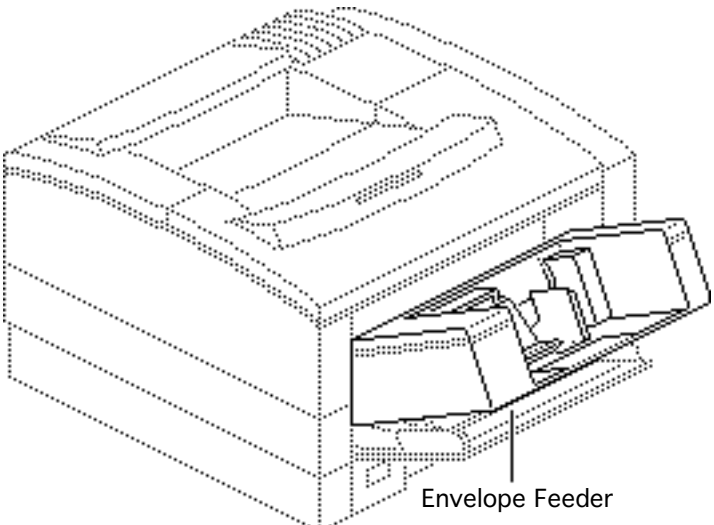
Envelope Feeder

LaserWriter Pro 600/630 Envelope Feeder
LaserWriter 16/600 PS Envelope Feeder

Basics

Envelope Feeder



About This Manual

This manual covers the Take Apart, Additional Procedures, and Adjustments for the sheet feeder. Refer to the main printer manuals for all other information.

Compatibility

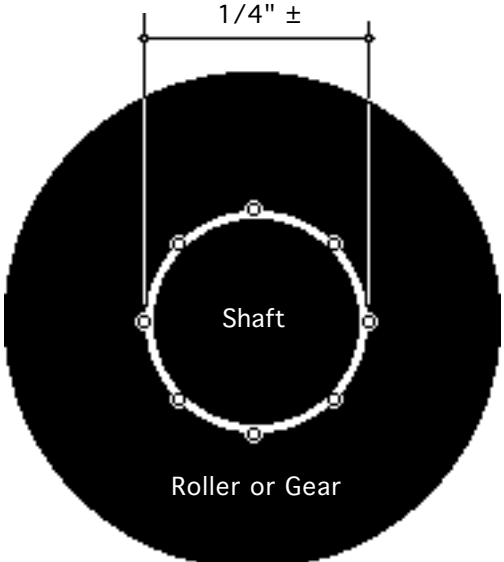
The LaserWriter Pro 600/630 envelope feeder is compatible only with the Pro 600/630 printer. However, you may use the LaserWriter 16/600 PS envelope feeder with either the Pro 600/630 or 16/600 printers.

You can tell the two feeders apart in three distinct ways:

1 By carefully inspecting the pickup rollers and shafts: The LaserWriter Pro 600/630 model has a two-piece roller/shaft construction. The LaserWriter 16/600 PS model has a one-piece roller/shaft construction.

2 By comparing controller board serial numbers: The LaserWriter Pro 600/630 envelope feeder controller board has the vendor number "RG5-0576" imprinted at the end of the board. The LaserWriter 16/600 PS envelope feeder controller board bears the number "RG1-3437."

3 By comparing serial numbers: Numbers starting with JXC00001 denote feeders for use only with the Pro 600/630. Numbers starting with LBK00001 denote feeders for use on both generations of printer.



Slip Torque Rollers

Slip torque rollers and gears are ratcheted torque-limiting 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.

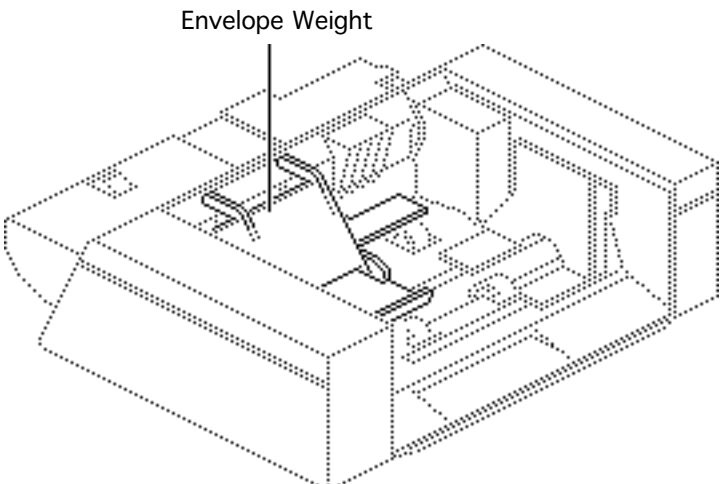
Pickup Roller Shafts:

The two gears that mesh with the transfer drive assembly are slip torque gears.

Take Apart

Envelope Feeder

Envelope Weight

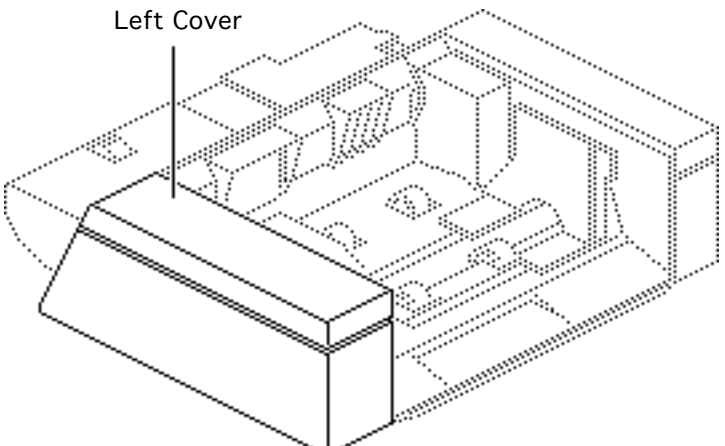


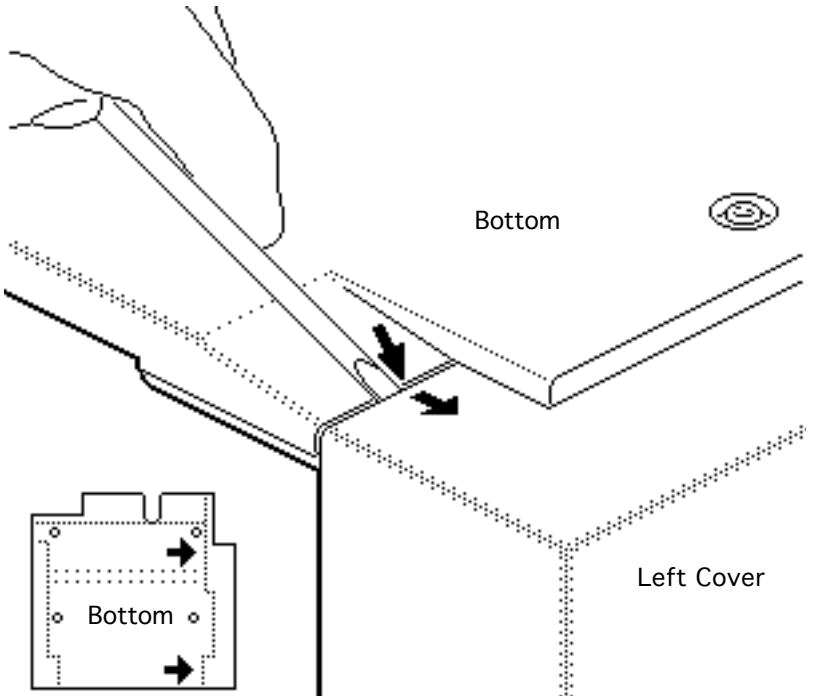
No preliminary steps are required before you begin this procedure.

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

Left Cover

Before you begin, remove the envelope weight.

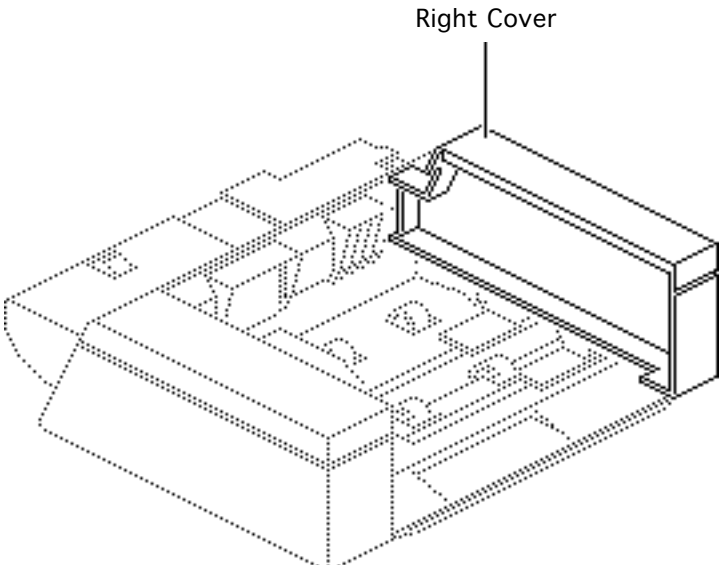




Note: Two hidden flex tabs on the bottom and two posts at the top attach the left cover to the feeder.

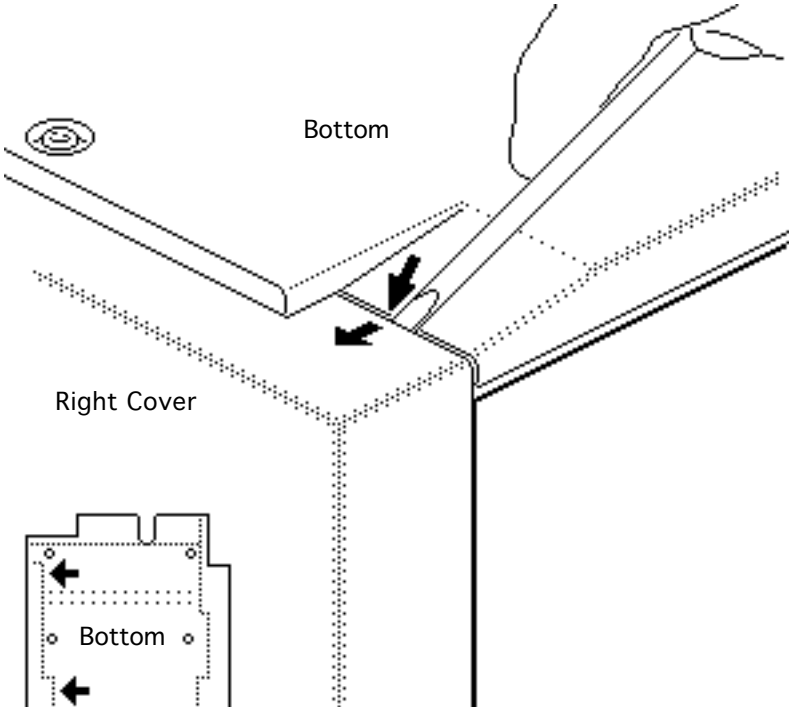
1 Turn over the envelope feeder.

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



Right Cover

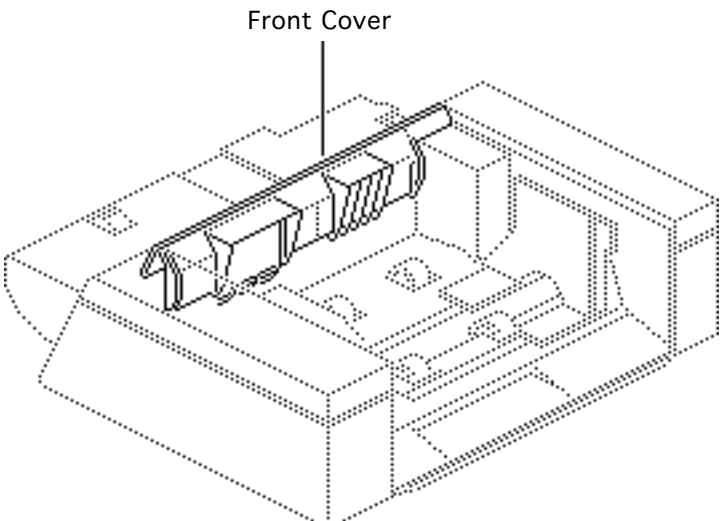
Before you begin, remove the envelope weight.



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

1 Turn over the envelope feeder.

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

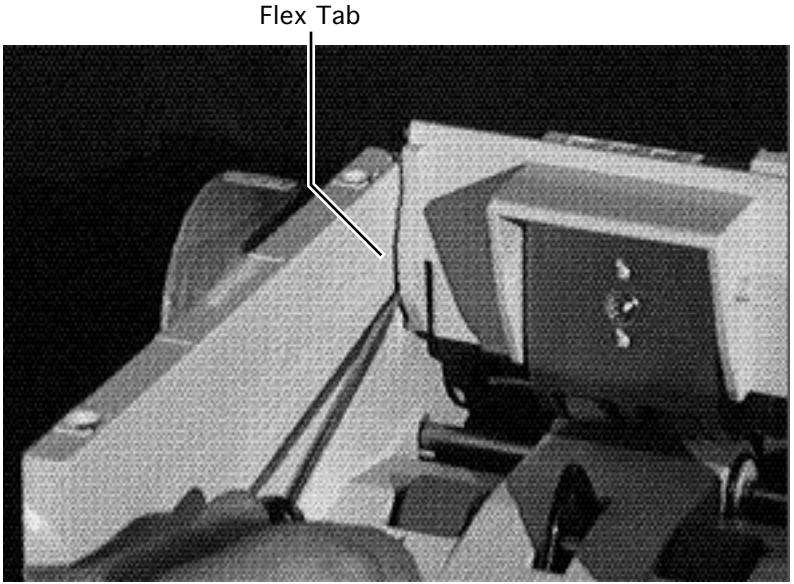


Front Cover

Before you begin, remove the following:

- Envelope weight
- Left cover
- Right cover

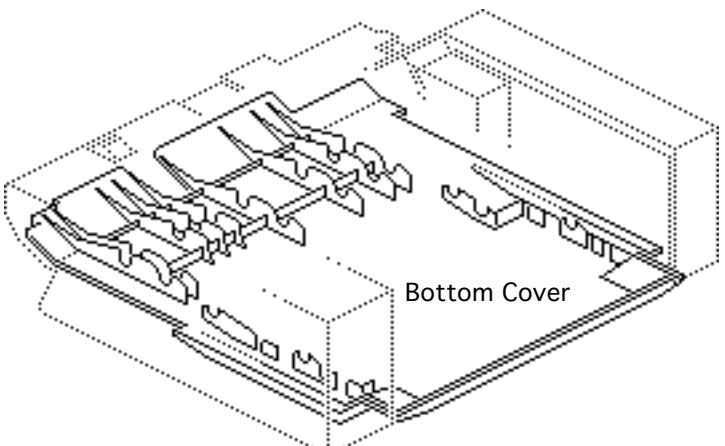
Note: If you remove the separation guide plate from the front cover, you will have to adjust the gap between the separation guide plate and the primary feed roller. See "Separation Guide Opening" in Adjustments.



1 Remove the screw that secures the grounding cable that runs from the front cover (not shown).

2 **Note:** This graphic shows the flex tab connector at the left side of the feed opening.

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

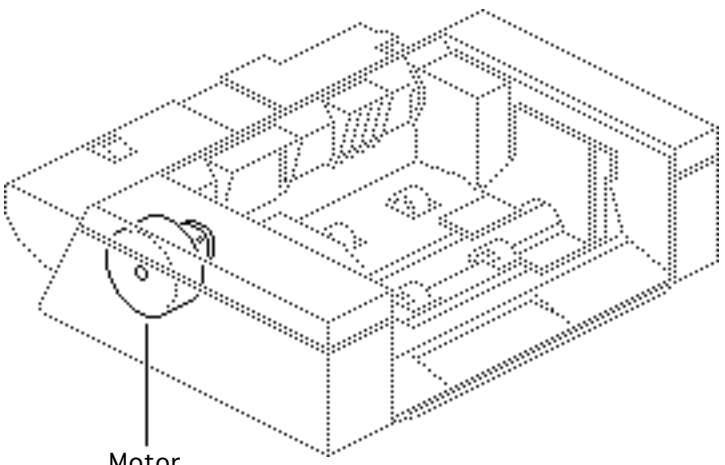


Bottom Cover

Before you begin, remove the following:

- Envelope weight
- Left cover
- Right cover

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



Motor

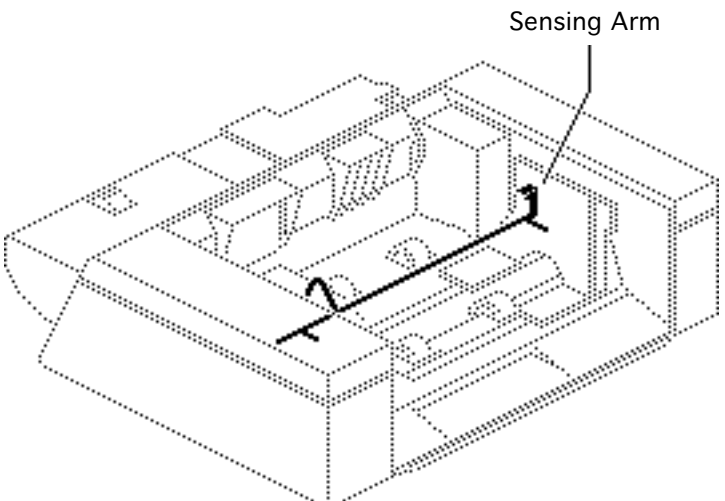
Before you begin, remove the following:

- Envelope weight
- Left cover
- Right cover
- Bottom cover

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

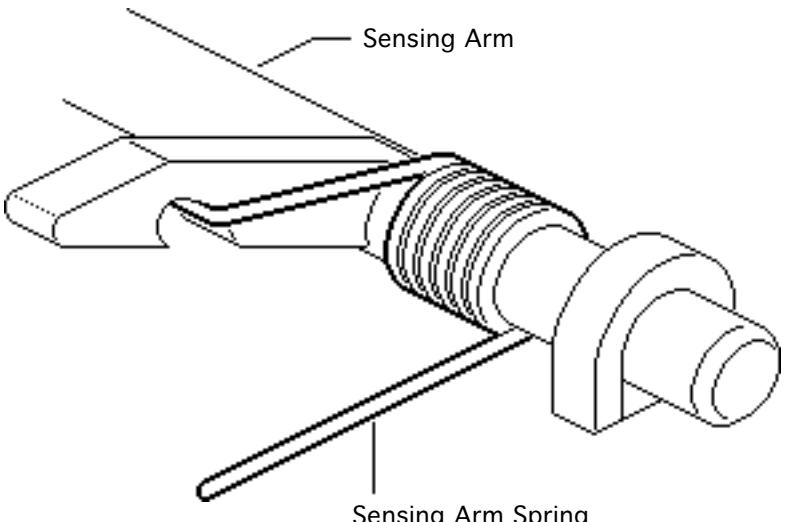
2 Remove the two screws and lift the motor from the feeder.

Sensing Arm



Before you begin, remove the following:

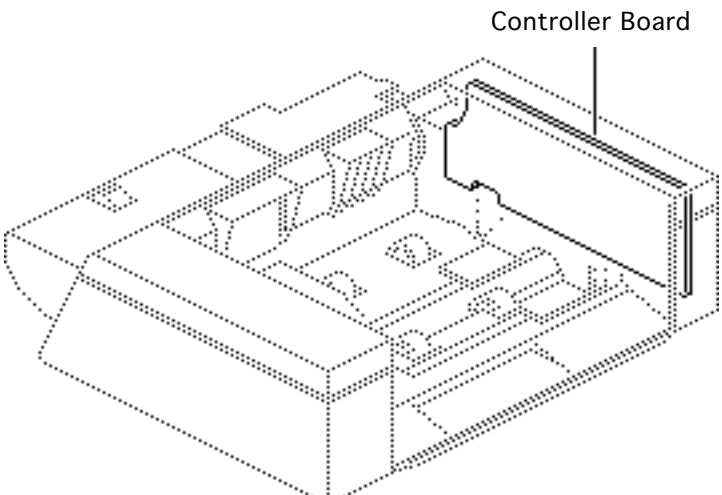
- Envelope weight
- Left cover
- Right cover
- Bottom cover



1 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.

Controller Board



Before you begin, remove the following:

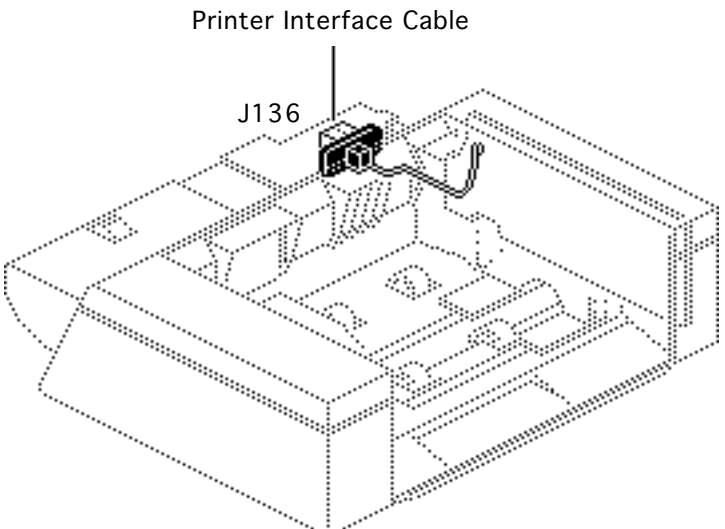
- Envelope weight
- Left cover
- Right cover
- Bottom cover

Note: See "Circuit Board Diagrams" in Basics in the LaserWriter Pro manual for layout of board.

1 Disconnect the two cables from the controller board.

2 Snap the sensing arm out of the collar grip and raise the arm above the edge of the board.

3 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.



Printer Interface Cable

Before you begin, remove the following:

- Envelope weight
- Left cover
- Right cover
- Bottom cover

1 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.

2 Disconnect J931 from the controller board and free the cable from the clamp.

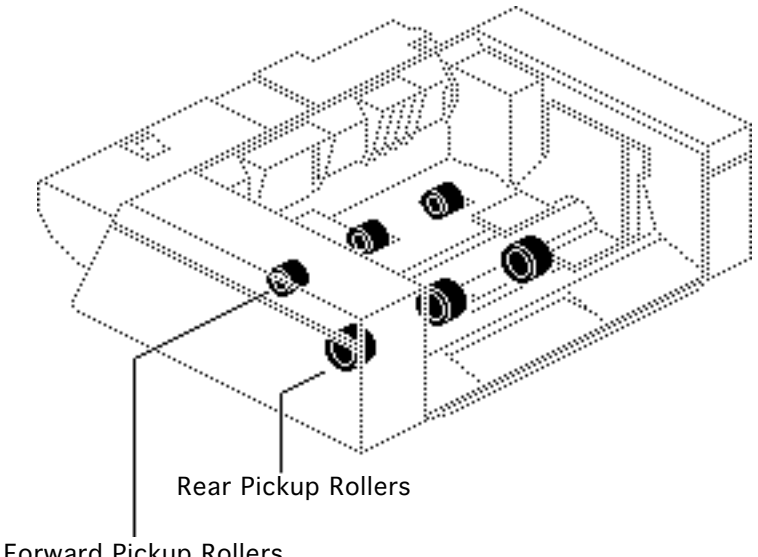
3 Open the ferrite core and remove the cables from it.

4 Release the expansion posts behind the receptacle and remove the interface cable from the feeder.

Pickup Rollers

Before you begin, remove the following:

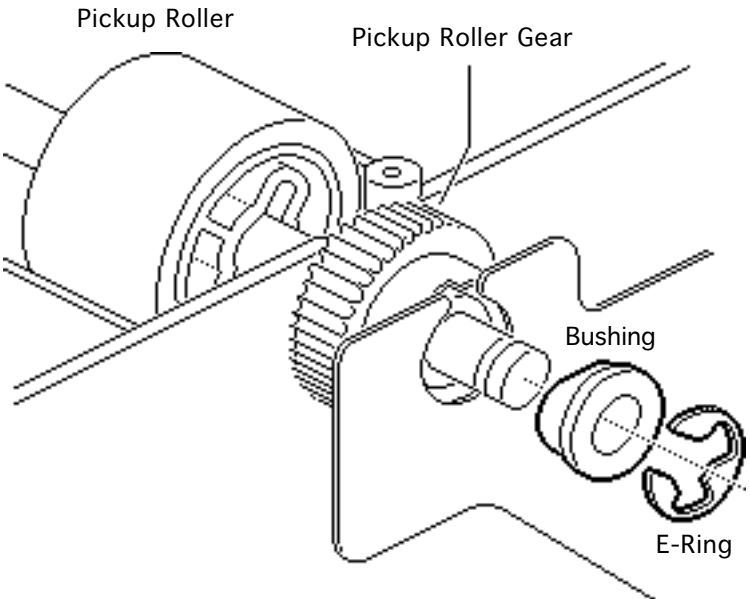
- Envelope weight
- Left cover
- Right cover
- Bottom cover



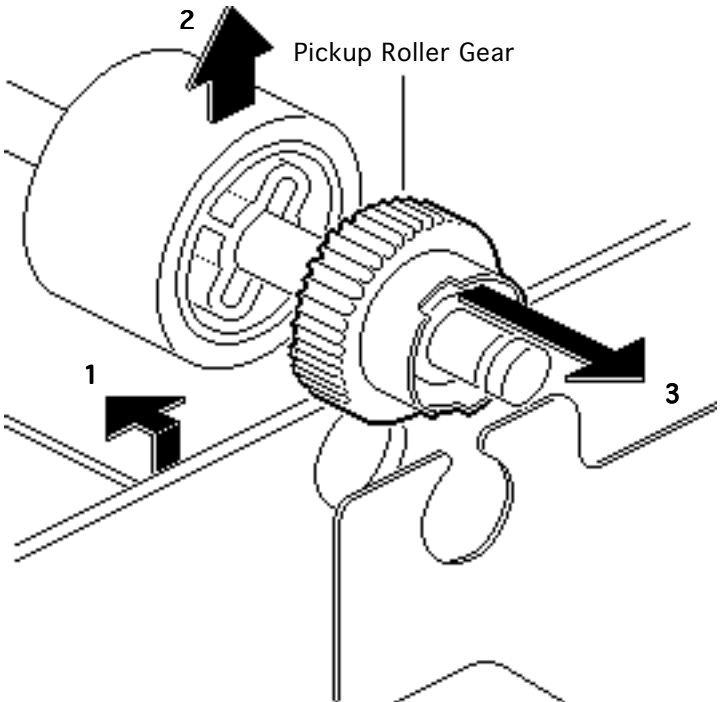
Note: The removal procedure is identical for both the rear and forward pickup rollers. The pickup rollers are independent of the shafts and are available separately.

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.

1 Pull out the tray extension.



2 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.



3 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.

4 Slide the gear off the shaft.

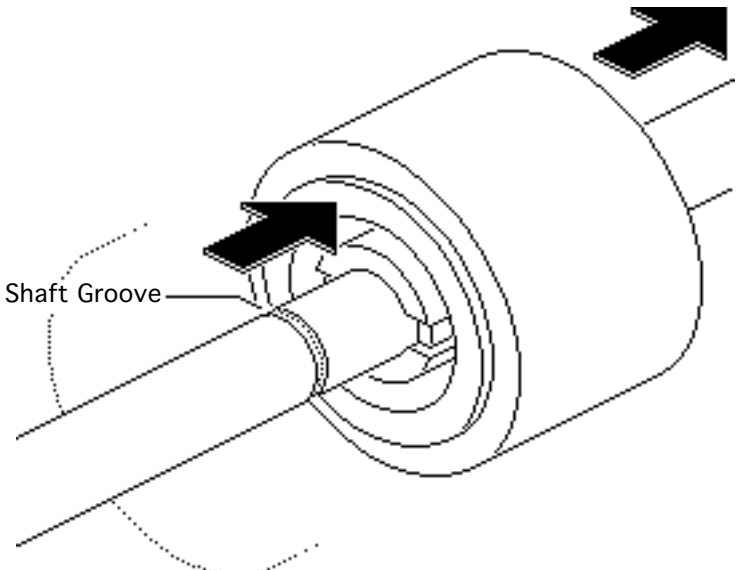
Note: If you are removing the leftmost pickup roller from a LaserWriter Pro 600/630 envelope feeder, remove the E-ring and bushing on that end (not shown here).

Note: The LaserWriter 16/600 PS envelope feeder features a one-piece pickup roller/shaft construction, so the step on the previous page concludes the pickup roller topic. If you are servicing a LaserWriter Pro 600/630 envelope feeder, proceed to the steps on the following pages.

Note: Steps 5 and 6 describe removal of a single roller. If you want to remove the middle roller, repeat these steps.

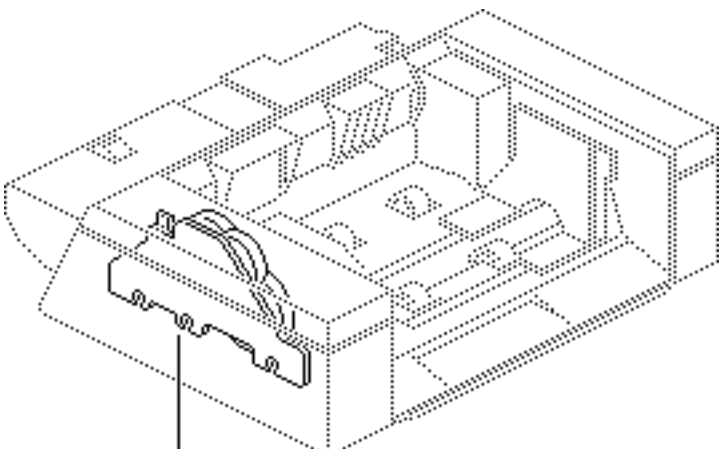
5 **Caution:** The dowel pin on the opposite side of the rollers drops when the roller slides away.

Using your fingernails or a small jeweler's screwdriver, release the two flex tabs, and slide the roller off the dowel.



6 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.



Transfer Drive Assembly

Before you begin, remove the following:

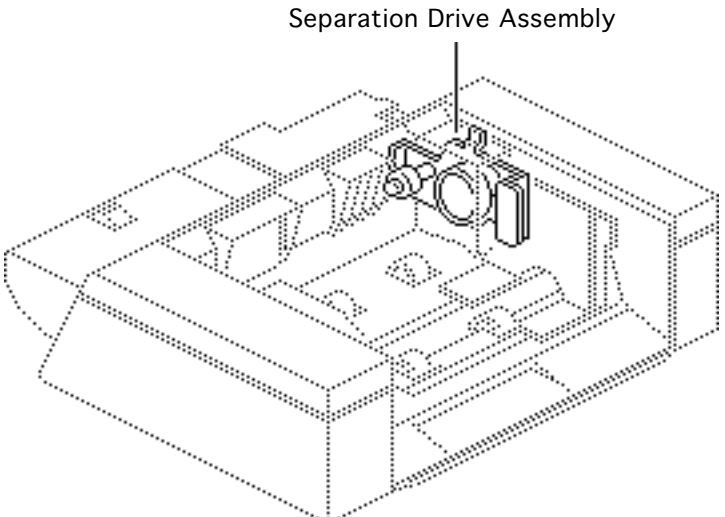
- Envelope weight
- Left cover
- Right cover
- Bottom cover
- Motor

Note: This assembly receives rotational drive directly from the motor and transfers it to the pickup and main feed shafts.

1 Remove the E-rings and bushings at the end of the three roller shafts.

2 Remove the three screws that secure the transfer drive assembly to the feeder body.

3 Lift the transfer drive assembly from the feeder.



Separation Drive Assembly

Before you begin, remove the following:

- Envelope weight
- Left cover
- Right cover
- Bottom cover
- 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.

1 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.

2 Pull the assembly away from the feeder body.

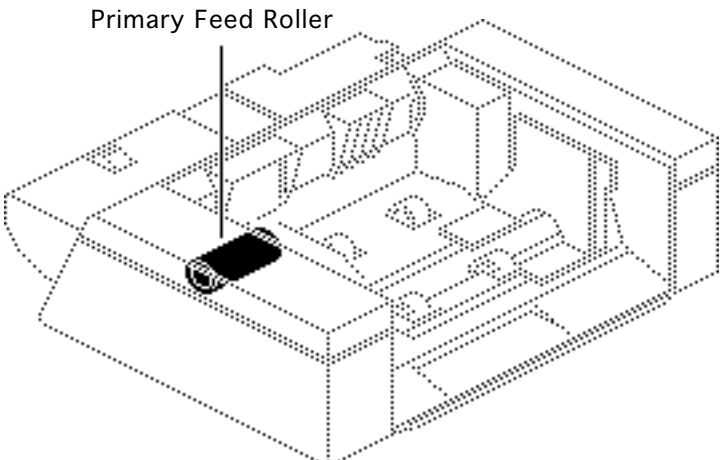
Note: Stop here if you are removing the roller shaft or roller gear.

3 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.

4 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.



Primary Feed Roller

Before you begin, remove the following:

- Envelope weight
- Left cover
- Right cover
- Bottom cover
- Controller board
- 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.

1 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.

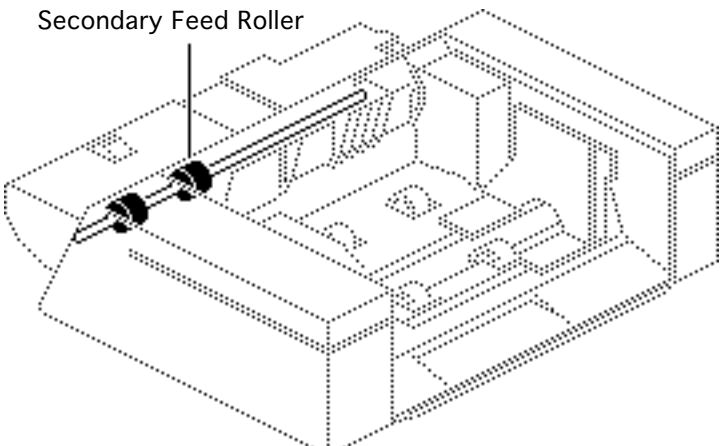
2 Raise the shaft a short distance and slide the shaft back and out the motor side of the feeder. Catch the gear on the opposite end as it falls off the shaft.

3 **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.

4 Using your fingernails, release the two small tabs and slide the roller off the shaft.

Secondary Feed Roller



Before you begin, remove the following:

- Envelope weight
- Left cover
- Right cover
- Bottom cover
- Controller board
- Separation drive assembly

Note: Due to the solid shaft/ roller design, rollers cannot be ordered separately.

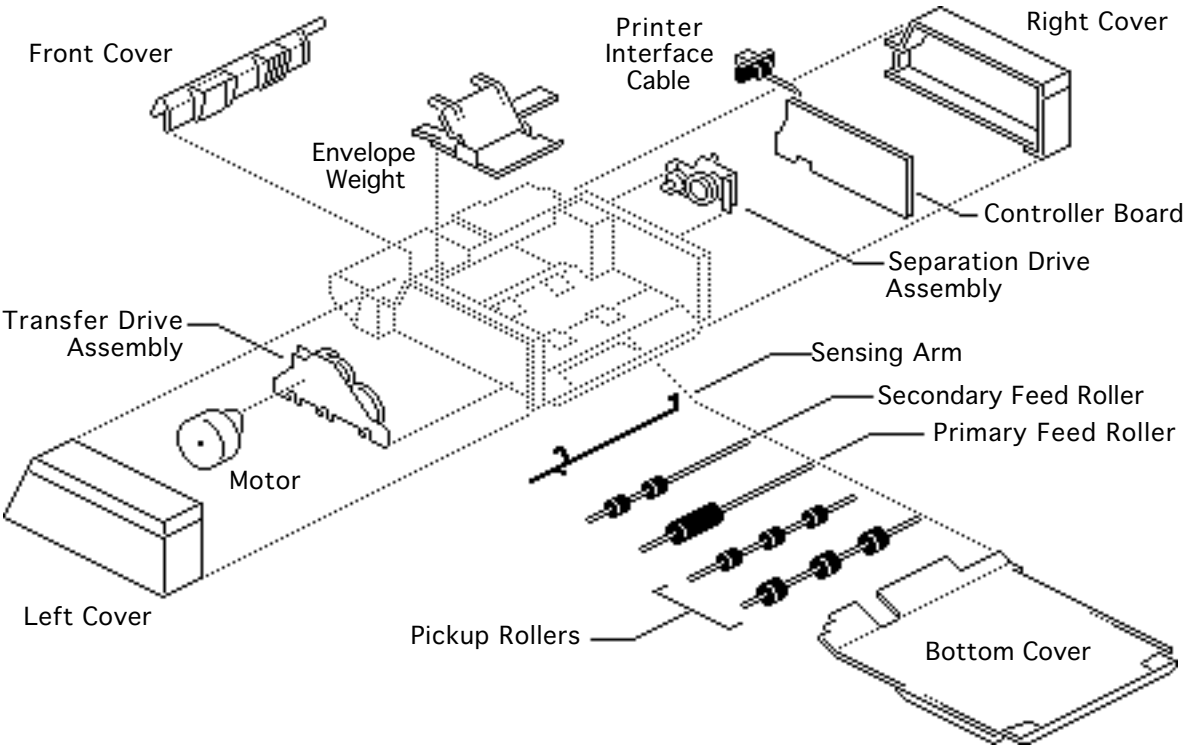
1 Remove the E-ring and bushing at the end of the shaft near the motor and slide the shaft out of the positioning hole.

2 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.

Exploded View

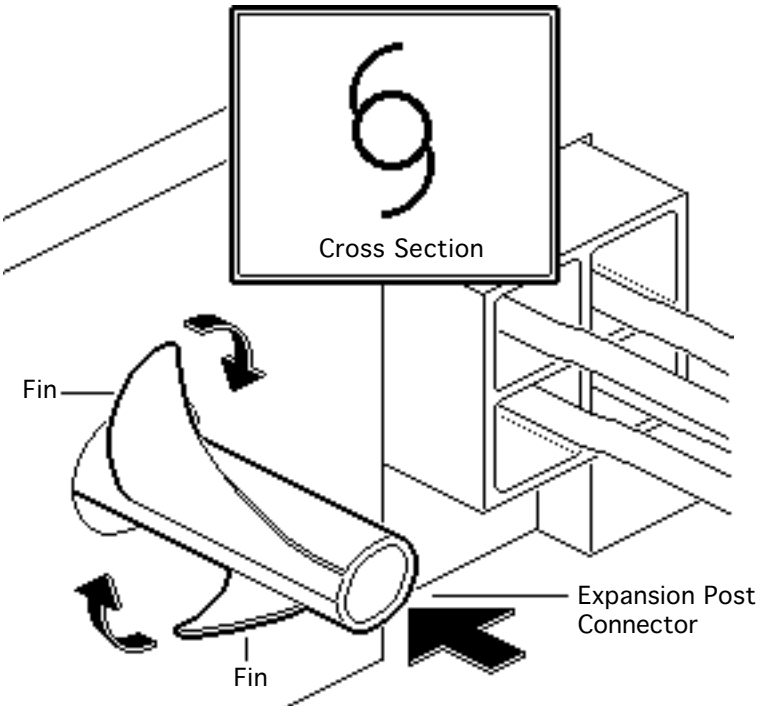
Envelope Feeder

Exploded View



Additional Procedures

Envelope Feeder



Expansion Post Connectors

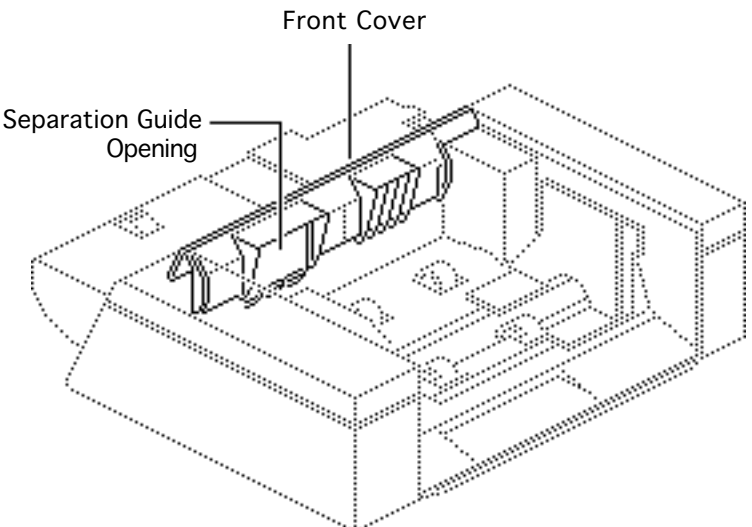
Note: This printer has several cable receptacles that are secured to the printer by finned post connectors. The fins expand when you insert the connector, but once the connector is installed it can be difficult to remove. Listed on the next page are some removal tools that you can try.

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

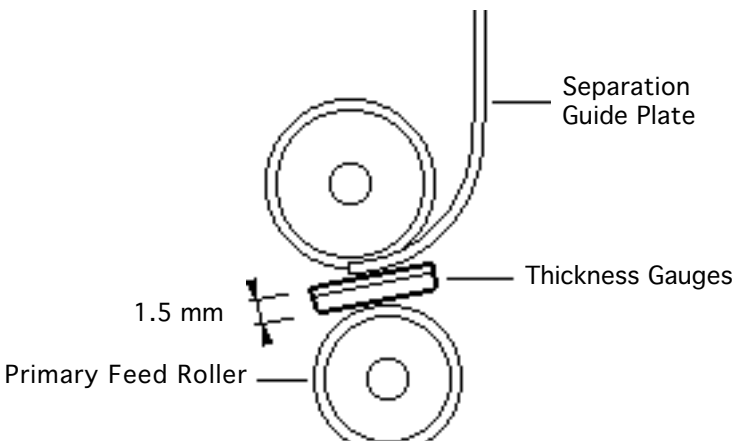
Adjustments

Envelope Feeder

Separation Guide Opening



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.



1 Loosen the screw that secures the guide plate to the front cover.

2 Insert a 1 mm and 0.5 mm thickness gauge between the guide plate and the primary feed roller.

3 Tighten the screw.