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## Required Tools

**Table 6-1** Required Tools

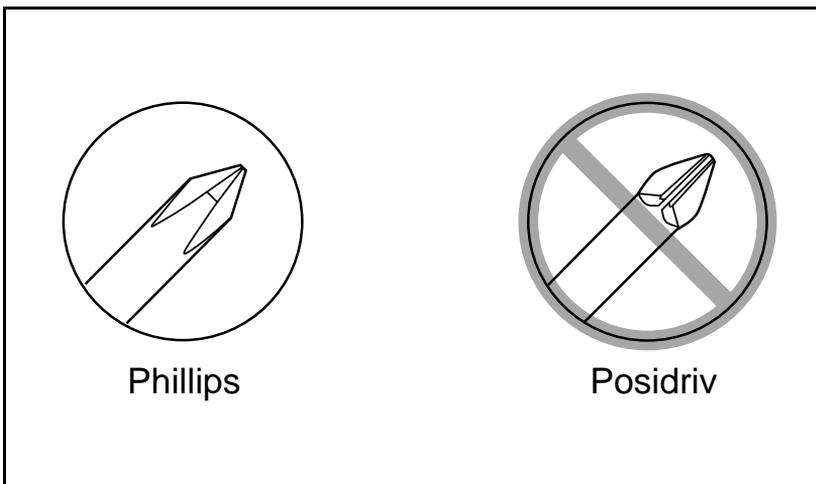
QTY	TOOL
1	#2 Magnetized Phillips Screwdriver (6-inch shaft)
1	Small Needle Nose Pliers
1	Small Flat-head Screwdriver (6-inch shaft)
1	5mm Nut driver

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## Hardware Review

All screws used in the printer are Phillips head, which require a Phillips screwdriver. Figure 6-1 shows the difference between a Phillips and a Pozidriv screwdriver. Note that the Phillips tip has more beveled surfaces.

**Caution** Use of a Pozidriv screwdriver will damage the screw heads. Use Phillips only.

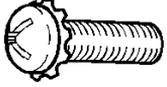
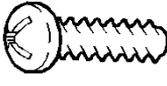


**Figure 6-1** Comparing Phillips and Pozidrive Screws

Table 6-2 describes the screws used in the printers, and provides guidelines to help determine where each type of screw is used. The screws can vary in length depending on the thickness of the material being fastened.

Typically, plated screws are used in areas visible to the customer, and black screws are used in all other areas of the printer. Always note where each type of screw is located and replace each one into its original location.

**Table 6-2** Printer Hardware Descriptions

DRAWING	DESCRIPTION	PURPOSE
	Threaded Phillips screw with lock and flat washer	Used to fasten metal or plastic to threaded plastic or metal.
	Threaded Phillips washer head screw	Used to fasten metal or plastic to metal when high torque is required.
	Threaded Phillips w/captive star washer	Used to fasten metal to metal when good electrical contact is needed.
	Self-tapping Phillips screw	Used to fasten metal or plastic to plastic mainframes.
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">6mm </div> <div style="text-align: center;">8mm </div> <div style="text-align: center;">10mm </div> <div style="text-align: center;">12mm </div> <div style="text-align: center;">M3 </div> <div style="text-align: center;">M4 </div> </div>		

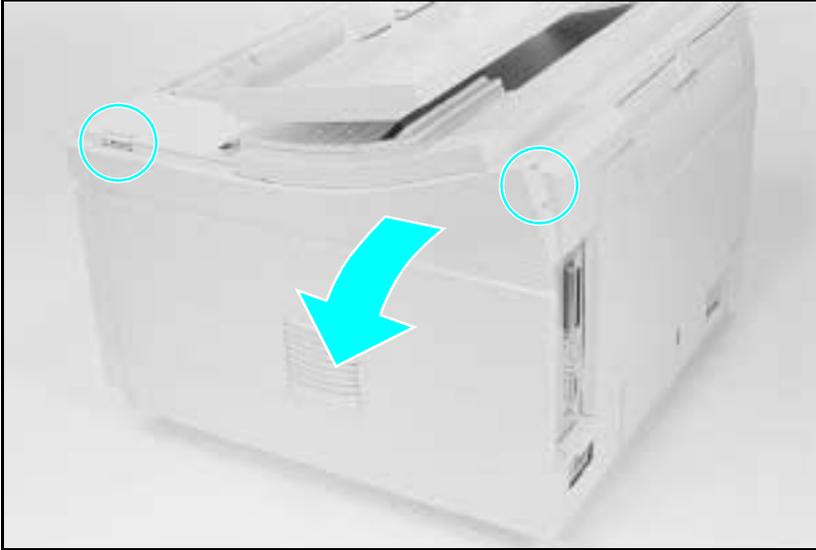
**Caution** To install a self-tapping screw, first turn it counter-clockwise to align it with the existing thread pattern, then carefully turn clockwise to tighten. *Do not over-tighten.* If a self-tapping screw-hole strips, repair of the screw-hole or replacement of the affected assembly is required.

In the removal and replacement procedures that follow, the number inside the parentheses, such as (4), refers to the number of screws you must remove.

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# Removing the Covers

## Right Side Cover Removal



**Figure 6-2** Right Side Cover Release Points

### **LJ 4/4 Plus**

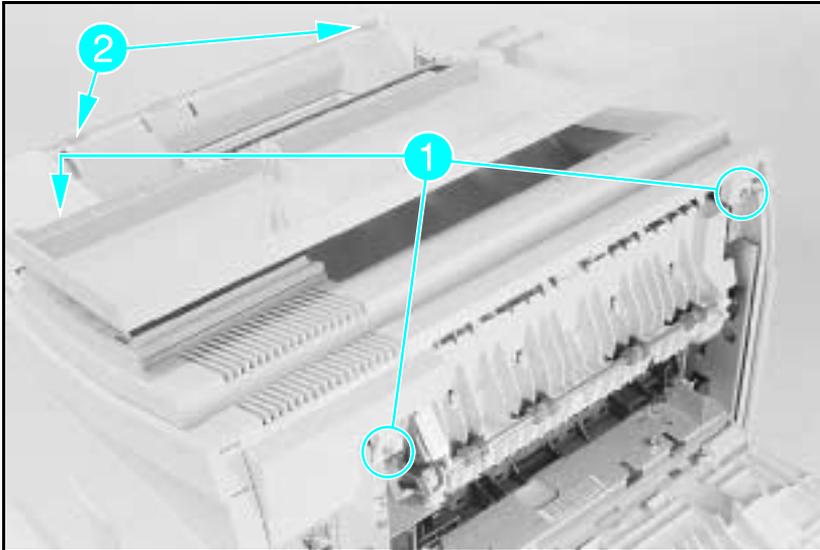
- 1 Open the Top Cover and release the Right Side Cover by pressing at the points shown in Figure 6-2.
- 2 Fold the cover away from the printer to release the bottom supports and lift the door off of the printer frame.

### **LJ 5**

- 1 Open the Top Cover and loosen the retaining screw on the right side cover located at the upper right rear of the printer.
- 2 Slide the right side cover back and fold the cover away from the printer to release the bottom supports.

**WARNING!** Since the handle is part of the right side cover, the retaining screw must be fully tightened or printer damage or personal injury may result.

## Top Cover Removal



**Figure 6-3** Front Top Cover Screws and Latches

- 1 Open the Top Cover.
- 2 Remove the Right Side Cover.
- 3 Open the Rear Door.
- 4 Remove the (3) screws shown in Figure 6-3, callout 1.
- 5 Release the (2) latch points with a flat screwdriver while lifting the Top Cover (see callout 2.)
- 6 Carefully lift the top cover to access the Control Panel cable.

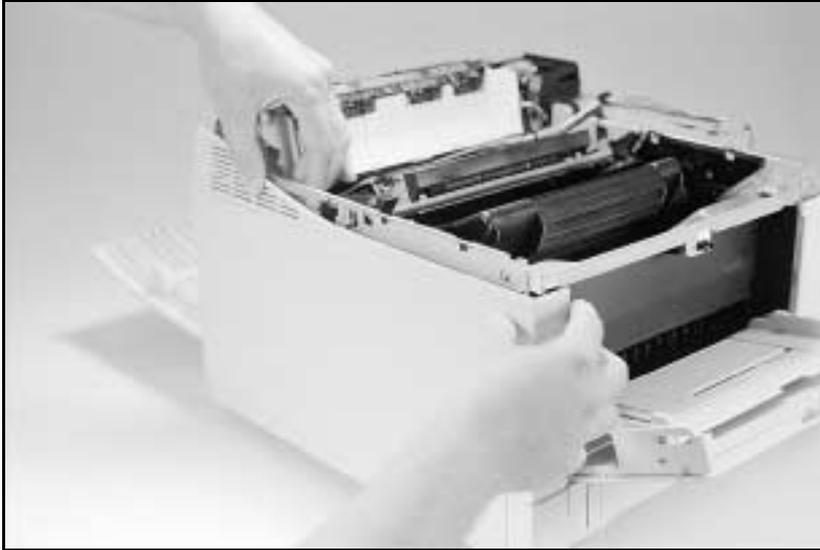
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**Figure 6-4**      **Control Panel Cable**

- 7** Disconnect the Control Panel Ribbon Cable and remove the top cover (see Figure 6-4).

## Left Side Cover Removal

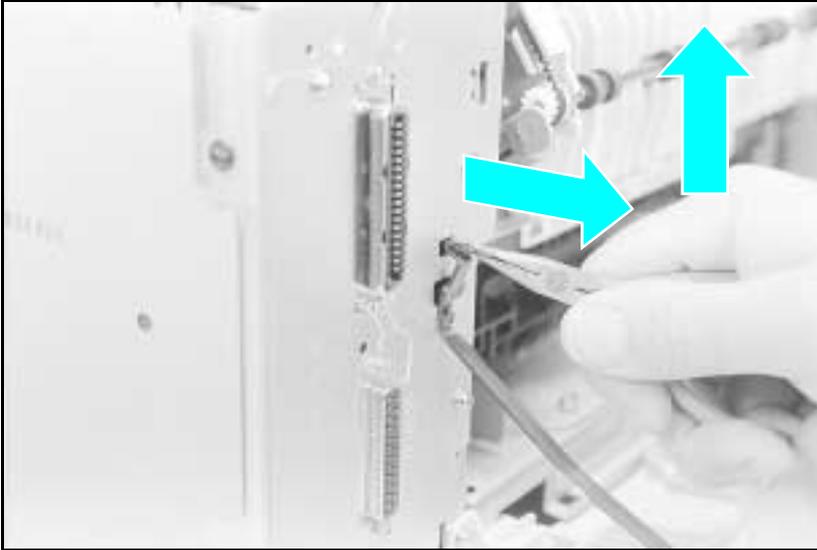


**Figure 6-5**      **Left Side Cover Latches**

- 1** Remove the Right Side Cover and the Top Cover.
- 2** Release the 2 latch points on the Left Side Cover (front latch first) see Figure 6-5. The latches are on the inside of the Left Side Cover.
- 3** Fold out the cover and remove.

**Note**                      When removing the LJ 5 left side cover, you must gently push the Tray 1 cover forward to enable the left side cover to be folded out and removed.

## Rear Door Removal



**Figure 6-6** Releasing the Door Support

- 1** Remove the PC tray (Tray 2).
- 2** Open the Rear Door. Support the door with one hand.
- 3** Release the door support from the rear of the printer frame as follows: (see Figure 6-6)
  - a** Using needle-nose pliers, squeeze the tabs on the end of the retaining strap. Slide the strap up and out of the printer frame.
  - b** Release the retaining strap tab from the slot in the printer frame.
  - c** Lift the tab to free it from the slot.

*(continued on next page)*

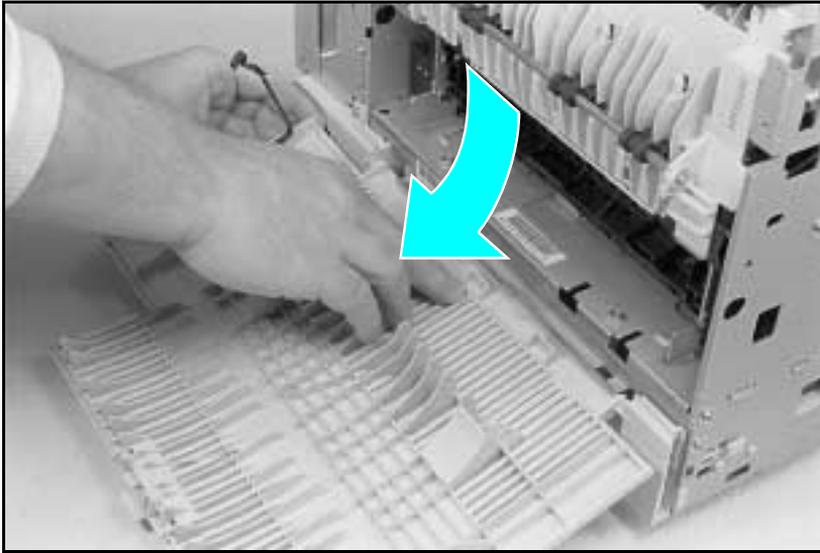


Figure 6-7a Releasing the Door Hinge (LaserJet 4/5)

- 4 LaserJet 4/5:** Flex the Rear Door to release it from its hinges. Press the middle of the door while lifting either side (Figure 6-7a).  
**LaserJet 4 Plus:** Remove the Rear Door Attaching Clip (Figure 6-7b, callouts 1 through 3). Slide the Rear Door as far as possible toward the left, then rotate to remove (Figure 6-7b, callouts 4 and 5).

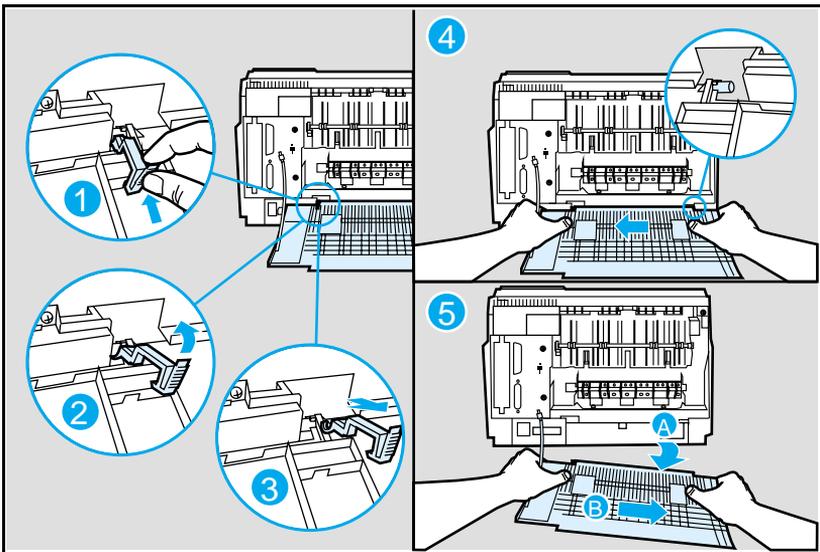
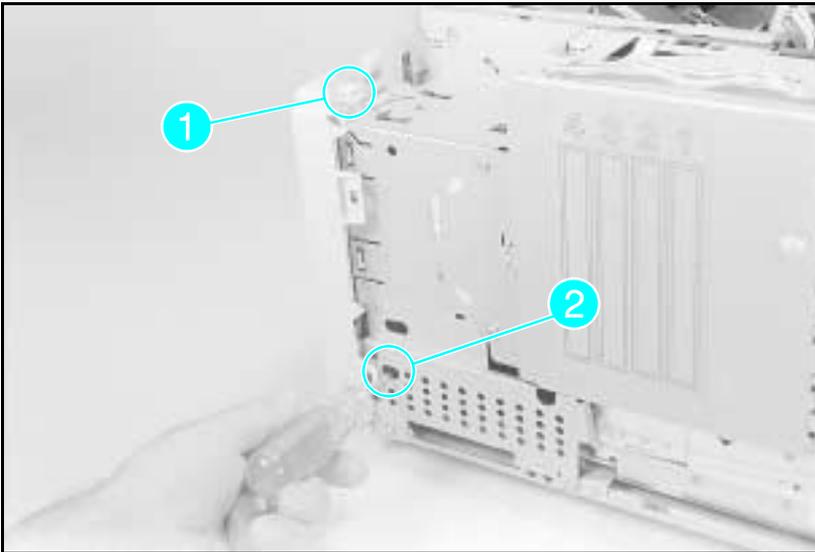


Figure 6-7b Releasing the Door Hinge (LaserJet 4 Plus)

## Font Door Cover Removal (LJ 5 Right Front Cover Removal)



**Figure 6-8** Font Door Removal (LaserJet 4 shown)

### **LJ 4/4 Plus**

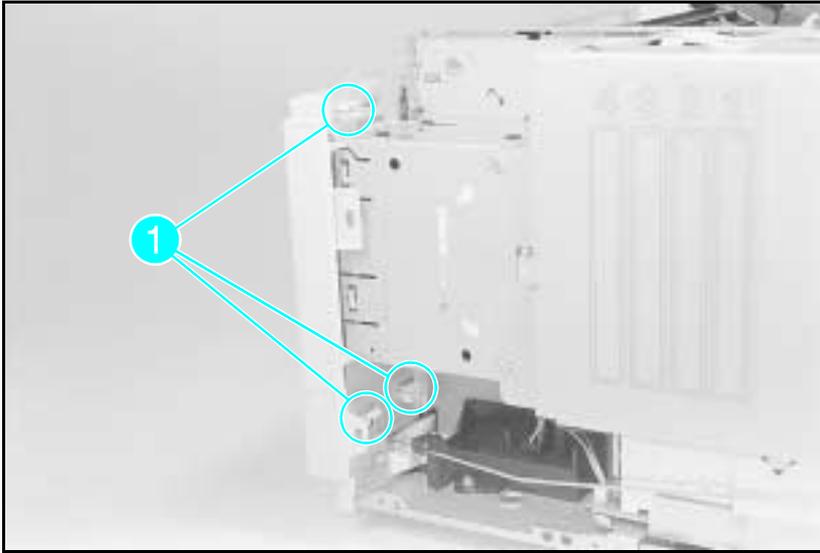
- 1 Remove the Right Side Cover, the Top Cover, and the PC Tray.
- 2 Release the top latch (see Figure 6-8, callout 1).
- 3 Release the (2) lower latches through the access hole in the metal cover (see Figure 6-8, callout 2 and Figure 6-9, callout 1).
- 4 Remove the Font Door Cover.

### **Note**

Figure 6-9 shows the metal side cover removed in order to show the Font Door latches. It is not necessary to remove the metal side cover to remove the Font Door.

### **LJ 5**

- 1 Remove the right side cover, the top cover, Tray 1 door, and Tray 2.
- 2 Remove the Right Front Cover retaining screw.
- 3 Release the top latch. (See Figure 6-8, callout 1)
- 4 Release the latch halfway down the right side of the cover.
- 5 Release the (2) lower latches, one through the access hole in the metal cover (see Figure 6-8, callout 2), and one from the bottom of the printer (next to the Tray 2 guide).



**Figure 6-9**      **Font Door Cover Latches**

## Multi-Purpose (MP) Tray (Tray 1) Door Removal



**Figure 6-10** Removing the MP Tray Door

- 1 Remove the PC Tray.
- 2 Open the MP Tray door and extend the MP Tray.
- 3 Bend the Door Slides out to release the tray from the door slides (see Figure 6-10). Place the inner door in the “up” position.

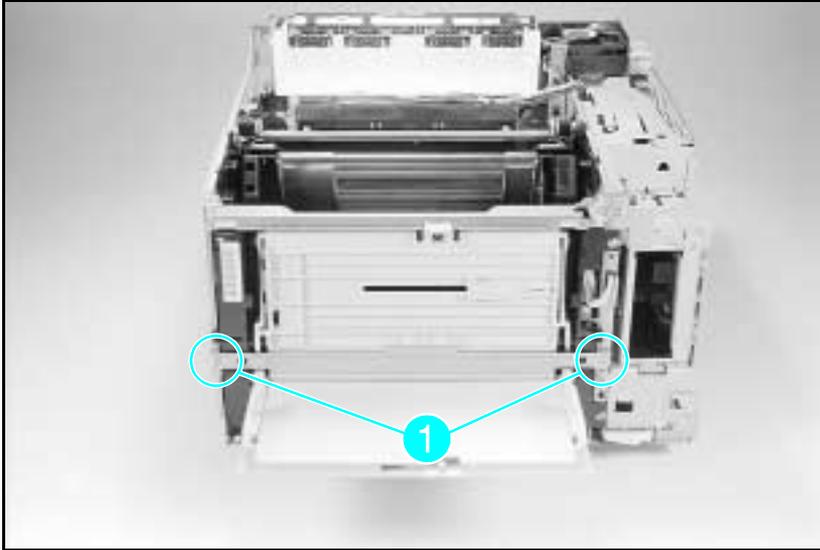
### **LJ 4/4 Plus**

- 4 Flex the MP tray at the lower middle and release the door from its hinges (see Figure 6-10).

### **LJ 5**

- 4 Slide Tray 2 to the right to release it from its hinges.

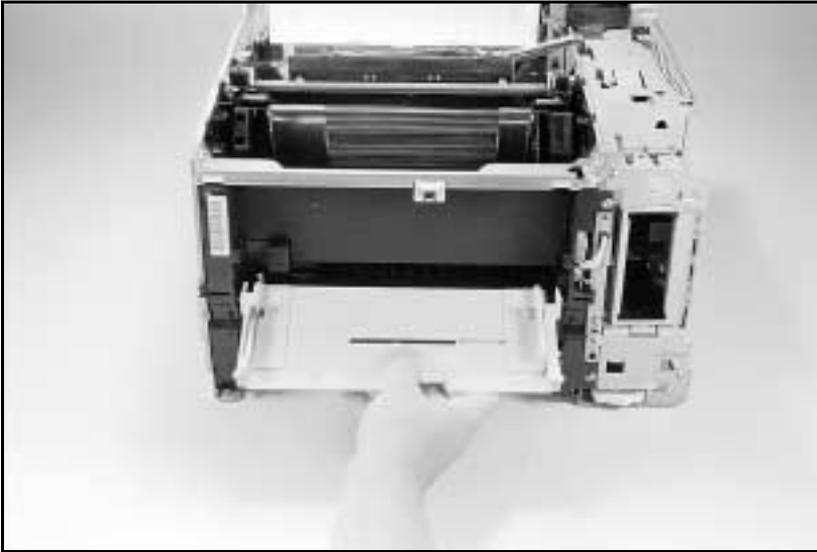
## Multi-Purpose (MP) Tray (Tray 1) Removal



**Figure 6-11** Remove the Crossmember Bracket

- 1** Remove the Right Side Cover, Top Cover, Left Side Cover, MP Tray Door (Tray 1), and the Font Door Cover.
- 2** Remove the PC Tray (Tray 2).
- 3** Remove the (2) screws in the Cross-member Bracket as shown in Figure 6-11, callout 1. Remove the Cross-member Bracket.

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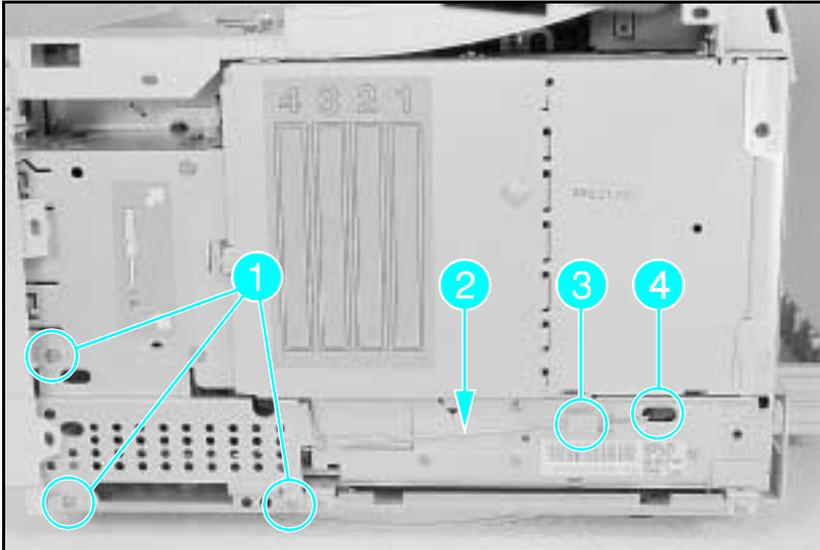
**Figure 6-12 Rotate the Tray Down to Release the Hinge from its Slots**

- 4** On the LJ 4+ and LJ 5 you must release the tray tension spring located at the left side of the tray. Use a pair of needlenose pliers to remove the spring from the tray.
- 5** Rotate the tray down until it slides off its slotted hinges (about 120°)(see Figure 6-12).

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# Assemblies Removal

## Power Supply Removal



**Figure 6-13a** Remove the Sheet Metal Plate (LaserJet 4)

- 1** Remove the Right Side Cover.
- 2** Remove the (3) or (2) screws from the metal cover at the lower right corner of the printer (see Figure 6-13a or b, callout 1.) Remove the metal cover.

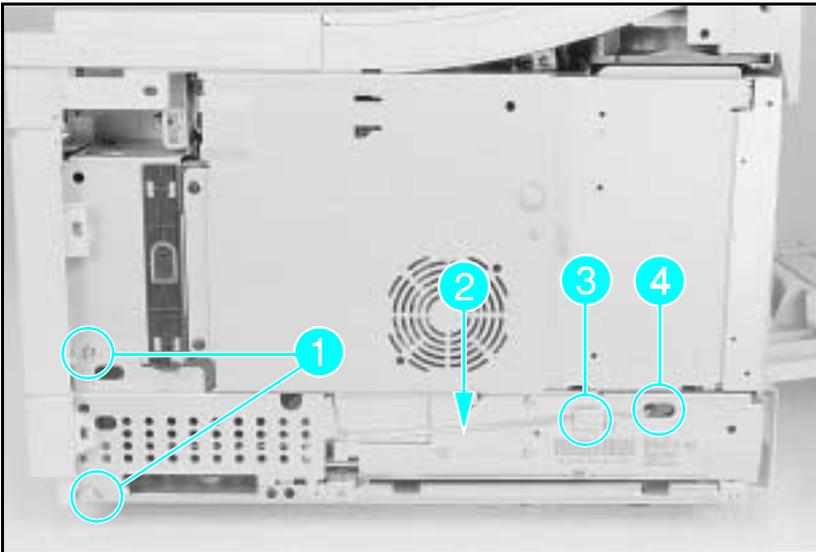
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**Note** Note which end of the connecting rod is installed into the Power Supply and which end connects into the Rocker Switch.

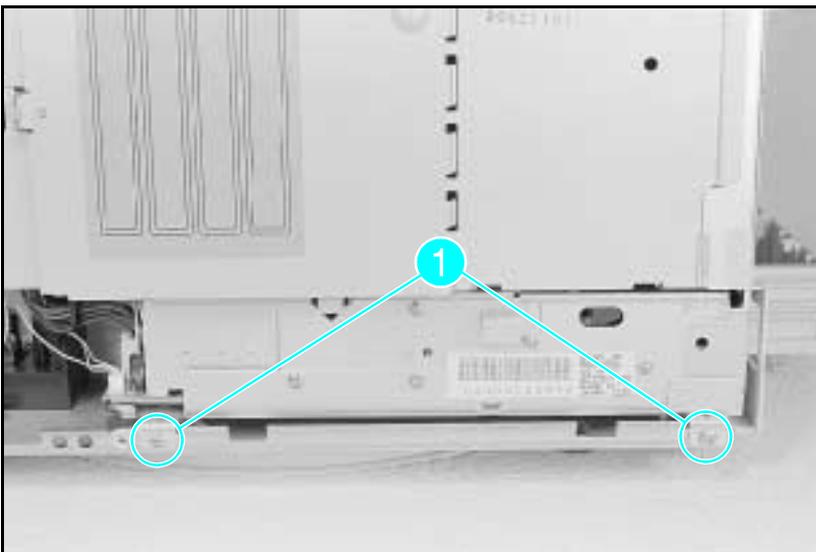
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- 3** Remove the Power Switch Connecting Rod (callout 2.)
  - a** lift the rod clear of tab (callout 3), and remove from socket (callout 4).
  - b** Remove the rod from the Rocker Switch at the front of the printer.

*(continued on next page)*



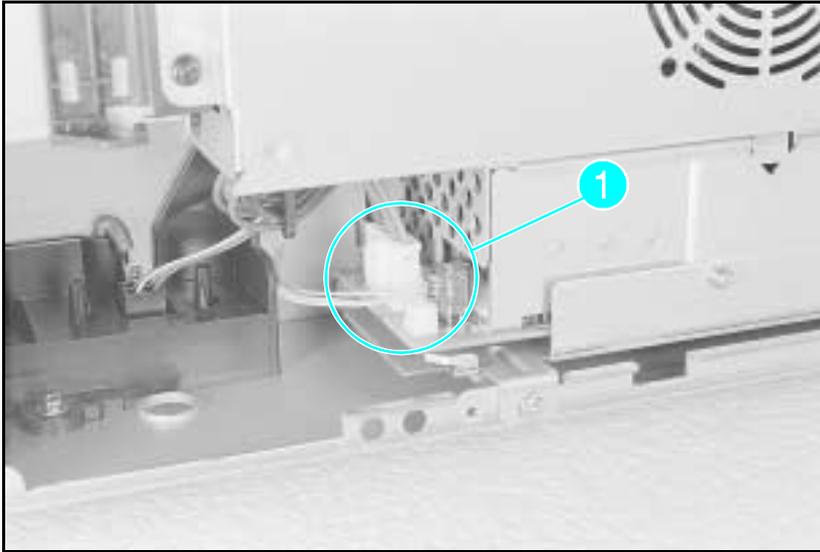
**Figure 6-13b** Remove the Sheet Metal Plate (LaserJet 4 Plus/5)



**Figure 6-14** Power Supply Screws

- 4 Remove the (2) screws from the bottom frame (see Figure 6-14, callout 1).
- 5 Slide the power supply out the right side of the printer to access the power supply connectors.

*(continued on next page)*

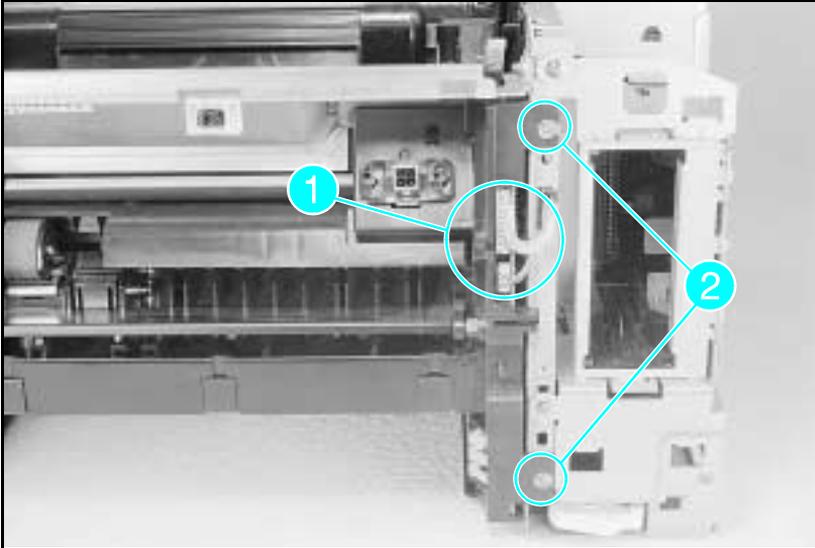


**Figure 6-15** 6-wire and 3-wire Connectors for the Power Supply

- 6** Remove the (2) connectors (6 wire and 3 wire). (See Figure 6-15, callout 1.) Squeeze the release tab on the 6-wire connector. Pull the 3-wire connector straight up.
- 7** Remove the power supply.

**Note** When replacing the power supply, be sure to use the screws with the star washers to ensure proper grounding and RFI shielding.

## Paper Feed Assembly Removal



**Figure 6-16** Paper Feed Assembly Screws and Connectors

- 1** Remove the Right Side Cover, the MP opening cover, (see Figure 6-17), the Top Cover and the Left Side Cover, the Front Door Cover, and the PC tray (Tray 2). The MP tray need not be removed, but is shown removed for clarity.
- 2** Remove the MP Tray (Tray 1) door, the Front Cross-member (Figure 6-11), and the MP Tray.
- 3** Disconnect the 13-wire connector and the 4-wire connector from the front of the Paper Feed Assembly (see Figure 6-16, callout 1).
- 4** Remove the (2) screws from the right side of the Paper Feed Assembly (see Figure 6-16, callout 2).

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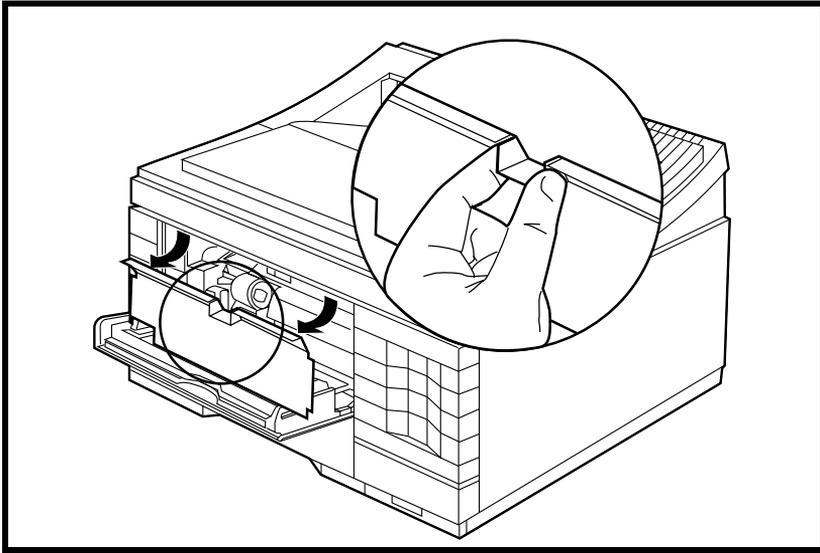
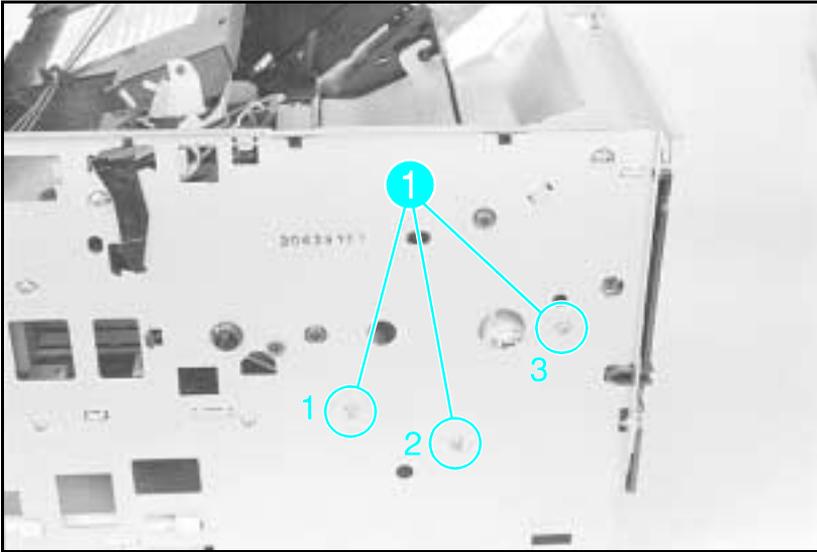


Figure 6-17 MP Tray Opening Cover

*(continued on next page)*



**Figure 6-18 Paper Feed Assembly Screws (numbered)**

- 5** Remove the (3) screws from the left side of the printer (see Figure 6-18, callout 1).
- 6** Remove the Paper Feed Assembly by lifting it and sliding it out the front of the printer.

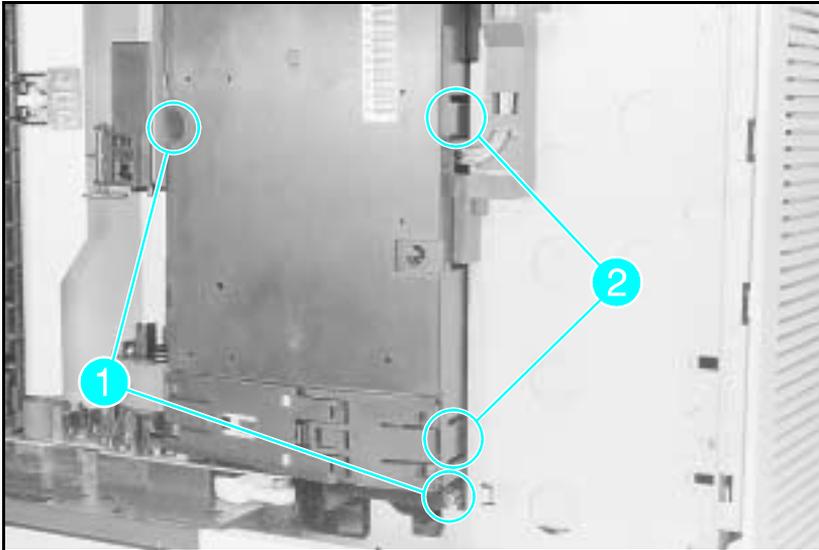
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**Note**

Replace the screws in order as shown. (1-2-3 is also scribed on the printer chassis.) Tightening these screws in the wrong order can cause paper skew problems.

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## High Voltage Power Supply (HVPS) Removal



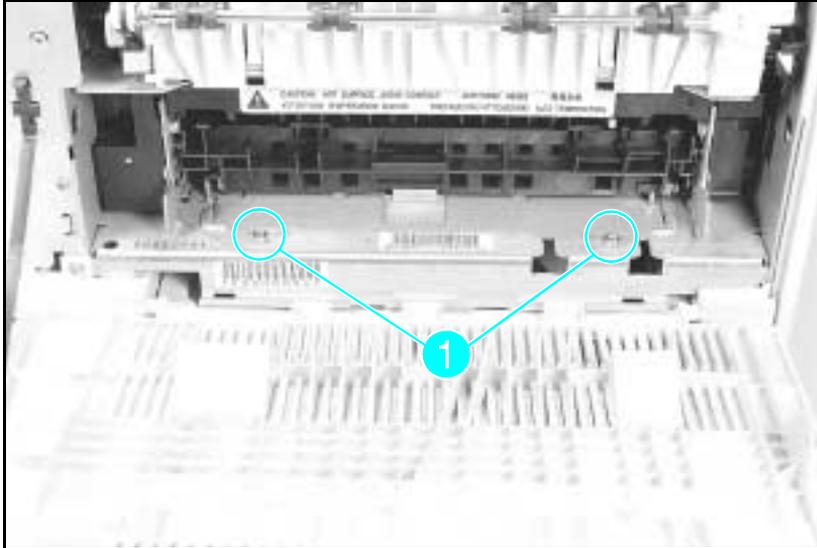
**Figure 6-19 HVPS Screws (2) and Latches (2) (Bottom View)**

- 1 Remove the Toner Cartridge and PC tray.
- 2 Lay the printer on its left side. (Place a cloth under the printer to prevent marking the cover.)
- 3 Remove the (2) screws that hold the HVPS in place (see Figure 6-19, callout 1).
- 4 Release the (2) latches that hold the High Voltage Power Supply (see Figure 6-19, callout 2).
- 5 Pull the HVPS straight away from the printer to clear its locator pins and to prevent damage to the HVPS connectors.
- 6 Remove the HVPS from its housing by releasing the (4) retaining clips that hold the PCA in place.

### Note

Run a printing self-test after replacing the high voltage power supply. If the printer prints solid black pages, the HVPS may be seated incorrectly. Repeat the installation procedure, being careful to align the high voltage connectors.

## Fuser Assembly Removal



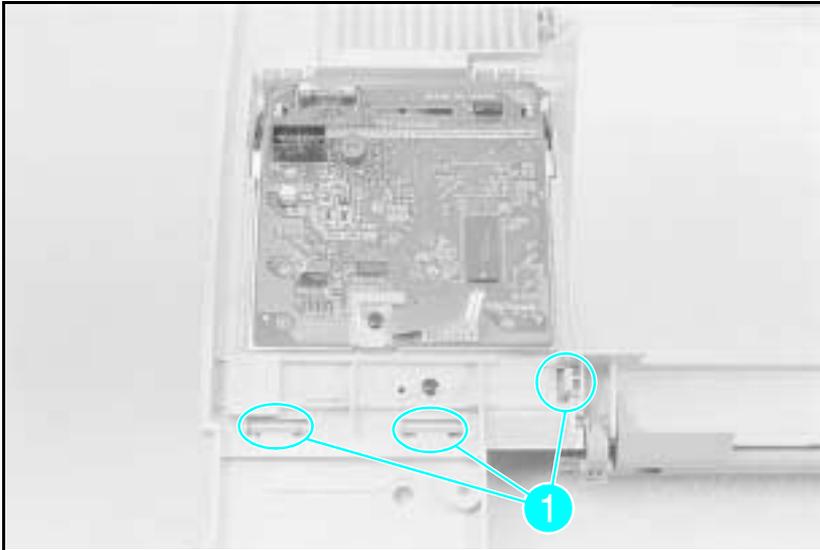
**Figure 6-20** Fuser Assembly Screws

**Caution** *The Fuser Assembly may be hot.* Allow plenty of time for the fuser to cool before beginning the fuser removal procedure.

- 1 Open the rear door.
- 2 Remove the (2) screws that hold the Fuser to the printer frame (see Figure 6-20, callout 1).
- 3 Slightly lift the Fuser by both the right and left sides to clear the locator points.
- 4 Pull the Fuser from the printer.

**Note** The Fuser Assembly from the LaserJet 4 cannot be interchanged with the Fuser Assembly from the LaserJet 4 Plus or 5 printers.

## Control Panel and Overlay Removal



**Figure 6-21** Control Panel Latches

- 1 Remove the Right Side Cover and the Top Cover.
- 2 Turn the Top Cover over and place it on flat surface.
- 3 Release the (3) latches that contain the Control Panel (see Figure 6-21, callout 1).
- 4 Carefully pivot the Control Panel away from the Top Cover.

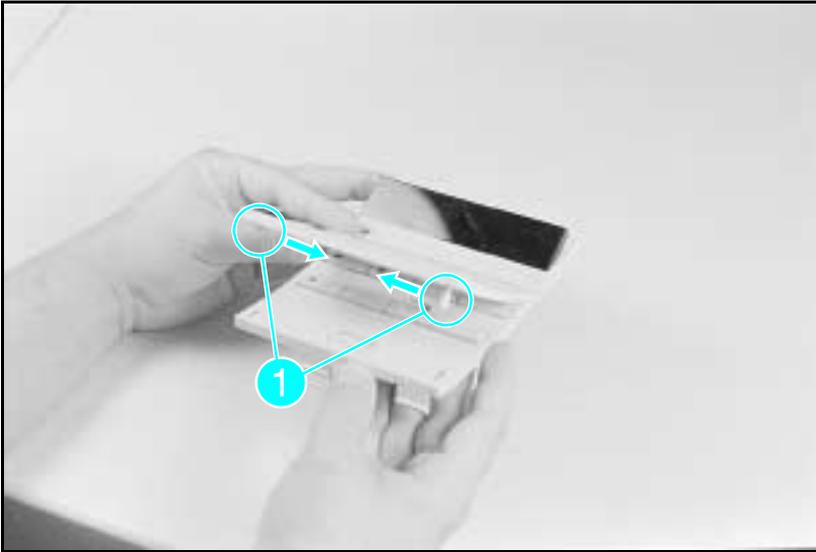
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### Note

To remove the LaserJet 5 Control Panel, first remove the black screw securing the grounding leaf spring and the Control Panel plate to the Top Cover. Release the two latches at the top of the Control Panel Assembly and pivot the top of the assembly up and out of the printer.

---



**Figure 6-22** Changing the Control Panel Overlay

- 5** If you must replace the Control Panel Overlay, release the (2) retaining tabs from the Control Panel and separate the overlay from the Control Panel (see Figure 6-22, callout 1).
- 6** Squeeze the sides of the Control Panel Overlay to release the (2) tabs (see Figure 6-22, callout 1).
- 7** Tilt the Overlay up and out.

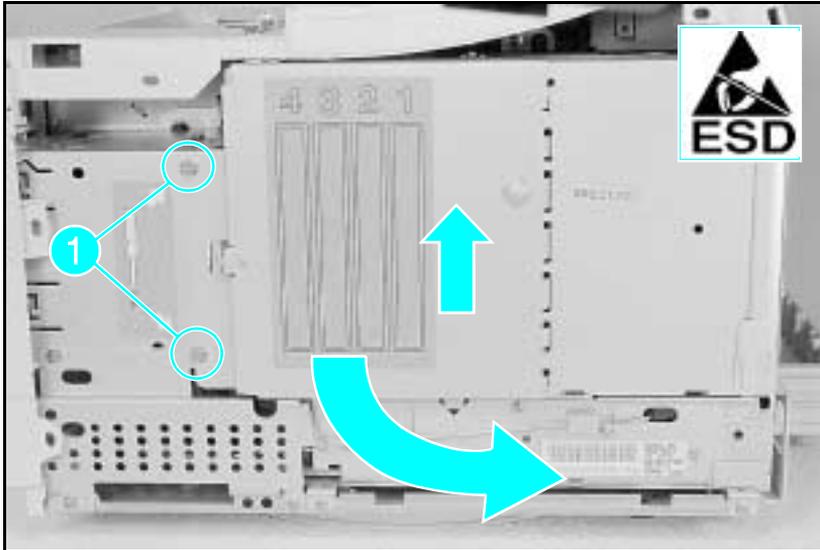
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**Note**

To remove the Control Panel Overlay on the LaserJet 5 printer, first remove the Control Panel Assembly and then slide the Overlay out of the side of the Top Cover. Reinstalling the Control Panel Assembly will secure the Overlay in place.

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## Removing the SIMMs Door



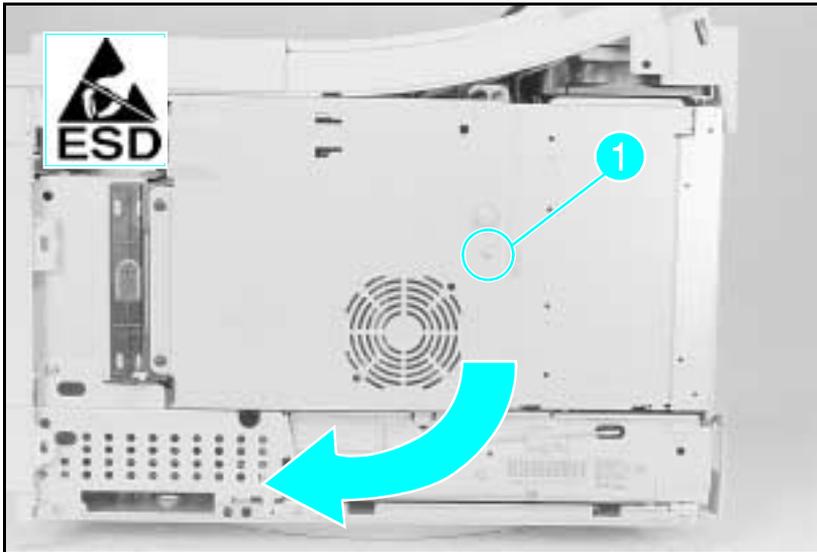
**Figure 6-23a** Removing the SIMMs Door (LaserJet 4)

1 Remove the Right Side Cover.

### **LaserJet 4:**

- 2 Remove the (2) screws that hold the SIMMs cover (see Figure 6-23a, callout 1).
- 3 Open the SIMMs cover, lift the door slightly to remove the door from the hinge.

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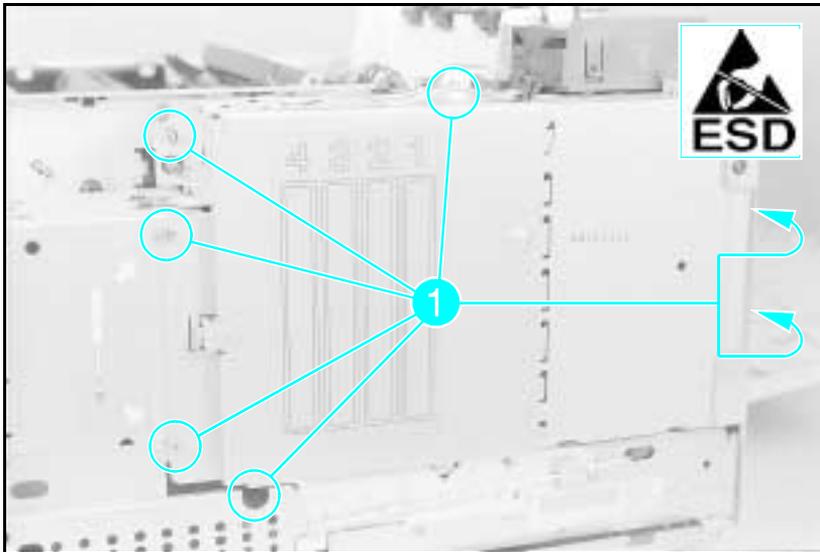
**Figure 6-23b** Opening the SIMMs Door (LaserJet 4 Plus)

**LaserJet 4 Plus/5:**

**2** Remove the (1) screw that holds the SIMMs cover (see Figure 6-23b, callout 1).

**3** Swing open the SIMMs cover.

## Formatter Cage Removal



**Figure 6-24a** Formatter Cage Screws (Right Side View - LaserJet 4 and 5)

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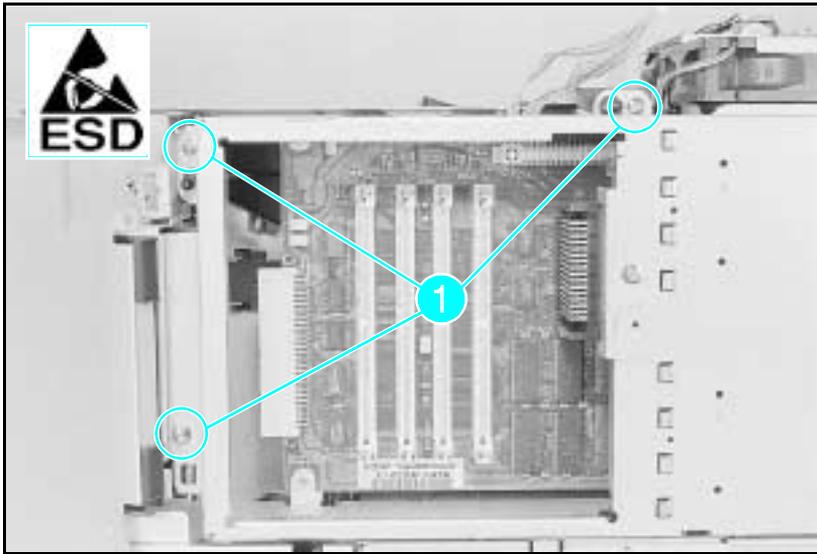
### Note

You may wish to remove the metal cover (on the lower right side) and the power supply for easier access to the Formatter Cage screws.

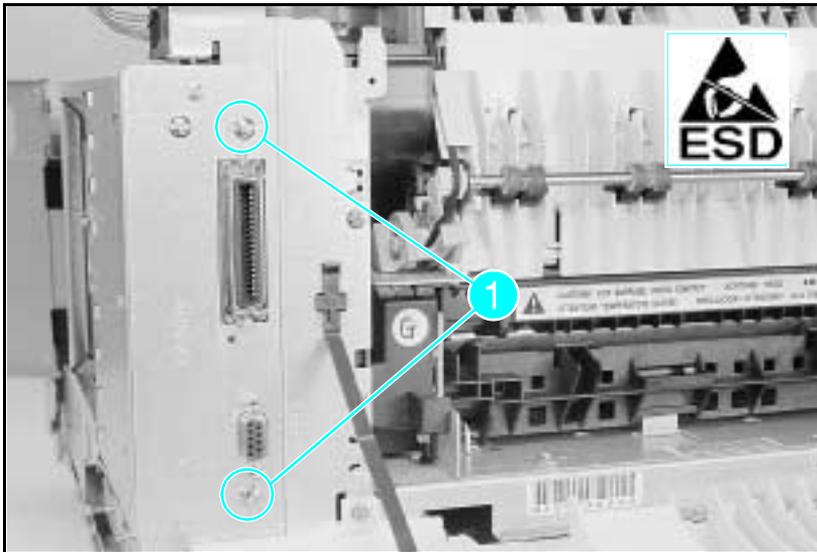
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- 1 Remove the Right Side Cover and the Top Cover.
- 2 **LaserJet 4 and 5:** Remove the (7) screws (6 screws in the LJ 5) shown in Figure 6-24a. (2) screws are on the right rear of the printer, (1) screw is under the lower front of the Formatter Cage (except LJ 5).  
**LaserJet 4 Plus:** Remove the (3) screws shown in Figure 6-24b (one screw is located behind the SIMM door), and the (2) screws on the right rear of the printer (shown in Figure 6-24c).
- 3 Remove the Rear Door Support Strap.
- 4 Slide the Formatter Cage straight out the right side of the printer, being careful not to damage the Formatter/DC Controller pin connectors.

*(continued on next page)*



**Figure 6-24b** Formatter Cage Screws (Right Side View - LaserJet 4 Plus)



**Figure 6-24c** Formatter Cage Screws (Rear View - LaserJet 4 Plus)

## Formatter PCA Removal

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**Caution**

The Formatter PCA is very sensitive to Electrostatic Discharge (ESD) damage. Observe proper ESD procedures when servicing the printer.

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**Note**

Before removing the old Formatter PCA, print a 05 SELF TEST to check the current printer page count, if possible. If a self test is not possible, enter the Service Mode, if possible, to display the page count (see “Service Mode” in Chapter 3).

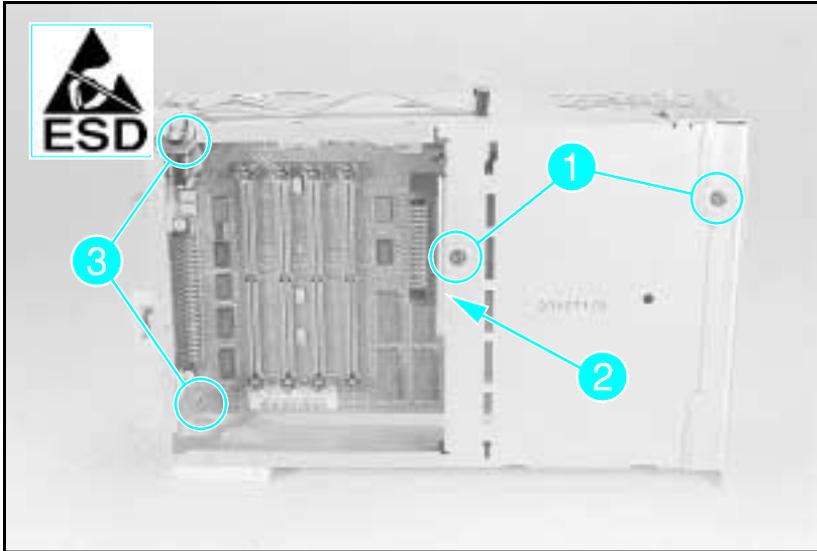
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Remove the Formatter Cage from the printer before beginning the Formatter PCA removal procedure. After the Formatter Cage is removed, remove the Formatter PCA as detailed on the following pages.

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## LaserJet 4 Formatter PCA:

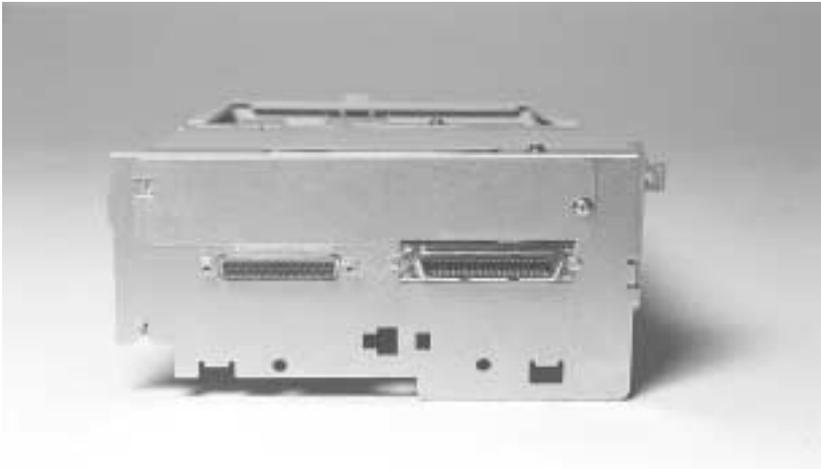
- 1 Remove any MIO or SIMM modules from the Formatter Assembly.
- 2 Remove the (2) black screws from the side of the Formatter Cage (see Figure 6-25a, callout 1).
- 3 Remove the MIO Connector Support Bracket (see Figure 6-25a, callout 2).
- 4 Remove the (2) Formatter PCA mounting screws (see Figure 6-25a callout 3).



**Figure 6-25a** Formatter Cover and PCA Mounting Screws (LaserJet 4)

*(continued on next page)*

- 5 Remove the (4) Interface Connector Support Screws from the rear of the Formatter Cover. The RS-232 connector is held with 5mm hex-head cap screws (see Figure 6-25b, callout 1). The parallel connector (see Figure 6-25b, callout 2.) is held in place with Phillips screws.
- 6 Remove the Formatter PCA.



**Figure 6-25b** Interface Connector Support Screws (LaserJet 4)

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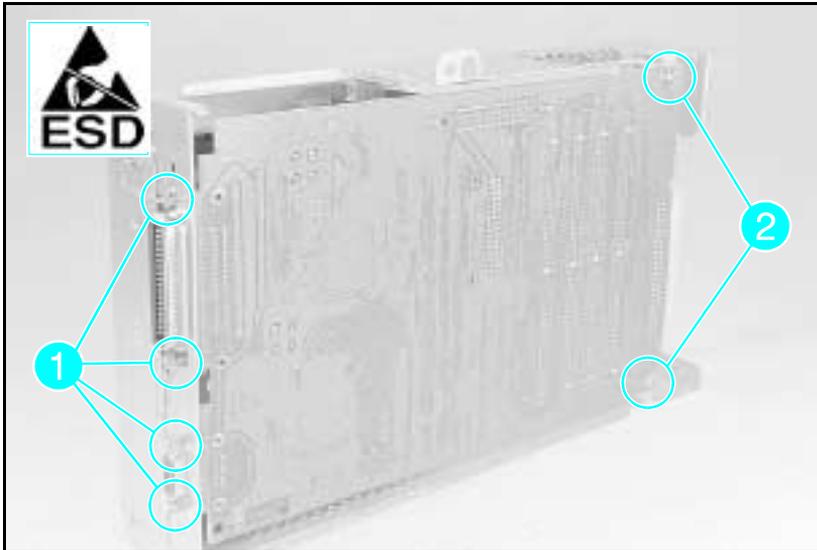
**Note** When replacing the Formatter Assembly be sure to reinstall all SIMM modules and MIO cards. Be sure to reset the page count and the Cold Reset paper size after replacing the Formatter.

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## LaserJet 4 Plus and 5 Formatter PCA

- 1 Remove any MIO or SIMM modules from the Formatter Assembly.
- 2 Remove the MIO Connector Support Bracket (see Figure 6-25a, callout 2).
- 3 Remove the (4) I/O screws (see Figure 6-26 callout 1).
- 4 Remove the (2) Formatter PCA mounting screws (see Figure 6-26 callout 2).



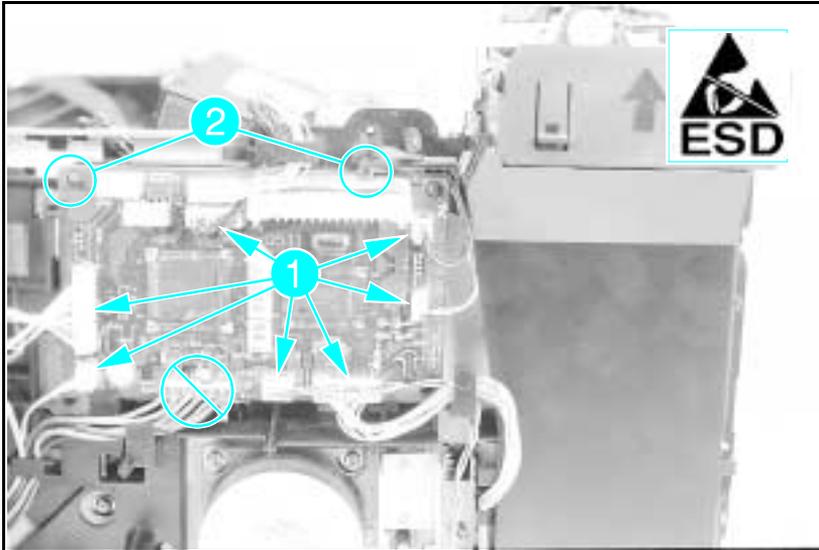
**Figure 1-26** Interface Connector Support Screws (LaserJet 4 Plus and 5)

### Note

When replacing the Formatter Assembly be sure to re-install all SIMM modules and MIO cards.

Be sure to reset the page count and the Cold Reset paper size after replacing the Formatter.

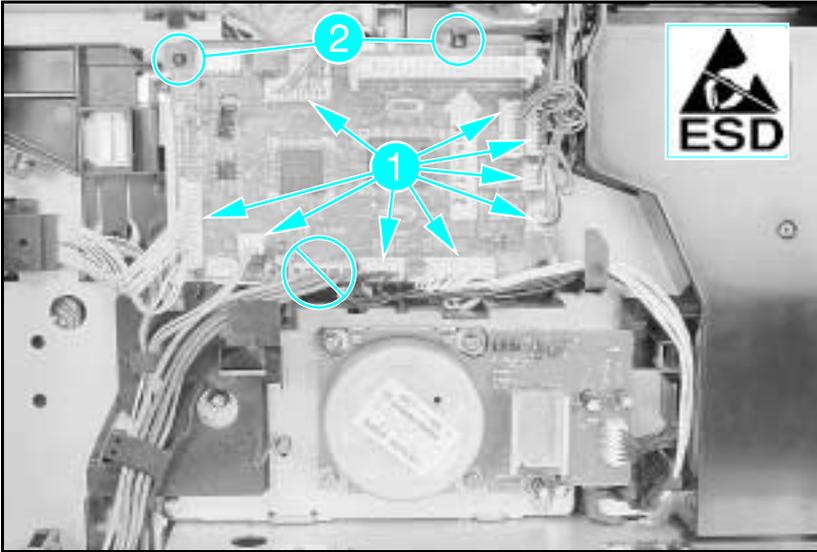
## DC Controller Removal



**Figure 1-27a** DC Controller Connectors/Retaining Clips (LaserJet 4)

**Note** Note the cable routing before beginning this disassembly procedure. Be careful not to damage the cables during re-assembly.

- 1 Remove the Right Side and the Top Cover Assemblies.
- 2 Remove the Formatter Cage Assembly.
- 3 Remove the 6-wire connector from the Power Supply.
- 4 Remove the plastic DC Controller cover (LaserJet 4 Plus).
- 5 Remove the DC Controller connectors (see Figure 6-27a or 6-27b, callout 1).
- 6 Release the DC Controller from its retaining clips (2) and remove the DC Controller (see Figure 6-27a or 6-27b, callout 2).



**Figure 1-27b DC Controller Connectors/Retaining Clips (LaserJet 4 Plus/5)**

## DC Controller Installation

**Caution** When reinstalling the DC Controller PCA it is extremely important that **all cables be properly routed**. If cables are not routed properly, it is difficult to reinstall the Formatter Cage and cable damage may result.

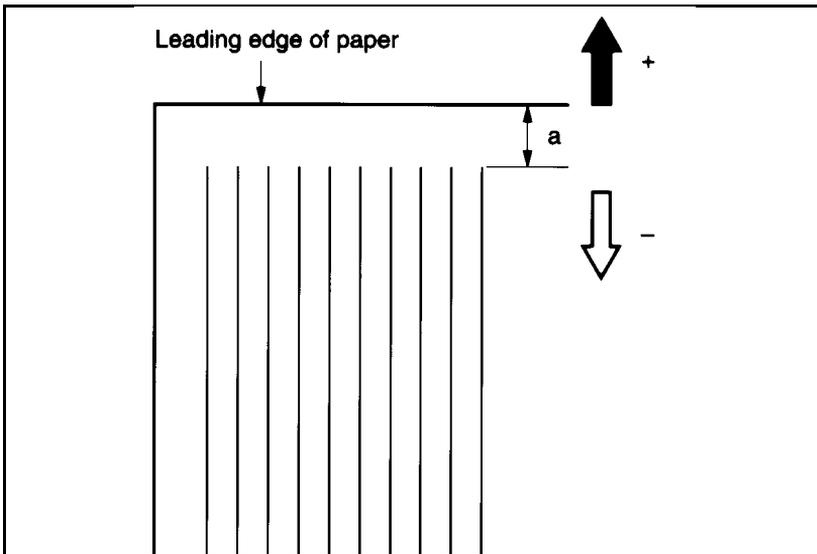
When replacing the DC Controller, be sure to set the leading edge adjustment as shown in the following procedure.

**Note** The Leading Edge Adjustment is set at the factory and is *not* required as a maintenance procedure. The Leading Edge Adjustment should be done only when the DC Controller is replaced.

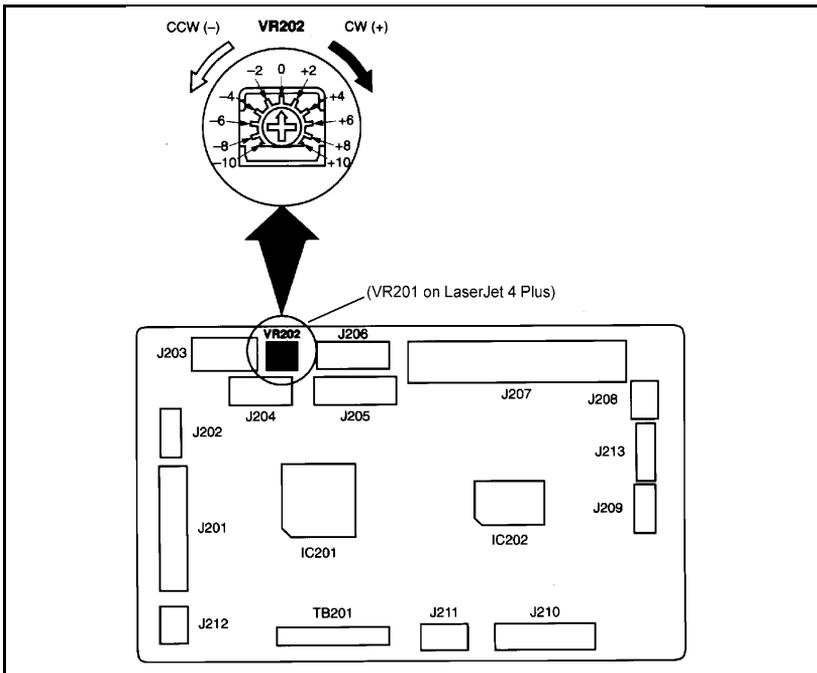
*The following procedure is performed with the Formatter Assembly removed.*

To set the Leading Edge Registration:

- 1 Install the new DC Controller in the reverse order of the removal.
- 2 Run a test print to check the leading edge adjustment (as shown in Figure 6-28).
- 3 Use VR202 (LaserJet 4) or VR201 (LaserJet 4 Plus and 5) (see Figure 6-29) to adjust the leading edge registration to the dimension shown in Figure 6-28 ( $a=2\text{mm}$ ).
- 4 Make several test prints (15 ENGINE TEST as shown in Figures 3-5 and 3-6) and check the adjustment. Repeat the above steps until the adjustment is correct.

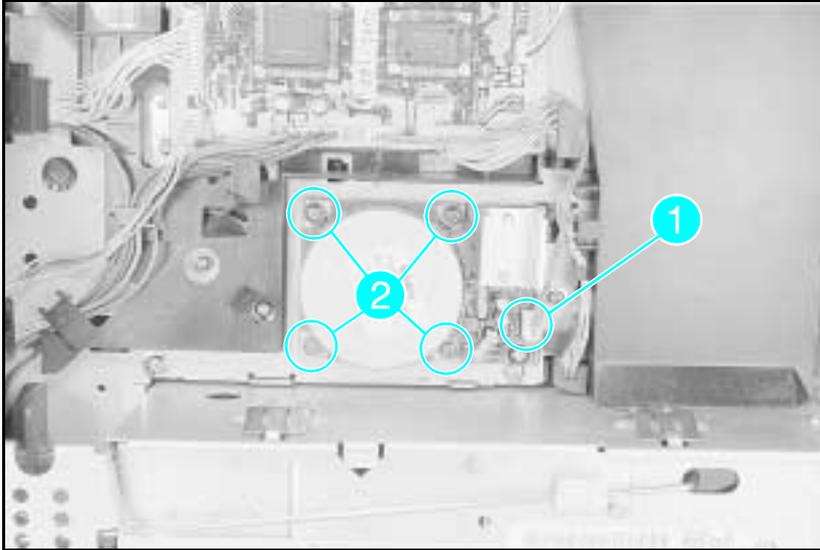


**Figure 1-28** Leading Edge Registration Adjustment Dimensions



**Figure 1-29** VR202 Settings (LaserJet 4 shown)

## Main Motor Assembly Removal



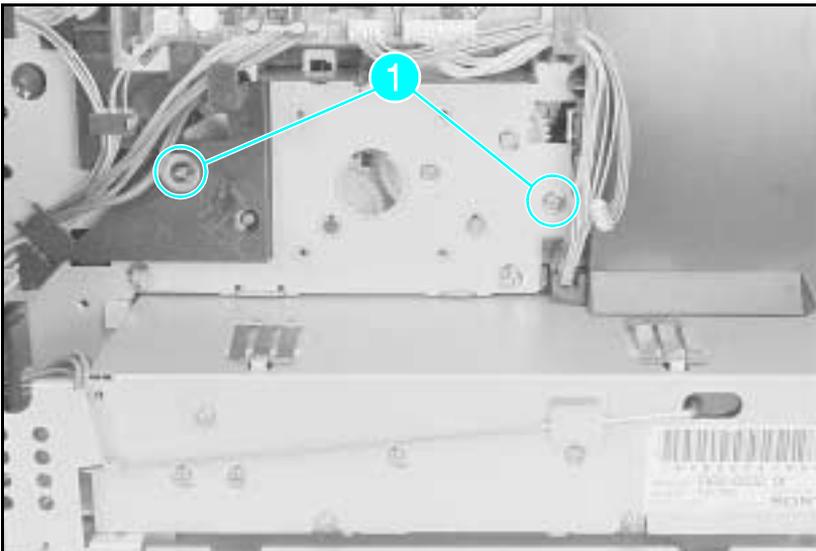
**Figure 1-30 Main Motor Assembly**

- 1** Remove the Right Side Cover, Top Cover, and the Formatter Cage Assembly.
- 2** Unplug the Main Motor connector from the Main Motor Assembly (see Figure 6-30, callout 1).
- 3** Remove the (4) Main Motor screws (see Figure 6-30, callout 2).
- 4** Remove the Main Motor.

## Gear Assembly Removal

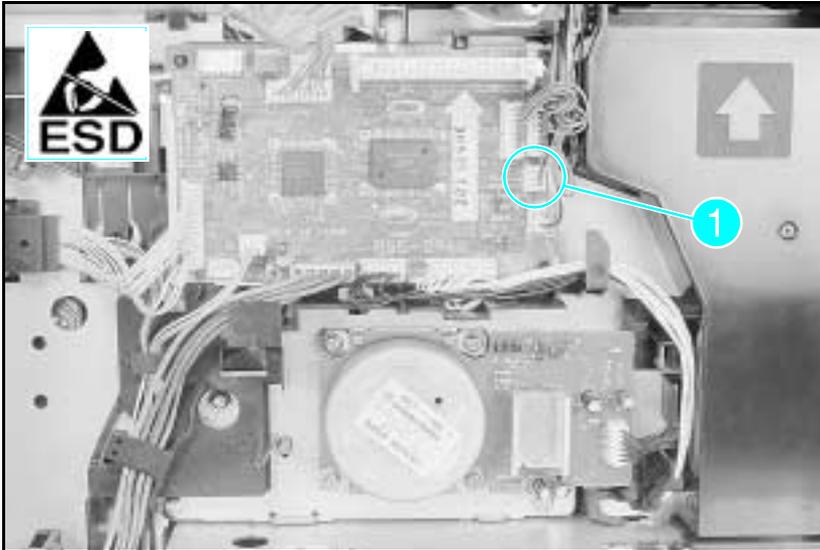
- 1 Remove the Top Cover, the Right Side Cover, the Fuser Assembly, and the Formatter Assembly.
- 2 Remove the Main Motor Assembly (see Figure 6-30).
- 3 Remove the (2) screws that hold the Gear Assembly (see Figure 6-31 callout 1).
- 4 Slide the Gear Assembly from the rear of the printer.

**Note** Before tightening down the mounting screws, be sure the shoulder around the upper left mounting screw hole on the gear assembly protrudes through the frame.



**Figure 1-31** Gear Assembly Screws (Located behind Main Motor)

## Fan Removal

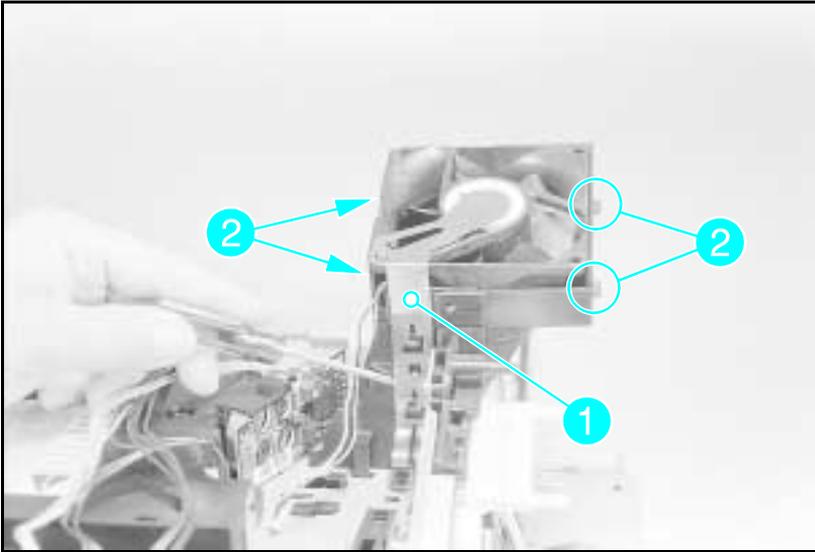


**Figure 1-32 Fan Connector**

**Note** Note the cable routing before beginning this disassembly procedure. Be careful not to damage the cables during re-assembly.

- 1 Remove the Right Side Cover, the Top Cover, and the Formatter Cage Assembly.
- 2 Unplug the fan connector (J209 on the LaserJet 4, J211 on the LaserJet 4+/5). (See Figure 6-32, callout 1.)

*(continued on next page)*



**Figure 1-33 Exhaust Fan Removal (Laser Jet 4 shown)**

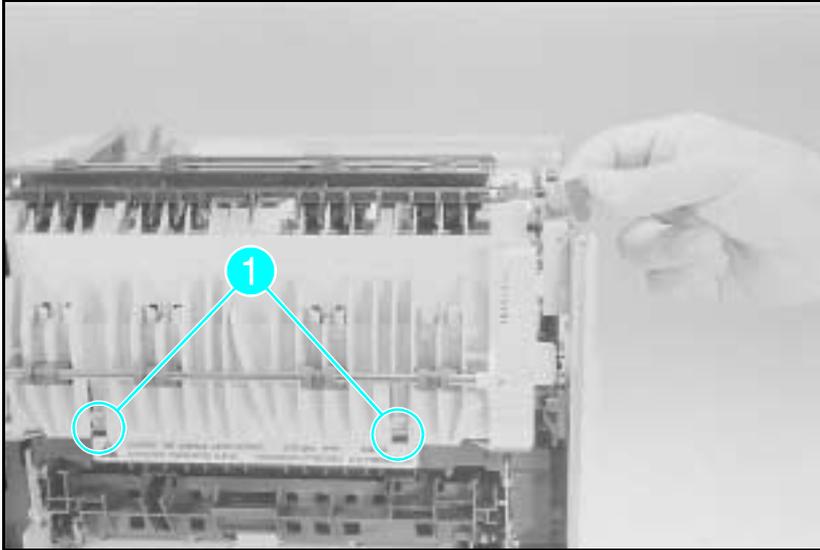
- 3** Remove the RFI shield (LJ 4 only) by releasing the retaining tab and sliding the shield up (see Figure 6-33, callout 1).
- 4 Laser Jet 4:** Release the (4) clips from the fan ducting to provide clearance and remove the fan from the top of the printer (see Figure 6-33, callout 2).  
**Laser Jet 4 Plus/5:** Remove (1) screw on the right-rear and release the tabs on the lower left adjacent to the Output Paper Assembly
- 5** Remove the fan.

---

**Note** When reinstalling the fan, verify that the air is blowing upward.

---

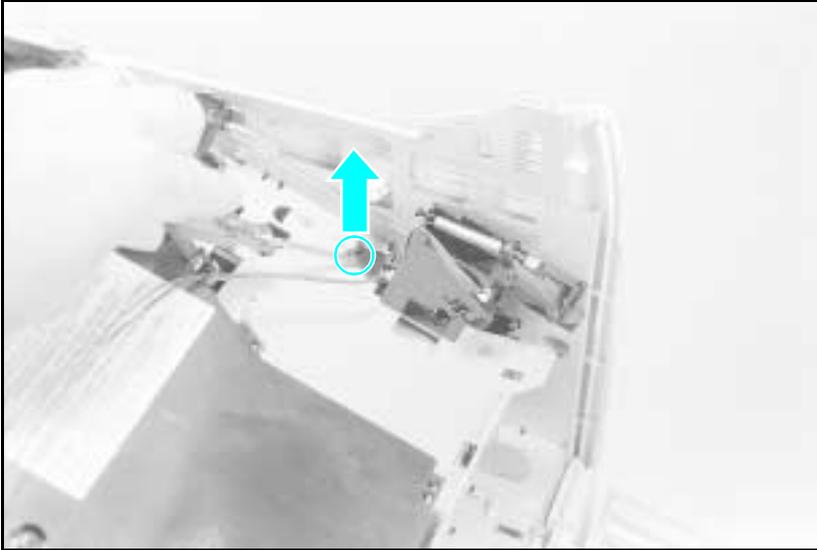
## Output Assembly Removal



**Figure 1-34**    **Output Assembly Removal**

- 1** Remove the Right Side Cover, the Top Cover, and the Left Side Cover.
- 2** Release the grounding strap from the left side of the frame.
- 3** Rotate the top of the Output Assembly toward the front of the printer while releasing the two retaining latches (see Figure 6-34, callout 1) until the locating tabs are free. Slide the assembly to the rear and lift it out of the printer.

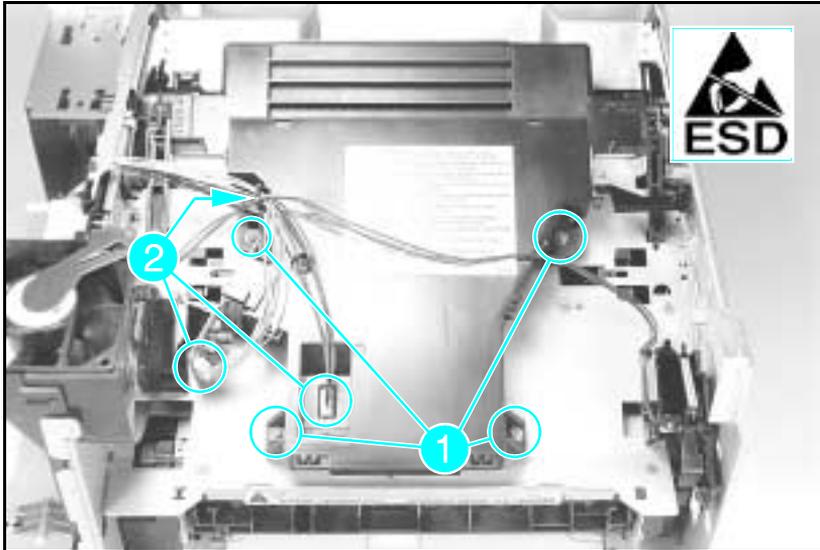
## Paper Exit Sensor (PS3) Removal



**Figure 1-35** Exit Sensor

- 1 Remove the Right Cover, Top Cover, and the Output Assembly.
- 2 Disconnect the Sensor Cable.
- 3 Lift the Sensor Retaining Latch and slide the sensor forward (see Figure 6-35).
- 4 Remove the Paper Exit Sensor.

## Scanner Assembly Removal



**Figure 1-36** Scanner Assembly Removal

- 1 Remove the Right Side Cover, Top Cover, Left Side Cover, and the Output Assembly.
- 2 Remove all cables from the Scanner retaining clips.
- 3 Remove the (3) connectors (see Figure 6-36, callout 2).

---

### Note

Be careful not to flex the Laser PCA when removing or installing the cables. The Laser PCA can be damaged easily.

---

- 4 Remove the (4) screws from the Scanner Assembly. (see Figure 6-36, callout 1).
- 5 Remove the Scanner Assembly.

---

### Note

When installing the Laser/Scanner Assembly, check that the Laser Shutter closes when the Toner Cartridge is removed.

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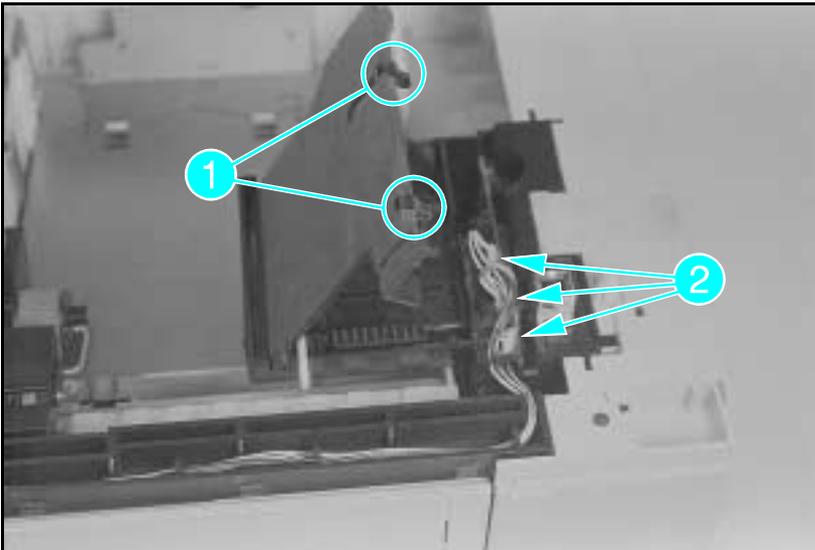
## Lower Cassette Assemblies

The field-replaceable assemblies of the Lower Cassette are:

- Lower Cassette Sensor PCA Assembly
- Lower Cassette Pickup Motor Assembly

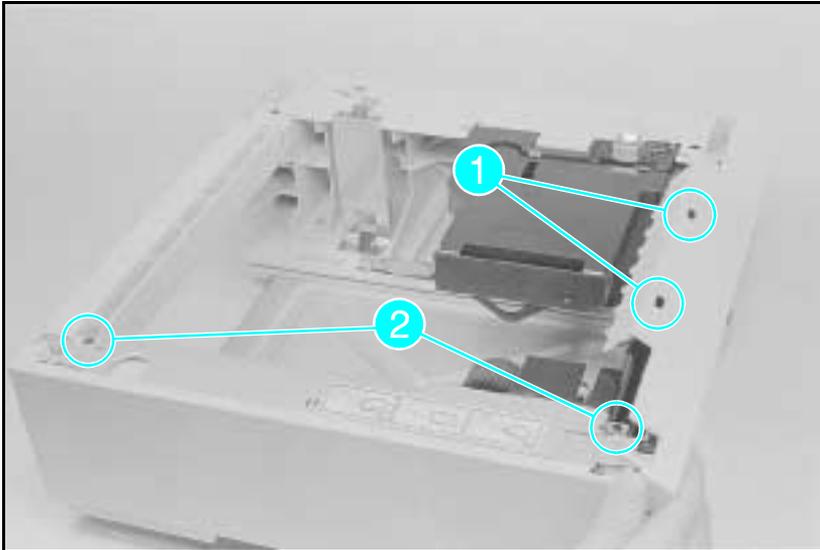
### Lower Cassette Sensor PCA Removal

- 1 Release the Sensor PCA cover latches (see Figure 6-37 callout 1).
- 2 Cut the tie-wrap and remove the (3) sensor connectors (see Figure 6-37 callout 2).
- 3 Release the catch at the bottom rear of the Sensor PCA. (Use a slender object like a flat-blade screwdriver.)
- 4 Remove the Sensor PCA.



**Figure 1-37** Lower Cassette Sensor PCA Latches and Connectors

## Lower Cassette Pickup Motor Removal

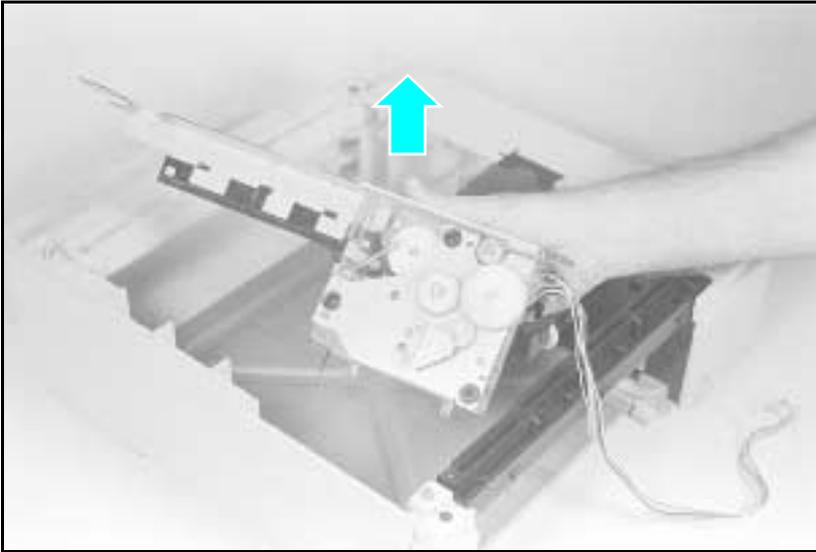


**Figure 1-38 Lower Cassette Upper Front Cover**

- 1** Open the sensor cover and disconnect the center and rear connectors (see Figure 6-37, callout 2).
- 2** Release the (2) tabs that hold the Upper Front Cover (access the tabs through the slots with a small screwdriver - see Figure 6-38 callout 1). Remove the cover by rotating it toward the front.
- 3** Remove the (2) screws from the front and rear left side (see Figure 6-38 callout 2).
- 4** Remove the cables from the race channel at the front of the Lower Cassette Base (see Figure 6-37).

**Note** Note how the cables are routed in the the cable race. Be careful not to damage the cables during reassembly.

*(continued on next page)*



**Figure 1-39 Lower Cassette Motor**

- 5 Lift the motor assembly straight up out of the the Lower Cassette Base (see Figure 6-39).

**Note** Note the ground connector underneath the Motor Assembly. Be careful not to damage this connector during reassembly.

## Replacing Fuser Assembly Parts

The following procedures describe the removal and replacement of major Fuser Assembly Components (Fusing Roller, Thermistor, Thermostat, and Heater Lamp). When performing these procedures, note the order in which the parts were removed and their orientation.

---

**Caution** Handle the Heater Bulb by the ceramic ends. Do not touch the Heater Bulb, or allow it to become contaminated. If contamination occurs, clean the bulb thoroughly with isopropyl alcohol.

---

## Fuser Assembly Configuration

Figure 6-40 provides an overview of the orientation of the major Fuser Assembly components. Before beginning the fuser disassembly procedures, become familiar with the location and orientation of the various Fuser Assembly parts (see Table 6-1).

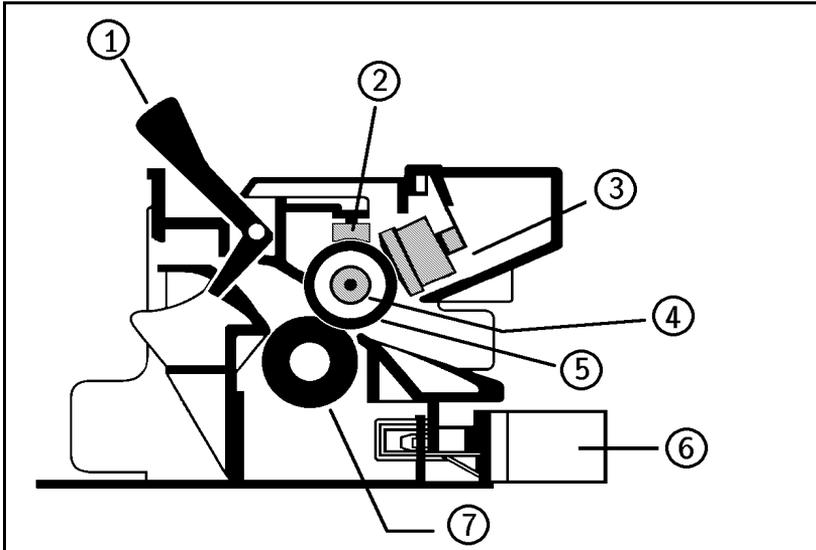
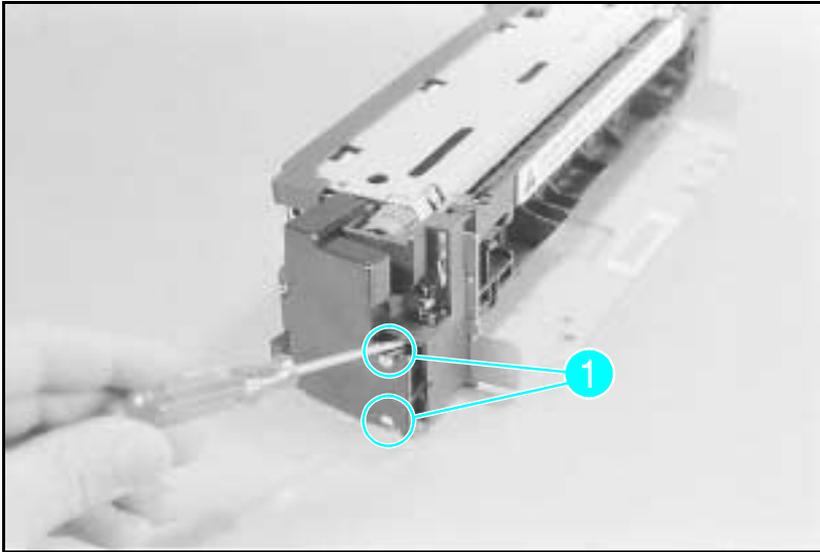


Figure 1-40 Fuser Assembly

Table 1-1 Fuser Assembly Configuration

Callout	Assembly	Callout	Assembly
1	Exit Sensor Flag	5	Fusing Roller
2	Thermistor	6	Plug to Interconnect PCA
3	Thermoswitch	7	Pressure Roller
4	Heat Lamp		

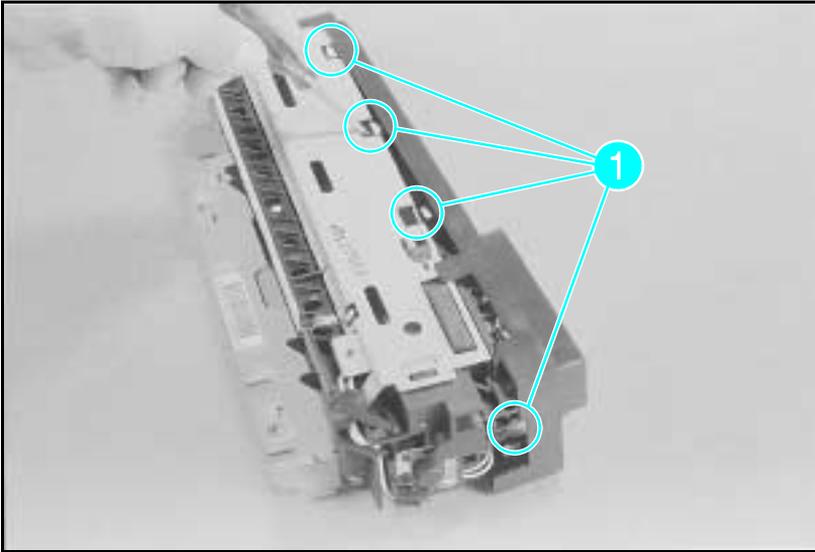
## Removing the Fuser Roller Heat Lamp



**Figure 1-41 Fuser End Cap Removal (LaserJet 4 only)**

- 1 Laser Jet 4 only:** Remove the (2) latches that hold the right side cover. (There is a gear exposed on the right side of the fuser, see Figure 6-41, callout 1.)
- 2** Release the (7) latches on the LaserJet 4 or the (5) latches on the LaserJet 4 Plus that hold the wire cover to the Fuser Assembly. These latches can be accessed through slots on top of the fuser.

*(continued on next page)*



**Figure 1-42 Fuser Wire Harness Cover Removal (LaserJet 4)**

**3 LaserJet 4:** With a screwdriver, release the latches by first pressing to clear the lower latch, then lifting to release the upper latch (see Figure 6-42a).

**LaserJet 4 Plus:** With a screwdriver, release the latches by first pressing to clear the lower latch, then lifting to release the upper latch. Repeat until all (4) latches are free, then rotate the cover to release the latch on the side (see Figure 6-42b and 6-42c).

**4** Release the two end latches (see Figure 6-42b).

**Note**

Six of the seven latches are accessed from the top of the wire cover. These latches are beneath the felt pad. The slot on the front left side of the wire harness cover is the best place to begin removing the cover.

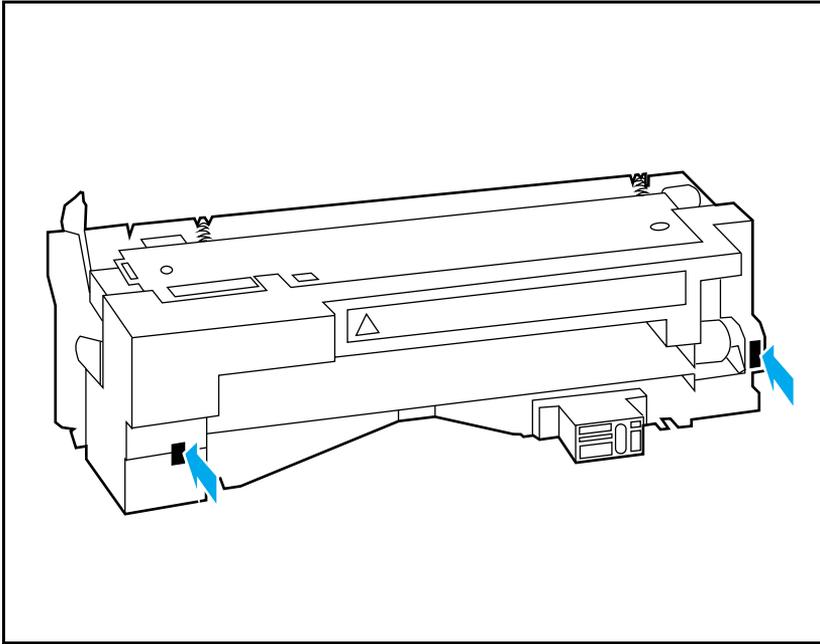


Figure 1-42b Fuser Cover End Latches (LaserJet 4 Plus)

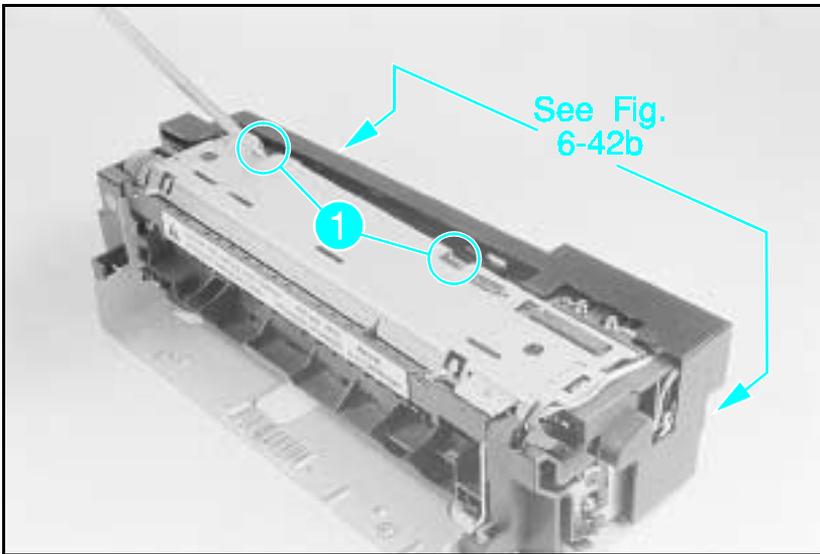
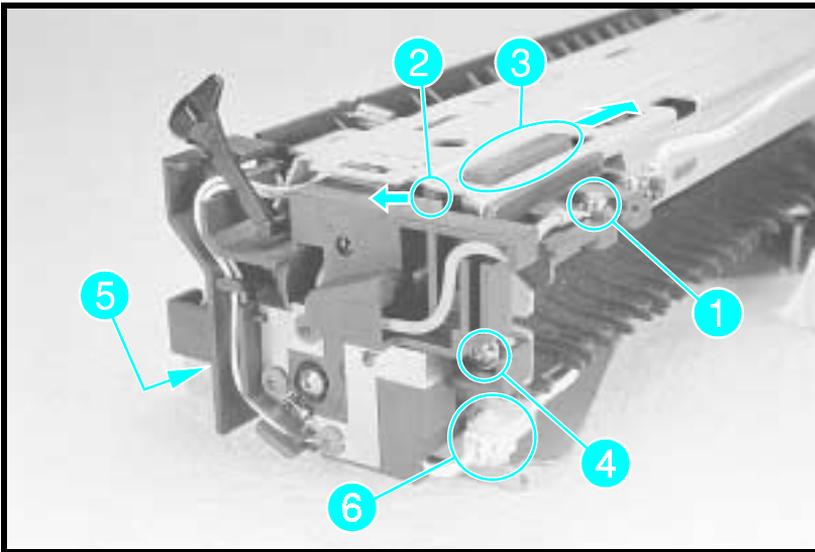


Figure 1-42c Fuser Wire Harness Cover Removal (LaserJet 4 Plus)

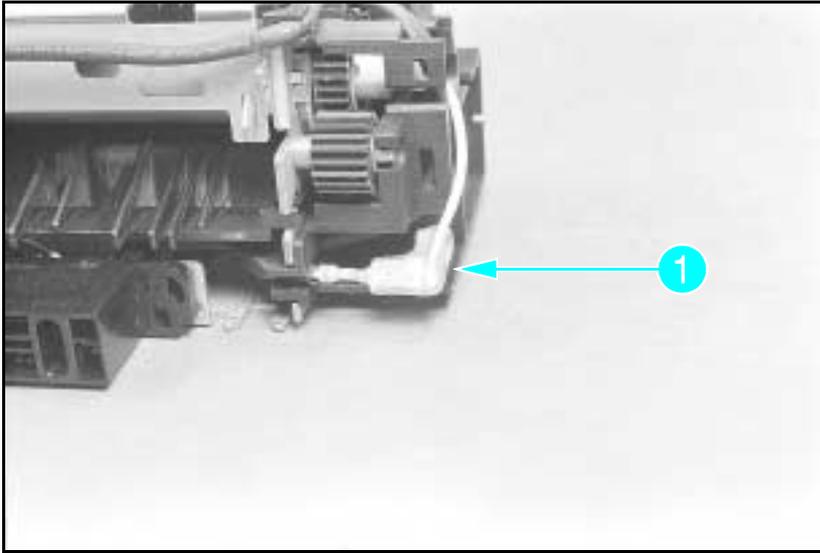
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**Figure 1-43** Left Side Fuser Cover

- 5** Remove the (1) Heat Lamp lead (thermoswitch screw)(see Figure 6-43 callout 1).
- 6** Press the thermoswitch tab towards the paper exit flag to release the tab (see Figure 6-43 callout 2). Slide the Thermoswitch off the fuser frame (see Figure 6-43, callout 3).
- 7 LaserJet 4:** Remove the cable retainer from the fuser frame, and free the heat lamp lead from the cable retainer. Note the orientation of the cable retainer.  
**LaserJet 4 Plus/5:** Remove the (2) screws from the end cover (see Figure 6-43, callouts 4 and 5). Note the wavy washer on the (1) screw touching the copper contact (see Figure 6-43, callout 4). Remove the thermistor connector from the frame and pull apart (see Figure 6-43, callout 6). Note the position of the Fuser Shipping Lever and remove from assembly.

*(continued on next page)*



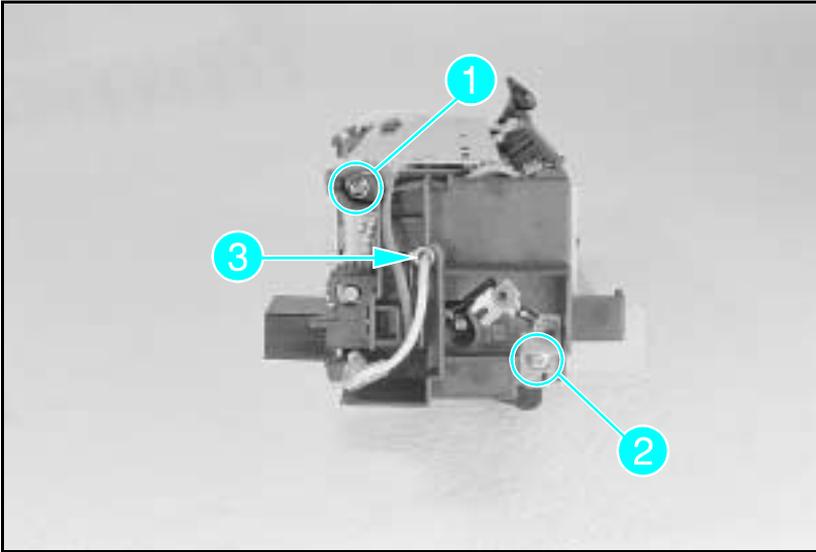
**Figure 1-44** Gear Side Heat Lamp Connector

**Note**

**LaserJet 4 and 5 only:** Note the orientation of the bushing on the left side of the Fusing Roller.

- 8 Squeeze the lamp connector to release the slip-on connector locking tab from the right side of the heat lamp (see Figure 6-44, callout 1).

*(continued on next page)*



**Figure 1-45 Fuser Gear Cap Removal**

**Note**

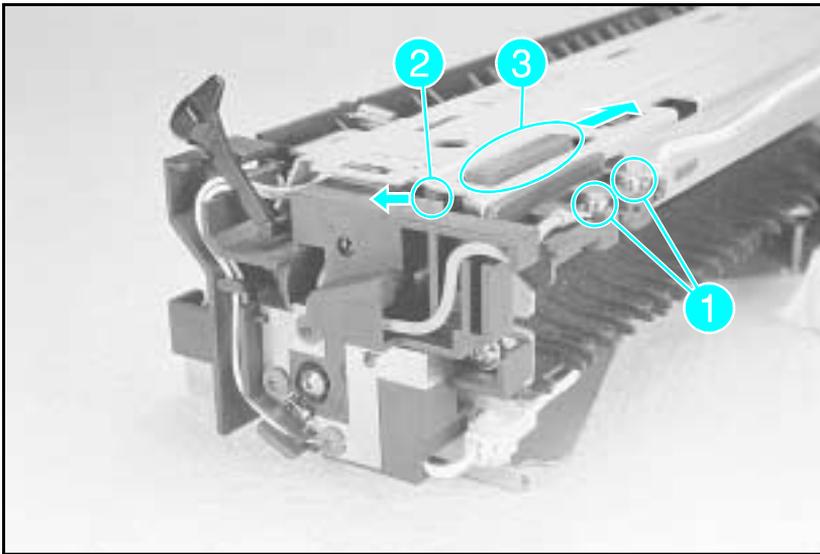
Before removing the gear cover, note the routing of the wires in the gear cover slots.

- 9** Remove the (2) screws from the right side gear cover (see Figure 6-45, callouts *1 and 2*). Note the wavy washer on the (1) screw (callout *1*) touching the copper contact. Remove the cover.
- 10** Remove the Heat Lamp (see Figure 6-45, callout *3*), from the roller. Pull the lamp out the side of the assembly.

## Fuser Assembly Thermoswitch Removal

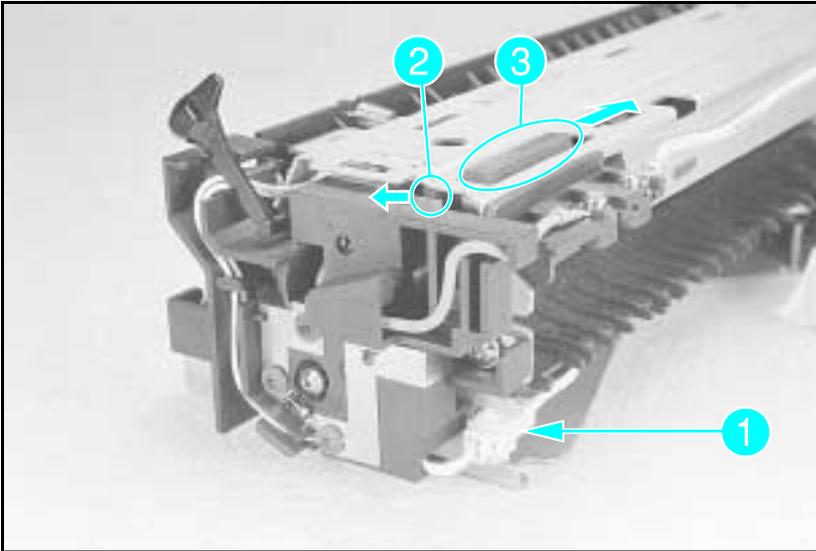
**Note** Six of the seven latches are accessed from the top of the wire cover. These latches are beneath the felt pad. The slot on the front left side of the wire harness cover is the best place to begin removing the cover.

- 1 Remove the Wire Harness Cover as shown in Figure 6-42a (LaserJet 4) or Figure 6-42b and c (LaserJet 4 Plus).
- 2 Remove the (2) screws from the Thermoswitch connector (see Figure 6-46, callout 1).
- 3 Release the thermoswitch latch from the paper sensor flag side of the Fuser Assembly (behind the side cover). (See Figure 6-46, callout 2).
- 4 Slide the Thermoswitch to the gear side of the fuser and release it from the fuser frame (callout 3).



**Figure 1-46** Fuser Thermoswitch Connectors

## Thermistor Removal

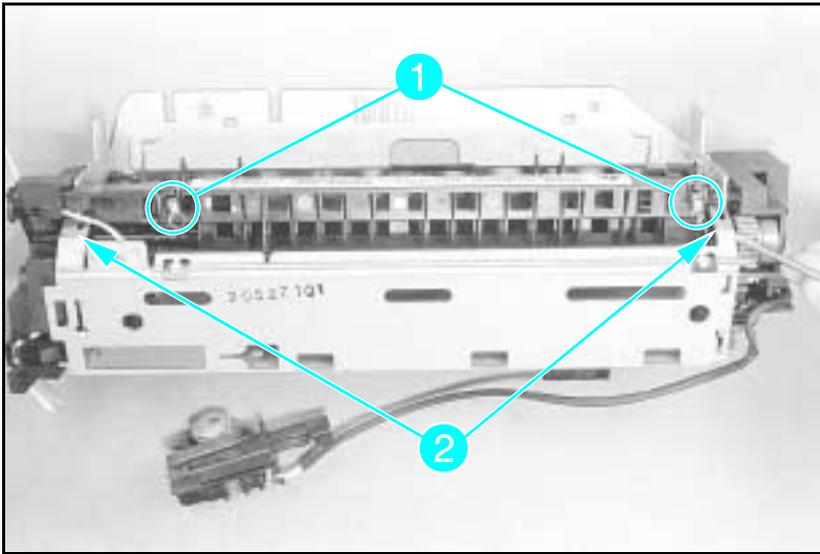


**Figure 1-47 Thermistor Connector**

- 1 Remove the Wire Harness Cover as shown in Figure 6-47.
- 2 Remove the (2) screws from the thermoswitch connector (see Figure 6-47, callout 1).
- 3 Release the thermoswitch latch from the paper sensor flag side of the Fuser Assembly (behind the side cover, see Figure 6-47, callout 2).
- 4 Slide the thermoswitch to the gear side of the fuser and release it from the fuser frame (callout 3).

**Note** When installing the thermoswitch, make sure the sensing surface contacts the fusing roller uniformly. If it does not, straighten the leaf spring.

*(continued on next page)*



**Figure 1-48a Upper Fuser Frame Removal (LaserJet 4)**

- 5** Release the (2) springs from the Upper Fusing Frame (see Figure 6-48a, callout 1).
- 6** Release the tabs that hold the Upper Fusing Frame to the Fuser Body (see Figure 6-48a). Rotate the Upper Frame backwards to release and access the Thermistor (see Figure 6-48b, callout 1).

*(continued on next page)*

7 Remove the (1) screw that holds the Thermistor (see Figure 6-48b, callout 2).

**Note**

Ensure the thermistor cable is routed correctly when assembling the fuser (see Figure 6-47).

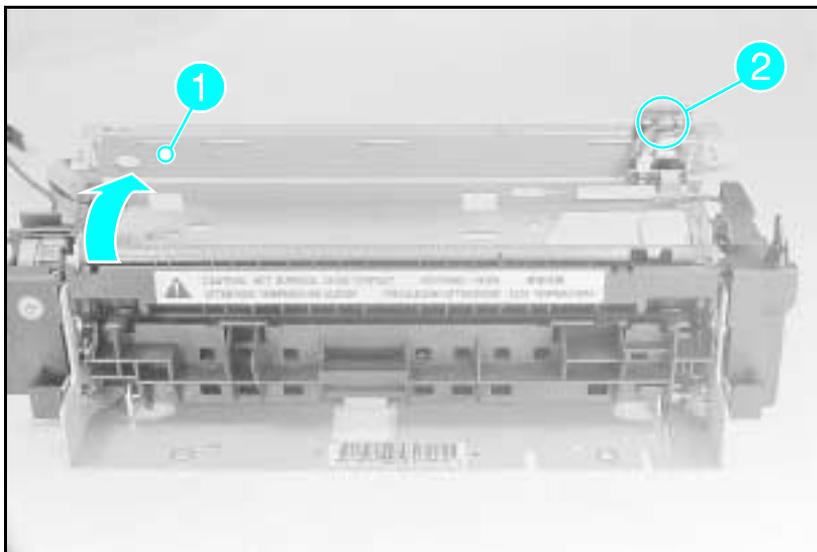
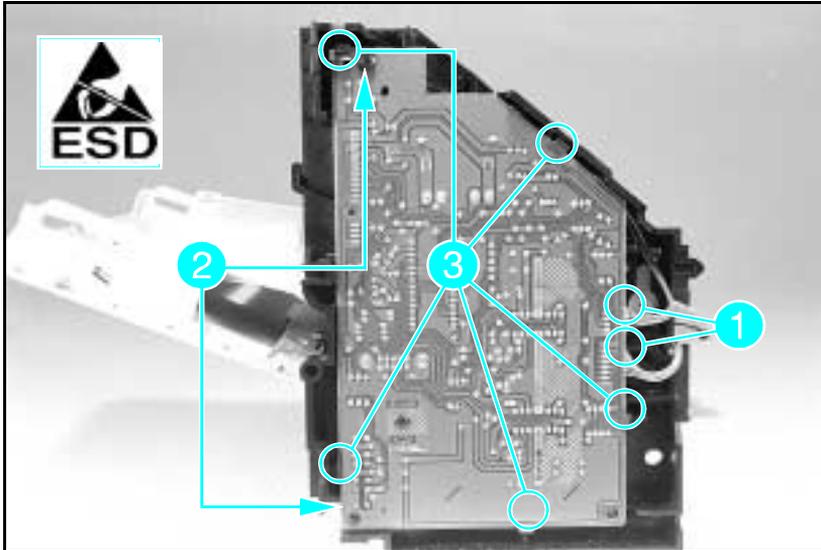


Figure 1-48b Upper Fuser Frame Removal (LaserJet 4 Plus)

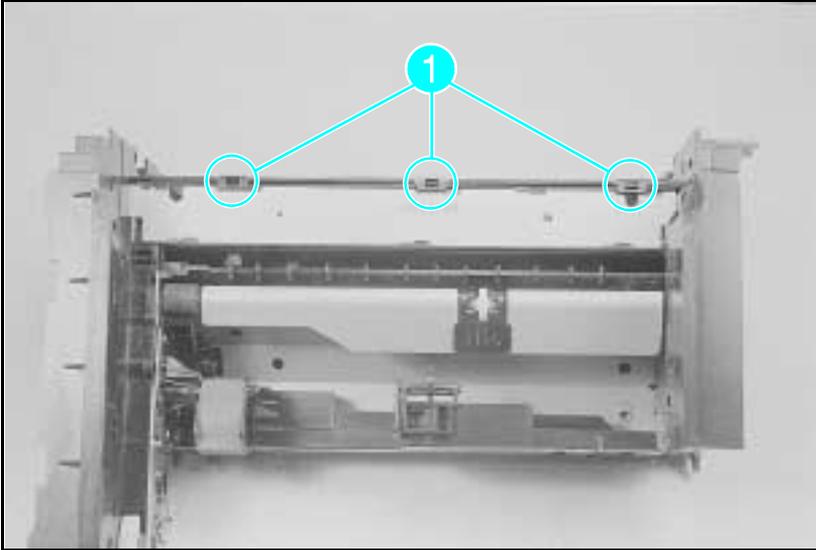
## Paper Control PCA Removal



**Figure 1-49** Paper Control PCA Retaining Screws and Latches

- 1 Remove the Right Side, Top, Left Side, and Font Door Covers, then Paper Feed Assembly.
- 2 Disconnect the cables from the sensors (see Figure 6-49, callout 1).
- 3 Remove the (2) self-tapping screws from the Paper Control PCA (see Figure 6-49, callout 2).
- 4 Release the (5) latches that retain the Paper Control PCA (see Figure 6-49, callout 3).

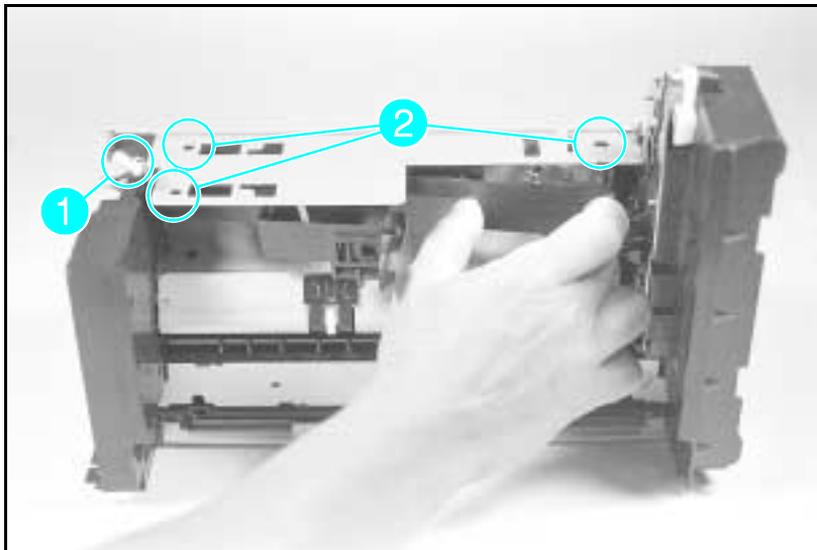
## Sensor PCA Removal



**Figure 6-50**    **Sensor PCA Removal**

- 1** Remove the Right, Left, Top, and Front Door covers. You need not remove the MP Tray.
- 2** Perform the Paper Control PCA removal procedure, as shown in the preceding section.
- 3** Disconnect the connectors for SL1, SL2, and M2 from the left end of the Sensor PCA.
- 4** Release the (3) clips that hold the Sensor PCA cover. Remove the cover (see Figure 6-50, callout 1).
- 5** Remove the Sensor PCA by sliding it to the left and dropping it down.

## PS1 and PS2 Sensor Assembly Removal



**Figure 6-51** Removing the PS1/PS2 Sensor Assembly

The PS1 and PS2 sensors are located under the Paper Feed Assembly.

- 1 Remove the Paper Feed Assembly and place it on a flat surface, with the MP Tray side down.

**Note** You need not remove the MP Tray from the Paper Feed Assembly. Use a cloth to protect the MP Tray door from scratches.

- 2 Remove the PC Tray Pickup Roller.
- 3 Disconnect blue-wired connector on the bottom, (callout 1).
- 4 Remove the center pin from the dowel post.
- 5 Flex the right side of the Sensor Assembly to clear the locator pin and the sensor arm from the sheet metal (see Figure 6-51 callout 2).
- 6 As you flex the right side of the assembly, carefully release the (2) plastic retaining tabs on the left (Figure 6-51 callout 2).
- 7 Slide the Assembly to the right to clear the mounts.

**Note** When installing the Sensor Assembly, ensure the sensor flags are free through their entire range of travel.

---

## High Voltage Contact Plate (HVCP) and Paper Guide Removal

This procedure involves removing many subassemblies and difficult disassembly processes. Because this procedure is complex, it is separated into three sections:

- Accessing the HVCP and Feed Guide Assembly.
- Removing the HVCP and Feed Guide Assembly.
- Replacing the HVCP and Feed Guide Assembly.

Allow plenty of time to perform this procedure, and be careful not to damage any parts during reassembly.

### Accessing the High Voltage Contact Plate and Feed Guide Assembly

Accessing the High Voltage Contact Plate and Feed Guide Assembly requires prior removal of the following:

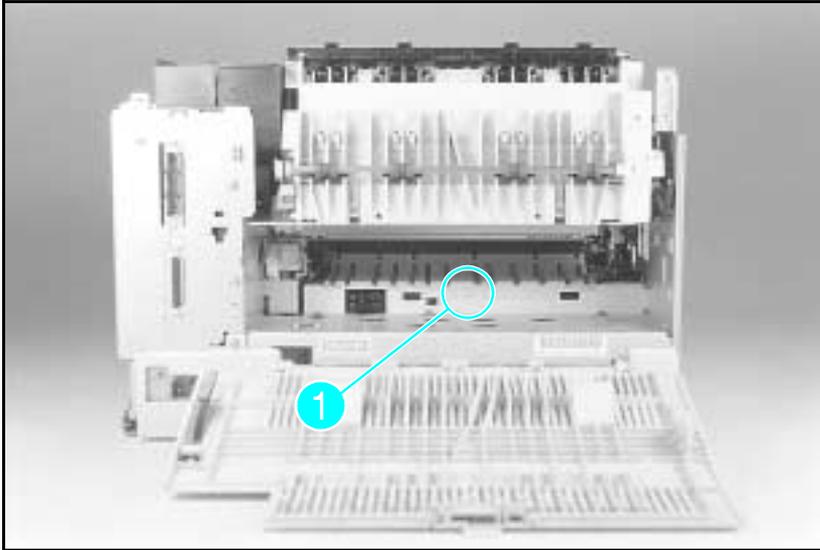
- Top Cover
- Right Side Cover
- Left Side Cover
- Paper Feed Assembly
- Toner Cartridge
- Fuser Assembly
- Transfer Roller

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After removing the Fuser Assembly, remove the contact plate from the rear of the printer, as follows:

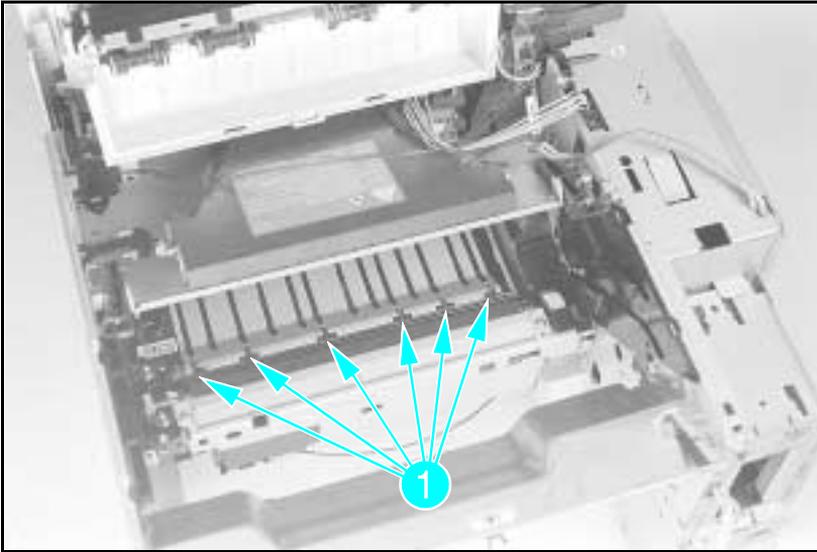
- 1 Remove the (1) screw from the sheet metal Guide Plate Cover. (This screw is behind the Fuser Assembly, see Figure 6-52, callout 1).
- 2 Remove the Guide Plate Cover by freeing the front edge, lifting upward, and sliding the cover out the rear of the printer.

**Note** Do not lose any of the (6) rollers the Guide Plate Cover holds in place.



**Figure 6-52** Guide Plate Cover Screw

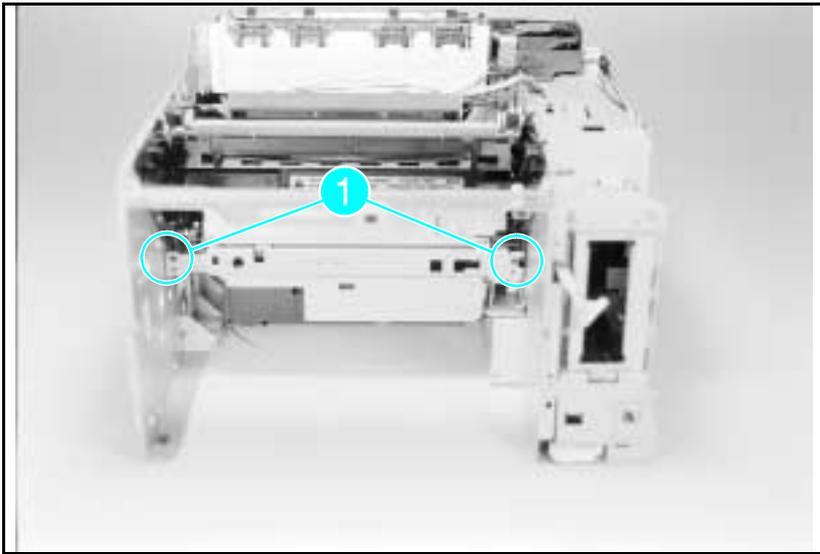
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**Figure 6-53** Paper Guide Rollers

- 3** Remove the (6) rollers from the High Voltage Contact Plate (see Figure 6-53 callout 1).

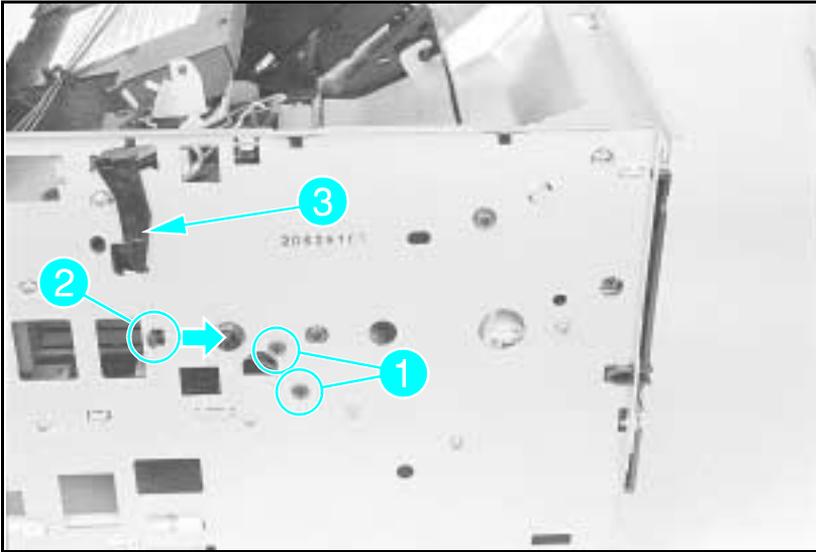
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**Figure 6-54**    **Cross Member Screws**

- 4** From the front of the printer, remove the (2) black self-tapping screws that hold the Inner Cross-member. Remove the cross-member (see Figure 6-54 callout 1).

*(continued on next page)*



**Figure 6-55 Left Toner Cartridge Guide Plate Screw**

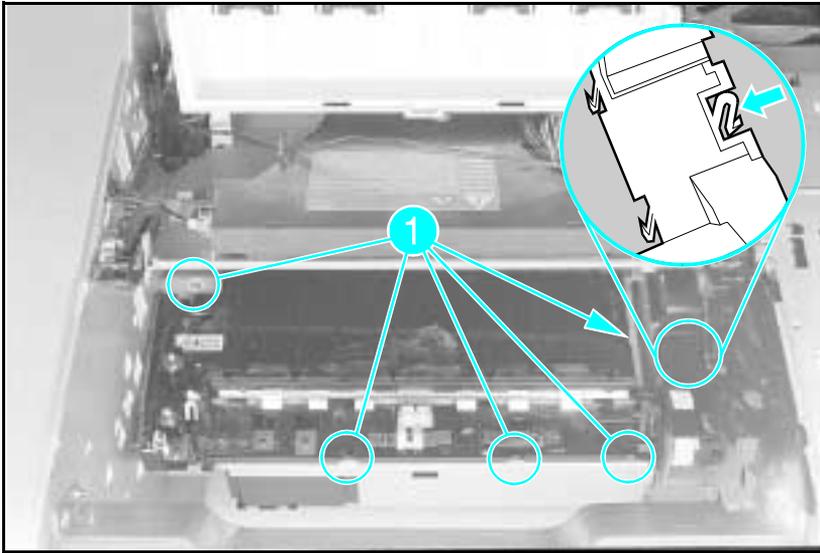
- 5** From the left side of the printer, remove the (1) or (2) black, self-tapping screw(s) that holds the Left Toner Cartridge Guide Plate (see Figure 6-55, callout 1).
- 6** Release the guide plate latch (see Figure 6-55, callout 2).
- 7** Remove the Laser Shutter Pivot Pin from its seat in the Left Toner Cartridge Guide Plate (see Figure 6-55, callout 3).

These two steps (5 & 6) are required for the next stage of the HVCP removal process.

## Removing the High Voltage Contact Assembly and Feed Guide Assembly

### Note

The following procedures are difficult and the components are damaged easily. The tolerances between the parts are close and several attempts may be necessary before the procedure is complete.



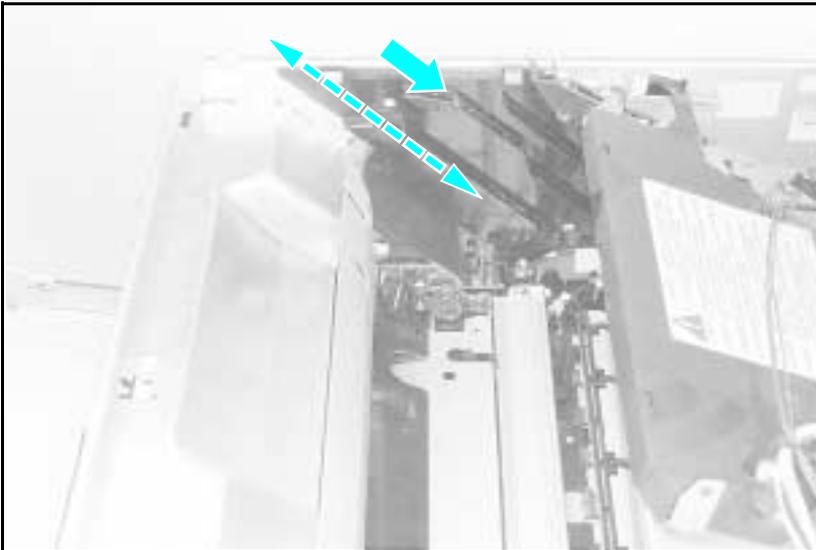
**Figure 6-56** High Voltage Contact and Feed Guide Assembly Latches

- 1 Perform all the steps of “Accessing the High Voltage Contact Plate/Feed Guide Assembly” in the order given.
- 2 Press the tab shown in Figure 6-56 to release the gear cover.
- 3 Release the (5) latches that hold the Contact Plate in place (see Figure 6-56). Set the Contact Plate on the latch slots.
- 4 Free the Left Toner Cartridge Guide Assembly from its retainers.
- 5 Lift the Contactor Plate and the Toner Cartridge Guide Assembly out of the printer, Toner Cartridge Guide Assembly first.

## Replacing the High Voltage Contact Assembly/Feed Guide Assembly

The Toner Cartridge Guide Plate and the High Voltage Contact Assembly/Feed Guide Assembly must be installed together. Allow plenty of time to perform this procedure because several iterations of the process may be necessary.

- 1 Set the contact assembly over its mounting holes.
- 2 Slide the Toner Cartridge Guide Plate into position on a diagonal line (see Figure 6-57).
- 3 Working the two parts together, lift the rear of the HVCP to provide enough clearance to install the Guide Plate.
- 4 When the Guide Plate is in position, press it into place on the sheet metal.
- 5 Press the HVCP into its mounting slots.
- 6 Install the Laser Shutter Pivot Pin and test the Laser Shutter for free operation.
- 7 Replace the gear cover (see Figure 6-56).



**Figure 6-57** Orientation of HVCP and Left Guide Plate

---

## Interconnect PCA Removal

The Interconnect PCA is a connector board that connects the Power Supply and the DC Controller with the the Fuser Assembly. The Fuser Assembly connects directly into the Interconnect PCA. The Power Supply and the DC Controller have wiring harnesses that connect them to the Interconnect PCA.

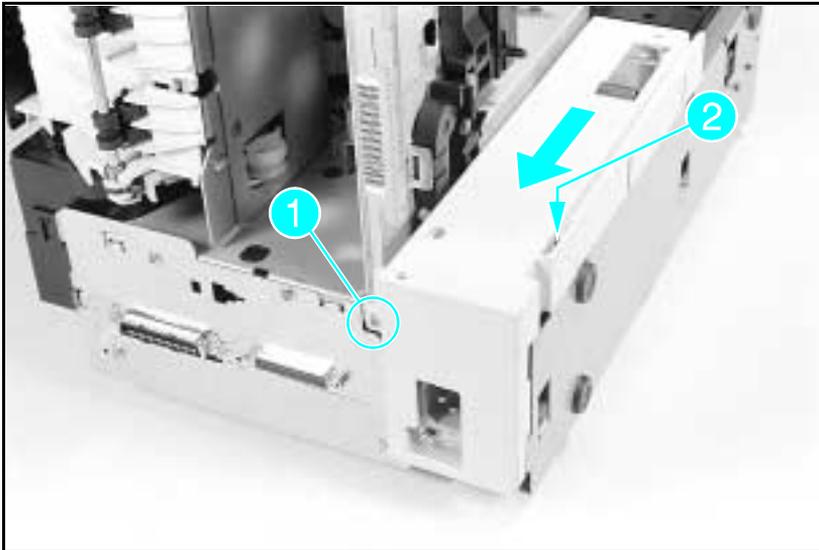
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**Note** Re-assembly of the the Interconnect PCA *requires* a small tie-wrap. Be sure to have a tie-wrap available before beginning the disassembly.

---

Remove the interconnect as follows:

- 1 Remove the Formatter Cage, the Power Supply, the Fuser Assembly, the High Voltage Power Supply, and the Rear Door.
- 2 Remove the (1) screw from the right-side PC tray Rail Cover (see Figure 6-58, callout 1).
- 3 Release the latch (see Figure 6-58, callout 2), slide the Rail Cover to the rear of the printer and remove the cover.



**Figure 6-58** Right Side PC tray Rail Cover (printer on right side)

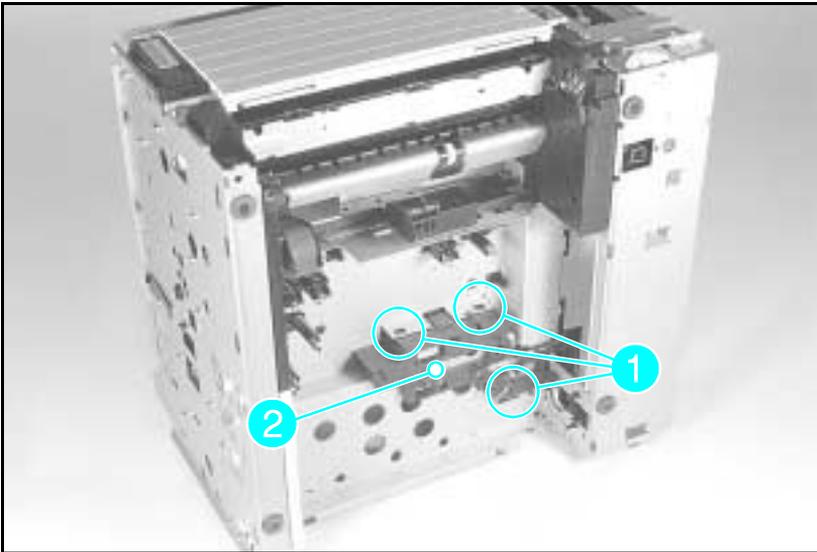
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**Note**

Access the Interconnect PCA Housing by laying the printer on the rear of the printer chassis.

---



**Figure 6-59** Interconnect PCA latches and AC Connector Mounting Pins

- 4** Disconnect the Interconnect Cable connector from the DC Controller (J210 on LJ4, J213 on LJ4+/5). Remove the cable from its retainer.
- 5** Release the bottom or rear-most latch (see Figure 6-59), callout 1) holding the arm of the Interconnect PCA housing to the sheet metal.
- 6** Rotate the bottom (rear) of the PCA housing up (toward the front) to release the housing from the printer.

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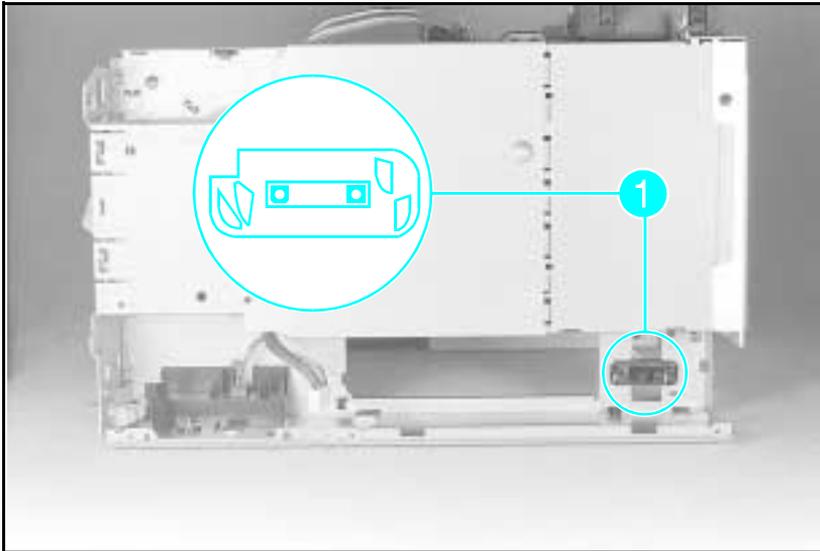
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**Note**

The AC Connector has polarity. Note the orientation of the AC Connector before removing it. This is *required* in order to install the connector with the same polarity during assembly (see Figure 6-60).

---

- 7 Release the AC Connector from the sheet metal with needle-nose pliers. **Service Hint:** Use a 5mm nut driver to press the AC Connector retaining pins from the sheet metal.



**Figure 6-60** Correct Orientation of AC Connector (Notch at Upper Left)