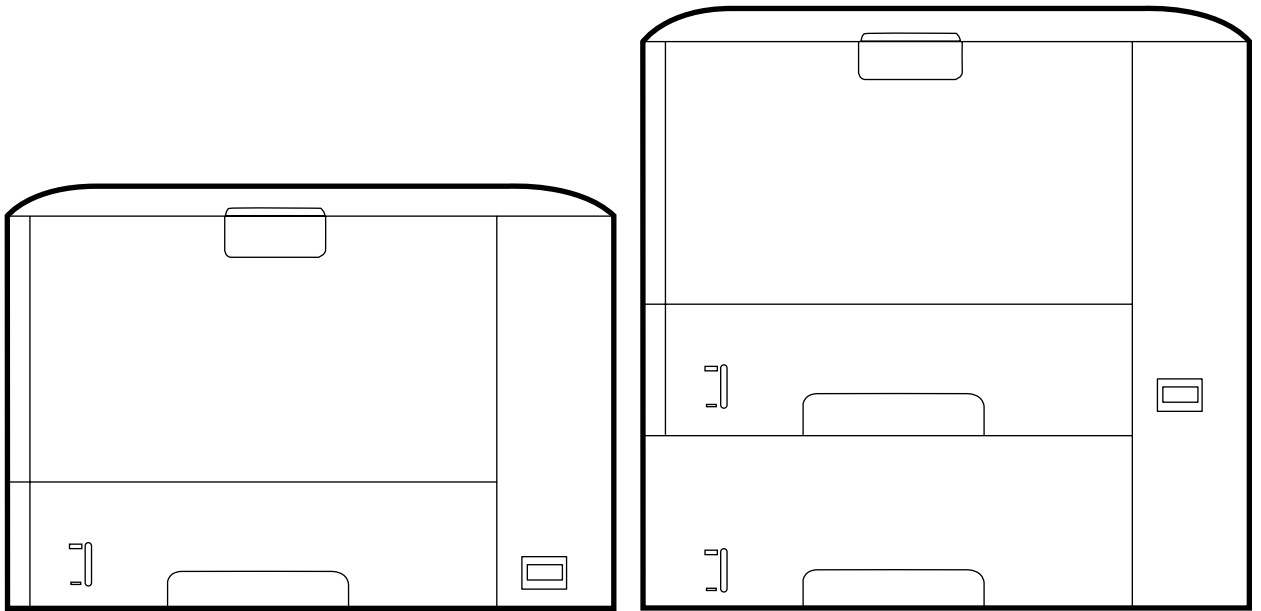


HP LaserJet P3005 Series printers

Service Manual



HP LaserJet P3005 Series printers

Service Manual



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Part number: Q7812-90910

Edition 1, 10/2006

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.

Read and understand all instructions in the user guide.

Observe all warnings and instructions marked on the product.

Use only a grounded electrical outlet when connecting the product to a power source. If you do not know whether the outlet is grounded, check with a qualified electrician.

Do not touch the contacts on the end of any of the sockets on the product. Replace damaged cords immediately.

Unplug this product from wall outlets before cleaning.

Do not install or use this product near water or when you are wet.

Install the product securely on a stable surface.

Install the product in a protected location where no one can step on or trip over the power cord and where the power cord will not be damaged.

If the product does not operate normally, see the online user guide.

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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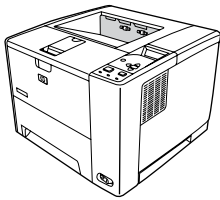
1 Device information

Chapter contents

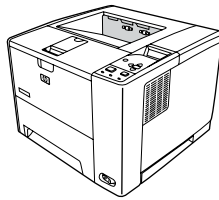
- [Device configurations](#)
- [Features](#)
- [Walkaround](#)
- [Device software](#)
- [Media specifications](#)

Device configurations

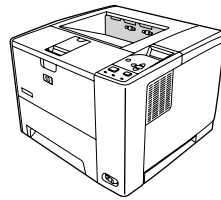
HP LaserJet P3005



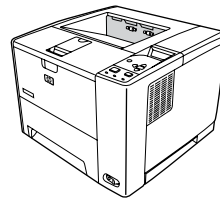
HP LaserJet P3005d



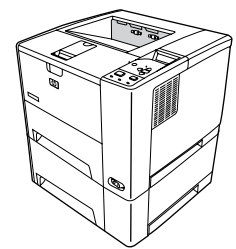
HP LaserJet P3005n



HP LaserJet P3005dn



HP LaserJet P3005x



- Prints up to 35 pages-per-minute (ppm) on letter-sized media, and up to 33 ppm on A4-sized media
- 48 megabytes (MB) total of random access memory (RAM)
- 100-sheet multipurpose tray (tray 1), 500-sheet input tray (tray 2), and 250-sheet output bin
- Hi-Speed universal serial bus (USB) 2.0 port
- One open dual inline memory module (DIMM) slot
- Enhanced input/output (EIO) slot
- IEEE 1284B-compliant parallel connection port (not available on network-connected models)

HP LaserJet P3005, plus:

- Automatic two-sided printing accessory
- 64 MB total RAM
- IEEE 1284B-compliant parallel connection port

- Prints up to 35 pages-per-minute (ppm) on letter-sized media, and up to 33 ppm on A4-sized media

- 80 MB total RAM
- 100-sheet multipurpose tray (tray 1), 500-sheet input tray (tray 2), and 250-sheet output bin

- Hi-Speed universal serial bus (USB) 2.0 port
- One open dual inline memory module (DIMM) slot
- Enhanced input/output (EIO) slot
- HP Jetdirect full-featured embedded print server to connect to 10Base-T/100Base-TX networks

HP LaserJet P3005n, plus:

- Automatic two-sided printing accessory

HP LaserJet P3005n, plus:

- Automatic two-sided printing accessory
- 500-sheet input tray (tray 3)

Features

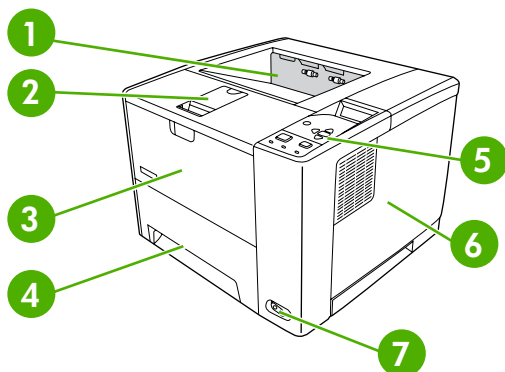
Feature	Description
Performance	400 MHz processor
User interface	- Control-panel help - HP Easy Printer Care software (a Web-based status and problem-solving tool) - Windows® and Macintosh printer drivers - Embedded Web server to access support and order supplies (for network-connected models only)
Printer drivers	- HP PCL 5 - HP PCL 6 - HP postscript level 3 emulation
Resolution	- FastRes 1200—produces 1200-dots-per-inch (dpi) print quality for fast, high-quality printing of business text and graphics - ProRes 1200—produces 1200-dpi printing for the best quality in line art and graphic images
Storage features	- Fonts, forms, and other macros - Job retention
Fonts	93 internal scalable fonts available for PCL and HP postscript 3 emulation 80 device-matching screen fonts in TrueType format available with the software solution - Additional fonts can be added through the host USB ports
Accessories	- Optional 500-sheet input tray (tray 3) (available for all models except HP LaserJet P3005x) - Automatic duplexer (available only on models HP LaserJet P3005d, HP LaserJet P3005dn, and HP LaserJet P3005x) 144-pin dual inline memory module (DIMM)
Connectivity	- Hi-Speed USB 2.0 connection - HP Jetdirect full-featured embedded print server (available only on models HP LaserJet P3005n, HP LaserJet P3005dn, and HP LaserJet P3005x) - IEEE-1284 compliant parallel port (available only on models HP LaserJet P3005 and HP LaserJet P3005d) - HP Web Jetadmin software - Enhanced input/output (EIO) slot
Environmental features	- Sleep mode - ENERGY STAR® qualified

Feature	Description
Supplies	• The supplies status page contains information about toner level, page count, and estimated pages remaining. • The device checks for an authentic HP print cartridge at installation. • Internet-enabled supply-ordering capabilities (using HP Easy Printer Care software)
Accessibility	• The online user guide is compatible with text screen-readers. • The print cartridge can be installed and removed by using one hand. • All doors and covers can be opened by using one hand. • Media can be loaded in tray 1 by using one hand.

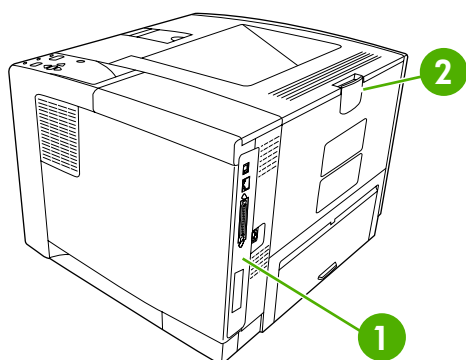
Walkaround

Device parts

Before using the device, familiarize yourself with the parts of the device.



1	Top output bin
2	Latch to open the cartridge door (provides access to the print cartridge)
3	Tray 1 (pull to open)
4	Tray 2
5	Control panel
6	Right-side cover (provides access to DIMMs)
7	On/off switch



1	Interface ports (see Interface ports on page 6)
2	Rear output bin (pull to open)

The model number and serial numbers are listed on the identification labels located on the back of the device. The model number is alphanumeric, such as Q7812A for an HP LaserJet P3005 printer. The

serial number contains information about the country/region of origin, the device version, production code, and the production number of the device. The following is a sample identification label.

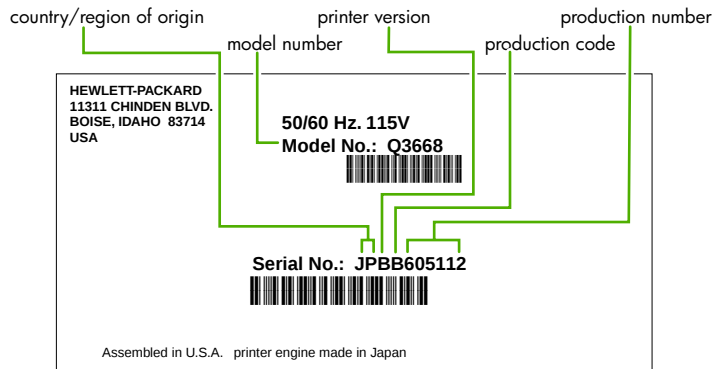
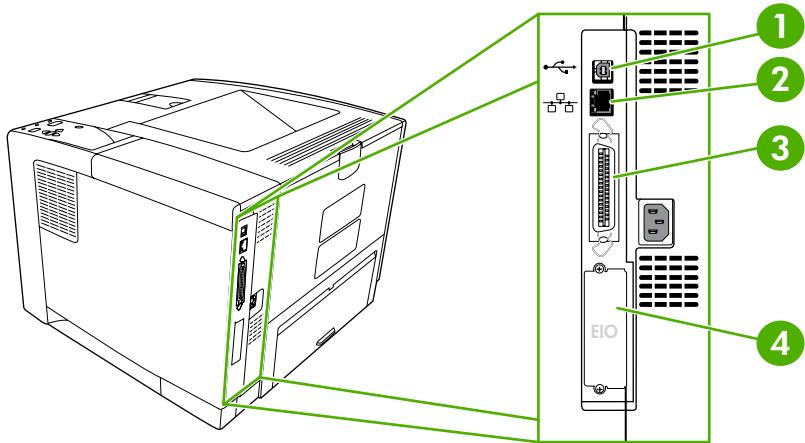


Figure 1-1 Model and serial numbers

Model name	Model number
HP LaserJet P3005	Q7812A
HP LaserJet P3005d	Q7813A
HP LaserJet P3005n	Q7814A
HP LaserJet P3005dn	Q7815A
HP LaserJet P3005x	Q7816A

Interface ports

The device has one EIO slot and three ports for connecting to a computer or a network.

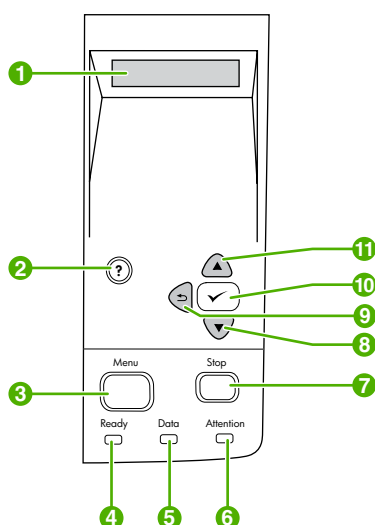


1	Type B Hi-Speed USB 2.0 connection
2	RJ-45 network connection (available only on models P3005n, P3005dn, and P3005x)
3	IEEE 1284B-compliant parallel connection (available only on models P3005 and P3005d)
4	EIO slot

Control-panel layout

The control-panel display gives you complete, timely information about the device and print jobs. Menus provide access to device functions and detailed information.

The message and prompt areas of the display alert you to the state of the device and tell you how to respond.



Number	Button or light	Function
1	Control-panel display	Shows status information, menus, help information, and error messages.
2	Help (?) button	Provides information about the message on the control-panel display.
3	Menu button	Opens and closes the menus.
4	Ready light	On: The device is online and ready to accept data to print. Off: The device cannot accept data because it is offline (paused) or has experienced an error. Blinking: The device is going offline. The device stops processing the current print job and expels all of the active pages from the paper path.
5	Data light	On: The device has data to print, but is waiting to receive all of the data. Off: The device has no data to print. Blinking: The device is processing or printing the data.
6	Attention light	On: The device has experienced a problem. Make note of the message on the control-panel display, and then turn the device off and on. See Control-panel messages on page 131 for help in resolving problems. Off: The device is functioning without error. Blinking: Action is required. See the control-panel display.
7	Stop button	Cancels the current print job and clears the pages from the device. The time this takes depends on the size of the print job. (Press the button

Number	Button or light	Function
		only once.) Also clears continuable errors that are associated with the canceled job.  NOTE The control-panel lights cycle while the print job is cleared from both the device and the computer, and then the device returns to the Ready state.
8	Down (▼) button	• Navigates to the next item in the list, or decreases the value of numeric items
9	Back (↶) button	• Backs up one level in the menu tree or backs up one numeric entry • Closes menus if held down for more than 1 second
10	Select (✓) button	• Clears an error condition when the condition is clearable • Saves the selected value for an item • Performs the action that is associated with the item that is highlighted on the control-panel display
11	Up (▲) button	• Navigates to the previous item in the list, or increases the value of numeric items

Device software

The printing-system software is included with the device. See the getting started guide for installation instructions.

The printing system includes software for end users and network administrators, and printer drivers for access to the device features and communication with the computer.



NOTE For a list of printer drivers and updated HP device software, go to www.hp.com/go/LJP3005_software.

Minimum system requirements

In order to install and use the device software, your computer must meet the following minimum requirements:

Windows requirements

- Pentium II (233 MHz) processor
- 64 MB of RAM
- 35 MB of disk space
- SVGA 800x600 16-bit color monitor

Macintosh requirements

- G3, G4, or G5 PowerPC processor
- 128 MB of RAM
- 30 to 50 MB of disk space

Supported operating systems

The device supports the following operating systems:

Full software installation

- Windows XP (32-bit)
- Windows 2000
- Mac OS X V10.2 and later

Printer driver only

- Windows 98 SE
- Windows Millennium Edition (Me)
- Windows Server 2003
- Windows XP (64-bit)
- Linux

Supported printer drivers

Operating system ¹	PCL 5	PCL 6	PS level 3 emulation
Windows ^{2,3}	✓	✓	✓
Mac OS X V10.2 and later			✓
Linux ⁴			✓

¹ Not all device features are available from all drivers or operating systems.

² For Windows 2000 and Windows XP (32-bit and 64-bit), download the PCL 5 driver from www.hp.com/go/LJP3005_software.

³ For Windows XP (64-bit), download the PCL 6 driver from www.hp.com/go/LJP3005_software.

⁴ For Linux, download the postscript level 3 emulation driver from www.hp.com/go/linuxprinting.

The printer drivers include online Help that has instructions for common printing tasks and also describes the buttons, checkboxes, and drop-down lists that are in the printer driver.

Software for Windows computers

HP Web Jetadmin

HP Web Jetadmin is a browser-based management tool for HP Jetdirect-connected printers within your intranet, and it should be installed only on the network administrator's computer.

To download a current version of HP Web Jetadmin and for the latest list of supported host systems, visit www.hp.com/go/webjetadmin.

When installed on a host server, any client can gain access to HP Web Jetadmin by using a supported Web browser (such as Microsoft® Internet Explorer 4.x or Netscape Navigator 4.x or later) by navigating to the HP Web Jetadmin host.

HP Easy Printer Care software

The HP Easy Printer Care software is a program that you can use for the following tasks:

- Checking the device status
- Checking the supplies status
- Setting up alerts
- Viewing device documentation
- Gaining access to troubleshooting and maintenance tools

You can view the HP Easy Printer Care software when the device is directly connected to your computer or when it is connected to a network. To download the HP Easy Printer Care software, go to www.hp.com/go/easyprintercare.

Supported operating systems

For information about supported operating systems, go to www.hp.com/go/easyprintercare.

Supported browsers

To use the HP Easy Printer Care software, you must have one of the following browsers:

- Microsoft Internet Explorer 5.5 or later
- Netscape Navigator 7.0 or later
- Opera Software ASA Opera 6.05 or later

All pages can be printed from the browser.

Software for Macintosh computers

The HP installer provides PostScript® Printer Description (PPD) files, Printer Dialog Extensions (PDEs), and the HP Printer Utility for use with Macintosh computers.

For network connections, use the embedded Web server (EWS) to configure the device. See [Embedded Web server on page 11](#).

The printing system software includes the following components:

- **PostScript Printer Description (PPD) files**

The PPDs, in combination with the Apple PostScript printer drivers, provide access to device features and allows the computer to communicate with the device.

An installation program for the PPDs, PDEs, and other software is provided on the CD-ROM. Use the appropriate PS driver that comes with the operating system.

- **HP Printer Utility**

Use the HP Printer Utility to set up device features that are not available in the printer driver:

- Name the device.
- Assign the device to a zone on the network.
- Assign an internet protocol (IP) address to the device.
- Download files and fonts.
- Configure the device for IP or AppleTalk printing.

You can use the HP Printer Utility when your device uses a universal serial bus (USB) cable or is connected to a TCP/IP-based network. For more information, see [Use the HP Printer Utility for Macintosh on page 43](#).



NOTE The HP Printer Utility is supported for Mac OS X V10.2 or later.

Other software

Embedded Web server

The device is equipped with an embedded Web server, which provides access to information about device and network activities. This information appears in a Web browser, such as Microsoft Internet Explorer or Netscape Navigator.

The embedded Web server resides on the device. It is not loaded on a network server.

The embedded Web server provides an interface to the device that anyone who has a network-connected computer and a standard Web browser can use. No special software is installed or configured, but you must have a supported Web browser on your computer. To gain access to the embedded Web server, type the IP address for the device in the address line of the browser. (To find the IP address, print a configuration page. For more information about printing a configuration page, see [Use information pages on page 38.](#))

For a complete explanation of the features and functionality of the embedded Web server, see [Use the embedded Web server on page 41.](#)

Uninstall software

Remove software from Windows operating systems

1. Click **Start**, and then click **All Programs**.
2. Click **HP**, and then click **HP LaserJet P3005**.
3. Click **Uninstall HP LaserJet P3005**, and then follow the onscreen instructions to remove the software.

Remove software from Macintosh operating systems

To remove the software from a Macintosh computer, drag the PPD files to the trash can.

Media specifications

The device accepts a variety of media, such as cut-sheet paper, including up to 100% recycled fiber content paper; envelopes; labels; transparencies; and custom-size paper. Properties such as weight, composition, grain, and moisture content are important factors that affect device performance and output quality. Media that does not meet the guidelines that are outlined in this manual can cause the following problems:

- Poor print quality
- Increased jams
- Premature wear on the device, requiring repair



NOTE Some media might meet all of media specifications and still not produce satisfactory results. Improper handling, unacceptable temperature and humidity levels, and other variables over which Hewlett-Packard has no control can affect print quality. Before purchasing large quantities of media, make sure that it meets the requirements that are specified in the user guide and in the *HP LaserJet Printer Family Print Media Guide*, which is available for download at www.hp.com/support/ljpaperguide. Always test paper before buying large quantities.



CAUTION Using media that does not meet HP specifications can cause problems for the device, requiring repair. This repair is not covered by the HP warranty or service agreements.

Select print media

This device accepts a variety of media, such as cut-sheet paper, including up to 100% recycled fiber content paper; envelopes; labels; transparencies; and custom-size paper. Properties such as weight, composition, grain, and moisture content are important factors that affect device performance and output quality. Paper that does not meet the guidelines that are outlined in this manual can cause the following problems:

- Poor print quality
- Increased jams
- Premature wear on the device, requiring repair



NOTE Some paper might meet all of the guidelines in this manual and still not produce satisfactory results. This might be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which Hewlett-Packard has no control. Before purchasing large quantities of media, make sure that it meets the requirements that are specified in this user guide and in the *HP LaserJet Printer Family Print Media Guide*, which is available for download at www.hp.com/support/ljpaperguide. Always test paper before buying large quantities.



CAUTION Using media that does not meet HP specifications can cause problems for the device, requiring repair. This repair is not covered by the HP warranty or service agreements.

Supported media sizes

Table 1-1 Supported media sizes

Input tray	Letter	Legal	A4	A5	Executive (JIS)	B5 (JIS)	16K	Custom	Statement	S Postcard (JIS)	Envelope ¹
Tray 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tray 2, tray 3	✓	✓	✓	✓	✓	✓					

¹ Supported envelope sizes are #10, Monarch, C5, DL, and B5.

Table 1-2 Automatic 2-sided printing ¹

Media size	Dimensions	Weight and thickness
Letter	216 x 279 mm (8.5 x 11 in)	60 to 199 g/m ² (16 to 53 lb bond)
Legal	216 x 356 mm (8.5 x 14 in)	
A4	211 x 297 mm (8.3 x 11.7 in)	
JIS	216 x 330 mm (8.5 x 13 in)	

¹ Automatic 2-sided printing on weights heavier than those shown can produce unexpected results.



NOTE Automatic 2-sided (duplex) printing is available with the HP LaserJet P3005d, HP LaserJet P3005dn, and HP LaserJet P3005x models.

Manual 2-sided printing. Most of the supported media sizes and types listed for printing from tray 1 can be manually duplexed. See the user guide for more information.

Supported media types

Table 1-3 Tray 1 media types

Type	Dimensions	Weight or thickness	Capacity ¹
Plain	Minimum: 76 x 127 mm (3 x 5 in) Maximum: 216 x 356 mm (8.5 x 14 in)	60 to 199 g/m ² (16 to 53 lb)	100 sheets
Preprinted		60 to 120 g/m ² (16 to 32 lb)	100 sheets
Letterhead		60 to 120 g/m ² (16 to 32 lb)	100 sheets
Prepunched		60 to 120 g/m ² (16 to 32 lb)	100 sheets
Bond		60 to 120 g/m ² (16 to 32 lb bond)	100 sheets
Recycled		60 to 120 g/m ² (16 to 32 lb)	100 sheets
Colored paper		60 to 120 g/m ² (16 to 32 lb)	100 sheets
Rough		60 to 199 g/m ² (16 to 53 lb)	Up to 100 sheets
Light		60 to 75 g/m ² (16 to 20 lb)	100 sheets
Custom		60 to 199 g/m ² (16 to 53 lb)	Up to 100 sheets
Transparencies ²		0.10 to 0.14 mm thick (4.7 to 5 mils thick)	Up to 60 sheets
Envelopes		75 to 90 g/m ² (20 to 24 lb)	10 envelopes
Labels		0.10 to 0.14 mm thick (4.7 to 5 mils thick)	Up to 60 sheets
Cardstock		Greater than 163 g/m ² (greater than 43 lb)	Up to 100 sheets

¹ Capacity can vary depending on media weight and thickness and environmental conditions. Smoothness should be 100 to 250 (Sheffield). For ordering information, see [Order parts, accessories, and supplies on page 200](#).

² Use only transparencies that are designed for use with HP LaserJet printers. This device can detect transparencies that were not designed for use with HP LaserJet printers.

Table 1-4 Tray 2 and tray 3 media types

Type	Dimensions	Weight or thickness	Capacity ¹
Plain	Minimum: 140 x 216 mm (5.5 x 8.5 in)	60 to 120 g/m ² (16 to 32 lb)	Up to 500 sheets
Preprinted	Maximum: 216 x 356 mm (8.5 x 14 in)	60 to 120 g/m ² (16 to 32 lb)	Up to 500 sheets
Letterhead		60 to 120 g/m ² (16 to 32 lb)	Up to 500 sheets
Prepunched		60 to 120 g/m ² (16 to 32 lb bond)	Up to 500 sheets
Bond		60 to 120 g/m ² (16 to 32 lb)	Up to 500 sheets
Recycled		60 to 120 g/m ² (16 to 32 lb)	Up to 500 sheets
Colored paper		60 to 120 g/m ² (16 to 32 lb)	Up to 500 sheets

¹ The printer supports a wide range of standard and custom sizes of print media. Capacity can vary depending on media weight and thickness and environmental conditions. Smoothness should be 100 to 250 (Sheffield). For ordering information, see [Order parts, accessories, and supplies on page 200](#).

Paper to avoid

The product can handle many types of paper. Using paper that does not meet specifications will cause lower print quality and increase the chance of jams.

- Do not use paper that is too rough. Use paper with a tested smoothness rating of 100–250 Sheffield.
- Do not use paper, other than standard 3-hole punched paper, that contains cutouts or perforations.
- Do not use multipart forms.
- Do not use paper that has already been printed on, or that has been fed through a photocopier.
- Do not use paper that contains a watermark if you are printing solid patterns.
- Do not use heavily embossed or raised-letterhead papers.
- Do not use papers that have heavily textured surfaces.
- Do not use offset powders or other materials that prevent printed forms from sticking together.
- Do not use paper that has a colored coating that was added after the paper was produced.

2 Installation and configuration

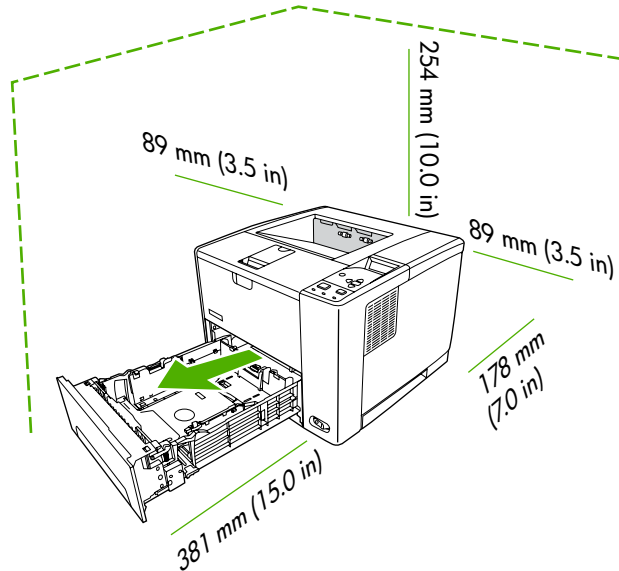
Chapter contents

- [Site preparation](#)
- [Load input trays](#)
- [Install supplies](#)
- [Install accessories](#)

Site preparation

Location specifications

Allow sufficient space around the device for access and ventilation. See [Physical specifications on page 244](#) for the minimum space requirements.



Operating environment

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

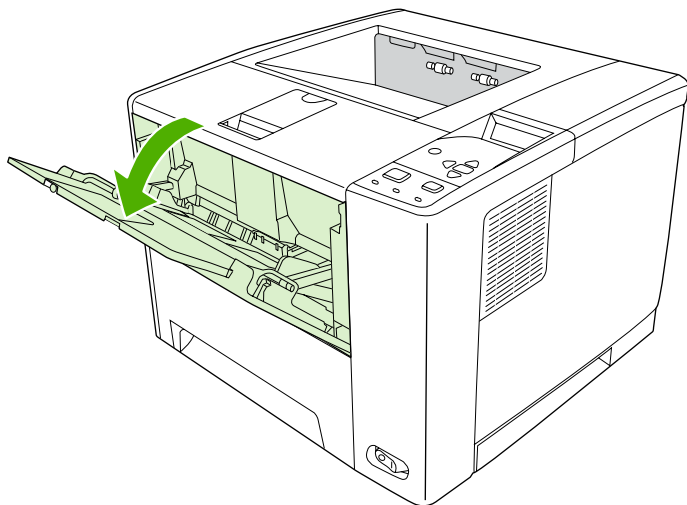
- Allowed operating temperature: 15° to 32.5°C (59° to 90.5°F)
Recommended operating temperature: 17.5° to 25°C (63° to 77°F)
- Allowed operating humidity: 10% to 80% relative humidity (no condensation)
Recommended operating humidity: 30% to 70% relative humidity (no condensation)
- Away from direct sunlight, open flames, and ammonia fumes

Load input trays

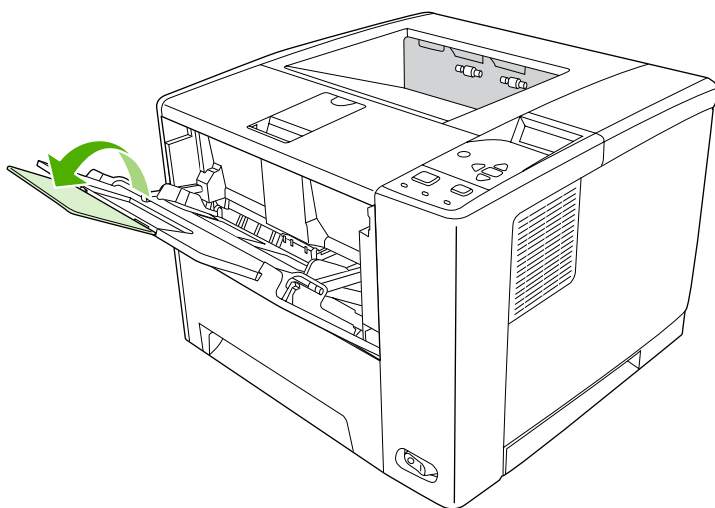
Load tray 1 (multipurpose tray)

Tray 1 holds up to 100 sheets of paper, up to 75 transparencies, up to 50 sheets of labels, or up to 10 envelopes. For information about loading special media, see the user guide.

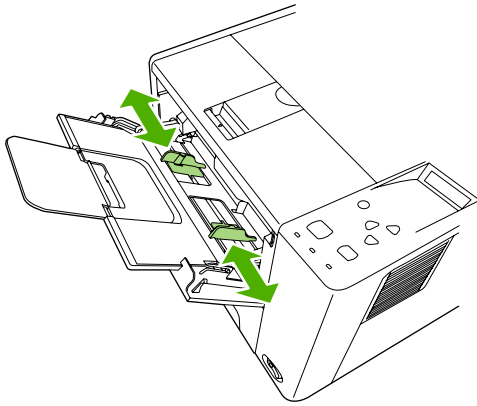
1. Open tray 1 by pulling the front cover down.



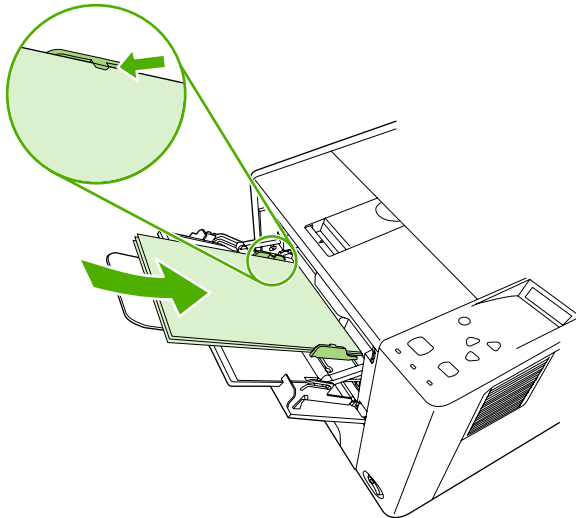
2. Slide out the plastic tray extender. If the media that is being loaded is longer than 229 mm (9 in), also flip open the additional tray extender.



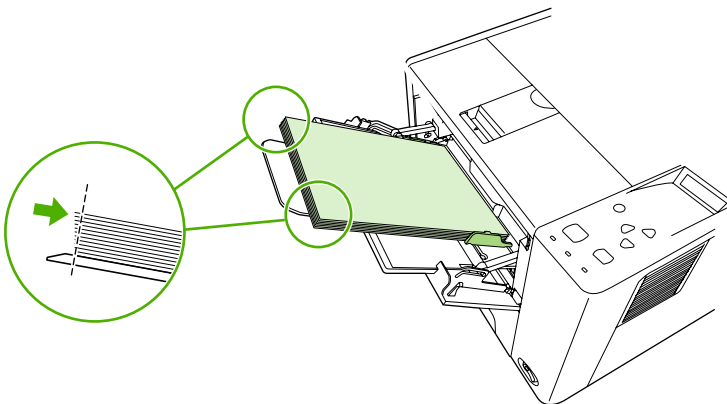
3. Slide the media-width guides slightly wider than the media.



4. Place media into the tray (short-edge in, print-side up). The media should be centered between the media-width guides and under the tabs on the media-width guides.



5. Slide the media-width guides inward until they lightly touch the media stack on both sides without bending it. Make sure that the media fits under the tabs on the media-width guides.



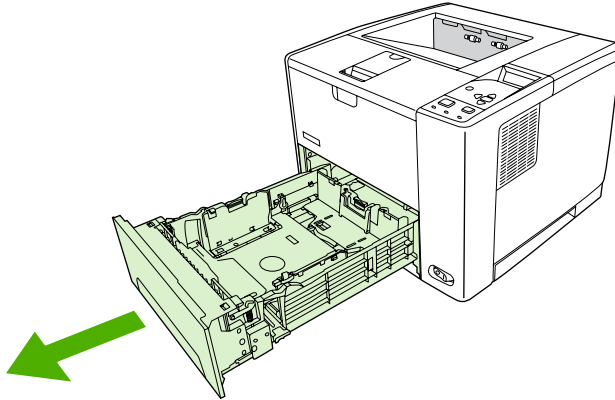


NOTE Do not add media to tray 1 while the device is printing. This could cause a jam. Do not close the front door when the device is printing.

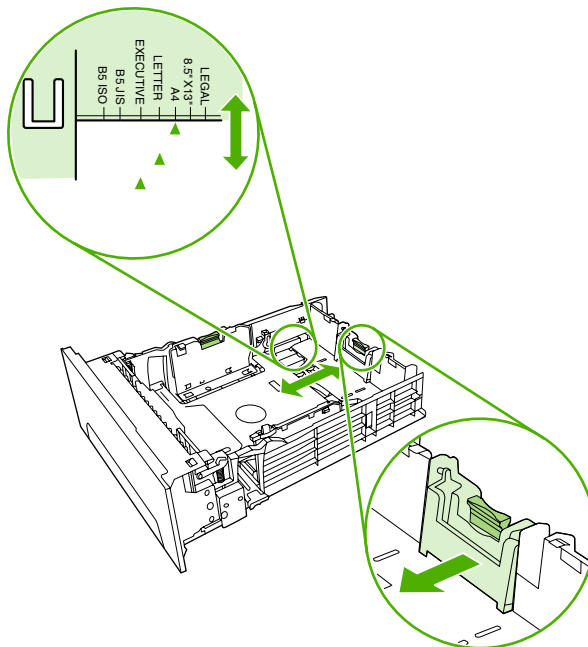
Load tray 2 and optional tray 3

Trays 2 and 3 support only paper. For supported paper sizes, see [Select print media on page 13](#).

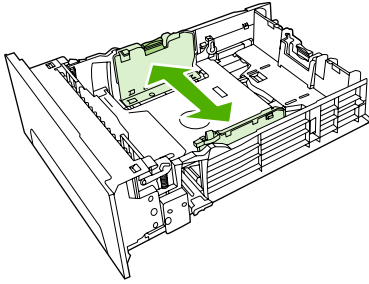
1. Pull the tray out of the device and remove any paper.



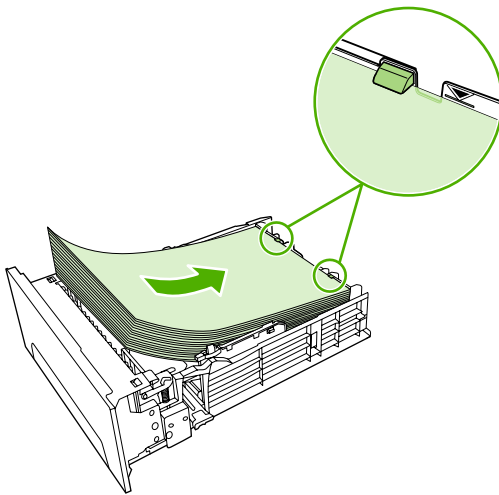
2. On the rear paper-length guide, press the tab and slide it so that the pointer matches the paper size that you are loading. Make sure that the guide clicks into place.



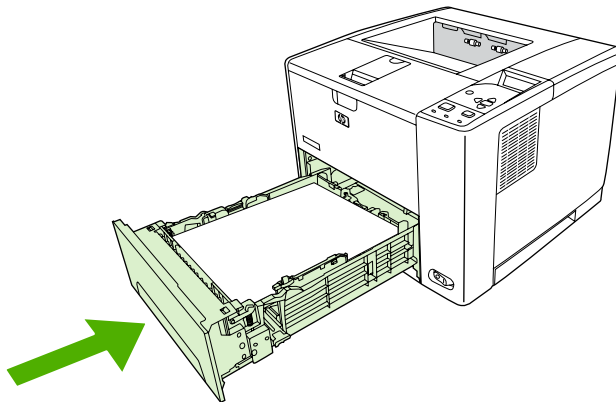
3. Adjust the side media-width guides outward so that the pointer matches the paper size that you are loading.



4. Place the paper in the tray and make sure that it is flat at all four corners. Keep the paper below the height tabs on the paper-length guide in the rear of the tray.



5. Push down on the paper to lock the metal paper-lift plate in place.
6. Slide the tray into the device.



Install supplies

Carefully follow the guidelines in this section when replacing device supplies.

Supply replacement guidelines

To facilitate the replacement of supplies, keep the following guidelines in mind when setting up the device.

- Sufficient space is required above and in the front of the device for removing supplies.
- The device should be located on a flat, sturdy surface.

For instructions on installing supplies, see the installation guides provided with each supply item or see more information at www.hp.com/support/LJP3005.

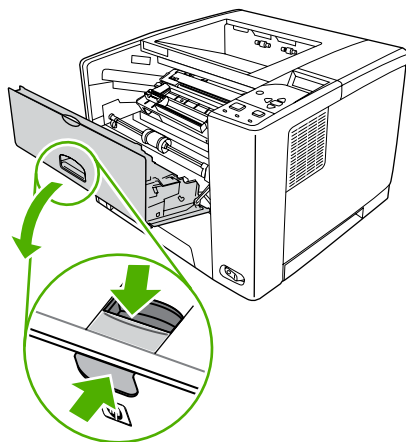


NOTE Hewlett-Packard recommends the use of HP products in this device. Use of non-HP products may cause problems requiring service that is not covered by the HP warranty or service agreements.

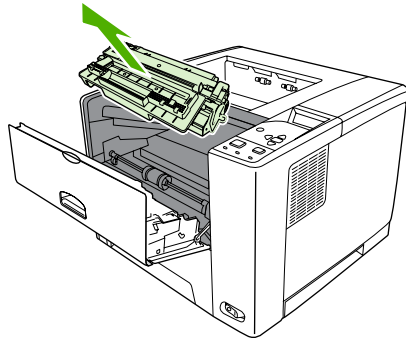
Change the print cartridge

When a print cartridge approaches the end of useful life, a message appears on the control panel recommending that you order a replacement. The device can continue to print using the current print cartridge until a message appears instructing you to replace the cartridge.

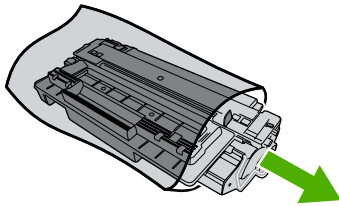
1. Open the cartridge door.



2. Remove the used print cartridge from the device.



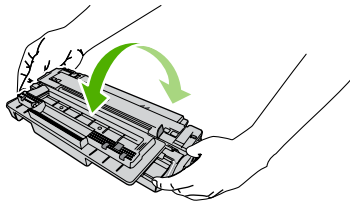
3. Remove the new print cartridge from the bag. Place the used print cartridge in the bag for recycling.



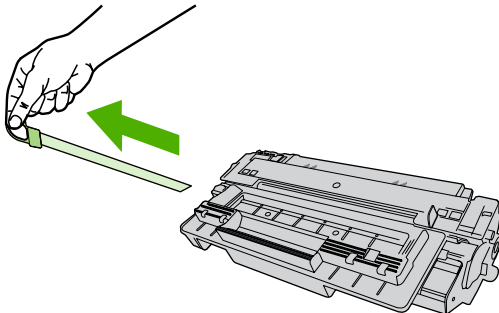
4. Grasp both sides of the print cartridge and distribute the toner by gently rocking the print cartridge.



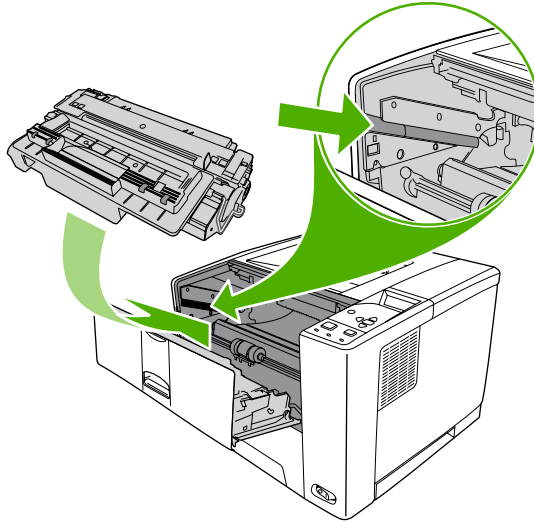
CAUTION Do not touch the shutter or the surface of the roller.



5. Remove the shipping tape from the new print cartridge. Discard the shipping tape according to local regulations.



6. Align the print cartridge with the tracks inside the device, and, using the handle, insert the print cartridge until it is firmly seated, and then close the cartridge door.



After a short time, the control panel should display **Ready**.

7. Installation is complete. Place the used print cartridge in the box in which the new cartridge arrived. See the enclosed recycling guide for recycling instructions.
8. If you are using a non-HP print cartridge, check the device control panel for further instructions.

For additional help, go to www.hp.com/support/LJP3005.

Install accessories

Install memory

You might want to add more memory to the device if you often print complex graphics, print PostScript (PS) documents, or use many downloaded fonts. Added memory also gives you more flexibility in supporting job-storage features, such as quick copying.

Install device memory

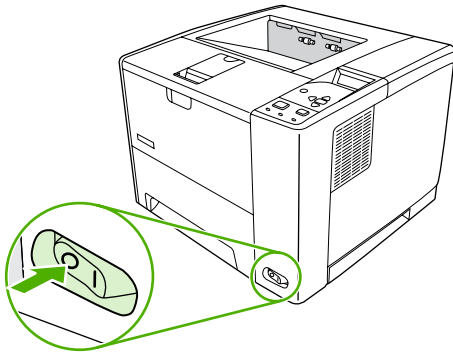


CAUTION Static electricity can damage DIMMs. When handling DIMMs, either wear an antistatic wrist strap or frequently touch the surface of the DIMM antistatic package, then touch bare metal on the device.

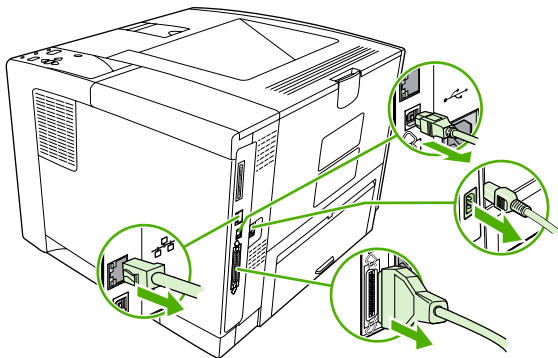
The HP LaserJet P3005 devices come with one DIMM slot. If desired, you can replace a DIMM installed in the slot with a higher memory DIMM.

If you have not already done so, print a configuration page to find out how much memory is installed in the device before adding more memory. See [Use information pages on page 38](#).

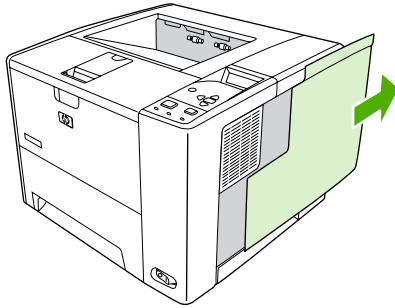
1. After the configuration page has printed, turn the device off and disconnect the power cord.



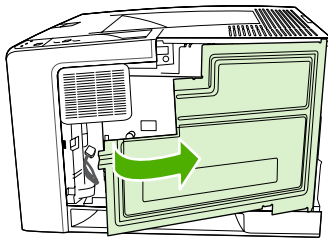
2. Disconnect all interface cables.



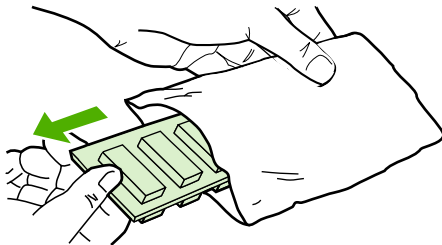
3. Remove the right side panel by sliding it towards the rear of the device until the side slides from the device.



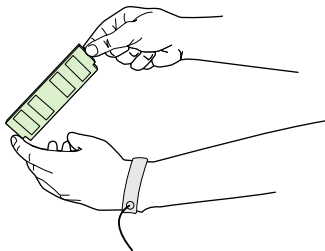
4. Open the access door by pulling on the metal tab.



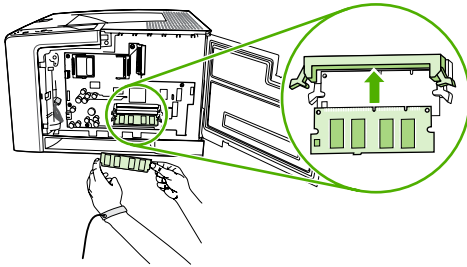
5. Remove the DIMM from the antistatic package.



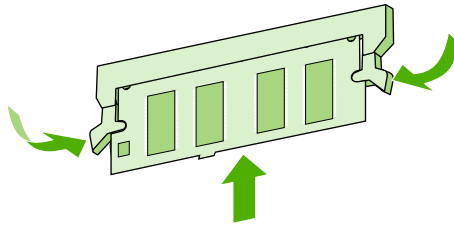
CAUTION To reduce the possibility of damage caused by static electricity, always wear an electrostatic discharge (ESD) wrist strap or touch the surface of the antistatic package before handling DIMMs.



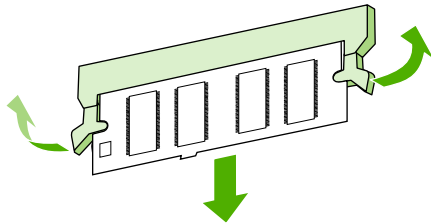
6. Hold the DIMM by the edges, and align the notches on the DIMM with the DIMM slot. (Check that the locks on each side of the DIMM slot are open.)



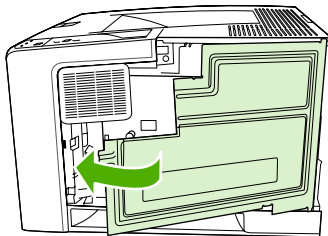
7. Press the DIMM straight into the slot, and press firmly. Make sure the locks on each side of the DIMM snap into place.



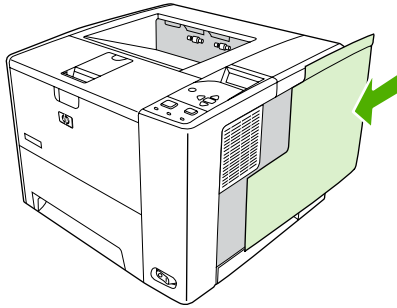
NOTE To remove a DIMM, first release the locks.



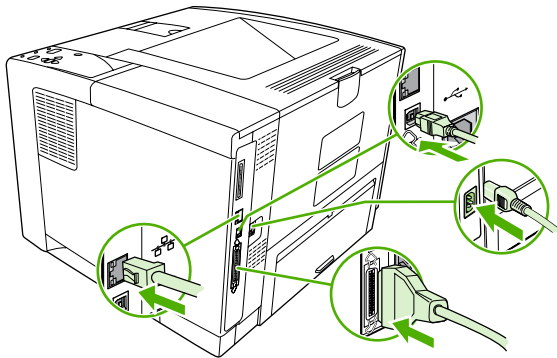
8. Close the access door, and press firmly until it snaps into place.



9. To replace the right side panel, line up the alignment arrows and slide the panel toward the front of the device until it latches into place.



10. Reconnect the interface cable(s) and the power cord.



11. Turn the device on.

Check DIMM installation

After installing the DIMM, make sure that the installation was successful.

Verify that DIMM is installed correctly

1. Turn the device on. Check that the Ready light is illuminated after the device has gone through the startup sequence. If an error message appears, a DIMM might have been incorrectly installed. See [Control-panel messages on page 131](#).
2. Print a configuration page (see [Use information pages on page 38](#)).
3. Check the memory section on the configuration page and compare it to the configuration page that was printed before the memory installation. If the amount of memory has not increased, the DIMM might not be installed correctly, or the DIMM might be defective. Repeat the installation procedure. If necessary, install a different DIMM.



NOTE If you installed a device language (personality), check the "Installed Personalities and Options" section on the configuration page. This area should list the new device language.

Enable memory for Windows

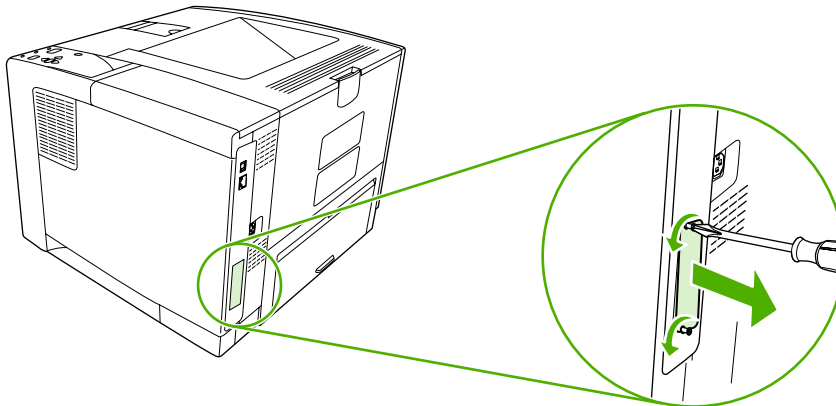
1. On the **Start** menu, **Settings**, and **Printers** or **Printers and Faxes**.
2. Select this device and select **Properties**.
3. On the **Configure** tab, click **More**.
4. In the **Total Memory** field, type or select the total amount of memory that is now installed.
5. Click **OK**.
6. Go to [Check DIMM installation on page 29](#).

Use HP Jetdirect print server cards

Follow these procedures to install or remove an EIO card.

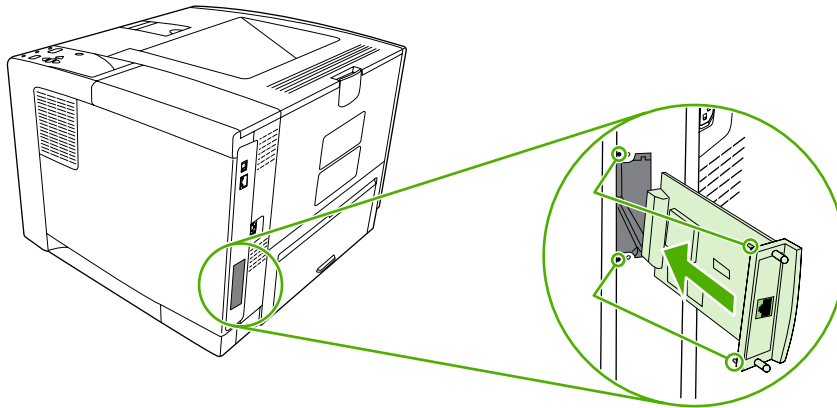
Install an HP Jetdirect print server card

1. Turn off the device.
2. Remove the two screws and cover plate from the EIO slot on the back of the device.

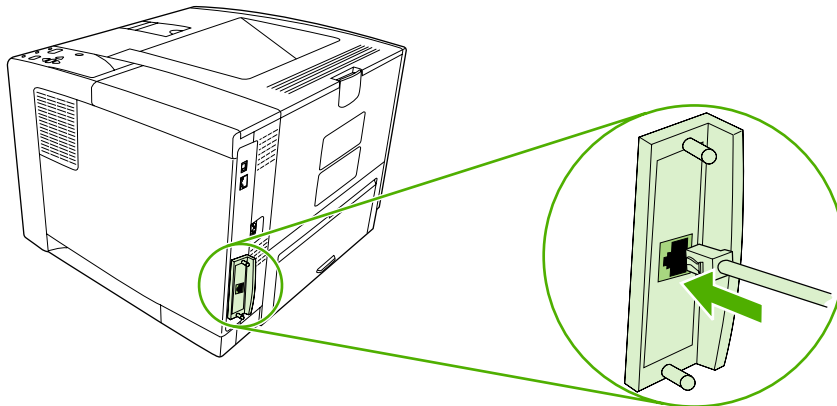


NOTE Do not discard the screws or the cover plate. Save them for future use if you remove the EIO card.

3. Install the EIO card in the EIO slot and tighten the screws.



4. Connect the network cable to the EIO card.



5. Turn on the device, and then print a configuration page to verify that the new EIO device is recognized. See [Use information pages on page 38](#).



NOTE When you print a configuration page, an HP Jetdirect configuration page that contains network configuration and status information also prints.

Remove an HP Jetdirect print server card

1. Turn off the device.
2. Disconnect the network cable from the EIO card.
3. Loosen the two screws from the EIO card, and then remove the EIO card from the EIO slot.
4. Place the cover plate from the EIO slot onto the back of the device. Insert and tighten the two screws.
5. Turn on the device.

3 Maintenance

Chapter contents

- [Manage supplies](#)
- [Clean the device](#)
- [Management tools](#)

Manage supplies

Using, storing, and monitoring the print cartridge can help ensure high-quality output.

Supplies life

The average cartridge yield is 6,500 pages (for the Q7551A cartridge) or 13,000 pages (for the Q7551X cartridge), in accordance with ISO/IEC 19752. Actual cartridge yield depends on specific use.

**CAUTION** EconoMode is a feature that allows the device to use less toner per page. Selecting this option may extend the life of the toner supply and may reduce cost per page. However, it will also reduce print quality. The printed image is lighter, but it is adequate for printing drafts or proofs. HP does not recommend full-time use of EconoMode. If EconoMode is used full-time, it is possible that the toner supply will outlast the mechanical parts in the print cartridge. If print quality begins to degrade under these circumstances, you will need to install a new print cartridge, even if there may be toner supply remaining in the cartridge.

Approximate print-cartridge replacement intervals

Print cartridge	Page count	Approximate time period ¹
Black (Q7551A)	6,500 pages ¹	3 months
Black (Q7551X)	13,000 pages	6 months

¹ Approximate life is based on 2,000 pages per month.
To order supplies online, go to www.hp.com/support/LJP3005.

Manage the print cartridge

Print-cartridge storage

Do not remove the print cartridge from its package until you are ready to use it.

**CAUTION** To prevent damage to the print cartridge, do not expose it to light for more than a few minutes.

Use genuine HP print cartridges

When you use a genuine new HP print cartridge, you can obtain the following supplies information:

- Percentage of supplies remaining
- Estimated number of pages remaining
- Number of pages printed

HP policy on non-HP print cartridges

Hewlett-Packard Company cannot recommend the use of non-HP print cartridges, either new or remanufactured. Because they are not HP products, HP cannot influence their design or control their quality.



NOTE Any damage caused by a non-HP print cartridge is not covered under the HP warranty and service agreements.

To install a new HP print cartridge, see [Change the print cartridge on page 23](#). To recycle the used cartridge, follow the instructions included with the new cartridge.

Print-cartridge authentication

The device automatically authenticates the print cartridge when it is inserted into the device. During authentication, the device notifies you whether a cartridge is a genuine HP print cartridge.

If the device control-panel message states that this is not a genuine HP print cartridge and you believe you purchased an HP print cartridge, see [HP fraud hotline and Web site on page 35](#).

HP fraud hotline and Web site

Call the HP fraud hotline (1-877-219-3183, toll-free in North America) or go to www.hp.com/go/anticounterfeit when you install an HP print cartridge and the control-panel message says the cartridge is non-HP. HP will help determine if the cartridge is genuine and take steps to resolve the problem.

Your print cartridge might not be a genuine HP print cartridge if you notice the following:

- You are experiencing a high number of problems with the print cartridge.
- The cartridge does not look like it usually does (for example, the orange pull tab is missing, or the packaging differs from HP packaging).

Clean the device

Over time, particles of toner and paper accumulate inside the device. This can cause print-quality problems during printing. Cleaning the device eliminates or reduces these problems.

Clean the paper path and print-cartridge areas every time that you change the print cartridge or whenever print-quality problems occur. As much as possible, keep the device from dust and debris.

Clean the exterior

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

Clean the paper path

1. Press **Menu**.
2. Press ▼ to highlight **CONFIGURE DEVICE**, and then press ✓.
3. Press ▼ to highlight **PRINT QUALITY**, and then press ✓.



NOTE If your device has an automatic duplexer, go to step 7.

4. Press ▼ to highlight **CREATE CLEANING PAGE**, and then press ✓.
5. Remove all paper from tray 1.
6. Remove the cleaning page and load it face-down in tray 1.



NOTE If you are not in the menus, navigate to **PRINT QUALITY** by using the previous instructions.

7. At the device control panel, press ▼ to highlight **PROCESS CLEANING PAGE**, and then press ✓.

Clean spilled toner

If you get any toner on your clothes or hands, wash them in *cold* water. Hot water will set the toner into the fabric.

Clean the fuser

Run the device cleaning page to keep the fuser free of toner and paper particles that can sometimes accumulate. Accumulation of toner and particles can cause specks to appear on the front or back side of your print jobs.

To ensure optimum print quality, HP recommends that you use the cleaning page every time that you replace the print cartridge.

The cleaning procedure takes about 2.5 minutes to complete. A **CLEANING** message appears on the device control panel display while the cleaning is taking place.

In order for the cleaning page to work correctly, print the page on copier-grade paper (not bond, heavy, or rough paper).

Create and use the cleaning page

1. If your device model includes a duplexer, open the rear output bin.
2. Press **Menu** to open the menus.
3. Use the ▲ button or the ▼ button to scroll to **CONFIGURE DEVICE**, and then press ✓.
4. Use the ▲ button or the ▼ button to scroll to **PRINT QUALITY**, and then press ✓.
5. Use the ▲ button or the ▼ button to scroll to **CREATE CLEANING PAGE**, and then press ✓.
6. Follow the instructions on the cleaning page to complete the cleaning process.
7. If your device model includes a duplexer, close the rear output bin.

Management tools

Use information pages

From the device control panel, you can print pages that give details about the device and its current configuration. The table below provides the procedures for printing the information pages.

Page description	How to print the page
Menu map Shows the control-panel menus and available settings.	1. Press Menu. 2. Press ▼ to highlight INFORMATION, and then press ✓. 3. If PRINT MENU MAP is not highlighted, press ▲ or ▼ until it is highlighted, and then press ✓. The content of the menu map varies, depending on the options currently installed in the device. For a complete list of control panel menus and possible values, see the user guide.
Configuration page Shows device settings and installed accessories.	1. Press Menu. 2. Press ▼ to highlight INFORMATION, and then press ✓. 3. Press ▼ to highlight PRINT CONFIGURATION, and then press ✓. NOTE If the device contains an HP Jetdirect print server or an optional hard disk drive, an additional configuration page prints that provides information about those devices.
Supplies status page Shows print-cartridge toner levels.	1. Press Menu. 2. Press ▼ to highlight INFORMATION, and then press ✓. 3. Press ▼ to highlight PRINT SUPPLIES STATUS PAGE, and then press ✓. NOTE If you are using non-HP supplies, the supplies status page might not show the remaining life for those supplies. For more information, see HP policy on non-HP print cartridges on page 34.
Usage page Shows a page count for each size of paper printed, the number of one-sided (simplex) or two-sided (duplexed) pages, and the average percentage of coverage.	1. Press Menu. 2. Press ▼ to highlight INFORMATION, and then press ✓. 3. Press ▼ to highlight PRINT USAGE PAGE, and then press ✓.

Page description	How to print the page
File directory Shows information for all installed mass storage devices.	1. Press Menu. 2. Press ▼ to highlight INFORMATION, and then press ✓. 3. Press ▼ to highlight PRINT FILE DIRECTORY, and then press ✓.  NOTE This option does not appear if no mass storage devices are installed.
PCL or PS font list Shows which fonts are currently installed in the device.	1. Press Menu. 2. Press ▼ to highlight INFORMATION, and then press ✓. 3. Press ▼ to highlight PRINT PCL FONT LIST or PRINT PS FONT LIST, and then press ✓.  NOTE The font lists also show which fonts are resident on an optional hard disk accessory or flash DIMM.

Use the HP Easy Printer Care software

The HP Easy Printer Care software is a program that you can use for the following tasks:

- Check the device status.
- Check supplies status.
- Set up alerts.
- Gain access to problem-solving and maintenance tools.

You can use the HP Easy Printer Care software when the device is directly connected to your computer or when it is connected to a network. You must perform a complete software installation to use the HP Easy Printer Care software.



NOTE You do not have to have Internet access to open and use the HP Easy Printer Care software. However, if you click a Web-based link, you must have Internet access to go to the site associated with the link.

Open the HP Easy Printer Care software

Use one of the following methods to open HP Easy Printer Care software:

- On the **Start** menu, select **Programs**, select **Hewlett-Packard**, and then select **HP Easy Printer Care software**.
- In the Windows system tray (in the lower-right corner of the desktop), double-click the HP Easy Printer Care software icon.
- Double-click the desktop icon.

HP Easy Printer Care software sections

Section	Options
Device List tab Shows information about each device in the Devices list	- Device information, including printer name, make, and model - An icon (if the View as drop-down box is set to Tiles, which is the default setting) - Any current alerts for the device If you click a device in the list, the HP Easy Printer Care software opens the Overview tab for that device.
Support tab Provides help information and links	- Provides device information, including alerts for items needing attention. - Provides links to troubleshooting and maintenance tools.
Supplies Ordering window Provides access to online or e-mail supplies ordering	- Ordering list: Shows the supplies that you can order for each device. If you want to order a certain item, click the Order check box for that item in the supplies list. Shop Online for Supplies button: Opens the HP SureSupply Web site in a new browser window. If you have checked the Order check box for any items, the information about those items can be transferred to the Web site, where you will receive information on options for purchasing your selected supplies. Print Shopping List button: Prints the information for the supplies that have the Order check box selected.
Alert Settings window Allows you to configure the device to automatically notify you of device issues	- Alerts on or off: Activates or deactivates the alerts feature. - When alerts appear: Sets when you want alerts to appear—either when you are printing to that particular device, or anytime there is a device event. - Alert event type: Sets whether you want alerts for only critical errors, or for any error, including continuable errors. - Notification method: Sets what type of alert should appear (pop-up message or desktop alert).
Overview tab Contains basic status information for the device	Devices list: Shows the devices that you can select. Device Status section: Shows device status information. This section will indicate device alert conditions, such as an empty print cartridge. It also shows device-identification information, control-panel messages, and print-cartridge levels. After you correct a problem with the device, click the  button to update the section. Supplies Status section: Shows detailed supplies status, such as the percentage of toner remaining in the print cartridge and the status of the media that is loaded in each tray. Supplies Details link: Opens the supplies status page to view more detailed information about device supplies, ordering information, and recycling information.
Find Other Printers window Allows you to add more printers to your printer list	Clicking the Find Other Printers link in the Devices list opens the Find Other Printers window. The Find Other Printers window provides a utility that detects other network printers so that you can add them to the Devices list and then monitor those devices from your computer.

Use the embedded Web server



NOTE When the device is directly connected to a computer, use the HP Easy Printer Care software to view the device status.

- View device control status information
- Set the type of paper loaded in each tray
- Determine the remaining life on all supplies and order new ones
- View and change tray configurations
- View and change the device control panel menu configuration
- View and print internal pages
- Receive notification of device and supplies events
- View and change network configuration
- View support content that is specific to the current state of the device

When the device is connected to the network, the embedded Web server is automatically available.

To use the embedded Web server, you must have Microsoft Internet Explorer 4 and later or Netscape Navigator 4 and later. The embedded Web server works when the device is connected to an IP-based network. The embedded Web server does not support IPX-based or AppleTalk device connections. You do not need Internet access to open and use the embedded Web server.

Open the embedded Web server by using a network connection

1. In a supported Web browser on your computer, type the device IP address or host name in the address/URL field. To find the IP address or host name, print a configuration page. See [Use information pages on page 38](#).



NOTE After you open the URL, you can bookmark it so that you can return to it quickly in the future.

2. The embedded Web server has three tabs that contain settings and information about the device: the **Information** tab, the **Settings** tab, and the **Networking** tab. Click the tab that you want to view.

See [Embedded Web server sections on page 41](#) for more information about each tab.

Embedded Web server sections

Tab or section	Options
Information tab Provides device, status, and configuration information	• Device Status: Shows the device status and shows the life remaining of HP supplies, with 0% indicating that a supply is empty. The page also shows the type and size of print paper set for each tray. To change the default settings, click Change Settings. • Configuration Page: Shows the information found on the configuration page. • Supplies Status: Shows the life remaining of HP supplies, with 0 percent indicating that a supply is empty. This page also provides supplies part numbers. To order new supplies, click Order Supplies in the Other Links area on the left side of the window.

Tab or section	Options
	• Event log: Shows a list of all device events and errors. • Usage page: Shows a summary of the number of pages the device has printed, grouped by size and type. • Device Information: Shows the device network name, address, and model information. To change these entries, click Device Information on the Settings tab. • Control Panel: Shows messages from the device control panel, such as Ready or Sleep mode on. • Print: Allows you to send print jobs to the device.
Settings tab Provides the ability to configure the device from your computer	• Configure Device: Allows you to configure device settings. This page contains the traditional menus found on devices using a control-panel display. • E-mail Server: Network only. Used in conjunction with the Alerts page to set up incoming and outgoing e-mail, as well as to set e-mail alerts. • Alerts: Network only. Allows you to set up to receive e-mail alerts for various device and supplies events. • AutoSend: Allows you to configure the device to send automated e-mails regarding device configuration and supplies to specific e-mail addresses. • Security: Allows you to set a password that must be entered to gain access to the Settings and Networking tabs. Enable and disable certain features of the embedded Web server. • Edit Other Links: Allows you to add or customize a link to another Web site. This link is displayed in the Other Links area on all embedded Web server pages. • Device Information: Allows you to name the device and assign an asset number to it. Enter the name and e-mail address for the primary contact who will receive information about the device. • Language: Allows you to determine the language in which to display the embedded Web server information. • Date & Time: Allows time synchronization with a network time server. • Wake Time: Allows you to set or edit a wake time for the device.
	 NOTE The Settings tab can be password-protected. If this device is on a network, always consult with the system administrator before changing settings on this tab.

Tab or section	Options
Networking tab Provides the ability to change network settings from your computer	Network administrators can use this tab to control network-related settings for the device when it is connected to an IP-based network. This tab does not appear if the device is directly connected to a computer, or if the device is connected to a network using anything other than an HP Jetdirect print server.  NOTE The Networking tab can be password-protected.
Other links Contains links that connect you to the Internet	• HP Instant Support™: Connects you to the HP Web site to help you find solutions. This service analyzes your device error log and configuration information to provide diagnostic and support information specific to your device. • Order Supplies: Connects to the HP SureSupply Web site, where you will receive information on options for purchasing original HP supplies, such as print cartridges and paper. • Product Support: Connects to the support site for the device, from which you can search for help regarding general topics.  NOTE You must have Internet access in order to use any of these links. If you use a dial-up connection and did not connect when you first opened the embedded Web server, you must connect before you can visit these Web sites. Connecting might require that you close the embedded Web server and reopen it.

Use HP Web Jetadmin software

HP Web Jetadmin is a Web-based software solution for remotely installing, monitoring, and troubleshooting network-connected peripherals. The intuitive browser interface simplifies cross-platform management of a wide range of devices, including HP and non-HP devices. Management is proactive, allowing network administrators the ability to resolve issues before users are affected. Download this free, enhanced-management software at www.hp.com/go/webjetadmin_software.

To obtain plug-ins to HP Web Jetadmin, click **plug-ins**, and then click the **download** link that is next to the name of the plug-in that you want. The HP Web Jetadmin software can automatically notify you when new plug-ins are available. On the **Product Update** page, follow the directions to automatically connect to the HP Web site.

If installed on a host server, HP Web Jetadmin is available to any client through a supported Web browser, such as Microsoft Internet Explorer 6.0 for Windows or Netscape Navigator 7.1 for Linux. Browse to the HP Web Jetadmin host.



NOTE Browsers must be Java-enabled. Browsing from an Apple PC is not supported.

Use the HP Printer Utility for Macintosh

Use the HP Printer Utility to configure and maintain a device from a Mac OS X computer.

Open the HP Printer Utility

Open the HP Printer Utility in Mac OS X V10.2

1. Open the Finder, and then click **Applications**.
2. Click **Library**, and then click **Printers**.
3. Click **hp**, and then click **Utilities**.
4. Double-click **HP Printer Selector** to open the HP Printer Selector.
5. Select the device that you want to configure, and then click **Utility**.

Open the HP Printer Utility in Mac OS X V10.3 or V10.4

1. In the Dock, click the **Printer Setup Utility** icon.



NOTE If the **Printer Setup Utility** icon does not appear in the Dock, open the Finder, click **Applications**, click **Utilities**, and then double-click **Printer Setup Utility**.

2. Select the device that you want to configure, and then click **Utility**.

HP Printer Utility features

The HP Printer Utility consists of pages that you open by clicking in the **Configuration Settings** list. The following table describes the tasks that you can perform from these pages.

Item	Description
Configuration Page	Prints a configuration page.
Supplies Status	Shows the device supplies status and provides links for online supplies-ordering.
HP Support	Provides access to technical assistance, online supplies ordering, online registration, and recycling and return information.
File Upload	Transfers files from the computer to the device.
Upload Fonts	Transfers font files from the computer to the device.
Firmware Update	Transfers updated firmware files from the computer to the device.
Duplex Mode	Turns on the automatic two-sided printing mode.
Economode & Toner Density	Turns on the Economode setting to conserve toner, or adjusts toner density.
Resolution	Changes the resolution settings, including the REt setting.
Lock Resources	Locks or unlocks storage products, such as a hard disk.
Stored Jobs	Manages print jobs that are stored on the device hard disk.
Trays Configuration	Changes the default tray settings.
IP Settings	Changes the device network settings and provides access to the embedded Web server.
Bonjour Settings	Provides the ability to turn on or off Bonjour support or change the device service name that is listed on a network.
Additional Settings	Provides access to the embedded Web server.
E-mail Alerts	Configures the device to send e-mail notices for certain events.

4 Theory of operation

Chapter contents

- [Basic operation](#)
- [Internal components](#)
- [Timing](#)
- [Print cartridge memory system](#)

Basic operation

This chapter presents an overview of the relationships among major components in the device, and includes a detailed discussion of the image-formation system. The following systems are discussed:

- Formatter
- Engine control unit
- Laser/scanner system
- Pickup/feed/delivery system
- Image-formation system

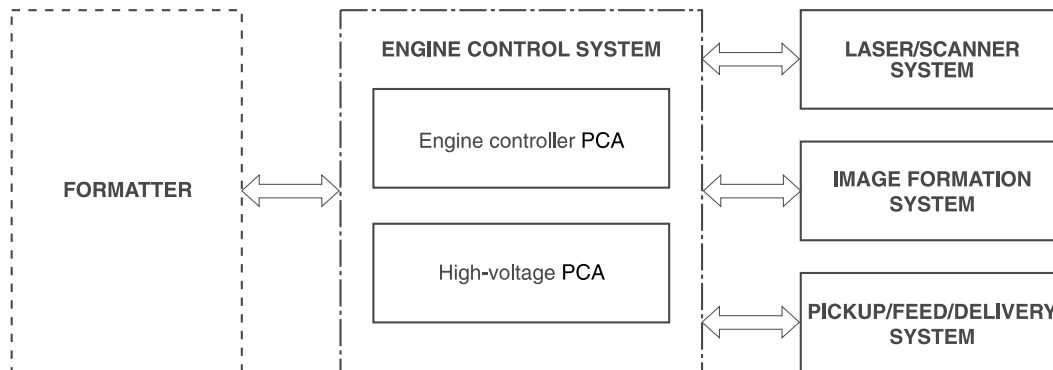


Figure 4-1 Systems overview

Formatter

The formatter is responsible for the following actions:

- Formatting and controlling copies
- Receiving and processing print data from the computer interface
- Monitoring the control panel and relaying device status information
- Developing and coordinating data placement and timing with the print engine

Engine control unit (ECU)

The ECU coordinates all device functions, according to commands that the formatter sends. It drives the laser/scanner system, the image formation system, and the pickup/feed/delivery system.

The ECU contains the following components:

- Engine controller PCA
- Low-voltage PCA

[Figure 4-2 Print engine general structure on page 47](#) shows the relationship of the ECU to the pickup/feed/delivery system, the laser/scanner system, and the image-formation system. [Figure 4-3 Engine control system circuit diagram on page 48](#) provides the ECU circuit diagram. [Figure 4-4 Low-voltage power supply circuit diagram on page 49](#) shows the low-voltage power supply circuit on the ECU.

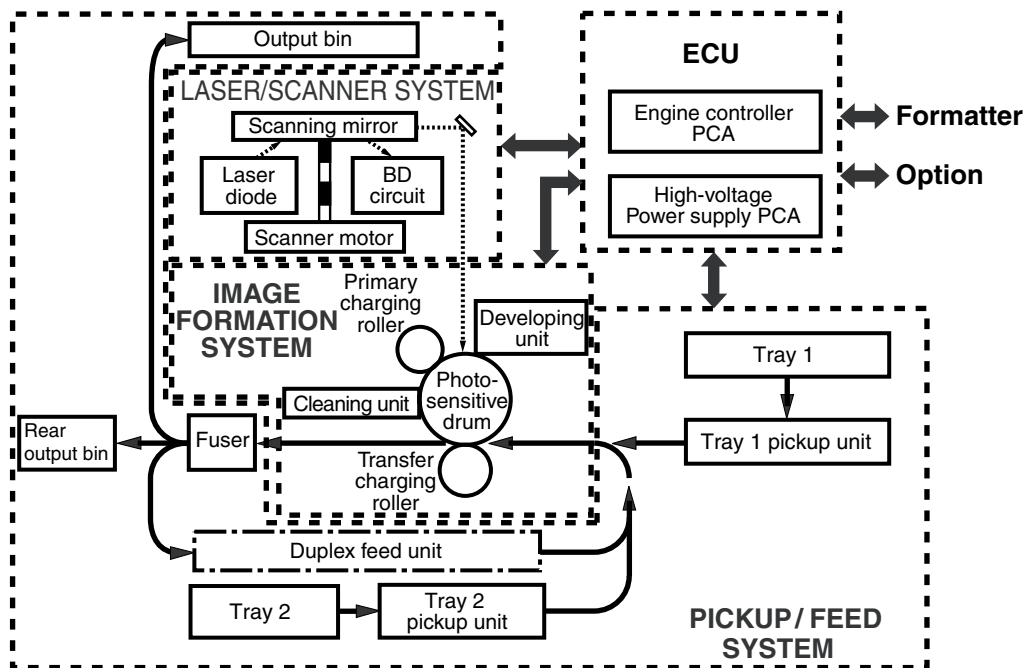


Figure 4-2 Print engine general structure

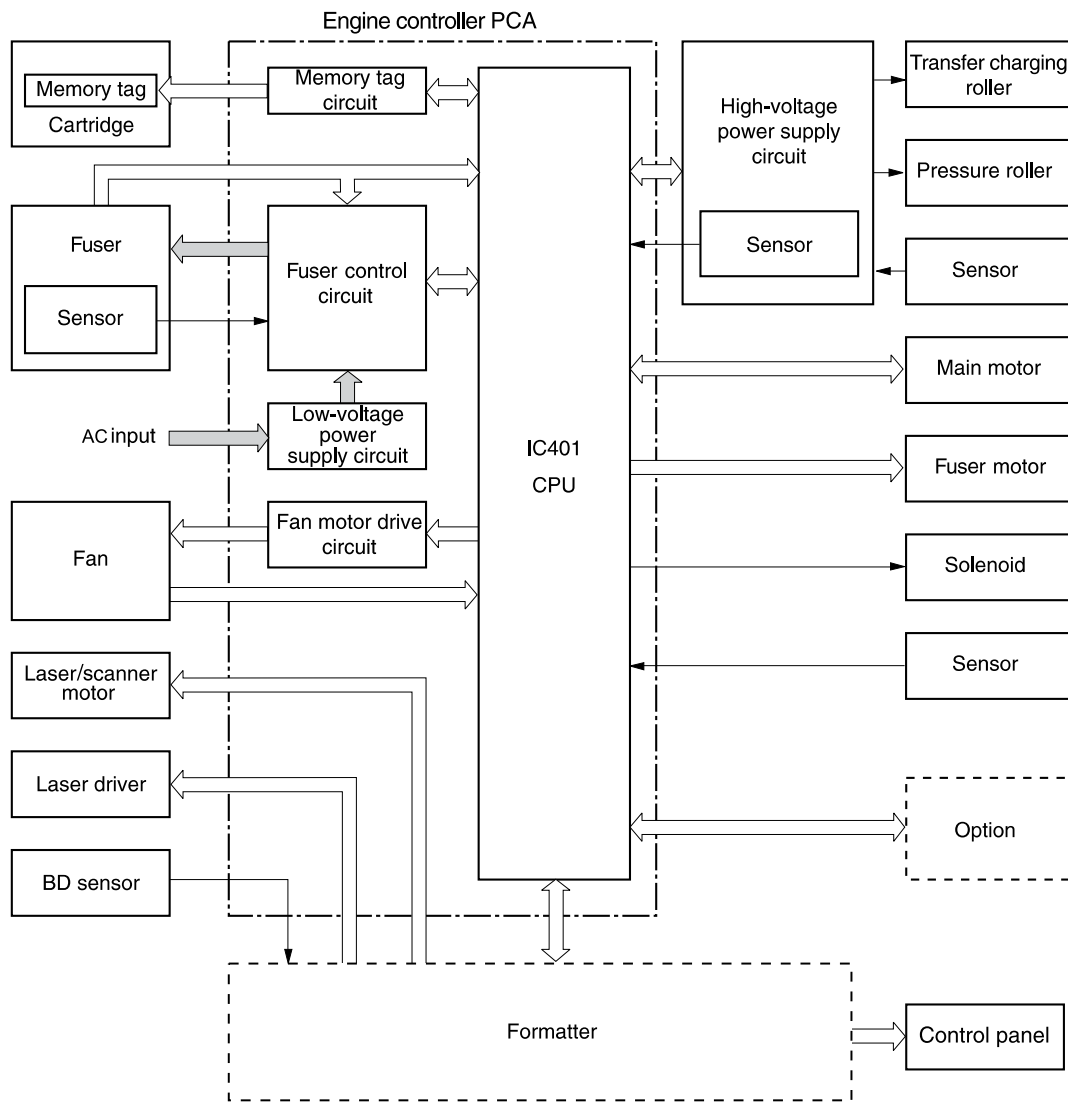


Figure 4-3 Engine control system circuit diagram

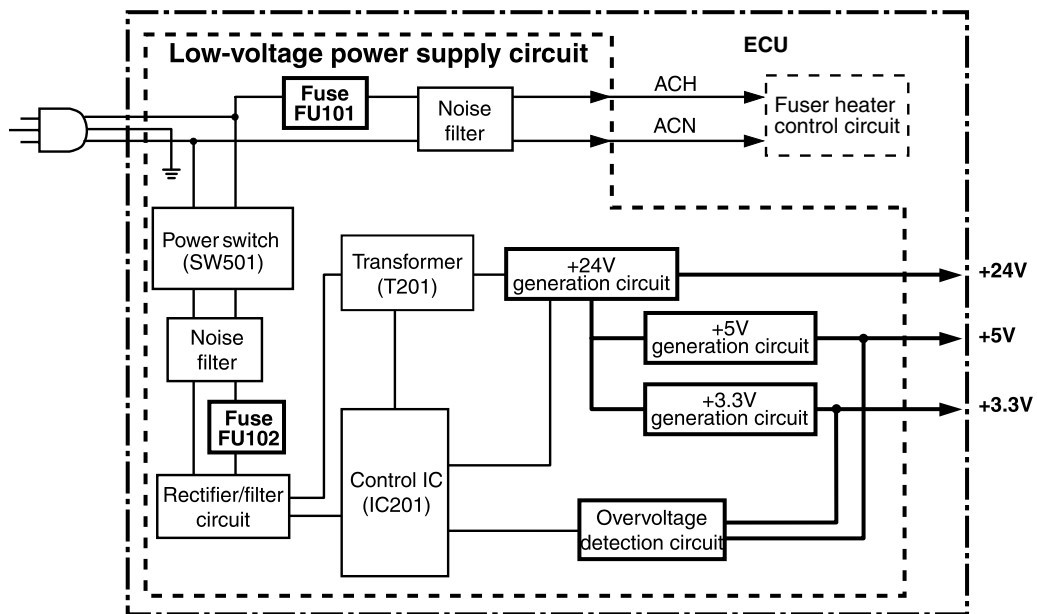


Figure 4-4 Low-voltage power supply circuit diagram

Pickup/feed/delivery system

The pickup/feed/delivery system consists of several types of feed rollers and sensors. The ECU uses two motors and two solenoids to drive the rollers. Three media-detection sensors detect media as it passes through the device. If media does not reach or pass each sensor within a specified time period, the ECU determines that a jam has occurred and alerts the formatter.

The following components are identified in [Figure 4-5 Pickup/feed/delivery system on page 50](#):

- M1, main motor
- M2, fuser motor
- SL1, tray 1 pickup solenoid
- SL2, tray 2 pickup solenoid
- PS2, duplexer media-detection sensor
- PS3, tray 2 media-detection sensor
- PS901, top-of-page sensor
- PS902, tray 1 media-detection sensor
- SR1, top output-bin delivery flag
- SR2, fuser-delivery flag

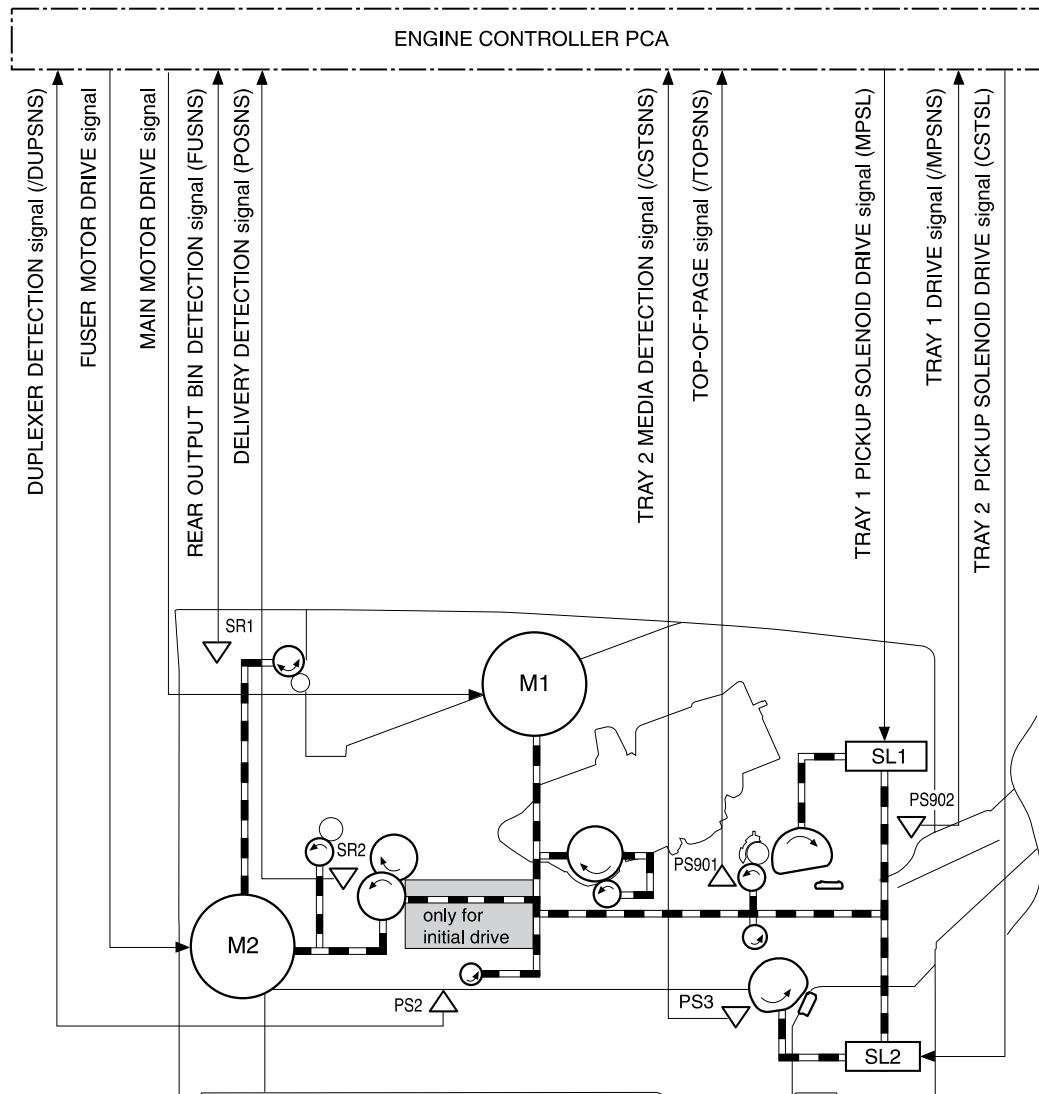


Figure 4-5 Pickup/feed/delivery system

Laser/scanner system

The laser/scanner system receives video signals from the ECU and the formatter and converts the signals into latent images on the photosensitive drum.

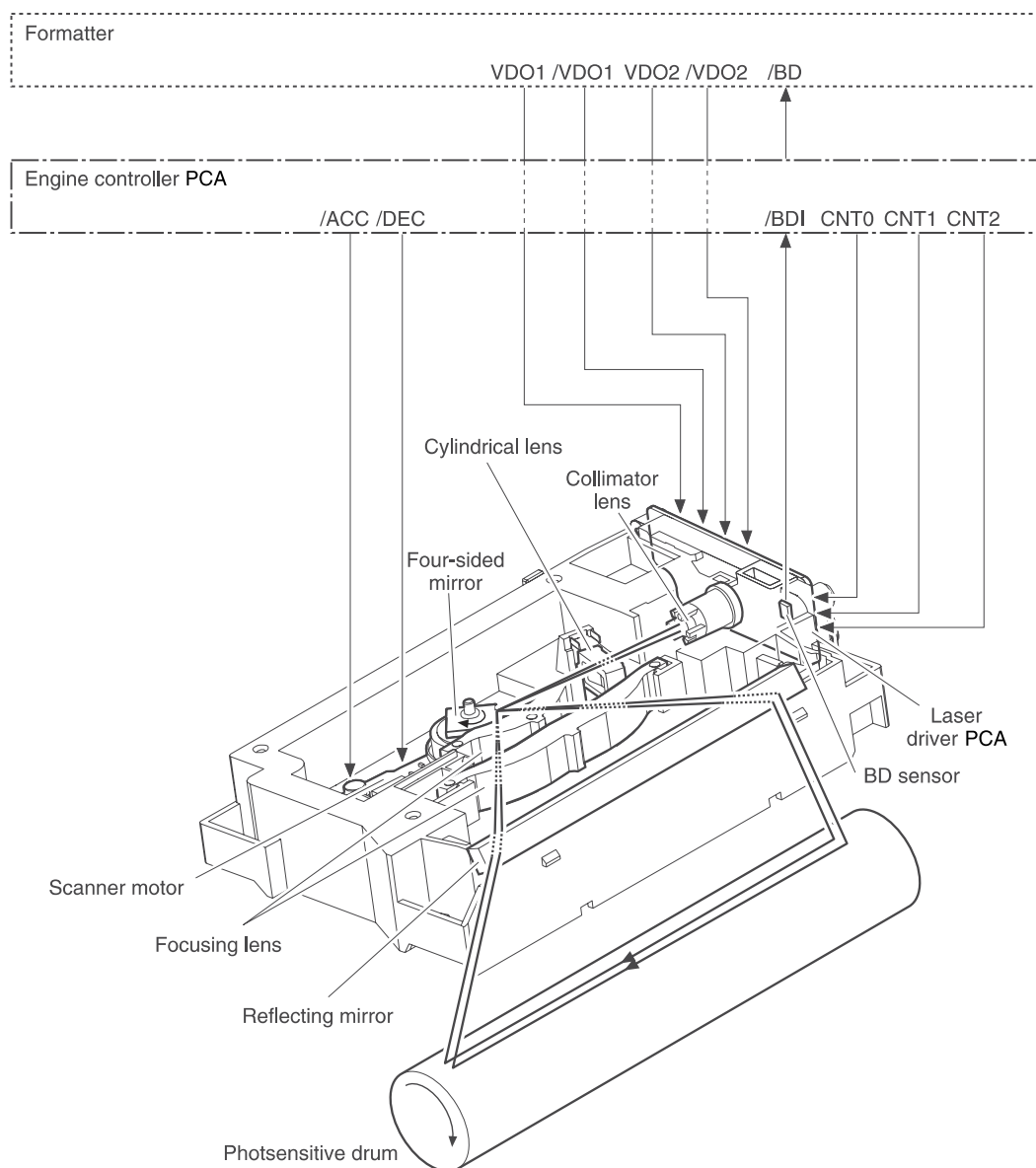


Figure 4-6 Laser/scanner system

Image-formation system

Laser printing requires the interaction of several different technologies, including electronics, optics, and electrophotographics, to provide a printed page.

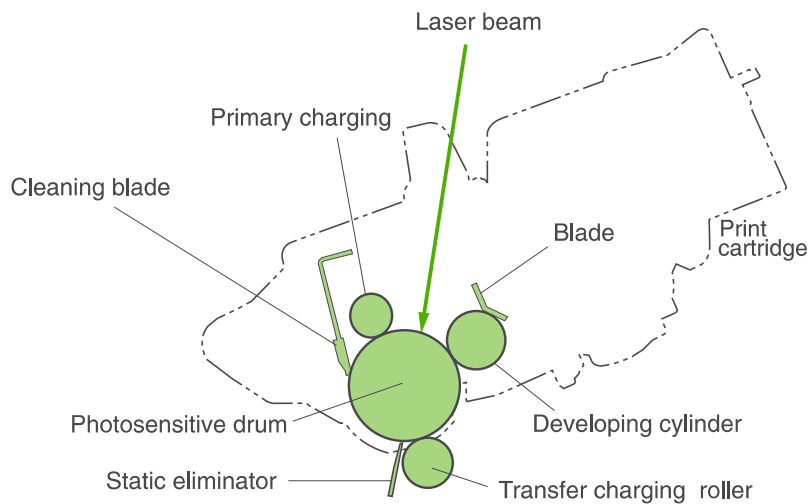


Figure 4-7 Print cartridge diagram

Each process functions independently and must be coordinated with the other device processes. Image formation consists of the following five processes:

- Electrostatic latent-image formation
- Developing
- Transfer
- Fusing
- Drum cleaning

The five processes contain eight steps, which are shown in [Figure 4-8 Image-formation system on page 52](#) and described in the following sections.

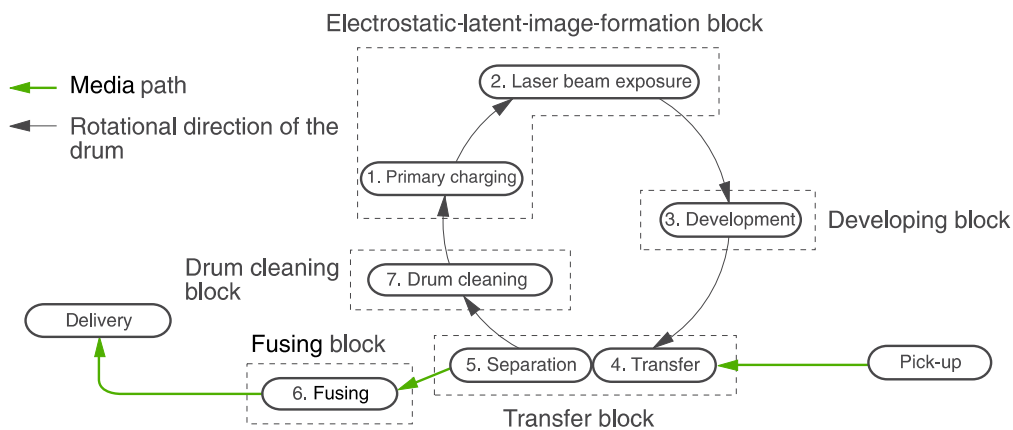


Figure 4-8 Image-formation system

Step 1: Primary charging

DC and AC biases are applied to the primary charging roller, which transfers a uniform negative potential to the photosensitive drum.

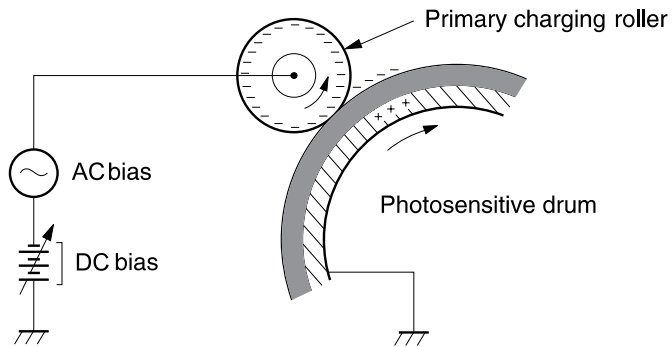


Figure 4-9 Primary charging

Step 2: Laser beam exposure

The laser beam scans the photosensitive drum to neutralize negative charges on parts of the drum. An electrostatic latent image is formed on the drum where negative charges were neutralized.

Step 3: Developing

The developing cylinder comes in contact with the photosensitive drum to deposit toner onto the electrostatic latent image.



NOTE The charges on the exposed area of the drum are shown as positive in [Figure 4-10 Developing on page 53](#). The charges are actually negative, but they are more positive than the charges on the developing cylinder.

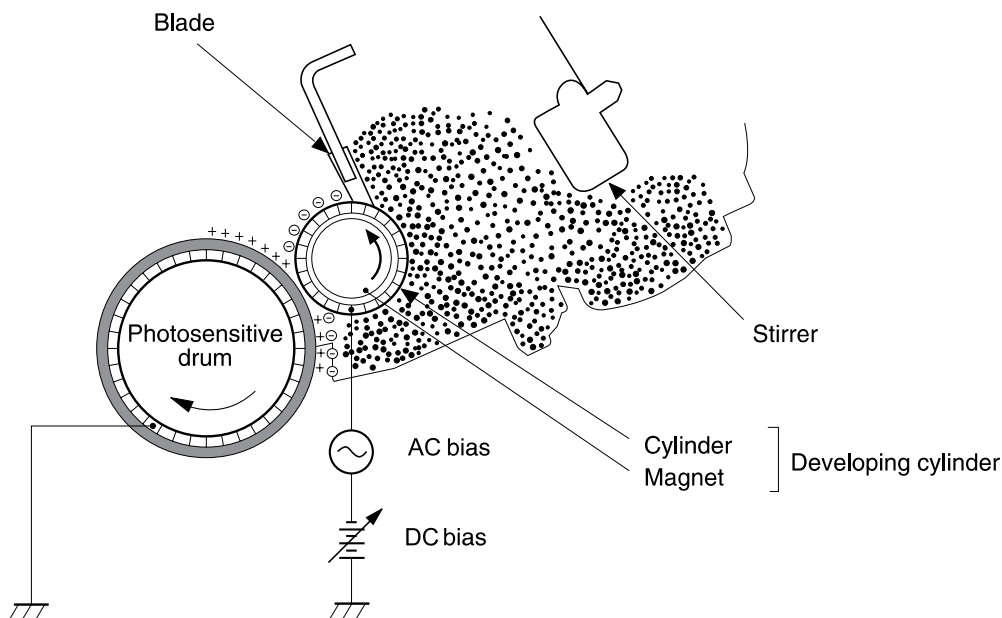


Figure 4-10 Developing

Toner acquires a negative charge through friction from the developing cylinder and the blade. When the negatively charged toner comes in contact with the drum, the toner adheres to the electrostatic latent image. The image on the drum becomes visible because of the toner.

Step 4: Transfer

The transfer charging roller, to which a DC positive bias is applied, imparts a positive charge on the print media. When the print media comes in contact with the photosensitive drum, the toner is transferred to the print media.

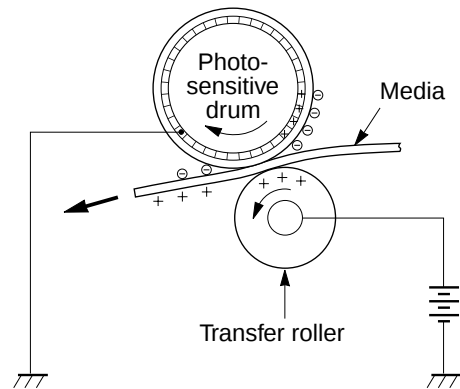


Figure 4-11 Transfer

Step 5: Separation

The elasticity of the print media causes its separation from the photosensitive drum. A static charge eliminator aids separation by weakening any electrostatic adhesion.

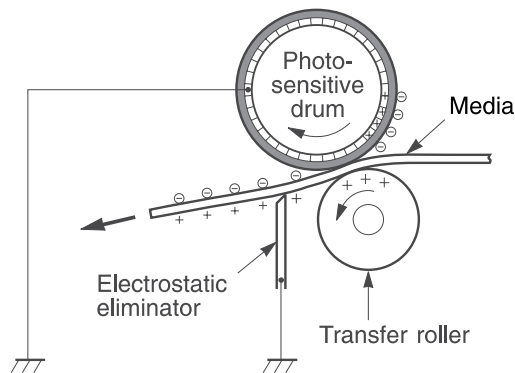


Figure 4-12 Separation

Step 6: Fusing

The DC negative bias applied to the fusing film strengthens the holding force of the toner on the print media and prevents the toner from scattering.

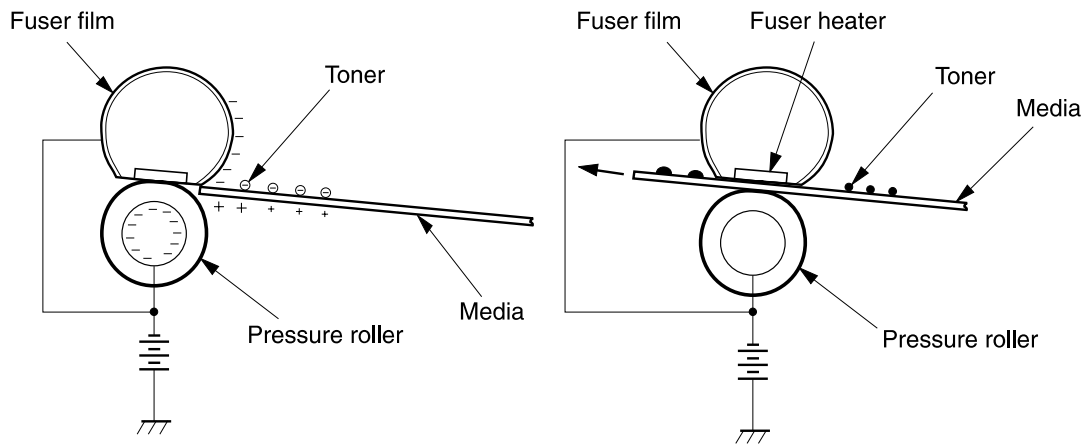


Figure 4-13 Fusing

Step 7: Drum cleaning

The cleaning blade scrapes the residual toner off of the photosensitive drum and deposits it into the waste toner case.

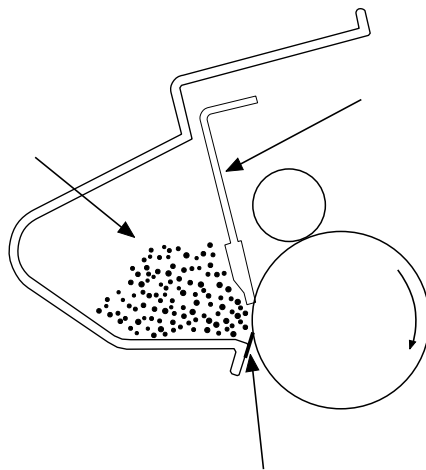


Figure 4-14 Drum cleaning

Internal components

Figure 4-15 Cross-section of device on page 56 highlights the major internal components.

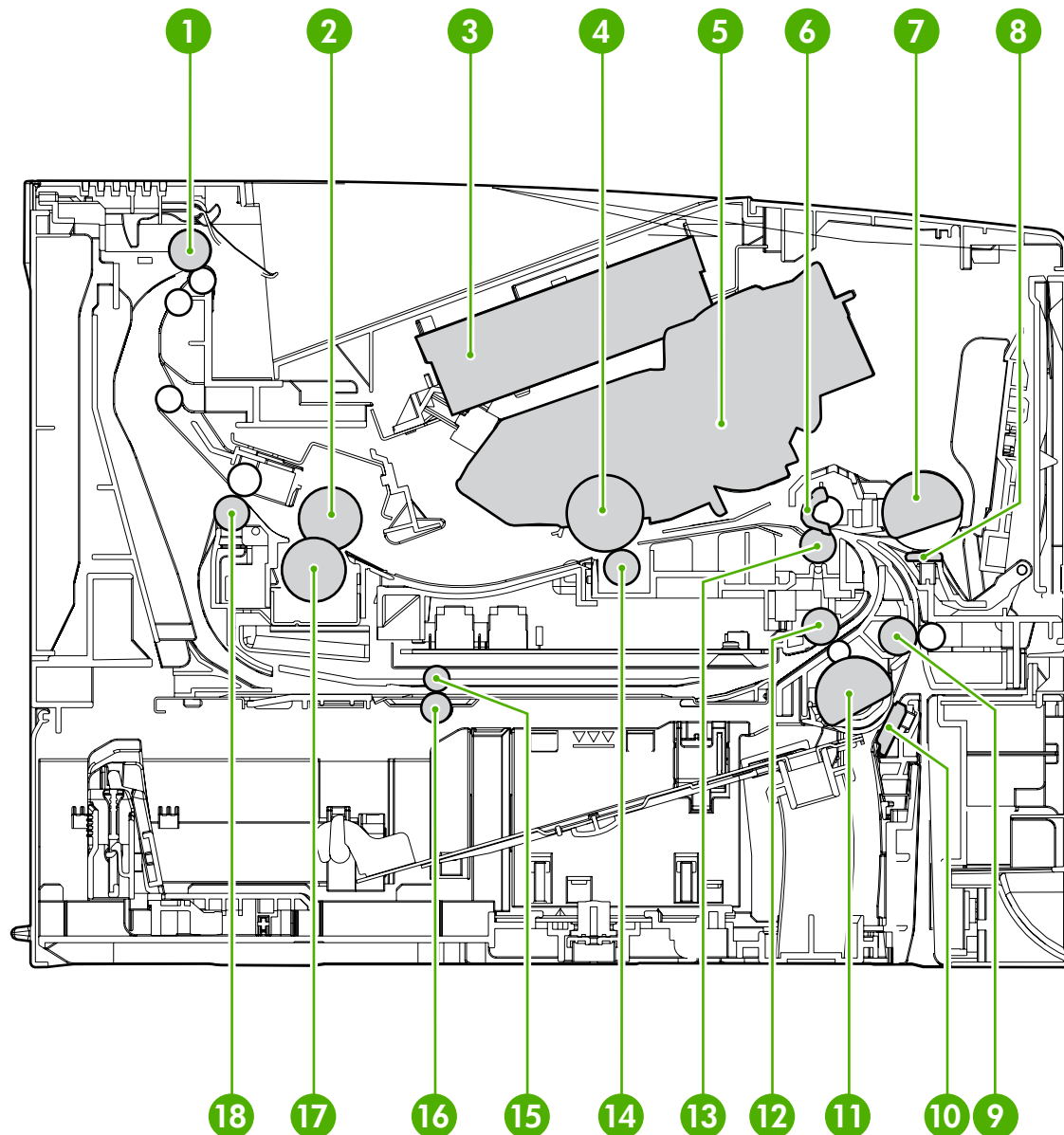


Figure 4-15 Cross-section of device

1	Top output-bin delivery roller
2	Fuser roller, fuser assembly
3	Laser/scanner
4	Photosensitive drum, print cartridge
5	Print cartridge
6	Registration assembly
7	Tray 1 pickup roller
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	

8	Tray 1 separation pad
9	Feed roller
10	Tray 2 separation pad
11	Tray 2 pickup roller
12	Duplex pickup roller
13	Feed roller, registration assembly
14	Transfer roller
15	Oblique roller
16	Duplex feed roller
17	Fuser pressure roller, fuser assembly
18	Fuser delivery roller, fuser assembly

Timing

The microprocessor on the engine control unit (ECU) controls the device operation sequences. [Table 4-1 Operation sequences on page 58](#) describes engine operations for each period of a print operation. [Table 4-2 Power-on sequence on page 58](#) describes each step of the power-on sequence.

Table 4-1 Operation sequences

Name	Timing	Purpose
WAIT	From power-on until the end of the main motor initial drive	Detects presence of a print cartridge. Clears potential from the drum surface and cleans the transfer roller. See Table 4-2 Power-on sequence on page 58 for a complete description of the WAIT (power-on) period. Also see Figure 4-17 Timing diagram on page 60 for detailed information about device timing.
STBY (standby)	From the end of the WAIT or LSTR period until either a print command is sent from the formatter or the power is turned off.	Prepares the device to receive print commands
INTR (initial rotation)	From the time of the print command until the pickup solenoid is turned on.	Prepares the photosensitive drum for printing.
PRINT	From the end of the INTR period until the top-of-page sensor detects the trailing edge of the media.	Forms the image on the photosensitive drum and transfers the toner image to the media.
LSTR (last rotation)	From the end of the PRINT period until the main motor stops rotating.	Delivers the last page of a print job. After LSTR, the device either returns to STBY or, if another print command was sent from the formatter, enters INTR.

Table 4-2 Power-on sequence

Step	Action
1	Power-on
2	CPU initialization
3	Video-interface communication start
4	Sensors check for residual media
5	Main motor initial drive
6	Fuser heater initial drive. The fuser heater reaches a surface temperature of 120°C.
7	Fuser-motor initial drive
8	Laser/scanner-motor initial drive
9	High-voltage control
	Detection of the presence of a print cartridge
	Cleaning of the transfer roller after the primary charging AC bias is turned on
10	Failure/abnormality check: detection of laser/scanner failure, fuser failure, and open covers
11	Communication with the memory tag

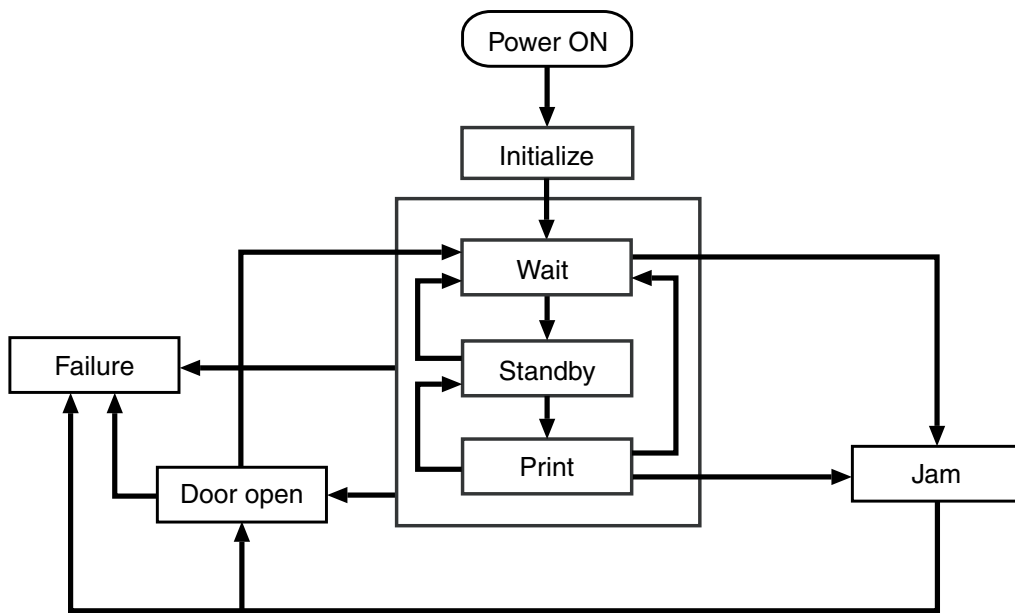


Figure 4-16 Operational sequences

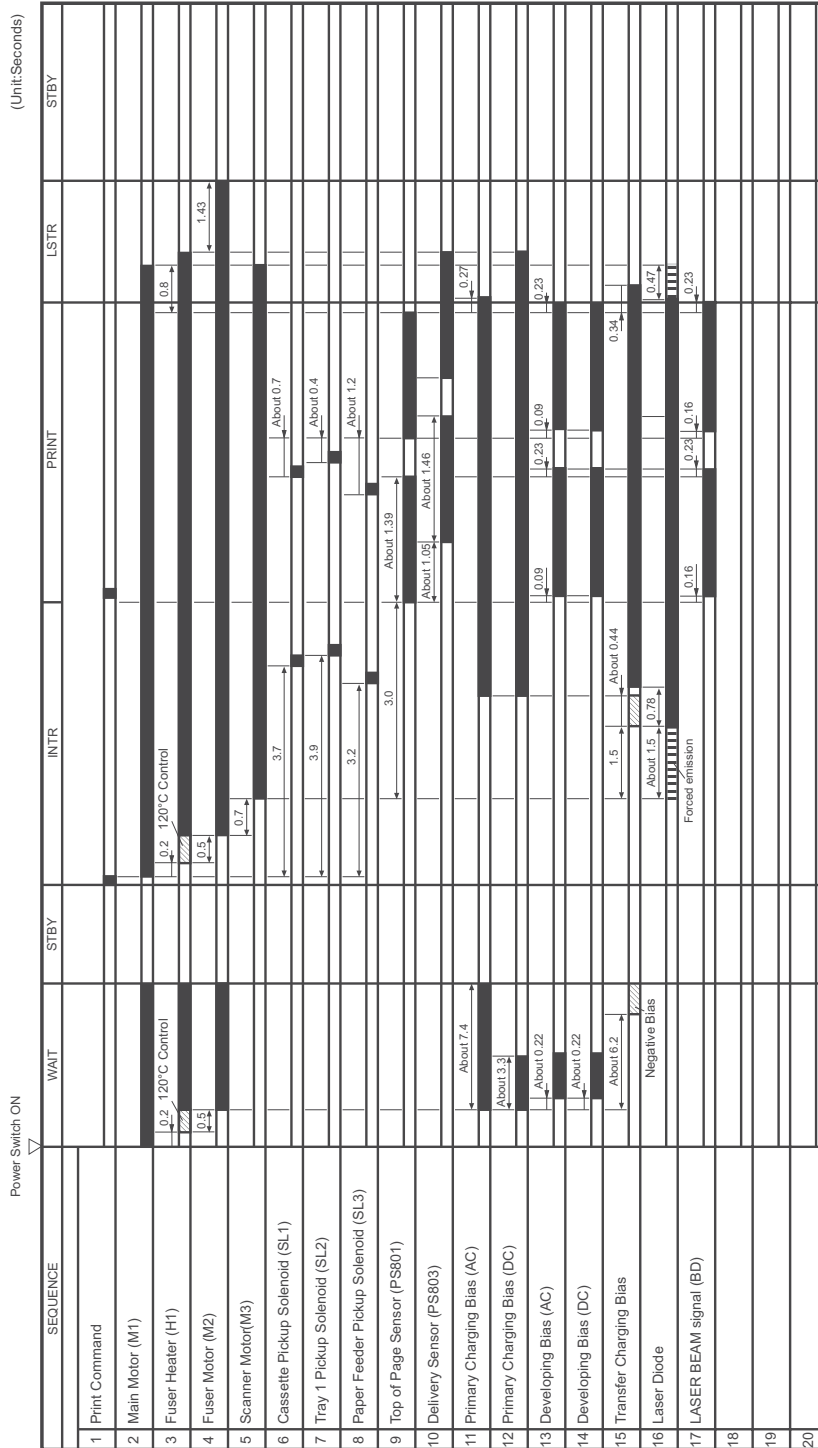


Figure 4-17 Timing diagram

Print cartridge memory system

The memory tag is a nonvolatile memory built into the print cartridge. The cartridge usage condition is detected as the engine controller reads or writes the data stored on the memory tag. The engine controller renews the information in the prescribed timing and reads or writes it from or to the memory tag.

The engine controller commands the memory tag to read or write with the following conditions:

- **Read**
 - Power is on.
 - The cartridge door is closed.
 - A command has been received from the formatter.
- **Write**
 - A page of media is printed.
 - A command has been received from the formatter.

When the engine controller fails to read or write three times in a row, it determines that the memory tag is abnormal and sends a cartridge memory abnormality warning to the formatter.

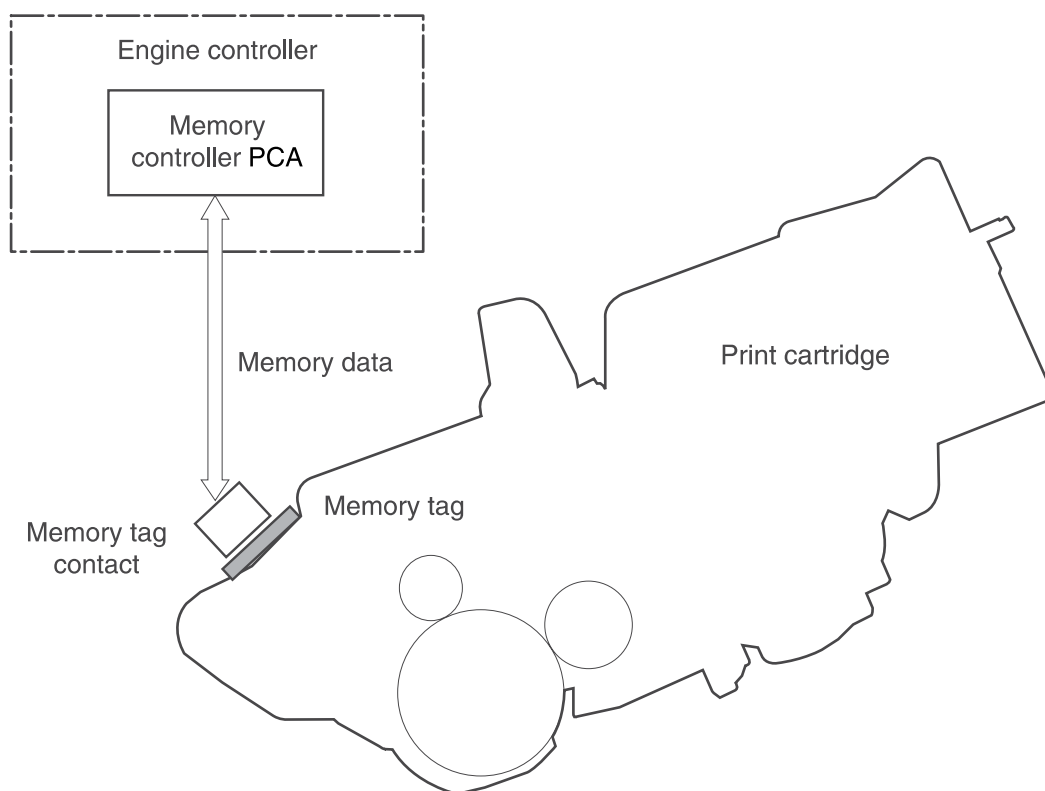


Figure 4-18 Print cartridge memory tag

5 Removal and replacement

Chapter contents

- [Overview](#)
- [Service approach](#)
- [Covers](#)
- [Control panel](#)
- [Formatter](#)
- [Fuser](#)
- [Laser/scanner](#)
- [Engine control unit \(ECU\)](#)
- [Access plate](#)
- [High-voltage power supply](#)
- [Paper feed guide assembly](#)
- [Main motor](#)
- [Gear assembly](#)
- [Reinstallation notes for the gear assembly](#)
- [Tray 1 solenoid](#)
- [Tray 2 solenoid](#)
- [E-label reader \(memory tag\)](#)
- [Face-down-roller shaft](#)
- [Cartridge door](#)
- [Transfer roller](#)
- [Registration assembly](#)
- [Tray 1 pickup roller](#)
- [Tray 2 pickup roller](#)

- [Separation pad](#)

Overview

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

Removal and replacement strategy

Replace parts in the reverse order of their removal. Directions for difficult or critical replacement procedures are included.



WARNING! The sheet-metal edges of the device can be sharp. Use caution when working on the device.



NOTE Note the length, diameter, color, type, and location of each screw. Be sure to return each screw to its original location during reassembly.

Incorrectly routed or loose cables can interfere with other internal components and can become damaged or broken. Frayed or pinched cables can be difficult to locate. When reconnecting the cables, always use the provided wire loops, lance points, or cable guides.

Electrostatic discharge



CAUTION The device contains parts that are sensitive to electrostatic discharge (ESD). Always service the device at an ESD-protected workstation, or use an ESD mat.

Watch for the ESD symbol (shown below) to identify the parts that are sensitive to ESD. Protect these parts by using an ESD wrist strap and by placing ESD-sensitive parts into protective ESD pouches.



Required tools

The following tools are needed to service this device:

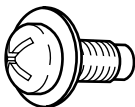
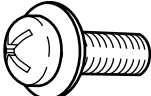
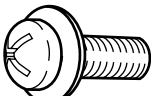
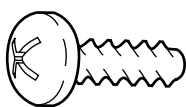
- #2 Phillips screwdriver with magnetic tip
- Small flatblade screwdriver
- Small needle-nose pliers
- ESD mat
- Penlight

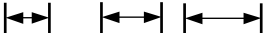


CAUTION A pozidriv screwdriver will damage screw heads on the device. Use a #2 Phillips screwdriver.

If you use a multispeed screwdriver, use a torque limiter.

Types of screws

Illustration	Description	Size	Part number	Use
	Screw with washer	M3X8	XA9-1420-000CN	Used to secure metal components to metal components (for example, a ground wire to the frame)
	Screw, RS	M3X6 M3X10	XA9-1499-000CN	Used to secure metal to metal
	Screw, tapping	M3X6	XA9-1503-000CN	
	Screw	M3X8	XA9-1686-000CN	
	Screw	P-M3X8	XB4-5300-807CN	
	Screw, tapping, truss head	M4X10	XB4-7401-005CN	Used to secure anything to plastic

6 mm **8 mm** **10 mm** **M 3** **M 4**



Service approach

Device repair normally begins by using the device internal diagnostics and the following two-step process:

1. Isolate the problem to the major system (for example, the network or server, or the device).
2. Troubleshoot the problem by using the procedures in chapter 6.

After you locate a faulty part, the device can usually be repaired at the assembly level by replacing field-replaceable units (FRUs). Some mechanical assemblies might need to be repaired at the subassembly level. Hewlett-Packard Company does not support replacement of components on the printed circuit assemblies.

Before performing service

Follow the pre-service procedures before you perform service.

Pre-service procedures

1. Remove all media from the device.
2. Unplug the power cord and the interface cable.
3. Lift the device off of any installed optional trays.
4. Remove the print cartridge.
5. Remove tray 2.
6. Place the device on an ESD mat. If an ESD mat or an ESD-protected workstation is not available, discharge body static and ground the device chassis before servicing the device.

Parts removal order

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

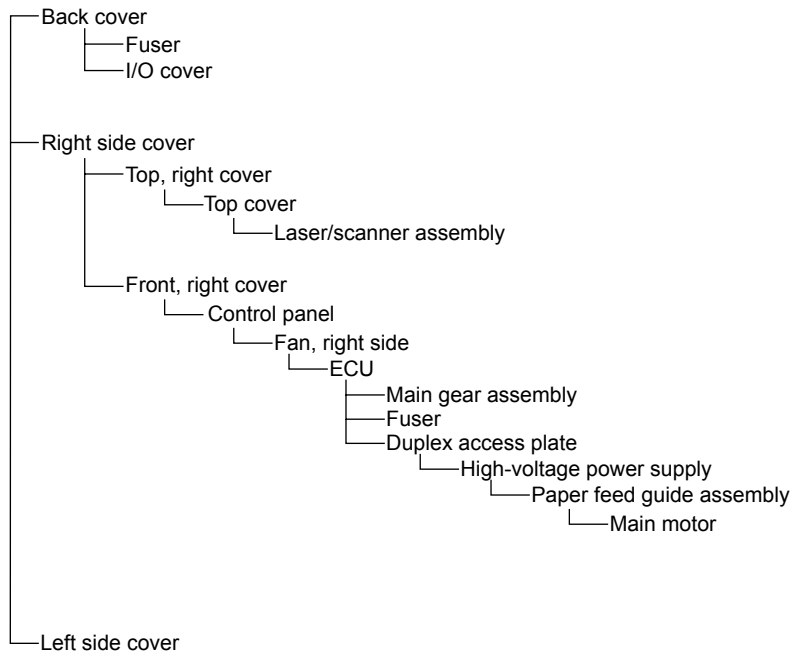


Figure 5-1 Parts removal diagram

After performing service

- Reinstall the print cartridge.
- Reinstall tray 2.
- Return all media to the trays.
- Plug in the power cable and turn on the device.

Covers

Not all covers have to be removed to get to various FRUs. See [Parts removal order on page 68](#) if you are unsure about which covers must be removed.

Right-side cover

1. Slide the right-side cover toward the back of the device to disengage it from the front, right cover and the right-side handle.

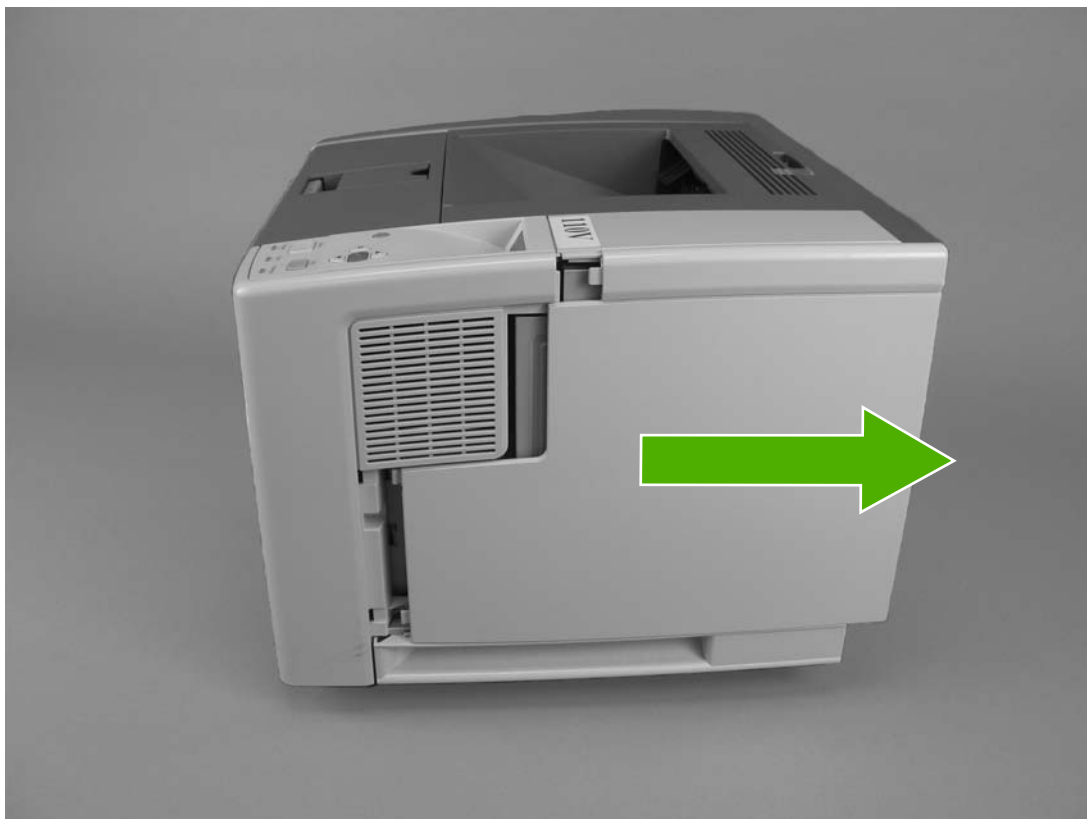


Figure 5-2 Removing the right-side cover

2. Lift the cover away from the device.

Left-side cover

1. Remove two screws (callout 1).



Figure 5-3 Removing the left-side cover (1 of 2)

2. Open the rear output bin door.

3. Release one tab (callout 2) at the back of the device by pressing the tab through a hole in the chassis toward the rear of the device, and then rotate the cover away from the device at the back of the device.

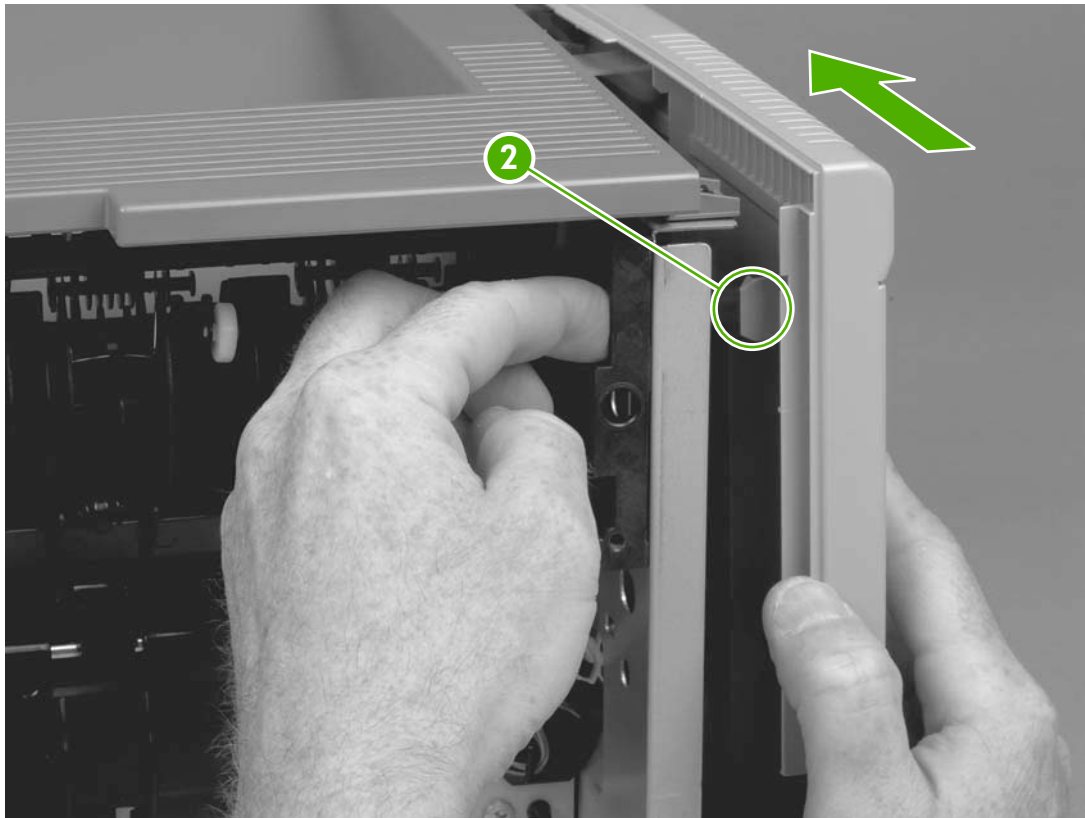


Figure 5-4 Removing the left-side cover (2 of 2)

4. Lift the cover up slightly, slide it toward the front of the device to clear tabs at the front, and then lift the cover away from the device.

Back cover

1. Open the rear output bin door all the way, press the door down to disengage two door-stops (callout 1), and then remove two screws (callout 2).

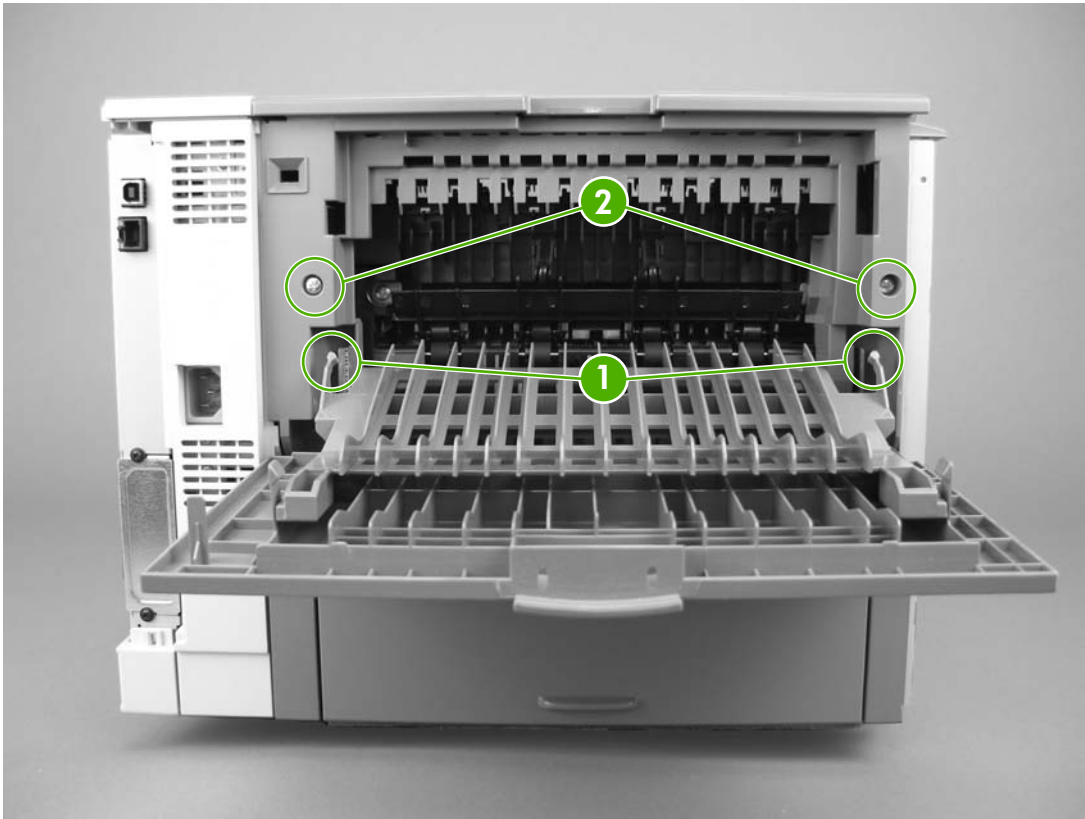


Figure 5-5 Removing the back cover

2. Lift the bottom of the cover first to disengage the alignment tabs at the top of the back cover, and then lift the cover away from the device.

I/O cover

1. Remove the back cover. See [Back cover on page 72](#).

2. Rotate the I/O cover to clear tabs at the right side of the cover.

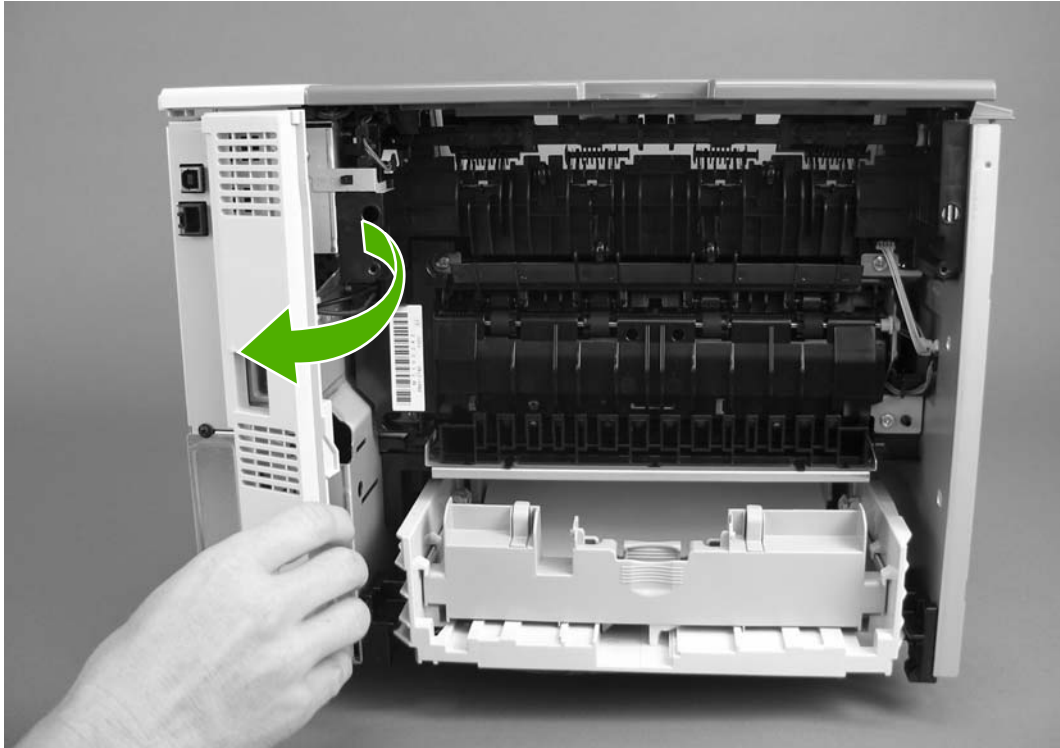


Figure 5-6 Removing the I/O cover

3. Lift the cover off of the device.

Top, right cover

1. Remove the following components:
 - Right-side cover (see [Right-side cover on page 69](#))
 - Back cover (see [Back cover on page 72](#))
 - I/O cover (see [I/O cover on page 72](#))

2. Remove one screw (callout 1) on the right side at the back of the device.

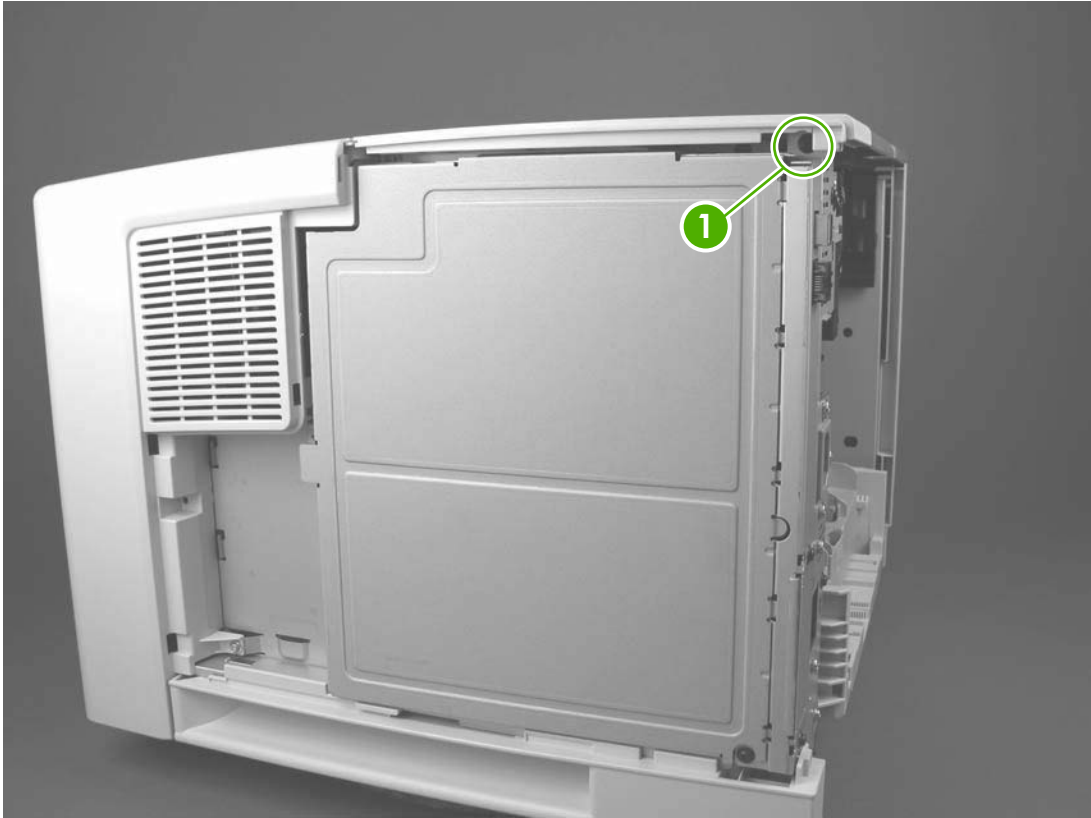


Figure 5-7 Removing the top, right cover

3. Slide the cover to the rear, and then lift the cover off of the device.

Top cover

1. Remove the following components:
 - Right-side cover (see [Right-side cover on page 69](#))
 - Left-side cover (see [Left-side cover on page 70](#))
 - Back cover (see [Back cover on page 72](#))
 - Top, right cover (see [Top, right cover on page 73](#))
2. Open the cartridge door.

3. Remove four screws (callout 1).

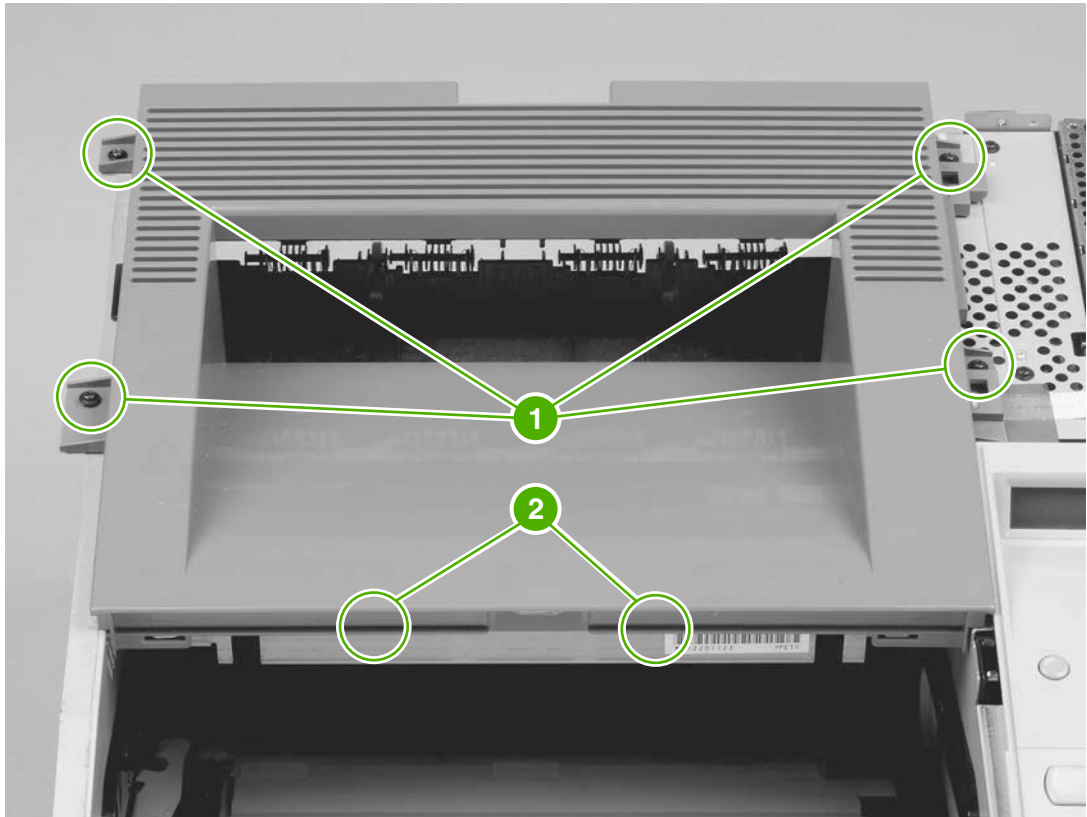


Figure 5-8 Removing the top cover

4. Lift the cover off of the device.

Front, right cover

1. Remove the following components:
 - Right-side cover (see [Right-side cover on page 69](#))
 - Formatter cover (see [Formatter on page 80](#))

2. Remove two screws (callout 1).

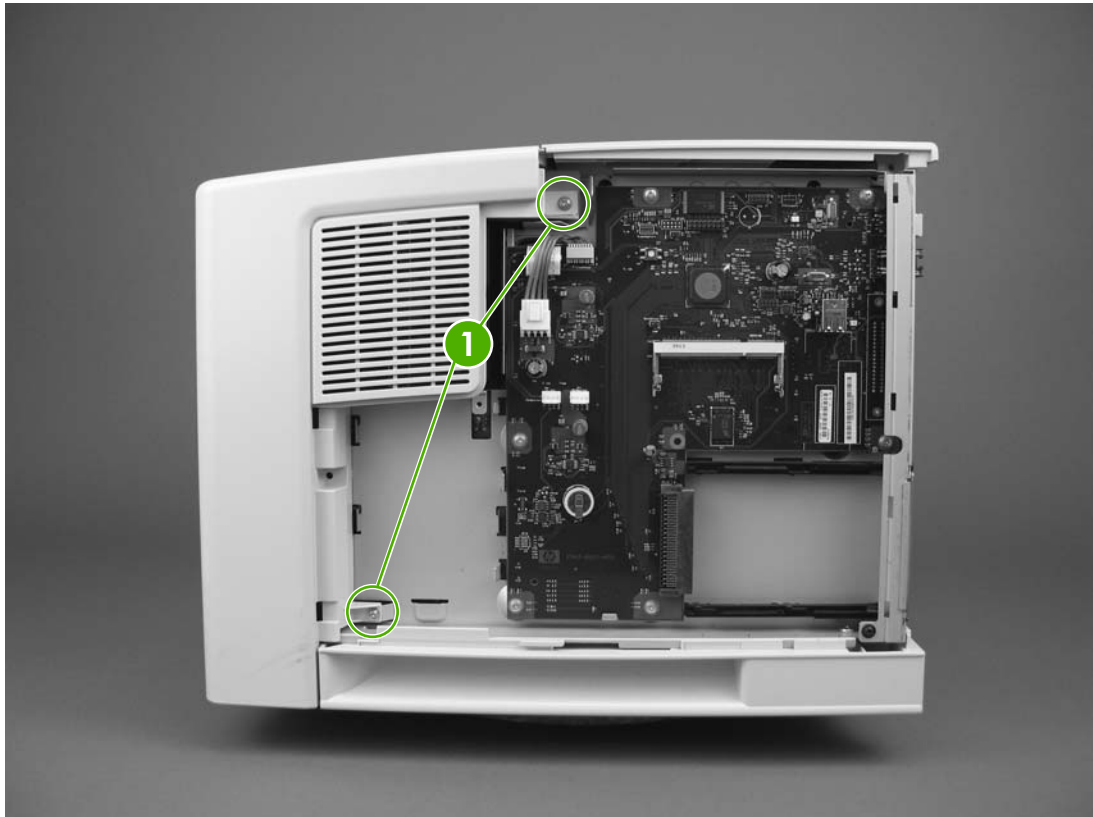


Figure 5-9 Removing the front, right cover (1 of 2)

3. Rotate the cover to clear two tabs (callout 2) at the front of the device.

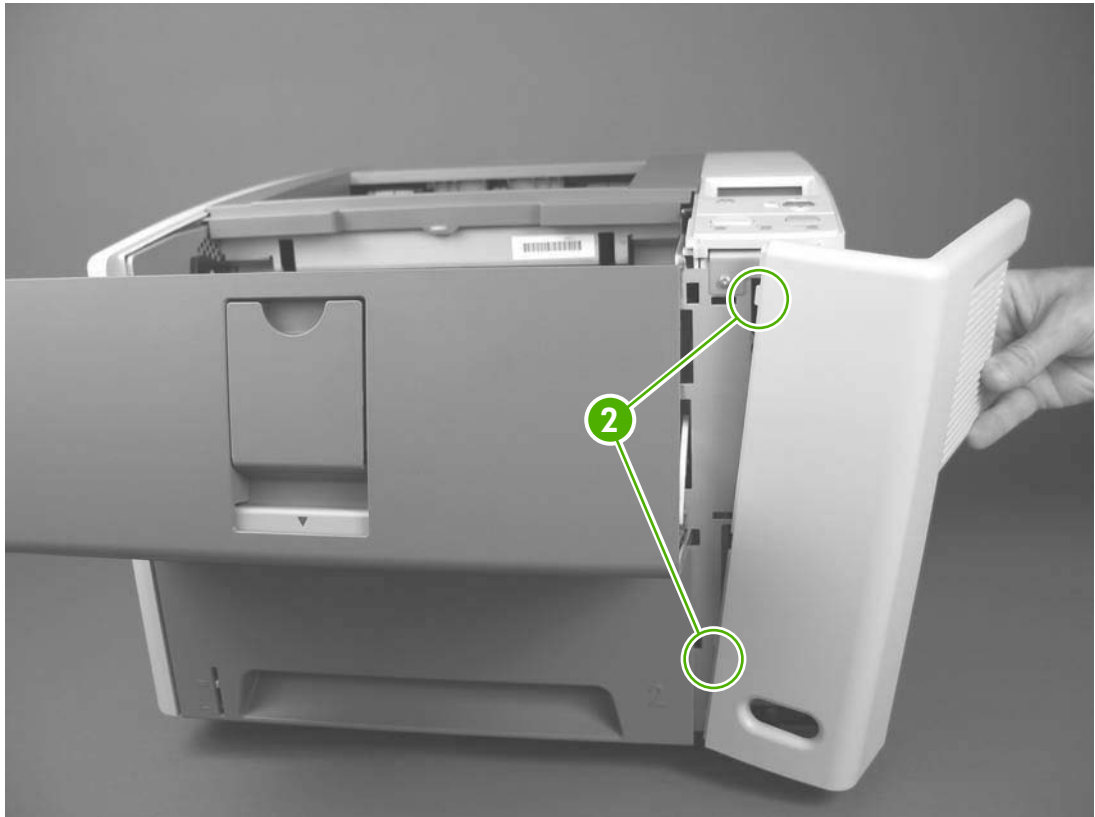


Figure 5-10 Removing the front, right cover (2 of 2)

4. Rotate the cover away from the device.

Control panel

1. Remove the following components:
 - Right-side cover (see [Right-side cover on page 69](#))
 - Top, right cover (see [Top, right cover on page 73](#))
 - Front, right cover (see [Front, right cover on page 75](#))
2. Remove the grounding wire over the fan assembly (callout 1), disconnect one cable (callout 2) on the formatter, and then remove one grounding screw (callout 3).

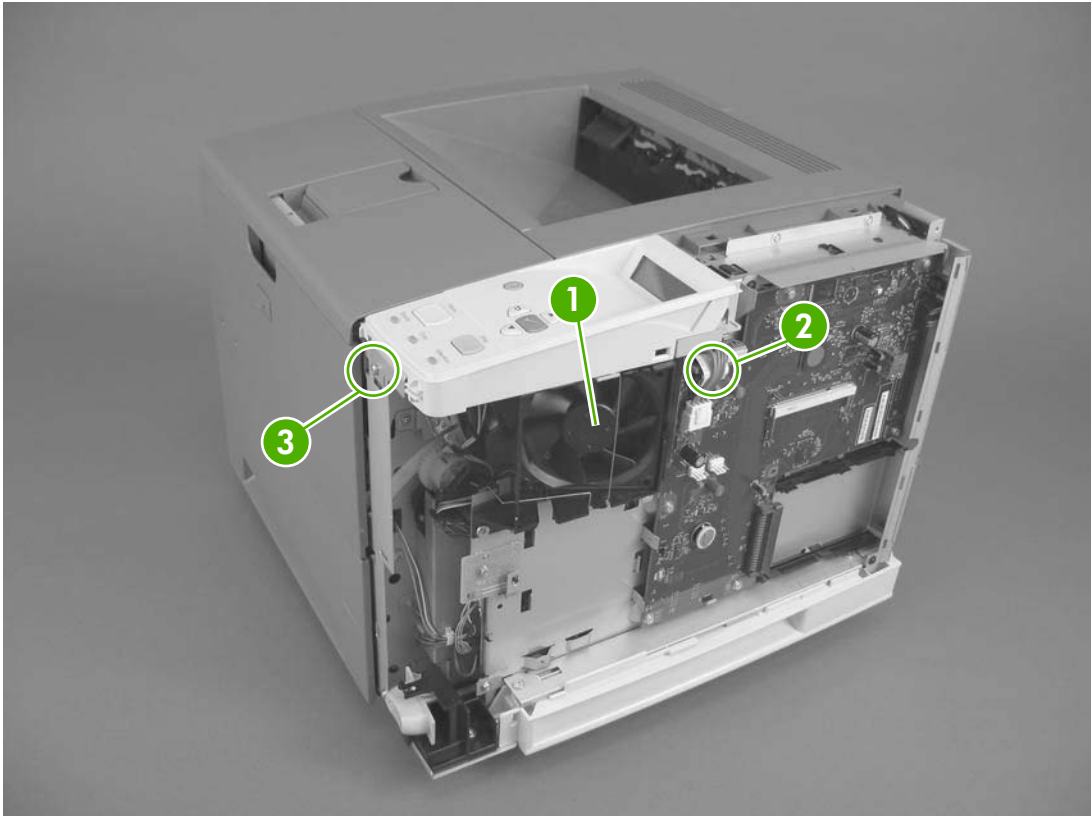


Figure 5-11 Removing the control panel

3. Lift the control panel off of the device.



Reinstallation tip To reinstall the control panel correctly, use the locator pin (callout 4) and place the sheet metal front of the control panel assembly (callout 5) in front of the device chassis.

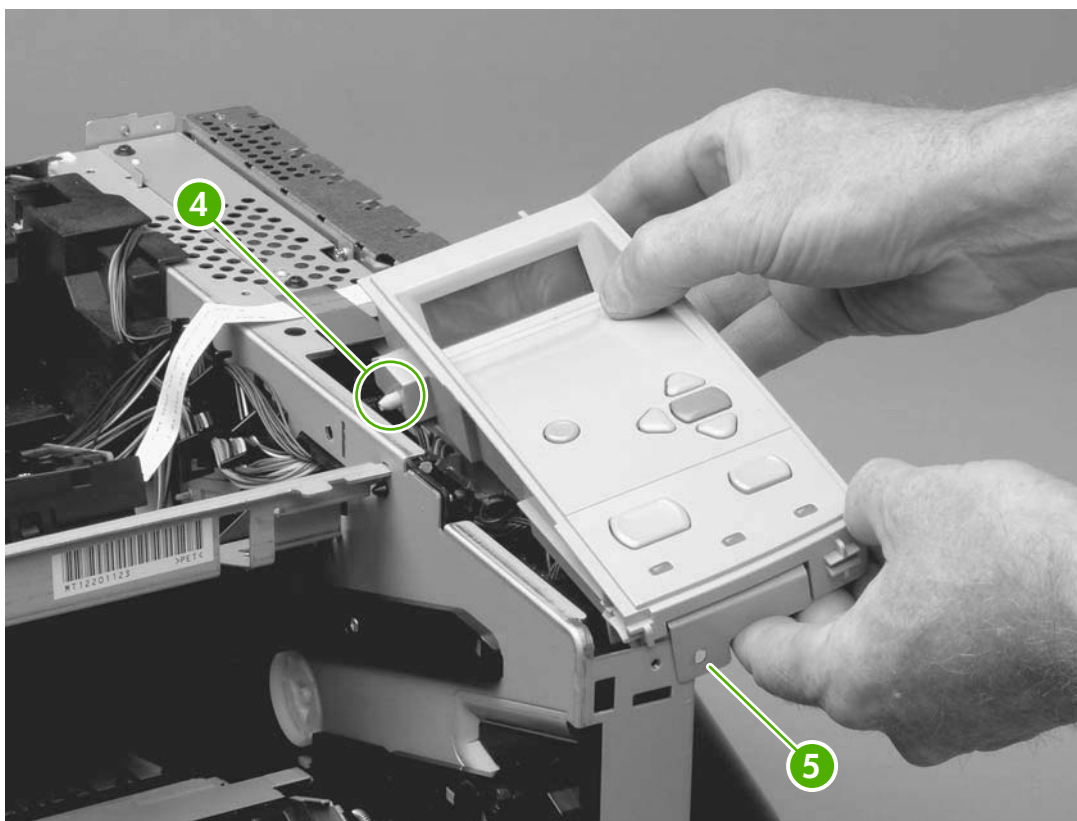


Figure 5-12 Reinstalling the control panel

Formatter

1. Remove the right-side cover. See [Right-side cover on page 69](#).
2. Open the formatter cover, and then lift the cover off of the hinges (callout 1) at the back of the cover.

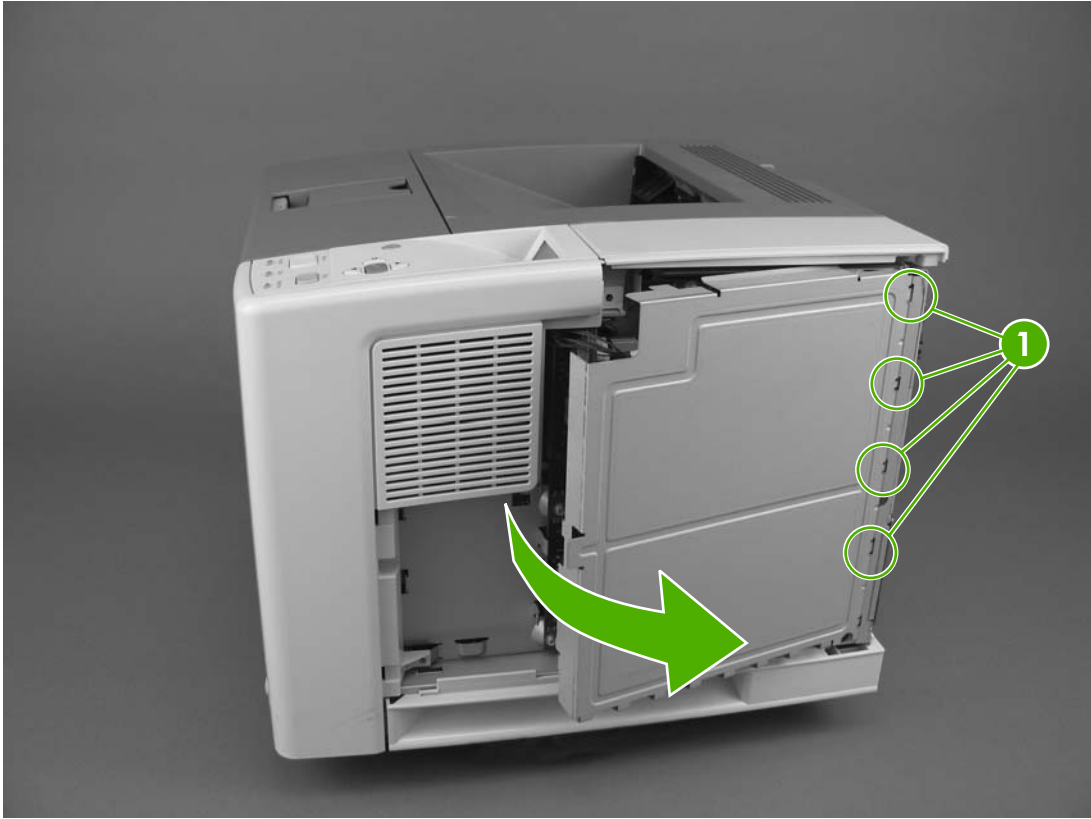


Figure 5-13 Removing the formatter (1 of 3)

3. Disconnect three cables (callout 2), and then remove six screws (callout 3).

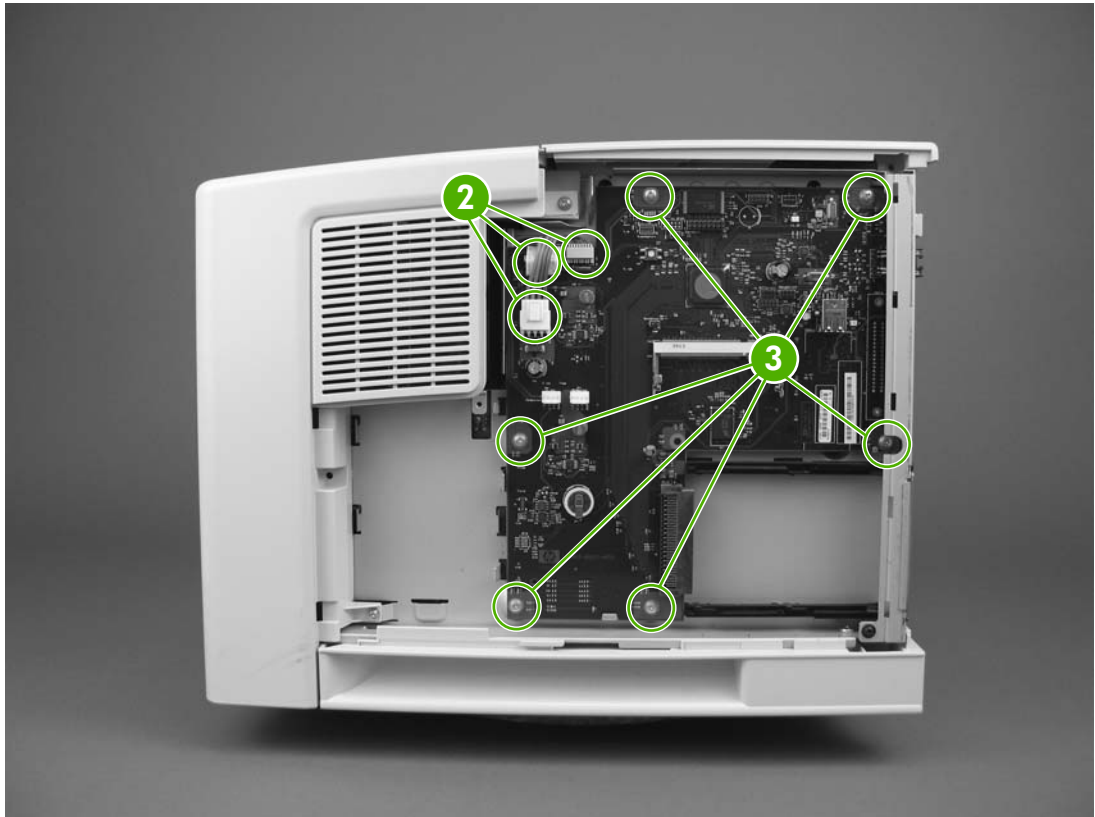


Figure 5-14 Removing the formatter (2 of 3)

4. Pull the left side of the formatter out slightly, and then slide it toward the front of the device.



Figure 5-15 Removing the formatter (3 of 3)

Fuser

1. Remove the following components:
 - Back cover (see [Back cover on page 72](#))
 - I/O cover (see [I/O cover on page 72](#))
2. Remove the duplexer inlet guide by releasing two tabs (callout 1) on the guide, and then sliding the guide toward the back of the device.

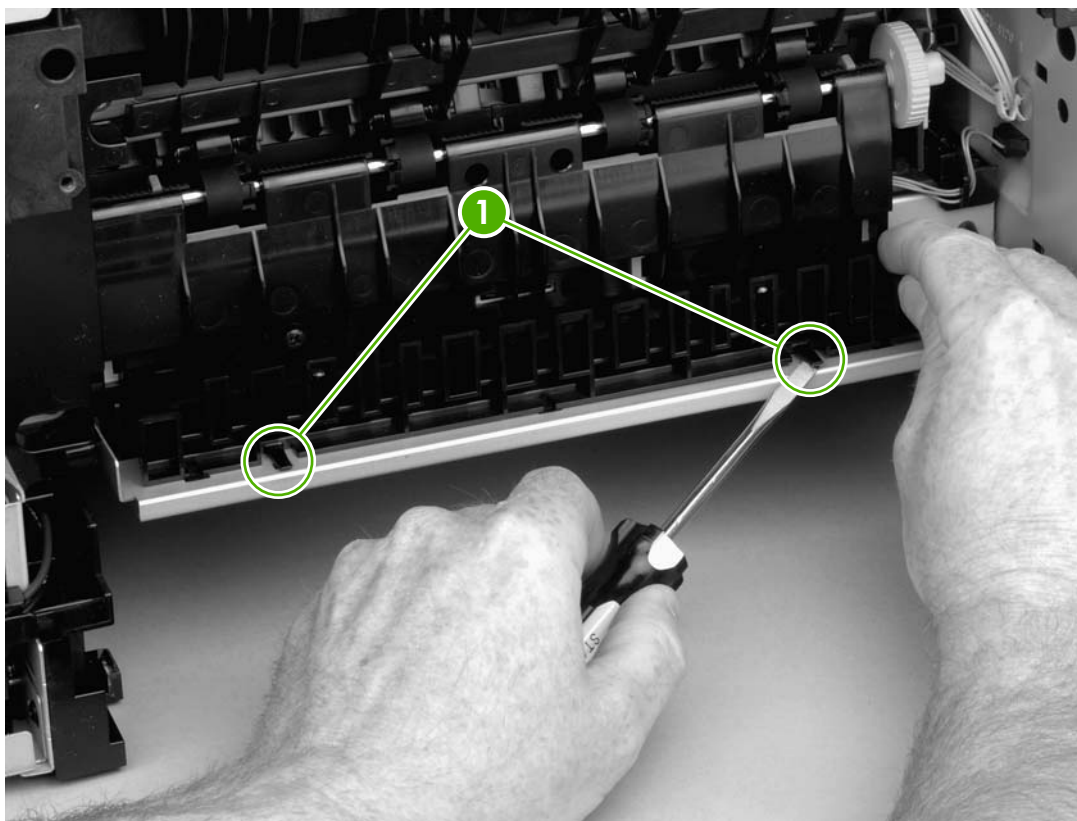


Figure 5-16 Removing the fuser (1 of 3)



Reinstallation tip Make sure that both tabs snap back into place when reinstalling the duplexer inlet guide.

3. Disconnect two cables at the right, inside, of the device (callout 2), and then disconnect the fuser power cable at the left side of the device (callout 3).

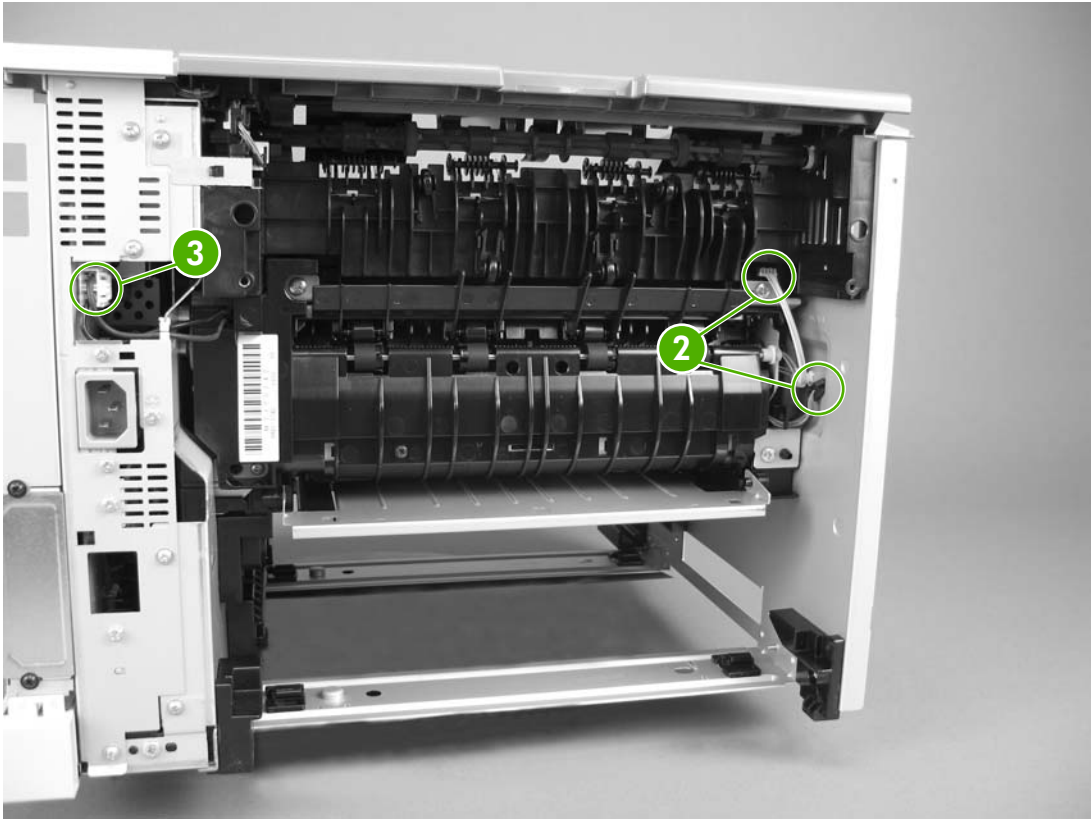


Figure 5-17 Removing the fuser (2 of 3)

4. Remove three self-tapping screws (callout 4) and one grounding screw (callout 5).

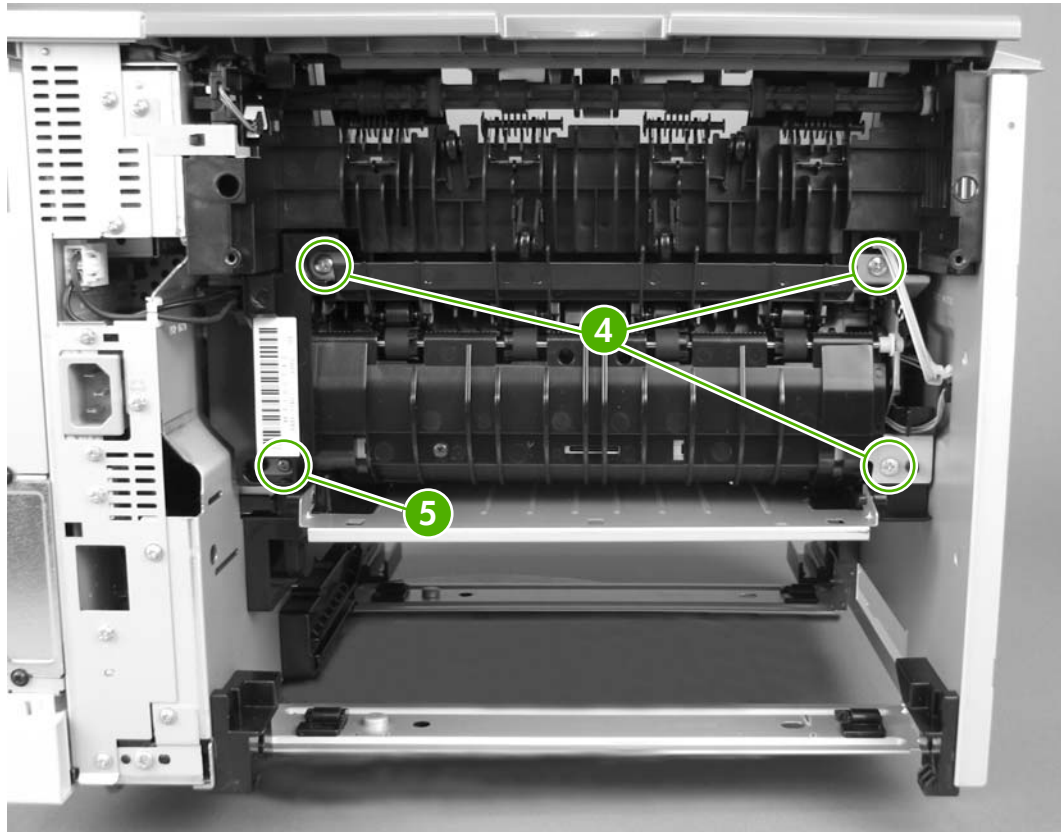


Figure 5-18 Removing the fuser (3 of 3)

5. Tilt the fuser slightly toward the back of the device, and then slide the fuser out of the back of the device.

Laser/scanner

1. Remove all covers (see [Covers on page 69](#)).
2. Release one tab (callout 1) on the air duct, and then lift the air duct out of the device.

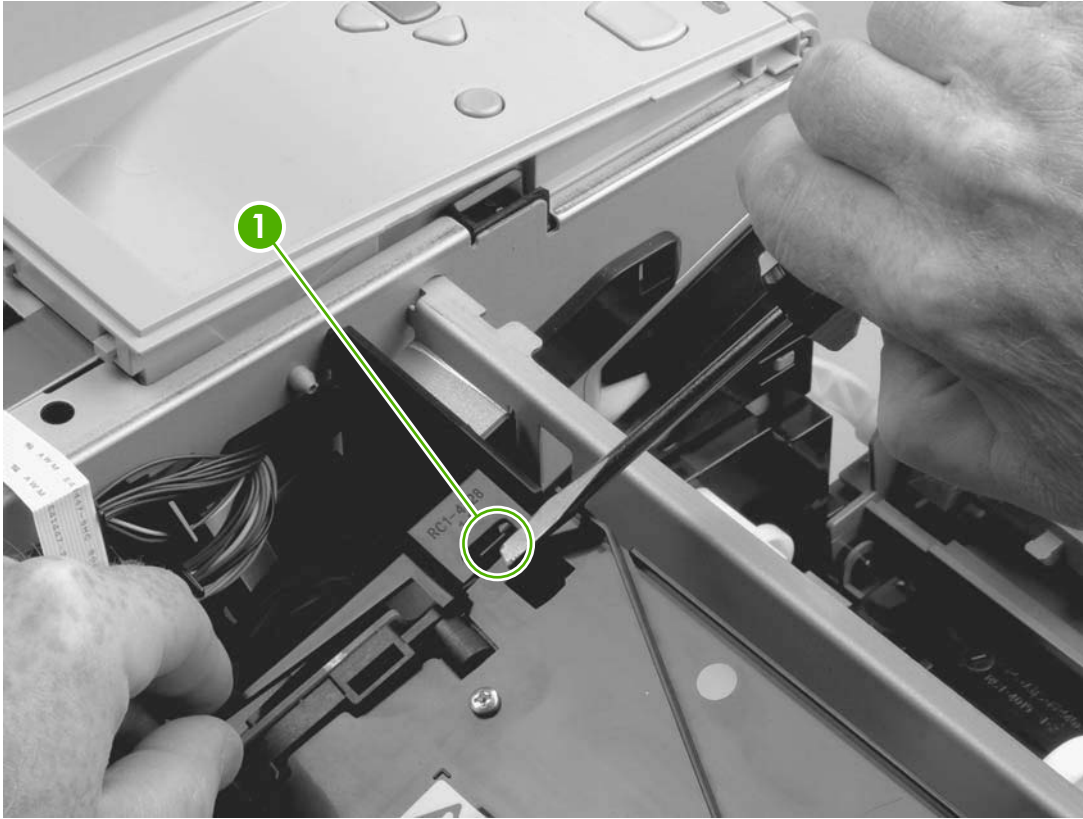


Figure 5-19 Removing the laser/scanner (1 of 2)

3. Disconnect two cables (callout 2) and then remove four screws (callout 3).

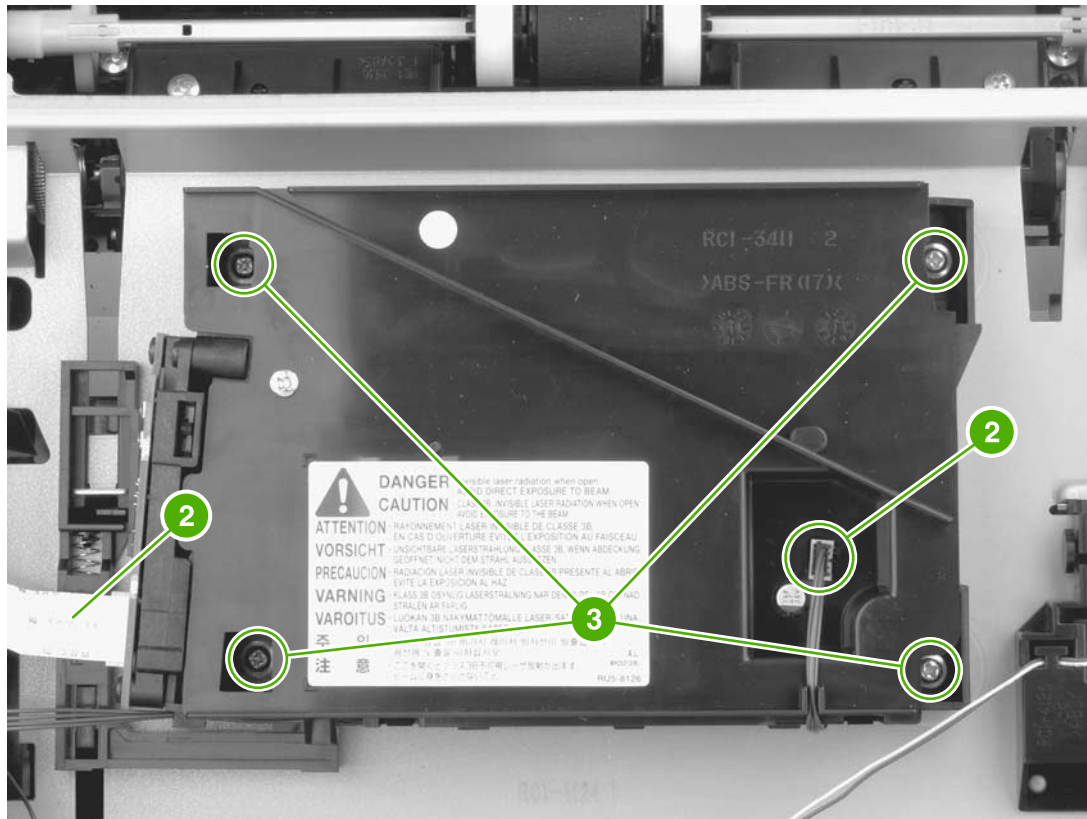


Figure 5-20 Removing the laser/scanner (2 of 2)

4. Lift the laser/scanner out of the device.

Engine control unit (ECU)

1. Remove the following components:
 - All covers (see [Covers on page 69](#))
 - Control panel (see [Control panel on page 78](#))
 - Formatter (see [Formatter on page 80](#))
2. Remove the two screws (callout 1) on the fan assembly, disconnect the fan cable from the ECU, and then remove the fan assembly.

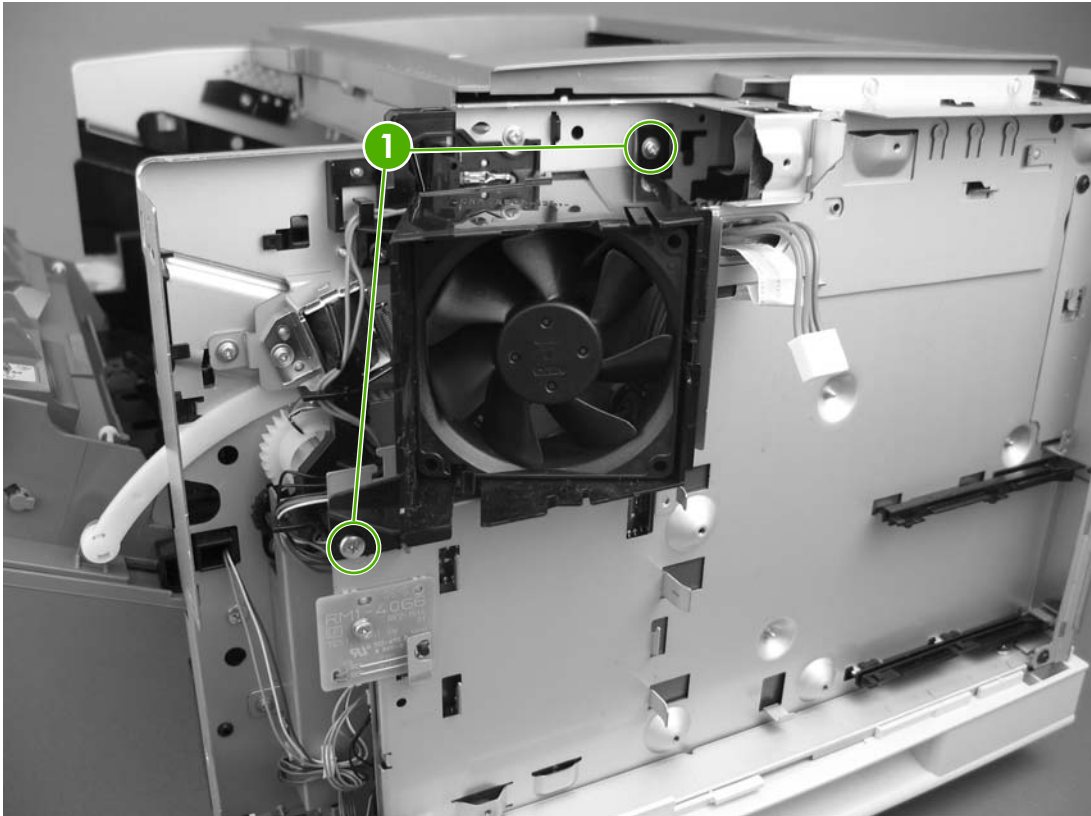


Figure 5-21 Removing the ECU (1 of 8)

3. Disconnect 10 cables (callout 2) from the ECU, and then disconnect and unroute the cartridge-door switch and wires (callout 3).

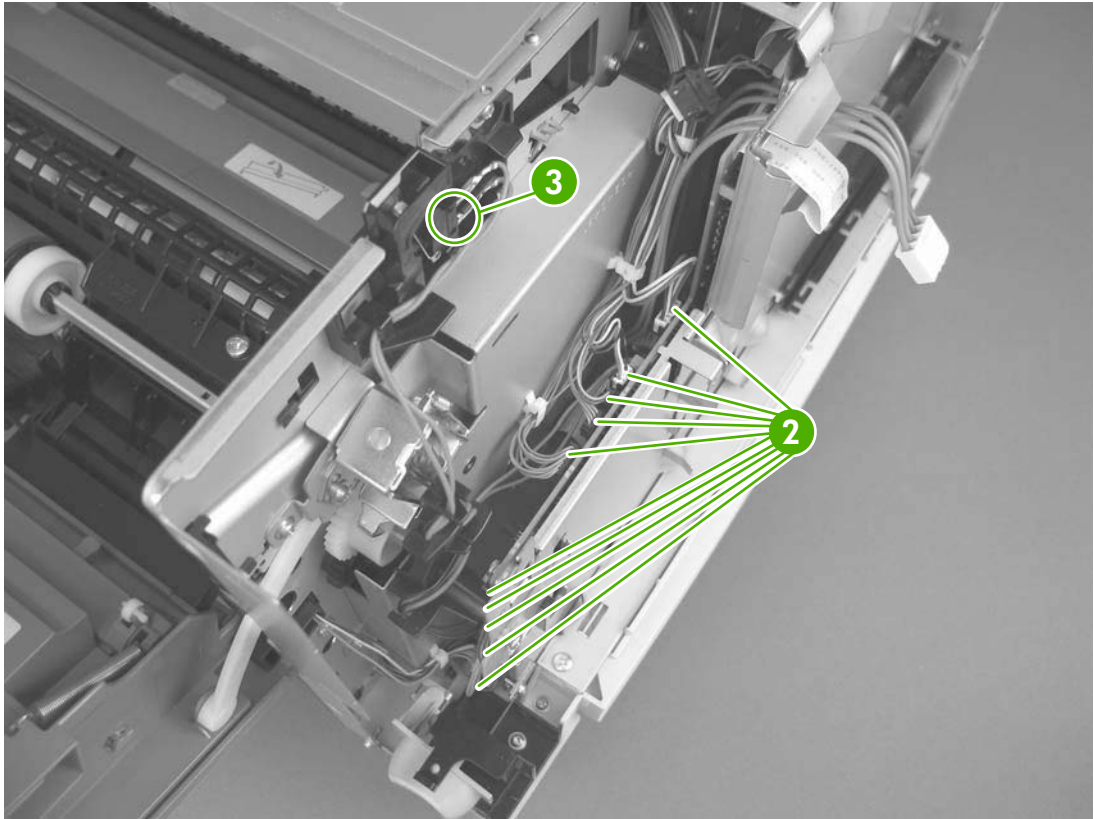


Figure 5-22 Removing the ECU (2 of 8)



NOTE For more information about the ECU connectors, see [Figure 6-9 ECU wiring on page 195](#).

4. Remove two screws (callout 4) to remove the I/O plate.

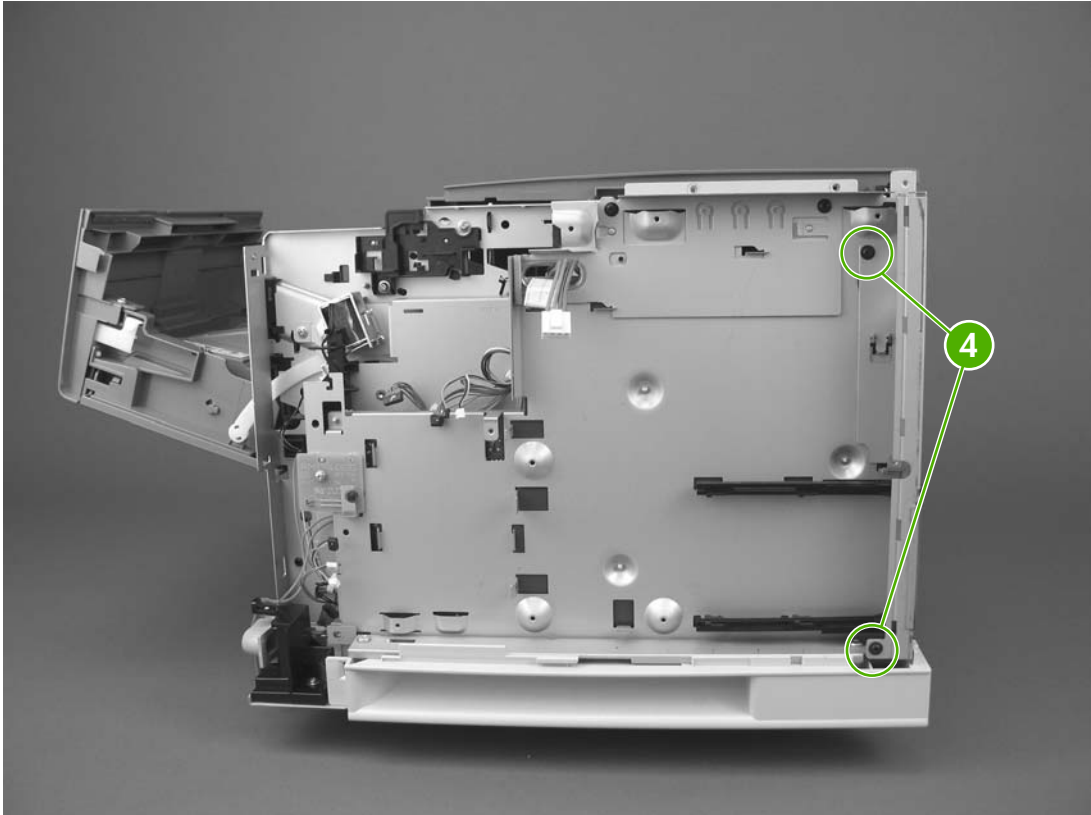


Figure 5-23 Removing the ECU (3 of 8)

5. Disconnect and unroute two cables (callout 5) and the fuser power cable (callout 6) at the rear of the device.

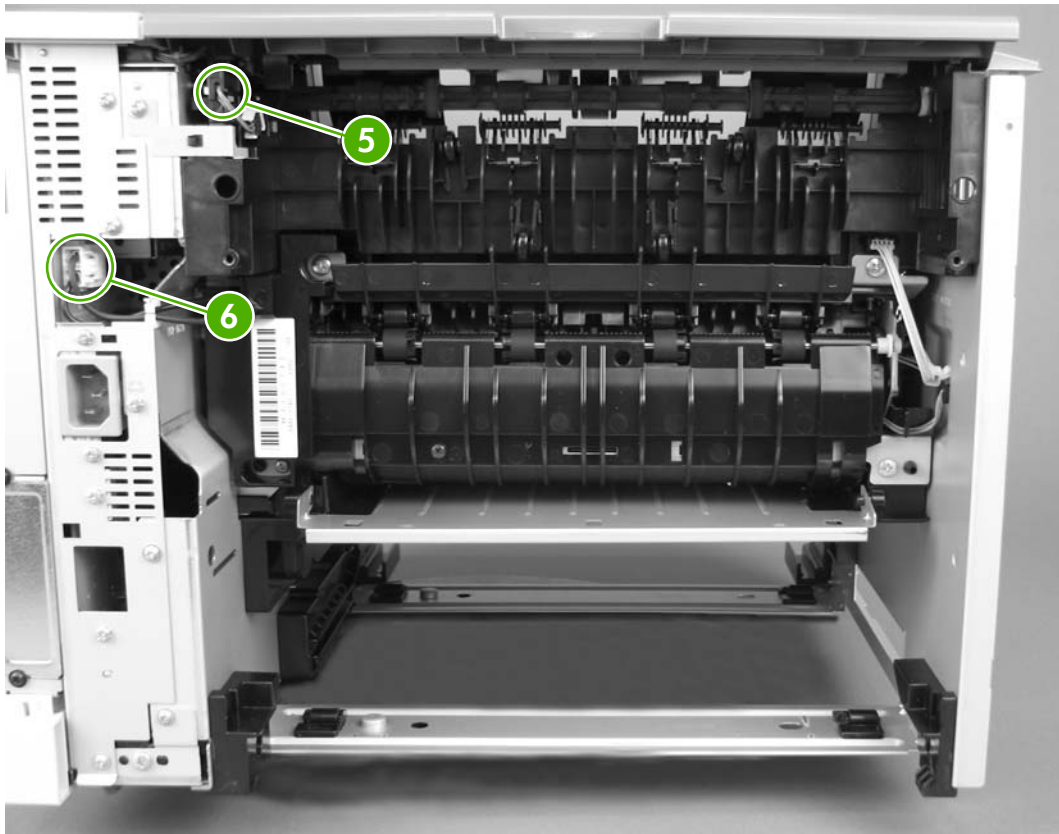


Figure 5-24 Removing the ECU (4 of 8)

6. Disconnect the laser/scanner cable (callout 7).

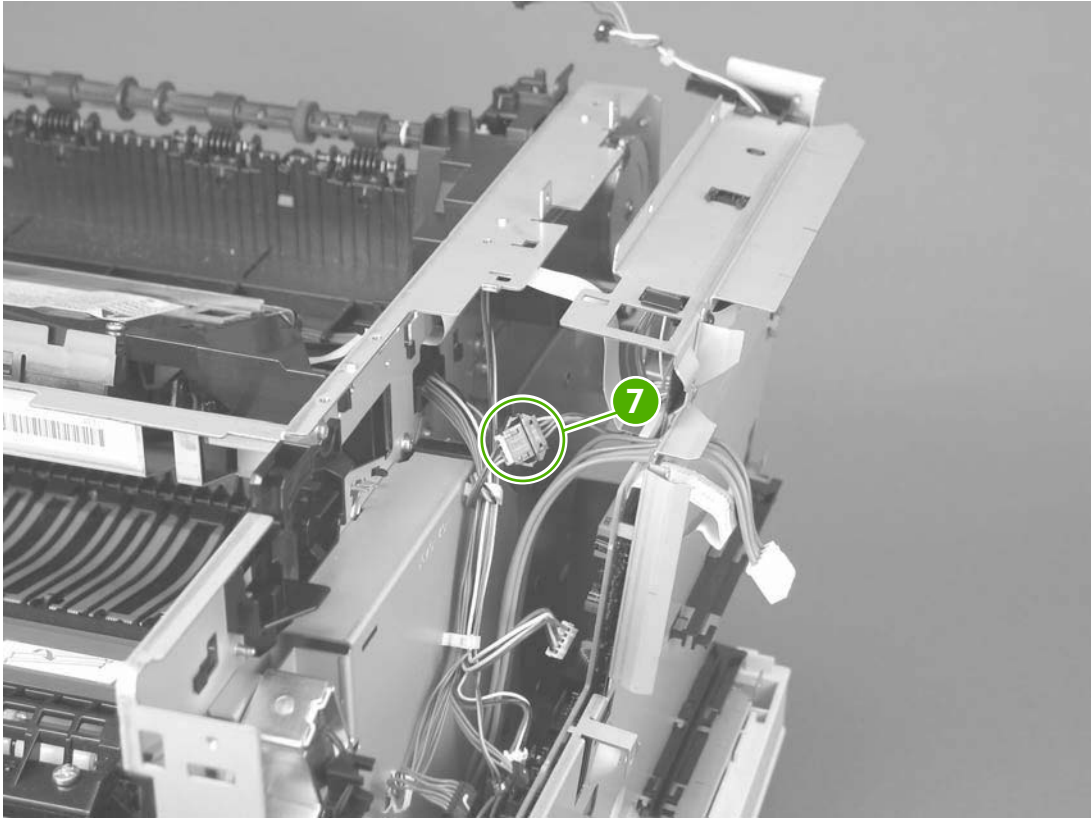


Figure 5-25 Removing the ECU (5 of 8)

7. Remove seven screws (callout 8) from the ECU pan, and remove the grounding screw (callout 9).

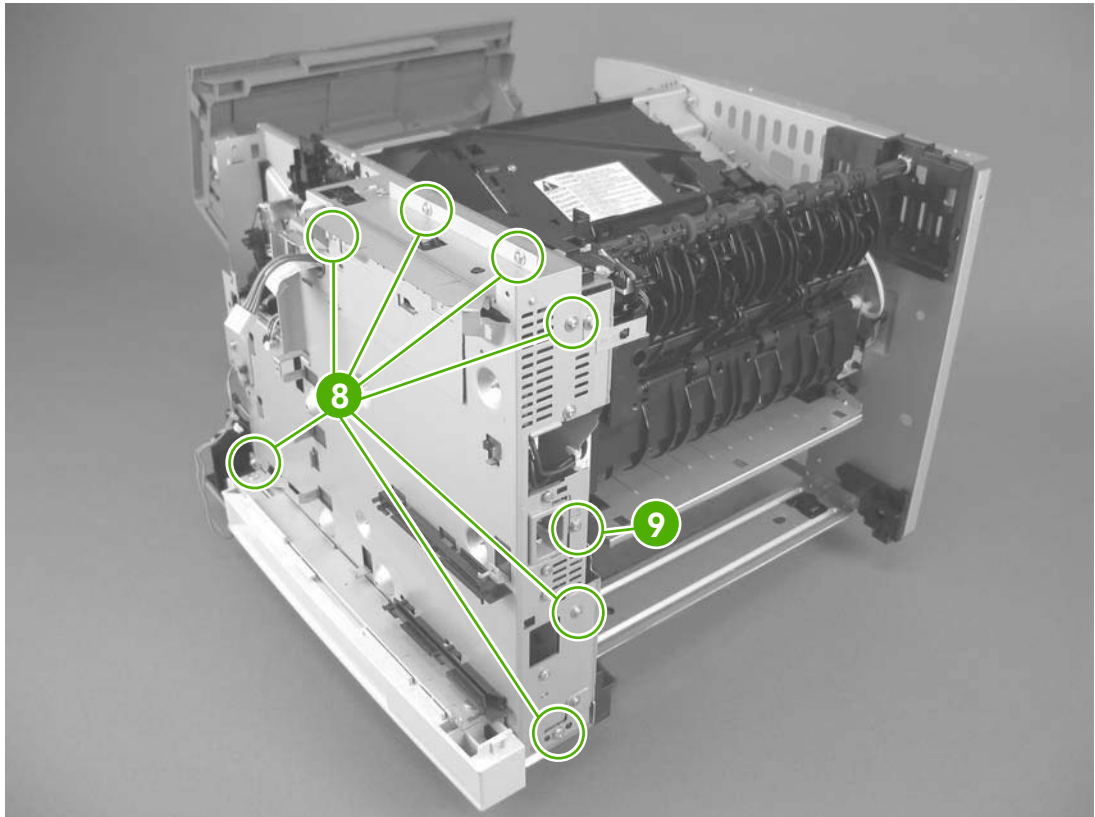


Figure 5-26 Removing the ECU (6 of 8)

8. Rotate the top of the ECU pan away from the device, and then disconnect one flat, flexible cable (callout 10) from the laser/scanner assembly.

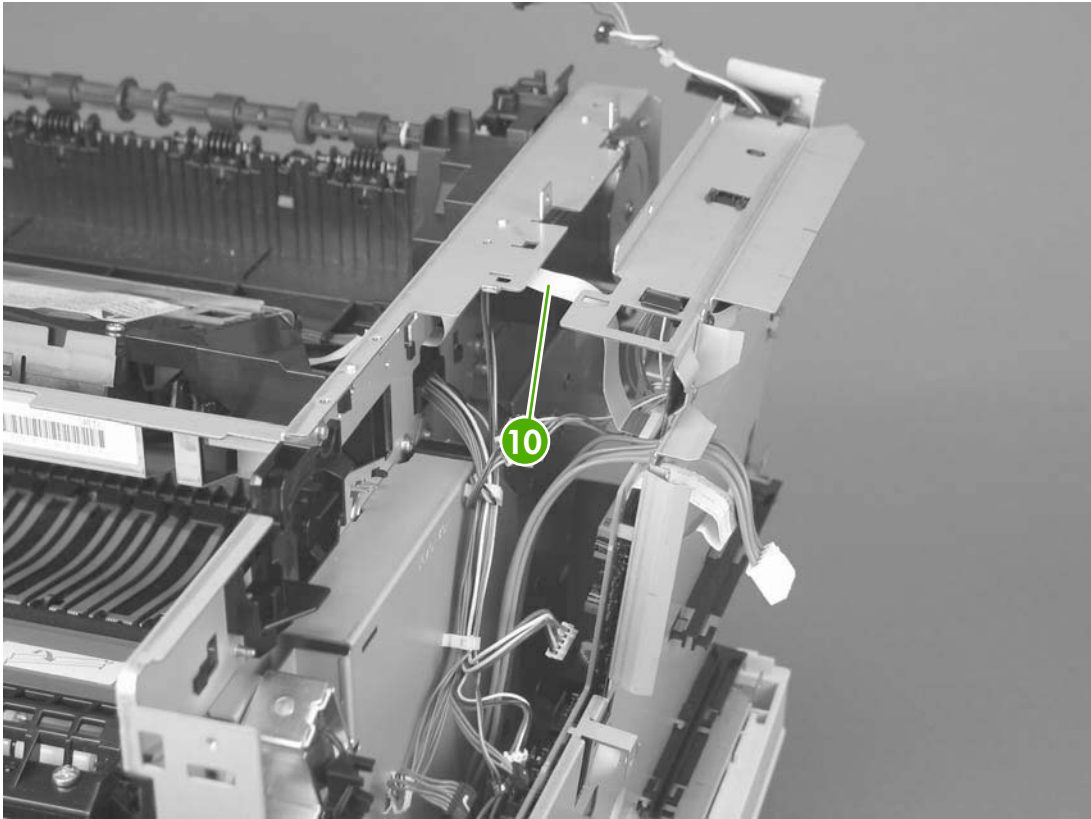


Figure 5-27 Removing the ECU (7 of 8)

9. Disconnect the flat cable at the bottom of the ECU (callout 11), and then pull the ECU away from the device.

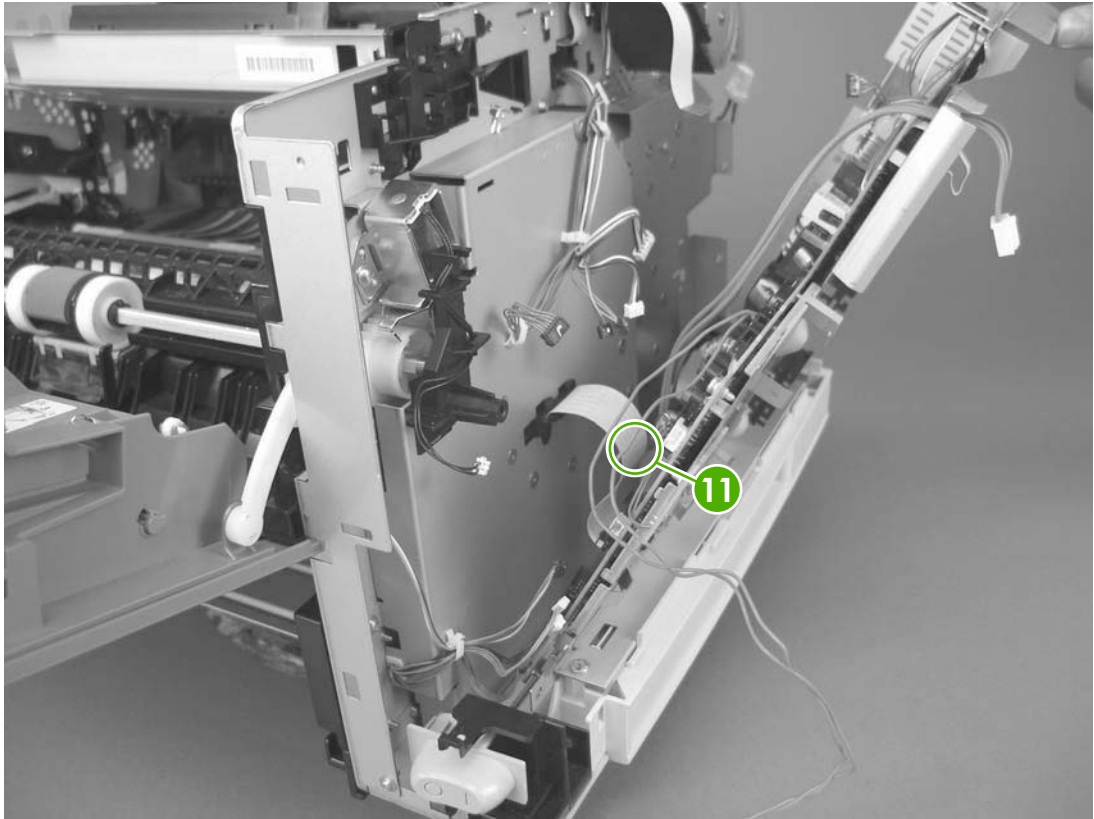


Figure 5-28 Removing the ECU (8 of 8)



NOTE The ECU and the ECU pan together are a single field-replaceable unit (FRU). You do not have to separate the ECU and the ECU pan.



Tip Make sure that the power switch rod at bottom, right of the ECU lines up with the switch link (see [Gear assembly on page 108](#)). If they are not aligned correctly, the device will not power on.

Access plate

1. Remove the following components:
 - Back cover (see [Back cover on page 72](#))
 - I/O cover (see [I/O cover on page 72](#))
 - Duplexer inlet guide (see [Figure 5-16 Removing the fuser \(1 of 3\) on page 83](#))
2. At the front of the device, push the green button on the top, right front of the tray 2 opening to release the access plate.

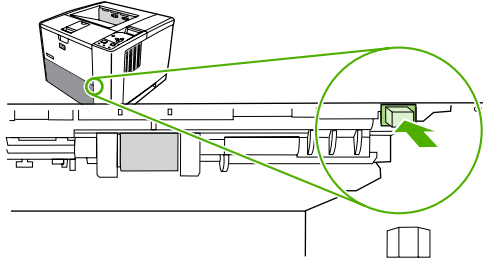


Figure 5-29 Removing the access plate (1 of 2)

3. At the back of the device, press one tab (callout 1) to release the access plate, and then lower the access plate until the other side slides off of the other tab (callout 2).

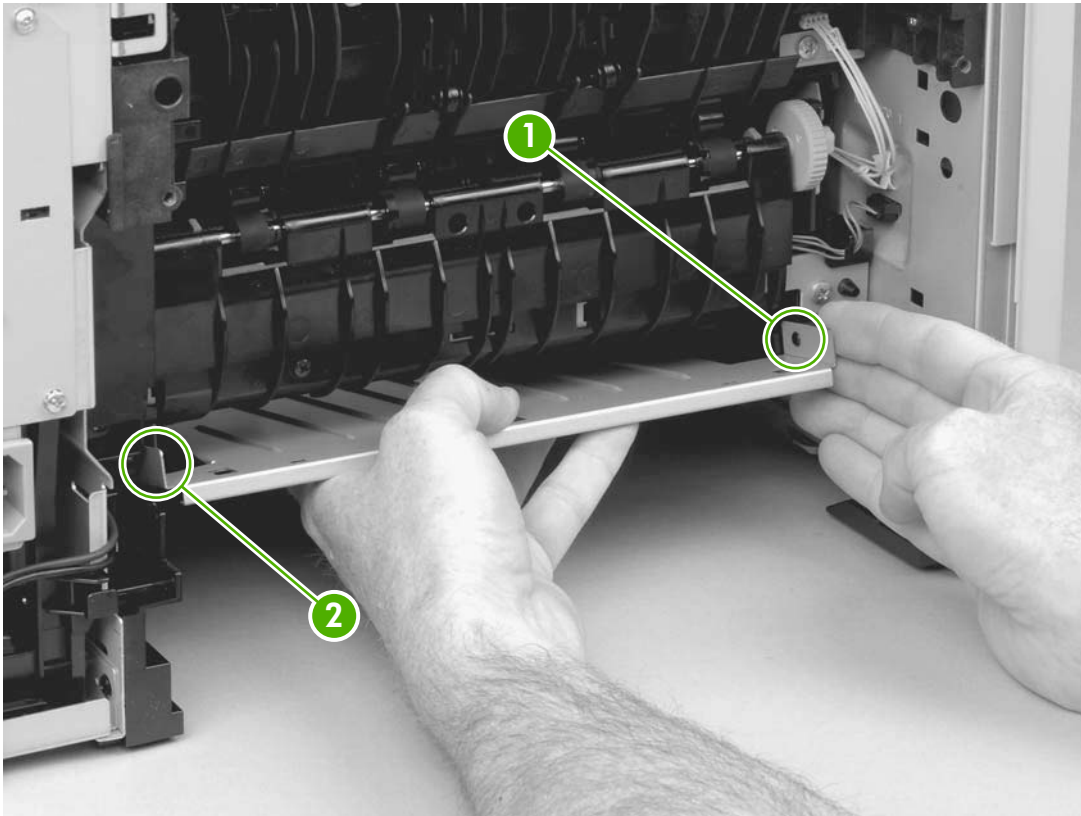


Figure 5-30 Removing the access plate (2 of 2)

4. Slide the pan out of the device.

High-voltage power supply

1. Remove the following components:
 - All covers (see [Covers on page 69](#))
 - Formatter (see [Formatter on page 80](#))
 - ECU (see [Engine control unit \(ECU\) on page 88](#))
 - Access plate (see [Access plate on page 96](#)).
2. At the right side of the device, remove one grounding screw from inside the slot (callout 1).

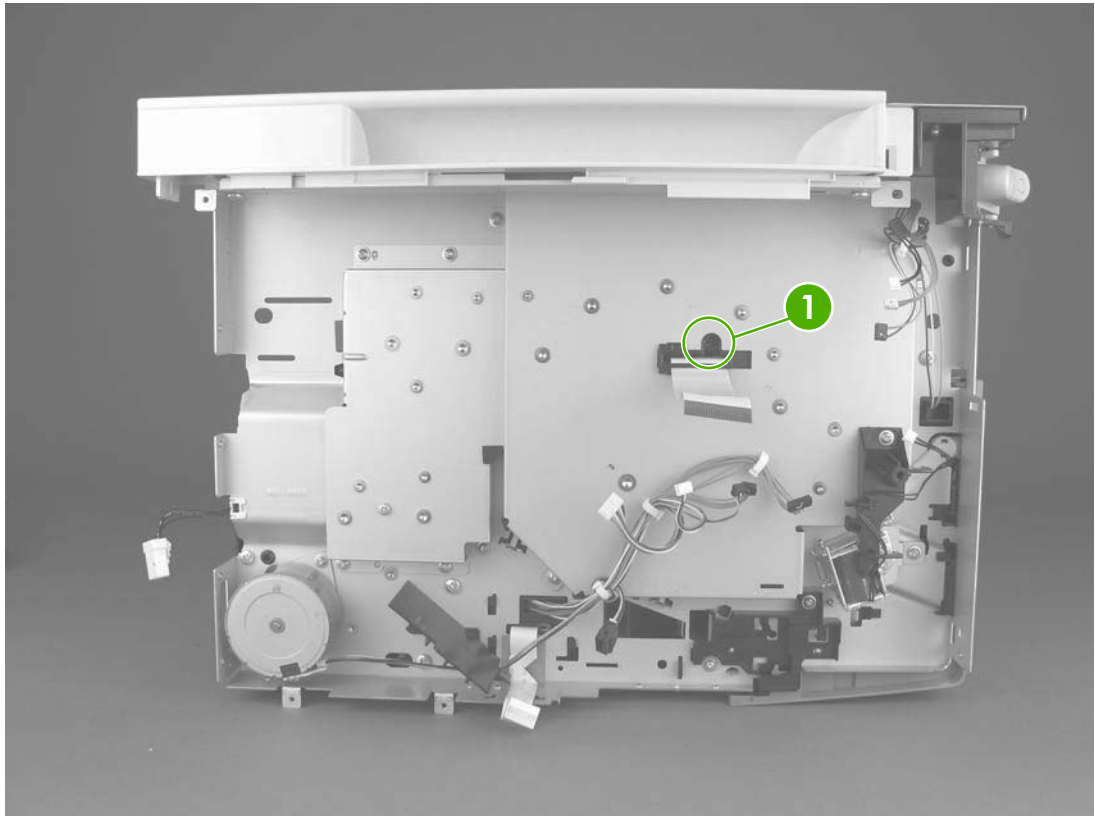


Figure 5-31 Removing the power supply (1 of 5)

3. At the left side of the device, disconnect one grounding clip (callout 2), thread the clip through the hole in the device chassis, and then remove two screws (callout 3).

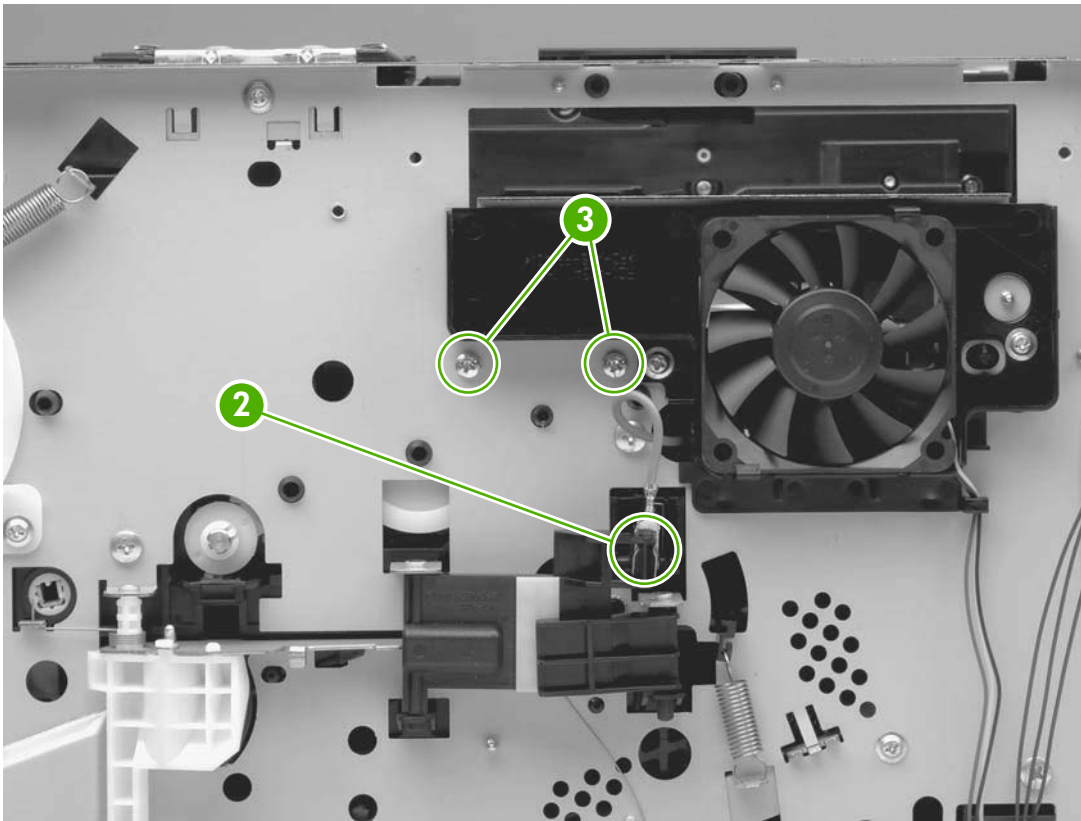


Figure 5-32 Removing the power supply (2 of 5)



Reinstallation tip

Remember how the cable is threaded and connected to the device.

4. Carefully tip the device so that it rests on its top, with the front of the device facing you.

5. At the bottom of the device, remove the two screws (callout 4) that secure the oblique-roller assembly to the device, and then lift the assembly from the device.

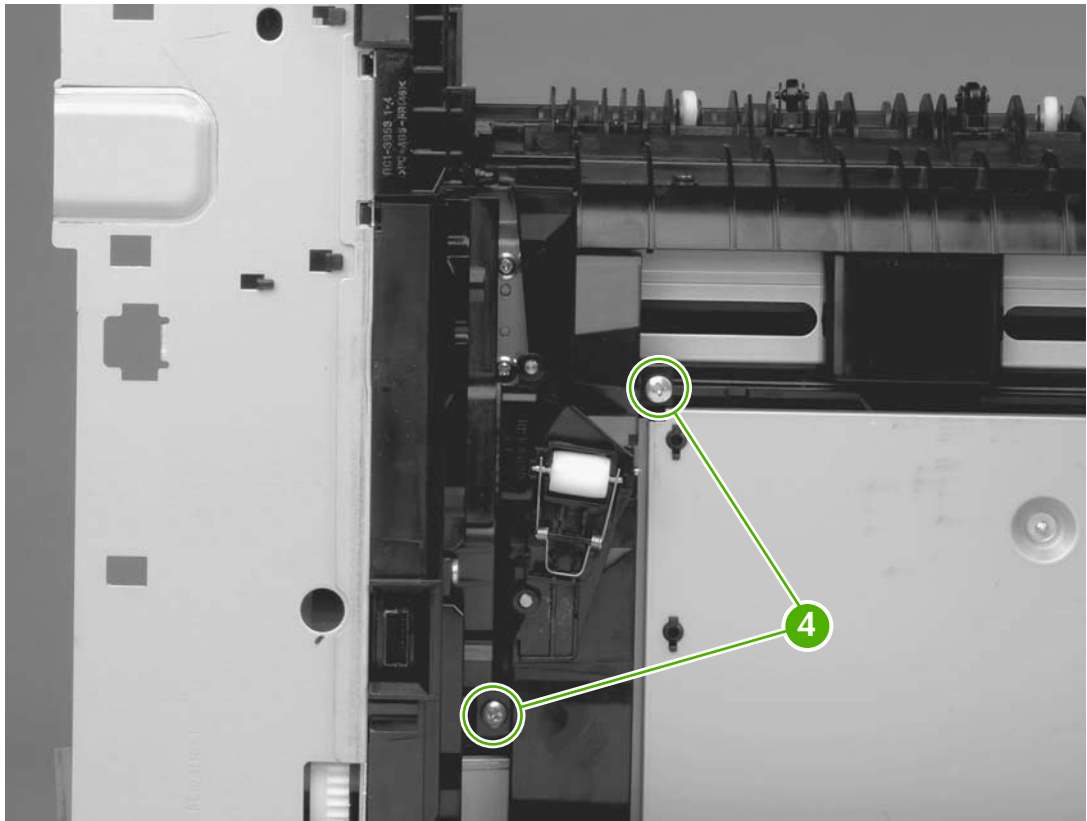


Figure 5-33 Removing the power supply (3 of 5)

6. Remove two screws (callout 5) from the ribbon-cable protector (callout 6) and then lift the protector out of the device.

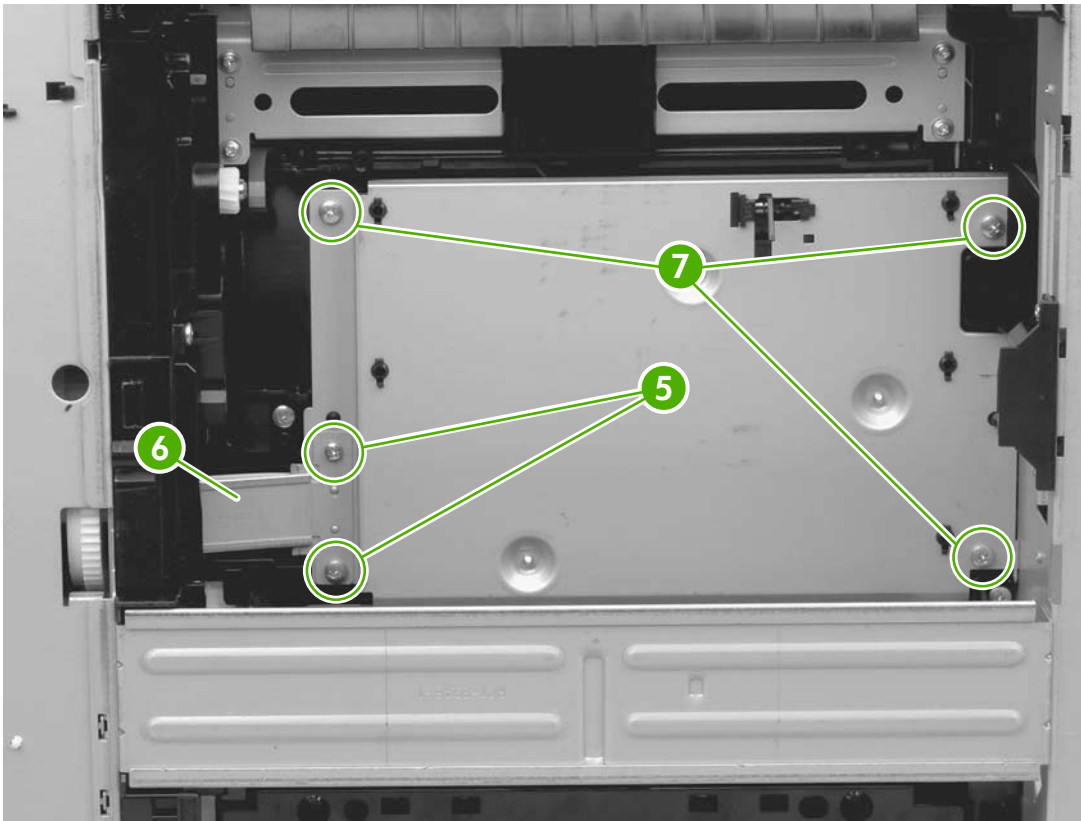


Figure 5-34 Removing the power supply (4 of 5)

7. Remove the remaining three screws (callout 7) from the power-supply pan.

8. With the device upside down and with the rear of the device facing you, lift the edge of the power-supply pan farthest from you up slightly, slide it to the right, lift the edge at the left, unroute the cables, and then disconnect two cables (callout 8).

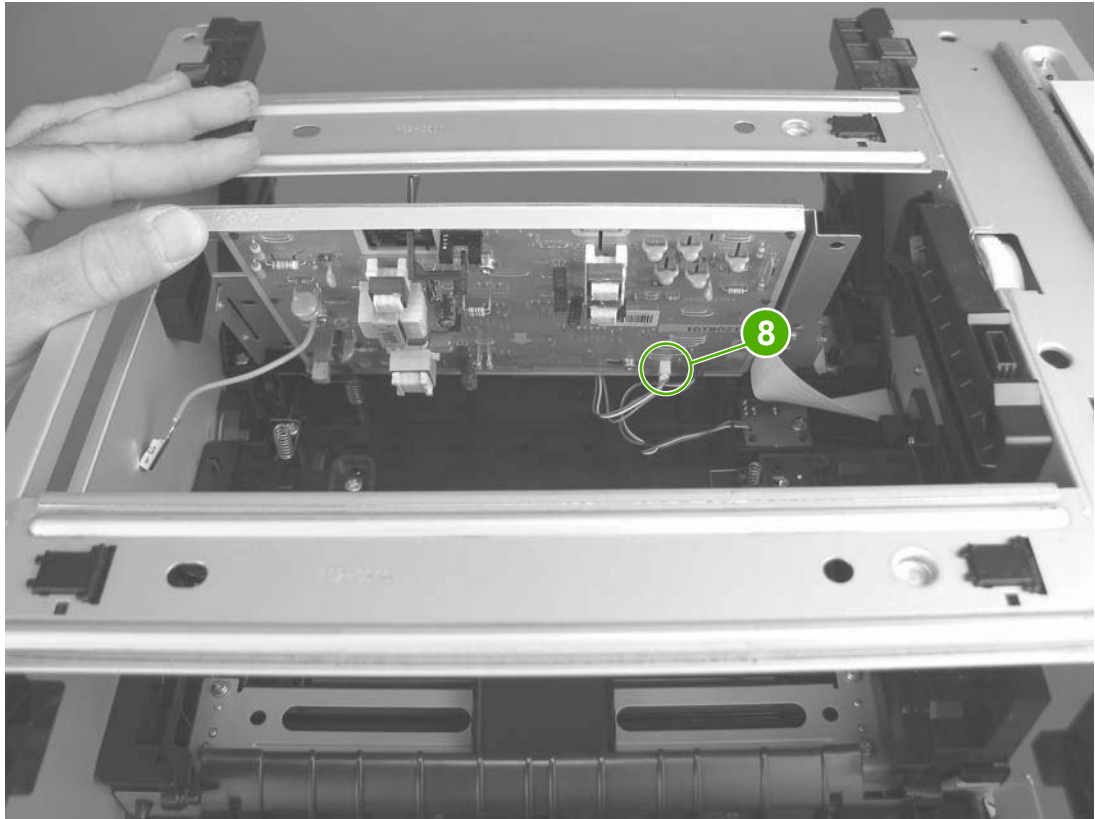


Figure 5-35 Removing the power supply (5 of 5)

9. As you remove the power supply, note the location of the non-captive grounding spring (callout 9). You might need to reinstall the spring before reinstalling the power supply.

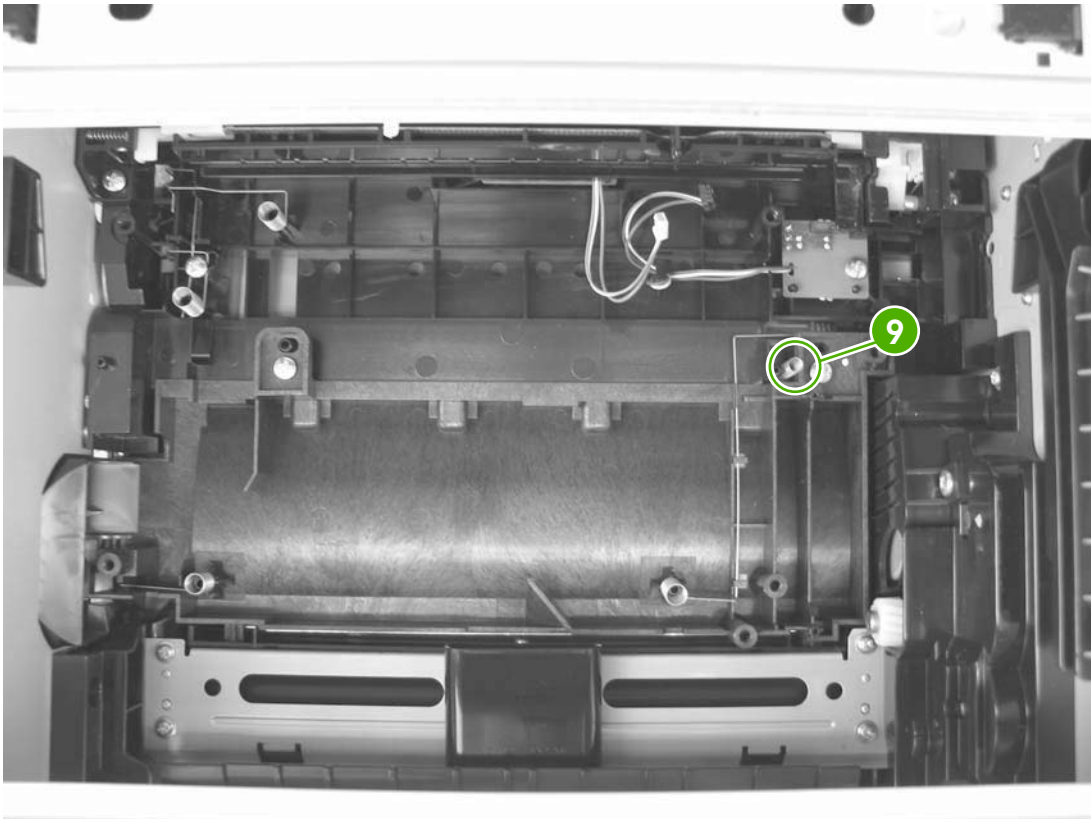


Figure 5-36 Grounding-spring locations



Reinstallation tip To reinstall the oblique-roller assembly, slide the tab (callout 10) in first and then insert the other side of the assembly. Rotate the roller toward the back of the device to align the gears. Verify that the roller lever (callout 11) is not misaligned.

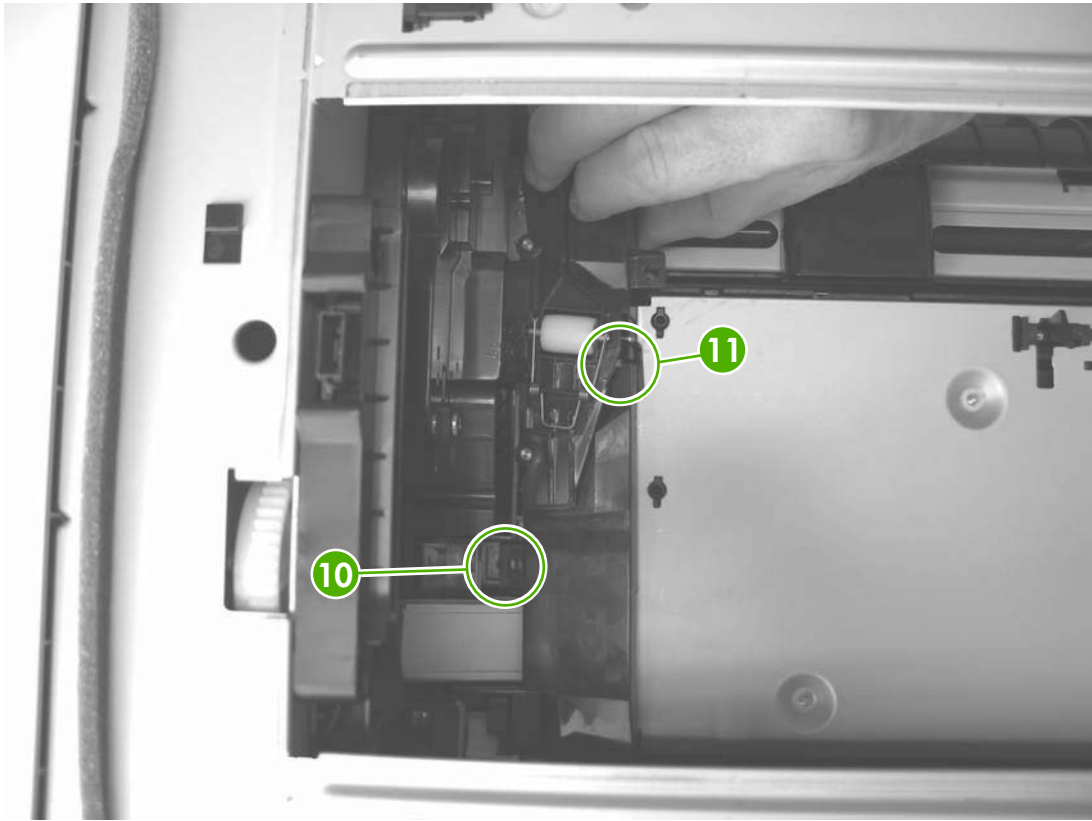


Figure 5-37 Reinstalling the oblique-roller assembly



NOTE The power supply and the power-supply pan together are a single FRU. You do not have to separate the power supply and the power-supply pan.

Paper feed guide assembly

1. Remove the following components:
 - All covers (see [Covers on page 69](#))
 - Formatter (see [Formatter on page 80](#))
 - ECU (see [Engine control unit \(ECU\) on page 88](#))
 - Access plate (see [Access plate on page 96](#)).
 - Fuser (see [Fuser on page 83](#))
 - High-voltage power supply (see [High-voltage power supply on page 97](#))
2. Lift one non-captive grounding spring (see callout 11 in [Figure 5-36 Grounding-spring locations on page 102](#) out of the device.
3. Loosen the grounding wire from the routing guides (callout 1).



CAUTION Do not bend or remove the grounding wire.

4. Remove two screws (callout 2).

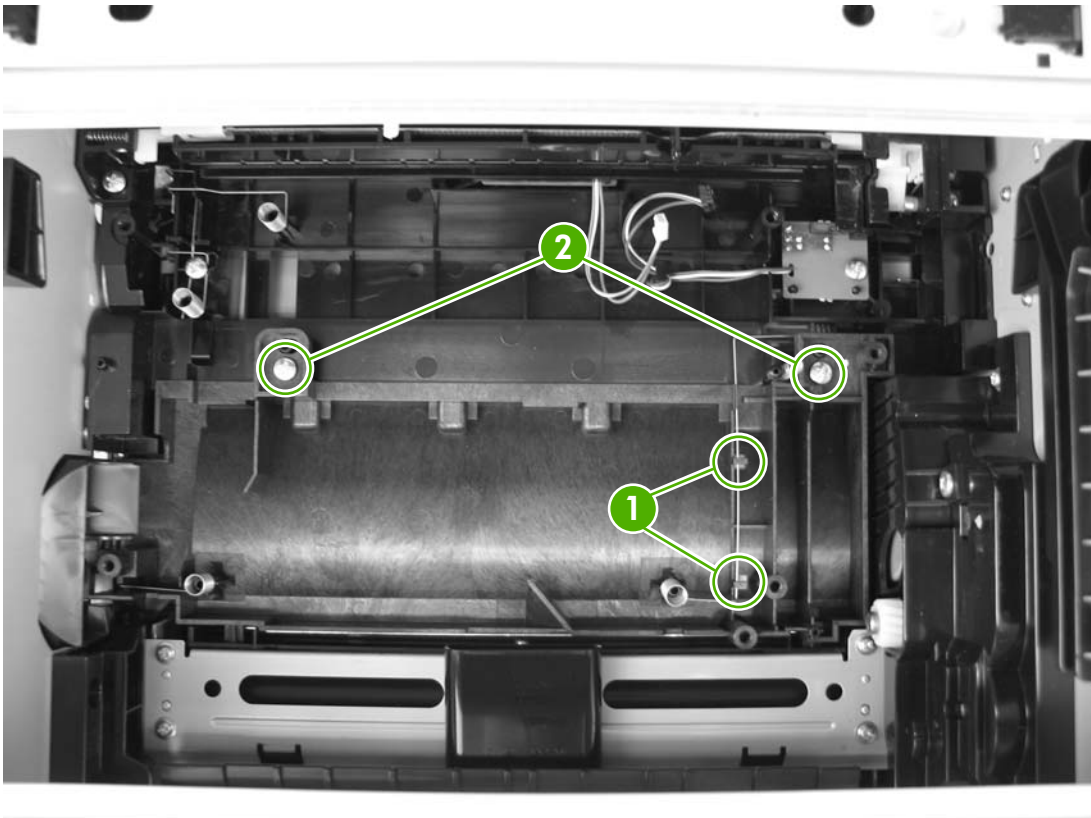


Figure 5-38 Removing the paper feed guide assembly

5. On the edge of the assembly farthest from you, lift the right corner up, twist the assembly counterclockwise, and remove the assembly from the device.



Reinstallation tip Upon reinstallation, make sure that the loosened grounding wire is out of the way.

Main motor

1. Remove the following components:
 - All covers (see [Covers on page 69](#))
 - Formatter (see [Formatter on page 80](#))
 - ECU (see [Engine control unit \(ECU\) on page 88](#))
 - Access plate (see [Access plate on page 96](#)).
 - Fuser (see [Fuser on page 83](#))
 - High-voltage power supply (see [High-voltage power supply on page 97](#))
 - Paper feed guide assembly (see [Paper feed guide assembly on page 104](#)).
2. Remove three screws (callout 1) from the main motor cover.

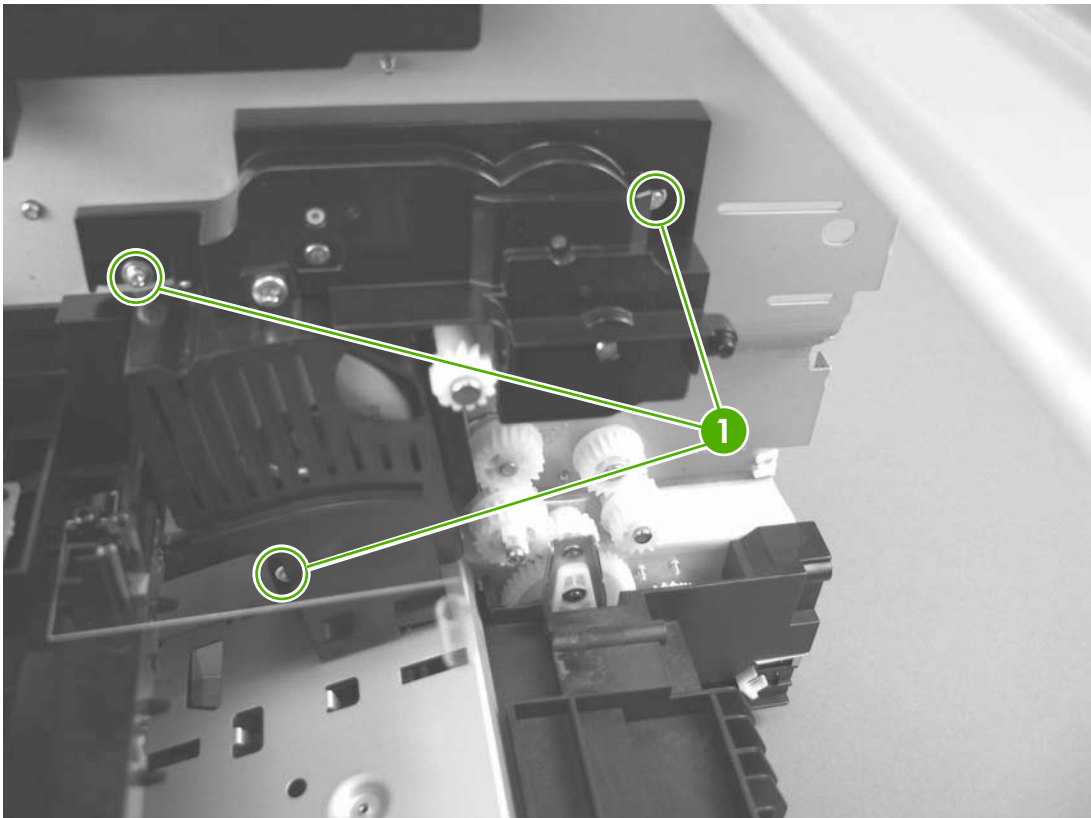


Figure 5-39 Removing the main motor (1 of 2)

3. Remove the motor cover.

4. Remove three screws from the motor (callout 2), and then unrout the wire.

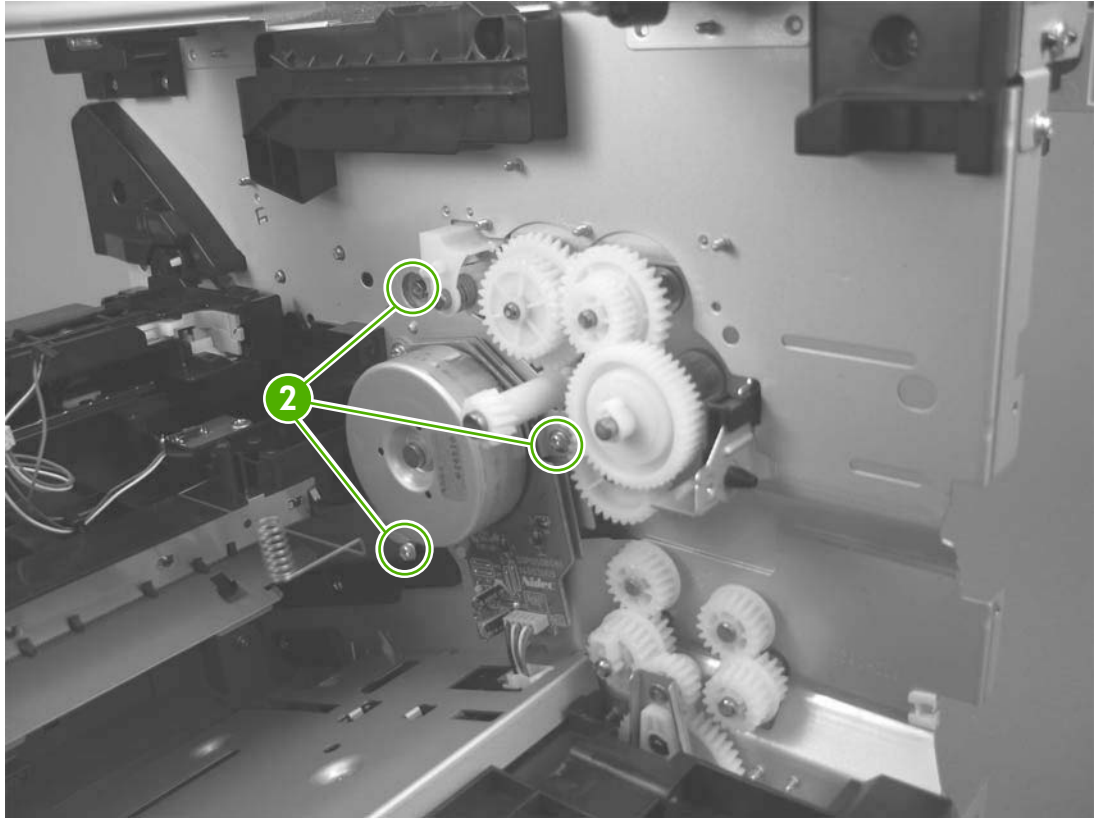


Figure 5-40 Removing the main motor (2 of 2)



NOTE Do not attempt to disconnect the wire at the main motor. The wire is permanently connected to the main motor.

Gear assembly

1. Remove the following components:
 - All covers (see [Covers on page 69](#))
 - Formatter (see [Formatter on page 80](#))
 - ECU (see [Engine control unit \(ECU\) on page 88](#))
 - High-voltage power supply (see [High-voltage power supply on page 97](#))
2. Remove the two switch link assembly screws (callout 1), slide the assembly toward the front of the device, and then lift it out of the device.
3. Remove three cables from the cable guides (callout 2).



NOTE Make sure that you duplicate the cable routing upon reinstallation.

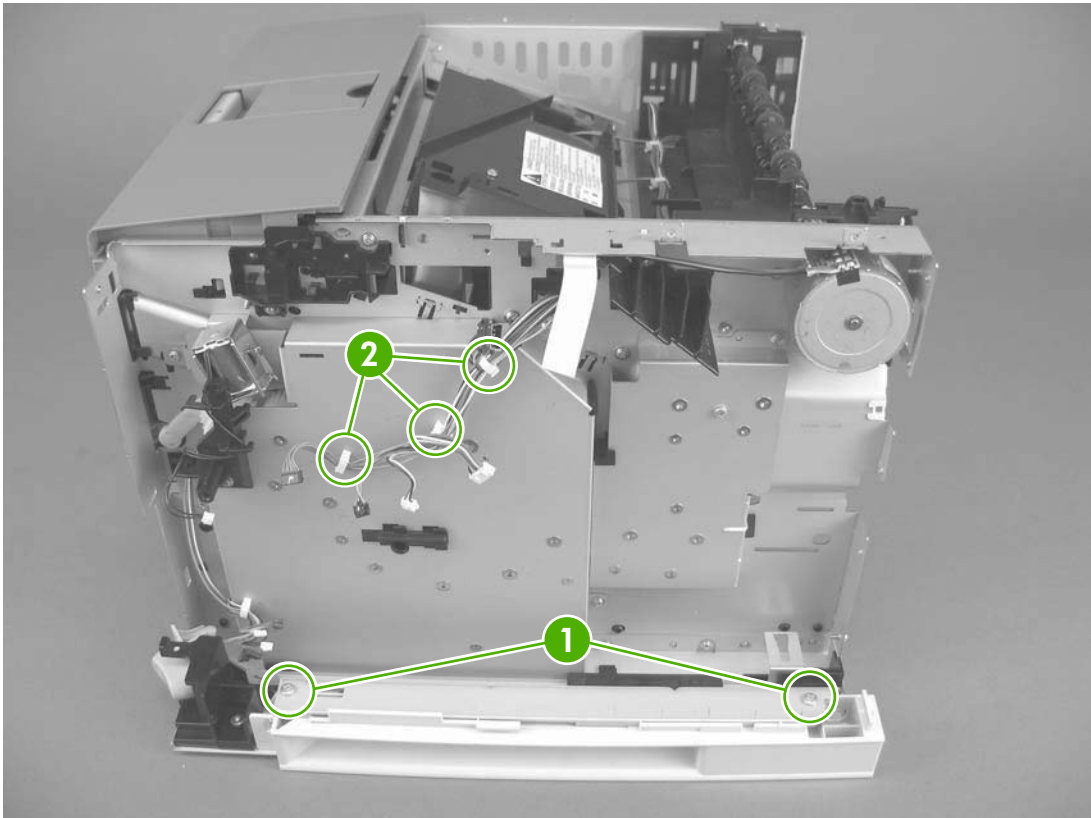


Figure 5-41 Removing the gear assembly (1 of 3)

4. Remove four screws (callout 3) from the gear-assembly plate.

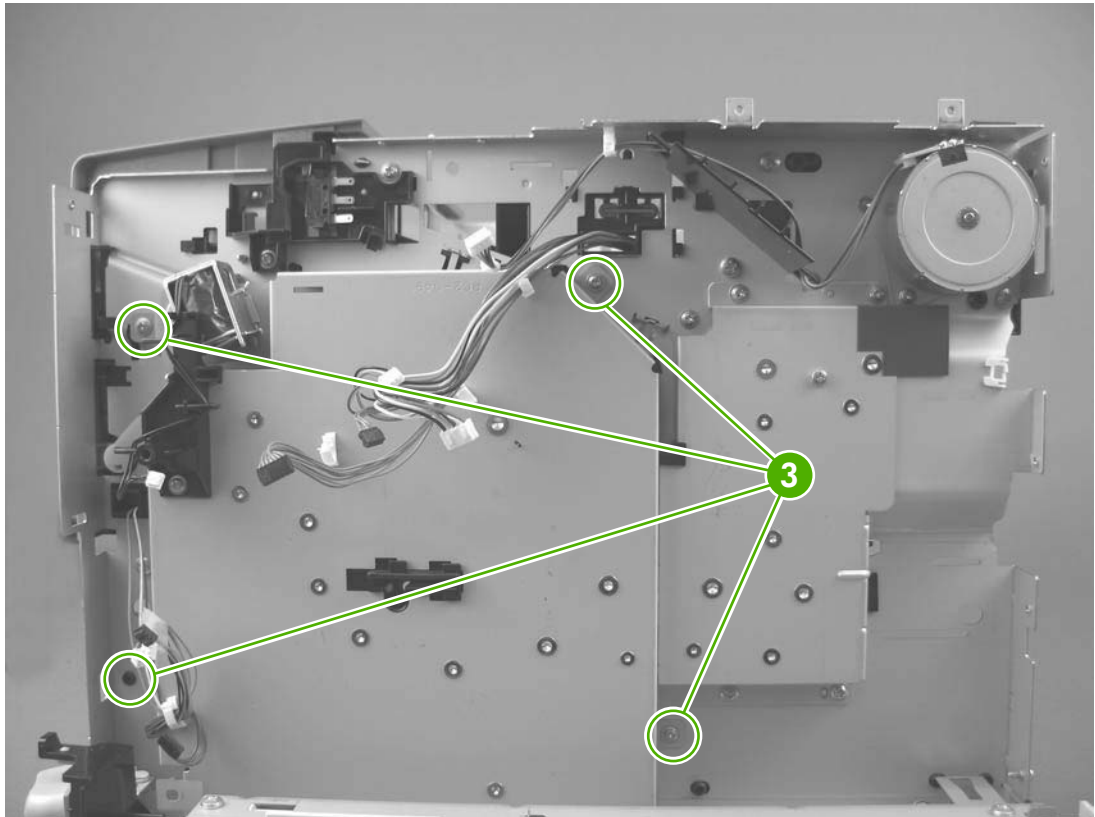


Figure 5-42 Removing the gear assembly (3 of 3)

5. Pull the gear assembly straight away from the device.



NOTE The spring (callout 4 in [Figure 5-43 Reinstalling the gear assembly on page 110](#)) is not attached to the gear-assembly plate or to the large gear. As a result, the spring might fall out of the device when you remove the gear assembly.

Reinstallation notes for the gear assembly



Reinstallation tip Close the cartridge door and press the large gear against the device chassis before you start to reinstall the gear assembly.

Reinstallation tip The spring (callout 4) has a "locating pin" that should be inserted into the small hole in the gear-assembly plate before reinstallation.

Reinstallation tip Use the rod (callout 5) on the gear-assembly plate as a locator to find the correct positioning of the gear assembly. Insert the rod into the hole in the lower gear on the device chassis.

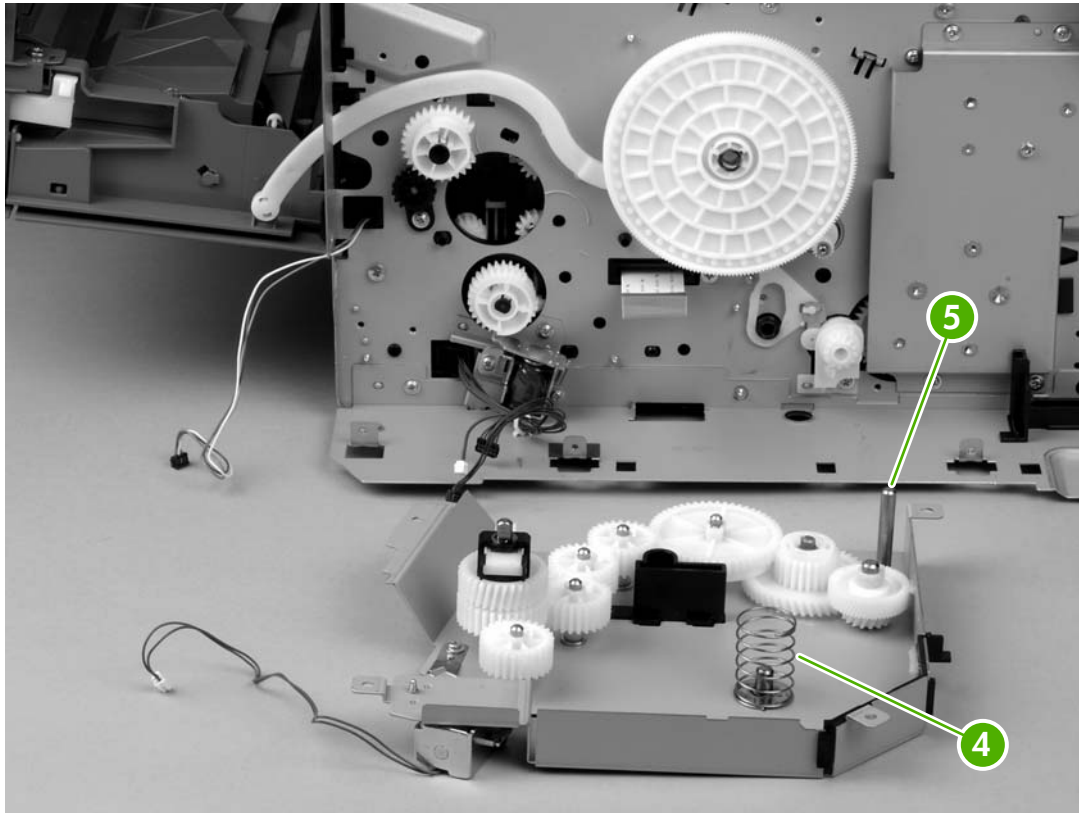


Figure 5-43 Reinstalling the gear assembly

Tray 1 solenoid

1. Remove the following components:
 - Control panel (see [Control panel on page 78](#))
 - Fan assembly (see [Figure 5-21 Removing the ECU \(1 of 8\) on page 88](#))
2. Remove one screw (callout 1), and then disconnect and unroute the solenoid cable (callout 2) from the ECU.

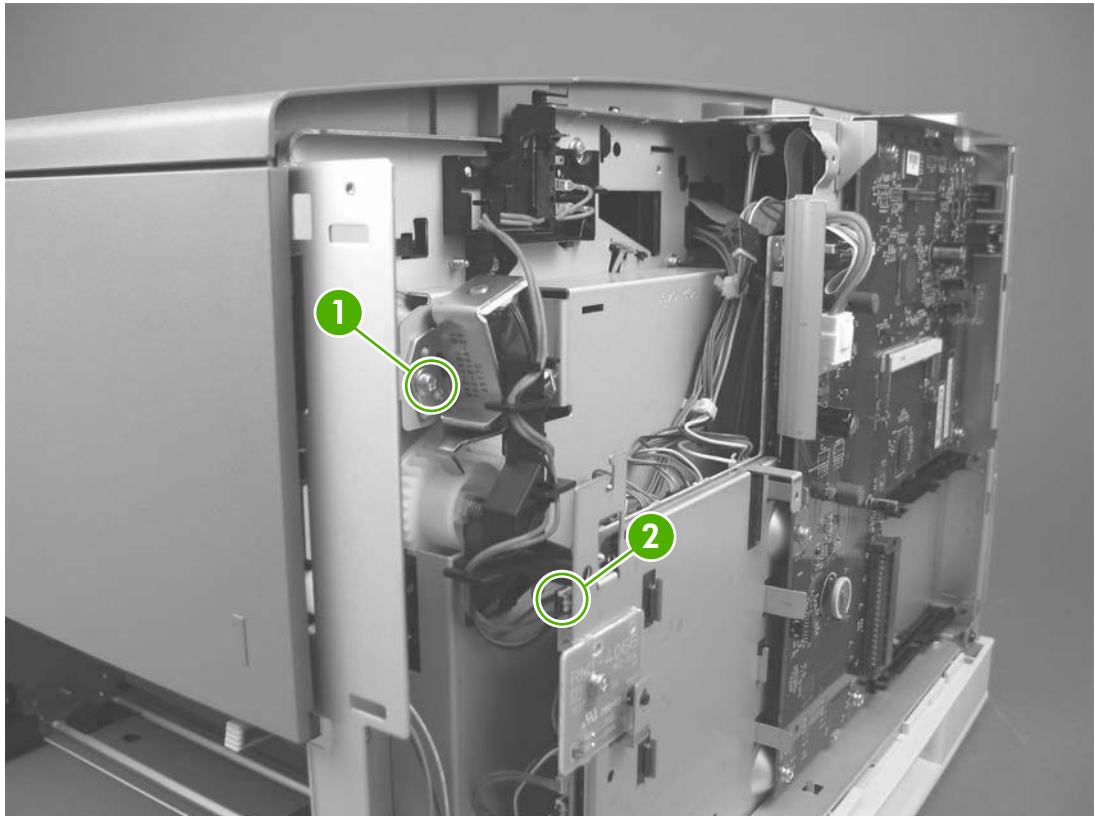


Figure 5-44 Removing the tray 1 solenoid

3. Lift the solenoid off of the device chassis.

Tray 2 solenoid

1. Remove the following components:
 - All covers (see [Covers on page 69](#))
 - Formatter (see [Formatter on page 80](#))
 - ECU (see [Engine control unit \(ECU\) on page 88](#))
 - High-voltage power supply (see [High-voltage power supply on page 97](#))
 - Gear assembly (see [Gear assembly on page 108](#))
2. Remove one screw (callout 1).

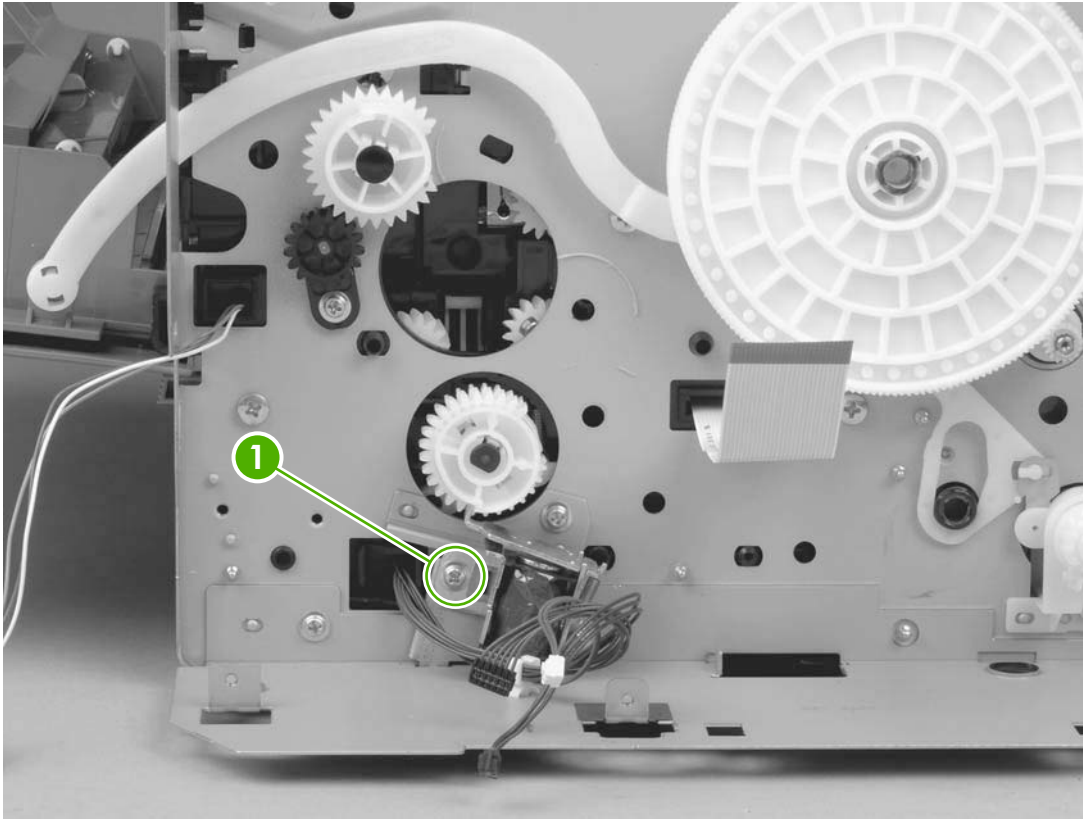


Figure 5-45 Removing the tray 2 solenoid

3. Lift the solenoid off of the device chassis.

E-label reader (memory tag)

1. Remove all covers (see [Covers on page 69](#)).
2. Disconnect one cable (callout 1), and then thread the cable through the hole in the device chassis.

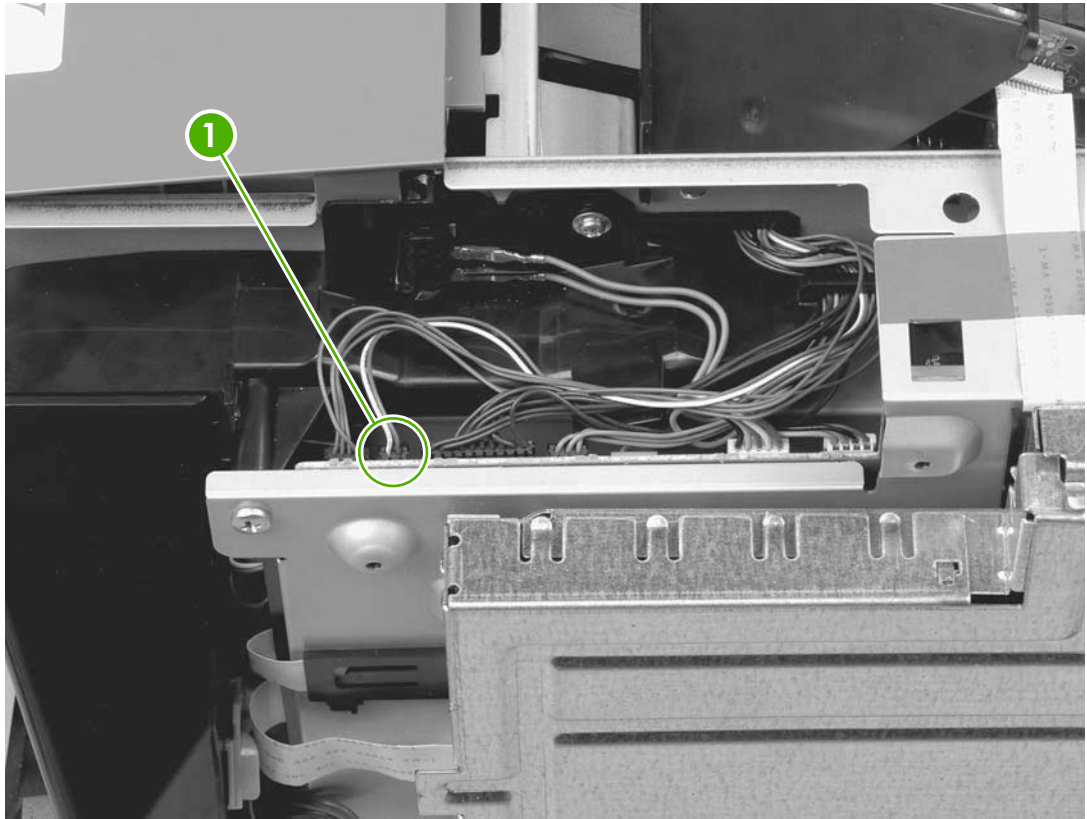


Figure 5-46 Removing the e-label reader (1 of 2)

3. Remove one screw (callout 2).

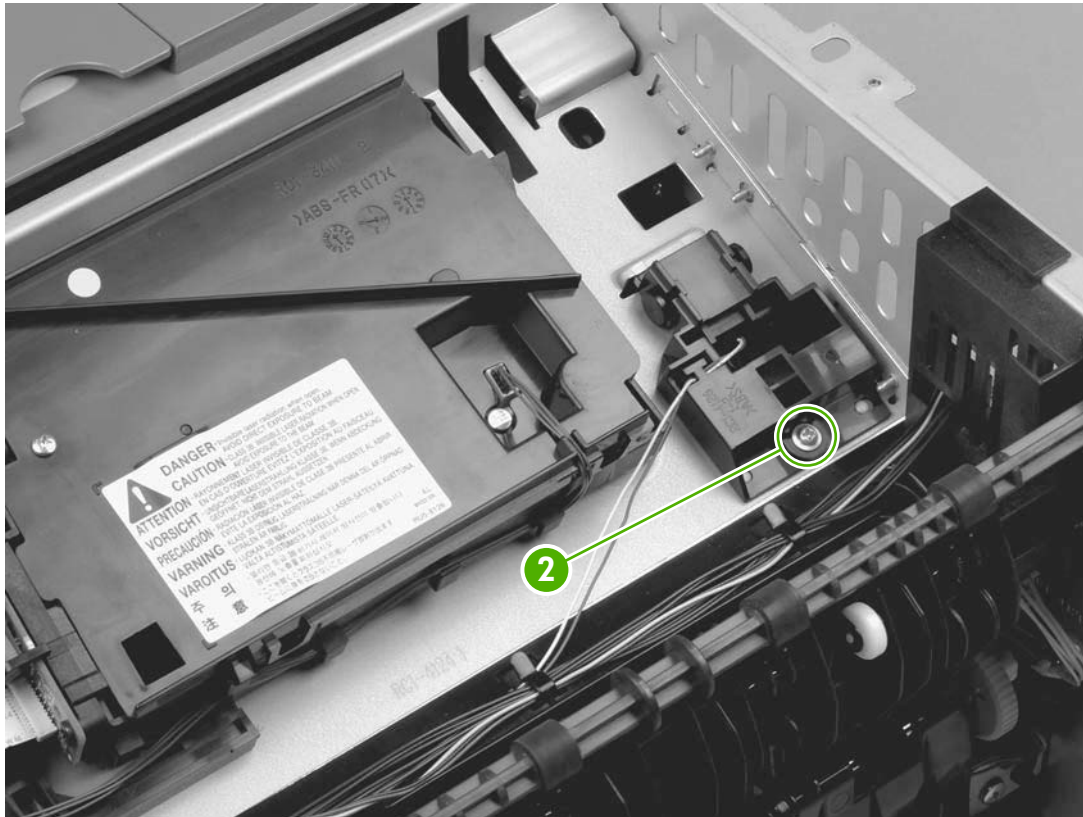


Figure 5-47 Removing the e-label reader (2 of 2)

4. Lift the e-label reader out of the device.



Reinstallation tip Insert the tab at the front of the reader into the metal slot first.

Face-down-roller shaft

1. Remove the following components:
 - Left-side cover (see [Left-side cover on page 70](#))
 - Back cover (see [Back cover on page 72](#))
 - Top cover (see [Top cover on page 74](#))
2. Rotate the bushings (callout 1) at both ends of the face-down-roller shaft so that they point in a horizontal direction.

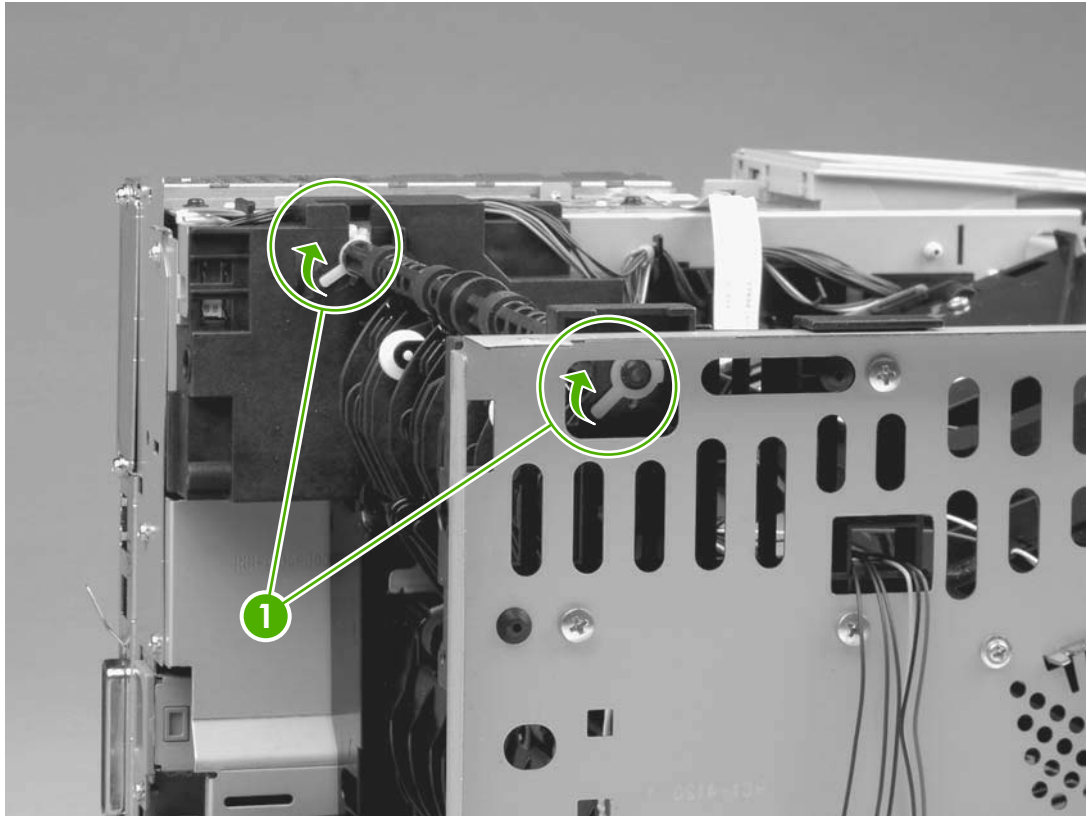


Figure 5-48 Removing the face-down-roller shaft (1 of 2)

3. Lift the end at the right side of the device, and then slide the shaft toward the right side to clear the hole on the left side of the device chassis.

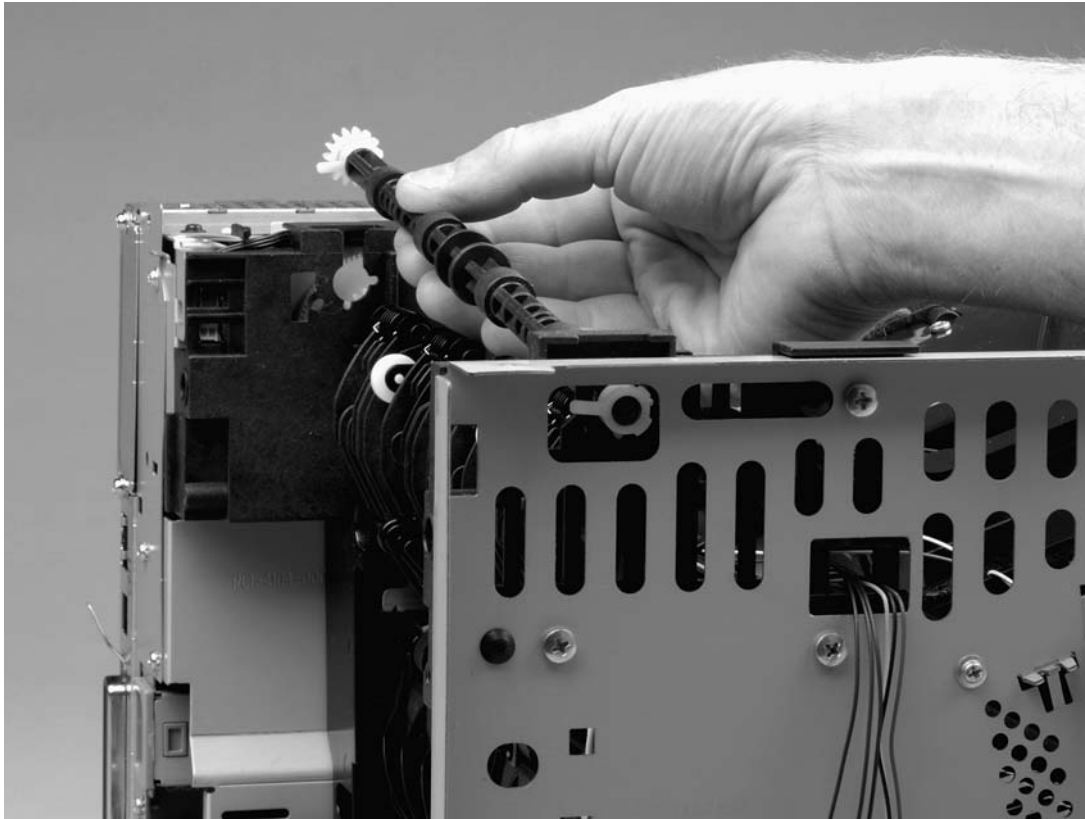


Figure 5-49 Removing the face-down-roller shaft (2 of 2)

Cartridge door

1. Remove the left-side cover (see [Left-side cover on page 70](#)).
2. With the cartridge door closed, unhook the spring (callout 1) at the device chassis, and then remove one screw (callout 2).

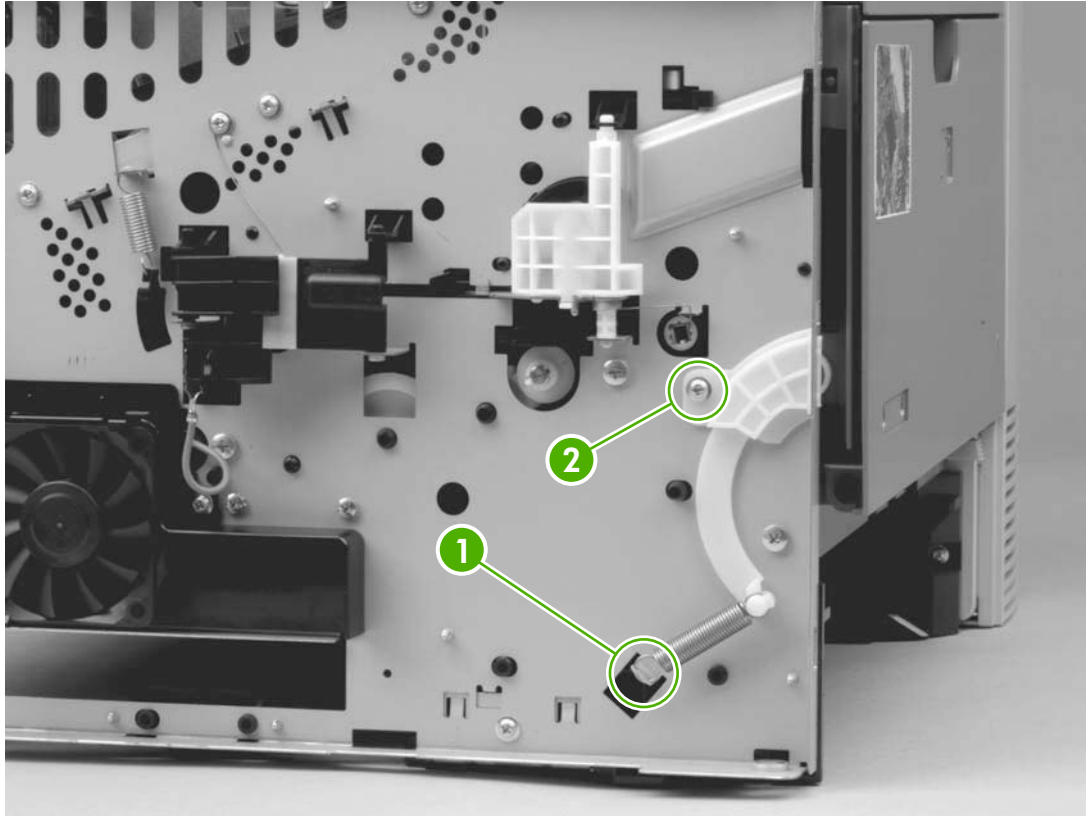


Figure 5-50 Removing the cartridge door (1 of 3)

3. Open the cartridge door, and then use a flatblade screwdriver to release the cartridge-door arm (callout 3) at the right side of the cartridge door.

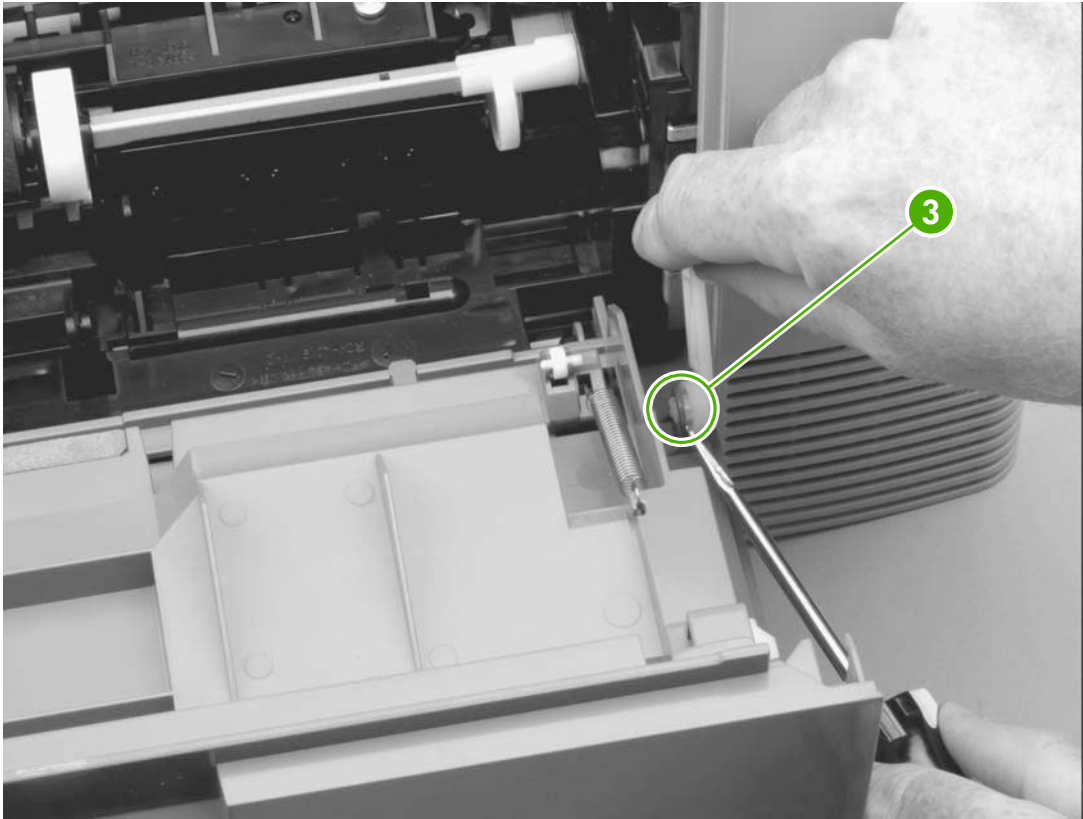


Figure 5-51 Removing the cartridge door (2 of 3)

4. Slide the cartridge door to the left, off of the hinges, and then pull the door away from the device.

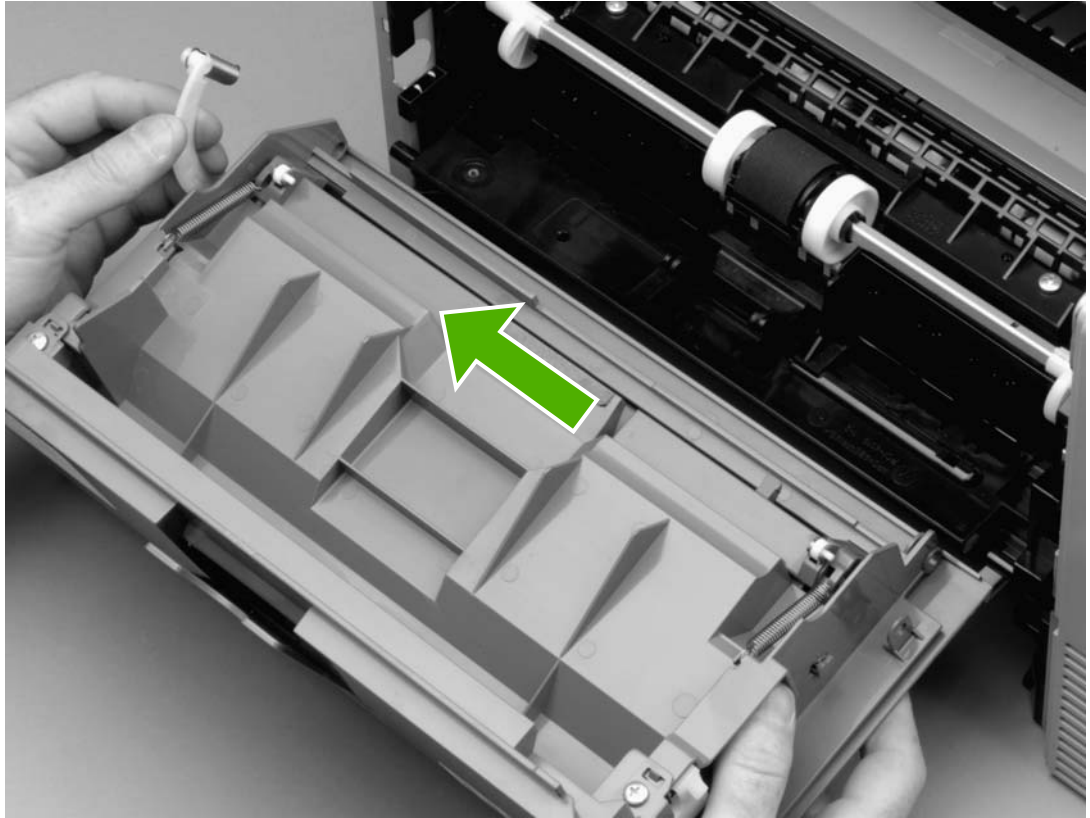


Figure 5-52 Removing the cartridge door (3 of 3)

Transfer roller

1. Open the cartridge door.
2. Release the left end of the transfer roller by using needle-nose pliers or a small flatblade screwdriver to pinch two tabs at the left end of the transfer roller.

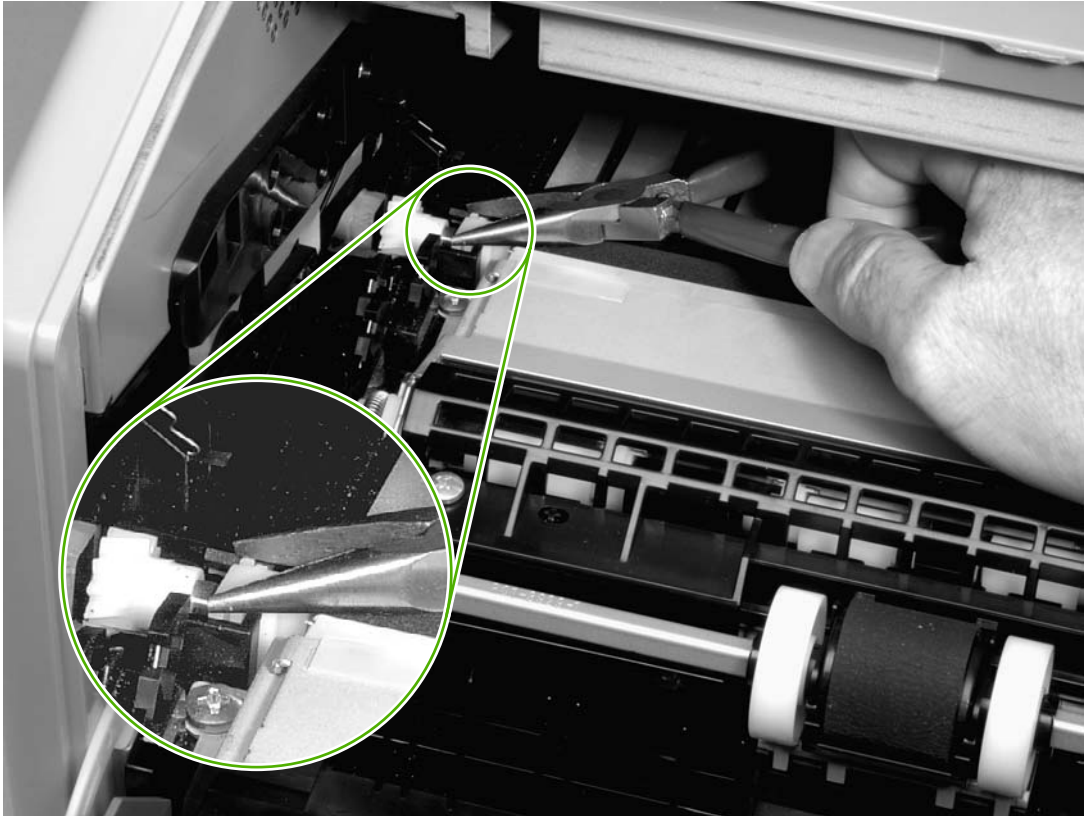


Figure 5-53 Removing the transfer roller

3. Use the needle-nose pliers or flatblade screwdriver in the same manner to release the other end.
4. Lift the transfer roller out of the device.



NOTE The left end of the transfer roller has a spring attached. At the right end of the roller, the spring is attached to the device rather than to the roller. As a result, the spring at the right end remains in the device. Also, the gear assembly at the right end of the roller is not captive on the roller.



CAUTION Be careful not to touch the surface of the new transfer roller.



Reinstallation tip Align the springs with the tabs on the bottom of the roller-mounts before pressing the roller into place.

Registration assembly

1. Remove the left-side cover (see [Left-side cover on page 70](#)).
2. Unhook the clasp on the registration assembly gear (callout 1), and then slide the gear off of the shaft.

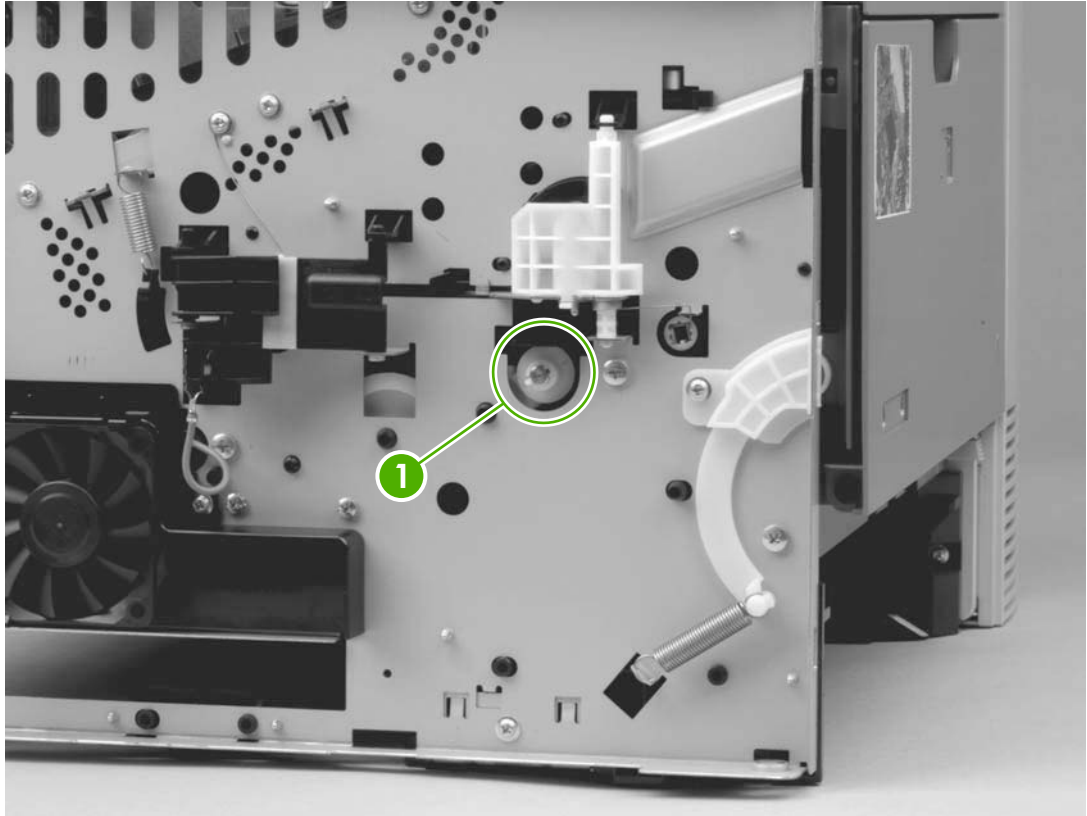


Figure 5-54 Removing the registration assembly (1 of 3)

3. Remove two screws (callout 2) from the registration-assembly cover, and then lift the cover out of the device.

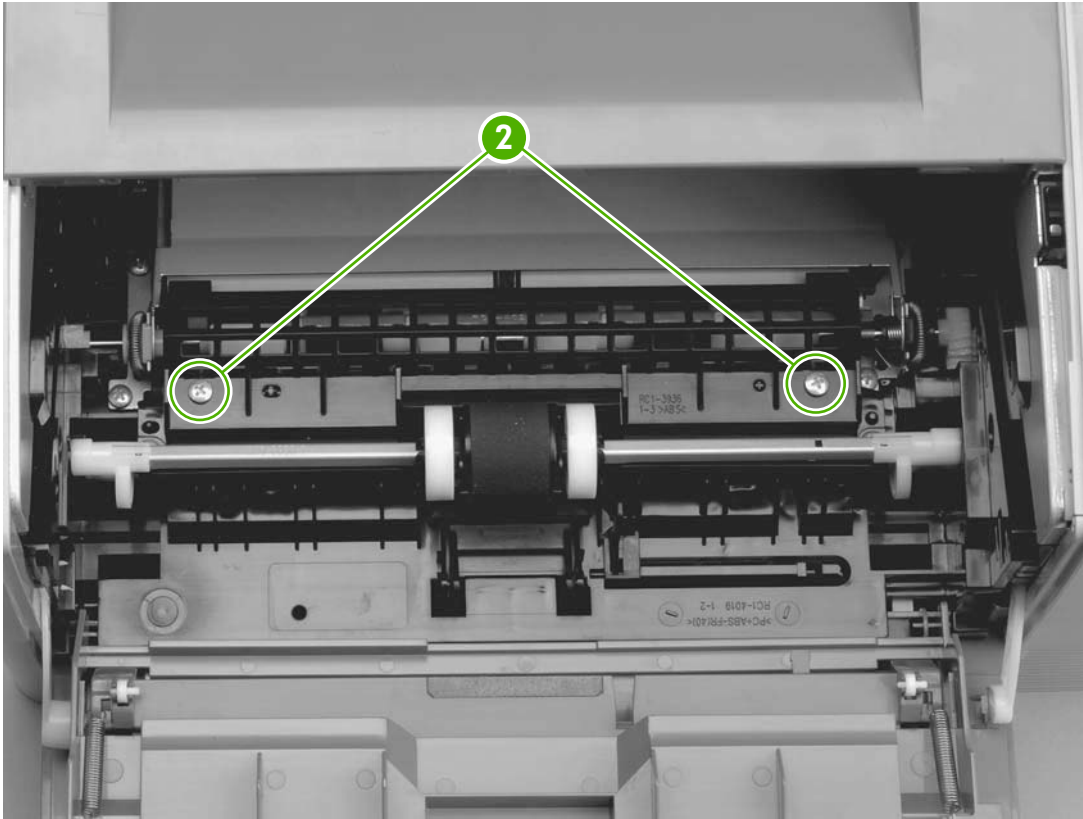


Figure 5-55 Removing the registration assembly (2 of 3)

4. Remove four screws (callout 3).

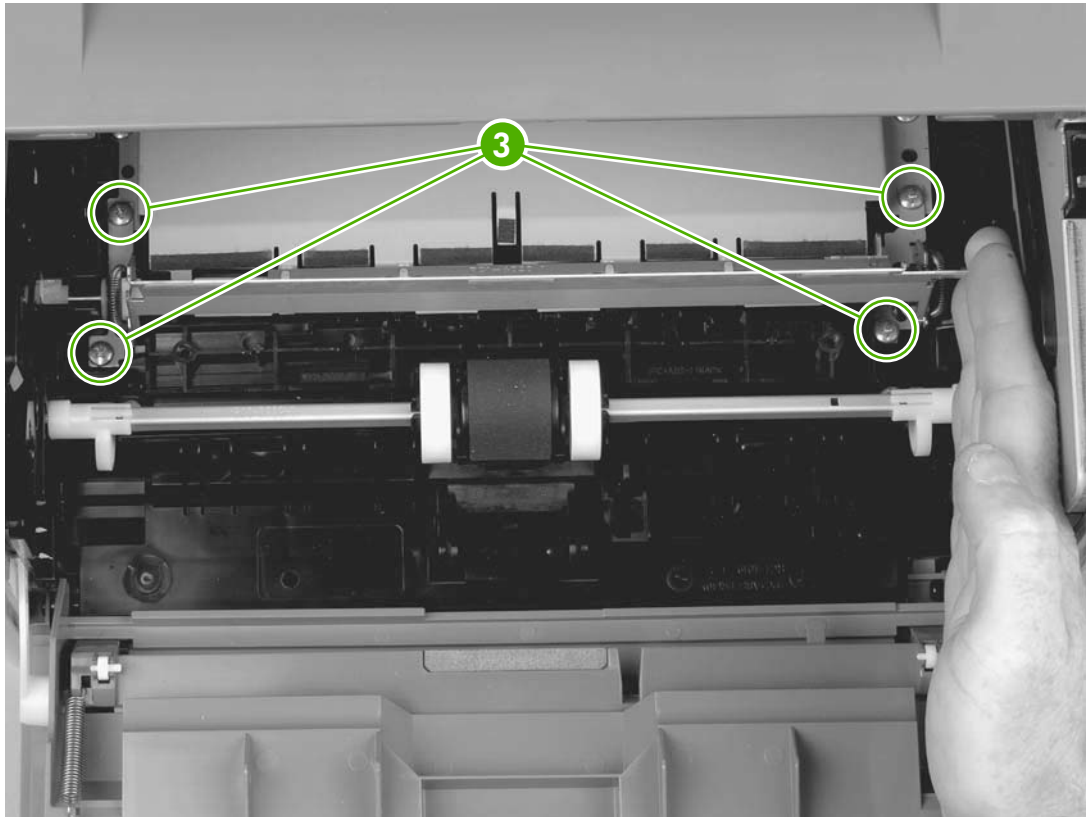


Figure 5-56 Removing the registration assembly (3 of 3)

5. Lift the registration assembly out of the device, gear-end first.

Tray 1 pickup roller

1. Spread the pickup-roller locks (callout 1) on each side of the tray 1 pickup roller to release the roller.

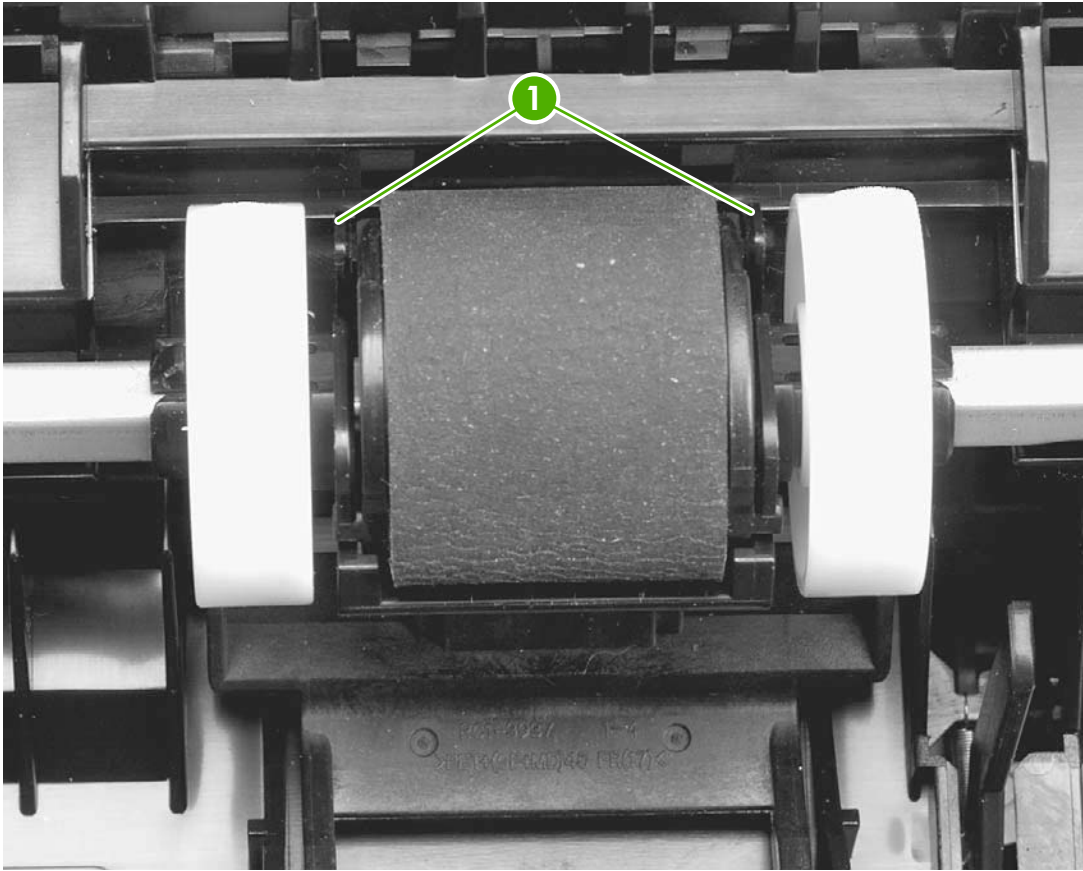


Figure 5-57 Removing the tray 1 pickup roller

2. Rotate the top of the roller off of the shaft, and then lift the roller out of the device.

Tray 2 pickup roller



NOTE Also follow these instructions to remove any optional-tray pickup rollers.

1. Tip the device over on its rear side, with the bottom of the device facing you.
2. Rotate the bushings (callout 1) on each side of the roller downward.

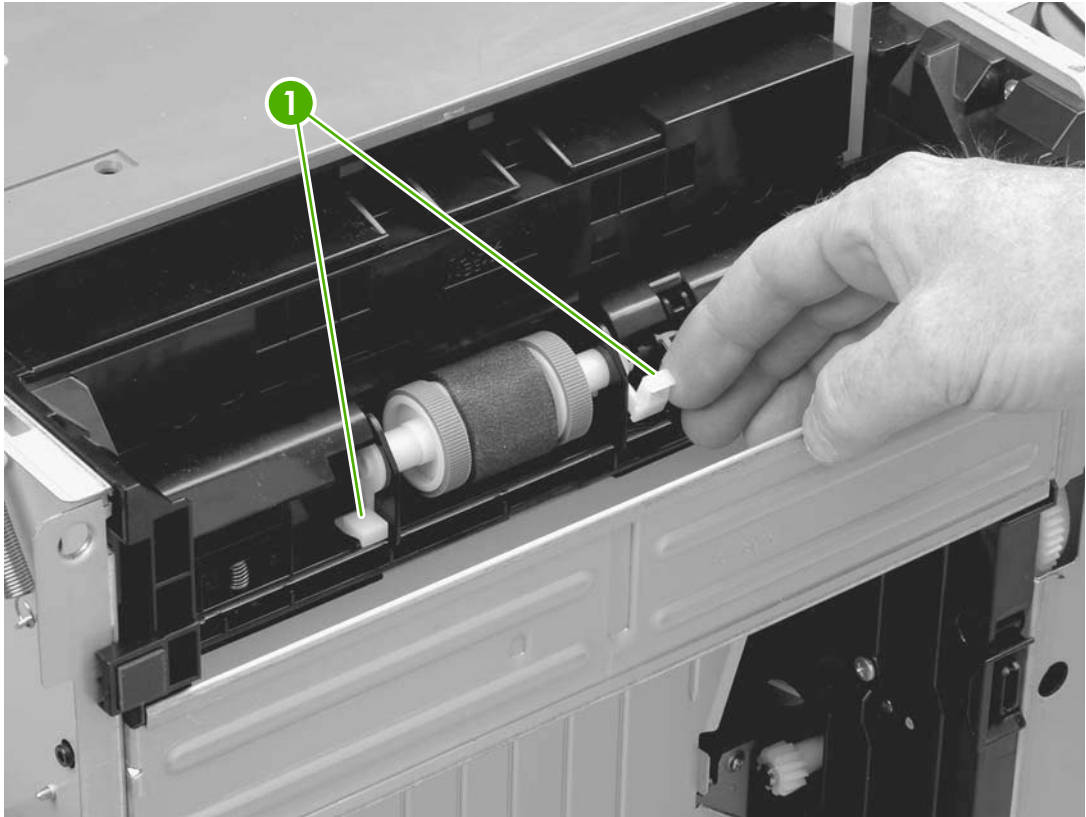


Figure 5-58 Removing the tray 2 pickup roller (1 of 2)

3. Remove the left-side bushing by sliding the bushing to the left.
4. Slide the roller and shaft toward the left until they clear the hole in the right-side bushing, and then lift the right end of the shaft.

5. Slide the roller and shaft toward the right, and then lift the roller and shaft together out of the device.

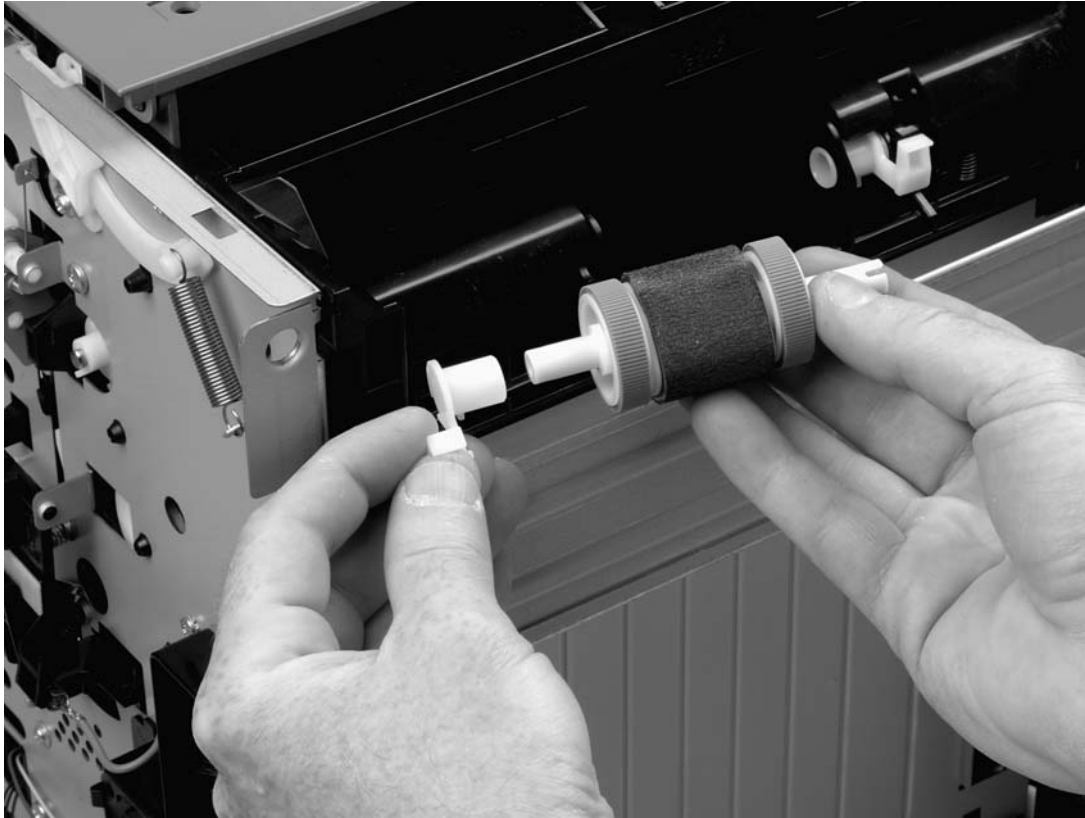


Figure 5-59 Removing the tray 2 pickup roller (2 of 2)

Separation pad



NOTE To replace a separation pad, replace the entire separation-pad assembly.

NOTE Also follow these instructions to remove any optional-tray separation pads.

1. Pull the tray out of the device.
2. Remove two screws (callout 1) from the separation-pad assembly.

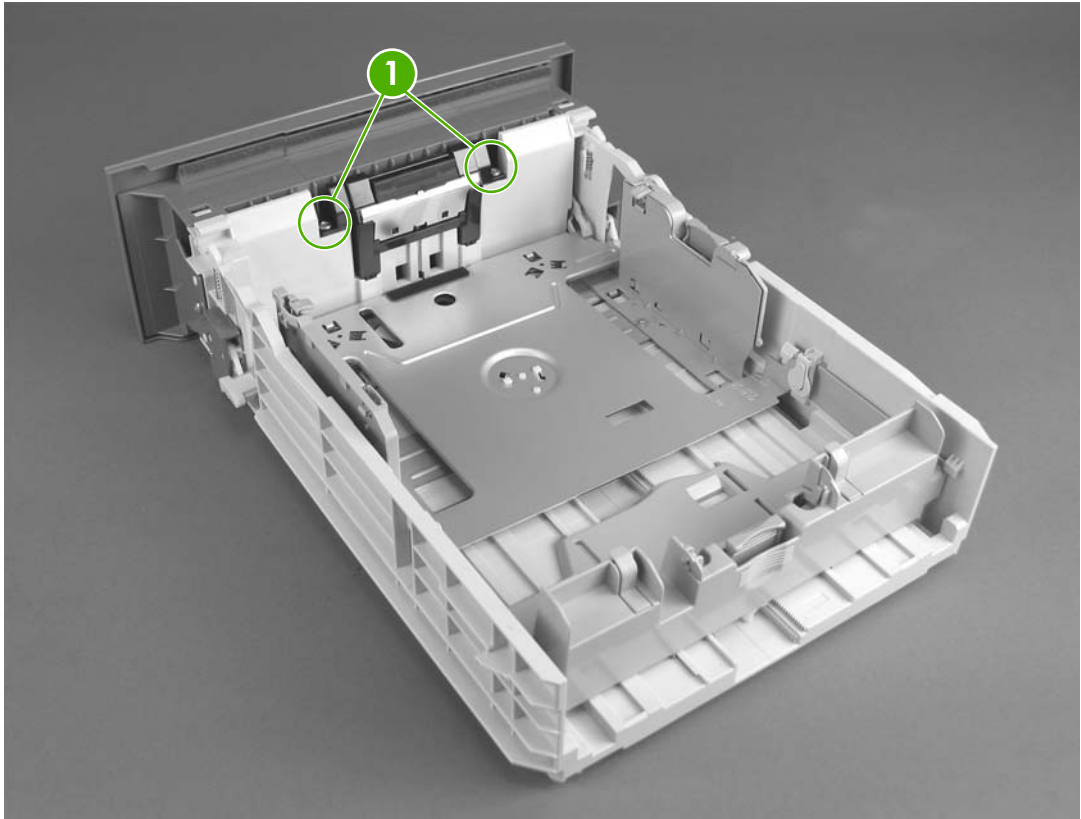


Figure 5-60 Removing the separation pad

3. Lift the assembly out of the tray.

6 Troubleshooting

Chapter contents

- [Troubleshooting process](#)
- [Control-panel messages](#)
- [Clear jams](#)
- [Interface troubleshooting](#)
- [Service mode functions](#)
- [Troubleshooting tools](#)
- [Upgrade the firmware](#)
- [Troubleshoot general printing problems](#)
- [Troubleshoot media handling problems](#)
- [Troubleshoot print-quality problems](#)
- [Diagrams](#)

Troubleshooting process

Basic troubleshooting

1	Is the device on and does a readable message appear?	Follow the power-on troubleshooting checks following this table.
Power on	Yes ↓ No →	After the control-panel display is functional, go to step 2.
2	Does Ready appear on the control-panel display?	If an error message appears, see Control-panel messages on page 131 .
Control-panel messages	Yes ↓ No →	After the errors have been corrected, go to step 3.
3	Open the INFORMATION menu and print the configuration pages. Are all of the accessories are installed?	If accessories that are installed are not listed on the configuration pages, remove the accessory and reinstall it.
Information pages	Yes ↓ No →	After evaluating the configuration pages, go to step 4.
4	Does the print quality meet customer requirements?	Compare images with the sample defects in Troubleshoot print-quality problems on page 177 .
Image quality	Yes ↓ No →	When the print quality is acceptable, go to step 5.
5	Can the customer print successfully from the host computer?	Verify that all I/O cables are connected correctly and that a valid IP address is listed on the Jetdirect configuration page.
Interface	Yes. This is the end of the basic troubleshooting process. No →	If error messages appear on the control-panel display, see Control-panel messages on page 131 .
		When the customer can print from the host computer, this is the end of the basic troubleshooting process.

Power-on checks

Turn on the power. If the control-panel display remains blank or if it displays random patterns or asterisks, perform the power-on checks to locate the cause of the problem.

1. Verify that the device is plugged into an active electrical outlet that delivers the correct voltage.
2. Verify that the power switch is in the ON position.
3. Make sure that the main fan runs briefly.
 - If the control-panel display is blank, but the main fan runs briefly after the power is turned on, print an engine test page (see [Engine-test page on page 165](#)) to determine whether the problem is with the control-panel display, the formatter, or other components.
 - If the main fan does not run, check the ECU connections. If necessary, replace the ECU. See [Engine control unit \(ECU\) on page 88](#).
4. Remove any HP Jetdirect or other EIO cards, and then turn off and turn on the device.

Control-panel messages

Control-panel message types

Four types of control-panel messages can indicate the status of or problems with the device.

Message type	Description
Status messages	Status messages reflect the current state of the device. They inform you of normal device operation and require no interaction to clear them. They change as the state of the device changes. Whenever the device is ready, not busy, and has no pending warning messages, the status message Ready appears if the device is online.
Warning messages	Warning messages inform you of data and print errors. These messages typically alternate with the Ready or status messages and remain until you touch OK . Some warning messages are clearable. If CLEARABLE WARNINGS is set to JOB on the device DEVICE BEHAVIOR menu, the next print job clears these messages.
Error messages	Error messages communicate that some action must be performed, such as adding paper or clearing a jam. Some error messages are auto-continuable. If AUTO CONTINUE is set on the menus, the device will continue normal operation after an auto-continuable error message appears for 10 seconds.  NOTE Pressing any button during the 10-second auto-continuable error message overrides the auto-continue feature, and the button function takes precedence. For example, pressing the Stop button pauses printing and offers the option to cancel the print job.
Critical-error messages	Critical error messages inform you of a device failure. Some of these messages can be cleared by turning the device off and then on. These messages are not affected by the AUTO CONTINUE setting. If a critical error persists, service is required.

Resolve control-panel messages

Control panel message	Description	Recommended action
10.10.00 ERROR	The device cannot read or write to the print cartridge e-label, or the e-label is missing from the print cartridge.	1. Verify that a genuine HP print cartridge is installed in the device. 2. Install another print cartridge. 3. Verify that the memory tag PCA is installed in the device. 4. Verify that the memory tag connector is firmly seated in connector J510 on the ECU. You might have to remove the main cooling fan to see this connection.
10.32.00 - Unauthorized Supply	A supply has been installed that does not pass the authentication test for genuine HP supplies.	If you believe you purchased a genuine HP supply, visit us at www.hp.com/go/anticounterfeit. Any repair required as a result of using non-HP supplies or unauthorized supplies are not covered under warranty. HP cannot ensure the accuracy or the availability of certain features. To continue printing, touch OK.

Control panel message	Description	Recommended action
10.XX.YY SUPPLY MEMORY ERROR For help press ?	The device cannot read or write to the print-cartridge memory tag, or the memory tag is missing.	1. Open the cartridge door. 2. Remove the print cartridge, and then reinstall it. 3. Close the cartridge door. 4. Turn the device off and then on. 5. Verify that a genuine HP print cartridge is installed in the device. 6. Install another print cartridge. 7. Verify that the memory tag PCA is installed in the device. 8. Verify that the memory tag connector is firmly seated in connector J510 on the ECU. You might have to remove the main cooling fan to see this connection. 9. If the error persists, contact HP Support.
11.XX INTERNAL CLOCK ERROR alternates with To continue press ✓	The device internal clock is not working correctly. Printing can continue, but you are prompted to set the date and time each time you turn the device on.	Contact HP Support.
13.00.02 JAM IN TRAY 1	Paper is fed from tray 2 to the device by the tray 2 pick-up roller. When energized, solenoid SL2 releases a clutch, and then the pick-up roller rotates to pick up the paper and advance it into the paper path.	1. Verify that the type and quality of the media that you are using meet HP specifications. (See Media specifications on page 13.) 2. Verify that the media is loaded correctly and that the guides are not too tight or too loose against the stack of media. 3. Verify that the tray 2 pickup roller and separation pad are installed correctly. 4. Verify that solenoid SL2 is being energized. If you cannot hear it during a print job, remove tray 2, override the paper presence sensor flag, start a print job, and then see if the pick-up roller is rotating. 5. Verify that solenoid SL2 is firmly seated in connector J504 on the ECU.
13.01.00 JAM IN TRAY 1 alternates with Clear jam then press ✓	The paper did not reach the top of page sensor within the specified period of time. The tray 1 feed roller moves paper into the paper path. When solenoid SL1 is energized, a clutch mechanism allows the paper stack in tray 1 to lift, and then allows the feed roller to rotate one time to move the paper into the paper path.	1. Verify that the type and quality of the media that you are using meet HP specifications. (See Media specifications on page 13.) 2. Verify that the media is loaded correctly and that the guides are not too tight or too loose against the stack of media. 3. Verify that the tray 1 pickup roller and separation pad are installed correctly.

Control panel message	Description	Recommended action
		- Verify that solenoid SL1 is firmly seated in ECU connector J508. Verify that SL1 is being energized by removing the cover and observing the solenoid during a feed operation. - Open and close the cartridge door to clear the error message.
13.05.00 JAM INSIDE TOP COVER	Paper failed to reach the delivery sensor within a specified period of time when a print job was initiated. When troubleshooting paper jams, always observe where the leading edge of the paper stops in the jam.	- Verify that nothing is obstructing paper movement within the paper path. - Verify that the fuser motor (M2) connector is firmly seated. The fuser motor wiring is hard-wired to the back of the ECU at connector J501. The motor connector is free-standing behind the ECU. To see if the fuser motor is functional, observe the output stacker rollers while turning on the device. If the rollers rotate, the motor is functional. If they do not rotate, verify the connection.
13.31.00 JAM INSIDE FRONT DOOR alternates with Remove print cartridge	A jam has occurred inside the front door.	- Verify that nothing is obstructing paper movement within the paper path. - Verify that the face-up tray sensor (PS1) is functioning properly. - Verify that connection J505 is firmly seated on the ECU. - Open and close the cartridge door to clear the error message
13.65.00 JAM INSIDE REAR DOOR alternates with For help press ?	A jam has occurred in the rear door area.	- Verify that nothing is obstructing paper movement within the paper path. - Verify that the sensor connections on the rear of the fuser assembly are seated correctly. - Verify that connection J405 is firmly seated on the ECU. - Open and close the cartridge door to clear the error message
13.67.00 JAM INSIDE REAR DOOR alternates with For help press ?	A jam has occurred in the rear door area.	- Verify that nothing is obstructing paper movement within the paper path. - Verify that high-voltage power supply flat ribbon cable connection J404 is firmly seated on the ECU. - Open and close the cartridge door to clear the error message
13.XX.YY FUSER JAM INSIDE TOP COVER alternates with For help press ?	A jam has occurred in the fuser area.	- Press ▼ to see step-by-step information. - Open the cartridge door, and then remove the print cartridge.

Control panel message	Description	Recommended action
		- Remove all media found. - Lift the metal flap, and then remove any media remaining. - Reinstall the print cartridge, and then close the cartridge door. - To exit, press ?
13.XX.YY JAM IN TRAY 2	A page is jammed in tray 2.	- Verify that the type and quality of the media that you are using meet HP specifications. (See Media specifications on page 13.) - Verify that the media is loaded correctly and that the guides are not too tight or too loose against the stack of media. - Remove tray 2, clear the jam, and then reinstall tray 2. - Verify that the tray 2 pickup roller and separation pad are installed correctly. - Verify that solenoid SL2 is firmly seated on ECU connector J504. Verify that SL2 is being energized by removing the cover and observing the solenoid during a feed operation. - Open and close the cartridge door to clear the error message.
13.XX.YY JAM IN TRAY X alternates with Clear jam then press ✓	A page is jammed in the tray indicated.	- Verify that the type and quality of the media that you are using meet HP specifications. (See Media specifications on page 13.) - Verify that the media is loaded correctly and that the guides are not too tight or too loose against the stack of media. - Verify that the tray pickup roller and separation pad are installed correctly. - Open and close the cartridge door to clear the error message.  NOTE To avoid jams with heavier media, use tray 1 and the rear output bin.
13.XX.YY JAM INSIDE DUPLEXER alternates with For help press ?	A jam has occurred inside the duplexer.	- Press ▼ to see step-by-step information. - Remove the duplexer from the rear of the device. - Look inside the device duplex area and remove any media. - Remove any media from the duplexer.

Control panel message	Description	Recommended action
		- Reinstall the duplexer. - Open and close the cartridge door to clear the error message.
13.XX.YY JAM INSIDE REAR DOOR alternates with Clear jam then press ✓	A jam has occurred in the duplex reversing area.	- Press ▼ to see step-by-step information. - Open the rear door, and then remove all media found. - Close the rear door. - Open and close the cartridge door to clear the error message.
13.XX.YY JAM INSIDE TOP COVER alternates with Remove print cartridge	A jam has occurred in the registration assembly area.	- Press the ▼ to see step-by-step information. - Open the cartridge door, and then remove the print cartridge. - Remove all media found. - Lift the metal flap, and then remove any media remaining. - Reinstall the print cartridge, and then close the cartridge door. - If the message persists, verify that the flat ribbon cable at the bottom of the ECU is connected correctly. - To exit, press ?
20-INSUFFICIENT MEMORY alternates with To continue press ✓	The device has received more data from the computer than fits in available memory.	- Press ✓ to continue printing.  NOTE Data will be lost. - Reduce the complexity of the print job to avoid this error. - Adding memory to the device may allow printing of more complex pages.
21 PAGE TOO COMPLEX alternates with To continue press ✓	The page-compression process is too slow for the device. Some data may be lost on the page.	- Press ▼ to see step-by-step information. - To print the job with some data loss, press ? to exit the message, and then press ✓. If data is lost, simplify the page content to reduce its complexity. - To exit, press ?.

Control panel message	Description	Recommended action
22-EIO X BUFFER OVERFLOW alternates with To continue press ✓	For devices with an EIO device only. The device EIO card in slot X has overflowed its I/O buffer during a busy state.	1. Press ✓ to continue printing.  NOTE Data will be lost. 2. If the message persists, contact HP Support.
22-EMBEDDED I/O BUFFER OVERFLOW	The embedded HP Jetdirect print server buffer has overflowed during a busy state.	1. Press ✓ to continue printing.  NOTE Data will be lost. 2. If the message persists, contact HP Support.
22-PARALLEL I/O BUFFER OVERFLOW alternates with To continue press ✓	The device parallel buffer has overflowed during a busy state.	1. Press ✓ to continue printing.  NOTE Data will be lost. 2. If the message persists after exiting Help, contact HP Support.
22-SERIAL I/O BUFFER OVERFLOW alternates with To continue press ✓	The device serial buffer has overflowed during a busy state.	1. Press ✓ to continue printing.  NOTE Data will be lost. 2. If the message persists, contact HP Support.
22-USB I/O BUFFER OVERFLOW alternates with To continue press ✓	The device's USB buffer has overflowed during a busy state.	1. Press ✓ to continue printing.  NOTE Data will be lost. 2. If the message persists, contact HP Support.
40 BAD SERIAL TRANSMISSION alternates with To continue press ✓	A serial data error (parity, framing, or line overrun) has occurred while the device was receiving data.	1. Press ✓ to continue printing.  NOTE Data will be lost. 2. If the message persists, contact HP Support.
40 EIO X BAD TRANSMISSION alternates with To continue press ✓	A connection with the card in the EIO slot has broken.	1. Press ✓ to continue printing.  NOTE Data will be lost. 2. If the message persists, contact HP Support.

Control panel message	Description	Recommended action
40 EMBEDDED I/O BAD TRANSMISSION alternates with To continue press ✓	The connection with the HP Jetdirect embedded print server has broken.	- Press ✓ to continue printing.  NOTE Data will be lost. - If the message persists, contact HP Support.
41.3 UNEXPECTED SIZE IN TRAY alternates with LOAD TRAY X	Media is loaded that is longer or shorter in the feed direction than the size configured for the tray.	- Press ✓ to print from a different tray. - To print from the current tray, load the tray with the size and type indicated. Ensure that all trays are configured correctly before printing again. See Load input trays on page 19 for more information.
41.5 UNEXPECTED TYPE IN TRAY X alternates with LOAD TRAY X	The device senses a different media type than what is configured in the tray.	- Press ✓ to print from a different tray. - To print from the current tray, load the tray with the size and type indicated. Ensure that all trays are configured correctly before printing again. See Load input trays on page 19 for more information.
41.X ERROR alternates with To continue press ✓	A device error has occurred.	- Press ✓ to continue or press ? for more information. - If the message persists after exiting help, turn the device off and then on. - If the message persists, contact HP Support.
49.XXXXX ERROR alternates with Power off then on	A critical firmware error has occurred.	- Turn the device off and then on. - Try to determine whether the error occurs intermittently, while printing, or when turning on the device. - If the error appears while printing, determine whether it occurs when printing from a specific computer, a specific application, or a specific file. If all other computers, applications, or files can print without the error, then the problem may be only within one print job or computer. Make sure the computer has the most current printer drivers, or use a generic printer driver. - Go to www.hp.com/support/LJP3005. Click Download Drivers and Software. Check for the latest firmware image version at the bottom of the page. If this firmware image is newer than the one installed on the device and the device can receive a firmware update, download the newer firmware upgrade. - Try printing a job from a different software program. If the job prints, go

Control panel message	Description	Recommended action
		back to the first program and try printing a different file. If the message appears only with a certain software program or print job, contact the software vendor for assistance.
		6. If the message persists, contact HP Support.
50.1 FUSER ERROR	AC power is not being provided to the fuser assembly. AC voltage is necessary to generate heat in the fuser assembly.	1. Verify that the fuser power cable at the back of the device is connected and the ECU is fully seated. 2. If the message persists, replace the fuser assembly.
50.6 FUSER ERROR	The main or sub thermistors are unable to provide temperature feedback to the ECU. The main and sub thermistors monitor the fuser assembly hot-roller temperature and provide feedback to regulate the fusing temperature.	1. Verify that the seven-wire connector is firmly seated in connector J405 on the ECU. You might have to remove the main cooling fan to see this connection. 2. Verify that the four-wire connector at the rear of the device is firmly seated in the fuser assembly. 3. Verify that the AC voltage is being provided to the fuser assembly. 4. If the message persists, replace the fuser assembly.
51.XY ERROR alternates with To continue turn off then on	A device error has occurred.	1. Press ✓ to continue or press ? for more information. 2. If the message persists after exiting help, turn the device off and then on. 3. If the message persists, contact HP Support.
52.00 ERROR	A scanner motor error has occurred. Scanner motor rotation is verified at the initialization of a print job.	1. Verify that the scanner motor connector and the ribbon cable from the ECU are firmly seated on the laser/scanner assembly. 2. Verify that the scanner motor connector is firmly seated in connector J402 on the ECU. You might have to remove the main cooling fan to see this connection. 3. Verify that the ribbon cable installed in connector J403 on the ECU is fully seated. (See Figure 6-9 ECU wiring on page 195 .) You must remove the ECU in order to verify this connection. 4. If the message persists, replace the laser/scanner assembly.
53.10.01 ERROR UNSUPPORTED RAM	The memory DIMM is not a supported DIMM.	Install a supported DIMM. See Install memory on page 26 .

Control panel message	Description	Recommended action
54.XX ERROR	A device command error has occurred.	1. Turn the device off and then on. 2. If the message persists, contact HP support.
55.XX.YY DC CONTROLLER ERROR alternates with To continue turn off then on	The engine is not communicating with the formatter.	1. Turn the device off and then on. 2. Verify that the flat ribbon cable between the ECU and the formatter PCA is connected correctly. 3. If the message persists, replace the ECU. If the message still persists, replace the formatter.
57.03 ERROR alternates with To continue turn off then on	A sub cooling fan (FM2) error has occurred. Fan operation is verified during device power-up. Fan operation occurs only during power-up or during a print job.	1. Turn the device off and then on. 2. Verify that nothing is hindering or blocking the fan. 3. Verify that the fan is connected to connector J512 on the ECU PCA. (See Figure 6-9 ECU wiring on page 195.) You might have to remove the main cooling fan to see this connection. 4. If the message persists, replace the fan.
57.04 ERROR alternates with To continue turn off then on	A main cooling fan (FM1) error has occurred. Fan operation is verified during device power-up. Fan operation occurs only during power-up or during a print job.	1. Turn the device off and then on. 2. Verify that nothing is hindering or blocking the fan. 3. Verify that the fan is connected to connector J509 on the ECU PCA. (See Figure 6-9 ECU wiring on page 195.) 4. If the message persists, replace the fan.
59.50 ERROR alternates with To continue turn off then on	A main motor (M1) error has occurred. Motor operation is verified during device power-up.	1. Turn the device off and then on. 2. Verify that nothing is hindering the main motor. If necessary, remove all paper trays and the print cartridge, and then turn on the device and listen for motor operation. 3. Verify that the main motor is connected to connector J407 on the ECU. (See Figure 6-9 ECU wiring on page 195.) You might have to remove the main cooling fan to see this connection. 4. If the message persists, replace the motor.
62 NO SYSTEM	No system was found.	1. Turn the device off and then on. 2. If the message persists, replace the formatter.

Control panel message	Description	Recommended action
64 ERROR For help press ? alternates with To continue turn off then on	A scan buffer error has occurred. X Description 0 Onboard NVRAM 1 Removable disk (flash or hard)	1. Turn the device off and then on. 2. If the message persists, replace the formatter.
68.X PERMANENT STORAGE FULL alternates with To continue press ✓	A non-volatile storage device is full. Press ✓ to clear the message. Printing can continue, but unexpected behavior could result. X Description 0 Onboard NVRAM 1 Removable disk (flash or hard)	1. Press ✓ to continue. 2. Turn the device off and then on. 3. Perform an NVRAM initialization. (See NVRAM initialization on page 160.) 4. If the message persists, replace the formatter.
68.X PERMANENT STORAGE WRITE FAIL alternates with To continue press ✓	A non-volatile storage device is full. Press ✓ to clear the message. Printing can continue, but unexpected behavior could result. X Description 0 Onboard NVRAM 1 Removable disk	1. Press ✓ to continue. 2. Turn the device off and then on. 3. Perform an NVRAM initialization. (See NVRAM initialization on page 160.) 4. If the message persists, replace the formatter.
68.X STORAGE ERROR SETTINGS CHANGED alternates with To continue press ✓	A non-volatile storage device is full. Press ✓ to clear the message. Printing can continue, but unexpected behavior could result. X Description 0 Onboard NVRAM	1. Press ✓ to continue. 2. Turn the device off and then on. 3. Perform an NVRAM initialization. (See NVRAM initialization on page 160.) 4. If the message persists, replace the formatter.
79.XXXX alternates with To continue turn off then on	A critical hardware error has occurred.	1. Turn the device off and then on. 2. If the message persists, contact HP support.
8X.YYYY EIO ERROR	The EIO accessory card has encountered a critical error.	1. Turn the device off and then on. 2. Upgrade the Jetdirect firmware. See Upgrade the HP Jetdirect firmware on page 171. 3. Try to determine whether the error occurs intermittently, while printing, or when turning on the device. 4. If the error appears while printing, determine whether it occurs when printing from a specific computer, a specific application, or a specific file. If all other computers, applications, or files can print without the error, then the problem may be only within one print job or computer. Make sure the computer

Control panel message	Description	Recommended action
		has the most current printer drivers, or use a generic printer driver. - If the error occurs when the device is first turned on, turn off the device, disconnect the LAN cable, and then turn on the device. This process will determine if errors occur from the network connection. If errors do not appear when the LAN cable is unplugged, it is possible traffic or signal on the network might be causing the error. Make sure to try all solutions suggested, especially upgrading the Jetdirect firmware. - Disable the print server. - For EIO print servers, remove the card. - For embedded print servers, use the SERVICE menu. - If the problem persists, contact HP Support.
8X.YYYY EMBEDDED JETDIRECT ERROR	The HP Jetdirect embedded print server has encountered a critical error.	- Turn the device off and then on. - Update the Jetdirect firmware. See Upgrade the HP Jetdirect firmware on page 171. - If the problem persists, contact HP Support.
<Date> <Time> To change press ✓ To skip, press STOP	The device has an internal clock that tracks the date and time. You are prompted to set the correct date and time the first time you turn on the device.	Press ✓ to change the date and time. Press Stop to skip this step. You can set the date and time later by using the SYSTEM SETUP menu. If the prompt appears each time you turn on the device, the clock is not working correctly. Contact HP support.
Access Denied MENUS LOCKED	The device administrator has enabled the control-panel security mechanism. You cannot modify control-panel settings in this circumstance. The message disappears after a few seconds, and the device returns to Ready or BUSY state.	Contact the device administrator to change settings.
ACTION NOT CURRENTLY AVAILABLE ON TRAY X alternates with Tray size cannot be ANY SIZE/ANY CUSTOM	You are trying to set duplex registration for a tray that is configured for ANY SIZE or ANY CUSTOM . Duplex registration is not available when the tray size is set to either of these settings.	Change the size setting for the tray.
CHOSEN PERSONALITY NOT AVAILABLE	The device encountered a request for a personality that did not exist in the device.	- Press ✓ to continue. - Try a different driver.

Control panel message	Description	Recommended action
alternates with To continue press ✓	The job is cancelled and no pages are printed.	
Cleaning...	The device is processing the cleaning page.	No action necessary.
CLOSE TOP COVER	Door switch SW501 is signalling that the cartridge door is open. If the cartridge door is open, the main motor will not rotate during device power-up.	The wires for switch SW501 are hard-wired to the ECU. Verify that the wires from the ECU are installed on the correct terminals of switch SW501.
CLOSE TOP COVER AND FRONT DOOR	Door switch SW501 is signalling that the cartridge door is open. If the cartridge door is open, the main motor will not rotate during device power-up.	The wires for switch SW501 are hard-wired to the ECU. Verify that the wires from the ECU are installed on the correct terminals of switch SW501.
CODE CRC ERROR	An error has occurred during a firmware upgrade.	1. Reinstall the firmware. 2. If the problem persists, contact HP Support.
Creating...CLEANING PAGE	The device is generating a cleaning page. The device returns to the Ready state after the cleaning page is printed.	1. Load the cleaning page into tray 1. 2. Press Menu. 3. Select PRINT QUALITY, and then press ✓ 4. Select PROCESS CLEANING PAGE, and then press ✓
DATA RECEIVED alternates with Ready	The device received data and is waiting for a form feed. When the device receives another file, the message disappears. The device is paused.	If the device is waiting for a form feed, press ✓ to continue. If the device is paused, press Stop to continue.
GENUINE HP SUPPLIES DESIGNED FOR <PROD> alternates with Ready	This genuine HP supply was not designed for this device and is not supported. The device can print with this supply, but print quality might be affected.	Replace this supply with a genuine HP supply that is designed for this device.
Incorrect	The PIN number is incorrect.	Contact the network administrator.
INFLATE FAILURE	An error has occurred during a firmware upgrade.	1. Reinstall the firmware. 2. If the problem persists, contact HP Support.
INSERT OR CLOSE TRAY XX	A tray is open and the device is trying to print from another tray.	Close the tray indicated so that printing can continue.
INSTALL BLACK CARTRIDGE	The device detects the print cartridge by detecting a voltage differential within the cartridge. The photo-conductive drum connected to the high-voltage power supply provides the reference with which to measure the differential.	1. Verify that a print cartridge is installed in the device. 2. Verify that the drum ground connector on the high-voltage power supply is correctly seated on the mechanical connector. 3. Verify that the cartridge mechanism functions correctly. When the cartridge is removed from the device, the

Control panel message	Description	Recommended action
		mechanism swings outward, away from the chassis. When the cartridge is inserted into the device, the mechanism closes toward the chassis.
Install supply alternates with For status press ✓	The print cartridge is missing.	Install the missing cartridge. For more information, see Change the print cartridge on page 23 .
INSUFFICIENT MEMORY TO LOAD FONTS/DATA	This message alternates with the name of the storage device. The storage device does not have enough memory to load the fonts or other data.	Press ✓ to continue printing without using the data. To solve the problem, increase the amount of memory for the device. Press ? for more information.
LOAD TRAY X <TYPE> <SIZE> alternates with For help press ?	Tray X is either empty or configured for a type and size other than that specified in the job. No other tray is available.	Press ? for help. or See Load input trays on page 19 for more information.
LOAD TRAY X <TYPE> <SIZE> alternates with To use another tray press ✓	Tray X is either empty or configured for a type and size other than that specified in the job.	Press ? for help. or Press ✓ to print from another tray. See Load input trays on page 19 for more information.
LOAD TRAY 1 PLAIN PAPER	Sensor PS902 in tray 1 cannot detect paper in the tray.	1. Verify that paper is loaded in tray 1. 2. Verify that the sensor flag in tray 1 is fully functional. It should be unhindered and move freely when paper is loaded. 3. Verify that the sensor connector is firmly seated in connector J503 on the ECU.
MANUALLY FEED <TYPE> <SIZE> alternates with For help press ?	Tray 1 is empty and no other tray is available.	Load media into tray 1, and press ✓ to continue. or Press ? for help. or See Load input trays on page 19 for more information.
MANUALLY FEED <TYPE> <SIZE> alternates with To continue press ✓	Media is in tray 1, but the print job requires a specific type and size that is not currently available.	Press ✓ to print from the tray. or Press ? for help. or See Load input trays on page 19 for more information.

Control panel message	Description	Recommended action
MANUALLY FEED <TYPE> <SIZE> alternates with To use another tray press ✓	No media is in tray 1, and a print job requires a specific type and size that is available in another tray.	Press ✓ to print from another tray. See Load input trays on page 19 for more information. or Press ? for help.
MANUALLY FEED OUTPUT STACK alternates with Then press ✓ to print second sides	The first side of a manual two-sided print job has been printed and the device is paused until for the output stack is reinserted.	Take the printed stack out of the output bin and reinsert it in tray 1 to print the second side of the two-sided print job. Press ✓ to continue.
MEM TEST FAILURE REPLACE DIMM 1	The memory DIMM has failed.	Install a supported memory DIMM. See Install memory on page 26 .
NON HP SUPPLY IN USE alternates with Ready	The device has detected that a non-HP supply is currently installed but ✓ was pressed to override the message.	If you believe you purchased an HP supply, go to www.hp.com/go/anticounterfeit . Service or repairs that are required as a result of using non-HP supplies are not covered under HP warranty.
NON HP SUPPLY INSTALLED alternates with For help press ?	A new, non-HP supply has been installed. This message appears until an HP supply is installed or you press ✓.	If you believe you purchased an HP supply, go to www.hp.com/go/anticounterfeit . Service or repairs that are required as a result of using non-HP supplies are not covered under HP warranty. To continue printing, press ✓.
PAPER PATH JAM FRONT DOOR alternates with For help press ?	A page is jammed in the paper path.	Open the front door and remove any jammed media.
Paused alternates with To return to Ready press the STOP key	The device has paused.	Press Stop to resume printing.
Performing upgrade	A firmware upgrade is in process.	No action necessary. Do not turn off the device.
PRINTING STOPPED To continue press ✓	This message appears when a Print/Stop test runs and the time expires.	Press ✓ to continue printing.
PROCESSING DUPLEX JOB alternates with Do not grab paper until job completes	During duplex printing, the paper emerges for a short time before it is pulled back into the device.	Do not pick up pages until they come to rest in the output bin.
RAM DISK DEVICE FAILURE alternates with Ready To clear press ✓	The RAM disk has failed.	Printing can continue for jobs that do not require the RAM disk. To remove this message from the display, press ✓.

Control panel message	Description	Recommended action
RAM DISK FILE OPERATION FAILED alternates with Ready To clear press ✓	The device received a PJL file system command that attempted to perform an illogical operation (for example, to download a file to a non-existent directory).	Printing can continue. To remove this message from the display, press ✓. If the message reappears, there might be a problem with the software program.
RAM DISK FILE SYSTEM IS FULL alternates with Ready To clear press ✓	The device received a PJL file system command to store something on the file system, but the file system is full.	1. Use HP Web Jetadmin software to delete files from the RAM disk memory and try again. 2. To remove this message from the display, press ✓.
RAM DISK IS WRITE PROTECTED alternates with Ready To clear press ✓	The file system is protected and no new files can be written to it.	1. To enable writing to the RAM disk memory, use HP Web Jetadmin to turn off write protection. 2. To remove this message from the display, press ✓.
Receiving upgrade	A firmware upgrade is in progress.	Do not turn the device off until the device returns to Ready .
Replace supply alternates with For status press ✓	The print cartridge is out and needs to be replaced.	Install a new cartridge. For more information, see Change the print cartridge on page 23 .
Resend upgrade	The firmware upgrade was not successful.	Attempt the upgrade again.
RFU LOAD ERROR	An error has occurred during a firmware upgrade.	1. Reinstall the firmware. 2. If the problem persists, contact HP Support.
SIZE MISMATCH IN TRAY XX alternates with Ready	The tray is loaded with a media size that is different than the size for which the tray is configured. Printing can continue from other trays, but not from this one.	1. Make sure the media guides are adjusted correctly. 2. In the PAPER HANDLING menu, configure the tray for the correct size.
Sleep mode on	The device is in Sleep mode. Any button press or the receipt of data clears Sleep mode.	No action necessary. The device automatically exits Sleep mode.
STANDARD TOP BIN FULL alternates with Remove all paper from bin	The output-bin-full sensor (PS4) is signalling that the bin is full.	1. Empty the output bin. Printing resumes automatically. 2. If the problem persists, verify that the connector at sensor PS4 is fully seated. The other end of the wiring is hard-wired to the ECU.
Tray X <TYPE> <SIZE> alternates with To change size or type press ✓	The device is reporting the current configuration of tray X.	No action necessary. Press ↶ to clear the message. Press ✓ to change the type or size.

Control panel message	Description	Recommended action
		See Load input trays on page 19 for more information.
TRAY XX EMPTY <TYPE> <SIZE> alternates with Ready	The tray is empty, but the current print job does not require this tray.	Fill the tray. The message indicates the type and size of media for which the tray is currently configured.
TRAY XX OPEN For help press ? alternates with Ready	The tray is open, but printing can continue.	Close the tray.
TRAY XX OPEN OR EMPTY alternates with Ready	The tray is open or empty, but the current print job does not require this tray.	Close or fill the tray.
TYPE MISMATCH IN TRAY XX alternates with Ready	The tray is loaded with a media type that is different than the type for which the tray is configured. Printing can continue from other trays, but not from this one.	In the PAPER HANDLING menu, configure the tray for the correct type.
Unauthorized supply in use alternates with Ready	The device has detected that a non-HP supply is currently installed and ✓ (override) was pressed.	If you believe you purchased an HP supply, go to www.hp.com/go/anticounterfeit. Service or repairs required as a result of using non-HP supplies are not covered under HP warranty.
USB ACCESSORY ERROR	The device has detected too much current on the USB storage accessory.	1. Turn the device off. 2. Remove the USB storage accessory. 3. Replace the USB storage accessory. 4. Turn the device on.
USB Storage <X> not functional	The USB storage device is not working.	Replace the USB storage device.
USB STORAGE DEVICE FAILURE alternates with Ready To clear press ✓	The USB storage device has failed.	Printing can continue for jobs that do not require the storage device. 1. To remove this message from the display, press ✓. 2. If the message persists, turn the device off, remove and re-install the storage device, and then turn the device on. 3. If the message persists, replace the storage device.
USB STORAGE FILE OPERATION FAILED alternates with Ready	The device received a P.J.L file system command that attempted to perform an illogical operation (for example, to download a file to a nonexistent directory).	Printing can continue. To remove this message from the display, press ✓.

Control panel message	Description	Recommended action
To clear press ✓		If the message reappears, a problem might exist in the software program.
USB STORAGE FILE SYSTEM IS FULL alternates with Ready To clear press ✓	The device received a PJL file system command that attempted to store something on the file system but was unsuccessful because the file system is full.	1. Use HP Web Jetadmin software to delete files from the storage device, and then try again. 2. To remove this message from the display, press ✓.
USB STORAGE IS WRITE PROTECTED alternates with Ready To clear press ✓	The file system is protected and no new files can be written to it.	1. To enable writing to the storage device, use HP Web Jetadmin to turn off write protection. 2. To remove this message from the display, turn the device off and then on.
USB STORAGE X REMOVED	The USB storage accessory was removed while the device was turned on.	1. Turn the device off. 2. To continue using the USB storage accessory, reinstall it. 3. Turn the device on.
USE TRAY X <TYPE> <SIZE>	The device is offering a selection of alternate media to use for the print job.	1. Use ▲ and ▼ to highlight a different size or type, and then press ✓ to select the size or type. 2. Press ↶ to return to the previous size or type. See Load input trays on page 19 for more information.

Clear jams

Occasionally, media can become jammed during a print job. The following are some of the causes:

- Trays are loaded incorrectly or overfilled.
- Tray 2 or tray 3 is removed during a print job.
- The cartridge door is opened during a print job.
- The media that is being used does not meet HP specifications.
- The media that is being used is outside of the supported size range (see [Media specifications on page 13](#)).

Avoid jams

Use this table to help avoid specific types of jams.

Table 6-1 Common causes of jams

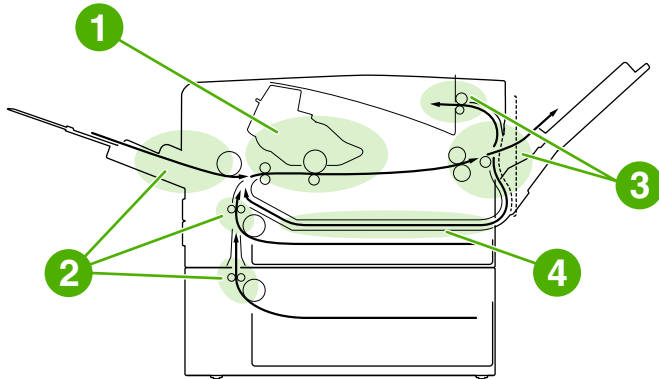
Cause	Solution
The print media does not meet HP recommended media storage and use specifications.	Use only media that meets HP specifications. See Media specifications on page 13 or the <i>HP print media guide</i> (available at www.hp.com/support/ljpaperguide) for media recommendations.
A supply item is installed incorrectly, which causes repeated jams.	Verify that the print cartridge and the fuser are correctly installed.
An input tray is loaded incorrectly.	Remove any excess media from the input tray. Make sure that the stack of media fits below the indicators inside of the tray.
The print media is skewed.	The tray guides are not adjusted correctly. Adjust the guides to hold the media firmly in place without bending it. If media heavier than 120 g/m ² (32 lb) is loaded into tray 2 or tray 3, the media might skew.
The print media is binding or sticking together.	Remove the media and flex it, rotate it 180 degrees, or flip it over. Reload the media into the tray. Do not fan media.
The page is removed before it settles into the output bin.	Wait until the page completely exits the output delivery assembly before you attempt to remove it.
When you are using the duplex print feature, the page is removed before the second side of the document is printed.	Print the document again. During the duplex operation, the page will partially protrude from the output delivery assembly (when the page is being reversed). Do not attempt to grab or remove the page. Wait until the page completely exits the output delivery assembly before you attempt to remove it.
The print media is in poor condition.	Replace the print media.
The print media is not picked up by the internal rollers from tray 2, tray 3, or tray 4.	Remove the top sheet of media. If the media is heavier than 120 g/m ² (32 lb), it might not be picked up correctly from the tray.
The print media has rough or jagged edges.	Replace the media.
The print media is perforated or embossed.	If the media does not separate easily, you might need to feed single sheets from tray 1.

Table 6-1 Common causes of jams (continued)

Cause	Solution
The device supply items have reached the end of their useful life.	Check the device control panel for messages that prompt you to replace supplies, or print a supplies status page to verify the remaining life of the supplies.
The print media was not stored correctly.	Replace the print media. The media should be stored in its original packaging and in a controlled environment.

Typical jam locations

The following illustration shows the four locations at which jams can occur.



1	Print-cartridge area (see Clear jams from the print-cartridge area on page 153)
2	Input-tray areas (see Clear jams from the input-tray areas on page 151)
3	Output-bin areas (see Clear jams from the output-bin areas on page 154)
4	Duplexer area (applies only to models that include a duplexer) (see Clear jams from the optional duplexer on page 155)



NOTE Find and remove the jammed media by using the instructions that are provided in this section. If the location of the jam is not obvious, look first in the print cartridge area. Be sure to remove all torn pieces of media that remain in the device. Loose toner might remain in the device after a jam. This should clear after a few sheets have been printed.

Jam detection

The following illustration shows the paper detection sensors in the device that determine when a jam has occurred.

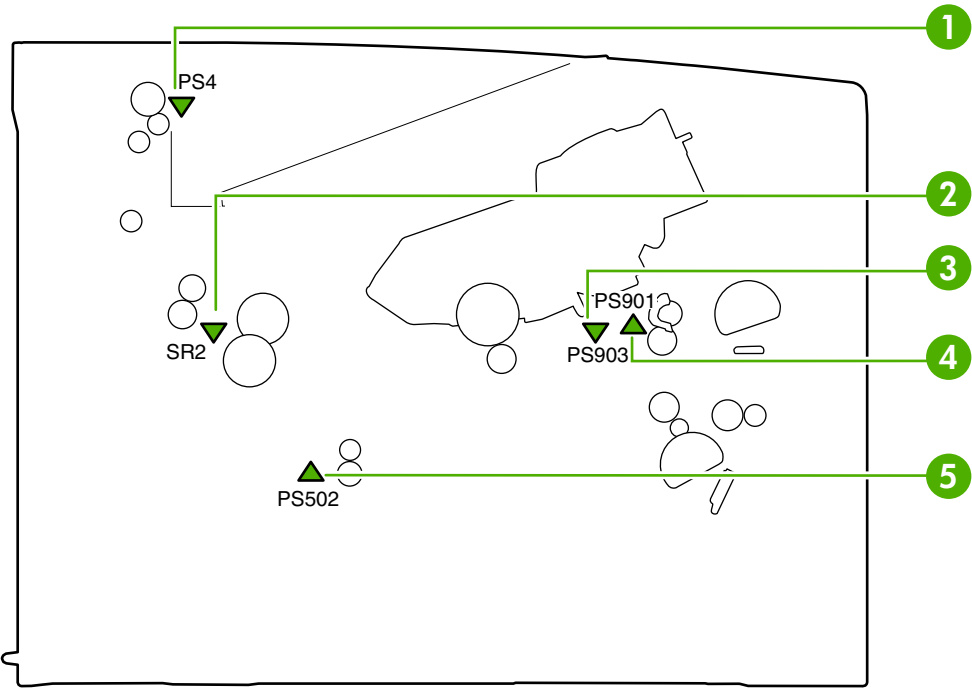


Figure 6-1 Jam-detection sensors

1	Output-bin-full sensor (PS4)
2	Delivery sensor (SR2)
3	Top-of-page sensor (PS901)
4	Paper-width sensor (PS903)
5	Duplex sensor (PS502)

The device determines if a jam has occurred by determining whether paper is present at the sensor or not at a specified time in the printing process. The printing process timing is stored in the device memory. If the device determines that a jam has occurred, it stops the printing operation and produces a control-panel error message. The table below describes the two different types of jams.

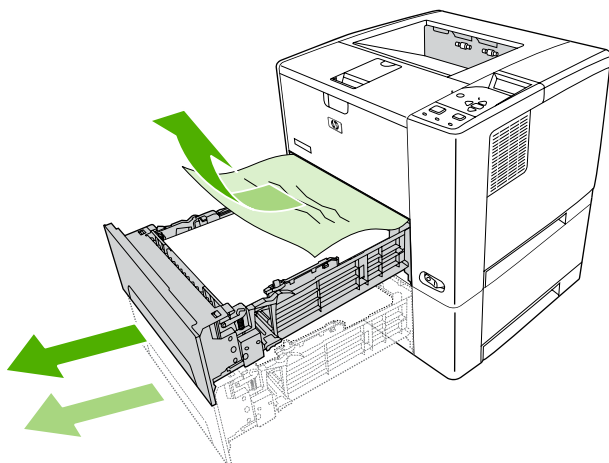
Jam type	Description
Residual jam	The device determines that a residual paper jam has occurred if any of the following sensors detects paper when starting the initialization at power-up or when a door is closed. • Top of page sensor (PS901) • Delivery sensor (SR2) • Paper width sensor (PS903) • Duplex sensor (PS502)
Delivery delay jam	The device determines that a delivery delay jam has occurred if the paper full sensor (PS4) does not detect the leading edge of paper within a specified amount of time after the top of page sensor (PS901) has detected the leading edge of paper.

Clear jams from the input-tray areas

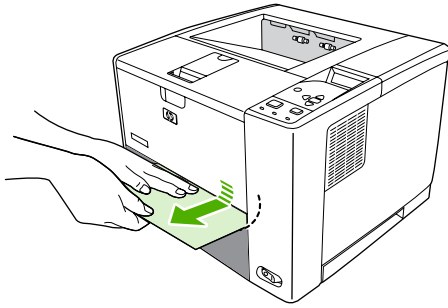


NOTE To remove media from the tray 1 area, slowly pull the media out of the device. For all other trays, complete the following procedure.

1. Slide the tray out of the device, and remove any damaged paper from the tray.

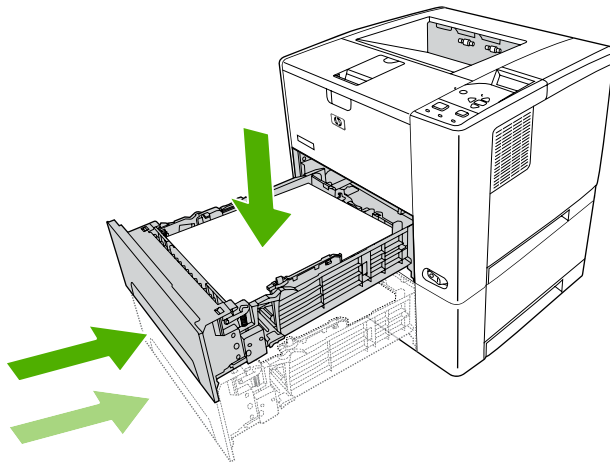


2. If the edge of the paper is visible in the feed area, slowly pull the paper down and out of the device. If the paper is not visible, look in the cartridge-door area.



NOTE Do not force the paper if it will not move easily. If the paper is stuck in a tray, try removing it through the tray above (if applicable) or through the cartridge-door area.

3. Before replacing the tray, make sure the paper is flat in the tray at all four corners and below the tabs on the guides.

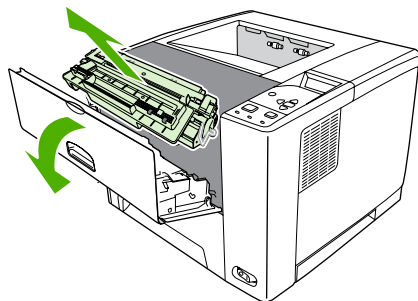


4. Open and close the cartridge door to clear the jam message.

If a jam message persists, there is still media in the device. Look for media in other locations.

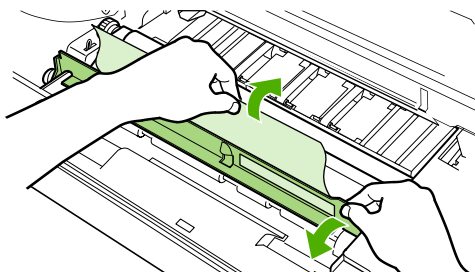
Clear jams from the print-cartridge area

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



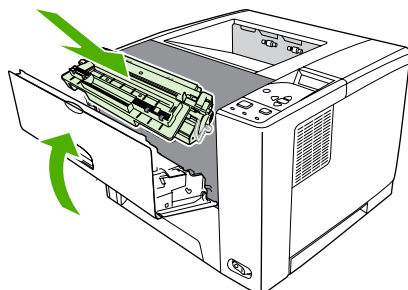
CAUTION To prevent damage to the print cartridge, do not expose it to light for more than a few minutes.

2. Slowly pull the media out of the device. Be careful to not tear the media.



CAUTION Avoid spilling loose toner. Use a dry, lint-free cloth, to clean any toner that might have fallen into the device. If loose toner falls into the device, it might cause temporary problems with print quality. Loose toner should clear from the paper path after a few pages are printed. If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. (Hot water sets toner into fabric.)

3. Replace the print cartridge, and then close the cartridge door.



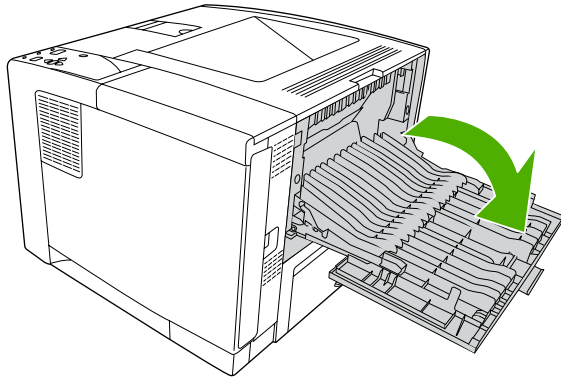
If a jam message persists, there is still media in the device. Look for media in other locations.

Clear jams from the output-bin areas

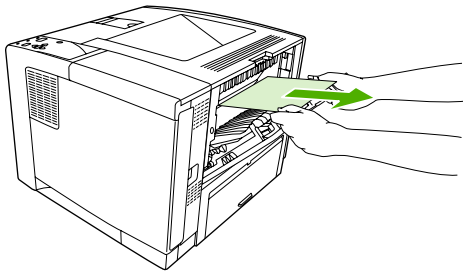


NOTE If media is jammed in the top output area, but most of the media is still inside the device, it is best to remove it through the rear door.

1. Open the rear door. (The rear output bin might be hard to open. If necessary, pull hard to open it.) Let the rear door drop completely open.

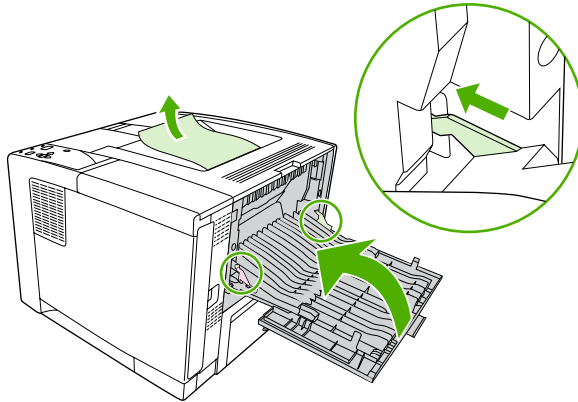


2. Grasp both sides of the media, and slowly pull the media out of the device. (There might be loose toner on the media. Be careful not to spill it on yourself or into the device.)



NOTE If media is difficult to remove, try opening the cartridge door and removing the print cartridge to release pressure on the media.

3. Close the rear door. (The clips automatically return to their original positions when the rear door is closed.)

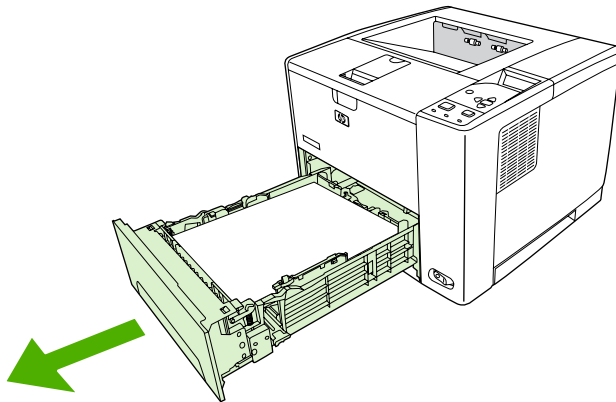


4. Open and close the cartridge door to clear the jam message.

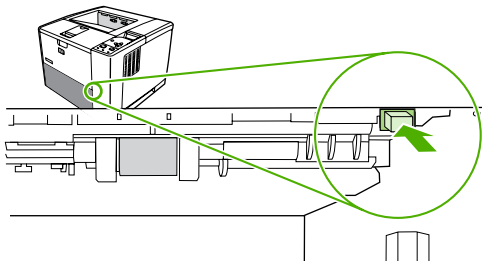
If a jam message persists, there is still media in the device. Look for media in other locations.

Clear jams from the optional duplexer

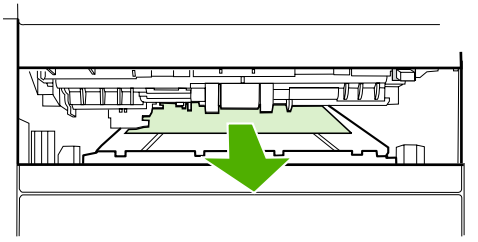
1. Remove tray 2 from the device.



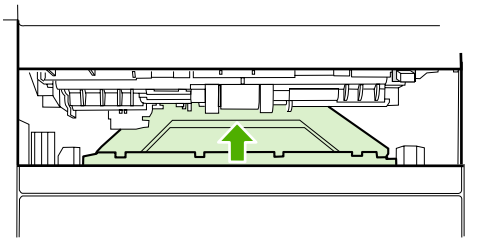
2. Push the green button on the top right front of the tray 2 opening to access the duplex paper path.



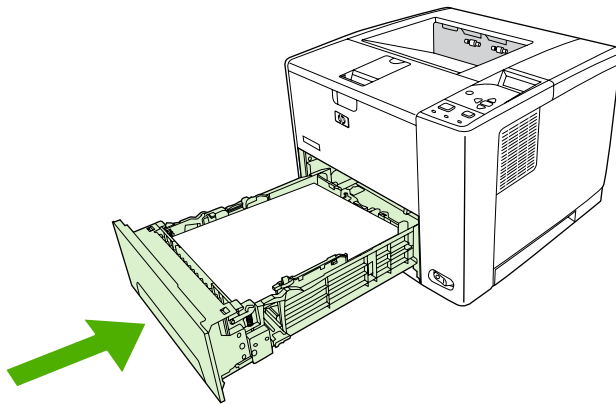
3. Reach in and pull out the jammed paper.



4. Push the bottom of the duplex access plate back up until it clicks into place on both sides (both sides need to be engaged).



5. Reinstall tray 2.



6. Open and close the cartridge door to clear the jam message.

Interface troubleshooting

The following sections provide instructions for interface troubleshooting.

Communications checks



NOTE Communication problems are normally the customer's responsibility. Time spent attempting to resolve these problems might not be covered by the Hewlett-Packard product warranty. Refer the customer to the network administrator for assistance in troubleshooting network problems.

If the device is not connected directly to a Windows or MS-DOS-based host, see [EIO troubleshooting on page 157](#).



CAUTION HP LaserJet printers are not designed to work with mechanical switch-box products that don't have correct surge protection. These devices generate high transient voltages that cause permanent damage to the formatter. This circumstance is not covered by the Hewlett-Packard product warranty.

Computer direct connect (parallel) test

After the device is installed, verify communications by bypassing the Windows driver between the device and the IBM-compatible computer. Type the following information at the MS-DOS prompt:

```
C:\DIR>LPT1 Enter (for printing to parallel port #1)
```

The device should print a directory listing of the C:\ directory. You might need to press ✓ on the control panel to print the data that is in the buffer.

EIO troubleshooting

If the device contains an optional HP Jetdirect print server, and you cannot communicate with the device over the network, verify that the print server is operating. Print a configuration page (see [Use information pages on page 38](#)). If the Jetdirect card does not appear under "Installed personalities and options" on the configuration page, reseal or replace the Jetdirect EIO card. See the troubleshooting section of the *HP Jetdirect Print Server Software Administrators Guide*.

When the HP Jetdirect print server is installed correctly, print a Jetdirect page (this page automatically prints when a Jetdirect print server is installed and a configuration page is printed). See [Use information pages on page 38](#). The Jetdirect page contains valuable network-related information about the device.

The following illustration shows the contents of the Jetdirect page.

Jetdirect page

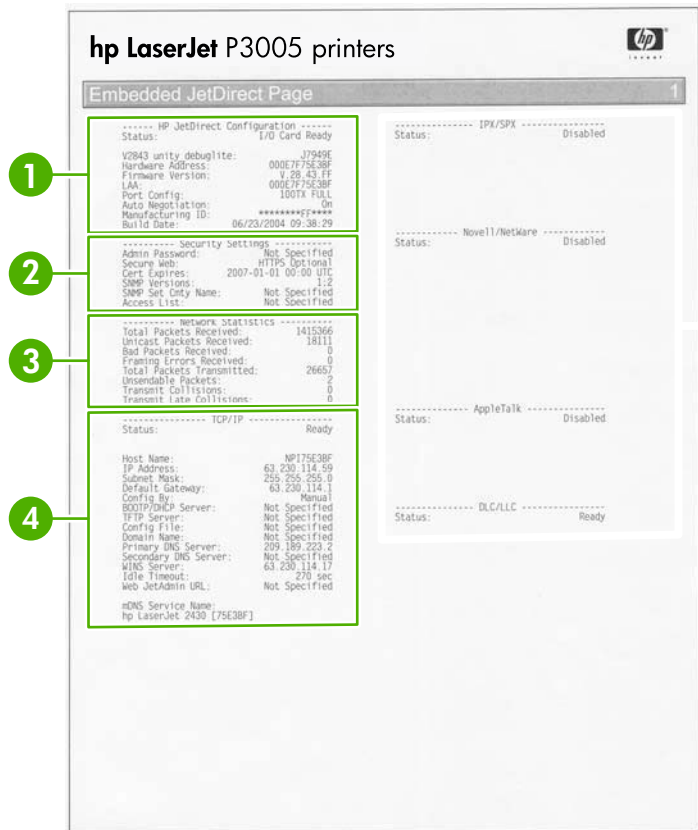


Figure 6-2 Jetdirect page

- 1 HP Jetdirect Configuration** If the EIO Jetdirect card is installed correctly and the device completes its internal diagnostics, the **I/O CARD READY** status message prints. If communication is lost, an **I/O NOT READY** status message prints, followed by a two-digit error code. See the *HP Jetdirect Network Interface Configuration Guide* for further details and recommended action.
- 2 Network Statistics** This block indicates that network activity has been occurring. Bad packets, framing errors, unsendable packets, and collisions should be minimal. If a high percentage (greater than one percent) of these occur, contact the network administrator. All of the statistics are set to zero when the device is turned off.
- 3 TCP/IP** In this block, the default IP address is "192.0.0.192." You can operate the device by using this default address. The error message **ARP DUPLICATE ADDRESS** might appear in this block. This is an acceptable error code if the TCP/IP protocol is not being used. Check with the network administrator to determine the correct IP address for the device. To configure the device's IP address, go to the control panel EIO menu, select **CFG NETWORK=YES**, select **CFG TCP/IP=YES**, and then select **BOOTP=NO**.
- 4 Novell/NetWare** This block should state the name of the Novell printer server to which the device is connected. If the node name reads "NPIxxxxxx" (where xxxxxx = the last six digits of the EIO LAN address), the EIO card has not been configured for a Novell server. This could indicate that the card is operating under protocol other than Novell. Check with the network administrator to determine what node name might be appropriate.

Network printing problems

1. Verify that the network cable is securely connected to the device and to the network.
2. Verify that the Jetdirect LED on the formatter is lit.

3. Print a configuration page to verify that the I/O card is ready (see [Use information pages on page 38](#)). An HP Jetdirect configuration page also will print.
4. On the HP Jetdirect configuration page, confirm the following settings:
 - Under HP Jetdirect Configuration, the status is “I/O Card Ready”.
 - The status is “Ready”.
 - An IP address is listed.
 - The configuration method (Config by:) is listed correctly. See the network administrator if you are not sure which method is correct.
 - The domain name is listed correctly.
5. Perform a ping test to verify that the device is communicating with other devices on the network.
 - a. Press **Menu**.
 - b. Use ▼ to select **CONFIGURE DEVICE**, and the press ✓.
 - c. Use ▼ to select **I/O**, and the press ✓.
 - d. Use ▼ to select **EMBEDDED JETDIRECT MENU**, and the press ✓.
 - e. Use ▼ to select **DIAGNOSTICS**, and the press ✓.
 - f. Use ▼ to select **PING TEST**, and the press ✓.
 - g. Set the following menu items
 - **DEST IPv4**: Type the IP address from the configuration page.
 - **PACKET SIZE**: 64
 - **TIMEOUT**: 1 second
 - **COUNT**: 4
 - **PRINT RESULTS**: YES
 - **EXECUTE**: YES

The ping test starts automatically after the EXECUTE setting is set. If the test was successful, a page that shows the ping test results will print.
6. Print the job from another computer.
7. To verify that the device works with a computer, connect the device directly to the computer. You will have to reinstall the printing software. Print a document from a program that has printed correctly in the past. If the job prints, a problem with the network might exist.

Service mode functions

Cold reset

A cold reset unlocks menus that have been previously locked and sets all control panel menu items (including EIO settings) back to the factory defaults. However, it *does not* clear the values in the **SERVICE** menu (such as the serial number and page counts).



NOTE Before performing a cold reset, print a menu map and a configuration page (see [Use information pages on page 38](#)). Use the information on the configuration page to reset any customer-set device configuration values that the cold reset procedure changes.

1. Turn the device off.
2. Turn the device on. When the memory count begins, press and hold the ✓ button. Continue holding down the ✓ button until all three device control-panel lights flash once and then remain on. This might take up to 10 seconds.
3. After the message **SELECT LANGUAGE** appears on the display, press the ▲ button or the ▼ button until **COLD RESET** is highlighted.
4. Press ✓. The device performs a cold reset and then continues its power-on sequence.
5. Check all I/O settings and reset any customer-set device configuration values.

NVRAM initialization



CAUTION Initializing the NVRAM resets the serial number, the event log, the page counts, and the EIO card (initializing the NVRAM resets **SERVICE** menu values to factory defaults). Use the service menu to restore the serial number and page counts. Also reconfigure any computers that print to this device so that the computers can recognize the device. Initialize the NVRAM only when absolutely necessary. In most situations, use a cold reset rather than a NVRAM initialization to reset device settings (this will retain the values in the **SERVICE** menu).



NOTE Before performing a NVRAM initialization, print a menu map and a configuration page (see [Use information pages on page 38](#)). Use the information on the configuration page to reset any customer-set device configuration values that the NVRAM initialization procedure changes. Take special note of the *total page count*, *maintenance count*, and the *serial number*.

1. Remove any installed accessories.
2. Turn the device off.
3. Turn the device on. When the memory count begins, press and hold the ▼ button. Continue holding down the ▼ button until all three device control-panel lights flash once and then remain on. This might take up to 10 seconds.
4. Press the ▲ button.
5. Press the **Menu** button. The display should show **SKIP DISK LOAD**.
6. Press the ▲ button until **NVRAM INIT** is highlighted.
7. Press ✓. The device initializes NVRAM and then continues the power-on sequence.

Hard-disk initialization



CAUTION A hard-disk initialization erases and reformats the device hard disk. Perform a hard-disk initialization only if an error code on the control panel indicates an EIO disk error. Always try initializing the hard disk before replacing it.



NOTE Before performing a hard-disk initialization, print a menu map and a configuration page (see [Use information pages on page 38](#)). Use the information on the configuration page to reset any customer-set device configuration values that the hard-disk initialization procedure changes.

1. Turn the device off.
2. Turn the device on. When the memory count begins, press and hold the **Menu** button. Continue holding down the **Menu** button until all three device control-panel lights flash once and then remain on. This might take up to 10 seconds.
3. Press the  button. The display should show **INITIALIZE DISK**.
4. Press . The device initializes the hard disk and continues the power-on sequence.

Skip disk-load

When the power is turned on the device begins the power-on sequence. By performing a power-on bypass, you can cause the device to resume the power-on sequence but not to recognize any installed EIO hard disk. This can be helpful in isolating EIO hard-disk errors.

1. Turn the device off.
2. Turn the device on. When the memory count begins, press and hold the  button. Continue holding down the  button until all three device control-panel lights flash once and then remain on. This might take up to 10 seconds.
3. Press the  button, and then press the **Menu** button.
4. Press the  button or the  button until **SKIP DISK LOAD** is highlighted.
5. Press . The device continues the power-on sequence but ignores an installed EIO hard disk.

Self test

This procedure is a remnant of previous products and no longer provides a test of the device.

Service menu (service PIN codes)

Authorized HP service technicians can use this menu to gain access to device settings that are reserved for service personnel. The **SERVICE** menu is protected by use of a personal identification number (PIN). When you select **SERVICE** from the list of menus, you are prompted to type an eight-digit PIN code.



NOTE The device automatically exits the **SERVICE** menu after about one minute if no menu items are selected or changed.

Use the PIN code 10300506 for the HP LaserJet P3005 Series printer.

1. Press **Menu**. Use the ▲ button or the ▼ button to scroll to **SERVICE**, and then press ✓.
2. Press the ▲ button or the ▼ button until the first digit of the PIN code appears. Press ✓ to save that digit. Repeat this selection procedure until you have typed the entire eight-digit PIN code. You can use the ↵ button to return to a PIN digit. When the last digit is saved, the **SERVICE** submenu appears on the control-panel display.
3. Use the ▲ button or the ▼ button to scroll to the menu item that you want, and then press ✓.
 - **CLEAR EVENT LOG**. Select this item to clear (reset to zero) the internal event log.
 - **ENGINE CYCLES**. Select this item to set the total number of pages that have been printed to-date. Typically this is required only when a new formatter is installed.
 - **REFURBISH CYCLE COUNT**. Select this item to reset the device page count after the device engine has been refurbished.
 - **SERIAL NUMBER**. Select this item to update the serial number if you replace the formatter.
 - **SERVICE ID**. Select this item to specify the date when the device was first used, rather than the date when a replacement formatter is installed. See [Service ID on page 162](#).
 - **COLD RESET PAPER**. Select this item to reset the default paper size when you replace the formatter or restore factory settings (see [Cold reset on page 160](#)). When you replace a formatter or restore factory settings in a country/region that uses A4 as the standard paper size, use this item to reset the default paper size to A4. Letter and A4 are the only cold-reset values available.

Service ID

This information appears on the configuration page (see [Use information pages on page 38](#)), which eliminates the need for customers to keep paper receipts for proof of the warranty. Because the device does not have an internal clock, the availability of the service ID date depends on the device being connected to a source that can provide the date, in this case a time server on the same network as the device. When the device is not connected to a date source, the service ID is not available, and **00000** appears on the configuration page.

Restoring the service ID

If you replace the formatter, the date is lost. Use this menu item to reset the value to the date that the device was first used. The date format is YYDDD. Use the following procedure to calculate the date.

1. To calculate YY, subtract 1990 from the calendar year. For instance, if the device was first used in 2002, calculate YY as follows: $2002 - 1990 = 12$ (YY = 12).
2. To calculate DDD, use the following formula: $30 (\text{calendar month} - 1) + \text{calendar day} = \text{DDD}$. If the calendar day is 31, use 30 instead. For instance, if the printer was first used on October 17, calculate DDD as follows:
 - a. Subtract 1 from 10 (October is the tenth month of the year): $10 - 1 = 9$.
 - b. Multiply 9 by 30: $9 \times 30 = 270$.
 - c. Add 17 to 270: $270 + 17 = 287$ (DDD = 287).

Convert the service ID to an actual date

You can use the device service ID number to determine whether the device is still under warranty. Use the following procedure to convert the service ID into the installation date.

1. Add 1990 to YY to determine the actual year that the device was installed.
2. Divide DDD by 30 and add 1 to the remainder. The total is the month.
3. The remainder from the calculation in step 2 is the day of the month.

Using the Service ID 12287 as an example, the date conversion is as follows:

- $12 + 1990 = 2002$, so the year is 2002.
- $287 \text{ divided by } 30 = 9 \text{ with a remainder of } 17$. Add 1 to 9 to get 10 so the month is October.
- The remainder (from the above calculation) is 17, so that is the day of the month.
- The complete date is 17-October-2002.

A six-day grace period is built into the date system.

Troubleshooting tools

Control-panel menus

Press **Menu** to open the control-panel menus. Use the **▲** button or the **▼** button to scroll through the menus that appear. Press **✓** to select the appropriate option. The high-level menus appear in the following order:

Main menus	SHOW ME HOW
	RETRIEVE JOB
	INFORMATION
	PAPER HANDLING
	CONFIGURE DEVICE
	DIAGNOSTICS
	SERVICE

Diagnostics menu

Administrators can use this menu to isolate parts and to troubleshoot jam and print-quality issues.

The following section lists the settings and their possible values in the **DIAGNOSTICS** menu. The default value for each setting is the one that has an asterisk (*) next to it.

Table 6-2 Diagnostics menu

Item	Values	Explanation
PRINT EVENT LOG	No values available	Press ✓ to generate a list of the 50 most recent entries in the event log. The printed event log shows the error number, page count, error code, and description or personality that was in use when the event occurred.
SHOW EVENT LOG	No values available	Press ✓ , and then use the ▲ button or the ▼ button to scroll through the event log contents.

Table 6-2 Diagnostics menu (continued)

Item	Values	Explanation
PAPER PATH TEST	No values available	Generate a test page, which is useful for testing the paper-handling features of the device.
• PRINT TEST PAGE • SOURCE • DUPLEX • COPIES	• PRINT TEST PAGE	Press the ✓ to start the paper-path test using the source (tray), destination (output bin), duplex, and number of copies settings that you set in the other items on the PAPER PATH TEST menu. Set the other items before selecting PRINT TEST PAGE .
	• SOURCE • ALL TRAYS • TRAY 1 • * TRAY 2 • TRAY N	Select the tray for the paper path that you want to test. You can select any tray that is installed. Select ALL TRAYS to test the paper path for every tray. Paper must be loaded in the selected trays.
	• DUPLEX • *OFF • ON	Determine whether or not the paper goes through the duplexer during the paper path test. This item is available only if the duplexer is installed.
	• COPIES • *1 • 10 • 50 • 100 • 500	Set how many sheets of media are used from each tray during the paper-path test.

Test pages

Printing test pages helps you determine whether or not the device engine and the formatter are functioning.



NOTE Information pages also can be used to solve device issues. See [Use information pages on page 38](#).

Engine-test page

To verify that the device engine is functioning, print an engine-test page.

1. Remove the right-side cover (see [Right-side cover on page 69](#)).
2. Press the engine-test-page button (callout 1) near the formatter.



Figure 6-3 Locating the engine-test-page switch

The test page should have a series of horizontal lines. The test page prints from the last tray that the device used to print, unless the device has been turned off and then turned on again since the most recent print job. If the device has been turned off and then on again since the most recent print job, then the page will print from tray 2. The device continuously prints test pages as long as the test-page switch is depressed. The device will not print a test page if it is in Sleep mode.



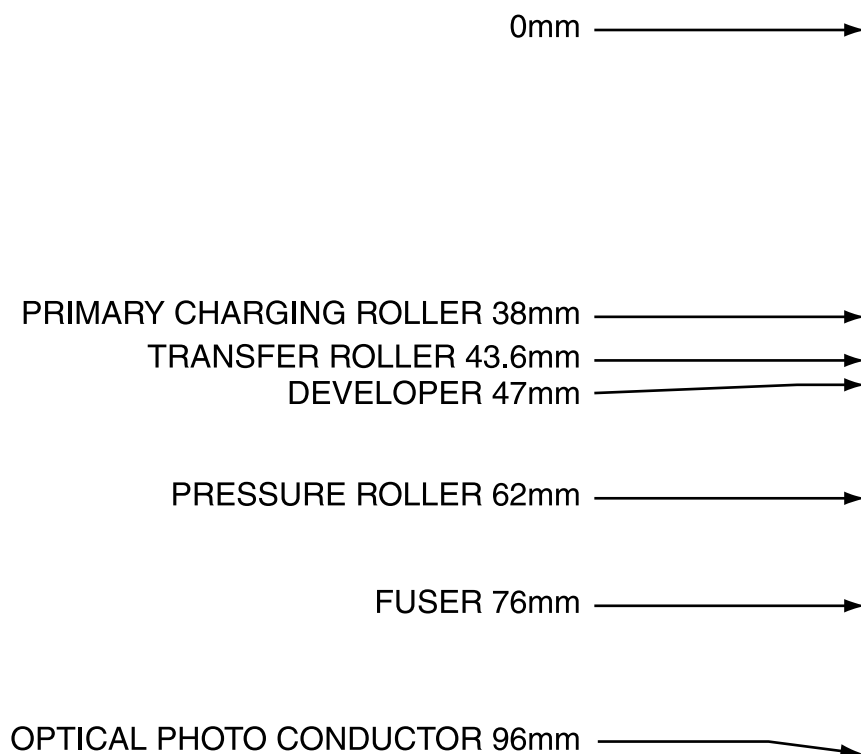
NOTE A damaged formatter might interfere with the engine test. If the engine test page does not print, try removing the formatter and performing the engine test again. If the engine test is then successful, the problem is in the formatter, the control panel, or the cable that connects them.

Formatter test page

To verify that the formatter is functioning, print a configuration page. See [Use information pages on page 38](#).

Image defect ruler

Use a ruler to measure occurrences of repetitive image defects to help solve image quality problems. Place the ruler next to the first occurrence of the defect on the page. Find the distance between identical defects and use the figure below to identify the component that is causing the defect.



NOTE When printing this defect ruler, verify that any scaling options in the printer driver are disabled.

Upgrade the firmware

The device has remote firmware update (RFU) capability. Use the information in this section to upgrade the device firmware. The overall process involves the following steps:

1. Determine the current level of firmware that is installed on the device.
2. Go to the HP Web site and find out whether a firmware update is available. If an update is available, download the latest firmware to your computer.
3. Transfer the new firmware from your computer to the device.

Determine the current firmware version

1. Print a configuration page. See [Use information pages on page 38](#).
2. Locate the Firmware Datecode entry in the **Printer Information** section. The firmware datecode has this format: YYYYMMDD XX.XXX.X. The first string of numbers is the date, where YYYY represents the year, MM represents the month, and DD represents the date. For example, a firmware datecode of that begins with 20040225 represents February 25, 2004.

Download the new firmware from the HP Web site

To find the most recent firmware upgrade, go to www.hp.com/go/LJP3005_software. This page provides instructions for downloading the new firmware version.

Transfer the new firmware to the device

Use one of the following methods to update the firmware.

Use FTP to upgrade the firmware on a network connection

1. Take note of the IP address on the HP Jetdirect page. The HP Jetdirect page is the second page that prints when you print the configuration page.



NOTE Before upgrading the firmware, make sure that the device is not in Sleep mode. Also make sure that any error messages are cleared from the control-panel display.

2. Open an MS-DOS command prompt on your computer.
3. Type: `ftp <TCP/IP ADDRESS>`. For example, if the TCP/IP address is 192.168.0.90, type `ftp 192.168.0.90`.
4. Press **Enter** on the keyboard.
5. When prompted for the user name, press **Enter**.
6. When prompted for the password, press **Enter**.
7. Type `bin` at the command prompt.
8. Press **Enter**. The message **200 Types set to I, Using binary mode to transfer files** appears in the command window.
9. Type `put <filename>` where `<filename>` is the name of the .RFU file that was downloaded from the Web, including the path. For example, type `put C:\LJ\P3005FW.RFU`, and then press **Enter**.



NOTE If the file name or path includes a space, enclose the file name or path in quotation marks. For example, type `put "C:\MY DOCUMENTS\LJ\P3005FW.RFU"`

The following series of messages appears in the command window:

200 PORT command successful

150 Opening BINARY mode data connection

226 Ready

226 Processing Job

226 Transfer complete

Then, a message that contains the transfer-speed information appears.

10. The download process begins and the firmware is updated on the device. This can take approximately five minutes. Let the process finish without further interaction with the device or computer.



NOTE The device automatically turns off and then on again after processing the upgrade.

11. At the command prompt, type: `bye` to exit the FTP command.
12. At the command prompt, type: `exit` to return to the Windows interface.



NOTE The device can receive an .RFU file update as long as it is in a "ready" state.

The elapsed time for an update depends on the I/O transfer time, as well as the time that it takes for the device to reinitialize. The I/O transfer time depends on a number of things, including the speed of the host computer that is sending the update. If the remote firmware update process is interrupted before the firmware is downloaded (while **Receiving Upgrade** appears on the control-panel display), the firmware file must be sent again. If power is lost during the flash DIMM update (while the **Performing Upgrade** message appears on the control-panel display), the update is interrupted and the message **Resend Upgrade** appears (in English only) on the control-panel display. In this case, you must send the upgrade by using the parallel port. Finally, any jobs that are ahead of the RFU job in the queue are completed before the update is processed.

Use HP Web Jetadmin to upgrade the firmware

This procedure requires that you install HP Web Jetadmin Version 7.0 or later on the computer.

1. Start HP Web Jetadmin.
2. Open the **Device Management** folder in the drop-down list in the **Navigation** panel. Navigate to the **Device Lists** folder.
3. Expand the **Device Lists** folder and select **All Devices**. Locate the device in the list, and then click to select it.

If you need to upgrade the firmware for multiple devices, select all of them by pressing the **Ctrl** key as you click the name of each device.

4. Locate the drop-down box for **Device Tools** in the upper-right corner of the window. Select **Update Printer Firmware** from the action list.

5. If the name of the .RFU file is not listed in the **All Available Images** box, click **Browse** in the **Upload New Firmware Image** dialog box and navigate to the location of the .RFU file that you downloaded from the Web. If the filename is listed, select it.
6. Click **Upload** to move the .RFU file from the computer hard drive to the HP Web Jetadmin server. After the upload is complete, the browser window refreshes.
7. Select the .RFU file from the **Printer Firmware Update** drop-down menu.
8. Click **Update Firmware**. HP Web Jetadmin sends the selected .RFU file to the device. The control panel shows messages that indicate the progress of the upgrade. At the end of the upgrade process, the control panel shows the **Ready** message.

Use MS-DOS commands to upgrade the firmware

1. Open a command prompt or an MS-DOS window, and then type the following: `copy /B <FILENAME> \\<COMPUTERNAME>\<SHARENAME>`, where <FILENAME> is the name of the .RFU file (including the path), <COMPUTERNAME> is the name of the computer from which the device is being shared, and <SHARENAME> is the device share name. For example: `C:\>copy /b C:\P3005FW.RFU \\YOUR_SERVER\YOUR_COMPUTER.`



NOTE If the file name or path includes a space, enclose the file name or path in quotation marks. For example, type: `C:\>copy /b "C:\MY DOCUMENTS\P3005FW.RFU" \\YOUR_SERVER\YOUR_COMPUTER.`

2. Press **Enter** on the keyboard. The control panel shows a message that indicates the progress of the firmware upgrade. At the end of the upgrade process, the control panel shows the **Ready** message. The message **1 file(s) copied** appears on the computer screen.

Upgrade the HP Jetdirect firmware

The HP Jetdirect network interface in the device has firmware that can be upgraded separately from the device firmware. This procedure requires that you install HP Web Jetadmin Version 7.0 or later on the computer. Complete the following steps to update the HP Jetdirect firmware by using HP Web Jetadmin.

1. Open the HP Web Jetadmin program.
2. Open the **Device Management** folder in the drop-down list in the **Navigation** panel. Navigate to the **Device Lists** folder.
3. Select the device that you want to update.
4. In the **Device Tools** drop-down list, select **Jetdirect Firmware Update**.
5. Under **Jetdirect firmware version**, the HP Jetdirect model number and current firmware version are listed. Make a note of these.
6. Go to www.hp.com/go/wja_firmware.
7. Scroll down to the list of HP Jetdirect model numbers and find the model number you wrote down.
8. Look at the current firmware version for the model, and see if it is later than the version you wrote down. If it is, right-click on the firmware link, and follow the instructions on the Web page to download the new firmware file. The file must be saved into the <drive>:\PROGRAM FILES\HP WEB JETADMIN\DOC\PLUGINS\HPWJA\FIRMWARE\JETDIRECT folder on the computer that is running the HP Web Jetadmin software.
9. In HP Web Jetadmin, return to the main device list and select the device again.
10. In the **Device Tools** drop-down list, select **Jetdirect Firmware Update** again.
11. On the HP Jetdirect firmware page, the new firmware version is listed under **Jetdirect Firmware Available on HP Web Jetadmin**. Click the **Update Firmware Now** button to update the Jetdirect firmware.

Troubleshoot general printing problems

The device selects media from the wrong tray.

Cause	Solution
The tray selection in the software program might be incorrect.	For many software programs, the paper tray selection is found on the Page Setup menu within the program. Remove any media in other trays to make the device select from the correct tray. For Macintosh computers, use the HP LaserJet Utility to change the priority of the tray.
The configured size does not match the size of the media that is loaded in the tray.	Through the control panel, change the configured size to match the size of the media that is loaded in the tray.

The device does not pull media from a tray.

Cause	Solution
The tray is empty.	Load media in the tray.
The paper guides are set incorrectly.	To set the guides correctly, see the user guide. For the 500-sheet tray, make sure that the leading edge of the media stack is even. An uneven edge can prevent the lift plate from rising.

Paper curls when it exits the device.

Cause	Solution
The paper curls when it exits to the top output bin.	Open the rear output bin to allow the paper to exit in a straight path through the device. Turn over the paper that you are printing on. Reduce the fusing temperature to reduce the curling. (See the user guide.)

Print job is extremely slow.

Cause	Solution
The job might be very complex.	Reduce the complexity of the page or try adjusting the print-quality settings. If this problem occurs frequently, add memory to the device.
The maximum speed of the device cannot be exceeded even when more memory is added.	
Printing speeds might be automatically reduced when printing on custom-sized media.	
Note: Slower speeds are expected when printing on narrow paper, when printing from tray 1, or when using the HIGH 2 fuser mode.	

Print job is extremely slow.

Cause	Solution
You are printing a PDF or PostScript (PS) file but are using a PCL printer driver.	Try using the PS printer driver rather than the PCL printer driver. (You can usually do this from a software program.)
In the printer driver, Type is is set to card stock, heavy, rough, or bond paper.	In the printer driver, set the type to plain paper (see the user guide). Note: If you change the setting to plain paper, the print job will print faster. However, if you are using heavy media, for best results leave the printer driver set to heavy even though printing might be slower.

Print job prints on both sides of the paper.

Cause	Solution
The device is set for duplexing.	See the user guide to change the setting, or see the online Help.

Print job contains only one page but the device processes the back side of the page as well (the page comes part of the way out, and then goes back into the device).

Cause	Solution
The device is set for duplexing. Even if the print job contains only one page, the device also processes the back side.	See the user guide to change the setting, or see the online Help. Do not try to pull the page out of the device before duplexing is complete. Jamming might result.

Pages print, but are totally blank.

Cause	Solution
The sealing tape might still be in the print cartridge.	Remove the print cartridge and pull out the sealing tape. Reinstall the print cartridge.
The print cartridge might be empty.	Replace the print cartridge.
The file might have blank pages.	Check the file to make sure that it does not contain blank pages.

The device prints, but the text is wrong, garbled, or incomplete.

Cause	Solution
The device cable is loose or defective.	Disconnect the device cable and reconnect it. Try a print job that you know works. If possible, attach the cable and device to another computer and try a print job that you know works. Finally, try a new cable.

The device prints, but the text is wrong, garbled, or incomplete.

Cause	Solution
The device is on a network or sharing device and is not receiving a clear signal.	Disconnect the device from the network and use a parallel or USB cable to attach it directly to a computer. Print a job that you know works.
The wrong driver was selected in the software.	Check the software device-selection menu to make sure that the device is selected.
The software program is malfunctioning.	Try printing a job from another program.

The device does not respond when you select Print in the software.

Cause	Solution
The device is out of media.	Add media.
The device might be in the manual-feed mode.	Change the device from manual-feed mode.
The cable between the computer and the device is not connected correctly.	Disconnect and reconnect the cable.
The device cable is defective.	If possible, attach the cable to another computer and print a job that you know works. You might also try using a different cable.
The wrong device was selected in the software.	Check the software device selection menu to make sure that the correct device is selected.
The device might have a jam.	Clear any jams, paying careful attention to the duplexer area (if your model has a duplexer). See Clear jams on page 148 .
The software for the device is not configured for the printer port.	Check the software device-selection menu to make sure that it is using the correct port. If the computer has more than one port, make sure that the device is attached to the correct one.
The device is on a network and is not receiving a signal.	Check cable connections. Reinstall the printing software. Print a job that you know works. Clear any stopped jobs from the print queue.
The device is not receiving power.	If no lights are on, check the power-cord connections. Check the power switch. Check the power source.
The device is malfunctioning.	Check the control-panel display for messages and lights to determine if the device is indicating an error. Note any messages and see Control-panel messages on page 131 .

Troubleshoot media handling problems

If media is feeding incorrectly, use the information in this section to identify and resolve the problem.

Multiple pages feed

Table 6-3 Causes for multiple pages feeding

Cause	Solution
Too much media (particularly envelopes) is loaded in tray 1.	Remove some of the media and resend the print job.
The separation rollers and pads in the tray are worn or damaged	Replace the rollers and separation pads.
The media edges are locked together.	Flex the media stack before loading it into the device. <i>Do not</i> fan the media.
The spring pushing the separation roller or pad is defective.	Replace the separation pad.

Pages are wrinkled or folded

Table 6-4 Causes for wrinkled or folded paper at the paper-path entrance

Cause	Solution
The feed rollers or registration rollers are dirty or defective.	Replace the affected rollers.
The paper path contains foreign substances or dirt.	Remove any foreign substances or dirt from the paper path.
The cartridge shutter open/close mechanism is damaged. (This can cause jams in which the media is crumpled into an accordion fold under the print cartridge.)	The shutter in the print cartridge should open as you insert the cartridge. If a shutter does not open, replace the print cartridge.
The registration assembly is defective.	If the registration arm is dirty, clean it. If the arm is scarred or worn, replace the registration assembly (see Registration assembly on page 121).

Table 6-5 Causes for wrinkled or folded paper at the paper-path exit

Cause	Solution
The fuser inlet guide is dirty.	Replace the fuser (see Fuser on page 83).
The fuser pressure roller is dirty or damaged.	Run several cleaning pages through the device. If the problem persists, replace the fuser (see Fuser on page 83).

Pages are skewed

Table 6-6 Causes for skewed pages

Cause	Solution
Paper dust or dirt has accumulated on the tray feed roller or separation roller.	Clean or replace the rollers.

Table 6-6 Causes for skewed pages (continued)

Cause	Solution
The tray feed roller and separation roller are worn irregularly.	Replace the affected roller.
The registration assembly is defective.	Replace the registration assembly (see Registration assembly on page 121).
Media is loaded incorrectly.	Verify that the media is loaded correctly and that all adjustments have been made. Verify that the guides in the tray are not too tight or too loose against the stack.

Troubleshoot print-quality problems

This section helps you define print-quality problems and what to do to correct them. Often print-quality problems can be handled easily by making sure that the device is correctly maintained, using print media that meets HP specifications, or running a cleaning page.

Print-quality checklist

General print-quality problems can be solved by following the checklist below.

- Check the printer driver to make sure that you are using the best available print-quality option (see the user guide).
- Try printing with one of the alternative printer drivers. The most recent printer drivers are available for download from www.hp.com/go/LJP3005_software.
- Clean the inside of the device (see [Clean the device on page 36](#)).
- Check the paper type and quality (see [Media specifications on page 13](#)).
- Check to make sure that EconoMode is off in the software.
- Troubleshoot general printing problems (see [Troubleshoot general printing problems on page 172](#)).
- Install a new HP print cartridge, and then check the print quality again. (See the instructions provided with the print cartridge.)



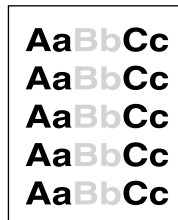
NOTE If the page is totally blank (all white) check to make sure that the sealing tape is removed from the print cartridge and ensure that the print cartridge is installed correctly. Newer devices have been optimized to print characters more accurately. This might result in characters that look lighter or thinner than you are used to from your older device. If the page is printing images darker than those from an older device, and you want the images to match the older device, make these changes in your printer driver: on the **Finishing** tab, select **Print Quality**, select **Custom**, click **Details**, and select the check box for **Print Images Lighter**.

Image-defect examples

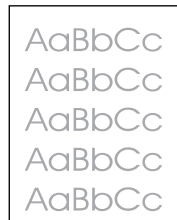
Use the examples in this image-defect table to determine which print-quality problem you are experiencing, and then see the corresponding reference pages to troubleshoot the problem. These examples identify the most common print-quality problems.



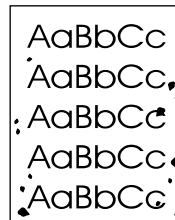
NOTE The examples below depict letter-size paper that has passed through the device short-edge first.



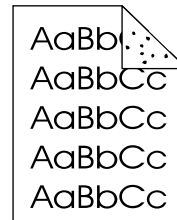
See [Light print \(partial page\) on page 179](#)



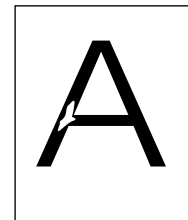
See [Light print \(entire page\) on page 180](#)



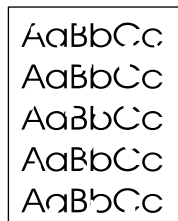
See [Specks on page 180](#)



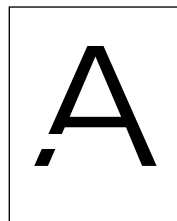
See [Specks on page 180](#)



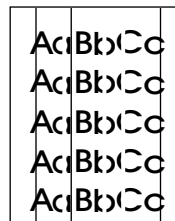
See [Dropouts on page 181](#)



See [Dropouts on page 181](#)



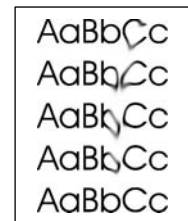
See [Dropouts on page 181](#)



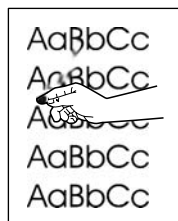
See [Lines on page 181](#)



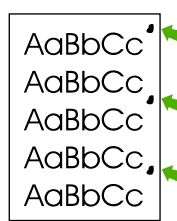
See [Gray background on page 182](#)



See [Toner smear on page 182](#)



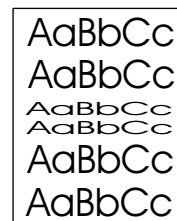
See [Loose toner on page 183](#)



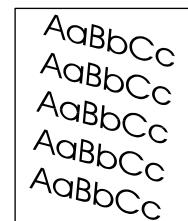
See [Repeating defects on page 183](#)



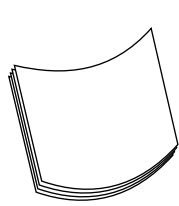
See [Repeating image on page 184](#)



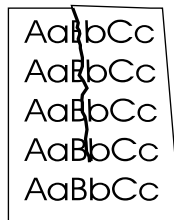
See [Misformed characters on page 184](#)



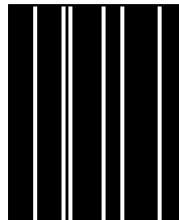
See [Page skew on page 185](#)



See [Curl or wave on page 185](#)



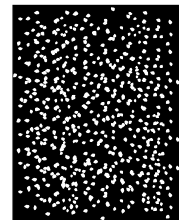
See [Wrinkles or creases on page 186](#)



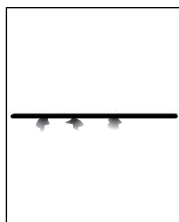
See [Vertical white lines on page 186](#)



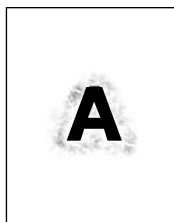
See [Tire tracks on page 187](#)



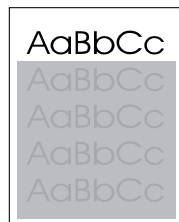
See [White spots on black on page 187](#)



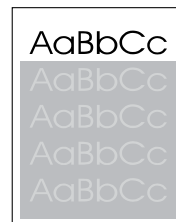
See [Scattered lines on page 188](#).



See [Blurred print on page 188](#).

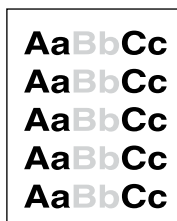


See [Random image repetition on page 189](#) (dark)



See [Random image repetition on page 189](#) (light)

Light print (partial page)



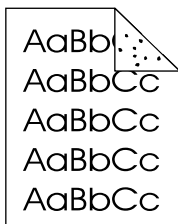
1. Make sure that the print cartridge is fully installed.
2. The toner level in the print cartridge might be low. Replace the print cartridge.
3. The media might not meet HP specifications (for example, the paper is too moist or too rough). See [Media specifications on page 13](#).
4. The transfer roller might be worn or contaminated. Replace the transfer roller (see [Transfer roller on page 120](#)).

Light print (entire page)



1. Make sure that the print cartridge is fully installed.
2. Make sure that the EconoMode setting is turned off at the control panel and in the printer driver.
3. Open the **CONFIGURE DEVICE** menu at the device control panel. Open the **PRINT QUALITY** submenu and increase the **TONER DENSITY** setting. See the user guide.
4. Try using a different type of media.
5. The print cartridge might be almost empty. Replace the print cartridge.
6. The print cartridge might be installed incorrectly. Reinstall the print cartridge.
7. The transfer roller might be defective or installed incorrectly. Verify that the transfer roller is installed correctly. If the transfer roller is damaged, replace it.
8. The power supply might be defective. Replace the power supply (see [High-voltage power supply on page 97](#)).

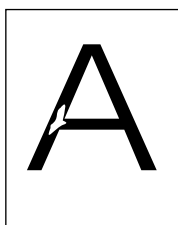
Specks



Specks might appear on a page after a jam has been cleared.

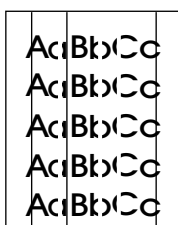
1. Print a few more pages to see if the problem corrects itself.
2. Clean the inside of the device and run a cleaning page to clean the fuser. (See [Clean the device on page 36](#).)
3. Try using a different type of media.
4. Check the print cartridge for leaks. If the print cartridge is leaking, replace it.
5. The fuser might be defective. Replace the fuser (see [Fuser on page 83](#)).

Dropouts



1. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246](#).)
2. If the paper is rough, and the toner easily rubs off, open the **CONFIGURE DEVICE** menu at the device control panel. Open the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select the paper type that you are using. Change the setting to HIGH 1 or HIGH 2, which helps the toner fuse more completely onto the paper. (See the user guide.)
3. Try using a smoother paper.
4. The print cartridge might be defective. Replace the print cartridge.
5. Fuser rollers might be dirty. Run a cleaning page (several pages might be required if the fuser is very dirty). If the image defect persists, replace the fuser (see [Fuser on page 83](#)).
6. The transfer roller might be damaged, dirty, or worn. Try cleaning the transfer roller by using a dry, lint-free cloth. If the image defect persists, replace the transfer roller.
7. The power supply might be defective. Replace the power supply (see [High-voltage power supply on page 97](#)).

Lines



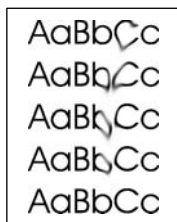
1. Print a few more pages to see if the problem corrects itself.
2. Clean the inside of the device and run a cleaning page to clean the fuser. (See [Clean the device on page 36](#).)
3. Replace the print cartridge.

Gray background



1. Do not use media that has already been run through the device.
2. Try using a different type of media.
3. Print a few more pages to see if the problem corrects itself.
4. Turn over the stack of media in the tray. Also, try rotating the stack 180°.
5. Open the **CONFIGURE DEVICE** menu at the device control panel. On the **PRINT QUALITY** submenu, increase the **TONER DENSITY** setting. See the user guide.
6. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246](#).)
7. Replace the print cartridge.
8. The power supply might be defective. Replace the power supply (see [High-voltage power supply on page 97](#)).

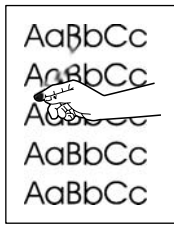
Toner smear



1. Print a few more pages to see if the problem corrects itself.
2. Try using a different type of media.
3. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246](#).)
4. Clean the inside of the device and run a cleaning page to clean the fuser. (See [Clean the device on page 36](#).)
5. Replace the print cartridge.
6. The fuser might be defective. Replace the fuser (see [Fuser on page 83](#)).
7. The ECU might be defective. Replace the ECU (see [Engine control unit \(ECU\) on page 88](#)).

Also see [Loose toner on page 183](#).

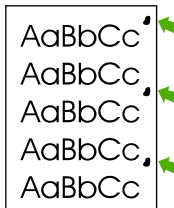
Loose toner



Loose toner, in this context, is defined as toner that can be rubbed off the page.

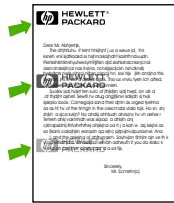
1. If paper is heavy or rough, open the **CONFIGURE DEVICE** menu at the device control panel. On the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select the paper type that you are using. Change the setting to **HIGH 1** or **HIGH 2**, which helps the toner fuse more completely onto the paper. You must also set the type of media for the tray that you are using. (See the user guide.)
2. If you have observed a rougher texture on one side of your paper, try printing on the smoother side.
3. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246](#).)
4. Make sure that type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13](#).)
5. The fuser might be defective. Replace the fuser (see [Fuser on page 83](#)).
6. The ECU might be defective. Replace the ECU (see [Engine control unit \(ECU\) on page 88](#)).

Repeating defects



1. Print a few more pages to see if the problem corrects itself.
2. Clean the inside of the device and run a cleaning page to clean the fuser. (See [Clean the device on page 36](#).)
3. Measure the distance between two identical defects and see [Image defect ruler on page 167](#).

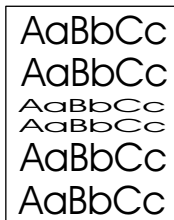
Repeating image



This type of defect might occur when using preprinted forms or a large quantity of narrow paper.

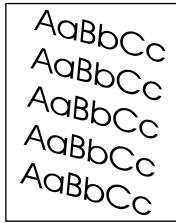
1. Print a few more pages to see if the problem corrects itself.
2. Run a cleaning page, and then print a few more pages to see if the problem persists.
3. Make sure that type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13.](#))
4. Measure the distance between two identical defects and see [Image defect ruler on page 167.](#)

Misformed characters



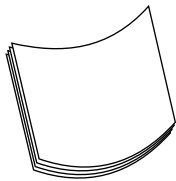
1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246.](#))
3. Reseat cables that are connected to the laser/scanner.
4. Reseat cables that are connected to the ECU.
5. If the image defect persists, the laser/scanner might be defective. Replace the laser/scanner (see [Laser/scanner on page 86.](#))
6. Inspect the gears in the main drive assembly and replace the assembly if gears are damaged (see [Gear assembly on page 108.](#))
7. The ECU might be defective. Replace the ECU (see [Engine control unit \(ECU\) on page 88.](#))

Page skew



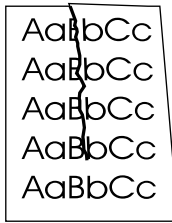
1. Print a few more pages to see if the problem corrects itself.
2. Verify that there are no torn pieces of media inside the device.
3. Make sure that media is loaded correctly and that all adjustments have been made. (See the user guide.) Make sure that the guides in the tray are not too tight or too loose against the stack.
4. Turn over the stack of paper in the tray. Also, try rotating the stack 180°.
5. Make sure that the type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13.](#))
6. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246.](#))
7. The registration assembly might be installed incorrectly or damaged. Make sure that the registration assembly is installed correctly. If necessary, replace the registration assembly. (See [Registration assembly on page 121.](#))

Curl or wave



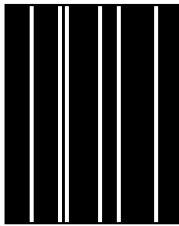
1. Turn over the stack of media in the tray. Also, try rotating the stack 180°.
2. Make sure that the type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13.](#))
3. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246.](#))
4. Try printing to a different output bin.
5. If paper is lightweight and smooth, open the **CONFIGURE DEVICE** menu at the device control panel. On the **PRINT QUALITY** submenu, select **FUSER MODES**, and then select the paper type that you are using. Change the setting to **LOW**, which helps reduce the heat in the fusing process. You must also set the type of media for the tray that you are using. (See the user guide.)

Wrinkles or creases



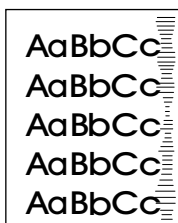
1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246.](#))
3. Turn over the stack of media in the tray. Also, try rotating the stack 180°.
4. Make sure that media is loaded correctly and all adjustments have been made. (See the user guide.)
5. Make sure that the type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13.](#))
6. If envelopes are creasing, try storing envelopes so that they lie flat.

Vertical white lines



1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13.](#))
3. Replace the print cartridge.
4. The fuser might be defective. Replace the fuser. (See [Fuser on page 83.](#))
5. If the image defect persists, the mirror in the laser/scanner might be dirty. Replace the laser/scanner (see [Laser/scanner on page 86.](#))
6. If the image defect persists, replace the ECU. (See [Engine control unit \(ECU\) on page 88.](#))
7. If the image defect persists, replace the formatter. (See [Formatter on page 80.](#))

Tire tracks



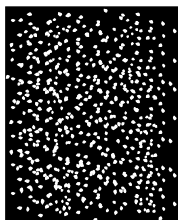
This defect typically occurs when the print cartridge has far exceeded its rated life. For example, if you are printing a very large quantity of pages with very little toner coverage.

1. Perform a half self-test functional check. If the drum is damaged, replace the print cartridge.
2. Run a cleaning page. If the image defect persists, replace the fuser. (See [Fuser on page 83](#).)
3. If the image defect persists, check the device for other sources of contamination or damage in the paper path and clean or replace parts as necessary.



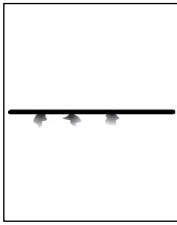
NOTE This type of image defect might also be a repetitive defect. See [Repeating defects on page 183](#).

White spots on black



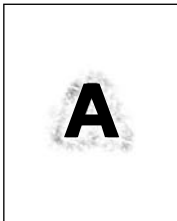
1. Print a few more pages to see if the problem corrects itself.
2. Make sure that the type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13](#).)
3. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246](#).)
4. Replace the print cartridge.

Scattered lines



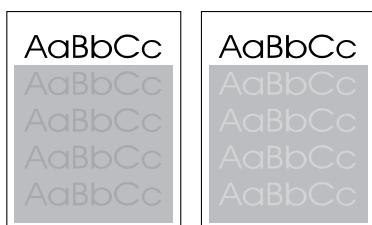
1. Make sure that the type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13.](#))
2. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246.](#))
3. Turn over the stack of media in the tray. Also, try rotating the stack 180°.
4. Open the **CONFIGURE DEVICE** menu at the device control panel. Open the **PRINT QUALITY** submenu and change the **TONER DENSITY** setting. (See the user guide.)
5. Open the **CONFIGURE DEVICE** menu at the device control panel. On the **PRINT QUALITY** submenu, open **OPTIMIZE** and set **LINE DETAIL=ON**.

Blurred print



1. Make sure that the type and quality of the media that you are using meet HP specifications. (See [Media specifications on page 13.](#))
2. Make sure that the environmental specifications for the device are being met. (See [Operating environment on page 246.](#))
3. Turn over the stack of media in the tray. Also, try rotating the stack 180°.
4. Do not use paper that already has been run through the device.
5. Decrease the toner density. Open the **CONFIGURE DEVICE** menu at the device control panel. Open the **PRINT QUALITY** submenu and change the **TONER DENSITY** setting. (See the user guide.)
6. Open the **CONFIGURE DEVICE** menu at the device control panel. On the **PRINT QUALITY** submenu, open **OPTIMIZE** and set **HIGH TRANSFER=ON**. (See the user guide.)

Random image repetition



If an image that appears at the top of the page (in solid black) repeats farther down the page (in a gray field), the toner might not have been completely erased from the last job. (The repeated image might be lighter or darker than the field it appears in.)

- Change the tone (darkness) of the field that the repeated image appears in.
- Change the order in which the images are printed. For example, have the lighter image at the top of the page, and the darker image farther down the page.
- From the software application, rotate the whole page 180° to print the lighter image first.
- If the defect occurs later in a print job, turn the device off for 10 minutes, and then turn the device on to restart the print job.

Diagrams

Device component locations

Diagrams are provided below detailing the locations of various device components.

Main assemblies

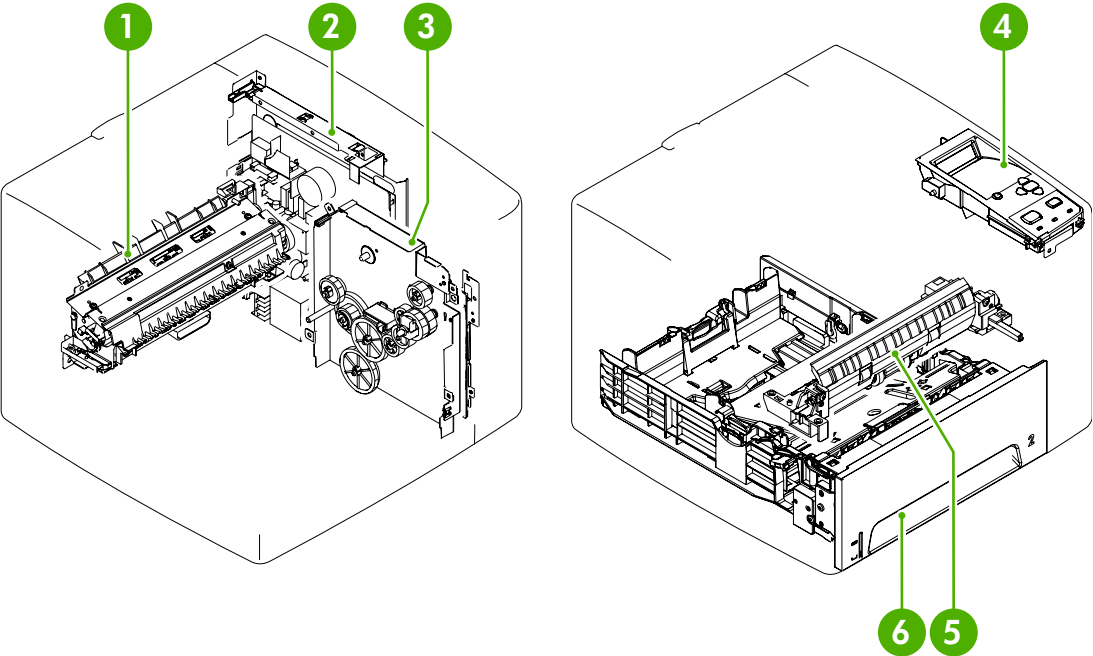


Figure 6-4 Main assemblies

1	Fuser assembly
2	Engine controller unit (ECU) assembly
3	Drive assembly
4	Control-panel assembly
5	Pickup assembly
6	Cassette (tray 2)

Main parts

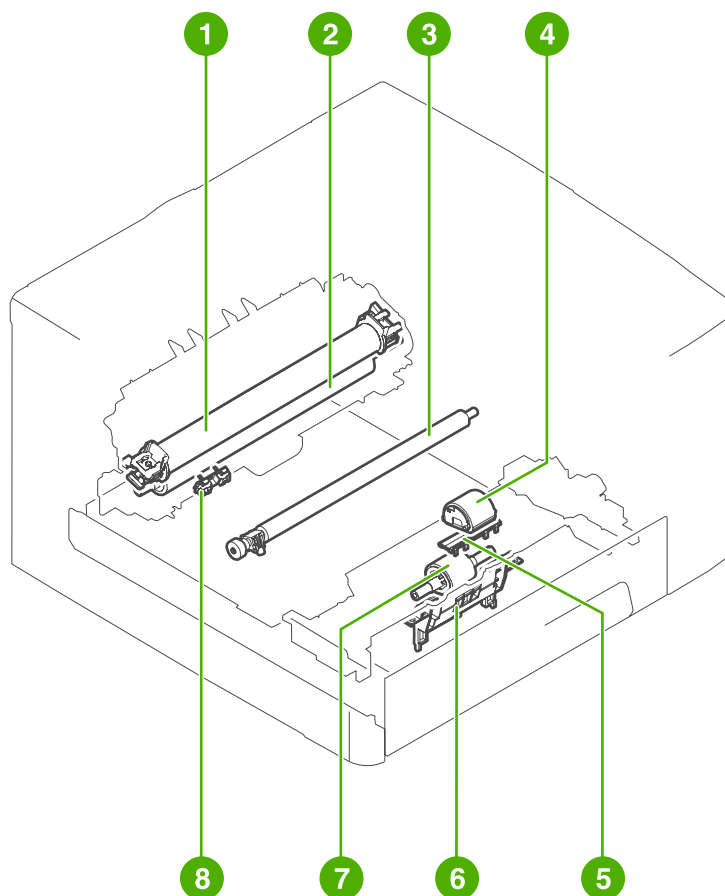


Figure 6-5 Main parts

1	Fuser film
2	Pressure roller
3	Transfer charging roller
4	Tray 1 pick-up roller
5	Tray 1 separation pad
6	Tray 2 separation pad
7	Tray 2 pickup roller
8	Memory tag contact

Sensors and switches

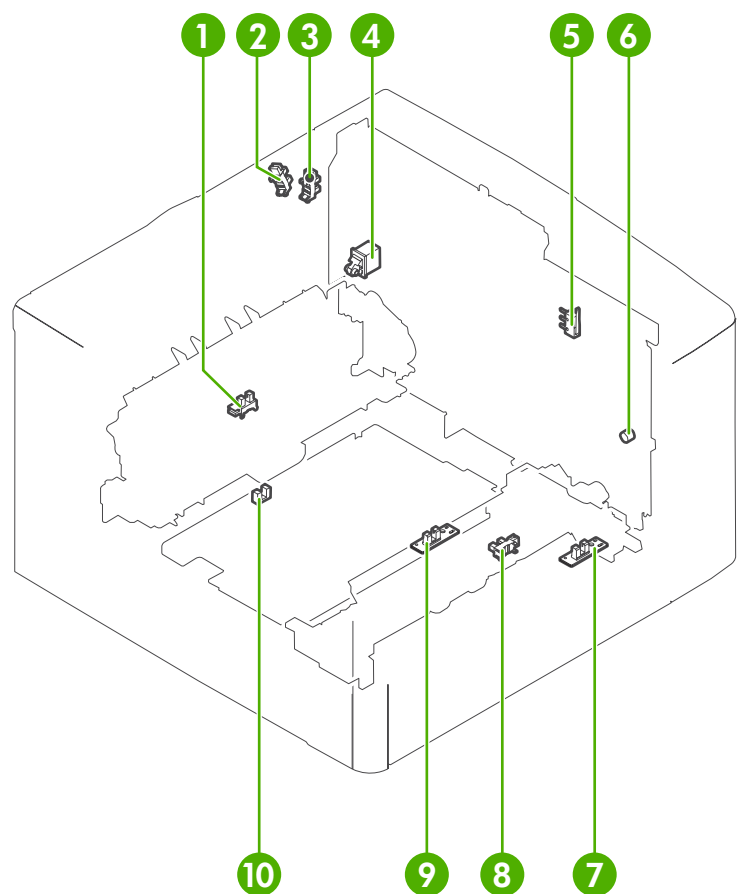


Figure 6-6 Sensors and switches

1	Delivery sensor (SR2)
2	Output-bin-full sensor (PS4)
3	Face-up cover sensor (PS1)
4	Power switch (SW101) on ECU PCA
5	Door switch (SW501)
6	Engine-test-print button (SW401) on test print switch PCA
7	Tray 1 media-present sensor (PS902) on tray 1 sensor PCA
8	Media-width sensor (PS903) on page-width sensor PCA
9	Top-of-page sensor (PS901) on top-of-page sensor PCA
10	Duplex sensor (PS502) on high-voltage power supply PCA

Motors, fans, and solenoids

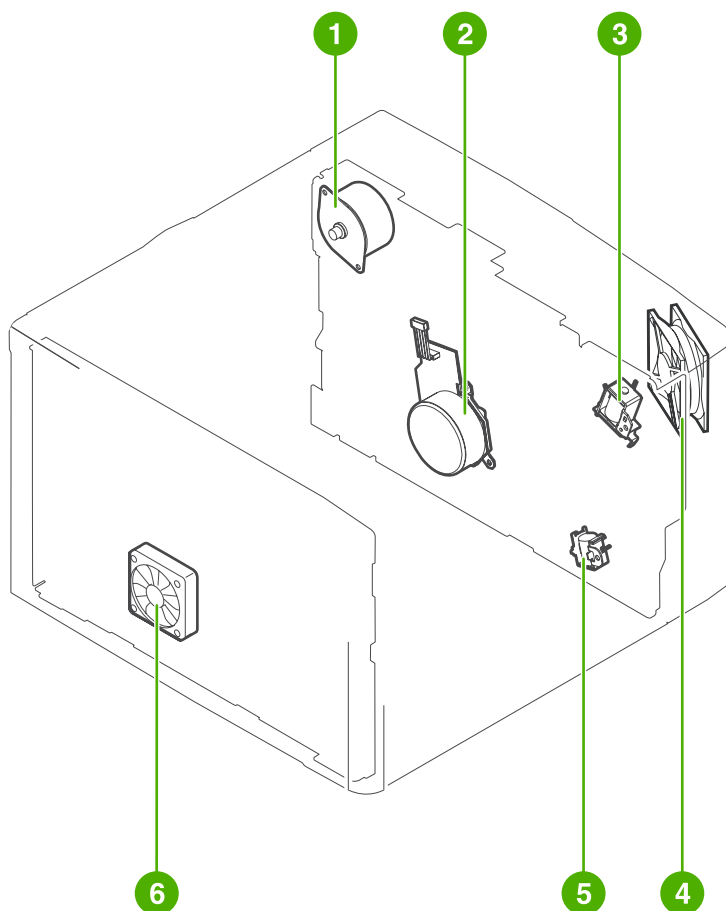


Figure 6-7 Motors, fans, and solenoids

1	Fuser motor (M2)
2	Main motor (M1)
3	Tray 1 pickup solenoid (SL1)
4	Main fan (FM1)
5	Tray 2 pickup solenoid (SL2)
6	Sub fan (FM2)

PCAs

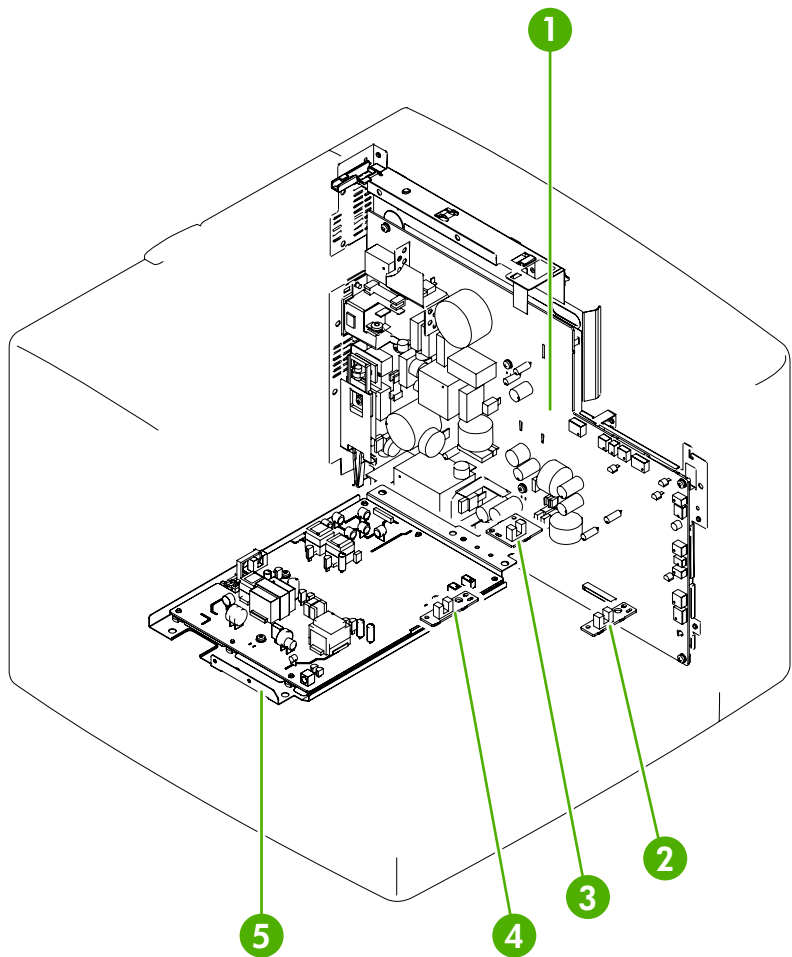


Figure 6-8 PCAs

1	ECU
2	Tray 1 sensor PCA (PS902)
3	Paper-width sensor PCA (PS903)
4	Top-of-page sensor PCA (PS901)
5	High-voltage PCA

Wiring diagrams

The following figures show device wiring and circuitry layout.

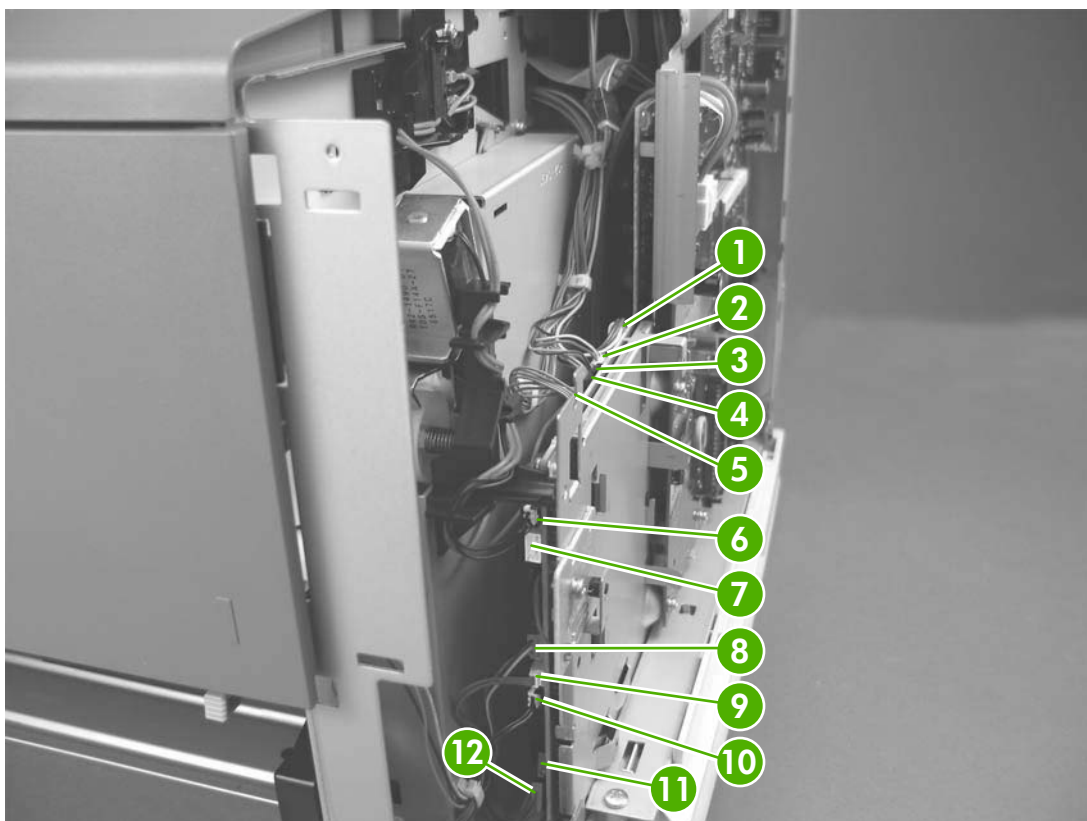


Figure 6-9 ECU wiring

1	M1, main motor (J407)
2	FM2, sub fan motor (J512)
3	Memory tag reader (J510)
4	Laser/scanner motor (J402)
5	Thermistors, rear-output-bin sensor, delivery sensor (J405)
6	SL1, tray 1 pickup solenoid (J508)
7	FM1, main fan motor (J509)
8	PS902, tray 1 sensor (J503)
9	PS3, tray 2 paper sensor (J502)
10	SL2, tray 2 pickup solenoid (J504)
11	Not used (J511)
12	Optional paper feeders (J406)

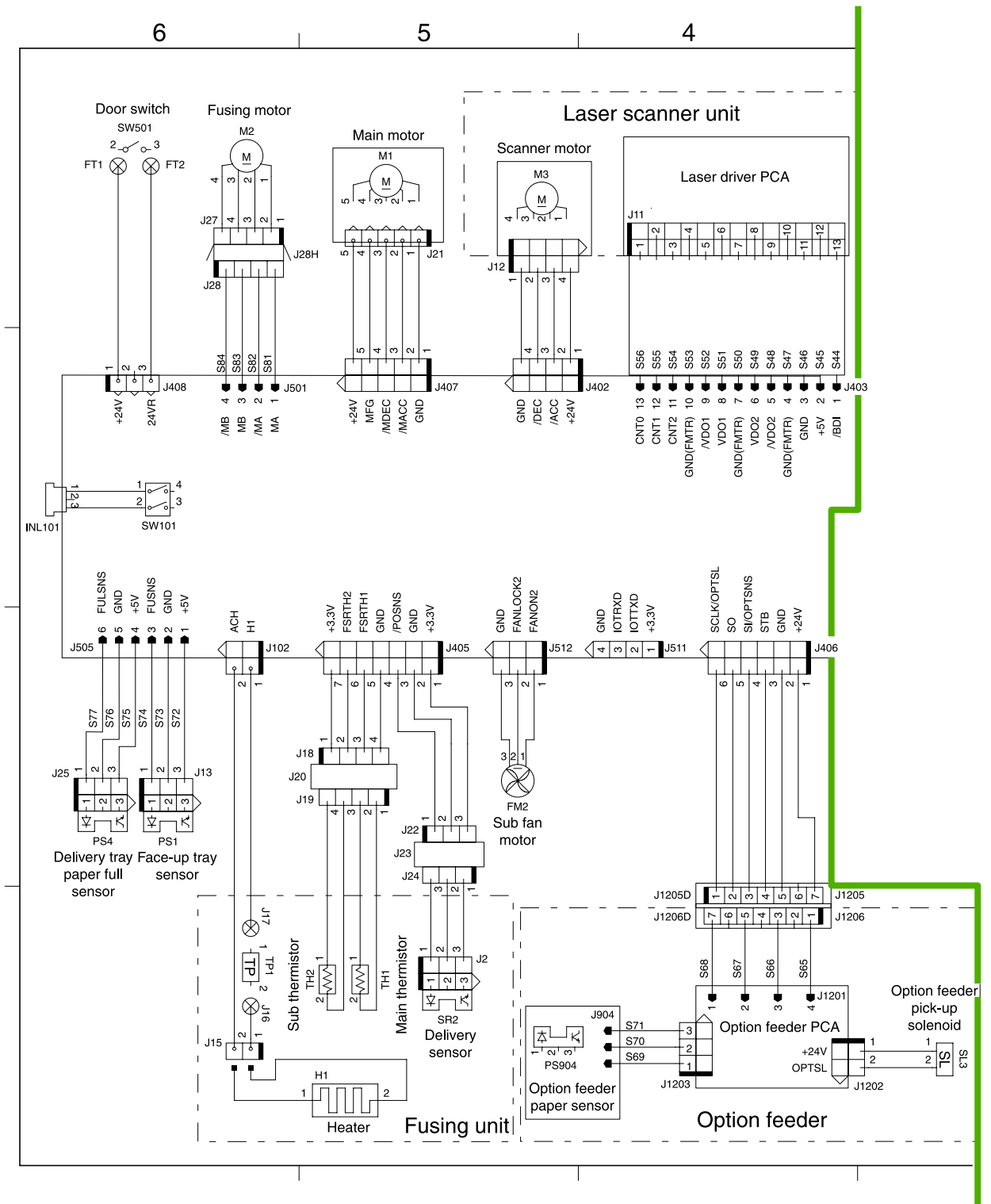


Figure 6-10 Circuit diagram (1 of 2)

7 Parts and diagrams

Chapter contents

- [Order parts, accessories, and supplies](#)
- [Part numbers](#)
- [Covers](#)
- [Internal components](#)
- [Tray 2 pickup assembly](#)
- [Alphabetical parts list](#)
- [Numerical parts list](#)

Order parts, accessories, and supplies

Several methods are available for ordering parts, supplies, and accessories:

- [Order directly from HP](#)
- [Order through service or support providers](#)
- [Order directly through the embedded Web server \(for printers that are connected to a network\)](#)
- [Order directly through the HP Easy Printer Care software](#)

Order directly from HP

You can obtain the following items directly from HP:

- **Replacement parts:** To order replacement parts in the U.S., go to www.hp.com/go/hpparts. Outside the United States, order parts by contacting your local authorized HP service center.
- **Supplies and accessories:** To order supplies in the U.S., go to www.hp.com/go/ljsupplies. To order supplies worldwide, go to www.hp.com/ghp/buyonline.html. To order accessories, go to www.hp.com/support/LJP3005.

Order through service or support providers

To order a part or accessory, contact an HP-authorized service or support provider.

Order directly through the embedded Web server (for printers that are connected to a network)

Use the following steps to order printing supplies directly through the embedded Web server.

1. In the Web browser on the computer, type the IP address or host name of the device. The status window opens.
2. In the **Other links** area, double-click **Order Supplies**. This provides a URL for a site from which you can purchase consumables.
3. Select the part numbers that you want to order, and follow the instructions on the screen.

Order directly through the HP Easy Printer Care software

HP Easy Printer Care software is a printer management tool designed to make printer configuration, monitoring, supplies ordering, troubleshooting, and updating as simple and efficient as possible. For more information about HP Easy Printer Care software, go to www.hp.com/go/easyprintercare.

Part numbers

The following list of accessories was current at the time of printing. Ordering information and availability of the accessories might change during the life of the device.

Paper-handling accessories

Item	Description	Part number
Optional 500-sheet tray and feeder unit (tray 3)	Optional tray to increase paper capacity. Holds Letter, A4, Legal, A5, B5 (JIS), Executive, and 8.5 x 13 paper sizes. Note: This tray is included with the HP LaserJet P3005x model.	Q7817A

Print cartridge

Item	Description	Part number
HP LaserJet print cartridge	6,500-page cartridge	Q7551A
HP LaserJet print cartridge	13,000-page cartridge	Q7551X

Memory

Item	Description	Part number
144-pin 133MHz DDR2 DIMM	32 MB	CB420A
Boosts the ability of the device to handle large or complex print jobs.	64 MB	CB421A
	128 MB	CB422A
	256 MB	CB423A

Cables and interfaces

Item	Description	Part number
Enhanced I/O (EIO) cards	HP Jetdirect 620n Fast Ethernet (10/100Base-TX) print server	J7934A
HP Jetdirect print server multi-protocol EIO network cards:	HP Jetdirect 625n Gigabit Ethernet (10/100/1000T) print server	J7960A
	HP Jetdirect 635n IPv6/IPsec print server	J7961A
	HP Jetdirect 680n 802.11b wireless internal print server	J6058A
	HP Jetdirect 680n 802.11b wireless internal print server	
	HP bt1300 Bluetooth wireless printer adapter	J6072A
Parallel cables	2-meter IEEE 1284-B cable	C2950A
	3-meter IEEE 1284-B cable	C2951A
USB cable	2-meter A to B cable	C6518A

Covers

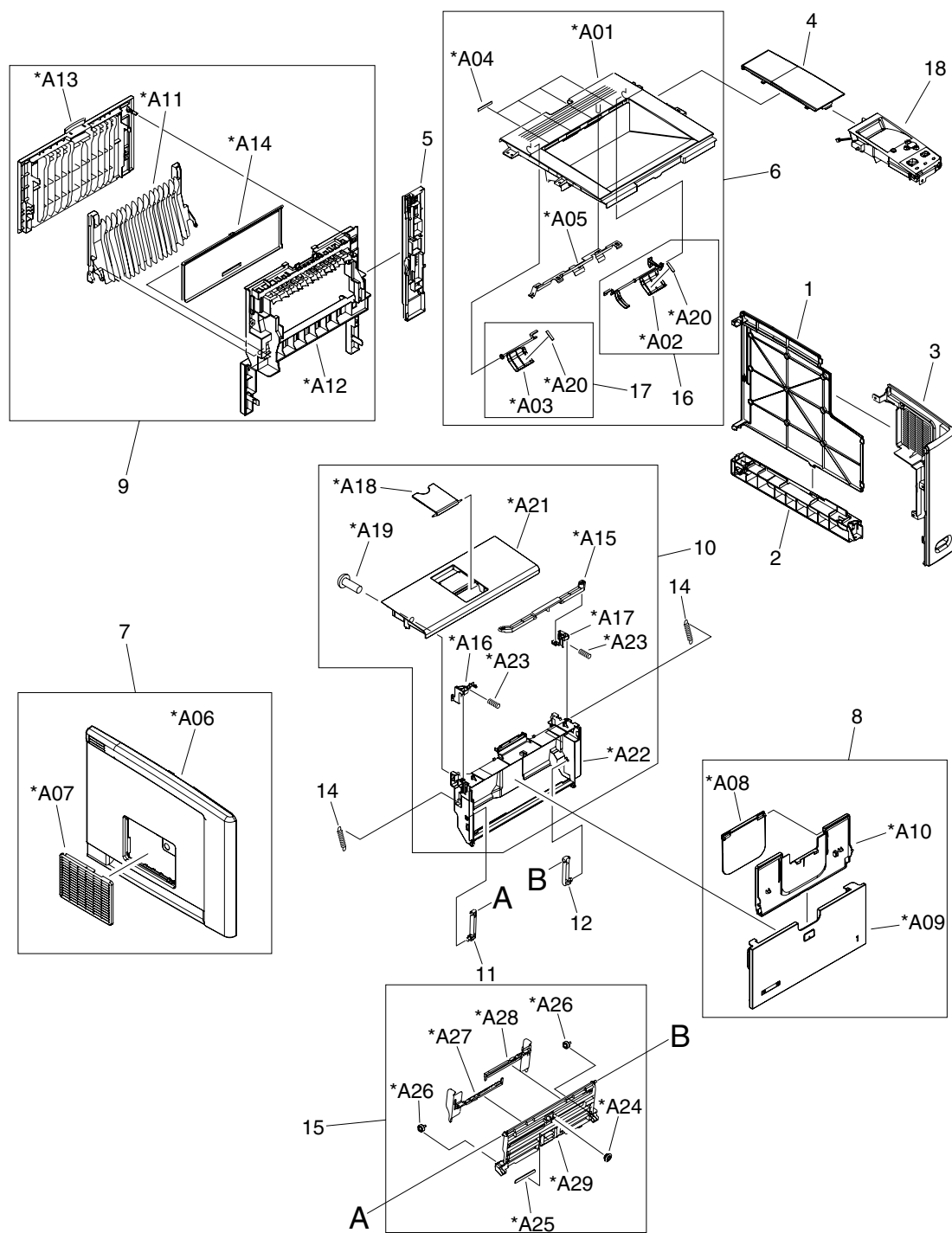


Figure 7-1 Covers

Table 7-1 Covers

Ref	Description	Part number	Qty
1	Cover, DIMM	RC2-0602-000	1
2	Cover, right lower	RC2-0603-000	1
3	Cover, right front	RL1-1367-000	1
4	Cover, right upper	RC2-0605-000	1
5	Cover, engine controller	RC2-0612-000	1
6	Top cover assembly	RM1-3720-000	1
7	Left cover assembly	RM1-3721-000	1
8	Multipurpose cover assembly	RM1-3723-000	1
9	Rear cover assembly	RM1-3724-000	1
10	Cartridge-door assembly	RM1-3722-000	1
11	Hinge, left	RC1-4057-000	1
12	Hinge, right	RC1-4058-000	1
14	Spring, tension	RU5-2388-000	2
15	Multipurpose tray assembly	RM1-1490-000	1
16	Face down full flag, right	RM1-3742-000	1
17	Face down full flag, left	RM1-3743-000	1
18	Control-panel assembly	RM1-3725-000	1

Internal components

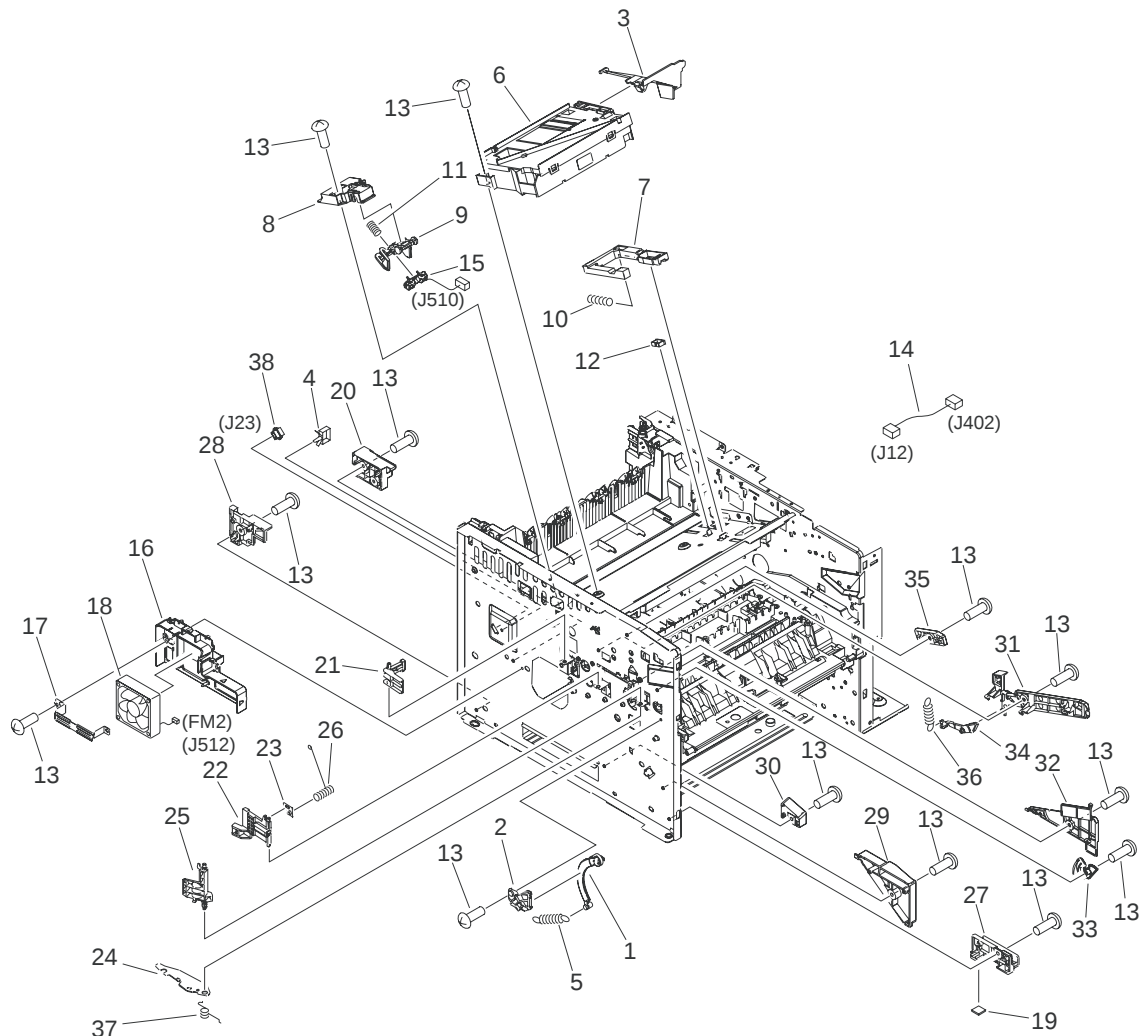


Figure 7-2 Internal components (1 of 6)

Table 7-2 Internal components (1 of 6)

Ref	Description	Part number	Qty
1	Arm, door	RC1-4055-000	1
2	Glide, door	RC1-4056-000	1
3	Duct, scanner	RC1-4128-020	1
4	Saddle, wire	WT2-5694-000	1
5	Spring, tension	RU5-2407-000	1
6	Laser/scanner assembly	RM1-1521-030	1
7	Link, laser shutter	RC1-4125-000	1
8	Stay, tag holder	RC1-4126-000	1
9	Holder, tag	RC1-4127-000	1
10	Spring, compression	RU5-2404-000	1
11	Spring, compression	RU5-2405-000	1
12	Clip, cable	WT2-5812-000	1
13	Screw, D, M3x8	XA9-1671-000	13
14	Cable, scanner motor	RM1-4053-000	1
15	Cable, memory tag	RM1-4054-000	1
16	Holder, fan, left	RC2-0622-000	1
17	Plate, fan shield, left	RC2-0623-000	1
18	Fan, left	RK2-1499-000	1
19	Foot, rubber	RA0-1003-000	1
20	Holder	RC1-4009-000	1
21	Lever, grounding contact	RC1-4065-000	1
22	Lever, grounding contact	RC1-4066-020	1
23	Spring, leaf	RC1-4067-000	1
24	Plate, protective	RC1-4136-000	1
25	Cam, contact	RC1-4137-020	1
26	Spring, compression	RC1-4140-000	1
27	Guide, cassette, front left	RC2-0565-000	1
28	Guide, cassette, rear left	RC2-0566-000	1
29	Guide, centerplate, left	RC2-0567-000	1
30	Stopper, feed guide, left	RC2-0585-000	1
31	Guide, cartridge upper, left	RC2-0703-000	1
32	Guide, cartridge lower, left	RC2-0704-000	1
33	Lever, drive release	RC2-0705-000	1
34	Lever, cartridge clamp	RC2-0706-000	1

Ref	Description	Part number	Qty
35	Stopper, cartridge, left	RC2-0707-000	1
36	Spring, tension	RU5-2403-000	1
37	Spring, torsion	RU5-2410-020	1
38	Connector, snap tight, bk	VS1-7177-003	1

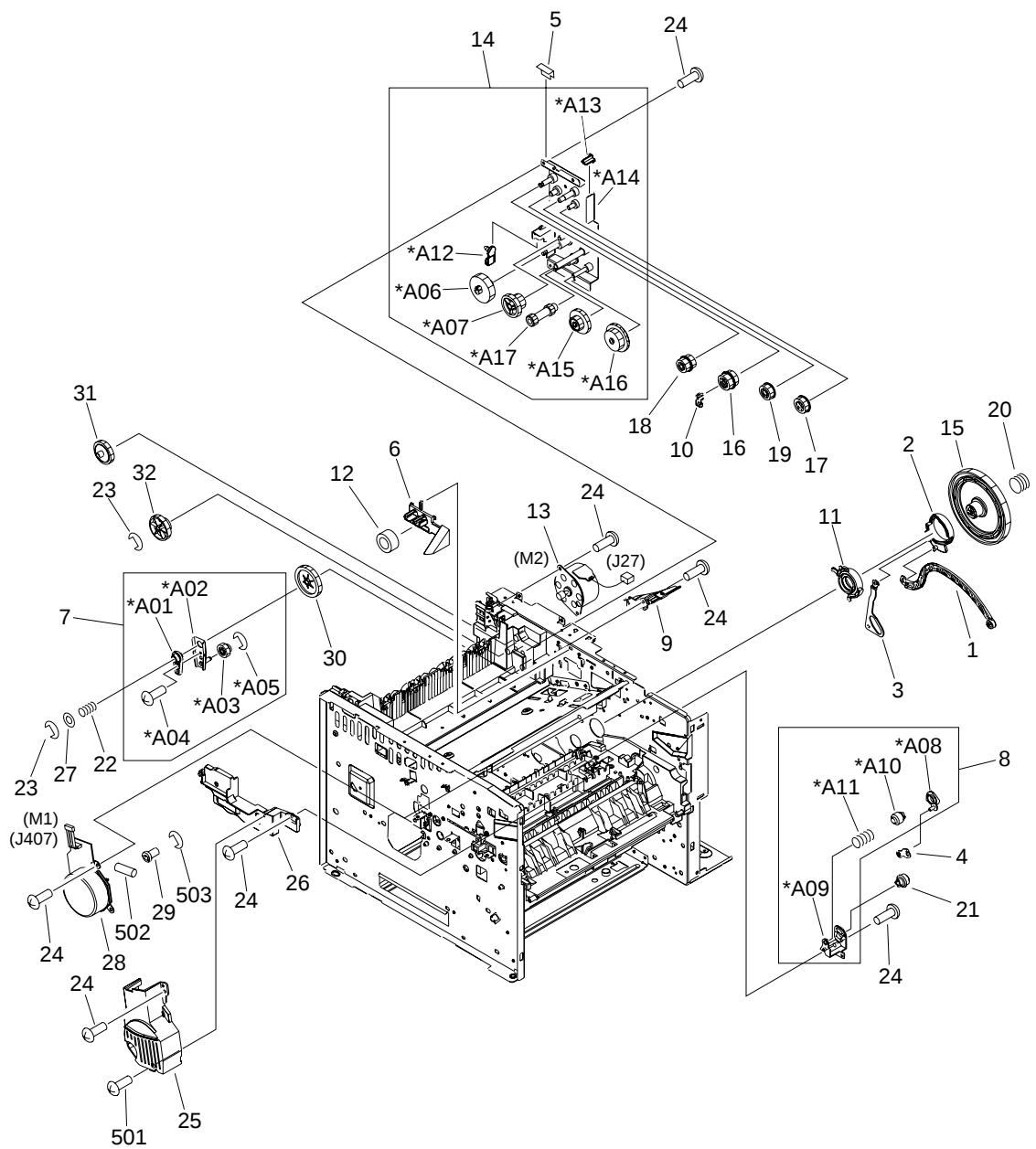


Figure 7-3 Internal components (2 of 6)

Table 7-3 Internal components (2 of 6)

Ref	Description	Part number	Qty
1	Lever, coupling	RC1-4115-000	1
2	Cam	RC1-4114-000	1
3	Lever, drive release	RC1-4116-000	1
4	Link, drive release	RC1-4117-000	1
5	Film, fuser drive side plate	RC2-0649-000	1
6	Duct, cartridge	RC2-0590-000	1
7	Pendulum assembly	RM1-3748-000	1
8	Drive release assembly	RM1-1522-000	1
9	Guide, air	RC2-0648-000	1
10	Stopper, fuser thrust	RC2-0657-000	1
11	Bushing, inner	RC2-0701-000	1
12	Ferrite core	WE8-5516-000	1
13	Motor, DC, stepping (M2), fusing	RK2-1489-000	1
14	Fuser drive assembly	RM1-3746-000	1
15	Gear, 201T	RU5-0950-000	1
16	Gear, 20T/20T	RU5-0956-000	1
17	Gear, 20T	RU5-0957-000	1
18	Gear, 17T/17T	RU5-0958-000	1
19	Gear, 19T	RU5-0959-000	1
20	Spring, compression	RU5-2401-000	1
21	Gear, 12T	RU5-0394-000	1
22	Spring, compression	RU5-2920-000	1
23	Ring, E	XD2-1100-402	2
24	Screw, D, M3x8	XA9-1671-000	30
25	Cover, main motor	RC1-4108-000	1
26	Cover, gear	RC2-0579-000	1
27	Washer, plain	RC2-0652-000	1
28	Motor, DC (M1), main	RK2-1488-000	1
29	Gear, 16T	RU5-0951-000	1
30	Gear, 43T	RU5-0955-000	1
31	Gear, 31T	RU5-0960-000	1
32	Gear, 65T	RU5-0962-000	1
501	Screw, tapping, truss head, M4x10	XB4-7401-005	1

Ref	Description	Part number	Qty
502	Pin, dowel	XD3-2120-122	1
503	Ring, E	XD2-1200-802	1

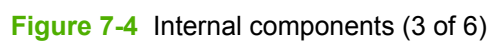


Table 7-4 Internal components (3 of 6)

Ref	Description	Part number	Qty
1	Bushing, transfer, right	RC1-0922-000	1
2	Transfer roller assembly	RM1-1508-000	1
3	Pad, separation, multipurpose tray	RC1-0939-000	1
4	Guide, feed	RC1-3935-000	1
5	Cover, registration	RC1-3936-020	1
6	Arm, pad	RC1-3937-000	1
7	Gear, 12T	RU5-0400-000	1
8	Eliminator, static charge	RC1-4025-000	1
9	Lever, sensor	RC1-4027-000	1
10	Spring, torsion	RC1-4028-000	1
11	Spring, torsion	RC1-4059-000	1
12	Lever	RC1-4060-000	1
13	Spring, torsion	RC1-4061-000	1
14	Roller, multipurpose pick-up	RL1-0568-000	1
15	Screw, D, M3x8	XA9-1671-000	1
16	Sheet, static charge	RC1-4069-000	2
17	Sheet, static charge	RC1-4070-000	1
18	Spring, compression	RU5-2408-000	1
19	Registration assembly	RM1-3715-000	1
20	Multipurpose paper pick-up roller assembly	RM1-3716-000	1
21	Lower transfer guide assembly	RM1-3757-000	1
22	Stopper, gear	RC1-4189-000	1
23	Spring, compression	RU5-2385-000	1
24	Arm, paper-width sensor	RC2-0575-000	1
25	Spring, torsion	RC2-0576-000	1
26	Cable, paper delivery sensor	RM1-4057-000	1
27	Gear, 17T	RA0-1172-000	1
28	Spring, compression	RC2-0483-000	1
29	Gear, 14T	RU5-0409-000	1
30	Gear, 30T	RU5-0366-000	1
501	Screw, tapping, truss head, M4x10	XB4-7401-005	9

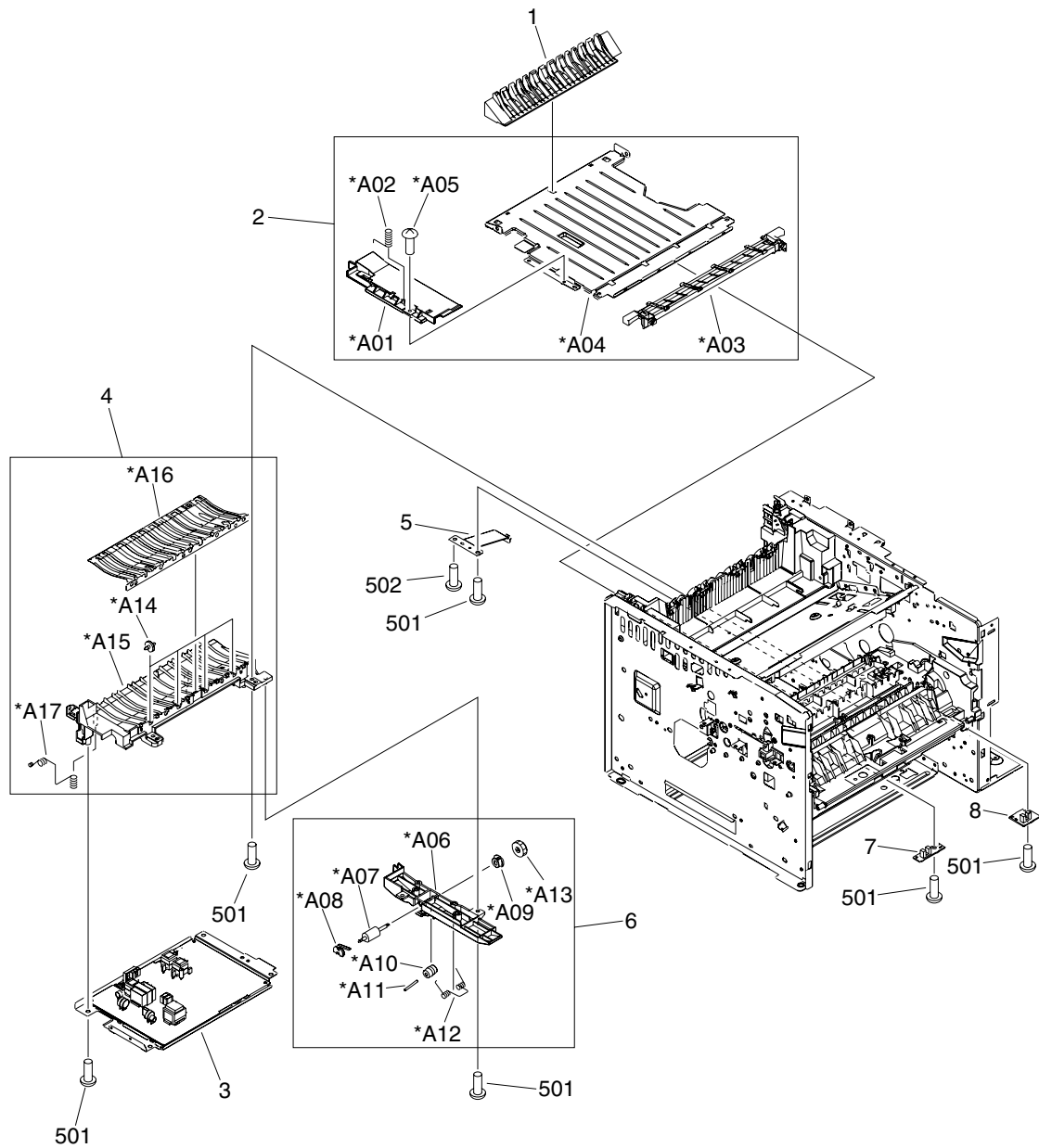


Figure 7-5 Internal components (4 of 6)

Table 7-5 Internal components (4 of 6)

Ref	Description	Part number	Qty
1	Guide, duplex inlet	RC1-4096-000	1
2	Lower paper feed assembly	RM1-3759-000	1
3	High-voltage PCA	RM1-3758-000	1
4	Paper feed guide assembly	RM1-3760-000	1
5	Plate, grounding	RC1-4085-000	1
6	Oblique roller assembly	RM1-1506-000	1
7	Top sensor PCA (PS901)	RM1-4040-000	1
8	Paper-width sensor PCA (PS903)	RM1-4042-000	1
501	Screw, tapping, truss head, M4x10	XB4-7401-005	7
502	Screw, with washer, M3x6	XB2-7300-605	1

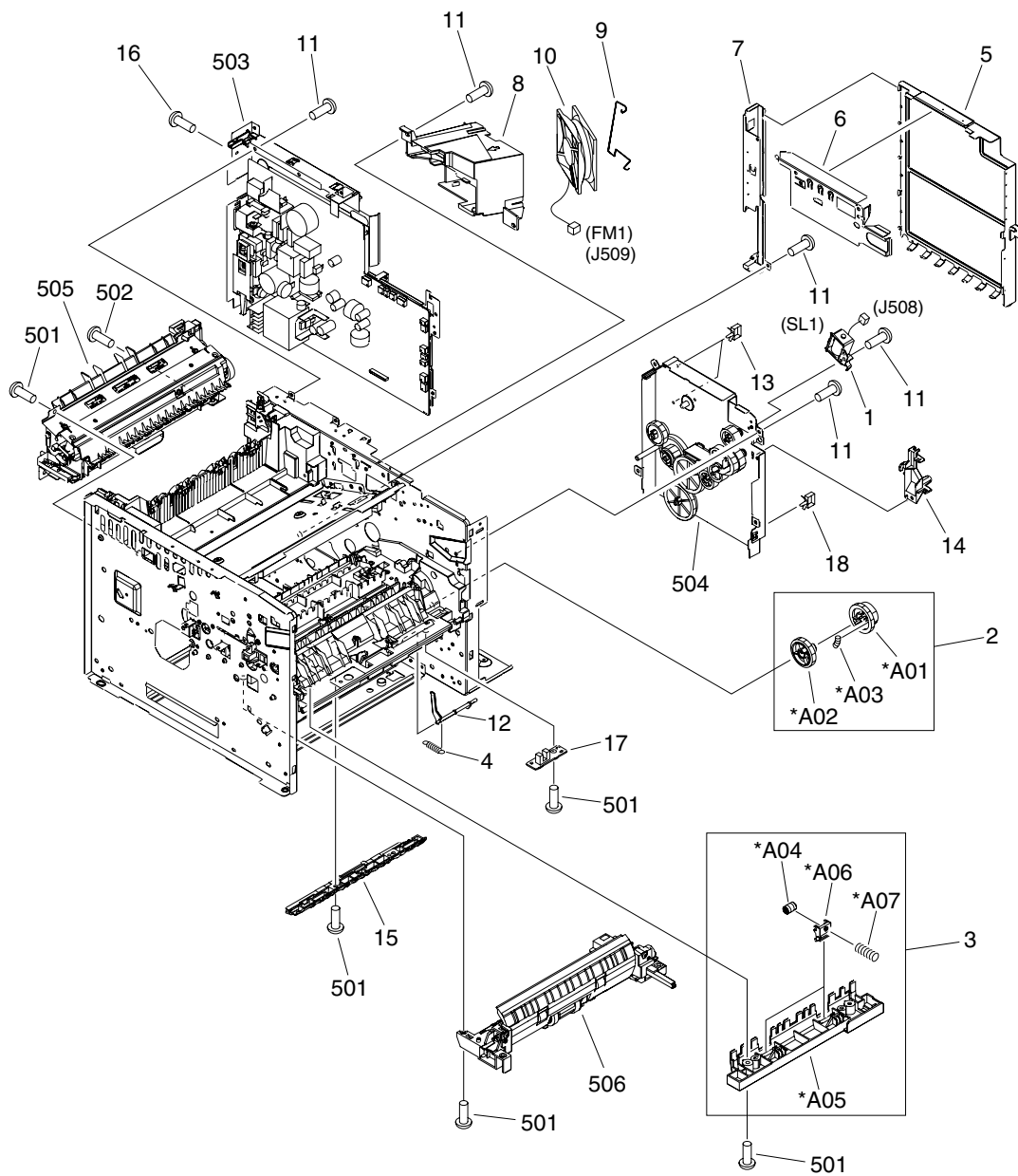


Figure 7-6 Internal components (5 of 6)

Table 7-6 Internal components (5 of 6)

Ref	Description	Part number	Qty
1	Solenoid, tray 1 (SL1)	RK2-1490-000	1
2	Pick-up roller gear assembly	RM1-3714-000	1
3	roller stay assembly	RM1-1485-000	1
4	Spring, torsion	RU5-2386-000	1
5	Cover, formatter	RC2-0627-000	1
6	Plate, anti-magnetic	RC2-0628-000	1
7	Plate, inlet/outlet (non-network models)	RC2-0638-000	1
7	Plate, inlet/outlet (network models)	RC2-0629-000	1
8	Holder, fan	RC2-0592-000	1
9	Static wire, fan	RC2-0593-000	1
10	Fan, right (FM1)	RK2-1497-000	1
11	Screw, D, M3x8	XA9-1671-000	15
12	Lever, sensor	RC1-3939-000	1
13	Saddle, wire	WT2-5694-000	2
14	Holder, cable	RC2-0588-000	1
15	Guide	RC1-4083-000	1
16	Screw, tap, M3x6	XA9-1503-000	18
17	Multipurpose sensor PCA (PS3)	RM1-4041-000	1
18	Clip, cable	WT2-5678-000	1
501	Screw, tapping, truss head, M4x10	XB4-7401-005	10
502	Screw, with washer, M3x6	XB2-7300-605	1
503	Engine controller assembly — 110–127V	RM1-3730-000	1
503	Engine controller assembly — 220–240V	RM1-3731-000	1
504	Main drive assembly	RM1-3712-000	1
505	Fuser assembly (110-127V)	RM1-3740-000	1
505	Fuser assembly (220-240V)	RM1-3741-000	1
506	Paper pick-up assembly	RM1-3762-000	1

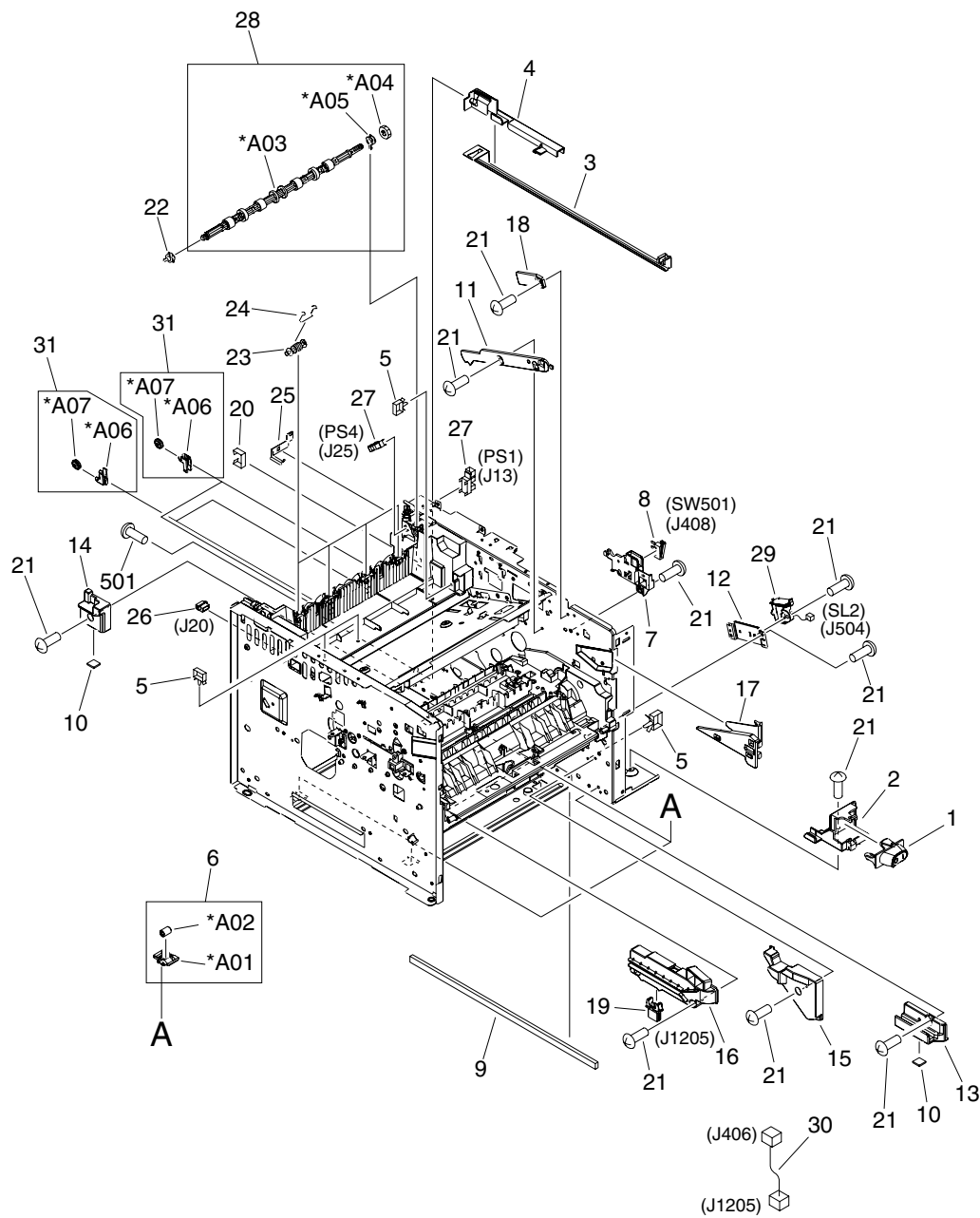


Figure 7-7 Internal components (6 of 6)

Table 7-7 Internal components (6 of 6)

Ref	Description	Part number	Qty
1	Switch, front	RC2-0631-000	1
2	Holder, switch	RC2-0632-000	1
3	Link, switch	RC2-0633-000	1
4	Holder, switch link	RC2-0634-000	1
5	Clip, cable	WT2-5678-000	4
6	Bottom plate roller assembly	RM1-3727-000	4
7	Holder, interlock	RC2-0595-000	1
8	Microswitch (SW501), door	RK2-0534-000	1
9	Cushion, right lower	RC2-0468-000	1
10	Foot, rubber	RA0-1003-000	2
11	Guide, cartridge upper, right	RC2-0492-000	1
12	Mount, solenoid	RC2-0498-000	1
13	Guide, cassette, front right	RC2-0559-000	1
14	Guide, cassette, rear right	RC2-0560-000	1
15	Guide, center plate, right	RC2-0561-000	1
16	Holder, option connector	RC2-0562-000	1
17	Guide, cartridge lower, right	RC2-0700-000	1
18	Stopper, cartridge, right	RC2-0702-000	1
19	Connector, drawer	VS1-7257-007	1
20	Clip, cable	WT2-5056-000	1
21	Screw, D, M3x8	XA9-1671-000	14
22	Bushing	RC1-3665-000	1
23	Roller, face-down	RC1-3994-000	4
24	Spring, torsion	RC2-0665-000	4
25	Plate, face-up shield	RC2-0697-000	1
26	Connector, snap tight, bk	VS1-7177-004	1
27	IC, photo interrupter (PS1)	WG8-5624-000	2
28	Face-down roller assembly	RM1-3749-000	1
29	Solenoid (SL2)	RK2-1492-000	1
30	Cable, option interface	RM1-4062-000	1
31	Delivery roller assembly	RM1-1497-000	4
501	Screw, tapping, truss head, M4x10	XB4-7401-005	1

Tray 2 pickup assembly

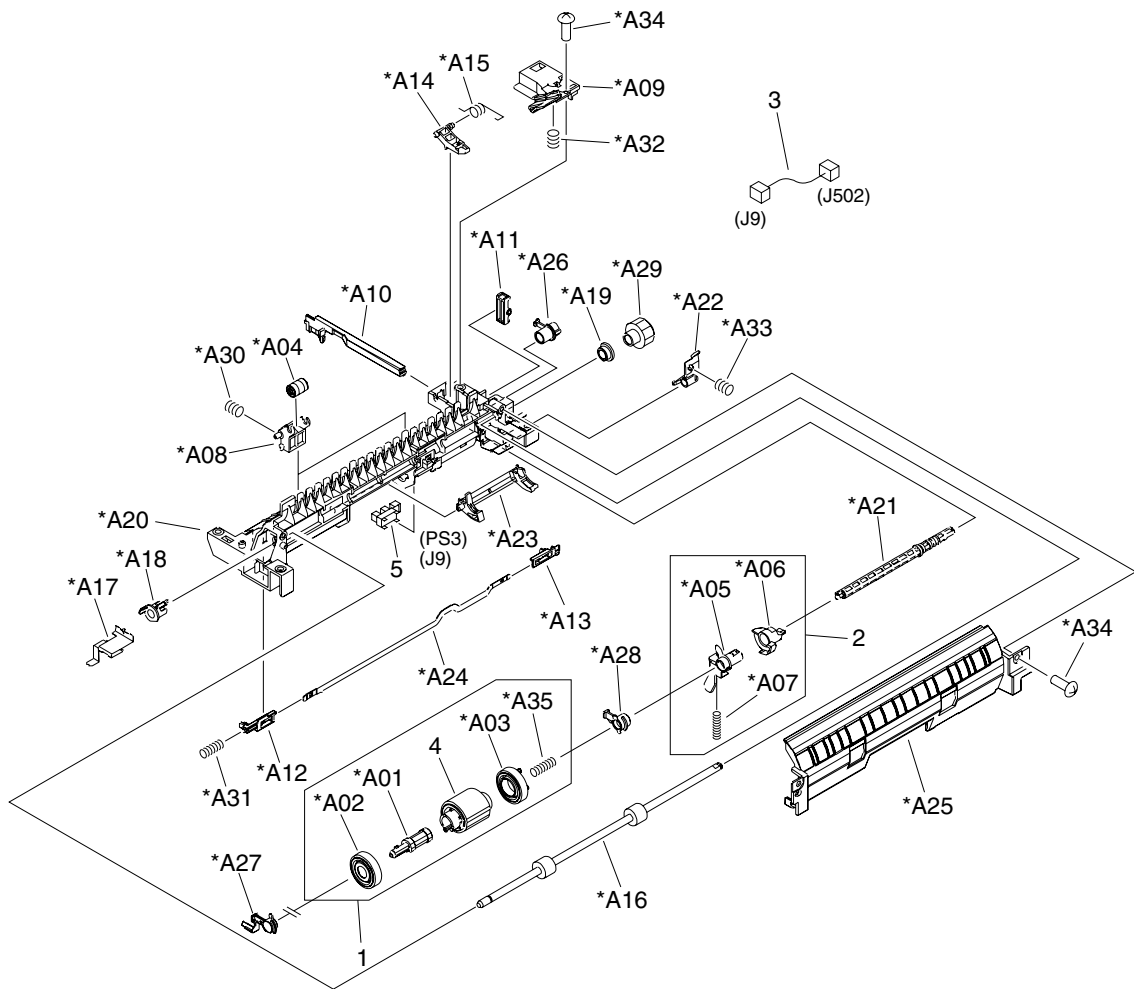


Figure 7-8 Tray 2 pickup assembly

Table 7-8 Tray 2 pickup assembly

Ref	Description	Part number	Qty
	Tray 2 pickup assembly	RM1-3762-000	1
1	Tray 2 pickup roller assembly	RM1-3763-000	1
2	Sensor-flag assembly	RM1-3769-000	1
3	Cable, tray 2 sensor	RM1-4060-000	1
4	Roller, tray 2 paper pickup	RL1-1370-000	1
5	IC, photo interrupter (PS3)	WG8-5624-000	1

Alphabetical parts list

Table 7-9 Alphabetical parts list

Description	Part number	Table and page
Arm, door	RC1-4055-000	Internal components (1 of 6) on page 207
Arm, pad	RC1-3937-000	Internal components (3 of 6) on page 215
Arm, paper-width sensor	RC2-0575-000	Internal components (3 of 6) on page 215
Bottom plate roller assembly	RM1-3727-000	Internal components (6 of 6) on page 221
Bushing	RC1-3665-000	Internal components (6 of 6) on page 221
Bushing, inner	RC2-0701-000	Internal components (2 of 6) on page 211
Bushing, transfer, right	RC1-0922-000	Internal components (3 of 6) on page 215
Cable, memory tag	RM1-4054-000	Internal components (1 of 6) on page 207
Cable, option interface	RM1-4062-000	Internal components (6 of 6) on page 221
Cable, paper delivery sensor	RM1-4057-000	Internal components (3 of 6) on page 215
Cable, scanner motor	RM1-4053-000	Internal components (1 of 6) on page 207
Cable, tray 2 sensor	RM1-4060-000	Tray 2 pickup assembly on page 223
Cam	RC1-4114-000	Internal components (2 of 6) on page 211
Cam, contact	RC1-4137-020	Internal components (1 of 6) on page 207
Cartridge-door assembly	RM1-3722-000	Covers on page 205
Clip, cable	WT2-5812-000	Internal components (1 of 6) on page 207
Clip, cable	WT2-5678-000	Internal components (5 of 6) on page 219
Clip, cable	WT2-5678-000	Internal components (6 of 6) on page 221
Clip, cable	WT2-5056-000	Internal components (6 of 6) on page 221
Connector, drawer	VS1-7257-007	Internal components (6 of 6) on page 221
Connector, snap tight, bk	VS1-7177-003	Internal components (1 of 6) on page 207

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Connector, snap tight, bk	VS1-7177-004	Internal components (6 of 6) on page 221
Control-panel assembly	RM1-3725-000	Covers on page 205
Cover, DIMM	RC2-0602-000	Covers on page 205
Cover, engine controller	RC2-0612-000	Covers on page 205
Cover, formatter	RC2-0627-000	Internal components (5 of 6) on page 219
Cover, gear	RC2-0579-000	Internal components (2 of 6) on page 211
Cover, main motor	RC1-4108-000	Internal components (2 of 6) on page 211
Cover, registration	RC1-3936-020	Internal components (3 of 6) on page 215
Cover, right front	RL1-1367-000	Covers on page 205
Cover, right lower	RC2-0603-000	Covers on page 205
Cover, right upper	RC2-0605-000	Covers on page 205
Cushion, right lower	RC2-0468-000	Internal components (6 of 6) on page 221
Delivery roller assembly	RM1-1497-000	Internal components (6 of 6) on page 221
Drive release assembly	RM1-1522-000	Internal components (2 of 6) on page 211
Duct, cartridge	RC2-0590-000	Internal components (2 of 6) on page 211
Duct, scanner	RC1-4128-020	Internal components (1 of 6) on page 207
Eliminator, static charge	RC1-4025-000	Internal components (3 of 6) on page 215
Engine controller assembly — 110–127V	RM1-3730-000	Internal components (5 of 6) on page 219
Engine controller assembly — 220–240V	RM1-3731-000	Internal components (5 of 6) on page 219
Face down full flag, left	RM1-3743-000	Covers on page 205
Face down full flag, right	RM1-3742-000	Covers on page 205
Face-down roller assembly	RM1-3749-000	Internal components (6 of 6) on page 221
Fan, left	RK2-1499-000	Internal components (1 of 6) on page 207
Fan, right (FM1)	RK2-1497-000	Internal components (5 of 6) on page 219
Ferrite core	WE8-5516-000	Internal components (2 of 6) on page 211

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Film, fuser drive side plate	RC2-0649-000	Internal components (2 of 6) on page 211
Foot, rubber	RA0-1003-000	Internal components (1 of 6) on page 207
Foot, rubber	RA0-1003-000	Internal components (6 of 6) on page 221
Fuser assembly (110-127V)	RM1-3740-000	Internal components (5 of 6) on page 219
Fuser assembly (220-240V)	RM1-3741-000	Internal components (5 of 6) on page 219
Fuser drive assembly	RM1-3746-000	Internal components (2 of 6) on page 211
Gear, 12T	RU5-0394-000	Internal components (2 of 6) on page 211
Gear, 12T	RU5-0400-000	Internal components (3 of 6) on page 215
Gear, 14T	RU5-0409-000	Internal components (3 of 6) on page 215
Gear, 16T	RU5-0951-000	Internal components (2 of 6) on page 211
Gear, 17T	RA0-1172-000	Internal components (3 of 6) on page 215
Gear, 17T/17T	RU5-0958-000	Internal components (2 of 6) on page 211
Gear, 19T	RU5-0959-000	Internal components (2 of 6) on page 211
Gear, 201T	RU5-0950-000	Internal components (2 of 6) on page 211
Gear, 20T	RU5-0957-000	Internal components (2 of 6) on page 211
Gear, 20T/20T	RU5-0956-000	Internal components (2 of 6) on page 211
Gear, 30T	RU5-0366-000	Internal components (3 of 6) on page 215
Gear, 31T	RU5-0960-000	Internal components (2 of 6) on page 211
Gear, 43T	RU5-0955-000	Internal components (2 of 6) on page 211
Gear, 65T	RU5-0962-000	Internal components (2 of 6) on page 211
Glide, door	RC1-4056-000	Internal components (1 of 6) on page 207
Guide	RC1-4083-000	Internal components (5 of 6) on page 219

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Guide, air	RC2-0648-000	Internal components (2 of 6) on page 211
Guide, cartridge lower, left	RC2-0704-000	Internal components (1 of 6) on page 207
Guide, cartridge lower, right	RC2-0700-000	Internal components (6 of 6) on page 221
Guide, cartridge upper, left	RC2-0703-000	Internal components (1 of 6) on page 207
Guide, cartridge upper, right	RC2-0492-000	Internal components (6 of 6) on page 221
Guide, cassette, front left	RC2-0565-000	Internal components (1 of 6) on page 207
Guide, cassette, front right	RC2-0559-000	Internal components (6 of 6) on page 221
Guide, cassette, rear left	RC2-0566-000	Internal components (1 of 6) on page 207
Guide, cassette, rear right	RC2-0560-000	Internal components (6 of 6) on page 221
Guide, center plate, right	RC2-0561-000	Internal components (6 of 6) on page 221
Guide, centerplate, left	RC2-0567-000	Internal components (1 of 6) on page 207
Guide, duplex inlet	RC1-4096-000	Internal components (4 of 6) on page 217
Guide, feed	RC1-3935-000	Internal components (3 of 6) on page 215
High-voltage PCA	RM1-3758-000	Internal components (4 of 6) on page 217
Hinge, left	RC1-4057-000	Covers on page 205
Hinge, right	RC1-4058-000	Covers on page 205
Holder	RC1-4009-000	Internal components (1 of 6) on page 207
Holder, cable	RC2-0588-000	Internal components (5 of 6) on page 219
Holder, fan	RC2-0592-000	Internal components (5 of 6) on page 219
Holder, fan, left	RC2-0622-000	Internal components (1 of 6) on page 207
Holder, interlock	RC2-0595-000	Internal components (6 of 6) on page 221
Holder, option connector	RC2-0562-000	Internal components (6 of 6) on page 221
Holder, switch	RC2-0632-000	Internal components (6 of 6) on page 221

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Holder, switch link	RC2-0634-000	Internal components (6 of 6) on page 221
Holder, tag	RC1-4127-000	Internal components (1 of 6) on page 207
IC, photo interrupter (PS1)	WG8-5624-000	Internal components (6 of 6) on page 221
IC, photo interrupter (PS3)	WG8-5624-000	Tray 2 pickup assembly on page 223
Laser/scanner assembly	RM1-1521-030	Internal components (1 of 6) on page 207
Left cover assembly	RM1-3721-000	Covers on page 205
Lever	RC1-4060-000	Internal components (3 of 6) on page 215
Lever, cartridge clamp	RC2-0706-000	Internal components (1 of 6) on page 207
Lever, coupling	RC1-4115-000	Internal components (2 of 6) on page 211
Lever, drive release	RC2-0705-000	Internal components (1 of 6) on page 207
Lever, drive release	RC1-4116-000	Internal components (2 of 6) on page 211
Lever, grounding contact	RC1-4065-000	Internal components (1 of 6) on page 207
Lever, grounding contact	RC1-4066-020	Internal components (1 of 6) on page 207
Lever, sensor	RC1-4027-000	Internal components (3 of 6) on page 215
Lever, sensor	RC1-3939-000	Internal components (5 of 6) on page 219
Link, drive release	RC1-4117-000	Internal components (2 of 6) on page 211
Link, laser shutter	RC1-4125-000	Internal components (1 of 6) on page 207
Link, switch	RC2-0633-000	Internal components (6 of 6) on page 221
Lower paper feed assembly	RM1-3759-000	Internal components (4 of 6) on page 217
Lower transfer guide assembly	RM1-3757-000	Internal components (3 of 6) on page 215
Main drive assembly	RM1-3712-000	Internal components (5 of 6) on page 219
Microswitch (SW501), door	RK2-0534-000	Internal components (6 of 6) on page 221

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Motor, DC (M1), main	RK2-1488-000	Internal components (2 of 6) on page 211
Motor, DC, stepping (M2), fusing	RK2-1489-000	Internal components (2 of 6) on page 211
Mount, solenoid	RC2-0498-000	Internal components (6 of 6) on page 221
Multipurpose cover assembly	RM1-3723-000	Covers on page 205
Multipurpose paper pick-up roller assembly	RM1-3716-000	Internal components (3 of 6) on page 215
Multipurpose sensor PCA (PS3)	RM1-4041-000	Internal components (5 of 6) on page 219
Multipurpose tray assembly	RM1-1490-000	Covers on page 205
Oblique roller assembly	RM1-1506-000	Internal components (4 of 6) on page 217
Pad, separation, multipurpose tray	RC1-0939-000	Internal components (3 of 6) on page 215
Paper feed guide assembly	RM1-3760-000	Internal components (4 of 6) on page 217
Paper pick-up assembly	RM1-3762-000	Internal components (5 of 6) on page 219
Paper-width sensor PCA (PS903)	RM1-4042-000	Internal components (4 of 6) on page 217
Pendulum assembly	RM1-3748-000	Internal components (2 of 6) on page 211
Pick-up roller gear assembly	RM1-3714-000	Internal components (5 of 6) on page 219
Pin, dowel	XD3-2120-122	Internal components (2 of 6) on page 211
Plate, anti-magnetic	RC2-0628-000	Internal components (5 of 6) on page 219
Plate, face-up shield	RC2-0697-000	Internal components (6 of 6) on page 221
Plate, fan shield, left	RC2-0623-000	Internal components (1 of 6) on page 207
Plate, grounding	RC1-4085-000	Internal components (4 of 6) on page 217
Plate, inlet/outlet (network models)	RC2-0629-000	Internal components (5 of 6) on page 219
Plate, inlet/outlet (non-network models)	RC2-0638-000	Internal components (5 of 6) on page 219
Plate, protective	RC1-4136-000	Internal components (1 of 6) on page 207
Rear cover assembly	RM1-3724-000	Covers on page 205

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Registration assembly	RM1-3715-000	Internal components (3 of 6) on page 215
Ring, E	XD2-1100-402	Internal components (2 of 6) on page 211
Ring, E	XD2-1200-802	Internal components (2 of 6) on page 211
roller stay assembly	RM1-1485-000	Internal components (5 of 6) on page 219
Roller, face-down	RC1-3994-000	Internal components (6 of 6) on page 221
Roller, multipurpose pick-up	RL1-0568-000	Internal components (3 of 6) on page 215
Roller, tray 2 paper pickup	RL1-1370-000	Tray 2 pickup assembly on page 223
Saddle, wire	WT2-5694-000	Internal components (1 of 6) on page 207
Saddle, wire	WT2-5694-000	Internal components (5 of 6) on page 219
Screw, D, M3x8	XA9-1671-000	Internal components (1 of 6) on page 207
Screw, D, M3x8	XA9-1671-000	Internal components (2 of 6) on page 211
Screw, D, M3x8	XA9-1671-000	Internal components (3 of 6) on page 215
Screw, D, M3x8	XA9-1671-000	Internal components (5 of 6) on page 219
Screw, D, M3x8	XA9-1671-000	Internal components (6 of 6) on page 221
Screw, tap, M3x6	XA9-1503-000	Internal components (5 of 6) on page 219
Screw, tapping, truss head, M4x10	XB4-7401-005	Internal components (2 of 6) on page 211
Screw, tapping, truss head, M4x10	XB4-7401-005	Internal components (3 of 6) on page 215
Screw, tapping, truss head, M4x10	XB4-7401-005	Internal components (4 of 6) on page 217
Screw, tapping, truss head, M4x10	XB4-7401-005	Internal components (5 of 6) on page 219
Screw, tapping, truss head, M4x10	XB4-7401-005	Internal components (6 of 6) on page 221
Screw, with washer, M3x6	XB2-7300-605	Internal components (4 of 6) on page 217
Screw, with washer, M3x6	XB2-7300-605	Internal components (5 of 6) on page 219

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Sensor-flag assembly	RM1-3769-000	Tray 2 pickup assembly on page 223
Sheet, static charge	RC1-4069-000	Internal components (3 of 6) on page 215
Sheet, static charge	RC1-4070-000	Internal components (3 of 6) on page 215
Solenoid (SL2)	RK2-1492-000	Internal components (6 of 6) on page 221
Solenoid, tray 1 (SL1)	RK2-1490-000	Internal components (5 of 6) on page 219
Spring, compression	RU5-2404-000	Internal components (1 of 6) on page 207
Spring, compression	RU5-2405-000	Internal components (1 of 6) on page 207
Spring, compression	RC1-4140-000	Internal components (1 of 6) on page 207
Spring, compression	RU5-2401-000	Internal components (2 of 6) on page 211
Spring, compression	RU5-2920-000	Internal components (2 of 6) on page 211
Spring, compression	RU5-2408-000	Internal components (3 of 6) on page 215
Spring, compression	RU5-2385-000	Internal components (3 of 6) on page 215
Spring, compression	RC2-0483-000	Internal components (3 of 6) on page 215
Spring, leaf	RC1-4067-000	Internal components (1 of 6) on page 207
Spring, tension	RU5-2388-000	Covers on page 205
Spring, tension	RU5-2407-000	Internal components (1 of 6) on page 207
Spring, tension	RU5-2403-000	Internal components (1 of 6) on page 207
Spring, torsion	RU5-2410-020	Internal components (1 of 6) on page 207
Spring, torsion	RC1-4028-000	Internal components (3 of 6) on page 215
Spring, torsion	RC1-4059-000	Internal components (3 of 6) on page 215
Spring, torsion	RC1-4061-000	Internal components (3 of 6) on page 215
Spring, torsion	RC2-0576-000	Internal components (3 of 6) on page 215

Table 7-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, torsion	RU5-2386-000	Internal components (5 of 6) on page 219
Spring, torsion	RC2-0665-000	Internal components (6 of 6) on page 221
Static wire, fan	RC2-0593-000	Internal components (5 of 6) on page 219
Stay, tag holder	RC1-4126-000	Internal components (1 of 6) on page 207
Stopper, cartridge, left	RC2-0707-000	Internal components (1 of 6) on page 207
Stopper, cartridge, right	RC2-0702-000	Internal components (6 of 6) on page 221
Stopper, feed guide, left	RC2-0585-000	Internal components (1 of 6) on page 207
Stopper, fuser thrust	RC2-0657-000	Internal components (2 of 6) on page 211
Stopper, gear	RC1-4189-000	Internal components (3 of 6) on page 215
Switch, front	RC2-0631-000	Internal components (6 of 6) on page 221
Top cover assembly	RM1-3720-000	Covers on page 205
Top sensor PCA (PS901)	RM1-4040-000	Internal components (4 of 6) on page 217
Transfer roller assembly	RM1-1508-000	Internal components (3 of 6) on page 215
Tray 2 pickup assembly	RM1-3762-000	Tray 2 pickup assembly on page 223
Tray 2 pickup roller assembly	RM1-3763-000	Tray 2 pickup assembly on page 223
Washer, plain	RC2-0652-000	Internal components (2 of 6) on page 211

Numerical parts list

Table 7-10 Numerical parts list

Part number	Description	Table and page
RA0-1003-000	Foot, rubber	Internal components (1 of 6) on page 207
RA0-1003-000	Foot, rubber	Internal components (6 of 6) on page 221
RA0-1172-000	Gear, 17T	Internal components (3 of 6) on page 215
RC1-0922-000	Bushing, transfer, right	Internal components (3 of 6) on page 215
RC1-0939-000	Pad, separation, multipurpose tray	Internal components (3 of 6) on page 215
RC1-3665-000	Bushing	Internal components (6 of 6) on page 221
RC1-3935-000	Guide, feed	Internal components (3 of 6) on page 215
RC1-3936-020	Cover, registration	Internal components (3 of 6) on page 215
RC1-3937-000	Arm, pad	Internal components (3 of 6) on page 215
RC1-3939-000	Lever, sensor	Internal components (5 of 6) on page 219
RC1-3994-000	Roller, face-down	Internal components (6 of 6) on page 221
RC1-4009-000	Holder	Internal components (1 of 6) on page 207
RC1-4025-000	Eliminator, static charge	Internal components (3 of 6) on page 215
RC1-4027-000	Lever, sensor	Internal components (3 of 6) on page 215
RC1-4028-000	Spring, torsion	Internal components (3 of 6) on page 215
RC1-4055-000	Arm, door	Internal components (1 of 6) on page 207
RC1-4056-000	Glide, door	Internal components (1 of 6) on page 207
RC1-4057-000	Hinge, left	Covers on page 205
RC1-4058-000	Hinge, right	Covers on page 205
RC1-4059-000	Spring, torsion	Internal components (3 of 6) on page 215
RC1-4060-000	Lever	Internal components (3 of 6) on page 215

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
RC1-4061-000	Spring, torsion	Internal components (3 of 6) on page 215
RC1-4065-000	Lever, grounding contact	Internal components (1 of 6) on page 207
RC1-4066-020	Lever, grounding contact	Internal components (1 of 6) on page 207
RC1-4067-000	Spring, leaf	Internal components (1 of 6) on page 207
RC1-4069-000	Sheet, static charge	Internal components (3 of 6) on page 215
RC1-4070-000	Sheet, static charge	Internal components (3 of 6) on page 215
RC1-4083-000	Guide	Internal components (5 of 6) on page 219
RC1-4085-000	Plate, grounding	Internal components (4 of 6) on page 217
RC1-4096-000	Guide, duplex inlet	Internal components (4 of 6) on page 217
RC1-4108-000	Cover, main motor	Internal components (2 of 6) on page 211
RC1-4114-000	Cam	Internal components (2 of 6) on page 211
RC1-4115-000	Lever, coupling	Internal components (2 of 6) on page 211
RC1-4116-000	Lever, drive release	Internal components (2 of 6) on page 211
RC1-4117-000	Link, drive release	Internal components (2 of 6) on page 211
RC1-4125-000	Link, laser shutter	Internal components (1 of 6) on page 207
RC1-4126-000	Stay, tag holder	Internal components (1 of 6) on page 207
RC1-4127-000	Holder, tag	Internal components (1 of 6) on page 207
RC1-4128-020	Duct, scanner	Internal components (1 of 6) on page 207
RC1-4136-000	Plate, protective	Internal components (1 of 6) on page 207
RC1-4137-020	Cam, contact	Internal components (1 of 6) on page 207
RC1-4140-000	Spring, compression	Internal components (1 of 6) on page 207
RC1-4189-000	Stopper, gear	Internal components (3 of 6) on page 215

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
RC2-0468-000	Cushion, right lower	Internal components (6 of 6) on page 221
RC2-0483-000	Spring, compression	Internal components (3 of 6) on page 215
RC2-0492-000	Guide, cartridge upper, right	Internal components (6 of 6) on page 221
RC2-0498-000	Mount, solenoid	Internal components (6 of 6) on page 221
RC2-0559-000	Guide, cassette, front right	Internal components (6 of 6) on page 221
RC2-0560-000	Guide, cassette, rear right	Internal components (6 of 6) on page 221
RC2-0561-000	Guide, center plate, right	Internal components (6 of 6) on page 221
RC2-0562-000	Holder, option connector	Internal components (6 of 6) on page 221
RC2-0565-000	Guide, cassette, front left	Internal components (1 of 6) on page 207
RC2-0566-000	Guide, cassette, rear left	Internal components (1 of 6) on page 207
RC2-0567-000	Guide, centerplate, left	Internal components (1 of 6) on page 207
RC2-0575-000	Arm, paper-width sensor	Internal components (3 of 6) on page 215
RC2-0576-000	Spring, torsion	Internal components (3 of 6) on page 215
RC2-0579-000	Cover, gear	Internal components (2 of 6) on page 211
RC2-0585-000	Stopper, feed guide, left	Internal components (1 of 6) on page 207
RC2-0588-000	Holder, cable	Internal components (5 of 6) on page 219
RC2-0590-000	Duct, cartridge	Internal components (2 of 6) on page 211
RC2-0592-000	Holder, fan	Internal components (5 of 6) on page 219
RC2-0593-000	Static wire, fan	Internal components (5 of 6) on page 219
RC2-0595-000	Holder, interlock	Internal components (6 of 6) on page 221
RC2-0602-000	Cover, DIMM	Covers on page 205
RC2-0603-000	Cover, right lower	Covers on page 205
RC2-0605-000	Cover, right upper	Covers on page 205

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
RC2-0612-000	Cover, engine controller	Covers on page 205
RC2-0622-000	Holder, fan, left	Internal components (1 of 6) on page 207
RC2-0623-000	Plate, fan shield, left	Internal components (1 of 6) on page 207
RC2-0627-000	Cover, formatter	Internal components (5 of 6) on page 219
RC2-0628-000	Plate, anti-magnetic	Internal components (5 of 6) on page 219
RC2-0629-000	Plate, inlet/outlet (network models)	Internal components (5 of 6) on page 219
RC2-0631-000	Switch, front	Internal components (6 of 6) on page 221
RC2-0632-000	Holder, switch	Internal components (6 of 6) on page 221
RC2-0633-000	Link, switch	Internal components (6 of 6) on page 221
RC2-0634-000	Holder, switch link	Internal components (6 of 6) on page 221
RC2-0638-000	Plate, inlet/outlet (non-network models)	Internal components (5 of 6) on page 219
RC2-0648-000	Guide, air	Internal components (2 of 6) on page 211
RC2-0649-000	Film, fuser drive side plate	Internal components (2 of 6) on page 211
RC2-0652-000	Washer, plain	Internal components (2 of 6) on page 211
RC2-0657-000	Stopper, fuser thrust	Internal components (2 of 6) on page 211
RC2-0665-000	Spring, torsion	Internal components (6 of 6) on page 221
RC2-0697-000	Plate, face-up shield	Internal components (6 of 6) on page 221
RC2-0700-000	Guide, cartridge lower, right	Internal components (6 of 6) on page 221
RC2-0701-000	Bushing, inner	Internal components (2 of 6) on page 211
RC2-0702-000	Stopper, cartridge, right	Internal components (6 of 6) on page 221
RC2-0703-000	Guide, cartridge upper, left	Internal components (1 of 6) on page 207
RC2-0704-000	Guide, cartridge lower, left	Internal components (1 of 6) on page 207

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
RC2-0705-000	Lever, drive release	Internal components (1 of 6) on page 207
RC2-0706-000	Lever, cartridge clamp	Internal components (1 of 6) on page 207
RC2-0707-000	Stopper, cartridge, left	Internal components (1 of 6) on page 207
RK2-0534-000	Microswitch (SW501), door	Internal components (6 of 6) on page 221
RK2-1488-000	Motor, DC (M1), main	Internal components (2 of 6) on page 211
RK2-1489-000	Motor, DC, stepping (M2), fusing	Internal components (2 of 6) on page 211
RK2-1490-000	Solenoid, tray 1 (SL1)	Internal components (5 of 6) on page 219
RK2-1492-000	Solenoid (SL2)	Internal components (6 of 6) on page 221
RK2-1497-000	Fan, right (FM1)	Internal components (5 of 6) on page 219
RK2-1499-000	Fan, left	Internal components (1 of 6) on page 207
RL1-0568-000	Roller, multipurpose pick-up	Internal components (3 of 6) on page 215
RL1-1367-000	Cover, right front	Covers on page 205
RL1-1370-000	Roller, tray 2 paper pickup	Tray 2 pickup assembly on page 223
RM1-1485-000	roller stay assembly	Internal components (5 of 6) on page 219
RM1-1490-000	Multipurpose tray assembly	Covers on page 205
RM1-1497-000	Delivery roller assembly	Internal components (6 of 6) on page 221
RM1-1506-000	Oblique roller assembly	Internal components (4 of 6) on page 217
RM1-1508-000	Transfer roller assembly	Internal components (3 of 6) on page 215
RM1-1521-030	Laser/scanner assembly	Internal components (1 of 6) on page 207
RM1-1522-000	Drive release assembly	Internal components (2 of 6) on page 211
RM1-3712-000	Main drive assembly	Internal components (5 of 6) on page 219
RM1-3714-000	Pick-up roller gear assembly	Internal components (5 of 6) on page 219
RM1-3715-000	Registration assembly	Internal components (3 of 6) on page 215

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
RM1-3716-000	Multipurpose paper pick-up roller assembly	Internal components (3 of 6) on page 215
RM1-3720-000	Top cover assembly	Covers on page 205
RM1-3721-000	Left cover assembly	Covers on page 205
RM1-3722-000	Cartridge-door assembly	Covers on page 205
RM1-3723-000	Multipurpose cover assembly	Covers on page 205
RM1-3724-000	Rear cover assembly	Covers on page 205
RM1-3725-000	Control-panel assembly	Covers on page 205
RM1-3727-000	Bottom plate roller assembly	Internal components (6 of 6) on page 221
RM1-3730-000	Engine controller assembly — 110–127V	Internal components (5 of 6) on page 219
RM1-3731-000	Engine controller assembly — 220–240V	Internal components (5 of 6) on page 219
RM1-3740-000	Fuser assembly (110-127V)	Internal components (5 of 6) on page 219
RM1-3741-000	Fuser assembly (220-240V)	Internal components (5 of 6) on page 219
RM1-3742-000	Face down full flag, right	Covers on page 205
RM1-3743-000	Face down full flag, left	Covers on page 205
RM1-3746-000	Fuser drive assembly	Internal components (2 of 6) on page 211
RM1-3748-000	Pendulum assembly	Internal components (2 of 6) on page 211
RM1-3749-000	Face-down roller assembly	Internal components (6 of 6) on page 221
RM1-3757-000	Lower transfer guide assembly	Internal components (3 of 6) on page 215
RM1-3758-000	High-voltage PCA	Internal components (4 of 6) on page 217
RM1-3759-000	Lower paper feed assembly	Internal components (4 of 6) on page 217
RM1-3760-000	Paper feed guide assembly	Internal components (4 of 6) on page 217
RM1-3762-000	Paper pick-up assembly	Internal components (5 of 6) on page 219
RM1-3762-000	Tray 2 pickup assembly	Tray 2 pickup assembly on page 223
RM1-3763-000	Tray 2 pickup roller assembly	Tray 2 pickup assembly on page 223
RM1-3769-000	Sensor-flag assembly	Tray 2 pickup assembly on page 223

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
RM1-4040-000	Top sensor PCA (PS901)	Internal components (4 of 6) on page 217
RM1-4041-000	Multipurpose sensor PCA (PS3)	Internal components (5 of 6) on page 219
RM1-4042-000	Paper-width sensor PCA (PS903)	Internal components (4 of 6) on page 217
RM1-4053-000	Cable, scanner motor	Internal components (1 of 6) on page 207
RM1-4054-000	Cable, memory tag	Internal components (1 of 6) on page 207
RM1-4057-000	Cable, paper delivery sensor	Internal components (3 of 6) on page 215
RM1-4060-000	Cable, tray 2 sensor	Tray 2 pickup assembly on page 223
RM1-4062-000	Cable, option interface	Internal components (6 of 6) on page 221
RU5-0366-000	Gear, 30T	Internal components (3 of 6) on page 215
RU5-0394-000	Gear, 12T	Internal components (2 of 6) on page 211
RU5-0400-000	Gear, 12T	Internal components (3 of 6) on page 215
RU5-0409-000	Gear, 14T	Internal components (3 of 6) on page 215
RU5-0950-000	Gear, 201T	Internal components (2 of 6) on page 211
RU5-0951-000	Gear, 16T	Internal components (2 of 6) on page 211
RU5-0955-000	Gear, 43T	Internal components (2 of 6) on page 211
RU5-0956-000	Gear, 20T/20T	Internal components (2 of 6) on page 211
RU5-0957-000	Gear, 20T	Internal components (2 of 6) on page 211
RU5-0958-000	Gear, 17T/17T	Internal components (2 of 6) on page 211
RU5-0959-000	Gear, 19T	Internal components (2 of 6) on page 211
RU5-0960-000	Gear, 31T	Internal components (2 of 6) on page 211
RU5-0962-000	Gear, 65T	Internal components (2 of 6) on page 211
RU5-2385-000	Spring, compression	Internal components (3 of 6) on page 215

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
RU5-2386-000	Spring, torsion	Internal components (5 of 6) on page 219
RU5-2388-000	Spring, tension	Covers on page 205
RU5-2401-000	Spring, compression	Internal components (2 of 6) on page 211
RU5-2403-000	Spring, tension	Internal components (1 of 6) on page 207
RU5-2404-000	Spring, compression	Internal components (1 of 6) on page 207
RU5-2405-000	Spring, compression	Internal components (1 of 6) on page 207
RU5-2407-000	Spring, tension	Internal components (1 of 6) on page 207
RU5-2408-000	Spring, compression	Internal components (3 of 6) on page 215
RU5-2410-020	Spring, torsion	Internal components (1 of 6) on page 207
RU5-2920-000	Spring, compression	Internal components (2 of 6) on page 211
VS1-7177-003	Connector, snap tight, bk	Internal components (1 of 6) on page 207
VS1-7177-004	Connector, snap tight, bk	Internal components (6 of 6) on page 221
VS1-7257-007	Connector, drawer	Internal components (6 of 6) on page 221
WE8-5516-000	Ferrite core	Internal components (2 of 6) on page 211
WG8-5624-000	IC, photo interrupter (PS1)	Internal components (6 of 6) on page 221
WG8-5624-000	IC, photo interrupter (PS3)	Tray 2 pickup assembly on page 223
WT2-5056-000	Clip, cable	Internal components (6 of 6) on page 221
WT2-5678-000	Clip, cable	Internal components (5 of 6) on page 219
WT2-5678-000	Clip, cable	Internal components (6 of 6) on page 221
WT2-5694-000	Saddle, wire	Internal components (1 of 6) on page 207
WT2-5694-000	Saddle, wire	Internal components (5 of 6) on page 219
WT2-5812-000	Clip, cable	Internal components (1 of 6) on page 207

Table 7-10 Numerical parts list (continued)

Part number	Description	Table and page
XA9-1503-000	Screw, tap, M3x6	Internal components (5 of 6) on page 219
XA9-1671-000	Screw, D, M3x8	Internal components (1 of 6) on page 207
XA9-1671-000	Screw, D, M3x8	Internal components (2 of 6) on page 211
XA9-1671-000	Screw, D, M3x8	Internal components (3 of 6) on page 215
XA9-1671-000	Screw, D, M3x8	Internal components (5 of 6) on page 219
XA9-1671-000	Screw, D, M3x8	Internal components (6 of 6) on page 221
XB2-7300-605	Screw, with washer, M3x6	Internal components (4 of 6) on page 217
XB2-7300-605	Screw, with washer, M3x6	Internal components (5 of 6) on page 219
XB4-7401-005	Screw, tapping, truss head, M4x10	Internal components (2 of 6) on page 211
XB4-7401-005	Screw, tapping, truss head, M4x10	Internal components (3 of 6) on page 215
XB4-7401-005	Screw, tapping, truss head, M4x10	Internal components (4 of 6) on page 217
XB4-7401-005	Screw, tapping, truss head, M4x10	Internal components (5 of 6) on page 219
XB4-7401-005	Screw, tapping, truss head, M4x10	Internal components (6 of 6) on page 221
XD2-1100-402	Ring, E	Internal components (2 of 6) on page 211
XD2-1200-802	Ring, E	Internal components (2 of 6) on page 211
XD3-2120-122	Pin, dowel	Internal components (2 of 6) on page 211

A Specifications

- [Physical specifications](#)
- [Electrical specifications](#)
- [Acoustic specifications](#)
- [Operating environment](#)

Physical specifications

Table A-1 Device dimensions

Device model	Height	Depth	Width	Weight ¹
HP LaserJet P3005, P3005d, P3005n, and P3005dn	275 mm (10.8 in)	535 mm (21 in)	490 mm (19.3 in)	20.2 kg (44.5 lb)
HP LaserJet P3005x	404 mm (15.9 in)	535 mm (21 in)	490 mm (19.3 in)	33.1 kg (73 lb)
Optional 500-sheet feeder	130 mm (5.1 in)	535 mm (21 in)	490 mm (19.3 in)	9 kg (20 lb)

¹ Without print cartridge

Table A-2 Device dimensions with all doors and trays fully opened

Device model	Height	Depth	Width
HP LaserJet P3005, P3005d, P3005n, and P3005dn	275 mm (10.8 in)	980 mm (38.6 in)	490 mm (19.3 in)
HP LaserJet P3005x	404 mm (15.9 in)	1090 mm (42.9 in)	490 mm (19.3 in)

Electrical specifications



WARNING! Power requirements are based on the country/region where the device is sold. Do not convert operating voltages. This can damage the device and void the product warranty.

Table A-3 Power requirements

Specification	110-volt models	220-volt models
Power requirements	110 to 127 volts ($\pm 10\%$)	220 to 240 volts ($\pm 10\%$)
	50/60 Hz (± 2 Hz)	50/60 Hz (± 2 Hz)
Rated current	7.0 Amps	4.0 Amps

Table A-4 Power consumption (average, in watts)

Device model	Printing	Ready	Sleep	Off
HP LaserJet P3005	610 W	28.5 W	24 W	0.1 W
HP LaserJet P3005d	610 W	28.5 W	24 W	0.1 W
HP LaserJet P3005n	610 W	28.5 W	24 W	0.1 W
HP LaserJet P3005dn	610 W	28.5 W	24 W	0.1 W
HP LaserJet P3005x	610 W	28.5 W	24 W	0.1 W

¹ Values subject to change. See www.hp.com/support/LJP3005 for current information.

² Power numbers are the highest values measured using all standard voltages.

³ Default time from Ready mode to Sleep = 30 minutes.

⁴ Heat dissipation in Ready mode = 35 BTU/hour.

⁵ Recovery time from Sleep to start of printing = less than 8.5 seconds.

⁶ Print speed is 35 ppm.

Acoustic specifications

Table A-5 Sound power and pressure level

Sound power level	Declared per ISO 9296
Printing	L_{WAd} = 6.5 Bels (A) [65 dB(A)]
Ready	Essentially Inaudible
Sound pressure level	Declared per ISO 9296
Printing	L_{pAm} = 51 dB (A)
Ready	Essentially Inaudible

¹ Values subject to change. See www.hp.com/support/LJP3005 for current information.

² Configuration tested: base device, simplex printing with A4 paper size.

³ Print speed is 35 ppm.

Operating environment

Table A-6 Necessary conditions

Environmental condition	Recommended	Allowed
Temperature (device and print cartridge)	17.5° to 25°C (63° to 77°F)	-20° to 40°C (-4° to 104°F)
Relative humidity	30% to 70%	10% to 90%

B Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT

HP LaserJet P3005, P3005d, P3005n, P3005dn, and P3005x printers

DURATION OF LIMITED WARRANTY

One-year limited warranty

HP warrants to you, the end-user customer, that HP hardware and accessories 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 equivalent in performance to new.

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 which does not execute its programming instructions due to such defects.

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.

HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

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 (e) improper site preparation or maintenance.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. Some countries/regions, 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/region to country/region, state to state, or province to province. HP's limited warranty is valid in any country/region or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country/region for which it was never intended to function for legal or regulatory reasons.

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/regions, 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.

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.

Customer self repair warranty service

HP products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period, HP identifies that the repair can be accomplished by the use of a CSR part, HP will ship that part directly to you for replacement. There are two categories of CSR parts: 1) Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service. 2) Parts for which customer self repair is optional. These parts are also designed for Customer Self Repair. If, however, you require that HP replace them for you, this may be done at no additional charge under the type of warranty service designated for your product.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same-day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can call the HP Technical Support Center and a technician will help you over the phone. HP specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to HP. In cases where it is required to return the defective part to HP, you must ship the defective part back to HP within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in HP billing you for the replacement. With a customer self repair, HP will pay all shipping and part return costs and determine the courier/carrier to be used.

Print cartridge limited warranty statement

This HP product is warranted to be free from defects in materials and workmanship.

This warranty does not apply to products that (a) have been refilled, refurbished, remanufactured or tampered with in any way, (b) experience problems resulting from misuse, improper storage, or operation outside of the published environmental specifications for the device product or (c) exhibit wear from ordinary use.

To obtain warranty service, please return the product to place of purchase (with a written description of the problem and print samples) or contact HP customer support. At HP's option, HP will either replace products that prove to be defective or refund your purchase price.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTY IS EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE.

TO THE EXTENT ALLOWED BY LOCAL LAW, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE.

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.

HP Customer Care

Online Services

For 24-hour access to updated HP device-specific software, product information, and support information through an Internet connection, go to the Web site: www.hp.com/support/LJP3005.

Go to www.hp.com/support/net_printing for information about the HP Jetdirect external print server.

HP Instant Support Professional Edition (ISPE) is a suite of Web-based troubleshooting tools for desktop computing and printing products. Go to instantsupport.hp.com.

Telephone support

HP provides free telephone support during the warranty period. For the telephone number for your country/region, see the flyer that shipped with the device, or visit www.hp.com/support/. Before calling HP, have the following information ready: the product name and serial number, the date of purchase, and a description of the problem.

Software utilities, drivers, and electronic information

www.hp.com/go/LJP3005_software

The Web page for the drivers is in English, but you can download the drivers themselves in several languages.

HP direct ordering for accessories or supplies

- United States: www.hp.com/sbso/product/supplies.
- Canada: www.hp.ca/catalog/supplies
- Europe: www.hp.com/supplies
- Asia-Pacific: www.hp.com/paper/

To order genuine HP parts or accessories, go to the HP Parts Store at www.hp.com/buy/parts (U.S. and Canada only), or call 1-800-538-8787 (U.S.) or 1-800-387-3154 (Canada).

HP service information

To locate HP-Authorized Dealers, call 1-800-243-9816 (U.S.) or 1-800-387-3867 (Canada).

Outside the United States and Canada, call the customer support number for your country/region. See the flyer that shipped in the box with the device.

HP service agreements

Call 1-800-HPINVENT (1-800-474-6836 (U.S.)) or 1-800-268-1221 (Canada). Or, go to the HP SupportPack and Carepaq™ Services Web site at www.hpexpress-services.com/10467a.

For extended service, call 1-800-446-0522.

HP Easy Printer Care software

To check the device status and settings and view troubleshooting information and online documentation, use the HP Easy Printer Care software. You must have performed a full software installation in order to use the HP Easy Printer Care software. See [Use the HP Easy Printer Care software on page 39](#).

HP support and information for Macintosh computers

Go to www.hp.com/go/macosex for Macintosh OS X support information and HP subscription service for driver updates.

Go to www.hp.com/go/mac-connect for products that are designed specifically for the Macintosh user.

HP maintenance agreements

HP has several types of maintenance agreements that meet a wide range of support needs. Maintenance agreements are not part of the standard warranty. Support services may vary by area. Check with your local HP dealer to determine the services available to you.

On-site service agreements

To provide you with the level of support best suited to your needs, HP has on-site service agreements with a selection of response times.

Next-day on-site service

This agreement provides support by the next working day following a service request. Extended coverage hours and extended travel beyond HP's designated service zones are available on most on-site agreements (for additional charges).

Weekly (volume) on-site service

This agreement provides scheduled weekly on-site visits for organizations with many HP products. This agreement is designated for sites using 25 or more workstation products, including devices, plotters, computers, and disk drives.

Repacking the device

If HP Customer Care determines that your device needs to be returned to HP for repair, follow the steps below to repack the device before shipping it.



CAUTION Shipping damage as a result of inadequate packing is the customer's responsibility.

To repack the device

1. Remove and retain any DIMMs cards that you have purchased and installed in the device. Do not remove the DIMM that came with the device.



CAUTION Static electricity can damage DIMMs. When handling DIMMs, either wear an antistatic wrist strap, or frequently touch the surface of the DIMM antistatic package and then touch bare metal on the device. To remove the DIMMs, see [Install memory on page 26](#).

2. Remove and retain the print cartridge.



CAUTION It is *extremely important* to remove the print cartridge before shipping the device. A print cartridge that remains in the device during shipping will leak and entirely cover the device engine and other parts with toner.

To prevent damage to the print cartridge, avoid touching the roller on it, and store the print cartridge in its original packing material or so that it is not exposed to light.

3. Remove and retain the power cable, interface cable, and optional accessories.

4. If possible, include print samples and 50 to 100 sheets of paper or other print media that did not print correctly.
5. In the U.S., call HP Customer Care to request new packing material. In other areas, use the original packing material, if possible. Hewlett-Packard recommends insuring the equipment for shipment.

Extended warranty

HP Support provides coverage for the HP hardware product and all HP-supplied internal components. The hardware maintenance covers a 1- to 3-year period from date of the HP product purchase. The customer must purchase HP Support within the stated factory warranty. For more information, contact the HP Customer Care Service and Support group.

C Regulatory information

This section contains the following regulatory information:

- [FCC regulations](#)
- [Environmental product stewardship program](#)
- [Declaration of conformity](#)
- [Safety statements](#)

FCC regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If this equipment is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.



NOTE Any changes or modifications to the printer that are not expressly approved by HP could void the user's authority to operate this equipment.

Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC rules.

Environmental product stewardship program

Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This product has been designed with several attributes to minimize impacts on our environment.

Ozone production

This product generates no appreciable ozone gas (O₃).

Power consumption

Power usage drops significantly while in Ready and Sleep modes, which saves natural resources and saves money without affecting the high performance of this product. This product qualifies for ENERGY STAR® (Version 3.0), which is a voluntary program to encourage the development of energy-efficient office products.



ENERGY STAR® and the ENERGY STAR mark are U.S. registered marks. As an ENERGY STAR partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR Guidelines for energy efficiency. For more information, see www.energystar.gov.

Toner consumption

Economode uses significantly less toner, which might extend the life of the print cartridge.

Paper use

This device's manual/optional automatic duplex feature (two-sided printing) and N-up printing (multiple pages printed on one page) capability can reduce paper usage and the resulting demands on natural resources.

Plastics

Plastic parts over 25 grams are marked according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product's life.

HP LaserJet print supplies

It's easy to return and recycle your empty HP LaserJet print cartridges—free of charge—with HP Planet Partners. HP is committed to providing inventive, high-quality products and services that are environmentally sound, from product design and manufacturing to distribution, operation and recycling processes. We ensure your returned HP LaserJet print cartridges are recycled properly, processing them to recover valuable plastics and metals for new products and diverting millions of tons of waste from landfills. Since this cartridge is being recycled and used in new materials, it will not be returned to

you. Your empty HP LaserJet print cartridges are recycled responsibly when you participate in the HP Planet Partners program. Thank you for being environmentally responsible!

In many countries/regions, this product's printing supplies (for example, print cartridges) can be returned to HP through the HP Printing Supplies Returns and Recycling Program. An easy-to-use and free take back program is available in more than 35 countries/regions. Multilingual program information and instructions are included in every new HP LaserJet print cartridge and supplies package.

HP print supplies returns and recycling program information

Since 1992, HP has offered HP LaserJet supplies return and recycling free of charge. In 2004, HP Planet Partners for LaserJet Supplies was available in 85% of the world market where HP LaserJet supplies are sold. Postage-paid and pre-addressed labels are included within the instruction guide in most HP LaserJet print cartridge boxes. Labels and bulk boxes are also available through the Web site:

www.hp.com/recycle.

Use the label to return empty, original HP LaserJet print cartridges only. Please do not use this label for non-HP cartridges, refilled or remanufactured cartridges, or warranty returns. Printing supplies or other objects inadvertently sent to the HP Planet Partners program cannot be returned.

More than 10 million HP LaserJet print cartridges were recycled globally in 2004 through the HP Planet Partners supplies recycling program. This record number represents 26 million pounds of print cartridge materials diverted from landfills. Worldwide, in 2004, HP recycled an average of 59% of the print cartridge by weight consisting primarily of plastic and metals. Plastics and metals are used to make new products such as HP products, plastic trays, and spools. The remaining materials are disposed of in an environmentally responsible manner.

- **U.S. returns.** For a more environmentally responsible return of used cartridges and supplies, HP encourages the use of bulk returns. Simply bundle two or more cartridges together and use the single, pre-paid, pre-addressed UPS label that is supplied in the package. For more information in the U.S., call 1-800-340-2445 or visit the HP Web site at www.hp.com/recycle.
- **Non-U.S. returns.** Non-U.S. customers should visit the www.hp.com/recycle Web site for further information regarding availability of the HP Supplies Returns and Recycling Program.

Paper

This product is capable of using recycled papers when the paper meets the guidelines outlined in the *HP LaserJet Printer Family Print Media Guide*. This product is suitable for the use of recycled paper according to EN12281:2002.

Material restrictions

This HP product does not contain added mercury.

This HP product contains a battery that might require special handling at end-of-life. The batteries contained in or supplied by Hewlett-Packard for this product include the following:

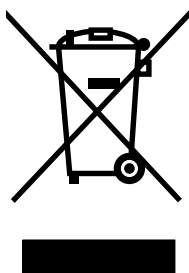
HP LaserJet P3005 device	
Type	Carbon monofluoride lithium battery BR1632
Weight	1.5 g
Location	On formatter board
User-removable	No



廢電池請回收

For recycling information, you can go to www.hp.com/recycle, or contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

Disposal of waste equipment by users in private households in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Material Safety Data Sheet (MSDS)

Material Safety Data Sheets (MSDS) for supplies containing chemical substances (for example, toner) can be obtained by contacting the HP Web site at www.hp.com/go/msds or www.hp.com/hpinfo/community/environment/productinfo/safety.

For more information

To obtain information about these environmental topics:

- Product environmental profile sheet for this and many related HP products
- HP's commitment to the environment
- HP's environmental management system
- HP's end-of-life product return and recycling program
- Material Safety Data Sheets

Visit <http://www.hp.com/go/environment> or <http://www.hp.com/hpinfo/community/environment/productinfo/safety>.

Declaration of conformity

Declaration of Conformity

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Hewlett-Packard Company
Manufacturer's Address: 11311 Chinden Boulevard,
Boise, Idaho 83714-1021, USA

declares, that the product

Product Name: HP LaserJet P3005 series

Regulatory Model Number³⁾: BOISB-0406-00

Product Options: Including: Q7817A Optional 500-Sheet Input Tray
ALL

Print Cartridge: Q7551A 6,500 cartridge and Q7551X 13,000 cartridge

conforms to the following Product Specifications:

Safety: IEC 60950-1:2001 / EN60950-1: 2001 +A11
IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A1 +A2 (Class 1 Laser/LED Product)
GB4943-2001

EMC: CISPR22:1993 +A1 +A2 / EN 55022:1994 +A1 +A2 - Class B¹⁾
EN 61000-3-2:2000
EN 61000-3-3:1995 +A1
EN 55024:1998 +A1 +A2
FCC Title 47 CFR, Part 15 Class B²⁾ / ICES-003, Issue 4
GB9254-1998, GB17625.1-2003

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC, and carries the CE-Marking accordingly.

1) The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.

2) This Device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing name or the product number(s).

Boise, Idaho , USA

April 1, 2006

For regulatory topics only:

Australia Contact: Product Regulations Manager, Hewlett-Packard Australia Ltd.,, 31-41 Joseph Street, Blackburn, Victoria 3130, Australia

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe,, Herrenberger Strasse 140, , D-71034, Böblingen, (FAX: +49-7031-14-3143)

USA Contact: Product Regulations Manager, Hewlett-Packard Company,, PO Box 15, Mail Stop 160, Boise, ID 83707-0015, , (Phone: 208-396-6000)

Safety statements

Laser safety

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration has implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States. The device is certified as a “Class 1” laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside the device is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.



WARNING! Using controls, making adjustments, or performing procedures other than those specified in this user guide may result in exposure to hazardous radiation.

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

« Conforme à la classe B des normes canadiennes de compatibilité électromagnétiques. « CEM ». »

VCCI statement (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境でを使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

Power cord statement (Japan)

製品には、同梱された電源コードをお使い下さい。
同梱された電源コードは、他の製品では使用出来ません。

EMI statement (Korea)

B급 기기 (가정용 정보통신기기)

이 기기는 가정용으로 전자파적합등록을 한 기기로서
주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP LaserJet P3005, P3005d, P3005n, P3005dn, P3005x, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

VAROITUS !

Laitteen käyttäminen muulla kuin käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING !

Om apparaten används på annat sätt än i bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

HUOLTO

HP LaserJet P3005, P3005d, P3005n, P3005dn, P3005x - kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyyökaluja.

VARO !

Mikäli kirjoittimen suojakotelo avataan, olet alttiina näkymättömälle lasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

VARNING !

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen. Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista: Aallonpituus 775-795 nm Teho 5 m W Luokan 3B laser.

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