Please return the fuser assembly to Apple with the fuser rollers in jam-release mode (see "Fuser Roller Modes" in Additional Procedures).



First:

Remove Fuser Assembly

Note: The fuser cable cover is the black plastic cover on the intake side of the fuser assembly. The yellow caution label is on the surface of this cover.

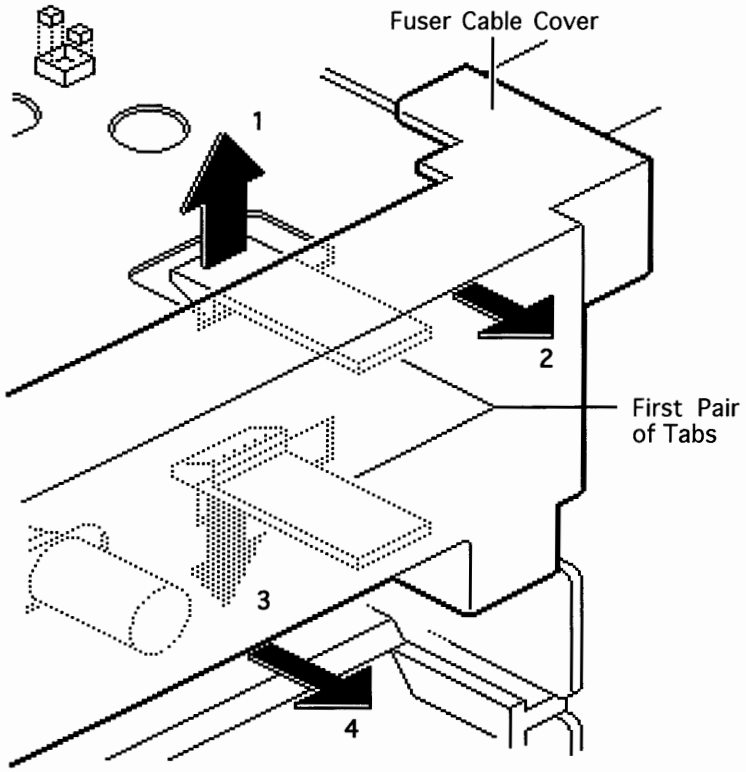


Note: The cable cover is secured to the fuser by three pairs of flex tabs (**A**) and two conical posts (**B**) hidden behind the yellow label, and by a single flex tab (**C**) to the left of the entrance guide.

Use a small flat-blade screwdriver to release the flex tabs. Start at the gear end of the fuser and work left.

LaserWriter Pro — Take Apart - Fuser Cable Cover

Do Manuals Chapters ? « 3 of 3

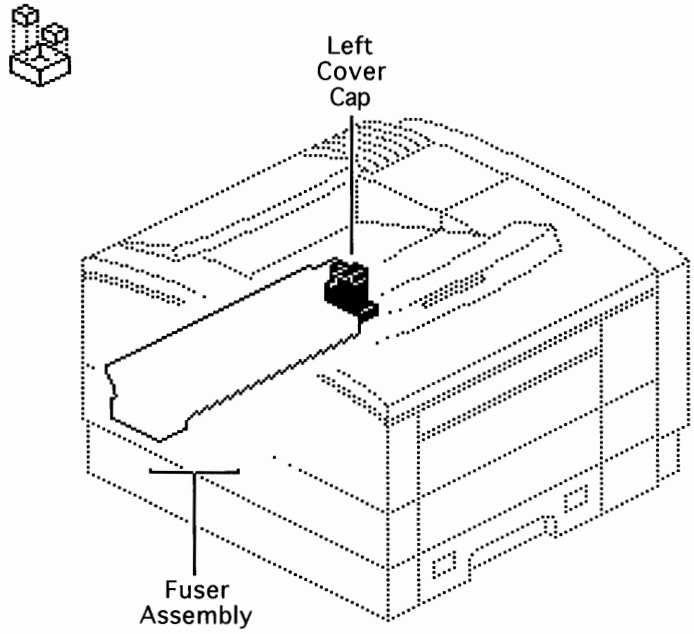


Release the upper of the first pair of tabs (1) and **pull** the cover out as far as it will go (2). Then **release** the bottom tab (3) and **pull** the cover farther off the fuser assembly (4).

Repeat this procedure for the next two pairs of flex tabs and **remove** the cover from the fuser.

LaserWriter Pro — Take Apart - Left Fuser Cover Cap

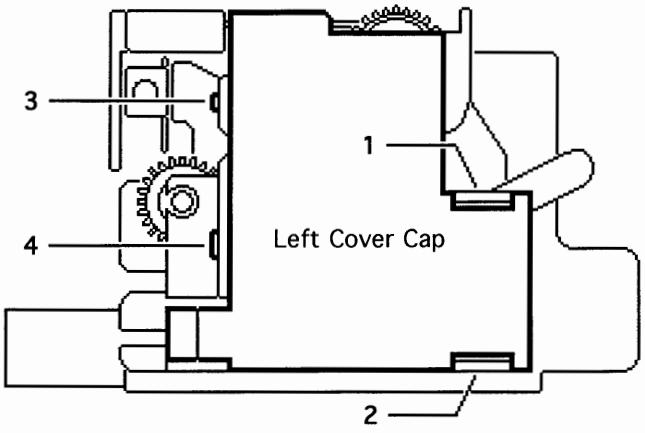
Do Manuals Chapters ? « 1 of 3



First:

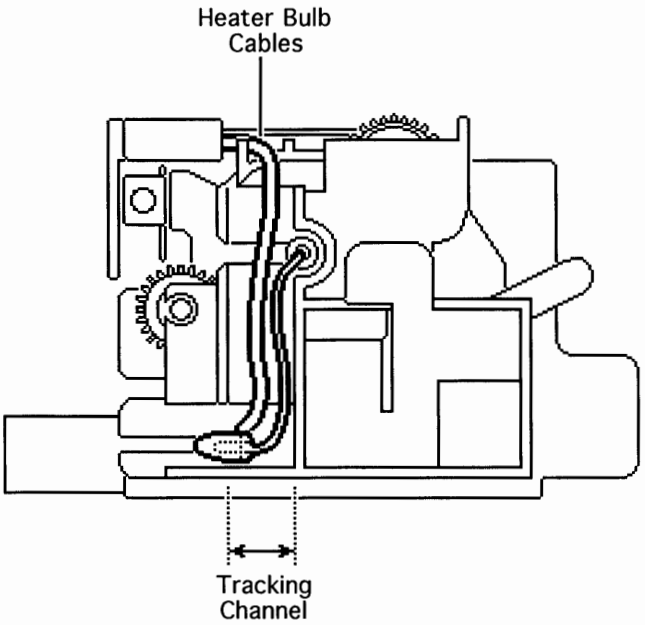
Remove Fuser Assembly

Note: The left fuser cover cap is the black plastic cap on the gear end of the fuser assembly.

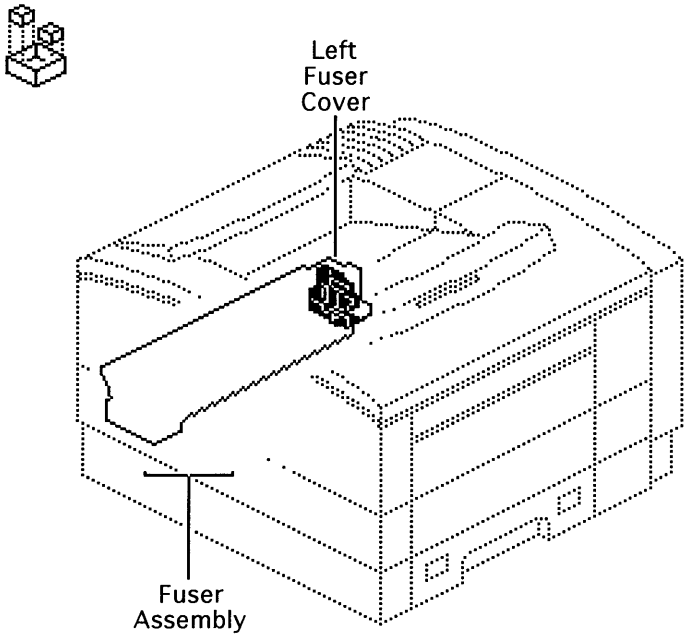


Release the two flex tabs (**1**, **2**) and **pull** the cap from the fuser as far as it will go.

Using a small flat-blade screwdriver, **unseat** the two fixed tabs (**3**, **4**) and **pull** the cap off the fuser assembly.



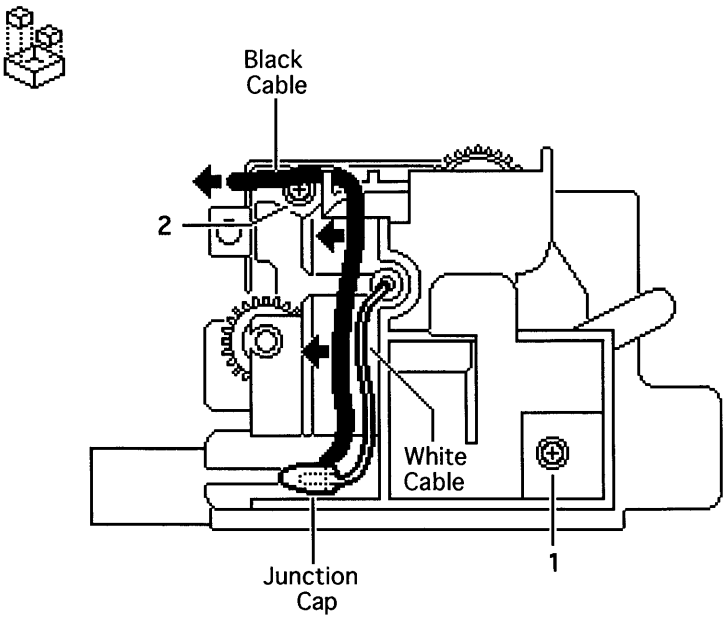
Replacement Note: Be sure to press the cables into the tracking channel in the left cover before you replace the cover cap.



First:

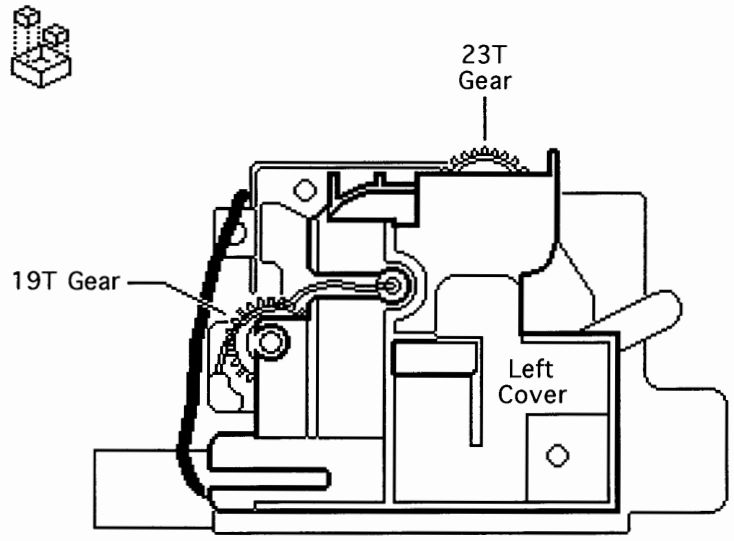
Remove Fuser Assembly
Remove Fuser Cable Cover
Remove Left Fuser Cover Cap

Note: The left fuser cover is the black plastic cover that sits beneath the cover cap on the gear end of the fuser assembly. The left fuser cover supports the end of the heater bulb and encloses the fuser gears.



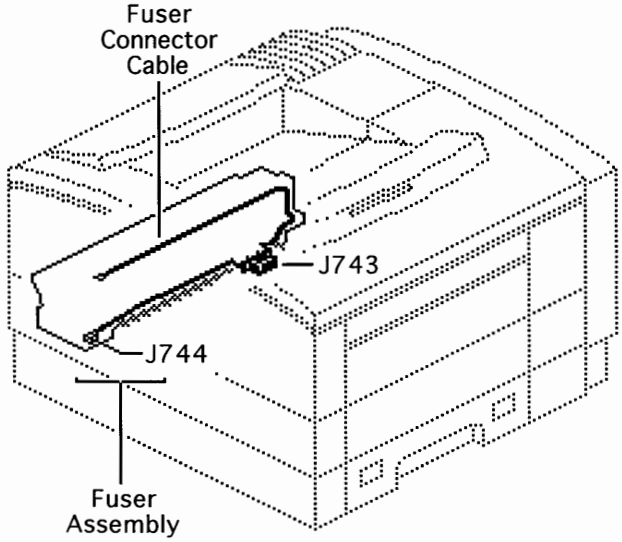
Remove the two screws (**1** and **2**).

Remove the black cable from the channel and **disconnect** the white cable at the junction cap.



Pull off the cover.

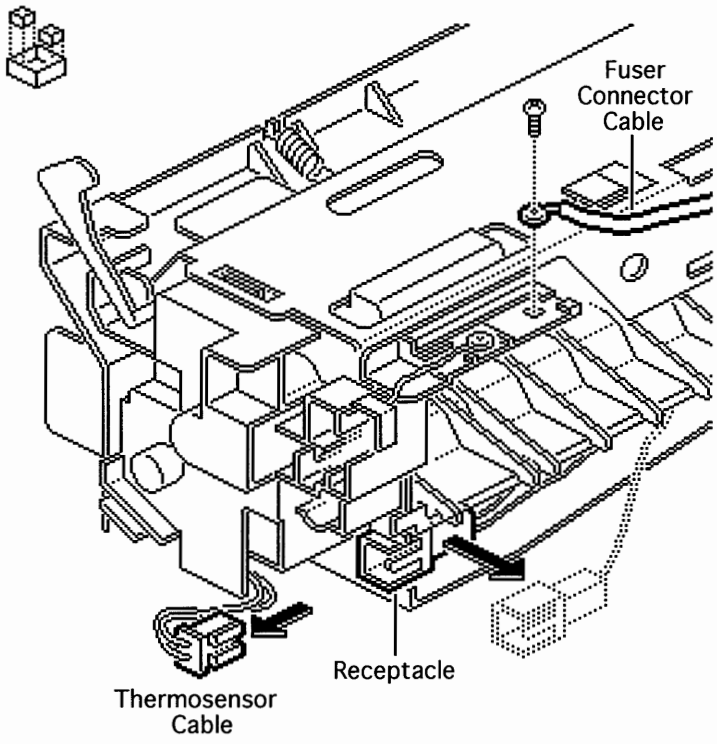
Caution: The two gears slide off the fuser if you turn the fuser on end. If you are replacing other pieces, remove the gears and set them aside.



First:

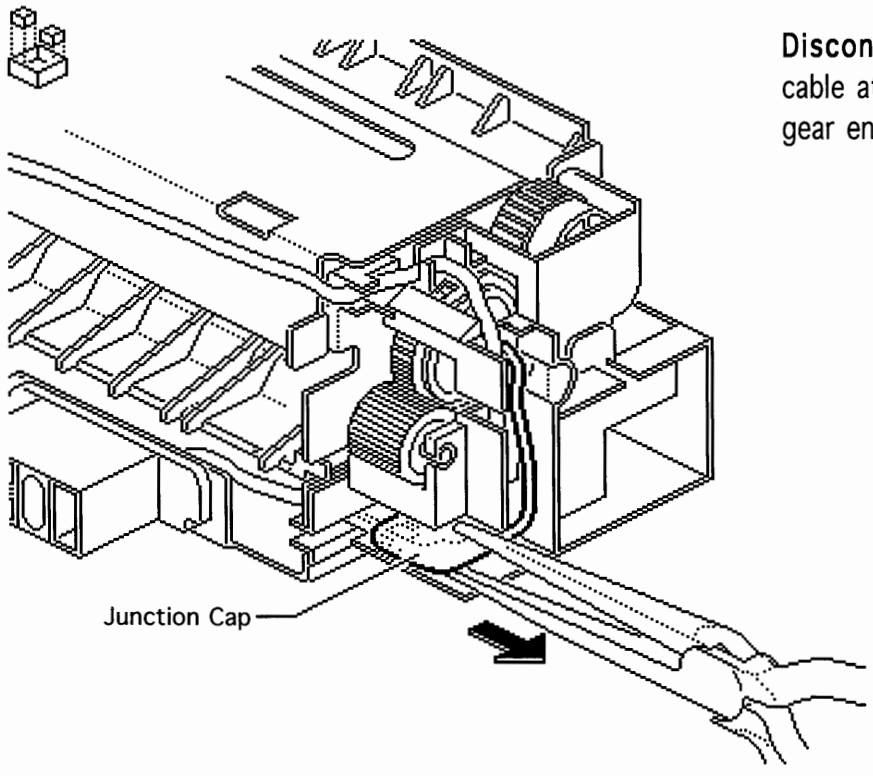
Remove Fuser Assembly
Remove Fuser Cable Cover
Remove Left Fuser Cover Cap

Note: The fuser connector cable delivers high-voltage power to the fuser bulb and receives temperature feedback from the thermosensor. If you are looking from the feed side of the fuser, the thermosensor circuit goes to the left and the heater bulb circuit goes to the right.

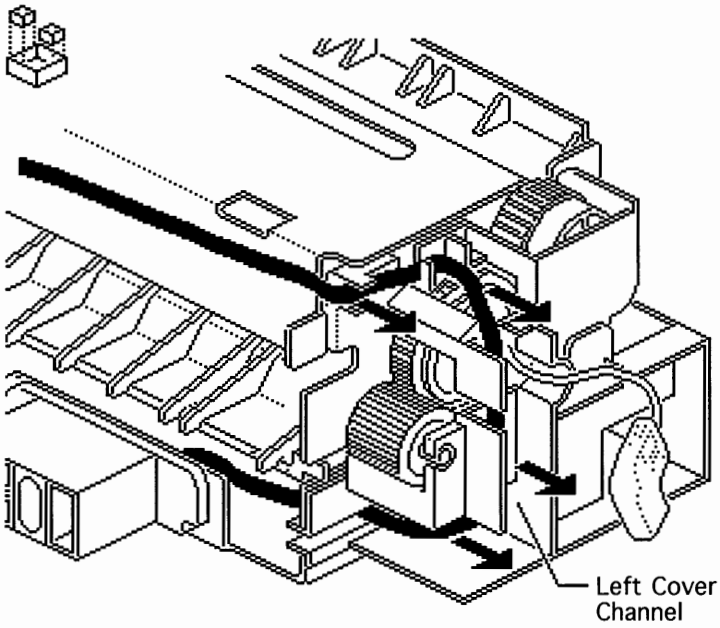


Unplug the thermosensor cable and **slide** the receptacle off the frame.

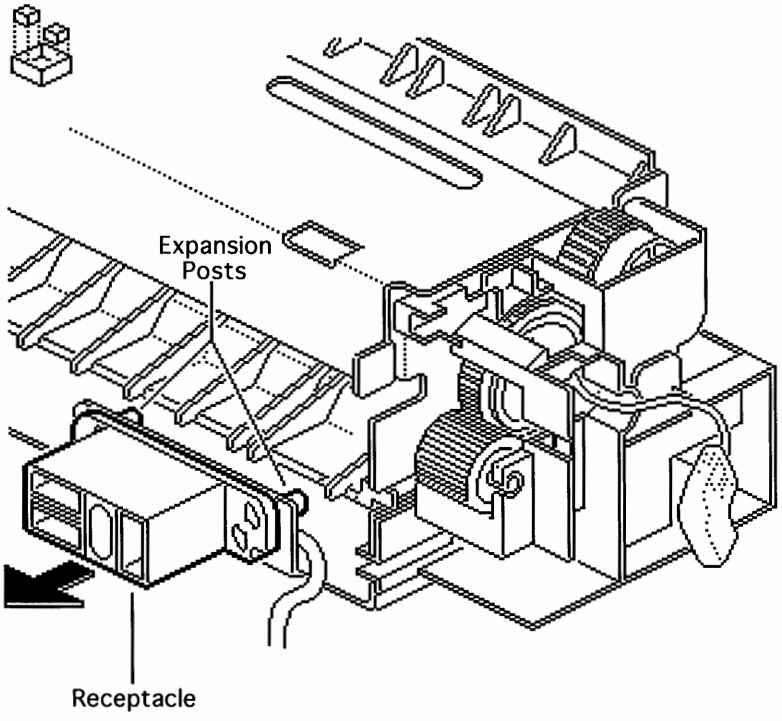
Remove the screw that secures the fuser connector cable to the thermoprotector contact.



Disconnect the white heater bulb cable at the junction cap on the gear end of the fuser.

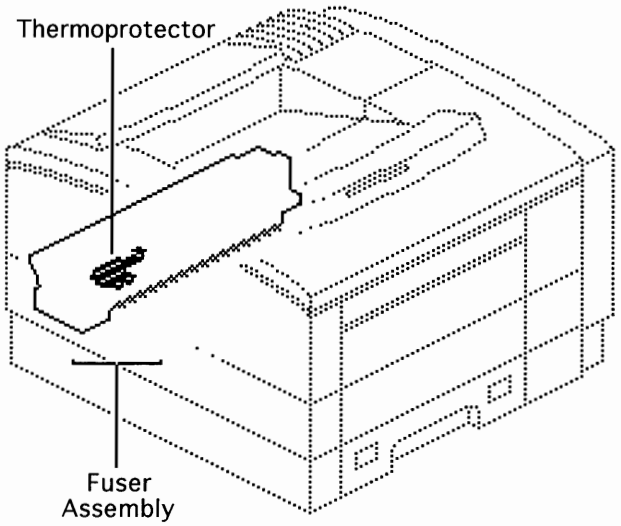


Remove the fuser connector cable from the channel in the left fuser cover.



Release the expansion posts behind the receptacle and **remove** the connector cable from the fuser assembly.

Note: Refer to "Expansion Post Connectors" in Additional Procedures.

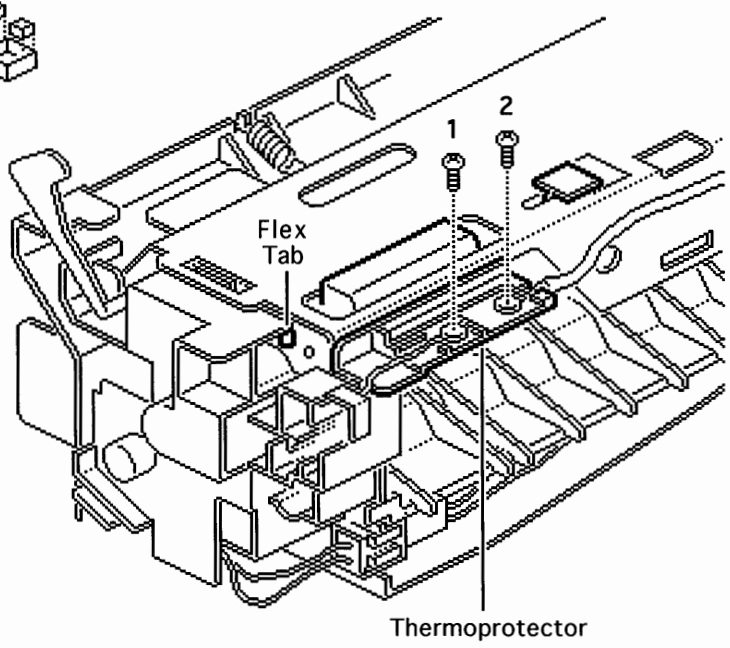


First:

Remove Fuser Assembly
Remove Fuser Cable Cover

Note: The fuser thermoprotector prevents overheating of the fuser bulb.

Caution: When the thermoprotector has blown, replacing it does not necessarily solve the problem. You must investigate root causes of the overheating.

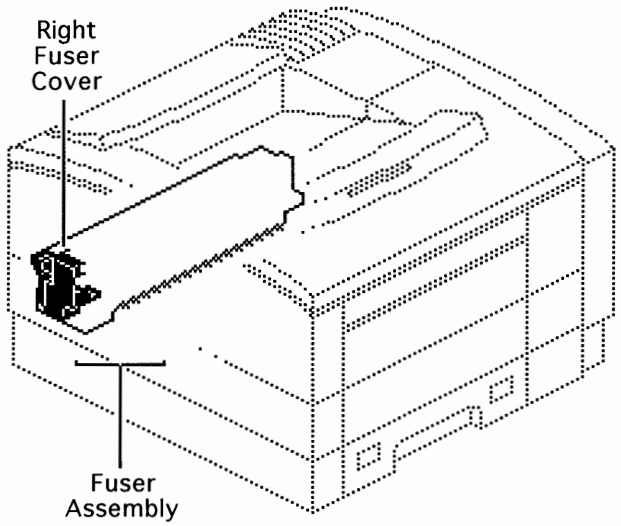


Remove the two screws that secure the cables to the thermoprotector contacts.

Press the flex tab that is visible just under the right cover and **pop out** the thermoprotector assembly.

LaserWriter Pro — Take Apart - Right Fuser Cover

Do Manuals Chapters ? « 1 of 4



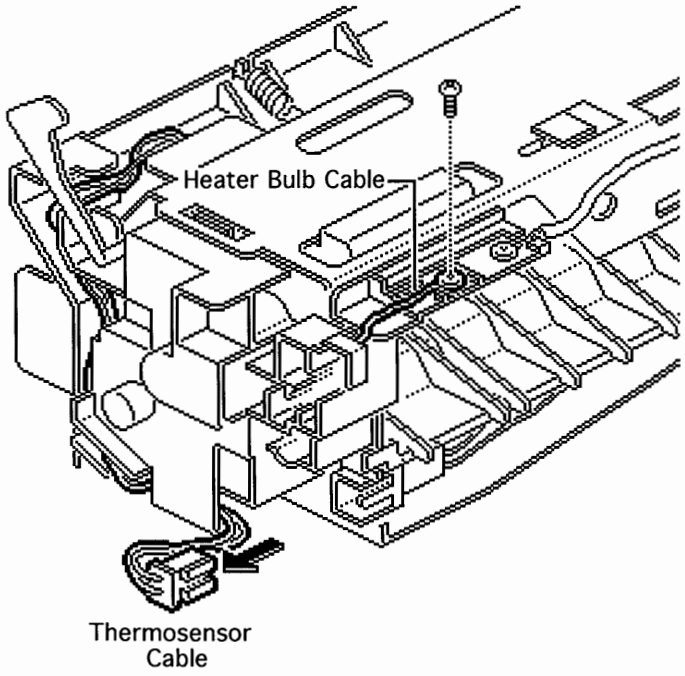
First:

Remove Fuser Assembly
Remove Fuser Cable Cover

Note: The right fuser cover is the black plastic cover on the lever end of the fuser assembly. The right fuser cover supports the end of the heater bulb and routes the thermosensor cabling.

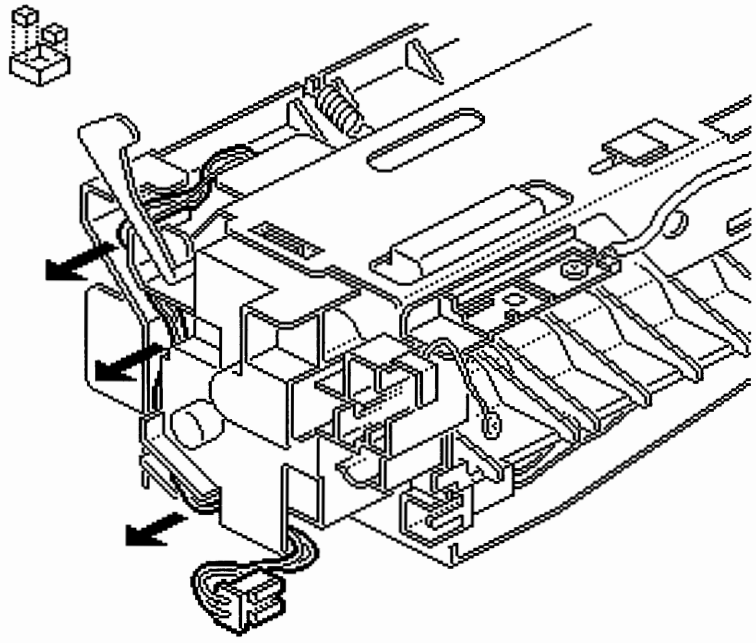
LaserWriter Pro — Take Apart - Right Fuser Cover

Do Manuals Chapters ? « 2 of 4



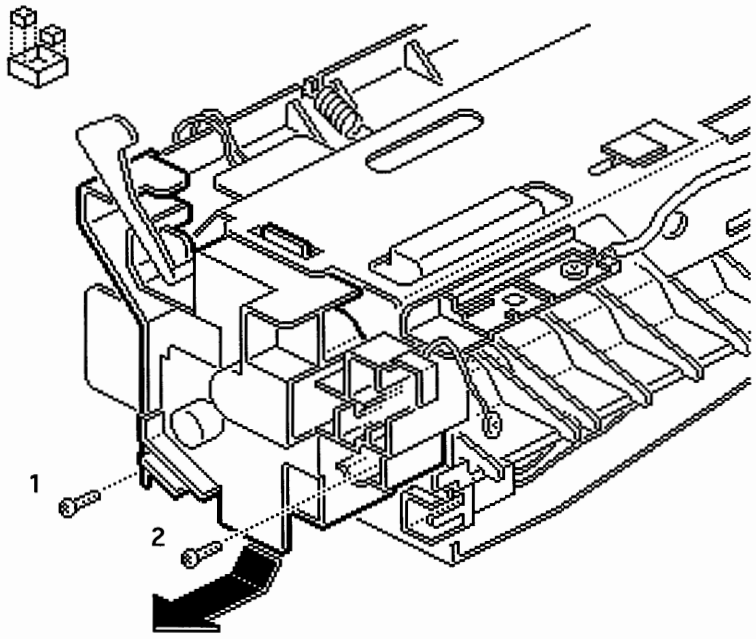
Unplug the thermosensor cable.

Remove the screw that secures the heater bulb cable to the thermoprotector contact.



Thermosensor Cable

Remove the thermosensor cable from the channel in the fuser cover.

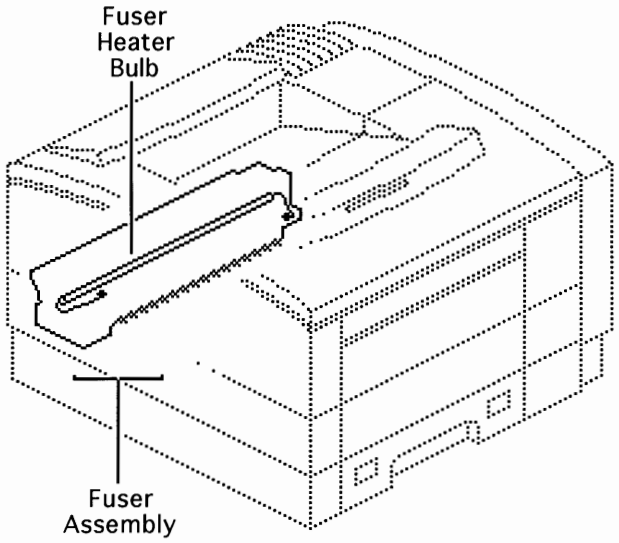


Remove the two brass colored screws.

Pull the cover down slightly to unseat it from the upper frame, and **lift** the cover off the fuser.

Note: It may be necessary to pry a bit between the cover and the frame with a small flat-blade screwdriver.

Replacement Note: Make sure that the roller release lever is set in place correctly prior to reassembly.



First:

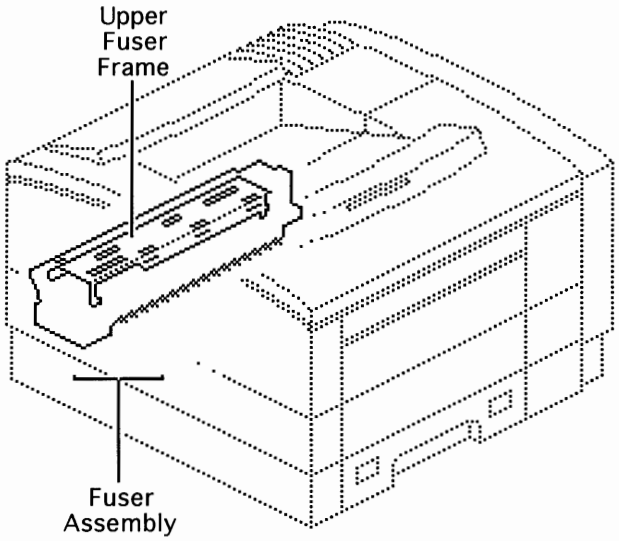
Remove Fuser Assembly
Remove Fuser Cable Cover
Remove Left Fuser Cover Cap
Remove Left Fuser Cover
Remove Right Fuser Cover

Grasp the left end of the bulb and carefully **slide** the bulb out of the fuser assembly.

Note: Be careful not to touch the glass part of the bulb with your fingers.

LaserWriter Pro — Take Apart - Upper Fuser Frame

Do Manuals Chapters ? « 1 of 2



First:

Remove Fuser Assembly
Remove Fuser Cable Cover
Remove Fuser Thermoprotector
Remove Left Fuser Cover Cap
Remove Right Fuser Cover

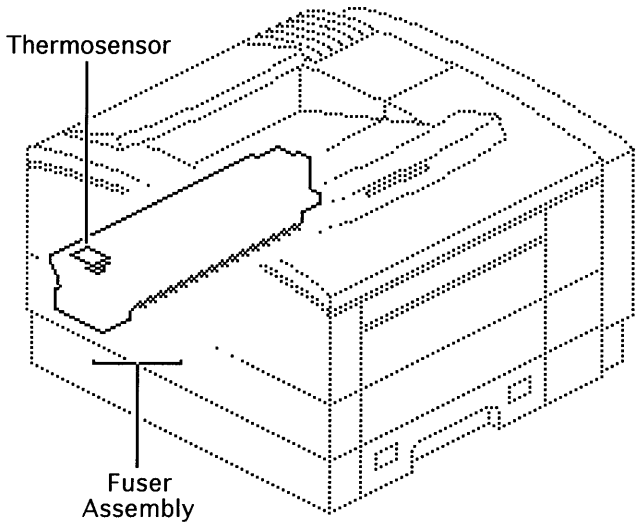
LaserWriter Pro — Take Apart - Upper Fuser Frame

Do Manuals Chapters ? « 2 of 2

Note: In the following steps, only the spring and the catch on the near side are shown in the drawing.

Remove the two springs.

Release the catches at each end of the upper frame and **lift** the frame up and off the fuser assembly.

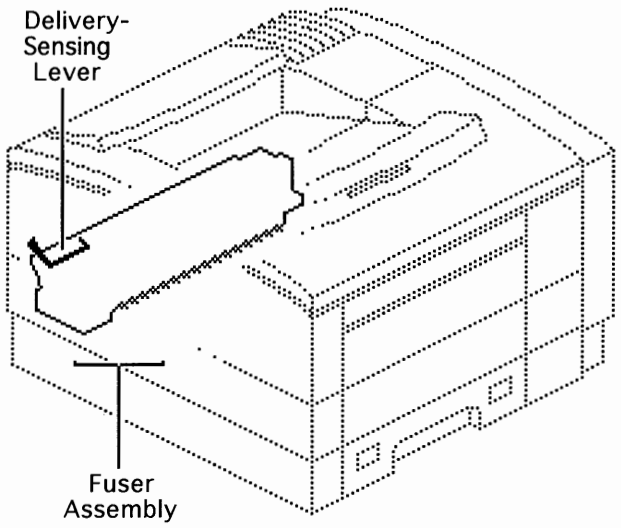


First:

Remove Fuser Assembly
Remove Fuser Cable Cover
Remove Fuser Thermoprotector
Remove Left Fuser Cover Cap
Remove Right Fuser Cover
Remove Upper Fuser Frame

Note: The thermosensor monitors the temperature of the fuser bulb and relays the temperature back to the DC controller board.

Remove the screw that connects the thermosensor to the upper fuser frame and **lift off** the thermosensor.



First:

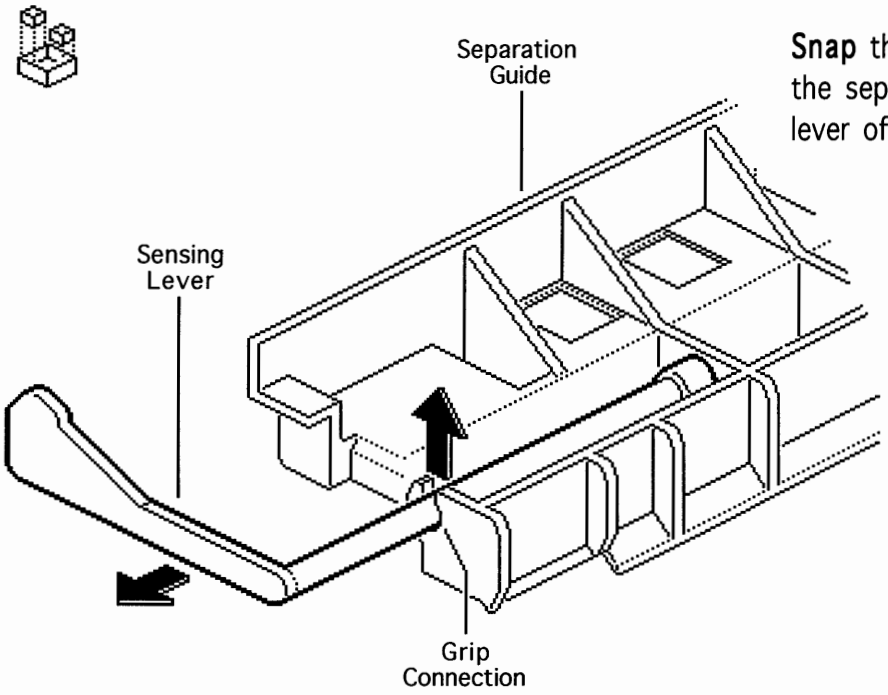
Remove Fuser Assembly
Remove Fuser Cable Cover
Remove Fuser Thermoprotector
Remove Left Fuser Cover Cap
Remove Right Fuser Cover
Remove Upper Fuser Frame

Note: Paper exiting the fuser trips the delivery-sensing lever, which in turn opens a photo interrupter in the delivery/interlock sensor assembly. See "Sensing System Theory" in Basics.

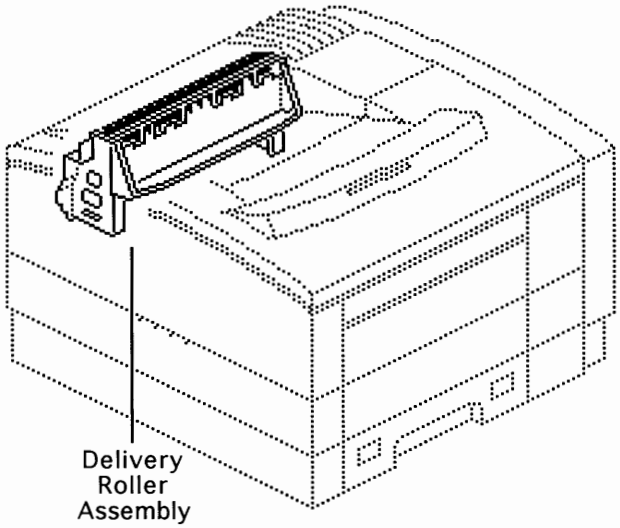
Using a small flat-blade screwdriver, **pry** the separation guide off the frame at the gear end of the fuser assembly.

Note: There are two pins at the ends of the separation guide that seat into the frame. Only one end is shown in the drawing.

Lift the separation guide from the fuser assembly.



Snap the lever out of the grip in the separation guide and **pull** the lever off the post.



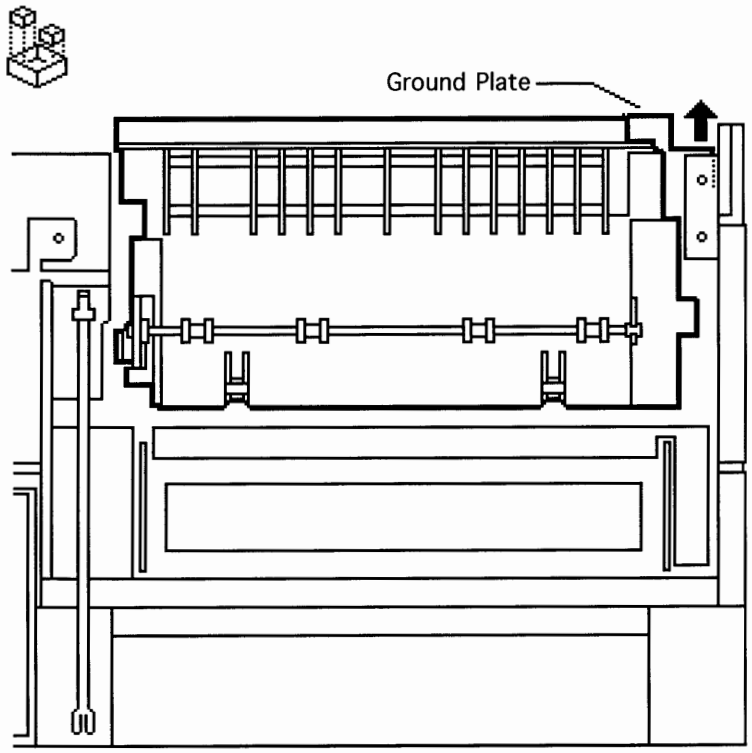
First:

Remove Rear Panel
Remove Top Cover

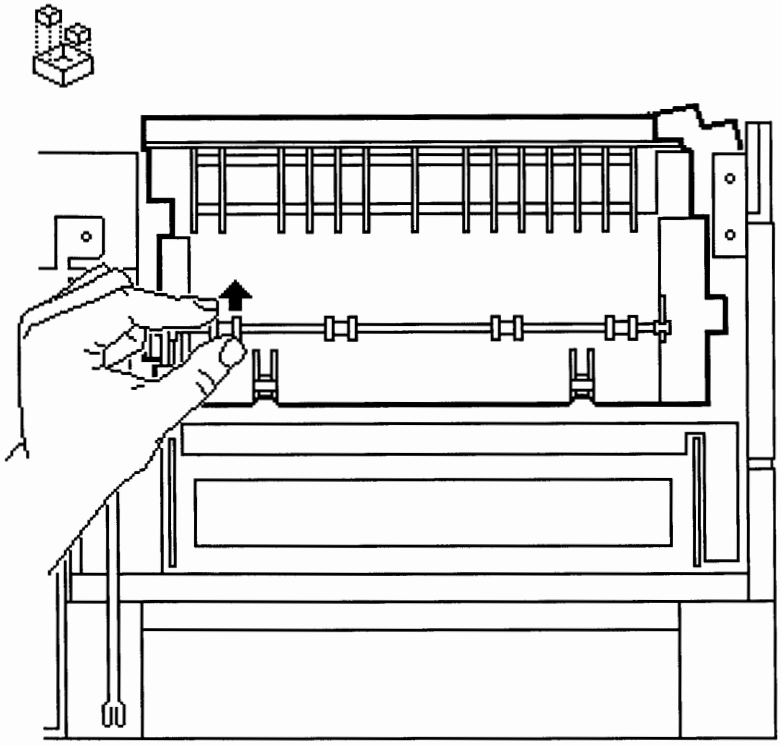
Note: Refer to the following take-apart topics for further disassembly of the delivery roller assembly:

- Upper Delivery Guide
- Lower Delivery Roller Shaft
- Upper Delivery Roller Shaft
- Delivery Drive Belt

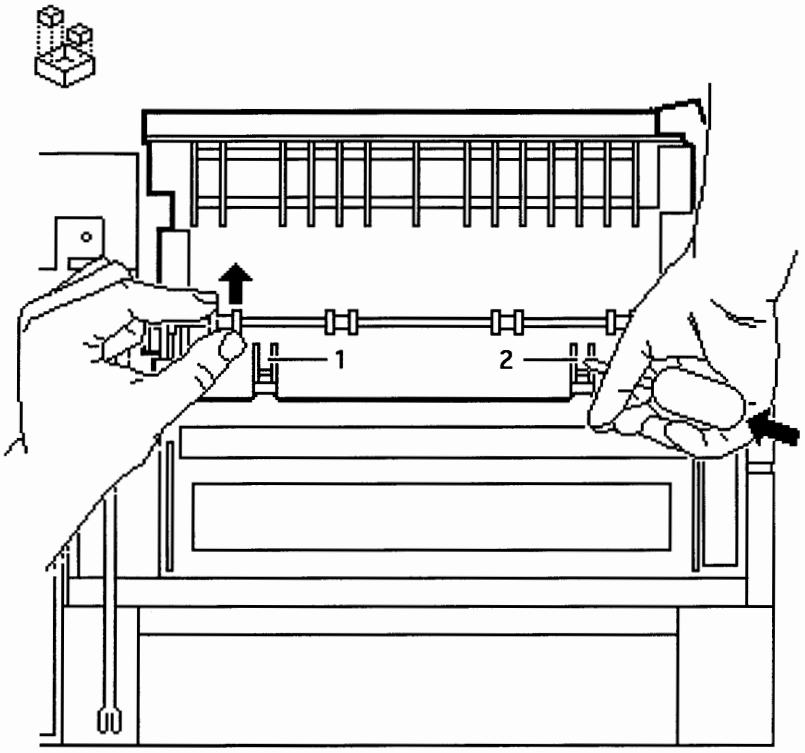
The double-roller shaft design yields an S-shaped paper path that handles heavier paper than was possible in previous engines. As a result, there is no face-up delivery tray in the LaserWriter Pro.



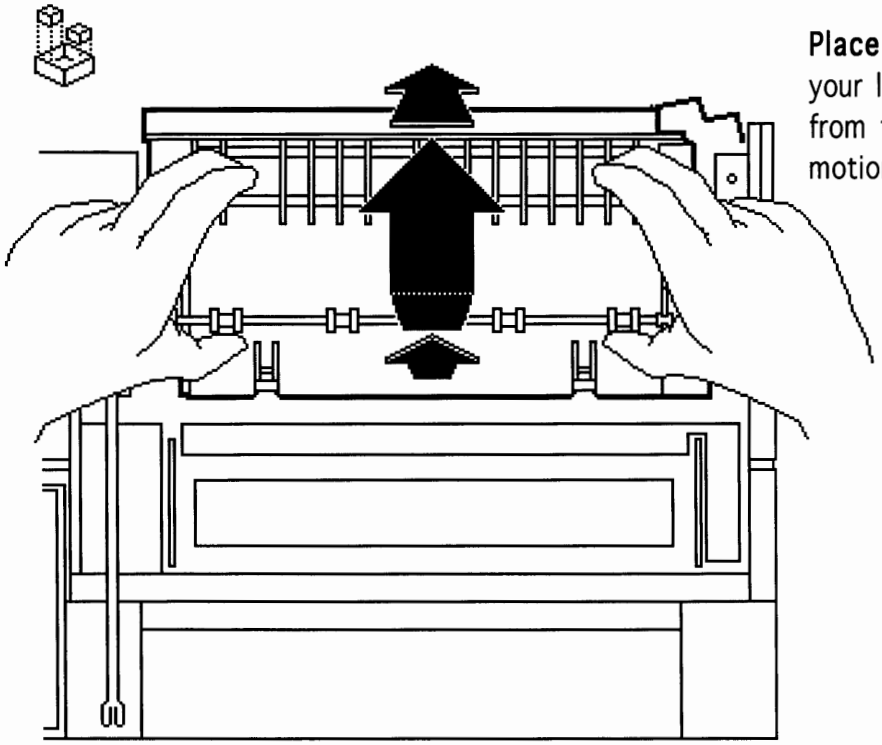
Disconnect the ground plate from the chassis.



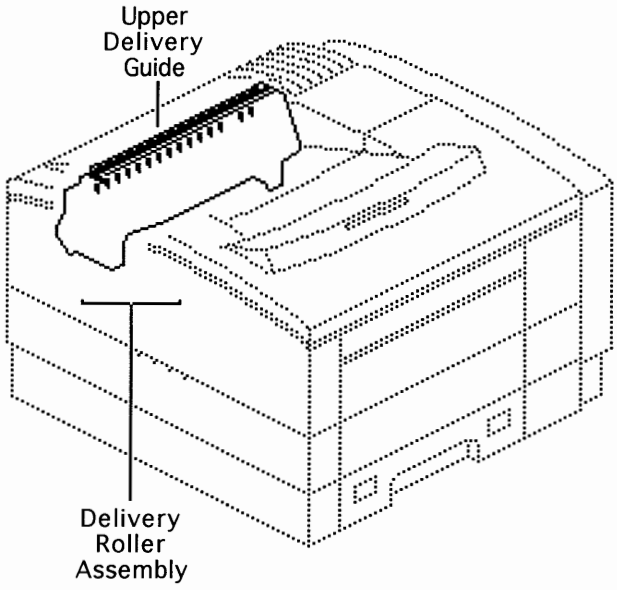
Place your left hand as shown and **press** upward on the lower roller shaft.



Using a small flat-blade screwdriver, **press in** on the left gripper tab (**1**) and then the right tab (**2**), and **disengage** the assembly from the chassis.



Place your right hand opposite your left and **pull** the assembly from the printer, using the rolling motion indicated.



First:

Remove Rear Panel
Remove Top Cover

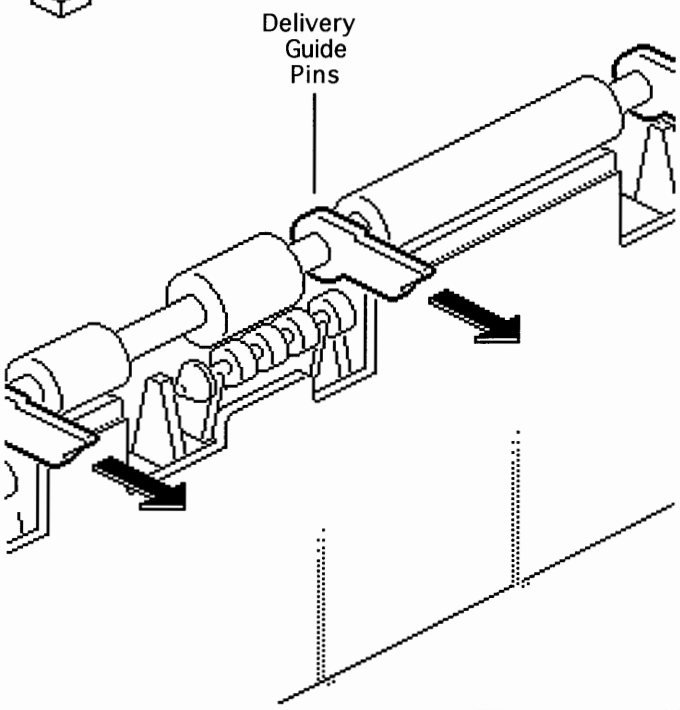
LaserWriter Pro Take Apart - Upper Delivery Guide
Do Manuals Chapters ? « 2 of 3

Disconnect the ground plate from the chassis.

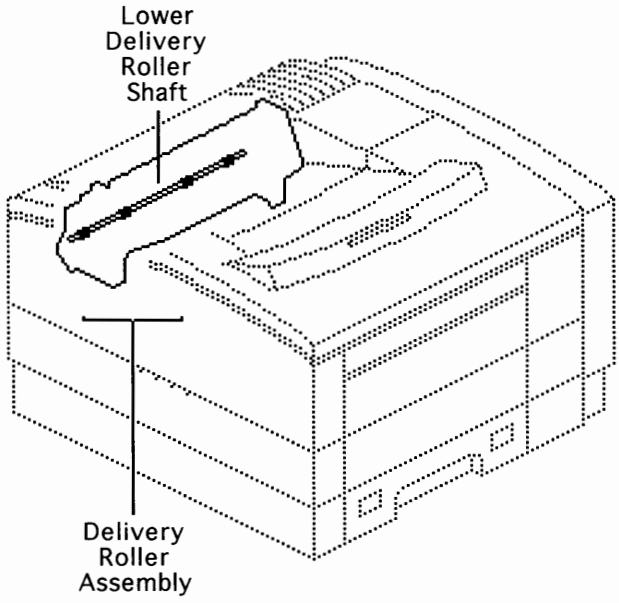
Release the flex tab on the right side of the delivery roller assembly and **pop** the delivery guide free of the upper delivery roller.

Note: In addition to the tab, there are C-grips at each end of the guide that attach onto the upper delivery roller.

Release the tab and grip on the left side and **remove** the delivery guide from the delivery roller assembly.



Replacement Note: The four small delivery guide pins that hang freely on the upper shaft must point outward (with the flow of paper).



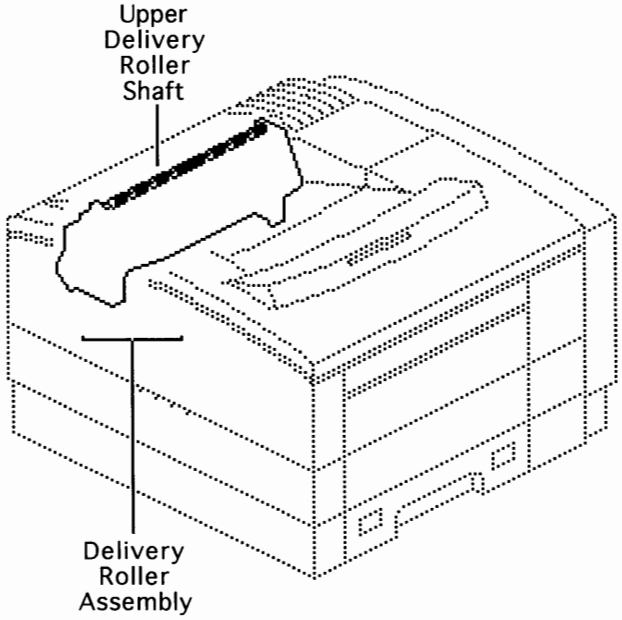
First:

Remove Rear Panel
Remove Top Cover
Remove Delivery Roller Assembly

Remove the E-ring on the right side of the shaft and **slide off** the bushing.

Push the delivery roller shaft to clear the left grip and drive belt and **lift** the shaft from the delivery roller assembly.

Replacement Note: The four lower passive delivery rollers will fall out when you perform this procedure.



First:

Remove Rear Panel
Remove Top Cover
Remove Delivery Roller Assembly
Remove Upper Delivery Guide

LaserWriter Pro Take Apart - Upper Delivery Roller Shaft

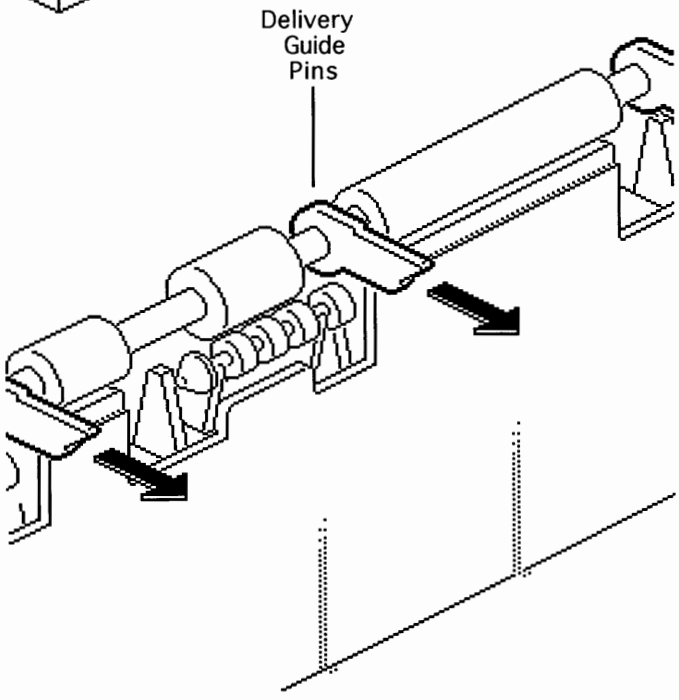
Do Manuals Chapters ? « 2 of 3

Remove the E-ring on the right side of the shaft and **slide off** the bushing.

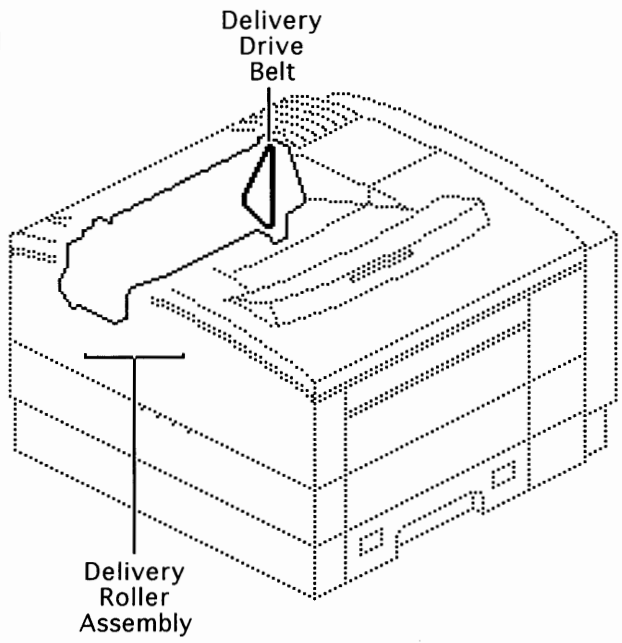
Push the delivery roller shaft to clear the left grip and drive belt and **lift** the shaft from the delivery roller assembly.

LaserWriter Pro Take Apart - Upper Delivery Roller Shaft

Do Manuals Chapters ? « 3 of 3



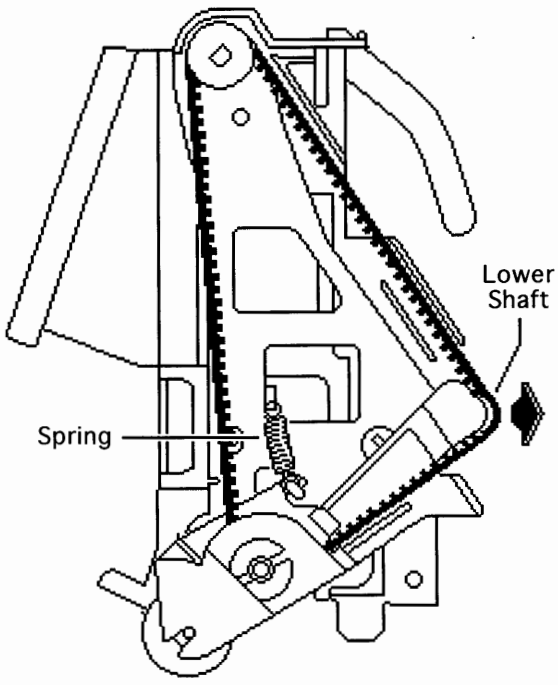
Replacement Note: The four small delivery guide pins that hang freely on the upper shaft must point outward (with the flow of paper).



First:

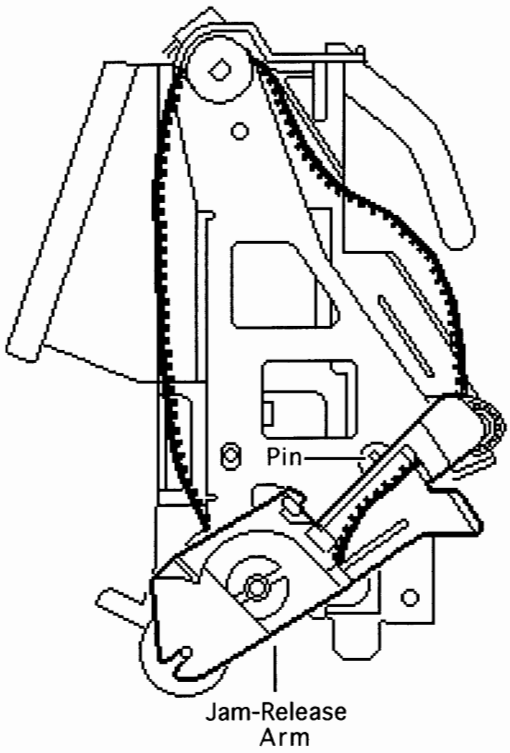
Remove Rear Panel
Remove Top Cover
Remove Delivery Roller Assembly

Note: This cogged belt transfers drive upward to the delivery roller shafts. See "Mechanical Drive Theory" in Basics.



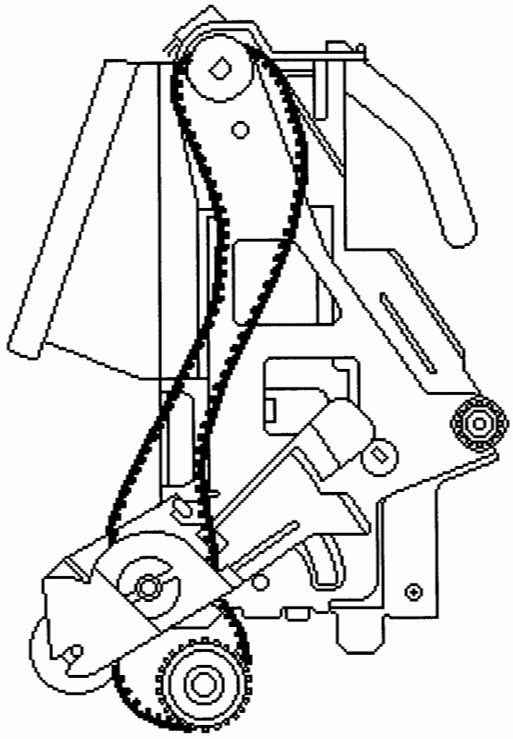
Remove the spring.

Slip the drive belt off the gear on the lower delivery roller shaft.



Rotate the green jam-release arm counterclockwise as far as it will go.

Note: You must lift the arm slightly to clear the small wedge-shaped pin.

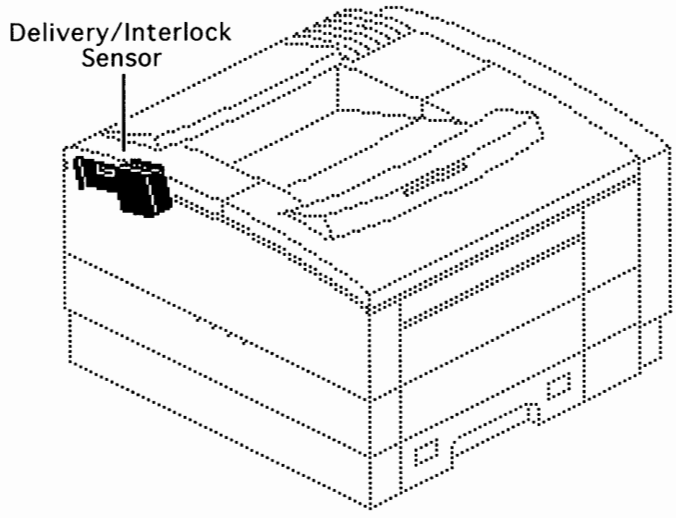


Pry off the jam-release arm with a small flat-blade screwdriver.

Note: The spindle is connected to the end plate so the gear is now free. It stays in place because the drive belt is holding it.

Push the belt through, **slip off** the gear, and **pull out** the drive belt.

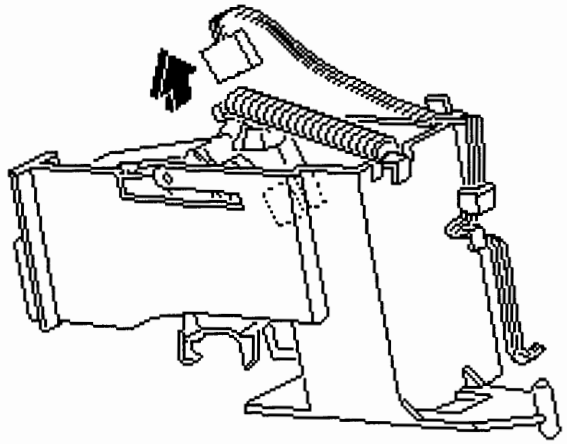
Replacement Note: The final step in replacement is the looping of the belt over the lower roller shaft gear. First, use the rounded end of the jam-release arm to stretch the belt outward. Then with your fingertips pressing the belt firmly against the side of the gear, slowly rotate the drive shaft and let the belt shift onto the gear.



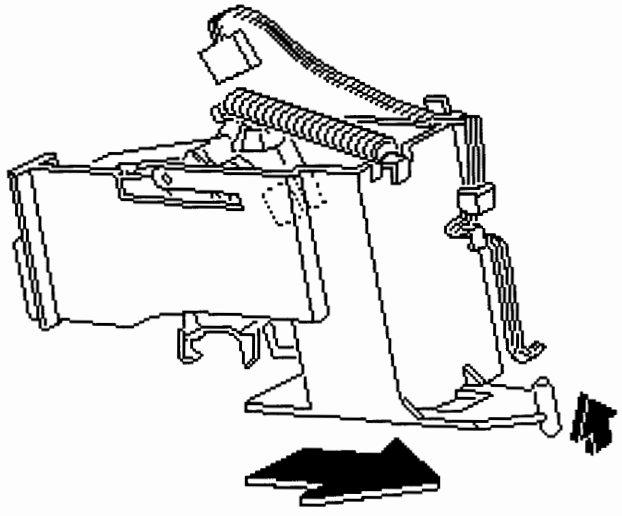
First:

Remove Rear Panel
Remove Top Cover
Remove Delivery Roller Assembly

Note: The delivery/interlock sensor (PS201) monitors the closure of the fuser access door and the exiting of paper from the fuser assembly. See "Sensing System Theory" in Basics.

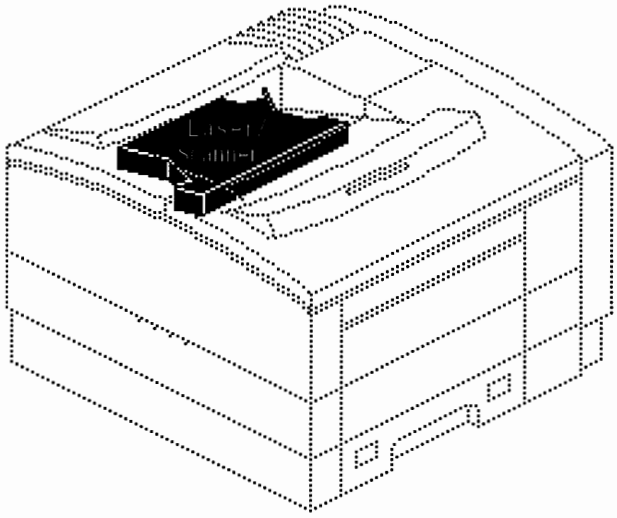


Disconnect the cable from the photo IC.



Note: There is a hidden post beneath the upper edge of the holder.

To remove the sensor holder from the printer, **raise** the upper edge and **slide** the holder upwards off the chassis.



First:

Remove Rear Panel
Remove Top Cover
Remove Delivery Roller Assembly

Note: The LaserWriter Pro laser/scanner assembly is available only as an integral assembly. No subparts are available from Apple and no power adjustments are possible.

WARNING: Review "LaserWriter Safety" in Basics before working with the laser/scanner assembly.

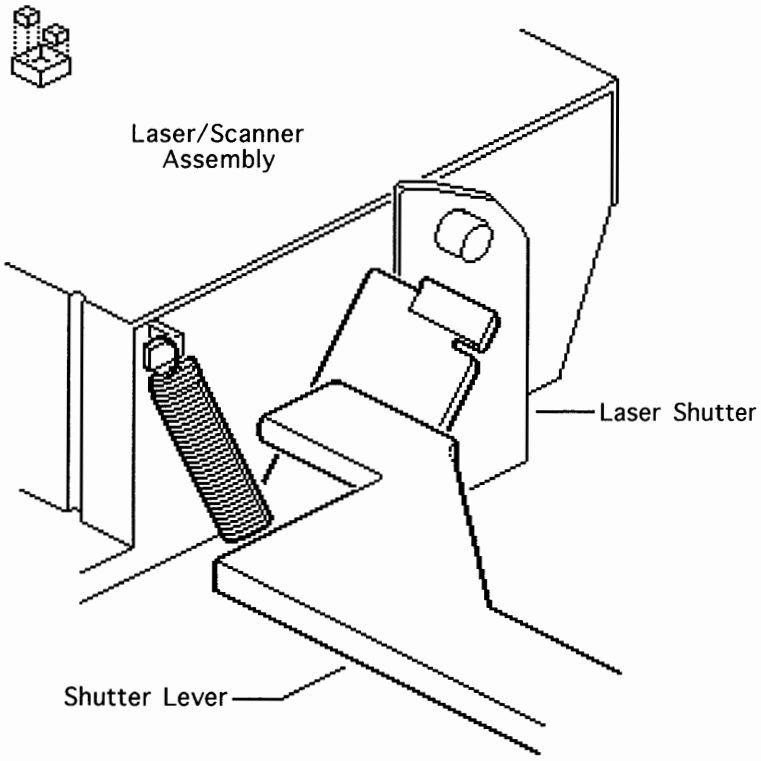
Remove the four cables from the cable clips and **disconnect** the cables at their connectors.

Note: There is no fiber-optic cable in the LaserWriter Pro. Beam detection circuitry runs through the BD IC unit at connector J731 (see "Wiring Diagram" in Basics).

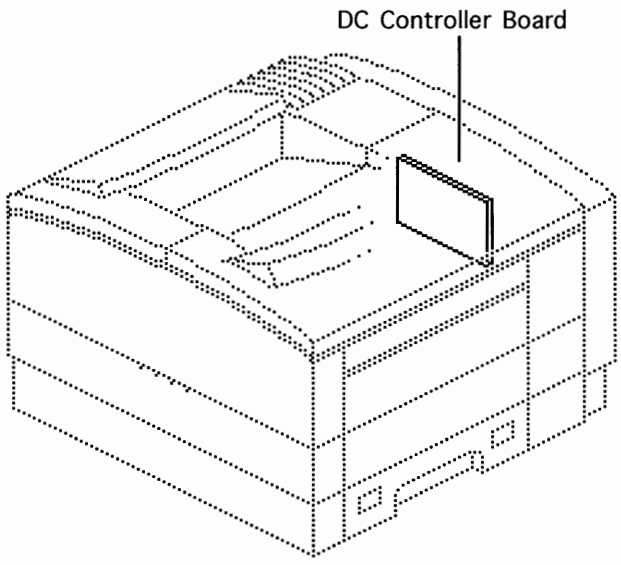
Remove the four screws and lift the laser/scanner assembly from the printer.

Note: Remove the shutter and the shutter spring prior to returning a laser/scanner assembly to Apple.

Replacement Note: Perform the "Registration Adjustment" procedure (see Adjustments chapter).



Replacement Note: Make sure that the shutter and the shutter lever are reinstalled in the position shown. Confirm installation by pushing the lever against the edge of the shutter. The shutter should open freely when actuated by the lever, and the shutter should spring back fully when you release it.



First:

Remove Rear Panel

Remove I/O Shield

Disconnect J103 from the power supply.

Remove the all cables except for the engine interface cable and power supply connector TB201.

Note: Do not attempt to remove connector TB201 from the DC controller board. Connector TB201 is hard-wired to the board.

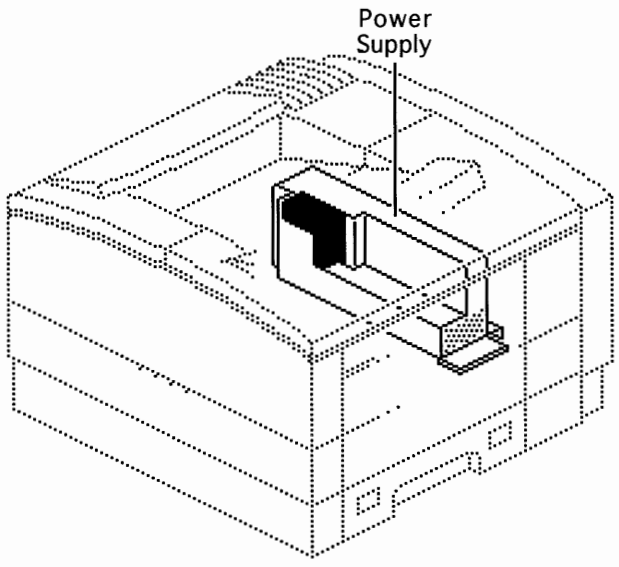
Release the two flex tabs and **pull** the board out of the printer.

Replacement Note: Set the bottom edge of the board into the two mounts and then snap the top into place. Make sure that the positioning posts line up with the holes in the board.

Note: Perform the "Registration Adjustment" procedure (see Additional Procedures).

First:

Remove Rear Panel
Remove I/O Shield



Overview

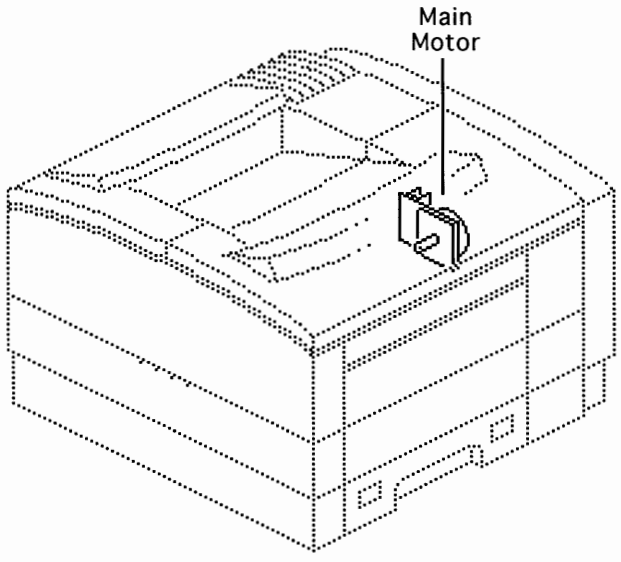
Note: Three screws secure the power supply to the chassis—one on the left side of the printer beneath the power inlet panel and two on the rear side.

Pull off the power inlet panel that covers the main power switch and receptacle.

Remove the three screws.

Remove connectors J103 and J104 and **pull out** the power supply.

Note: There is a receptacle on the rear face of the power supply. The receptacle mates with the high-voltage connector block and may cause slight resistance when you are pulling out the power supply.



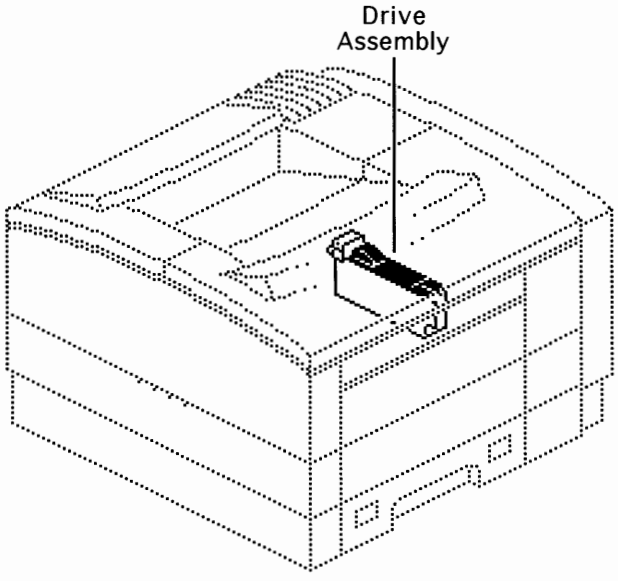
First:

Remove Rear Panel
Remove I/O Shield
Remove Power Supply

Note: The main motor is the motor mounted next to the DC controller board. The main motor powers the drive train from the toner cartridge forward through the delivery rollers. See "Mechanical Drive Theory" in Basics.

Remove the four brass colored screws that secure the motor to the printer chassis.

Disconnect J131 from the main motor board and **pull out** the main motor.



First:

Remove Fuser Assembly
Remove Rear Panel
Remove I/O Shield
Remove Power Supply
Remove Main Motor

Note: The drive assembly receives drive from the main motor and transfers it forward to the fuser assembly gears. See "Mechanical Drive Theory" in Basics.

LaserWriter Pro — Take Apart - Drive Assembly

Do Manuals Chapters ? « 2 of 2

Remove the two small silver-colored screws on the rear face of the chassis that secure the drive assembly to the printer.

Note: The following step dislodges the positioning pins that seat into the chassis wall.

Grip the edge of the assembly housing with needlenose pliers and **pull** it about 1/4 inch away from the chassis wall.

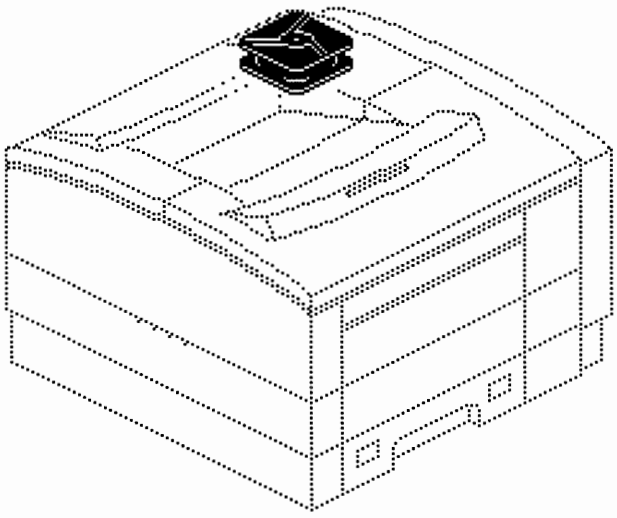
Pull the drive assembly out the fuser side of the printer. (**Click** on "Photo" below.)

Photo

LaserWriter Pro — Take Apart - Fan

Do Manuals Chapters ? « 1 of 2

Fan



First:

Remove Rear Panel
Remove Top Cover
Remove I/O Shield
Remove Delivery Roller Assembly

Note: The LaserWriter Pro engine has a single-fan exhaust system. This fan exhausts the I/O shield cavity directly but uses vertical ducting to exhaust the lower printer.

Disconnect J209 from the DC controller board.

Using a small flat-blade screwdriver, **pry** upward at the middle positioning pin and **slide off** the sheet metal fan bracket. (**Click** on "Photo" below.)

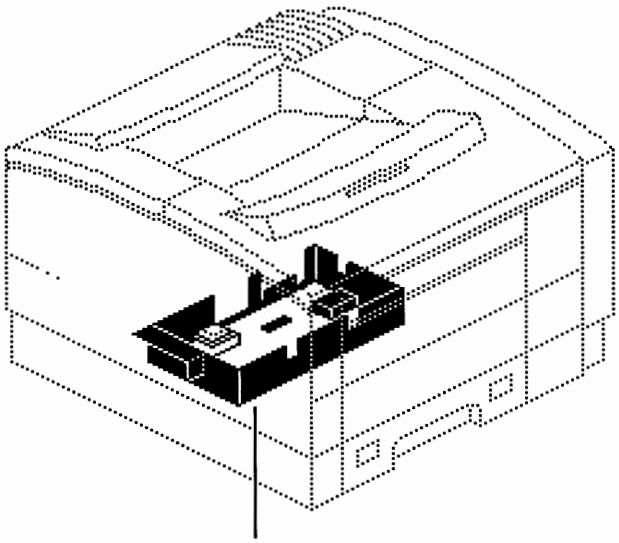
Note: A pair of flex tabs on each side of the fan duct hold the fan in place.

Using a small flat-blade screwdriver, **release** the three tabs and **lift** the fan out of the printer.

Photo

First:

No First Steps Required



Note: The high-voltage power supply receives power from the high-voltage connector block and transfers it into the toner cartridge through contacts TB401 to TB406.

Remove the high-voltage power supply from its tray before returning the high-voltage power supply to Apple.

Note: The QuickTime photo shows the location of the screws and tabs referenced on this card.

Turn over the printer.

Remove the two screws that secure the high-voltage power supply to the bottom chassis.

Release the two flex tabs and **pull** the high-voltage power supply out of the printer.

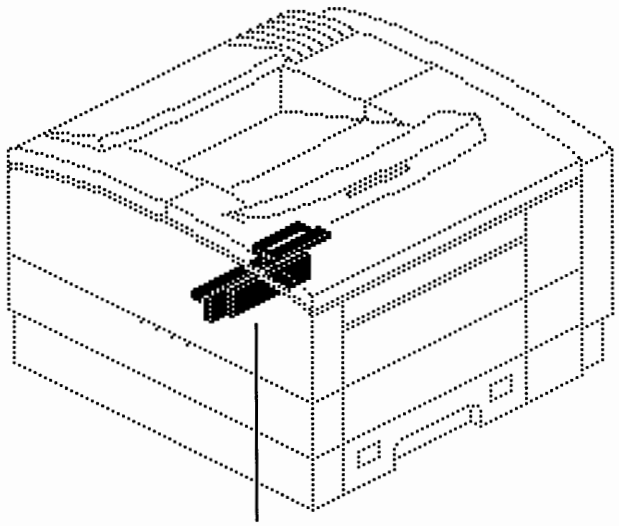
Note: There are three hidden contacts and a pin connector that mate with the high-voltage connector block. They may cause slight resistance when you are performing this procedure.

Replacement Note: Make sure that the contacts and connectors are firm. Run a service test page after replacing the high-voltage power supply. If you get a solid black page, you have probably not seated the high-voltage power supply correctly.

Photo

First:

Remove Rear Panel
Remove I/O Shield
Remove Power Supply
Remove Fuser Door
Remove Fuser Assembly
Remove High-Voltage Power Supply



High-Voltage Connector Block

Remove the screw that secures the right cassettte guide to the fuser end of the printer.

Note: The tab referenced in the following step is accessible from behind the rear wall of the chassis.

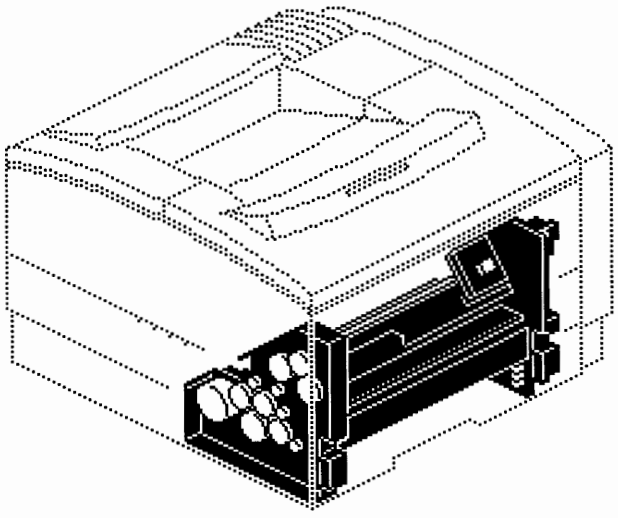
Release the single flex tab with your finger and **shimmy** the cassette guide off the printer.

Disconnect J210 (the orange cabling) from the DC controller board.

Release the expansion posts behind the receptacle that is anchored into the chassis wall, **detach** the receptacle, and **push** the receptacle back through the chassis opening.

Note: Refer to "Expansion Post Connectors" in Additional Procedures.

Release the flex tab near the cable tie and receptacle and **remove** the connector block from the printer.



Paper Pickup Block

First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel

Note: Refer to the following take-apart topics for disassembly of the paper pickup block:

- Pickup Controller Board
- Pickup Sensor Board
- Pickup Block Motor
- Envelope Feeder Cable
- Sensor Holder Assembly
- Left Pickup Block Frame

LaserWriter Pro — Take Apart - Paper Pickup Block

Do Manuals Chapters ? « 2 of 2

Remove the three brass-colored screws on the front chassis. (**Click** on "Photo" below.)

Note: "1," "2," and "3" are etched into the chassis at these screw locations. Replace these screws in 1-2-3 order.

Remove the two screws that secure the lateral brace to the chassis and **lift off** the brace.

Remove the two screws that secure the right edge of the pickup block to the chassis.

Disconnect the two cables from the exposed edge of the pickup controller board.

Grasp the pickup block and **slide** it out of the printer. (**Click** on "Photo" below.)

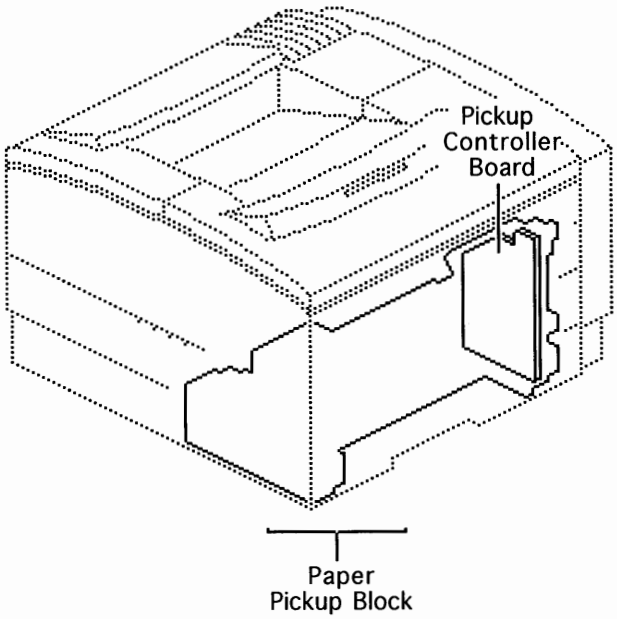
Replacement Note: Perform the "Registration Adjustment" procedure (see Adjustments chapter).

Photo

Photo

LaserWriter Pro — Take Apart - Pickup Controller Board

Do Manuals Chapters ? « 1 of 2



First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel
Remove Paper Pickup Block

Note: Control of the following parts either routes through or is located on the pickup controller board:

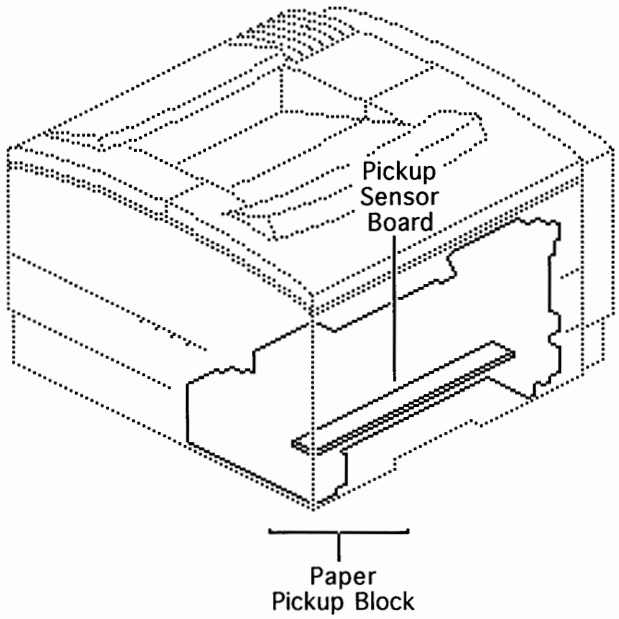
- Pickup sensor board
- Pickup motor and drive gears
- Top cover interlock switch
- Service test page button
- Cassette and envelope feeders
- Cassette microswitches
- Cassette paper sensor

Disconnect the two cables and **remove** the two screws that secure the board to the pickup block.

Caution: The top cover interlock actuator is not attached to anything. Once you remove the board, the actuator can fall out and is difficult to find.

Release the tabs from top to bottom and **pull out** the board.

Note: There is a pin connector on the hidden face of the board. The connector mates with the pickup sensor board and may cause slight resistance when you are performing this procedure.



First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel
Remove Paper Pickup Block
Remove Pickup Controller Board

Note: Control of the following parts either routes through or is located on the pickup sensor board:

- Multipurpose feed sensor
- Cassette feed sensor
- Pickup motor and drive gears
- Pickup solenoids

Turn over the pickup block so that it is resting on the 45° face of its end frames. (**Click** on "Photo" below.)

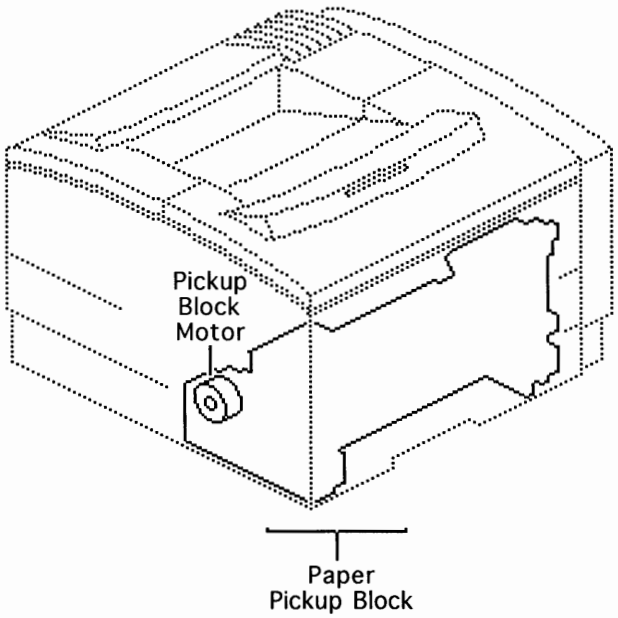
Unhook the three tabs and **snap off** the sensor board cover.

Disconnect the three cables at the gear end of the board.

Note: In the following instruction, "left" is the gear end and "right" is the controller board end of the pickup block.

Raise the board slightly to clear the two positioning pins, **shift** it about 1/2 inch to the left, **rotate** the right end upward, and **remove** the sensor board from the paper pickup block.

Photo



First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel
Remove Paper Pickup Block

Note: The pickup block motor is the motor mounted in the left pickup block frame. The pickup block motor powers the drive train from paper pickup forward to the toner cartridge. See "Mechanical Drive Theory" in Basics.

Disconnect the middle cable from the pickup sensor board.

Remove the pickup block motor cabling from the entire length of its retaining channel.

Remove the two long brass-colored screws that secure the motor to the pickup block and **lift out** the motor.

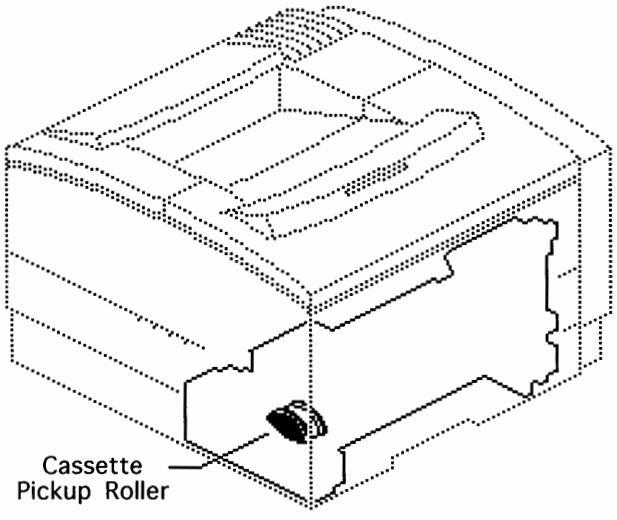
First:

No First Steps Required

Turn over the printer and **locate** the cassette tray pickup roller.

Squeeze the spring release at the end of the roller shaft and **slide off** the pickup roller.

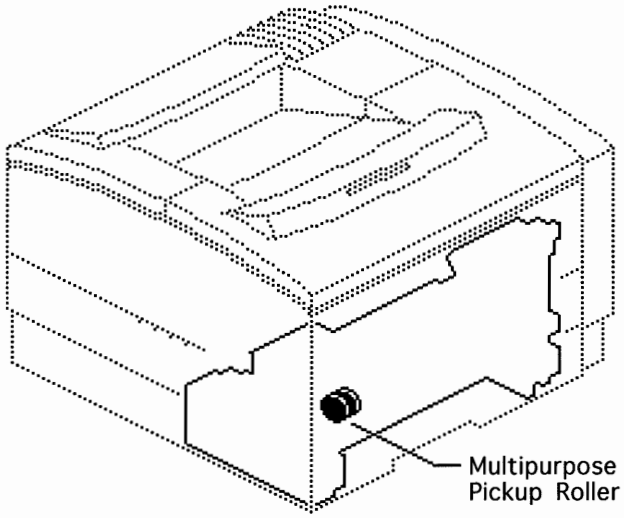
Replacement Note: Make sure that the roller slides all the way in on the shaft and locks into place.



Photo

LaserWriter Pro — Take Apart - Multipurpose Pickup Roller

Do Manuals Chapters ? « 1 of 1




Photo

First:

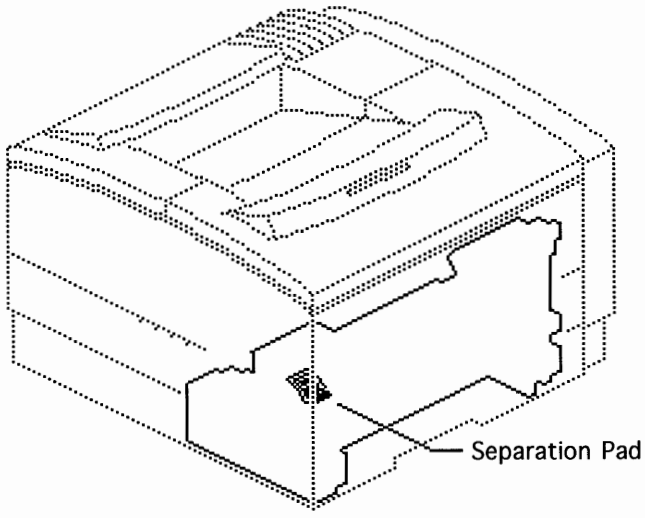
Remove Multipurpose Closure Panel

Squeeze the spring release at the end of the roller shaft and **slide off** the pickup roller.

Replacement Note: Make sure that the roller slides all the way in on the shaft and locks into place.

LaserWriter Pro — Take Apart - Separation Pad

Do Manuals Chapters ? « 1 of 1

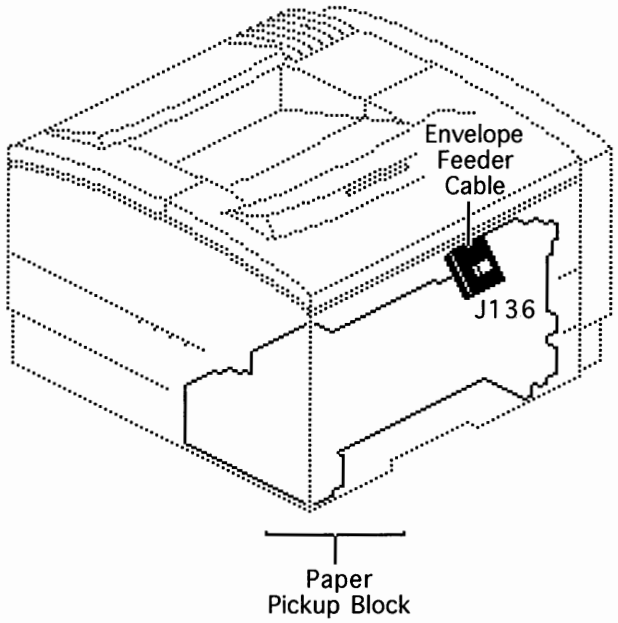


First:

Remove Multipurpose Closure Panel
Remove Multipurpose Pickup Roller

Using a small flat-blade screwdriver, **pry** underneath the bottom edge of the separation pad and **remove** the pad.

Note: The separation pad is available as a part of the multipurpose tray guide assembly (P/N 922-0286). Remove the separation pad from the new tray guide assembly and install it in the printer.



First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel
Remove Paper Pickup Block
Remove Pickup Controller Board

LaserWriter Pro Take Apart - Envelope Feeder Cable
Do Manuals Chapters ? «

Remove the cabling from the entire length of its retaining channel in the right pickup block.

Note: If you are replacing the feeder cable without replacing the feeder cable mount, skip to the procedure on card 4.

Note: The opening guide is the rounded metallic plate with the green knob at its far end. The opening guide hinges around a ring connection at the knob end and an open grip connection at the near end.

Swing the opening guide upward about 90°, **free** the grip connection, and **pull** the guide up and out of the pickup block.

Disconnect the grounding spring from the pickup block.

Note: The upper tray guide is the black piece below the opening guide. It has a rounded cut out on its far side that serves as a grip point for the procedure below. A flex tab and two posts are located at the controller end of the upper tray guide.

Press the flex tab with the end of a small flat-blade screwdriver, **shift** the upper tray guide to clear the posts, and **lift** the guide out of the pickup block.

Remove the screw that secures the cable mount to the pickup block frame.

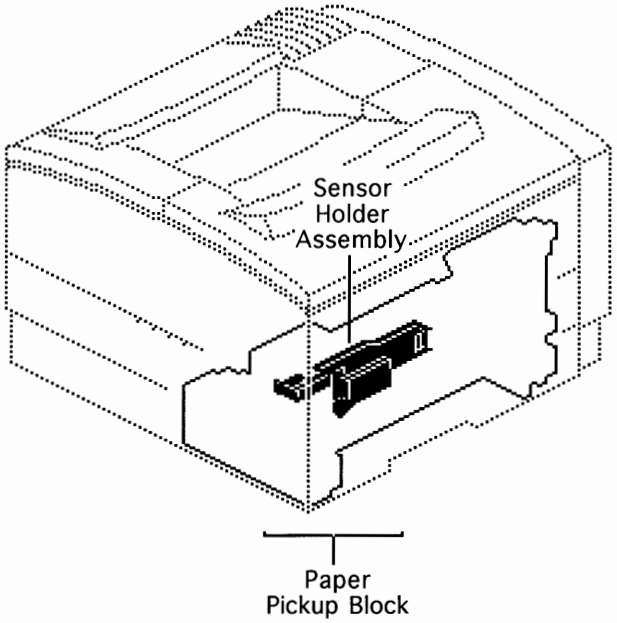
Rotate the cable mount outward to free the two mounting tabs and **remove** it from the pickup block.


Photo


Photo

Release the expansion posts behind the receptacle and **remove** the envelope feeder cable from the cable mount.

Note: Refer to "Expansion Post Connectors" in Additional Procedures.



First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel
Remove Paper Pickup Block
Remove Cassette Pickup Roller

Note: The sensor holder assembly contains the cabling, actuators, and photo interrupters for cassette paper sensor PS601 and registration paper sensor PS602.

LaserWriter Pro Take Apart - Sensor Holder Assembly
Do Manuals Chapters ? « 2 of 2

Rest the entrance side of the pickup block flat on your work surface.

Disconnect J605 from the pickup controller board.

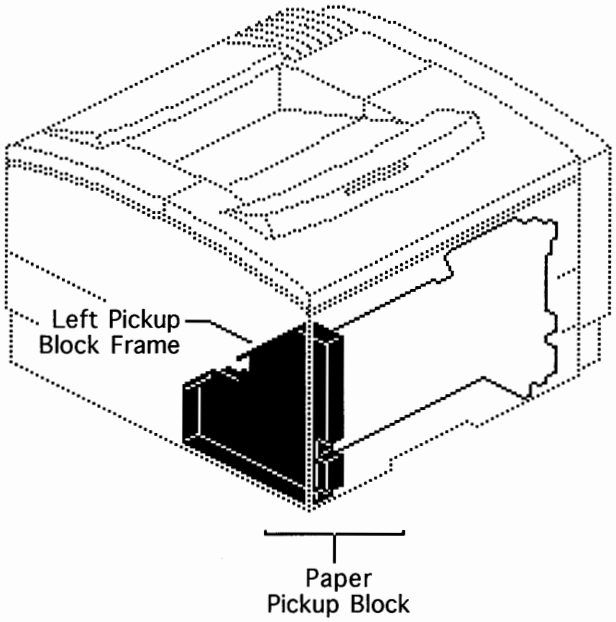
Note: The sensor holder assembly is held in place by a positioning post at the far end and two pairs of tab connectors at the near end.

Press the positioning post through the metal flange and **grasp** the throat of the pin with needlenose pliers. (**Click** on "Photo" below.)

Note: Pull the sensor holder assembly toward the gear end of the pickup block while you perform the following step.

Release the two tabs, **unmount** the holder assembly, and **shimmy** it out of the pickup block.


Photo



First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel
Remove Paper Pickup Block

Note: Removal of the left frame is necessary only if you need to get to some of the components on the inside face of the frame, such as the feed rollers, gear mount, or the sensor arm. You must also remove the left frame to get the paper guide plate and its spring out of the pickup block. The Take Apart procedures do not address disassembly beyond this topic.

Set the pickup block on end with the left frame up.

Remove the two black and two silver-colored screws that connect the frame to middle components.

Lift the left frame straight up and off the pickup block.

Note: The inside of the frame is now accessible for further troubleshooting or take apart.

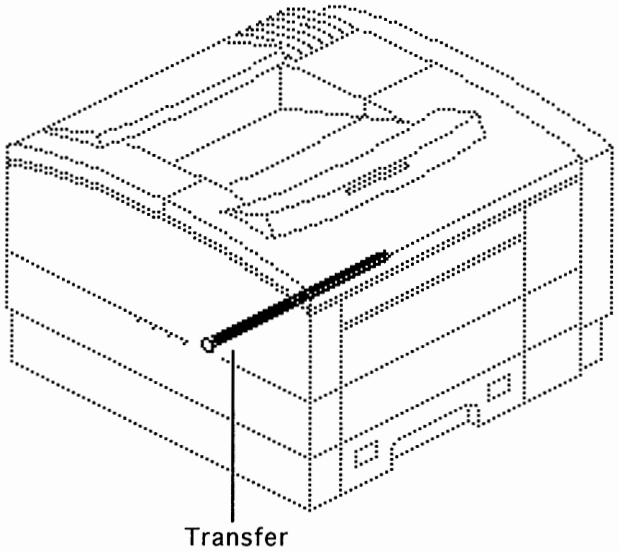
Replacement Notes: The key step in reassembly is correctly installing the paper guide plate and its spring. The guide plate presses against the gear that drives the multipurpose pickup roller. If the plate does not press against this gear, the pickup roller will either slip or remain in neutral and no paper will be pulled into the printer from the multipurpose tray. Click on "Photo" below to see the plate and spring in their correct final state. (Your drum shaft end plate may differ from what is shown.)

Reinstall the lower guide (the flexible guide with ribs) after the pickup block is intact. Temporarily loosen the four screws on the right block frame and release the frame about 1/8 inch to allow for the reseating of the lower guide.


Photo

LaserWriter Pro — Take Apart - Transfer Roller

Do Manuals Chapters ? « 1 of 1



Photo

First:

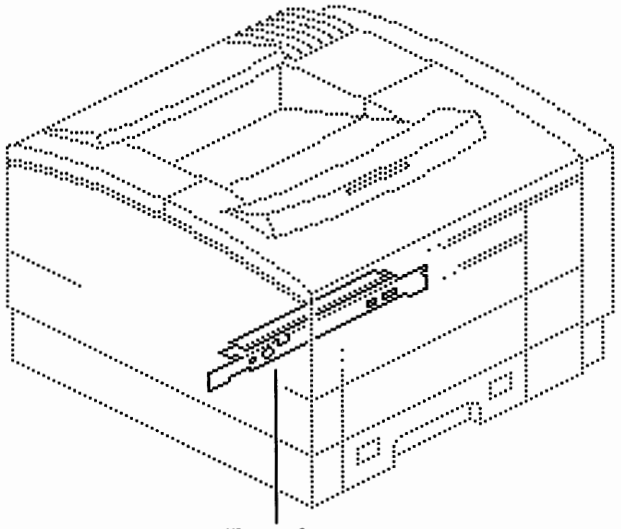
No First Steps Required

Hook the left end of the roller with the green cleaning brush and **pull** the roller out of the printer.

Replacement Note: Slide the right end of the roller into the slot and lower the gear end into place.

LaserWriter Pro — Take Apart - Transfer Guide Assembly

Do Manuals Chapters ? « 1 of 1



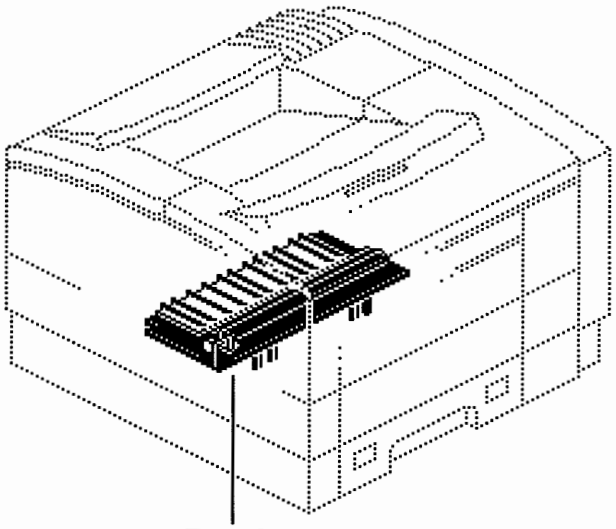
First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel
Remove Paper Pickup Block

Remove the two black screws that secure the transfer guide assembly to the toner cartridge guides and **pull** the transfer guide assembly out the right side of the printer.

LaserWriter Pro — Take Apart - Transfer Block Assembly

Do Manuals Chapters ? « 1 of 2



Transfer Block Assembly

First:

Remove Rear Panel
Remove Top Cover
Remove Front Panel
Remove Right Corner Panel
Remove Multipurpose Tray Assy
Remove Multipurpose Closure Panel
Remove Paper Pickup Block
Remove Transfer Guide Assembly
Remove Fuser Assembly

LaserWriter Pro — Take Apart - Transfer Block Assembly

Do Manuals Chapters ? « 2 of 2

Note: The transfer block assembly has a very tight fit. You must shift the front wall outward for additional clearance.

Loosen the nine silver-colored screws and the one upper black screw about 1/8 inch and **shift** the front wall outward.

Remove the screw facing out through the fuser door that secures the feeder guide to the chassis.

Note: There are five flex tabs that secure the transfer block assembly.

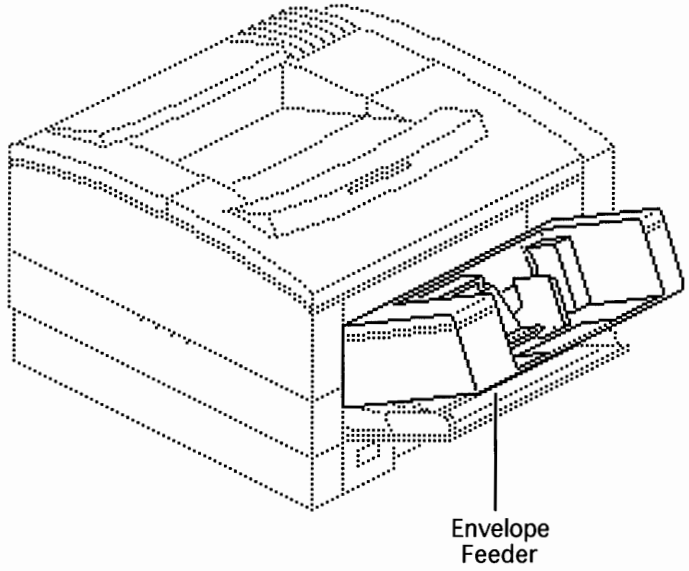
Pry under the toner-side edge of the assembly with a small flat-blade screwdriver and **release** the five tabs one at a time.

Note: The underside of the transfer block assembly has several contact pins that extend down into the high-voltage power supply and tend to snag during removal. Be careful not to damage them.

Lift the assembly straight upward about 2 inches and **shimmy** it out the toner side of the printer.

LaserWriter Pro — Take Apart - Envelope Feeder

Do Manuals Chapters ? « 1 of 1



First:

Remove Multipurpose Closure Panel

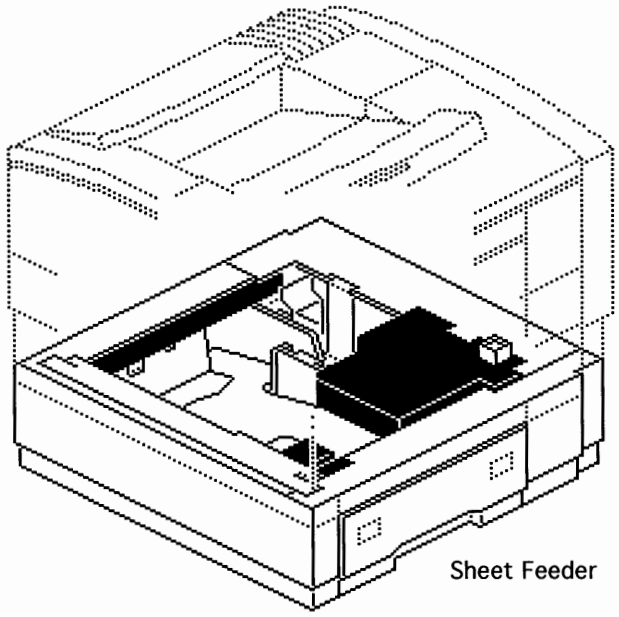
Note: Refer to the LW Pro Envelope Feeder manual for take-apart and illustrated parts information.

To install the envelope feeder, **turn off** the printer, **slide** the feeder into the paper pickup block, and **turn on** the printer.

Note: All circuitry to this feeder routes through connector J136.

LaserWriter Pro — Take Apart - Sheet Feeder

Do Manuals Chapters ? « 1 of 1



First:

No First Steps Required

Note: Refer to the LW Pro Sheet Feeder manual for take-apart and illustrated parts information.

To install the sheet feeder, **turn off** the printer, **place** the printer in position over the feeder and **lower** the printer into position. Then **turn on** the printer.

Note: All circuitry to this feeder routes through connector J135.

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ○ Part Name ◉ Part Number

076-0453	• Main Engine Screw Kit
076-0454	• Secondary Engine Screw Kit
076-0670	• Top Cover Hinge Kit
076-0671	• Pickup Block Gear Kit
076-0671	• Pickup Block Gear Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ○ Part Name ◉ Part Number

076-0453	• Main Engine Screw Kit
076-0454	• Secondary Engine Screw Kit
076-0670	• Top Cover Hlnge Kit
076-0671	• Pickup Block Gear Kit
076-0671	• Pickup Block Gear Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ○ Part Name ◉ Part Number

076-0453	• Main Engine Screw Kit
076-0454	• Secondary Engine Screw Kit
076-0670	• Top Cover Hinge Kit
076-0671	• Pickup Block Gear Kit
076-0671	• Pickup Block Gear Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ○ Part Name ◉ Part Number

076-0453	• Main Engine Screw Kit
076-0454	• Secondary Engine Screw Kit
076-0670	• Top Cover Hinge Kit
076-0671	• Pickup Block Gear Kit
076-0671	• Pickup Block Gear Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ○ Part Name ◉ Part Number

076-0453	• Main Engine Screw Kit
076-0454	• Secondary Engine Screw Kit
076-0670	• Top Cover Hinge Kit
076-0671	• Pickup Block Gear Kit
076-0671	• Pickup Block Gear Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0672	• Pickup Block Ring/Spring Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0673	• Pickup Block Roller/Shaft Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit
076-0674	• Pickup Block Piece Parts Kit

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

Group 1: External Plastics/Top
922-0234 • Top Cover Assembly
922-0239 • Cover, Paper Output
922-0235 • Cover, Toner Access
922-0229 • Cover Liner
922-0238 • Holder, Output Tray Extension
922-0237 • Output Tray Extension
922-0236 • Cover Interlock Arm
922-0240 • Cleaning Brush
076-0678 • Engine Spring Kit
Group 2: External Plastics/Side & Bottom
922-0231 • Panel, Front
922-0233 • Door, Fuser Access
922-0258 • Strap Hinge

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ◉ Part Name ○ Part Number

922-0384 • A4 Cassette
922-0260 • Bracket, I/O Shield
922-0273 • Cable Cover
922-0213 • Cable, Engine Interface
922-0285 • Cable, Env Feeder Interface
922-0217 • Cable, HVPS-DC Controller
922-0212 • Cable, Laser-DC Controller
922-0210 • Cable, LED Display
922-0214 • Cable, Main Motor
922-0218 • Cable, Pickup Controller-DC Controller
922-0215 • Cable, Power Supply-DC Controller
922-0216 • Cable, Power Supply-I/O Controller
922-0211 • Cable, Scanner-DC Controller
922-0219 • Cable, Sheet Feeder Interface

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

Group 1: External Plastics/Top
922-0234 • Top Cover Assembly
922-0239 • Cover, Paper Output
922-0235 • Cover, Toner Access
922-0229 • Cover Liner
922-0238 • Holder, Output Tray Extension
922-0237 • Output Tray Extension
922-0236 • Cover Interlock Arm
922-0240 • Cleaning Brush
076-0678 • Engine Spring Kit
Group 2: External Plastics/Side & Bottom
922-0231 • Panel, Front
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922-0258 • Strap Hinge

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ◉ Part Name ○ Part Number

922-0384 • A4 Cassette
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922-0212 • Cable, Laser-DC Controller
922-0210 • Cable, LED Display
922-0214 • Cable, Main Motor
922-0218 • Cable, Pickup Controller-DC Controller
922-0215 • Cable, Power Supply-DC Controller
922-0216 • Cable, Power Supply-I/O Controller
922-0211 • Cable, Scanner-DC Controller
922-0219 • Cable, Sheet Feeder Interface

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

Group 3: DC Controller Board & Mount
661-0807 • DC Controller Board
922-0257 • DC Controller Mount
Group 4: Controller Board Cables
922-0218 • Cable, Pickup Controller-DC Controller
922-0210 • Cable, LED Display
922-0211 • Cable, Scanner-DC Controller
922-0212 • Cable, Laser-DC Controller
922-0213 • Cable, Engine Interface
922-0299 • Delivery/Interlock Sensor
922-0217 • Cable, HVPS-DC Controller
922-0214 • Cable, Main Motor
922-0215 • Cable, Power Supply-DC Controller
Group 5: Fuser Assembly

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ◉ Part Name ○ Part Number

922-0384 • A4 Cassette
922-0260 • Bracket, I/O Shield
922-0273 • Cable Cover
922-0213 • Cable, Engine Interface
922-0285 • Cable, Env Feeder Interface
922-0217 • Cable, HVPS-DC Controller
922-0212 • Cable, Laser-DC Controller
922-0210 • Cable, LED Display
922-0214 • Cable, Main Motor
922-0218 • Cable, Pickup Controller-DC Controller
922-0215 • Cable, Power Supply-DC Controller
922-0216 • Cable, Power Supply-I/O Controller
922-0211 • Cable, Scanner-DC Controller
922-0219 • Cable, Sheet Feeder Interface

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

Group 6: Pickup Block/Miscellaneous
922-0279 • Paper Pickup Block
922-0286 • MP Tray Guide Assy
922-0287 • Lever, Sensor
922-0282 • Guide, MP Tray, Upper
922-0284 • Guide, Opening
922-0289 • Sensor Holder Assy
922-0283 • Paper Guide
922-0290 • Multipurpose Guide Plate
922-0288 • Guide
076-0674 • Pickup Block Piece Parts Kit
Group 7: Pickup Block/Circuit Boards
922-0206 • Pickup Controller Board
922-0208 • Pickup Sensor Board

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ◉ Part Name ○ Part Number

922-0384 • A4 Cassette
922-0260 • Bracket, I/O Shield
922-0273 • Cable Cover
922-0213 • Cable, Engine Interface
922-0285 • Cable, Env Feeder Interface
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922-0212 • Cable, Laser-DC Controller
922-0210 • Cable, LED Display
922-0214 • Cable, Main Motor
922-0218 • Cable, Pickup Controller-DC Controller
922-0215 • Cable, Power Supply-DC Controller
922-0216 • Cable, Power Supply-I/O Controller
922-0211 • Cable, Scanner-DC Controller
922-0219 • Cable, Sheet Feeder Interface

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

Group 8: Pickup Block/Inner Left Frame
922-0277 • Gear Mount
076-0673 • Pickup Block Roller/Shaft Kit
076-0674 • Pickup Block Piece Parts Kit
Group 9: Pickup Block/Outer Left Frame
076-0672 • Pickup Block Ring/Spring Kit
076-0673 • Pickup Block Roller/Shaft Kit
922-0275 • Cassette Pickup Solenoid
922-0278 • Multipurpose Pickup Solenoid
922-0276 • Pickup Block Frame, Left
922-0207 • Pickup Block Motor
Group 10: Pickup Block/Gear Kit
076-0671 • Pickup Block Gear Kit
Group 11: Pickup Block/Pickup Rollers

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ◉ Part Name ○ Part Number

922-0384 • A4 Cassette
922-0260 • Bracket, I/O Shield
922-0273 • Cable Cover
922-0213 • Cable, Engine Interface
922-0285 • Cable, Env Feeder Interface
922-0217 • Cable, HVPS-DC Controller
922-0212 • Cable, Laser-DC Controller
922-0210 • Cable, LED Display
922-0214 • Cable, Main Motor
922-0218 • Cable, Pickup Controller-DC Controller
922-0215 • Cable, Power Supply-DC Controller
922-0216 • Cable, Power Supply-I/O Controller
922-0211 • Cable, Scanner-DC Controller
922-0219 • Cable, Sheet Feeder Interface

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

Group 12: Pickup Block/Feeder Interface
922-0285 • Cable, Env Feeder Interface
076-0674 • Pickup Block Piece Parts Kit
Group 13: Delivery Roller Assembly
922-0292 • Delivery Roller Assembly
076-0675 • Delivery Assembly Piece Parts Kit
922-0298 • Upper Delivery Guide
922-0297 • Roller, Upper Delivery
922-0296 • Roller, Lower Delivery
922-0293 • Delivery Frame
922-0295 • Roller, Upper Passive Dlvry
Group 14: Drive Belt Components
922-0209 • Drive Belt
922-0294 • Drive Belt End Plate

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ◉ Part Name ○ Part Number

922-0384 • A4 Cassette
922-0260 • Bracket, I/O Shield
922-0273 • Cable Cover
922-0213 • Cable, Engine Interface
922-0285 • Cable, Env Feeder Interface
922-0217 • Cable, HVPS-DC Controller
922-0212 • Cable, Laser-DC Controller
922-0210 • Cable, LED Display
922-0214 • Cable, Main Motor
922-0218 • Cable, Pickup Controller-DC Controller
922-0215 • Cable, Power Supply-DC Controller
922-0216 • Cable, Power Supply-I/O Controller
922-0211 • Cable, Scanner-DC Controller
922-0219 • Cable, Sheet Feeder Interface

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

Group 14: Drive Belt Components
922-0209 • Drive Belt
922-0294 • Drive Belt End Plate
076-0675 • Delivery Assembly Piece Parts Kit
Group 15: Laser/Scanner Assembly
661-0801 • Laser/Scanner Assembly
922-0241 • Laser Shutter
076-0678 • Engine Spring Kit
Group 16: Power Supplies
661-0802 • Power Supply (110/115)
661-0803 • Power Supply (220/240)
922-0216 • Cable, Power Supply-I/O Controller
Group 17: High-Voltage Power Components
922-0269 • HVPS Cover

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ◉ Part Name ○ Part Number

922-0384 • A4 Cassette
922-0260 • Bracket, I/O Shield
922-0273 • Cable Cover
922-0213 • Cable, Engine Interface
922-0285 • Cable, Env Feeder Interface
922-0217 • Cable, HVPS-DC Controller
922-0212 • Cable, Laser-DC Controller
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922-0214 • Cable, Main Motor
922-0218 • Cable, Pickup Controller-DC Controller
922-0215 • Cable, Power Supply-DC Controller
922-0216 • Cable, Power Supply-I/O Controller
922-0211 • Cable, Scanner-DC Controller
922-0219 • Cable, Sheet Feeder Interface

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: (•) Group ( ) Part Name ( ) Part Number

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: (•) Group ( ) Part Name ( ) Part Number

Group 21: Main Motor & Drive Assembly
922-0274 • Drive Assembly
922-0203 • Main Motor
Group 22: Multipurpose Tray Components
922-0221 • Cover, Multipurpose Tray
922-0228 • Multipurpose Tray Extension
922-0227 • Multipurpose Tray
922-0253 • Closure Panel
922-0248 • Lateral Brace
Group 23: Cartridge Guides
922-0243 • Toner Cartridge Guide, Right
922-0242 • Toner Cartridge Guide, Left
922-0244 • Toner Cartridge Support
922-0250 • Toner Pressure Arm, Left

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

922-0251 • Toner Pressure Arm, Right
922-0246 • Laser Shutter Arm
922-0252 • MP Tray Latch
076-0678 • Engine Spring Kit
Group 24: Engine/Paper Feeder Interface
922-0219 • Cable, Sheet Feeder Interface
922-0272 • Sheet Feeder Connecting Block
922-0273 • Cable Cover
076-0678 • Engine Spring Kit
Group 25: Delivery/Interlock Assembly
922-0299 • Delivery/Interlock Sensor
Group 26: LED Display
922-0232 • LED Display
922-0230 • LED Shield

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: (•) Group ( ) Part Name ( ) Part Number

Group 27: I/O Board Miscellaneous
922-0262 • I/O Shield
922-0263 • I/O Cover Plate
922-0260 • Bracket, I/O Shield
922-0261 • Hard Drive Mount
922-0264 • I/O Shield End Plate
Group 28: I/O Boards
661-0799 • LaserWriter Pro 600 I/O Board
661-0800 • LaserWriter Pro 630 I/O Board
922-0259 • Shield, Controller Board Connectors
076-0680 • I/O Controller Screw Kit
Group 29: Index of Kits
076-0670 • Top Cover Hinge Kit
076-0671 • Pickup Block Gear Kit

LaserWriter Pro — Illustrated Parts - By List

Do Manuals Chapters ? «

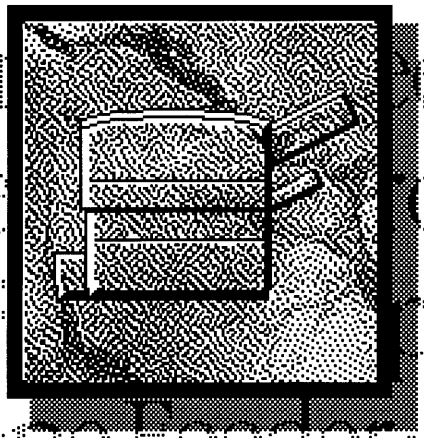
View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

076-0672 • Pickup Block Ring/Spring Kit
076-0673 • Pickup Block Roller/Shaft Kit
076-0674 • Pickup Block Piece Parts Kit
076-0675 • Delivery Assembly Piece Parts Kit
076-0676 • Fuser Roller/Bushing/Gear Kit
076-0677 • Fuser Spring Kit
076-0678 • Engine Spring Kit
076-0680 • I/O Controller Screw Kit
076-0453 • Main Engine Screw Kit
076-0454 • Secondary Engine Screw Kit

Not Pictured

922-0382 • Letter Cassette
922-0383 • Universal Cassette
922-0384 • A4 Cassette

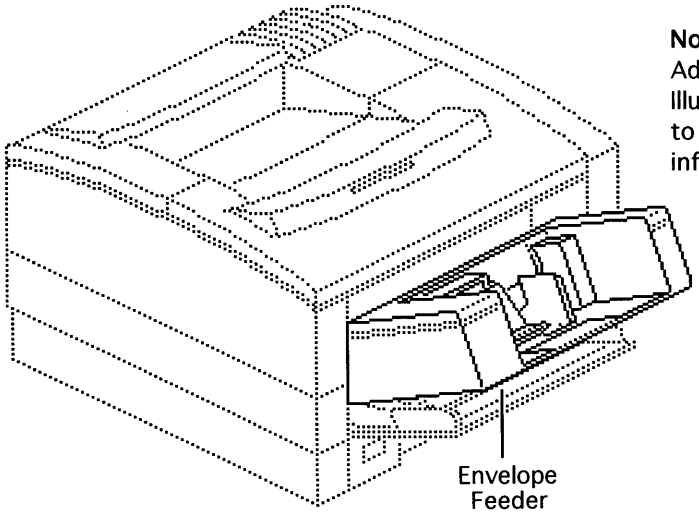
LW Pro Envelope Feeder



The product covered in this manual is

LaserWriter Pro Envelope Feeder

Note: This manual covers the Take Apart, Additional Procedures, Adjustments, and Illustrated Parts for the envelope feeder. Refer to the main LaserWriter Pro manual for all other information.

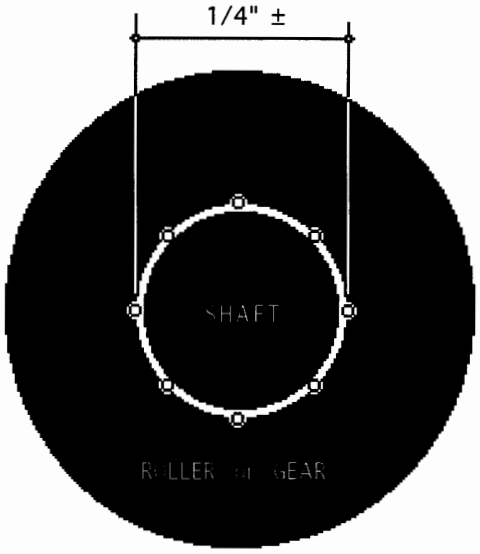


Slip torque rollers and gears are ratchet gears that use bearings instead of teeth to govern rotation:

Primary Feed Roller:
This roller acts independently of the shaft when the roller is rotated in reverse, thus permitting free removal of jams.

Separation Drive Assembly:
The gearing at the end of the separation assembly is comprised of one passive gear and two slip torque gears. This assembly results in counter-rotation of the separation rollers, regardless of the drive direction of the gear train.

Pickup Roller Shafts:
The two gears that mesh with the transfer drive assembly are slip torque gears.



Animation

LW Pro Envelope Feeder Troubleshooting Info - Not Installed

Do Manuals Chapters ? «

1 of 1

LW Pro Envelope Feeder Flowcharts - Not Installed

Do Manuals Chapters ? «

Task Done

Back Up

LW Pro Envelope Feeder — Symptom Charts - Not Installed

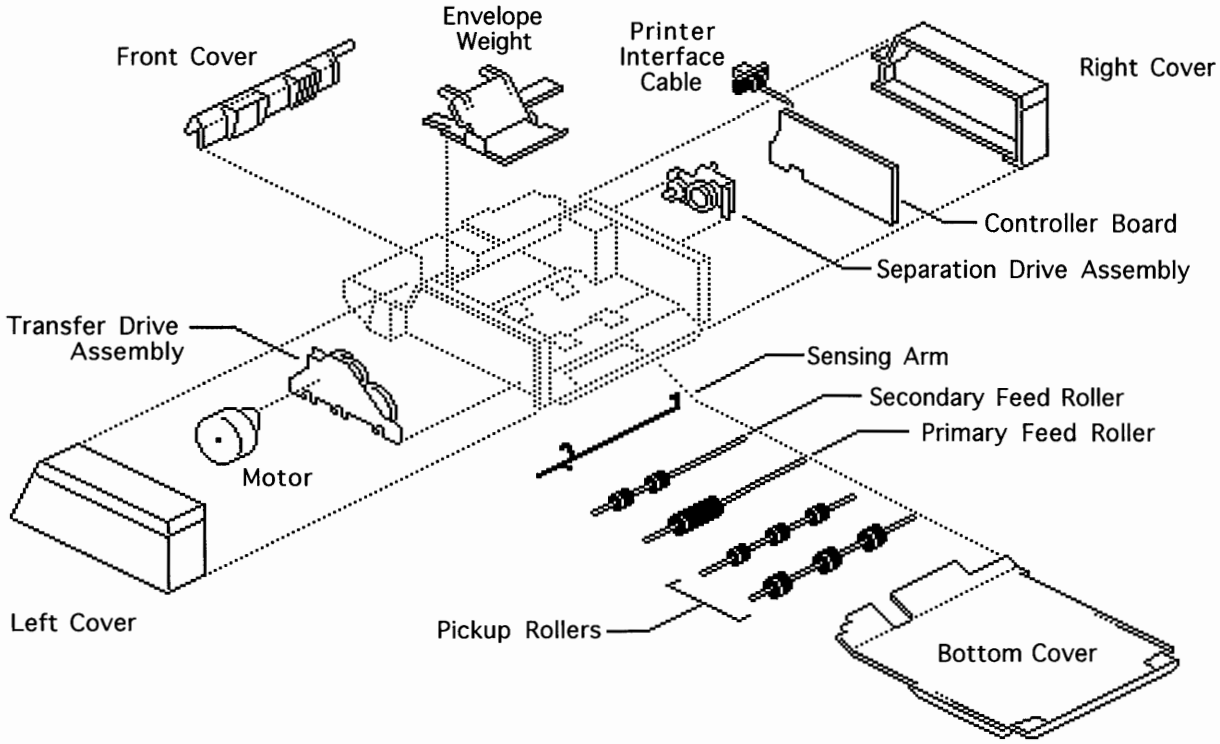
Do Manuals Chapters ? «

1 of 1

Symptoms: **Cures:**

LW Pro Envelope Feeder — Take Apart - By Exploded View

Do Manuals Chapters ? «



LW Pro Envelope Feeder — Take Apart - By List

Do | Manuals | Chapters | ? | «

View the Take Apart list by: ◉ Take Apart Order ○ Assembly

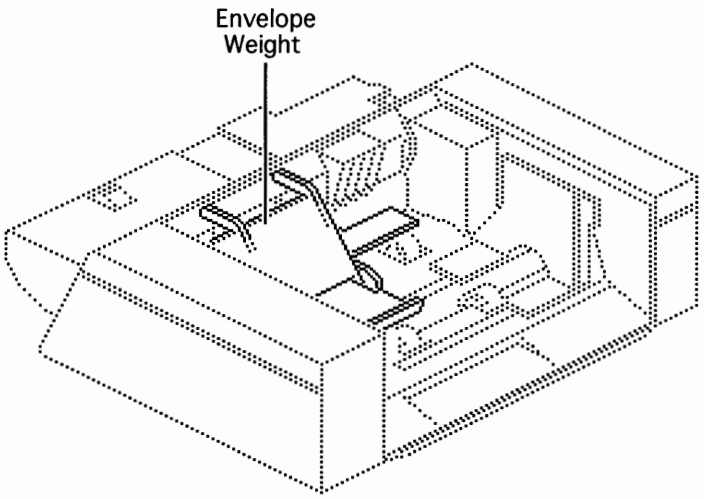
- Envelope Weight
- Left Cover
- Right Cover
- Front Cover
- Bottom Cover
- Motor
- Sensing Arm
- Controller Board
- Printer Interface Cable
- Pickup Rollers
- Transfer Drive Assembly
- Separation Drive Assembly
- Primary Feed Roller
- Secondary Feed Roller

LW Pro Envelope Feeder — Take Apart - By List

Do | Manuals | Chapters | ? | «

View the Take Apart list by: ○ Take Apart Order ◉ Assembly

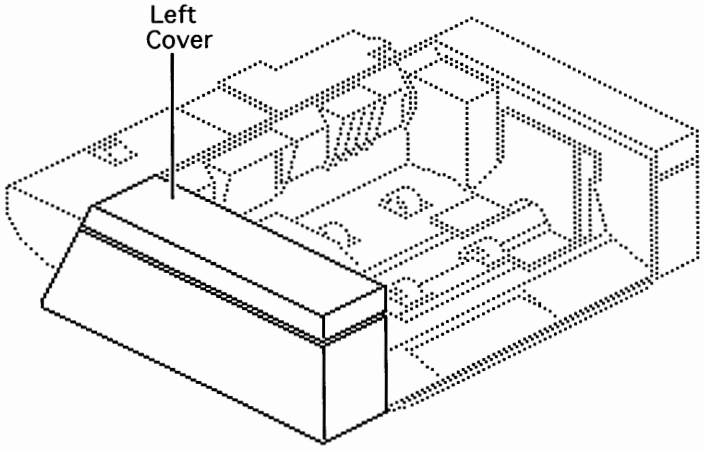
- Bottom Cover
- Controller Board
- Envelope Weight
- Front Cover
- Left Cover
- Motor
- Pickup Rollers
- Primary Feed Roller
- Printer Interface Cable
- Right Cover
- Secondary Feed Roller
- Sensing Arm
- Separation Drive Assembly
- Transfer Drive Assembly



First:

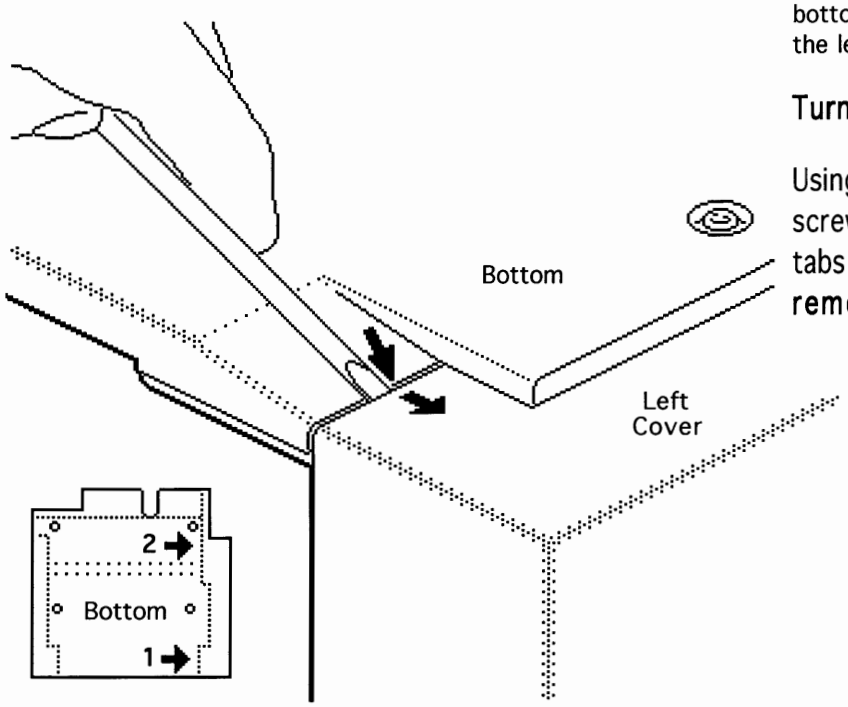
No First Steps Required

Pull one of the arms out of the pin and **lift out** the weight.



First:

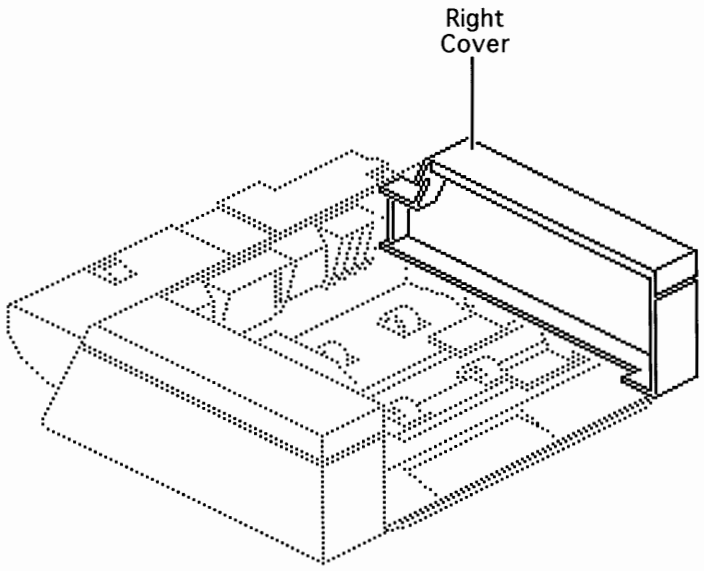
Remove Envelope Weight



Note: Two hidden flex tabs on the bottom and two posts at the top attach the left cover to the feeder.

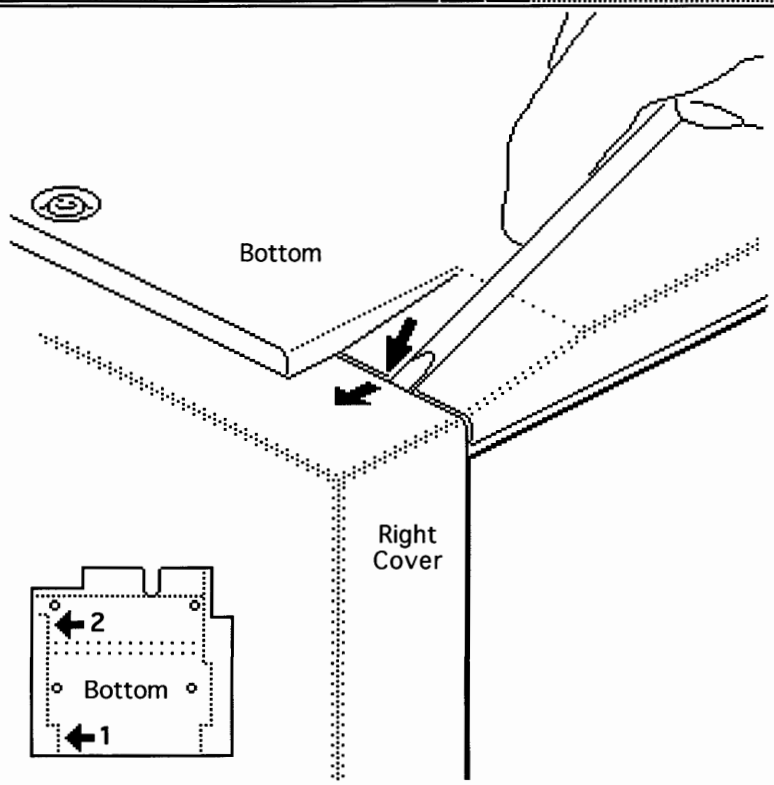
Turn over the envelope feeder.

Using a small flat-blade screwdriver, **pry** the two hidden tabs in the order shown and **remove** the left cover.



First:

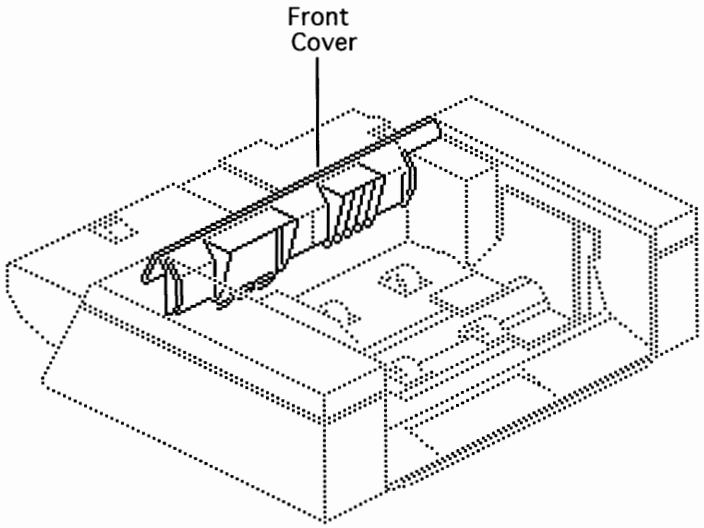
Remove Envelope Weight



Note: Two hidden flex tabs on the bottom and two posts at the top attach the right cover to the feeder.

Turn over the envelope feeder.

Using a small flat-blade screwdriver, **pry** the two hidden tabs in the order shown and **remove** the right cover.



First:

Remove Envelope Weight
Remove Left Cover
Remove Right Cover

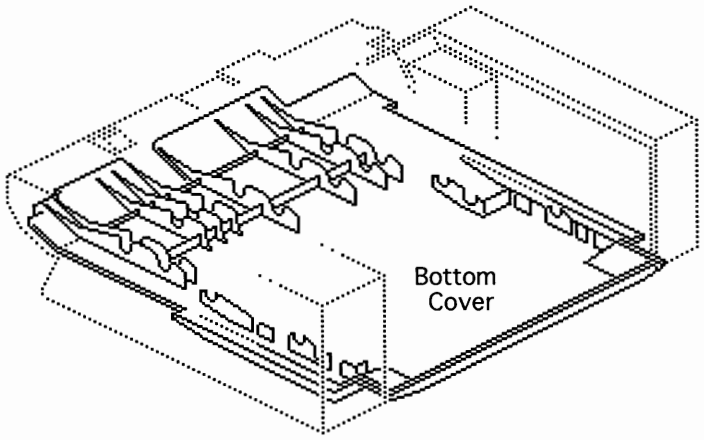
Note: If you remove the separation guide plate from the front cover, you must adjust the gap between the separation guide plate and the primary feed roller. See "Separation Guide Opening" in Adjustments.

Remove the screw that secures the grounding cable that runs from the front cover.

Release the two flex tab connectors at each side of the feed opening and **pull out** the front cover.

Note: The QuickTime photo shows the flex tab connector at the left side of the feed opening.

Photo



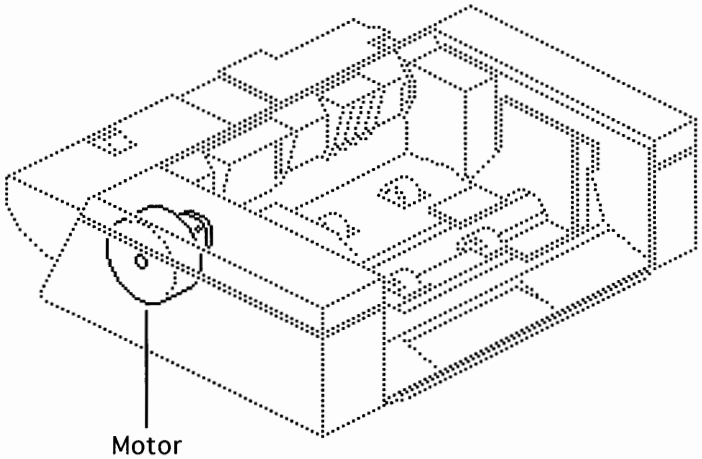
First:

Remove Envelope Weight
Remove Left Cover
Remove Right Cover

Remove the four screws and **lift off** the bottom cover.

First:

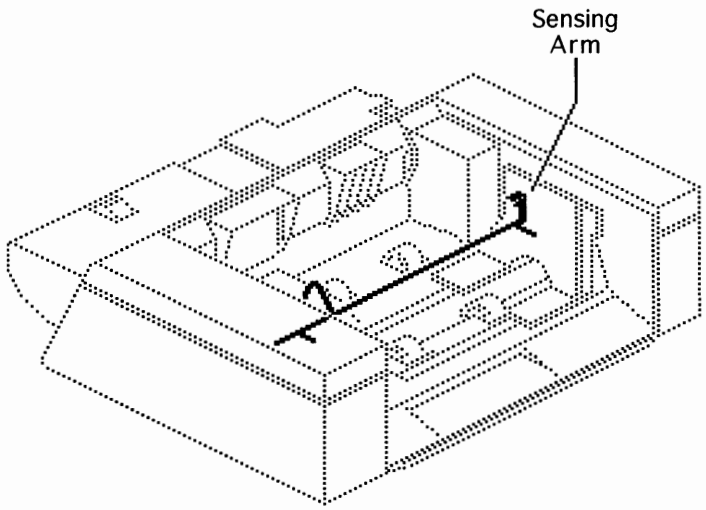
Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover



LW Pro Envelope Feeder Take Apart - Motor
Do Manuals Chapters ? « 2 of 2

Disconnect motor cable J932 from the controller board and **remove** the cable from the retaining channel in the feeder.

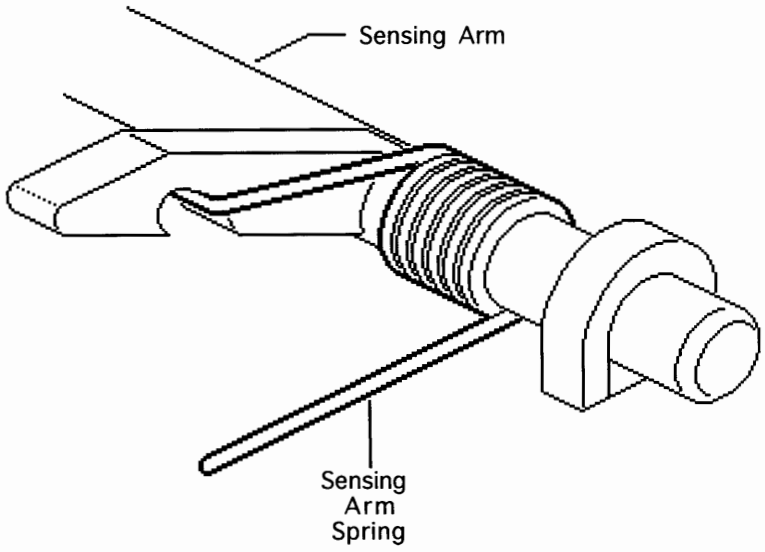
Remove the two screws that secure the motor to the feeder and **lift off** the motor.



First:

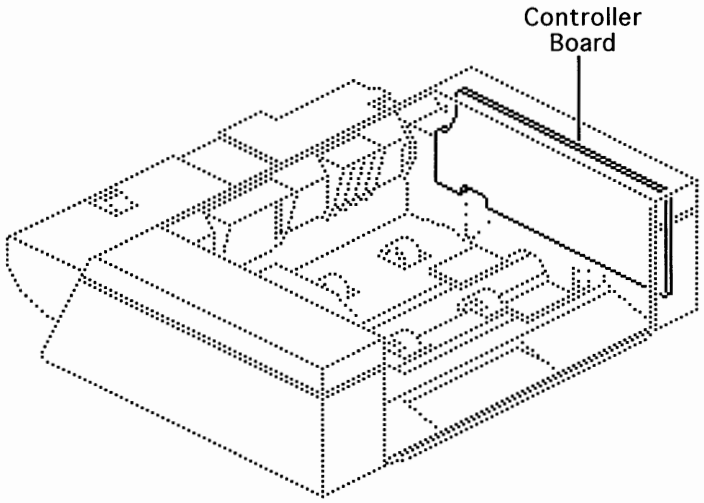
Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover

LW Pro Envelope Feeder Take Apart - Sensing Arm
Do Manuals Chapters ? « 2 of 2



Slide out the tray extension, **snap** the sensing arm out of the collar grip, and **lift** the arm out of the feeder.

Replacement Note: Be sure to install the spring at the end of the sensing arm as shown in the diagram. Confirm arm installation by tripping the lever end of the arm at the controller board. The lever should rotate freely through a 45° arc.



First:

Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover

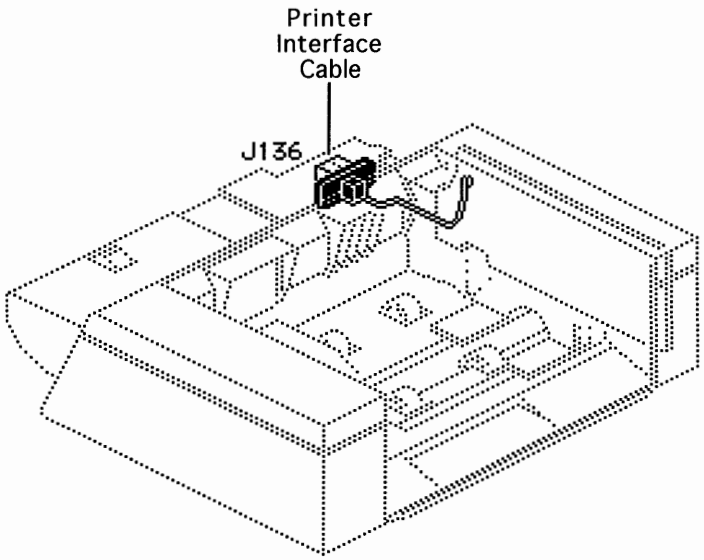
Note: See "Circuit Board Diagrams" in Basics in the LaserWriter Pro manual for layout of board.

LW Pro Envelope Feeder Take Apart - Controller Board
Do Manuals Chapters ? «

Disconnect the two cables from the controller board.

Snap the sensing arm out of the collar grip and **raise** the arm above the edge of the board.

Remove the screw in the bottom left corner of the board, **pull** the board off the two positioning pins, and **remove** the board from the feeder.



First:

Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover

LW Pro Envelope Feeder Take Apart - Printer Interface Cable
Do Manuals Chapters ? « 2 of 2

Remove the two screws that secure the green ground wire and the ferrite core to the mounting bracket.

Replacement Note: The screw securing the ferrite core is the 3/8 inch (100 mm) black washer-head screw.

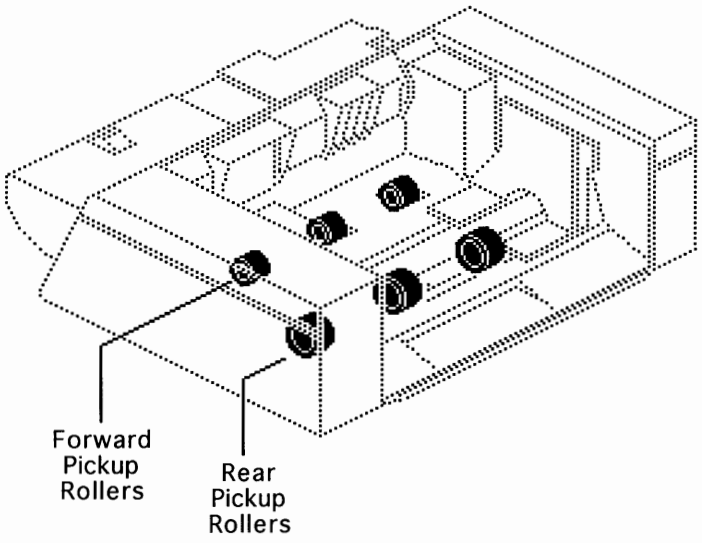
Disconnect J931 from the controller board and **free** the cable from the clamp.

Open the ferrite core and **remove** the cables from it.

Note: The ferrite core opens like a clamshell to allow removal of the cables.

Release the expansion posts behind the receptacle and **remove** the interface cable from the feeder.

Note: Refer to "Expansion Post Connectors" in Additional Procedures.



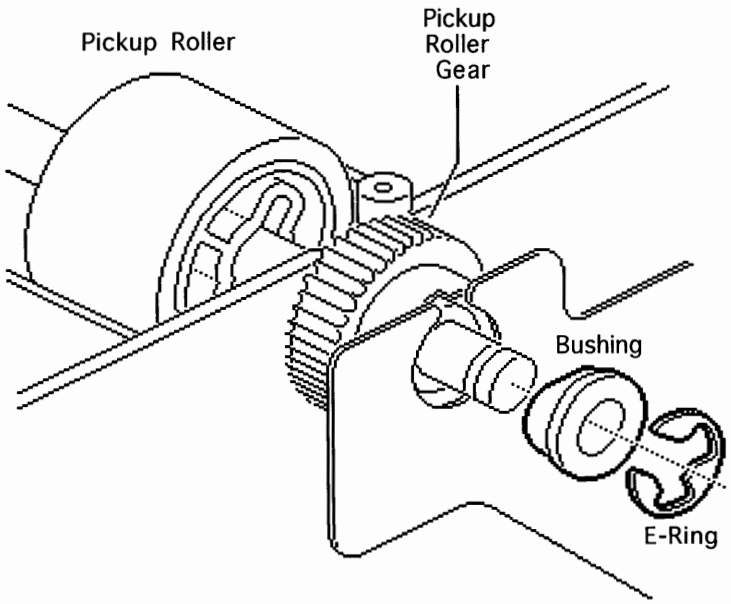
First:

Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover

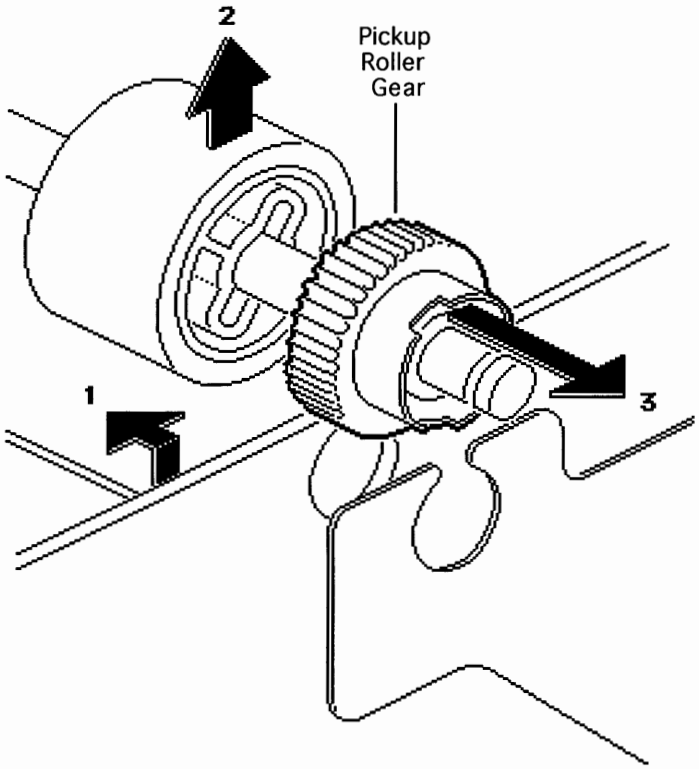
Note: The removal procedure is identical for both the rear and forward pickup rollers. The pickup rollers are independent of the shafts and are available separately.

Because the envelope feeder draws from the bottom of a stack of envelopes instead of from the top, the pickup rollers don't operate against gravity and consequently don't look like conventional pickup rollers. They do, however, perform the same function.

Pull out the tray extension.



Remove the E-ring from the end of the shaft and **slide** the bushing from the drive assembly plate off the end of the shaft.



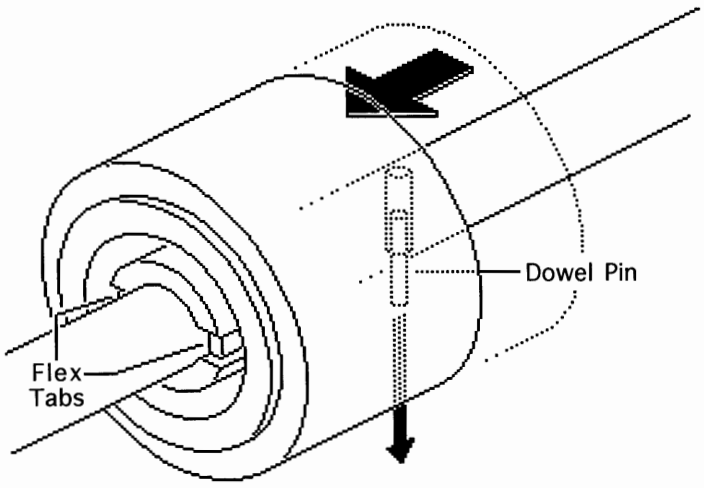
Raise the pickup roller shaft slightly, **push** it about 1/4 inch inward to clear the bushing at the opposite end, and **remove** the shaft from the feeder.

Slide the gear off the shaft.

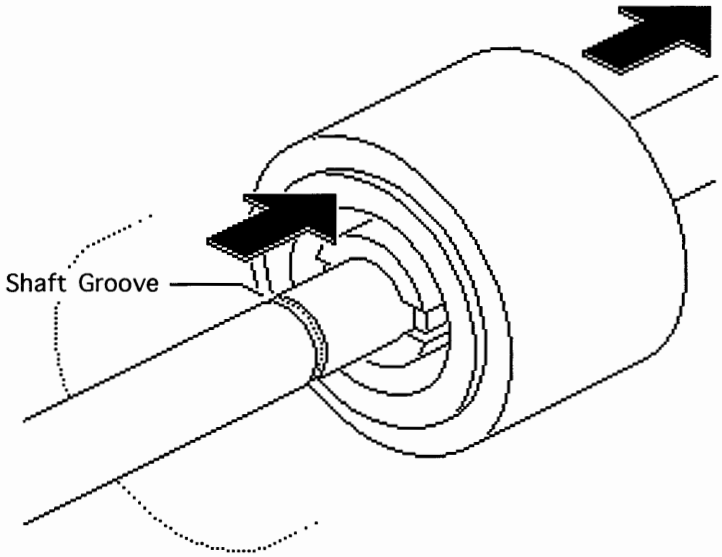
Note: If you are removing the leftmost roller, remove the E-ring and bushing on that end (not shown here).

Note: The following procedure describes removal of a single roller. If you want to remove the middle roller, repeat these steps.

Caution: The dowel pin on the opposite side of the rollers falls out the moment the roller slides away.

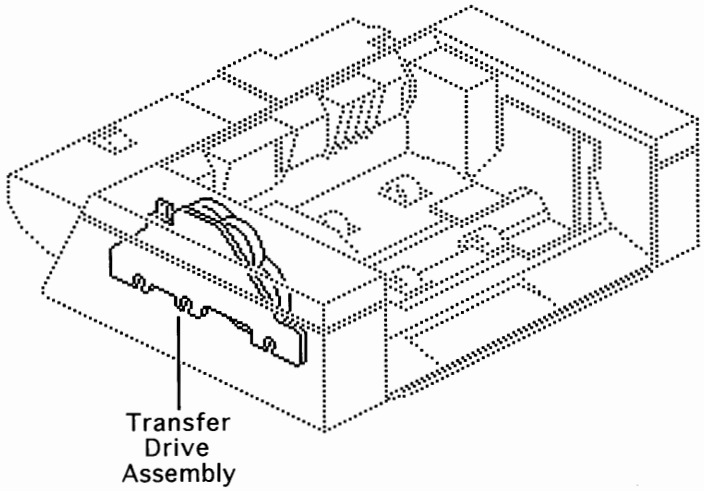


Using your fingernails or a small jeweler's screwdriver, **release** the two flex tabs, **slide** the roller off the dowel pin, and **catch** the pin in your hand.



Slip the roller off the end of the shaft, and **release** the tabs at the shaft grooves as necessary.

Replacement Note: The smaller rollers and gear go on the forward shaft and the larger ones go on the rear.



First:

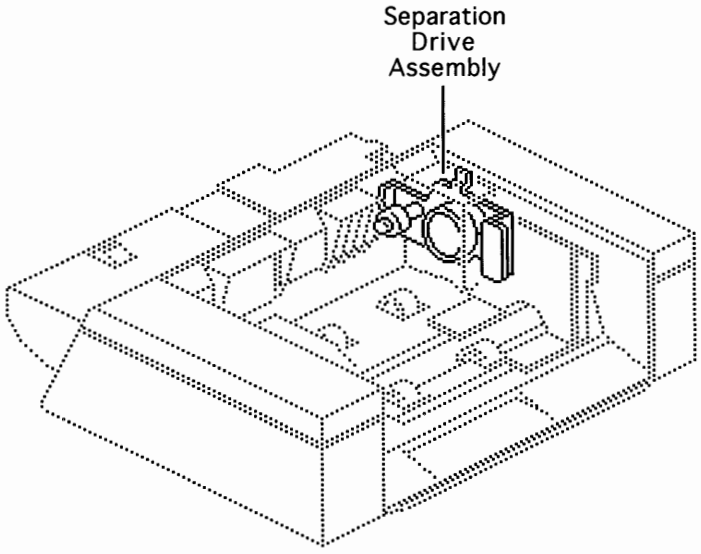
Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover
Remove Motor

Note: The transfer drive assembly receives rotational drive directly from the motor and transfers it to the pickup and main feed shafts.

Remove the E-rings and bushings at the end of the three roller shafts.

Remove the three screws that secure the transfer drive assembly to the feeder body.

Lift the transfer drive assembly from the feeder.



First:

Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover
Remove Controller Board

Note: The separation drive assembly receives rotational drive through the primary feed shaft. The assembly then transfers drive through three variable action gears to the separation assembly and secondary feed roller.

Remove the E-rings and bushings at the end of the three roller shafts and the two screws that secure the drive assembly to the feeder body.

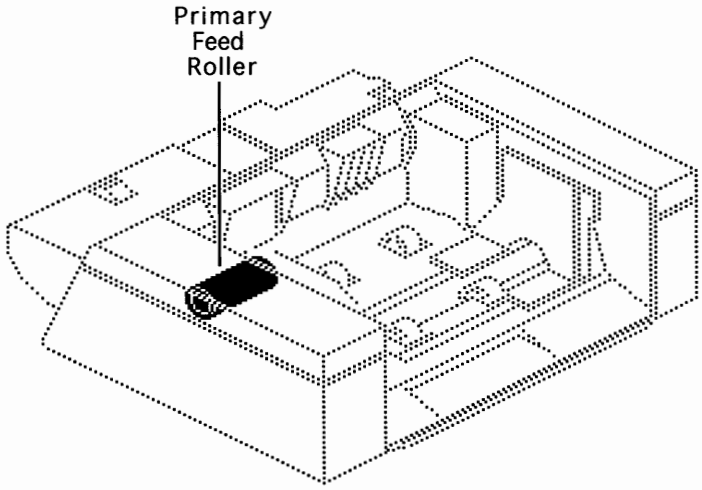
Pull the assembly away from the feeder body.

Note: Stop here if you are removing the roller shaft or roller gear.

If you are replacing either of the two gears within the assembly, you can release the gear's tab and slide it off the spindle now.

If you are replacing a defective separation drive assembly, remove the two screws securing the ground and the ferrite core and detach the assembly from the feeder.

Replacement Note: It is a good idea to confirm drive train integrity at this point before completing feeder reassembly. Place your fingertips on the primary feed roller and rotate it counter to paper flow. All gears and rollers within the envelope feeder should rotate freely. (The motor must be removed from the transfer drive assembly to decrease the torque.) If the rollers do not rotate, make sure that all gears and shafts are seated correctly.



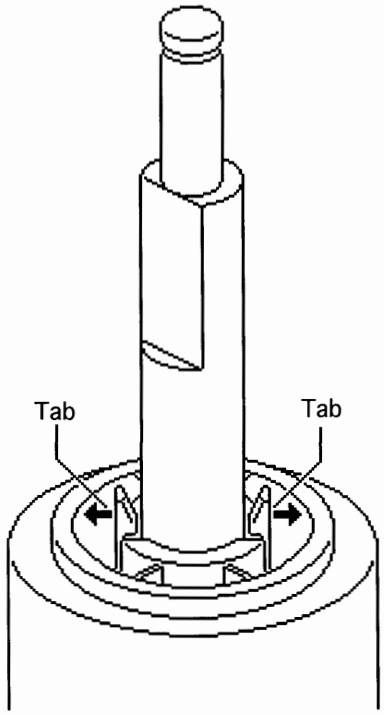
First:

Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover
Remove Controller Board
Remove Separation Drive Assembly

Note: The primary feed roller is the 2-inch wide roller visible at the bottom of the three-pronged paper guide. The primary feed shaft is responsible for tranferring drive across the width of the feeder to the separation drive assembly.

Slide the primary feed shaft about an inch away from the motor side of the feeder and let the gear at that end drop free.

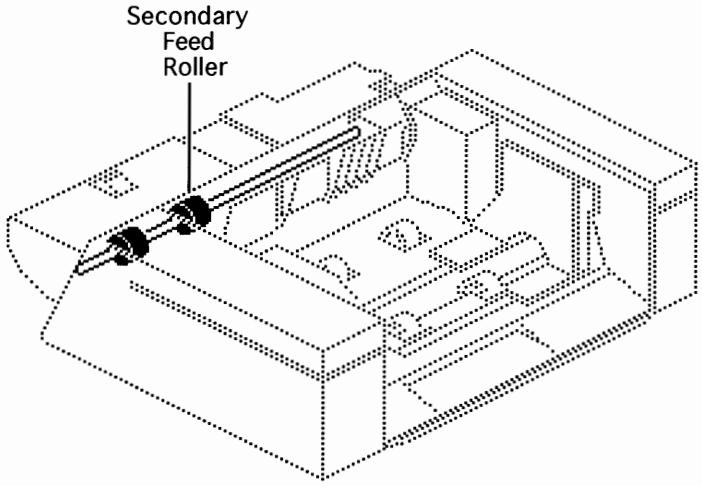
Raise the shaft a short distance and **slide** the shaft back and out the motor side of the feeder.
Catch the gear on the opposite end as it falls off the shaft.



Note: The primary feed roller has a pinless connection (see "Slip Torque Rollers" in Basics). The roller is secured laterally by small tabs that snag the groove in the metal shaft.

Hold the shaft upright with the roller on the high end.

Using your fingernails, **release** the two small tabs and **slide** the roller off the shaft.



First:

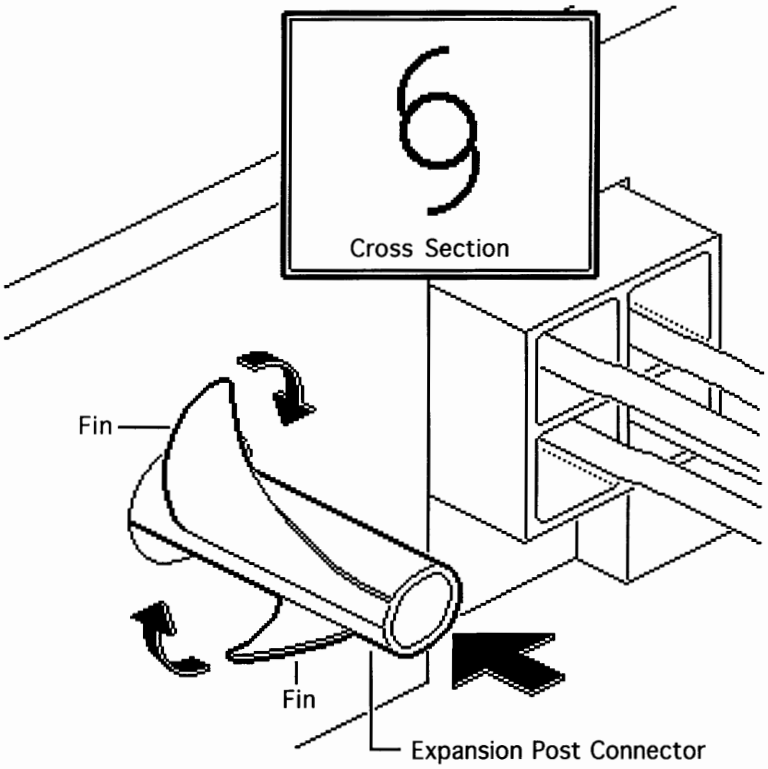
Remove Envelope Weight
Remove Left Cover
Remove Right Cover
Remove Bottom Cover
Remove Controller Board
Remove Separation Drive Assembly

Note: This part has a solid shaft/roller construction. The rollers cannot be ordered separately.

Remove the E-ring and bushing at the end of the shaft near the motor and **slide** the shaft out of the positioning hole.

Raise the shaft a short distance and **slide** the shaft back and out the motor side of the feeder. **Catch** the gear on the opposite end as it falls off the shaft.

LW Pro Envelope Feeder Additional Procedures - Expansion Post Connectors



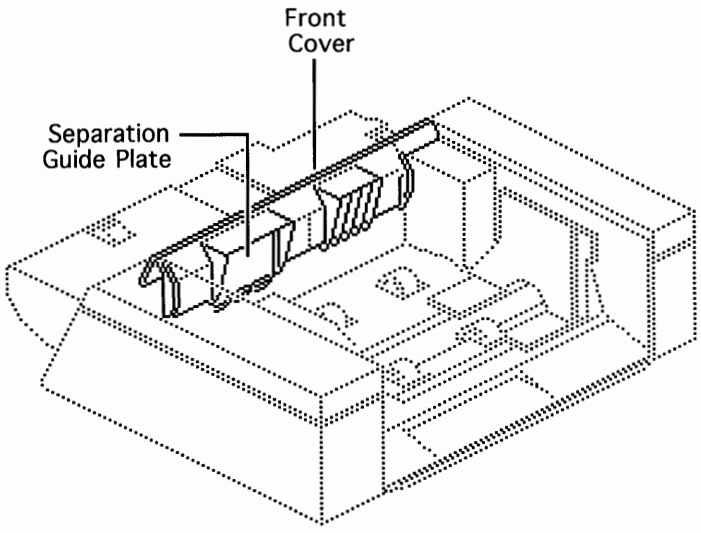
First:

No First Steps Required

Note: The LaserWriter Pro has several cable receptacles that are secured to the printer by finned post connectors. The fins expand when you insert the connector, but once the connector is installed it can be difficult to remove. Listed below are some removal tools that you can try:

- Fingers
- Small bent-nose pliers
- Grip-rings forced around the post in collar fashion
- 5 mm nut driver

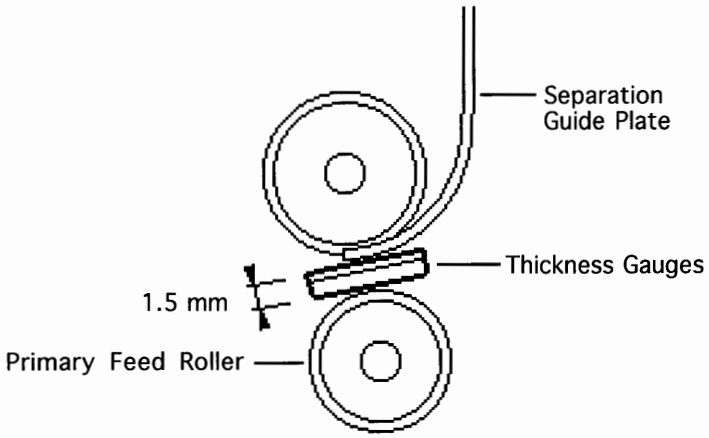
LW Pro Envelope Feeder Adjustments - Separation Guide Opening



First:

No First Steps Required

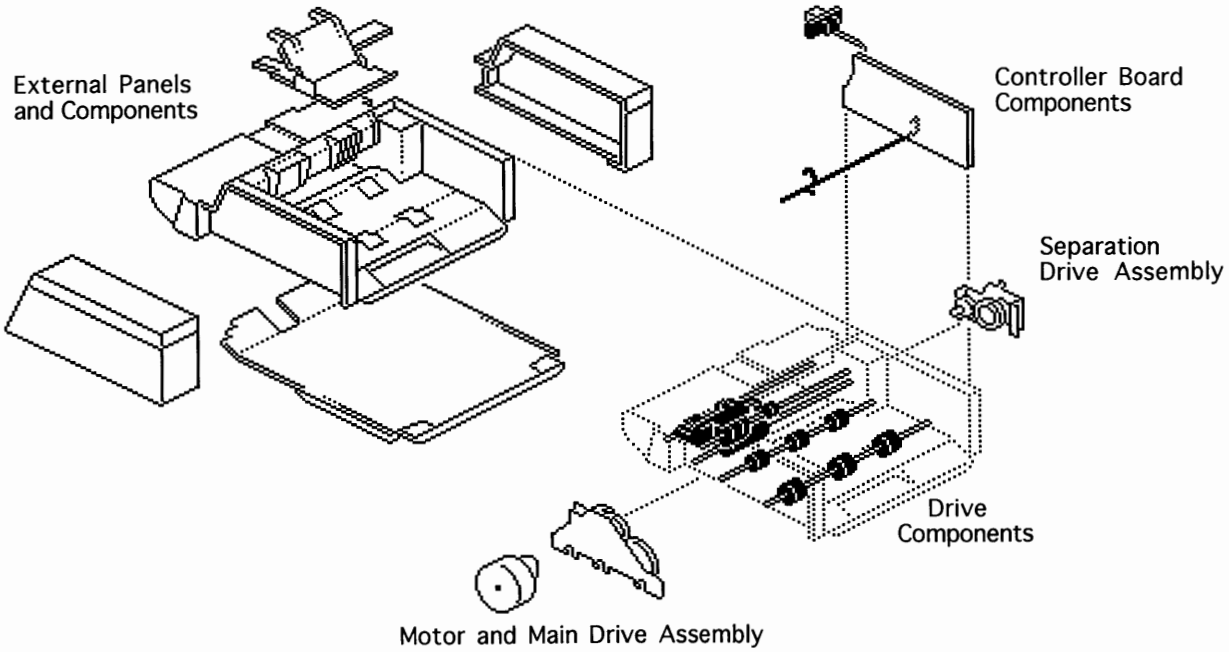
Note: If you have removed the separation guide plate from the front cover, you must adjust the gap between the separation guide plate and the primary feed roller.



Loosen the screw that secures the guide plate to the front cover.

Insert a 1 mm and 0.5 mm thickness gauge between the guide plate and the primary feed roller.

Tighten the screw.



LW Pro Envelope Feeder — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ◉ Group ○ Part Name ○ Part Number

Group 1: External Parts

922-0122 • Feeder Frame
922-0126 • Tray Extension
922-0123 • Cover, Bottom
922-0129 • Cover, Left
922-0124 • Cover, Right
922-0125 • Sizing Guide
922-0127 • Envelope Weight
922-0128 • Envelope Weight Arm
922-0130 • Cover, Front
922-0131 • Guide Plate
922-0132 • Guide Plate Ground
922-0133 • Cable, Guide Plate Grounding
076-0663 • Bushing/Ring/Spring Kit

LW Pro Envelope Feeder — Illustrated Parts - By List

Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ◉ Part Name ○ Part Number

076-0663 • Bushing/Ring/Spring Kit
076-0663 • Bushing/Ring/Spring Kit
076-0663 • Bushing/Ring/Spring Kit
076-0663 • Bushing/Ring/Spring Kit
922-0142 • Cable Clamp
922-0133 • Cable, Guide Plate Grounding
922-0139 • Cable, Printer Interface
661-0797 • Controller Board
922-0123 • Cover, Bottom
922-0130 • Cover, Front
922-0129 • Cover, Left
922-0124 • Cover, Right
922-0141 • Drive Assembly
922-0128 • Envelope Weight Arm

LW Pro Envelope Feeder — Illustrated Parts - By List

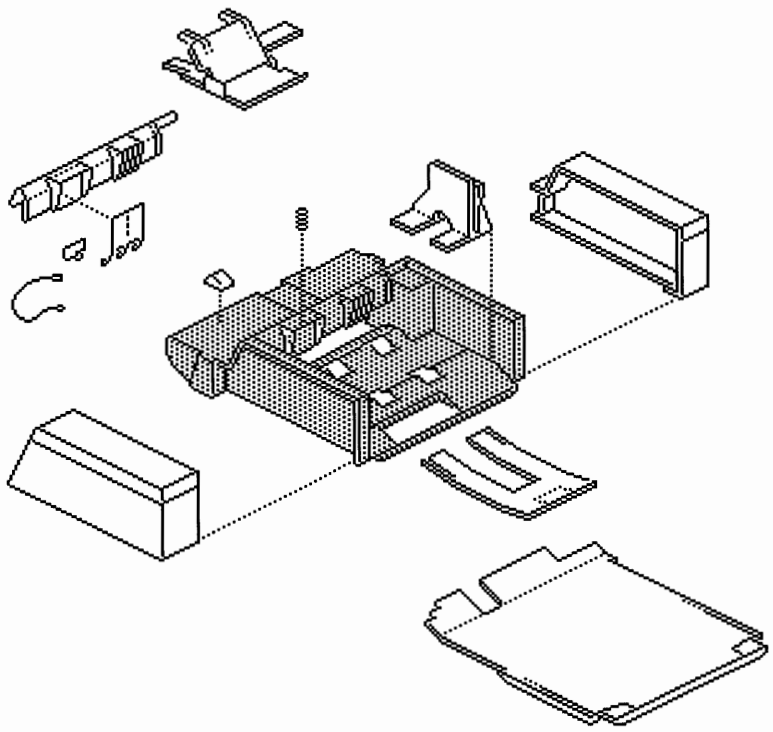
Do Manuals Chapters ? «

View the Illustrated Parts list by: ○ Group ○ Part Name ◉ Part Number

076-0662	• Gear Kit
076-0662	• Gear Kit
076-0662	• Gear Kit
076-0663	• Bushing/Ring/Spring Kit
076-0663	• Bushing/Ring/Spring Kit
076-0663	• Bushing/Ring/Spring Kit
076-0663	• Bushing/Ring/Spring Kit
076-0664	• Roller/Pin Kit
076-0664	• Roller/Pin Kit
076-0665	• Screw Kit
661-0797	• Controller Board
922-0121	• Motor
922-0122	• Feeder Frame
922-0123	• Cover, Bottom

LW Pro Envelope Feeder — Group 1: External Parts

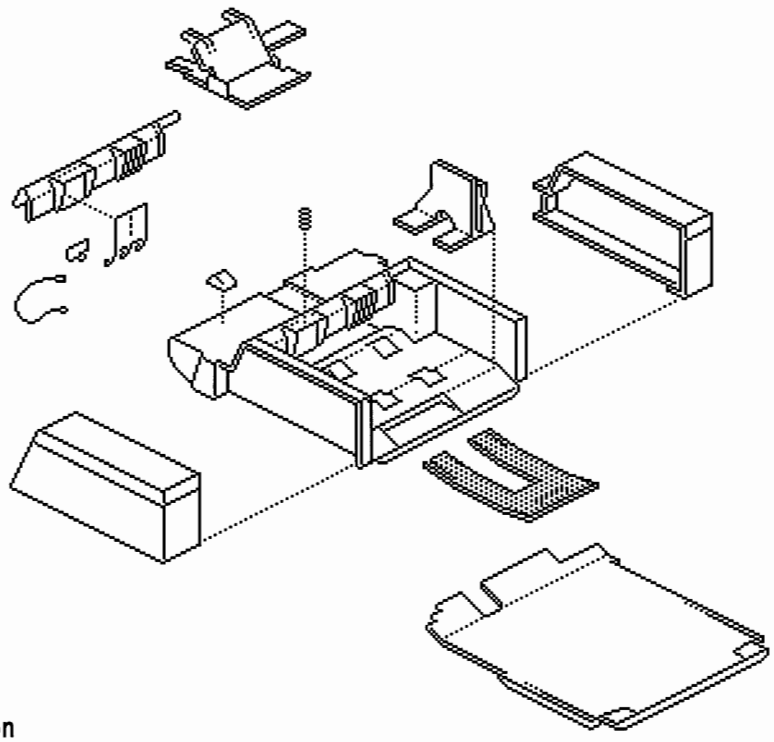
Do Manuals Chapters ? « ◀ 1 of 14 ▶



Reimbursement: N/A

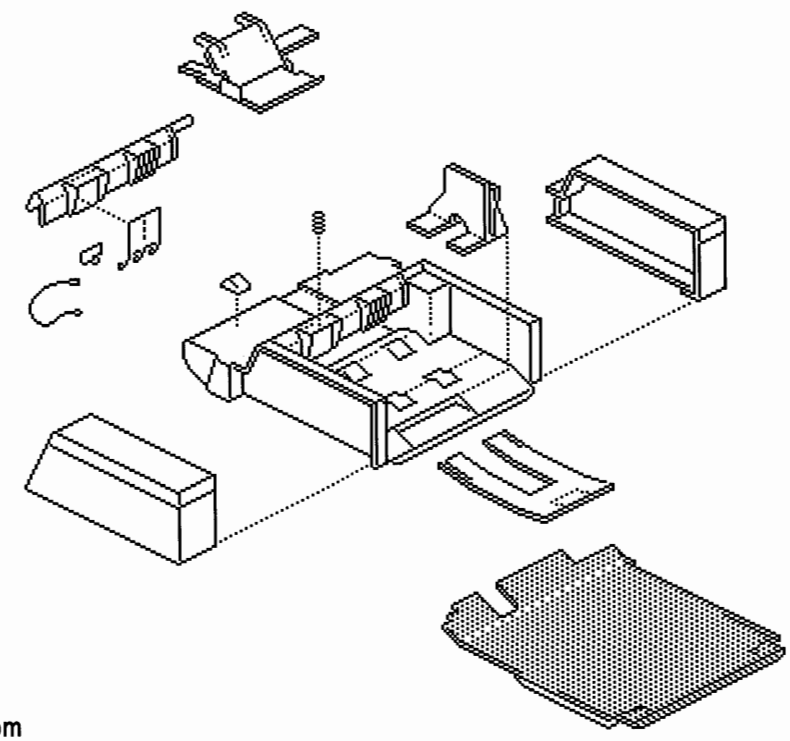
Required Stocking: N/A

922-0122 Feeder Frame



Reimbursement: N/A
Required Stocking: N/A

922-0126 Tray Extension

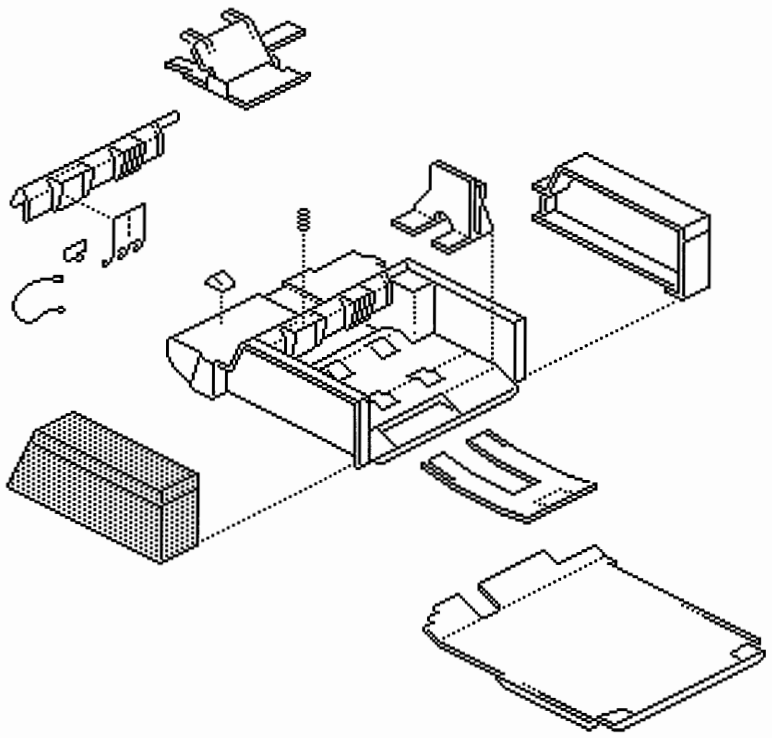


Reimbursement: N/A
Required Stocking: N/A

922-0123 Cover, Bottom

LW Pro Envelope Feeder Group 1: External Parts

Do Manuals Chapters ? « 4 of 14



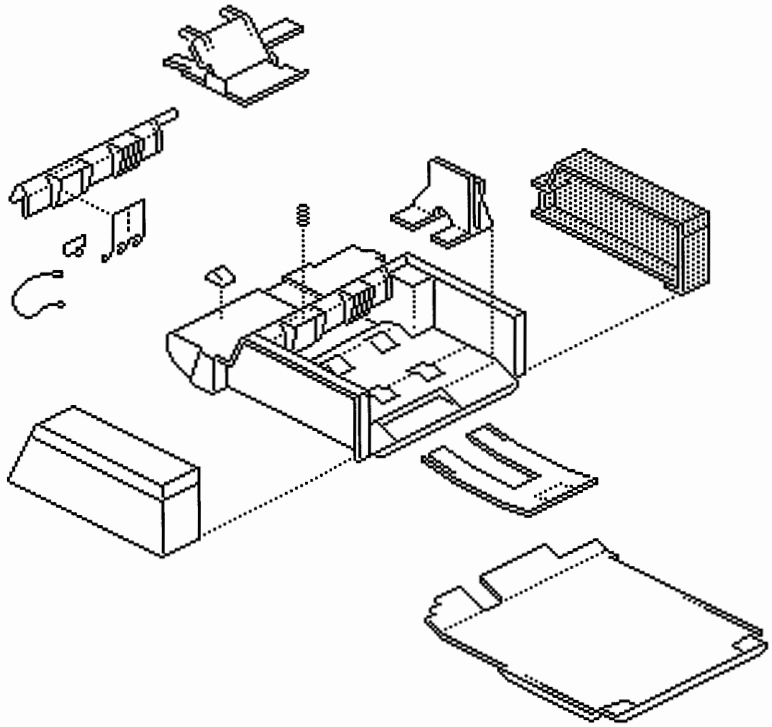
Reimbursement: N/A

Required Stocking: N/A

922-0129 Cover, Left

LW Pro Envelope Feeder Group 1: External Parts

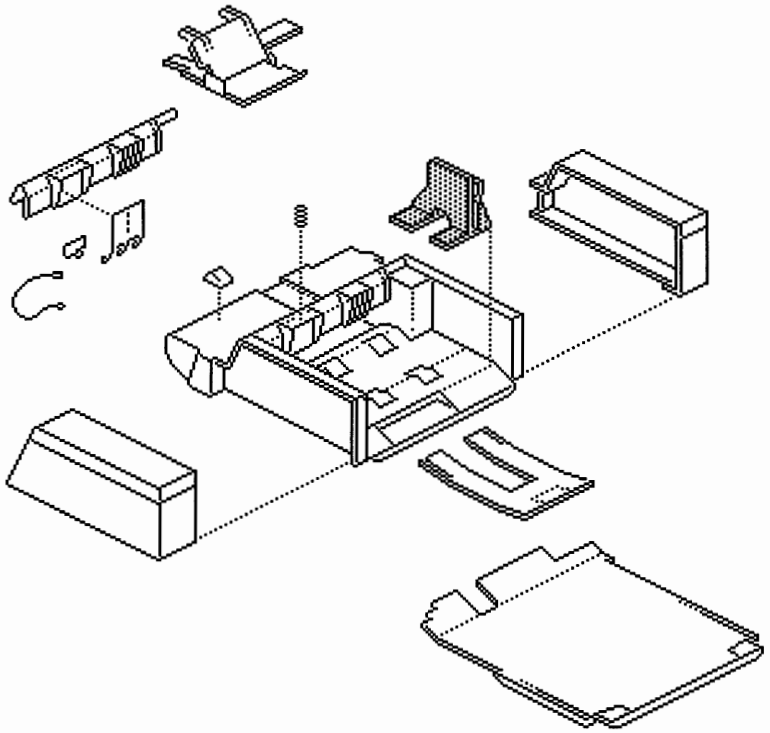
Do Manuals Chapters ? « 5 of 14



Reimbursement: N/A

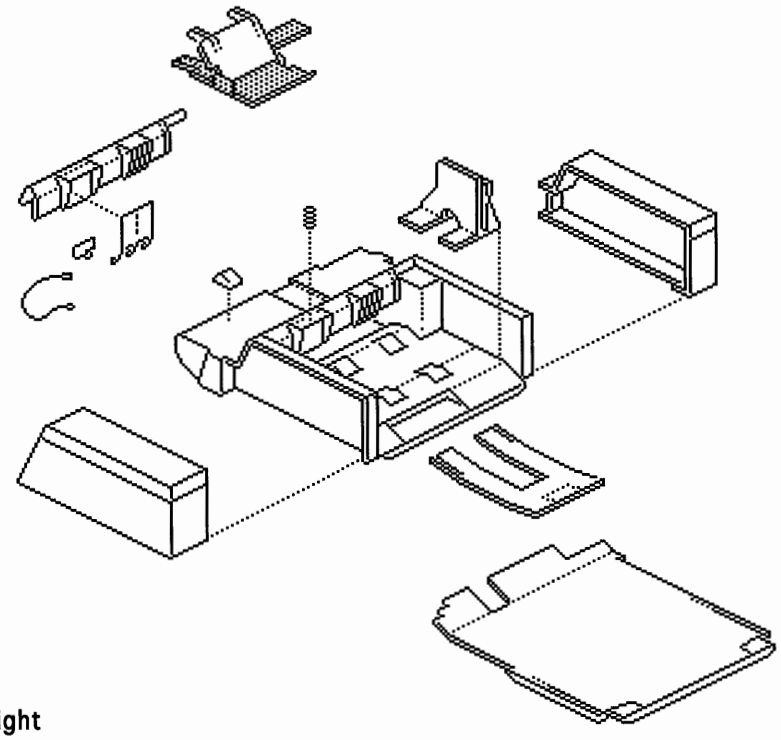
Required Stocking: N/A

922-0124 Cover, Right



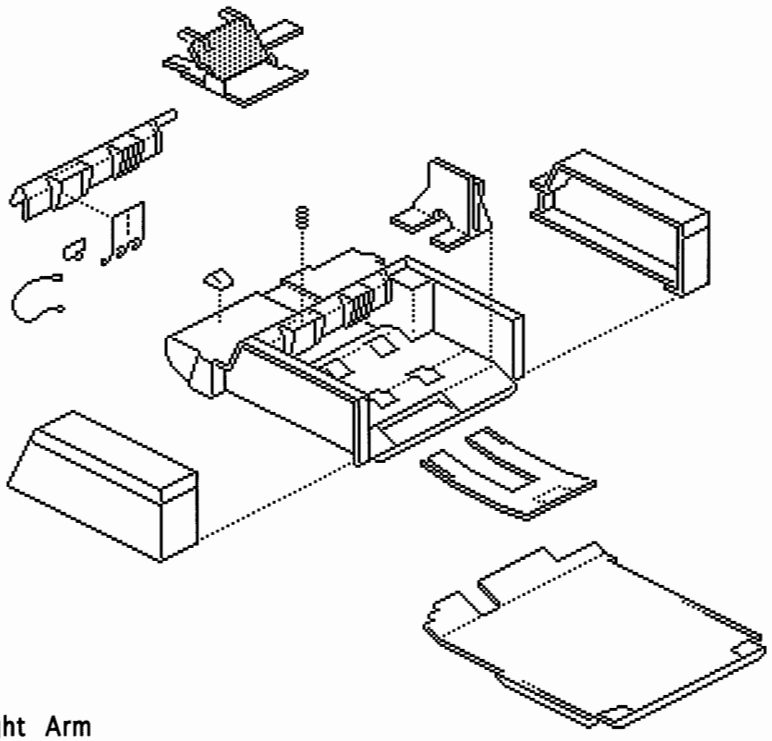
Reimbursement: N/A
Required Stocking: N/A

922-0125 Sizing Guide



Reimbursement: N/A
Required Stocking: N/A

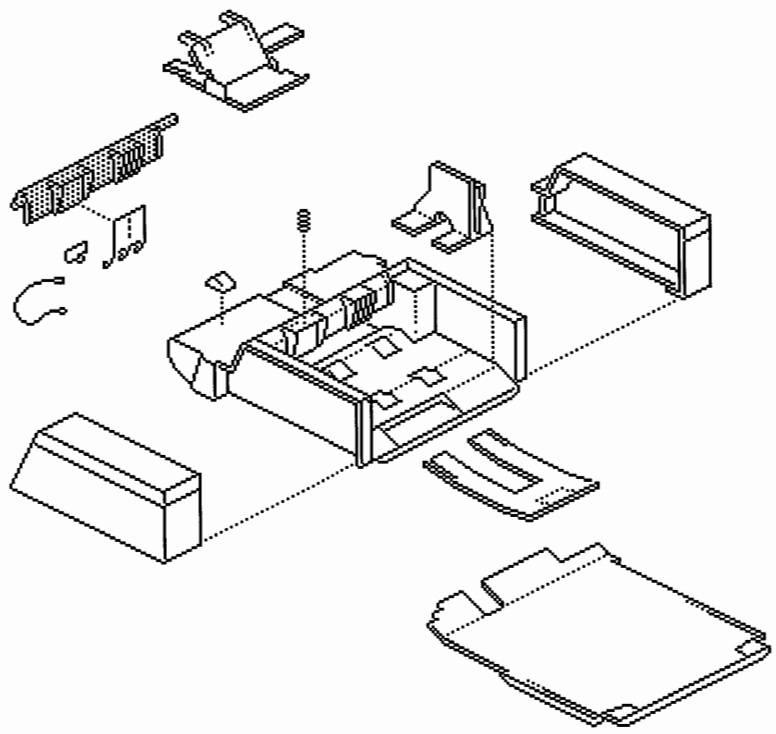
922-0127 Envelope Weight



Reimbursement: N/A

Required Stocking: N/A

922-0128 Envelope Weight Arm



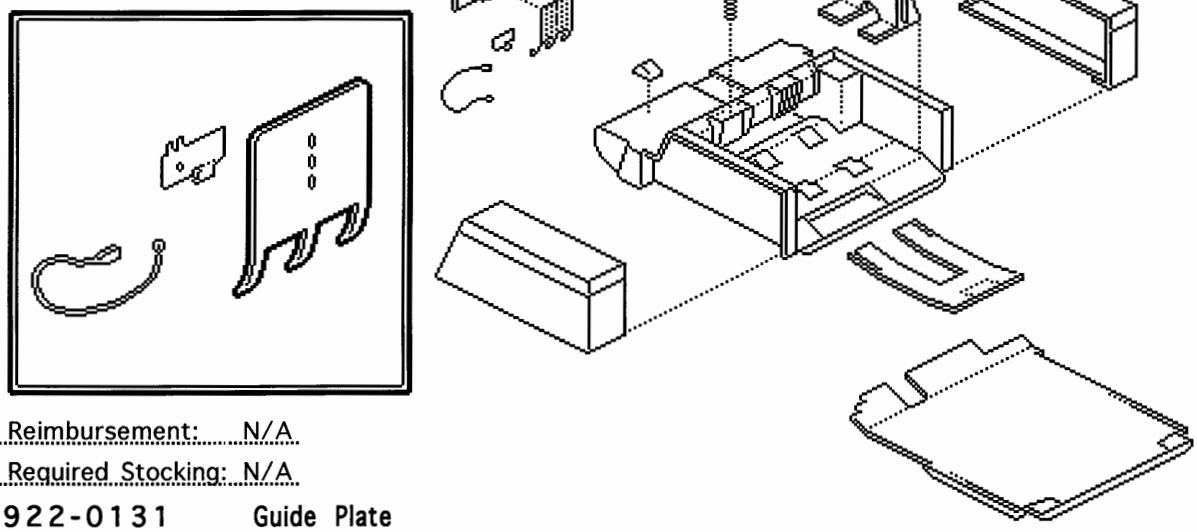
Reimbursement: N/A

Required Stocking: N/A

922-0130 Cover, Front

LW Pro Envelope Feeder Group 1: External Parts

Do Manuals Chapters ? « 10 of 14



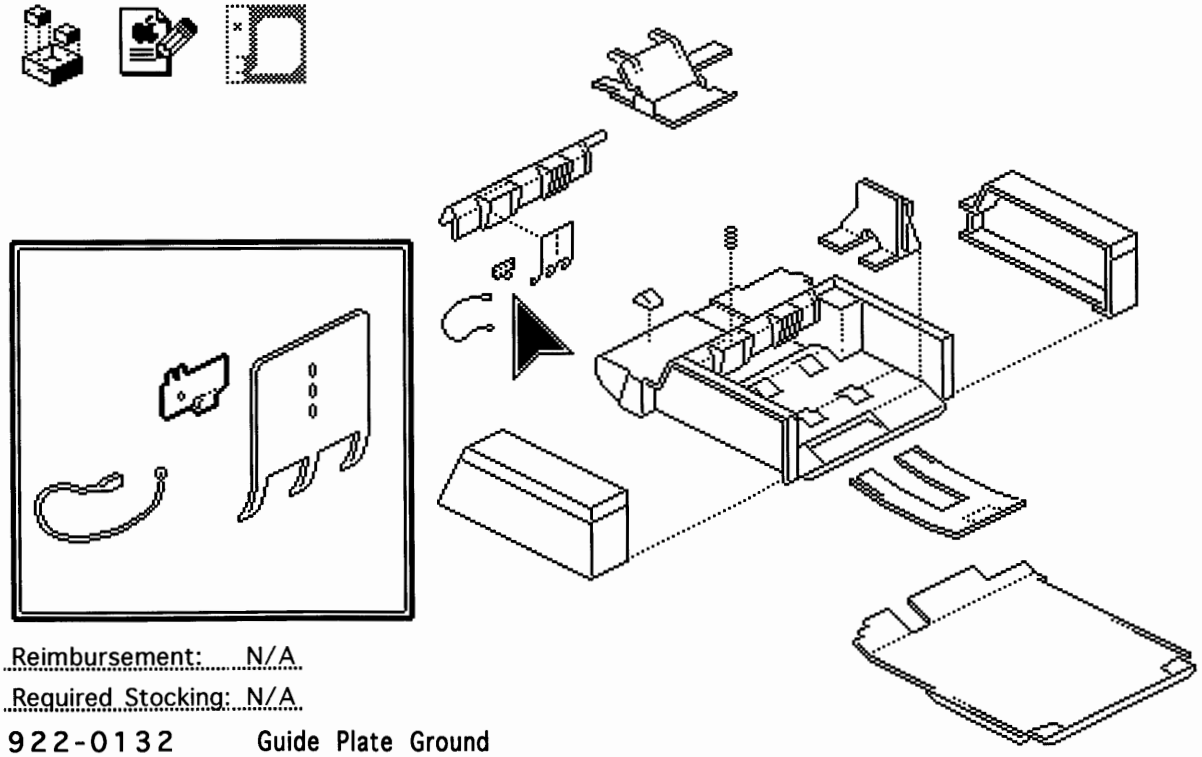
Reimbursement: N/A

Required Stocking: N/A

922-0131 Guide Plate

LW Pro Envelope Feeder Group 1: External Parts

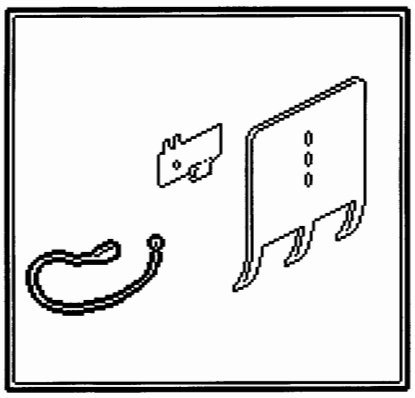
Do Manuals Chapters ? « 11 of 14

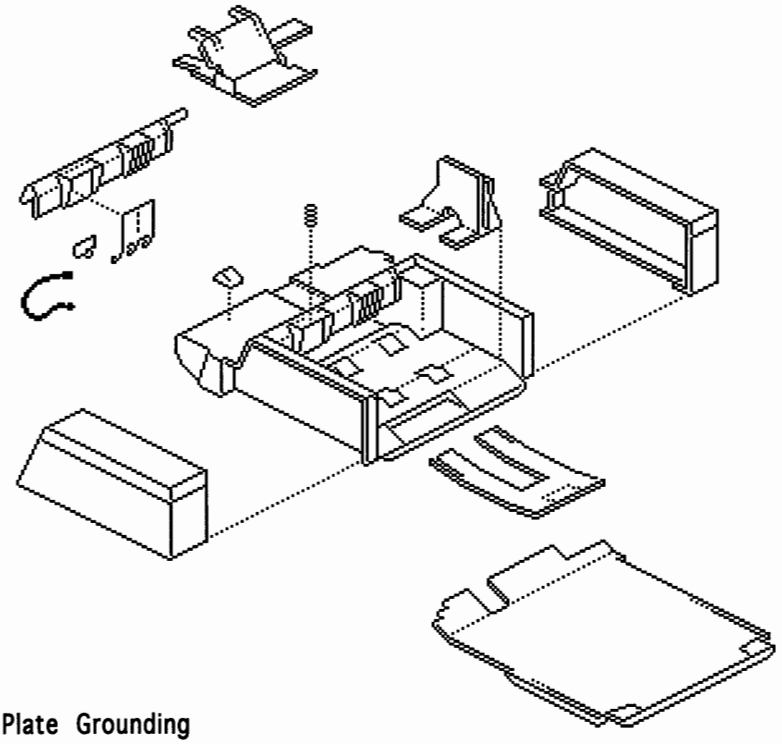


Reimbursement: N/A

Required Stocking: N/A

922-0132 Guide Plate Ground

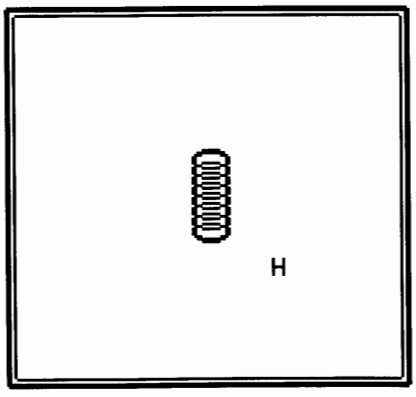


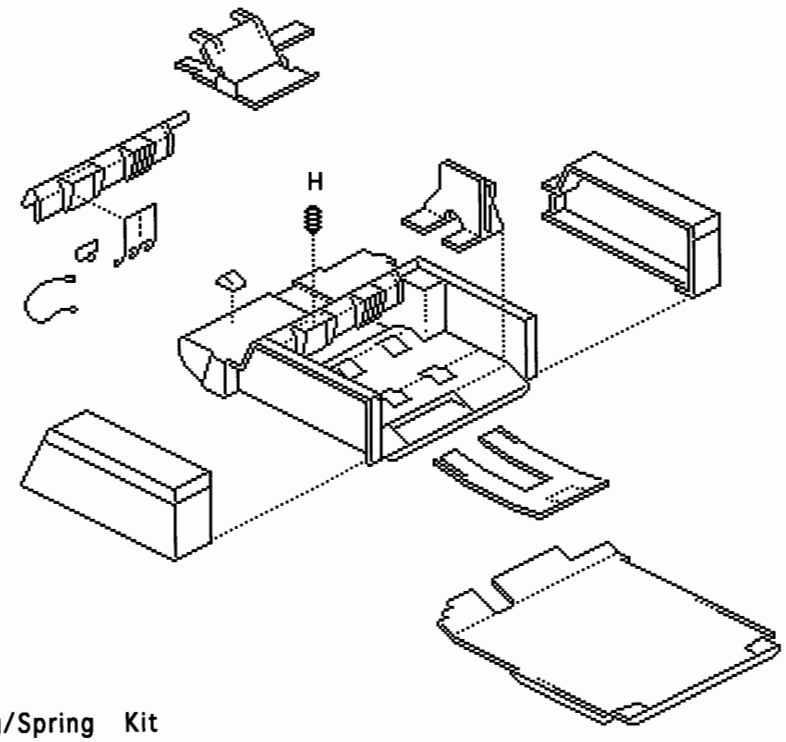


Reimbursement: N/A

Required Stocking: N/A

922-0133 Cable, Guide Plate Grounding





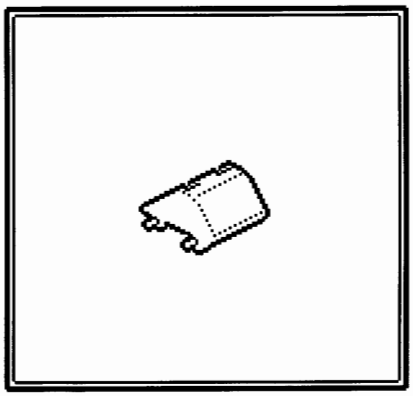
Reimbursement: N/A

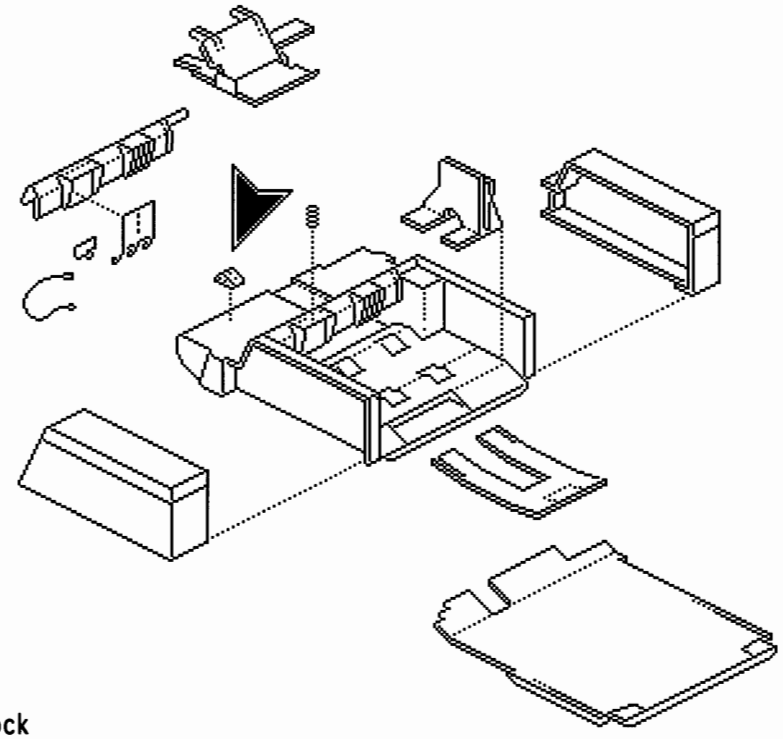
Required Stocking: N/A

076-0663 Bushing/Ring/Spring Kit

LW Pro Envelope Feeder — Group 1: External Parts

Do Manuals Chapters ? « 14 of 14





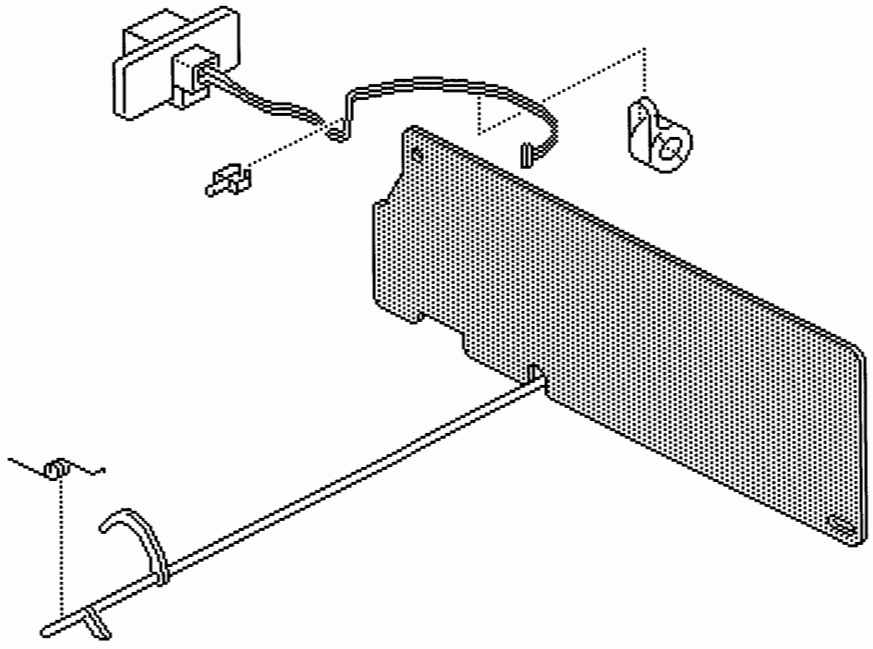
Reimbursement: N/A

Required Stocking: N/A

922-0136 Pressure Block

LW Pro Envelope Feeder — Group 2: Controller Board

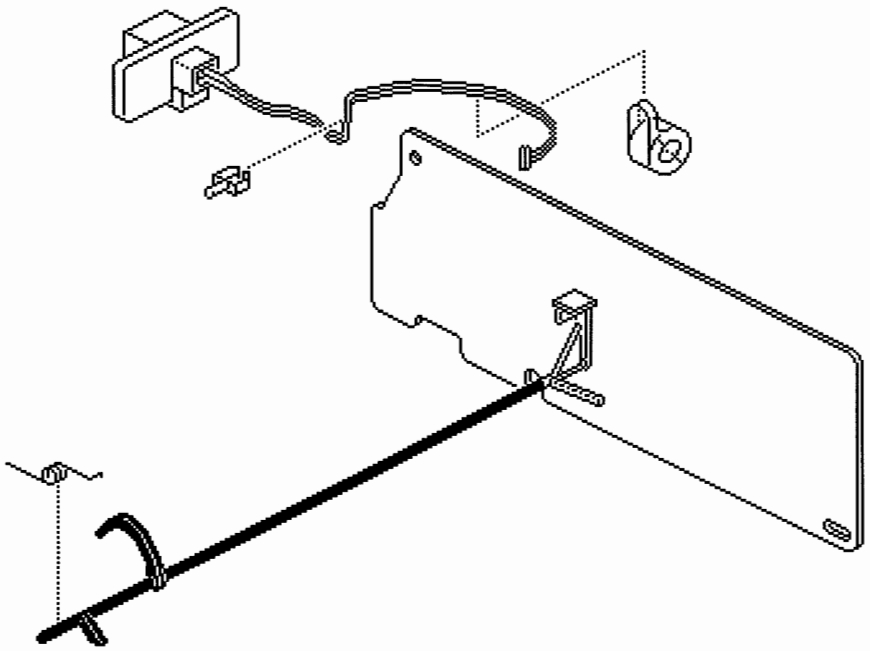
Do Manuals Chapters ? « 1 of 6



Reimbursement: 1

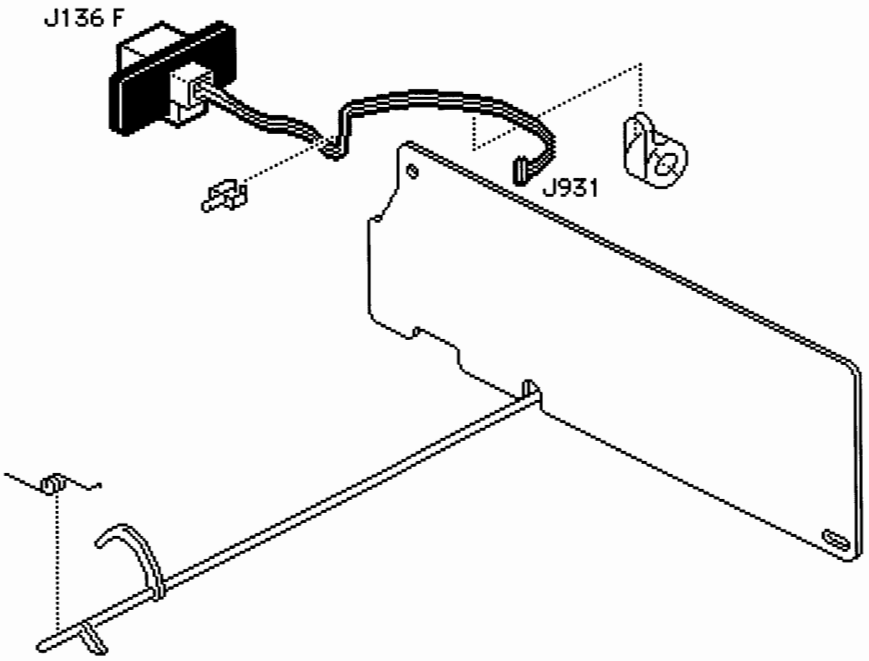
Required Stocking: D

661-0797 Controller Board



Reimbursement: N/A
Required Stocking: N/A

922-0137 Sensing Arm

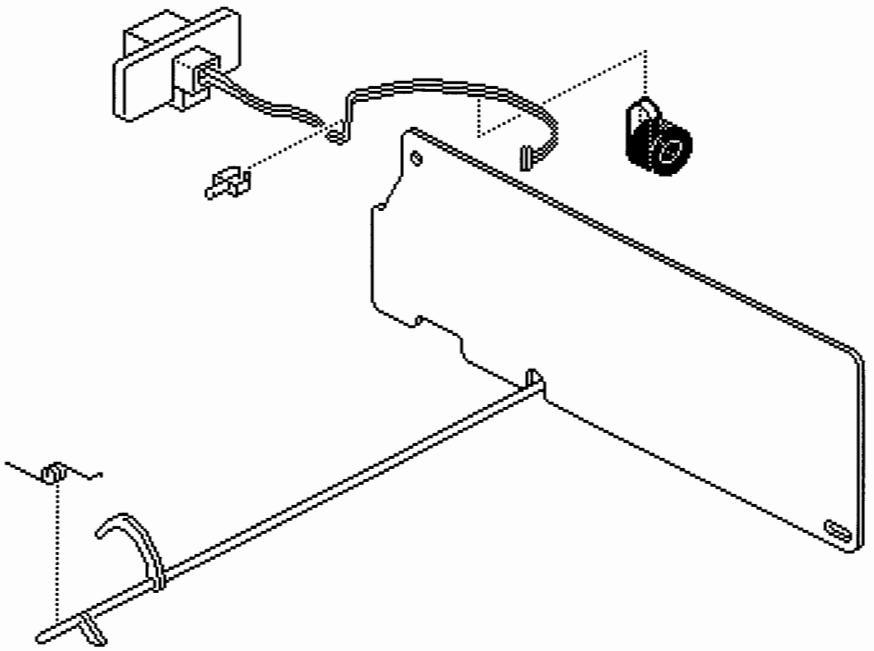


Reimbursement: N/A
Required Stocking: N/A

922-0139 Cable, Printer Interface

LW Pro Envelope Feeder Group 2: Controller Board

Do Manuals Chapters ? « 4 of 6



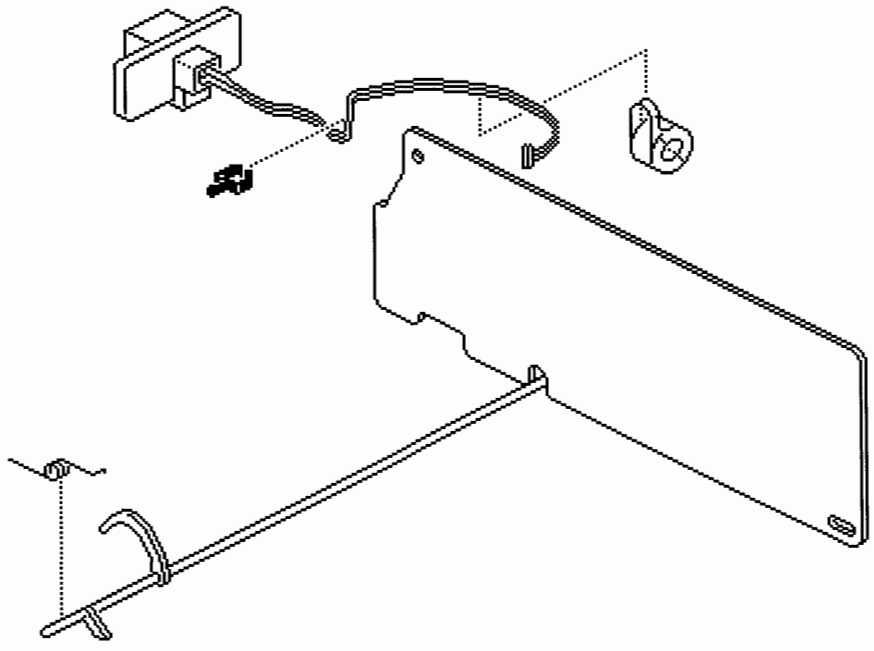
Reimbursement: N/A

Required Stocking: N/A

922-0148 Ferrite Core

LW Pro Envelope Feeder Group 2: Controller Board

Do Manuals Chapters ? « 5 of 6



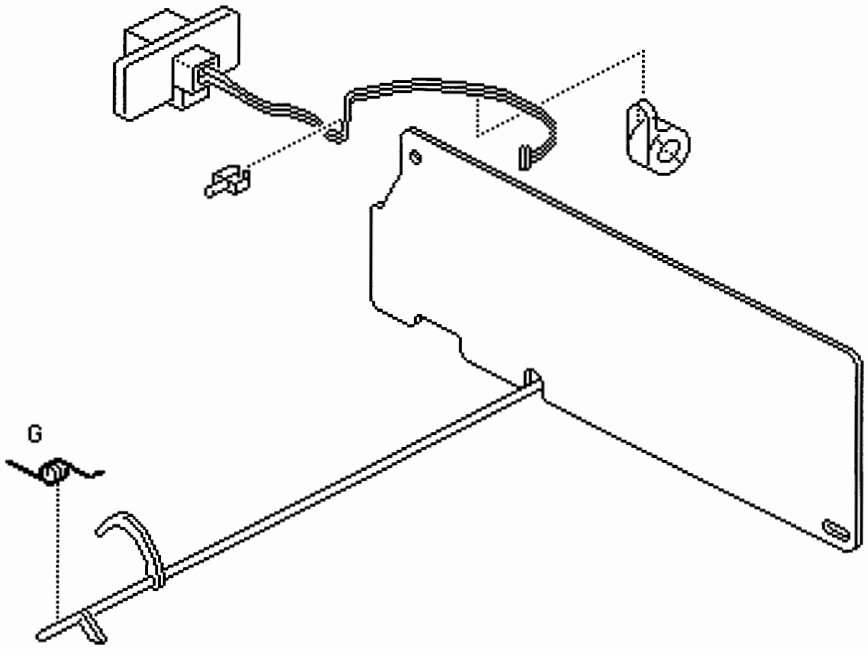
Reimbursement: N/A

Required Stocking: N/A

922-0142 Cable Clamp

LW Pro Envelope Feeder — Group 2: Controller Board

Do Manuals Chapters ? « 6 of 6



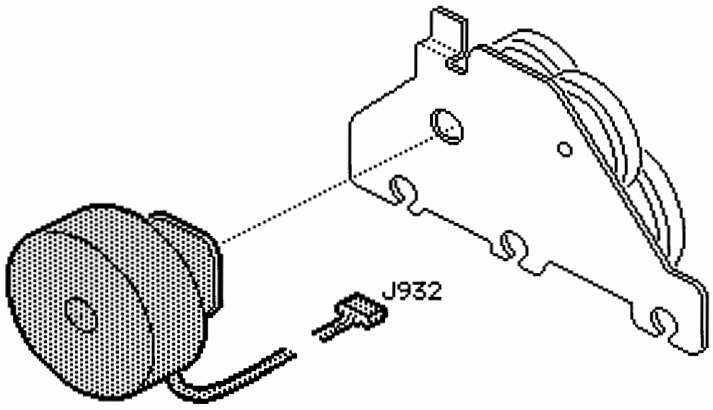
Reimbursement: N/A

Required Stocking: N/A

076-0663 Bushing/Ring/Spring Kit

LW Pro Envelope Feeder — Group 3: Motor & Main Drive Assembly

Do Manuals Chapters ? « 1 of 2



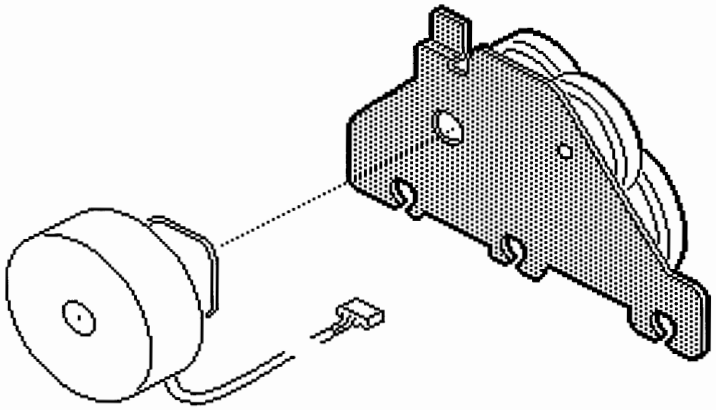
Reimbursement: 1

Required Stocking: N/A

922-0121 Motor

LW Pro Envelope Feeder Group 3: Motor & Main Drive Assembly

Do Manuals Chapters ? « 2 of 2



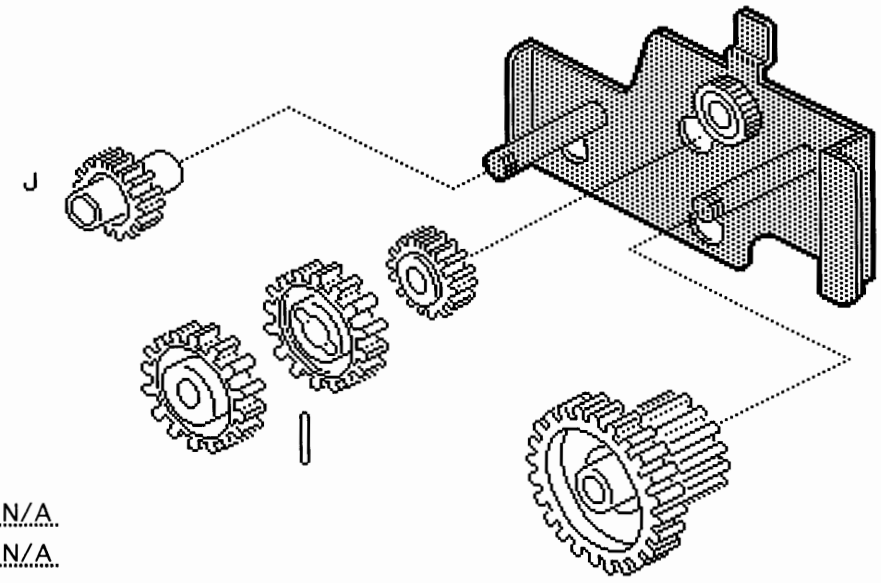
Reimbursement: N/A

Required Stocking: N/A

922-0141 Drive Assembly

LW Pro Envelope Feeder Group 4: Separation Drive Assembly

Do Manuals Chapters ? « 1 of 2



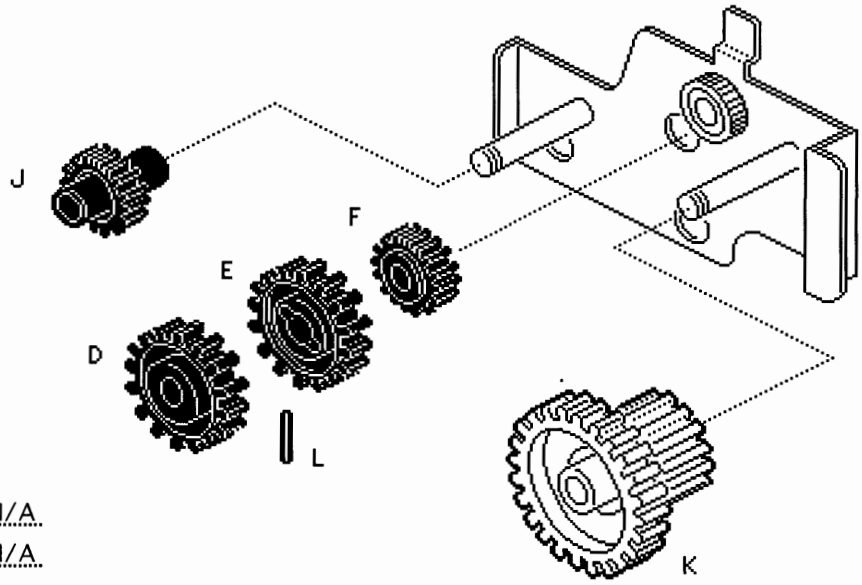
Reimbursement: N/A

Required Stocking: N/A

922-0143 Separation Drive Plate

LW Pro Envelope Feeder Group 4: Separation Drive Assembly

Do Manuals Chapters ? « 2 of 2



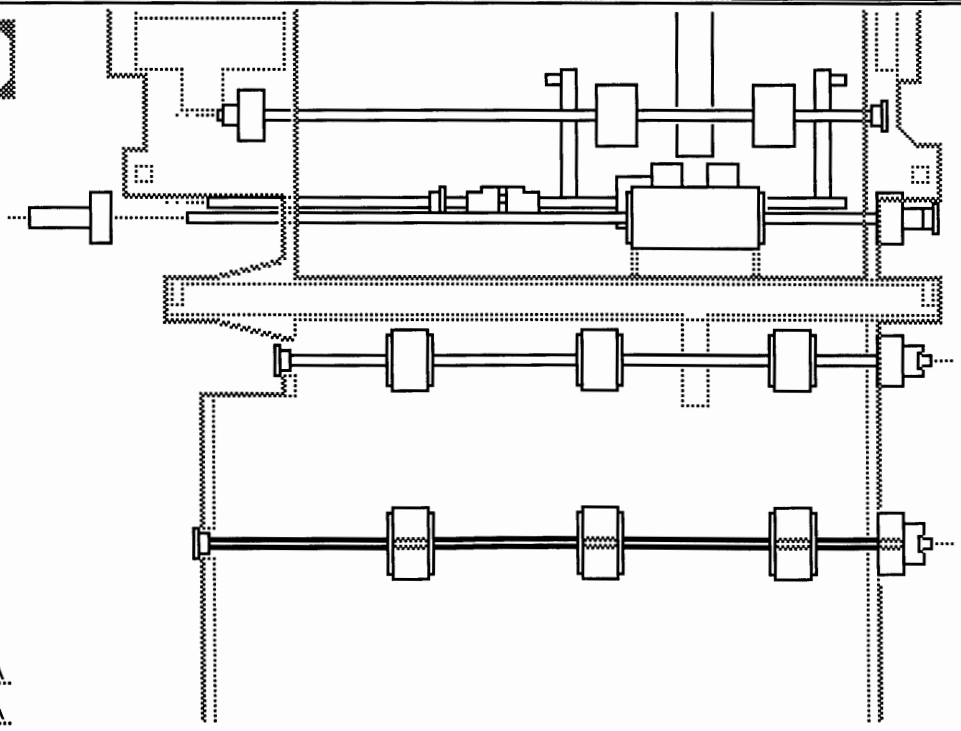
Reimbursement: N/A

Required Stocking: N/A

076-0662 Gear Kit

LW Pro Envelope Feeder Group 5: Drive Components

Do Manuals Chapters ? « 1 of 11



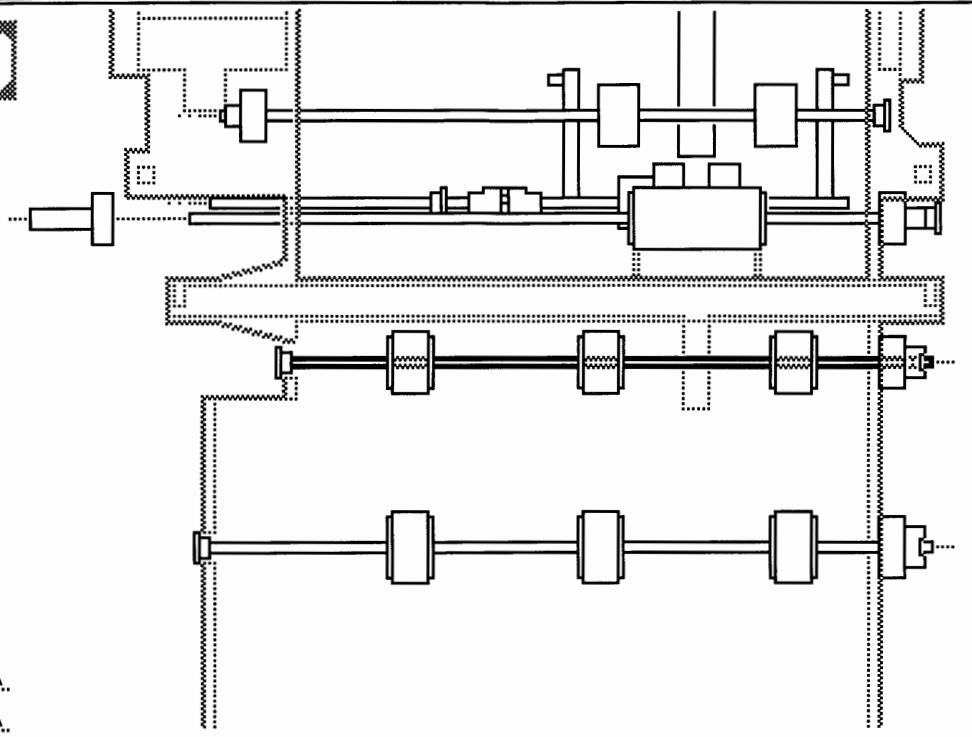
Reimbursement: N/A

Required Stocking: N/A

922-0145 Pickup Roller Shaft, Rear

LW Pro Envelope Feeder Group 5: Drive Components

Do Manuals Chapters ? « 2 of 11



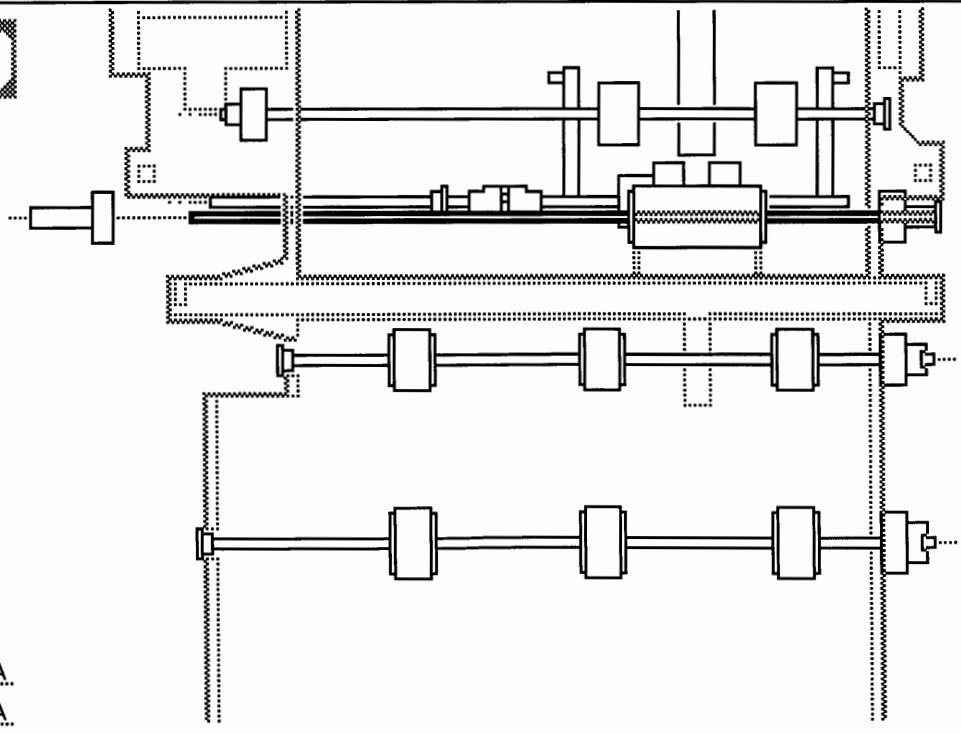
Reimbursement: N/A

Required Stocking: N/A

922-0146 Pickup Roller Shaft, Forward

LW Pro Envelope Feeder Group 5: Drive Components

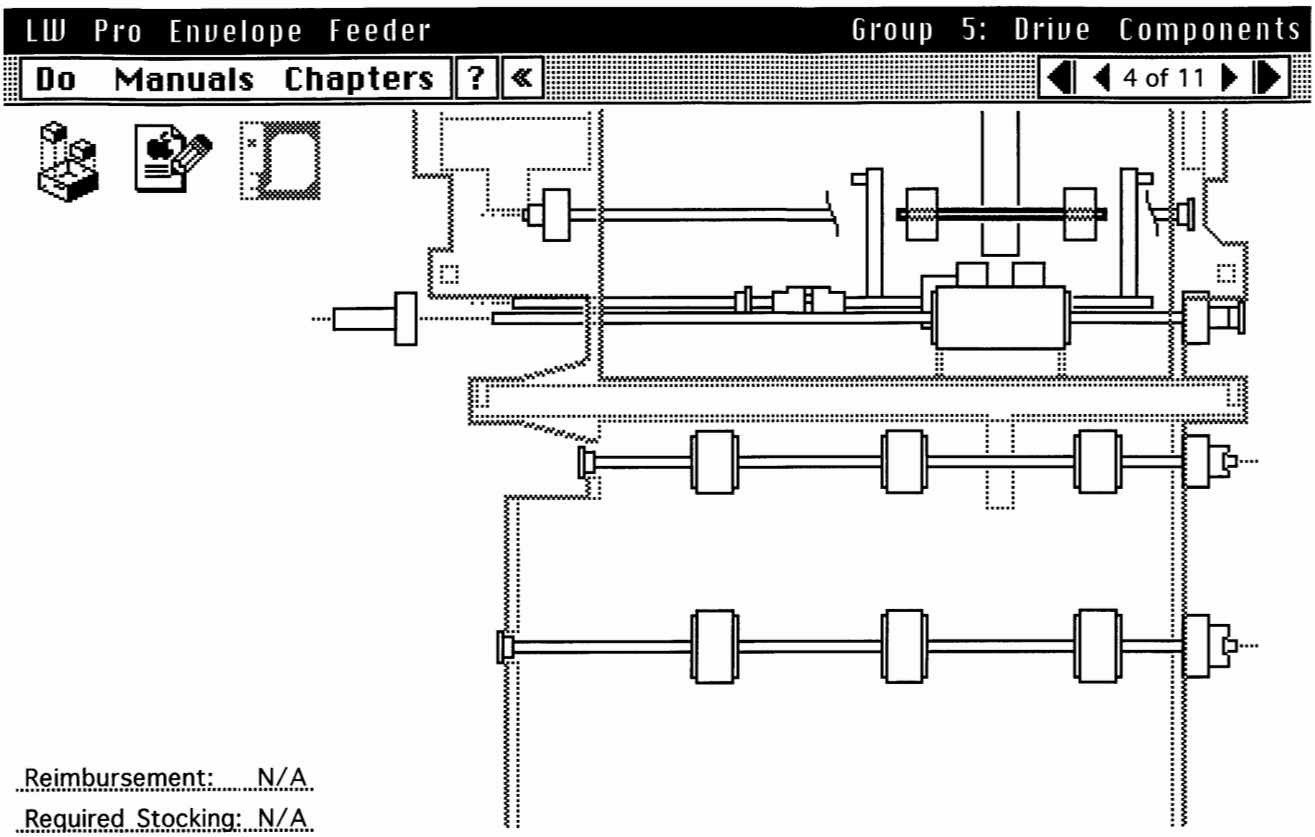
Do Manuals Chapters ? « 3 of 11



Reimbursement: N/A

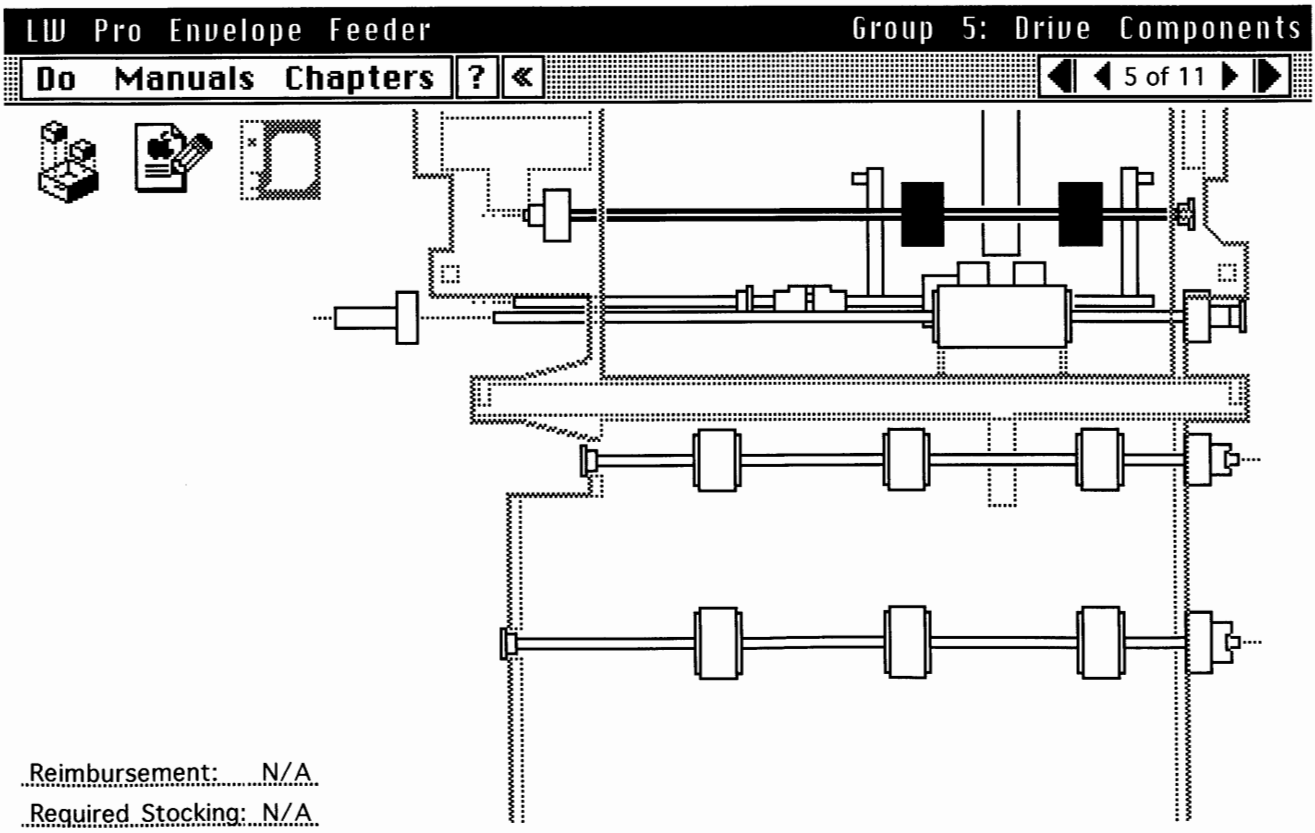
Required Stocking: N/A

922-0147 Primary Feed Shaft



Reimbursement: N/A
Required Stocking: N/A

922-0138 Passive Roller Shaft

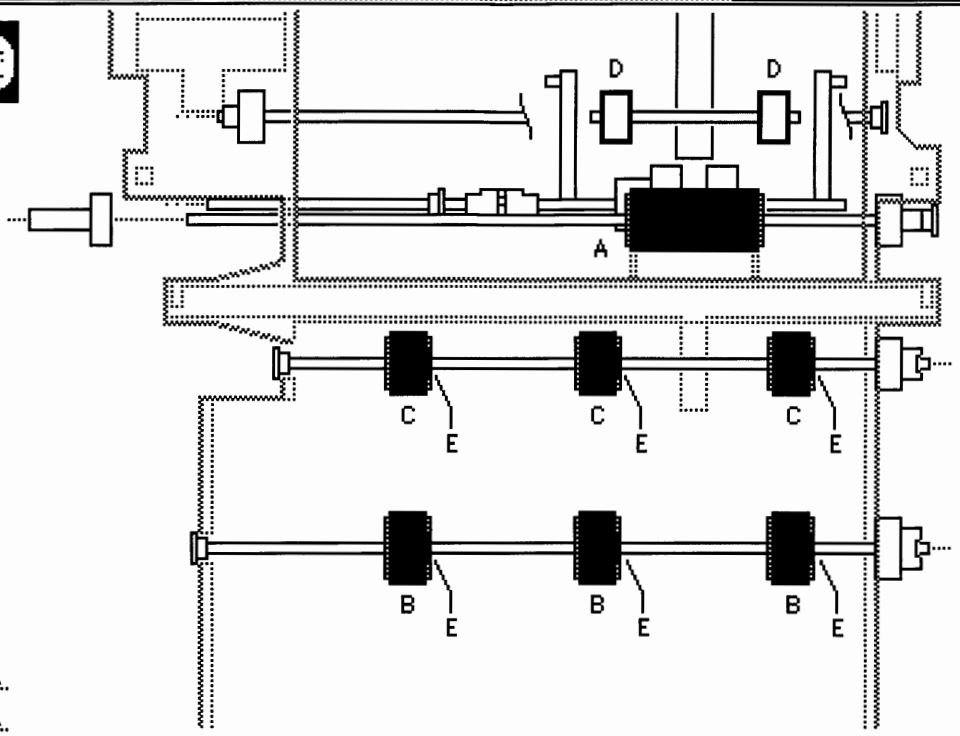


Reimbursement: N/A
Required Stocking: N/A

922-0134 Feed Roller, Secondary

LW Pro Envelope Feeder Group 5: Drive Components

Do Manuals Chapters ? « 6 of 11



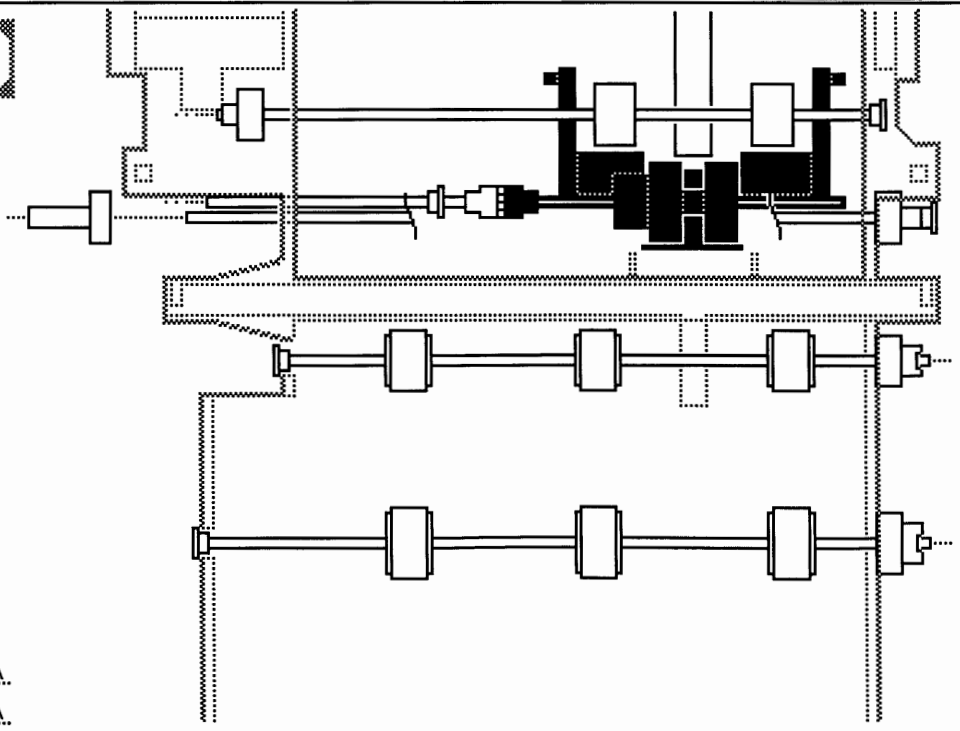
Reimbursement: N/A

Required Stocking: N/A

076-0664 Roller/Pin Kit

LW Pro Envelope Feeder Group 5: Drive Components

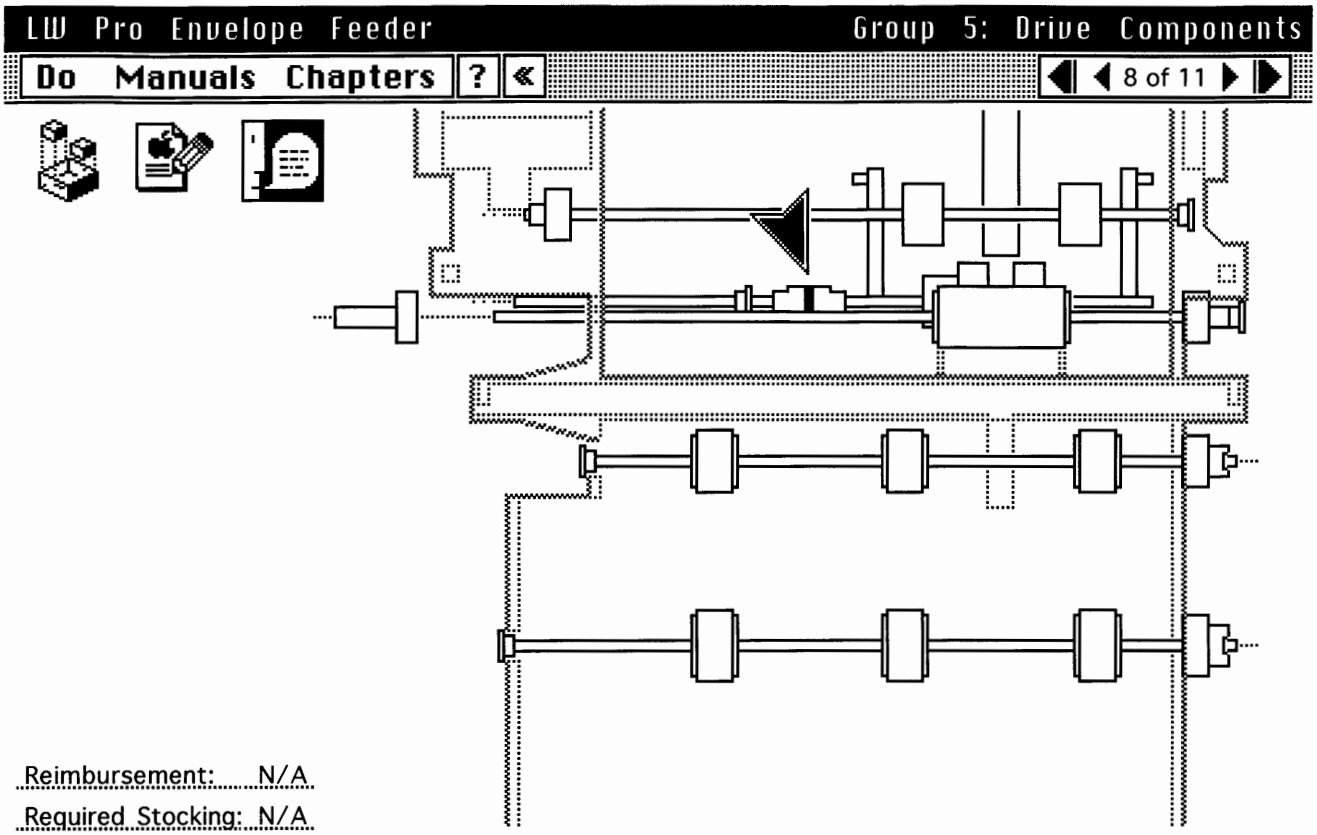
Do Manuals Chapters ? « 7 of 11



Reimbursement: N/A

Required Stocking: N/A

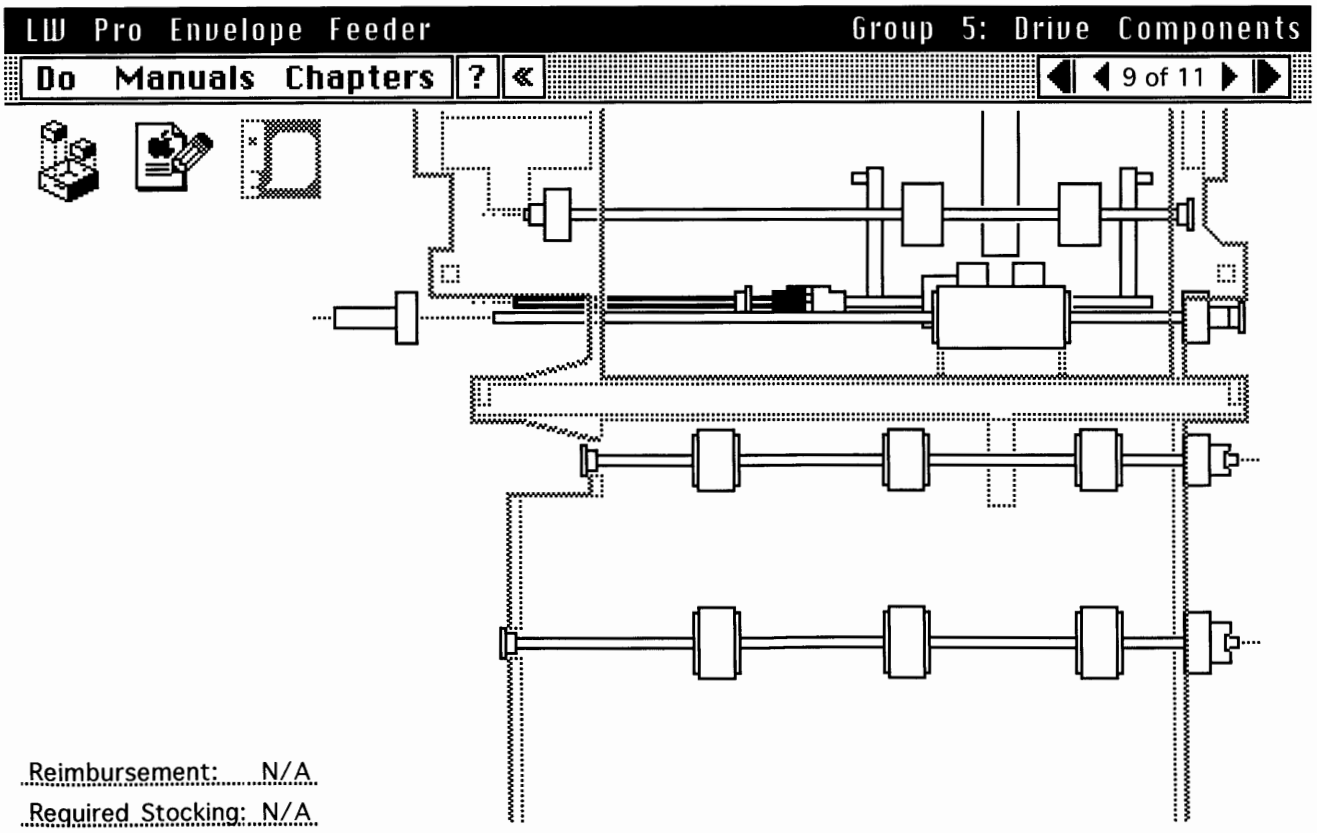
922-0144 Separation Assembly



Reimbursement: N/A

Required Stocking: N/A

922-0135 Separation Assembly Coupling



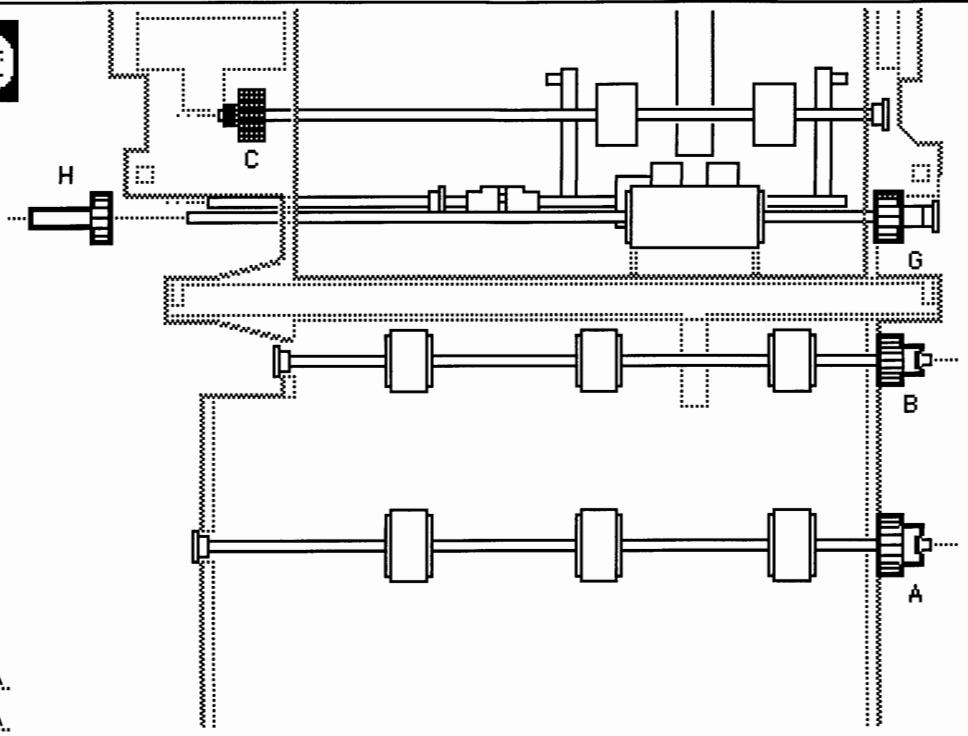
Reimbursement: N/A

Required Stocking: N/A

922-0140 Separation Assembly Shaft

LW Pro Envelope Feeder Group 5: Drive Components

Do Manuals Chapters ? « 10 of 11



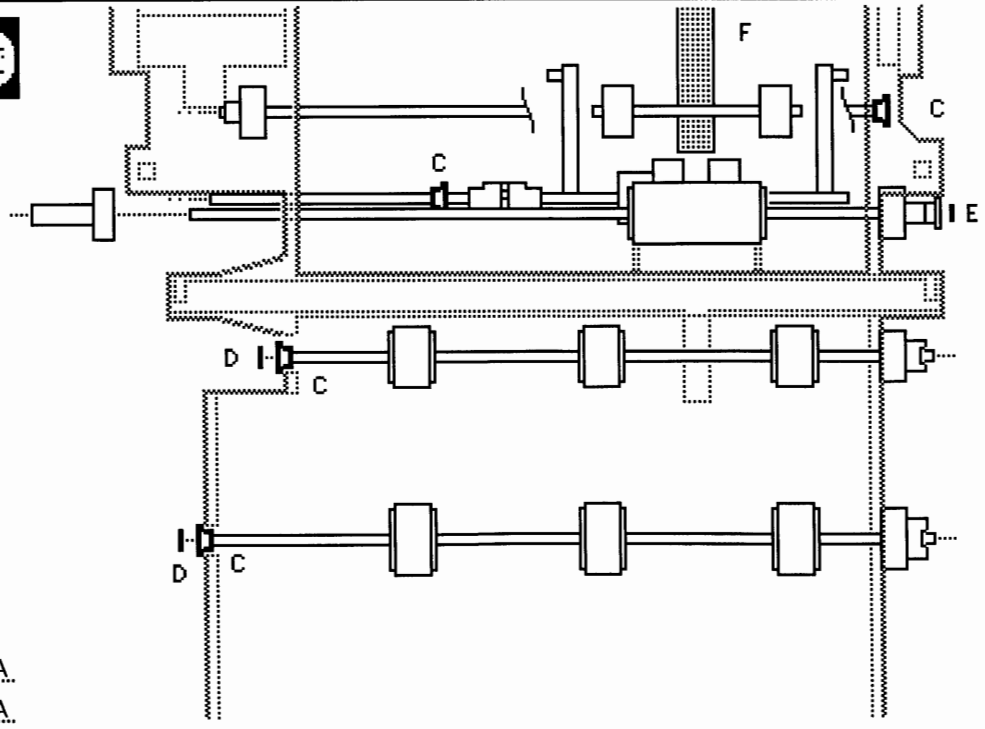
Reimbursement: N/A

Required Stocking: N/A

076-0662 Gear Kit

LW Pro Envelope Feeder Group 5: Drive Components

Do Manuals Chapters ? « 11 of 11



Reimbursement: N/A

Required Stocking: N/A

076-0663 Bushing/Ring/Spring Kit

Reimbursement: N/A

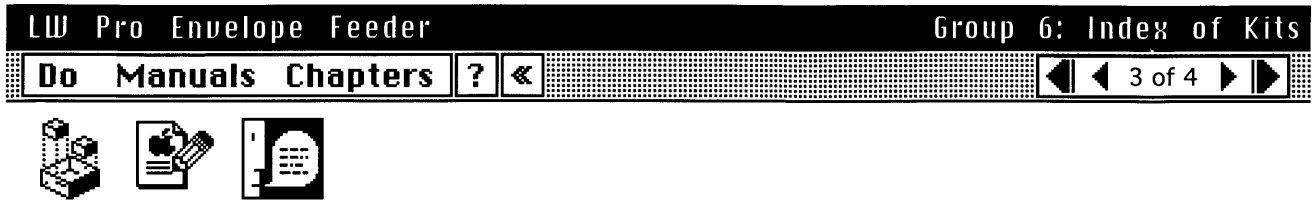
Required Stocking: N/A

076-0662 Gear Kit

Reimbursement: N/A

Required Stocking: N/A

076-0663 Bushing/Ring/Spring Kit



Reimbursement: N/A

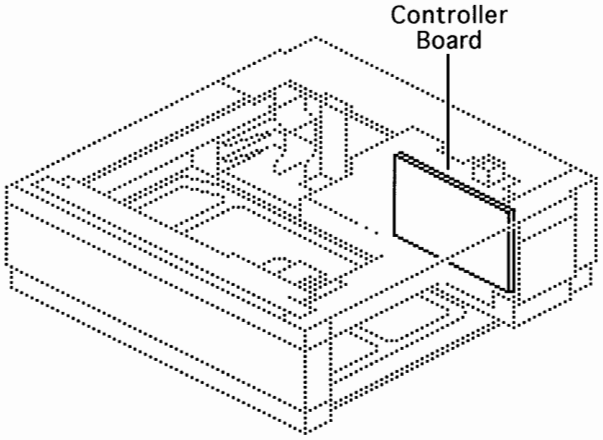
Required Stocking: N/A

076-0664 Roller/Pin Kit

Reimbursement: N/A

Required Stocking: N/A

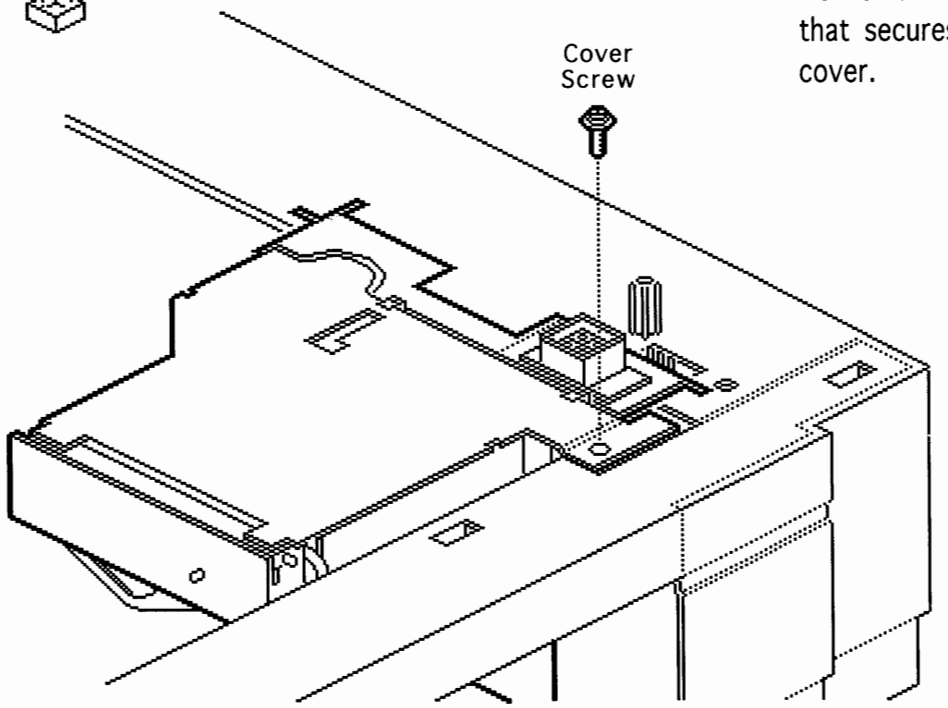
076-0665 Screw Kit



First:

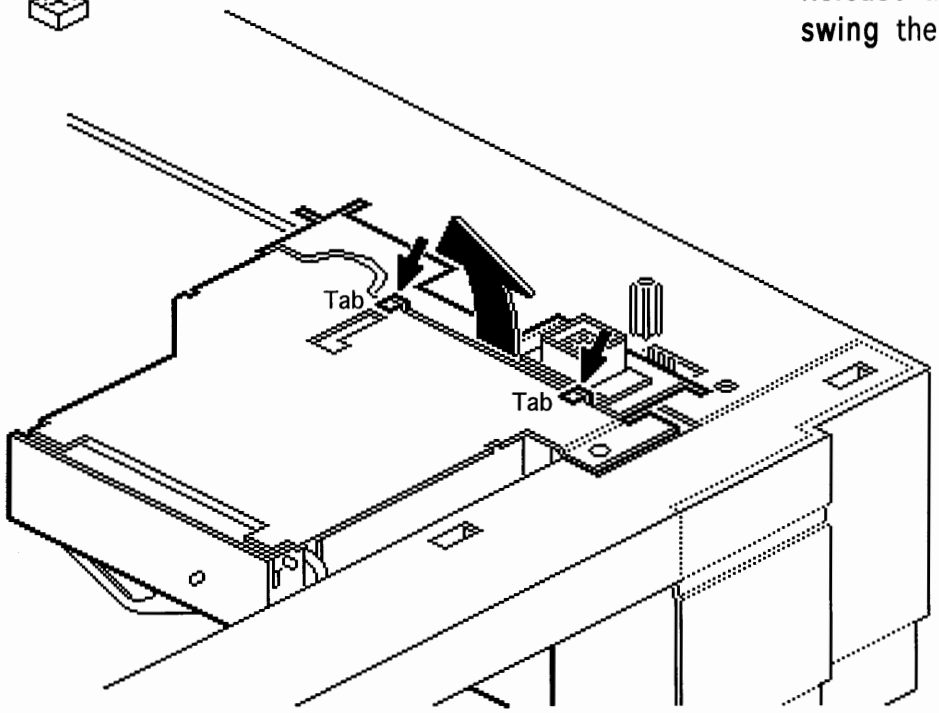
No First Steps Required

Note: See "Circuit Board Diagrams" in Basics in the LaserWriter Pro manual for layout of board.

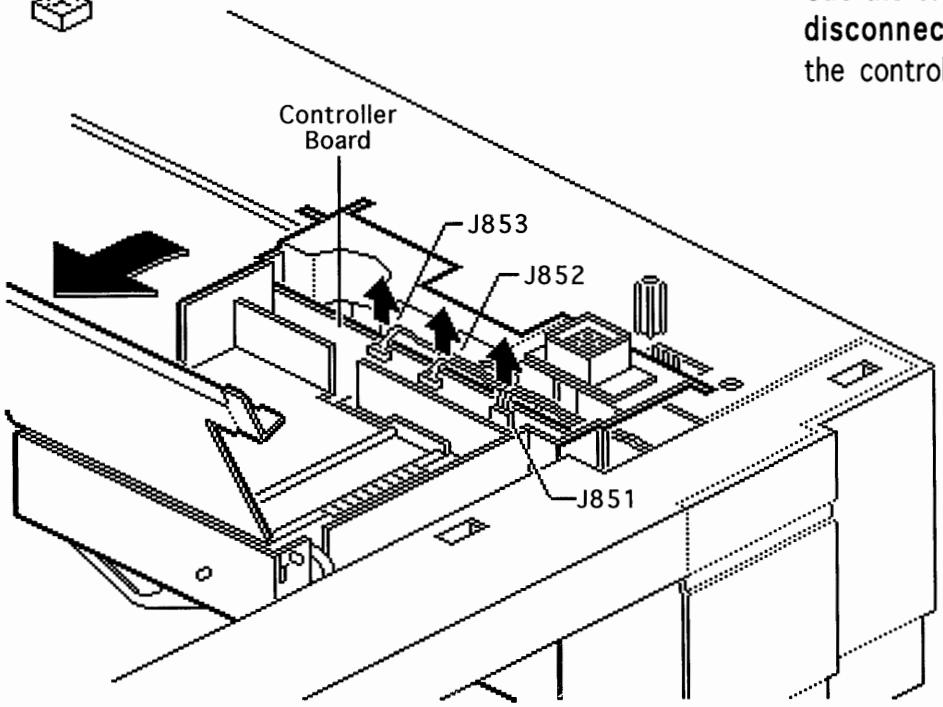


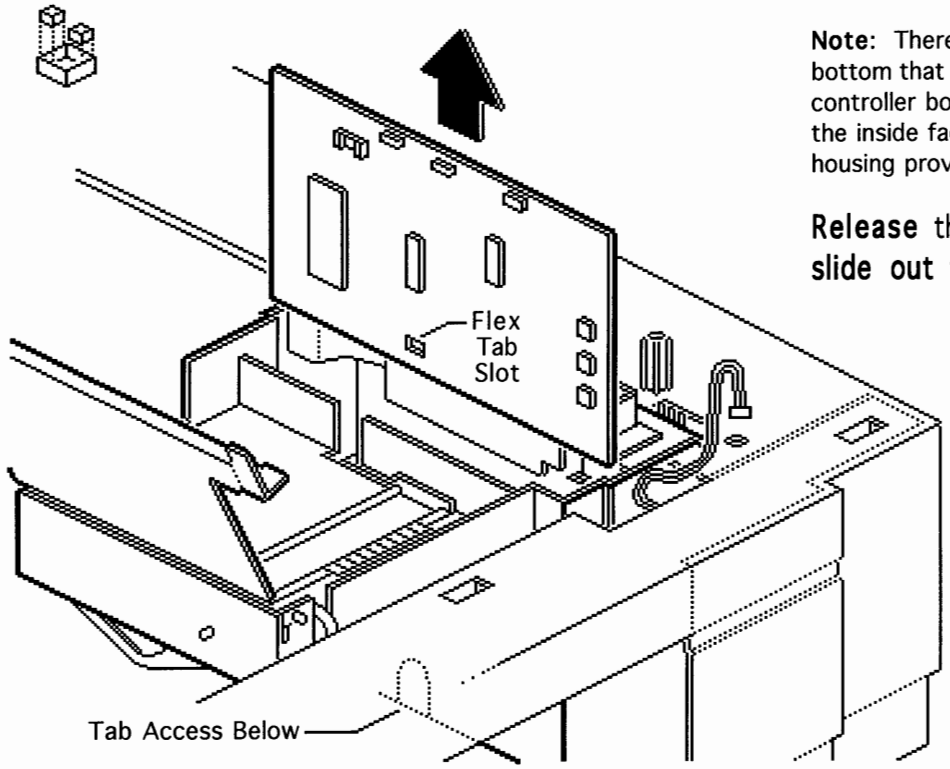
Remove the single black screw that secures the controller block cover.

Release the two flex tabs and **swing** the cover upward.



Cut the cable tie (if present) and **disconnect** the three cables from the controller board.



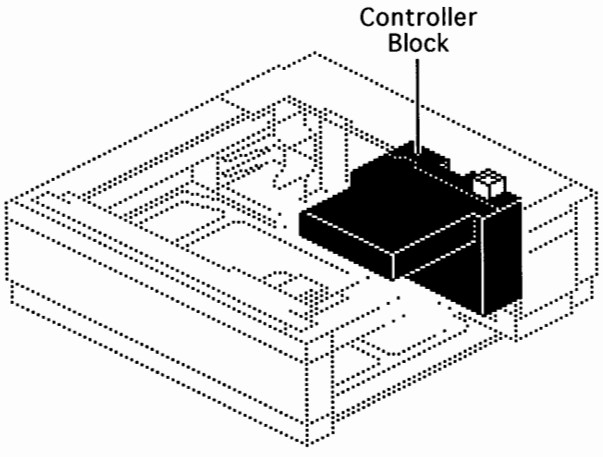


Note: There is a flex tab near the bottom that hooks into a slot in the controller board. An arch-shaped hole on the inside face of the controller block housing provides access to the flex tab.

Release the flex tab and carefully **slide out** the board.

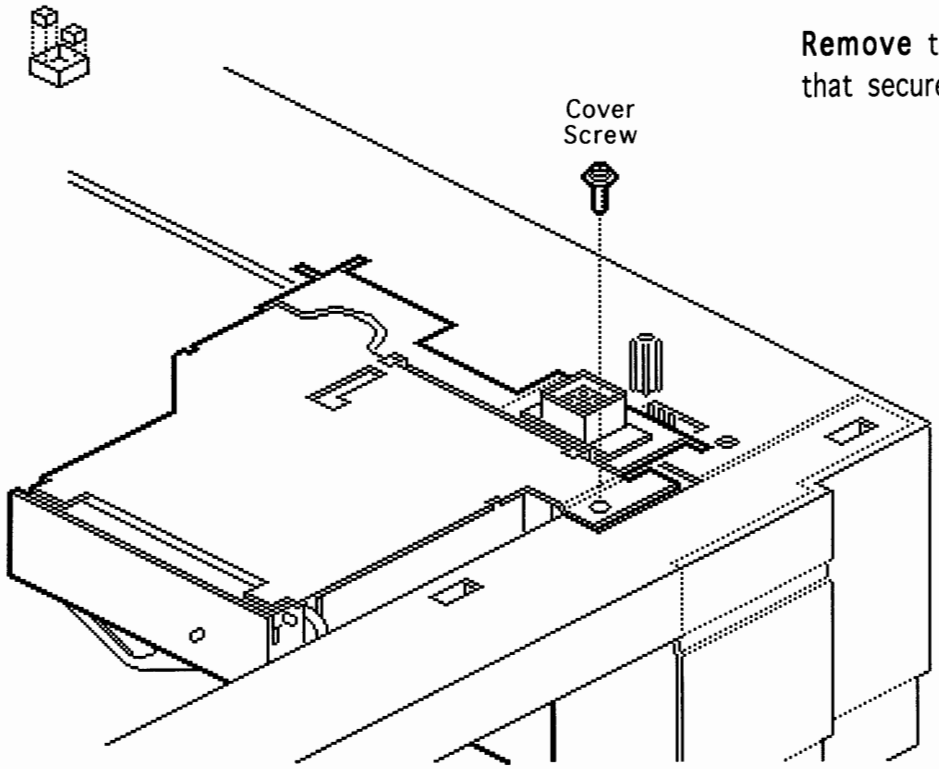
First:

No First Steps Required

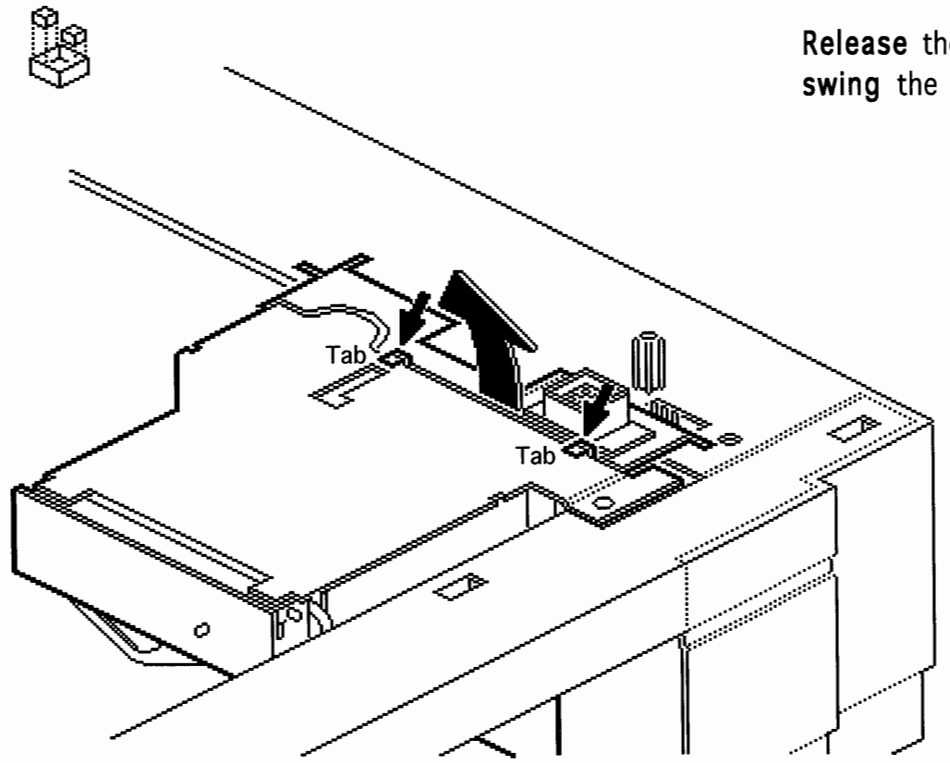


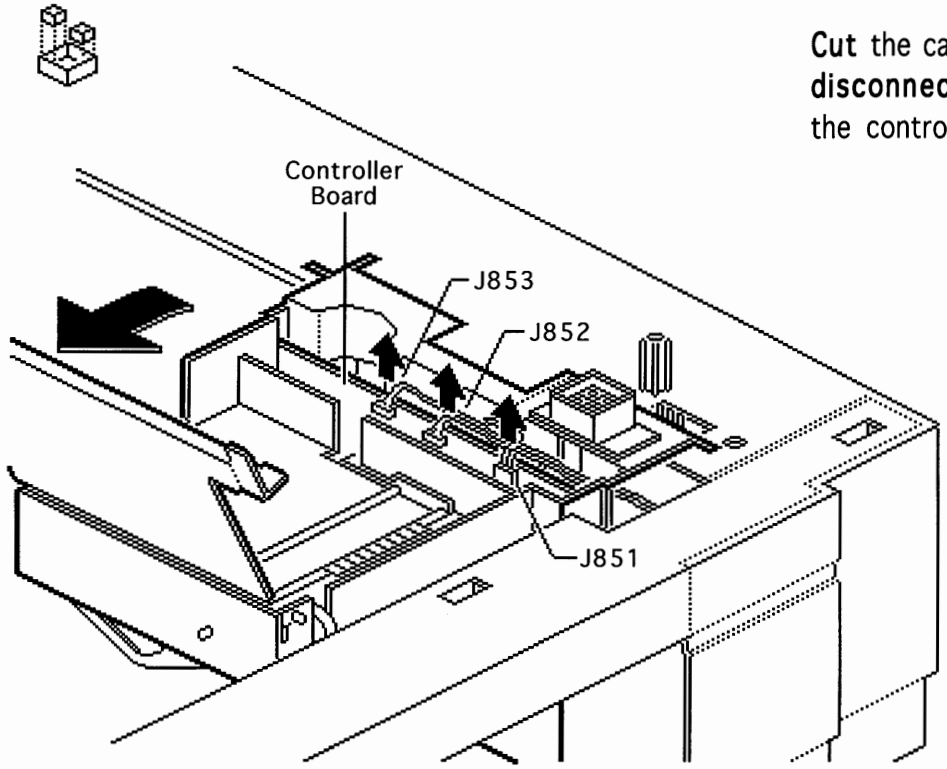
Note: The controller block is available from Apple but it does not include the lid or controller board. Save these two parts if you are replacing the controller block. None of the other parts contained in the controller block is available separately.

Remove the single black screw that secures the controller cover.

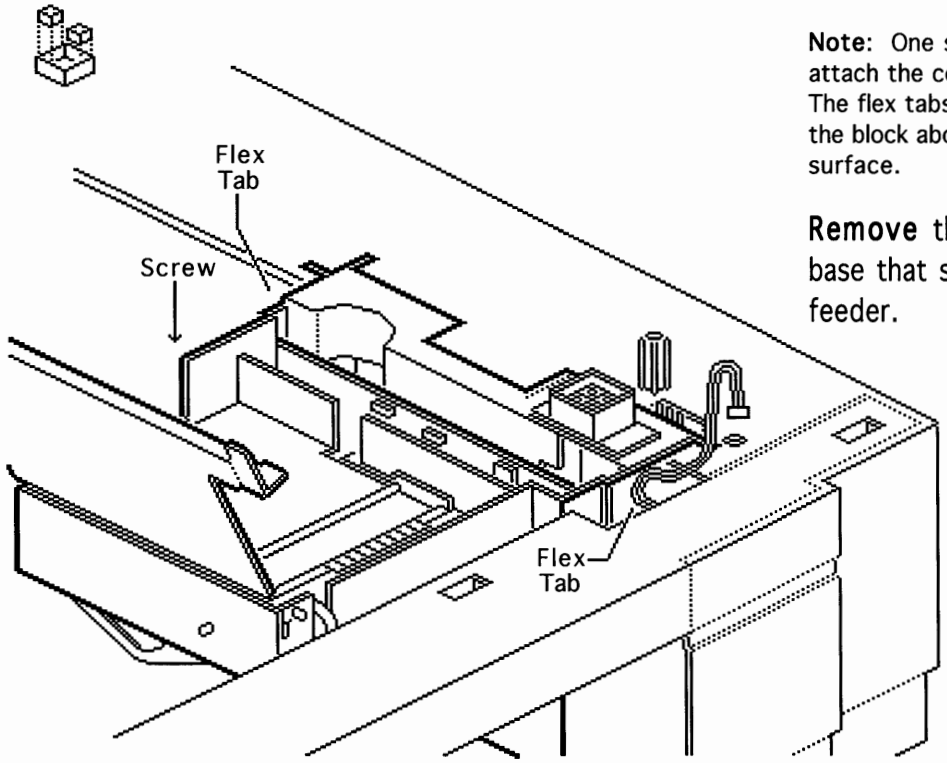


Release the two flex tabs and **swing** the cover upward.



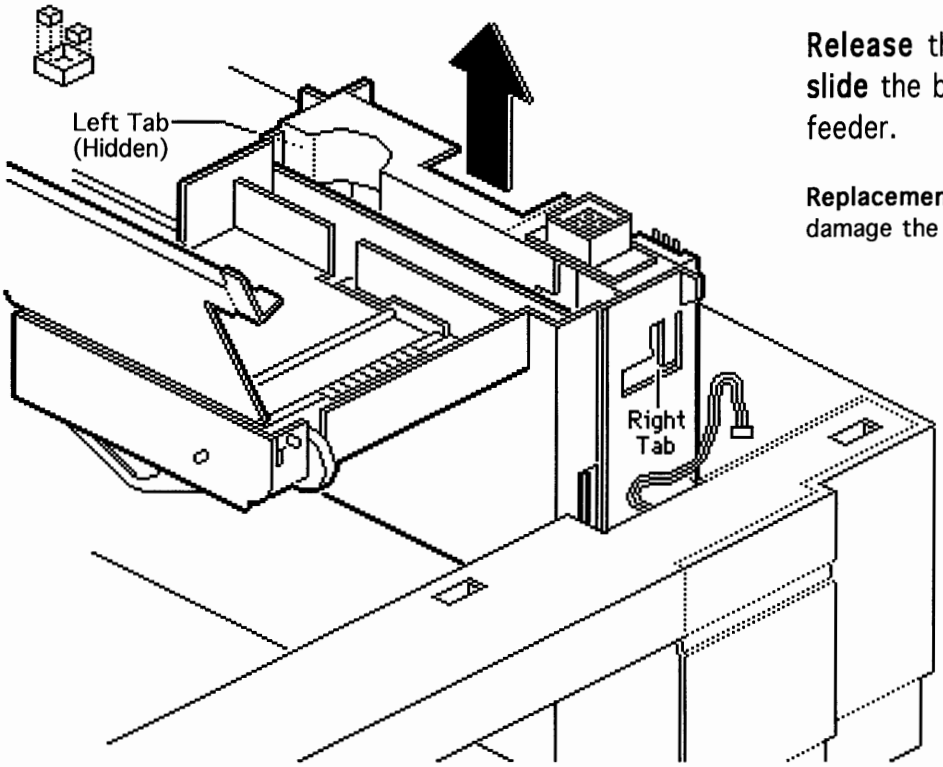


Cut the cable tie (if present) and **disconnect** the three cables from the controller board.



Note: One screw and two flex tabs attach the controller block to the feeder. The flex tabs are located on the sides of the block about an inch from the top surface.

Remove the single screw near the base that secures the block to the feeder.



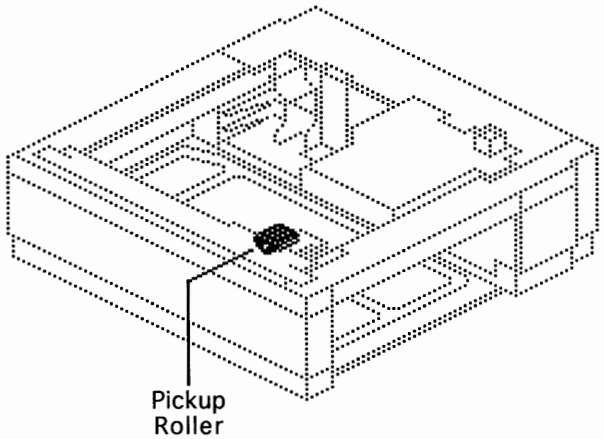
Release the two flex tabs and **slide** the block up and out of the feeder.

Replacement Note: Take care not to damage the cassette microswitch springs.

First:

No First Steps Required

Pinch the clip on the pickup roller and **slide** the roller off the shaft.

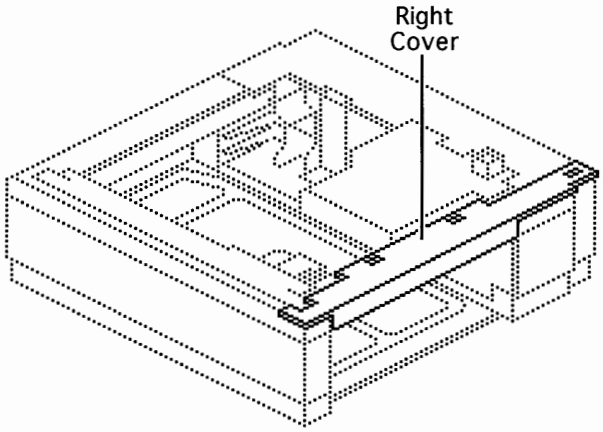


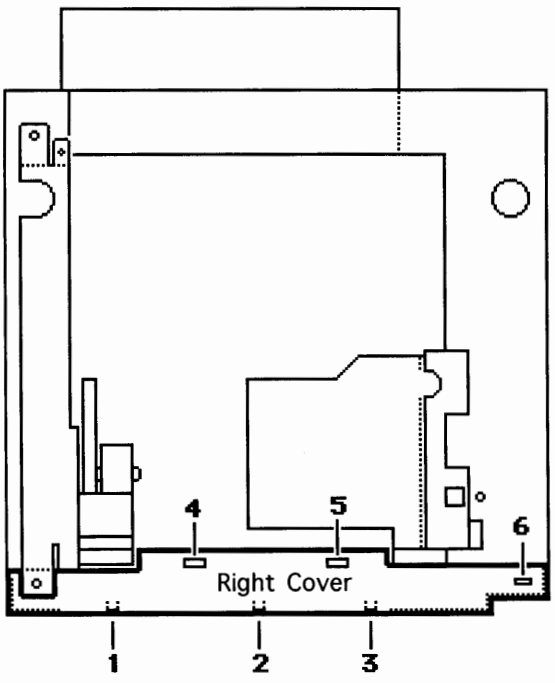
Replacement Note: There is a fixed dowel pin in the pickup roller shaft. You must rotate the pickup roller into alignment with this pin before the roller can slide all the way onto the shaft.

Install the pickup roller as illustrated on the label on top surface of the drive block. A conspicuous grinding sound coming from the sheet feeder may be due to improper positioning of the pickup roller.

First:

No First Steps Required



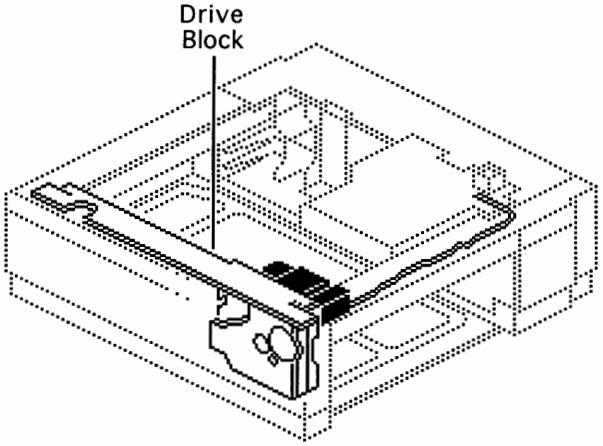


Note: The right cover is held in place by three hidden fixed tabs (**1**, **2**, **3**) along the outside face, two flex tabs (**4**, **5**) along the inside face, and one flex tab (**6**) at the right end of the cover.

Work your fingertips under the edge of the right cover at the tab 1 location, **pull** the face outward firmly, and **release** the cover.

Reposition your hand and **repeat** for tabs 2 and 3.

Release flex tabs 4 and 5 and **lift** the cover from the sheet feeder.

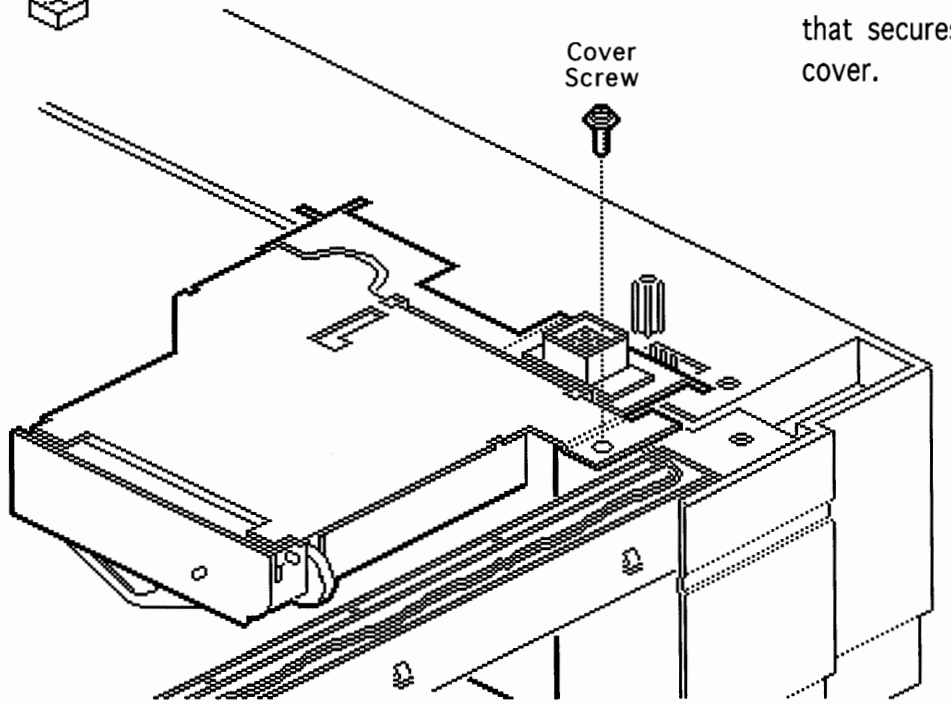


First:

Remove Right Cover

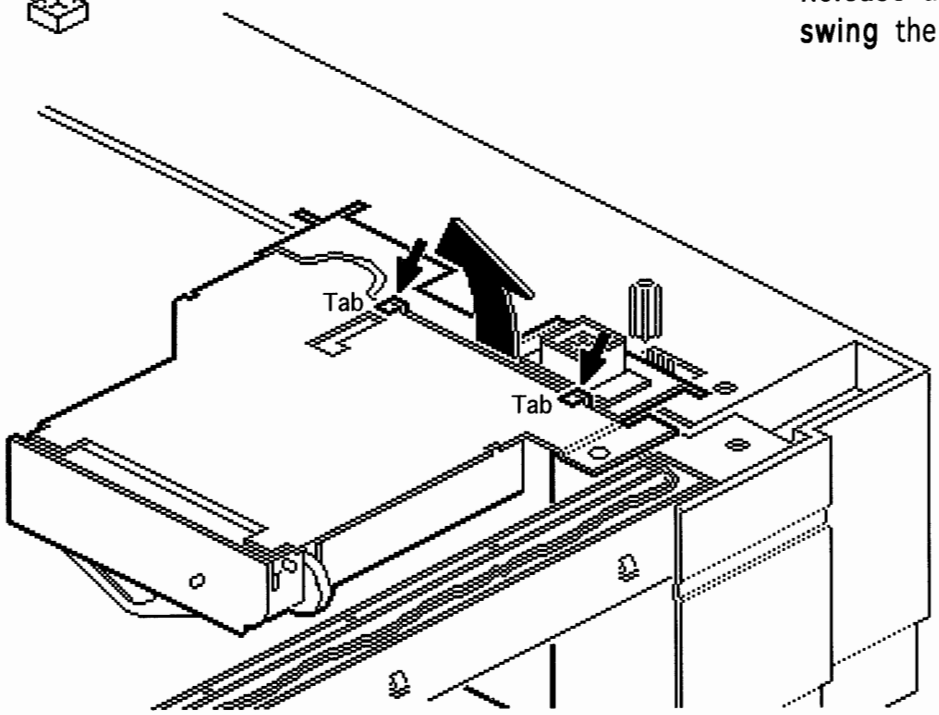
Note: Refer to the following take-apart topics for disassembly of the drive block:

- Motor Assembly
- Pickup Solenoid
- Feeder Rollers

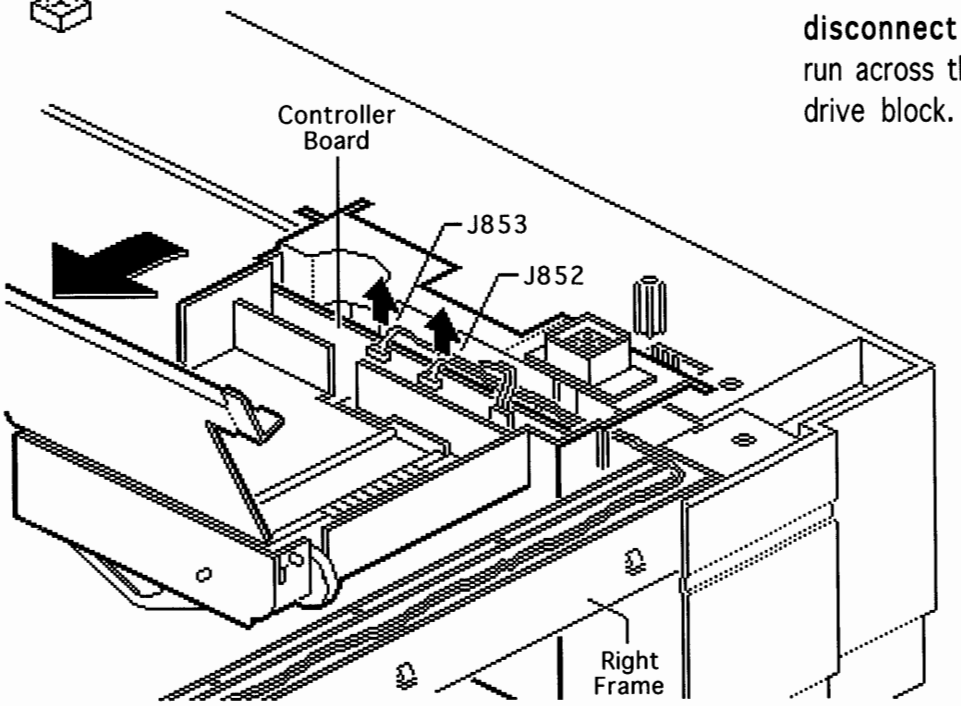


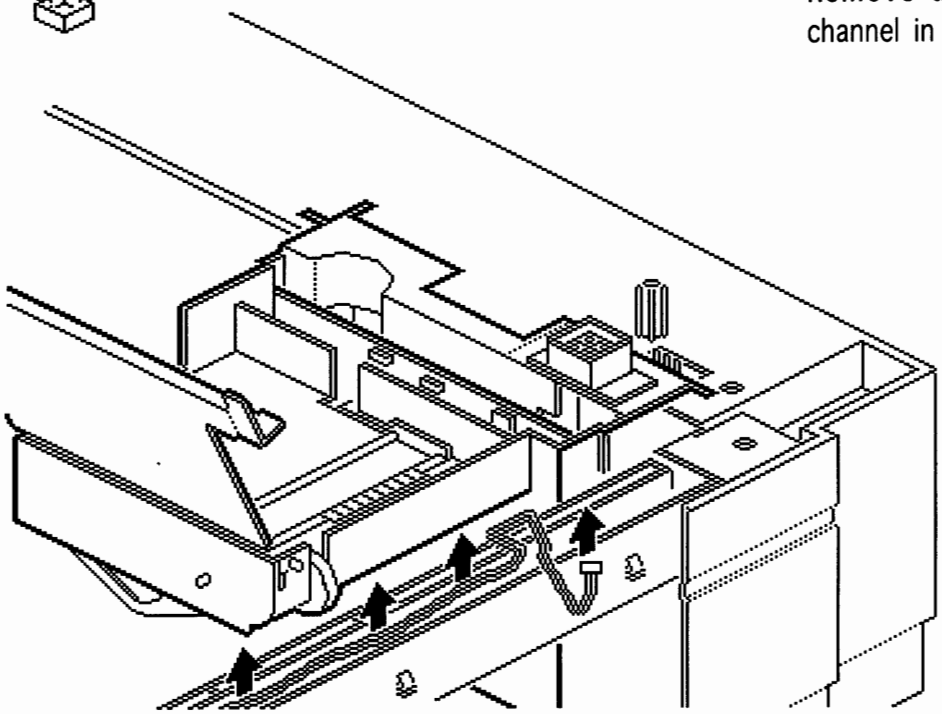
Remove the single black screw that secures the controller block cover.

Release the two flex tabs and **swing** the cover upward.

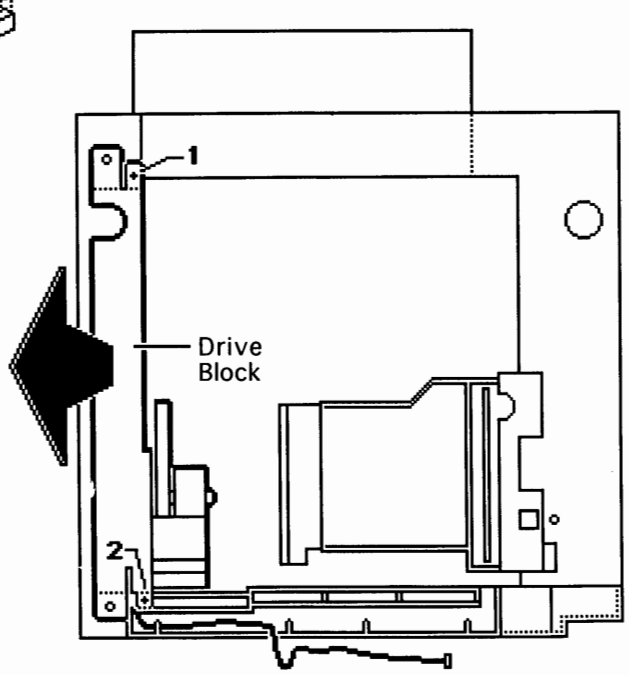


Cut the cable tie (if present) and **disconnect** the two cables that run across the right frame to the drive block.





Remove the cables from the channel in the right frame.



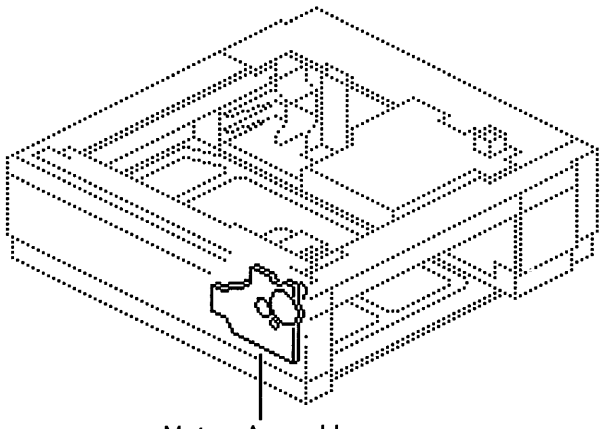
Remove the two screws and **lift** the drive block out of the sheet feeder.

Replacement Note: There are two pins and a ground spring on the bottom of the drive block in addition to the two positioning pins on the top. Be careful to seat all of them before reinstalling the drive block.

First:

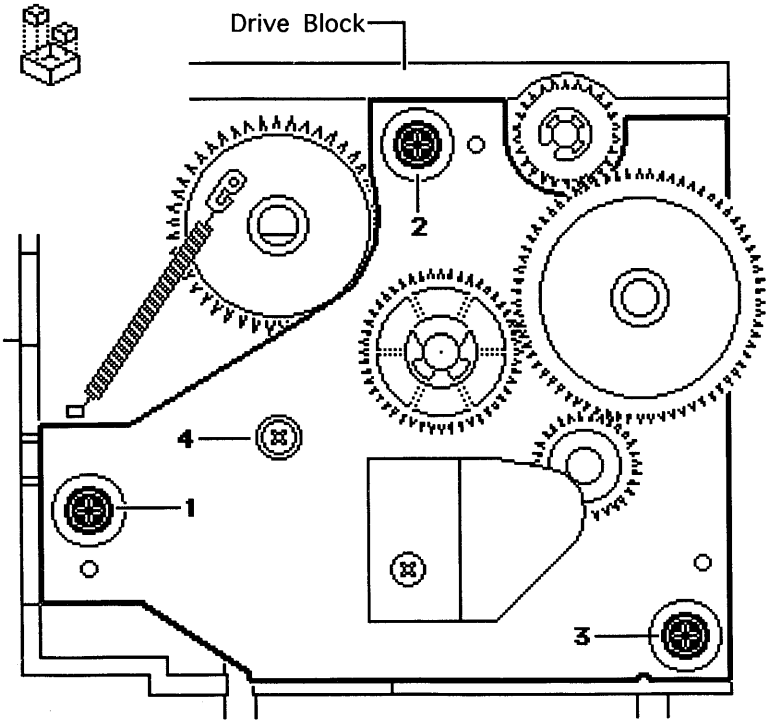
Remove Right Cover
Remove Drive Block

Note: The motor assembly consists of a mounting plate, the motor, and two transfer gears. None of the assembly subcomponents is available from Apple.



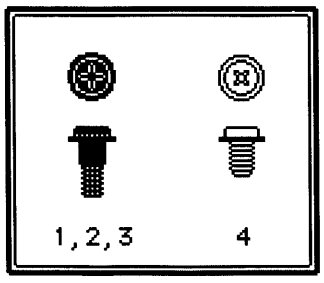
Motor Assembly
and
Pickup Solenoid

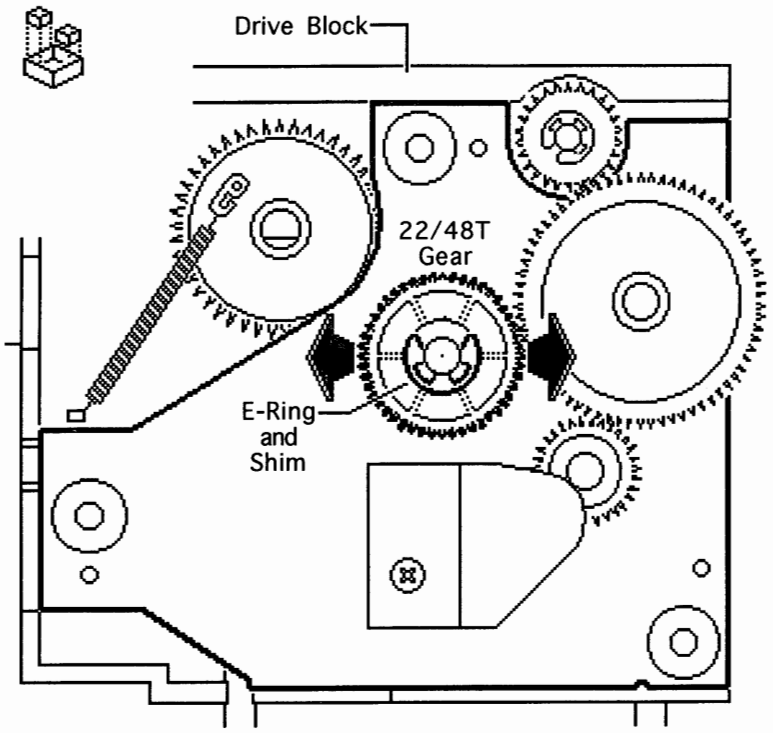
LW Pro Sheet Feeder Take Apart - Motor Assy/Pickup Solenoid
Do Manuals Chapters ? « 2 of 6



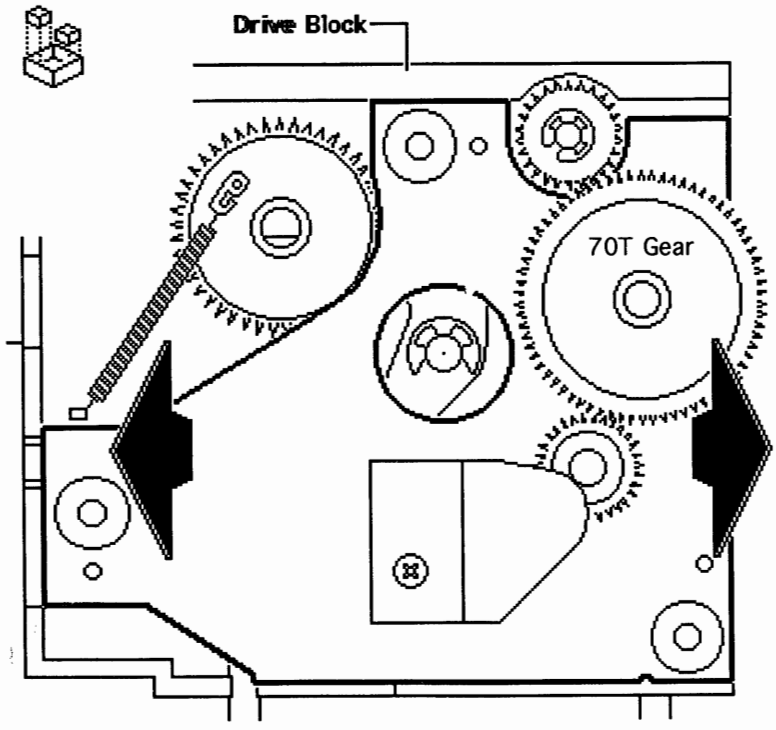
Remove the four screws.

Replacement Note: The three screws at 1, 2, and 3 are are stepped machine screws. Do not substitute the screws at these locations.



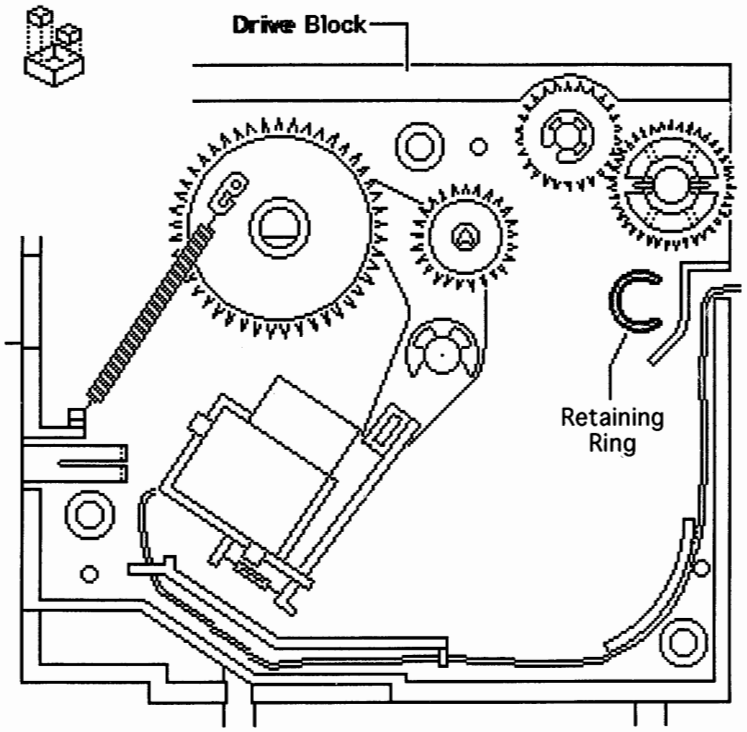


Remove the E-ring and the shim washer and **pull off** the 22/48T gear.

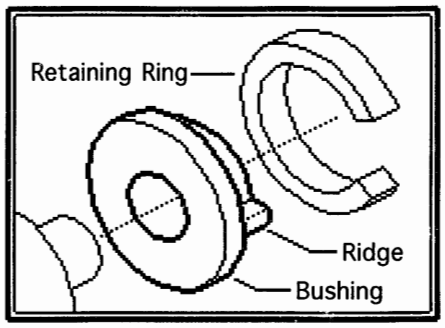


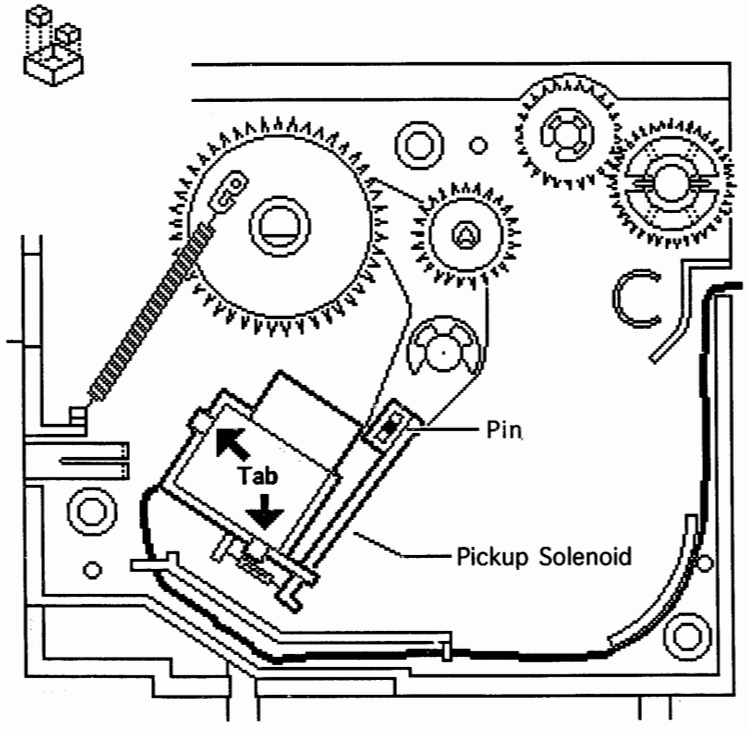
Remove the motor assembly from the drive block.

Note: There is a plastic bushing at the far end of the 70-tooth gear shaft. This bushing is not a part of the motor assembly but is available separately. If the bushing has stuck to the shaft, remove it now and set it aside. See the next card for a replacement note regarding this bushing.



Replacement Note: The bushing is plastic and has a ridged shank. When properly installed, the bushing nests within the C-shaped retaining ring in the drive block. When installing the motor assembly, make sure that the ridge is pointing to the right, toward the open end of the C.

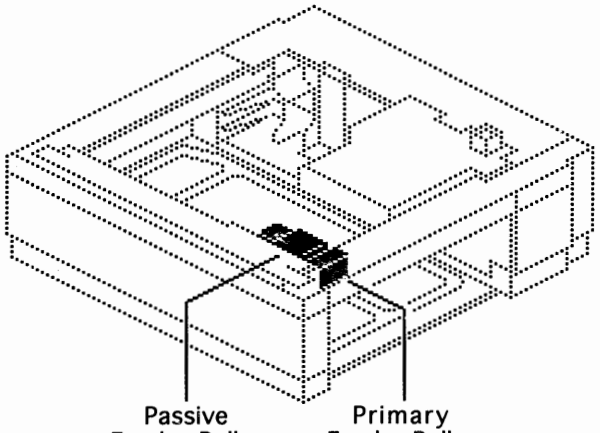




Note: Perform the following task only if you want to remove the pickup solenoid.

Release the two tabs, **remove** the cables from the channel, and **lift out** the pickup solenoid.

Replacement Note: Make sure that the solenoid is pinned to the boomerang-shaped pendulum as shown.



First:

Remove Right Cover
Remove Drive Block
Remove Motor Assembly

Note: There are one primary and two passive feeder rollers. The passive rollers compress against the primary roller to form a gripping surface. Paper moves from the pickup roller into the feeder rollers, up through a narrow opening in the upper cassette tray, and into the feed mechanisms in the paper pickup block.

Note: The passive roller assembly consists of three orderable parts:

- Passive roller mount
- Passive roller housing
- Passive roller spring

Note: The primary feeder is black, and is forward of the two white passive rollers. The screw in the following step is a 10 mm binding head screw.

Remove the screw located within the feeder roller housing.

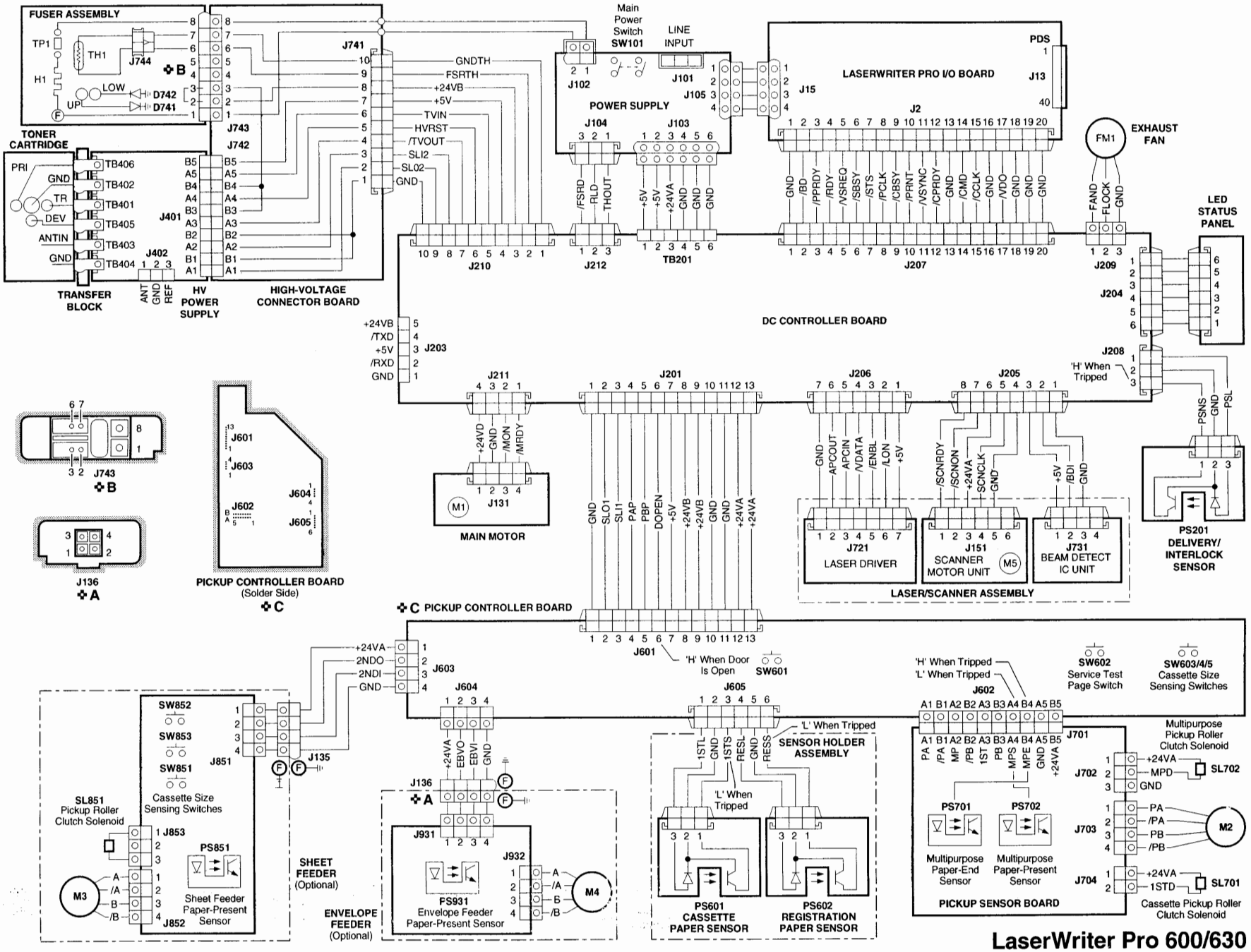
Caution: The dowel pin at the gear end of the shaft is prone to fall out once you remove the E-ring.

Remove the E-ring, **slide** the roller housing off the flange and **remove** the housing from the drive block, then **remove** the feeder roller off the shaft.

Note: Perform the following steps only if you need to remove the passive roller assembly. The paper weight mentioned in the following step is the rabbit-ear shaped part inside the pickup roller. It has an open grip-style connection to the pickup shaft.

Grasp the paper weight and **pull** it off the pickup shaft.

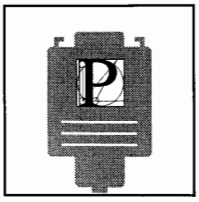
Remove the screw that secures the passive roller housing to the drive block and **slide** the passive roller assembly off the spindle.



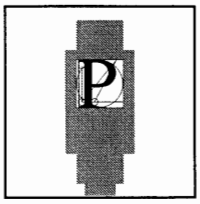
LaserWriter Pro 600/630 Wiring Diagram

LWPro630 Dean

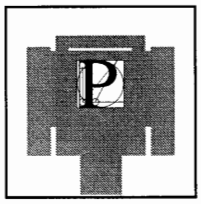
LASERWRITER PRO 630



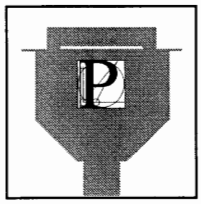
PostScript™
Ethernet



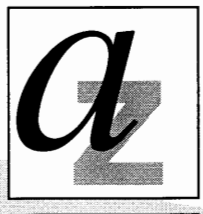
PostScript
LocalTalk



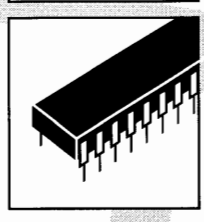
PostScript
RS-232 9600 Baud



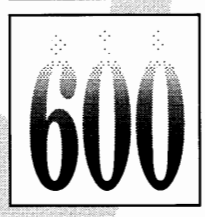
PostScript
Parallel



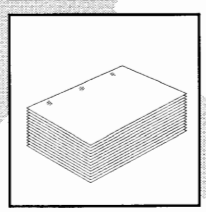
36 fonts in ROM



8 MB RAM



600 dpi resolution

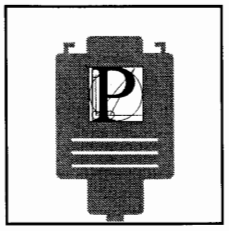


500-Sheet Tray attached

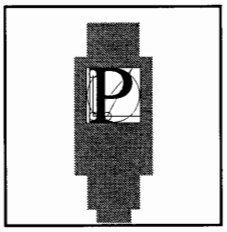
70992

Special Education Laser

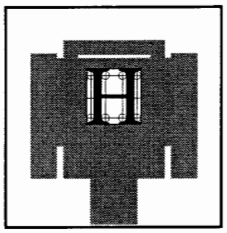
L A S E R W R I T E R P R O 6 3 0



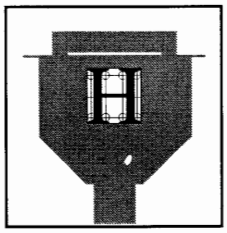
PostScript™
Ethernet



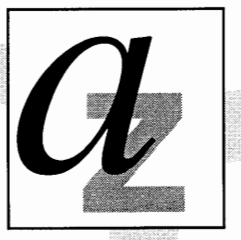
PostScript
LocalTalk



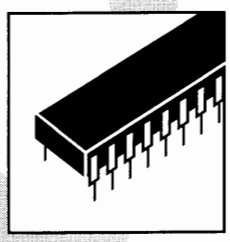
LaserJet® IIP
RS-232 9600 Baud, Raw Input



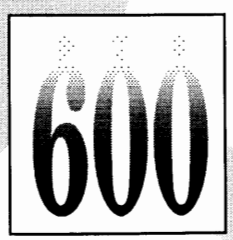
LaserJet IIP
Parallel



36 fonts in ROM



8 MB RAM



600 dpi resolution

2217