

hp LaserJet 3300mfp
series



service



hp LaserJet 3300mfp series

Service

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Safety Information

WARNING!

Potential Shock Hazard

Always follow basic safety precautions when using this product to reduce risk of injury from fire or electric shock.

- 1 Read and understand all instructions in the user guide.
- 2 Observe all warnings and instructions marked on the product.
- 3 Use only a grounded electrical outlet when connecting the HP LaserJet 3300mfp product to a power source. If you don't know whether the outlet is grounded, check with a qualified electrician.
- 4 Do not touch the contacts on the end of any of the sockets on the HP LaserJet 3300mfp. Replace damaged cords immediately.

- 5 Unplug this product from wall outlets before cleaning.
- 6 Do not install or use this product near water or when you are wet.
- 7 Install the product securely on a stable surface.
- 8 Install the product in a protected location where no one can step on or trip over the power cord and the power cord will not be damaged.
- 9 If the product does not operate normally, see the online user guide.
- 10 Refer all servicing questions to qualified personnel.

Information regarding FCC Class B, Parts 15 and 68 requirements can be found in the user guide.:

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1 Product information

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Introduction

The HP LaserJet 3300mfp series is designed to:

- **Print:** Print documents easily with the laser-quality you have come to expect from an HP LaserJet product.
- **Copy:** Make superior laser-quality copies. With the software, you can make up to 99 copies of a 50-page original. You can also enlarge, reduce, adjust contrast, and collate.
- **Scan:** Scan documents to create electronic text or graphics files.
- **Fax:** On the HP 3330, send and receive documents via standard fax communications.

Overview of product

Front and side view

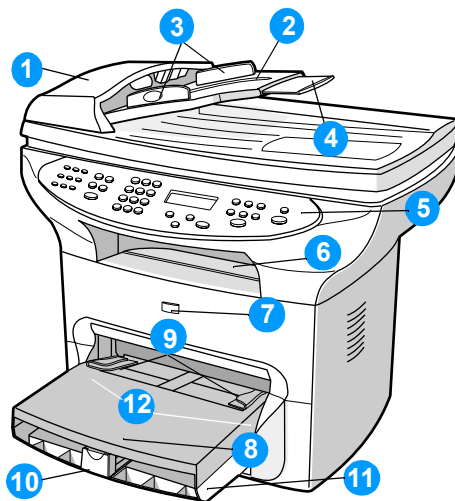


Figure 1.

Front and side view

- 1 Automatic document feeder (ADF)
- 2 ADF media input tray
- 3 Side media guides for the ADF
- 4 Long media extension for the ADF
- 5 Control panel
- 6 Output bin

- 7 Print cartridge door
- 8 Priority input tray
- 9 Side media guides for the priority input tray
- 10 Media support for the main input tray
- 11 Main input tray
- 12 Side media guides for the main input tray (inside cover, not shown)

Back and side view

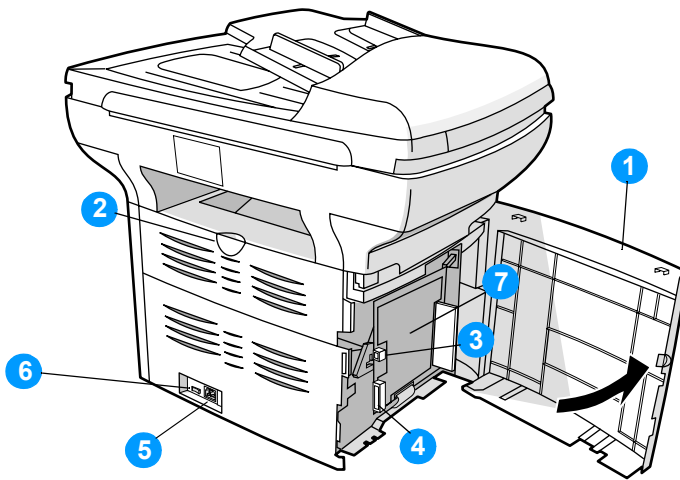


Figure 2.

Back and side view

- 1 Left side panel
- 2 Straight-through output door
- 3 USB port
- 4 Parallel port
- 5 Power receptacle
- 6 Power switch (220-240 volt units)
- 7 LIU (hp LaserJet 3330mfp only...not shown in graphic)

Hardware description

The product provides 1200 dot-per-inch (dpi) printing. The flatbed scanner scans at 600 pixels-per-inch (ppi) with 24-bits per pixel (bpp) and most models contain an automatic document feeder (ADF) that holds up to 50 pages. On the HP LaserJet 3330mfp, the formatter and LIU provide Group-3-compatible faxing capabilities.

The product prints 15 pages per minute (ppm) on letter-size paper or 14 ppm on A4. With 1200 dpi printing resolution, the product has exceptional text and graphics print quality. The simple control panel and improved paper handling make this product very easy to use.

The main input tray has a 250-sheet capacity for continuous, multiple-page printing. The priority input tray allows for manual feed of up to ten sheets. Both trays are center-justified for all supported paper sizes. The output bin holds up to 125 sheets.

The product has a very fast first-page-out, at less than ten seconds. The formatter board contains 4 MB of ROM, 32 MB of RAM, and an embedded 32-bit Coldfire V3 processor. There is one DIMM slot available for font or memory expansion (supporting an 8 MB, 16 MB, 32 MB, or 64 MB DIMM).

The print engine has a 1,000 average (10,000 peak) page-per-month duty cycle. The standard toner life is 2,500 pages, and the high-capacity toner life is 3,500 pages with 5% toner coverage.

Firmware description

The firmware in the product includes:

- Enhanced PCL 6 with status readback
- 80 PCL and 80 Postscript™ fonts
- Pixel placement, mosaic characters
- Memory Enhancement technology (MEt) with hardware compression and decompression

The firmware also has REt and EconoMode functionality.

Product Specifications

Table 1. Physical specifications

Category	Specification
Height	496 mm (19.5 inches)
Depth	520.7 mm (20.5 inches)
Width	546.1 mm (21.5 inches)
Weight (cartridge installed)	15.9 kg (35.0 lbs) (models with ADF) 14.1 kg (31.1 lbs) (models without ADF)

Table 2. Environmental specifications

Category	Specification
Operating environment (unit plugged into an AC outlet)	<ul style="list-style-type: none">• Temperature: 15° to 32.5° C (59° to 90.5° F)• Humidity: 10% to 80% relative humidity (no condensation)
Storage environment (unit not plugged into an AC outlet)	<ul style="list-style-type: none">• Temperature: -20° to 40° C (-4° to 104° F)• Humidity: Less than 95% relative humidity (no condensation)

Table 3. Performance of HP LaserJet 3300mfp series

Category	Specification
Print resolution	1200 dpi
Print speed	15 ppm (Letter) 14 ppm (A4)

Table 4. Performance of ADF for copying/scanning

Category	Specification
Scan resolution	600 PPI (24-bit pixels per inch) optical, with 256 levels of gray and 24-bit color
Copy speed	Up to 15 ppm

Table 5. Electrical specifications

	110-V Models	220-V Models
Power requirements Note: Power sources are not interchangeable.	110 to 127 volts +/-10% 50 to 60 Hz +/-2 Hz	220 to 240V +/-10%, 50 to 60 Hz +/-2 Hz
Minimum recommended circuit capacity	4.5 A at 115 V	2.3 A at 230 V
Power consumption	Copying (maximum): 330 W Printing (maximum): 300 W Standby: 14 Watts Power save: 14 Watts	Copying (maximum): 330 W Printing (maximum): 300 W Standby: 14 Watts Power save: 14 Watts Off: 0 Watts

Values subject to change. See <http://www.hp.com/support/lj3300> for current information

Table 6. Acoustic emissions (HP LaserJet 3300mfp series)

Sound Power Level	Declared per ISO 9296
Printing (maximum)	$L_{WAd} = 6.1$ Bels (A)
Copying (maximum)	$L_{WAd} = 6.6$ Bels (A)
Standby/PowerSave	Essentially inaudible

SPL Bystander Position	Declared per ISO 9296
Printing (maximum)	$L_{pAm} = 48$ dB (A)
Copying (maximum)	$L_{pAm} = 50$ dB (A)
Standby/PowerSave	Essentially inaudible

Values subject to change. See <http://www.hp.com/support/lj3300> for current information. During other operations, acoustic emissions may vary.

Table 7. Skew specifications

Category	Specification
Print skew	<p>0.87% (1.65 mm over 190 mm in width) for cut-sheet media (leading edge)</p> <p>0.80% (2.0 mm over 250 mm in length) for cut-sheet media except A5 size</p> <p>1.50% (3.3 mm over 220 mm in length) for envelopes, postcards, and A5-size media</p>

The media registration defines how a sheet of media is positioned relative to the electrophotographic image on the drum. The specified tolerances do not include variation in the media dimensions from nominal. All vertical lines will be parallel to the reference, or left edge of the media, within the specifications.

Table 8. HP LaserJet 3330 fax specifications

Category	Specification
Fax transmission speed	3 seconds/page (ITU-T Test Image #1)
Right/left margins for printed pages	6.3 mm (0.25 inch)
Top/bottom margins for printed pages	5.08 mm (0.2 inch)
Fax compatibility	ITU Group 3; ECM
Fax coding schemes	MH, MR, and MMR
Modem speed	Up to 33,600 bits per second (bps)
Speed dialing	Yes
Distinctive ring detect	Yes
Fax resolution (standard)	203 by 98 dots per inch (dpi)
Fax resolution (fine)	203 by 196 dpi
Fax resolution (superfine)	300 by 300 dpi (no halftone)
Fax resolution (photo)	300 by 300 dpi (halftone enabled)

Model and serial numbers

The model number and serial number are listed on an identification label located on the inside of the print cartridge door.

The serial number contains information about the country/region of origin, revision level, production code, and production number of the product.

The label also contains power rating and regulatory information.

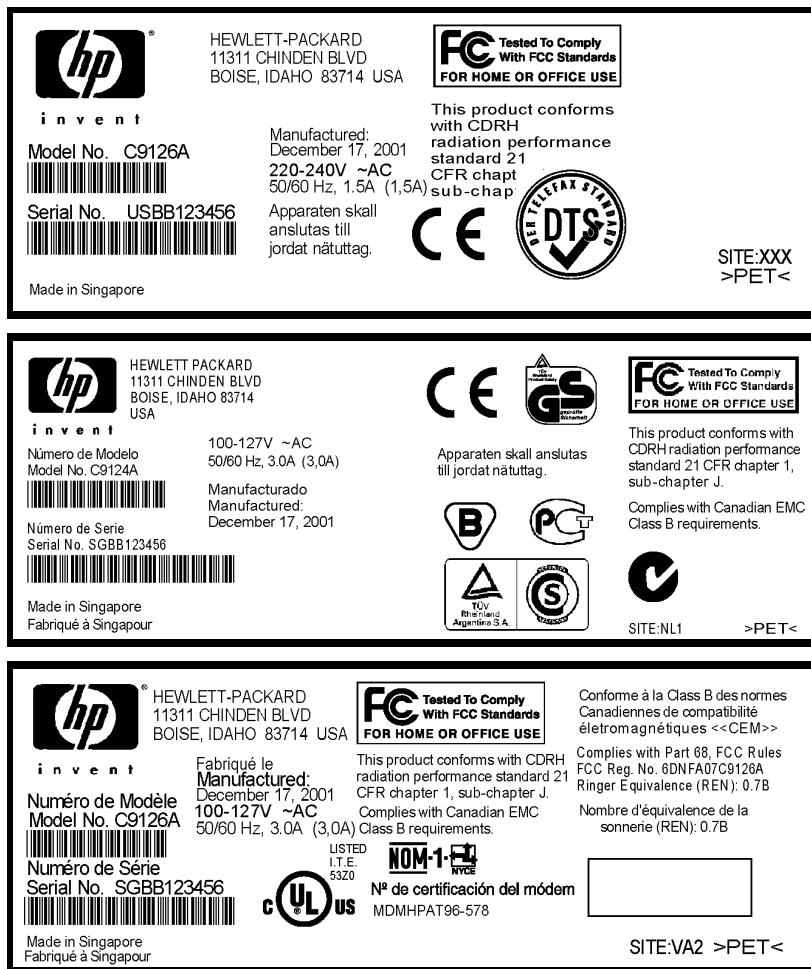


Figure 3. Model and serial number labels

Warranty statement

DURATION OF WARRANTY: One year from date of purchase.

- 1 HP warrants to you, the end-user customer, that HP hardware, accessories, and supplies, will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or like new.
- 2 HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified above, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software media which does not execute its programming instructions due to such defects.
- 3 HP does not warrant that the operation of HP products will be uninterrupted or error-free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.
- 4 HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.
- 5 Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts, or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (d) improper site preparation or maintenance.
- 6 HP MAKES NO OTHER EXPRESS WARRANTY OR CONDITION WHETHER WRITTEN OR ORAL. TO THE EXTENT ALLOWED BY LOCAL LAW, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY SET FORTH ABOVE. Some countries, states, or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country to country, state to state, or province to province.

- 7** TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries, states, or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

FOR CONSUMER TRANSACTIONS IN AUSTRALIA AND NEW ZEALAND, THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Extended warranty

HP SupportPack provides coverage for the HP hardware product and all HP-supplied internal components. The hardware maintenance warranty covers a three-year period from the date of the HP product purchase. The customer must purchase the HP SupportPack within 90 days of the HP product purchase. Customers can contact the nearest HP-authorized dealer about this service.

Print cartridge information

The print cartridge is designed to simplify replacement of the major consumable parts. The print cartridge contains the printing mechanism and a supply of toner.

At five percent page coverage, a standard print cartridge will print approximately 2,500 pages. However, a cartridge should print more pages if it regularly prints pages with less coverage, such as short memos. The cartridge might print fewer pages if heavy or bold print is used.

For best results, always use a print cartridge before the expiration date stamped on the cartridge box.

Refilled print cartridges

While Hewlett-Packard does not prohibit the use of refilled print cartridges during the warranty period or while the product is under a maintenance contract, it is not recommended for the following reasons:

- Repairs resulting from the use of refilled cartridges are not covered under Hewlett-Packard warranty or maintenance contracts.
- Hewlett-Packard has no control or process to ensure that a refilled cartridge functions at the high level of reliability of a new HP LaserJet toner cartridge. Hewlett-Packard also cannot predict the long-term reliability effect on the product from using different toner formulations found in refilled cartridges.
- The print quality of HP LaserJet print cartridges influences the customer's perception of the product. Hewlett-Packard has no control over the actual print quality of a refilled cartridge.
- Parts that are critical to print quality may not be replaced when the cartridge is refilled with toner.

Recycling print cartridges

In order to reduce waste, Hewlett-Packard offers a recycling program. Cartridge components that do not wear out are recycled. Plastics and other materials are recycled. Hewlett-Packard pays the shipping

costs from the user to the recycling plant (within the United States). To join this recycling effort, follow the instructions inside the print cartridge box.

FCC Part 68 Requirements (US)

This equipment complies with FCC rules, Part 68. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company. The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all, areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

This equipment uses the following USOC jacks: RJ11C.

An FCC-compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68-compliant. This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs. If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify you as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary. The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service. If trouble is experienced with this equipment, please contact HP for repair and (or) warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved. The following repairs can be done by the customer: replace any original equipment that came with the product. This includes the print cartridge, the paper trays, the ADF, the control panel bezel, the ADF pick roller assembly, the power cord, and the telephone cord. It is recommended that the customer

install an AC surge arrestor in the AC outlet to which this device is connected. This is to avoid damage to the equipment caused by local lightning strikes and other electrical surges.

Telephone Consumer Protection Act (US)

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided cannot be a 900 number or any other number for which charges exceed local or long-distance transmission charges.) In order to program this information into your facsimile, please see the HP 3300mfp User Guide.

IC CS-03 requirements

NOTICE: The Industry Canada label identifies certified equipment. This certification means the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirement document(s). The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible for the equipment to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution can be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate. The Ringer Equivalence Number (REN) of this device is 0.7.

Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Number of all the devices does not exceed five (5.0). The standard connecting arrangement code (telephone jack type) for equipment with direct connections to the telephone network is CA11A.

Regulatory information for EU countries

This equipment has been designed to work in all of the countries of the European Economic Area (Public Switched Telephone Networks) only. Network compatibility is dependent on internal software settings. Contact your equipment supplier if it is necessary to use the equipment on a different telephone network. For further product support, contact Hewlett-Packard at the phone numbers provided in the support flyer that came with the product.

2 Operation

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Operating environment

Place the product on a sturdy, level surface in a well-ventilated area that meets the following environmental requirements:

- temperature: 15° to 32.5° C (59° to 90.5° F)
- humidity: 10% to 80% relative humidity (no condensation)
- away from direct sunlight, open flames, and ammonia fumes
- sufficient space around the product to allow for proper access and ventilation

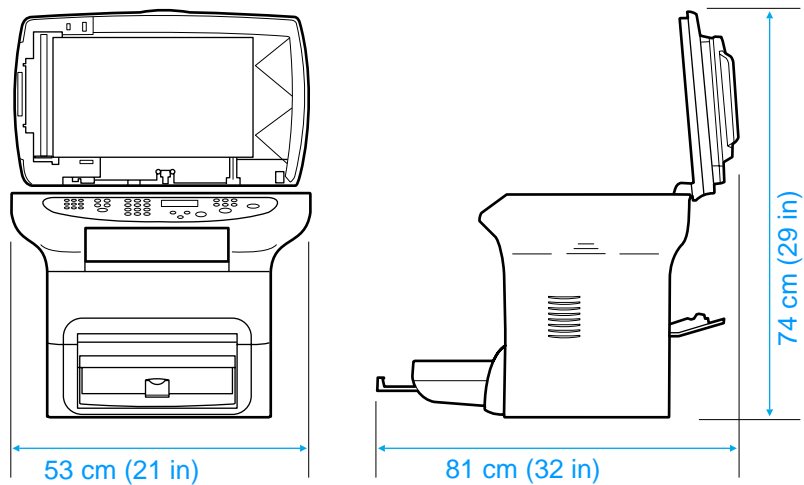


Figure 4. Dimensions of product

Identifying the control panel components

Fax controls

Fax capability is available on the HP LaserJet 3330 product only. Use the fax controls to send and receive faxes. These controls and the fax menu or software are used to change commonly used fax settings.

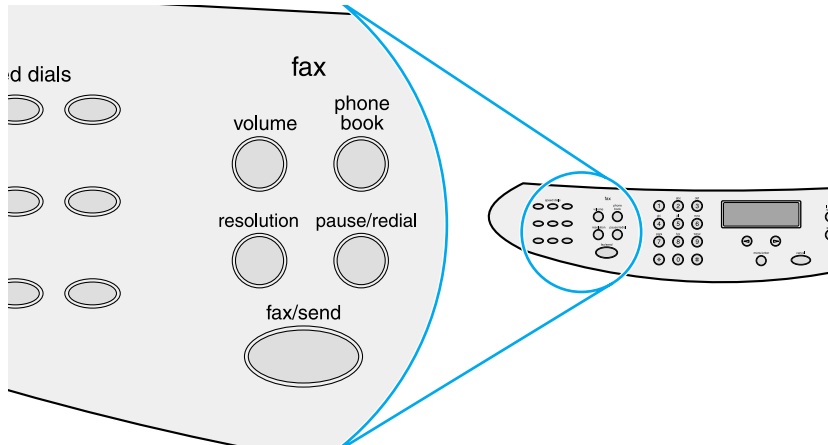


Figure 5.

Fax controls

The HP 3330 has extensive faxing capabilities. This manual describes only sending a fax to one recipient and receiving a fax. For a full description of the fax capabilities, see "Faxing" in the User Guide on the product CD.

To send a fax to one recipient

- 1 Dial the fax number using one of the following methods:
 - Use the alphanumeric buttons on the product's control panel.
 - If the fax number you are calling has been assigned to a one-touch key, press that key.
 - If the fax number you are calling has a speed-dial code, press **speed dial**, enter the speed-dial code using the alphanumeric buttons, and press **menu/enter**.

Note

When dialing with the alphanumeric buttons, include any pauses or other needed numbers, such as an area code, an access code for numbers outside a PBX system (usually a 9 or 0), or a long-distance prefix. For more information, see "Using dialing characters" in the User Guide on the product CD.

2 Load the document into the ADF input tray.

3 Press **fax/send**.

When the last page of the fax has exited the product, you can start sending another fax, copying, or scanning.

To fax to numbers you use regularly, you can assign a one-touch key or speed-dial code as described in the User Guide on the product CD. If you have electronic phone books available, you may be able to use them for selecting recipients. Electronic phone books are generated with third-party applications.

Note

If you want to improve the quality of a paper document before faxing it, scan the document, straighten or clean the image, and send it as a fax from the software. For more information, see the product software Help.

To receive faxes when you hear fax tones

In general, incoming faxes to the product are automatically received. However, if other devices are connected to the same phone line, the product may not be set to answer automatically.

If the product is connected to a phone line that receives both fax and phone calls, and you hear fax tones when you answer the extension phone, receive the fax in one of two ways:

- If you are near the product, press **fax/send** on the control panel.
- Press 1-2-3 in sequence on the extension phone keypad, listen for fax transmission sounds, then hang up.

Note

For the 1-2-3 sequence to work, the extension phone setting must be set to Yes in the fax menu.

Alphanumeric buttons

On the HP 3330, use the alphanumeric buttons to enter fax data into the product's display screen and dial phone numbers for faxing. For a full description on using alphanumeric key characters, see "Using Dialing Characters" in the User Guide on the product CD.

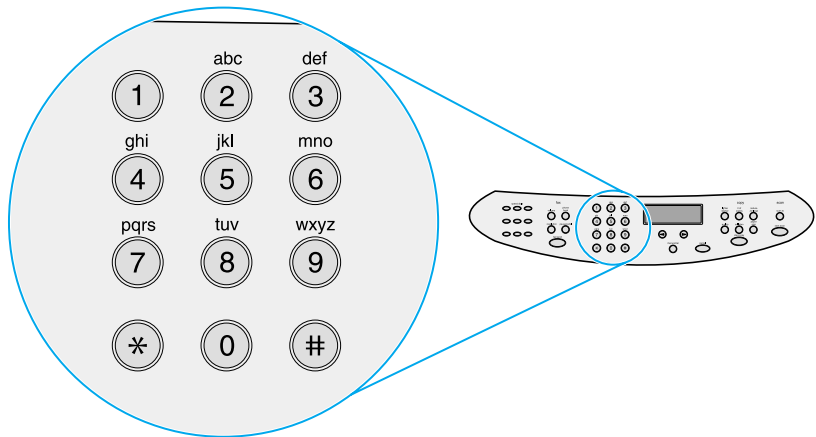


Figure 6. Alphanumeric controls

Note

Keypad buttons are numeric on non-fax models and alphanumeric on the HP LaserJet 3330mfp.

Menu and cancel controls

Use these controls to choose menu options, determine the product's status, and cancel the current job.

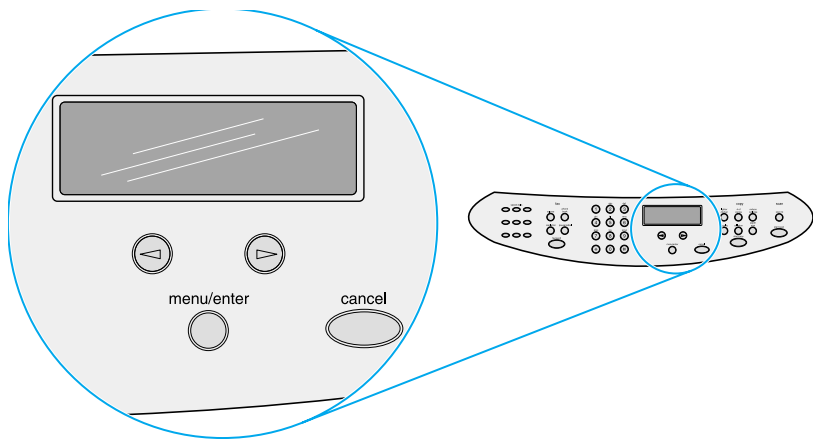


Figure 7. Menu and cancel buttons

Copy, scan, and start controls

Use these controls to change commonly used default settings, to start scanning, and to start copying. For instructions on copying, see "Copying" in the User Guide. For instructions on scanning, see "Scanning" in the User Guide. The User Guide is located on the product CD.

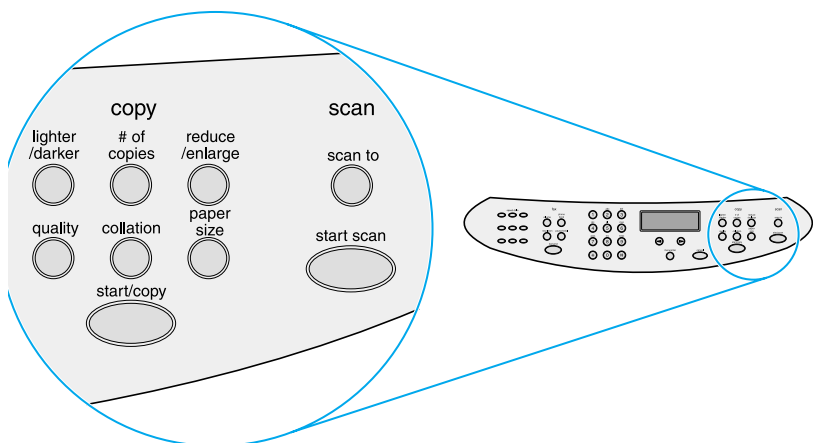


Figure 8. Copy, scan, and start controls

Control panel menu structure

A hierarchical diagram of the control panel menu structure follows. Refer to this menu structure to make changes to settings and features.

To print the control panel menu structure

- 1 Press **menu/enter**.
- 2 Use the < or > key to select `Reports` and then press **menu/enter**.
- 3 Use the < or > key to select `Menu Structure` and then press **menu/enter**. The product exits the Menu settings and prints the report.

To see which settings are currently selected, print a configuration report.

To use the control panel keys

- 1 Press **menu/enter** to begin.
- 2 Use the < or > key to select one of the choices from the main Menu, and then press **menu/enter**.
- 3 Use the < or > key to select one of the choices from the submenu and press **menu/enter**.
- 4 If applicable, use the < or > key to select one of the choices from the second submenu and press **menu/enter**.

Table 9. Control panel menu structure

Main Menu	Submenu	Submenu
Fax Job Status		
Fax Functions	Send Fax Later Stop Recv To PC Reprint Last Polling Receive Clear Saved Faxes	
Time/Date, Header	Time/Date Fax Header	
Copy Setup	Default Quality Def. Light/Dark Def. Collation Def. # Of Copies Def. Redu/Enlrg	
Reports	Demo Page Fax Activity Log	Print Log Now Auto Log Print
	Fax Call Report	Print Report Now Print Report Include 1st Page
	PhoneBook Report Menu Structure Config Report Block Fax List PCL Font List PS Font List All Fax Reports	

Table 9. Control panel menu structure

Main Menu	Submenu	Submenu
Fax Setup	Phone Book	Individual Setup Add Delete Group Setup Add Group Delete Group Del. # In Group Delete All
	Fax Send Setup	Def. Resolution Def. Light/Dark Dialing Mode Redial On Busy Redial-No Answer Dial Prefix Detect Dial Tone Billing Codes
	Fax Recv. Setup	Answer Mode Rings To Answer Answer Ring Type Extension Phone Silence Detection Fit To Page Stamp Faxes Forward Fax Block Faxes Add Entry Delete Entry Clear All
	All Faxes	Error Correction V. 34
Common Settings.....	Language Def. Paper Size Print Density Volume Settings.....	Alarm Volume Ring Volume Key Press Volume
Service.....	Print T.30 Trace Restore Defaults Cleaning Mode Power Save Time Less Paper Curl	

Control panel error messages

These control panel error messages are listed alphabetically. Messages are accompanied by the cause of the message and user-level steps to resolve the problem.

Table 10. Control panel error messages

Message	Cause	Solution
Cleaning Mode. Wait 1-3 Min.	The product is running an internal cleaning cycle.	Wait for the product to finish the cleaning cycle. The message will clear when the cycle is finished.
Fax Busy. Canceled Send	The fax line to which you were sending a fax was busy. The product has cancelled sending the fax.	Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Check that the redial on busy option is enabled. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. See chapter 6, "Troubleshooting."
### Is Empty [Enter] To Add	The one-touch key or speed-dial code has not been programmed and therefore cannot be added to a group.	Press menu/enter to program the one-touch or speed-dial. If you want to program a group-dial, press cancel and use the control panel menu to create a new group. Press cancel if you do not want to program the one-touch or speed-dial.
###: [Group Name] Phbook/SpeedDial	The product is waiting for you to press a programmed one-touch key or enter a speed-dial code to a group-dial code.	Begin adding fax numbers to the group-dial code. See "Programming group-dial codes" in the User Guide on the product CD.
50 Fuser Error	The product has experienced an internal hardware error.	Disconnect the power cable from the product, wait at least 20 minutes, then reconnect the power cable and wait for the product to initialize. Try another power source. If the message does not clear, see chapter 6, "Troubleshooting."

Table 10. Control panel error messages (continued)

Message	Cause	Solution
51 Laser Error	The product has experienced an internal hardware error.	Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try another power source. If the message does not clear, see chapter 6, "Troubleshooting."
52 Scanner Error	The product has experienced an internal code error.	Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try another power source. If the message does not clear, see chapter 6, "Troubleshooting."
79 Error PowerOff>PowerOn	The product has experienced an internal hardware error.	Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. If the message does not clear, see chapter 6, "Troubleshooting."
ADF Door Open	The ADF door is open or a sensor is malfunctioning.	Make sure the ADF door is closed. If the message persists, disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try another power source. If the message does not clear, see chapter 6, "Troubleshooting."
Canceled Copy. Clear Document	The cancel key was pressed to cancel the current job while pages were feeding from the document feeder. The cancel process will not automatically clear the document feeder.	Pull the document release door open, remove the jammed item, and close the door. Then, clear the items in the document feeder tray and start over.
Canceled Scan. Clear Document	The cancel key was pressed to cancel the current job while pages were feeding from the document feeder. The cancel process will not automatically clear the document feeder.	Pull the document release door open, remove the jammed item, and close the door. Then, clear the items in the document feeder tray and start over.

Table 10. Control panel error messages (continued)

Message	Cause	Solution
Canceled Send. Clear Document	The cancel key was pressed to cancel the current job while pages were feeding from the document feeder. The cancel process will not automatically clear the document feeder.	Pull the document release door open, remove the jammed item, and close the door. Then, clear the items in the document feeder tray and start over.
CCD Scanner Error	The scanner assembly experienced an internal error.	Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try another power source. If the message does not clear, see chapter 6, "Troubleshooting."
Comm. Error	Fax communication error occurred between the product and the sender or receiver.	Allow the product to retry sending the fax. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. See chapter 6, "Troubleshooting."
Device Busy. Try Again Later	The product is currently in use.	Wait for the product to finish the current job.
Device Error. [Enter] To Cont.	There was an internal error in the product.	Press menu/enter to resume the job.
Doc Feeder Jam	A piece of media is jammed in the document feeder tray.	Open the document release door, clear the jam, close the document release door, and reload the paper into the document feeder tray.
Document Feeder Mispick. Reload	Media in the document feeder tray was not picked up.	Remove and reload the media into the document feeder tray.
Door Open Or No Print Cartridge	The print cartridge door is open or the print cartridge is not installed properly.	Make sure the print cartridge door is closed. Check the print cartridge for proper installation.
Engine Comm. Error	The product experienced an internal communication error.	Warning message only. Job output may be affected.

Table 10. Control panel error messages (continued)

Message	Cause	Solution
Fax Busy. Redial Pending	The fax line to which you were sending a fax was busy. The product automatically redials the busy number. (See "Changing how the product redials" in the User Guide on the product CD.)	Allow the product to retry sending the fax. Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. See chapter 6, "Troubleshooting."
Fax Memory Full Canceling Recv	During the fax transmission, the product ran out of memory. Only the pages that fit into memory will be printed.	Print all of the faxes and have the sender resend the fax. Cancel all fax jobs or clear the faxes from memory (see "Clearing faxes from memory" in the User Guide on the product CD).
Fax Memory Full Canceling Send	During the fax job, the memory filled. All pages of the fax have to be in memory for a fax job to work correctly. Only the pages that fit into memory were sent.	Print all received faxes or wait until all pending faxes are sent. Cancel all fax jobs or clear the faxes from memory (see "Clearing faxes from memory" in the User Guide on the product CD).
Fax Recv Error	An error occurred while trying to receive a fax.	Ask the sender to resend the fax. Try faxing back to sender or another fax machine. Check that the telephone cord is securely connected by unplugging and replugging the cord. Check for a dial tone on the phone line by pressing fax/send . Make sure the phone is working by disconnecting the product, plugging in a telephone to the phone line, and making a voice call. Connect the product to a different phone line.

Table 10. Control panel error messages (continued)

Message	Cause	Solution
Fax Send Error	An error occurred while trying to send a fax.	Try resending the fax. Try faxing to another fax number. Check that the telephone cord is securely connected by unplugging and replugging the cord. Check for a dial tone on the phone line by pressing fax/send . Make sure the phone is working by disconnecting the product, plugging in a telephone to the phone line, and making a voice call. Connect the product to a different phone line.
Fit to Page on Flatbed Only	Fit to Page does not work when the ADF is being used.	Use the flatbed or choose another reduction/enlargement setting.
Group Dial Not Allowed In Group	The speed-dial code you entered is programmed for a group. Adding a group-dial to another group-dial is not allowed.	Enter one-touch keys (programmed as an individual speed dial) or speed-dial codes to a group-dial
Group Is Full. [Fax] To Start	The maximum number of fax numbers that can be added to an ad hoc group is 20.	Resend to the ad hoc group using less fax numbers.
Invalid Date	An invalid date was entered, such as June 35.	Reenter the date.
Invalid Entry	Invalid data or response.	Correct the entry.
Memory Low. Press [Cancel]	The product memory has been almost completely filled.	Allow the product to finish the job or press cancel to cancel the job.
Memory Low.1 Copy. Press [Cancel]	The product completed making one copy. The remaining copies have been canceled because of low product memory.	Press cancel to clear the error. Use the HP LaserJet Director to make multiple copies of large documents, or break the job into smaller jobs containing fewer pages.
Memory Low Only 1 Copy Made	The product does not have enough memory to complete the collated copy job.	Reduce job size or copy one at a time.

Table 10. Control panel error messages (continued)

Message	Cause	Solution
No Dial Tone.	The product could not detect a dial tone.	Unplug the telephone cord from both the product and the wall and replug the cord. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. See "Changing the detect dial tone setting" in the User Guide on the product CD. Also see chapter 6, "Troubleshooting."
No Document Sent	The fax forwarding setting is on and the product was unsuccessful at receiving a fax because of low memory or some other reason. The product deleted the partially received fax data and did not attempt to forward it.	Print the faxes in memory and have the sender resend the missing page(s) of the document.
No Fax Answer. Canceled Send	Attempts to redial a fax number failed or the "Redial on no answer" option was turned off.	Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Check that the redial option is enabled. Unplug the telephone cord from both the product and the wall and replug the cord. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. See chapter 6, "Troubleshooting."
No Fax Answer. Redial Pending	You tried to send a fax, but the receiving fax line did not answer. The product attempts to redial after a few minutes.	Allow the product to retry sending the fax. Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Check that the redial on no answer option is enabled. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. See chapter 6, "Troubleshooting."

Table 10. Control panel error messages (continued)

Message	Cause	Solution
No Fax Detected	The product answered the incoming call but did not detect that a fax machine was calling.	Allow the product to retry receiving the fax. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. See chapter 6, "Troubleshooting."
No Fax Pages To Reprint	The product attempted to execute "Reprint Last Fax" when nothing was in memory.	Receive a fax before attempting to use this option.
Not Enough Memory.Try Later	There is not enough memory to start a new job.	Wait until the current job is finished before starting a new job.
Out of Range	An invalid number was entered.	Correct the entry.
Printer Jam. Clear Paper Path	The product has detected that a jam has occurred.	Clear the jam. The job should continue to print. If it does not, try reprinting the job.
Printer Mispick [Enter]To Resume	The print engine has failed to pick up a piece of media.	Reload the paper in the paper input tray and press menu/enter to continue the job.
Printer Tray Is Empty.Add Paper	The paper input tray is empty.	Load media. If media is already loaded, remove it. Check for and remove any jam, and then reload the stack of media in the paper input tray.
Scanner Bulb Failure	The scanner assembly experienced an error in scanner bulb functionality.	Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try another power source. If the message does not clear, see chapter 6, "Troubleshooting."
Scanner Reserved For PC Scan	The product is being used to create a scan by a computer.	Wait until the PC scan has finished, or cancel the scan from the computer software, or press cancel .
Scanning Error. Cannot Connect	The product cannot transmit scan information to a computer.	Check the connection cable and try the scan again.
Settings Cleared	The product has cleared job settings.	Reenter any desired job settings.
Time/Date is in Past. Try Again	Invalid date or time entry.	Enter the correct time or date.

Product media specifications

The product accepts a variety of media. Properties such as weight, grain, and moisture content are important factors affecting printer performance and output quality. Media should conform to the guidelines in the User Guide located on the product CD. Media that does not meet HP guidelines might cause poor print quality, increased media jams, or premature wear on the product. This may require repair.

CAUTION

Damage caused by media that does not meet HP’s specifications is not covered by the HP warranty or service agreements.

Supported media sizes (printer)

The printer supports media within these sizes:

- **Minimum:** 76 x 127 mm (3 x 5 in)
- **Maximum:** 216 x 356 mm (8.5 x 14 in)

Table 11. Media types

Paper type	Metric	English
Letter	216 by 279 mm	8.5 by 11 in
Legal	216 by 356 mm	8.5 by 14 in
Executive	184 by 267 mm	7.25 by 10.5 in
A4	210 by 297 mm	8.25 by 11.75 in
COM10 Envelopes	105 by 241 mm	4.13 by 9.5 in
DL Envelopes	110 by 220 mm	4.33 by 8.67 in
C5 Envelopes	162 by 229 mm	6.4 by 9 in
B5 Envelopes	176 by 250 mm	6.9 by 9.85 in
Monarch Envelopes	98.5 by 191 mm	3.88 by 7.5 in
Custom size media	custom	custom

Note

Narrow and heavy media can cause the printer to print slower.

Guidelines for using media

Paper and Transparencies

Paper must be of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, holes, and curled or bent edges. Check the label on the paper package for details about the type of paper (such as bond or recycled).

Some paper causes print quality problems, jamming, or damage to the printer.

Note

Do not use letterhead that is printed with low-temperature inks, such as those used in some types of thermography, raised letterhead, or colored paper or preprinted forms that use inks incompatible with the printer temperature (200° C or 392° F for 0.1 second).

Transparencies must be able to withstand 200° C (392° F), the printer's maximum temperature.

Common media problems table

Symptom	Problem with paper	Solution
Poor print quality or toner adhesion, or problems with feeding.	Too moist, too rough, too smooth, or embossed.	Try another kind of paper between 100 and 250 Sheffield and 4 to 6% moisture content.
	Faulty paper lot.	
Dropouts, jamming, or curl.	Stored improperly.	Store paper flat in its moisture-proof wrapping.
Increased gray background shading.	Might be too heavy.	Use lighter paper.
Excessive curl, or problems with feeding.	Too moist, wrong grain direction, or short-grain construction.	Use long-grain paper.
		Print using the straight-through output path.
Jamming, or damage to printer.	Cutouts or perforations.	Do not use paper with cutouts or perforations.
Problems with feeding.	Ragged edges.	Use good quality paper.

Labels

When selecting labels, consider the quality of the following factors:

- **Adhesives:** The adhesive material should be stable at 200° C (392° F), the printer's maximum temperature.
- **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
- **Curl:** Prior to printing, labels must lie flat with no more than 13 mm (0.5 in) of curl in any direction.
- **Condition:** Do not use labels with wrinkles, bubbles, or other indications of separation. Never use a sheet of labels that has already been run through the printer.

Envelopes

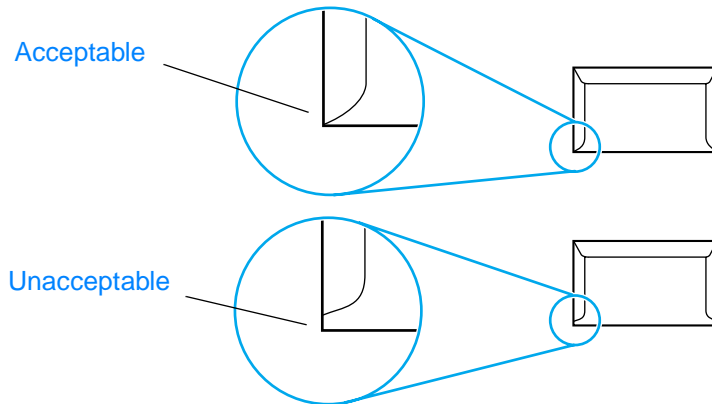
Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers, but also within a box from the same manufacturer. Successful printing on envelopes depends on the quality of the envelopes. When selecting envelopes, consider the following factors:

- **Weight:** The weight of the envelope paper should not exceed 105 g/m² (28 lb), or jamming might result.
- **Construction:** Prior to printing, envelopes should lie flat with less than 6 mm (0.25 in) curl and should not contain air. Envelopes that trap air may cause problems.
- **Condition:** Make sure that the envelopes are not wrinkled, nicked, or otherwise damaged.
- **Sizes:** From 90 x 160 mm (3.5 x 6.3 in) to 178 x 254 mm (7 x 10 in).

Store envelopes flat. If air is trapped in an envelope, creating an air bubble, the envelope might wrinkle during printing.

Envelopes with double-side seams

An envelope with double-side-seam construction (vertical seams at both ends of the envelope rather than diagonal seams) is more likely to wrinkle. Make sure the seam extends all the way to the corner of the envelope as shown in the following illustration:



Envelopes with adhesive strips or flaps

Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the heat and pressure in the printer: 200° C (392° F). The extra flaps and strips might cause wrinkling, creasing, or jams.

Card stock and heavy media

For optimum performance, do not use paper heavier than 157 g/m² (42-pound). Paper that is too heavy might cause misfeeds, stacking problems, paper jams, poor toner fusing, poor print quality, or excessive mechanical wear.

Note

You might be able to print on heavier paper if you do not fill the input tray to capacity and if you use paper with a smoothness rating of 100 to 180 Sheffield.

Card stock construction

- **Smoothness:** 135-157 g/m² (36-to 42-pound) card stock should have a smoothness rating of 100 to 180 Sheffield. 60-135 g/m² (16- to 36-pound) card stock should have a smoothness rating of 100 to 250 Sheffield.
- **Construction:** Card stock should lie flat with less than 5 mm (0.2 in) of curl.
- **Condition:** Make sure that the card stock is not wrinkled, nicked, or otherwise damaged.
- **Sizes:** Only use card stock within the following size ranges:
 - **Minimum:** 76 x 127 mm (3 x 5 in)
 - **Maximum:** 216 x 356 mm (8.5 x 14 in)

Card stock guidelines

- If the card stock curls or jams, print using the straight-through output path.
- Set margins at least 2 mm (0.08 in) away from the edges.

Loading media

Loading media to print

Main input tray

The main input tray holds up to 250 sheets of 75 g/m² (20 lb) paper or a 25 mm (0.98 in) stack of heavier media. Load media with the top forward and the side to be printed facing up. To prevent jams and skew, always adjust the side media guides.

Priority input tray

The priority input tray holds up to ten pages of 75 g/m² (20 lb) paper or one envelope, transparency, or card. Load media with the top forward and the side to be printed facing up. To prevent jams and skew, always adjust the side media guides.

CAUTION

If you try to print on media that is wrinkled, folded, or damaged in any way, a jam might occur. See the User Guide located on the product CD for more information.

Note

When you add new media, make sure that you remove all of the media from the input tray and straighten the stack of new media. This helps prevent multiple sheets of media from feeding through the printer at one time, reducing paper jams.

Specific types of media

- **Transparencies and labels:** Load transparencies and labels with the top forward and the side to be printed facing up. See the User Guide located on the product CD for more information.
- **Envelopes:** Load envelopes with the narrow, stamp side forward and the side to be printed facing up. See the User Guide located on the product CD for more information.
- **Letterhead or preprinted forms:** Load with the top forward and the side to be printed facing up. See the User Guide for more information.
- **Cards and custom-sized media:** Load with the narrow side forward and the side to be printed facing up. See the User Guide located on the product CD for more information.

Selecting originals for the ADF

The ADF is recommended for plain paper copying, scanning, and faxing (faxing can be done only from the ADF).

Note

If you want to fax an original that is not appropriate for the ADF, make a copy of it first on the flatbed, then fax the copy.

ADF originals specifications

- **Input capacity:** The ADF holds up to 50 sheets of flat 60 to 90g/m (16- to 24-pound) plain paper.
- **Media size:** Only use plain paper within the following size ranges:
 - **Minimum:** 127 mm x 127 mm (5 x 5 in)
 - **Maximum:** 215.9 mm x 381 mm (8.5 x 15 in)

Note

You must use the flatbed to scan or copy small or delicate originals (such as newsprints, business cards, and photos), or documents with tears, perforations, or punch holes. If you want to fax such items, make a copy first on the flatbed and then fax the copy.

Perform the following actions to minimize the possibility of jams:

- Remove self-stick notes.
- Remove staples and paper clips.
- Straighten any curls, folds, or wrinkles in documents before putting them into the document feeder tray.
- Do not insert any document with glue, correction fluid, or wet ink on it.
- Do not insert gum-backed paper or labels.
- Avoid multiple-copy forms.
- Do not scan originals that are larger or smaller than supported size limitations. See the User Guide for more information.

Note

To obtain good results, it is important that you use the correct resolution and color settings for your job. See the User Guide located on the product CD for more information.

Media information for the flatbed

Use the flatbed scanner for copying and scanning if the media is fragile, thin, thick, or damaged (folded, wrinkled). The flatbed scanner provides the best copy and scan quality.

The flatbed has no minimum size and a maximum size of legal. In order to make a copy of a legal-size document, the paper size must be changed using the **paper size** button. Otherwise, the copy will be cropped to the default paper size.

Loading originals to copy or scan

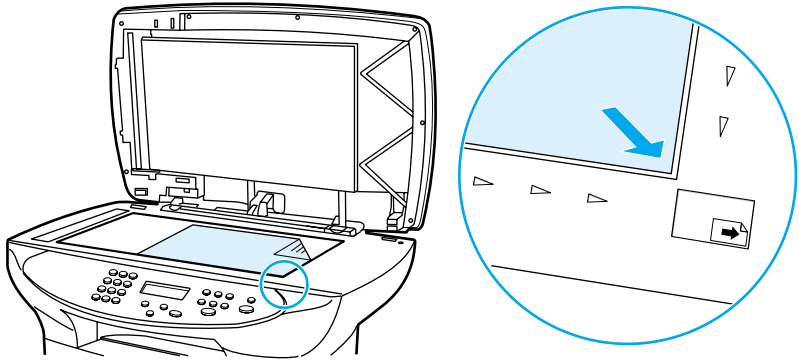
Use these instructions to load originals into your HP LaserJet 3300mfp series for copying or scanning. For the best-quality scans and copies, use the flatbed scanner. See "Selecting originals for the ADF" for guidelines on choosing original documents for scanning and copying.

If you purchased an HP LaserJet 3300mfp and want to purchase an ADF, see the User Guide located on the product CD for more information.

To load originals onto the flatbed scanner

- 1 Make sure the ADF is free of media.

- 2 Lift the flatbed scanner cover.
- 3 Place the original document facedown on the flatbed scanner with the top left corner of the document located in the lower right corner of the glass.
- 4 Gently close the lid.
- 5 The document is ready to be copied or scanned.



CAUTION

To prevent damage to the product, do not allow the scanner lid to fall onto the flatbed scanner surface. Always close the scanner lid when the product is not in use.

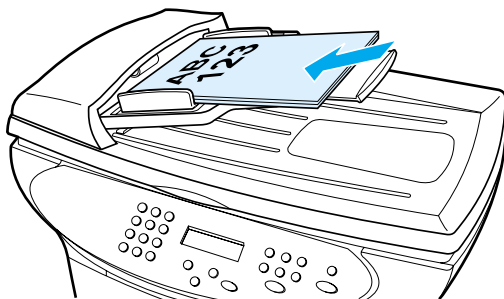
To load originals into the ADF input tray

ADF capacity is up to 50 sheets of 75 g/m² (20-pound) media (depending on the thickness of the media), or until the ADF input tray is full.

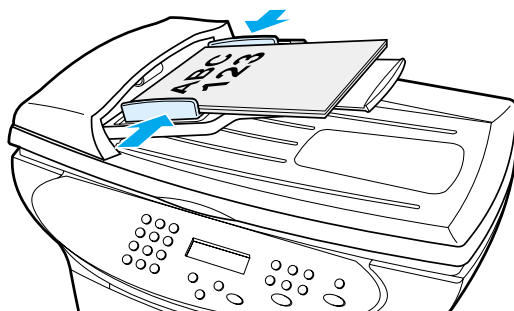
The minimum size for media in the ADF is 127 x 127 mm (5 x 5 in). For smaller sizes use the flatbed scanner. The maximum size for media in the ADF is 215.9 mm wide by 381 mm long (8.5 x 15 in).

- 1 Make sure the flatbed scanner is free of media.
- 2 Close the flatbed scanner cover and put the top end of the original media stack into the ADF input tray, with the media stack faceup and the first page to be scanned, copied, or faxed on top of the stack.

- 3 Slide the media stack into the ADF until the media does not move any farther.



- 4 Adjust the media guides until they are snug.



- 5 The document is now ready to be copied or scanned.
- 6 After scanning, the document will be delivered to the output tray in the correct order.

Printer output paths

Output bin and straight-through output path

The output bin is located between the scanner and the printer. Printed media is collected here in the correct sequence when the straight-through output door is closed. Use the output bin when printing normal and large collated documents.

The straight-through output path is useful when you are printing envelopes, transparencies, heavy media, or any media that tends to curl when printed. Printed media exits in reverse order when the straight-through output door is open.

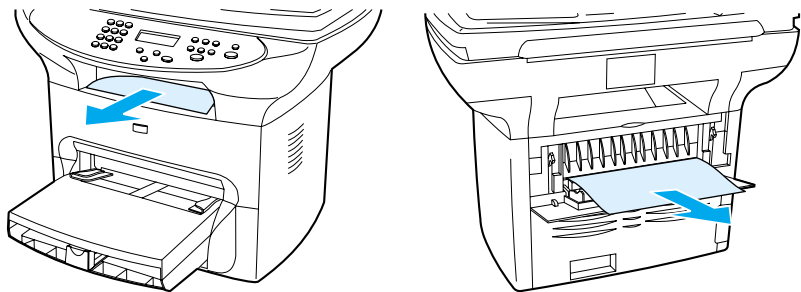


Figure 9.

Output bin and straight-through output path

Note

Printed media does not stack when you use the straight-through output path. The media drops to the surface below unless you remove each sheet as it exits the printer.

3 Maintenance

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Life expectancies of parts that wear

Inspect any parts that wear when servicing the product. Replace them as needed, based on failure or wear, rather than on usage.

The following table lists approximate schedules for replacing consumables.

Table 12. Life expectancies of parts that wear

Description	Part number	Life (est.)	Remarks
Print cartridge* (user-replaceable)	C7115A	2,500 pages	When print becomes faint, redistribute toner in the cartridge by gently shaking the cartridge from side to side.
	C7115X	3,500 pages	
Printer transfer roller	RG9-1483-000CN	25,000 pages	Can affect print quality and/or paper movement.
Printer pickup roller	RF0-1008-000CN	25,000 pages	Look for glazing and/or cracks.
Printer separation pad	RF0-1014-020CN	25,000 pages	Can affect paper movement.
Fuser assembly (100-127 V)	RG9-1493-030CN	25,000 pages	Can affect print quality and paper movement.
Fuser assembly (220-240 V)	RG9-1494-030CN	25,000 pages	Can affect print quality and paper movement.
ADF separation pad	C7309-60009	25,000 pages	Can affect movement of documents to be scanned or copied.
ADF	C9143-60101	25,000 pages	Can affect movement of documents to be scanned or copied.
ADF pick roller assembly	C7309-60016	25,000 pages	Can affect movement of documents to be scanned or copied.

* The estimated print cartridge life is based on letter- or A4-sized paper with an average of five percent toner coverage and a medium density setting. Print cartridge life can be extended further by conserving toner using draft mode settings.

Scanner calibration

The scanner calibrates itself automatically at the start of scan of copy jobs. Normally, you don't need to initiate the calibration, but you can initiate the calibration through the secondary service menu and produce a report that shows the calibration results (page 229).

Cleaning the product

WARNING!

Before you perform these steps, unplug the product to avoid shock hazard.

To maintain quality, thoroughly clean the product:

- Any time a new print cartridge is installed.
- After printing approximately 2,500 pages.
- Whenever print quality problems appear.

Clean the outside of the product with a water-dampened cloth. Clean the inside with only a dry, lint-free cloth (such as a lens tissue).

To avoid permanent damage to the print cartridge, do not use ammonia-based or ethyl alcohol-based cleaners on or around the product.

WARNING!

Avoid touching the heating element in the fuser. It might be very hot and can cause burns.

CAUTION

Do not touch the surface of the black sponge transfer roller. Contaminants on the roller can cause print quality problems.

Cleaning the exterior

Use a soft, damp, lint-free cloth to wipe dust, smudges, and stains off the exterior of the product.

Cleaning the glass

Dirty glass (from fingerprints, smudges, hair, and so on) reduces quality, slows down performance, and affects the accuracy of special features such as fit to page and copy.

- 1 Turn off the product, unplug the power cord from the electrical socket, and raise the lid.

Note

If you have a 220V product, turn off the power switch.

- 2 Clean the glass with a soft cloth or sponge slightly moistened with nonabrasive glass cleaner.

CAUTION

Do not use abrasives, acetone, benzene, ethyl alcohol, or carbon tetrachloride on the glass; these can damage it. Do not place liquids directly on the glass. They may seep under it and damage the product.

- 3 Dry the glass with a chamois or cellulose sponge to prevent spotting.

Note

Dust might appear on the underside of the glass, but this cannot be cleaned and it has no effect on the copy or scan quality.

Cleaning the lid backing

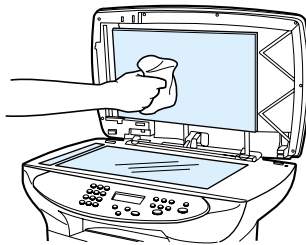
Minor debris can accumulate on the white document lid backing located underneath the product's lid.

- 1 Turn off the product, unplug the power cord from the electrical socket, and raise the lid.

Note

If you have a 220V product, turn off the power switch.

- 2 Clean the white document lid backing with a soft cloth or sponge slightly moistened with a mild soap and warm water.



- 3 Wash the backing gently to loosen debris; do not scrub the backing.
- 4 Dry the backing with a chamois or soft cloth.

CAUTION

Do not use paper-based wipes as these may scratch the backing.

- 5 If this does not clean the backing well enough, repeat the previous steps using isopropyl alcohol, and then wipe the backing thoroughly with a damp cloth to remove any residual alcohol.

Cleaning the print path

The HP LaserJet 3300mfp series features a special cleaning mode to clean the paper path.

Note

This process requires a transparency to remove dust and toner from the print paper path. Do not use bond or rough paper.

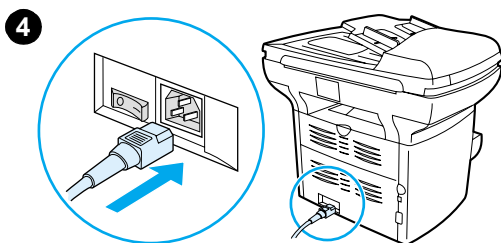
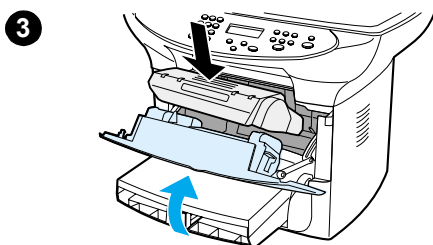
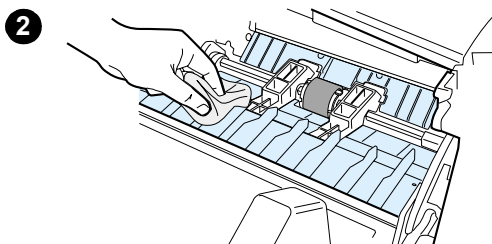
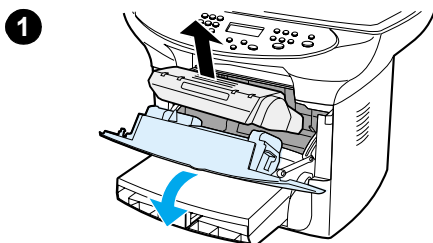
Make sure the transparency used in this cleaning process meets the media requirements for the printer.

If transparency film is unavailable, you can use paper. If you must use paper, perform the procedure two or three times to ensure proper cleaning.

- 1 Load a transparency in the priority input tray.
- 2 Make sure that the product is in the *Ready* state.
- 3 Press **menu/enter** then scroll to *Service* and press **menu/enter**
- 4 Scroll to *Cleaning Mode* and press **menu/enter**.
- 5 The transparency feeds through the printer slowly. Discard the transparency.

Note

The **fax/send** and **cancel** lights blink until the cleaning process is complete.



Cleaning the print cartridge area

Cleaning the print cartridge area can improve the quality of your printed sheets.

WARNING!

Before cleaning the product, disconnect it from the power source and wait for the product to cool.

- 1 Open the print cartridge door, and remove the print cartridge.

CAUTION

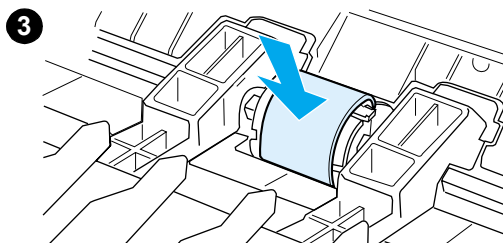
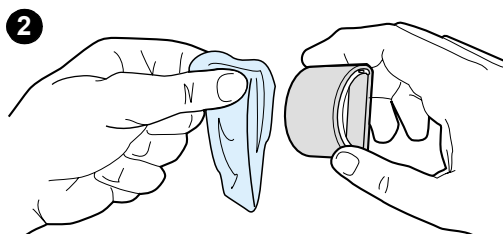
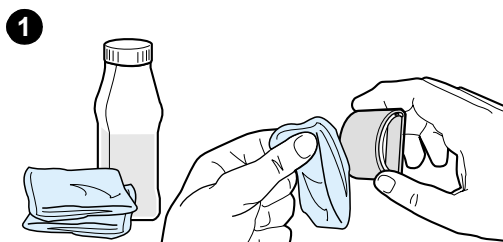
To prevent damage, do not expose the print cartridge to light. Cover the print cartridge if necessary. Also, do not touch the black sponge transfer roller inside the printer. Touching it can reduce the print quality.

- 2 Wipe the media path area and the print cartridge cavity with a dry, lint-free cloth.

Note

Use only a dry, lint-free cloth to remove dust and toner. Using a vacuum or other device to clean inside the product can damage it.

- 3 Replace the print cartridge, and close the print cartridge door.
- 4 Plug the power cord back into the product.



Cleaning the printer pickup roller

If you want to clean the pickup roller rather than replace it, follow the instructions below:

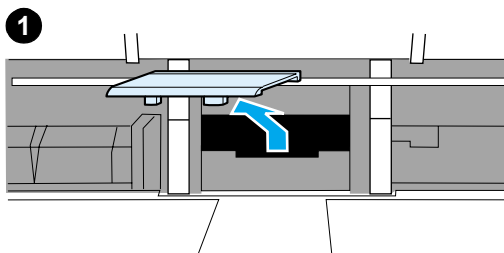
Remove the pickup roller as described in steps 1 through 5 of "Replacing the printer pickup roller" on page 63.

- 1 Dampen a lint-free cloth in isopropyl alcohol and scrub the roller.

WARNING!

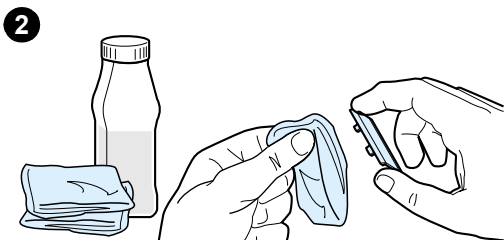
Alcohol is flammable. Keep the alcohol and cloth away from an open flame. Before you close the product and plug in the power cord, allow the alcohol to dry completely.

- 2 Using a dry, lint-free cloth, wipe the pickup roller to remove loosened dirt.
- 3 Allow the pickup roller to dry completely before you reinstall it in the printer. To reinstall the pickup roller, see steps 6 through 9 of "Replacing the printer pickup roller" on page 64.

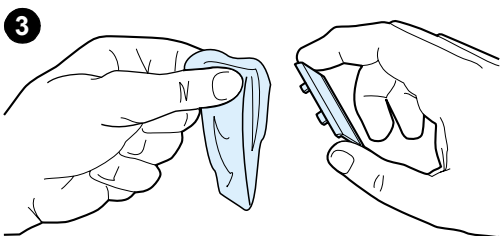


Cleaning the printer separation pad

If you want to clean the separation pad rather than replace it, follow the instructions below:

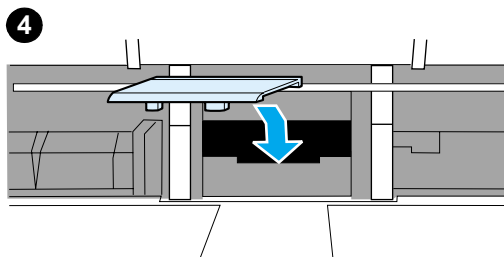


- 1 Remove the separation pad as described in steps 1 through 5 of “Replacing the printer separation pad” on page 65.
- 2 Dab a lint-free cloth in isopropyl alcohol, and scrub the pad.



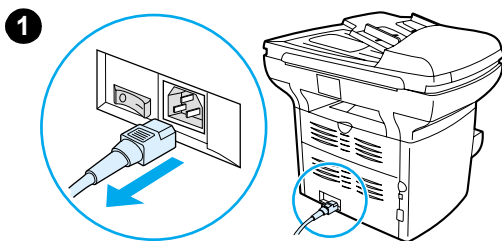
WARNING!

Alcohol is flammable. Keep the alcohol and cloth away from an open flame. Before you close the product and plug in the power cord, allow the alcohol to dry completely.



- 3 Using a dry, lint-free cloth, wipe the pad to remove loosened dirt.
- 4 Allow the pad to dry completely before you reinstall it in the printer. To reinstall the pad, see steps 6 through 8 of “Replacing the printer separation pad” on page 65.

User-replaceable parts

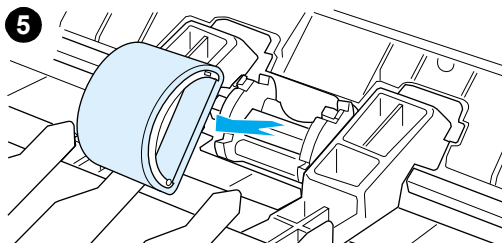
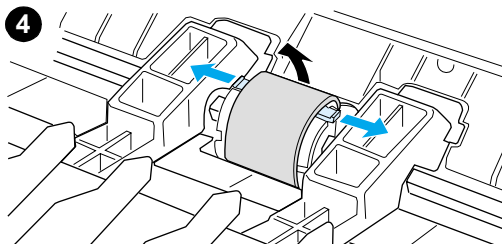
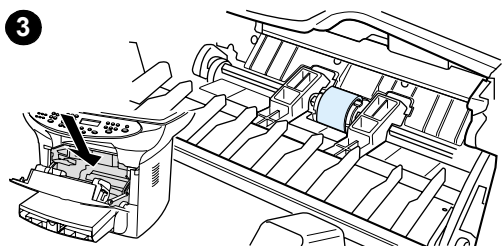
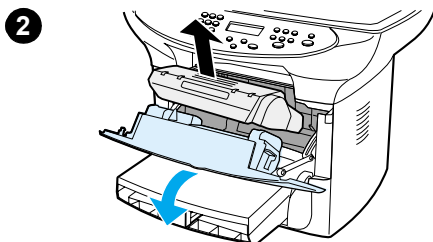


Replacing the printer pickup roller

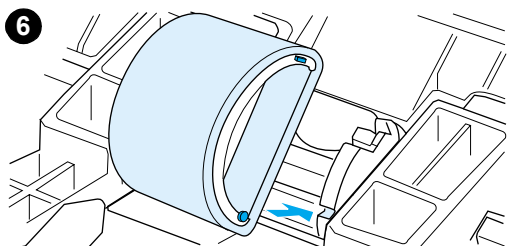
If the printer regularly misfeeds (no media feeds through) and cleaning the pickup roller does not fix it, replace the pickup roller.

CAUTION

Failure to complete all the steps in this procedure might damage the product.



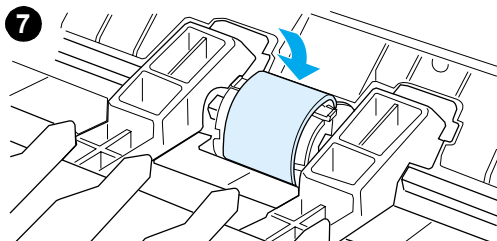
- 1 Unplug the power cord from the product, and allow the product to cool.
- 2 Open the print cartridge door, and remove the print cartridge.
- 3 Locate the pickup roller.
- 4 Release the small, white tabs on each side of the pickup roller by pushing them away from the roller, and then rotate the pickup roller toward the front.
- 5 Gently pull the pickup roller up and out.



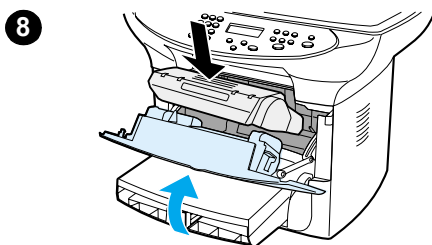
- 6** Position the new pickup roller in the slot of the previous pickup roller.

Note

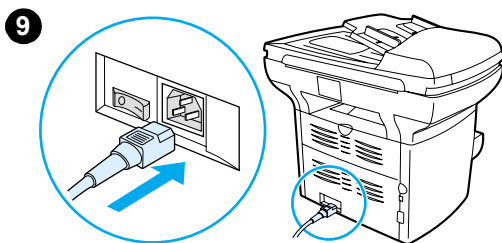
Circular and rectangular pegs on each side prevent you from incorrectly positioning the pickup roller.



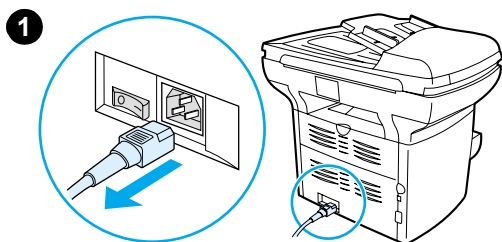
- 7** Rotate the top of the new pickup roller into position until the white tabs on each side of the roller snap the roller into place.



- 8** Reinstall the print cartridge and close the print cartridge door.



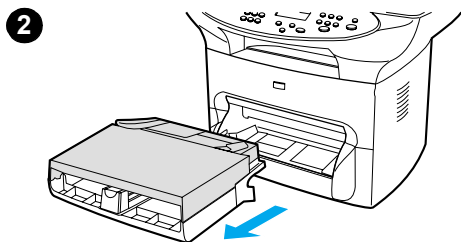
- 9** Plug the product in to turn it back on.



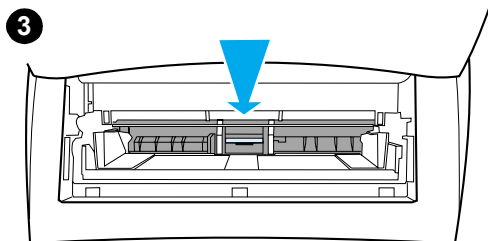
Replacing the printer separation pad

Note

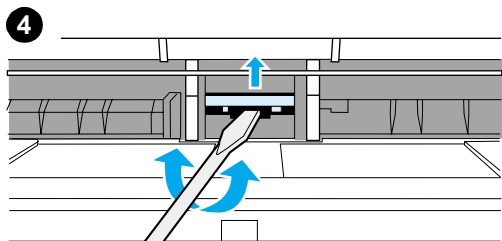
Before you change the separation pad, clean the pickup roller. See “Cleaning the printer pickup roller” on page 61 for instructions.



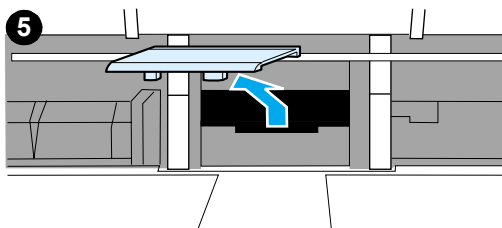
If the input tray feeds more than one page at a time, you might have to replace the printer separation pad. Recurring feed problems indicate that the printer separation pad is worn.



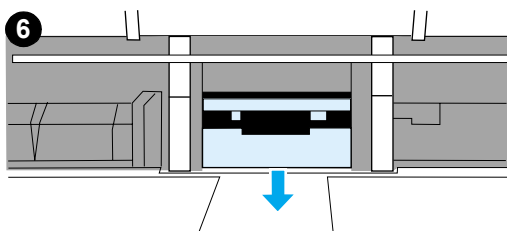
- 1 Unplug the power cord from the product and allow the product to cool.
- 2 Remove the input trays.
- 3 Locate the blue separation pad.



- 4 To pry the separation pad up from the spring-loaded base, insert a flat-edged screwdriver in the slot under the separation pad and twist until the tabs are free.



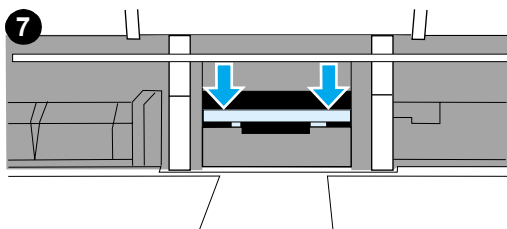
- 5 Reach in through the input tray opening, push the spring-loaded base down with one hand, and pull the separation pad up with the other hand.



- 6** With one hand, reach through the input tray opening, and push the spring-loaded base down. With the other hand, position the new separation pad in the slot of the previous separation pad.

Note

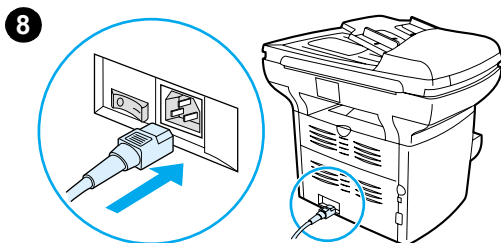
The tab on the right is larger to help you position the separation pad correctly.



- 7** Snap both sides of the separation pad firmly into place.

CAUTION

Make sure that the separation pad is straight and that there is no space between the separation pad and the spring-loaded base. If the separation pad is not straight or you see space on one side, remove the separation pad, make sure that the larger tab is on the right, reinsert the separation pad, and snap both sides into place.



- 8** Reinstall the input trays, and then plug the product in to turn it back on.

Installing a new ADF

If the HP LaserJet 3300mfp came without an ADF, an ADF can be added. An ADF may need to be replaced if it has abnormal media jams.

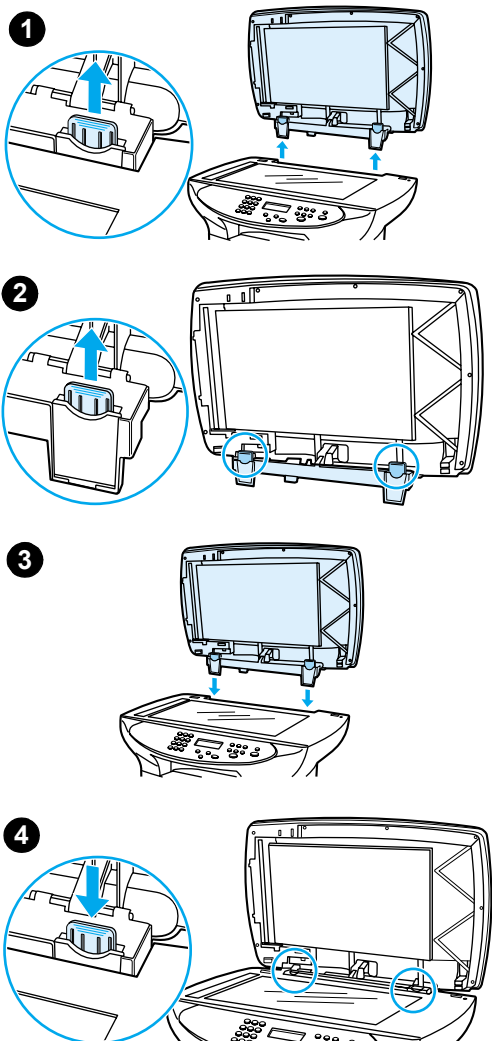
To install a new or replacement ADF

- 1 Remove the flatbed scanner lid by opening it and gently lifting straight up.

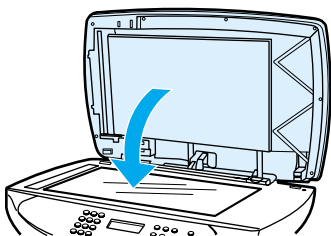
Note

If you are replacing an existing ADF, you must first pull up both hinge tabs before lifting the ADF up out of the product.

- 2 On the new ADF, unfold the hinges and pull up the tab on each hinge.
- 3 Install the new ADF by inserting the hinges straight down into the product.
- 4 Push down both tabs until they click.



5

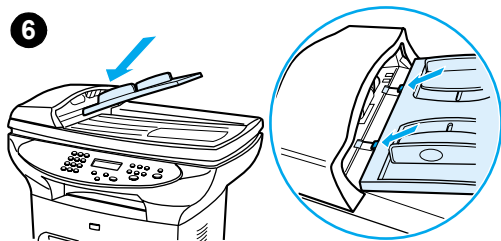


- 5 Gently close the ADF lid.

WARNING!

To avoid damaging the product, do not allow the ADF lid to fall onto the flatbed scanner. Always close the ADF lid when the product is not in use.

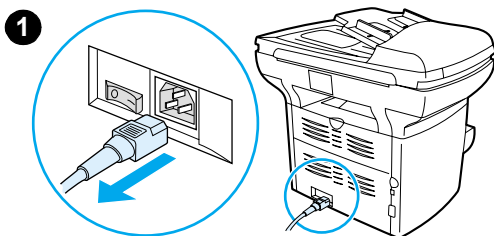
6



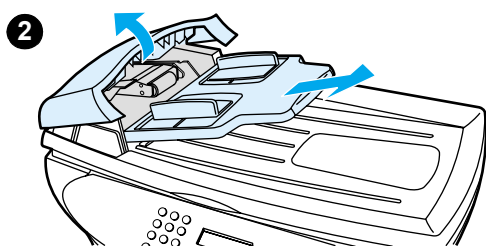
- 6 Install the ADF input tray by aligning the two tabs on the input tray with the two grooves in the ADF lid and sliding the tray into the grooves until it snaps into place.

Changing an ADF pick roller assembly

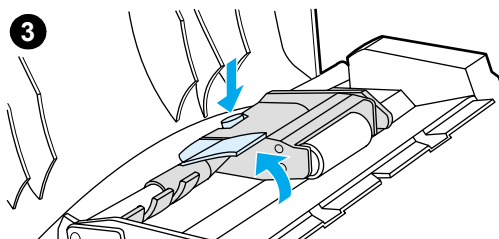
If the ADF has trouble picking paper, the ADF pick roller assembly may need to be replaced:



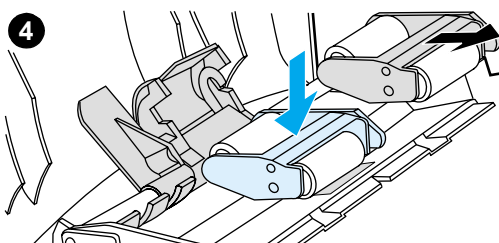
- 1 Unplug the power cord from the product. If you have a 220V product, turn off the power switch.



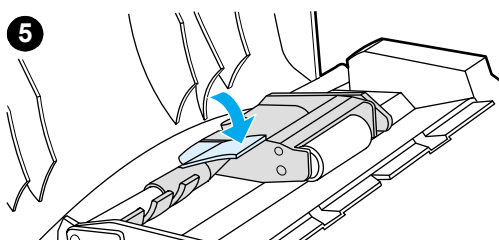
- 2 Remove the input tray and open the ADF cover.



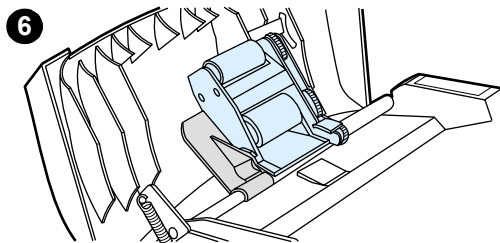
- 3 Press the round green button while lifting the green lever. Rotate the green lever until it stops in the open position. The old pickup roller assembly should remain on the black surface.



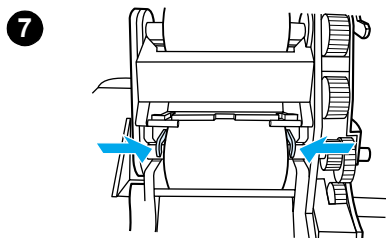
- 4 Remove the old assembly and put the new one in exactly the same place. The largest roller goes in back, and the gear side will face away from you.



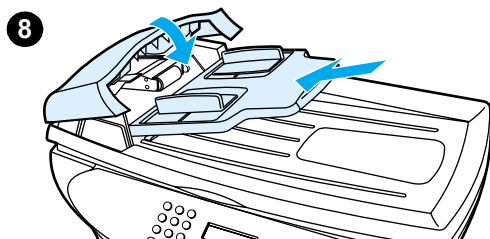
- 5 Lower the green lever with the flat green part fitting in between the rollers. Press down on the green lever until it snaps in place.



- 6** To check for proper installation, lift the green lever until it remains open. The new pickup roller assembly should be secured to the lever assembly and should not fall out.



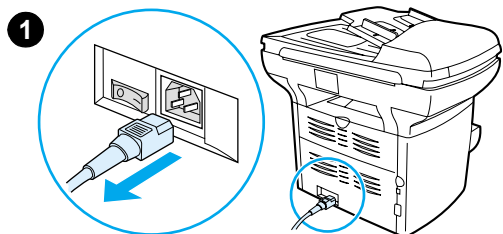
- 7** Make sure that both sides of the assembly are secured by the green hooks.



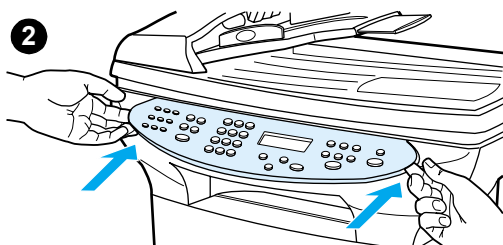
- 8** Lower the green lever assembly and close the ADF lid. Reinstall the input tray.

If you are experiencing abnormal jams in the ADF, you may want to order a new ADF, or upgrade the ADF copy lid. See "User-replaceable parts".

Removing and replacing the control panel bezel



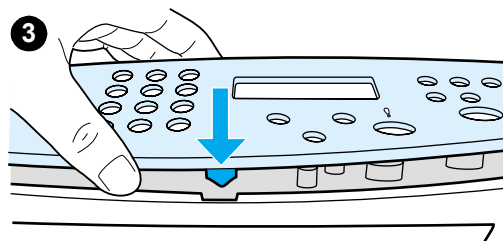
- 1 Unplug the power cord from the product. If you have a 220V product, turn off the power switch.



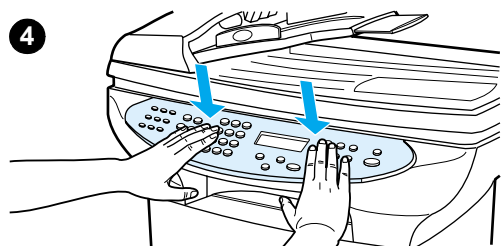
- 2 Remove the existing control panel bezel by lifting up on both sides of the bezel edges until all the snaps are disengaged. Set the old bezel aside.

CAUTION

Be careful not to touch any components or buttons inside the exposed control panel area.



- 3 Align the new bezel at the lower notch. The bezel notch should align to the inside of the product.



- 4 Press down until all the snaps are engaged, and then press outward until the bezel is secured.
- 5 Plug the product in to turn it back on. If you have a 220V product, turn on the power switch.

4 Operational overview

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Basic functions

This chapter presents a functional overview of the HP LaserJet 3300mfp series. The following systems are discussed:

- formatter functions
- scanner and ADF functions and operation
- printer functions and operation
 - ECU (engine controller unit) system/power system
 - image formation system
 - paper-feed system (printer) and document-feed system (document scanner)
- LIU (fax) functions and operation

The full product consists of:

- the scanner (flatbed/ADF)
- the printer
- the line interface unit (LIU).

Each of these three systems brings its own characteristic functionality to the product: scanning, printing, and telecommunications respectively. In addition, these systems combine forces to complete the functionality offering of the product.

- The scanner and printer work together to make copies.
- The scanner and LIU work together to send faxes.
- The LIU and printer work together to receive faxes.

Operation sequences of the printer are controlled by the ECU. Operation sequences of the LIU and document scanner are controlled by the formatter.

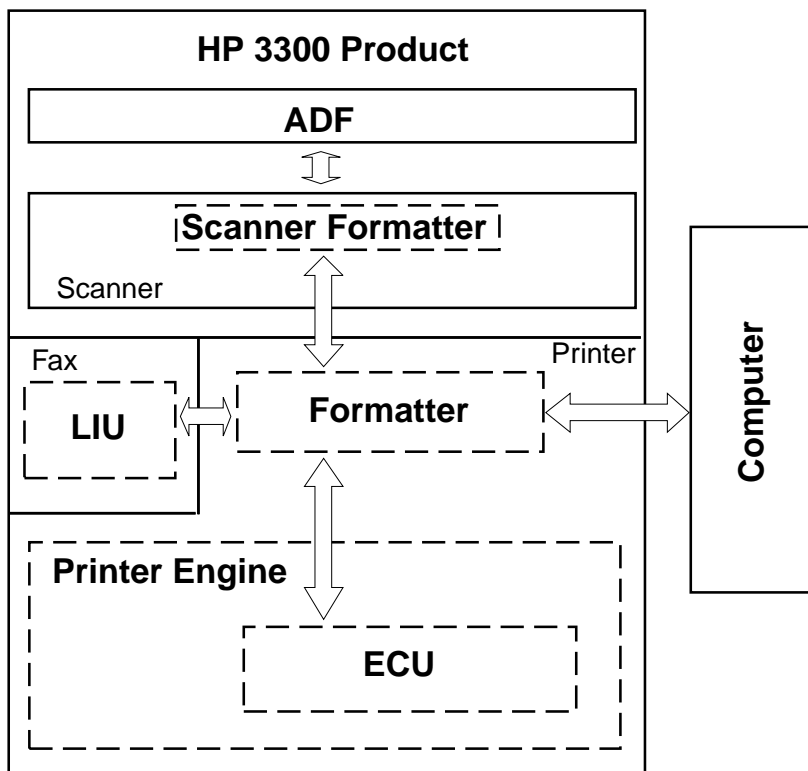


Figure 10. Product configuration

Formatter system

The formatter coordinates the major systems. It is responsible for the following:

- controlling the scanner formatter
- formatting and controlling copies
- receiving and processing print data from the printer interface
- monitoring the control panel and relaying printer status information
- developing and coordinating data placement and timing with the print engine
- communicating with the host computer through the bidirectional interface
- communicating document data to and from the LIU

The formatter receives print data from the bidirectional Extended Capabilities Port (ECP) mode interface or Universal Serial Bus (USB) interface and converts it into a dot image. The ECU synchronizes the image formation system with the paper-feed system and signals the formatter to send the print image data. The formatter sends the print image data (dots) in the form of a video signal, and the printing process begins.

Central processing unit

The formatter incorporates an embedded Coldfire V3 microprocessor operating at 90 MHz.

Line Interface Unit (LIU)

The LIU provides the required safety isolation, signal coupling, and impedance matching between the telephone line and the modem chipset.

Scanner formatter PCA

The scanner formatter manages the functions of the control panel, and controls audio, scanning, and the ADF. It relays scanning data, control panel data, and other control data to the main formatter PCA.

Flash memory or ROM

The formatter system includes firmware code that controls the product stored in either flash memory or ROM, depending on when the product was manufactured. Initially the formatters in all manufactured units are built with flash memory. As the product manufacturing matures, the code is stored in standard read-only-memory (ROM).

Units with firmware code in flash memory allow the firmware code to be recovered or updated. The firmware update/recovery process is described in Chapter 6. Units with firmware code in ROM will not require firmware code recovery or updating.

Standard Boot Process

When the product is unplugged or the power is off, the firmware code is stored on the formatter in two blocks. The first block of code is an executable boot block (about 64K of code). The second block of code is a compressed version of the product control code.

When the product is powered up, the boot block decompresses the product control code and stores it in RAM. Then the product performs a full startup with the control code running from RAM.

Product startup messages

The LED display contains different messages depending upon the progress of the boot process:

Table 13. Product startup messages

Message	Cause	Solution
	(Blank display for many seconds after power on). Boot block failure.	The flash memory requires a DIMM recovery of the firmware code (see Chapter 6).
Contact Service	Control code failure.	The flash memory requires a DIMM recovery of the firmware code (see Chapter 6).
Hewlett Packard <<<	Moving cursor HP display. The product is starting up.	Wait until Ready display.
Ready.....	Product startup is complete and the product is ready for action.	Begin using product.

RAM

- One bank of Non-Volatile RAM (NVRAM) stores parameters.
- Dynamic random access memory (DRAM) provides temporary storage of the product program code plus copy, scan, and print data.

Parallel interface or Universal Serial Bus interface

The formatter receives incoming data through its bidirectional ECP or USB interface. These interfaces provide high-speed, two-way communication between the product and the host, allowing you to change product settings and monitor product status from the host computer.

Control panel

The control panel configuration varies by model in the HP LaserJet 3300mfp series. For example, only the HP LaserJet 3330mfp has the fax buttons.

The HP LaserJet 3300mfp series control panel consists of:

- up to six groups of buttons to control fax, copy, scan, and configuration functionality (with all six on the HP LaserJet 3330).
- a 2 x 16 LCD display for display of status, menus, and messages.
- up to two front panel status lights (one by the **cancel** button and one by the **fax/send** button on the HP LaserJet 3330).

Draft mode

Depending on which driver is used, selecting draft or EconoMode from the driver allows the product to use approximately fifty percent less toner, extending the life of the print cartridge.

MEt

HP MEt effectively doubles the standard memory through a variety of font and data-compression methods.

Enhanced I/O

The Enhanced I/O feature allows product memory to be used for storing data received from the host computer. When Enhanced I/O is enabled, you can send more data to the product in shorter amounts of time, which allows you to return to your application sooner. Enhanced I/O has the following options:

- **Auto**—allows the product to use Enhanced I/O memory allocation to increase the speed of data transfer from the host computer to the product, if necessary. The default setting is Auto.
- **Off**—uses the minimum amount of product memory for storing data sent from the host computer.
- **Page Protect**—allows the formatter to create the entire page image in page buffer memory before physically moving the media through the printer. This process ensures that the entire page will be printed.

Page complexity (ruling lines, complex graphics, or dense text) can exceed the printer's ability to create the page image fast enough to keep pace with the image formation process. If Page Protect is disabled and a page is too complex, the page might print in parts (for example, the top half on one page and the bottom half on the next page). Some print-data loss is likely in these instances, and the product will display an error message.

PJL overview

Printer Job Language (PJL) is an integral part of configuration, in addition to the standard Printer Command Language (PCL). With standard ECP cabling, PJL allows the product to perform functions such as:

- **Two-way communication** with the host computer through a bidirectional parallel or USB connection. The product can communicate information to the host (such as the control panel status).
- **Isolation of print environment settings** from one print job to the next. For example, if a print job is sent to the printer in landscape mode, the subsequent print jobs print in landscape only if they are formatted for landscape printing.

Scanner and ADF functions and operation

Scanner Functions

The scanner uses a light source, a color-separation method, and a Charge Coupled Device array (CCD) to collect optical information about the document and transform that into an image file. The scanner consists of:

- a lamp (cold fluorescent bulb)
- five mirrors and a lens
- a CCD

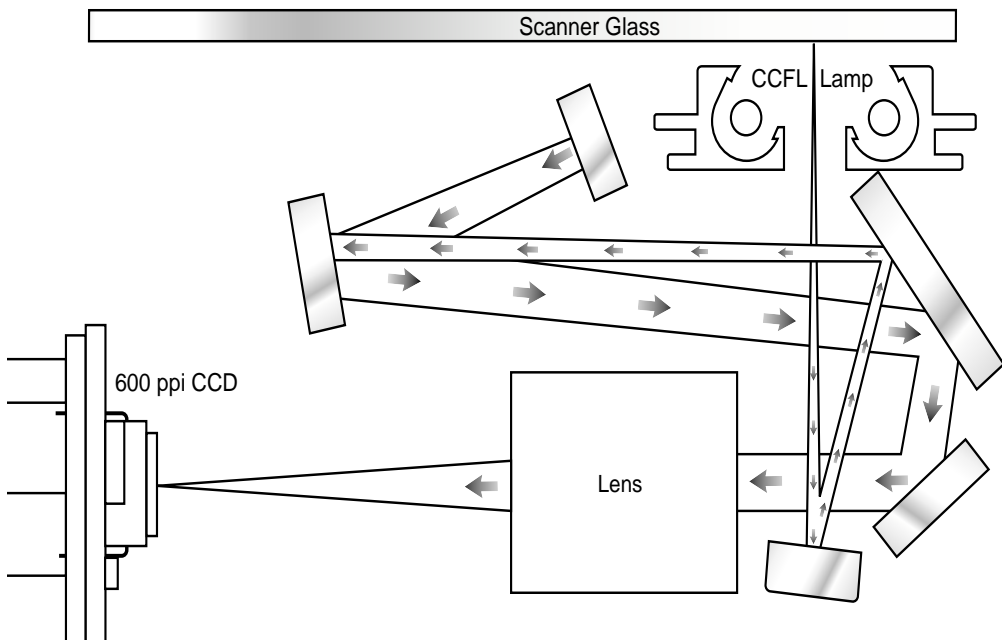


Figure 11. Optical diagram of scanner

The scanner lamp illuminates a small strip of the document (called the *raster line*). The light is directed via the mirrors through the lens to the CCD. The CCD senses and records the light, creating an analog representation of the raster line. If using the ADF, the document then advances in the ADF to the next raster line. If using the flatbed, the scanner module advances to the next raster line. This advancing and collection process continues up to the end of the sheet.

The image data is collected in the scanner formatter where it is processed and sent to the formatter. The formatter then handles the image data, outputting it as a copy, sending it through the LIU as a fax, or directing it to the computer as scanner output.

The image data collected is 600 pixels per inch. Each pixel has 8 bits for each of the three colors (256 "grey" levels for each color) or a total of 24 bits per pixel (24-bit color).

Scanner Operation

Upon power-up and periodically at other times, the scanner assembly moves systematically to locate its home position. It then calibrates itself to a white label located under the glass at the right end of the scan tub.

If a document is detected in the ADF when a copy or scan is initiated (from software or control panel), the scan module moves to the left side of the scan tub and stops. The image is acquired as the paper is fed through the ADF past the scanner module.

If no document is detected in the ADF, or if the model does not have an ADF, the scan module acquires the image from the flatbed glass while slowly moving within the scan tub.

ADF Operation

Standby (paper loading) mode: In standby mode, the pickup roller is up and the stack stop is down, preventing the user from inserting the document original in too far. When a document is inserted properly, it is detected by the paper-present sensor.

The standard operation of the ADF consists of the pick, feed, and lift steps.

Pick: Upon receipt of a copy or scan command, the ADF motor engages the gear train to lower the pick roller assembly and raise the stack-stop. The first roller is called the pre-pick roller and serves to move the top few sheets forward into the ADF. The next roller is the pick roller. This roller contacts the ADF separation pad which separates multiple pages into single sheets.

Feed: The single sheet continues through the path. Along the way, it is detected by the form sensor a set distance from the ADF glass. This alerts the scanner to start when the page reaches the glass. The scanner acquires the image, one raster line at a time, until the end of the page is detected and the page is ejected. The pick and feed steps are repeated as long as paper is detected in the ADF input tray.

Lift: When no more paper is detected in the ADF input tray and the trailing edge of the last page is detected by the form sensor, the last sheet is ejected and the motor turns in a sequence which lifts the pick roller assembly to standby or “paper loading” mode again.

The ADF will not function with the ADF door open. The paper path is incomplete if the ADF lid is lifted from the glass.

ADF paper path and ADF sensors

The following figure shows the ADF paper path.

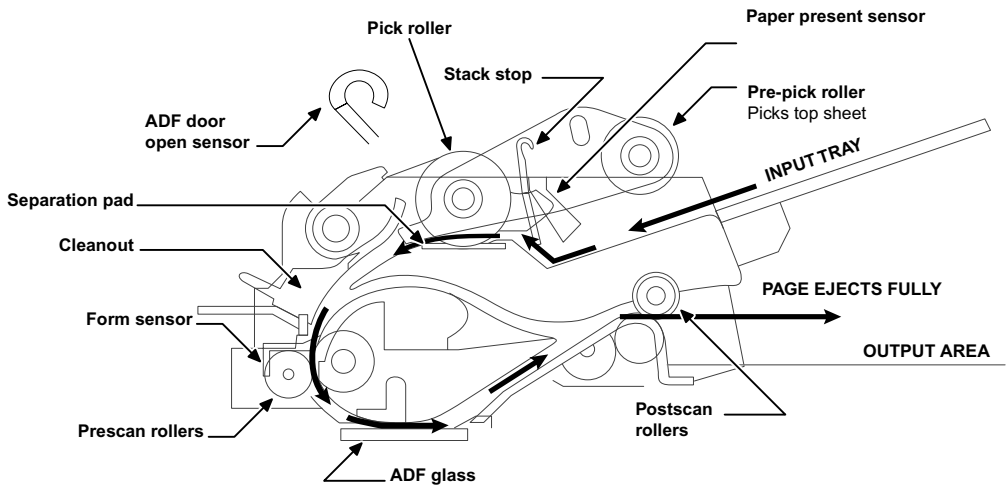


Figure 12. Document scanner path

The paper present sensor determines if paper is in the ADF. The form sensor detects the top and bottom edges of the document. One other sensor detects an open ADF door.

ADF Jam Detection

The ADF has two sensors that detect paper. The paper present sensor detects the presence of media in the ADF input tray. The form sensor detects media moving through the ADF. If a jam is detected, the ADF immediately stops the paper feeding and the control panel displays a jam message.

A jam can be detected under any of the following conditions:

- **Document feeder jam**—When documents are detected as present in the ADF input tray, and a command to copy, scan or fax is received, the scan module travels to the left side of the scan assembly and stops beneath the ADF scanner glass. The ADF then attempts three times, or for about ten seconds, to advance the paper to the form sensor. If the paper does not advance, the scan module travels back to the home position on the right side of the scanner assembly. The control panel displays the message `Doc. Feed Mispick. Reload.`
- **Long document jam**—If the paper has advanced to trigger the form sensor, but the trailing edge is not detected within the time allowed for a 15 in document (the maximum allowable page length for the ADF), the scanner returns to the home position at the right side of the scanner assembly. The control panel displays the message `Doc. Feed Jam.`
- **Stall jam**—When a page that is less than 15 in long has advanced to the form sensor but has not left it within the expected time, the paper has probably stalled or jammed. The scanner returns to the home position at the right side of the scanner assembly. The control panel displays the message `Doc. Feed Jam.`
- **Other**—If the paper stops in the ADF and the scan module remains under the ADF scanner glass, an internal firmware error has probably occurred. This is usually remedied by cycling the power.

Printer functions and operation

Printer functions are divided into five groups:

- engine control
- formatter
- image formation
- laser/scanner
- pickup and feed

The following figure is a block diagram of the printer and its relationship to the ADF/scanner and LIU:

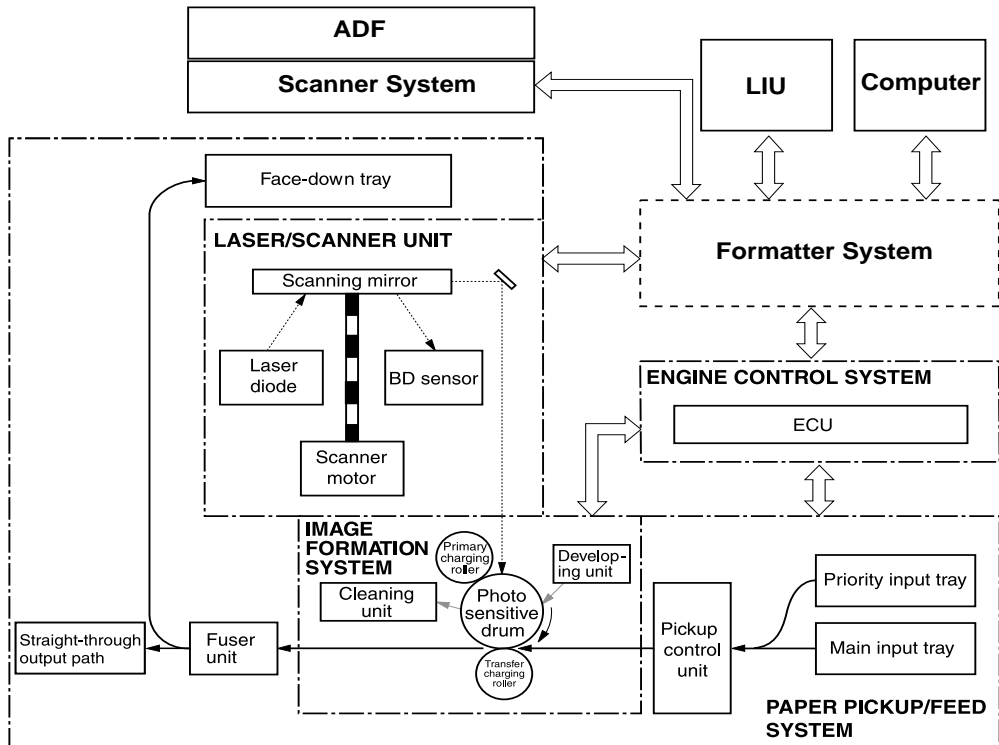


Figure 13. Printer unit functional block diagram

Engine control unit/power system

The engine control unit (ECU) coordinates all print engine activities, drives the laser, and coordinates print data from the formatter with the image formation process. The ECU also includes power supply and distribution circuitry.

Note

In several other HP LaserJet products, the ECU is also known as the controller PCA or the DC controller PCA.

The ECU controls the following systems and functions:

- **Printer engine control**
 - paper motion monitoring and control (printing)
 - motor
- **Printer laser/scanner**
- **Power system**
 - AC power distribution
 - DC power distribution
 - overcurrent/overvoltage protection
 - high-voltage power distribution

The following figure shows the various ECU loads:

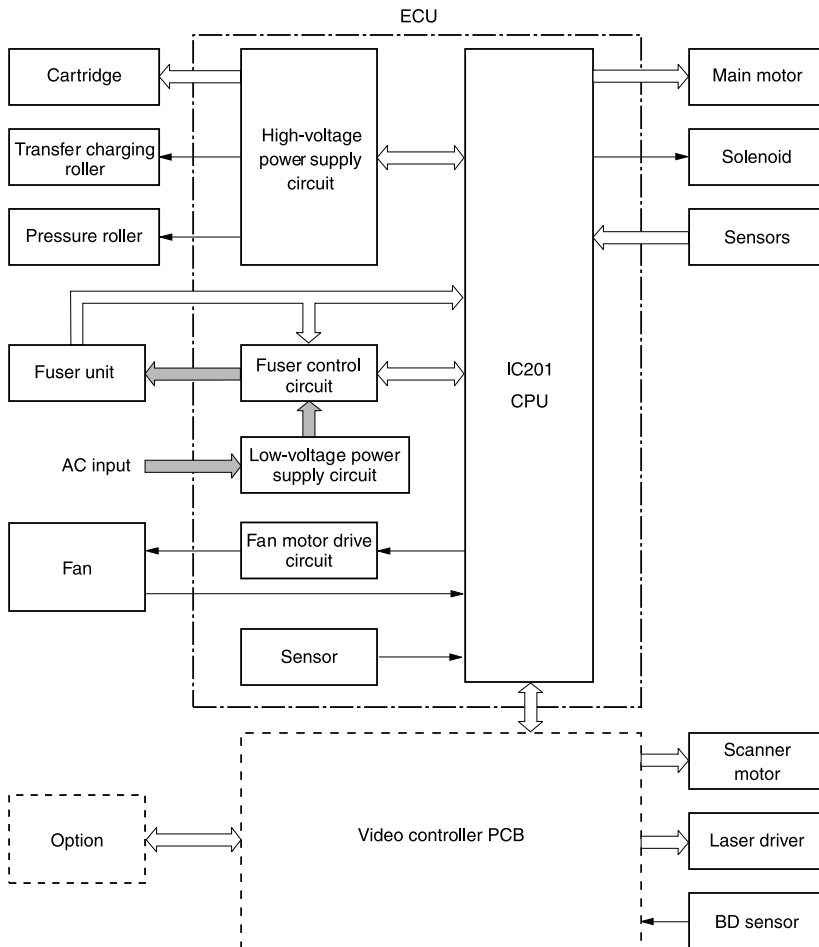


Figure 14. ECU loads

Printer engine control system

Paper motion monitoring and control

The ECU controls paper motion in the printer by continuously monitoring the various paper sensors and coordinating the timing with the other print processes.

For a detailed explanation of paper movement and the interaction of the photo sensors and solenoid with the paper movement process, see “Printer paper-feed system” on page 94.

Motor

The motor is controlled by the ECU. The motor provides all of the printer paper movement.

Printer laser/scanner drive

The ECU sends signals to the laser/scanner assembly to modulate the laser diode “on” and “off” and to drive the laser/scanner motor.

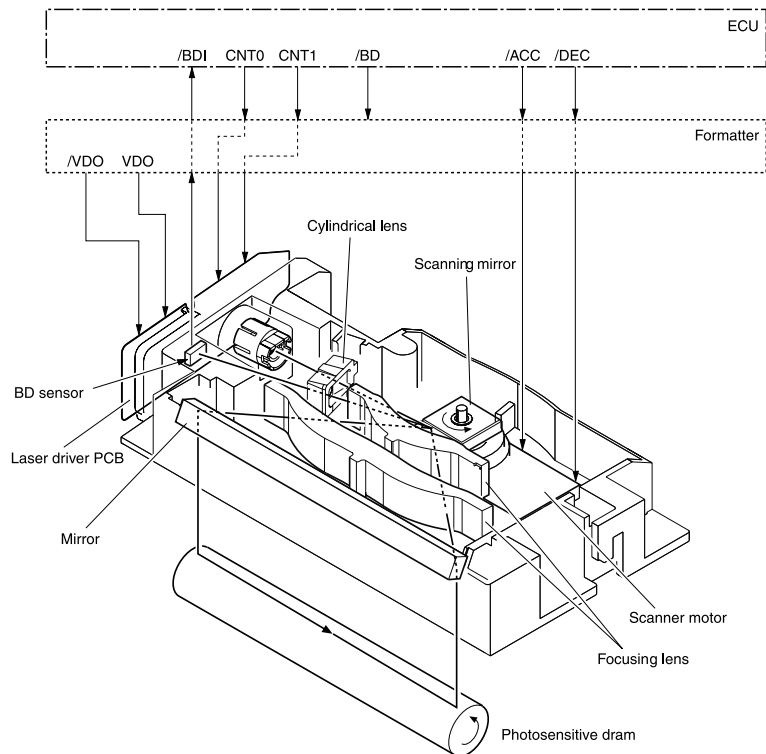


Figure 15. Overview of laser/scanner operation

Power system on ECU

The AC, DC, and high-voltage power supply circuits are all contained within the ECU.

AC power distribution

The AC power circuitry supplies AC voltage whenever the power cord is connected to the AC power source. AC voltage is distributed to the DC power supply circuitry and to the AC driver circuitry, which controls AC voltage to the fuser assembly heating element.

DC power distribution

The DC power distribution circuitry, located on the ECU, distributes +3.3 Vdc, +5 Vdc, +24 Vdc, and +32 Vdc as follows:

- +3.3 Vdc: Formatter
 Laser/beam detect circuitry ECU
 Photo sensors
 ADF sensors
 Control Panel

 - +5 Vdc: Formatter
 ECU
 Laser/beam detect circuitry

 - +24 Vdc: Printer paper path motor
 Exhaust fan
 Laser/scanner motor
 Solenoid
 Formatter (routing only)
 High-voltage power supply
 Fuser safety circuit
 CCD

 - +32 Vdc: ADF motor
 Scanner motor
 Formatter (routing only)
-

Overcurrent/overvoltage

There are two overvoltage devices in this product:

- Fuse F101 provides overcurrent protection for the fusing system circuitry.
- Fuse F102 provides overcurrent protection to the printer DC power supply circuitry.

You can check or replace the fuses by removing the back cover (page 164).

In addition, the +24 Vdc and +3.3 Vdc power circuitry contains an overcurrent protection circuit that automatically shuts off the output voltage when an overcurrent condition occurs as a result of a short or an abnormal voltage on the load side. These circuits automatically reset.

High-voltage power distribution

The high-voltage power supply applies an overlap of DC and AC voltage to the primary charging roller and the developing roller. This circuit also applies a positive or negative DC voltage to the transfer roller according to the instructions from the engine control unit.

This circuit also controls the image density by changing the primary AC voltage and the developing AC bias according to the print density setting.

High voltage is disabled when the print cartridge door is open. When the left-side door is opened, the print cartridge door also opens, disabling high voltage.

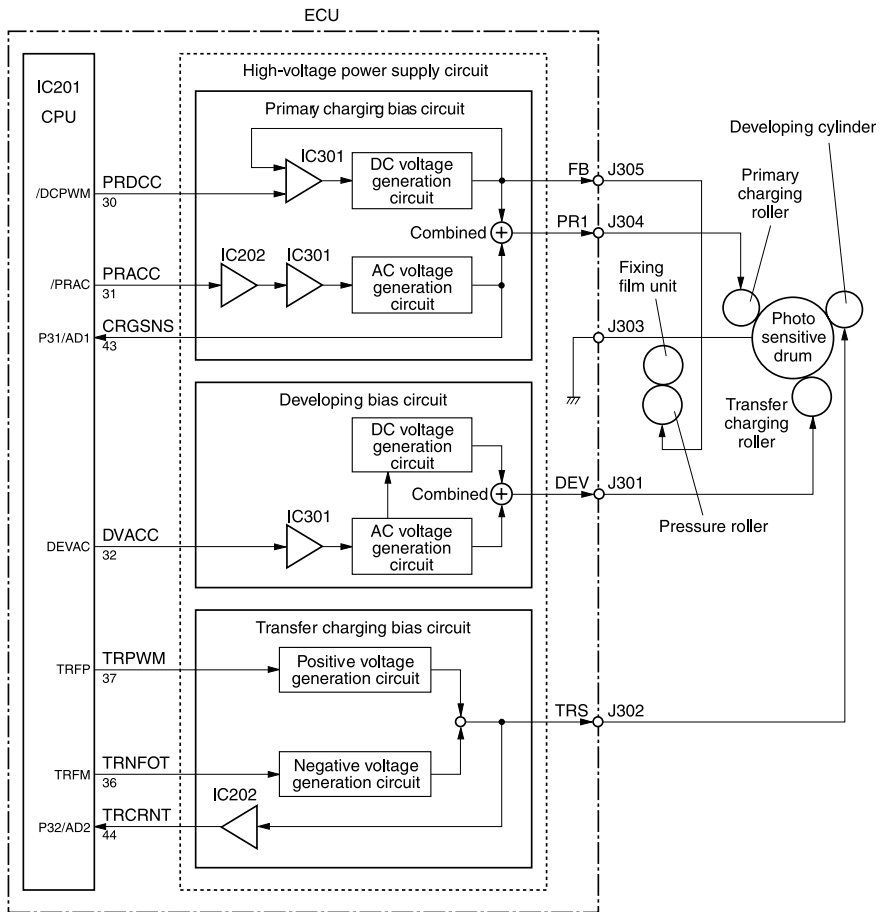


Figure 16. High-voltage power supply circuit

Image formation system

Laser printing requires the interaction of several different technologies including electronics, optics, and electrophotographics to provide a printed page. Each process functions independently and must be coordinated with the other printer processes. Image formation consists of seven processes:

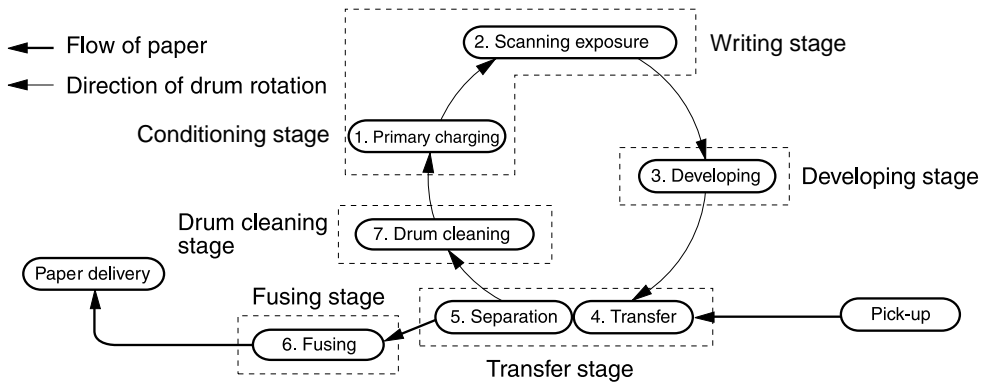


Figure 17. Image formation block diagram

Print cartridge

As the focal point of the image formation system, the print cartridge contains toner and houses the cleaning, conditioning, and developing stages of the process. The print cartridge contains the photosensitive drum, primary charging roller, developing station, toner cavity, and cleaning station. By including these components (which wear, degrade, or are consumed) in the replaceable print cartridge, the need for many service calls is eliminated. The special photosensitive properties of the drum form an image on the drum surface and then transfer the image to media.

CAUTION

The print cartridge does not include a light-blocking shutter. Do not expose the drum to light, which can permanently damage the drum. Protect the print cartridge whenever you remove it.

The seven image-formation processes

- 1 Conditioning stage (primary charging)**—This process applies a uniform negative charge to the surface of the drum with the primary charging roller, which is located in the print cartridge. The primary charging roller is coated with conductive rubber. An AC bias is applied to the roller to erase any residual charges from any previous image. In addition, the primary charging roller applies a negative DC bias to create a uniform negative potential on the drum surface. The print density setting modifies the DC voltage.
- 2 Writing stage (scanning exposure)**—During this process, a modulated laser diode projects the beam onto a rotating scanning mirror. As the mirror rotates, the beam reflects off the mirror, first through a set of focusing lenses, then off a mirror, and finally through a slot in the top of the print cartridge, and onto the photosensitive drum. The beam sweeps the drum from left to right, discharging the negative potential wherever the beam strikes the surface. This creates a latent electrostatic image, which later is developed into a visible image.

Because the beam sweeps the entire length of the drum while the drum rotates, the entire surface area of the drum can be covered. At the end of each sweep, the beam strikes the beam-detect lens, generating the beam-detect signal (BD signal). The BD signal is sent to the ECU where it is converted to an electrical signal used to synchronize the output of the next scan line of data.

- 3 Developing stage**—During this process, the latent electrostatic image is present on the drum. The toner particles obtain a negative surface charge by rubbing against the developing cylinder, which is connected to a negative DC supply. The negatively charged toner is attracted to the discharged (exposed, grounded) areas of the drum, and it is repelled from the negatively charged (unexposed) areas.
- 4 Transfer stage**—During this process, the toner image on the drum surface is transferred to the media. The transfer roller applies a positive charge to the back of the media, which attracts the negatively charged toner on the drum surface to the media. After separation, the drum is cleaned and conditioned for the next image.

- 5 Separation stage**—During this process, the media separates from the drum. To stabilize the feed system and prevent toner dropouts on the printed image at low temperature and humidity, the static eliminator reduces the charge on the back of the media.
- 6 Fusing stage**—During this process, the heat and pressure fuse the toner into the media to produce a permanent image. The media passes between a heated fusing element and a soft pressure roller, which melt the toner and press it into the media.
- 7 Drum-cleaning stage**—During this process, the cleaning blade is in contact with the surface of the drum at all times. As the drum rotates during printing, the cleaning blade wipes excess toner off the drum and stores it in the waste toner receptacle.

Printer paper-feed system

The main input tray and the priority input tray merge into one main input area. Media placed in any of these areas activates the paper-out sensor (PS201), which informs the ECU that media is present. The following steps occur when the product receives a print job:

- Step 1** The ECU activates the laser/scanner assembly and the motor. Paper motion begins when the ECU energizes the solenoid (SL001).
- Step 2** The paper pickup roller rotates once. The paper lift plate pushes the media against the pickup roller.
- Step 3** The pickup roller grabs the top sheet and advances it to the feed assembly drive rollers. To ensure that only one sheet is fed, a main separation pad and two subpads hold the remainder of the stack in place.
- Step 4** The feed assembly drive rollers advance the media to the top-of-page sensor (PS402). This sensor informs the ECU of the exact location of the leading edge of media, so that the image being written on the photosensitive drum can be precisely positioned on the page.
- Step 5** The feed assembly drive rollers then advance the media to the transfer area where the toner image on the photosensitive drum is transferred to the media.
- Step 6** After the image is transferred, the media enters the fuser assembly where heat from the fuser and pressure from the pressure roller permanently bond the toner image to media. The paper delivery sensor (PS401) determines that the media has successfully moved out of the fusing area.
- Step 7** The fuser assembly exit rollers deliver media to either the paper output bin or the straight-through output path, depending upon the position of the straight-through output path door.

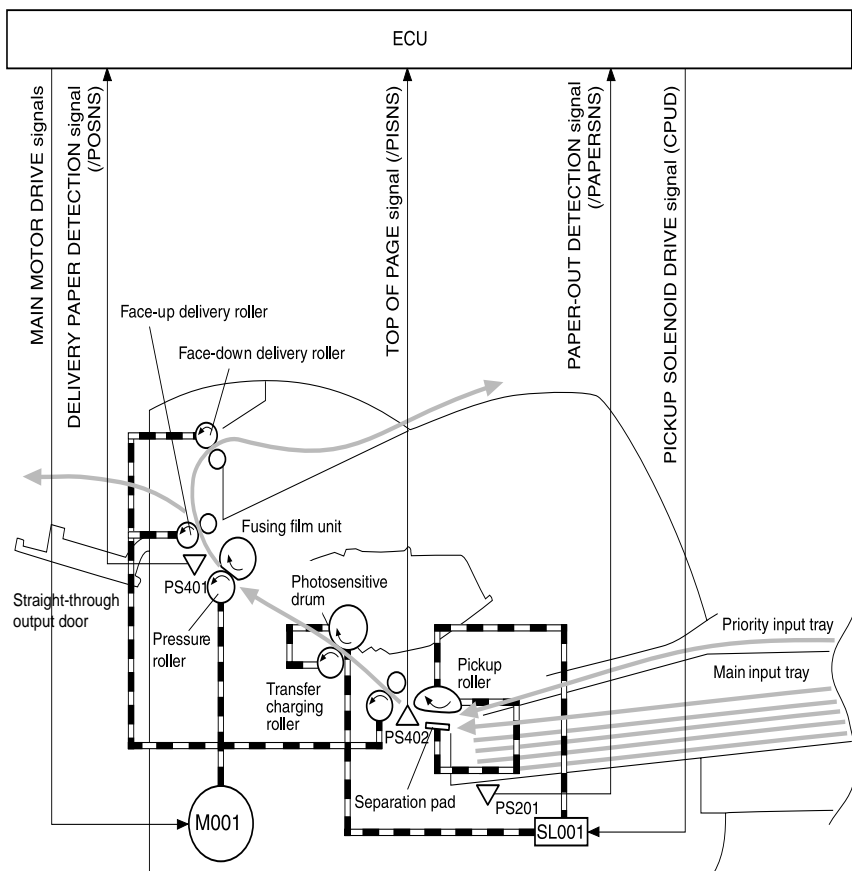


Figure 18. Printer paper path

Jam detection

The paper-out sensor (PS201) detects the presence of media in either the priority input tray or the main input tray. The top-of-page sensor (PS402) and the paper delivery sensor (PS401) detect media moving through the printer. If a jam is detected, the ECU immediately stops the printing process and displays a jam message on the control panel.

A jam can be detected under any of the following conditions:

- **Pickup delay jam**—Media does not reach the top-of-page sensor (PS402) after the pickup solenoid (SL001) has been turned on twice (the original pickup plus a retry) within 2.8 seconds.
- **Pickup stationary jam**—The top-of-page sensor (PS402) does not detect the trailing edge of media within 4.6 seconds of detecting the leading edge.
- **Delivery-delay jam**—The paper delivery sensor (PS401) does not detect the leading edge of media within 2.1 seconds after the top-of-page sensor (PS402) detects the leading edge.
- **Wrapping jam**—The paper delivery sensor (PS401) does not detect the trailing edge of the media within 1.5 seconds after the top-of-page sensor (PS402) detects the leading edge and within ten seconds after the paper delivery sensor (PS401) detects the leading edge.
- **Delivery-stationary jam**—The paper delivery sensor (PS401) does not detect the leading edge of media within 2.2 seconds after the top-of-page sensor (PS402) detects the trailing edge.
- **Residual paper jam**—The top-of-page sensor (PS402) or the paper delivery sensor (PS401) detect media in the initial rotation period.

Solenoid, photosensors, and switches

The following figure shows the locations of the solenoid, photosensors, and switches.

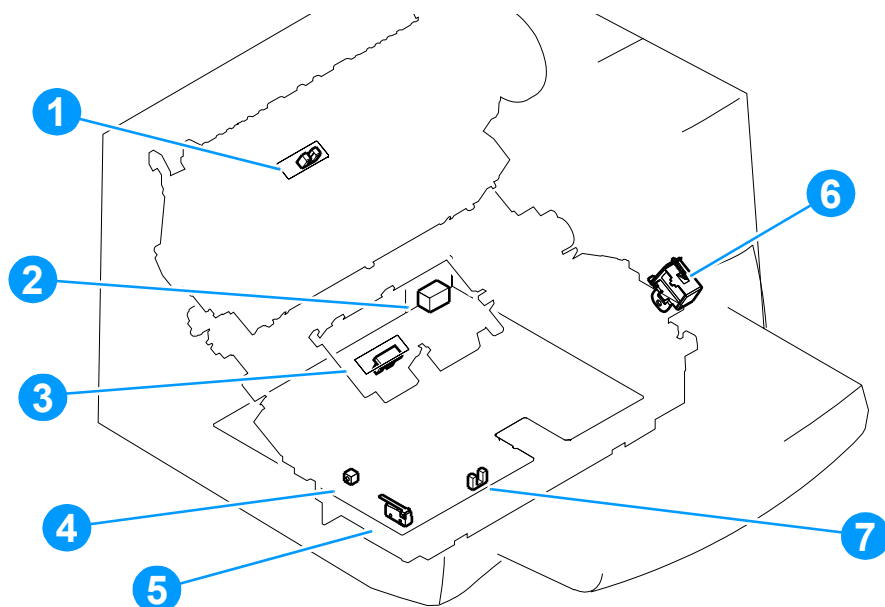


Figure 19. Solenoid, photosensors, and switches

- 1 Paper delivery sensor (PS401) senses when paper has successfully moved out of the fusing area.
- 2 Power switch.

Note

Products sold in North America and all of the 100-110V units do not have power switches.

- 3 Top-of-page sensor (PS402) detects the leading and trailing edges of the paper. It synchronizes the photosensitive drum and the top of the paper.
- 4 Engine test switch (SW201), see “Engine test” on page 200 for an explanation of the switch.
- 5 Door-open switch (SW301) detects whether or not the print cartridge door is closed and the print cartridge is installed properly. Printing cannot continue until the print cartridge door is closed and the print cartridge is in its correct position.
- 6 Solenoid (SL001) activates the pickup roller.
- 7 Paper-out sensor (PS201) senses when paper is in the main input tray or the priority input tray.

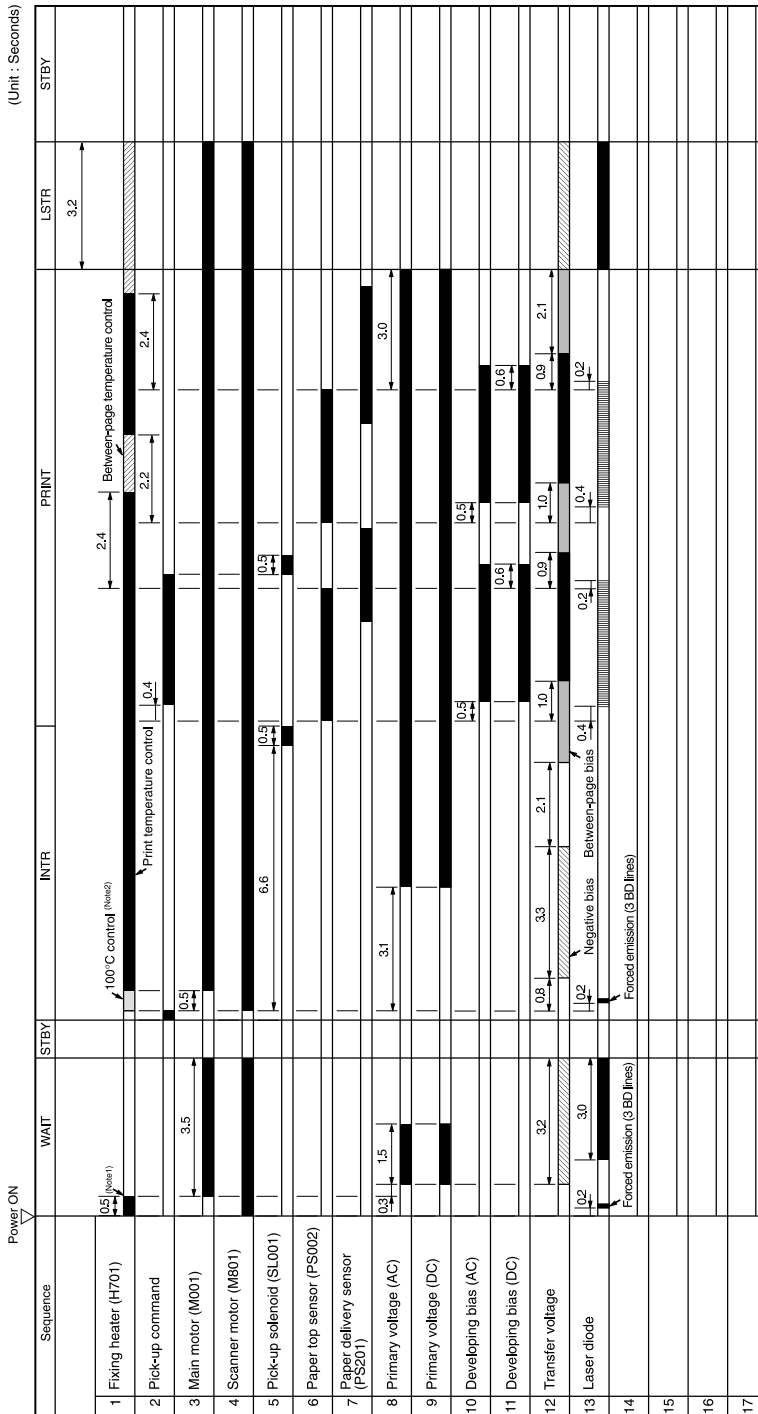
Basic sequence of operation (formatter-to-printer)

The operation sequence of the printer is controlled by the microprocessor (CPU) on the ECU. The following events take place during normal printer operation:

Table 14. Basic sequence of operation

Period	Purpose	Remarks
WAIT After the product is turned on until the end of the initial rotation of the main motor.	To clear the drum surface of potential and to clean the primary charging roller.	Detects whether or not the cartridge is installed.
STBY (Standby) From the end of the WAIT period or the LSTR period until the pickup command is sent from the formatter. Or, from the end of the LSTR period until the product is turned off.	To pause until the product is ready to print.	
INTR (Initial Rotation Period) After the pickup command has been sent from the formatter until the media reaches the top-of-page sensor (PS402).	To stabilize the photosensitive drum sensitivity in preparation for printing. Also to clean the primary charging roller.	
PRINT (Print) From the end of the initial rotation until the primary voltage goes OFF.	To form images on the photosensitive drum based on the VIDEO signals (/VDO, VDO) sent from the formatter and to transfer the toner image onto the media.	
LSTR (Last Rotation Period) After the primary voltage goes OFF until the main motor stops rotating.	To deliver the last page. Also to clean the primary charging roller.	When the pickup command is sent from the video controller, the printer enters the INTR period immediately after the end of the LSTR period.

(Unit : Seconds)



Note1 : The heater is turned OFF when the thermistor temperature reaches 100°C.
 Note2 : 100°C control is not executed when thermistor temperature is already 100°C.

Figure 20. Printer timing diagram

LIU (fax) functions and operation

PSTN operation

The public switched telephone network (PSTN) operates by having a central office (CO) that generates a constant voltage on the TIP and RING wires (48 V usually). When a device goes on-hook it does so by connecting impedance (such as 600 ohms for the US) across TIP and RING allowing a line current to flow. The CO can detect this current and it can send things like dial tones. The product generates more signaling tones such as dialing digits to tell the CO how to connect the call. The product also is able to detect tones like a busy tone from the CO to tell it how to behave.

When the call is finally connected, the CO behaves as if it were a piece of wire connecting the sender and receiver. This is the period during which all of the fax signaling and data transfer occurs. When a call completes, the circuit goes open again and line current ceases to flow, removing the CO connection from both sender and receiver.

All of this is done with a two-wire arrangement. The two wires are called TIP and RING on all phone systems and on most phone systems they appear on pins 3 and 4 of the RJ-11 modular jack (the one on the LIU for HP LaserJet 3330mfp). These two wires do not have to be polarized, as it is expected that all equipment works with either TIP or RING on pin 3 and the other one on pin 4. This allows the use of cables of either polarity to be interconnected and still work.

These are the basic functions of PSTN operation that are assumed in the design of the fax subsystem for HP LaserJet 3330mfp. The product generates and detects the signaling tones, currents, and data signals required to transmit and receive faxes on the PSTN.

The fax subsystem

On the HP LaserJet 3330mfp, the formatter, LIU, firmware, and software all contribute to the fax functionality. The designs of the formatter and LIU along with parameters in the firmware determine the majority of the regulatory requirements for telephony on the product.

The HP LaserJet 3330mfp fax subsystem is designed to support V.34 fax transmission as well as lower speeds such as V.17 fax and older fax machines.

Formatter in the fax subsystem

The formatter contains the modem chipset (DSP and CODEC) that controls the basic fax functions of tone generation and detection, along with channel control for the fax transmissions.

The CODEC and its associated circuitry act to control transmit and receive gains, and compensate for transmission signal coupling into the receive channel. Also on the formatter is circuitry to add termination impedance to help match the telephone network impedance.

LIU in the fax subsystem

Two versions of LIU are used in the HP LaserJet 3330mfp. One is used in the Americas and for Asia. The other is used primarily in Europe.

Differences in the European version include:

- a different voltage protection device
- current limiting of the DC current
- filtering for the countries/regions that use billing or metering tones
- control of the impedance of the DC circuit via SHUNT signal

Due to the lack of polarization on TIP and RING, all LIU circuitry that connects to TIP and RING is bi-directional. The LIU operates identically when TIP and RING are reversed.

The rest of this section describes the hardware functions of the LIU.

Safety isolation

The most important function of the LIU safety isolation between the high-voltage, transient prone environment of the telephone network (TNV - telephone network voltage) and the low-voltage analog and digital circuitry of the formatter (SELV - secondary extra low voltage). This safety isolation provides both customer safety and product reliability in the telecom environment.

Any signals that cross the isolation barrier do so either optically or magnetically. The breakdown voltage rating of barrier-critical components is greater than 1.5kV.

Safety-protection circuitry

In addition to the safety barrier, protection against RING and over-current events is an LIU function.

Telephone over-voltages can be either differential mode or common mode. The RING can be transient in nature (a lightning induced surge or ESD) or continuous (a crossed power line with a phone line). LIU protection circuitry provides margin against combinations of RING events.

Common mode protection is provided by the selection of high voltage barrier critical components (transformer, relay, and optoisolators). The safety barrier of the LIU PCB traces and the clearance between the LIU and surrounding components also contribute to common mode protection.

A voltage suppressor (a crowbar type SIDACTOR) provides differential protection. This device becomes low impedance at approximately 300V differential, and crowbars to a low voltage. A series thermal switch works in conjunction with the crowbar for continuous RING events, such as crossed power lines.

When the differential RING is continuous, the resulting over-current causes the thermal switch to become high impedance, disconnecting RING from the network and protecting the crowbar from thermal overload. The thermal switch automatically resets to low impedance after the over-current condition is removed reconnecting RING to the network.

Data path

The magnetically coupled signals that cross the isolation barrier go either through a transformer or a relay. The TIP and RING signals use a transformer as a means to cross the isolation barrier.

TIP and RING are the two-wire paths for all signals from the telephone network. All signaling and data information comes across them, including fax tones and fax data.

The telephone network uses DC current to determine hook state of the telephone, so it is necessary to have line current present during a call. On some line interfaces this current flows through the transformer, but on the HP LaserJet 3330mfp LIU, it is blocked by a capacitor from going into the transformer.

Blocking the current with a capacitor prevents the core of the transformer from being saturated by the high DC voltage, which can affect the AC signal quality. Rather than through the transformer, this

LIU is designed so the current flows through another circuit called a gyrator or DC hold circuit. This creates the path for the central office current to flow when a call is in progress.

Hook state

Another magnetically coupled signal is the control signal for disconnection of the downstream telephone devices (such as a phone or answering machine). A control signal originating on the formatter can change the relay state causing the auxiliary jack (downstream jack) to be disconnected from the circuit.

The HP LaserJet 3330mfp is able to take over a call it recognizes as a fax. If it doesn't directly answer the line, it still listens to incoming calls for the fax tone or for direction from the user to receive a fax. This idle mode is also called eavesdropping. This mode is active when the product is on-hook but there is current in the downstream phone line due to another device being off-hook. During eavesdropping, the receive circuit is enabled but has a different gain than during normal fax transmissions.

The HP LaserJet 3330mfp product does not take control of the line unless it detects a fax tone or unless the operator tells it to manually connect. This is good because it allows the user to make voice calls from a phone connected to the HP LaserJet 3330mfp without being cut off during voice calls.

Downstream current detection

A signal that is optically coupled is the aux phone detect signal. This signal tells the firmware that there is an active phone (or modem or answering machine) connected to the auxiliary port of the product (the right side of the RJ-11 jack).

A circuit that can detect current above a certain threshold generates the downstream current detection signal. The downstream current goes through a resistor, generating a voltage. If this voltage is above the level of the voltage that would be generated by a current at the threshold level, the signal changes state.

The downstream current detection signal is coupled back to the formatter through an optoisolator across the safety isolation barrier. This signal is used by firmware to ensure the product does not go off-hook (and disconnect a downstream call) until it has been authorized to do so (by a manual fax start or detection of the appropriate tones).

Hook switch control

Another signal coupled optically is the hook switch control. This is a signal from the formatter that causes an optoisolator on the LIU to go active (making an open circuit into a short circuit). When shorted, the circuit is drawing DC current from the central office and is considered “on-hook.” When open, there is no DC current and the state is considered to be “off-hook.”

For pulse dialing, the optoisolator is toggled on and off with a particular timing sequence to generate pulses recognized as dialing digits by the central office of the telephone company.

Ring detect

Another optically coupled signal on the LIU is ring detect. Ring detect is a combination of voltage levels and cadence (time on and time off). They both must be present to have a valid ring detected by the product.

The LIU works with the firmware to determine if an incoming signal is an answerable ring. Circuits on the LIU detect a ring voltage above a certain threshold and a corresponding signal is passed to the formatter indicating the ring is above the threshold. The firmware then measures the time the signal is high and low and qualifies the cadence to decide if it is a valid ring.

Line current control

The DC current from the CO needs to have a path to flow from TIP to RING. Since it does not flow in the transformer, a path through some transistors and diodes (the DC hold circuit) acts like a simulated inductor (thus replacing the function of the transformer). This DC hold circuit is the main component of the voltage-current characteristic seen between TIP and RING.

Two other functions of this block of circuits are the current limit and the SHUNT for Europe. Current limit basically maintains a constant current from TIP to RING once the voltage reaches around 50mA. The voltage can vary and the current will remain the same.

The shunt function changes the impedance (the current-voltage characteristic) during certain special events such as pulse dialing and going on-hook.

During such an event, the firmware tells the DSP on the formatter to activate SHUNT. A signal goes to the LIU through an optoisolator (optically coupled) which changes the state of some transistors so

that the board has a linear current characteristic (normally it's current limited). This allows more current to flow to the network as required by these special events.

Billing (metering) tone filters

Switzerland and Germany provide high frequency AC signals on the phone line for the purpose of billing customers. LC filters are provided on the European LIU's to prevent these billing signals from adversely affecting the data path and the DC hold circuit.

An additional filter in the cable (for certain countries/regions) may in some cases supplement these LC filters. These billings signals are not used in the US, so these filters are not present on the US LIU.

Fax page storage in flash memory

Fax pages are the electronic images of the document page that have been scanned to be sent to another fax machine, have been generated to be sent by the computer, or have been received from a fax machine to be printed.

The HP LaserJet 3330mfp stores all fax pages in flash memory automatically. Once these pages are written into flash memory they are stored until either the pages are sent to another fax machine, printed on the device, transmitted to the PC, or erased by the user.

These pages are stored in flash memory, which is the non-volatile memory that can be read from, written to, and erased repeatedly. The HP LaserJet 3330mfp has 4 MB of flash memory of which 3.4 MB is available for fax storage. The remaining 0.6 MB is used for the file system and reclamation. Adding RAM does not affect the fax page storage since the HP LaserJet 3330mfp does not use RAM for storing fax pages.

Accessibility of stored pages

Stored fax pages can be accessed by the user for reprinting or re-sending in case of errors. Other fax devices store fax pages in either normal RAM or short-term RAM. The LaserJet 3100 and 3150 use short-term RAM while the OfficeJet products use normal RAM. Normal RAM immediately loses its data when power is lost while short-term RAM loses its data about 60 minutes after power failure. Flash memory maintains its data for years without any applied power.

Advantages of flash memory storage

Fax pages stored in flash memory are persistent. They will not be lost due to power failure no matter how long the power is off. Users can reprint faxes in case the print cartridge runs out of toner or the product has other errors while printing faxes.

The HP LaserJet 3330mfp also has scan-ahead functionality that makes use of flash memory. Scan-ahead automatically scans pages into flash memory before a fax job is sent. This allows the sender to pick up their original document right after it is scanned, eliminating the need to wait until the fax is transmission is complete.

Because fax pages in the HP LaserJet 3330mfp are stored in flash memory, not RAM, more RAM is available in the HP LaserJet 3330mfp to handle larger and more complicated copy and print jobs.

5 Removal and replacement

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Removal and replacement strategy

This chapter documents the removal and replacement of field-replaceable units (FRUs) only.

Replacement is generally the reverse of removal. Occasionally, notes are included to provide directions for difficult or critical replacement procedures.

WARNING!

Remove the power cord before attempting to service the product. If this warning is not followed, severe injury can result as well as damage to the device. Certain functional checks during troubleshooting must be performed with power supplied to the product. However, the power supply should be disconnected during removal of any parts.

Never operate or service the product with the protective cover removed from the laser/scanner assembly. The reflected beam, although invisible, can damage your eyes.

The sheet metal edges of the product can be sharp. Use caution when working on the product.

CAUTION

Some parts are electrostatic discharge (ESD)-sensitive. Always perform service work at an ESD-protected workstation.

To install a self-tapping screw, first turn it counterclockwise to align it with the existing thread pattern, then carefully turn it clockwise to tighten. Do not overtighten. If a self-tapping screw-hole becomes stripped, repair the screw-hole or replace the affected assembly.

Always remove the print cartridge before removing or replacing parts. See "Print cartridge" on page 110.

Required tools

- #2 Phillips-head screwdriver with magnetic tip
- Small flatblade screwdriver
- Needle-nose pliers
- ESD mat
- Penlight
- #8 torx screwdriver

CAUTION

Do not use a PoziDriv screwdriver or any motorized screwdriver. These can damage screws or screw threads on the product.

Before performing service

- Remove all media.
- Unplug the power cable.
- Place the product on an ESD mat.
- Remove the main input tray.
- Remove the print cartridge (see page 110).

Note

For service purposes, the upper part of the HP LaserJet 3300mfp series is in effect “the scanner” and the lower part is “the printer.” Together they also act as a photocopier or fax machine, but the service description here is simplified by referring to copier or fax functionality only if specifically necessary.

Print cartridge

Note

You will feel resistance when you open the print cartridge door.

- 1 Open the print cartridge door, which lifts the print cartridge toward you.
- 2 Remove the print cartridge.

CAUTION

To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

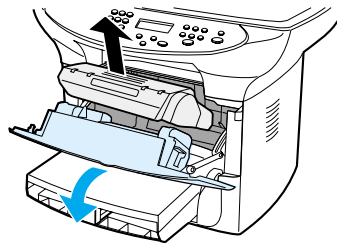


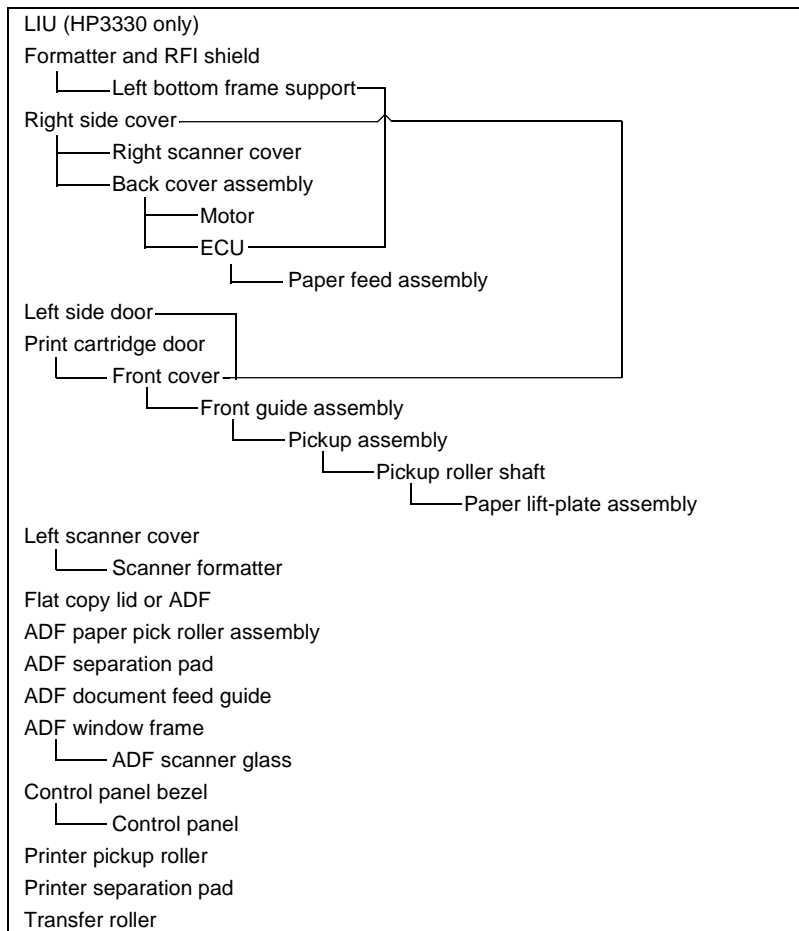
Figure 21. Removing the print cartridge

Parts removal order

Use the following three diagrams to determine which parts must be removed before removing other parts.

- 1 Locate the part you want to remove on one of the diagrams.
- 2 If the part is on the first diagram, separation of the printer from the scanner is not required.
- 3 If the part is on the third diagram, it is required or strongly advisable to separate the scanner from the printer before removing the part.

Scanner/printer separation not required:



Parts removal to separate scanner from printer:

Right cover
└─ Right scanner cover
Left scanner cover

Scanner/printer separation required:

Scanner Assembly
(Control panel bezel)
└─ (Control panel)
 └─ Control panel chassis
 └─ Speaker
 └─ Control panel cable

Printer top cover
└─ Solenoid
└─ Fan assembly
└─ Laser/scanner
└─ Left fuser support plate
└─ Right fuser support plate
 └─ Fuser assembly
 └─ Output rollers
└─ Right support cover
 └─ (Print cartridge cover, front cover, front guide assembly)
 └─ Right plate assembly
└─ Left support cover
 └─ (Rear cover, formatter, left bottom frame support, print cartridge cover, front cover, front guide assembly)
 └─ Left plate assembly

Note

The scanner assembly may be contaminated if it is opened outside of a cleanroom environment. For this reason, the entire scanner assembly is replaceable only as a unit. Replacing the scanner assembly as an entire assembly replaces the CCD scan module, the CCD scan motor and cable. If the ADF fails, it too is replaceable only as an entire assembly. Replacing the ADF replaces the ADF cable and other ADF submechanisms.

Separation of scanner from printer

As noted earlier, for service purposes, the upper part of the HP LaserJet 3300mfp series is in effect “the scanner” and the lower part is “the printer.” Together they also act as a photocopier or fax machine, but the service description here is simplified by referring to copier or fax functionality only if specifically necessary.

CAUTION

You must unplug the printer before separating the scanner from the printer, or you might damage both the printer and the scanner.

Right side cover

- 1 Open the print cartridge door.
- 2 Open the straight-through output door.
- 3 Remove one screw (callout 1) to remove the right side cover.

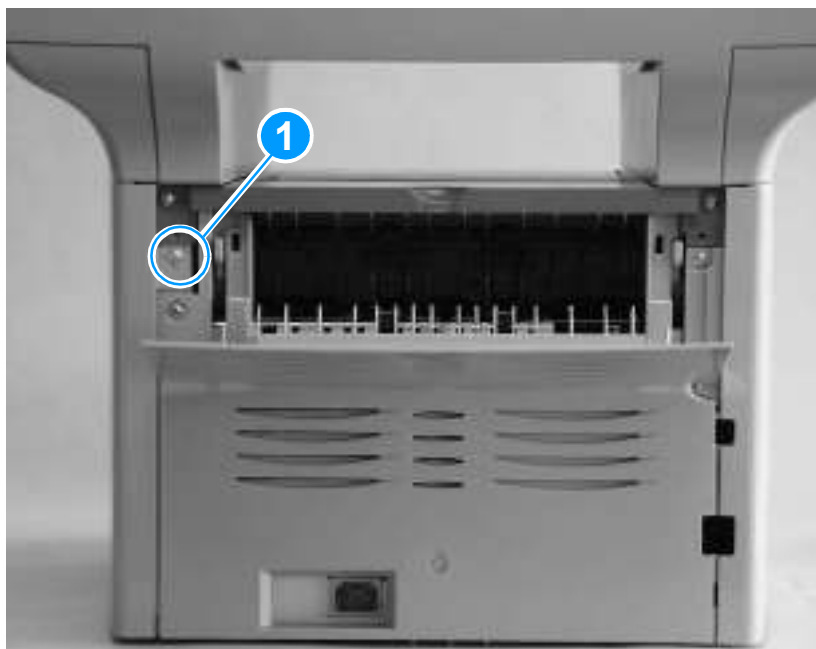


Figure 22. Removing the right side cover (1 of 3)

- 4 Lift the right side of the product and release the tab (callout 1) on the bottom of the cover.

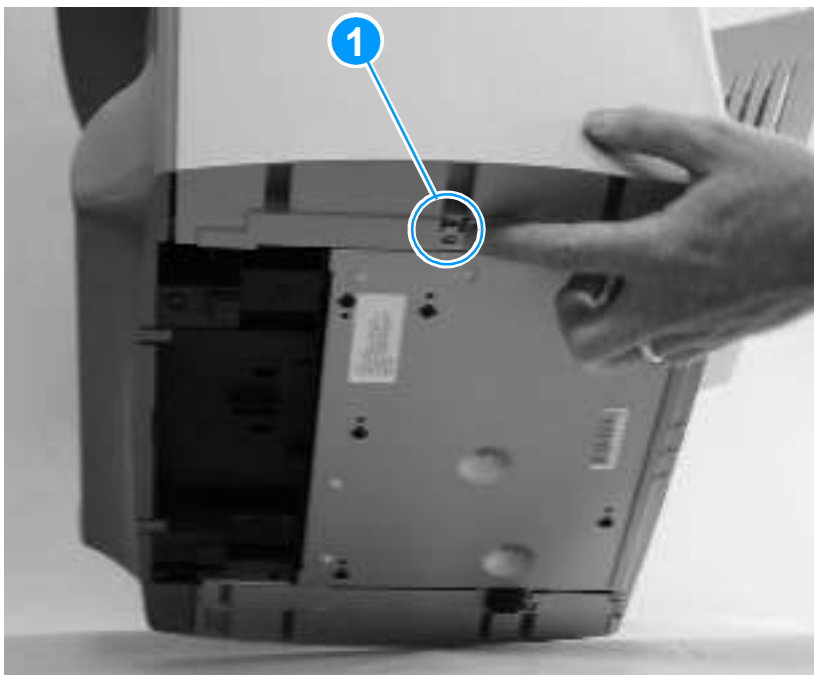


Figure 23. Removing the right side cover (2 of 3)

- 5 While continuing to press the release tab, grasp the back of the cover, pull it out, backward, and guide it away from the front tabs.

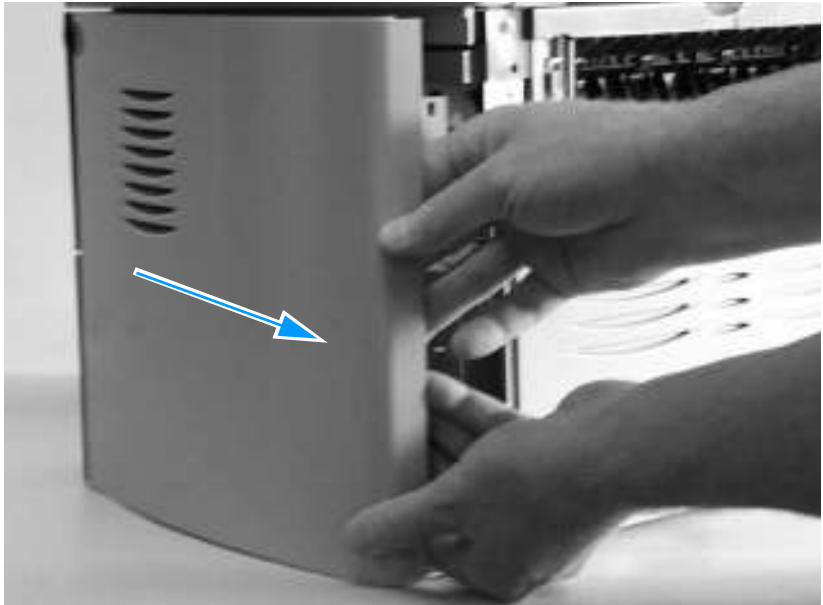


Figure 24. Removing the right side cover (3 of 3)

Scanner side covers

- 1 Remove the two screws holding the right scanner side cover in place (callout 1).
- 2 Slide the cover back and away.

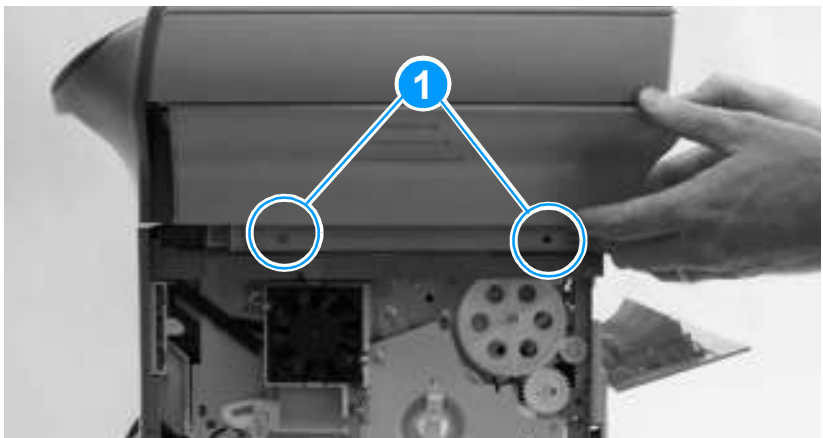


Figure 25. Removing the right scanner cover

- 3 Open the print cartridge door and the left side door to expose the screws holding the left scanner side cover.
- 4 Repeat steps 1 and 2 for the left scanner side cover.



Figure 26. Removing the left scanner cover

- 5 Disconnect the flat flexible cable from the scanner formatter PCA. Thread it down through the slot and away from the slot.

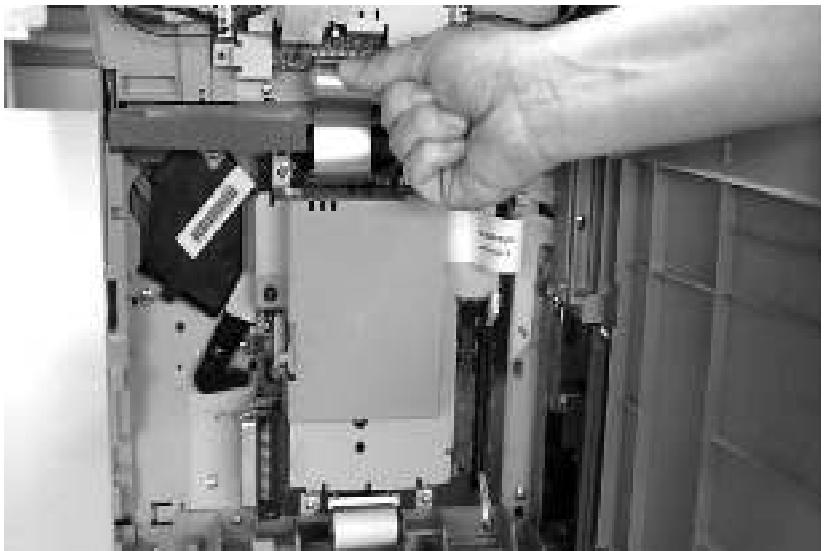


Figure 27. Separating the scanner from the printer (1 of 4)

- 6 Remove two front screws from each side of the product; the screw on the left side (callout 1) is directly opposite the screw on the right side.

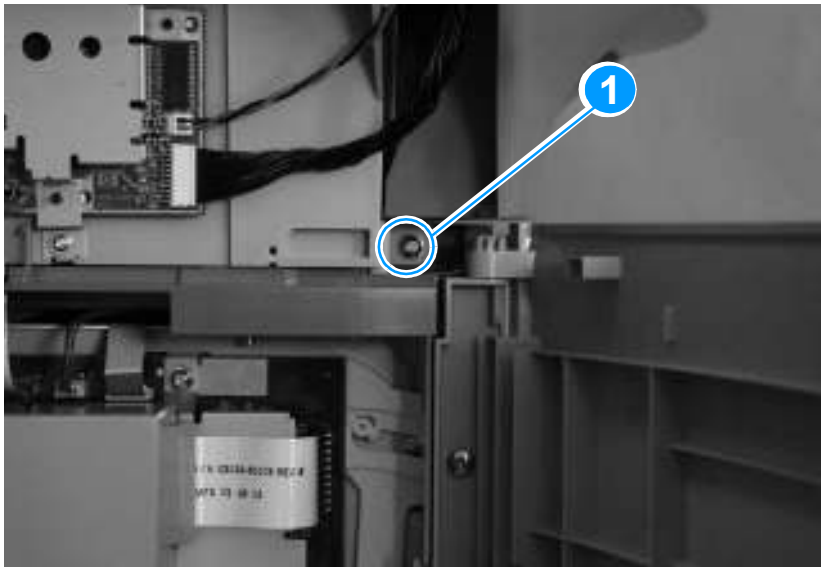


Figure 28. Separating the scanner from the printer (2 of 4)

- 7 Remove the two screws from the back of the product (callout 1).

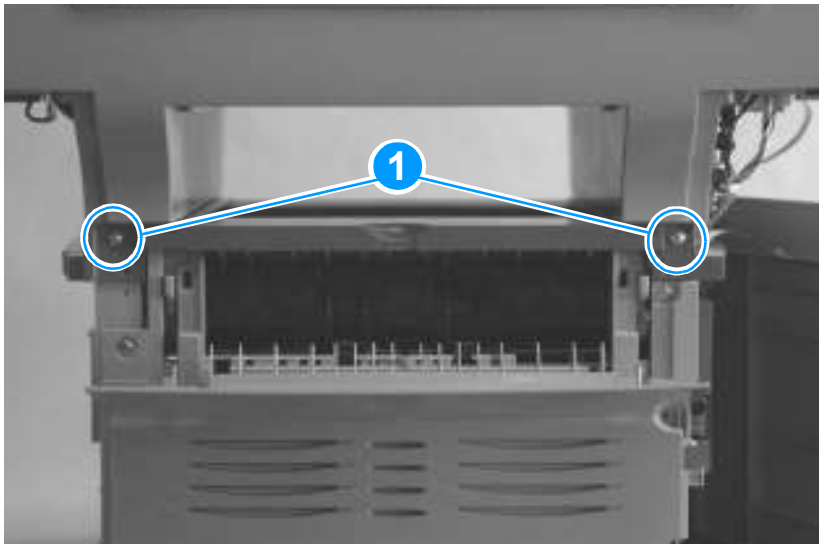


Figure 29. Separating the scanner from the printer (3 of 4)

- 8 Slide the scanner back and lift it upward to separate it from the printer.



Figure 30. Separating the scanner from the printer (4 of 4)

Scanner assemblies

Flat lid or ADF assembly

The scanner cover is either a flat lid or an Automatic Document Feed (ADF) assembly. Removal of the ADF assembly is pictured here.

- 1 Open the cover
- 2 Slide up the two hinge-tab locking shims (callout 1).

Note

The flat lid has no hinge-tab locking shims.

- 3 Slightly close the cover while lifting up to gently remove it.

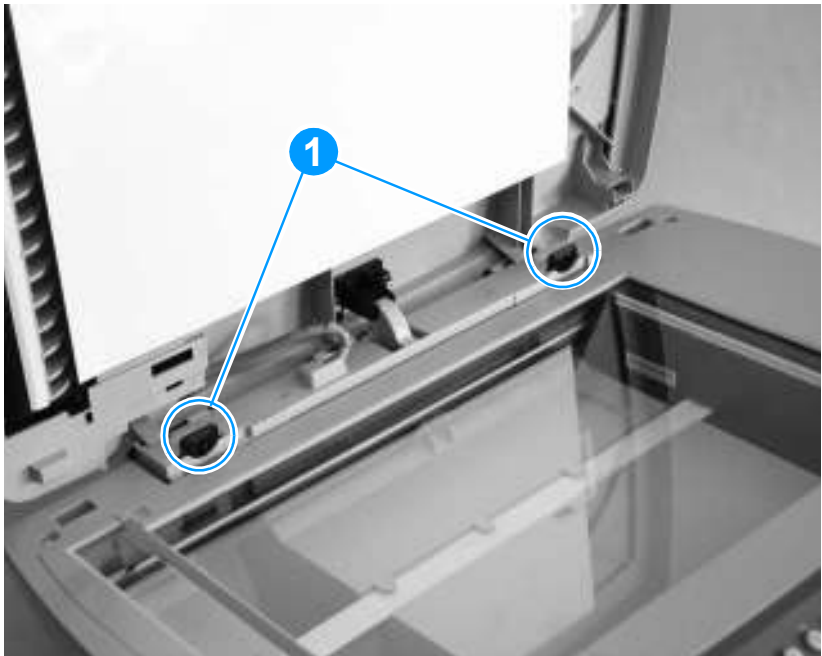
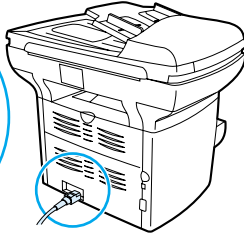
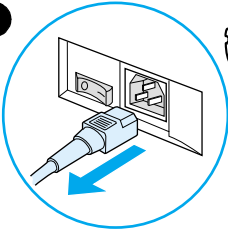


Figure 31. Removing the ADF assembly

The ADF pick roller assembly

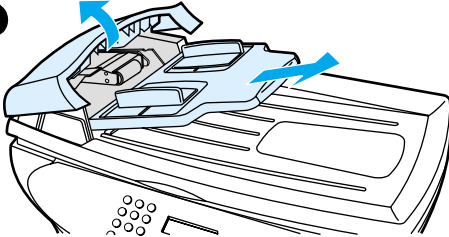
The upper pick roller assembly and document feed guide are user replaceable parts, but the ADF separation pad is not. These instructions appear in chapter 3 of this manual and are repeated here. If the ADF has trouble picking paper, the ADF pick roller assembly may need to be replaced:

1



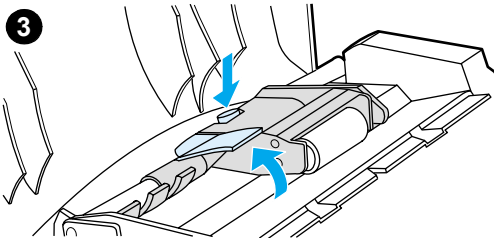
- 1 Unplug the power cord from the product. If you have a 220V product, turn off the power switch.

2



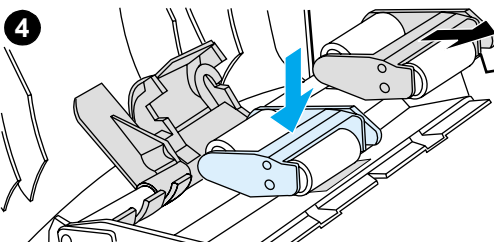
- 2 Remove the input tray and open the ADF cover.

3

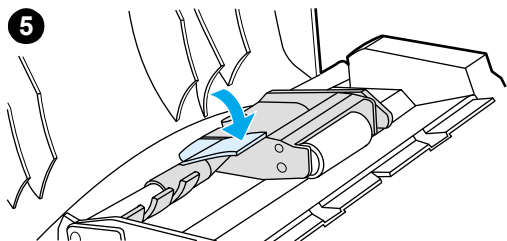


- 3 Press the round green button while lifting the green lever. Rotate the green lever until it stops in the open position. The old pickup roller assembly should remain on the black surface.

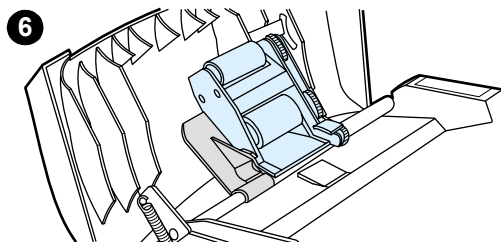
4



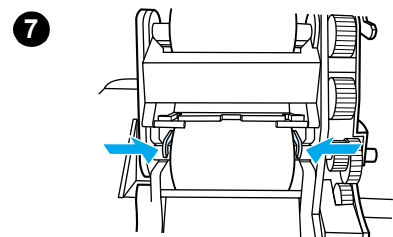
- 4 Remove the old assembly and put the new one in exactly the same place. The largest roller goes in back, and the gear side will face away from you.



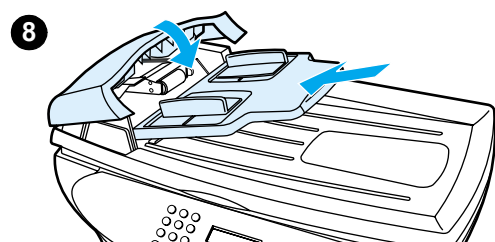
- 5** Lower the green lever with the flat green part fitting in between the rollers. Press down on the green lever until the assembly snaps into place.



- 6** To check for proper installation, lift the green lever until it remains open. The new pickup roller assembly should be secured to the lever assembly and should not fall out.



- 7** Make sure that both sides of the assembly are secured by the green hooks.



- 8** Lower the green lever assembly and close the ADF lid. Reinstall the input tray.

If you are experiencing abnormal jams in the ADF, you may want to replace the ADF assembly.

ADF document feed guide

- 1 Open the ADF door.
- 2 With the upper pick assembly lever down, loosen the document feed guide one side at a time, then gently pull the guide back to remove.



Figure 32. Removing the document feed guide (1 of 2)

To reinstall

Make sure that both sides of the document feed guide are snapped into place. Otherwise, ADF paper jams may occur.

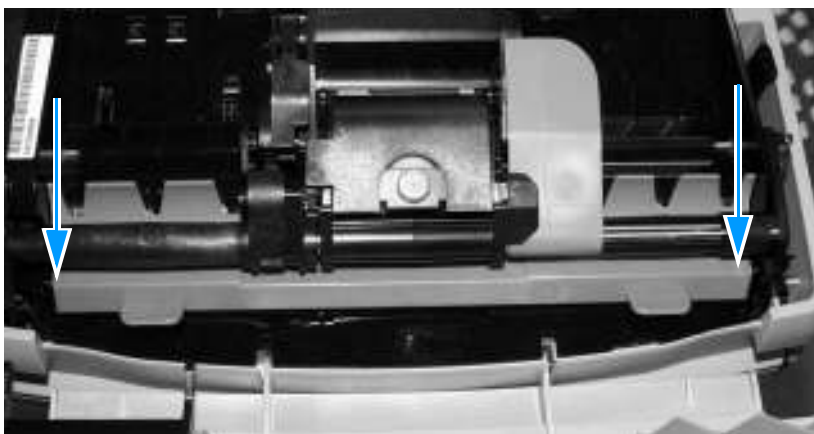


Figure 33. Removing the document feed guide (2 of 2)

ADF separation pad

- 1 Open the ADF door. Lift the upper pick assembly lever.
- 2 Remove the two torx screws securing the ADF separation pad using the #8 torx screwdriver.



Figure 34. Removing the ADF separation pad

- 3 Pull gently on the rubber pad to lift out the ADF separation pad.

Control panel bezel

- 1 Remove the control panel bezel by lifting up on both sides of the bezel edges until all the snaps are disengaged. Set the bezel aside.

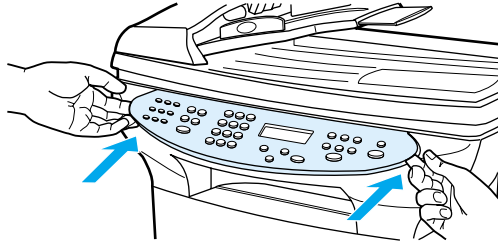


Figure 35. Removing the control panel bezel

To reinstall

- 1 Align the new bezel at the lower notch. The bezel notch should align to the inside of the product

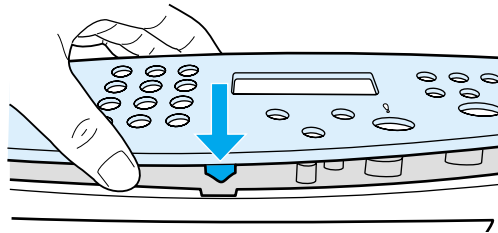


Figure 36. Reinstalling the control panel bezel (1 of 2)

- 2 Press down until all the snaps are engaged, and then press outward until the bezel is secured.

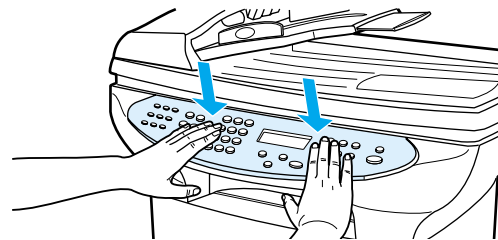


Figure 37. Reinstalling the control panel bezel (2 of 2)

Control panel

- 1 There are four sliding tabs at the top of the control panel. The second tab from the right locks into place. Use a small screwdriver to press down on the locking portion of the snap-fit retaining the tab (callout 1) and slide the control panel to the right.

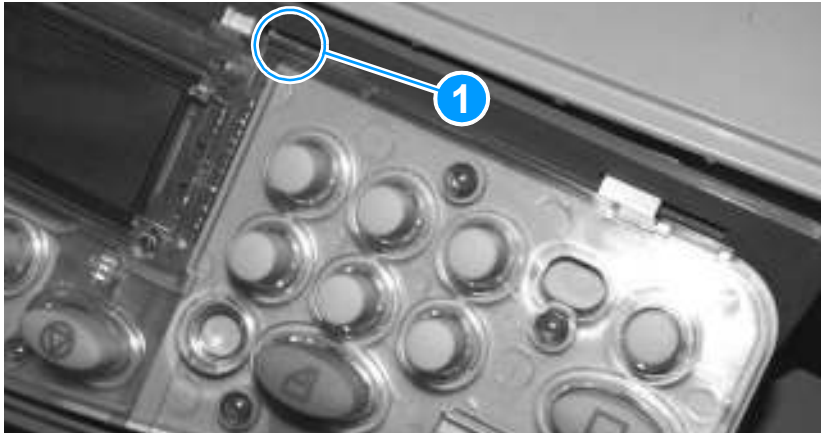


Figure 38.

Removing the control panel

- 2 Lift out gently. Disconnect the cable from the back of the control panel.

To reinstall

Bias the control panel to the right until the four tabs are inserted. Then slide the control panel to the left to lock in place. Make sure the snap fit locks at the same tab shown above.

Control panel chassis

- 1 Remove three screws from the control panel chassis (callout 1).

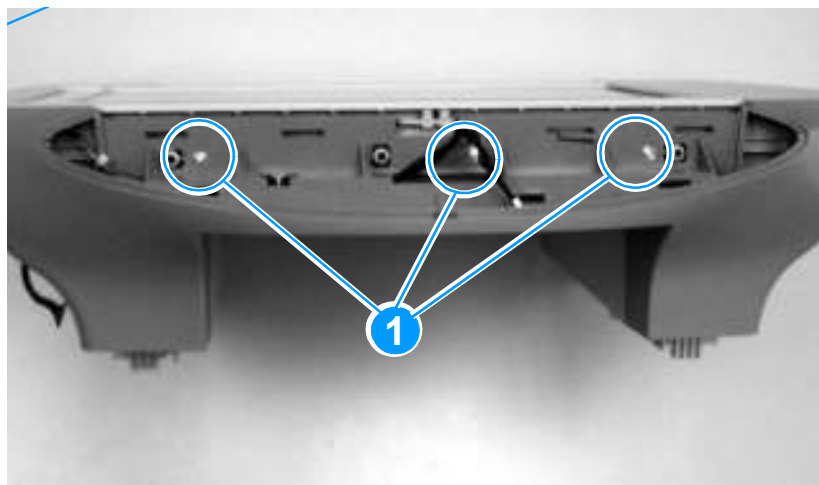


Figure 39. Removing the control panel chassis (1 of 2)

- 2 Remove the control panel chassis by lifting up on both sides of the chassis to release tabs on the corners (callout 1), and pull the chassis away from the scanner body.

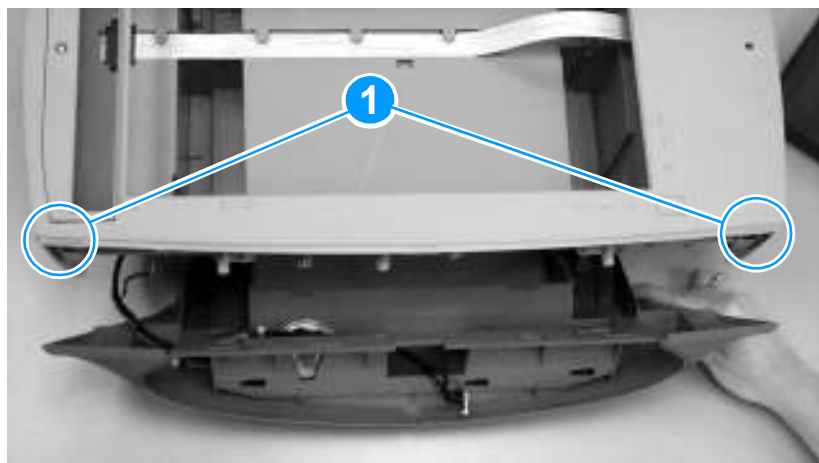


Figure 40. Removing the control panel chassis (2 of 2)

Note

The speaker and control panel cable are both replaceable parts. Ensure that the control panel cable and speaker cable are correctly routed on reinstallation.

Scanner formatter

- 1 Remove the left scanner cover (page 115).
- 2 Disconnect five cables from the scanner formatter (callout 1).
- 3 Remove three screws (callout 2) and remove the scanner formatter.

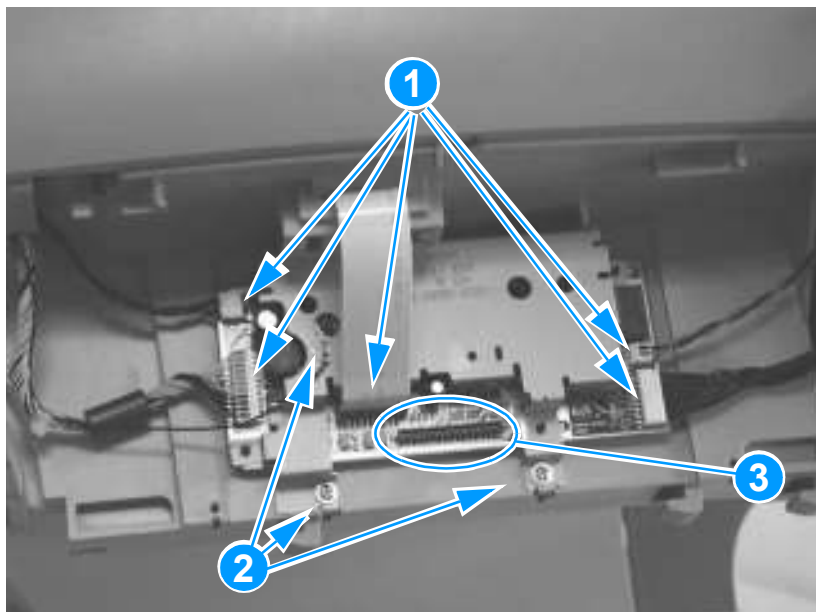


Figure 41. Removing the scanner formatter

Note

If the scanner and printer are not separated, one additional cable (callout 3) will need to be disconnected.

ADF scanner glass

- 1 Remove one screw (callout 1), lift plastic frame, and then lift out glass.

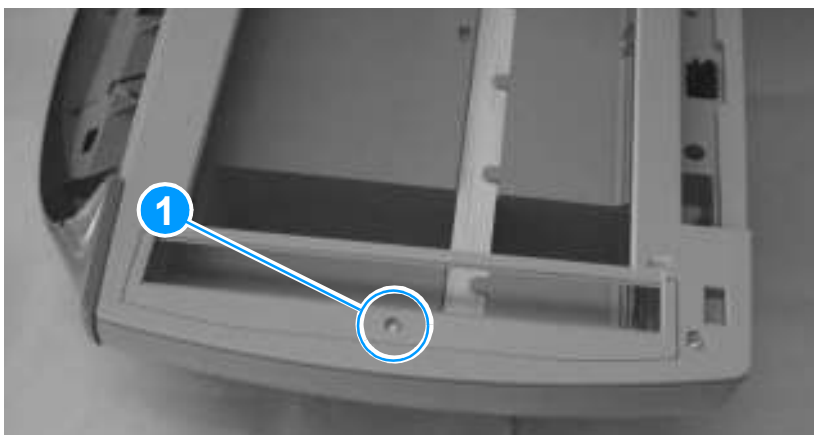


Figure 42. Removing the ADF scanner glass

To reinstall

Slide the ADF glass locking mechanism toward the back of the scanner until it locks in place. Install the ADF glass. When you install the frame for the ADF glass, the mechanism will release engaging the locking mechanism and securing the glass.

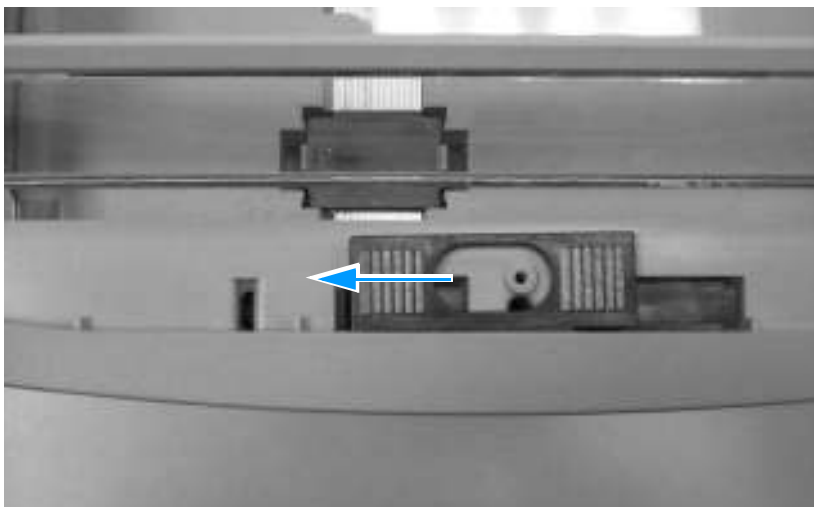


Figure 43. Installing the ADF scanner glass

Printer covers

Left side door

- 1 Open the left side door.
- 2 Remove the screw in the center of the door hinge (callout 1).

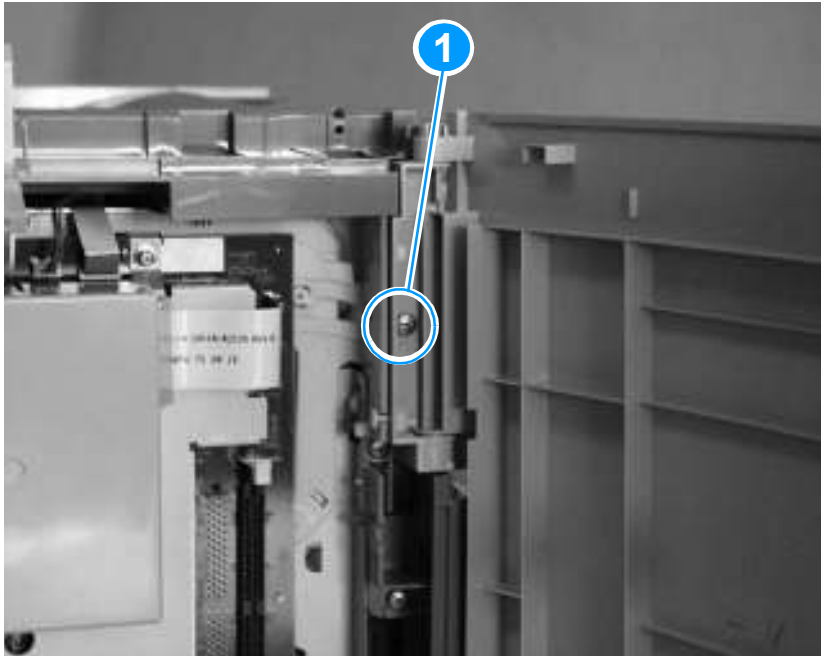


Figure 44. Removing the left side door

- 3 Lift the door away.

Back cover

- 1 Remove the right side cover (page 113) and open or remove the left side door (page 129).

Note

The back cover can be removed without removing the left side door, but removing the back cover removes the support for the left side door leaving it vulnerable to breakage.

- 2 Open the straight-through output door.
- 3 Remove two screws (callout 1) from the back of the product.

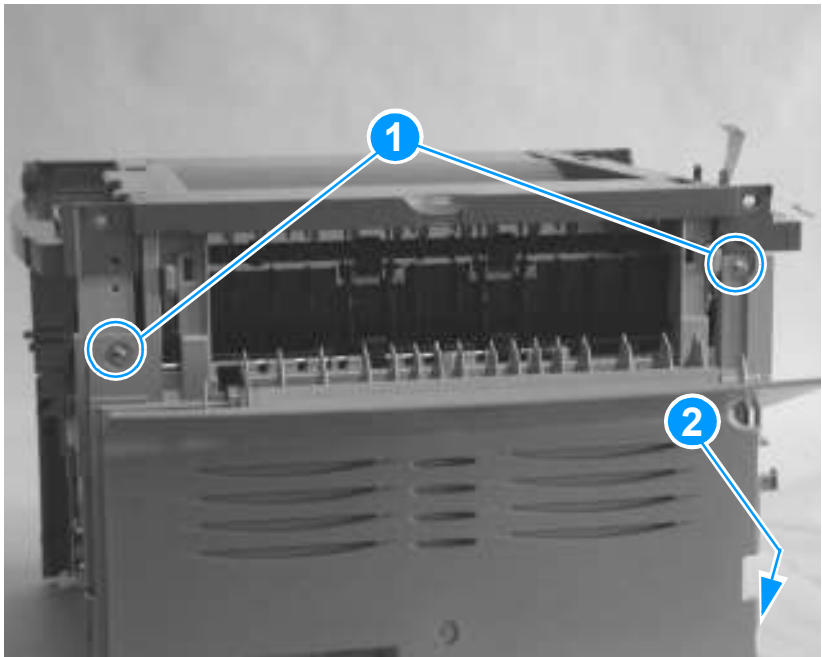


Figure 45. Removing the back cover (1 of 2)

Note

The back cover has two tabs (not shown), one on the side of the printer and one on the bottom. You may want to use a screwdriver to press on the side tab (callout 2).

- 4 Press down and hold the two release levers (callout 1) and pull off the back cover.

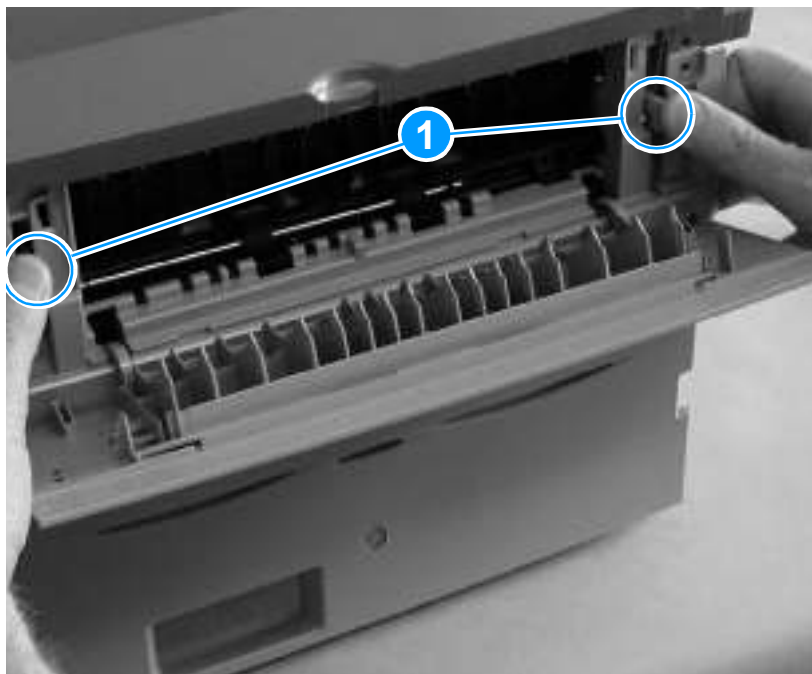


Figure 46. Removing the back cover (2 of 2)

Printer top cover

- 1 Separate the printer from the scanner (page 113). Remove the left side door, right side cover, and back cover (pages 129 through 130), and open the print cartridge door.
- 2 Remove six screws (callout 1) on the top of the printer.
- 3 Lift the cover off the printer.

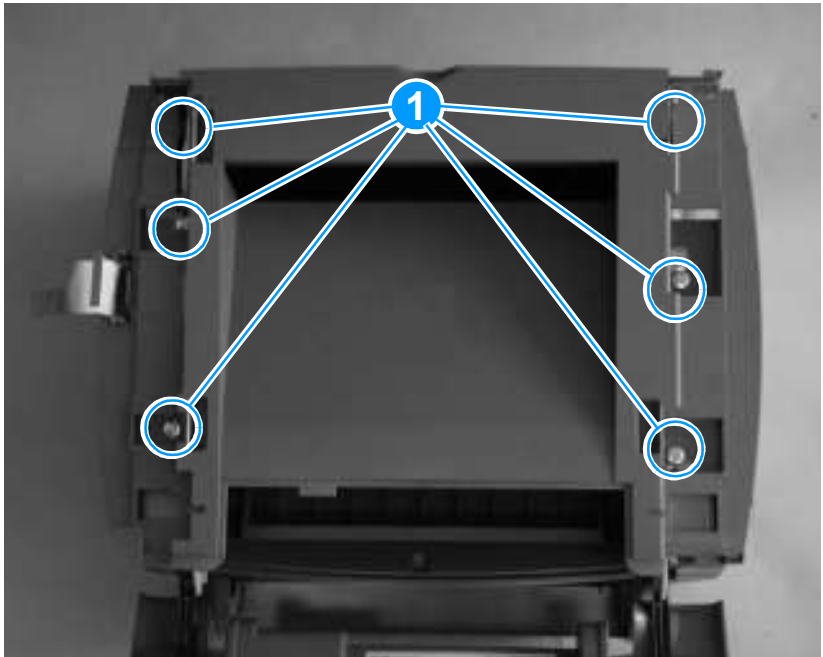


Figure 47. Removing the printer top cover

Front cover assembly

The front cover assembly is composed of three pieces:

- the print cartridge door
- the front cover (the frame that surrounds the main input tray)
- the front guide assembly (the internal shelf that attaches the front cover and the print cartridge door to the product)

Print cartridge door

- 1 Open the print cartridge door.
- 2 On both sides, pull the connecting links from the inside of the print cartridge door (callout 1).

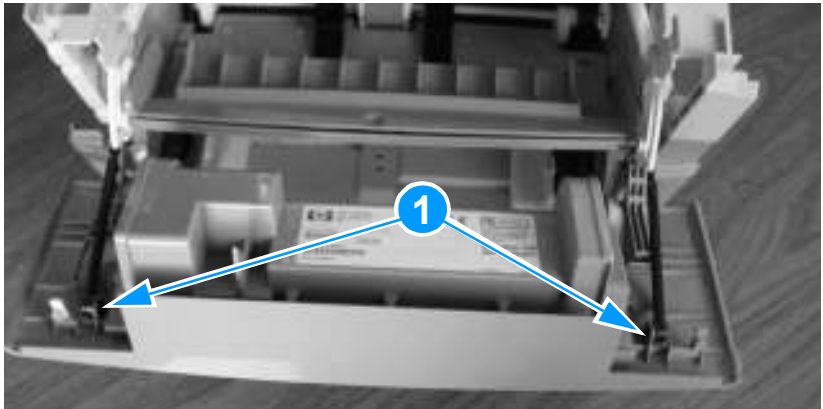


Figure 48. Removing the print cartridge door (1 of 2)

Note

If the links fall back or are pushed back into the printer when they are disconnected from the print cartridge door, the interlocking mechanism may come apart and require reassembly.

- 3 Detach the print cartridge door hinge (callout 1) on the right side by flexing the hinge arm to the right. Then rock the print cartridge door to the left to remove it.

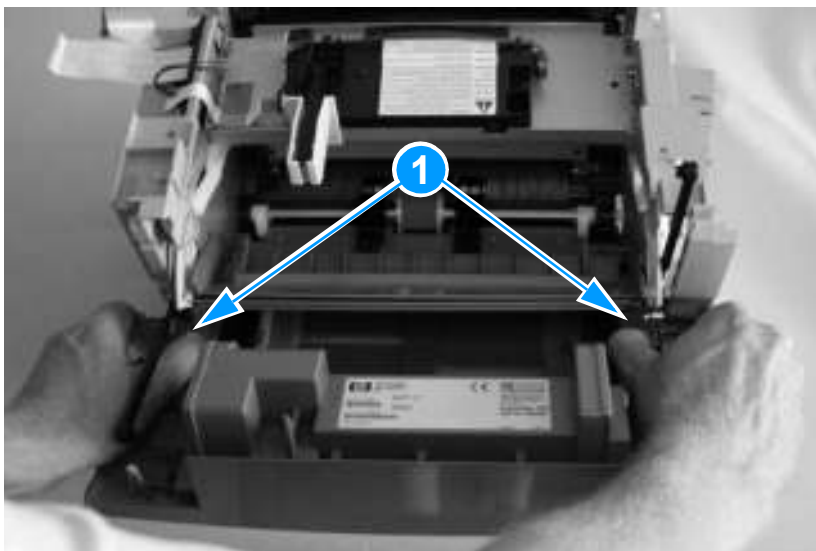


Figure 49. Removing the print cartridge door (2 of 2)

Front cover

- 1 Remove the left side door (page 129), right side cover (page 113), and print cartridge door (page 133).
- 2 Loosen two screws (one shown, callout 1), one on each side of the cover.

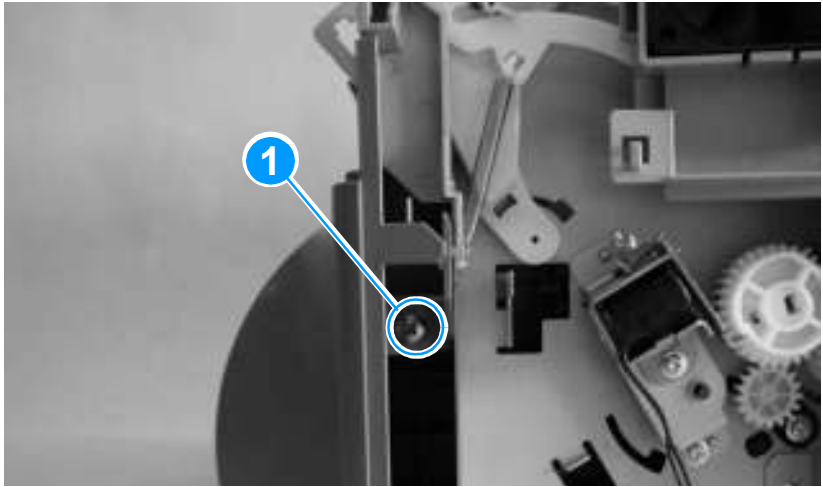


Figure 50. Removing the front cover (1 of 2)

CAUTION

In removing the front cover, be aware of all the tab locations to guard against breakage (callout 1).

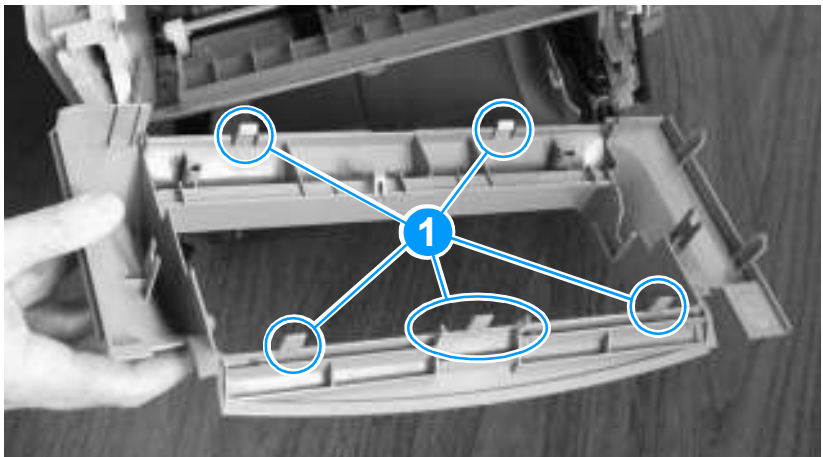


Figure 51. Front cover removed

- 3 At the same time, push down on both the top center and bottom center of the front cover until the top center tabs pop out of place. Keep pressure on the bottom center of the panel to guard against tab breakage.



Figure 52. Removing the front cover (2 of 2)

- 4 Pull the panel forward just far enough to release the remaining tabs.
- 5 Rotate the bottom of the panel forward to remove.

Printer assemblies

Front guide assembly

- 1 Open the left side door and remove the right cover (page 113), the print cartridge door (page 133), and the front cover (page 135).
- 2 From the front of the printer, remove two screws (callout 1).

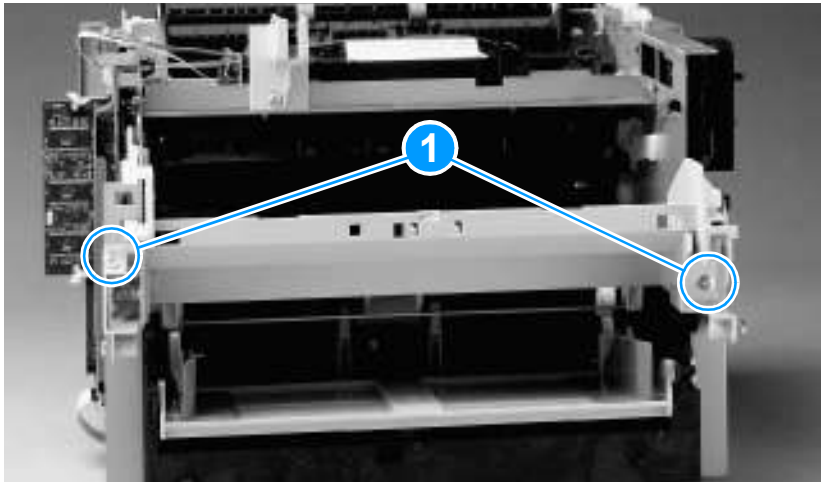


Figure 53. Removing the front guide assembly (1 of 3)

- 3 On the right side, release the lower tab (callout 1), and the upper tab (callout 2).

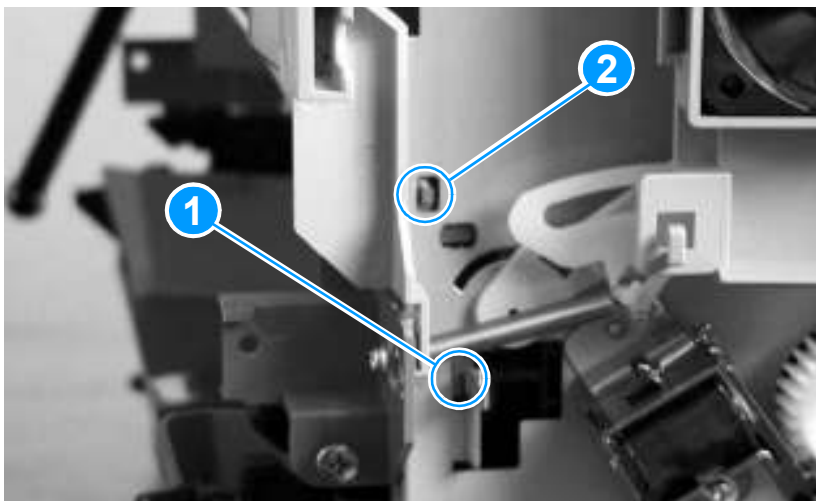


Figure 54. Removing the front guide assembly (2 of 3)

- 4 On the left side, release the upper tab (callout 1) and the lower tab (callout 2).
- 5 Remove the front guide assembly.

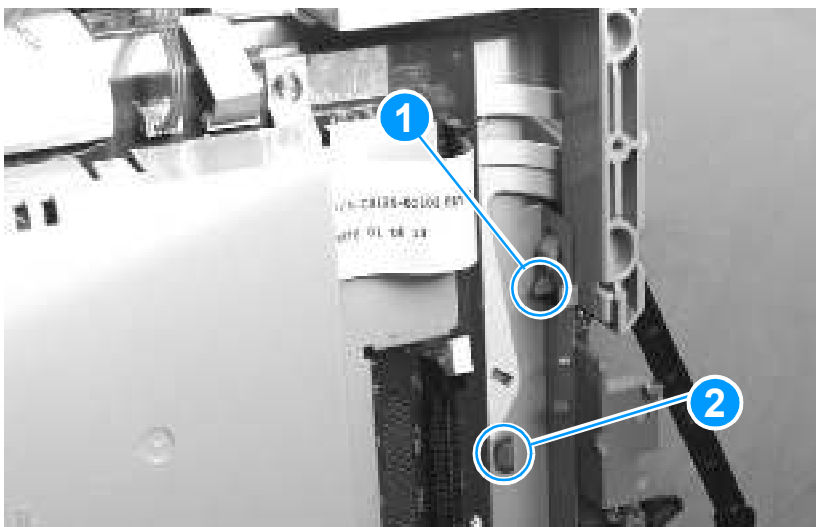


Figure 55. Removing the front guide assembly (3 of 3)

Left and right support covers (front corner brackets)

- 1 Remove the two screws holding the left support cover (one shown in callout 1, one on the side) and one screw holding the right support cover (callout 2). Lift up and rotate toward the front to remove.

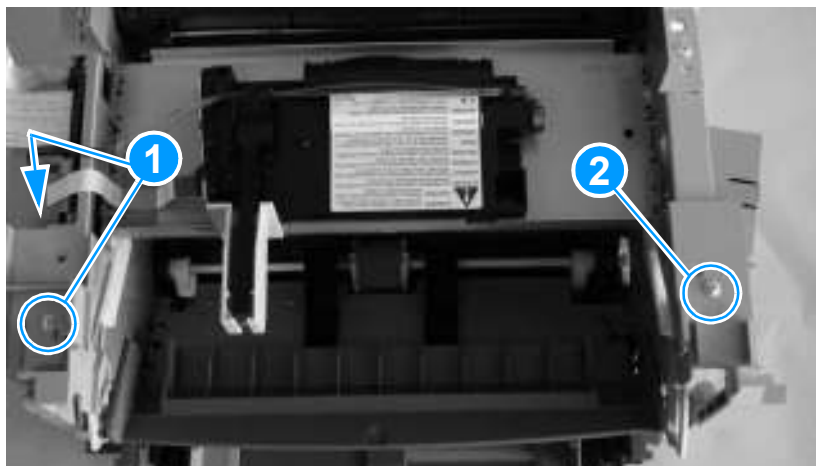


Figure 56. Removing the left and right support covers

Transfer roller

Note

There is a small grounding spring underneath the right side of the transfer roller. Do not misplace this grounding spring.

- 1 Open the print cartridge door and remove the print cartridge (page 110).
- 2 Use needle-nose pliers to gently squeeze the two small tabs on the transfer roller.
- 3 Lift the transfer roller up, slide it to the right, and lift it out of the printer.

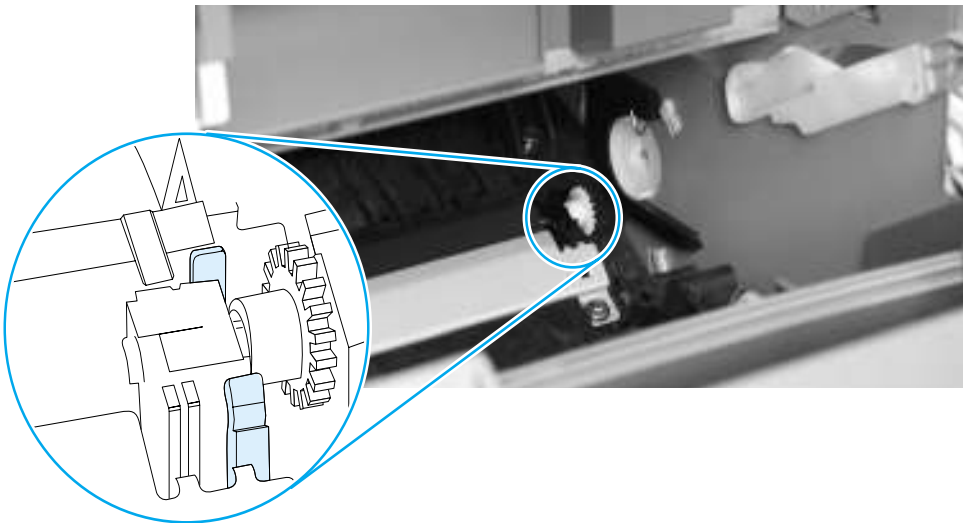


Figure 57. Removing the transfer roller

CAUTION

Do not touch the black sponge portion of the transfer roller.

Line Interface Unit (LIU)

- 1 Open or remove the left side door (page 129).
- 2 Remove one screw at the left of the formatter board (callout 1).
- 3 Disconnect the flat flexible cable (callout 2) from the connector.
- 4 Rotate the LIU around the hooks to remove.

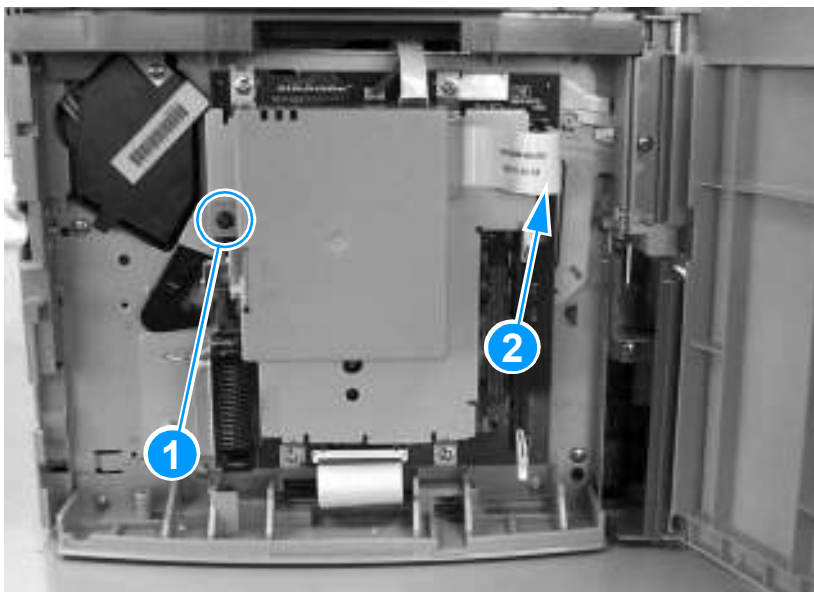


Figure 58. Removing the LIU

Formatter

Note

Removal of the LIU is not necessary to remove the formatter. However, it may make reinstallation easier.

- 1 Open or remove the left side door (page 129).
- 2 Disengage the connector lock and disconnect the flat flexible cable at the bottom of the formatter (callout 1).

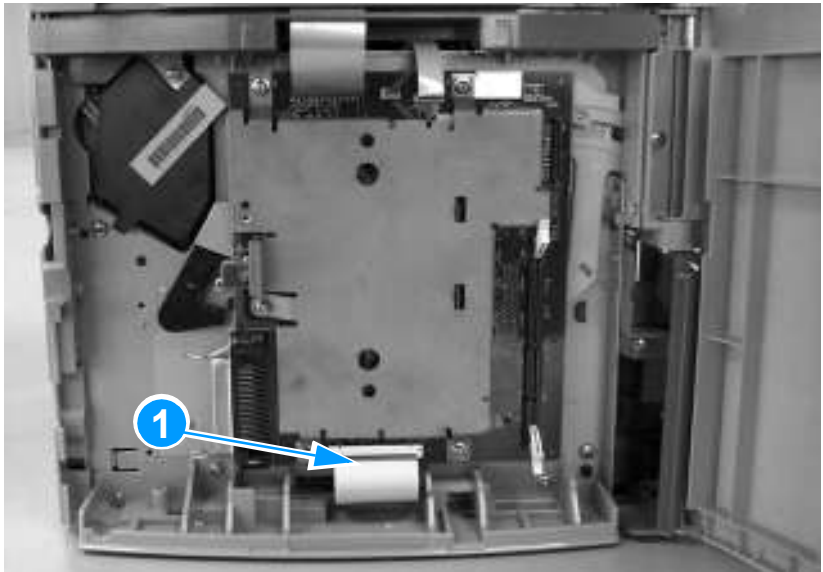


Figure 59. Removing the formatter (1 of 3)

- 3 Remove five screws (callout 1).

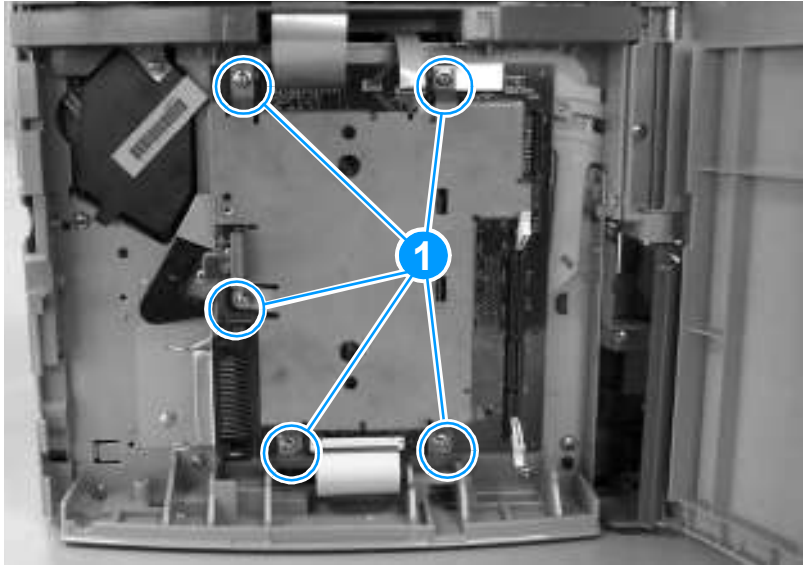


Figure 60. Removing the formatter (2 of 3)

- 4 Rotate the bottom of the formatter up and off of the hooks on the chassis and begin to remove it. After removing the bottom of the formatter, disconnect the two flat flexible cables from connectors at the top of the formatter, and unplug the scanner motor cable from the formatter (callout 1).

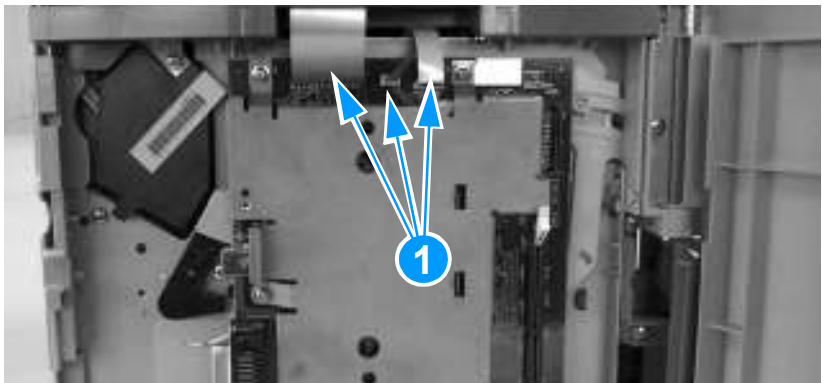


Figure 61. Removing the formatter (3 of 3)

To reinstall

When you reconnect the bottom cable, make sure you lock the ZIF connector at the bottom of the formatter back into place.

Fuser assembly

- 1 Separate the scanner from the printer (see pages 113 through 118) and remove the left side door, back cover, and printer top cover (pages 129, 130, and 132).
- 2 Remove two screws (callout 1) from the right fuser support plate.
- 3 Remove a third screw (callout 2) from behind the large gear on the right fuser plate and remove it.

Note

You can access the third screw through the holes in the 69T gear.

If you need to realign the 69T gear, you must first remove the pressure roller gear. Release the tab (callout 3) and remove the pressure roller gear.

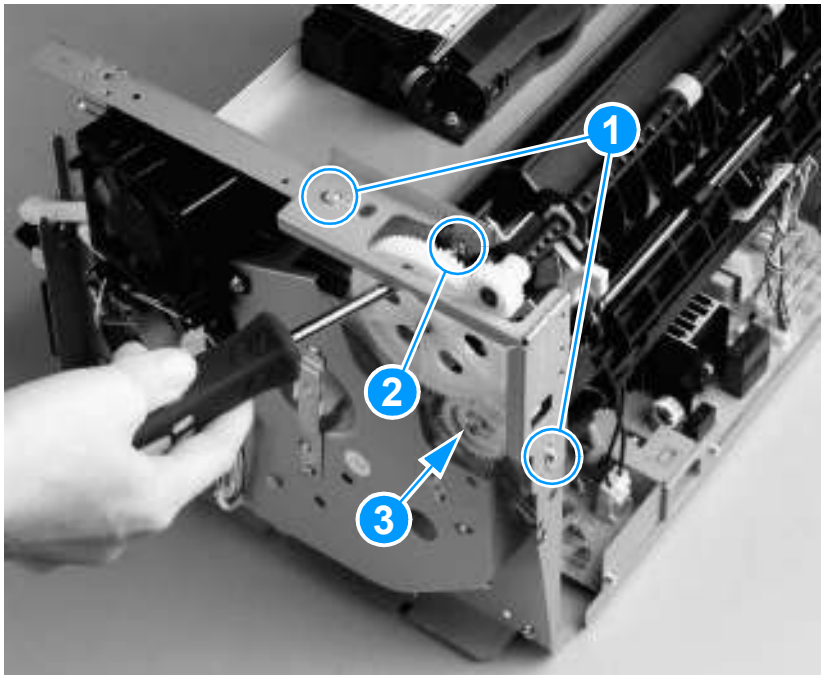


Figure 62. Removing the fuser assembly (1 of 4)

- 4 Remove three screws (callout 1) from the left fuser plate and remove it.

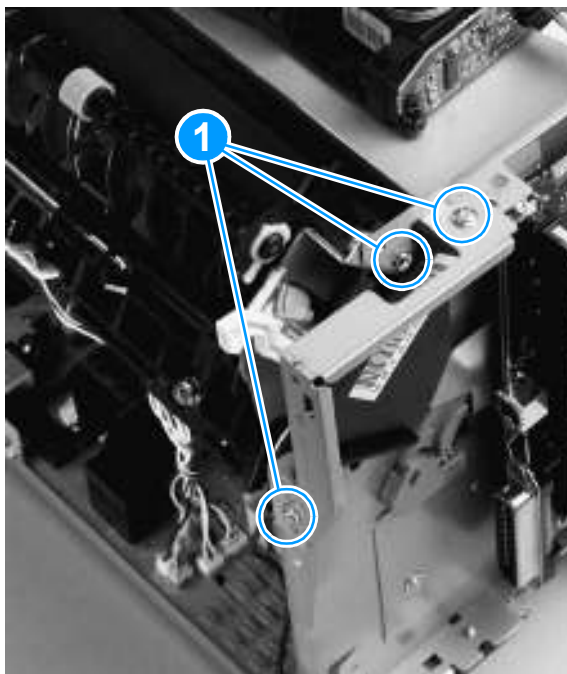


Figure 63. Removing the fuser assembly (2 of 4)

- 5 Remove two screws (callout 1), one from each side of the printer.

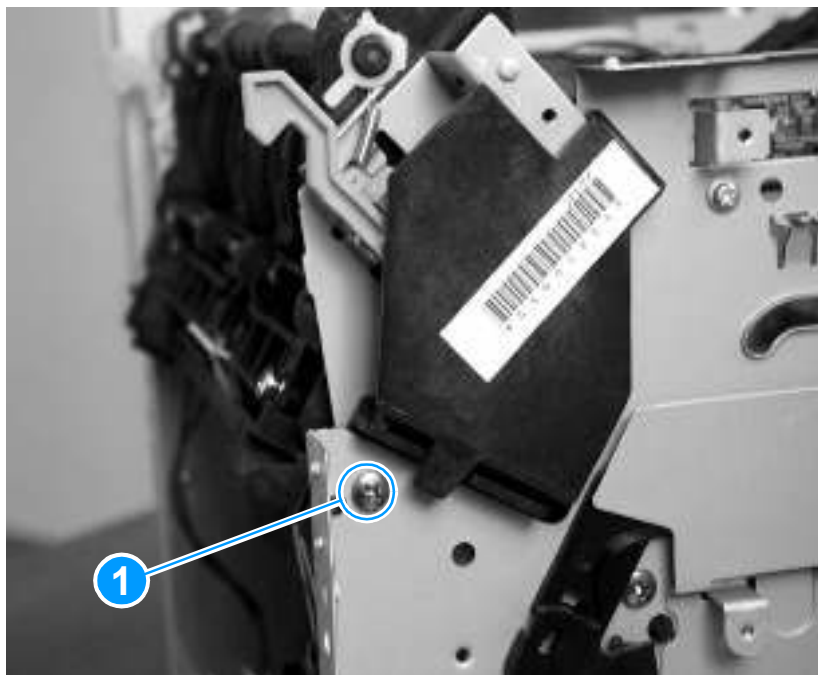


Figure 64. Removing the fuser assembly (3 of 4)

- 6 Unplug the fuser cable connector (callout 1) by pressing and releasing the tab on the back of the connector.
- 7 Unplug five smaller cable connectors (callout 2) from the ECU and unwind the cables from the fuser assembly.
- 8 Unplug the spade connector (callout 3).
- 9 Remove one screw (callout 4) from the paper-delivery sensor, and lift out the paper-delivery sensor.
- 10 Gently lift out the fuser assembly.

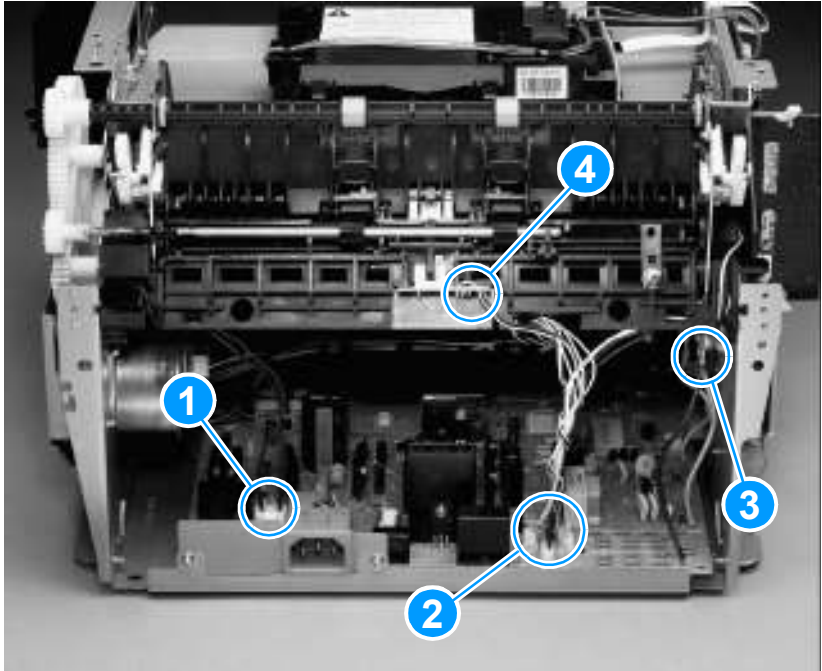


Figure 65. Removing the fuser assembly (4 of 4)

To reinstall

Remove the large gear from the end of the fuser assembly, return the fuser assembly to the chassis, and replace the large gear.

Output rollers

Facedown delivery assembly

- 1 Remove the fuser assembly (see page 144).
- 2 Remove two screws (callout 1) and lift the facedown delivery assembly away from the fuser assembly.

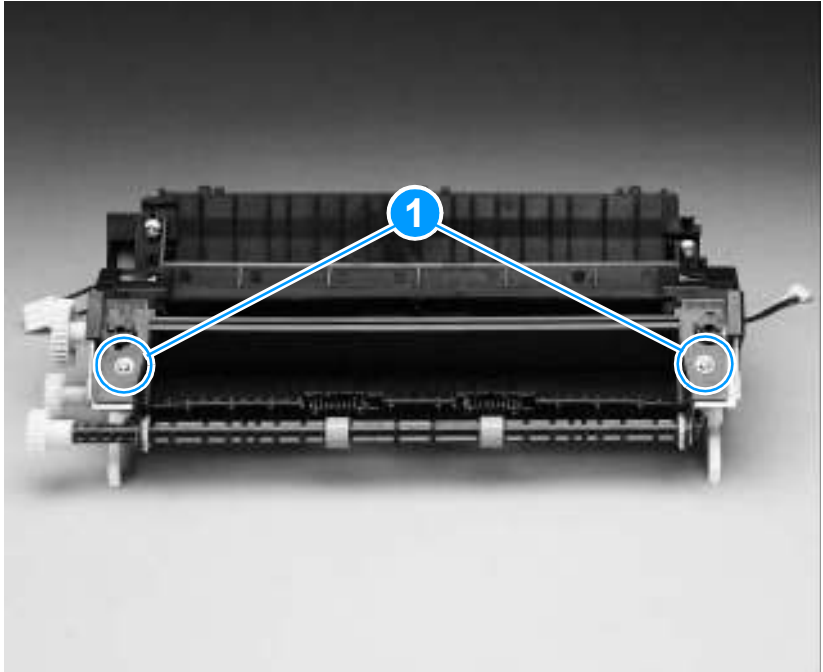


Figure 66. Removing the output rollers (1 of 2)

Faceup roller

- 1 Turn the fuser assembly over.
- 2 Remove the gear (callout 1) from the faceup roller and release the tab (callout 2) on the face-up roller bushing.
- 3 Rotate the faceup roller bushing forward until the pin releases.
- 4 Slide the faceup roller away from the gear side, and lift it out of the fuser assembly.

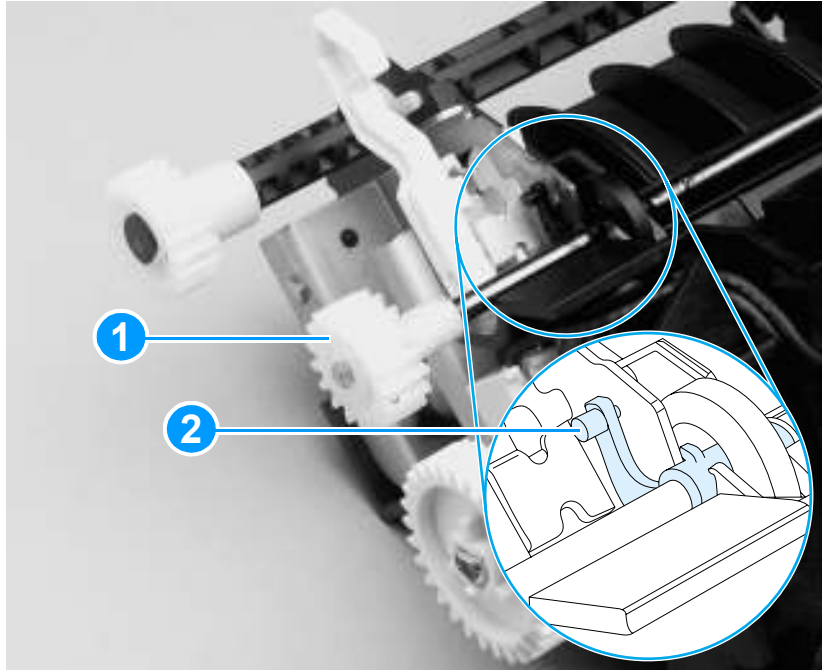


Figure 67. Removing the output rollers (2 of 2)

Reinstall note

Flex the faceup roller bushing to pop the pin back into place.

Motor

Note

You might find it easier to remove the ECU pan (see page 164) before you remove the motor.

- 1 Separate the scanner from the printer (see pages 113 through 118) and remove the left side door and back cover (pages 129 and 130).
- 2 Remove the fuser assembly (see page 144).
- 3 Disconnect the motor cable connector (callout 1) on the side of the motor.
- 4 Remove the two screws (callout 2) from the motor and remove the motor.

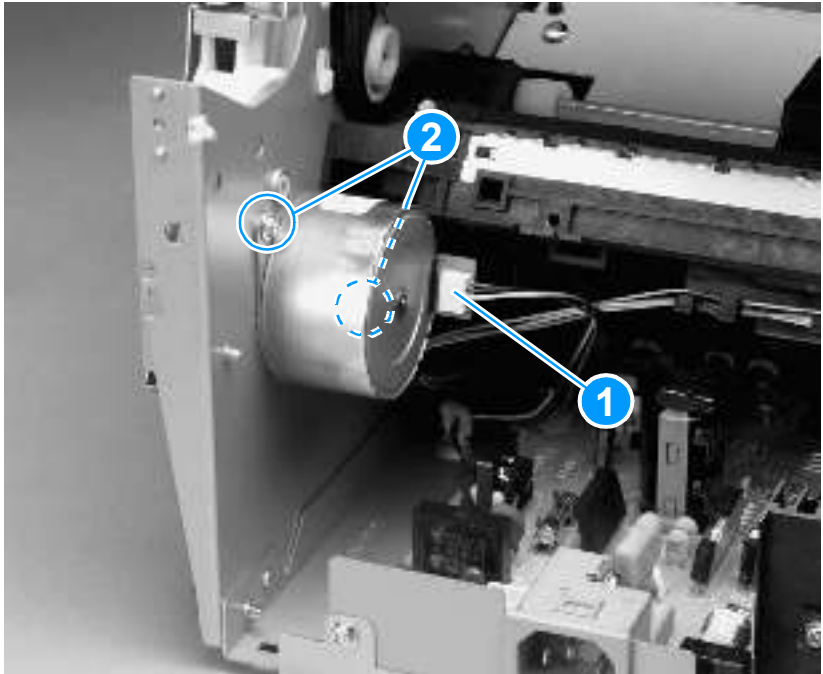


Figure 68. Removing the motor

To reinstall

Make sure that the motor is in the correct position. The connector should face the inside of the printer.

Solenoid

- 1 Separate the scanner from the printer (see pages 113 through 118) and remove the left side door and back cover (pages 129 and 130).
- 2 Unplug five cable connectors (callout 1) from the ECU and separate the solenoid cable from the other four cables.
- 3 Carefully unwind the solenoid cable from the cable guides (callout 2).

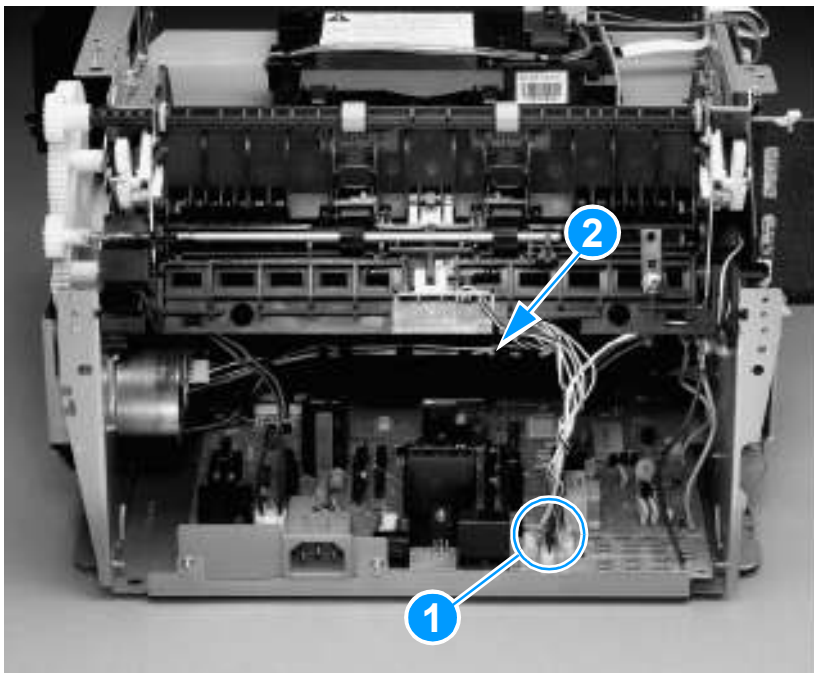


Figure 69. Removing the solenoid (1 of 2)

- 4 Remove the screw (callout 1) on the solenoid.
- 5 Gently thread the solenoid cable through the hole (callout 2) in the right side plate.
- 6 Lift off the solenoid.

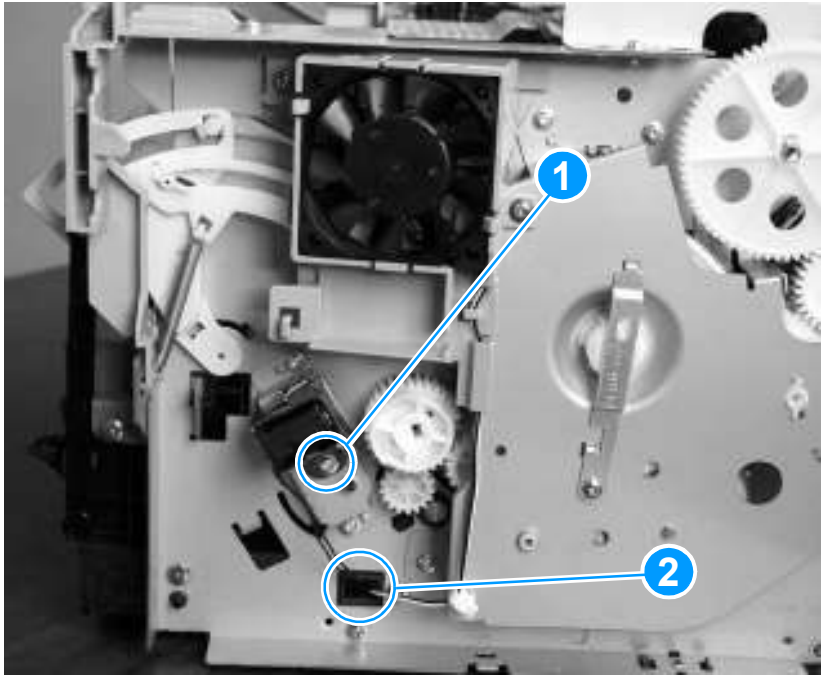


Figure 70. Removing the solenoid (2 of 2)

To reinstall

It might be easier to remove the ECU pan (see page 164) before rerouting the cables through the hole (callout 2) in the right side plate.

Fan assembly

- 1 Separate the scanner from the printer (see pages 113 through 118) and remove the left side door and back cover (pages 129 and 130).
- 2 Unplug the five cable connectors (callout 1) from the ECU and separate the fan cable from the other four cables.
- 3 Carefully unwind the fan cable from the cable guides (callout 2).

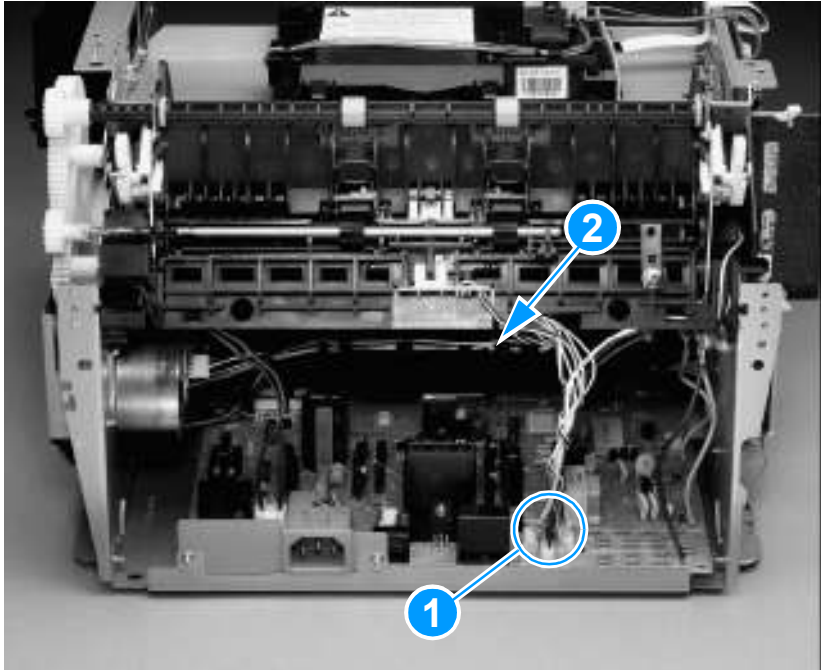


Figure 71. Removing the fan (1 of 2)

- 4 Remove two screws (callout 1).
- 5 Remove the fan assembly.
- 6 Gently thread the fan cable through the hole (callout 2) in the right side plate.
- 7 Remove the fan assembly.

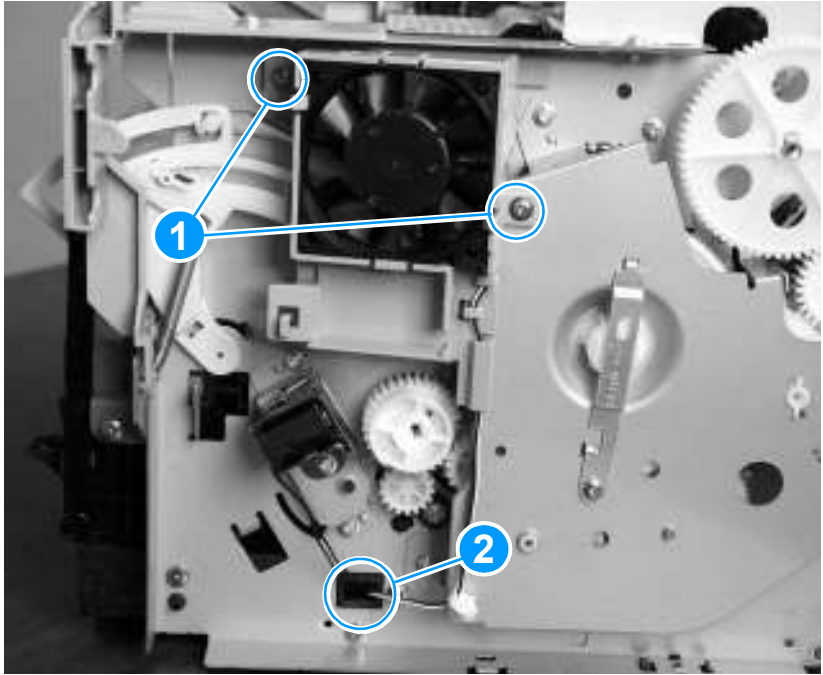


Figure 72. Removing the fan (2 of 2)

To reinstall

It might be easier to remove the ECU pan (see page 164) before rerouting the cables through the hole (callout 2) in the right side plate.

Pickup assembly

- 1 Remove the right side cover, print cartridge door, front cover, and front guide assembly (see pages 113, 133 through 138).
- 2 Remove one screw (callout 1).

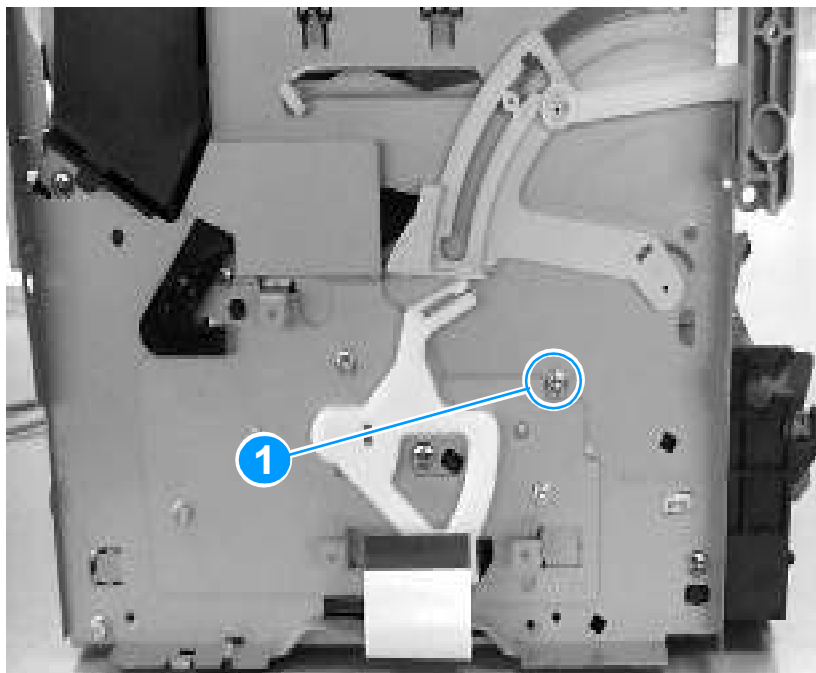


Figure 73. Removing the pickup assembly plate (1 of 3)

- 3 Remove two screws (callout 1) on the top of the upper metal shield.

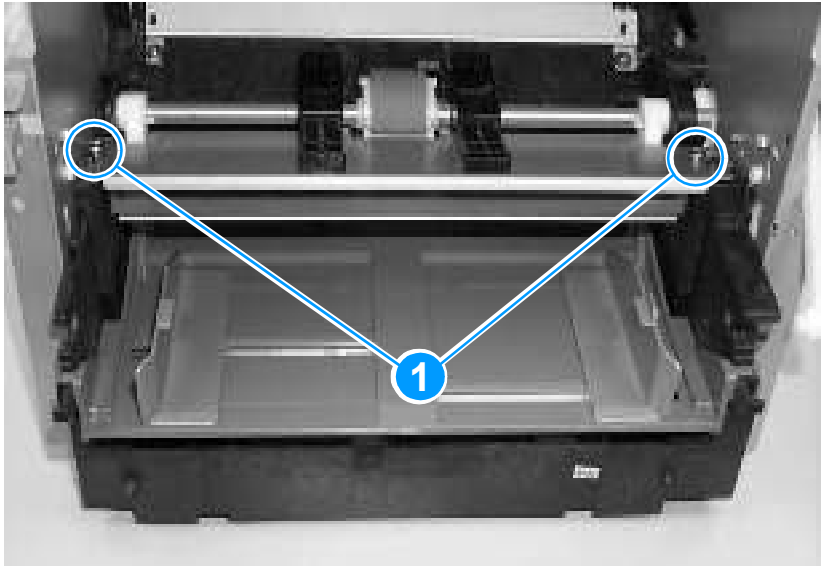


Figure 74. Removing the pickup assembly plate (2 of 3)

- 4 Lift the upper metal shield (callout 1) straight up and remove it.
- 5 Lift the lower metal shield (callout 2) straight up and remove it.

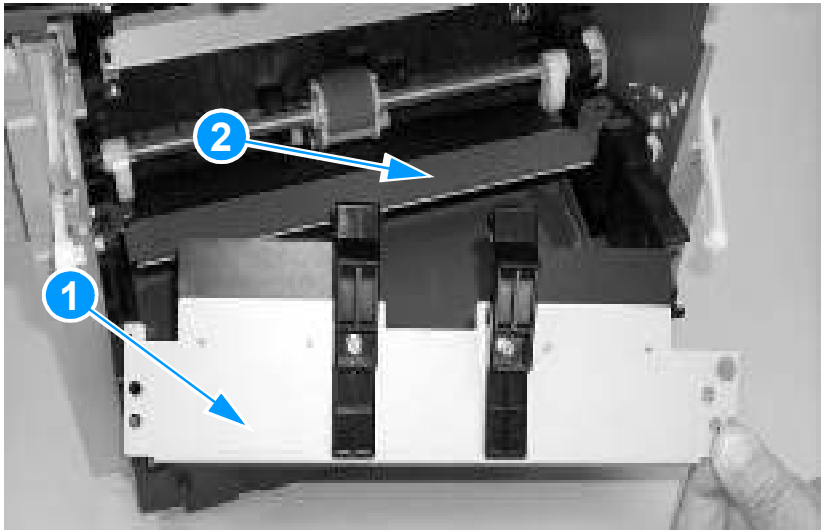


Figure 75. Removing the pickup assembly plate (3 of 3)

Paper lift-plate assembly and pickup roller shaft

- 1 Remove the front cover, print cartridge door, and front guide assembly (see pages 133 through 138).
- 2 Remove the pickup assembly (see page 155).
- 3 Release the locking tab on the pickup roller shaft as shown.



Figure 76. Removing the paper lift-plate assembly (1 of 3)

- 4 Slide the shaft toward the right until the left end releases.

- 5 Carefully angle the left end of the shaft back.



Figure 77.

Removing the paper lift-plate assembly (2 of 3)

- 6 Flip up the paper lift-plate and lift it straight up to remove it.



Figure 78.

Removing the paper lift-plate assembly (3 of 3)

To reinstall

Make sure that the vertical paper sensor (the narrow black plastic piece to the left of the separation pad arm) is in an upright position. Also, be sure the two springs are correctly positioned under the plate. The springs rest under the lift-plate and they encircle the metal tabs shown in the picture (callouts 1 and 2).



Figure 79. Paper lift-plate springs

- 7 If desired, remove the pickup roller shaft by carefully angling the left side out.

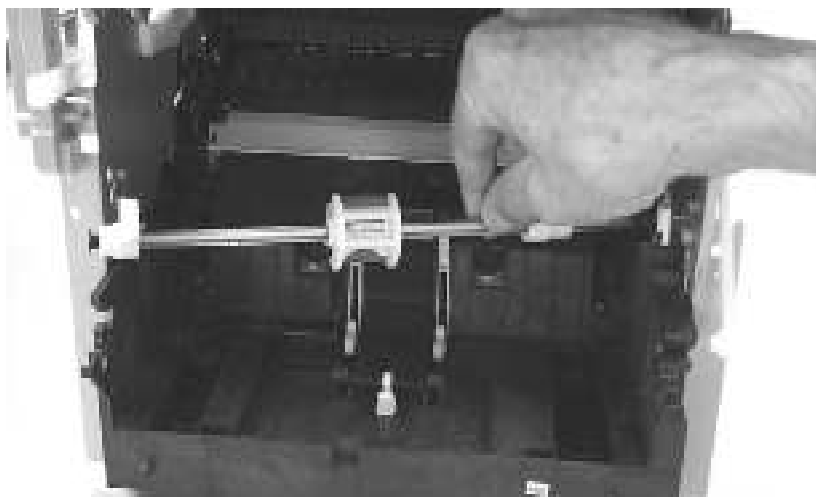


Figure 80. Removing the pickup roller shaft

To reinstall

Be sure to align the clutch on the pickup roller shaft with the follower (large plastic tab) on the paper lift-plate.

Right plate assembly

- 1 Separate the scanner from the printer (see pages 113 through 118) and remove the left side door and back cover (pages 129 and 130).
- 2 Remove the front cover, print cartridge door, and front guide assembly (see pages 133 through 138).
- 3 Remove the solenoid (see page 151).
- 4 Remove the fan assembly (see page 153).
- 5 Press the small white tab to release the clutch (see inset—you may need to use a small screwdriver), and slide the clutch to the left (toward the pickup roller).

Note

Make sure that the two halves of the clutch stay together. If they separate, you might lose the clutch spring.

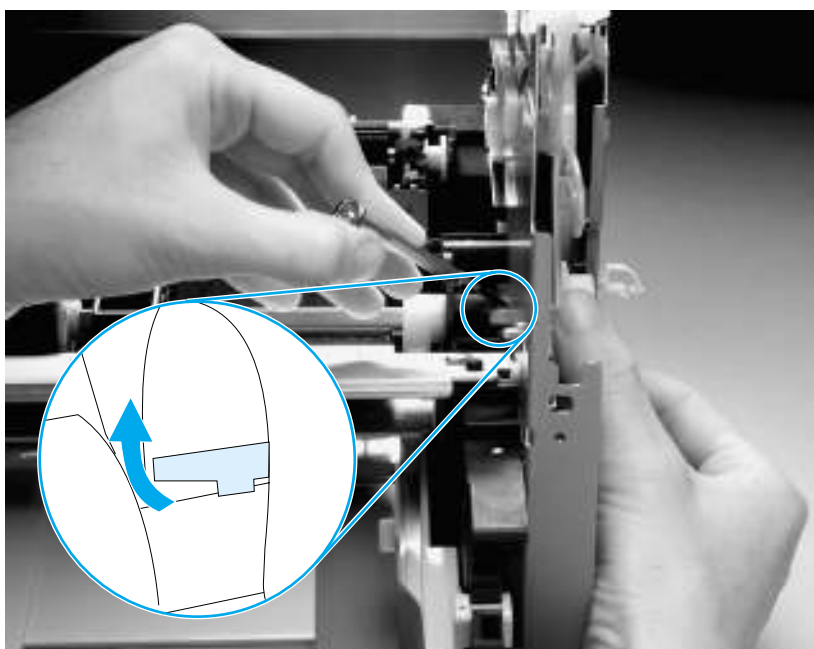


Figure 81. Removing the right plate assembly (1 of 2)

- 6 Remove seven screws (callout 1).

Note

If you have not already removed the fuser, remove the fuser screw and the largest gear on the fuser (already removed from photo), and the 69T gear (callout 2).

- 7 Remove the right plate assembly.

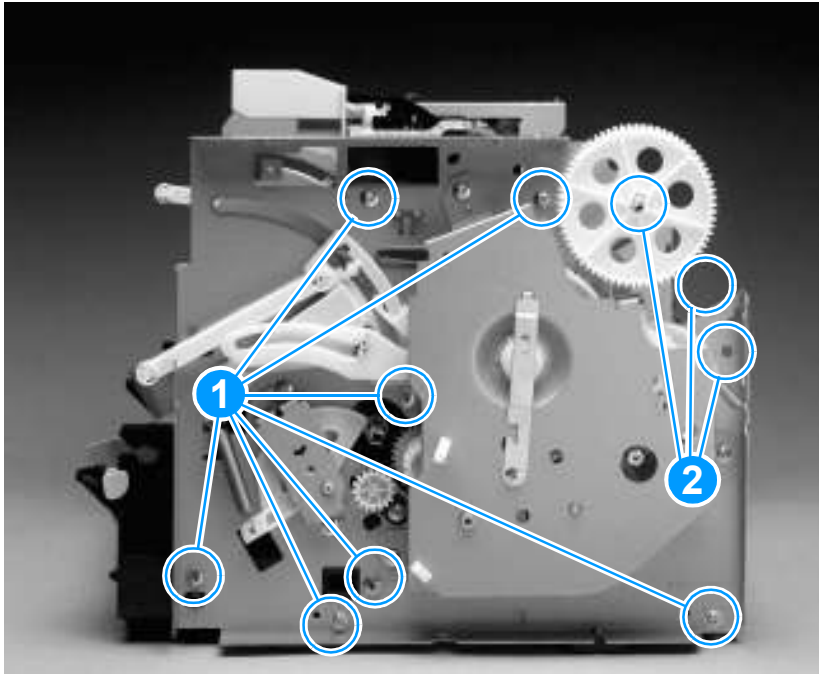


Figure 82. Removing the right plate assembly (2 of 2)

Left plate assembly

- 1 Separate the scanner from the printer (see pages 113 through 118) and remove the left side door and back cover (pages 129 and 130).
- 2 Remove the front cover, the print cartridge door, and the front guide assembly (see pages 133 through 138).
- 3 Remove the formatter (see page 142).
- 4 Remove six screws (callout 1). If you have not already removed the fuser, remove the fuser screw (callout 2).
- 5 Remove the left plate assembly.

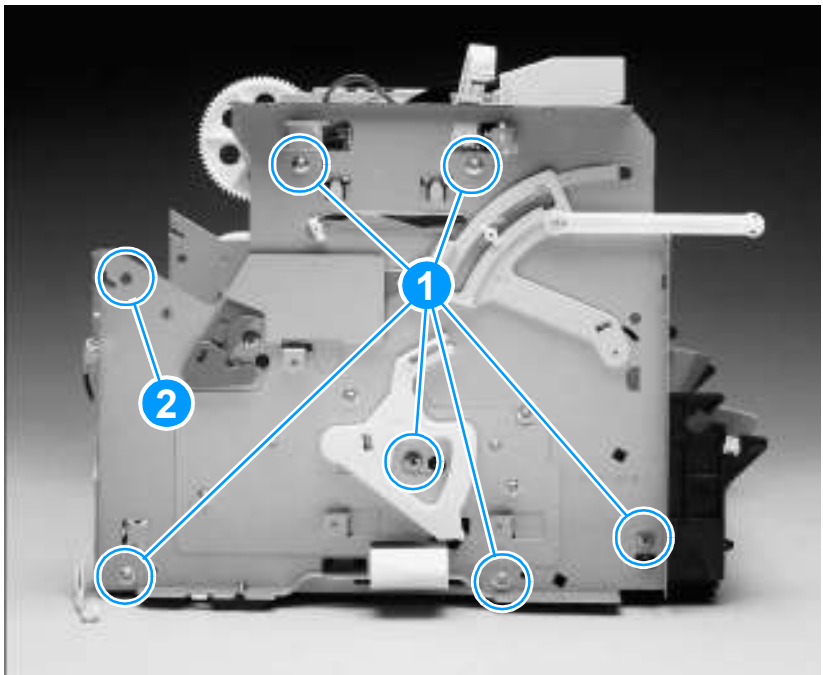


Figure 83. Removing the left plate assembly

Bottom assemblies

Left bottom frame support

- 1 Open the left side door.
- 2 Remove three screws (callout 1).

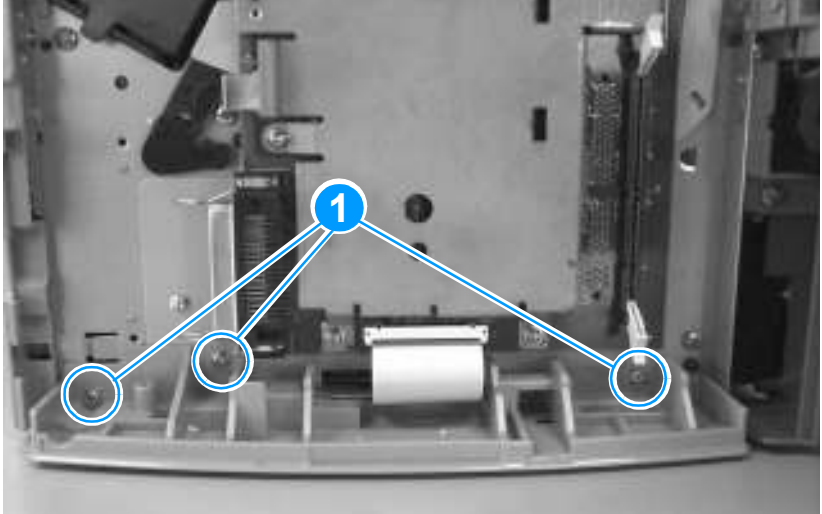


Figure 84.

Removing the left bottom frame support

- 3 Disconnect the locking connector and free the flat flexible cable from the bottom of the formatter.
- 4 Remove the left bottom frame support.

ECU fuses and ECU pan

- 1 Remove the right side cover and the back cover (pages 130 and 163).

Note

The two fuses on the ECU can now be accessed and replaced, if necessary, without removing the ECU pan. The fuse closest to the back of the product is 10A for the 110V model and 20A for the 220V model. The other fuse is 2.5A, 110V for both models (callout 3 in Figure 89).

- 2 Remove the left bottom frame support (page 113).
- 3 Unplug the three spade connectors (callout 1).
- 4 Disconnect the motor cable connector (callout 2) on the side of the motor.
- 5 Unplug the fuser cable connector (callout 3) by pressing and releasing the tab on the back of the connector.
- 6 Unplug all other cable connectors (callout 4) from the ECU.

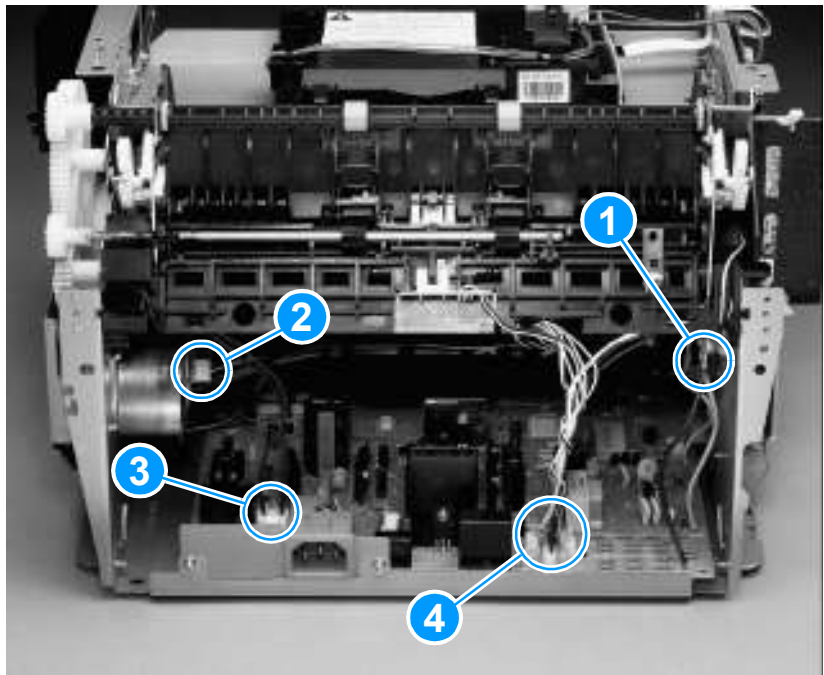


Figure 85. Removing the ECU pan (1 of 5)

- 7 Disengage the flat flexible connector from the formatter and disconnect the flat flexible cable (callout 1). Remove one screw (callout 2) on the left side of the printer.

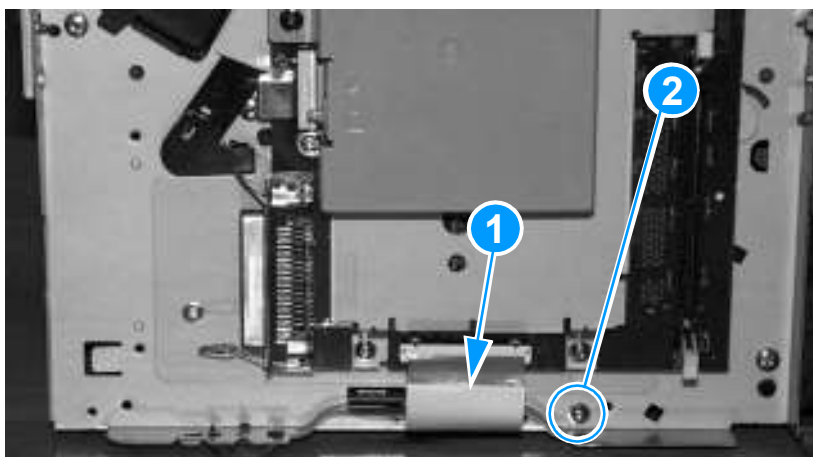


Figure 86. Removing the ECU pan (2 of 5)

- 8 Remove two screws (callout 1) on the right side of the printer.

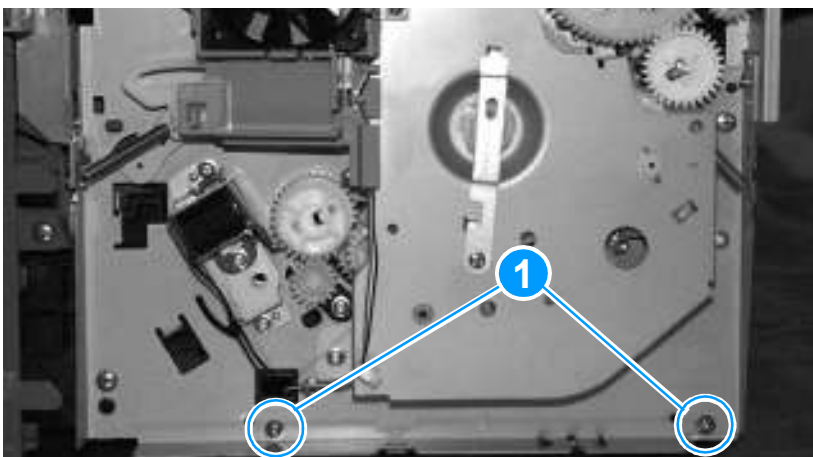


Figure 87. Removing the ECU pan (3 of 5)

- 9 Gently lift the ECU pan in the printer and slide it backward to free it from the pins on the inside of the printer (callout 1).

Note

The entire ECU board can be replaced as a single unit. (Only soldered cables ship with the replacement board; if other cables are damaged during removal, you will have to purchase new ones.)

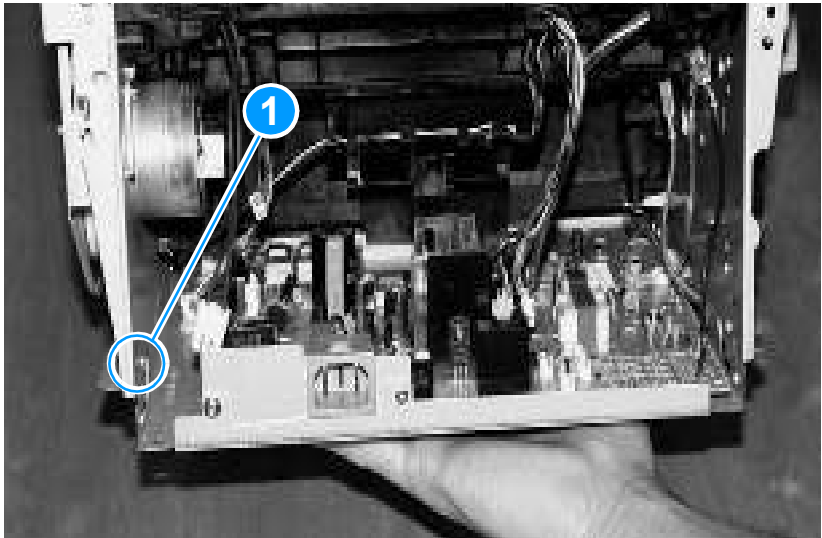


Figure 88. Removing the ECU pan (4 of 5)

- 10 Remove five screws (callout 1).
- 11 Unclip the wire from the connector (callout 2).
- 12 Lift the ECU out of the ECU pan.

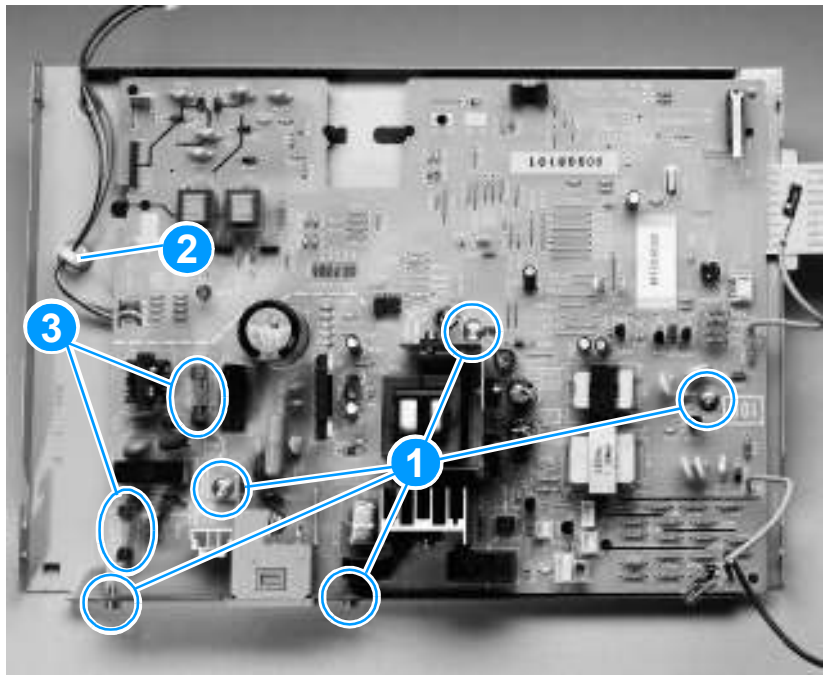


Figure 89. Removing the ECU pan (5 of 5)

Note

Callout 3 in the figure above shows the two fuses on the ECU (see the note on page 164).

Paper-feed assembly

- 1 Separate the scanner from the printer (see pages 113 through 118) and remove the left side door and back cover (pages 129 and 130).
- 2 Remove the right plate assembly (see page 160).
- 3 Remove the ECU pan (see page 164).
- 4 Unwind the fan and solenoid cables from the cable guides (callout 1) on the paper-feed mechanism.
- 5 Remove two screws (callout 2) from the paper-feed mechanism.
- 6 Remove one screw (callout 3) from the paper-sensor PCB assembly.

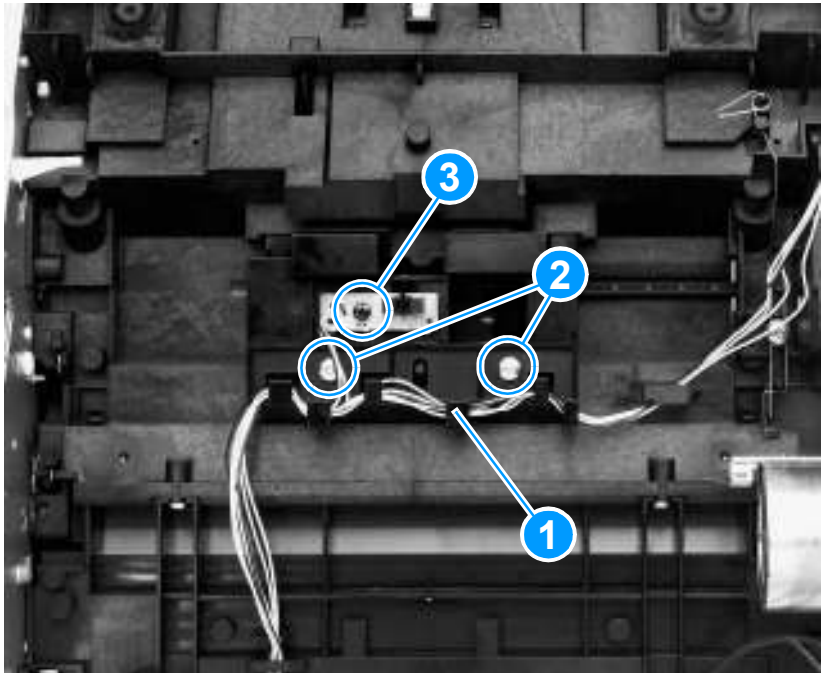


Figure 90. Removing the paper-feed assembly (1 of 4)

- 7 Separate two bushings (on the bottom of the paper-feed mechanism) from the paper-feed roller shaft (callout 1), and lift up and out the paper-feed mechanism.

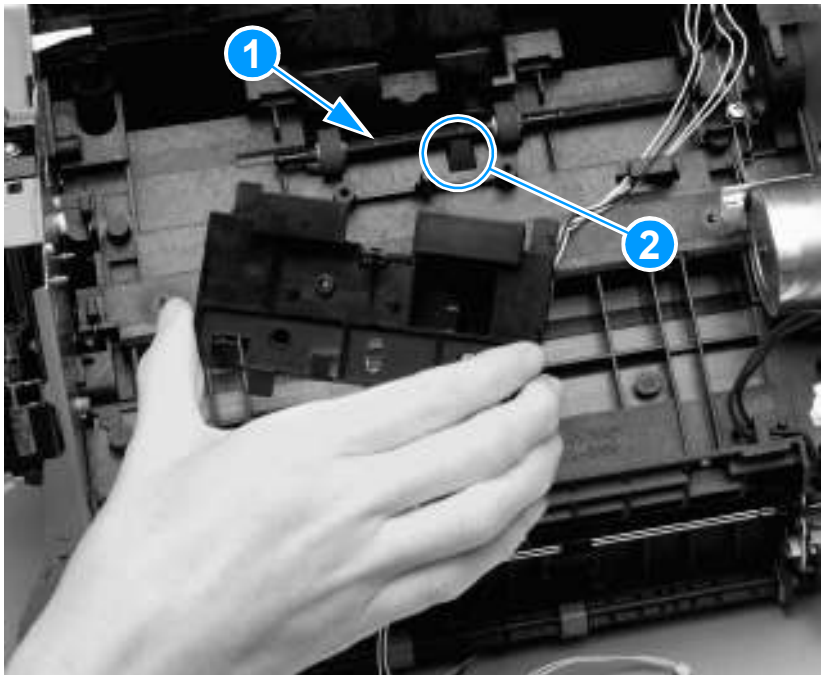


Figure 91. Removing the paper-feed assembly (2 of 4)

To reinstall

Insert the bottom of the sensor flag into the hole (callout 2) in front of the paper-feed roller shaft.

(See page 171 for more reinstallation notes.)

- 8 Use needle-nose pliers to push the two tabs away from the end of the paper-feed roller shaft.

Note

You might find it easier to first remove the right plate assembly (see page 160).

Do not remove the gear shield, because the gears and springs can easily separate and become misplaced.

- 9 Pull the paper-feed roller shaft toward the left side of the product and remove it.

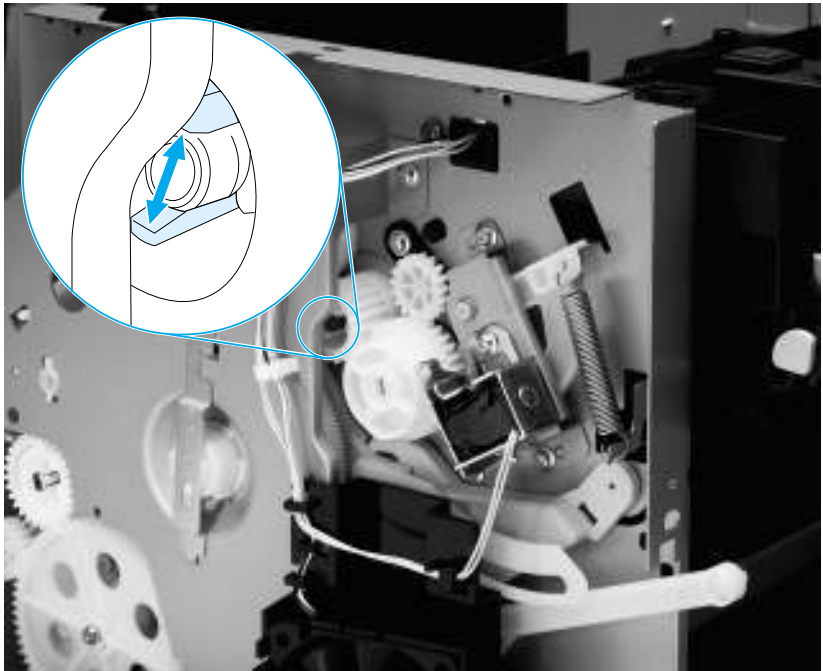


Figure 92. Removing the paper-feed mechanism (3 of 4)

To reinstall

- 1 Insert the two tabs (callout 1) on the paper-feed assembly into the two recesses.
- 2 Insert the bottom of the sensor flag into the hole in front of the paper-feed roller shaft (see callout 2 on page 169). The top of the sensor flag (callout 2) should move freely.

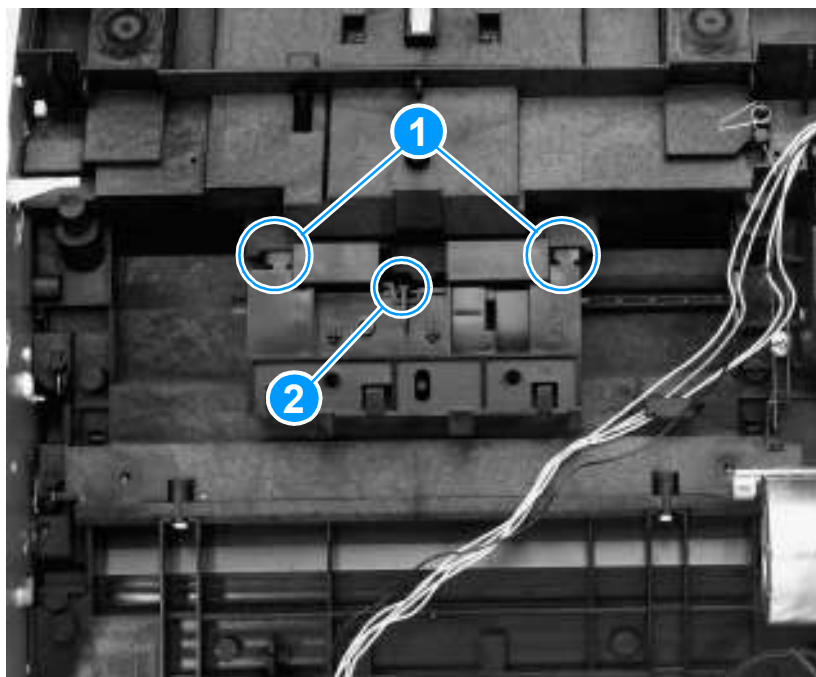


Figure 93. Removing the paper-feed mechanism (4 of 4)

6 Troubleshooting

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Basic troubleshooting

Table 15. Basic troubleshooting

#	Verification steps	Possible problems	Solutions
1	Is Power On successful? When the product is connected to a grounded power source, Hewlett Packard is displayed with moving cursors indicating that the firmware code is loading, and the printer motor rotates for approximately five seconds. When the firmware is done loading (30-40 seconds after power-on), Scanner bulb management is displayed and the scan head moves back and forth for 10-15 seconds. If you lift the lid, you will see that the scanner bulb is lit. Near the end of this time, the ADF motor turns on for about two seconds.	No power due to failed power source, cable, switch, or fuse.	1. Verify that the product is plugged in. 2. Verify that the power cable is functional and that the power switch is on (220v only). 3. Verify that FU102 on the ECU is not open. 4. If all of these conditions are correct, replace the ECU.
		Printer motor does not rotate.	1. Verify that the toner cartridge is present. 2. Verify that the product doors are closed. 3. Verify that paper is loaded in the paper input tray. 4. Verify that the printer path paper sensors are functional. 5. Verify that the motor connector J1 is seated into the ECU. 6. Verify that the motor is correctly mounted to the product chassis. 7. If all of these conditions are correct, replace the ECU. 8. If, after replacing the ECU, the printer motor still does not rotate, replace the motor.
		ADF motor does not rotate or scanner bulb does not light.	1. Verify that the scanner connector is seated in the formatter and scanner formatter. 2. Check all cabling on the scanner formatter. 3. If the ADF motor still does not rotate, replace the ADF. 4. If the scanner bulb still does not light, replace the scanner assembly. 5. If the problem persists, replace parts one at a time in the following order until the problem is resolved: scanner formatter, formatter, and finally the ECU.

Table 15. Basic troubleshooting (continued)

#	Verification steps	Possible problems	Solutions
2	Is the product ready? The control panel should function without error messages.	Control panel displays an error.	Consult the list of common messages later in this chapter to correct the error.
		Control panel is not functional.	Verify that the control panel cable is seated into both the control panel and the scanner formatter. Also check the connections between the scanner formatter and the formatter. If all cables are undamaged and seated correctly but the problem persists, replace the control panel.
		Control panel display is blank, but the LEDs are lit.	1. On units that allow for firmware recovery, recover the firmware using the recovery DIMM. 2. If the problem persists, replace the control panel. 3. If the problem persists, replace the scanner formatter PCA. 4. If the problem persists, replace the formatter.
		Control panel display and LEDs function, but keys do not work.	Replace the control panel.
3	Do engine tests and self-tests print? Print an engine test, which is explained on page 200. The engine test should print without paper-feed problems or print-quality problems. Also print a configuration report (See "Internal reports" on page 209.).	Note	The formatter must be connected to perform an engine test.
		Engine test is successful, but the configuration report does not print.	Replace the formatter.
		Engine test is not successful.	Replace the ECU.
		Control panel displays an error message.	Consult the list of common messages in chapter 2 or the list of error messages in this chapter to correct the error.
		Media does not move smoothly through the printer paper path.	Isolate printer paper-path problems by performing a paper-path check, which is discussed later in this chapter.
		Poor print quality.	See "Solving image-quality problems" on page 188.

Table 15. Basic troubleshooting (continued)

#	Verification steps	Possible problems	Solutions
4	Is the copy function operational? Place the configuration report into the ADF and make a copy. The report should feed smoothly through the ADF and copies should print without print-quality problems. Make a copy from the flatbed as well.	Poor copy quality from the flatbed.	1. If the print quality from the internal tests and the copy from the ADF were acceptable, clean the flatbed glass. 2. If, after performing the maintenance, the problem persists, replace the scanner assembly.
		Poor copy quality from the ADF.	1. If the print quality from the internal tests and the copy from the flatbed were acceptable, clean or, if damaged, replace the ADF scanner glass. 2. If the problem persists, replace the scanner assembly.
		Media does not move smoothly through the ADF path.	Clean the ADF pick roller and ADF separation pad. If the problem persists, replace the ADF pick roller and ADF separation pad. If the problem persists, replace the ADF.
5	Does the LaserJet 3330mfp send a fax? Connect the phone line and verify the dial tone (using a hand set, if necessary). Attempt to send a fax.	The telephone line is not operational or the product is not plugged into the telephone line.	Make sure that the product is plugged into a telephone line that you know works.
		The phone cord is faulty or is plugged into the wrong connector.	Try plugging the phone cord into the other connector. Try a new cord.
		The product's fax settings are set incorrectly.	Review and reset the product's fax settings.
		The flat flexible cable between the formatter and the LIU is damaged or incorrectly seated.	Inspect and reseal or replace the flat flexible cable between the LIU and the formatter.
		The LIU is not operational.	Replace the LIU. If the problem persists, replace the formatter.
6	Does the LaserJet 3330mfp receive a fax? Use another fax machine to send a fax to the LaserJet 3330mfp.	Too many telephone devices are plugged in, or telephone devices are not connected in the correct order.	Make sure that the product is the only device on the telephone line and try again to receive the fax.
		The product's fax settings are set incorrectly.	Review and reset the product's fax settings.
		The flat flexible cable between the formatter and the LIU is damaged or incorrectly seated.	Inspect and reseal or replace the flat flexible cable between the LIU and the formatter.
		The LIU is not operational.	Replace the LIU. If the problem persists, replace the formatter.

Table 15. Basic troubleshooting (continued)

#	Verification steps	Possible problems	Solutions
7	Is the software installed correctly?	Software is not installed or an error occurred during software installation.	Uninstall and then reload the product software. Make sure you use the correct installation procedure and the correct port setting.
8	Does the product print from the computer? Connect the parallel cable or USB cable to the product and the computer. Use a word-processing application to send a print job to the product.	The cable is not connected correctly.	Reconnect the cable.
		An incorrect driver is selected.	Select the proper driver.
		Other devices are connected to the parallel port.	Disconnect the other devices and try again to print.
		There is an LPT port driver problem in Microsoft Windows.	Reset the computer's port settings.
9	Does the product scan to the computer? Initiate a scan from either the computer's basic desktop software or from the product.	The formatter has failed.	Replace the formatter.
		Other devices are connected to the parallel port.	Disconnect the other devices and try again to scan.
		The computer's parallel-port hardware is not bidirectional.	Check hardware documentation to see if the port configuration can be changed.
		The BIOS settings for the parallel port are set incorrectly. Polling is turned off in HP LaserJet Director or HP LaserJet Director is not running.	Reset the computer's port settings. If the problem persists, reset the BIOS settings in CMOS. Start HP LaserJet Director and turn on polling.

Control panel messages

The majority of the control panel messages are intended to guide the user through normal operation. The control panel displays the status of the current operation, including a page count on the second line of the display if appropriate. When the product is receiving fax data, print data, or scanning commands, the control panel displays messages to these affects. In addition, the product displays alert messages, warning messages, and critical error messages.

Alert and warning messages

Alert and warning messages are displayed temporarily and may require acknowledgement by pressing **menu/enter** to resume or **cancel**. With certain warnings, the completion of a job or the quality of the output may be affected. If the alert or warning message is related to printing and the auto-continue is on, the product will attempt to resume the printing job after displaying the warning for 10 seconds without acknowledgement.

Table 16. Alert and warning messages

Message	Possible causes	Solutions
Cleaning Mode. Wait 1-3 Min.	The product is running an internal cleaning cycle.	Wait for the product to finish the cleaning cycle. The message will clear when the cycle is finished.
Fax Busy. Canceled Send	The fax line to which you were sending a fax was busy. The product has cancelled sending the fax.	Call the recipient to ensure that fax machine is on and ready. Check that you are dialing the correct fax number. Check that the Redial On Busy option is enabled. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. Try a different phone cord. If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU.

Table 16. Alert and warning messages (continued)

Message	Possible causes	Solutions
### Is Empty [Enter] To Add	The one-touch key or speed-dial code has not been programmed and therefore cannot be added to a group.	Press menu/enter to program the one-touch or speed-dial. If you want to program a group-dial, press cancel and use the control panel menu to create a new group. Press cancel if you do not want to program the one-touch or speed-dial.
###: [Group Name] Phbook/SpeedDial	The product is waiting for you to press a programmed one-touch key or enter a speed-dial code to a group-dial code.	Begin adding fax numbers to the group-dial code. See "Programming group-dial codes" in the User Guide on the product CD.
Canceled Copy. Clear Document	The cancel key was pressed to cancel the current job while pages were feeding from the document feeder. The cancel process will not automatically clear the document feeder.	Pull the document release door open, remove the jammed item, and close the door. Then, clear the items in the document feeder tray and start over.
Canceled Scan. Clear Document	The cancel key was pressed to cancel the current job while pages were feeding from the document feeder. The cancel process will not automatically clear the document feeder.	Pull the document release door open, remove the jammed item, and close the door. Then, clear the items in the document feeder tray and start over.
Canceled Send. Clear Document	The cancel key was pressed to cancel the current job while pages were feeding from the document feeder tray. The cancel process will not automatically clear the document feeder.	Pull the document release door open, remove the jammed item, and close the door. Then, clear the items in the document feeder tray and start over.
Comm. Error	Fax communication error occurred between the product and the sender or receiver. For descriptions of communication errors see table 22, "Fax receive error codes," on page 211, and table 23, "Fax send error codes," on page 216.	Allow the product to retry sending the fax. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. Try a different phone cord. If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU.
Device Busy. Try Again Later	The product is currently in use.	Wait for the product to finish the current job.
Device Error. [Enter] To Cont.	There was an internal error in the product.	Press menu/enter to resume the job.

Table 16. Alert and warning messages (continued)

Message	Possible causes	Solutions
Doc Feeder Jam	A piece of media is jammed in the document feeder tray.	Open the document release door, clear the jam, close the document release door, and reload the paper into the document feeder tray. If the error persists, replace the ADF separation pad and ADF pickup roller.
Document Feeder Mispick. Reload	Media in the document feeder tray was not picked up.	Remove and reload the media into the document feeder tray. If the error persists, replace the ADF pick roller and ADF separation pad.
Door Open Or No Print Cartridge	The print cartridge door is open or the print cartridge is not installed properly.	1. Check that the print cartridge door and left-side door are completely closed. 2. Check that the print cartridge is correctly installed. (See "Print cartridge" on page 110 for more information.) 3. Check that the door and print cartridge interlocks are operating correctly. (See "Paper path check" on page 206 for more information about the door interlock.)
Engine Comm. Error	The product experienced an internal communication error.	Warning message only. Job output may be affected.
Fax Busy. Redial Pending	The fax line to which you were sending a fax was busy. The product automatically redials the busy number. (See "Changing how the product redials" in the User Guide on the product CD.)	Allow the product to retry sending the fax. Call the recipient to ensure that fax machine is on and ready. Check that you are dialing the correct fax number. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. Try a different phone cord. If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU.
Fax Memory Full Canceling Recv	During the fax transmission, the product ran out of memory. Only the pages that fit into memory will be printed.	Print all of the faxes and have the sender resend the fax. Cancel all fax jobs or clear the faxes from memory (see "Clearing faxes from memory" in the User Guide on the product CD).
Fax Memory Full Canceling Send	During the fax job, the memory filled. All pages of the fax have to be in memory for a fax job to work correctly. Only the pages that fit into memory were sent.	Print all received faxes or wait until all pending faxes are sent. Cancel all fax jobs or clear the faxes from memory (see "Clearing faxes from memory" in the User Guide on the product CD).

Table 16. Alert and warning messages (continued)

Message	Possible causes	Solutions
Fax Recv Error	An error occurred while trying to receive a fax.	<p>Ask the sender to resend the fax.</p> <p>Try faxing back to the sender or another fax machine.</p> <p>Check that the telephone cord is securely connected by unplugging and replugging the cord.</p> <p>Check for a dial tone on the phone line by pressing fax/send.</p> <p>Make sure the phone is working by disconnecting the product, plugging in a telephone to the phone line, and making a voice call.</p> <p>Connect the product to a different phone line.</p> <p>If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable.</p> <p>If the error persists, replace the LIU.</p>
Fax Send Error	An error occurred while trying to send a fax.	<p>Try resending the fax.</p> <p>Try faxing to another fax number.</p> <p>Check that the telephone cord is securely connected by unplugging and replugging the cord.</p> <p>Check for a dial tone on the phone line by pressing fax/send.</p> <p>Make sure the phone is working by disconnecting the product, plugging in a telephone to the phone line, and making a voice call.</p> <p>Connect the product to a different phone line.</p> <p>If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable.</p> <p>If the error persists, replace the LIU.</p>
Fit to Page on Flatbed Only	Fit to Page does not work when the ADF is being used.	Use the flatbed or choose another reduction/enlargement setting.
Group Dial Not Allowed In Group	The speed-dial code you entered is programmed for a group. Adding a group-dial to another group-dial is not allowed.	Enter one-touch keys (programmed as an individual speed dial) or speed-dial codes to a group-dial
Group Is Full. [Fax] To Start	The maximum number of fax numbers that can be added to an ad hoc group is 20.	Resend to the ad hoc group using less fax numbers.
Invalid Date	An invalid date was entered, such as June 35.	Reenter the date.
Invalid Entry	Invalid data or response.	Correct the entry.
Memory Low. Press [Cancel]	The product memory has been almost completely filled.	Allow the product to finish the job or press cancel to cancel the job.

Table 16. Alert and warning messages (continued)

Message	Possible causes	Solutions
Memory Low.1 Copy. Press [Cancel]	The product completed making one copy. The remaining copies have been canceled because of low product memory.	Press cancel to clear the error. Use the HP LaserJet Director to make multiple copies of large documents, or break the job into smaller jobs containing fewer pages.
Memory Low Only 1 Copy Made	The product does not have enough memory to complete the collated copy job.	Continue completing the collated copy job.
No Dial Tone.	The product could not detect a dial tone.	Unplug the telephone cord from both the product and the wall and replug the cord. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. See "Changing the detect dial tone setting" in the User Guide on the product CD. If the error persists, replace the LIU. If, after replacing the LIU, the error persists, replace the formatter.
No Document Sent	The fax forwarding setting is on and the product was unsuccessful at receiving a fax because of low memory or some other reason. The product deleted the partially received fax data and did not attempt to forward it.	Print the faxes in memory and have the sender resend the missing page(s) of the document.
No Fax Answer. Canceled Send	Attempts to redial a fax number failed or the "Redial on no answer" option was turned off.	Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Check that the redial option is enabled. Unplug the telephone cord from both the product and the wall and replug the cord. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line. If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU.

Table 16. Alert and warning messages (continued)

Message	Possible causes	Solutions
No Fax Answer. Redial Pending	You tried to send a fax, but the receiving fax line did not answer. The product attempts to redial after a few minutes.	<p>Allow the product to retry sending the fax.</p> <p>Call the recipient to ensure that the fax machine is on and ready.</p> <p>Check that you are dialing the correct fax number.</p> <p>Check that the Redial-No Answer option is enabled.</p> <p>Unplug the product telephone cord from the wall, plug in a telephone, and try making a call.</p> <p>Plug the product phone cord into a jack for another phone line.</p> <p>Try a different phone cord.</p> <p>If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable.</p> <p>If the error persists, replace the LIU.</p>
No Fax Detected	The product answered the incoming call but did not detect that a fax machine was calling.	<p>Allow the product to retry receiving the fax.</p> <p>Unplug the product telephone cord from the wall, plug in a telephone, and try making a call.</p> <p>Plug the product phone cord into a jack for another phone line.</p> <p>Try a different phone cord.</p> <p>If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable.</p> <p>If the error persists, replace the LIU.</p>
No Fax Pages To Reprint	The product attempted to execute "Reprint Last Fax" when nothing was in memory.	Receive a fax before attempting to use this option.
Not Enough Memory.Try Later	There is not enough memory to start a new job.	Wait until the current job is finished before starting a new job.
Out of Range	An invalid number was entered.	Correct the entry.
Printer Jam. Clear Paper Path	The product has detected a jam.	Clear the jam. The job should continue to print. If it does not, try reprinting the job. If media jams frequently, see Chapter 3, "Maintenance."
Printer Mispick [Enter]To Resume	The print engine has failed to pick up a piece of media.	Reload the paper in the paper input tray and press menu/enter to continue the job. If the error persists, replace the printer pickup roller.
Printer Tray Is Empty.Add Paper	The paper input tray is empty.	Load media. If media is already loaded, remove it. Check for and remove any jam, and then reload the stack of media in the paper input tray.

Table 16. Alert and warning messages (continued)

Message	Possible causes	Solutions
Scanner Reserved For PC Scan	The product is being used to create a scan by a computer.	Wait until the PC scan has finished, or cancel the scan from the computer software, or press cancel .
Scanning Error. Cannot Connect	The product cannot transmit scan information to a computer.	Check the connection cable and try the scan again.
Settings Cleared	The product has cleared job settings.	Reenter any desired job settings.
Time/Date is in Past.Try Again	Invalid time or date entry.	Enter the correct time or date.

Critical error messages

Critical error messages may indicate some kind of failure. Cycling the power may fix the problem. If a critical error persists, the product may require service.

Table 17. Critical error messages

Message	Cause	Solution
50 Fuser Error	The product has experienced an internal hardware error.	Disconnect the power cable from the product, wait at least 20 minutes, then reconnect the power cable and wait for the product to initialize. Check the cabling connections to the heating element. Perform the heating element check (see page 203). If the error persists, replace the heating element. If, after replacing the heating element, the error persists, replace the ECU.
51 Laser Error	The product has experienced an internal hardware error.	Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Check the cabling connections to the laser scanner assembly. Try connecting the product to a different power source or surge protector. If the error persists, replace the laser scanner assembly.
52 Scanner Error	The product has experienced an internal hardware error.	Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try connecting the product to a different power source or surge protector. If the error persists, replace the laser scanner assembly.
79 Error PowerOff>PowerOn	The product has experienced an internal firmware error.	Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. If the error persists, upgrade the firmware (page 207).

Table 17. Critical error messages (continued)

Message	Cause	Solution
ADF Door Open	The ADF door is open or a sensor is malfunctioning.	<p>Make sure the ADF door is closed.</p> <p>If the message persists, disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try another power source.</p> <p>If the message persists, open the ADF door and press down the spring-metal arm at the back of the ADF (connected to the ADF door sensor). If the ADF door sensor is functioning, the display will change to read "Document Loaded."</p> <p>If the sensor is not functioning, replace the ADF.</p>
CCD Scanner Error	The scanner assembly experienced an internal error.	<p>Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try another power source. If the error persists, replace the scanner assembly.</p>
Scanner Bulb Failure	The scanner assembly experienced an error in scanner bulb functionality.	<p>Disconnect the power cable from the product, wait at least 30 seconds, then reconnect the power cable and wait for the product to initialize. Try another power source.</p> <p>If the error persists, lift the cover to see if the scanner bulb is lighting. If it is not lighting, replace the scanner assembly.</p> <p>If the bulb is lighting, the scan module may be too far to the right to find the calibration strip during startup. Follow this procedure to move the scan module so it begins the startup cycle farther to the left:</p> <ol style="list-style-type: none"> 1. Cycle the power and watch the movement of the scan module. The scan module will move to the left and the bulb will light. When it does, cycle the power. 2. Repeat the first step until the scan module is about three centimeters (about an inch) from the right edge of the scan glass. 3. Plug in the unit. <p>If the error persists, replace the scanner assembly.</p>

Checking the print cartridge

Image formation defects are frequently the result of problems in the print cartridge. If there is any doubt, always replace the print cartridge before troubleshooting image defects.

Use the following checklist to make sure that the print cartridge is still operable.

- ☐ Make sure that the print cartridge is seated properly.
- ☐ Inspect the print cartridge for toner level.
- ☐ Check the expiration date stamped on the print cartridge box.
- ☐ Check the print cartridge to see if it has been disassembled or refilled.
- ☐ Inspect the print cartridge to see if toner is leaking through worn seals.
- ☐ Check the surface of the photosensitive drum in the cartridge to see if it has been damaged or scratched. Touching the drum contaminates the photosensitive surface and can cause spotting and image defects.
- ☐ Blurred areas on printed pages indicate that the photosensitive drum in the cartridge has been overexposed to light. Because overexposure to light causes permanent damage to the photosensitive drum, the cartridge should be replaced.

Note

A print cartridge weighs approximately 863 gm. (30.5 oz.) when it is full, approximately 766 gm. (27.0 oz.) when it first fades, and approximately 742 gm. (26.2 oz.) when it is empty.

To redistribute toner in the print cartridge

Before installing a new print cartridge or when toner begins to run low, redistribute the toner by rotating the cartridge back and forth five or six times.

Solving image-quality problems

Use the following tables to help solve problems with printed pages.

If the problem occurs when printing, see table 18, “Solving print image-quality problems,” on page 188.

If the problem occurs when copying or scanning, see table 19, “Solving scanning (copying) image-quality problems,” on page 194.

Also, see table 20, “Solving print paper-feed problems,” on page 197 and “Solving scanner (copier) paper-feed problems” on page 199.

Solving print image-quality problems

Table 18. Solving print image-quality problems

Problem	Cause	Solution
Pages do not print.	The product is not plugged in.	Make sure that the product is plugged into a live wall outlet or power strip.
	The computer cable is loose.	Check that the parallel cable between the product and the computer is securely connected.
	The tape was not removed from the print cartridge.	Remove the print cartridge, remove the tape, and return the print cartridge. See “Print cartridge” on page 110.
	The print cartridge is out of toner.	Replace the print cartridge. (See “Print cartridge” on page 110.)
	The media you are using does not meet HP’s specifications (for example, it is too moist or too rough).	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
Parts of the page around the edges are not printing.	The product cannot print to the edge of the paper. The printer has minimum margins on each edge of 4.23 mm (0.167 in).	To get the image to fit into this printable area, slightly reduce the size of the image.
	The reduction setting is set incorrectly.	Check the reduction setting in the “Print” or “Setup” window from within the program you are using.

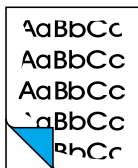


Table 18. Solving print image-quality problems (continued)



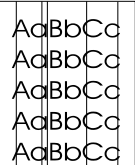
Problem	Cause	Solution
Toner specks appear on the printed page. 	The media you are using does not meet HP's specifications (for example, it is too moist or too rough).	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The print path needs to be cleaned.	Clean the print path. (See "Cleaning the print path" on page 59.)
Characters are only partially printed (also referred to as dropouts). 	A single sheet of paper is defective.	Try reprinting the job.
	The print density needs to be adjusted.	Adjust the print density from the device configuration utility.
	The moisture content of the paper is inconsistent, or the paper has moist or wet spots on the surface.	Make sure that the media meets HP's specifications.
	The paper was damaged by inconsistent manufacturing processes.	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	A draft mode or economy mode is selected in the software.	Try the normal or best setting.
	The print cartridge is defective.	Replace the print cartridge.
Vertical lines appear on the printed page. 	The priority input tray is not in place.	Adjust the priority input tray.
	The photosensitive drum inside the print cartridge is scratched.	Replace the print cartridge.
	The fuser is damaged or has an obstruction.	Replace the fuser.

Table 18. Solving print image-quality problems (continued)



Problem	Cause	Solution
The printed page has a gray background. 	The priority input tray is not in place.	Adjust the priority input tray.
	The print density setting is too high.	Decrease the amount of background shading through the device configuration utility.
	The media basis weight is too high.	Change the media to a lower basis weight.
	The humidity level is too low.	Very low humidity can increase the amount of background shading. Move the product to a different location, or decrease the background shading through the device configuration utility.
	The print cartridge needs to be replaced.	Replace the print cartridge.
Toner smears appear on the printed page. 	If the toner smears appear on the leading edge of the media, the media guides are dirty.	Wipe the media guides with a dry, lint-free cloth.
	The media you are using does not meet HP's specifications (for example, it is too moist or too rough).	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The print cartridge needs to be replaced.	Replace the print cartridge.
	The fuser temperature is too low.	Select Optimize for: in the Paper tab of the driver. Make sure that it is set for the appropriate media. Perform the heating element check (see page 203). If the error persists, replace the heating element. If, after replacing the heating element, the error persists, replace the ECU.

Table 18. Solving print image-quality problems (continued)

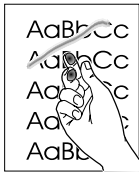

Problem	Cause	Solution
<p>The toner is loose, and it does not stay attached to the printed page.</p> 	The inside of the printer is dirty.	Clean the print path. (See "Cleaning the print path" on page 59.)
	The media you are using does not meet HP's specifications (for example, it is too moist or too rough).	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The print cartridge needs to be replaced.	Replace the print cartridge.
	The driver is not set for the correct media.	1. Select Optimize for: in the Paper tab of the driver. Select the correct media. 2. Select the correct media through the device configuration utility.
	The power strip is not working correctly.	Plug the product directly into an AC outlet.
	The fuser temperature is too low.	Select Optimize for: in the Paper tab of the driver. Make sure that it is set for the appropriate media. Perform the heating element check (see page 203). If the error persists, replace the heating element. If, after replacing the heating element, the error persists, replace the ECU.
<p>Repetitive vertical defects appear on the printed page.</p> 	If the repetitive mark occurs at equal distance between marks, either the print cartridge or a printer roller is damaged.	Use the defect ruler to identify the spacing. Check the appropriate component and replace if necessary. (See "Repetitive image defect ruler" on page 236.)
	The internal parts have toner on them.	If the defects occur on the back of the page, the problem will probably correct itself after a few more printed pages. Otherwise, clean the printer. (See "Cleaning the print path" on page 59.)
	The driver is not set for the correct media.	1. Select Optimize for: in the Paper tab of the driver. Select the correct media. (This affects the current print job only.) 2. Select the correct media through the device configuration utility.

Table 18. Solving print image-quality problems (continued)



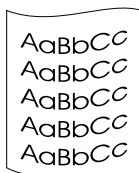
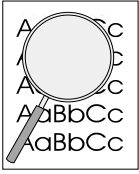
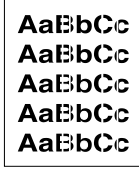
Problem	Cause	Solution
Characters are poorly formed and are producing hollow images. 	The media is too slick.	Try a different media. Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The driver is not set for the correct media.	<ol style="list-style-type: none"> 1. Select Optimize for: in the Paper tab of the driver. Select the correct media. (This affects the current print job only.) 2. Select the correct media through the device configuration utility.
Pages are skewed. 	The media is loaded incorrectly.	Reload the media, and make sure that the media guides are not too tight or too loose against the media stack.
	The input tray is too full.	Remove some of the sheets. The main input tray can hold up to 250 sheets of 20-lb. (75 g/m ²) bond weight paper (less for heavier paper) or from 20 to 30 envelopes. The priority input tray can hold up to ten sheets of 20-lb. (75 g/m ²) bond weight paper (one sheet of heavier paper) or one envelope.
	The type and quality of media you are using does not meet HP's specifications.	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
The printed page has curls or waves. 	The environment is too warm or too humid.	<ol style="list-style-type: none"> 1. Both high temperatures and high humidity levels cause media to curl. Move the product to a different environment. 2. Use a different media. Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The media was in the input tray for too long.	<p>Turn the stack of media over and put it back in the tray.</p> <p>Rotate the media 180° and put it back in the tray.</p>
	The standard paper path is not working correctly.	Open the straight-through output door on the back of the product and use this paper path.
	The fuser temperature is too high.	Select Optimize for: in the Paper tab of the driver. Make sure that it is set for the appropriate media.

Table 18. Solving print image-quality problems (continued)

Problem	Cause	Solution
<p>Large amounts of toner are scattered around the characters.</p> 	<p>The media resistivity is too high.</p>	<ol style="list-style-type: none">1. Use a different media. Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.2. Turn the stack of media over and put it back in the tray.3. Use media that is designed for laser printers.
<p>Vertical white stripes appear.</p> 	<p>The media you are using does not meet HP's specifications (for example, it is too moist or too rough).</p> <hr/> <p>The toner is low.</p>	<p>Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.</p> <hr/> <p>Gently shake the print cartridge back and forth to redistribute the toner.</p>

Solving scanning (copying) image-quality problems

Table 19. Solving scanning (copying) image-quality problems

Problem	Cause	Solution
Pages do not print.	The product is not plugged in.	Make sure that the product is plugged into a live wall outlet or power strip.
	The computer cable is loose.	Check that the cable between the product and the computer is securely connected.
	The tape was not removed from the print cartridge.	Remove the print cartridge, remove the tape, and return the print cartridge. (See "Print cartridge" on page 110.)
	The print cartridge is out of toner.	Replace the print cartridge. (See "Print cartridge" on page 110.)
	The media you are using does not meet HP's specifications (for example, it is too moist or too rough).	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The original was loaded upside-down.	Load the original with the side to be scanned facing up in the ADF or down on the flatbed.
Parts of the page around the edges are not printing.	The product cannot print to the edge of the paper. The printer has minimum margins on each edge of 4.23 mm (0.167 in).	To get the image to fit into this printable area, slightly reduce the size of the image.
	If copying, the reduction setting is incorrect.	Copied images will be clipped if the image on the original is too close to the edge of the original.
	The paper size setting is incorrect.	Set the correct page size using the control panel menu.
Vertical white stripes appear.	The media you are using does not meet HP's specifications (for example, it is too moist or too rough).	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The toner is low.	Gently shake the print cartridge back and forth to redistribute the toner.
	If copying with the ADF, the ADF glass is dirty.	<ol style="list-style-type: none"> 1. Clean the ADF glass. 2. If the problem persists, replace the print cartridge. 3. If the problem persists, replace the fuser assembly.

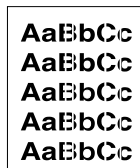
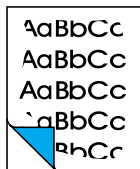


Table 19. Solving scanning (copying) image-quality problems (continued)

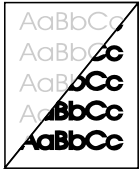
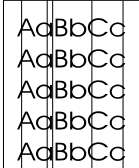



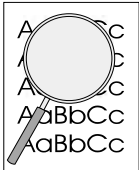
Problem	Cause	Solution
Copies or scanned images are too light or too dark. 	The contrast is not set correctly.	<ol style="list-style-type: none"> 1. Adjust the contrast and resolution settings from the control panel menu or HP LaserJet Director or HP Document Manager. 2. Check that the contrast and resolution settings are correct. See the user guide for more information.
	The original image is very light or very dark.	Adjust the resolution and contrast setting(s) from the control panel menu or toolbox on the HP LaserJet Director or HP Document Manager.
	The scanned image is too light or too dark because the original was on colored paper.	If the original was on a colored paper, including brown recycled paper, the text might not be clear. Adjust the resolution, contrast, and brightness settings from the toolbox on the HP LaserJet Director or HP Document Manager.
Vertically-aligned black streaks or smears appear on successive pages. 	The printer needs to be cleaned.	Clean the printer. (See "Cleaning the print path" on page 59.)
	If copying with the ADF, the ADF glass is dirty.	Clean the ADF path. (See "Cleaning the product" on page 57.)
	A component is damaged. (For example, the photosensitive drum inside the print cartridge is scratched.)	<ol style="list-style-type: none"> 1. Replace the print cartridge if it is damaged and if maintenance procedures do not improve print quality. 2. Replace the scanner assembly.
Scanned images have black dots or streaks. 	The scanner glass is dirty.	Clean the ADF path and flatbed glass. (See "Cleaning the product" on page 57.)
	There is a problem with the scanner assembly.	Replace the scanner assembly.

Table 19. Solving scanning (copying) image-quality problems (continued)

Problem	Cause	Solution
Scanned text is not clear. 	The contrast, resolution, or brightness needs to be adjusted before scanning.	<ol style="list-style-type: none"> 1. Adjust the contrast and resolution settings from the HP LaserJet Director or HP Document Manager. 3. Check that the contrast and resolution settings are correct. See the user guide section for more information.
	The original is on colored paper.	If the original is on colored paper, including brown recycled paper, the text might not be clear. Try adjusting the resolution, contrast, and brightness settings from the toolbox on the HP LaserJet Director or HP Document Manager.
	There is a problem with the scanner assembly.	Replace the scanner assembly.
Images are scanning at a reduced size. 	The HP software settings are set to reduce the scanned image.	<ol style="list-style-type: none"> 1. Adjust the settings in the HP LaserJet Director or HP Document Manager. 2. Adjust the Quick Copy settings. 3. Adjust the settings in the HP LaserJet Copier software.
Large amounts of toner are scattered around the characters. 	The media resistivity is too high.	<ol style="list-style-type: none"> 1. Use a different media type. Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family. 2. Turn the stack of media over and put it back in the tray. 3. Use media that is designed for laser printers.

Solving paper-feed problems

Use the following table to solve problems related to moving paper or documents through the product.

If the problem occurs when copying or scanning, see table 21, “Solving scanner paper-feed problems,” on page 199.

Solving print paper-feed problems

Table 20. Solving print paper-feed problems

Problem	Cause	Solution
Pages are coming out curled or wrinkled.	Paper curl is inherent to the laser printing processes, and occurs when paper is subjected to heat. Paper curl tends to relax as the paper cools while resting on a flat surface.	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	Paper is curled or wrinkled when using the paper output bin.	Open the straight-through output door on the back of the product and use this paper path. Reset the fuser mode to the default.
	Paper is not stored properly.	Whenever possible, store paper in its sealed ream at room temperature.
	The media is too long for the printer output bin.	Use the long media extension.
	The fuser temperature is too high.	Select Optimize for: in the Paper tab of the driver. Make sure that it is set for the appropriate media.
Print is misaligned on the page (skewed pages).	The main input tray is overfilled.	Remove some of the media.
	The paper guides are not set correctly, are broken, or are missing.	Be sure to center the paper with the side media guides. Verify that the guides are not adjusted too tightly or too loosely against the paper. Check for broken or missing guides and replace as necessary.
	The paper's weight or surface finish does not meet HP's specifications.	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.

Table 20. Solving print paper-feed problems (continued)

Problem	Cause	Solution
The printer feeds multiple sheets or jams frequently from the main input tray or priority input tray.	Paper guides are not adjusted properly.	Slide the guides against the sides of the stack in the main input tray or the priority input tray to center the paper. Make sure the guides are not adjusted too tightly.
	Paper was not removed from the main input tray before refilling the tray.	Always remove paper from the main input tray before refilling it.
	The main input tray is overfilled.	Remove some of the sheets. The main input tray can hold up to 250 sheets of 20-lb. (75 g/m ²) bond weight paper (less for heavier paper) or from 20 to 30 envelopes.
	The priority input tray is overfilled.	Remove some of the sheets. The priority input tray can hold up to ten sheets of 20-lb. (75 g/m ²) bond weight paper (one sheet of heavier paper) or one envelope.
	The paper was poorly cut by the manufacturer and is sticking together.	"Break" the ream of paper by curving it into an upside-down u-shape; this can effectively decrease multifeeds. Also try turning the paper around to feed the opposite end first, or use a different type of paper.
	The paper does not meet HP's specifications for print media.	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The output capacity was exceeded in the paper output bin.	Do not allow more than 125 sheets of 20-lb. (75 g/m ²) bond weight paper (less for heavier paper) to fill the paper output bin.
	The pickup roller is dirty.	Clean the pickup roller. See "Cleaning the printer pickup roller" on page 61.
	The pickup roller is damaged.	Replace the pickup roller. (See "Replacing the printer pickup roller" on page 63.)
	The separation pad is dirty.	Clean the separation pad. (See "Cleaning the printer separation pad" on page 62.)
	The separation pad is damaged.	Replace the separation pad. (See "Replacing the printer separation pad" on page 65.)
	A sensor is not operating properly.	Check the sensors to make sure that none of them are jammed. If a sensor cannot be "unjammed," replace the sensor.

Solving scanner (copier) paper-feed problems

Table 21. Solving scanner paper-feed problems

Problem	Cause	Solution
Long pages stop feeding through the ADF.	The document is too long.	The maximum document length is 381 mm (15 in). If your document is too long, copy each segment of it and scan the copies.
	The paper delivery sensor is damaged.	Free the paper delivery sensor. If you cannot free it, replace it.
Scanned items are crooked.	The media input tray guides are not set correctly, are broken, or are missing.	Be sure to center the paper with the media input tray guides. Verify that the guides are not adjusted too tightly or too loosely against the paper. Check for broken or missing guides and replace as necessary.
The ADF feeds multiple sheets or jams frequently from the media input tray.	The media input tray guides are not adjusted properly.	Remove the document from the media input tray. Straighten the item, then reinsert it. Slide the guides against the sides of the item to center it. Make sure the guides are not adjusted too tightly.
	The media input tray is overfilled.	Remove some of the sheets. The media input tray can hold up to 50 pages, depending on the thickness of the pages.
	The item was too thick, too slick, or otherwise did not meet specifications.	Make sure that the media meets specifications detailed in the <i>Print Media Guide</i> for the HP LaserJet family.
	The ADF pickup roller is dirty.	Clean the ADF pickup roller. (See the user guide.)
	The ADF document feed guide is not installed properly.	Ensure that both sides of the ADF document feed guide are snapped in properly.
	The ADF pickup roller is damaged or worn.	Replace the ADF pickup roller. (See the user guide.)
	The ADF separation pad is dirty, damaged, or worn.	Replace the ADF separation pad. (See "ADF separation pad" on page 123.)
	The sensor is not operating properly.	Check the sensor to make sure it is not jammed. If a sensor cannot be corrected, replace the ADF assembly.
	There is a problem in the ADF path.	Check the path for obstructions. Readjust as necessary or replace the ADF assembly.

Functional checks

Engine test

The engine test is used to verify that the print engine is functioning correctly. The formatter is bypassed during an engine test, so the engine test is useful for isolating printer problems. The engine test prints horizontal lines down the entire printable area of a page and is also useful for checking and adjusting registration.

Printing an engine test

The engine test switch is inside the left side door, below the formatter.

To print an engine test, open the left side door and, **using a non-conductive probe**, depress the engine test switch. A single test page will print.

CAUTION

Use a non-conductive probe to depress the engine test switch. Inserting a conductive probe to depress the switch can damage the product.

Note

The formatter must be connected to the ECU to perform an engine test. (See callout 1 in figure 86 on page 165.) Otherwise, the printer does not print.

You must override the print cartridge door interlock (SW 301). (See “Paper path check” on page 206.)

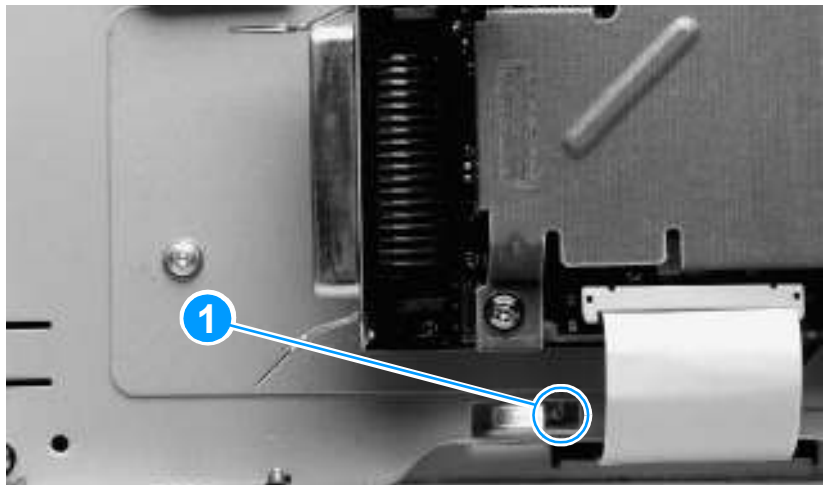


Figure 94. Engine test switch

Half self-test functional check

The electrophotographic process can be subdivided into the following stages:

- image formation stage (charges the drum and writes a latent image to the drum with the laser)
- development stage (forms a toner image on the drum)
- transfer stage (transfers the image to paper)
- cleaning stage (removes excess toner from the drum)
- fusing stage (applies heat and pressure to make the image on paper permanent)

To perform a half self-test check

The purpose of the half self-test check is to determine which process is malfunctioning.

- 1 Print a self-test page. (See “Troubleshooting tools” on page 209.)
- 2 Open the print cartridge door after the paper advances halfway through the printer (about five seconds after the motor begins rotation). The leading edge of the paper should have advanced past the print cartridge.
- 3 Remove the print cartridge.
- 4 Open the print cartridge drum shield to view the drum surface. If a dark and distinct toner image is present on the drum surface, assume that the first two functions of the electrophotographic process are functioning (image formation and development). Troubleshoot the failure as a transfer or fusing problem.

To perform other checks

If there is no image on the photosensitive drum, perform these checks:

- 1 Make sure you removed the entire length of the sealing tape from the print cartridge before you installed the cartridge.
- 2 Perform a drum rotation functional check. (See “Drum rotation functional check” on page 202.)
- 3 Perform a high-voltage power supply check. (See “High-voltage power supply check” on page 204.)

Drum rotation functional check

The photosensitive drum, located in the print cartridge, must rotate for the print process to work. The photosensitive drum receives its drive from the main drive assembly.

Note

This test is especially important if refilled print cartridges have been used.

- 1 Open the print cartridge door.
- 2 Remove the print cartridge.
- 3 Mark the drive gear on the cartridge with a felt-tipped marker. Note the position of the mark.
- 4 Install the print cartridge and close the print cartridge door. The startup sequence should rotate the drum enough to move the mark.
- 5 Open the print cartridge door and inspect the gear that was marked in step 3. Verify that the mark moved.

If the mark did not move, inspect the main drive assembly to make sure that it is meshing with the print cartridge gears. If the drive gears appear functional and the drum does not move, replace the print cartridge.

Heating element check

Paper passes between the heating element and a soft pressure roller to fuse toner to the paper.

- 1 Unplug the product for at least ten minutes. Remove the right cover (page 113) and back cover (page 130).
- 2 Verify that the thermistor connector is seated into both the product chassis and the ECU.
- 3 Unplug the fuser cable connector (callout 1) by pressing and releasing the tab on the back of the connector. To measure the continuity of the heating element, measure the resistance between the two pins at the end of the cable.

Note

Normal resistance is 25 ohms +/- 10 ohms for the 110V product and 80 ohms +/- 20 ohms for the 220V product.

If no resistance is measured, replace the fuser.

- 4 Remove the thermistor connector (callout 2), and measure the resistance between J206 pins one and two and between J206 pins three and four.

Note

Normal resistance between both pairs of pins is 370K ohms +/- 50K ohms at 20° C (68° F).

- 5 If no resistance is measured, replace the fuser.

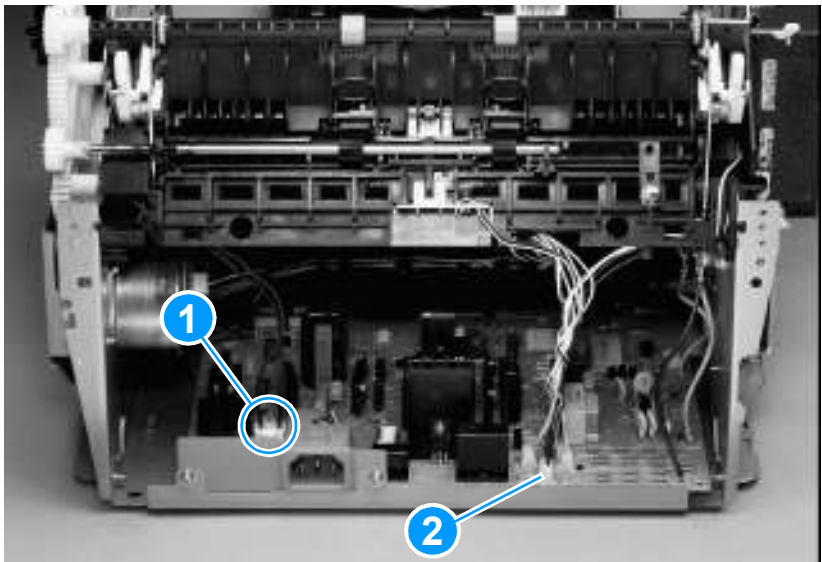


Figure 95. Locating connectors for the heating element check

High-voltage power supply check

The high-voltage power supply PCA provides the necessary voltages for the electrophotographic processes.

To check the print cartridge connection points

Turn the print cartridge over and visually inspect the three connection points on the ends of the print cartridge: drum ground (callout 1), charging (callout 2), and developing roller (callout 3). If they are dirty or corroded, clean the connection. If they are damaged, replace the print cartridge.

Note

Use only isopropyl alcohol to clean the connections.

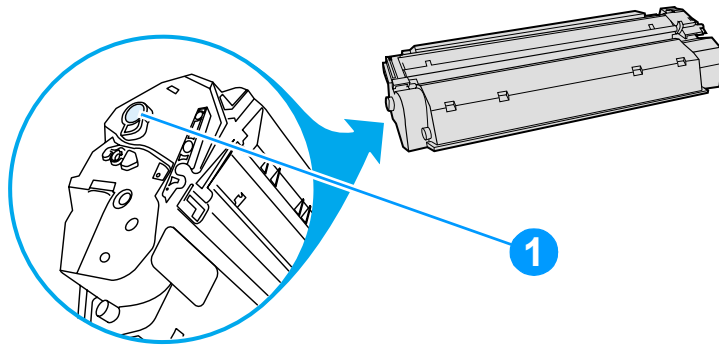


Figure 96. Print cartridge high-voltage connection points (right side)

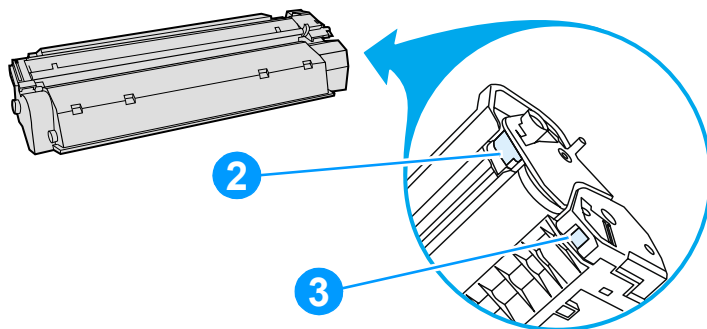


Figure 97. Print cartridge high-voltage connection points (left side)

To check the high-voltage connector assembly

The assembly uses three spring-loaded pins to contact the print cartridge: drum ground (callout 1), charging (callout 2), and developing roller (callout 3). Verify that the pins are not dirty or corroded and that the spring-loading action is functional. If the pins are dirty, clean them using isopropyl alcohol only. If they are damaged, replace the high-voltage connector assembly.

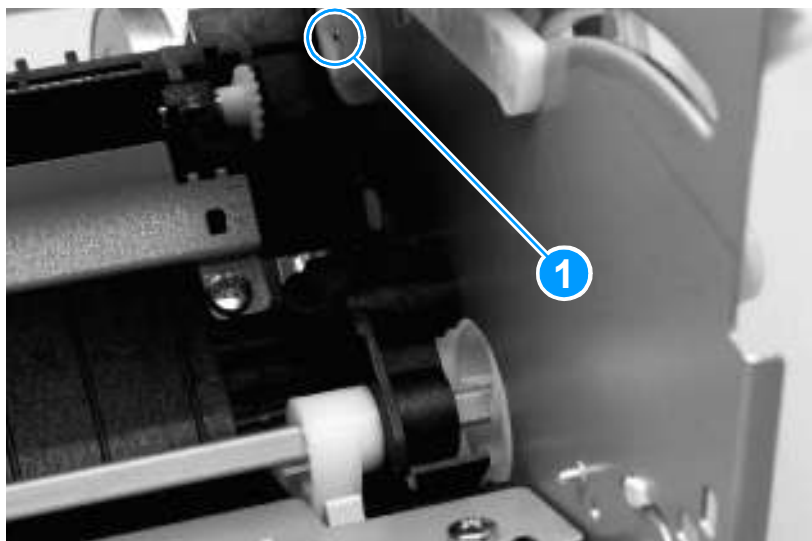


Figure 98. High-voltage connector assembly (right side)

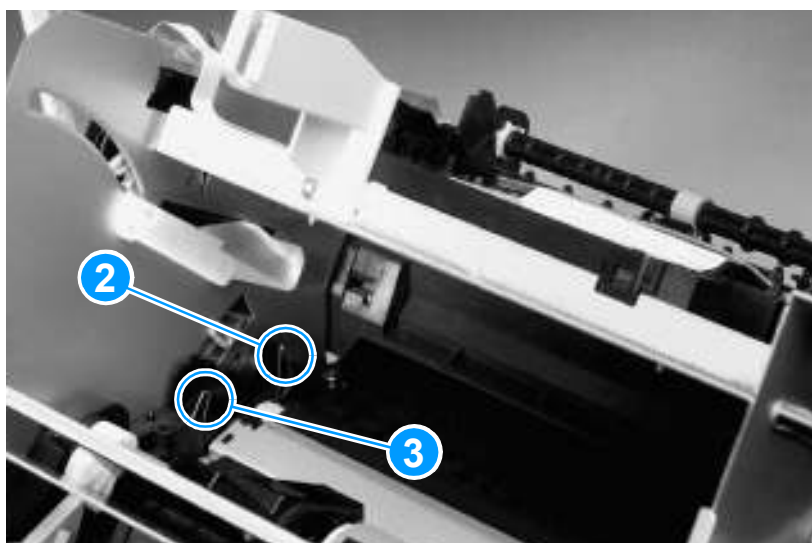


Figure 99. High-voltage connector assembly (left side)

Paper path check

If paper is not being picked up or is not moving through the paper path, you might want to observe all of the paper motion activities. Overriding the door interlock (SW301) allows you to observe:

- motor rotation
- solenoid action
- kick plate motion
- paper pickup roller motion
- drive roller, transfer roller, fuser roller and gear, and delivery roller motion

To override SW301

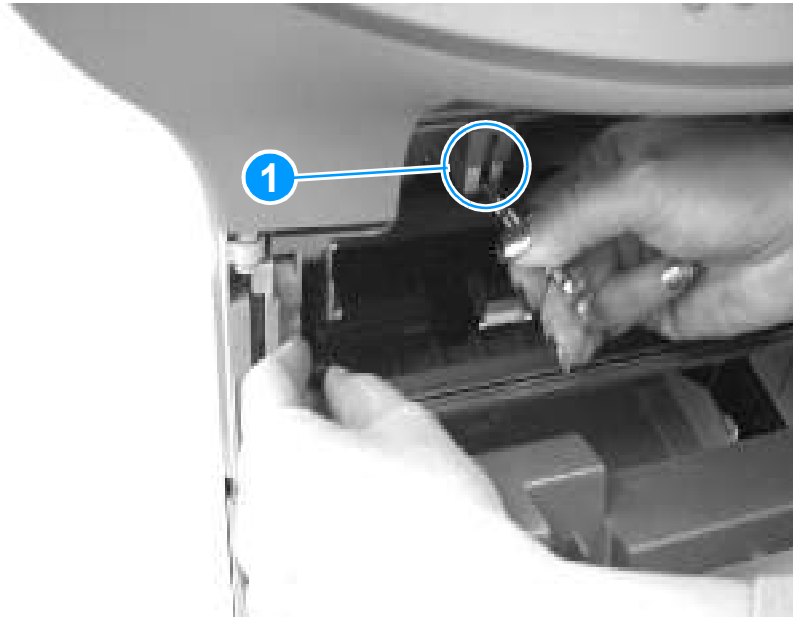


Figure 100. Overriding SW301

- 1 Open the left side door and print cartridge door. Disengage the two print cartridge door arms.
- 2 Install the print cartridge, which will press SW301.
- 3 Press down the laser/scanner interlock switch (callout 1) on the laser/scanner.
- 4 While SW301 and the laser/scanner interlock are engaged, perform an engine test or self-test to observe paper motion. (See procedures elsewhere in this chapter.)

Updating or recovering the firmware code

At product release, all units are manufactured with flash-memory-based formatters allowing the firmware code to be updated in the event that new firmware is released for the product or recovered in the event of code corruption or failure. When the product is mature, formatters are manufactured with permanent ROM, and updating or recovering the firmware code is not necessary.

Firmware update via flash executable

The configuration page lists the firmware version of the product. On flash-memory-based products, you can update the firmware code by downloading the latest flash executable for the product and running the program according to the readme instructions that come with it. If the firmware should become corrupted or fail (usually because of an interruption when attempting to update the firmware), the product will no longer function. In this case, a firmware recovery DIMM is available from HP.

Firmware recovery DIMM

A firmware recovery DIMM can be obtained from HP in the rare event that the firmware in flash memory becomes corrupted. When the DIMM is installed in the DIMM slot on the formatter and the product is powered up, the DIMM loads the latest firmware code into the product.

To use the firmware recovery DIMM

- 1 Order a firmware recovery DIMM (RDIMM) from HP. Retain the return mailer.
- 2 Open the left side door and install the DIMM.

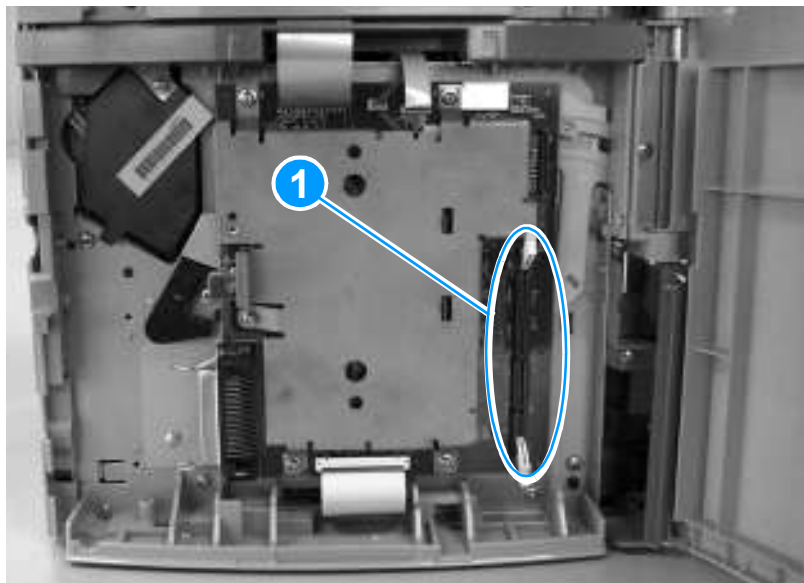


Figure 101.

Using the firmware recovery DIMM

- 3 Plug in the product. The recovery DIMM takes a few minutes to automatically restore both blocks of firmware code. Wait until you see the message `Complete` in the display.
- 4 Unplug or turn off the product and remove the recovery DIMM.
- 5 Restore power to the product. It should start up normally.
- 6 Return the recovery DIMM in the provided packaging to HP.

Internal reports

Use the control panel to print configuration reports and demonstration pages. The configuration report shows the settings selected from the control panel. Printing a configuration report is also considered a "self test" for the printer, although any of the reports can serve this purpose. A printout of the control panel menu structure is a useful reference if you alter settings in the menu.

To print a configuration report, demonstration page, or menu structure

- 1 Press **menu/enter**.
- 2 Use the < or > key to select **Reports** and then press **menu/enter**.
- 3 Use the < or > key to select either **Config Report**, **Demo Page**, or **Menu Structure** and then press **menu/enter**. The product exits the Menu settings and prints the report.

Printing all fax reports at once

To print all fax reports at once:

- 1 Press **menu/enter**.
- 2 Use the < or > key to select **Reports** and then press **menu/enter**.
- 3 Use the < or > key to select **All Fax Reports** and then press **menu/enter**. The product exits the Menu settings and prints the reports.

When you print all reports at once, the following reports are printed:

- **Fax activity log**—recent faxes sent and received, and their status
- **Billing log** (if enabled)—prints by billing code
- **Block fax list** (if enabled)—fax numbers you have blocked
- **Configuration report**—current control panel settings, including the following sections:
 - System information
 - Reports
 - Fax settings

- User defaults
- Service
- Page counts
- **Speed-dial report**—one-touch, speed-dial, and group-dial report

T.30 protocol trace

Use a T.30 protocol trace report to troubleshoot fax transmission issues.

To print a T.30 protocol trace report

- 1 Press **menu/enter**.
- 2 Use the < or > key to select **Service** and then press **menu/enter**.
- 3 Use the < or > key to select **Print T.30 Trace** and then press **menu/enter**. The product exits the Menu settings and prints the reports.

Send a fax from the product or receive a fax to the product from another fax machine. Print a T.30 trace report after the fax prints.

Explanations of some of the report's column heading follow:

- **Date** and **Time** identify when the fax begins. Match it with the fax log of errors.
- **Type** is the type of fax activity: send or receive.
- **Identification** is the phone number to which a fax is sent.
- **Result** explains the status of the fax:
 - "OK" means that the fax was successful.
 - "Pending" faxes are in memory or are printing.
 - For error codes and their meanings, see tables 22 and 23 on pages 211 through 222.

Table 22. Fax receive error codes

Error code	Error definition	Solution
200	The fax session has completed without errors.	None required.
221	User has pressed cancel causing fax session to be prematurely halted.	Allow the product to receive the fax.
222	<p>The local machine has answered a call but has been unable to detect the presence of a calling fax machine. Typically this is caused by the local fax machine answering a voice call.</p> <p>-Or-</p> <p>The remote user canceled the fax transmission by pressing cancel immediately prior to, or just as the local machine answered the call.</p> <p>-Or-</p> <p>The remote machine automatically ended the call immediately prior to, or just as the local machine answered the call.</p> <p>-Or-</p> <p>The remote (calling) fax machine determined there was a feature incompatibility between the two and disconnected immediately before transmitting any further fax tones or T.30 frames. (This is a very rare and non-standard behavior.)</p>	<p>1 Confirm that the remote caller is a fax machine and not a voice call. (Typically we must rely on the remote user informing the caller that the fax session failed.)</p> <p>2 If the remote machine ends the call just as the local machine starts reception, reduce the ring count after which the local machine answers. Alternatively suggest that the remote user manually dials to the local machine and then manually starts the fax session, by pressing Start once fax tones have been heard from the local machine.</p> <p>3 Confirm the remote user is not inadvertently attempting to poll transmit from the local machine, instead of transmitting to the local machine.</p> <p>4 Reconfigure the local fax machine to use different configuration settings, toggle the ECM state and/or select a slower reception speed.</p>
223 (ECM error)	The local machine has been unable to receive an entire page even after multiple attempts to re-receive the parts of the page that contain errors. This is usually caused by extremely poor line conditions.	<p>Reattempt the fax reception at a different time when telephone line conditions have improved.</p> <p>-Or-</p> <p>Disable ECM. Errors may still occur, and may result in degraded image quality on the received page. However, the ability to receive the entire document will be improved.</p>
224	The local machine has received one or more pages with excessive errors. This is usually caused by extremely poor line conditions. Error correction is not used during this session so errors are not corrected. It should be noted that some non-HP machines may optionally choose to resend the entire failed pages, but we will be unable to determine if the received page corrects problems with a previously received page.	Reattempt the fax reception at a different time when telephone line conditions have improved.

Table 22. Fax receive error codes (continued)

Error code	Error definition	Solution
225	The remote machine has attempted to initiate a remote diagnostic session with this machine, even though remote diagnostic access is locally disabled.	Enable the remote diagnostics capability on the local machine.
226	The remote machine has attempted to initiate a remote diagnostic session with this machine, but the remote diagnostic versions supported by the two machines are incompatible.	None. Remote diagnostics cannot occur between machines with incompatible remote versions.
227	The remote machine has attempted to initiate a fax session at a speed and modulation that is not supported by the local machine.	Reconfigure the local machine to receive at a slower speed.
228	The remote machine has attempted to initiate a poll transmission from the local machine even though the local machine is not configured for poll transmission.	<p>1 Confirm that polling by the remote user is desired. It is possible that the remote user has inadvertently attempted to poll. If this is the case, reattempt a normal transmission from the remote machine.</p> <p>2 If polling by the remote user was desired, confirm that the local machine was correctly configured for poll transmission.</p>
229	The remote machine has attempted to initiate a secure poll transmission from the local machine but has not provided a valid password.	If the remote user is the desired recipient for the polled document, confirm that the remote user has the correct password and that the local machine is configured with the same password.
230	The remote machine has attempted to initiate an operation that requires error correction but has not selected error correction for the session.	Enable ECM on both the local machine and the remote machine.
231	The remote machine has attempted to initiate a transmission to the local machine even though the capability to receive is disabled at the local machine.	Ensure that the local machine is capable of receiving a document. Check that paper is correctly loaded, paper is not jammed within the machine, and any other system abnormalities have been cleared.
232 233 234 235 (ECM error) 236 (ECM error) 237	<p>A communication failure has occurred between the two machines.</p> <p>-Or-</p> <p>The user at the remote machine may have pressed cancel.</p> <p>-Or-</p> <p>The power at the remote machine has been interrupted, or deliberately turned off, causing the fax session to be interrupted.</p>	<p>1 Re-attempt the fax reception at a different time when telephone line conditions have improved.</p> <p>2 If the error persists, and error correction is in use for the fax session, disable ECM.</p>

Table 22. Fax receive error codes (continued)

Error code	Error definition	Solution
238 239 (ECM error) 240 (ECM error) 241 (ECM error)	The sending fax machine sent an unexpected communication.	None. This is a defect in the remote sending machine.
242	The remote fax machine is attempting to receive instead of send. Both machines have attempted to start a reception at the same time. It is possible to accidentally initiate a fax reception after dialing on many machines, if there is no paper in the machine or if the paper is not correctly loaded and cannot be sensed by the appropriate document sensor.	Ensure that a document is ready and correctly loaded in the transmitting fax machine and that the remote machine is attempting to initiate a transmission and not a reception.
243 244	The user of the remote machine has pressed that machine's top key causing the session to be prematurely terminated. -Or- The remote fax machine determined that there was a feature incompatibility between the two machines and has terminated the session. An example would be when the local machine wanted to initiate polling, but the remote machine did not support this mode of operation.	1 Confirm that the remote user is not inadvertently attempting to poll transmit from the local machine, instead of transmitting to the local machine. This mode of operation must be specially configured on the local machine. If poll transmission from the local machine is the desired mode of operation confirm that the local machine has been configured for this operation. 2 Reconfigure the local fax machine to use different configuration settings, toggle the ECM state and/or select a slower reception speed.
245 246 (ECM error)	The user of the remote machine has pressed that machine's Stop key causing the session to be prematurely terminated. The local machine has been "holding off" the remote machine during reception of a large and/or complex document because of lack of available memory. This hold off time has exceeded the timeout (typically 60 seconds) used by the remote machine and it has terminated the session.	1 If the document was large, ask the remote user to retransmit the document as two or more smaller documents. 2 Disable ECM and reattempt the fax reception.
247 - 251	The remote machine appears to be stuck "on."	None.

Table 22. Fax receive error codes (continued)

Error code	Error definition	Solution
252	Telephone line conditions were too poor to receive a fax.	1 Reattempt the fax reception at a later time when line conditions may have improved. 2 Configure the machine to start reception at a lower speed. 3 If the local machine successfully received several pages of a larger document, ask the remote user to transmit the document in several smaller parts.
253	The remote machine has attempted to initiate a page transmission using a page width that is not supported by the local machine.	Ask the remote user to reconfigure their fax machine to transmit using a "normal" (letter/A4) page width.
281	The local machine has not received any data at the start of a page during non-ECM reception although the modem has not detected a remote disconnect. The remote machine is probably transmitting fill bytes instead of data and is either broken or jammed.	Reattempt the fax reception after first requesting that the remote user check his or her machine.
282	The local machine has not received any data at the start of a page during ECM reception although the modem has not detected a remote disconnect. The remote machine is probably transmitting sync frames instead of data and is either broken or jammed.	Reattempt the fax reception after first requesting that the remote user check his or her machine.
283	The local machine has detected that modem carrier has stopped. Either the line has been disconnected or the remote machine has aborted the transmission.	Reattempt the fax reception after first requesting that the remote user check his or her machine.
284	The local machine has not received any data during non-ECM page reception and a timeout failure has occurred. The remote machine is probably transmitting fill bytes instead of data and is either broken or jammed.	Reattempt the fax reception after first requesting that the remote user check his or her machine.
285	The local machine has stopped receiving any data during an ECM page reception although the modem has not detected a remote disconnect. The remote machine is probably transmitting sync frames instead of data and is either broken or jammed.	Reattempt the fax reception after first requesting that the remote user check his or her machine

Table 22. Fax receive error codes (continued)

Error code	Error definition	Solution
286	The remote machine has transmitted invalid data. The local machine has received frames with errors during an ECM reception and requested retransmission of the failed frames. The data that is resent does not correspond to the data that was requested. This is an implementation error from the remote machine.	Disable ECM and reattempt the reception.
290	The remote machine has attempted to renegotiate the session mode from ECM to non-ECM between pages. This operation is not supported, and the session has been abandoned.	Reattempt the fax reception and split the document into two portions corresponding to the ECM and non-ECM portions. Some machines will attempt to use non-ECM for photo mode, so this may be associated with a between page encoding change to support photo mode.
291	This isn't a communication error, and it is not expected that this error will occur under non-development scenarios. Reception has failed because the local unit is unable to open a file to receive data into. May be associated with low memory, although low memory should not, by itself, produce the error.	If the error persists, cycle the power on the unit.
292	The remote machine has attempted to renegotiate the encoding mode from non-JPEG to JPEG. This operation is not supported, and the session has been abandoned.	Reattempt the fax reception and split the document into two portions corresponding to the JPEG and non-JPEG portions. Some machines will attempt to use JPEG for photo mode, so this may be associated with a between page encoding change to support photo mode.

Table 23. Fax send error codes

Error code	Error condition	Solution
300	Fax session has completed without errors.	None required.
311	The user of the local machine has pressed the Stop key causing the session to be prematurely halted before all pages have been transmitted.	None required.
312	A remote fax device has failed to answer the call. Specifically fax tones or the fax handshake from a remote machine has not been detected. Typically this is caused by the user calling the wrong number, the correct number has been called but the machine has been configured not to answer, or the remote machine has temporarily disabled answering because of a condition such as lack of paper or a paper jam.	Confirm the remote fax machine is ready to receive a document and reattempt the transmission.
313	A busy signal has been detected each time the local machine has attempted to call the remote machine.	Reattempt the fax transmission at a later time when the line is no longer busy.
314	The local machine has attempted to initiate a remote diagnostic session but has detected that remote diagnostics are disabled at the remote machine.	Enable remote diagnostics on the remote machine.
315	The local machine has attempted to initiate a remote diagnostic session but has detected that the remote diagnostic version supported by the remote machine is incompatible.	No solution. Remote diagnostics cannot occur between machines with incompatible remote versions.
316	The local machine is set up to initiate document transmission, but it has detected that the remote machine is not able to receive a document. This error should be very rare since normally a remote machine will not answer if it cannot receive a document. One of the few exceptions to this would occur if the remote machine were configured to poll transmit a document but were unable to receive.	Configure the remote machine for reception. Typically the remote user configure the remote machine, including loading paper, clearing jams, and clearing other system abnormalities.
317	The remote machine cannot support a fax reception at any speed or modulation that is supported by the local machine.	None
318	The remote machine cannot support a fax reception at the page width selected by the local machine.	None

Table 23. Fax send error codes (continued)

Error code	Error condition	Solution
319	The local machine has attempted to initiate a binary file transfer (BFT) but has detected that the remote machine does not support this mode of operation.	1 Enable the BFT capability on the remote machine if it is supported. 2 Retransmit the document as a normal fax, rather than attempting a BFT transfer.
320	The local machine is set up to initiate poll reception with a remote machine, but it has detected that the remote machine is not configured to do this. Poll transmission from a remote machine is typically configured on a session-by-session basis.	Confirm that the local user really wants to attempt a poll reception. If not, reconfigure the local machine for a normal fax transmission. -Or- Configure the remote machine for poll transmission. The remote user must load a document to transmit and then configure the machine for polling.
321	There was a communication error with the receiving fax machine caused by poor telephone line conditions.	Reattempt the fax transmission at a different time when telephone line conditions have improved.
322 - 324	Telephone line conditions were too poor to send a fax.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 If the session fails after transmitting several pages of a large document, retransmit the document as several smaller documents.
325 - 328 (ECM error)	Telephone line conditions were very poor.	Reattempt the fax transmission at a different time when telephone line conditions have improved. -Or- Disable ECM. Errors may still occur, and may result in a degraded image quality on the received page. However, the ability to transmit the entire document will be improved.
329 - 331	The remote machine has reported that one or more pages have been received (non-ECM mode) with excessive errors. This error does not result in the session being terminated immediately. Subsequent page transmission can still occur and later pages may be received without error.	Reattempt the fax transmission at a different time when telephone line conditions have improved. -Or- Select a lower speed for the initial transmission speed.
332 - 343	There is a defect in the remote fax machine (the other machine) and there is no solution except to send or receive to or from another fax machine.	

Table 23. Fax send error codes (continued)

Error code	Error condition	Solution	
344 - 348 349-353 (ECM error) 354-355	The remote machine has failed to respond to a fax command from the local machine because the connection is interrupted. -Or- The remote user has pressed the Stop key while the reception was in progress -Or- Under rare conditions, incompatibility between the two machines may cause the remote machine to simply abandon the call.	1	Reattempt the fax transmission at a different time when telephone line conditions have improved.
		2	If the fax session was using error correction, disable ECM.
356 - 361 362-366 (ECM error)	The remote user has pressed the Stop key causing the session to be aborted. -Or- The remote machine has encountered a system problem such as no paper or a paper jam which has inhibited it from receiving any more pages, and which has caused it to terminate the session prematurely. -Or- A feature incompatibility has been encountered by the remote machine causing it to terminate the session.	1	Configure the remote machine for document reception by clearing any paper jams, loading sufficient paper, and clearing any other system errors.
		2	Configure the local fax machine to use different configurations; toggle the ECM state; select a slower reception speed.
367 - 372 373-377 (ECM error) 378-379	The remote machine appears to be stuck "on."	None.	
380	The remote machine has failed to issue a valid response to a CTC frame. This occurs during ECM transmission after multiple retransmissions of erroneous data.	None; there is a defect in the remote machine.	
381	The remote machine has failed to respond to a fax command from the local machine because the connection is interrupted. -Or- The remote user has pressed the Stop key while the reception was in progress.	1	Reattempt the fax transmission at a different time when telephone line conditions have improved.
		2	Disable ECM.
382	The remote fax machine has been "holding off" the local fax machine from continuing the ongoing transmission because of a temporary low memory condition at the remote machine. If this "hold off" period exceeds a machine's specific timeout value, the session will be terminated.	Resend the document as two or more separate fax transmissions. Wait several minutes between the end of one transmission and the start of the next transmission. -Or- Disable ECM.	

Table 23. Fax send error codes (continued)

Error code	Error condition	Solution
383	The remote machine has failed to respond to a fax command from the local machine because the connection is interrupted. -Or- The remote user has pressed the Stop key while the reception was in progress.	Reattempt the fax transmission at a different time when telephone line conditions have improved -Or- Disable ECM.
384	The local machine has attempted a black JPEG transmission to a machine that does not support this mode.	Reattempt the fax transmission using a different mode.
386	The local machine has failed to complete phase 3 of the initial V.34 handshake after originating a fax session. This is usually caused by poor line conditions although it may be a compatibility issue with certain machines and/or line conditions.	1 Reattempt the fax reception at a different time when telephone line conditions have improved. 2 Disable V.34 on the local machine and attempt the transmission using the V.17 mode.
387	The local machine has failed to successfully negotiate the initial V.8 handshake with the remote machine after originating a fax session. Typically, this will occur when the remote machine is not fax-capable or has disabled reception. It may also be a compatibility issue with certain machines and/or line conditions.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 Disable V.34 on the local machine and attempt the transmission using the V.17 mode.
388	The local machine has originated a fax session and detected a remote fax machine but has been unable to detect any T30 frames. If the machine is in V.17 mode it is likely that the connection has been interrupted. In V.34 mode, it is also possible for this error to occur because of compatibility problems with certain machines and/or line conditions.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 Disable V.34 on the local machine and attempt the transmission using the V.17 mode.
389	The local machine has originated a fax session and has reattempted V.8 negotiations multiple times without success.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 Disable V.34 on the local machine and attempt the transmission using the V.17 mode.

Table 23. Fax send error codes (continued)

Error code	Error condition	Solution
390	The local machine has originated a fax session using error correction (either V.34 or V.17). Transmission of an image has been abandoned after a timeout when no data has become ready for transmission. This is most likely caused by a low-memory condition, although it could be caused by other internal problems that cause generation of data for transmission to stall.	Reattempt the transmission after making sure documents stored in memory are printed, and the unit has paper ready for printing. If the problem persists, reinitialize permanent storage.
391	The local machine has originated a fax session without error correction (not V.34). Transmission of an image has been abandoned after a timeout when no data has become ready for transmission. This is most likely caused by a low memory condition although it could be caused by other internal problems that cause generation of data for transmission to stall.	Reattempt the transmission after making sure documents stored in memory are printed, and the unit has paper ready for printing. If the problem persists, reinitialize permanent storage.
392	The local machine has answered a fax session and completed the initial V.34 handshake but has been unable to detect any T30 frames. This failure is either compatibility problems with certain machines or is caused by line conditions.	<ol style="list-style-type: none"> 1 Reattempt the fax reception at a different time when telephone line conditions have improved. 2 Disable V.34 on the local machine and attempt the reception using the V.17 mode.
393	The local machine has failed to complete phase 3 of the initial V.34 handshake after answering a fax session. This is usually caused by poor line conditions although it may be a compatibility issue with certain machines and/or line conditions.	<ol style="list-style-type: none"> 1 Reattempt the fax reception at a different time when telephone line conditions have improved. 2 Disable V.34 on the local machine and attempt the reception using the V.17 mode.
394	The local machine has failed to successfully negotiate the initial V.8 handshake with the remote machine after answering a fax session. Typically, this will occur when the calling machine is not fax-capable. It may also be a compatibility issue with certain machines and/or line conditions.	<ol style="list-style-type: none"> 1 Reattempt the fax reception at a different time when telephone line conditions have improved. 2 Disable V.34 on the local machine and attempt the reception using the V.17 mode.
395	An unexpected T.30 frame has been received between pages during a multi-page V.34 reception. This is almost certainly a compatibility problem with the remote machine and may be caused by an error with the implementation of the remote machine.	<ol style="list-style-type: none"> 1 Reattempt the fax reception. If transmission errors are not encountered because line conditions have improved then this error will probably be avoided. 2 Disable V.34 on the local machine and attempt the reception using the V.17 mode.

Table 23. Fax send error codes (continued)

Error code	Error condition	Solution
396-409	An error occurred during a V.34 transmission when the local machine was unable to correctly handshake with the remote machine and was consequently unable to transmit a T.30 frame. This occurs when the line was disconnected or if line conditions degrade during the session.	Reattempt the fax transmission at a different time when telephone line conditions have improved.
410-419	Error occurred during a V.34 reception when the local machine was unable to correctly handshake with the remote machine and was consequently unable to transmit a T30 frame. This occurs when the line is disconnected or if line conditions degrade during the session.	Reattempt the fax reception at a different time when telephone line conditions have improved.
420	V.34 negotiations have failed from the originating machine during phase 4. Phase 4 occurs after V.8 and before the first T.30 frames are exchanged. Compatibility problems have been observed in this area when sending to non-HP units.	Reattempt the fax reception at a different time when telephone line conditions have improved.
421	V.34 negotiations have failed from the originating machine during phase 3. Phase 3 occurs after V.8, before phase 4, and before the first T.30 frames are exchanged. Compatibility problems have been observed in this area when sending to non-HP units.	Reattempt the fax reception at a different time when telephone line conditions have improved.
422	V.34 negotiations have failed from the answering machine during phase 4. Phase 4 occurs after V.8 and before the first T.30 frames are exchanged.	Reattempt the fax reception at a different time when telephone line conditions have improved.
423	V.34 negotiations have failed from the answering machine during phase 3. Phase 3 occurs after V.8, before phase 4, and before the first T.30 frames are exchanged.	Reattempt the fax reception at a different time when telephone line conditions have improved.
430	The transmitting machine is unable to send continuous ones at the end of the control channel prior to starting the primary channel. This is a V.34 error. This error may be associated with line conditions although it is more likely to be caused by internal problems with the modem.	Reattempt the fax reception at a different time when telephone line conditions have improved.

Table 23. Fax send error codes (continued)

Error code	Error condition	Solution
431	The transmitting machine has not received a response after aborting a transmission. Depending upon when the session is aborted, some remote machines may not respond. It should be noted that the local unit always attempts to abort the session in such a way that the remote machine is allowed to respond to the final PPS_EOP.	No action required. The session was aborted.
440-444	Error occurred during a V.34 transmission after one or more partial pages (image data) were transmitted using the primary channel. The transmitting machine was unable to restart the control channel in order to resume the T.30 handshake. This typically occurs when the receiving machine prematurely disconnects during partial page reception, although it is possible it may also be caused by compatibility issues.	Reattempt the fax reception at a different time when telephone line conditions have improved.

Translating the fax trace report

Print a fax log report (see the user guide for instructions). The fax log report contains information about the product's interpretation of the problem.

Read the time sequences, looking for abnormal activity on the fax trace report. See table 24, "Fax phase sequence," on page 223, and table 25, "Appropriate responses," on page 224, to separate normal from abnormal activity. Fax abbreviations appear in table 26 on page 225.

Identify the phase in which the error occurred.

Note

??? is an unidentified command.

Examples of a successfully sent fax and a successfully received fax appear after the tables.

Table 24. Fax phase sequence

Sequence	Calling station	Called station
Phase A—Call setup sequence		
1	Ring signal	
2	CNG tone beep, 1100Hz 1 second	
3		Transmit CED, 3 seconds, 2100 Hz
4		Transmit NSF
5		Transmit CSI
6		Transmit DIS
7	DIS detected	
Phase B—Pre-message procedure (negotiate compatible format/protocol)		
8	Transmit TSI	
9	Transmit DCS, select mode	
10		DCS detected
11	Transmit TCF/training	
12	Transmit FSK	
13		Training (synchronize signals), check for errors
14		Transmit CFR
15	Detect CFR	
Phase C—Message transmission (page/scan transmission)		
16	Transmit message (FSK, followed by date)	
17		Receive message (SCAN), check for errors
18	Transmit FSK	
19	At end of message, send one of the following: <ul style="list-style-type: none">• EOM• EOP• MPS• PRI-Q• PPS-NULL• PPS-MPS• PPS-EOM• PPS-EOP• PPS-PRI-Q	
Phase D—Post-message transmission (next page/end of transmission)		
20		Detect EOM, EOP, MPS, PRI-Q, PPS-NULL, PPS-MPS, PPS-EOM, PPS-EOP, or PPS-PRI-Q
21		Transmit MCF response to confirmation signals of post-message responses
Phase E—Call release (hangup sequence)		
21	Transmit DCN	
22		Station hangs up

Table 25. Appropriate responses

Commands	Comments	Appropriate responses
(NSF) (CSI) DIS	Identifying capabilities: from a manual receiver or an auto-answer unit	(NSC) (CIG) DTC (TSI) DCS (NSF) (CSI) DIS (CRP) (TSI) (NSS) (PWD) (SEP) (CIG) DTC (PWD) (SUB) (TSI) DCS
(NSC) (CIG) DTC	Mode-setting command: from calling unit	(TSI) DCS (NSF) (CSI) DIS
(PWD) (SEP) (CIG) DTC	Poll operation	(CRP) (TSI) (NSS)
(TSI) DCS (TSI) (NSS)	Mode-setting command: from manual transmitter or automatic receiver	CFR FTT (NSC) (CIG) DTC
(PWD) (SUB) (TSI) DCS	This command is always followed by phasing/training.	(NSC) (CIG) DTC
CTC	Mode-setting command: from the transmitter to the receiver	(CTR) (CRP)
(EOR-NULL)	Indicates the next block transmission from the transmitter to the receiver	(ERR) (RNR) (CRP)
Any one of the following: • (EOR-EOP) • (EOR-EOM) • (EOR-PRI-MPS) • (EOR-PRI-EOP) • (EOR-PRI-EOM)	The receiver	(ERR) (RNR) PIN (CRP)
Any one of the following: • MPS • EOP • EOM • (PRI-MPS) • (PRI-EOP) • (PRI-EOM)	Post-message commands	MCF RTP RTN PIP PIN (CRP)
(PPS-NULL)	Post-message command for a partial page from the transmitter to the receiver	(PPR) MCF (RNR) (CRP)
Any one of the following: • (PPS-MPS) • (PPS-EOP) • (PPS-EOM) • (PPS-PRI-MPS) • (PPS-PRI-EOP) • (PPS-PRI-EOM)	Post-message commands for a complete page from the transmitter to the receiver	(PPR) MCF (RNR) PIP PIN (CRP)
(RR)	Ask for the status of the receiver: from the transmitter to the receiver	(RNR) (ERR) MCF PIP PIN (CRP)
DCN	Phase E command	None

Table 26. Fax abbreviations

Abbreviation	Function	Signal format ("X"= any #)
CED	Called station identification	2100 Hz
CFR	Confirmation to receive	X010 0001 1850 or 1650 Hz for 3 seconds
CIG	Calling subscriber identification	1000 0010
CNG	Calling tone	1100 Hz for 500 ms
CRP	Command repeat	X101 1000
CSI	Called subscriber identification	0000 0010
CTC	Continue to correct	X100 1000
CTR	Response to continue to correct	X010 0011
DBM	-dBm signal strength detected from sending station (number is deviation from average value)	Range in -10 to -43 (-43 is a weak signal; see explanation below Figure 85, Example of a successfully received fax)
DCN	Disconnect	X101 1111
DCS	Digital command signal	X100 0001
DIS	Digital identification signal	0000 0001
DTC	Digital transmit command	1000 0001
DOM	End of message	X111 0001 1100 Hz
EOP	End of procedure	X111 0100
EOR	End of retransmission	X111 0011
EQM	Eye quality monitor—a measure of the modem signal quality, lower numbers indicate better signals	0-99
ERR	Response for end of retransmission	X011 1000
ECD	Facsimile coded date	0110 0000
FCF	Facsimile	
FCS	Frame check sequence	
FDM	File diagnostics message	X011 1111
FIF	Facsimile information field	
FSK	Frequency shift key. Low-speed command identifier separating commands/scans; precedes command mode.	
FTT	Failure to train. The 1.5 seconds of the Training Check Frame (TCF) indicates line conditions are not good enough for this modulation.	X010 0010
GC	Group command	1300 Hz for 1.5 to 100 seconds 2100 Hz for 1.5 to 100 seconds
GI	Group identification	1650 or 1850 Hz
HDLC	High-level data link control	
LCS	Line conditioning signals	1100 Hz

Table 26. Fax abbreviations (continued)

Abbreviation	Function	Signal format ("X"= any #)
MCF	Message confirmation	X011 0001 1650 or 1850 Hz
MSG	Message received high speed data	
MPS	Multi-page signal	X111 0010
NSF	Non-standard facilities command	1000 0100
NSF	Non-standard facilities	0000 0100
NSS	Non-standard setup	X100 0100
PID	Procedure interrupt disconnect	X011 0110
PIN	Procedural interrupt negative	X011 0100
PIP	Procedural interrupt positive	X011 0101
PIS	Procedural interrupt signal	462 Hz for 3 seconds
PPS	Partial-page signal	X111 1101
PPS-EOM	Partial-page signal—end of message	X111 1101
PPS-EOP	Partial-page signal—end of procedure	X111 1101
PPS-MPS	Partial-page signal—multi-page signal	X111 1101
PPS-NULL	Partial-page signal—null	X111 1101
PPR	Partial-page request	X011 1101
PRI-EOM	Procedure interrupt—end of message	X111 1001
PRI-EOP	Procedure interrupt—end of procedure	X111 1100
PRI-MPS	Procedure interrupt—multi-page signal	X111 1010
RCP	Return to control for partial page	0110 0001
RNR	Receive not ready	X011 0111
RR	Receive ready	X111 0110
RTC	Return to control mode	Six EOLs
RTN	Retrain negative	X011 0010
RTP	Retrain positive	X011 0011
TCF	Training check	Zeroes for 1 5 5
TSI	Transmitting subscriber identification	X100 0010
PWD	Password (for polling)	1000 0011
PWD	Password (for transmission)	X100 0101
SCAN	Data packets or scan line count	
SEP	Selective polling	1000 0101
SUB	Sub-address	X100 0011
V.xx	Protocol version used (Group 3 only)	V.27 = 4800/2400 V.29 = 9600/7200 V.33 = 14400/12000 V.17 = 14400/12000/9600/7200
XID	Exchange identification procedure	
???	Unidentified command sequence	

HP LaserJet 3330

HP LASERJET 3330

Dec-19-2000 12:10PM



T.30 Protocol Trace

Job	Date	Time	Type	Identification	Duration	Pages	Result
4	12/19/2000	12:09:24PM	Send	912083962003	0:46	1	OK
Elapsed	Local	Remote	Signal	Detail			
0000.00	OFFHOOK						
0004.78	CNG						
0008.28	CNG						
0011.79	CNG						
0015.29	CNG						
0021.88	NSF	v21	-19 dBm	ff 03 20 ad 00 36 20 00 44 00 0c 7f			
0022.58	CSI	v21	-19 dBm	ff 03 40 33 30 30 32 36 39 33 38 30 32 20 20 20 20 20 20 20 20			
0023.11	DIS	v21	-19 dBm	1d ff 13 80 00 ee f8 c4 80 92 80 80 80 20			
				Capabilities modulation : v.27, v.29, v.17 encoding : mh ,mr ,mmr ,jbig resolution : std ,fine ,300 dpi ,metric pref. ecm : yes page width : 215mm page length : unlimited msIt : 0 ms color : no misc : no v.8			
0023.61	DCS	v21		ff 13 83 00 62 f8 c4 80 80 80 80 80 00			
				Use data rate : v.17 14400 bps encoding : mmr resolution : r8x7.7 1/mm (fine) ecm : yes ,256 page width : 215mm page length : unlimited msIt : 0 ms color : no misc :			
0026.84	TCF	v17 14.4					
0029.92	CFR	v21	-19 dBm	ff 13 84			
0040.86	MSG	v17 14.4					
0040.93	PPS_EOP	v21		ff 13 bf 2f 00 00 3f			
0044.02	MCF	v21	-20 dBm	ff 13 8c			
0044.09	DCN	v21		ff 13 fd			
0046.38	ONHOOK						

Figure 102. Example of a T.30 trace of a successfully sent fax

Note

Phase A, call establishment, does not show up on a trace report. Phase C is the phase in which faxed pages are transferred.



Jul-29-2000 11:36PM

Job	Date	Time	Type	Identification	Duration	Pages	Result
10	7/29/2000	11:34:06PM	Receive	1 5555555555	0:28	1	OK
Elapsed		Local	Remote	Signal	Detail		
0000.00	OFFHOOK						
0006.23	NSF		v21	ff 03 20 ad 00 36 04 00 00 00 00			
0006.23	DTS		v21	ff 13 80 20 ee f8 c4 80 92 60 80 00 00			
				Capabilities			
				modulation : v.27, v.29, v.17			
				encoding : mh ,mr ,mmr			
				resolution : std ,fine ,300 dpi ,metric pref.			
				ecm : yes			
				page width : 215mm			
				page length : unlimited			
				mslt : 0 ms			
				color : no			
				mfc : v.8			
0010.56	TS1		v21	ff 03 43 35 35 35 35 35 35 35 35 35 20 31 20 20 20 20 20 20 20			
				id : 1 5555555555			
0011.03	DCS		v21	ff 13 83 00 22 f8 44			
				Use			
				data rate : v.17 14400 bps			
				encoding : mmr			
				resolution : r16x15.4 1/mm			
				ecm : yes ,256			
				page width : 215mm			
				page length : unlimited			
				mslt : 0 ms			
				color : no			
				misc : bft ,subaddr			
0014.23	TCF		v17 14.4	-24 dBm	eqm 0		
0014.31	CFR		v21	ff 13 84			
0023.11	MSG		v17 14.4	-24 dBm	43 frames, 0 err. rcp. eqm=0		
0024.67	FPS_EOP		v21	-22 dBm	ff 13 bf 2f 00 00 2a		
0024.74	MCF		v21	ff 13 8c			
0028.02	DCN		v21	-23 dBm	ff 13 fb		
0028.03	DNHOOK						

Service mode functions

Secondary service menu

Use the secondary service menu to perform various tests and print service reports. Below is a hierarchical diagram of the secondary service menu:

Main menu	Submenu	Submenu
2ndary Service	Service reports.....	Continuous Self-Test Data Store Extended Keymap
	Scanline data	Red-corrected Blue-corrected Green-corrected Red-uncorrected Blue-uncorrected Green-uncorrected

To gain access to the secondary service menu

- 1 Make sure that the control panel display reads *Ready*.
- 2 Press **menu/enter**.
- 3 Press **2** on the keypad.

Note

You can access the secondary service menu from any other menu by pressing **2**.

- 4 Use the < and > keys to navigate the secondary service menu.
- 5 To exit the secondary service menu and remove it from the menu tree, press **cancel** to return to the *Ready* display, then press **cancel** again.

To print a list of all the data store parameters

- 1 From the secondary service menu, use the < and > keys to select *Service reports*, and press **menu/enter**.
- 2 Use the < and > keys to select *Data Store*, and press **menu/enter**.

Developer's menu

Use the developer's menu to adjust fax data store parameters and to run various tests. Below is a hierarchical diagram of the developer's menu:

Main menu	Submenu	Submenu
Developer's menu	R/W parameter	
	Monitor test	Onhook monitor Offhook monitor Eavesdrop monitor Signal power monitor
	LIU test.....	LIU inputs LIU ID
	Loopback test	
	Transmit test	

To gain access to the developer's menu:

- 1 Make sure that the control panel display reads *Ready*.
- 2 Press **menu/enter**.
- 3 Press the * and # keys on the keypad.

Note

You can access the developer's menu from any other menu by pressing the * and # keys on the keypad.

- 4 Use the < and > keys to navigate the developer's menu.
- 5 To exit the developer's menu and remove it from the menu tree, press cancel to return to the *Ready* display, then press cancel again.

To adjust a country/region code parameter

Fax data store parameter number 3 is **LIU COUNTRY**, which is the country/region code for the fax. Before adjusting the fax data store parameters, you can print a list of all the parameters from the secondary service menu (page 229).

Note

Changing the country/region code does not change the language.

- 1 Use the < and > keys to navigate to **R/W PARAMETER** and then press **menu/enter**.
- 2 Press >>> to display **LIU COUNTRY**, then press **menu/enter**.
- 3 Use the keypad to input the country/region code (see table 27 below) and then press **menu/enter**.

Note

As a shortcut, you can press 3 at the **R/W PARAMETER** menu to move to directly to parameter 3. However, this shortcut has restrictions associated with parameters containing the number 2. (See page 232 for more information about this shortcut.)

CAUTION

Changing country/region code parameters can render the product illegal or inoperable.

Table 27. Country/region codes

Country/region	Country/region code	Country/region	Country/region code
Argentina	16	Malaysia	27
Australia	23	Mexico	13
Austria	34	Netherlands	35
Belgium	45	New Zealand	19
Canada	14	Norway	43
China	6	Poland	56
Denmark	40	Portugal	50
Finland	46	Russia	64
France	47	Singapore	30
Germany	39	Spain	55
Greece	49	Sweden	41
Hong Kong	29	Switzerland	36
Hungary	62	Taiwan	7

Table 27. Country/region codes

Country/region	Country/region code	Country/region	Country/region code
Ireland	44	Ukraine	63
Israel	21	United Kingdom	31
Italy	51	United States	15
Korea	4		

- 4 Power-cycle the product by unplugging (or turning off) the product and then plugging back in (or turning on) the product.

To adjust fax data store parameters

CAUTION

When you adjust fax data store parameters, the product does not alert you to incorrect input values. Changing fax data store parameters can render the product illegal or inoperable.

Note

Before adjusting the fax data store parameters, you can print a list of all the parameters from the secondary service menu (page 229).

- 1 On the developer's menu, use the < and > keys to navigate to **R/W PARAMETER** and then press **menu/enter**.
- 2 Use the < and > keys to locate the parameter you want to change. The control panel display shows the current setting.
- 3 Enter the new value for the fax data store parameter and then press **menu/enter**.

To scroll quickly to a particular data store parameter

When the display says **R/W PARAMETER**, you can jump directly to any parameter ID that does not contain a 2 by entering the ID on the keypad. If you press 2, that will bring up the secondary service menu. If you want to change a parameter that has a 2 in its ID, enter the ID of the closest parameter that does not have a 2 and then use the < and > keys to locate the parameter you want to change. For example, to move quickly to parameter 152, enter 151 >.

NVRAM init

NVRAM init sets all stored parameters in NVRAM back to factory default values or to a default ROM value, depending on the variable, and performs a system reset.

CAUTION

Performing NVRAM init can cause the product to violate local telephone regulations. Reset the language and country/region code after performing NVRAM init.

NVRAM init resets the following:

- All menu settings to factory default values, including fax header and company name
- Factory settings such as formatter number, page counts, and factory paper settings
- Fax memory—all faxes in memory are erased
- All localization settings, including language and country/region code

To perform NVRAM init

- 1 Unplug (or turn off) the product from the power source.
- 2 Press and hold down the * and **menu/enter** keys.
- 3 Continue to hold down the keys while you plug back in (or turn on) the product, through the entire power on sequence.
- 4 When the control panel display reads `Permanent Storage Init.` release the keys.
- 5 Allow the product to return to `Ready` before using the product.

PJL software commands

You can use PJP software commands to set the following NVRAM variables:

Factory printer DEFAULT PAPER, scanner factory default paper size will be set to the same value automatically.

```
Factory printer DEFAULT LPARM:PCL SYMSET
Factory DEFAULT OEM bit
Factory DEFAULT PRINTPAGECOUNT
Factory DEFAULT SCANPAGECOUNT
Factory DEFAULT COPYPAGECOUNT
```

The table below provides a more detailed description of the NVRAM PJJ factory variables and commands and shows possible settings for each.

NVRAM PJJ Variable or Command	Possible settings
DEFAULT PAPER	"LETTER", "LEGAL", "A4", "EXECUTIVE", "COM10", "MONARCH", "DL", "C5", "B5", "CUSTOM"
DEFAULT LPARM:PCL SYMSET	"ROMAN8", "ISOL1", "ISOL2", "ISOL5", "PC8", "PC8DN", "PC850", "PC852", "PC8TK", "WINL1", "WINL2", "WINL5", "DESKTOP", "PSTEXT", "VNINTL", "VNUS", "MSPUBL", "MATH8", "PSMATH", "VNMATH", "PIFONT", "LEGAL", "ISO4", "ISO6", "ISO11", "ISO15", "ISO17", "ISO21", "ISO60", "ISO69", "WIN30"
DEFAULT OEM	"ON", "OFF"
DEFAULT PRINTPAGECOUNT	0-2147483647
DEFAULT SCANPAGECOUNT	0-2147483647
DEFAULT COPYPAGECOUNT	0-2147483647
CLEARNVRAM	None - Command
NVRAMINIT	None - Command

Figure 104. NVRAM PJJ factory variables

To use these commands, you need some method to send PJJ commands to the product, either with a software tool or by copying a file that contains the commands from the host using a DOS box. For example, from the DOS prompt:

```
copy /b filename lpt1
```

Here is an example of a file that uses one of the commands:

```
ESC%-12345X@PJJ SET SERVICEMODE=HPBOISEID
@PJJ 'command'
@PJJ RESET
```

Here is an example of using the NVRAMINIT command:

```
ESC%-12345X@PJJ SET SERVICEMODE=HPBOISEID
@PJJ NVRAMINIT
@PJJ RESET
```

Note

Set `SERVICEMODE` before trying to set the variable or you will not get the desired result. Also reset the PjL to be sure the `SERVICEMODE` status is cleared.

To create these files, you need a text editor that can insert the ESC character or is able to copy it from an existing file. If a software tool is used, simply send the same strings in the same order as given for the example files.

Repetitive image defect ruler

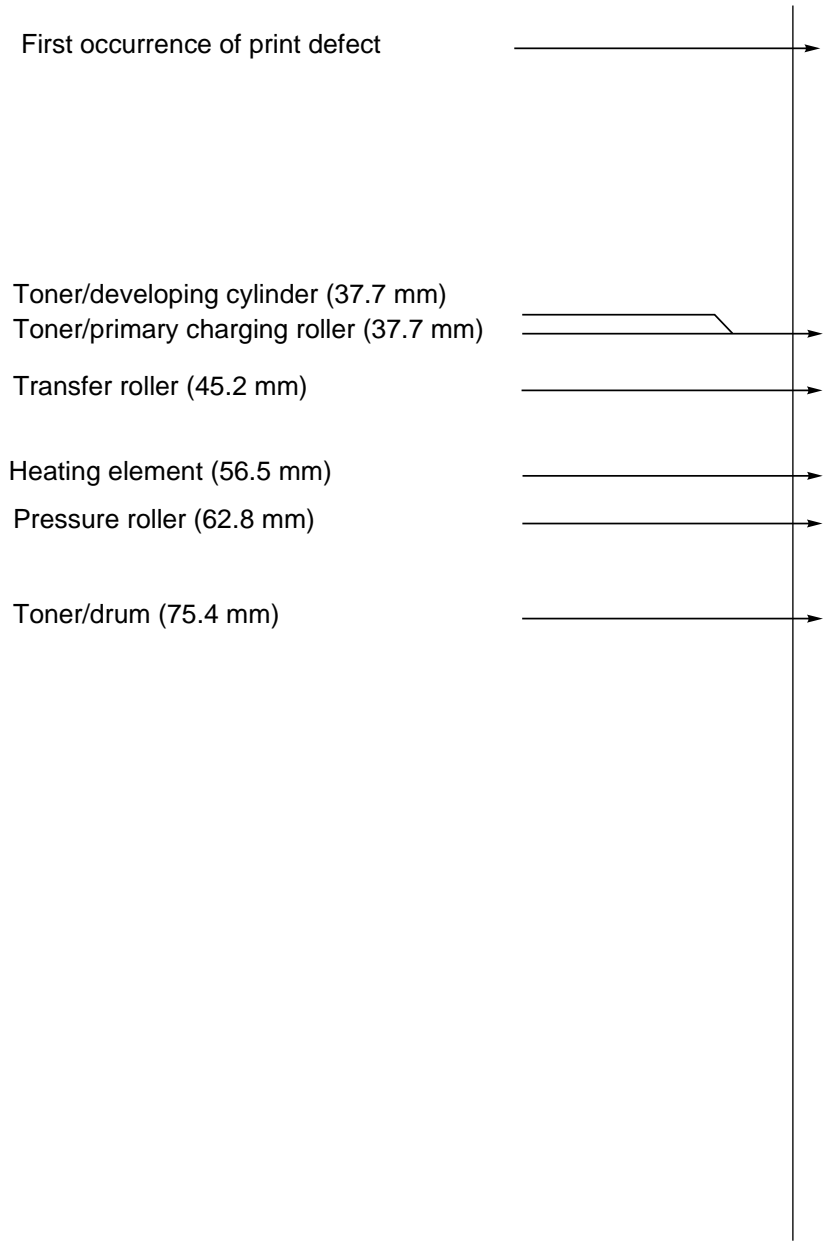


Figure 105. Repetitive image defect ruler

Main wiring

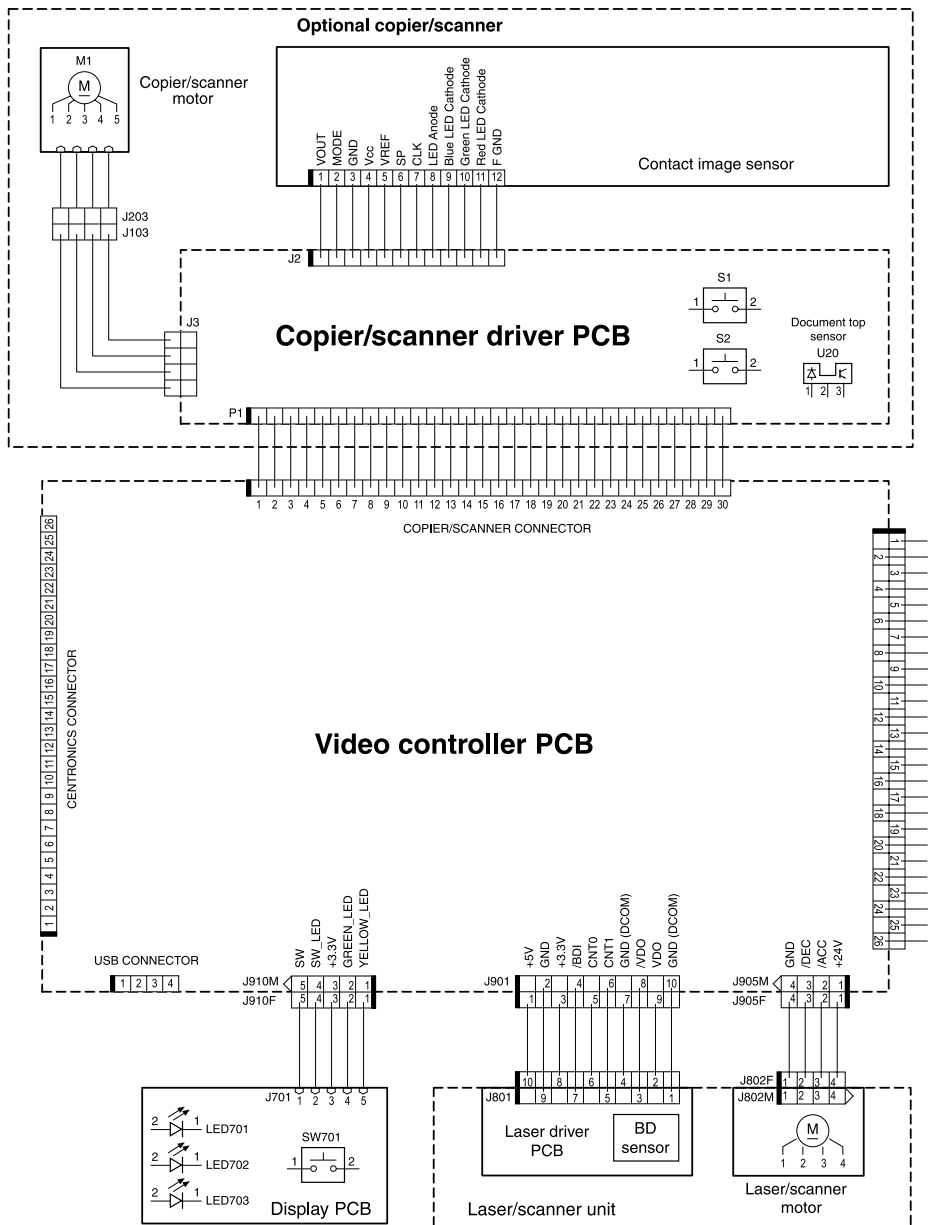


Figure 106. Main wiring (1 of 2)

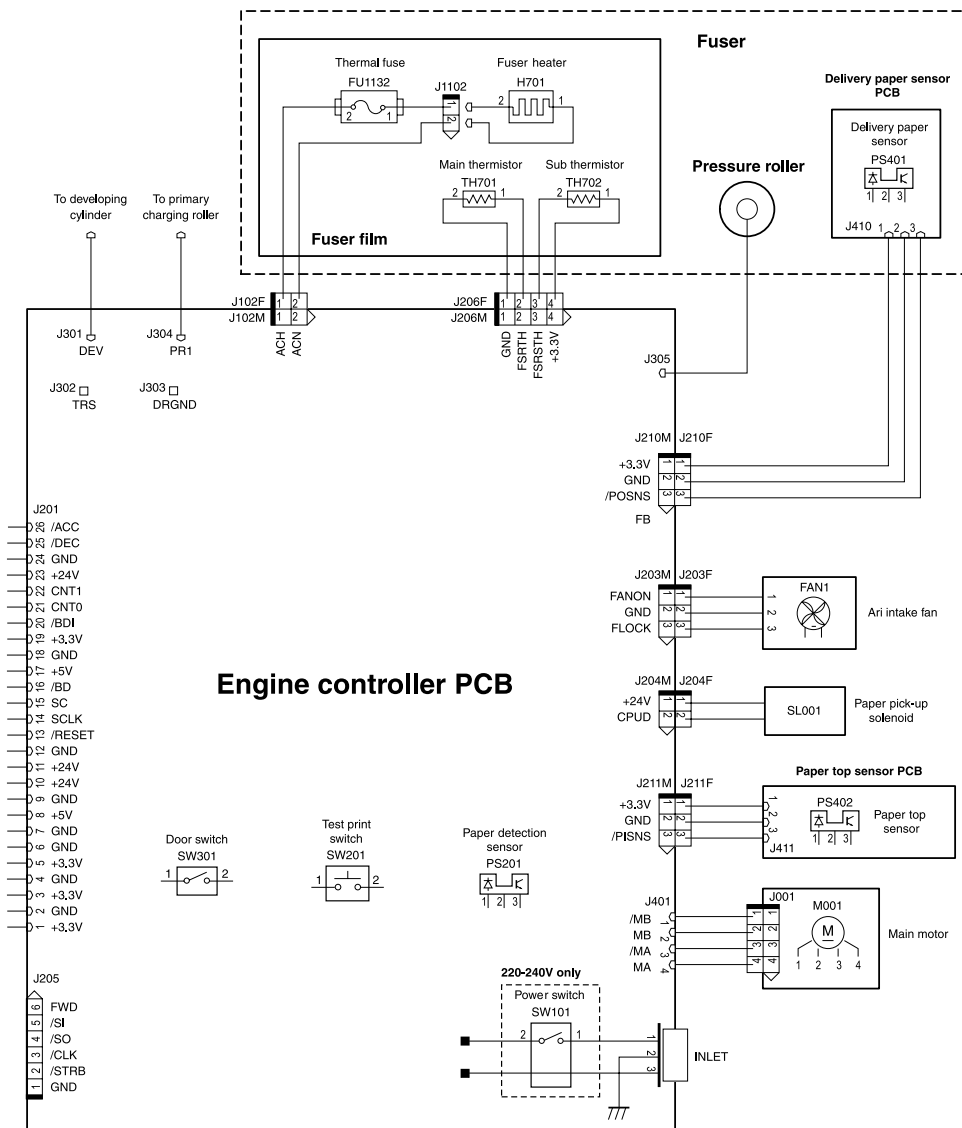


Figure 107. Main wiring (2 of 2)

Locations of connectors

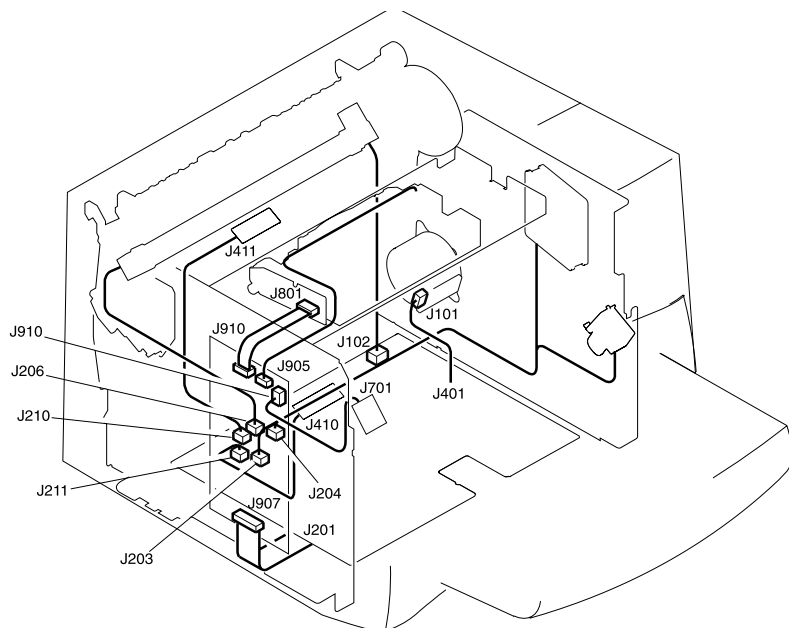


Figure 108. Locations of printer connectors

Locations of connectors and switches

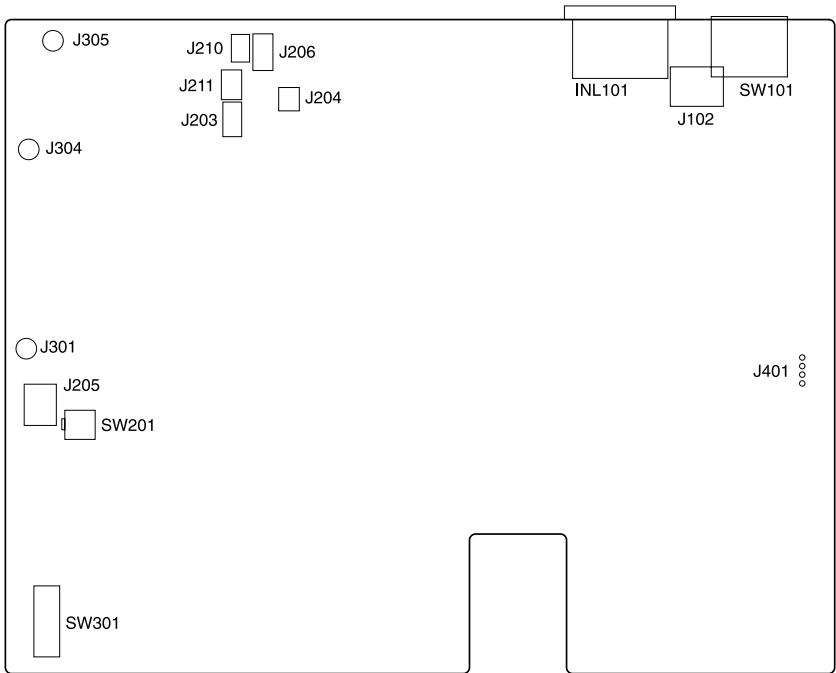


Figure 109. Locations of connectors and switches

Table 28. Switch functions

SW number	Function	Remarks
SW101	Power switch	220-240V only
SW201	Switch for test print	
SW301	Switch for detection of open door	

7 Parts and diagrams

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Ordering parts and supplies

Parts

Order replacement parts from the following website:
http://www.hp.com/ssg/parts/direct_order.html

Related documentation and software

Order documentation and software from the websites listed in Table 29:

Table 29. Technical support websites

HP Customer Care Online Software drivers, support documentation, and answers to frequently asked questions	http://www.hp.com/go/support
HP Technical Training (North America) Classes and schedules	http://www.hp.com/go/resellertraining
Parts Parts information	http://outfield.external.hp.com/spi/welcome.htm

Parts that wear

The parts that wear on the product are listed in Chapter 3, “Maintenance,” in Table 12 on page 56. Parts are available directly from Hewlett-Packard at the following numbers:

- US: (800) 538-8787
- Canada: (800) 387-3154
in Toronto: (416) 671-8383
- United Kingdom: 0734-441212
- Germany: 0130-3322

Contact your local HP Parts Coordinator for other local phone numbers.

Accessories

Table 30. Accessories

Item	Description	Part number
Dual in-line memory modules (DIMMs)	8 MB	C7842A
	16 MB	C7843A
	32 MB	C7845A
	64 MB	C7846A
Print cartridge	2,500 page cartridge	C7115A
	3,500 page cartridge	C7115X
Cables and interface accessories	2-meter IEEE-1284 parallel cable	C2950A
	3-meter IEEE-1284 parallel cable	C2951A
	2-meter USB cable	8121-0539
	2-feet USB cable	8121-0549
	Power cord, US/Canada	8120-6812
	Power cord, Europe	8120-6811
	Power cord, Switzerland	8120-6815
	Power cord, UK	8120-6809
	Power cord, Danish	8120-6814
	Power cord, SA	8120-6813
	Power cord, Israel	8120-6800
HP JetDirect print server	Model 310X	J6038-60001
Power modules (NOTE: If two parts are listed for one country or region, you can use either part regardless of the output rating.)	Australia, New Zealand, and Argentina INPUT: 240 Vac 50 Hz OUTPUT: 13 VDC @ 300 ma	0950-3172
	China INPUT: 220 Vac 50 Hz OUTPUT: 13 VDC @ 300 ma	0950-2806
	Continental Europe INPUT: 230 Vac 50 Hz OUTPUT: 13 VDC @ 300 ma	0950-3170
	South Korea INPUT: 220-240 Vac 50 Hz OUTPUT: 13 VDC @ 625 ma	9100-5168

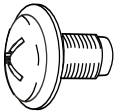
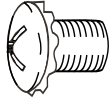
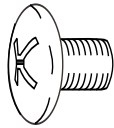
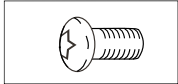
Table 30. Accessories (continued)

Power modules (continued)	South Africa and India INPUT: 220-250 Vac 50 Hz OUTPUT: 13 VDC @ 625 ma	9100-5171
	United Kingdom, Singapore, Ireland, and Hong Kong INPUT: 220-240 Vac 50 Hz OUTPUT: 13 VDC @ 300 ma	0950-3171
	USA, Canada, Latin America, and Taiwan INPUT: 110-127 Vac 60 Hz OUTPUT: 13 VDC @ 300 ma	0950-3169
Toner cloth	Ideal for wiping up toner spills	5090-3379

Common hardware

The product has three common fasteners. See Table 31 for a description of these screw types.

Table 31. Common fasteners

Example	Description
	Screw, machine, truss head
	Screw, star
	Screw, self-tapping
	Screw, Torx

Note

Part number RY7-5082-000CN is a screw kit for the printer portion of the product. To order all the screws for the HP-3300 product, order full quantities of parts RY7-5082-000CN, 0515-4331, 0515-4330, 0515-4257, and 0515-2908.

How to use the parts lists and diagrams

The figures in this chapter illustrate the major subassemblies in the product and their component parts. A table (material list) follows each exploded assembly diagram. Each table lists the reference designator, the associated part number for the item, and a description of the part.

Parts that have no reference designator or part number are not field-replaceable units and cannot be ordered.

While looking for a part number, pay careful attention to the voltage listed in the description column to make sure that the part number selected is for the correct product model.

Scanner assemblies

Scanner and ADF

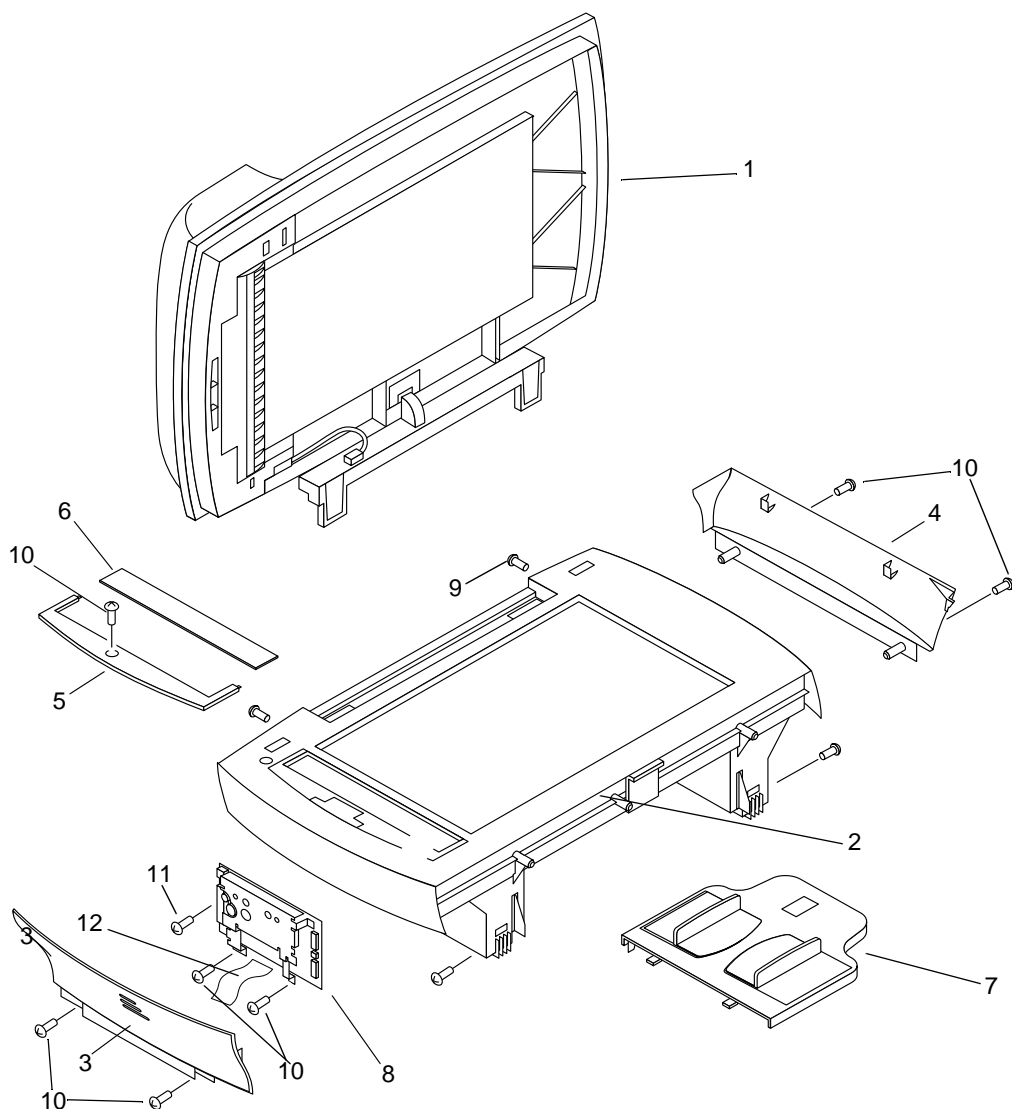


Figure 110. Scanner covers and ADF

Part numbers

Table 32. Scanner and ADF

Ref.	Part number	Description	Qty.
1	C9143-60101	ADF	1
	C9124-60117	Flatbed lid	1
2	C9124-60103	Scanner assembly	1
3	C9124-40002	Left scanner cover	1
4	C9124-40003	Right scanner cover	1
5	C9124-40005	ADF glass frame	1
6	C7296-00014	ADF glass	1
7	C9143-60102	ADF input tray	1
8	C9124-60115	Scanner formatter (includes Scanner FFC: C9124-60116)	1
9	0515-4331	Screws that secure scanner to printer	4
10	0515-4330	Screws for scanner side panels, scanner formatter, and ADF glass frame	7
11	0515-4257	Screw for scanner formatter	1
12	C9124-60116	Scanner flat flexible cable (FFC)	1

ADF rollers and separation pad

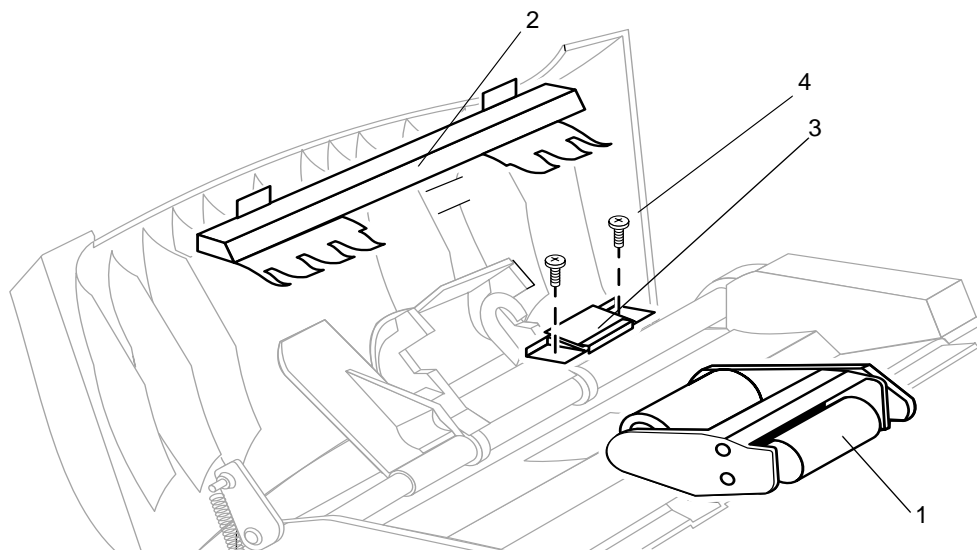


Figure 111. ADF rollers and separation pad

Part numbers

Table 33. ADF rollers and separation pad

Ref.	Part number	Description	Qty.
1	C7309-60016	ADF pick roller assembly	1
2	C7309-40077	ADF document feed guide	1
3	C7309-60009	ADF separation pad	1
4	0624-1055	Torx screw	2

Control panel assembly

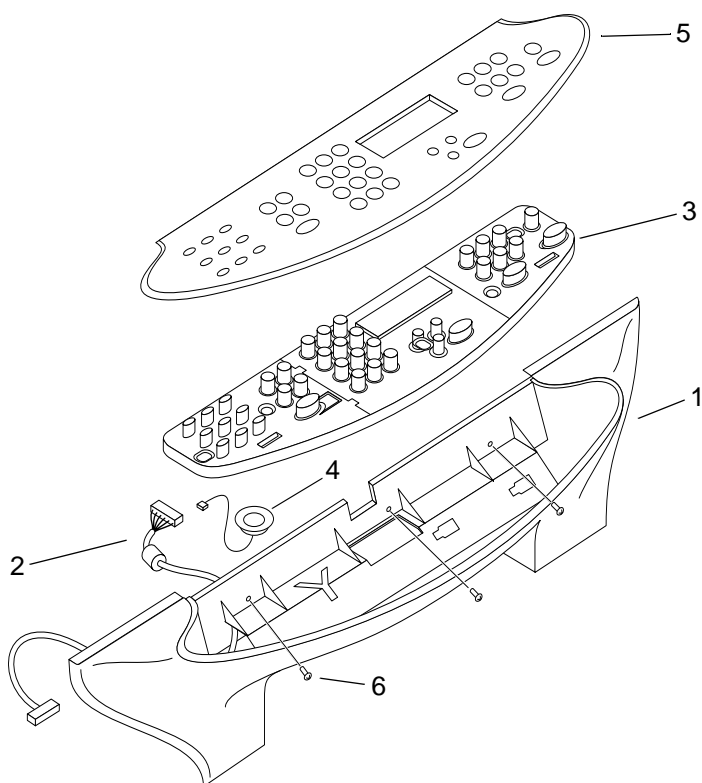


Figure 112. Control panel assembly

Part numbers

Table 34. Control panel assembly

Ref.	Part number	Description	Qty.
1	C9124-40006	Control panel chassis	1
2	C9124-60111	Control panel cable	1
3	C9126-60102	Fax control panel	1
	C9709-60102	US copy control panel	1
	C9124-60108	Copy control panel	1
4	C9124-60113	Speaker	1
6	0515-4330	Screws for control panel chassis	3

Table 34. Control panel assembly

Ref.	Part number	Description	Qty.
5	C9124-40038	English 3300 copy bezel	1
	C9124-40039	Traditional Chinese 3300 copy bezel	1
	C9124-40017	Korean 3300 copy bezel	1
	C9124-40018	Simplified Chinese 3300 copy bezel	1
	C9124-40019	Thai 3300 copy bezel	1
	C9124-40020	Greek 3300 copy bezel	1
	C9124-40021	Turkish 3300 copy bezel	1
	C9124-40022	Portuguese 3300 copy bezel	1
	C9124-40023	French 3300 copy bezel	1
	C9124-40024	German 3300 copy bezel	1
	C9124-40025	Spanish 3300 copy bezel	1
	C9124-40026	Dutch 3300 copy bezel	1
	C9124-40027	Norwegian 3300 copy bezel	1
	C9124-40028	Swedish 3300 copy bezel	1
	C9124-40029	Hebrew 3300 copy bezel	1
	C9124-40030	Finnish 3300 copy bezel	1
	C9124-40031	Danish 3300 copy bezel	1
	C9124-40032	Italian 3300 copy bezel	1
	C9124-40033	Russian 3300 copy bezel	1
	C9124-40034	Czech 3300 copy bezel	1
	C9124-40035	Hungarian 3300 copy bezel	1
	C9124-40036	Polish 3300 copy bezel	1
	C9124-40037	Arabic 3300 copy bezel	1
	C9709-40002	US 3310 copy bezel	1
	C9125-40001	English 3320 copy bezel	1
	C9125-40002	Traditional Chinese 3320 copy bezel	1
	C9125-40003	Korean 3320 copy bezel	1
	C9125-40004	Simplified Chinese 3320 copy bezel	1
	C9125-40005	Thai 3320 copy bezel	1
	C9125-40006	Greek 3320 copy bezel	1
	C9125-40007	Turkish 3320 copy bezel	1
	C9125-40008	Portuguese 3320 copy bezel	1
	C9125-40009	French 3320 copy bezel	1
	C9125-40010	German 3320 copy bezel	1
	C9125-40011	Spanish 3320 copy bezel	1

Table 34. Control panel assembly

Ref.	Part number	Description	Qty.
5 (cont.)	C9125-40012	Dutch 3320 copy bezel	1
	C9125-40013	Norwegian 3320 copy bezel	1
	C9125-40014	Swedish 3320 copy bezel	1
	C9125-40015	Hebrew 3320 copy bezel	1
	C9125-40016	Finnish 3320 copy bezel	1
	C9125-40017	Danish 3320 copy bezel	1
	C9125-40018	Italian 3320 copy bezel	1
	C9125-40019	Russian 3320 copy bezel	1
	C9125-40020	Czech 3320 copy bezel	1
	C9125-40021	Hungarian 3320 copy bezel	1
	C9125-40022	Polish 3320 copy bezel	1
	C9125-40023	Arabic 3320 copy bezel	1
	C9126-40004	English 3330 fax bezel	1
	C9126-40005	Portuguese 3330 fax bezel	1
	C9126-40006	French 3330 fax bezel	1
	C9126-40007	German 3330 fax bezel	1
	C9126-40008	Spanish 3330 fax bezel	1
	C9126-40009	Dutch 3330 fax bezel	1
	C9126-40010	Norwegian 3330 fax bezel	1
	C9126-40011	Swedish 3330 fax bezel	1
	C9126-40012	Danish 3330 fax bezel	1
	C9126-40013	Italian 3330 fax bezel	1
	C9126-40014	Russian 3330 fax bezel	1
	C9126-40015	Hungarian 3330 fax bezel	1
	C9126-40016	Polish 3330 fax bezel	1
	C9126-40017	Finnish 3330 fax bezel	1

Printer covers

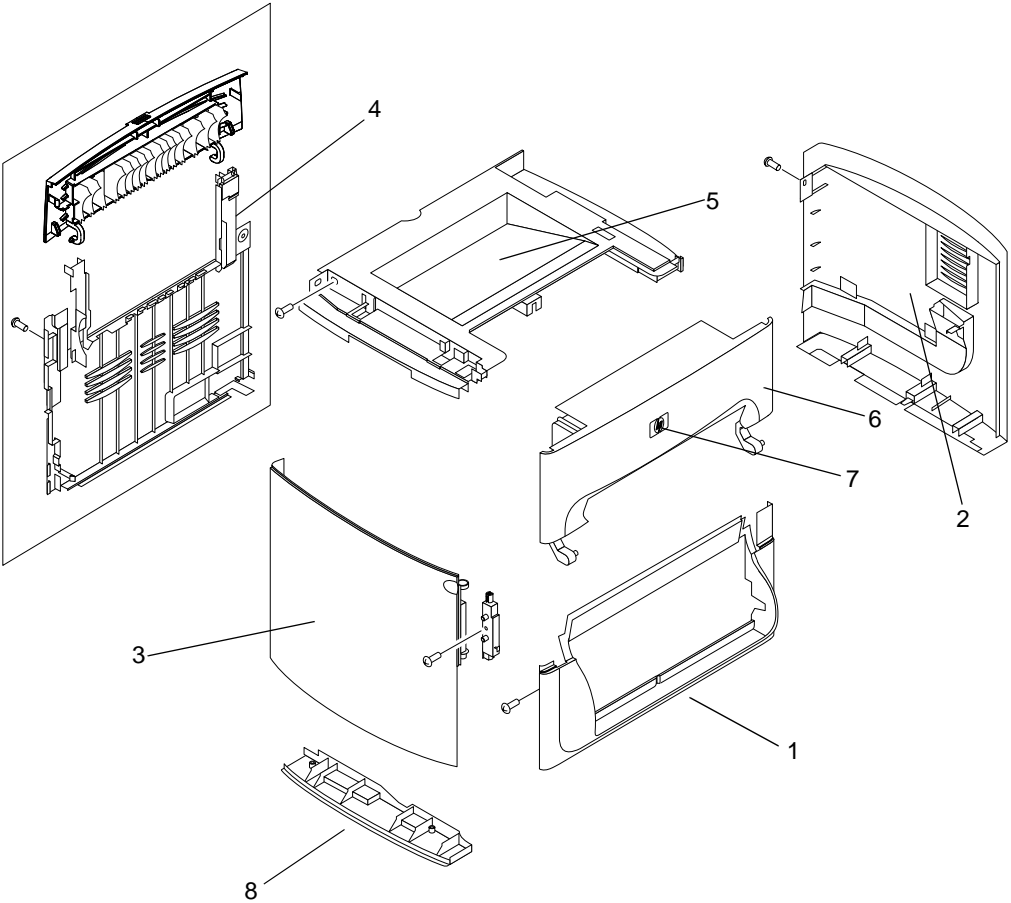


Figure 113. Printer covers

Part numbers

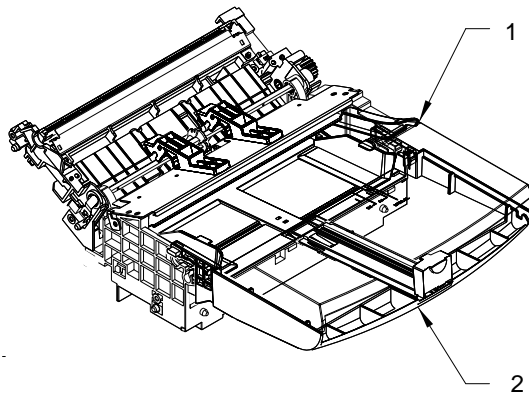
Table 35. Printer covers

Ref.	Part number	Description	Qty.
1	RA0-1450-000CN	Cover, front	1
2	RG0-1116-000CN	Cover, right side	1

Table 35. Printer covers

Ref.	Part number	Description	Qty.
3	RG0-1113-000CN	Door, left side with hinge	1
4	RG0-1114-000CN	Back cover assembly	1
5	RF0-1100-000CN	Top cover assembly	1
6	RG0-1115-000CN	Print cartridge door assembly	1
7	7121-8043	HP Jewel	1
8	RA0-1470-000CN	Left bottom frame support	1
	RY7-5082-000CN	Printer screw kit (contains a full set of screws for the printer portion of the HP LaserJet 3300mfp series product)	1

Paper tray

**Figure 114.** Paper tray

Part numbers

Table 36. Paper tray

Ref.	Part number	Description	Qty.
1	RG0-1121-000CN	Printer pickup tray assembly	1
2	RG0-1122-000CN	Paper pickup cover assembly	1

Internal assemblies

Internal components (1 of 2)

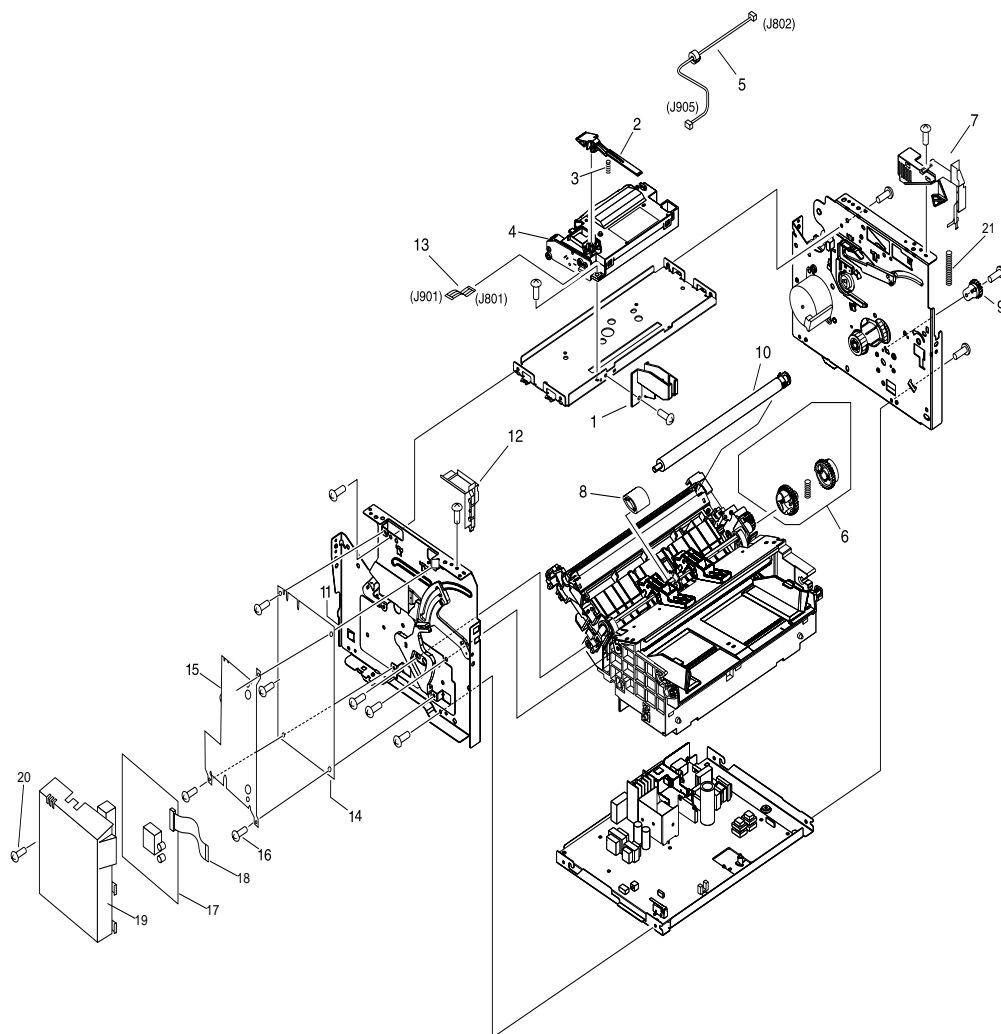


Figure 115. Internal components (1 of 2)

Part numbers

Table 37. Internal components (1 of 2)

Ref.	Part number	Description	Qty.
1	RA0-1181-000CN	Shutter guide	1
2	RA0-1182-000CN	Shutter lever	1
3	RA0-1169-000CN	Compression spring	1
4	RG9-1486-000CN	Laser/scanner assembly	1
5	RG0-1074-000CN	Cable, laser/scanner	1
6	RG0-1020-000CN	Pickup gear assembly	1
7	RA0-1452-000CN	Cover, right support	1
8	RF0-1008-000CN	Pickup roller	1
9	RA0-1172-000CN	Gear, 17T	1
10	RG9-1483-000CN	Transfer roller	1
11	RG0-1002-000CN	Left plate assembly	1
12	RA0-1444-000CN	Cover, left support	1
13	RH2-5440-000CN	Cable, laser/scanner flat flexible	1
14	C9158-60001	Formatter-copy	1
	C8542-60001	Formatter-fax	
15	C9124-00003	Formatter shield	1
16	0515-2908	Formatter screws	5
17	C9138-60001	LIU-US	1
	C9138-60002	LIU-WW	1
18	C9126-60103	Cable modem FFC	1
19	C9126-40003	LIU cover	1
20	0515-4257	LIU screw	1
21	RA0-1212-000CN	Tension spring	1

Internal components (2 of 2)

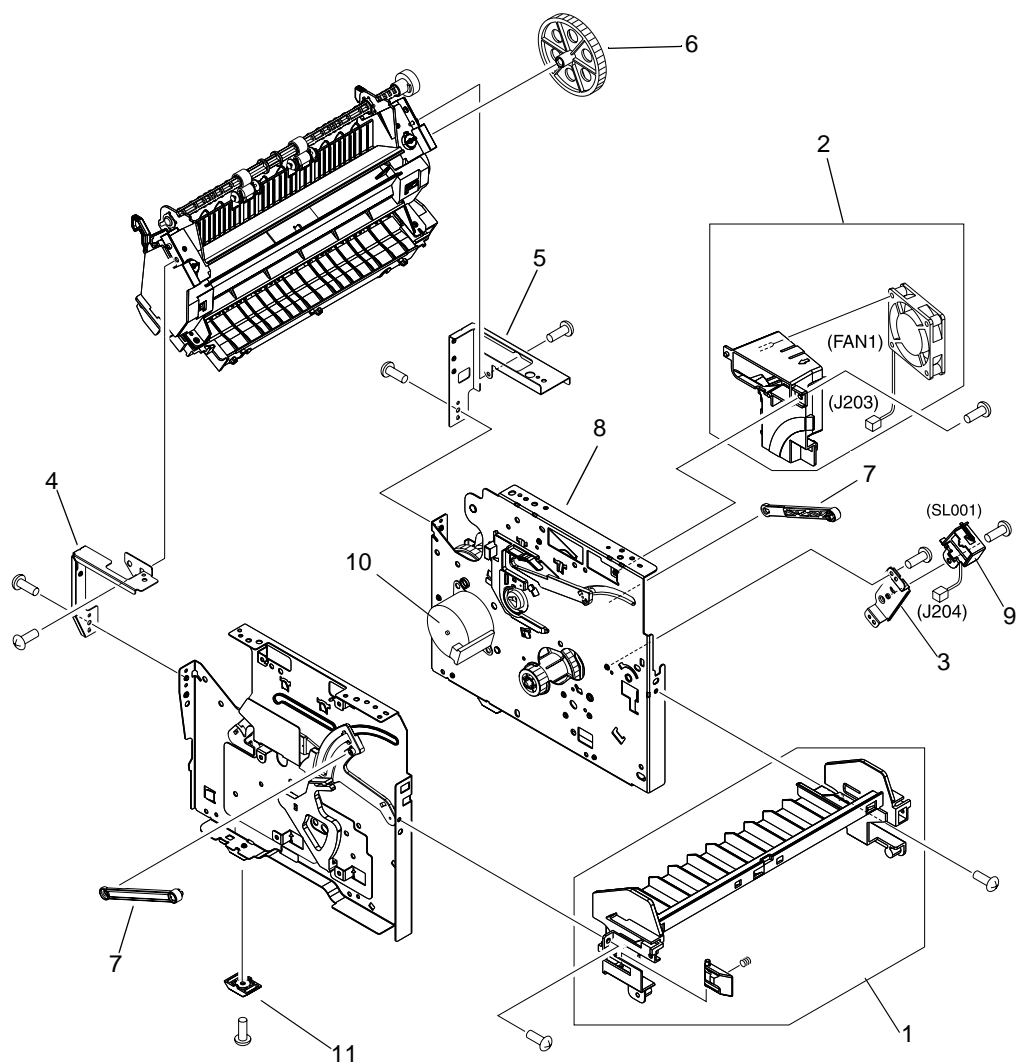


Figure 116. Internal components (2 of 2)

Part numbers

Table 38. Internal components (2 of 2)

Ref.	Part number	Description	Qty.
1	RA0-1451-000CN	Front guide assembly	1
2	RG0-1119-000CN	Fan assembly	1
3	RA0-1173-000CN	Lever holder	1
4	RA0-1446-000CN	Fuser plate, left	1
5	RA0-1447-000CN	Fuser plate, right	1
6	RA0-1176-000CN	Gear, 69T	1
7	RA0-1457-000CN	Connecting Link	2
8	RG0-1001-000CN	Right plate assembly	1
9	RH7-5315-000CN	Solenoid, DC24V	1
10	RH7-1473-000CN	Motor	1
11	RA0-1197-000CN	Foot, rubber (plate assemblies)	2

Electrical components

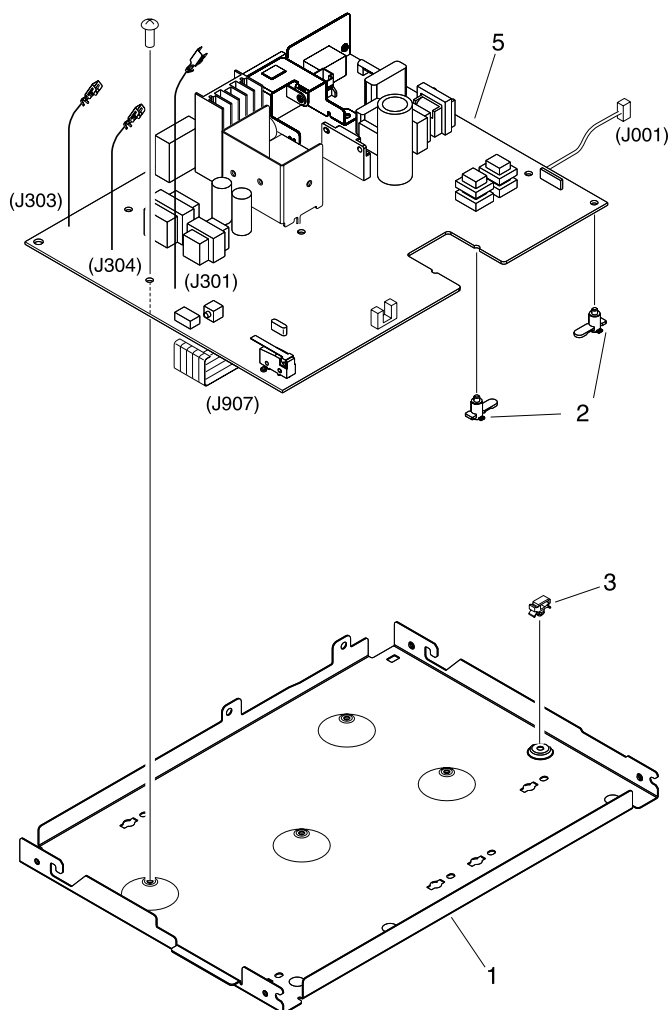


Figure 117. Electrical components

Part numbers

Table 39. Electrical components

Ref.	Part number	Description	Qty.
1	RA0-1127-000CN	Engine controller case	1
2	RA0-1128-000CN	PCB spacer	6
3	WT2-5694-000CN	Clamp, cable	1
5	RG0-1117-000CN	Engine controller PCB assembly, 110-127V	1
	RG0-1118-000CN	Engine controller PCB assembly, 220-240V	1

Paper pickup assembly (1 of 2)

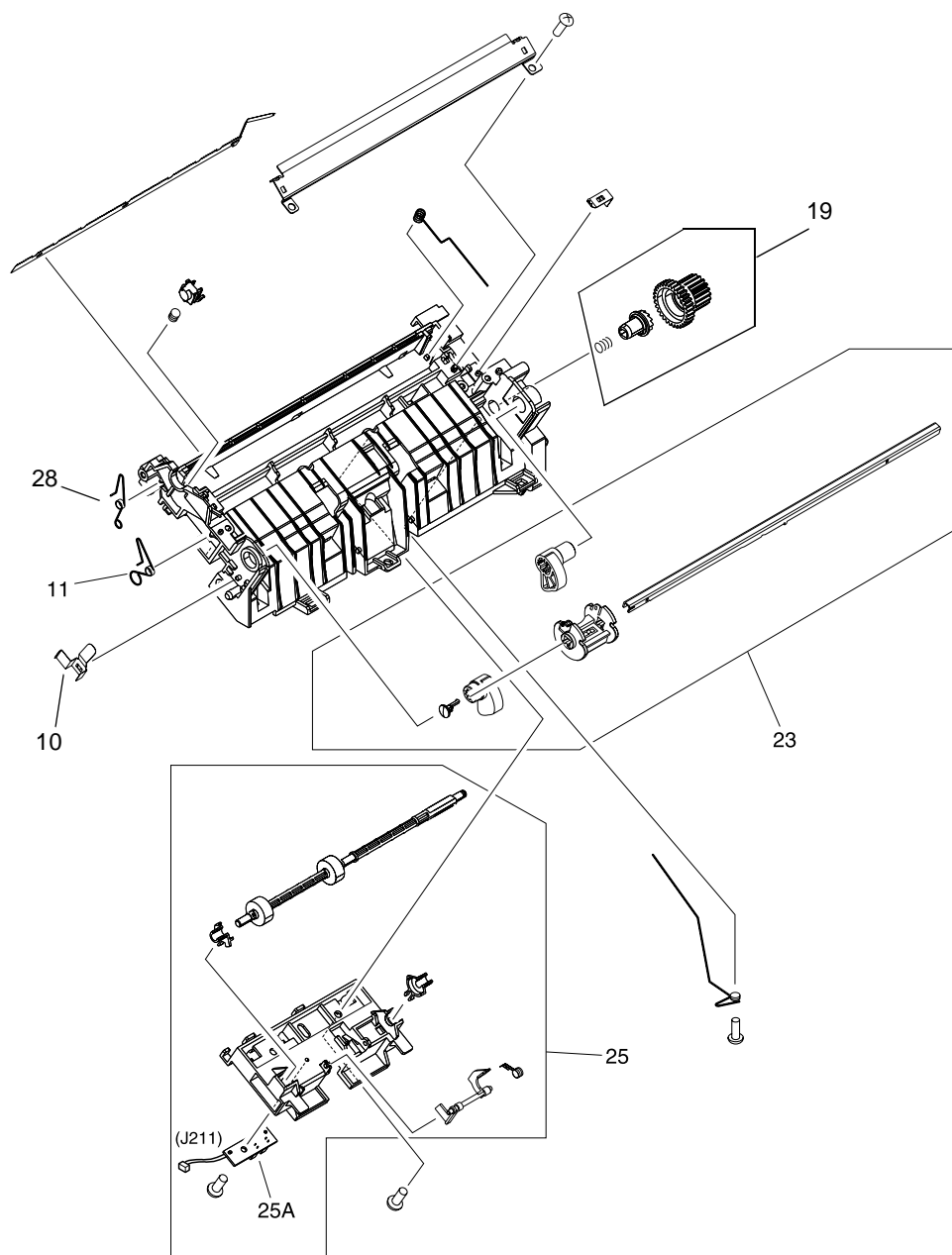


Figure 118. Paper pickup assembly (1 of 2)

Part numbers

Table 40. Paper pickup assembly (1 of 2)

Ref.	Part number	Description	Qty.
	RG0-1120-000CN	Paper pickup assembly	1
10	RA0-1072-000CN	Grounding plate	1
11	RA0-1035-000CN	Torsion spring	1
19	RY7-5081-000CN	Clutch kit	1
23	RG0-1007-000CN	Paper pickup shaft assembly	1
25	RG0-1005-000CN	Feed roller holder assembly	1
25A	RG0-1072-000CN	Paper sensor PCB assembly	1
28	RA0-1200-000CN	Torsion spring	1

Paper pickup assembly (2 of 2)

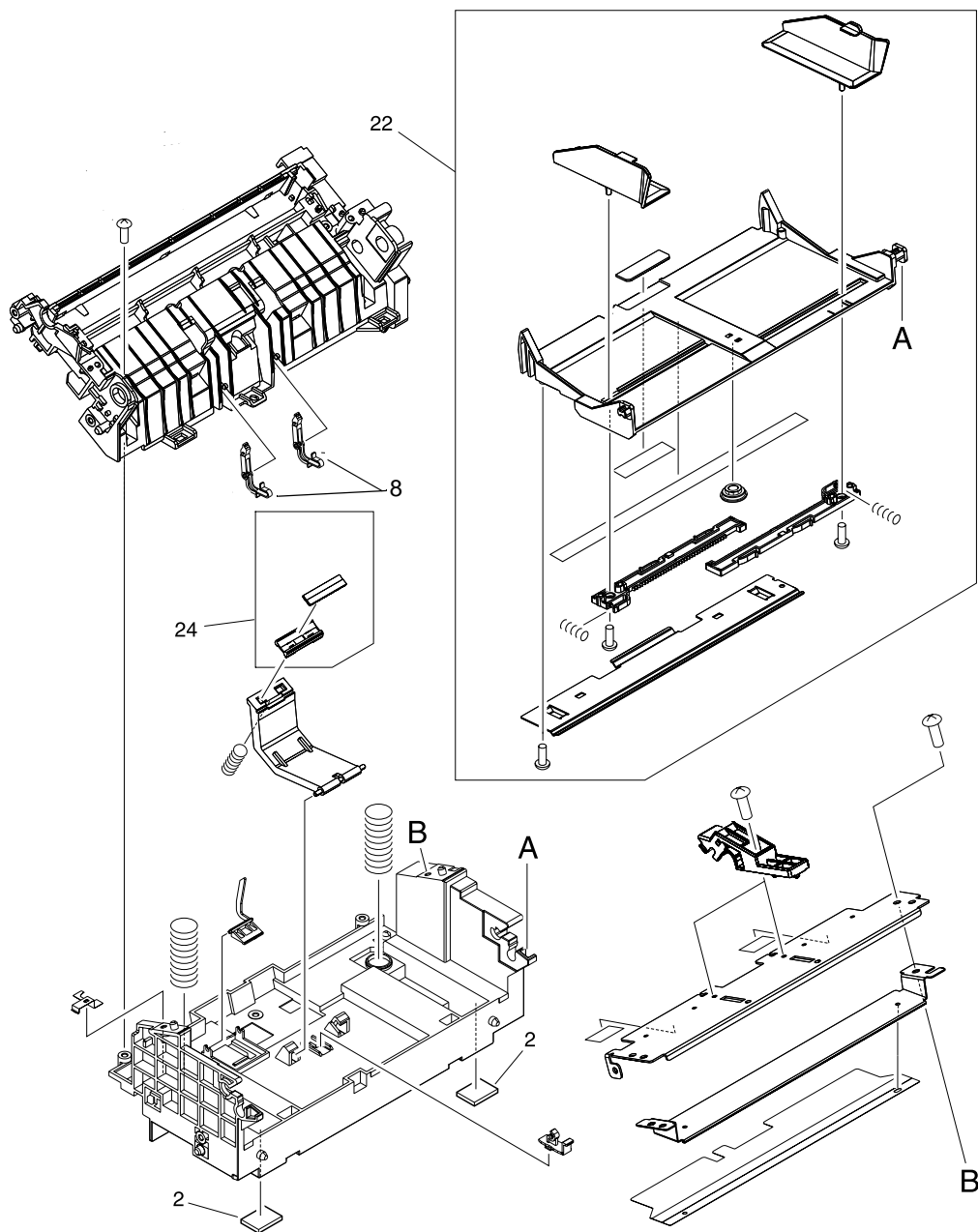


Figure 119. Paper pickup assembly (2 of 2)

Part numbers

Table 41. Paper pickup assembly (2 of 2)

Ref.	Part number	Description	Qty.
2	RA0-1003-000CN	Foot, rubber (paper pickup assembly)	2
22	RG0-1124-000CN	Paper lift plate assembly	1
24	RF0-1014-000CN	Separation pad	1
8	RA0-1065-000CN	Arm	2

Fuser assembly

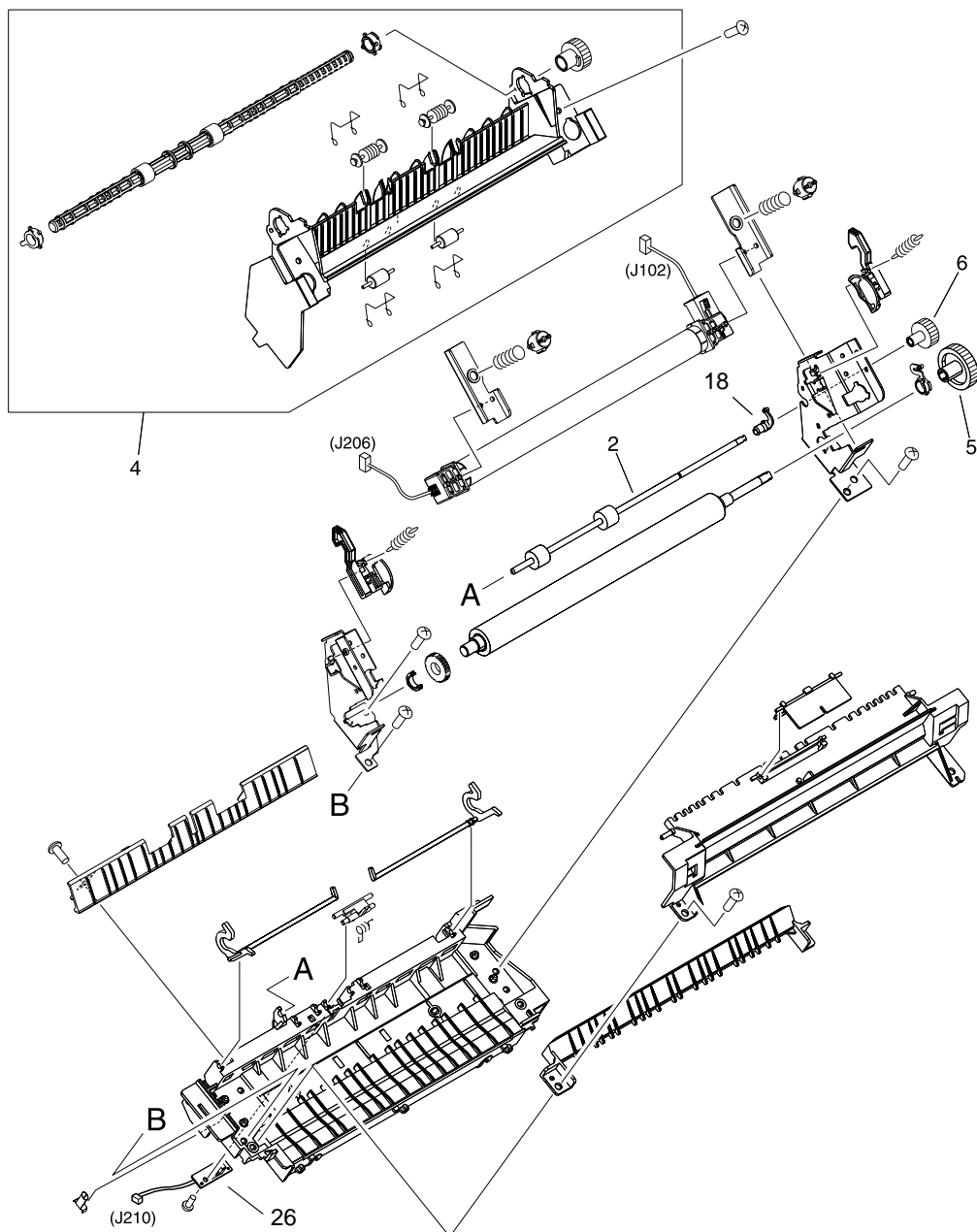


Figure 120. Fuser assembly

Part numbers

Table 42. Fuser assembly

Ref.	Part number	Description	Qty.
	RG9-1493-000CN	Fuser assembly, 110V	1
	RG9-1494-000CN	Fuser assembly, 220V	1
2	RF0-1003-000CN	Faceup roller	1
4	RG0-1010-000CN	Facedown delivery assembly	1
5	RA0-1088-000CN	Gear, 29T	1
6	RA0-1089-000CN	Gear, 17T (fuser assembly)	1
18	RA0-1104-000CN	Bushing	1
26	RG0-1082-000CN	Delivery sensor PCB assembly	1

Alphabetical parts list

Table 43. Alphabetical parts list

Description	Part number	Ref.	Figure
ADF	C9143-60101	1	110
ADF document feed guide	C7309-40077	2	111
ADF glass	C7296-00014	6	110
ADF glass frame	C9124-40005	5	110
ADF input tray	C9143-60102	7	110
ADF pick roller assembly	C7309-60016	1	111
ADF separation pad	C7309-60009	3	111
Arm	RA0-1065-000CN	8	119
Back cover assembly	RG0-1114-000CN	4	113
Bezel, Arabic 3300 copy	C9124-40037	5	112
Bezel, Arabic 3320 copy	C9125-40023	5	112
Bezel, Czech 3300 copy	C9124-40034	5	112
Bezel, Czech 3320 copy	C9125-40020	5	112
Bezel, Danish 3300 copy	C9124-40031	5	112
Bezel, Danish 3320 copy	C9125-40017	5	112
Bezel, Danish 3330 fax	C9126-40012	5	112
Bezel, Dutch 3300 copy	C9124-40026	5	112
Bezel, Dutch 3320 copy	C9125-40012	5	112
Bezel, Dutch 3330 fax	C9126-40009	5	112
Bezel, English 3300 copy	C9124-40038	5	112
Bezel, English 3320 copy	C9125-40001	5	112
Bezel, English 3330 fax	C9126-40004	5	112
Bezel, Finnish 3300 copy	C9124-40030	5	112
Bezel, Finnish 3320 copy	C9125-40016	5	112
Bezel, Finnish 3330 fax	C9126-40017	5	112
Bezel, French 3300 copy	C9124-40023	5	112
Bezel, French 3320 copy	C9125-40009	5	112
Bezel, French 3330 fax	C9126-40006	5	112
Bezel, German 3300 copy	C9124-40024	5	112
Bezel, German 3320 copy	C9125-40010	5	112
Bezel, German 3330 fax	C9126-40007	5	112

Table 43. Alphabetical parts list (continued)

Description	Part number	Ref.	Figure
Bezel, Greek 3300 copy	C9124-40020	5	112
Bezel, Greek 3320 copy	C9125-40006	5	112
Bezel, Hebrew 3300 copy	C9124-40029	5	112
Bezel, Hebrew 3320 copy	C9125-40015	5	112
Bezel, Hungarian 3300 copy	C9124-40035	5	112
Bezel, Hungarian 3320 copy	C9125-40021	5	112
Bezel, Hungarian 3330 fax	C9126-40015	5	112
Bezel, Italian 3300 copy	C9124-40032	5	112
Bezel, Italian 3320 copy	C9125-40018	5	112
Bezel, Italian 3330 fax	C9126-40013	5	112
Bezel, Korean 3300 copy	C9124-40017	5	112
Bezel, Korean 3320 copy	C9125-40003	5	112
Bezel, Norwegian 3300 copy	C9124-40027	5	112
Bezel, Norwegian 3320 copy	C9125-40013	5	112
Bezel, Norwegian 3330 fax	C9126-40010	5	112
Bezel, Polish 3300 copy	C9124-40036	5	112
Bezel, Polish 3320 copy	C9125-40022	5	112
Bezel, Polish 3330 fax	C9126-40016	5	112
Bezel, Portuguese 3300 copy	C9124-40022	5	112
Bezel, Portuguese 3320 copy	C9125-40008	5	112
Bezel, Portuguese 3330 fax	C9126-40005	5	112
Bezel, Russian 3300 copy	C9124-40033	5	112
Bezel, Russian 3320 copy	C9125-40019	5	112
Bezel, Russian 3330 fax	C9126-40014	5	112
Bezel, Simplified Chinese 3300 copy	C9124-40018	5	112
Bezel, Simplified Chinese 3320 copy	C9125-40004	5	112
Bezel, Spanish 3300 copy	C9124-40025	5	112
Bezel, Spanish 3320 copy	C9125-40011	5	112
Bezel, Spanish 3330 fax	C9126-40008	5	112
Bezel, Swedish 3300 copy	C9124-40028	5	112
Bezel, Swedish 3320 copy	C9125-40014	5	112
Bezel, Swedish 3330 fax	C9126-40011	5	112
Bezel, Thai 3300 copy	C9124-40019	5	112
Bezel, Thai 3320 copy	C9125-40005	5	112
Bezel, Traditional Chinese 3300 copy	C9124-40039	5	112

Table 43. Alphabetical parts list (continued)

Description	Part number	Ref.	Figure
Bezel, Traditional Chinese 3320 copy	C9125-40002	5	112
Bezel, Turkish 3300 copy	C9124-40021	5	112
Bezel, Turkish 3320 copy	C9125-40007	5	112
Bezel, US 3310 copy	C9709-40002	5	112
Bushing	RA0-1104-000CN	18	120
Cable modem FFC	C9126-60103	18	115
Cable, laser/scanner	RG0-1074-000CN	5	115
Cable, laser/scanner flat flexible	RH2-5440-000CN	13	115
Clamp, cable	WT2-5694-000CN	3	117
Clutch kit	RY7-5081-000CN	19	118
Compression spring	RA0-1169-000CN	3	115
Connecting Link	RA0-1457-000CN	7	116
Control panel cable	C9124-60111	2	112
Control panel chassis	C9124-40006	1	112
Copy control panel	C9124-60108	3	112
Cover, front	RA0-1450-000CN	1	113
Cover, left support	RA0-1444-000CN	12	115
Cover, right side	RG0-1116-000CN	2	113
Cover, right support	RA0-1452-000CN	7	115
Delivery sensor PCB assembly	RG0-1082-000CN	26	120
Door, left side with hinge	RG0-1113-000CN	3	113
Engine controller case	RA0-1127-000CN	1	117
Engine controller PCB assembly, 110-127V	RG0-1117-000CN	5	117
Engine controller PCB assembly, 220-240V	RG0-1118-000CN	5	117
Facedown delivery assembly	RG0-1010-000CN	4	120
Faceup roller	RF0-1003-000CN	2	120
Fan assembly	RG0-1119-000CN	2	116
Fax control panel	C9126-60102	3	112
Feed roller holder assembly	RG0-1005-000CN	25	118
Flatbed lid	C9124-60117	1	110
Foot, rubber (paper pickup assembly)	RA0-1003-000CN	2	119
Foot, rubber (plate assemblies)	RA0-1197-000CN	11	116
Formatter shield	C9124-00003	15	115
Formatter-copy	C9158-60001	14	115

Table 43. Alphabetical parts list (continued)

Description	Part number	Ref.	Figure
Formatter-fax	C8542-60001	14	115
Front guide assembly	RA0-1451-000CN	1	116
Fuser assembly, 110V	RG9-1493-000CN		120
Fuser assembly, 220V	RG9-1494-000CN		120
Fuser plate, left	RA0-1446-000CN	4	116
Fuser plate, right	RA0-1447-000CN	5	116
Gear, 17T	RA0-1172-000CN	9	115
Gear, 17T (fuser assembly)	RA0-1089-000CN	6	120
Gear, 29T	RA0-1088-000CN	5	120
Gear, 69T	RA0-1176-000CN	6	116
Grounding plate	RA0-1072-000CN	10	118
HP Jewel	7121-8043	7	113
Laser/scanner assembly	RG9-1486-000CN	4	115
Left bottom frame support	RA0-1470-000CN	8	113
Left plate assembly	RG0-1002-000CN	11	115
Left scanner cover	C9124-40002	3	110
Lever holder	RA0-1173-000CN	3	116
LIU cover	C9126-40003	19	115
LIU screw	0515-4257	20	115
LIU-US	C9138-60001	17	115
LIU-WW	C9138-60002	17	115
Motor	RH7-1473-000CN	10	116
Paper lift plate assembly	RG0-1124-000CN	22	119
Paper pickup assembly	RG0-1120-000CN		118
Paper pickup cover assembly	RG0-1122-000CN	2	114
Paper pickup shaft assembly	RG0-1007-000CN	23	118
Paper sensor PCB assembly	RG0-1072-000CN	25A	118
PCB spacer	RA0-1128-000CN	2	117
Pickup gear assembly	RG0-1020-000CN	6	115
Pickup roller	RF0-1008-000CN	8	115
Print cartridge door assembly	RG0-1115-000CN	6	113
Printer pickup tray assembly	RG0-1121-000CN	1	114
Printer screw kit (contains a full set of screws for the printer portion of the HP LaserJet 3300mfp series product)	RY7-5082-000CN		113
Right plate assembly	RG0-1001-000CN	8	116

Table 43. Alphabetical parts list (continued)

Description	Part number	Ref.	Figure
Right scanner cover	C9124-40003	4	110
Scanner assembly	C9124-60103	2	110
Scanner flat flexible cable (FFC)	C9124-60116	12	110
Scanner formatter (includes Scanner FFC: C9124-60116)	C9124-60115	8	110
Screw: scanner formatter	0515-4257	11	110
Screws: control panel chassis	0515-4330	6	112
Screws: formatter	0515-2908	16	115
Screws: scanner side panels, scanner formatter, and ADF glass frame	0515-4330	10	110
Screws: scanner to printer	0515-4331	9	110
Separation pad	RF0-1014-000CN	24	119
Shutter guide	RA0-1181-000CN	1	115
Shutter lever	RA0-1182-000CN	2	115
Solenoid, DC24V	RH7-5315-000CN	9	116
Speaker	C9124-60113	4	112
Tension spring	RA0-1212-000CN	21	115
Top cover assembly	RF0-1100-000CN	5	113
Torsion spring	RA0-1035-000CN	11	118
Torsion spring	RA0-1200-000CN	28	118
Torx screw	0624-1055	4	111
Transfer roller	RG9-1483-000CN	10	115
US copy control panel	C9709-60102	3	112

Numerical parts list

Table 44. Numerical parts list

Part number	Description	Ref.	Figure
0515-4331	Screws that secure scanner to printer	9	110
0515-2908	Formatter screws	16	115
0515-4330	Screws for scanner side panels, scanner formatter, and ADF glass frame	10	110
0515-4257	Screw for scanner formatter	11	110
0515-4330	Screws for control panel chassis	6	112
0515-4257	LIU screw	20	115
0624-1055	Torx screw	4	111
7121-8043	HP Jewel	7	113
C7296-00014	ADF glass	6	110
C7309-40077	ADF document feed guide	2	111
C7309-60009	ADF separation pad	3	111
C7309-60016	ADF pick roller assembly	1	111
C8542-60001	Formatter-fax	14	115
C9124-00003	Formatter shield	15	115
C9124-40002	Left scanner cover	3	110
C9124-40003	Right scanner cover	4	110
C9124-40005	ADF glass frame	5	110
C9124-40006	Control panel chassis	1	112
C9124-40017	Korean 3300 copy bezel	5	112
C9124-40018	Simplified Chinese 3300 copy bezel	5	112
C9124-40019	Thai 3300 copy bezel	5	112
C9124-40020	Greek 3300 copy bezel	5	112
C9124-40021	Turkish 3300 copy bezel	5	112
C9124-40022	Portuguese 3300 copy bezel	5	112
C9124-40023	French 3300 copy bezel	5	112
C9124-40024	German 3300 copy bezel	5	112
C9124-40025	Spanish 3300 copy bezel	5	112
C9124-40026	Dutch 3300 copy bezel	5	112
C9124-40027	Norwegian 3300 copy bezel	5	112
C9124-40028	Swedish 3300 copy bezel	5	112
C9124-40029	Hebrew 3300 copy bezel	5	112

Table 44. Numerical parts list (continued)

Part number	Description	Ref.	Figure
C9124-40030	Finnish 3300 copy bezel	5	112
C9124-40031	Danish 3300 copy bezel	5	112
C9124-40032	Italian 3300 copy bezel	5	112
C9124-40033	Russian 3300 copy bezel	5	112
C9124-40034	Czech 3300 copy bezel	5	112
C9124-40035	Hungarian 3300 copy bezel	5	112
C9124-40036	Polish 3300 copy bezel	5	112
C9124-40037	Arabic 3300 copy bezel	5	112
C9124-40038	English 3300 copy bezel	5	112
C9124-40039	Traditional Chinese 3300 copy bezel	5	112
C9124-60103	Scanner assembly	2	110
C9124-60108	Copy control panel	3	112
C9124-60111	Control panel cable	2	112
C9124-60113	Speaker	4	112
C9124-60115	Scanner formatter (includes Scanner FFC: C9124-60116)	8	110
C9124-60116	Scanner flat flexible cable (FFC)	12	110
C9124-60117	Flatbed lid	1	110
C9125-40001	English 3320 copy bezel	5	112
C9125-40002	Traditional Chinese 3320 copy bezel	5	112
C9125-40003	Korean 3320 copy bezel	5	112
C9125-40004	Simplified Chinese 3320 copy bezel	5	112
C9125-40005	Thai 3320 copy bezel	5	112
C9125-40006	Greek 3320 copy bezel	5	112
C9125-40007	Turkish 3320 copy bezel	5	112
C9125-40008	Portuguese 3320 copy bezel	5	112
C9125-40009	French 3320 copy bezel	5	112
C9125-40010	German 3320 copy bezel	5	112
C9125-40011	Spanish 3320 copy bezel	5	112
C9125-40012	Dutch 3320 copy bezel	5	112
C9125-40013	Norwegian 3320 copy bezel	5	112
C9125-40014	Swedish 3320 copy bezel	5	112
C9125-40015	Hebrew 3320 copy bezel	5	112
C9125-40016	Finnish 3320 copy bezel	5	112
C9125-40017	Danish 3320 copy bezel	5	112

Table 44. Numerical parts list (continued)

Part number	Description	Ref.	Figure
C9125-40018	Italian 3320 copy bezel	5	112
C9125-40019	Russian 3320 copy bezel	5	112
C9125-40020	Czech 3320 copy bezel	5	112
C9125-40021	Hungarian 3320 copy bezel	5	112
C9125-40022	Polish 3320 copy bezel	5	112
C9125-40023	Arabic 3320 copy bezel	5	112
C9126-40003	LIU cover	19	115
C9126-40004	English 3330 fax bezel	5	112
C9126-40005	Portuguese 3330 fax bezel	5	112
C9126-40006	French 3330 fax bezel	5	112
C9126-40007	German 3330 fax bezel	5	112
C9126-40008	Spanish 3330 fax bezel	5	112
C9126-40009	Dutch 3330 fax bezel	5	112
C9126-40010	Norwegian 3330 fax bezel	5	112
C9126-40011	Swedish 3330 fax bezel	5	112
C9126-40012	Danish 3330 fax bezel	5	112
C9126-40013	Italian 3330 fax bezel	5	112
C9126-40014	Russian 3330 fax bezel	5	112
C9126-40015	Hungarian 3330 fax bezel	5	112
C9126-40016	Polish 3330 fax bezel	5	112
C9126-40017	Finnish 3330 fax bezel	5	112
C9126-60102	Fax control panel	3	112
C9126-60103	Cable modem FFC	18	115
C9138-60001	LIU-US	17	115
C9138-60002	LIU-WW	17	115
C9143-60101	ADF	1	110
C9143-60102	ADF input tray	7	110
C9158-60001	Formatter-copy	14	115
C9709-40002	US 3310 copy bezel	5	112
C9709-60102	US copy control panel	3	112
RA0-1003-000CN	Foot, rubber (paper pickup assembly)	2	119
RA0-1035-000CN	Torsion spring	11	118
RA0-1065-000CN	Arm	8	119
RA0-1072-000CN	Grounding plate	10	118

Table 44. Numerical parts list (continued)

Part number	Description	Ref.	Figure
RA0-1088-000CN	Gear, 29T	5	120
RA0-1089-000CN	Gear, 17T (fuser assembly)	6	120
RA0-1104-000CN	Bushing	18	120
RA0-1127-000CN	Engine controller case	1	117
RA0-1128-000CN	PCB spacer	2	117
RA0-1169-000CN	Compression spring	3	115
RA0-1172-000CN	Gear, 17T	9	115
RA0-1173-000CN	Lever holder	3	116
RA0-1176-000CN	Gear, 69T	6	116
RA0-1181-000CN	Shutter guide	1	115
RA0-1182-000CN	Shutter lever	2	115
RA0-1197-000CN	Foot, rubber (plate assemblies)	11	116
RA0-1200-000CN	Torsion spring	28	118
RA0-1212-000CN	Tension spring	21	115
RA0-1444-000CN	Cover, left support	12	115
RA0-1446-000CN	Fuser plate, left	4	116
RA0-1447-000CN	Fuser plate, right	5	116
RA0-1450-000CN	Cover, front	1	113
RA0-1451-000CN	Front guide assembly	1	116
RA0-1452-000CN	Cover, right support	7	115
RA0-1457-000CN	Connecting Link	7	116
RA0-1470-000CN	Left bottom frame support	8	113
RF0-1003-000CN	Faceup roller	2	120
RF0-1008-000CN	Pickup roller	8	115
RF0-1014-000CN	Separation pad	24	119
RG0-1001-000CN	Right plate assembly	8	116
RG0-1002-000CN	Left plate assembly	11	115
RG0-1005-000CN	Feed roller holder assembly	25	118
RG0-1007-000CN	Paper pickup shaft assembly	23	118
RG0-1010-000CN	Facedown delivery assembly	4	120
RG0-1020-000CN	Pickup gear assembly	6	115
RG0-1072-000CN	Paper sensor PCB assembly	25A	118
RG0-1074-000CN	Cable, laser/scanner	5	115
RG0-1082-000CN	Delivery sensor PCB assembly	26	120
RF0-1100-000CN	Top cover assembly	5	113

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Part number	Description	Ref.	Figure
RG0-1113-000CN	Door, left side with hinge	3	113
RG0-1114-000CN	Back cover assembly	4	113
RG0-1115-000CN	Print cartridge door assembly	6	113
RG0-1116-000CN	Cover, right side	2	113
RG0-1117-000CN	Engine controller PCB assembly, 110-127V	5	117
RG0-1118-000CN	Engine controller PCB assembly, 220-240V	5	117
RG0-1119-000CN	Fan assembly	2	116
RG0-1120-000CN	Paper pickup assembly		118
RG0-1121-000CN	Printer pickup tray assembly	1	114
RG0-1122-000CN	Paper pickup cover assembly	2	114
RG0-1124-000CN	Paper lift plate assembly	22	119
RG9-1483-000CN	Transfer roller	10	115
RG9-1486-000CN	Laser/scanner assembly	4	115
RG9-1493-000CN	Fuser assembly, 110V		120
RG9-1494-000CN	Fuser assembly, 220V		120
RH2-5440-000CN	Cable, laser/scanner flat flexible	13	115
RH7-1473-000CN	Motor	10	116
RH7-5315-000CN	Solenoid, DC24V	9	116
RY7-5081-000CN	Clutch kit	19	118
RY7-5082-000CN	Printer screw kit (contains a full set of screws for the printer portion of the HP LaserJet 3300mfp series product)		113
WT2-5694-000CN	Clamp, cable	3	117

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