HP Color LaserJet 2820/2830/2840
Service Manual

hp

HP Color LaserJet 2820/2830/2840 all-in-one

Service Manual

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 device user guide.

Observe all warnings and instructions marked on the product.

Use only a grounded electrical outlet when connecting the device 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 device. 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 device user guide.

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Chapter contents

Device configurations

The device is available in the following configurations.

HP Color LaserJet 2820 all-in-one

The HP Color LaserJet 2820 all-in-one printer, scanner, copier is a four-color laser printer that prints letter-size pages up to 20 pages per minute (ppm) in black-and-white, A4-size pages up to 19 ppm, and it prints letter/A4-size pages up to 4 ppm in color. It includes a PCL 6 printer driver and has HP postscript level 3 emulation.
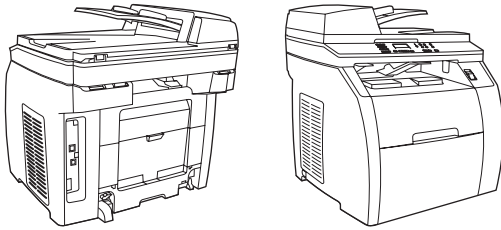
- **Trays.** The device comes with a multipurpose tray (tray1) that holds up to 125 sheets of 20 lb. paper or 10 envelopes.

- **Print cartridges.** This model comes standard with color print cartridges (cyan, yellow, and magenta) that can print up to 2,000 pages at 5% coverage. It comes with a black print cartridge that can print up to 5,000 pages at 5% coverage. (A typical business letter has 5% coverage.)

- **Connectivity.** The device provides a Hi-Speed universal serial bus (USB) 2.0 port and includes a 10/100Base-T network port.

- **Memory.** The device comes standard with a 96-megabyte (MB) random access memory (RAM).

- **Paper handling.** The device comes with a flatbed scanner and a 50-page automatic document feeder (ADF).

- **Expandability.** The device has one available DIMM slot for memory expansion and additional font support. The memory is expandable to 224 MB.

HP Color LaserJet 2830 all-in-one

The HP Color LaserJet 2830 all-in-one printer, scanner, fax, copier has the same features as the HP Color LaserJet 2820 all-in-one, and it includes a V.34 fax modem and a 4 MB flash fax-storage memory. Also, this model comes standard with high-capacity color print cartridges that can print up to 4,000 pages at 5% coverage.
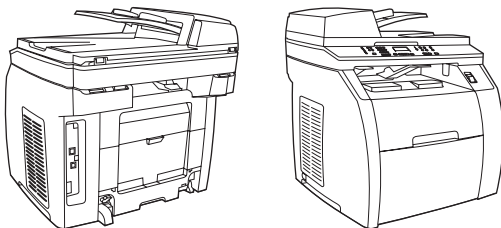
HP Color LaserJet 2840 all-in-one

The HP Color LaserJet 2840 all-in-one printer, scanner, fax, copier has the same features as the HP Color LaserJet 2830 all-in-one, and also includes a 250-sheet tray (tray 2) for standard sizes. This model features rated memory-card slots as well.
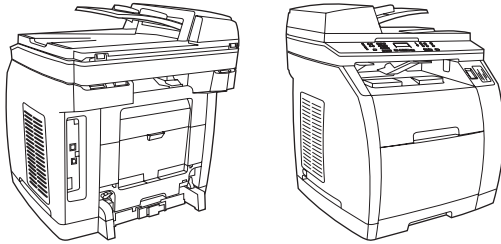
Device features

Table 1-1 HP Color LaserJet 2820/2830/2840 all-in-one features

Feature	Description
Color printing	■ Provides laser printing in full color by using the four process colors: cyan, magenta, yellow, and black (CMYK).
Copy	■ Provides full-color copying from the letter/A4-sized scanner glass. ■ Includes an automatic document feeder (ADF) that allows faster, more efficient copy jobs with multiple-page documents.
Fax	■ The HP Color LaserJet 2830/2840 all-in-one models include full-functionality fax capabilities with a V.34 fax, including a phone book, fax polling, and delayed-fax features.
Scan	■ Provides 1200 pixels per inch (ppi), 24-bit full-color scanning from letter/A4-sized scanner glass. ■ Includes automatic document feeder (ADF) that allows faster, more efficient scan jobs with multiple-page documents.
Fast print speed	■ Prints in black on letter-size paper up to 20ppm and on A4-size paper up to 19 ppm. Prints in color on A4/letter up to 4 ppm.
Excellent print quality	■ Provides true 600 by 600 dots per inch (dpi) with Image Ret 2400 text and graphics. ■ Offers adjustable settings to optimize print quality. ■ The HP UltraPrecise print cartridge has a finer toner formulation that provides sharper text and graphics.
Printer driver features	■ Provides fast printing performance, built-in Intellifont and TrueType scaling technologies, and advanced imaging capabilities are benefits of the PCL 6 printer language.
Automatic language-switching	■ The device automatically determines and switches to the appropriate printer language (such as PostScript® or PCL 6) for the print job.
Interface connections	■ Includes a Hi-Speed USB 2.0 port (not supported for Windows NT®). ■ Includes a 10/100 ethernet (RJ45) network port.
Networking	■ Provides TCP/IP ■ LPD ■ 9100

Table 1-1 HP Color LaserJet 2820/2830/2840 all-in-one features (continued)

Feature	Description
Memory card slot (HP Color LaserJet 2840 all-in-one only)	The device can read the following memory-card types: ■ CompactFlash ■ Ultra CompactFlash ■ Smart Media ■ Memory Stick ■ Secure Digital ■ Multi Media Card ■ XD Card For more information, see the device user guide.
Enhanced memory and memory expansion	■ The device comes with 96 MB of memory and can be expanded to 224 MB by using the DIMM slot. Most documents can be printed with the standard amount of memory with the aid of Memory Enhancement technology (MEt). MEt automatically compresses data, virtually doubling the device memory and accommodating more complex printing with the available memory.
Energy savings	■ The device automatically conserves electricity by substantially reducing power consumption when it is not printing. ■ As an ENERGY STAR® partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR® guidelines for energy efficiency. ENERGY STAR® is a U.S. registered service mark of the United States Environmental Protection Agency.
Economical printing	■ N-up printing (printing more than one page on a sheet) and two-sided printing using manual duplexing saves paper.
Supplies	■ Provides a Supplies Status page with print-cartridge and imaging-drum gauges that show the supply levels that remain. For HP supplies only. ■ Uses a no-shake cartridge design. ■ Provides authentication for HP print cartridges. ■ Offers an online supplies-ordering feature through HP Toolbox.
Accessibility	■ Includes an online user guide that is compatible with text screen-readers. ■ Provides print cartridges and an imaging drum that can be installed and removed by using one hand. ■ All doors and covers can be opened by using one hand.

Device parts

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

Front view
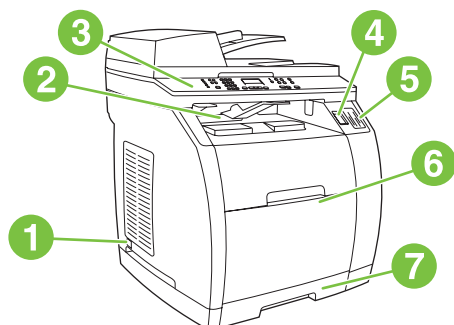
1	Power switch
2	Top (face-down) output bin
3	Control panel
4	Scanner release button
5	Memory card slots (HP Color LaserJet 2840 all-in-one only)
6	Tray 1
7	Tray 2 (included with the HP Color LaserJet 2840 all-in-one only)

Back view
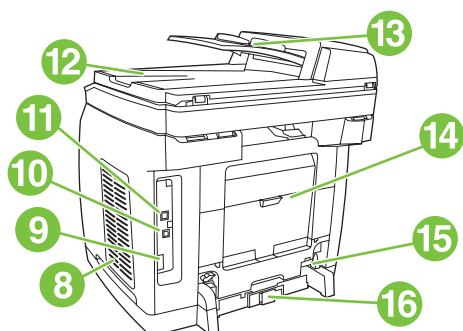
8	Memory cover
9	Fax ports (HP Color LaserJet 2830/2840 all-in-one models only)
10	Hi-Speed USB 2.0 port
11	Network port
12	ADF output bin
13	ADF input tray

14	Rear (face-up) output door
15	Power connector
16	Tray 2 paper-length adjustment control

Model and serial numbers

The model number and serial number are listed on an identification label located underneath the top door.

The label contains information about the country/region of origin and the revision level, manufacturing date, production code, and production number of the product. The label also contains power rating and regulatory information.

Figure 1-1 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (1 of 12)
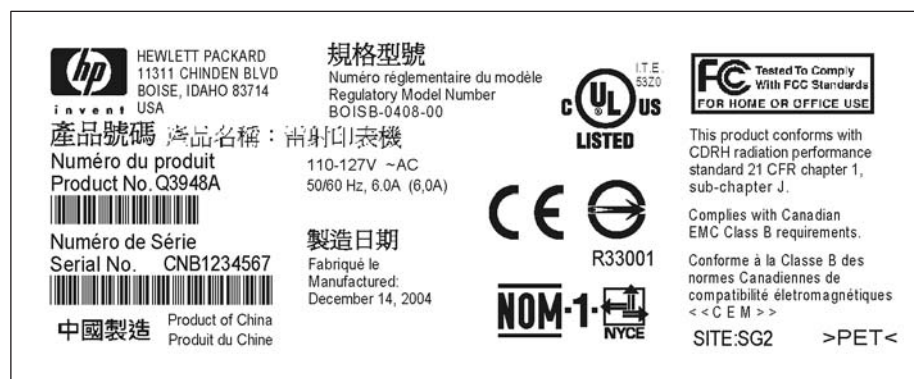
Figure 1-2 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (2 of 12)
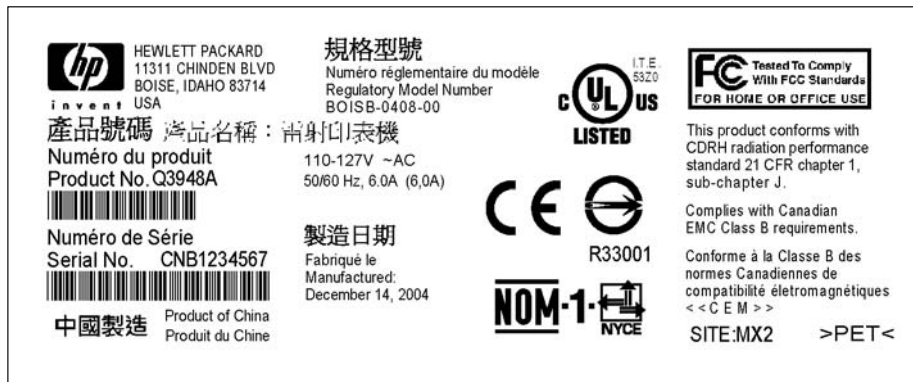
Figure 1-3 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (3 of 12)
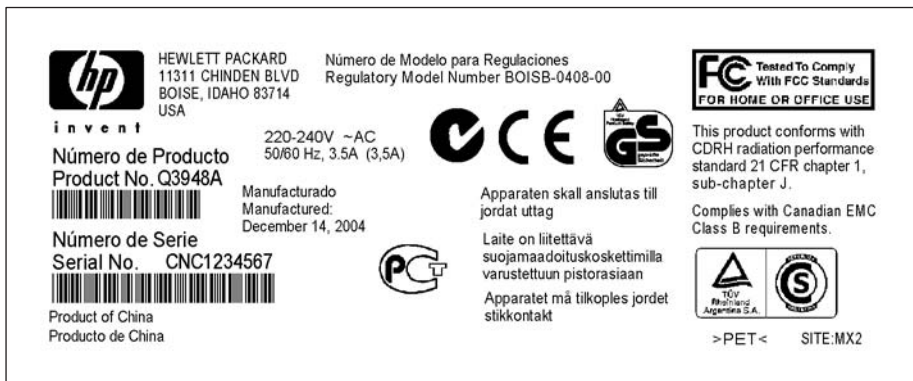
Figure 1-4 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (4 of 12)
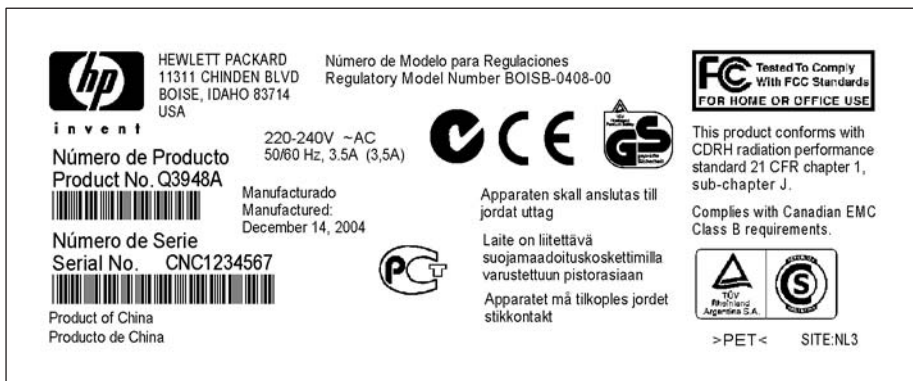
Figure 1-5 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (5 of 12)
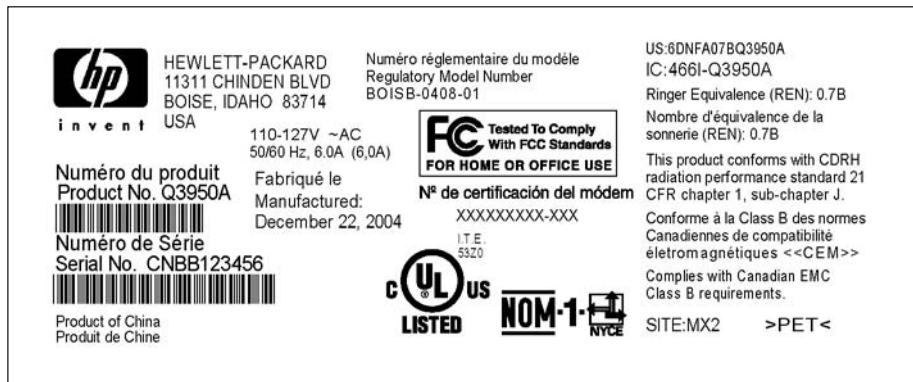
Figure 1-6 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (6 of 12)
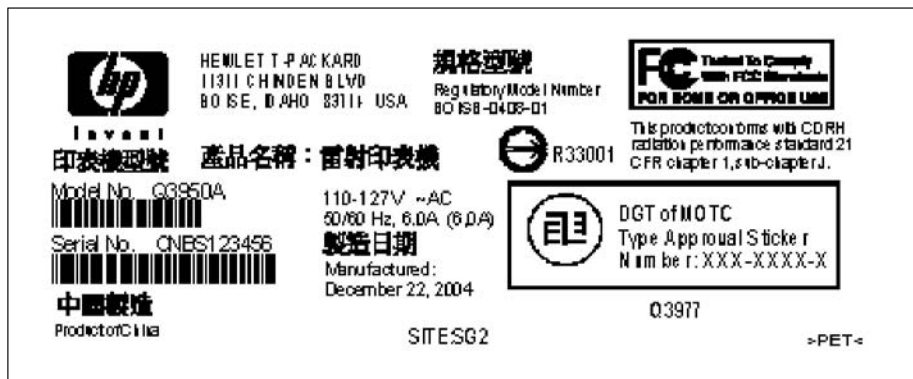
Figure 1-7 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (7 of 12)
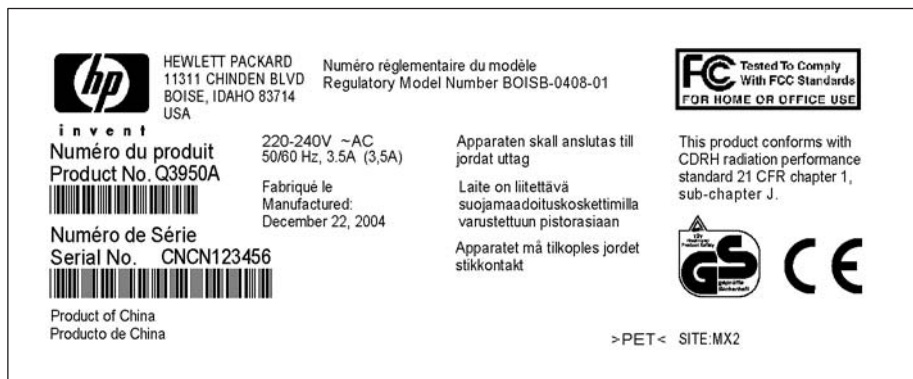
Figure 1-8 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (8 of 12)
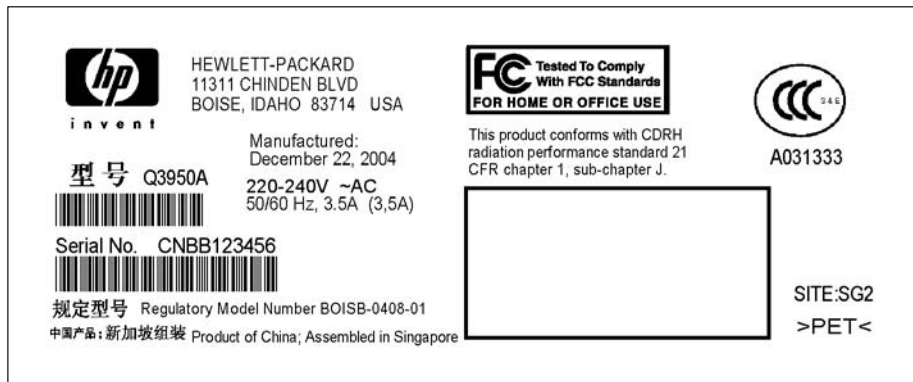
Figure 1-9 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (9 of 12)
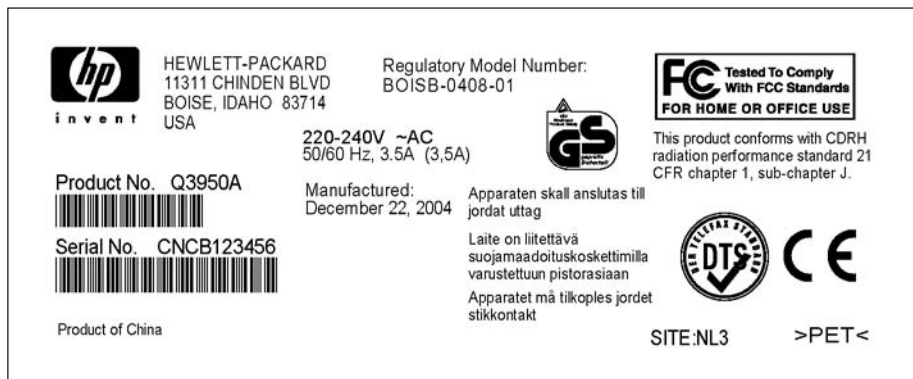
Figure 1-10 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (10 of 12)

Figure 1-11 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (11 of 12)
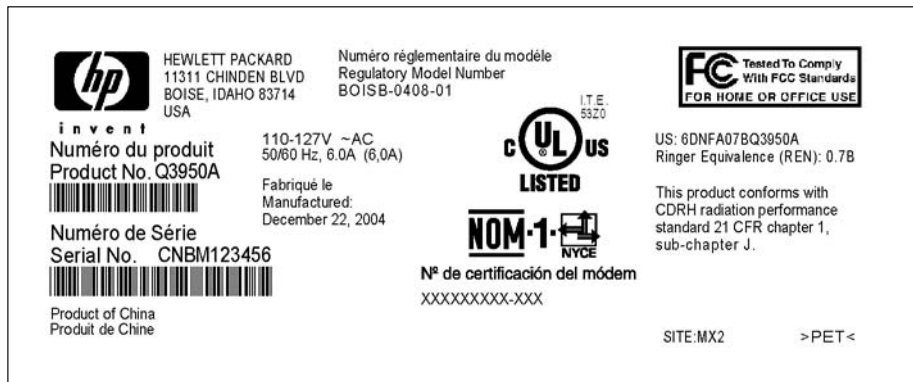
Figure 1-12 HP Color LaserJet 2820/2830/2840 all-in-one identification labels (12 of 12)

Software components

System requirements

To run the device software on your computer, the computer must meet the following minimum requirements:

Windows-based systems

- **Windows NT 4.0**: Pentium II processor (Pentium III or greater recommended), 64 MB RAM, 10 MB hard disk space, SVGA 800x600 16-bit color display (print driver only)

- **Windows 98 SE, Millennium Edition (Me)**: Pentium II processor (Pentium III or greater recommended), 64 MB RAM, 100 MB hard disk space, SVGA 800x600 16-bit color display, Internet Explorer v5.01 SP2 or greater (print driver, scan driver only)

- **Windows 2000, XP (32-bit home and professional versions)**: Pentium II processor (Pentium III or greater recommended), 192 MB RAM, 550 MB hard disk space, SVGA 800x600 16-bit color display (full install)

Mac-based systems

- **Mac OS 9.2.2**: G3 or greater, 64 MB RAM, 30 MB disk space, SVGA 800x600 16-bit color display (full install)

- **Mac OS X - 10.2.8 or 10.3.x**: G4, G5 processor or greater, 128 MB RAM, 30 MB disk space, SVGA 800x600 16-bit color display (full install)

Software and supported operating systems

For easy device setup and access to the full range of device features, HP strongly recommends that the user installs the software that is provided. Not all software is available in all languages. See the device getting started guide for installation instructions, and see the Readme file for the latest software information.

The most recent drivers, additional drivers, and other software are available from the Internet and other sources. If the user does not have access to the Internet, see Ordering parts and supplies.

The device supports the following operating systems:

- Microsoft Windows 98 SE, Windows 2000, Windows Me, and Windows XP (32-bit)

- Windows NT 4.0 and Windows XP (64-bit): driver only, other device software is not available

- Macintosh OS 9.2.2 and OS 10.2 and 10.3

- UNIX™, Linux, and OS/2 (limited functionality)

- Windows Server 2003 (printer driver, only from the Web)

The following tables list the software that is available for each operating system. Full software installation is available only for Windows 2000 and Windows XP systems that meet the recommended system requirements.

Table 1-2 HP Color LaserJet 2820/2830/2840 all-in-one software

Feature	Windows 2000, XP[1]	Windows 98 SE, Me	Windows NT	Macintosh OS 9.2.2	Macintosh OS 10.2, 10.3	UNIX, Linux	OS/2
Windows Installer	✔	✔					
PCL 6 printer driver	✔	✔	✔				
PS printer driver	✔	✔	✔				
Scanning software	✔	✔		✔	✔		
HP Toolbox software	✔						
Macintosh Installer				✔	✔		
Fax software— HP Color LaserJet 2830/2840 all-in-one models only	✔			✔	✔		
Storage driver (memory card) —HP Color LaserJet 2840 all-in-one only	✔	✔					
Device Configuration Utility					✔		
HP Director	✔				✔		
HP Image Zone	✔						
HP Document Viewer	✔						
Macintosh PostScript printer description (PPD) and printer dialog extensions (PDE)				✔	✔		
IBM drivers							✔[2]
Model scripts						✔[3]	

[1] The 64-bit version of Windows XP supports printer drivers only.

[2] Available on the HP Web site.

[3] Available on the HP Web site. Not specific to this device.

Software tips

The following are some tips for working with the device software.

Gaining access to the device features

The device features are available in the printer driver. Some features such as custom paper sizes and page orientation might also be available in the program that is being used to create a file. Change settings in the program, if possible, because changes that are made in the program override changes that are made in the printer driver.

Gain access to advanced device features through the printer driver (or the **Print** dialog box for Macintosh operating systems). To open a Windows print driver, complete the following steps:

1   On the Windows taskbar, click **Start**, click **Settings**, and then click **Printers**.

   ●   In Windows XP (corporate version), click **Start**, and then click **Printers and Faxes**.

   A dialog box opens.

2   Right-click the printer that you want to modify, and then select **Printing Preferences**.

   The driver opens so that you can make changes.

A number of device features and functions are also available through HP Toolbox (not available for Macintosh). For more information about HP Toolbox, see HP Toolbox.

The device CD-ROMs include the HP Scanning software. For more information about the HP Scanning software, see the software online Help.

Obtaining the latest printing software

When you want to check for and install upgrades to the software, you can download drivers from the World Wide Web.

To download drivers

1   Go to http://www.hp.com. Click the **support & drivers** block.

2   Type color laserjet 2800 as the product name.

3   Select the device model that the customer has.

4   Select the correct OS and the desired software.

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

If the user does not have Internet access, contact HP Customer Care. See Ordering parts and supplies or the flyer that came in the device box. See the Readme file for additional release information.

Other print system software

The device CD-ROMs include the HP Scanning software. See the Readme file that is provided on the HP Color LaserJet 2820/2830/2840 all-in-one CD-ROMs for additional included software and for supported languages.

Software for Windows

When the user installs the software for Windows, the user can directly connect the device to a computer by using a USB cable, or the user can connect the device to the network by using the internal print server. See the device getting started guide for installation instructions, and see the Readme file for the latest software information.

The following software is available to all users of the device, whether the device was connected directly to a computer by using a USB cable, or whether the device was connected to the network by using a print server.

Printer drivers

A printer driver is a software component that provides access to device features and provides the means for the computer to communicate with the device. For help using the printer driver, see Using Help.

Select a printer driver based on the way the customer uses the device.

- Use the PCL 6 printer driver to take full advantage of the device features.

- Use the PostScript (PS) printer driver for compatibility with PS needs. Certain device features are not available in this printer driver.

The device automatically switches between HP postscript level 3 emulation and PCL printer languages depending on the driver selected.

Using Help

The printer driver has **Help** dialog boxes that can be activated from the **Help** button in the printer driver, the F1 key on the computer keyboard, or the question mark symbol **(?)** in the upper-right corner of the printer driver. These **Help** dialog boxes give detailed information about the specific printer driver. Help for the printer driver is separate from the Help for the software program.

Software for Macintosh

For Mac 9.2.2, the Apple LaserWriter 8 driver must be installed in order to use the PPD file. Use the Apple LaserWriter 8 driver that came with the Macintosh computer. For Mac OS 10.2 and 10.3, use the Print Center to print.

The device includes the following software for Macintosh computers.

HP Director

HP Director is a software program that is used when working with documents. When the document is loaded into the automatic document feeder (ADF) and the computer is connected directly to the device, HP Director appears on the computer screen to initiate faxing or scanning, or to change settings on the device through the Macintosh Configure Device application.

Also included is the HP all-in-one Setup Assistant, which sets up the fax and print queues.

PPDs (Mac OS 9.2.2)

PostScript printer descriptions (PPDs), in combination with the LaserWriter driver, provide access to the device features and allow the computer to communicate with the device. An installation program for the PPDs is provided on the HP Color LaserJet 2820/2830/2840 all-in-one CD-ROM for Macintosh.

PDEs (Mac OS 10.2 and 10.3)

Printer dialog extensions (PDEs) are code plug-ins that provide access to device features, such as information about the number of copies, two-sided printing, and quality settings. An installation program for the PDEs and other software is provided on the HP Color LaserJet 2820/2830/2840 all-in-one CD-ROM for Macintosh.

HP Toolbox

You must perform a complete software installation to use HP Toolbox.

HP Toolbox provides links to device status information and help information, such as the device user guide, and tools for diagnosing and solving problems. See HP Toolbox for more information.

⧉ **NOTE**   For Macintosh computers, HP Toolbox is not supported.

Embedded Web server (EWS)

The EWS is a Web-based interface that provides simple access to device status and device configurations, including network configurations and Smart Printing Supplies (SPS) functionality.

You can gain access to the EWS through the network connection to the device. Type the device IP address in a Web browser to display the device EWS homepage in the browser. From the homepage, you can use the tabs and left navigation menu to check the status of the device, configure the device, or check the status of the supplies.

Supported browsers include:

■   Internet Explorer 5.0 or later

■   Netscape Navigator 4.75 or later

■   Opera 6.05 or later

■   Safari 1.2 or later

Software installation

Use the CD-ROMs that came with the device to install the software for the proper operating system.

If your computer meets the recommended minimum requirements, you have two options when installing the software.

Typical installation

⧉ **NOTE**   This option is not available if your computer does not meet the minimum requirements. For more information about the minimum requirements, see the box in which the device was packed.

This is the recommended installation option. Select this option to install the software needed to print and scan from your computer, plus the following programs:

- HP Toolbox: This program lets you easily monitor and set up the device settings from your computer, and it offers device Help and troubleshooting. With HP Toolbox, you have desktop access to the device fax phone book and logs.

  For more information about HP Toolbox, see HP Toolbox.

- HP Image Zone: This program lets you view, manage, and edit images, it lets you load images directly from a camera or memory card, and it helps you share those images with others. It also includes programs for scanning and for producing creative projects, such as brochures and flyers.

  For more information about HP Image Zone, see the HP Image Zone online Help after you have installed the software.

- HP Document Viewer: This program lets you view and annotate PDF and TIFF files, and it lets you export documents to other software programs. It also includes optical character recognition (OCR) software that lets you scan paper documents and convert them into electronic documents that can be edited.

  For more information about HP Document Viewer, see the HP Document Viewer online Help after you have installed the software.

Minimum installation

Windows 98 SE and Windows Me operating systems, as well as systems with insufficient memory (see System requirements), must perform a minimum installation to ensure that your computer continues to operate at optimal levels.

This procedure installs the software necessary to print and scan from your computer. You will not be able to scan from the device, however. For the HP Color LaserJet 2840 all-in-one printer, scanner, fax, copier, the minimum installation also allows you to view memory cards in the device from Windows Explorer.

Uninstalling the printing software

Uninstall software by using the following directions for your operating system.

Using Add or Remove Programs to uninstall

Use the **Add or Remove Programs** method in Windows to remove the device software. This method does *not* require you to have the software CD.

1 Click **Start**, point to **Settings**, and click **Control Panel**.

   ● In Windows XP, click **Start**, and then click **Control Panel**

2 Double-click **Add or Remove Programs**.

3 Scroll through the list of software programs and click **HP Color LaserJet 2820/2830/2840 all-in-one**.

4 Click **Remove**.

Uninstalling software for Macintosh

To remove the printing software from your Macintosh, open the Finder, navigate to **Applications/HP LaserJet aio/HP Uninstaller**, and then run the application.

Specifications

Table 1-3 Physical specifications

Product	Height	Depth	Width	Weight[1]
HP Color LaserJet 2820 all-in-one and HP Color LaserJet 2830 all-in-one	20.6 in (525 mm)	20.9 in (532 mm)	19.6 in (498 mm)	58.8 lbs (26.7 kg)
HP Color LaserJet 2840 all-in-one with tray 2 (250-sheet)	22.6 in (573 mm)	20.9 in (532 mm)	19.6 in (498 mm)	64.5 lbs (29.3 kg)

[1] Listed weight does not include print cartridges or imaging drum, which add (9.15 lbs (3.4 kg)) to the device weight.

Table 1-4 Supplies specifications

Imaging-drum life (based on 5 percent coverage)	■ 20,000 pages when printing only in black ■ 5,000 pages when printing in color ■ 6,000 to 8,000 pages is the average life
Print-cartridge life (based on 5 percent coverage)	■ Black: 5,000 pages ■ Yellow, cyan, and magenta: 2,000 pages each ■ Extended life yellow, cyan, and magenta: 4,000 pages each

Table 1-5 Electrical specifications

Item	110-volt models	220-volt models
Power supply	110 to 127 V (+- 10%)	220 to 240 V (+- 10%)
	50 / 60 Hz (+- 2Hz)	50 / 60 Hz (+- 2Hz)
Power consumption (typical)		
During printing (color)	224 W (average)	217 W (average)
During printing (black and white)	400 W (average)	400 W (average)
During standby	20 W (average)	20 W (average)
Off mode	0 W (average)	0 W (average)
Heat output		
Idle	64 BTU/hr	64 BTU/hr

⚠ **CAUTION**   Power requirements are based on the country/region where the device is sold. Do not convert operating voltages. This will damage the device and void the product warranty.

Table 1-6 Environmental specifications

	Recommended[1]	Operating[1]	Storage[1]
(device and print cartridge)	20° to 27° C	15° to 32.5° C	0° to 40° C
Temperature	(68° to 81° F)	(59° to 90.5° F)	(32° to 104° F)
Relative humidity	20 to 70 percent	10 to 80 percent	95 percent or less

[1] Values are subject to change. See http://www.hp.com/support/clj2800series for current information.

Table 1-7 Acoustic emissions (HP Color LaserJet 2820/2830/2840 all-in-one)

Sound Power Level	Declared per ISO 9296[1]
Printing (20 ppm)	L_{WAd} = 6.6 Bels (A) [66 dB (A)]
SPL-Bystander Position	**Declared per ISO 9296[1]**
Printing (20 ppm)	L_{pAm} = 52 dB(A)

[1] Acoustic values are subject to change. See http://www.hp.com/support/clj2800series for current information.

Table 1-8 Skew specifications[1]

Category	Specification
Print skew – vertical	■ ≤ 1.5 mm / 260 mm for cut-sheet media ■ ≤ 3.0 mm / 220 mm for envelopes, postcards, or A5 media
First line/leading edge skew	■ 5.0 mm ±2.5 mm for cut-sheet media ■ 15.0 mm ±3.5 for envelopes, postcards, or A5 media
Left margin	■ 5.0 mm ±2.0 mm for cut-sheet media ■ 10 mm ±2.5 mm for envelopes, postcards, or A5 media
Parallelism	■ ≤ 1.5 mm for cut-sheet media ■ N/A for envelopes, postcards, or A5 media
Image or text stretching – vertical	■ ≤ 1.0% for cut-sheet media ■ N/A for envelopes, postcards, or A5 media
Image or text stretching – horizontal	■ - 0.4%, +1.6% for cut-sheet media ■ N/A for envelopes, postcards, or A5 media

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

Table 1-9 Fax specifications

Category	Specification
Fax transmission speed	3 seconds per page
Right/left margins for printed pages	6.3 mm (0.25 inch)
Top/bottom margins for printed pages	5.08 mm (0.2 inch)
Fax compatibility	Group 3
Fax coding schemes	Modified Huffman
	Modified read
	Modified modified read
	Jbig is not supported
Modem speed	Up to 33,600 bits per second (bps)
Speed dialing	Yes
Distinctive ring detect	Yes
Fax resolution (standard)	203 by 98 dots per inch (dpi)
Fax resolution (fine)	203 by 196 dpi
Fax resolution (superfine)	300 by 300 dpi (no halftone)
Fax resolution (photo)	300 by 300 dpi (halftone enabled)

Table 1-10 Printable area specifications

Area	Media type[1]	Margin size
Non-masked print area	Cut sheet	■ Top: 2 mm
		■ Bottom: 2 mm
		■ Left: 2 mm
		■ Right: 2 mm
Recommended print area	Cut sheet	■ Top: 2.8 mm
		■ Bottom: 4 mm
		■ Left: 3 mm
		■ Right: 3 mm
Image assurance area	Cut sheet	■ Top: 5 mm
		■ Bottom: 5 mm
		■ Left: 5 mm
		■ Right: 5 mm

Table 1-10 Printable area specifications (continued)

Area	Media type[1]	Margin size
	Envelope	■ Top: 10 mm
		■ Bottom: 10 mm
		■ Left: 10 mm
		■ Right: 10 mm

[1] Other media types (labels, heavy media, glossy, etc.) have the same printable area as paper of the same size.

Media specifications

This section contains information about the sizes, weights, and capacities of media that each tray supports.

Supported media weights and sizes

For optimum results, use conventional 75 to 90 g/m^2 (20 to 24 lb) photocopy paper. Verify that the paper is of good quality and is free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, curls, and bent edges.

📝 **NOTE** The device supports a wide range of standard and custom sizes of print media. The capacity of trays and bins can vary depending on media weight and thickness and environmental conditions. Use only transparencies that are designed for use with HP Color LaserJet printers. Inkjet and monochrome transparencies are not supported for this device. Do not use inkjet photo media, which can melt and damage the device.

Table 1-11 Tray 1 specifications

Media	Dimensions[1]	Weight	Capacity[2]
Paper	Minimum: 76 by 127 mm (3 by 5 inches)	60 to 177 g/m^2 (16 to 47 lb)	Up to 125 sheets of 75 g/m^2 (20 lb) paper
	Maximum: 216 by 356 mm (8.5 by 14 inches)		
Glossy paper	Same as the preceding listed minimum and maximum sizes.	75 to 120 g/m^2 (20 to 32 lb)	Maximum stack height: 12 mm (0.47 inches)
HP Cover paper[3]		203 g/m^2 (75 lb cover)	50 (typically)
Transparencies and opaque film		Thickness: 0.10 to 0.13 mm (3.9 to 5.1 mils)	50 (typically)
Labels[4]		Thickness: up to 0.23 mm (up to 9 mils)	50 (typically)
Envelopes		Up to 90 g/m^2 (16 to 24 lb)	Up to 10

[1] The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.
[2] Capacity can vary depending on media weight and thickness, and environmental conditions.
[3] Hewlett-Packard does not guarantee results when printing with other types of heavy paper.
[4] Smoothness: 100 to 250 (Sheffield).

Table 1-12 Optional tray 2 specifications

Media	Dimensions[1]	Weight	Capacity[2]
Letter	216 by 279 mm (8.5 by 11 inches)	60 to 105 g/m^2 (16 to 28 lb)	250 sheets of 75 g/m^2 (20 lb) paper
A4	210 by 297 mm (8.3 by 11.7 inches)		
A5	148 by 210 mm (5.8 by 8.3 inches)		
B5 (ISO)	176 by 250 mm (6.9 by 9.9 inches)		

Table 1-12 Optional tray 2 specifications (continued)

Media	Dimensions[1]	Weight	Capacity[2]
B5 (JIS)	182 by 257 mm (7.2 by 10 inches)		
Executive	191 by 267 mm (7.3 by 10.5 inches)		
Legal	216 by 356 mm (8.5 by 14 inches)		
8.5 by 13 inches	216 by 330 mm (8.5 by 13 inches)		

[1] The device supports a wide range of standard and custom sizes of print media. Check the printer driver for supported sizes.

[2] Capacity can vary depending on the media weight and thickness, and environmental conditions.

Table 1-13 Automatic document feeder (ADF) paper sizes

Media	Dimensions	Weight or thickness	Capacity
Minimum-size paper	127 by 127 mm (5 by 5 in)	60 to 90 g/m^2(16 to 24 lb bond)	50 sheets (75 g/m^2; 20 lb bond)
Maximum-size paper	216 by 381 mm (8.5 by 15 in)	60 to 90 g/m^2(16 to 24 lb bond)	50 sheets (75 g/m^2; 20 lb bond)

NOTE Use the flatbed scanner for faxing (HP Color LaserJet 2830/2840 all-in-one models only), copying, and scanning if the original is fragile, thin, thick, too small for the ADF, or a photograph. Also use the flatbed scanner to employ the "fit to page" feature for copying. The flatbed scanner provides the best fax, copy, and scan resolution.

General guidelines

Some media might meet all of the guidelines in this manual and still not produce satisfactory results. This problem 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 print media, always test a sample and make sure that the print media meets the requirements specified in the device user guide and in the *HP LaserJet Printer Family Print Media Guide*, which you can view on the Web at http://www.hp.com/support/ljpaperguide. For ordering information, see Ordering parts and supplies.

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

This device accepts a variety of media, such as cut-sheet paper (including up to 100 percent recycled-fiber-content paper), envelopes, labels, transparencies, glossy paper, HP LaserJet Tough paper, and custom-size paper. Properties such as weight, composition, grain, and moisture content

are important factors affecting device performance and output quality. Media that does not meet the guidelines outlined in this manual can cause the following problems:

- Poor print quality

- Increased jams

- Premature wear on the device, requiring repair

Paper and print media

Category	Specifications
Acid content	5.5 pH to 8.0 pH
Caliper	0.094 to 0.18 mm (3.0 to 7.0 mils)
Curl in ream	Flat within 5 mm (0.02 inch)
Cut-edge conditions	Cut with sharp blades with no visible fray
Fusing compatibility	Must not scorch, melt, offset, or release hazardous emissions when heated to 210°C (410°F) for 0.1 second
Grain	Long Grain
Moisture content	4% to 6% by weight
Smoothness	100 to 250 Sheffield

For complete print-media specifications for all HP LaserJet devices, see the *HP LaserJet Printer Family Print Media Guide*. To download the guide in PDF format, go to www.hp.com/support/ ljpaperguide.

Special media print speeds

The device print speed can be affected when you use special media, such as heavy paper or cardstock, glossy paper, or envelopes. The table below shows the print speed for various media types.

Print modes	Print type	Multipurpose tray	Optional tray 2
Normal and Heavy mode	Continuous printing	4 ppm color	4 ppm color
		A4: 19 ppm black	A4: 19 ppm black
		Letter: 20 ppm black	Letter: 20 ppm black
		Legal: 2.0 ppm color/ 16.0 ppm black	
	First page out (face down)	Normal Letter/A4:	Normal Letter/A4:
		<26.8s color	<26.8s color

Table 1-15 Special media print speeds (continued)

Print modes	Print type	Multipurpose tray	Optional tray 2
		<17.6s black	<17.6s black
		Heavy Letter/A4:	Heavy Letter/A4:
		<32.8s color	<32.8s color
		<23.6s black	<23.6s black
Heavy and Glossy mode (more than 105g/m^2, 1/2 speed)	Continuous printing	Letter/A4:	N/A
		2.45 ppm color	
		3.99 ppm black	
	First page out (face down)	Letter/A4:	N/A
		<31.6s color	
		<21.3s black	
Heavy Glossy and Glossy Film mode (1/4 speed)	Continuous printing	Letter/A4:	N/A
		2.0 ppm color	
		N/A black	
	First page out (face down)	Letter/A4:	N/A
		39.8s color	
		N/A black	
Envelope	Continuous printing	2.57 ppm color	N/A
		4.48 ppm black	
	First page out (face down)	<30.1s color	N/A
		<19.8s black	

Printing and storage environment

Ideally, the printing and media-storage environment should be at or near room temperature, and not too dry or too humid. Remember that paper is hygroscopic; it absorbs and loses moisture rapidly.

Heat works with humidity to damage paper. Heat causes the moisture in paper to evaporate, while cold causes it to condense on the sheets. Heating systems and air conditioners remove most of the humidity from a room. As paper is opened and used, it loses moisture, causing streaks and smudging. Humid weather or water coolers can cause the humidity to increase in a room. As paper is opened and used it absorbs any excess moisture, causing light print and dropouts. Also, as paper loses and gains moisture it can distort. This issue can cause jams.

As a result, paper storage and handling are as important as the paper-making process itself. Paper storage environmental conditions directly affect the feed operation and print quality.

Care should be taken not to purchase more paper than can be easily used in a short time (about three months). Paper stored for long periods can experience heat and moisture extremes, which can cause damage. Planning is important to prevent damage to a large supply of paper.

Unopened paper in sealed reams can remain stable for several months before use. Opened packages of paper have more potential for environmental damage, especially if they are not wrapped with a moisture-proof barrier.

The media-storage environment should be properly maintained to ensure optimum device performance. The required condition is 20° to 24°C (68° to 75°F), with a relative humidity of 45% to 55%. The following guidelines should be helpful when evaluating the storage environment:

■ Print media should be stored at or near room temperature.

■ The air should not be too dry or too humid (to moderate the hygroscopic properties of paper).

■ The best way to store an opened ream of paper is to rewrap it tightly in its moisture-proof wrapping. If the device environment is subject to extremes, unwrap only the amount of paper to be used to prevent unwanted moisture changes.

■ Avoid storing paper and print media near heating and air conditioning vents or near windows and doors that are frequently open.

Envelopes

Use only tray 1 to print on envelopes. Select the type of envelope that you are using from the **Print** dialog box or the printer driver.

In your program, set the margins for the envelope. The following table gives typical address margins for a commercial #10 or DL envelope.

Table 1-16 Envelope margin specifications

Type of address	Top margin	Left margin
Return address	15 mm (0.6 inch)	15 mm (0.6 inch)
Delivery address	51 mm (2 inches)	89 mm (3.5 inches)

■ For the best print quality, position margins no closer than 15 mm (0.6 inch) from the edges of the envelope.

■ Avoid printing over the area where the envelope seams meet.

Envelope storage

Proper storage of envelopes helps contribute to print quality. Envelopes should be stored flat. If air is trapped in an envelope and creates an air bubble, then the envelope might wrinkle during printing.

Envelope construction

Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers, but also within a box from the same manufacturer. Successful printing on envelopes

depends upon the quality of the envelopes. When selecting envelopes, consider the following components:

- **Weight:** The weight of the envelope paper should not exceed 90 g/m^2 (24 lb) or jamming might occur.

- **Construction:** Before printing, envelopes should lie flat with less than 6 mm (0.25 inch) curl, and should not contain air.

- **Condition:** Envelopes should not be wrinkled, nicked, or otherwise damaged.

- **Temperature:** Use envelopes that are compatible with the heat and pressure of the device. The fusing temperature of this device is 210°C (410°F).

- **Size:** Use only envelopes that are within the following size ranges.

    - **Minimum:** 6 x 127 mm (3 x 5 inches)

    - **Maximum:** 216 x 356 mm (8.5 x 14 inches)

Envelopes with double side-seams

Double side-seam construction has vertical seams at both ends of the envelope rather than diagonal seams. This style might be more likely to wrinkle. Be sure the seam extends all the way to the corner of the envelope as shown in the illustration.
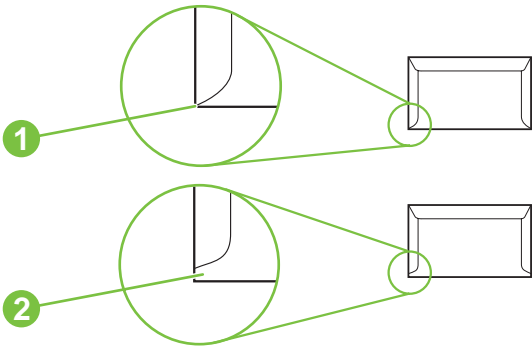
1	Acceptable
2	Unacceptable

Envelopes with adhesive strips or flaps

Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives that are compatible with the heat and pressure in the device. The extra flaps and strips might cause wrinkling, creasing, or even jams and might damage the fuser.

Labels

Select the type of label that you are using from the **Print** dialog box or the printer driver.

> **CAUTION** To avoid damaging the device, use only labels that are recommended for laser printers. To prevent serious jams, always use tray 1 to print on labels and always use the straight-through paper path. Never print on the same sheet of labels more than once or print on a partial sheet of labels.

When selecting labels, consider the quality of each component:

- **Adhesives:** The adhesive material should be stable at 210°C (410°F), which is the device fusing temperature.

- **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets with spaces between the labels, causing serious jams.

- **Curl:** Before printing, labels must lie flat with no more than 13 mm (0.5 inch) of curl in any direction.

- **Condition:** Do not use labels that have wrinkles, bubbles, or other indications of separation.

Transparencies

Use only tray 1 to print on transparencies. Select **Transparencies** from the **Print** dialog box or the printer driver.

The device supports printing in color on transparencies. Transparencies that are used in the device must be able to withstand 210°C (410°F), which is the device fusing temperature.

> **CAUTION** To avoid damage to the device, use only transparencies that are recommended for use in laser printers.

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP Color LaserJet 2820/2830/2840 all-in-one	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.

Print Cartridge and Imaging Drum 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 printer 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.

Print-cartridge information

At 5% page coverage, a black print cartridge will print approximately 5,000 pages. Color print cartridges (yellow, cyan, and magenta) will print 2,000 pages each, and high-capacity color print cartridges (yellow, cyan, and magenta) will print 4,000 pages each. These estimates are only approximate; usage conditions and print patterns can cause results to vary.

Refilled print cartridges

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

■ Repairs resulting from the use of refilled cartridges are not covered under HP warranty or maintenance contracts.

■ HP has no controls or processes to ensure that a refilled cartridge functions at the high level of reliability of a new HP LaserJet print cartridge. HP also cannot predict the long-term reliability effect on the product from using different toner formulations found in refilled cartridges.

■ The print quality of HP LaserJet print cartridges influences the customer's perception of the product. HP has no control over the actual print quality of a refilled cartridge.

■ Parts that are critical to print quality might not be replaced when the cartridge is refilled with toner.

HP LaserJet printing supplies

In many countries/regions, this product's printing supplies (for example the print cartridge) 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 30 countries/regions. Multilingual program information and instructions are included in every new HP LaserJet print cartridge and supplies package.

HP Printing Supplies Returns and Recycling Program information

Since 1990, the HP Printing Supplies Returns and Recycling Program has collected millions of used LaserJet print cartridges that otherwise might have been discarded in the world's landfills. The HP LaserJet print cartridges and supplies are collected and bulk shipped to our resource and recovery partners, who disassemble the cartridges. Remaining materials are separated and converted into raw materials for use by other industries to make a variety of useful products.

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 that the new cartridge comes in. For more information in the U.S., call 800-340-2445 or visit the HP LaserJet Supplies Web site at www.hp.com/recycle.

Non-U.S. returns

Non-U.S. customers should call the local HP Sales and Service office or visit the www.hp.com/recycle Web site for further information regarding availability of the HP Supplies Returns and Recycling program.

Regulatory statements

FCC Requirements (United States)

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 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.

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.

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

This equipment uses the following USOC jacks: RJ11C.

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

device is connected. This is to avoid damage to the equipment caused by local lightning strikes and other electrical surges.

Telephone Consumer Protection Act (United States)

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

EU statement for telecom operation

This product is intended to be connected to the analog Public Switched Telecommunication Networks (PSTN) of European Economic Area (EEA) countries/regions. It meets requirements of EU R&TTE Directive 1999/5/EC (Annex II) and carries appropriate CE conformity marking. For more details, see Declaration of Conformity issued by the manufacturer in another section of this manual. However, due to differences between individual national PSTNs, the product may not guarantee unconditional assurance of successful operation on every PSTN termination point. Network compatibility depends on the correct setting being selected by the customer in preparation of its connection to the PSTN. Please follow the instructions provided in the user manual. If you experience network compatibility issues, please contact your equipment supplier or Hewlett-Packard help desk in the country/region of operation. Connecting to a PSTN termination point may be the subject of additional requirements set out by the local PSTN operator.

New Zealand telecom statements

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment may not provide for the effective hand-over of a call to another device connected to the same line.

This equipment shall not be set up to make automatic calls to the Telecom "111" Emergency Service.

IC CS-03 requirements

Notice: The Industry Canada label identifies certified equipment. This certification means the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirement document (s). The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible for the equipment to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment. Users should

ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution can be particularly important in rural areas.

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

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

Declarations of conformity

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 Color LaserJet 2820 all-in-one
Regulatory Model Number[3]**:**	BOISB-0408-00
Product Options:	ALL

conforms to the following Product Specifications:

Safety:	IEC 60950:1999 / EN60950: 2000
	IEC 60825-1:1993 + A1:1996 +A2:2001 / EN 60825-1:1994 + A11:1996 + A2:2001 (Class 1 Laser/LED Product)
	GB4943-1995
EMC:	CISPR 22:1998 / EN 55022:1998 - Class B[1]
	EN 61000-3-2:2000
	EN 61000-3-3:1995\A1:2001
	EN 55024:1998\A1:2001
	FCC Title 47 CFR, Part 15 Class B[2] / ICES-003, Issue 3 GB9254-1998

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 89/336/EEC, 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. Compliance testing of product to standard with exception of Clause 9.5, which is not yet in effect.

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

December 1, 2004

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, Idaho 83707-0015, (Phone: 208-396-6000)

Declaration of conformity

Country-/region-specific safety statements

Laser safety statement

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 printer 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 printer 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 the device user guide may result in exposure to hazardous radiation.

Canadian DOC statement

Complies with Canadian EMC Class B requirements.

«Conforme àla classe B des normes canadiennes de compatibilité électromagnétiques (CEM).»

Korean EMI statement

사용자 안내문 (B 급 기기)

이 기기는 비업무용으로 전자파장해검정을 받은 기기로서, 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

Finnish laser statement

LASERTURVALLISUUS

LUOKAN 1 LASERLAITE

KLASS 1 LASER APPARAT

HP Color LaserJet 2820/2830/2840 -laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle.

Laitteen turvallisuusluokka on määritetty standardin EN60825-1 (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 Color LaserJet 2820/2830/2840 -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 erikoistyökaluja.

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 770-800 nm

Teho 5 mW

Luokan 3B laser

2 Installation and operation

Chapter contents

Operating environment

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

- Temperature: 15° to 32.5° C (59° to 90.5° F)

- Humidity: 10 percent to 80 percent relative humidity (no condensation)

- Away from direct sunlight, open flames, and ammonia fumes

- With sufficient space around the device for access and ventilation
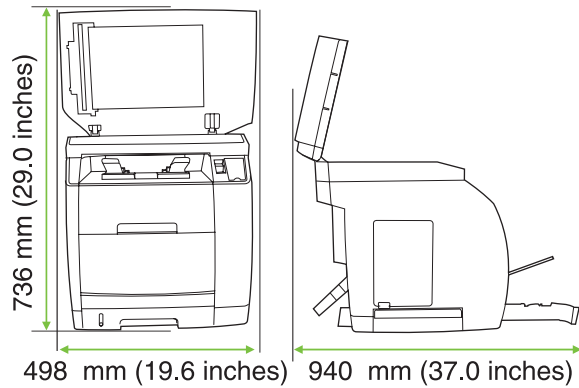
Figure 2-1 Space required

Interface ports

The device has two interface ports: a 10/100Base-T (RJ-45) network port and a Hi-Speed USB 2.0 port.

The HP Color LaserJet 2830/2840 all-in-one models also have fax ports.
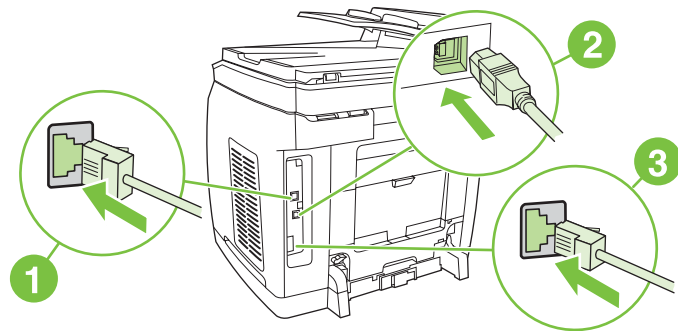
1	Network port
2	High-speed USB 2.0 port
3	Fax ports (HP Color LaserJet 2830/2840 all-in-one models only)

Control-panel features

Use the following illustrations to identify the device control-panel components for your device.
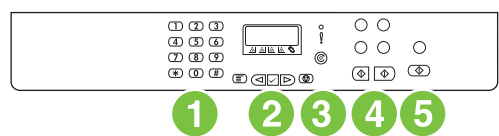
Figure 2-2 HP Color LaserJet 2820 all-in-one printer, scanner, copier

1	**Alphanumeric buttons.** Use the alphanumeric buttons to type data into the device control-panel display or to enter copy quantity.
2	**Menu and cancel controls.** Use these controls to select menu options, determine the device status, and cancel the current job.
3	**Rotate carousel button and status lights.** Use these controls to check device status and to rotate the print-cartridge carousel when replacing cartridges.
4	**Copy controls.** Use these controls to change commonly used default settings and to start copying.
5	**Scan controls.** Use these controls to scan to e-mail or to a folder.
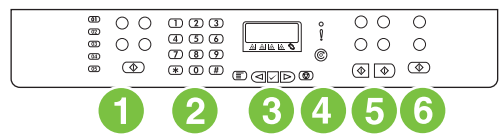
Figure 2-3 HP Color LaserJet 2830 all-in-one printer, scanner, fax, copier

1	**Fax controls.** Use the fax controls to change commonly used fax settings.
2	**Alphanumeric buttons.** Use the alphanumeric buttons to type data into the device control-panel display and dial telephone numbers for faxing.
3	**Menu and cancel controls.** Use these controls to select menu options, determine the device status, and cancel the current job.
4	**Rotate carousel button and status lights.** Use these controls to check device status and to rotate the print-cartridge carousel when replacing cartridges.
5	**Copy controls.** Use these controls to change commonly used default settings and to start copying.
6	**Scan controls.** Use these controls to scan to e-mail or to a folder.
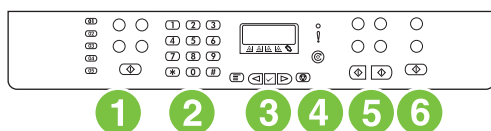
Figure 2-4 HP Color LaserJet 2840 all-in-one printer, scanner, fax, copier

1	**Fax controls.** Use the fax controls to change commonly used fax settings.
2	**Alphanumeric buttons.** Use the alphanumeric buttons to type data into the device control-panel display and dial telephone numbers for faxing.
3	**Menu and cancel controls.** Use these controls to select menu options, determine the device status, and cancel the current job.
4	**Rotate carousel button and status lights.** Use these controls to check device status and to rotate the print-cartridge carousel when replacing cartridges.
5	**Copy controls.** Use these controls to change commonly used default settings and to start copying.
6	**Photo and scan controls.** Use these controls to print photos from a memory card, or to scan to e-mail or to a folder.

Input trays

The HP Color LaserJet 2820/2830/2840 all-in-one comes with one or more input trays.

Table 2-1 Input tray configuration

Device model	Standard input trays	Optional input trays
HP Color LaserJet 2820 all-in-one	tray 1 (125-sheet)	tray 2 (250-sheet)
HP Color LaserJet 2830 all-in-one	tray 1 (125-sheet)	tray 2 (250-sheet)
HP Color LaserJet 2840 all-in-one	tray 1 (125-sheet)	(none)
	tray 2 (250-sheet)	

📝 **NOTE** Because tray 2 is not included with all models, it is referred to as optional tray 2 in this document.

By default, the device draws first from tray 1. If tray 1 is empty, the device draws from optional tray 2.

Output paths

The device comes with the top output bin and rear output door for printing to a straight-through paper path. Print jobs emerge from the top output bin when the rear output door is closed. Print jobs emerge from the back of the device when the rear output door is open.

Top output bin

Use the top output bin when printing most jobs, including jobs on average-weight paper, letterhead, and transparencies. The top output bin can hold up to 125 sheets. Prevent more than 125 sheets from accumulating in the top output bin, or jams can occur.

Rear output bin

Use the rear output door (straight-through paper path) if problems occur when printing to the top output bin, or when printing on such media as cardstock, envelopes, labels, or photo paper. Remove each sheet as it exits the device.
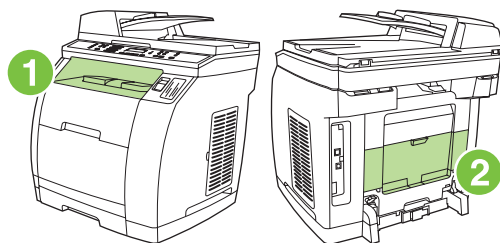
Figure 2-5 Output paths

1	Top output bin
2	Rear output bin door

Loading media

Load special print media, such as envelopes, labels, and transparencies, in tray 1 only.

> NOTE   Because tray 2 is not included for all models, it is referred to as optional tray 2 in this documentation.

Loading tray 1

Tray 1 (the multipurpose tray) holds up to 125 sheets of paper or other print media, or it holds up to 10 envelopes.

> CAUTION   Avoid adding print media to tray 1 while the device is printing, or jams can occur. Do not fan paper before loading it into trays, and avoid overloading trays.

To load tray 1

1   Open tray 1.
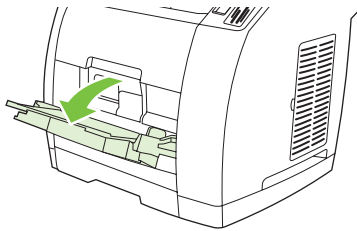
2   Slide out the tray extender. If the print media being loaded is longer than 23 cm (9 inches), also open the additional tray extender.

3   Slide the media-width guides slightly wider than the print media.
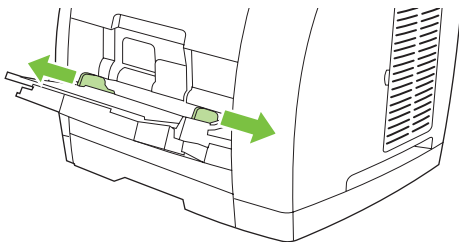
4 Place print media into the tray with the side to be printed upon face-up, and the top, short edge in first.
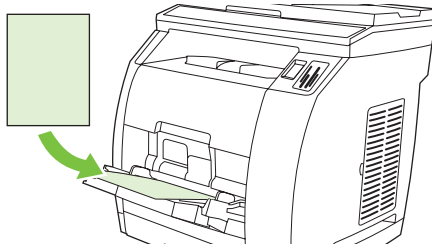
📝 **NOTE**   If you are manually duplexing, see the device user guide for loading instructions.

5 Slide the media-width guides inward until they lightly touch the print media stack on both sides without bending it. Make sure that the print media fits under the tabs on the media-width guides.
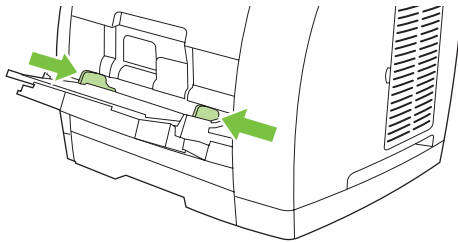
⚠ **CAUTION**   Wait for the device to finish printing before closing tray 1. Closing the tray before the device finishes can cause jams.

6 On the back of the device, lower the rear output door if you are printing on special media, such as labels, envelopes, or heavy or light paper, to prevent curl.

⚠ **CAUTION**   Remove each page as it exits the device to avoid a jam error message.

Loading optional tray 2

Paper includes average-weight letterhead and prepunched paper. For additional information about letterhead and prepunched paper, see the device user guide.

⚠ **CAUTION**   Print on special print media such as labels and transparencies from tray 1 only. Printing on special print media from optional tray 2 can cause jams. Do not fan paper before loading it into trays, and avoid overloading trays.

To load optional tray 2

1 Pull optional tray 2 out of the device and remove any paper.
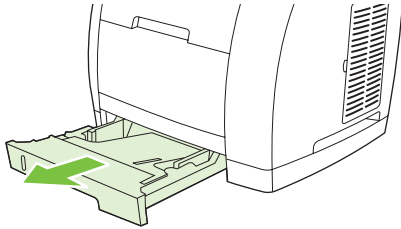
2 Move the media-width guides to match the size of paper that you are loading. Optional tray 2 accepts several standard paper sizes.
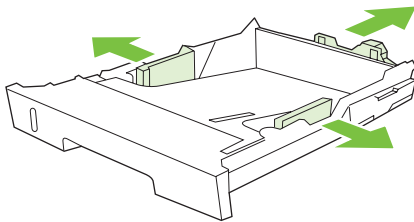
3 Extend the paper-length adjustment control at the rear of the tray until the arrow on the markings on the tray points to the size that you are loading.

4 Load the paper. If this is special paper such as letterhead, load it with the side to be printed upon face-down and the top edge toward the front of the tray.

NOTE If you are duplexing manually, see the device user guide for loading instructions.

5 Make sure that the stack of paper is flat in the tray at all four corners, and keep it below the height tabs on the media-length guide in the rear of the tray. Push down on the metal media-lift plate to lock it into place.

6 Slide the tray into the device. If you set the rear of the tray to one of the longer sizes, the back of the tray will protrude from the back of the device.
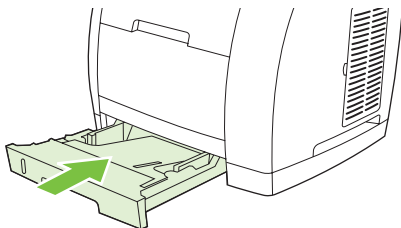
Loading documents to scan

Use these instructions to load originals into your device for scanning. For the best quality scans, use the flatbed scanner.

To load originals onto the flatbed scanner

1 Make sure that the automatic document feeder (ADF) contains no media.

2 Lift the flatbed scanner cover.

3 Place the original document face-down on the flatbed scanner with the upper-left corner of the document at the lower-right corner of the glass.
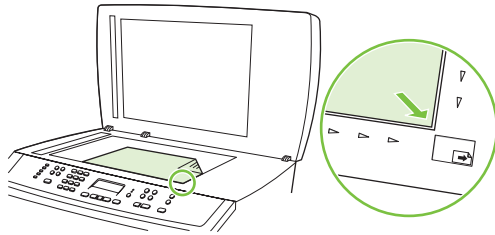
4 Gently close the lid.

The document is ready to be scanned.

> ⚠ **CAUTION** To prevent damaging the device, do not allow the scanner lid to fall onto the flatbed scanner surface. Always close the scanner lid when the device is not in use.

To load originals into the automatic document feeder (ADF)

> 📝 **NOTE** The ADF capacity is up to 50 sheets of 75 g/m^2 (20 lb) media.
>
> The minimum size for media in the ADF is 127 by 127 mm (5 by 5 inches). For smaller sizes, use the flatbed scanner. The maximum size for media in the ADF is 216 by 381 mm (8.5 by 15 inches).

1 Make sure that the flatbed scanner contains no media.

2 Close the flatbed scanner cover and put the top end of the stack of originals into the ADF input tray, with the media stack face-up and the first page to be copied on top of the stack.

> ⚠ **CAUTION** To prevent damaging the device, do not use an original that contains correction tape, correction fluid, paper clips, or staples. Also, do not load photographs, small originals, or fragile originals into the ADF.

3 Slide the stack into the ADF until it does not move any farther.
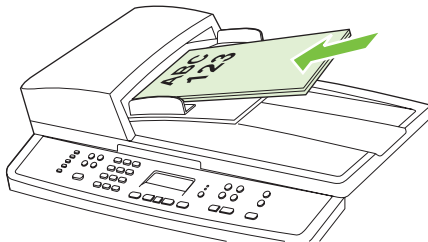
The control panel displays the message **Document Loaded**.

4 Adjust the media guides until they are snug against the media.
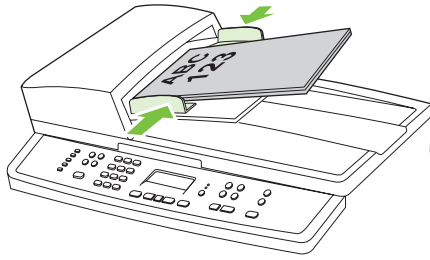
5 The document is now ready to be copied.

HP Toolbox

HP Toolbox is a Web application that you can use for the following tasks:

- Check the device status.

- Configure the device settings.

- View troubleshooting information.

- View online documentation.

📝 **NOTE** HP Toolbox is not supported for Windows 98 SE, Windows Me, Windows NT, and Macintosh operating systems (see Software and supported operating systems). To use HP Toolbox, you must have TCP/IP protocol installed on your computer.

NOTE You do not have to have Internet access to open and use HP Toolbox. However, if you click a link in the **Other Links** area, you must have Internet access to go to the site that is associated with the link. See Other links for more information.

Viewing HP Toolbox

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

To view HP Toolbox

1 Open HP Toolbox in one of these ways:

- In the Windows system tray, double-click the **HP ToolboxDevice Status and Alerts** icon.

- On the Windows **Start** menu, click **Programs** (or **All Programs** in Windows XP), click **HP**, click **HP Color LaserJet 2820/2830/2840**, and then click **HP Toolbox**.

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

2 HP Toolbox opens in a Web browser. The HP Toolbox software contains the following sections:

- Status tab

- Fax tab

- Scan to tab

- Troubleshooting tab

- Documentation tab

- Device Settings pages

- HP Toolbox links

- Other links

Status tab

The **Status** tab contains links to the following main pages:

- **Device Status**. View device status information. This page indicates device conditions such as a jam or an empty tray. After you correct a problem with the device, click **Refresh Status** to update the device status.

- **Supplies Status**. View detailed supplies status such as the estimated percent of toner remaining in the print cartridge and the number of pages that have been printed with the current print cartridge. This page also has links to order supplies and to find recycling information.

- **Set up Status Alerts**. Set up the device to send you pop-up alerts for certain events, such as low toner levels.

- **Set up E-mail Alerts**. Set up the device to send you e-mail alert messages for certain events, such as low toner levels.

- **Device Configuration**. View a detailed description of the current device configuration, including the amount of memory installed and whether optional trays are installed.

- **Network Configuration**. View a detailed description of the current network configuration, including the IP address and network status. This link appears only if the device is connected to a network.

- **Print Info Pages**. Print the Configuration page and various other information pages that are available for the device, such as the Supplies Status page and the Demo page.

- **Event Log**. View a history of device errors. The most recent error is at the top of the list.

Fax tab

Use the **Fax** tab to perform fax tasks from your computer. The **Fax** tab contains links to the following main pages:

- **Fax Tasks**. Perform such tasks as sending a fax or clearing the fax memory, or set the fax receive mode.

- **Fax Phone Book**. Add, edit, or delete entries in the device phone book.

- **Fax Send Log**. View all of the recent faxes that have been sent from the device.

- **Fax Receive Log**. View all of the recent faxes that have been received by the device.

- **Fax Data Properties**. Manage the space used to store faxes on your computer. These settings apply only if you have chosen to send or receive faxes remotely from your computer.

- **Fax Reports**. Print any or all of the fax reports from your computer.

- **Detailed Fax Settings**. Use links to the **Fax Setup Wizard** or the **Fax Settings** tab to change the device fax settings.

- **How Do I?**. View Help topics for device fax tasks.

Scan to tab

Use the **Scan to** tab to set up the device SCAN TO button. The SCAN TO button allows you to scan from the device, rather than scanning from a software program on your computer.

📝 **NOTE** The HP Color LaserJet 2830 all-in-one printer, scanner, fax, copier has a SCAN TO EMAIL button that you can also set up with this tab.

The **Scan to** tab contains links to the following main pages:

- **Scan to E-mail or Folder**. Activate or deactivate the scan-to feature. You also can add, edit, or delete destination e-mail addresses or folders for this feature.

- **Scan Preferences**. Change the scan preference settings for the device scan-to feature, including scan resolution and file type.

- **How Do I?**. View Help topics for device tasks that involve the SCAN TO or SCAN TO EMAIL (HP Color LaserJet 2830 all-in-one only).

Troubleshooting tab

The **Troubleshooting** tab contains links to the following main pages:

- **Control Panel Messages**. View descriptions of device control-panel messages.

- **Clearing Jams**. View information about locating and clearing jams.

- **Print Problems**. View Help topics that can help you solve print problems.

- **Scan Problems**. View Help topics that can help you solve scan problems.

- **Copy Problems**. View Help topics that can help you solve copy problems.

- **Fax Problems**. View Help topics that can help you solve fax problems.

- **Memory Card Problems**. View Help topics that can help you solve memory-card problems.

- **Connectivity Problems**. View Help topics that can help you solve networking problems.

- **Troubleshooting Tools**. Employ such troubleshooting tools as a cleaning page or a color troubleshooting page to maintain the device.

- **Animated Demonstrations**. View animated Help demonstrations for the device.

Documentation tab

The **Documentation** tab contains links to the following main pages:

- **Print: How Do I?** View the How Do I? Help for print problems.

- **Fax: How Do I?** View the How Do I? Help for fax problems.

- **Copy: How Do I?** View the How Do I? Help for copy problems.

- **Scan: How Do I?** View the How Do I? Help for scan problems.

- **Photo: How Do I?** View the How Do I? Help for memory-card problems.

- **Network: How Do I?** View the How Do I? Help for network problems.

- **Other: How Do I?** View the How Do I? Help for other device problems.

- **User Guide**. View information about the device usage, warranty, specifications, and support that you are currently reading. The device User Guide is available in both HTML and PDF format.

- **Readme**. View important information about the device that is not available in the device user guide. The late-breaking readme contains last-minute information about the device (in English only).

Device Settings pages

When you click the **Device Settings** button, HP Toolbox displays the device settings available for your device. The **Device Settings** screen has the following tabs:

- **System Settings**

- **Print Settings**

- **Fax Settings**

- **Copy Settings**

- **Network Settings**

> **NOTE** Printer driver settings can override settings that are made in HP Toolbox.

System Settings tab

The **System Settings** tab contains links to the following main pages:

- **Device Information**. View information about the device, such as the device description and a contact person.

- **Paper Handling**. Change the device paper-handling settings, such as default paper size and default paper type.

- **Print Quality**. Change the device print-quality settings, such as color calibration and grayscale printing.

- **Print Density**. Change the device print-density settings, such as contrast and shadows.

- **Print Modes**. Change the device mode settings for a each media type, such as letterhead, prepunched, or glossy paper.

- **System Setup**. Change the device system settings, such as device language and jam recovery.

- **Volumes**. Change the device volume settings, such as the telephone line (HP Color LaserJet 2830/2840 all-in-one models only) and alarm volumes.

- **Date/Time**. Change the device date and time settings.

- **Service**. Gain access to various procedures required to maintain the device.

- **Device Polling**. Change the device polling settings, which determine how often HP Toolbox collects data from the device.

- **Save/Restore Settings**. Save the current settings for the device to a file on your computer. Use this file to load the same settings onto another device or to restore these settings to this device at a later time.

Print Settings tab

The **Print Settings** tab contains links to the following main pages:

- **Printing**. Change the default device print settings, such as number of copies and paper orientation.

- **PCL6**. View and change the PCL6 settings.

- **PostScript**. View and change the PS settings.

- **Memory Card**. View and change the default device memory-card settings (HP Color LaserJet 2840 all-in-one only).

Fax Settings tab

The **Fax Settings** tab contains links to the following main pages:

- **General**. Change such basic fax settings as the fax header and error reporting.

- **Fax Send**. Change such fax send settings as resolution and redial.

- **Fax Receive**. Change such fax receive settings as the answer mode and the fit-to-page option.

- **Fax Setup Wizard**. Start the Fax Setup Wizard to set up the device fax settings.

Copy Settings tab

The **Copy Settings** tab contains links to the following main pages:

- **Copy**. Change such default copy settings as number of copies and contrast.

- **Reduce/Enlarge**. Change the reduction-enlargement settings for the device.

Network Settings tab

> **NOTE** The **Network Settings** tab appears only if the device is connected to a network.

The network administrator can use the **Network Settings** tab to control the network-related settings for the device when it is connected to an IP-based network.

HP Toolbox links

The HP Toolbox links at the left of the screen provide links to the following options:

- **Select a device**. Select from all of the HP Toolbox-enabled devices.

- **View current alerts**. View the current alerts for all devices that have been set up. (You must be printing to view the current alerts.)

- **Text only page**. View HP Toolbox as a site map that links to text-only pages.

Other links

This section contains links that connect you to the Internet. 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 HP Toolbox, you must connect before you can visit these Web sites. Connecting might require that you close HP Toolbox and reopen it.

- **HP Instant Support**. View the HP Instant Support Web site.

- **Product Registration**. View the HP product registration Web site.

- **Order Supplies**. Order device supplies at the HP Web site.

- **Product Support**. View the support site for the HP Color LaserJet 2820/2830/2840 all-in-one. At the site, you can search for help with a specific problem.

Embedded Web server

This device is equipped with an embedded Web server, which allows access to information about device and network activities. A Web server provides an environment in which web programs may run, much in the same way that an operating system, such as Windows, provides an environment for programs to run on your computer. The output from these programs can then be displayed by a Web browser, such as Microsoft Internet Explorer, Safari, or Netscape Navigator.

An embedded Web server resides on a hardware device (such as a printer) or in firmware, rather than as software that is loaded on a network server.

The advantage of an embedded Web server is that it provides an interface to the device that anyone with a network-connected computer and a standard Web browser can access. There is no special software to install or configure, but you must have a supported Web browser on your computer. To access 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 Configuration page.

> **NOTE**   For Macintosh operating systems, you can use the EWS over a USB connection.

Features

The HP embedded Web server allows you to view device and network card status and manage printing functions from your computer. With the HP embedded Web server, you can do the following:

- View device status information

- 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

- Add or customize links to other Web sites

- Select the language in which to display the embedded Web server pages

- View and change network configuration

- View support content that is device-specific and specific to the current device state

3 Maintenance

Chapter contents

Life expectancies of components

Inspect supplies when you service the device. Replace components as needed, based on failure or wear, rather than on usage.

The following table lists approximate schedules for replacing supplies.

Table 3-1 Life expectancies of components

Description	Part number	Estimated life (in number of pages at 5 percent coverage[1])	Remarks
Print cartridge, black (user replaceable)	Q3960-67901 Q3960-67902 (EMEA)	5,000	
Print cartridge, cyan (user replaceable)	Q3971-67901 Q3971-67902 (EMEA)	2,000	
Print cartridge, cyan (user replaceable)	Q3961-67901 Q3961-67902 (EMEA)`	4,000	High-capacity cartridge
Print cartridge, yellow (user replaceable)	Q3972-67901 Q3972-67902 (EMEA)	2,000	
Print cartridge, yellow (user replaceable)	Q3962-67901 Q3962-67902 (EMEA)	4,000	High-capacity cartridge
Print cartridge, magenta (user replaceable)	Q3973-67901 Q3973-67902 (EMEA)	2,000	
Print cartridge, magenta (user replaceable)	Q3963-67901 Q3963-67902 (EMEA)	4,000	High-capacity cartridge
Imaging drum	Q3964-67901	20,000 (black only) 5,000 (color)	The average life is 6,000 to 8,000 pages.
Transfer roller	RF5-4067-000CN	100,000	Can affect print quality and paper movement.
Device pickup roller	RB3-0160-000CN	100,000	Look for glazing and/or cracks.
Device separation pad	RF5-4012-000	100,000	Can affect document movement.
Fuser assembly, 110-127 V)	RG5-7602-000	100,000	Can affect print quality and document movement.
Fuser assembly, 220-240 V)	RG5-7603-000	100,000	Can affect print quality and document movement.
Separation pad, optional tray 2	RB2-9960-000	100,000	Can affect document movement.
ADF pickup roller	Q3948-67903	50,000	Can affect document movement.

Table 3-1 Life expectancies of components (continued)

Description	Part number	Estimated life (in number of pages at 5 percent coverage[1])	Remarks
ADF separation pad	Q3948-67904	50,000	Can affect document movement.
ADF assembly	Q3948–60189	50,000	
Scanning assembly	Q3948–60191	50,000	

[1] The estimated print-cartridge life is based on letter- or A4-sized paper with an average of 5% toner coverage and a medium density setting.

Cleaning the device

Cleaning the device exterior and scanner

The section contains information about cleaning the device exterior and scanner.

To clean the exterior

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

To clean the scanner glass

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

> **NOTE** If streaks or other defects appear only on copies produced using the automatic document feeder (ADF), clean the scanner strip (step 3). It is not necessary to clean the scanner glass.

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

2 Clean the glass by using a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.
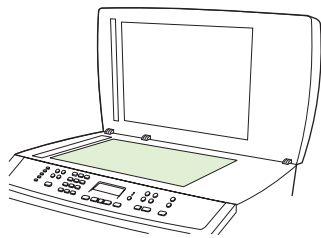
> ⚠ **CAUTION** Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the device; these can damage the device. Do not place liquids directly on the glass. They might seep under it and damage the device.

3 Clean the scanner strip by using a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.
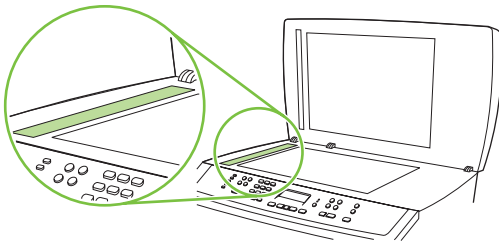
4 To prevent spotting, dry the glass by using a chamois or cellulose sponge.

To clean the lid backing

Minor debris can accumulate on the white document lid backing that is located under the flatbed scanner cover.

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

2 Clean the white document lid backing by using a soft cloth or sponge that has been moistened with a mild soap and warm water. Also, clean the scanner strip next to the ADF scanner glass.
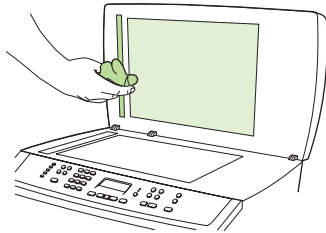
3 Wash the backing gently to loosen debris; do not scrub the backing.

4 Dry the backing by using a chamois or soft cloth.

> ⚠ **CAUTION** Do not use paper-based wipes because they might scratch the backing.

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

Cleaning the paper path

During the printing process, paper, toner and dust particles can accumulate inside the device. Over time, this buildup can cause print-quality problems such as toner specks or smearing. This device has a cleaning mode that can correct and prevent these types of problems.
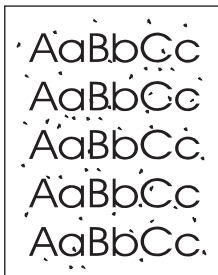
To clean the paper path from HP Toolbox

Use HP Toolbox to clean the paper path. This is the recommended cleaning method. If you do not have access to HP Toolbox, use the method in To clean the paper path from the device control panel.

1 Make sure that the device is turned on and in the Ready state.

2 Open HP Toolbox.

3 On the **Troubleshooting** tab, click **Maintenance**, click **Cleaning Page** and then click **Print**. A page with a pattern prints from the device.

4 At the device, remove any print media that might be in tray 1.

5 Remove the page that printed and load it face-down into tray 1.

6 At the computer, click **Clean**.

To clean the paper path from the device control panel

If you do not have access to HP Toolbox, you can print and use a cleaning page from the device control panel.

1 Press Menu.

2 Use the < or the > button to find the **Service** menu.

3 Press Enter.

4 Use the < or the > button to find **Cleaning Mode**.

5 Press Enter.

6 Load plain letter or A4 paper when you are prompted.

7 Press Enter again to confirm and begin the cleaning process.

A page feeds through the device slowly. Discard the page when the process is completed.

Cleaning the pickup roller

If the device regularly picks up multiple sheets of media at one time or picks up no sheets at all, clean or replace the pickup roller. Before replacing the pickup roller, try to clean it. To clean the pickup roller, use the following instructions.

> **NOTE** If the device does not pick up media from the tray, the cause is almost always a dirty or damaged pickup roller. If cleaning the pickup roller does not resolve the problem, replace the pickup roller. See Replacing the tray 1 pickup roller and separation pad for instructions.

1 Turn off the device, and then unplug the power cord.

2 Remove the pickup roller. See Replacing the tray 1 pickup roller and separation pad.

3 Dampen a lint-free cloth with isopropyl alcohol, and scrub the roller.

4 Using a dry lint-free cloth, wipe the pickup roller to remove loosened dirt.
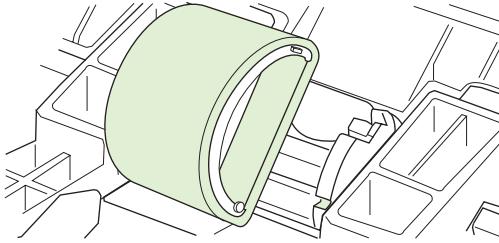
Figure 3-1 Cleaning the pickup roller (1 of 2)

5 Allow the pickup roller to dry completely, and then reinstall it in the device.
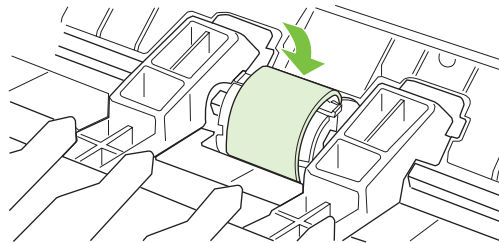
Figure 3-2 Cleaning the pickup roller (2 of 2)

6 Reconnect the device power cord, and then turn on the device.

Cleaning the separation pad

1 Turn off the device, and then unplug the power cord.

2 Remove the separation pad. See Replacing the tray 1 pickup roller and separation pad.

3 Dampen a lint-free cloth with isopropyl alcohol, and scrub the separation pad.

4 Reinstall the separation pad.

5 Plug in the device, and then turn on the device.

Managing supplies

For warranty information about these supplies, see Print Cartridge and Imaging Drum Limited Warranty Statement.

Supplies life

The life of the imaging drum depends on the number of black-only or color pages that print jobs require. Imaging-drum life is also affected each time the device calibrates because calibrating causes the imaging drum to rotate. Imaging-drum life is measured in terms of number of rotations rather than number of pages printed.

The type and length of print jobs also affects drum life. A series of short print jobs uses more drum life than an equivalent number of pages printed in a single large job. To extend drum life, print multiple copies of a print job at one time rather than sending the same job to the device multiple times.

The life of a print cartridge depends on the amount of toner that print jobs require. When printing text at 5% coverage, black print cartridges last an average of 5,000 pages and cyan, magenta, and yellow print cartridges last an average of 2,000 pages. High-capacity cyan, magenta, and yellow print cartridges last an average of 4,000 pages. (A typical business letter has 5% coverage.)

Checking and ordering supplies

You can check the supplies status by using the device control panel, printing a Supplies Status page, or viewing HP Toolbox. Hewlett-Packard recommends that you place an order for a replacement print cartridge when you first receive the **Low** message for a print cartridge. The **Low** message indicates that approximately two weeks of life remain. When you use a new, authentic HP print cartridge or imaging drum, you can obtain the following types of supplies information:

- Amount of cartridge or drum life remaining

- Estimated number of pages that can be printed

- Number of pages printed

- Other supplies information

NOTE   If the device is connected to the network, you can set HP Toolbox to notify you by e-mail when a print cartridge is low or the imaging drum is near the end of its useful life. If the device is directly connected to a computer, you can set HP Toolbox to notify you when supplies are low.

To check status and order supplies using the control panel

Do one of the following:

- Check the messages on the device control panel. These messages indicate when a print cartridge or the imaging drum is low or empty. The control panel also indicates when a non-HP print cartridge is first installed. See Control-panel messages.

- Print a Supplies Status page. Check the supplies levels on the Supplies Status page.

If the supplies levels are low, you can order supplies through your local HP dealer, by telephone, or online. See Parts and diagrams for part numbers. See www.hp.com/go/ljsupplies to order online.

To check status and order supplies using the HP Toolbox

You can configure the HP Toolbox to notify you when the supplies are low. You can choose to receive alerts by e-mail or as a pop-up message or taskbar icon. To order supplies by using the HP Toolbox, in the **Other Links** area, click **Order supplies**.

For more information, see Other links.

Storing supplies

Follow these guidelines for storing print cartridges and the imaging drum:

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

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

■ See Table 1-6 Environmental specifications for operating- and storage-temperature ranges.

■ Store the supply in a horizontal position.

■ Store the supply in a dark, dry location away from heat and magnetic sources.

Replacing and recycling supplies

To install a new HP print cartridge or imaging drum, follow the instructions included in the box that contains the new supply, or see the device getting started guide.

To recycle supplies, place the used supply in the box in which the new supply arrived. Use the enclosed return label to send the used supply to HP for recycling. For complete information, see the recycling guide that is included with each new HP supply item. See HP Printing Supplies Returns and Recycling Program information for more information about HP's recycling program.

HP policy for non-HP supplies

Hewlett-Packard Company cannot recommend the use of non-HP supplies, either new or remanufactured. Because they are not HP products, HP cannot influence their design or control their quality. Service or repairs that are required as a result of using a non-HP supply will *not* be covered under the device warranty.

When you insert a supply into the device, the device informs you if the supply is not a genuine HP supply. If you insert a genuine HP supply that has reached the low state from another HP device, the device identifies the supply as non-HP. Simply return the supply to the original device to reactivate HP features and functionality.

Resetting the device for non-HP supplies

When you install a non-HP print cartridge or imaging drum, the light next to the print cartridge or imaging drum you replaced blinks and the Attention light is on. In order to print with this supply, you must press CANCEL the first time you install this non-HP supply. The control-panel display will not indicate when this type of supply is low or empty.

⚠ **CAUTION** The device will not stop printing when a non-HP supply is empty. Device damage can occur if the device attempts to print with an empty print cartridge or imaging drum.

HP fraud hotline

Call the HP fraud hotline if the supplies status lights indicate that the print cartridge or imaging drum is not an HP product and you think that it is genuine. Hewlett-Packard will help determine if the product is genuine and take steps to resolve the problem.

Your print cartridge or imaging drum might not be a genuine HP product if you notice the following issues:

■   You are experiencing a large number of problems with the print cartridge or imaging drum.

■   The print cartridge or imaging drum does not look like an HP product usually does (for example, the pull tab or the box is different).

In the United States, call toll-free: 877-219-3183.

Outside the United States, you can call collect. Dial the operator and ask to place a collect call to this telephone number: 770-263-4745. If you do not speak English, a representative at the HP fraud hotline who speaks your language will assist you. Or, if someone who speaks your language is not available, a language line interpreter will connect approximately one minute after the beginning of the call. The language line interpreter is a service that translates between you and the representative for the HP fraud hotline.

4 Theory of operation

Chapter contents

Introduction

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

- Engine control system

- Laser/scanner system

- Pickup and feed system

- Image-formation system

- Scanner and ADF functions and operation

- Fax functions and operation

NOTE The service CD-ROM contains sound files of normal device operations. Refer to those files if you are in doubt of what a "normal" device should sound like.
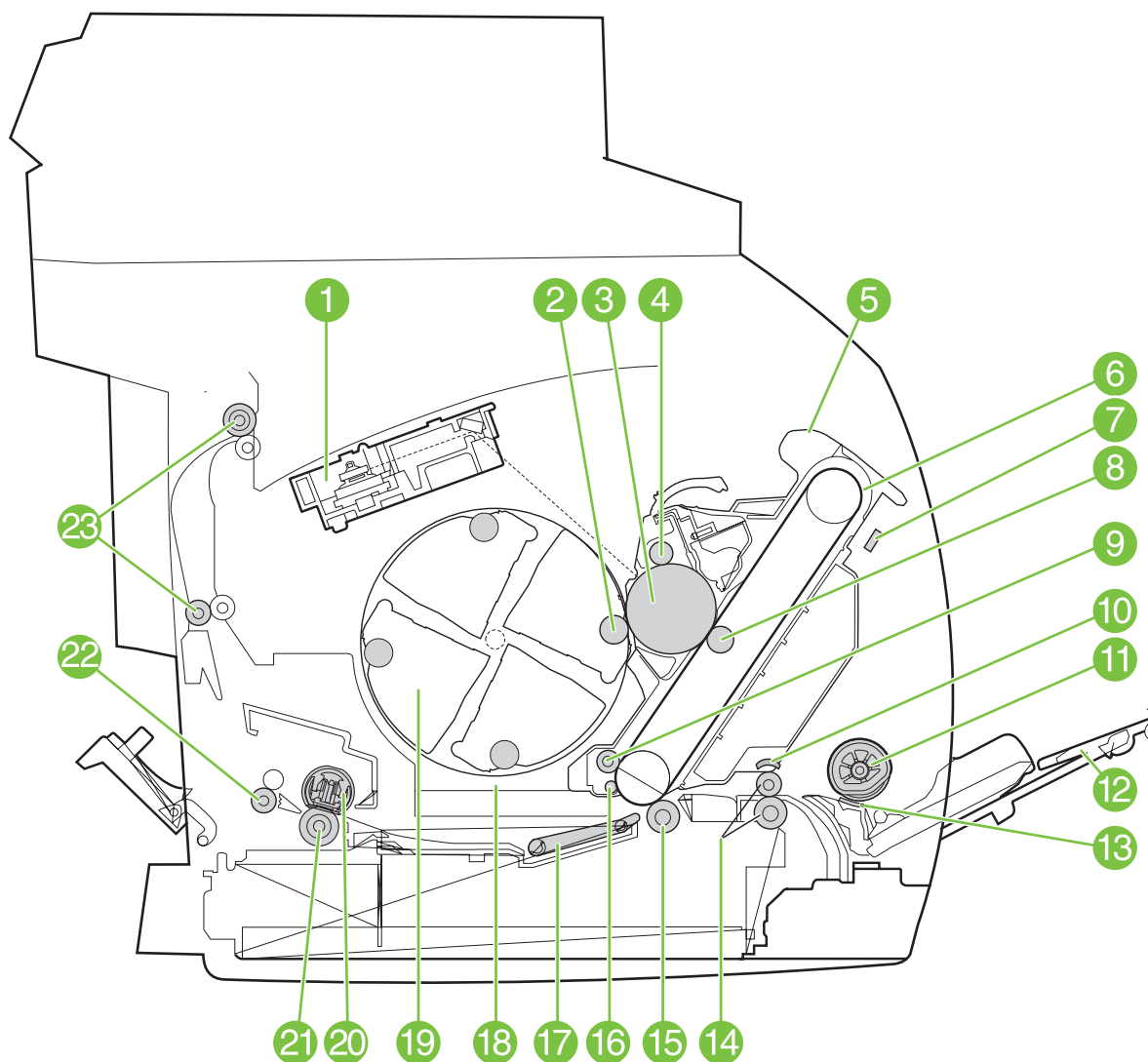
Figure 4-1 Cross-section of the device

Table 4-1 Device systems

Ref	Description	Part number	Qty
1	Laser/scanner	RG5-6890-000CN	
2	Developing cylinder roll	(contained in print cartridge)	
3	Photosensitive drum	(contained in imaging drum)	
4	Primary charging roller	(contained in imaging drum)	
5	Imaging drum	Q3964A	
6	Transfer belt	(contained in imaging drum)	
7	Density sensor	RH7-7158-000CN	
8	Primary transfer roller	(contained in imaging drum)	
9	Transfer-belt cleaning roller	(contained in imaging drum)	
10	Registration shutter	(contained in registration roller assembly)	
11	Pickup roller	RG5-6952-000CN	
12	Tray 1	RG5-7601-000CN	
13	Separation pad	RF5-4012-000CN	
14	Registration roller	RG5-6939-000CN	
15	Secondary transfer roller	RF5-4067-000CN	
16	Auxiliary transfer-belt cleaning roller	(contained in imaging drum)	
17	Feed belts (8)	RB3-0063-000CN	
18	Carousel	RG5-7587-000CN	
19	Print cartridge	(several; see Table 7-2 Accessories for part numbers)	
20	Fusing film	(contained in fuser)	
21	Pressure roller	(contained in fuser)	
22	Fuser delivery roller	(contained in fuser)	
23	Face-down delivery rollers	RG5-7595-000CN (lower) and RG5-7637-000CN (upper)	

Engine control system

The engine control system coordinates all device functions. It drives the laser/scanner system, the image formation system, and the pickup and feed system.

The engine control system contains the following components:

- DC controller

- High-voltage power-supply PCA

- Low-voltage power unit:

  - Fuser-control circuit

  - Low-voltage power-supply PCA
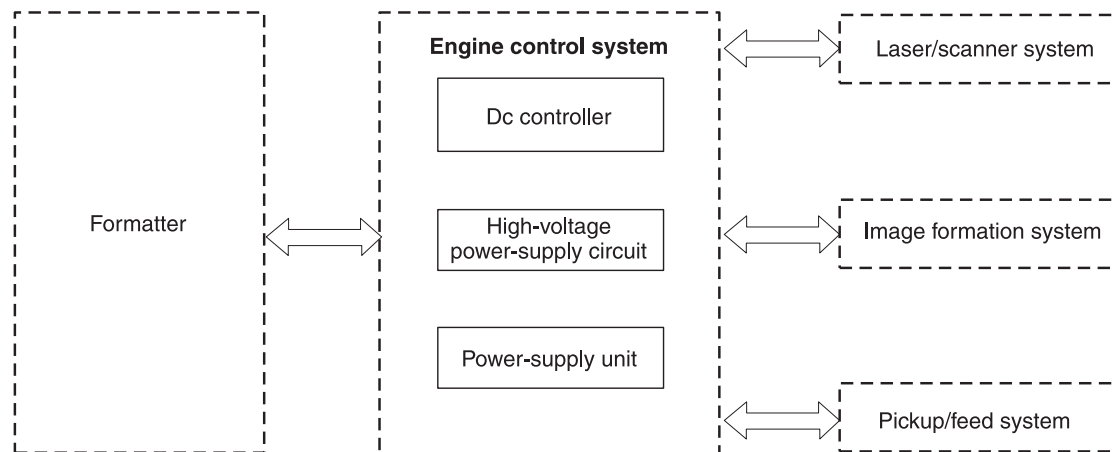
Figure 4-2 Engine control system (includes the basic configuration of the device)

Basic sequence of operation

Operation sequences are controlled by the CPU in the DC controller in the engine control system. Table 4-2 Basic sequence of operation describes engine operations for each period of a print operation.

Table 4-2 Basic sequence of operation

Period	Duration	Purpose	Remarks
WAIT (wait)	From the time the power switch is turned on until transfer-belt cleaning is complete.	Clears potential from the drum surface and cleans the transfer belt.	See Figure 4-3 Power-on sequence for a complete description of the WAIT (power-on) period.
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 detection of the HP1 (transfer-belt home-	Prepares the photosensitive drum for printing.	

Table 4-2 Basic sequence of operation (continued)

Period	Duration	Purpose	Remarks
	position detection) signal for the first color.		
PRINT (print)	From the end of the INTR period until detection of the transfer-belt home-position signal for the secondary transfer.	Forms the image on the photosensitive drum and transfers the toner image to the transfer belt.	
LSTR (last rotation)	From the end of the PRINT period until the main motor stops rotating.	Transfers the toner image on the transfer belt to the media and delivers the printed media.	After LSTR, the device returns to STBY.

Power-on sequence

The power-on sequence is represented by the flowchart in Figure 4-3 Power-on sequence.
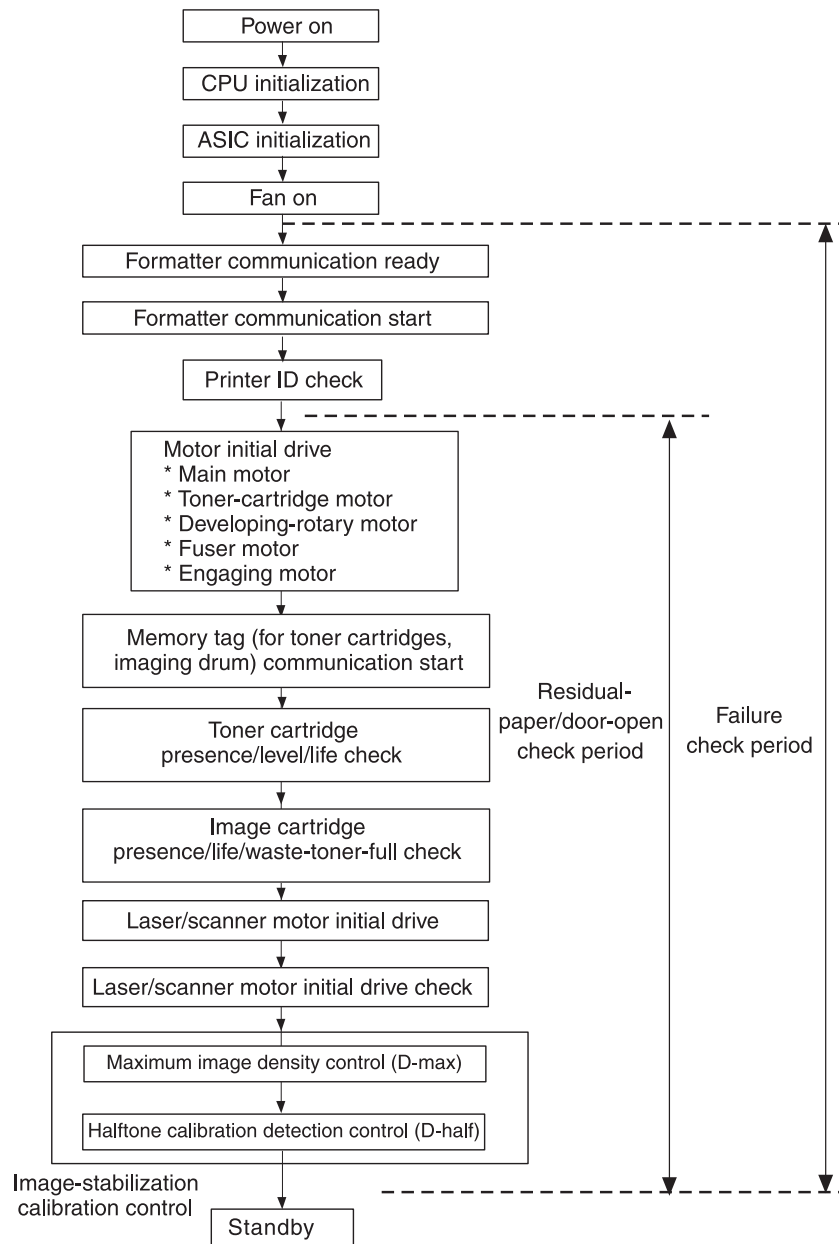
Figure 4-3 Power-on sequence

Motors and fans
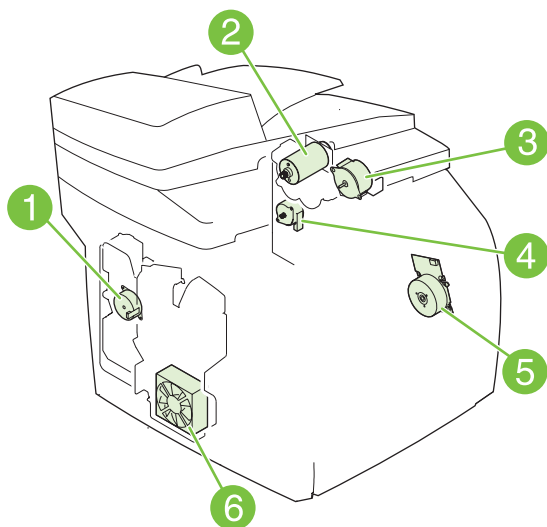
Figure 4-4 Motors and fans

Table 4-3 Motors and fans

Reference	Description	Part number
1	Engaging motor	RH7-1629-000CN
2	Developing-rotary motor	RH7-1651-000CN
3	Toner-cartridge motor	RH7-1625-000CN
4	Fuser motor	RH7-1628-000CN
5	Main motor	RH7-4063-000CN
6	Cooling fan	RH7-1630-000CN

Laser/scanner system

The laser/scanner system receives video signals from the DC controller, and then it converts the signals into latent images on the photosensitive drum. The DC controller controls the laser/scanner.

Formatter

VIDEO signals

Dc controller

SCANNER MOTOR
CONTROL signal

LASER CONTROL signal

VIDEO signals

Four-sided mirror

Scanner motor

Focus lenses

Reflective mirror

Cylindrical lens

BD circuit
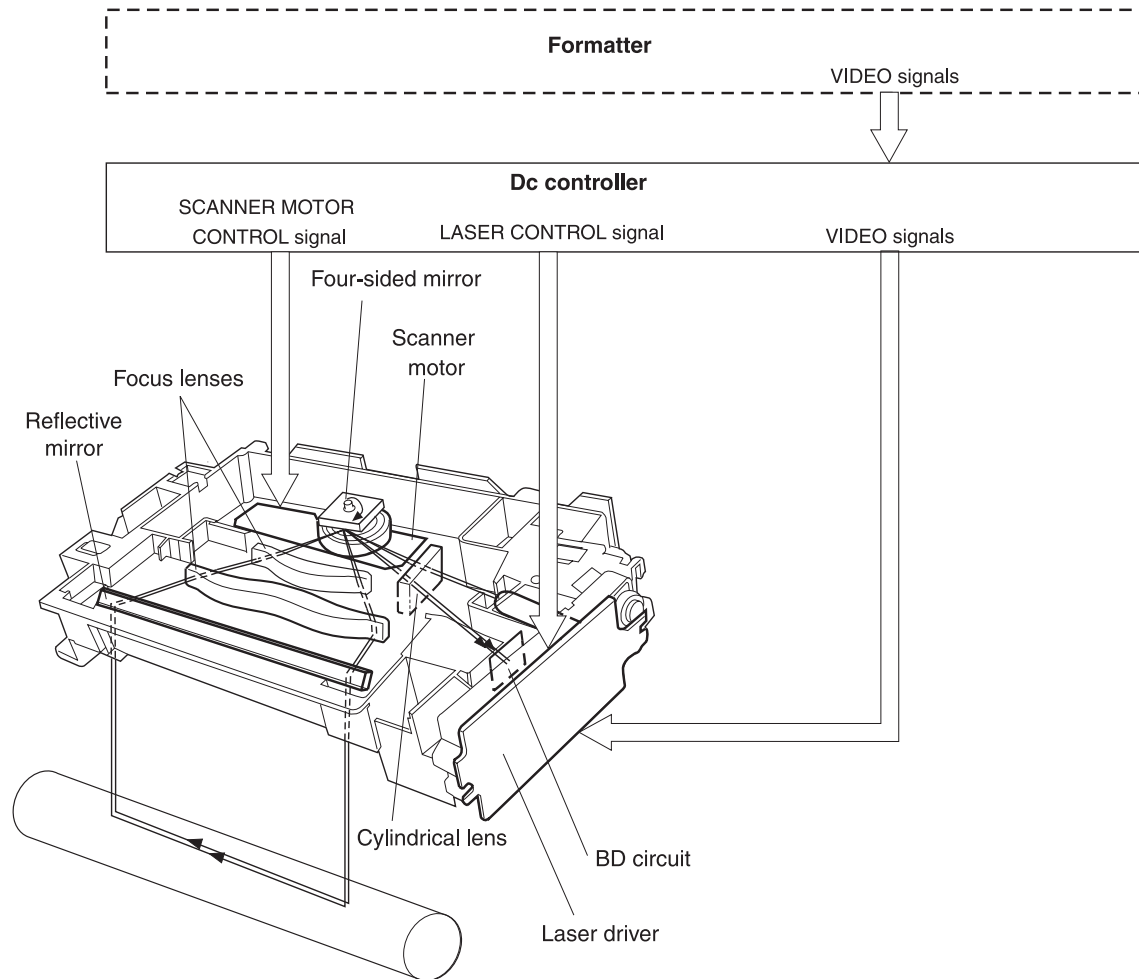
Laser driver

Figure 4-5 Laser/scanner system

Pickup and feed system

The pickup and feed system consists of several types of feed rollers and sensors. The DC controller drives the paper and feed system by controlling two motors, two clutches, and the solenoid.

Two photo-interrupters (PS1 and PS711) detect media as it passes. If media does not reach or pass each sensor within the specified time period, the DC controller determines that a jam has occurred and alerts the video controller circuit.

The following components are identified in :

- **PS1** fusing-delivery paper sensor

- **PS711** registration paper sensor

- **PS718** tray 1 (multipurpose tray) paper sensor

- **PS720** fuser wrap-jam sensor

- **DCM701** main motor

- **PM702** fuser motor

- **SL92** tray 1 pickup solenoid

- **CL1** registration clutch

- **CL2** roller-engaging clutch
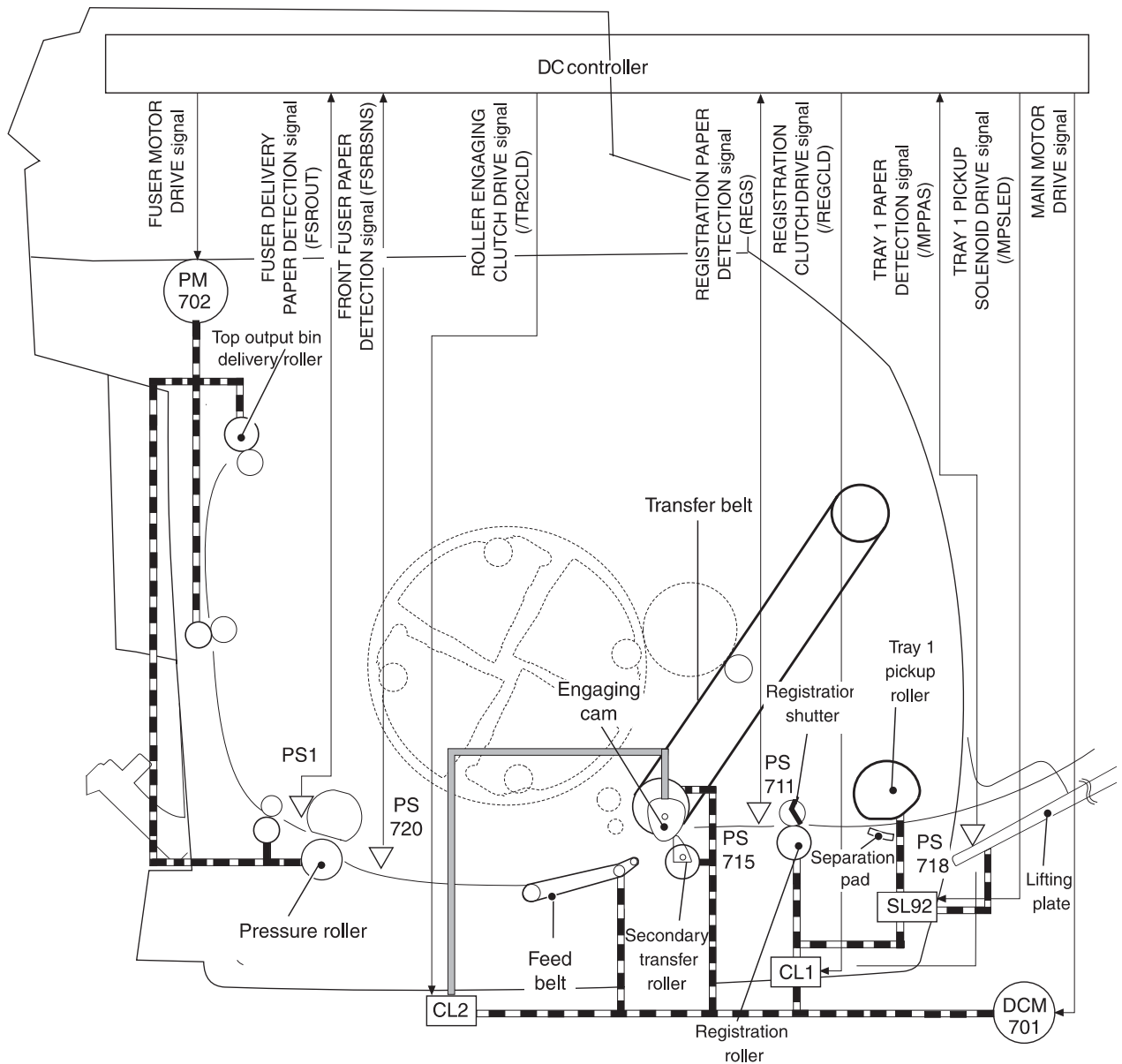
Figure 4-6 Pickup and feed system

Optional tray 2

The DC controller drives the optional tray 2 operation sequence. It signals the driver PCA in optional tray 2 (250-sheet paper tray). In optional tray 2, the device main motor drives the tray solenoids.

The following components are identified in Figure 4-7 Optional tray 2 (250-sheet paper tray):

- **DCM701** gear-train motor (device)

- **SL9** pickup solenoid (optional tray 2)

- **PS716** paper sensor (optional tray 2)

- **PS717** paper-feed sensor
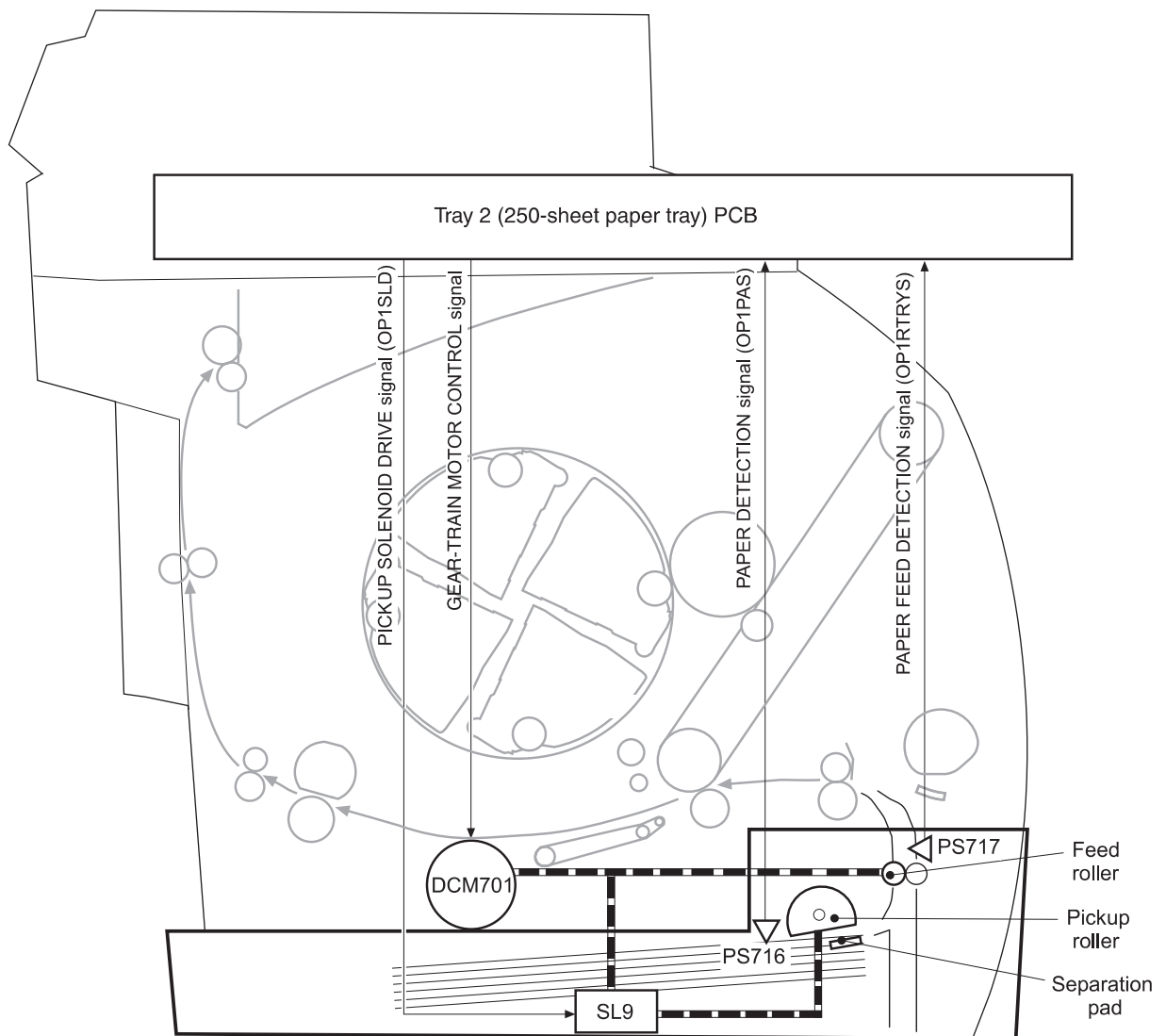
Figure 4-7 Optional tray 2 (250-sheet paper tray)

Jam detection

The registration sensor (PS711) and the fuser sensor (PS1) detect media that is moving through the device. If a jam is detected, the DC controller immediately stops the printing process and sends a message to the video controller circuit.

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

- Pickup delay jam. The leading edge of the print media does not reach the registration sensor (PS711) within 1.1 seconds (tray 1) or 1.7 seconds (optional tray 2).

- Pickup stationary jam. The registration clutch is on, and the registration sensor (PS711) does not detect the trailing edge of the media within 3.4 seconds after the start of a re-pickup operation.

- Fuser wrap-jam. The main CPU detects media inside the fuser front sensor (PS720) when the power is turned on or after the top cover is closed.

- Delivery delay jam. The registration clutch is on, and the fuser-delivery sensor (PS1) does not detect the leading edge of the media within 2.3 seconds after the start of a re-pickup operation.

- Delivery stationary jam. The leading edge of media does not pass the fuser-delivery sensor (PS1) within 2.4 seconds after it has passed the registration sensor (PS711).

- Door-open jam. The main CPU detects that the top cover is open during a print operation.

- Residual jam. The main CPU detects one or more of the following conditions:

  - Power is turned on.

  - The device door is closed after a jam occurrence.

  - The registration sensor (PS711) and fusing-delivery sensor (PS1) detect media.

- Paper pickup failure. The sensor (PS717) near the feed roller does not detect media moving through the device.

Photosensors and switches
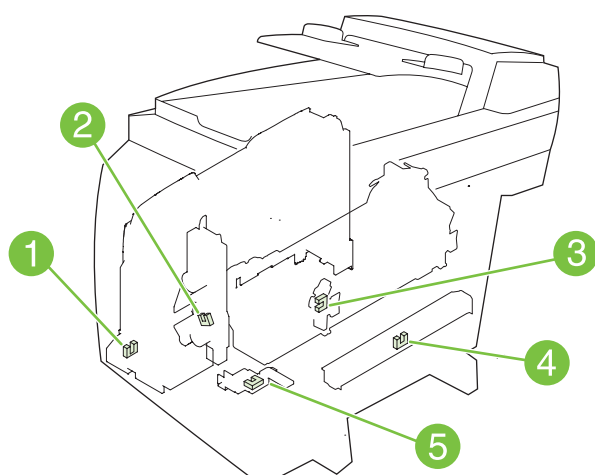
Figure 4-8 Photosensors and switches (1 of 2)
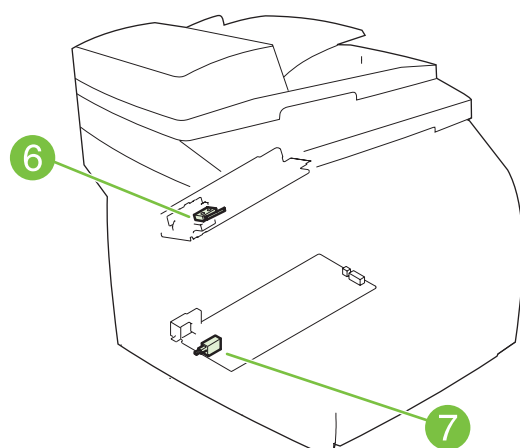
Figure 4-9 Photosensors and switches (2 of 2)

Table 4-4 Photosensors and switches

Reference	Table (item number)	Description	Part number
1	7-17 (23)	Tray 1 sensor	WG8–5593–000CN
2	7-14 (A21)	Roller-engaging sensor[1]	RG5-7579-000CN
3	7-15 (A62)	Developing-rotary-engaging sensor[1]	RG5-7589-000CN
4	7-17 (A14)	Fuser-delivery sensor[1]	RG3-7602-000CN (110 V)
			RG5-7608-000CN (220 V)
5	7-17 (38)	Front fuser-detection sensor	WG8-5593-000CN
6	7-10 (9)	Door-open detection switch	RH7-6051-000CN

Table 4-4 Photosensors and switches (continued)

Reference	Table (item number)	Description	Part number
7	7-18	Power switch[1]	RH3-2260-000CN (110 V)
			RH3-2261-000CN (220 V)

[1] This part can be ordered only as part of an assembly. The part number listed is the part number for the assembly.

Solenoids and clutches
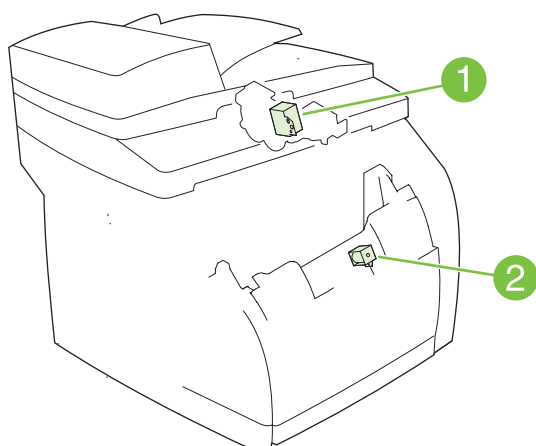
Figure 4-10 Solenoids

Table 4-5 Solenoids

Reference	Table (item number)	Description	Part number
1	7-16 (3)	Developing-rotary-stopper solenoid[1]	RG5-7842-000CN
2	7-8 (16)	Tray 1 pickup solenoid	RH7-5383-000CN

[1] This part can be ordered only as part of an assembly. The part number listed is the part number for the assembly.
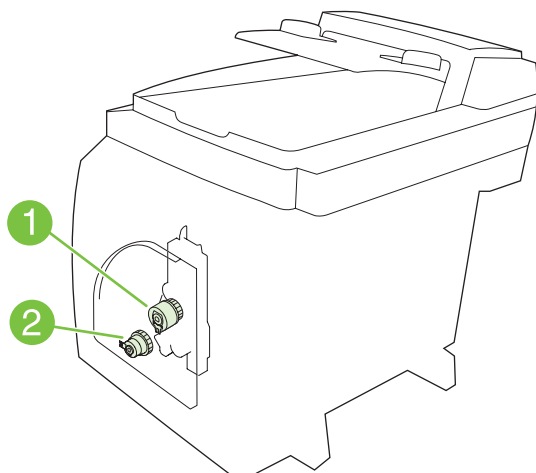
Figure 4-11 Clutches

Table 4-6 Clutches

Reference	Table (item number)	Description	Part number
1	7-14 (3)	Roller-engaging clutch	RH7-5335-000CN
2	7-9 (10)	Registration clutch	RH7-5389-000CN

Printed circuit assemblies
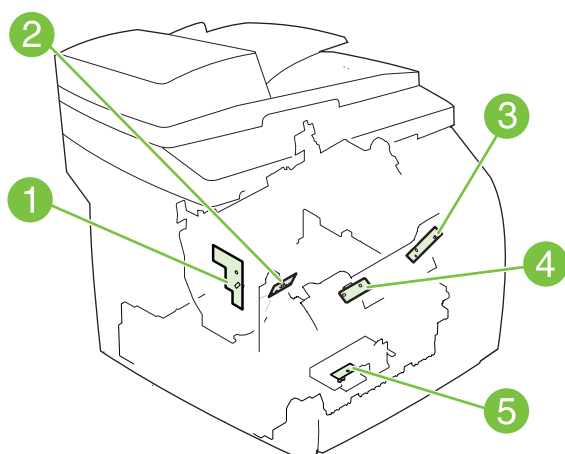
Figure 4-12 Printed circuit assemblies (1 of 2)
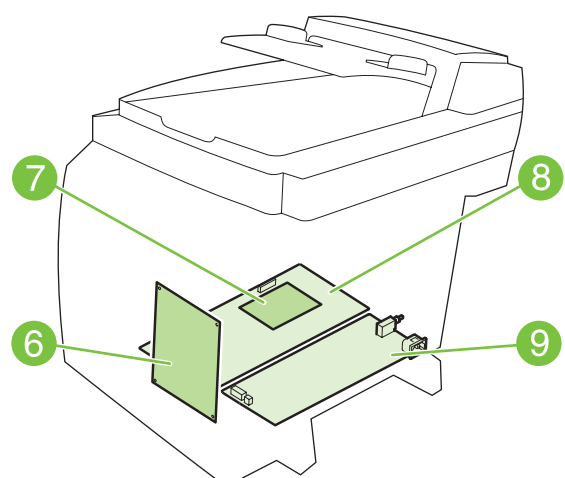
Figure 4-13 Printed circuit assemblies (2 of 2)

Table 4-7 Printed circuit assemblies

Reference	Table (item number)	Description	Part number
1	7-18 (8)	Developing-rotary/toner-level detection PCA	RG5-7609-000CN
2	7-18 (1)	Transfer-belt home-position detection PCA	RG5-7612-000CN
3	7-18 (5)	Waste-toner-detection PCA	RG5-7648-000CN
4	7-18 (7)	Density-detection PCA	RH7-7158-000CN
5	7-18 (6)	Registration-detection PCA	RG5-7613-000CN
6	7-18 (2)	DC controller	RG5-7646-000CN
7	7-18 (9)	Sub high-voltage power-supply PCA	RG5-7616-000CN
8	7-18 (4)	High-voltage power-supply PCA	RG5-7647-000CN
9	7-18 (3)	Power supply	RH3-2260-000CN (110 V)

Table 4-7 Printed circuit assemblies (continued)

Reference	Table (item number)	Description	Part number
			RH3-2261–000CN (220 V)

Image-formation system

The image-formation system, which forms a toner image on media, consists of several interdependent systems:

- Electrostatic latent-image-formation system
- Developing system
- Transfer block
- Fuser
- Transfer belt cleaning block
- Imaging drum (with ITB)
- Photosensitive drum
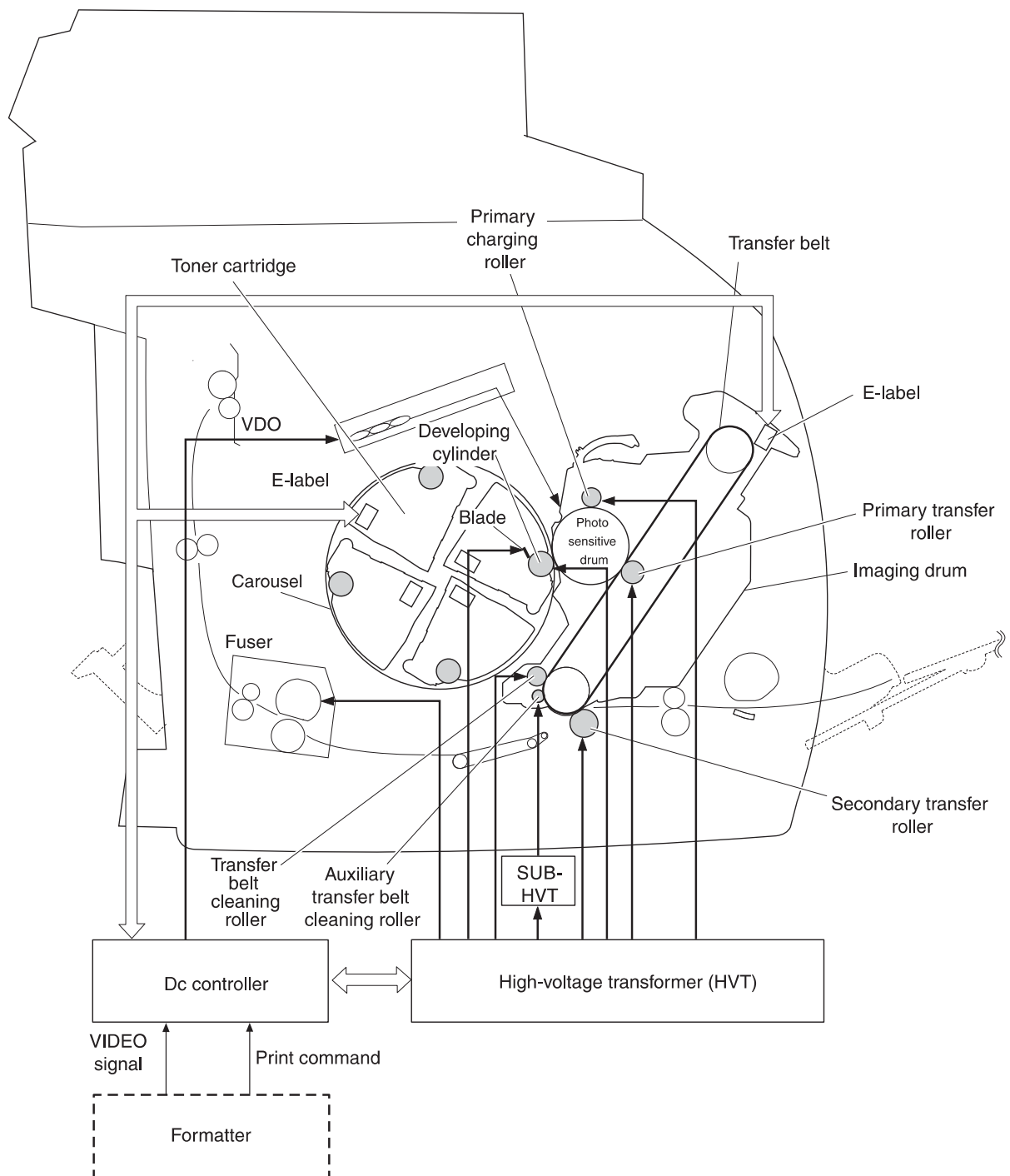
Figure 4-14 Image-formation system

Image-formation process

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

1 Latent-image formation

2 Developing

3 Image transfer

4 Fusing

5 Transfer-belt cleaning

The five processes are divided into twelve steps, which are shown in the Image-formation process graphic and are described in the following sections.
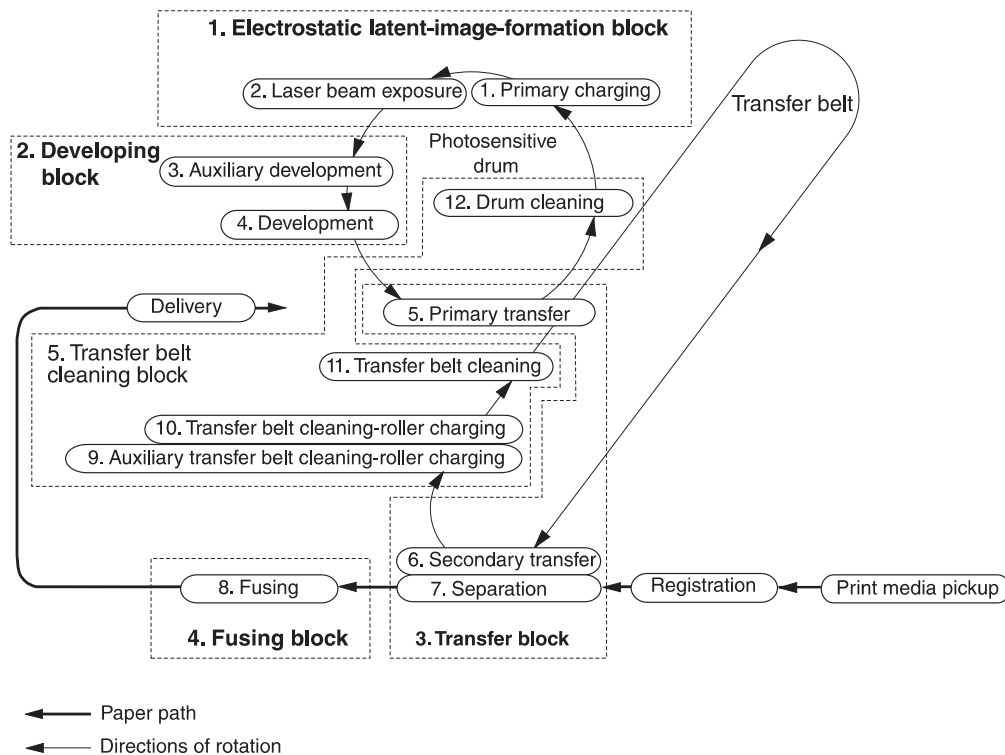
Figure 4-15 Image-formation process

Latent-image-formation stage

Step 1: primary charging

A DC bias is applied to the primary charging roller, which transfers a uniform negative potential to the photosensitive drum.
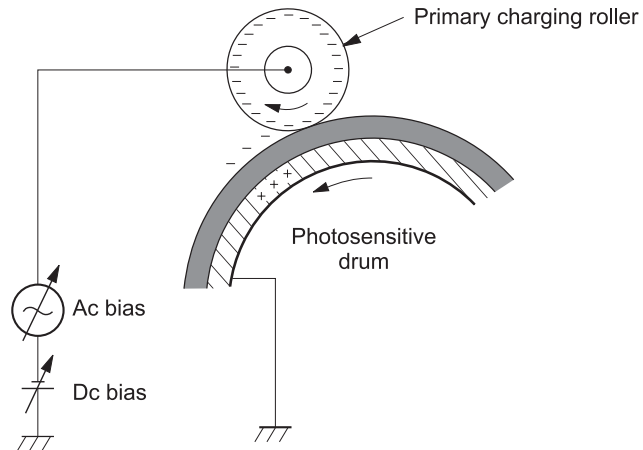
Figure 4-16 Primary charging

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.
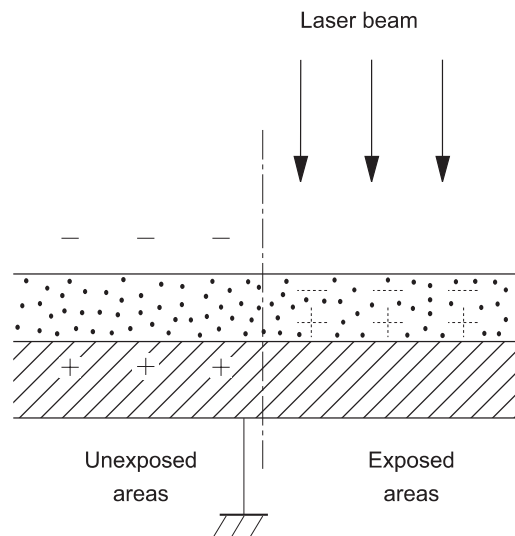
Figure 4-17 Laser-beam exposure

Developing stage

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 on the drum are shown as positive in Figure 4-18 Developing block. The charges are actually negative, but they are more positive than the charges on the developing cylinder.
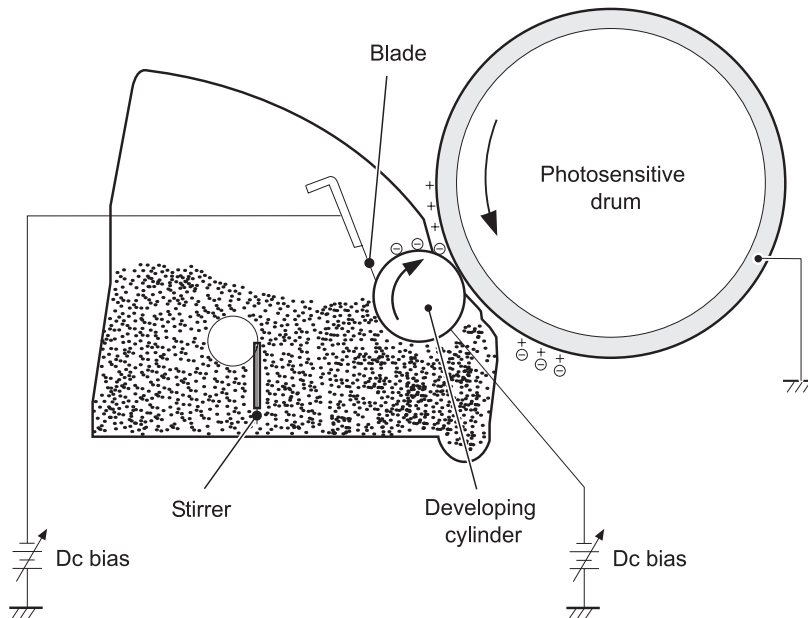
Figure 4-18 Developing block

Step 3: auxiliary developing

The DC bias applied to the blade imports a uniform negative potential to the toner.

Step 4: 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.
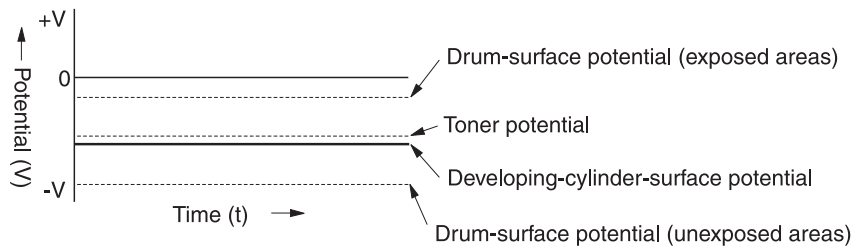
Figure 4-19 Developing

Transfer stage

Step 5: primary transfer

The primary transfer roller, to which a DC positive bias is applied, imparts a positive charge on the transfer belt. The negatively charged toner on the drum is transferred to the positively charged transfer belt. This procedure is repeated for each color (yellow, magenta, cyan, and black).

The DC positive bias is increased for each successive color to make sure that all of the colors adhere to the transfer belt.
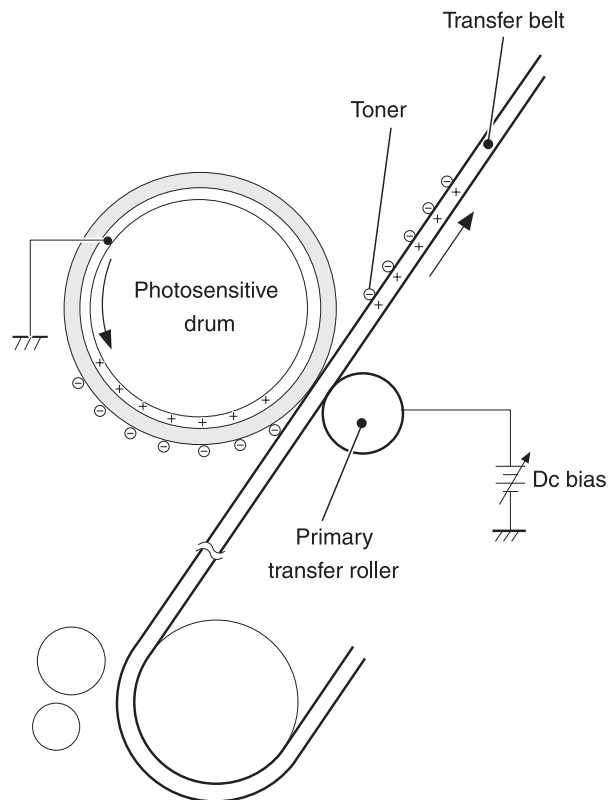
Figure 4-20 Primary transfer

Step 6: secondary transfer

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

NOTE When secondary transfer is complete, a DC negative bias is applied to the secondary transfer roller to prevent toner on the transfer belt from adhering to the secondary transfer roller.
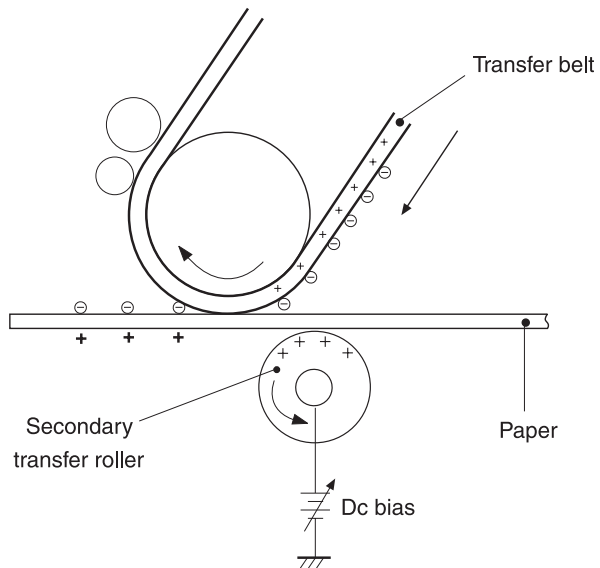
Figure 4-21 Secondary transfer

Step 7: separation

The elasticity of the print media causes it to separate from the transfer belt. A static charge eliminator aids separation by weakening any electrostatic adhesion.
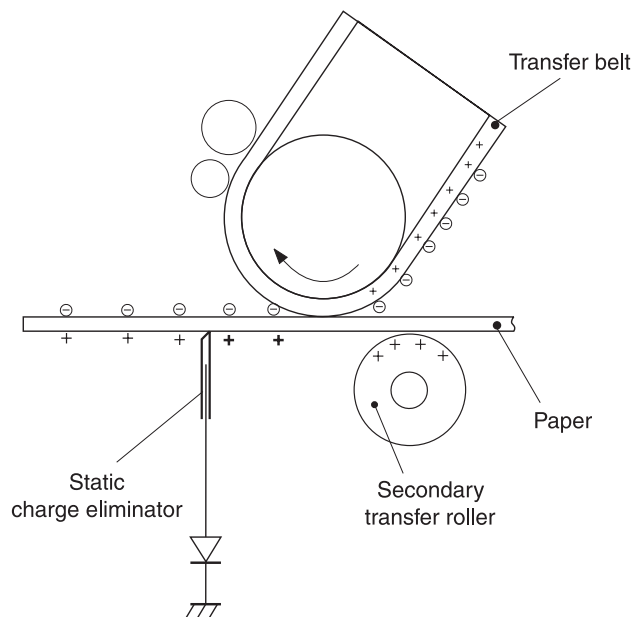
Figure 4-22 Separation

Fusing stage

The heat of the fuser bonds the toner to the media.

Step 8: 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.
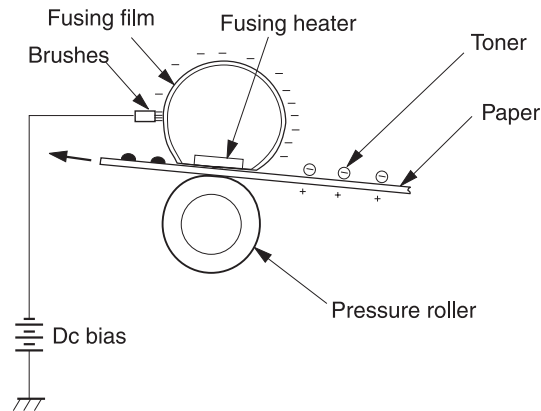
Figure 4-23 Fusing

Step 9: roller charging (auxiliary transfer belt cleaning roller)

During secondary transfer, not all of the toner on the transfer belt is transferred to the print media. Toner that remains on the belt is called "residual toner."

The auxiliary transfer belt cleaning roller, to which a DC positive bias is applied, imparts a positive charge to the residual toner, strengthening its hold on the transfer belt. This prevents toner from falling off of the transfer belt and scattering in the device.
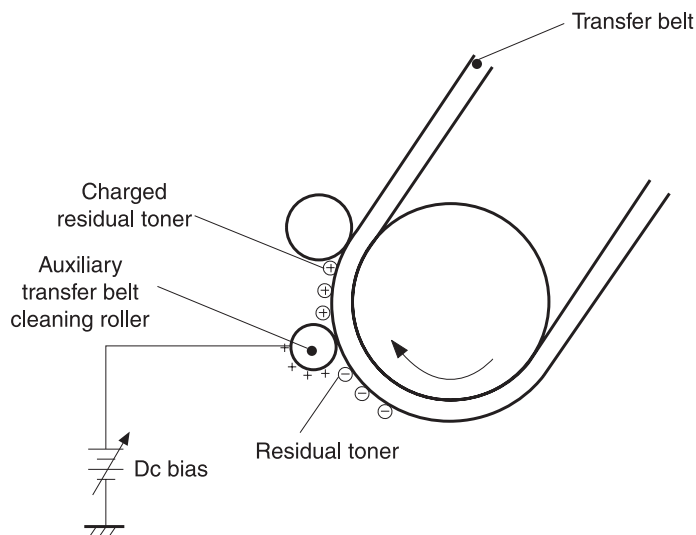
Figure 4-24 Roller charging (auxiliary transfer belt cleaning roller)

Step 10: roller charging (transfer-belt cleaning roller)

The transfer-belt cleaning roller, to which a DC positive bias is applied, imparts a positive charge to the residual toner on the transfer belt. This positive charge is stronger than the positive charge applied in step 8, so the earlier charge now behaves like a negative charge.
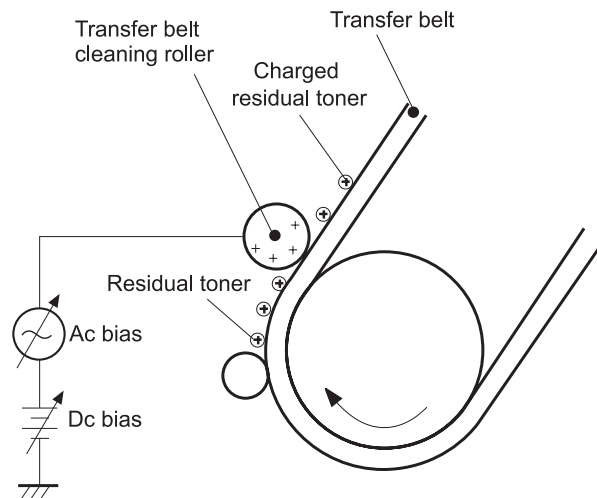
Figure 4-25 Roller charging (transfer-belt cleaning roller)

Step 11: transfer belt cleaning

A DC positive bias is applied to the transfer belt to produce a difference in potential between the belt and the photosensitive drum. This causes residual toner to transfer to the drum.

Image cartridge

Screw

Dc bias (negative)

Photosensitive
drum

Residual toner

Transfer belt

Waste toner
transport plate

Screw

Stirrer

Waste toner case

Dc bias (positive)
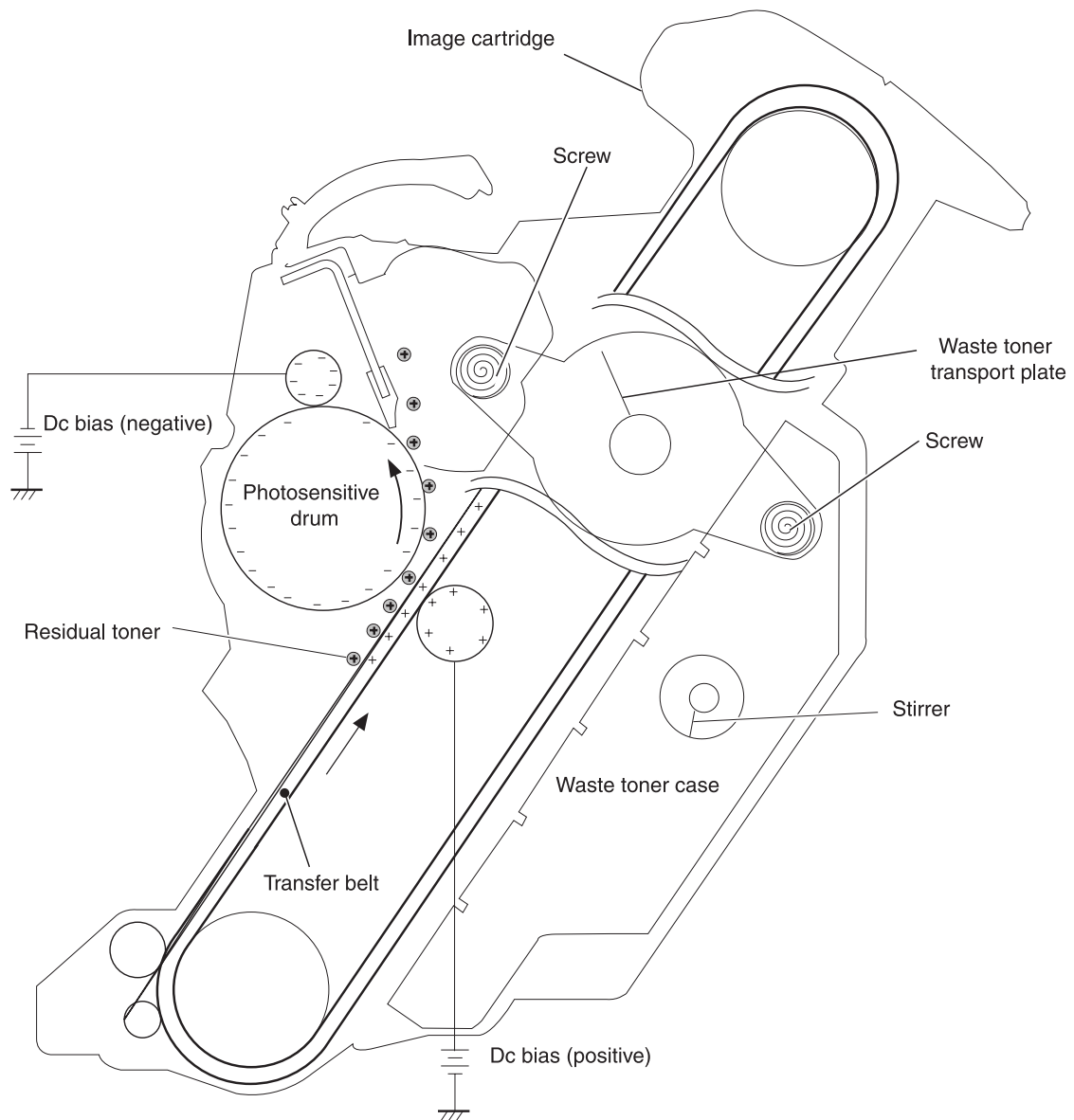
Figure 4-26 Transfer-belt cleaning

Step 12: drum cleaning

The cleaning blade scrapes the residual toner off of the photosensitive drum, where the waste toner screws collect the toner and deposit it into the waste toner case.
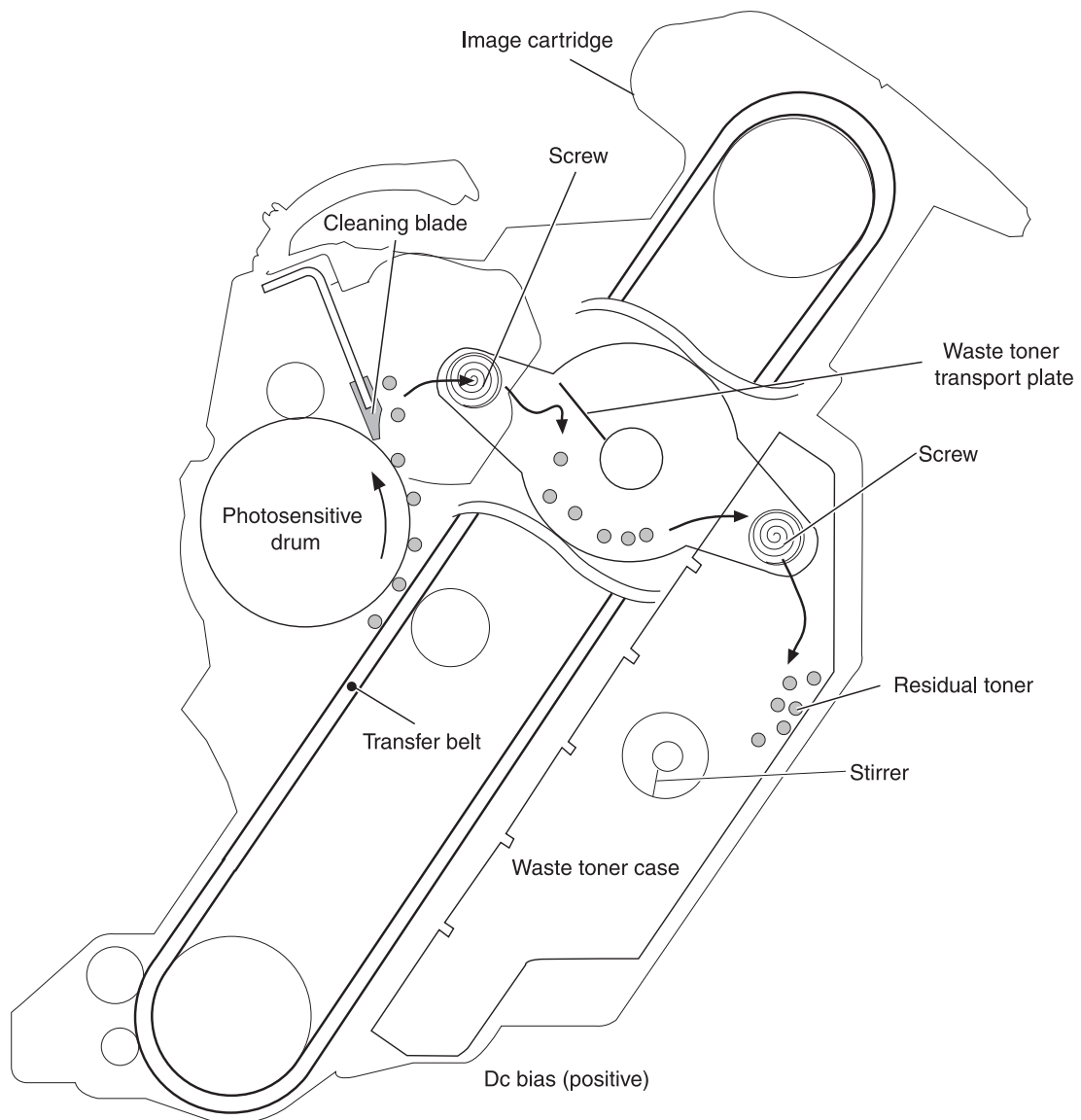
Figure 4-27 Drum cleaning

Print cartridge

The device has four print cartridges: yellow, magenta, cyan, and black. Each print cartridge contains a developing cylinder, toner-feed roller, and stirrer. The developer motor rotates these parts so that each print cartridge can use toner to form a visible image on the drum.

The carousel motor rotates the E-label reader, which communicates E-label information to the DC controller.

The developing rotary/toner level detection PCA uses an LED (light emitter) and a photodiode (light receiver) to determine the toner level in each print cartridge.
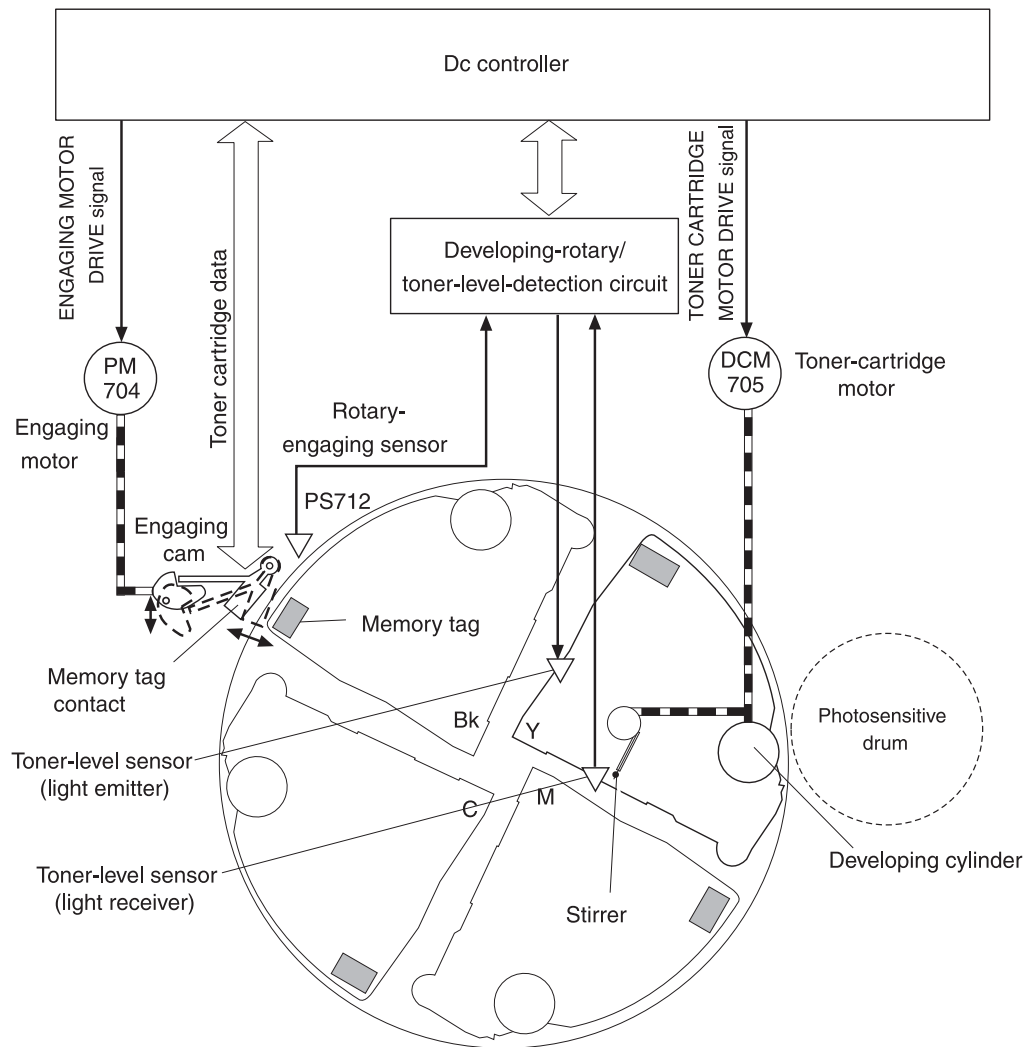
Figure 4-28 Print cartridge

Imaging-drum E-label

The E-label is nonvolatile memory, which is built into the imaging drum and stores usage information. When the imaging drum is installed in the device, the E-label makes constant contact with the E-label reader. The E-label reader sends memory information to the DC controller, which updates the information and sends it back to the E-label.

The DC controller instructs the E-label to read information when:

■ The device is turned on.

■ The top cover is closed.

■ A command is sent from the video controller.

The DC controller instructs the E-label to write information when:

■ A specified period occurs during printing.

■ A command is sent from the video controller.

If the E-label reader fails to read or write information four times in a row, the DC controller notifies the video controller that an abnormality exists in the imaging drum.
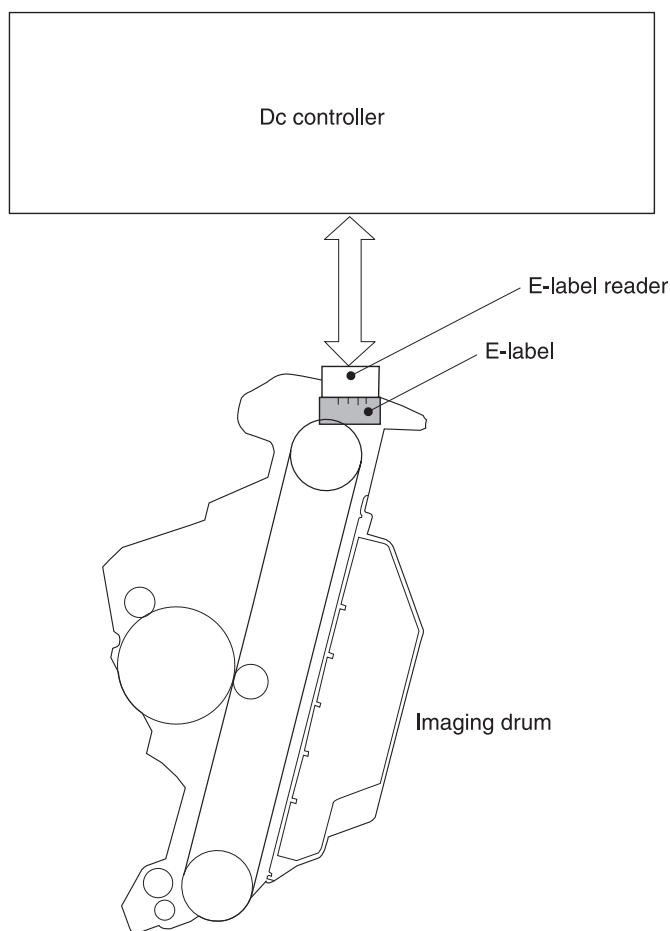
Figure 4-29 Print-cartridge E-label

Scanner and ADF functions and operation

The following sections describe how the document scanner and the automatic document feeder (ADF) function.

Scanner functions

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

■ A lamp (cold-cathode fluorescent lamp)

■ Five mirrors and a lens

■ A CCD
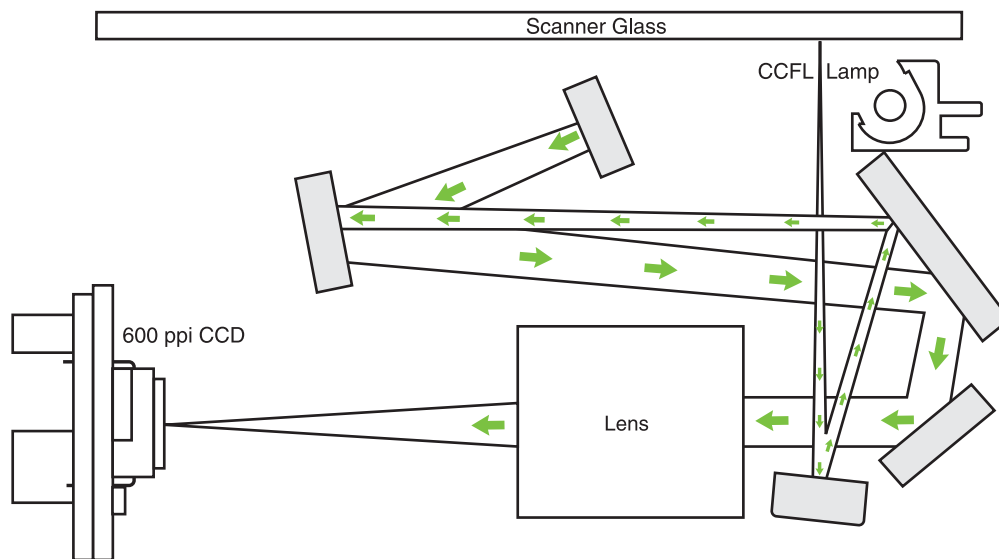
Figure 4-30 Optical system

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

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

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

Scanner operation

At startup and periodically at other times, the scanner assembly moves systematically to locate its home position. It then calibrates to a white strip located under the glass at the right end of the scan tub.

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

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

ADF operation

Standby (paper-loading) mode: In standby mode, the pickup roller is up and the stack-stop is down, preventing the user from inserting the original document too far. When a document is inserted correctly, the paper-present sensor detects its presence.

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

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

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

Lift: When no more paper is detected in the ADF input tray and the form sensor detects the trailing edge of the last page, the last sheet is ejected and the motor turns in a sequence that lifts the pick roller assembly to standby (paper-loading) mode again.

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

ADF paper path and ADF sensors

The following diagram shows the ADF paper path.
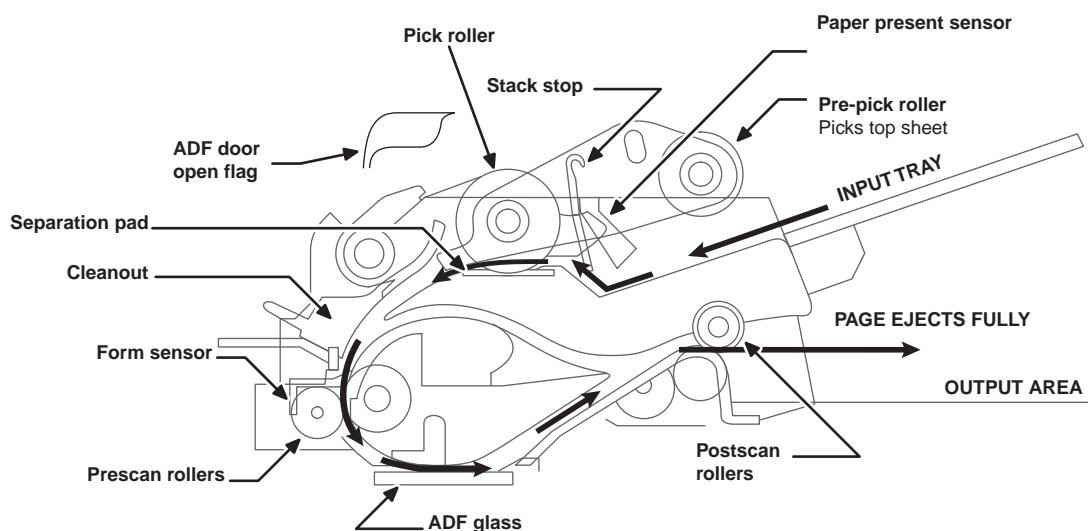
Figure 4-31 ADF paper path

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

ADF jam detection

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

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

- **Document-feeder jam**—When documents are detected in the ADF input tray, and a command to copy, scan or fax is received, the scan module travels to the left side of the scan assembly and stops beneath the ADF scanner glass. The ADF then attempts three times, or for about ten seconds, to advance the paper to the form sensor. If the paper does not advance, the scan module travels back to the home position on the right side of the scanner assembly. The message **Document feeder mispick. Reload.** appears on the control-panel display.

- **Long-document jam**—If the paper has advanced to trigger the form sensor, but the trailing edge is not detected within the time allowed for a 381-mm (15-inch) document (the maximum allowable page length for the ADF), the scanner returns to the home position at the right side of the scanner assembly. The message **Doc feeder jam. Clear, Reload.** appears on the control-panel display.

- **Stall jam**—When a page that is less than 381 mm (15 inches) long has advanced to the form sensor but has not left it within the expected time, the paper has probably stalled or jammed. The scanner returns to the home position at the right side of the scanner assembly. The message **Doc feeder jam. Clear, Reload.** appears on the control-panel display.

- **Other**—If the paper stops in the ADF and the scan module remains under the ADF scanner glass, an internal firmware error has probably occurred. This is usually remedied by cycling the power.

Fax functions and operation

The following sections describe the fax capabilities of the product.

PSTN operation

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

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

All of this is done with a two-wire arrangement. The two wires are called TIP and RING on all phone systems. On most phone systems, the wires appear on pins 3 and 4 of the RJ-11 modular jack (the one on the LIU). These two wires do not have to be polarized because all the equipment works with either TIP or RING on pin 3 and the other wire on pin 4. This means that cables of either polarity can interconnect and will still work.

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

To receive faxes when you hear fax tones

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

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

- If you are near the device, press START FAX on the control panel.

- Press 1-2-3 in sequence on the extension phone keypad, listen for fax transmission sounds, and then hang up.

NOTE For the 1-2-3 sequence to work, the extension phone setting must be set to **On** in the **Fax setup** menu.

The fax subsystem

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

The fax subsystem is designed to support V.34 fax transmission, lower speeds (such as V.17 fax), and older fax machines.

Formatter in the fax subsystem

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

The CODEC and its associated circuitry act to control transmit and receive gains, and to compensate for transmission signal coupling into the receive channel. The formatter also contains circuitry that adds termination impedance to help match the telephone network impedance.

LIU in the fax subsystem

Two versions of the LIU are used in the HP Color LaserJet 2820/2830/2840 all-in-one. One is used in the North American, South American, and Asian countries/regions. The other is used primarily in European countries/regions.

The following are features that are different in the European version:

- A different voltage-protection device

- Current limiting of the DC current

- Filtering for the countries/regions that use billing or metering tones

- Control of the impedance of the DC circuit through the SHUNT signal

Because the TIP and RING are not polarized, all LIU circuitry that connects to TIP and RING is bidirectional. The LIU operates identically when TIP and RING are reversed.

Safety isolation

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

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

Safety-protection circuitry

In addition to the safety barrier, the LIU protects against RING and over-current events.

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

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

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

When the differential RING is continuous, the resulting over-current causes the thermal switch to become high impedance, disconnecting RING from the network and protecting the crowbar from

thermal overload. The thermal switch automatically resets to low impedance after the over-current condition is removed, reconnecting RING to the network.

Data path

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

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

The telephone network uses DC current to determine the hook state of the telephone, so line current must be present during a call. On some line interfaces this current flows through the transformer, but on the LIU, a capacitor blocks the current from going into the transformer.

Blocking the current with a capacitor prevents the core of the transformer from being saturated by the high DC voltage, which can affect the AC signal quality. Rather than permitting the current to flow through the transformer, this LIU directs the current through another circuit called a gyrator or dc hold circuit. This creates the path for the central office-current flow when a call is in progress.

Hook state

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

The product takes control of calls that it recognizes as fax calls. If the product does not directly pick up the call, it monitors incoming calls for the fax tone or for the user to direct it to receive a fax. This idle mode is also called eavesdropping. This mode is active when the product is on-hook but current exists in the downstream phone line because another device is off-hook. During eavesdropping, the receive circuit is enabled but has a different gain from the current that is generated during normal fax transmissions.

The product does not take control of the line unless it detects a fax tone or the operator tells it to connect manually. This feature allows the user to make voice calls from a phone that is connected to the product without being cut off if a fax is received.

Downstream current detection

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

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

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

Hook switch control

Another optically coupled signal is the hook switch control. This signal from the formatter causes an optoisolator on the LIU to activate (making an open circuit into a short circuit). When shorted, the

circuit is drawing DC current from the central office and is considered "on-hook." When open, no dc current flows and the state is considered to be "off-hook."

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

Ring detect

Another optically coupled signal on the LIU is ring detect. Ring detect is a combination of voltage levels and cadence (time on and time off). Both must be present in order for the product to detect a valid ring.

The LIU works with the firmware to determine if an incoming signal is an answerable ring. When circuits on the LIU detect a ring voltage above a certain threshold, a corresponding signal is passed to the formatter to indicate that the ring is above the threshold. The firmware then measures the amount of time that the signal is high and low, and qualifies the cadence to determine whether it is a valid ring.

Line current control

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

Two other functions of this block of circuits are the current limit and the SHUNT for Europe. Current limit basically maintains a constant current from TIP to RING after the voltage reaches about 50 mA. Even if the voltage varies, the current will remain the same.

The SHUNT function changes the impedance (the current-voltage characteristic) during certain special events, such as pulse dialing and when the devices goes on-hook.

During such an event, the firmware tells the DSP on the formatter to activate SHUNT. A signal goes to the LIU through an optoisolator (optically coupled), which changes the state of some transistors so that the board has a linear current characteristic (normally, it is current-limited). Then more current can flow to the network, as required by these special events.

Billing (metering) tone filters

Switzerland and Germany provide high-frequency AC signals on the phone line in order to bill customers. The LC (inductor, capacitor) notch filters are provided on the European LIUs to prevent these billing signals from adversely affecting the data path and the dc hold circuit.

An additional filter in the cable (for certain countries/regions) can, in some cases, supplement these LC notch filters. Because these billings signals are not used in the U.S., these filters are not present on the U.S. LIU.

Fax page storage in flash memory

Fax pages are the electronic images of the document page. They can be created in any of three ways: scanned to be sent to another fax machine, generated to be sent by the computer, or received from a fax machine to be printed.

The product stores all fax pages in flash memory automatically. After these pages are written into flash memory they are stored until the pages are sent to another fax machine, printed on the product, transmitted to the computer, or erased by the user.

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

Stored fax pages

The user can reprint stored fax pages in case of errors. The product will re-send stored fax pages after a busy signal, comm error, no answer, or a power failure. Other fax devices store fax pages in either normal RAM or short-term RAM. Normal RAM immediately loses its data when power is lost, while short-term RAM loses its data about 60 minutes after a power failure. Flash memory maintains its data for years without any applied power.

Advantages of flash memory storage

Fax pages stored in flash memory are persistent. They are not lost as a result of a power failure, no matter how long the power is off. Users can reprint faxes in case the print cartridge runs out of toner or the product experiences other errors while printing faxes.

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

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

5 Removal and replacement

Chapter contents

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 wire harnesses can interfere with other internal components and can become damaged or broken. Frayed or pinched harness wires can be difficult to locate. When replacing wire harnesses, always use the provided wire loops, lance points, or wire-harness guides.

Required tools

The following tools are needed to service this product:

- Number 2 Phillips screwdriver with magnetic tip

- Small flatblade screwdriver

- Small needle-nose pliers

- Number 8 torx screwdriver with magnetic tip

- Number 10 torx screwdriver with magnetic tip

- Lint-free cloth.

- ESD mat

- Penlight

- Multimeter

⚠️ **CAUTION** A PoziDriv screwdriver will damage screw heads on the product. Use a #2 Phillips screwdriver.

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

Screws

The HP Color LaserJet 2820/2830/2840 all-in-one has four common fasteners. See Table 5-1 Common screws for a description of these screw types.

Table 5-1 Common screws
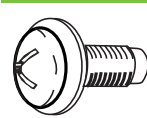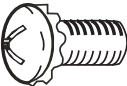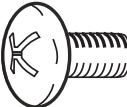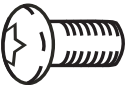
Example	Description
	Screw, machine, truss head

Table 5-1 Common screws (continued)

Example	Description
	Screw, star
	Screw, self-tapping
	Screw, torx

The device includes the screws listed in Table 5-2 Screws for the HP Color LaserJet 2820/2830/2840 all-in-one.

Table 5-2 Screws for the HP Color LaserJet 2820/2830/2840 all-in-one

Description	Part number
Screw, with washer, M3x6	XB2-4300-605
Screw, RS, M3x6	XA9-0849-000
	XA9-1495-010
Screw, RS, M3x8	XA9-1291-000
	XA9-1449-000
	XA9-1500-000
Screw, S, M3x8	XA9-1500-000
	XA9-1500-010
Screw, tap, truss head, M4x10	XB4-7401-005
Screw, TP, M3x6	XA9-0267-000
Screw, with washer, M4x12	XA9–1422–000
Screw, P, M3x8	XB4–5300–809
Screw, Binding, M3x8	XA9–1472–000
Screw, TP, M3x4	XB6–7300–407

Electrostatic discharge

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

Watch for the ESD symbol (shown at left) 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.

Before performing service

Follow the pre-service procedures before you perform service.

1   Remove all media from the product.

2   Place the product on an ESD mat. If an ESD mat or an ESD-protected workstation is not available, discharge body static and ground the product chassis before servicing the product.

3   If possible, print a Configuration page to record critical customer data, such as a network IP address, device name, copy counts, and machine fault codes. If you cannot print a Configuration page, record the data manually, either from HP Toolbox or the device control panel.

4   Remove the imaging drum (see Replacing the imaging drum).

5   Remove the print cartridges (see Replacing the print cartridges).

6   Turn off the device.

7   Unplug the power cord and the interface cable.

After performing service

After performing service on the device, complete the following steps:

1   Replace the print cartridges and imaging drum.

2   Reload the input tray with media.

3   Perform the necessary post-service tests in the next section.

Post-service tests

Once service has been completed, the following tests can be used to verify that the repair or replacement was successful.

Test 1 (print-quality test)

1   Verify that you have completed the necessary reassembly steps.

2   Ensure that the input tray contains clean, unmarked paper.

3   Attach the power cord and interface cable, and then turn on the device.

4   Verify that the expected start-up sounds occur.

5   Perform a control-panel test from the secondary service menu (see Secondary service menu). Verify that the control-panel buttons beep when they are pressed.

   NOTE   If the control-panel buttons do not beep, verify that the user did not disable this function on the device control panel.

6   Print a Configuration page, and then verify that the expected printing sounds occur.

7   Print a Demo page, and then verify that the print quality is as expected.

8   Send a print job from the host computer, and then verify that the output meets expectations.

9   If necessary, restore any customer device settings.

10 Clean the outside of the device with a damp cloth.

Test 2 (copy-quality test)

1   Verify that you have completed the necessary reassembly steps.

2   Ensure that the input tray contains clean, unmarked paper.

3   Attach the power cord and interface cable, and then turn on the device.

4   Verify that the expected start-up sounds occur.

5   Print a Configuration page, and then verify that the expected printing sounds occur.

6   Place the Configuration page in the automatic document feeder (ADF).

7   Print a color copy job, and then verify the results.

8   Place the Configuration page on the scanner glass.

9   Print a color copy job, and then verify the results.

10 Clean the outside of the device with a damp cloth.

Test 3 (fax-quality test)

📝 **NOTE** This test applies to the HP Color LaserJet 2830 all-in-one and HP Color LaserJet 2840 all-in-one only

1   Place the Configuration page in the ADF.

2   Enter a valid fax number and send the fax job.

3   Verify that the send quality and receive quality meet expectations.

Test 4 (memory-card test)

📝 **NOTE** This test applies to the HP Color LaserJet 2840 all-in-one only

1   Insert a memory card into the correct device memory-card slot.

2   Create a proof sheet, and then print an image from the proof sheet (see the device user guide).

3   Verify that the printed image quality meets expectations.

Parts removal order

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

imaging drum and cartridges

ADF top cover
└── pickup roller and separation pad

control-panel bezel
└── control panel

fuser / fixing unit
photo card cover plate

right memory door
└── formatter memory door
        └── memory / font DIMM

toner cover door opened
├── multipurpose door opened
│   ├── left cover
│   │   ├── carousel motor
│   │   ├── cooling fan
│   │   ├── left top rear cover
│   │   │   └── right cover
│   │   │   └── top rear cover
│   │   │   └── interface cover
│   │   │   └── scanning assembly
│   │   │   ├── back cover
│   │   │   │   └── face-down arms
│   │   │   └── toner cover rack gear
│   │   │   └── top cover
│   │   │   └── air duct
│   │   └── left front top cover
│   │   └── left top rear cover
│   │   └── right cover
│   │   └── right top rear cover
│   │   └── interface cover
│   │   └── scanning assembly
│   │   └── toner cover rack gear
│   │   └── top cover
│   │   ├── laser scanner
│   │   └── formatter cage
│   │   └── right support assembly
│   │   └── main drive assembly
│   ├── multipurpose cover assembly
│   │   └── multipurpose roller door cover
│   │   └── tray 1 separation pad and roller
│   └── right cover
│   └── 250-sheet accessory tray
│   ├── power supply
│   ├── photo card cover and assembly
│   │   └── flat flex cable
│   └── rear exit door opened
│   └── interface cover
│   ├── formatter cage
│   │   ├── formatter
│   │   └── LIU
│   ├── fuser motor
│   └── DC controller
├── toner catch tray
├── registration roller
├── transfer roller
└── front cover
        ├── I/O drum e-label contact
        ├── top-of-page sensor
        └── density sensor (Dmax)

Figure 5-1 Parts removal order

User-replaceable parts

The print cartridges, the imaging drum, the automatic document feeder (ADF), the fuser assembly , and the control-panel bezel are user-replaceable parts.

Replacing the print cartridges

NOTE The software CD-ROM that came with the HP Color LaserJet 2820/2830/2840 all-in-one includes an animated tutorial that shows how to replace the print cartridges.

1 Remove any media from the ADF, and then push the scanner-release button to open the scanner assembly.
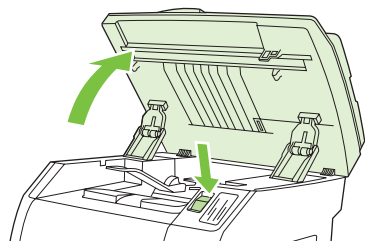
2 Open the cartridge door.
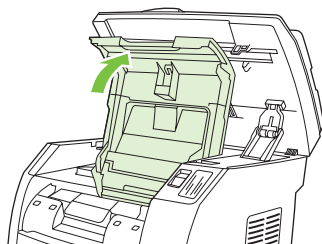
3 Make sure that the correct print-cartridge slot is in the access position.

● If the correct print-cartridge slot is not in the access position, close the top cover and the scanner assembly, and then press R OTATE C AROUSEL until the correct print-cartridge slot is in the correct position.
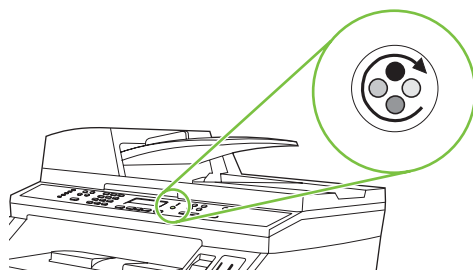
4 Pinch together the two large blue tabs on the first cartridge, and then lift the cartridge straight up to remove it from the carousel.
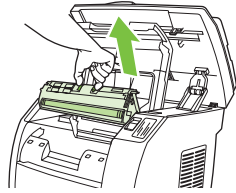
5 Remove the new print cartridge from its packaging, remove the orange cover from the print cartridge, and then pull the orange tab straight out to remove the sealing tape.
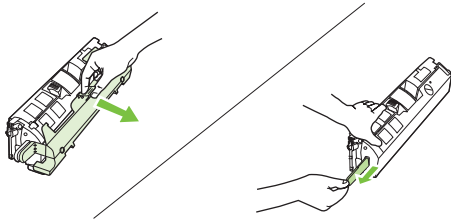
6 Squeeze the blue release levers on the print cartridge, holding it with the roller facing you. Lower the cartridge straight down into the carousel until it is *firmly* in place.
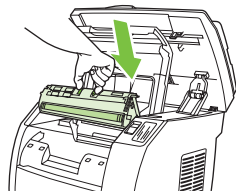
- If you need to replace another cartridge, close the top cover and the scanner assembly, press ROTATE CAROUSEL, and then repeat steps 4 through 6.

NOTE If you have replaced a black print cartridge, the device prompts you to run a cleaning page, unless the device page count is less than 100 pages.

7 Close the top cover, and then close the scanner assembly.

8 Run a print-quality test (see Test 1 (print-quality test)).

Replacing the imaging drum

📝 **NOTE** The software CD-ROM that came with the HP Color LaserJet 2820/2830/2840 all-in-one includes an animated tutorial that shows how to replace the imaging drum.

1   Remove any media from the ADF, and then push the scanner-release button to open the scanner assembly.
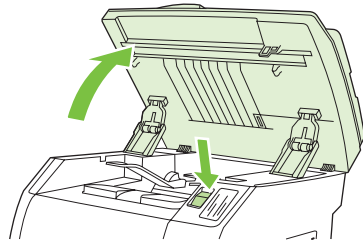
2   Open the cartridge door.
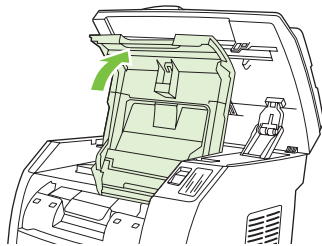
3   Grasp the imaging drum handle, and then rotate the drum until the handle is at the top.
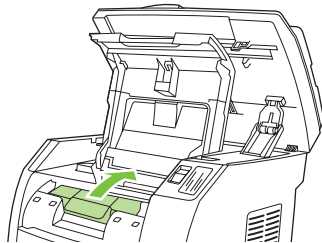
4   Lift the imaging drum straight up to remove it from the device.
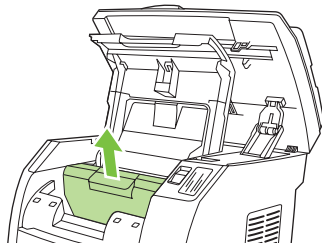
5   Remove the new imaging drum from its packaging.

6 Place the imaging drum on a firm surface, and then pull the orange rings to remove the shipping pins.
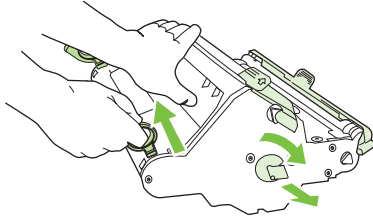
7 Remove the orange shipping lock on each end of the imaging drum, and remove the two orange shipping spacers.
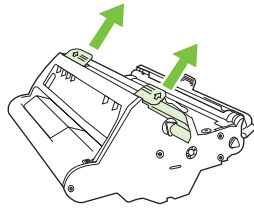
8 Remove the orange cover from the imaging drum.
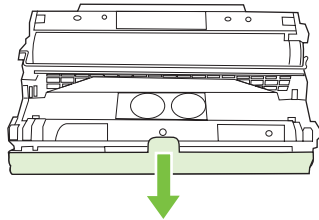
⚠️ **CAUTION** Do not touch the surface of the roller or expose the roller to light for an extended period of time. Doing so could cause print-quality issues.

9 Align the arrows on the side of the imaging drum with the arrows inside the printer.
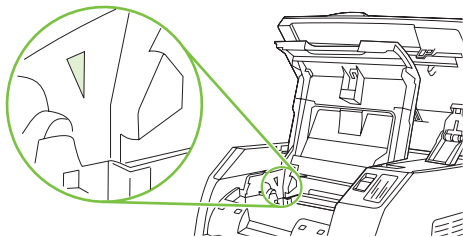
10 Lower the imaging drum into the printer, and then press it *firmly* into place.
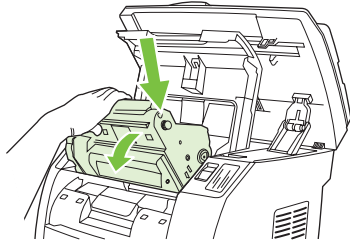
11 Close the top cover and the scanner assembly.

12 Run a print-quality test (see Test 1 (print-quality test)).

Replacing the ADF

1 Turn off the device, and then open the ADF.
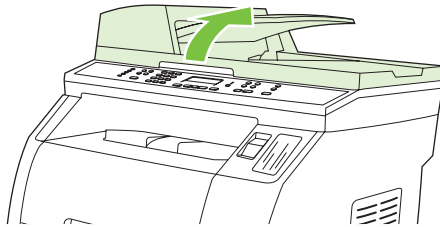
Figure 5-2 Replace the ADF (1 of 6)

2 Disconnect the ADF connector by squeezing the tabs together and lifting upward.
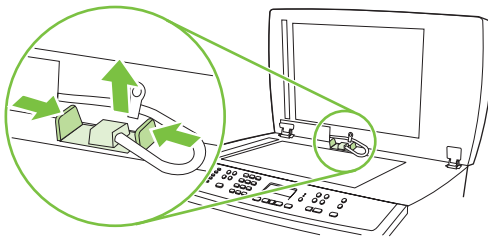
Figure 5-3 Replace the ADF (2 of 6)

3 Remove the ADF by lifting it upward and tilting it forward as the hinges nearly disconnect from the device.
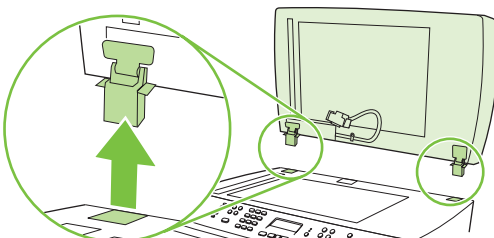
Figure 5-4 Replace the ADF (3 of 6)

4 On the new ADF, unfold the hinges.
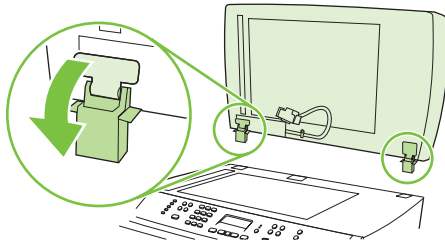
Figure 5-5 Replace the ADF (4 of 6)

5 Insert the hinges on the new ADF so that they are slightly tilted forward, and then push straight down into the device.
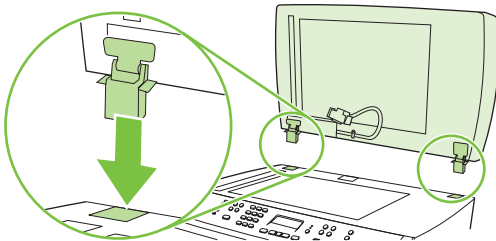
Figure 5-6 Replace the ADF (5 of 6)

6 Insert the connector by pushing down on it until it clicks into place.
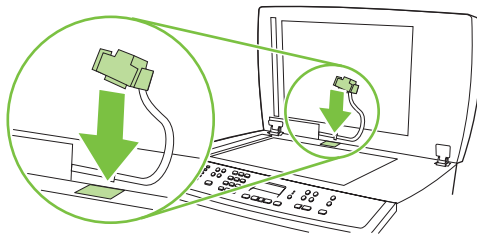
Figure 5-7 Replace the ADF (6 of 6)

7 Run a copy-quality test (see Test 2 (copy-quality test)).

Replacing the ADF pickup-roller assembly

If the ADF has trouble picking paper, the ADF pickup-roller assembly might need to be replaced.

NOTE Hewlett-Packard recommends also replacing the separation pad when you replace the pickup-roller assembly.

1   Make sure that the product power is off, and then open the ADF cover. Pull the end of the input tray up and then away from the scanner.

Figure 5-8 Remove the ADF pickup-roller assembly (1 of 5)

2 Press the round, green button (callout 1) while lifting the green lever (callout 2). Rotate the green lever until it stops in the open position. The pickup-roller assembly will remain on the black surface.
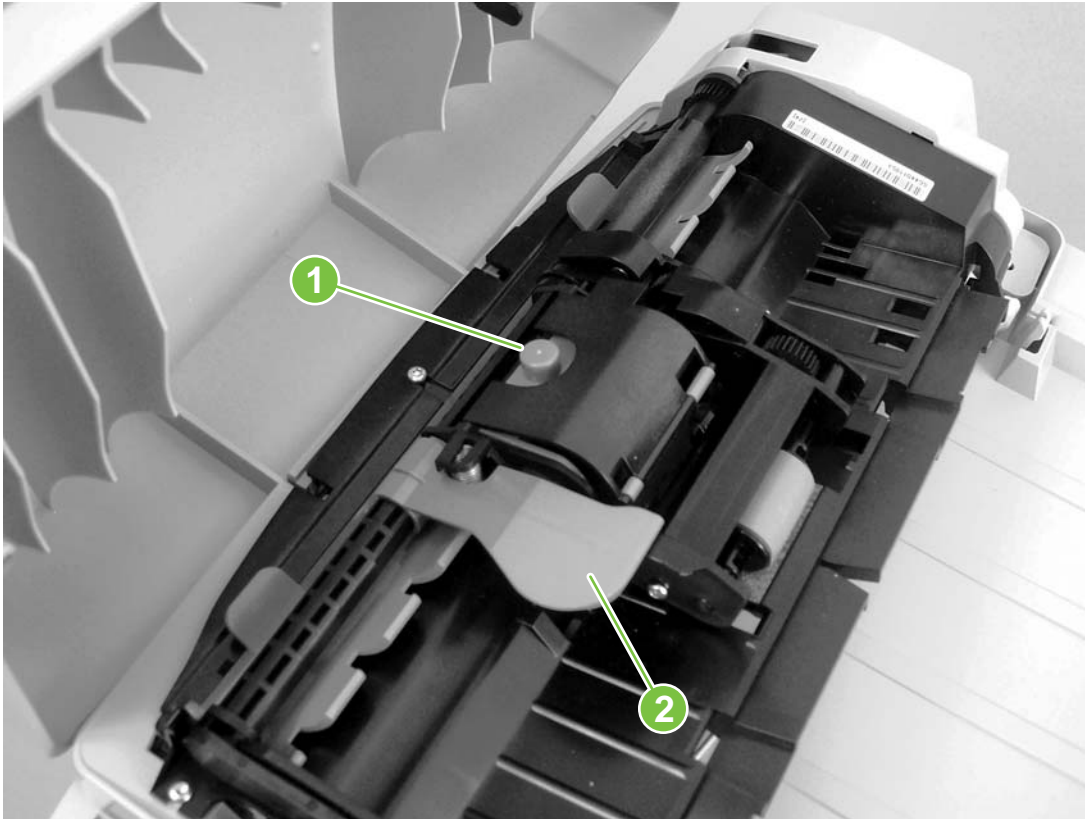
Figure 5-9 Remove the ADF pickup-roller assembly (2 of 5)

3 Remove the pickup-roller assembly, and put the replacement assembly (callout 3) in exactly the same place. The largest roller goes in back, and the gear side faces toward the back of the product.
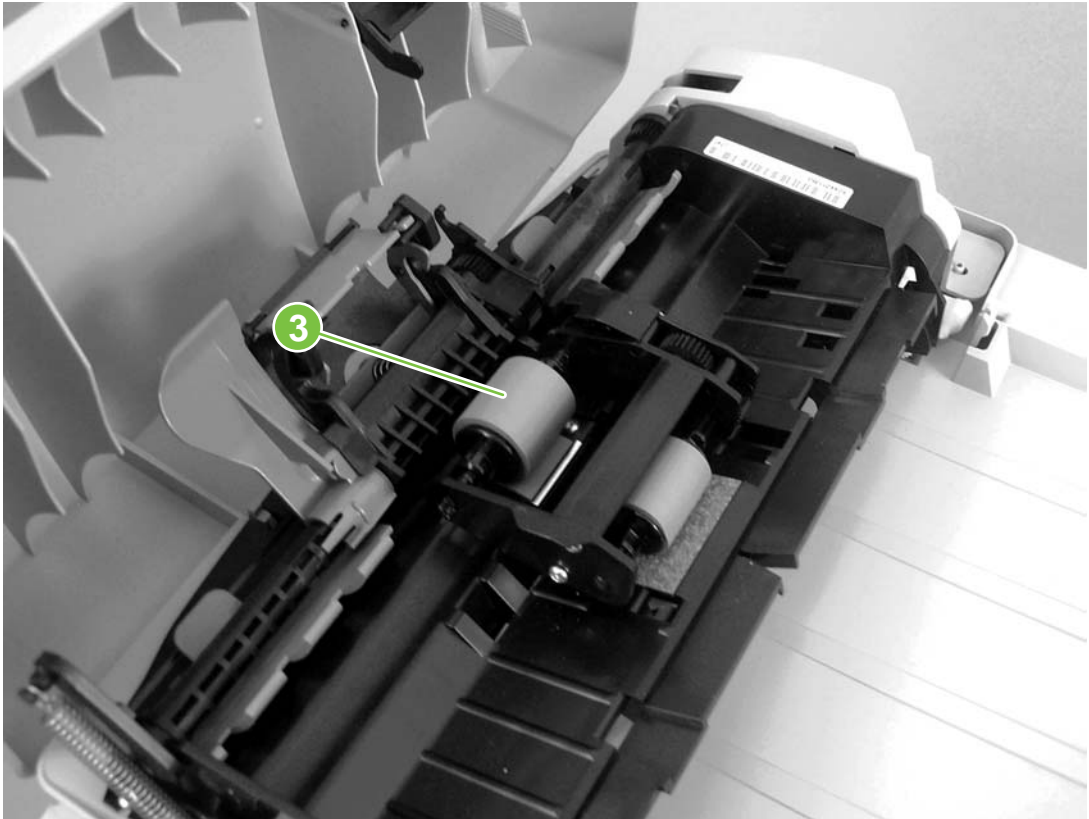
Figure 5-10 Remove the ADF pickup-roller assembly (3 of 5)

4 Lower the green lever until the flat, green part fits between the rollers. Press down on the pickup roller frame until the assembly snaps into place.
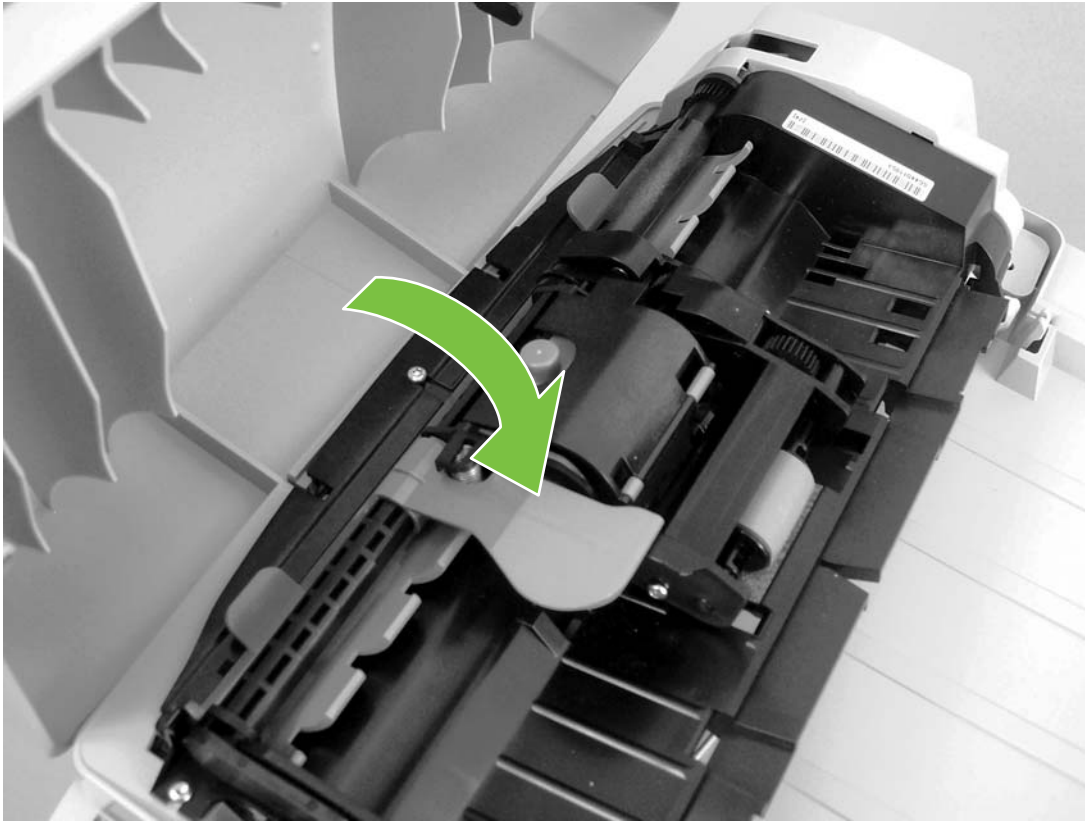
Figure 5-11 Remove the ADF pickup-roller assembly (4 of 5)

5 To check for proper installation, lift the green lever until it remains open. The new pickup-roller assembly should be secured to the lever assembly and should not fall out. Make sure that both sides of the assembly are secured by the green hooks (callout 4).
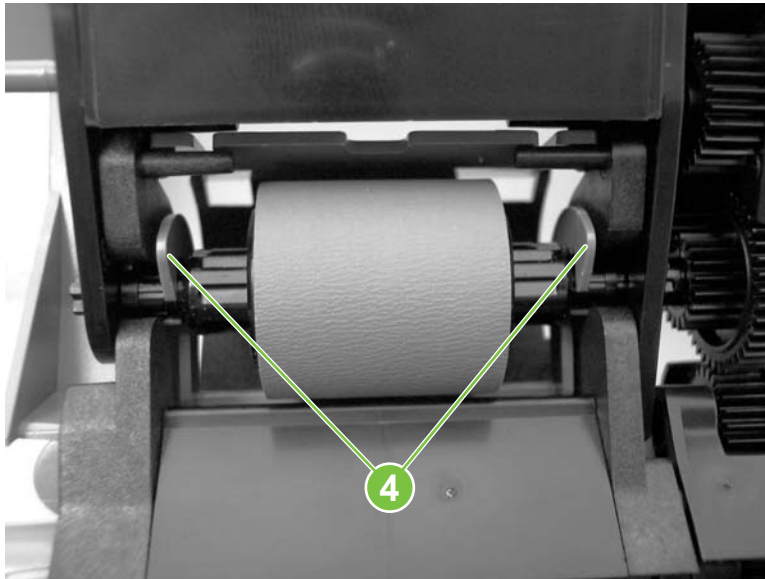
Figure 5-12 Remove the ADF pickup-roller assembly (5 of 5)

6 Run a copy-quality test (see Test 2 (copy-quality test)).

Removing the ADF separation pad

NOTE Hewlett-Packard recommends also replacing the pickup-roller assembly when you replace the separation pad .

1   Open the ADF door. Use the green lever to raise the pickup-roller assembly.
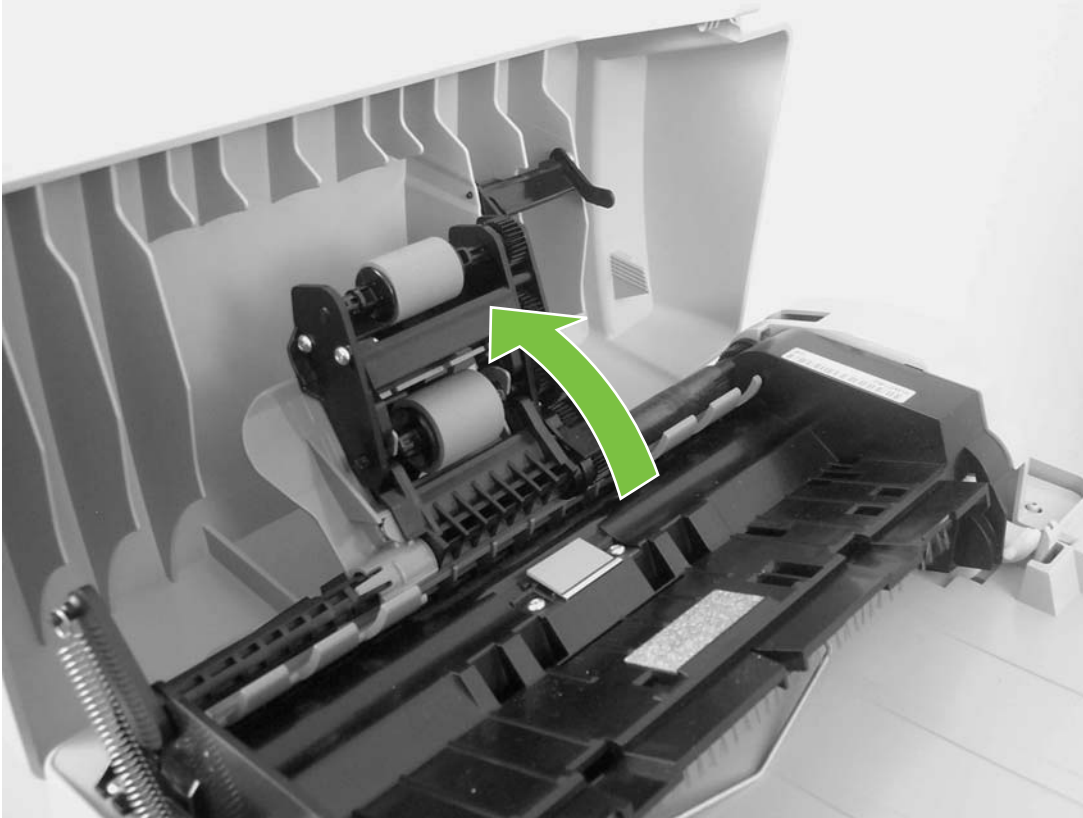
Figure 5-13 Remove the ADF separation pad (1 of 2)

2 Use a number 8 torx driver to remove the two screws (callout 1) that secure the ADF separation pad.
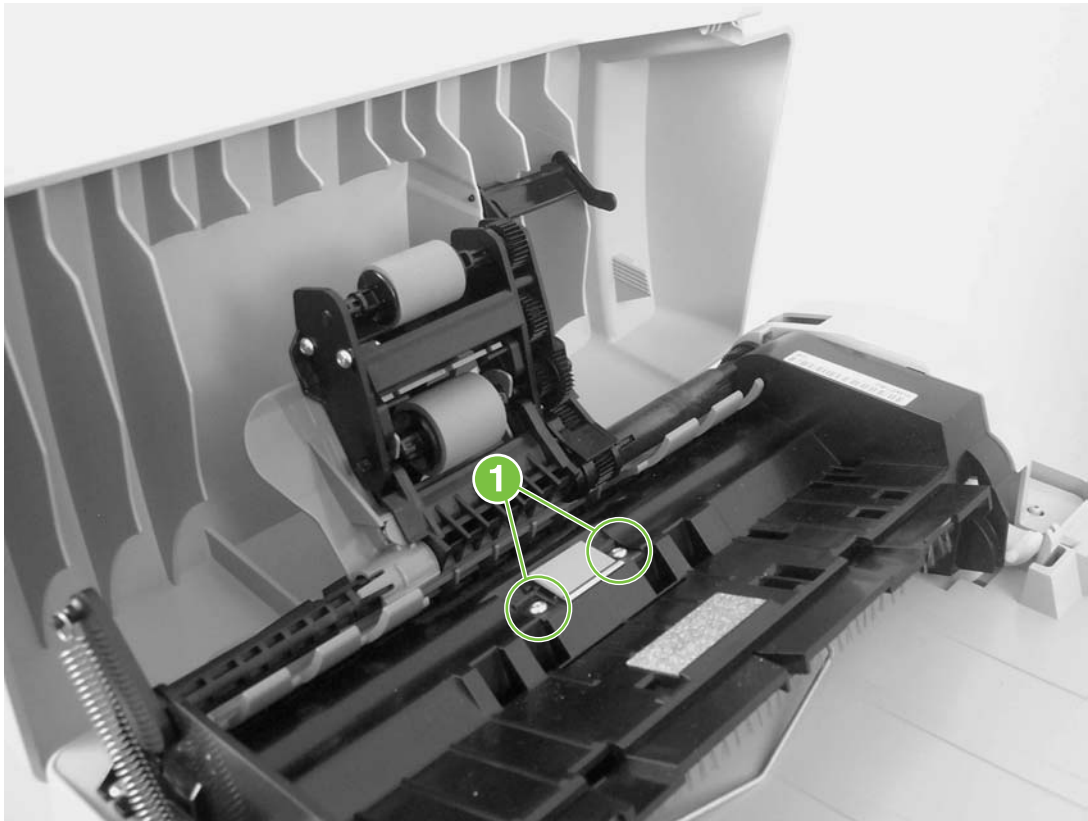
Figure 5-14 Remove the ADF separation pad (2 of 2)

3 Pull gently on the rubber ADF separation pad to remove it .

4 After replacing the ADF separation pad, run a copy-quality test (see Test 2 (copy-quality test)).

Replacing the ADF scanner glass

⚠ **CAUTION** To avoid contamination from dust or other particulates, wipe off dust from the ADF scanner glass and the frame before removing the glass.

Remove the ADF scanning glass in a clean, dust-free area.

Do not keep the ADF scanner glass open any longer than necessary.

1 Remove the number 10 torx screw (callout 1), lift out the plastic ADF scanner-glass frame, and then lift out the glass.
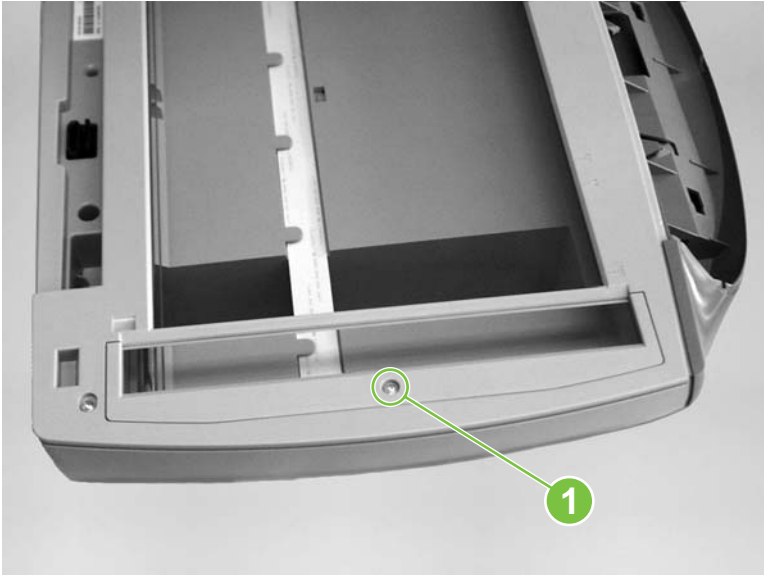
Figure 5-15 Remove the ADF scanner glass

2 Replace the glass first, and then install the frame. Make sure the lock mechanism is in the released position. Press down on the frame and glass until the lock mechanism snaps back into the locked position, as shown in Figure 5-16 Install the ADF scanner glass.

Figure 5-16 Install the ADF scanner glass

⚠ **CAUTION** Avoid touching the flatbed glass or the ADF separation pad. Skin oils and fingerprints can contaminate the glass or pad and cause print-quality problems or paper-pickup problems.

3 Replace the torx screw to secure the glass.

Replacing the fuser assembly

1 Turn off the device, and then disconnect the power cable.

2 Rotate the locks on the fuser assembly to the unlocked position.
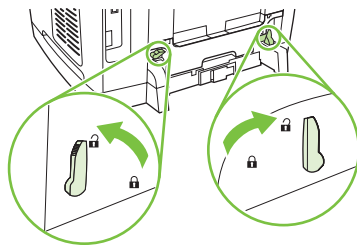
3 Grasp the fuser handle and pull the fuser assembly from the device.
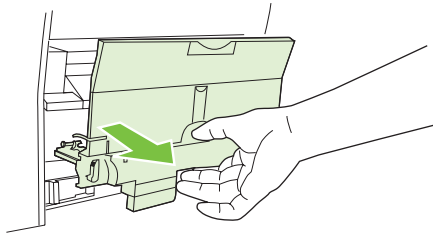
⚠ **CAUTION** The parts on the internal surface of the fuser assembly are very hot. To avoid burning yourself, do not touch those parts.

4 Insert the new fuser assembly into the device.
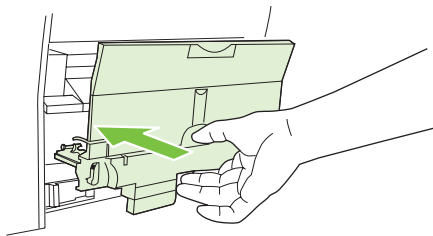
5 Rotate the locks on the fuser assembly to the locked position.
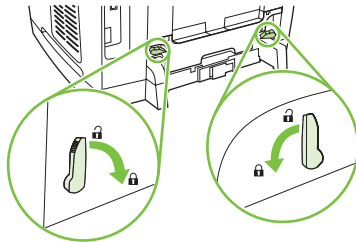
6 Reconnect the power cable, and then turn on the device.

7 Run a copy-quality test (see Test 2 (copy-quality test)).

Replacing the control-panel bezel

1 Turn off the device, and then open the ADF.

2 Remove the control-panel bezel by using your fingers to lift up on the top-center edge of the bezel until it begins to disengage.
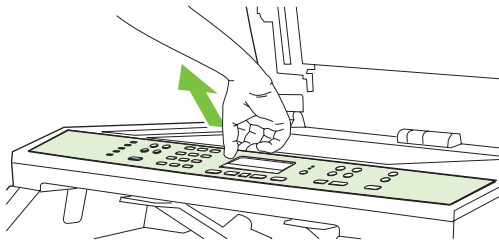
Figure 5-17 Replace the control-panel bezel (1 of 3)

3 From the center of the top edge, pry the bezel away from the device as you work your fingers toward the outside edges of the control panel.

4 To install the new control-panel bezel, align the posts on the bezel underside with the holes on the control panel.
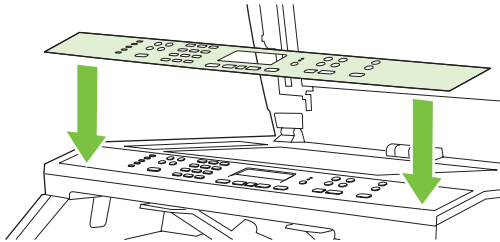
Figure 5-18 Replace the control-panel bezel (2 of 3)

5 Press the far ends of the bezel straight down onto the device. Continue to press down while moving your fingers toward the center of the faceplate until it snaps into place.
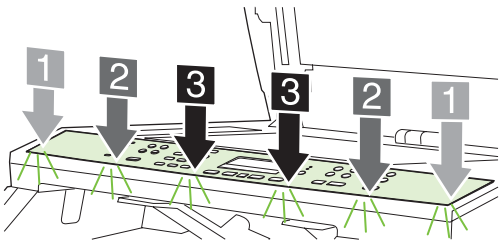
Figure 5-19 Replace the control-panel bezel (3 of 3)

Make sure that the faceplate is aligned correctly and has not captured any buttons.

6 Run a print-quality test (see Test 1 (print-quality test)).

Replacing the tray 1 pickup roller and separation pad

1 Turn the device off and disconnect the power cable from the back of the device.
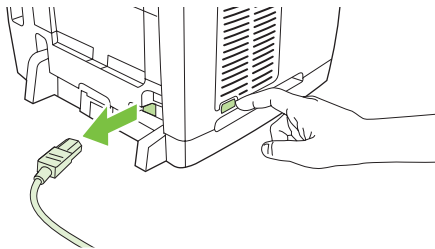
2 Open tray 1.
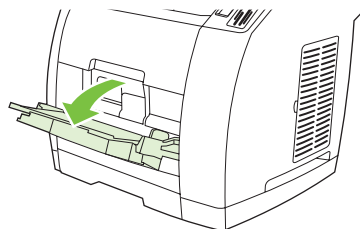
3   Find the multipurpose roller cover that is located beneath the pickup roller in tray 1.
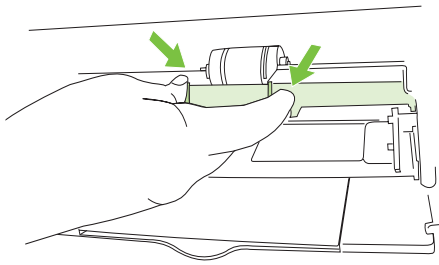
4   Grasp both sides of the center tab and pull the cover out of the device.
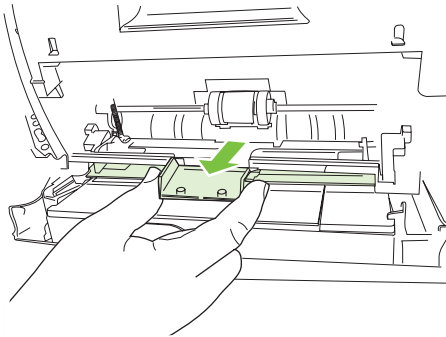
5   Squeeze the tab on the idler roller that is located on the right side of the pickup roller. If the tab is not visible, rotate the idler roller so that the tab is toward the front of the device.
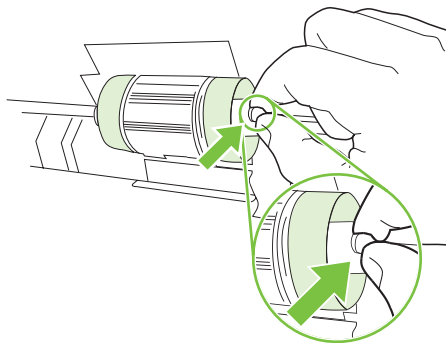
6 Slide the idler roller to the right to separate it from the pickup roller.
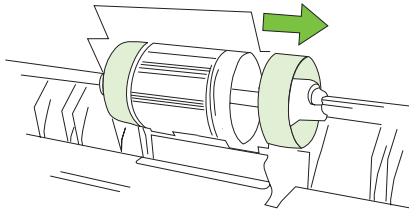
7 Squeeze the tab on the idler roller that is located on the left side of the pickup roller. If the tab is not visible, rotate the idler roller so that the tab is toward the front of the device.
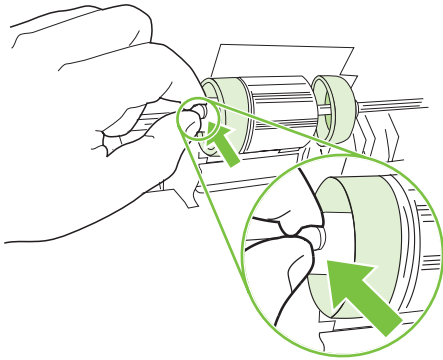
8 Slide the idler roller to the left to separate it from the pickup roller.
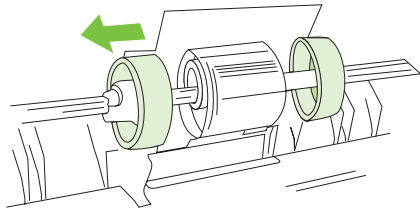
9. Press and hold the button that is located on the right side of the pickup roller. Slide the pickup roller slightly to the right, and then pull it off of the shaft.
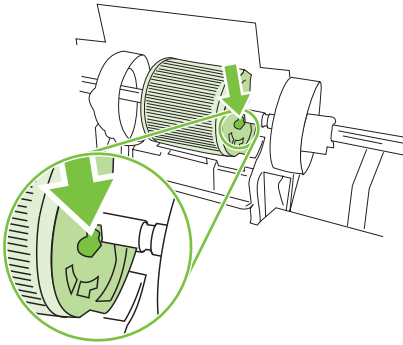
10. Move the remaining roller cam to the right so that it no longer sits above the separation pad.
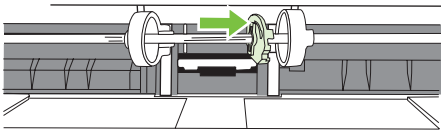
Moving the roller cam will reveal a pin in the roller shaft. Do not remove the pin.

11. Locate the separation pad beneath the area of the shaft from which the pickup roller was removed.
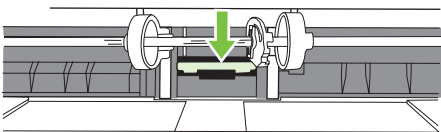
12 Insert a flatblade screwdriver into the slot under the separation pad. Pry the pad up from the spring-loaded base by twisting the screwdriver until the tabs are separated from the device.
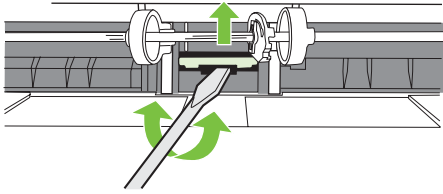
13 Use one hand to push the spring-loaded base down and then use the other hand to pull the separation pad up and out of the device.
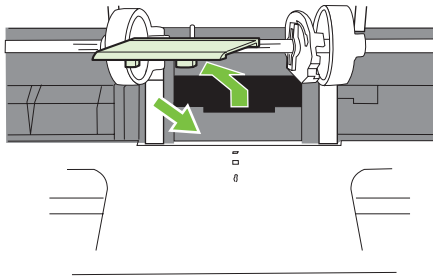
	NOTE If you feel resistance when you try to remove the pad, make sure that the tabs are completely separated from the device.

14 Push the spring-loaded base down and position the new separation pad in the empty slot.
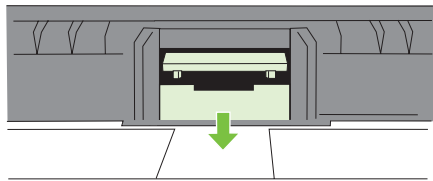
	NOTE Make sure that the two tabs on the edge of the pad are toward the front of the device.

15 Snap both sides of the separation pad firmly into place until they click.
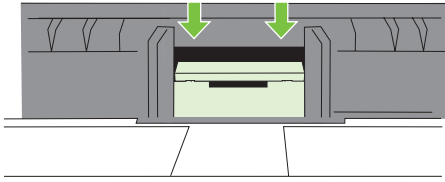
> ⚠ **CAUTION** If the pad is not straight, or if space exists between the pad and the base, make sure that the tabs on the pad are toward the front of the device.

16 Hold down the new separation pad, and slide the roller cam back to the left until it snaps in place with the pin. Position the new pickup roller so that the button is on the right side, and the open side of the roller faces down. Make sure that the small ridge on the open side of the roller aligns with the groove in the shaft.
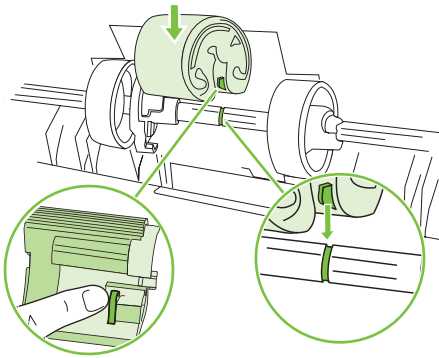
17 Slide the left and right idler rollers inward, against the pickup roller, until the idler rollers click into place.
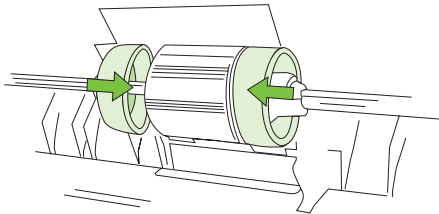
18 Hold the faceplate cover as shown in the illustration, and align the cover with the rails on the inside of the device.
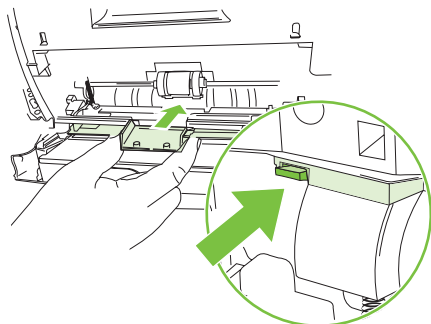
19 Grasp both sides of the center tab and insert the cover into the device until the cover clicks into place. Close tray 1.
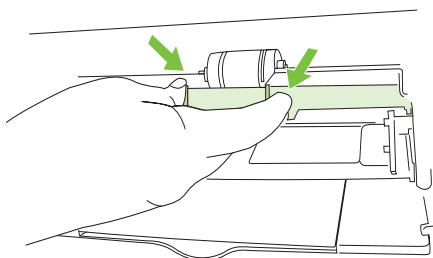
20 Reconnect the power cable to the device, and then turn on the device.
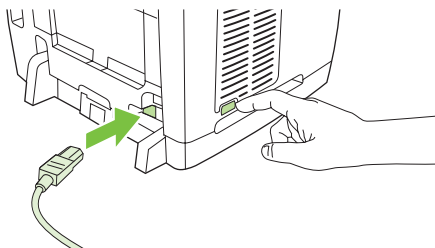
21 Run a print-quality test (see Test 1 (print-quality test)).

Covers

Removing the left cover

1 Remove the screw (callout 1) from the lower edge of the cover.

Figure 5-20 Left cover screw

2 Open top cover, and then disengage the latch at the front of the left cover by prying it away from the front.
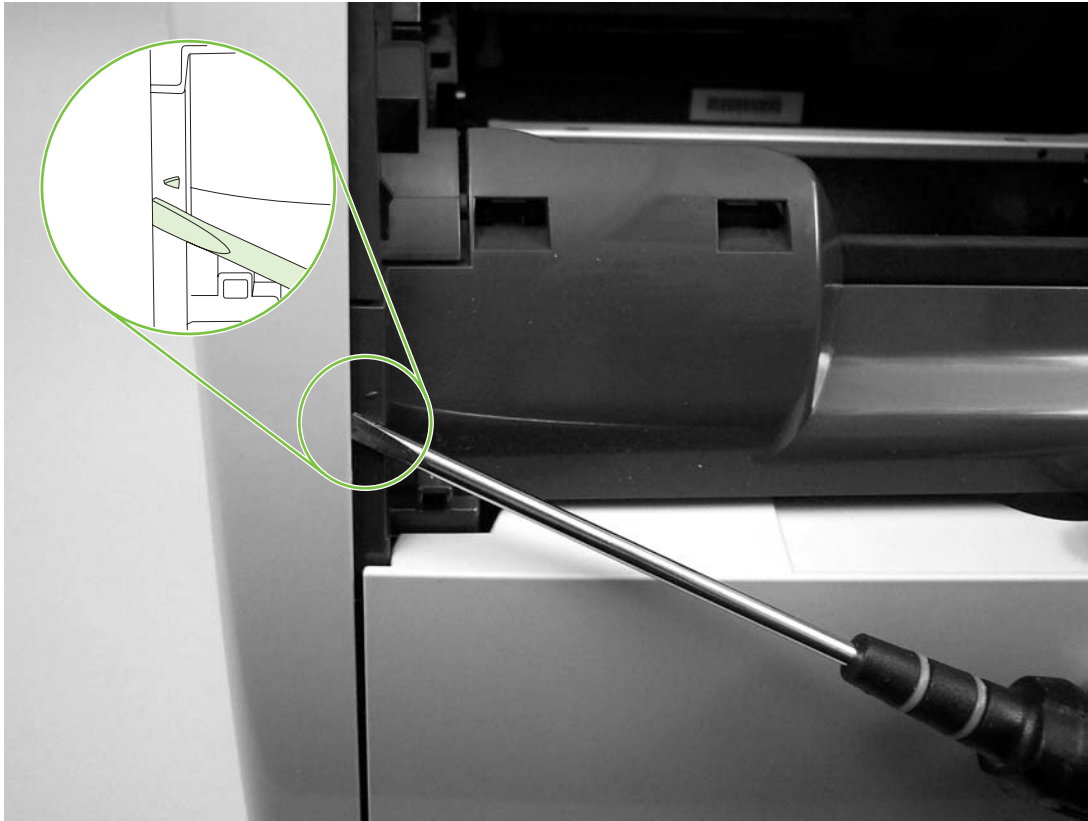
Figure 5-21 Disengage the left cover latch

3 Pull the bottom of the cover slightly up and out to release the bottom latches, and then pull up and away from the device to release the latches at the top of the cover.
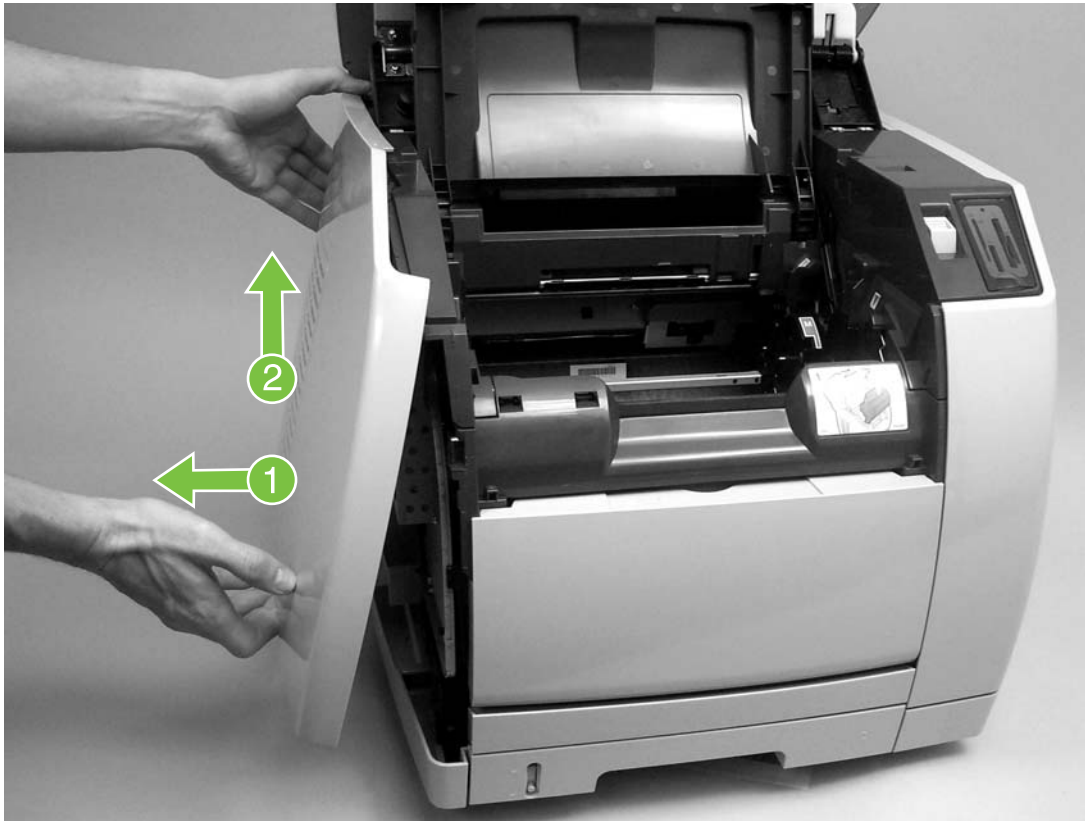
Figure 5-22 Pull the bottom of the cover

Removing the right cover

1   Remove the two screws (callout 1) from the lower edge of the cover.

Figure 5-23 Remove the right-side cover (1 of 2)

2   Open the scanning assembly, grasp the cover by the handle and by the top, and then pull the bottom of the cover and then up gently, rotating the cover away from the device as you lift it.

Figure 5-24 Remove the right-side cover (2 of 2)

☀ **Reinstallation tip**   When reinstalling the cover, reattach the tab that is closer to the back of the device before reattaching the front.

Removing the right rear cover

1   Remove the right cover (see Removing the right cover).

2 On the right rear cover, use a small flatblade screwdriver to disengage the latch at the rear of the cover.
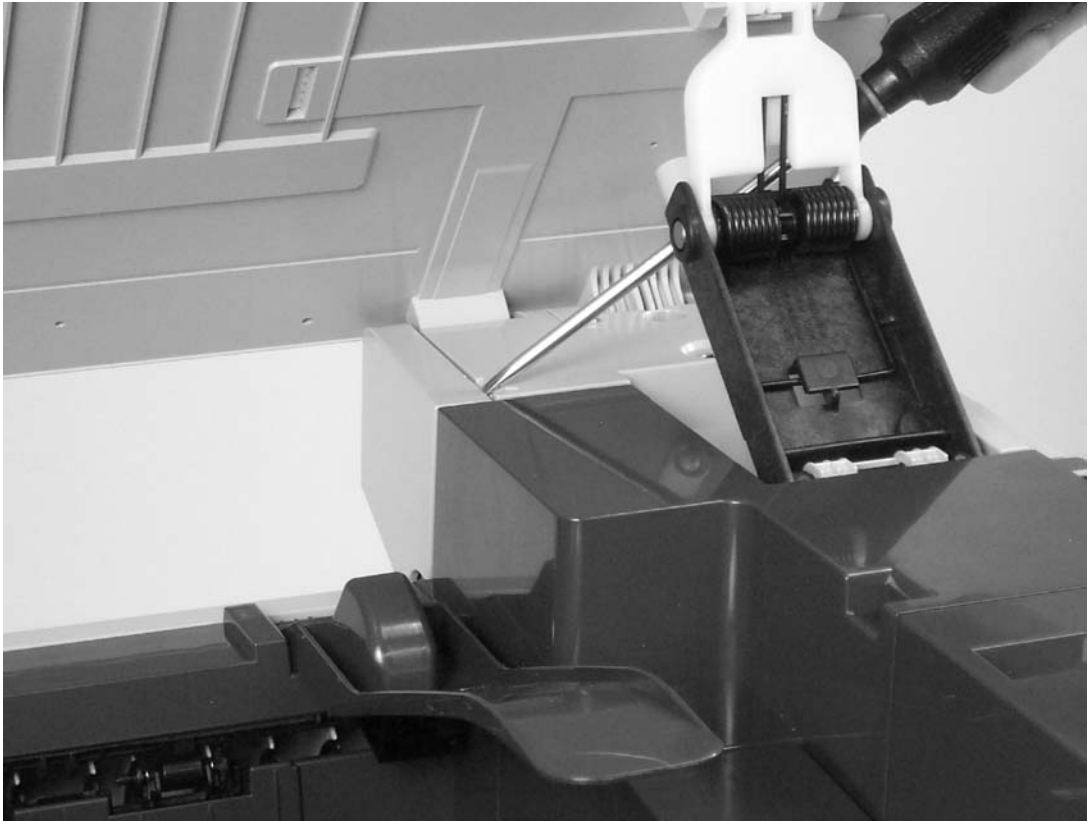
Figure 5-25 Remove the right rear cover (1 of 2)

3 From the back of the device, lift and disengage the latch at the top of the cover.

Figure 5-26 Remove the right rear cover (2 of 2)

4 Pull the cover down and away from the device.

Removing the scanning assembly

1 Remove the following covers and assemblies:

- ADF (see Replacing the ADF)

- Right cover (see Removing the right cover)

- Right rear cover (see Removing the right rear cover)

- Control panel and control-panel bezel, if you are replacing the scanning assembly, (see Removing the control panel and Replacing the control-panel bezel)

2 On the right side of the device, disconnect the four scanner assembly cables (callout 1) at the top of the formatter cage, and then unroute the cables from the device chassis so that they hang at the back of the device.
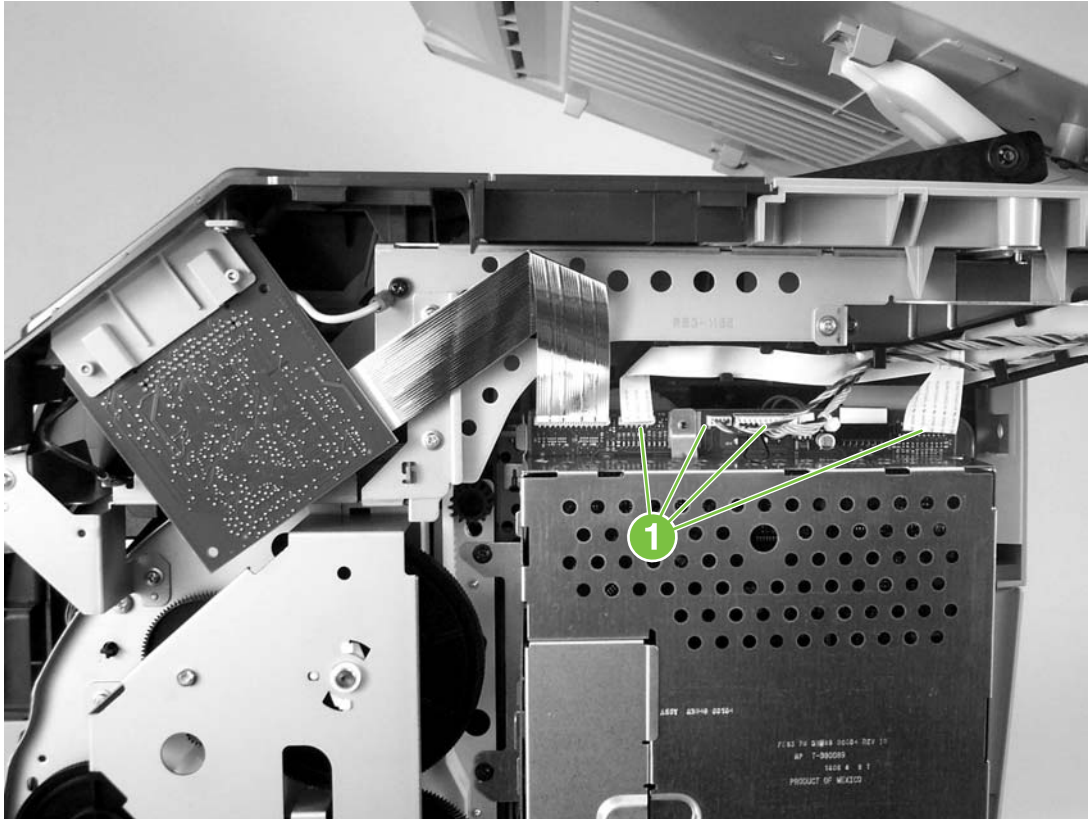
Figure 5-27 Remove the scanning assembly from the device (1 of 4)

> **NOTE** Note the order of the cables (long narrow flat cable, short wide flat cable, and then the wire bundles), and then reroute the cables in the same order when reinstalling the scanning assembly.

3 On the back of the device, disconnect the ground wire (callout 2).
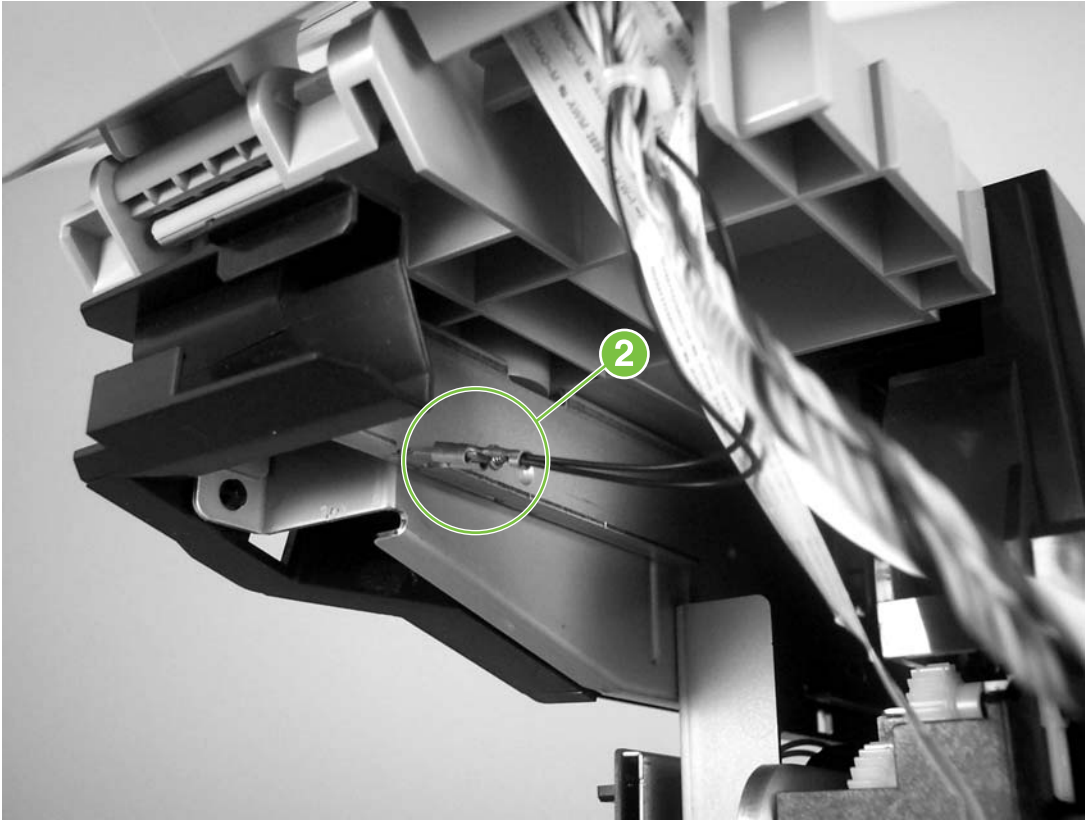
Figure 5-28 Remove the scanning assembly from the device (2 of 4)

4 Press the scanner release button to open the scanner assembly. On the link unit assemblies, press the tabs at the top of the units to release the units from the scanner assembly.

Figure 5-29 Remove the scanning assembly from the device (3 of 4)

⚠ **CAUTION** Once you have released the link unit assemblies, the scanning assembly is not secured to the device. Be careful not to drop the scanning assembly.

CAUTION When removing the scanning assembly, remove the ADF (see Replacing the ADF) or secure it to avoid damaging the ADF or the scanning assembly.

5   Open the scanner assembly until it points straight up, and then lift it up from the device.

Figure 5-30 Remove the scanning assembly from the device (4 of 4)

6   After replacing the scanning assembly, run a copy-quality test (see Test 2 (copy-quality test)).

Removing the left rear cover

1 Remove the left cover (see Removing the left cover).

2 On the left rear cover, use a flatblade screwdriver to disengage the latch indicated by the arrow (callout 1) on the cover by pushing the screwdriver in the direction indicated by the arrow.
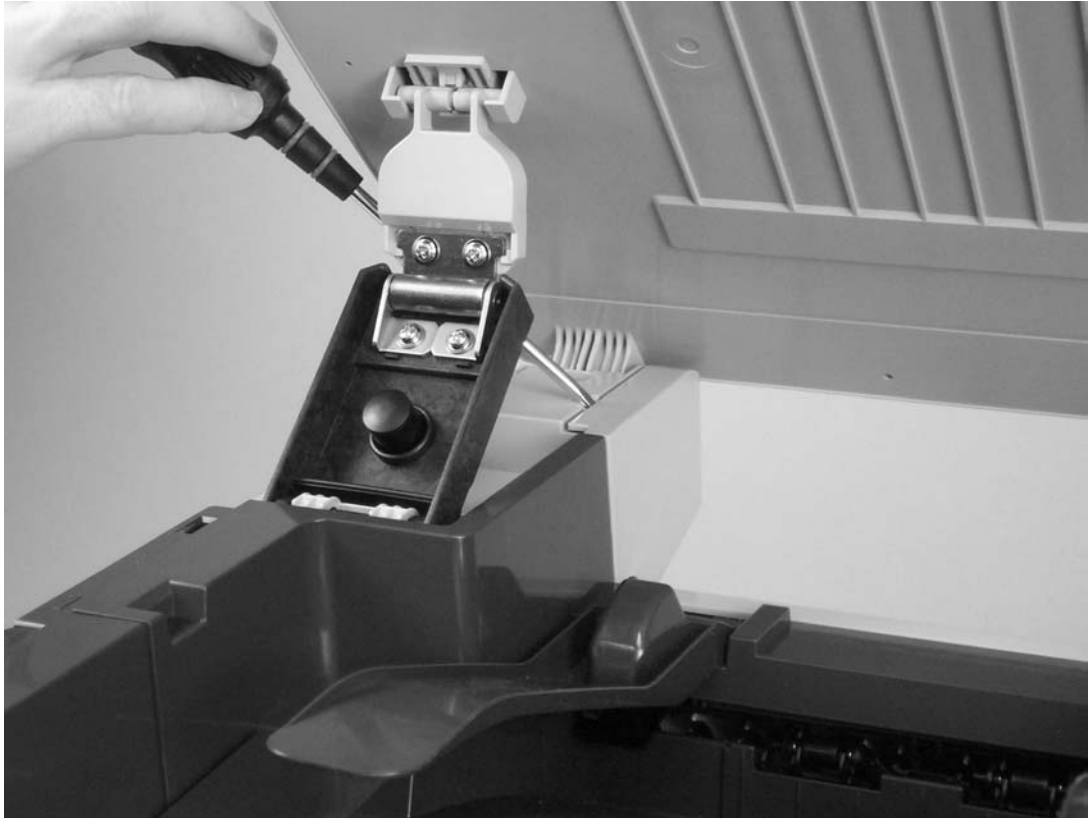
Figure 5-31 Remove the left rear cover

3 From the back of the device, pull the cover away from the device.

Removing the left upper cover

1 Remove the left cover (see Removing the left cover).

2 Open the scanner assembly, and then open the cartridge cover in the top cover assembly.

3 Remove the screw (callout 1) at the front of the device.
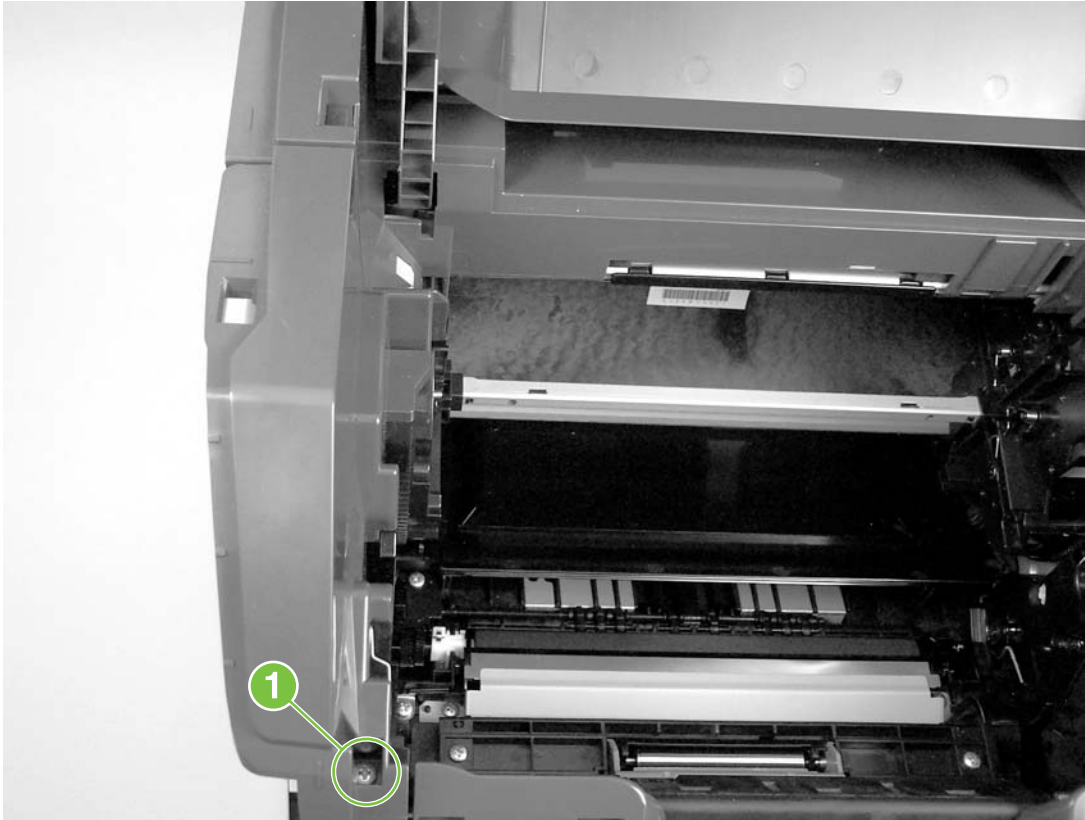
Figure 5-32 Remove the left upper cover (1 of 2)

4 Grasp the front of the cover, and then pull up and toward the rear to disengage the latches at the top rear of the cover.

Figure 5-33 Remove the left upper cover (2 of 2)

Removing the right upper cover

1 Remove the right cover (see Removing the right cover).

2 **HP Color LaserJet 2840 all-in-one only**: Detach the memory-card reader cable and the two grounding wires. See Replacing the memory-card assembly (HP Color LaserJet 2840 all-in-one only).

3 Open the scanner assembly, and then open the cartridge cover in the top cover assembly.

4 Remove two screws (callout 1) from the cover.
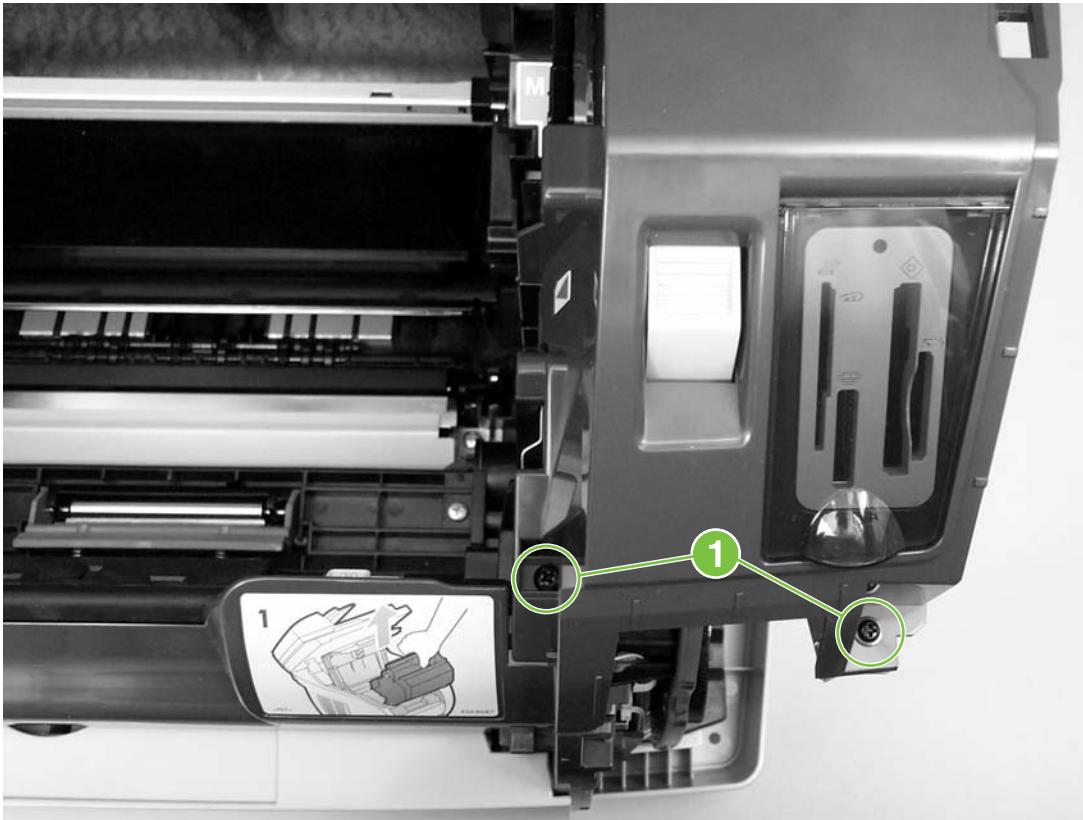
Figure 5-34 Remove the right upper cover (1 of 2)

5 Press the scanner release button, grasp the lower part of the cover, and then pull up to remove the cover.

Figure 5-35 Remove the right upper cover (2 of 2)

Replacing the memory-card assembly (HP Color LaserJet 2840 all-in-one only)

1 Remove the following covers and assemblies:

- Right cover (see Removing the right cover)

- Right upper cover (see Removing the right upper cover)

2 Turn the right upper cover over and remove the three screws (callout 1) holding the memory card assembly.
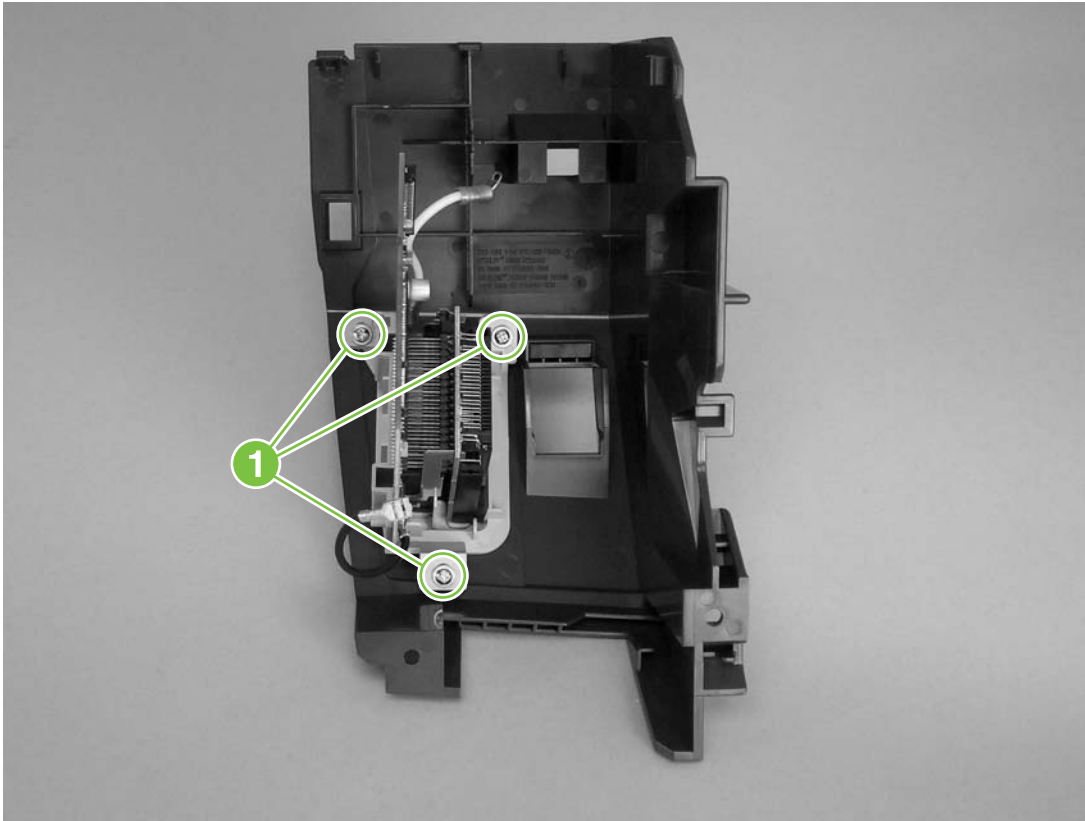
Figure 5-36 Replace the memory card assembly

3 Pull the memory-card assembly away from the cover, and then place the new assembly in the cover and secure it with the three screws.

4 After replacing the scanner assembly, run a memory-card test (see Test 4 (memory-card test)).

Removing the input/output (I/O) cover

1 Remove the following covers:

- Right cover (see Removing the right cover)

- Right rear cover (see Removing the right rear cover)

2 Open the upper face-up cover on the fuser assembly.

Figure 5-37 Remove the I/O cover (1 of 3)

3 Disengage the latch (callout 1) at the top of the I/O cover.
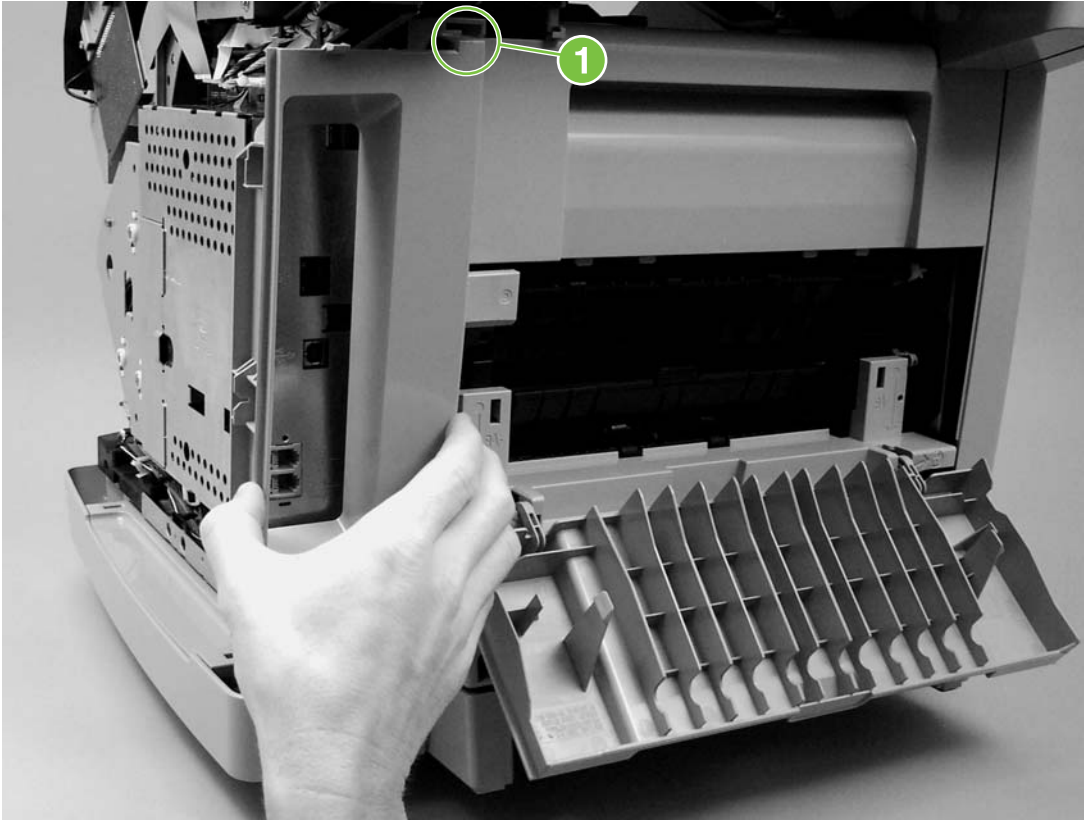
Figure 5-38 Remove the I/O cover (2 of 3)

4 Pull the top of the I/O cover away from the device to disengage the latches (callout 2) at the bottom of the cover.
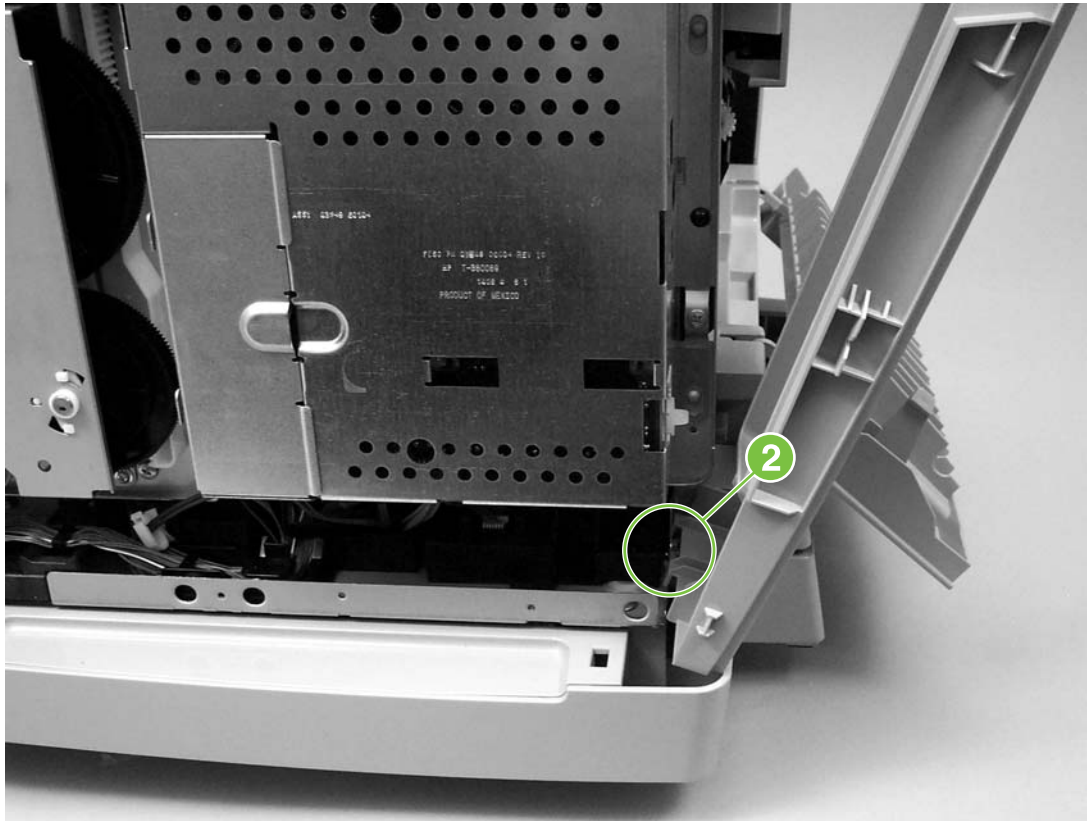
Figure 5-39 Remove the I/O cover (3 of 3)

Removing the back cover

1 Remove the following covers

- Left cover (see Removing the left cover)

- Right cover (see Removing the right cover)

- Left rear cover (see Removing the left rear cover)

- Right rear cover (see Removing the right rear cover)

- I/O cover (see Removing the input/output (I/O) cover)

    Leave the upper face-up cover on the fuser assembly open.

2   Disengage the two latches (callout 1) at the top of the cover.
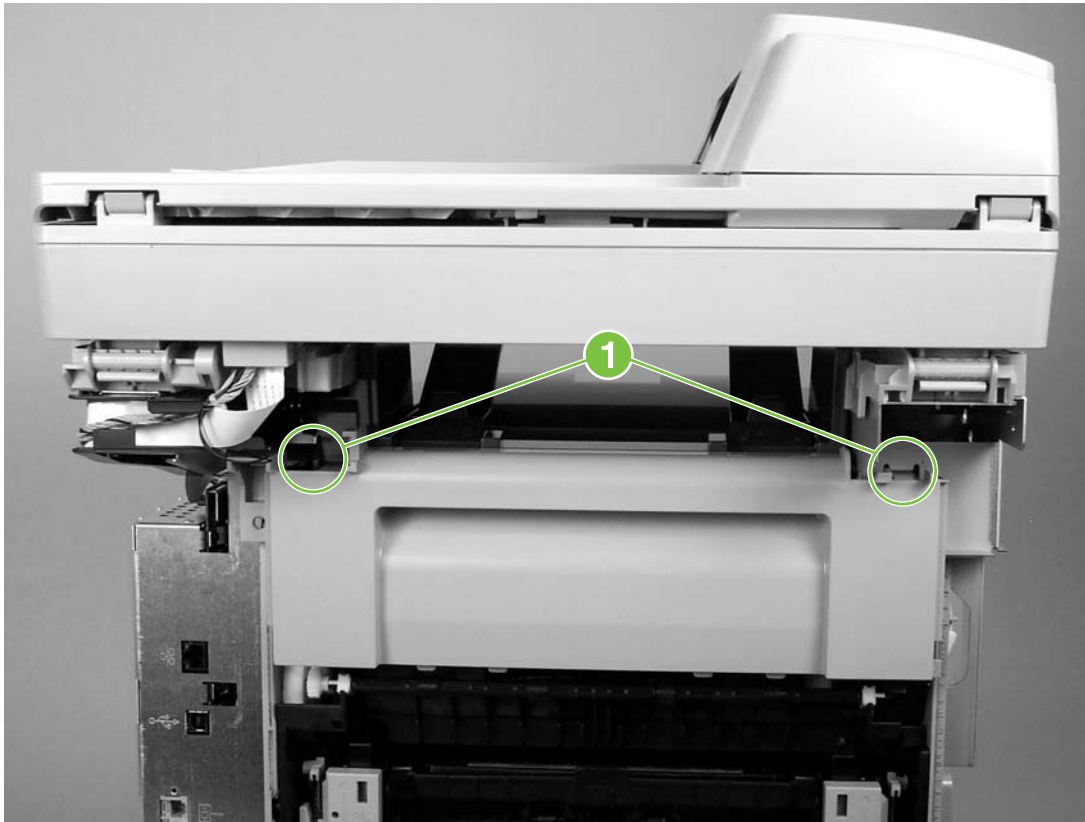
Figure 5-40 Remove the back cover

3   Pull the top of the cover down and away from the device to release the latches at the bottom of the cover.

Removing the top cover assembly

1   Remove the following covers and assembly:

- Left cover (see Removing the left cover)
- Right cover (see Removing the right cover)
- Left upper cover (see Removing the left upper cover)
- Right upper cover (see Removing the right upper cover)
- Left rear cover (see Removing the left rear cover)
- Right rear cover (see Removing the right rear cover)

2 Open the cartridge door, and then remove the two screws (callout 1).
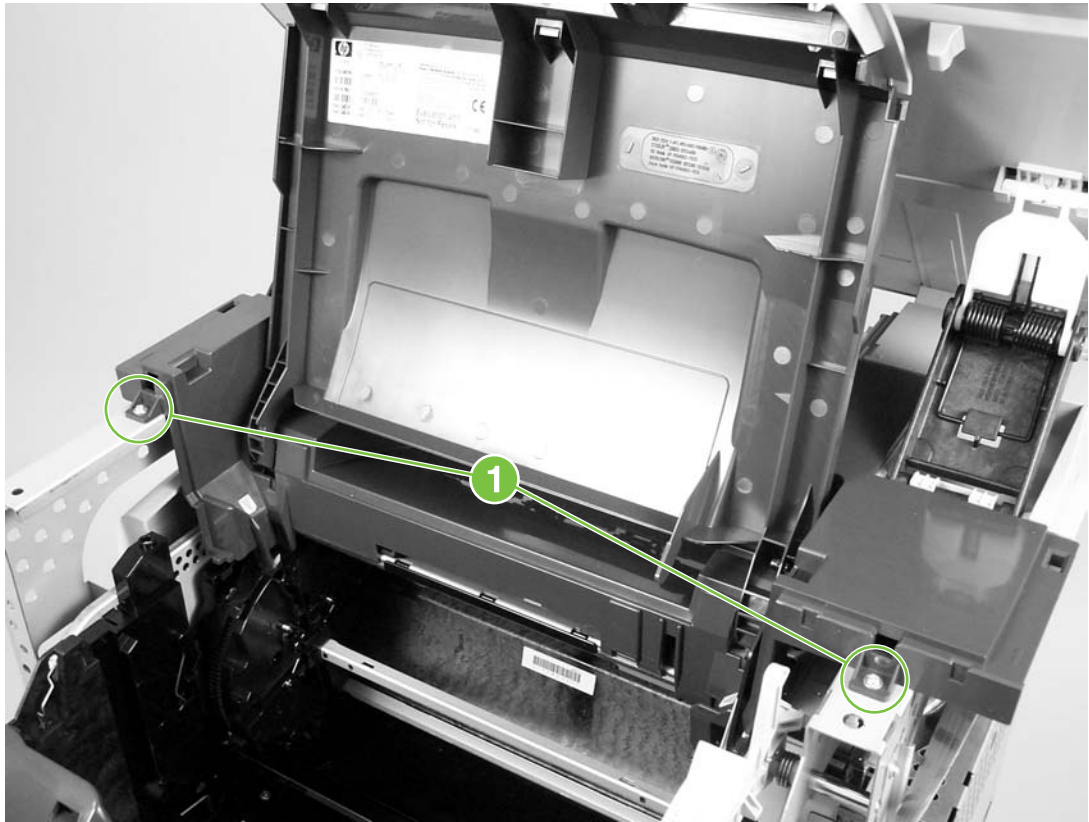
Figure 5-41 Remove the top-cover screws

3 Remove the link gear (callout 2) by pressing the latch at the center of the gear and pulling it away from the device.
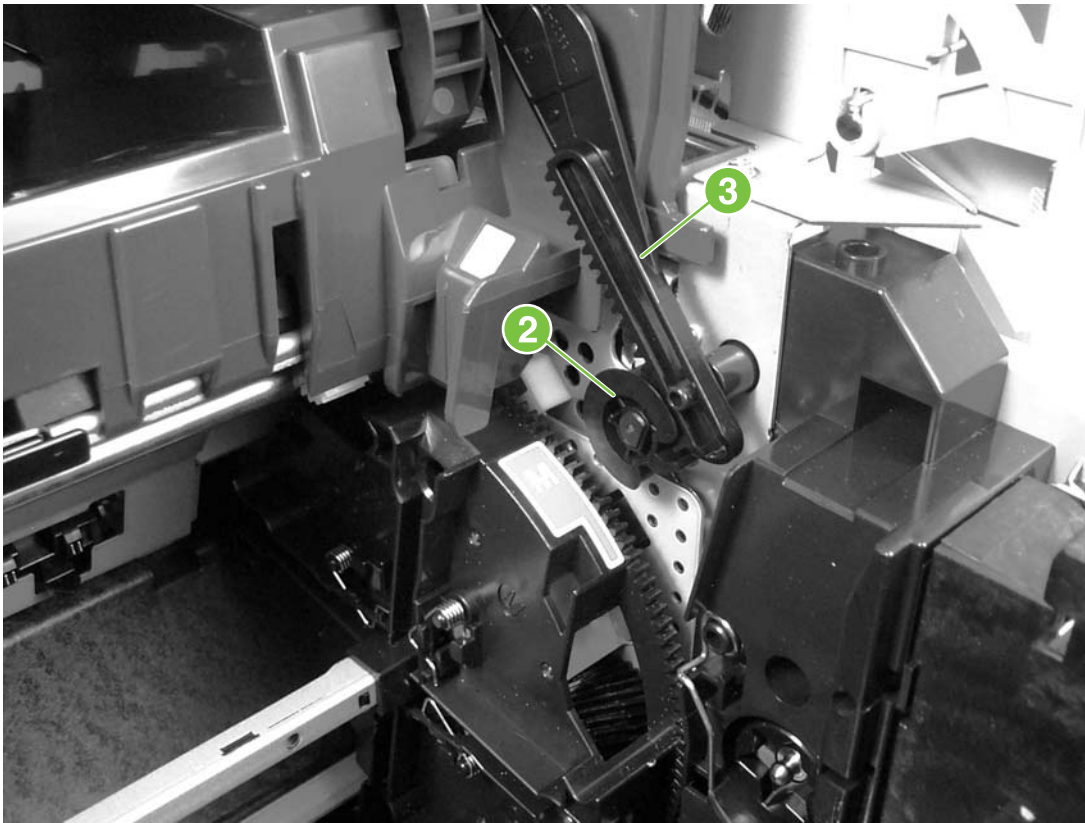
Figure 5-42 Remove the link gear and release the gear link lever

4 Release the gear link lever (callout 3).

5 Lift the top cover assembly up off of the device.

> ☼ **Reinstallation tip** When reinstalling, return the link gear to its shaft after releasing the top door.
>
> **Reinstallation tip** When reinstalling the link gear, lift the white vertical rack on the right external side of the device up to its highest position, and then align the notch on the gear with the lip on the top-door rack.
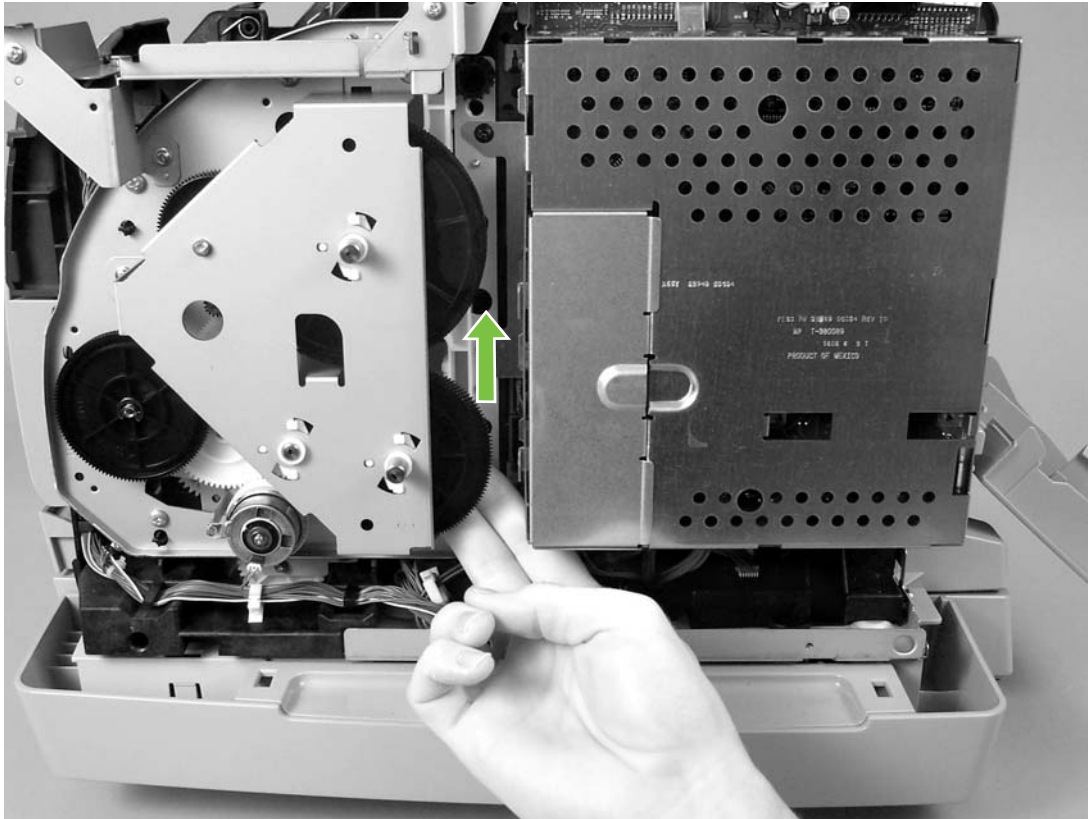
Figure 5-43 Reinstall the link gear

Removing the upper multipurpose cover

1 Remove the following covers:

- Left cover (see Removing the left cover)
- Right cover (see Removing the right cover)
- Left upper cover (see Removing the left upper cover)
- Right upper cover (see Removing the right upper cover)

2 Open the scanning assembly, and then open the cartridge door.

3 Open the multipurpose tray.

4 At the bottom of the cover, release the two latches (callout 1), one on each side.
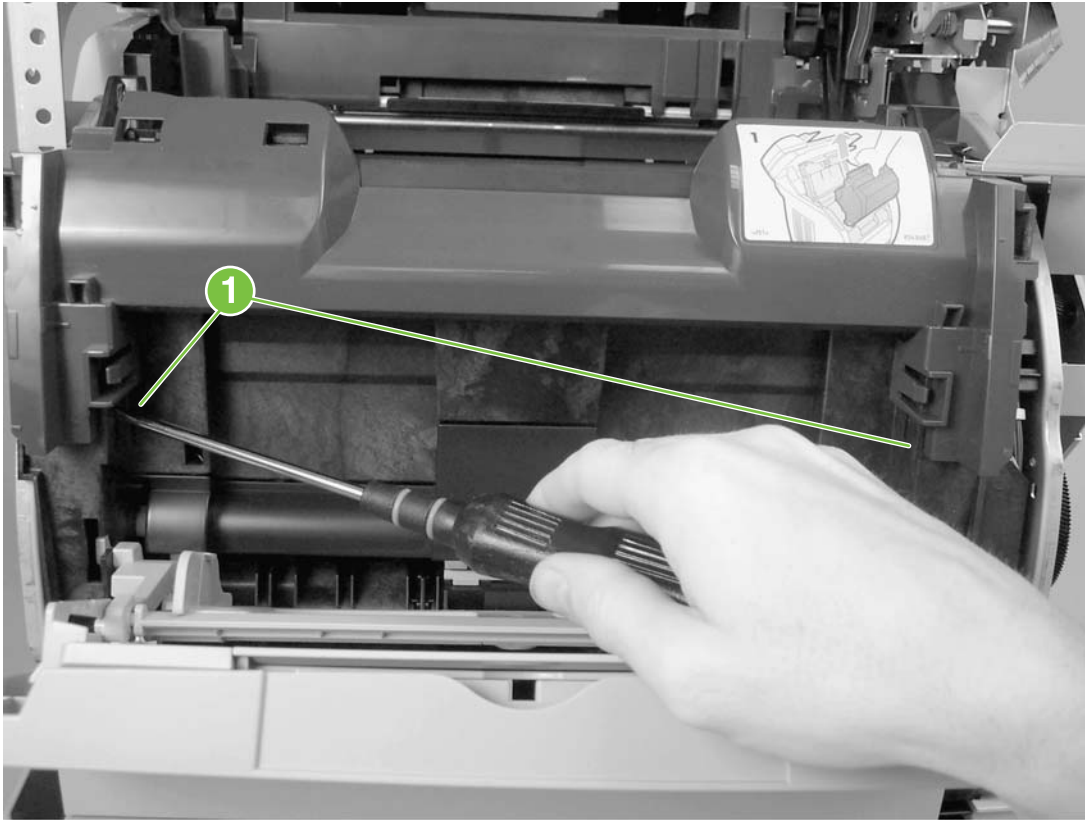
Figure 5-44 Remove the upper multipurpose cover (1 of 2)

5 Pull the bottom cover up and away from the device to release the four latches (callout 2) at the top of the cover.
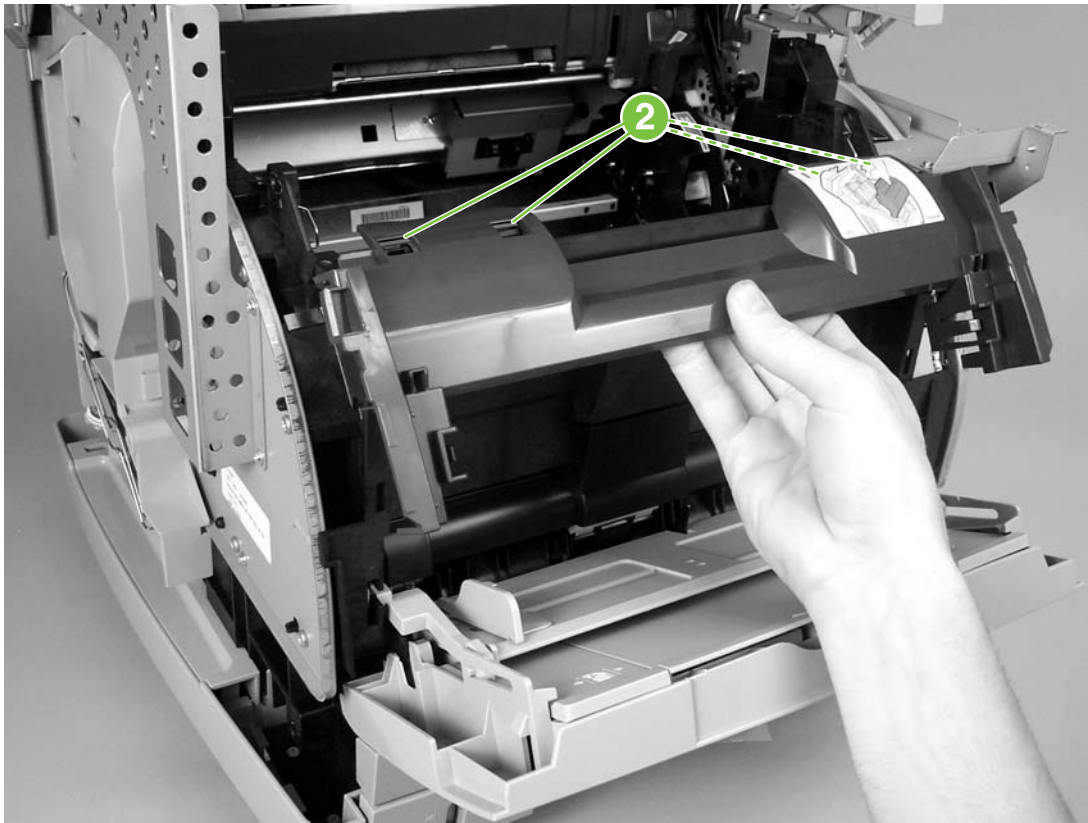
Figure 5-45 Remove the upper multipurpose cover (2 of 2)

Removing the density sensor and top-of-page sensor

1 Remove the upper multipurpose cover (see Removing the upper multipurpose cover).

2 Press the tab (shown in Figure 5-46 Remove the density sensor cover) on the sensor cover to release the cover, and then lift the cover up and away from the device.
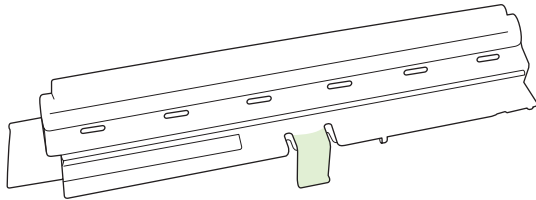
Figure 5-46 Remove the density sensor cover

3 Unplug one connector (callout 2).

4 Remove the two screws (callout 3).

5   Lift the density sensor straight up to remove it from the device.

6   Unplug one connector (callout 4) from the top-of-page sensor.

7   Remove one screw (callout 5) and then lift the top-of-page sensor straight up and away from the device.
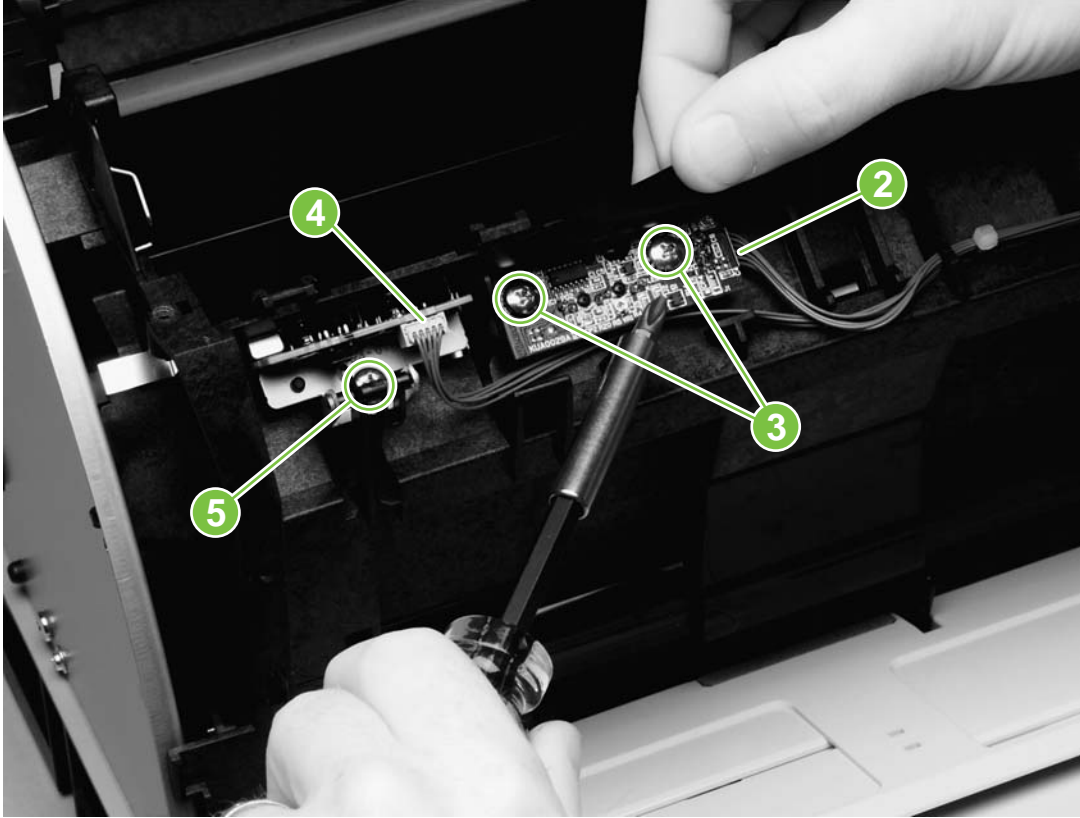
Figure 5-47 Remove the density sensor

8   After replacing the density sensor and top-of-page sensor, run a print-quality test (see Test 1 (print-quality test)).

Removing the multipurpose roller cover

1   Open the multipurpose tray.

2 Grasp the top of the multipurpose roller cover, and then pull downward to disengage the latch at the top of the cover from the device.

Figure 5-48 Disengage the right-side latch

3 Pull the cover away from the device.

Removing the lower multipurpose cover

1 Remove the left cover (see Removing the left cover).

2   Locate the latch (callout 1) on the lower left side of the device, and then use a small screwdriver to disengage the latch.
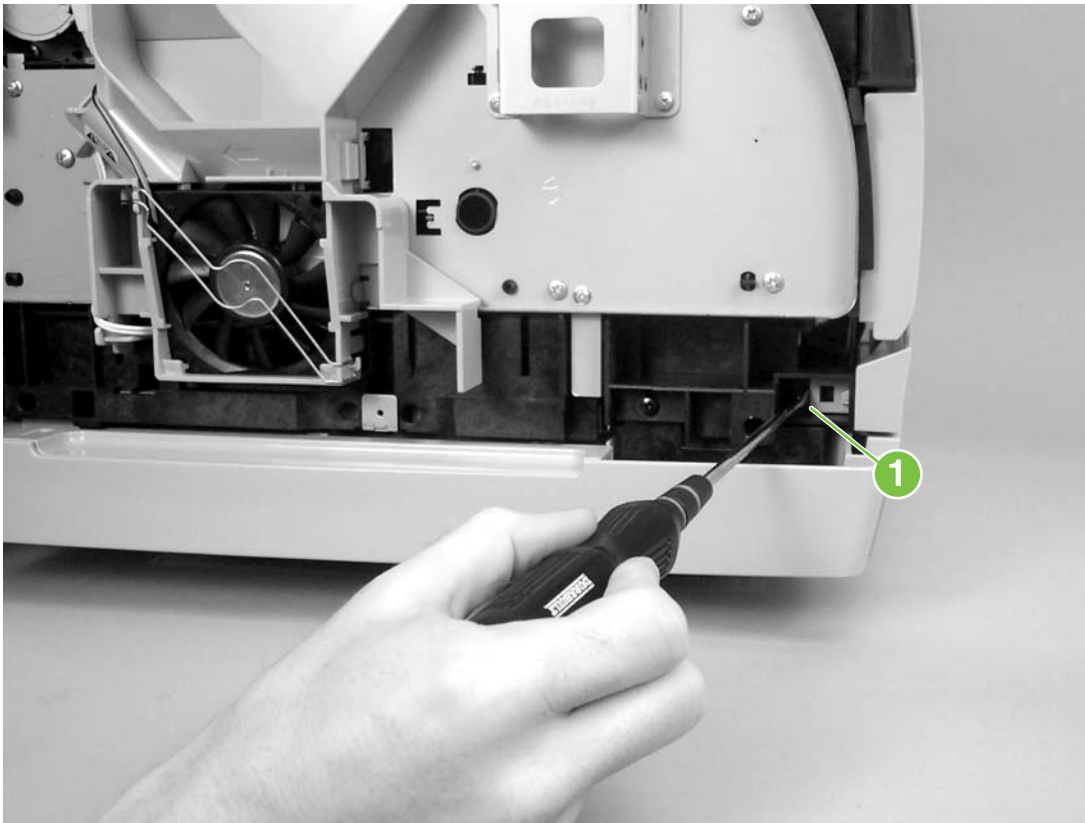
Figure 5-49 Disengage the left-side latch

3 Pull the left side of the lower multipurpose cover away from the device to disengage the latch at the right side of the cover.

Figure 5-50 Disengage the right-side latch

Main assemblies

Removing the control panel

1   Remove the control-panel bezel (see Replacing the control-panel bezel).

2   Release the two latches (callout 1) at the bottom of the control panel, and slide the panel slightly to the left.

3   Using the larger holes (callout 2) at each end of the control panel, gently lift the top of the control panel up and away from the device. Disconnect the two cables from the back of the control panel.
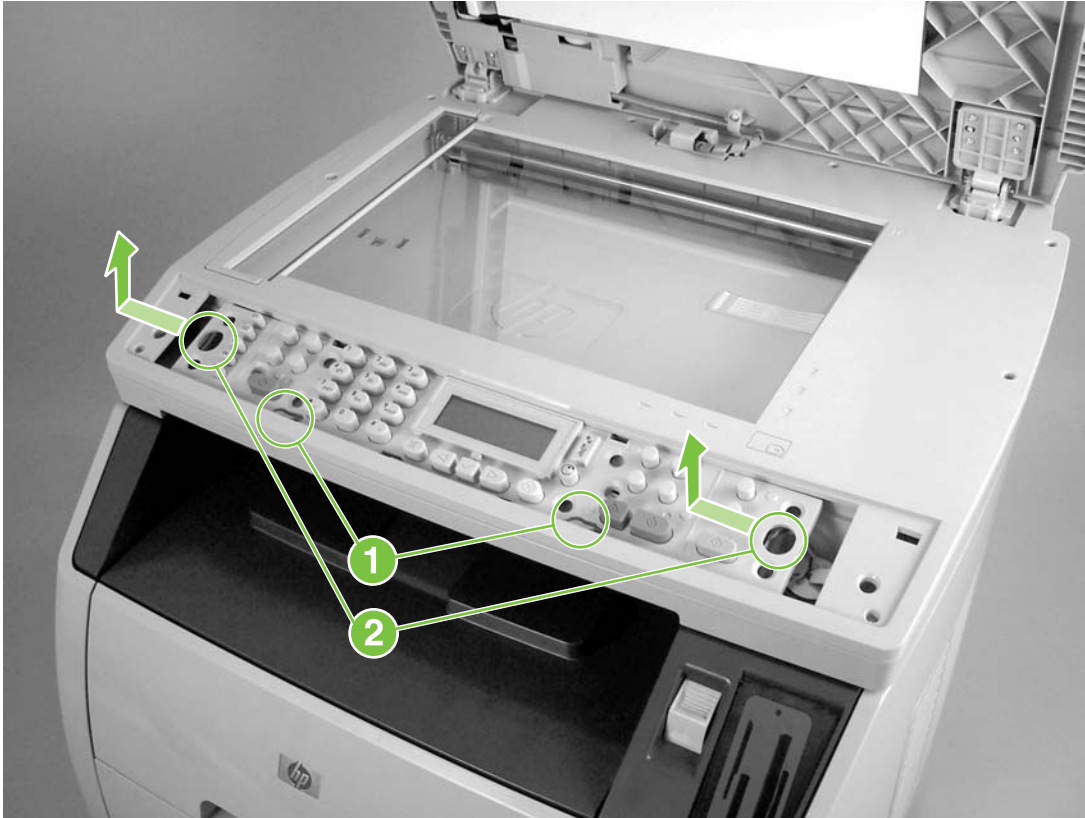
Figure 5-51 Remove the control panel

4   After replacing the control panel, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

📝   **NOTE**   If you are servicing an HP Color LaserJet 2840 all-in-one, run a fax-quality test (see Test 3 (fax-quality test)) and a memory-card test (see Test 4 (memory-card test)) as well.

Removing the left support assembly

1 Remove the following covers and assemblies:

- Left cover (see Removing the left cover)

- Left upper cover (see Removing the left upper cover)

- Left rear cover (see Removing the left rear cover)

- I/O cover (see Removing the input/output (I/O) cover)

- Back cover (see Removing the back cover)

- Top cover assembly (see Removing the top cover assembly)

- Scanning assembly (see Removing the scanning assembly)

2 Remove seven screws (callout 1), and then pull the support up and away from the device.
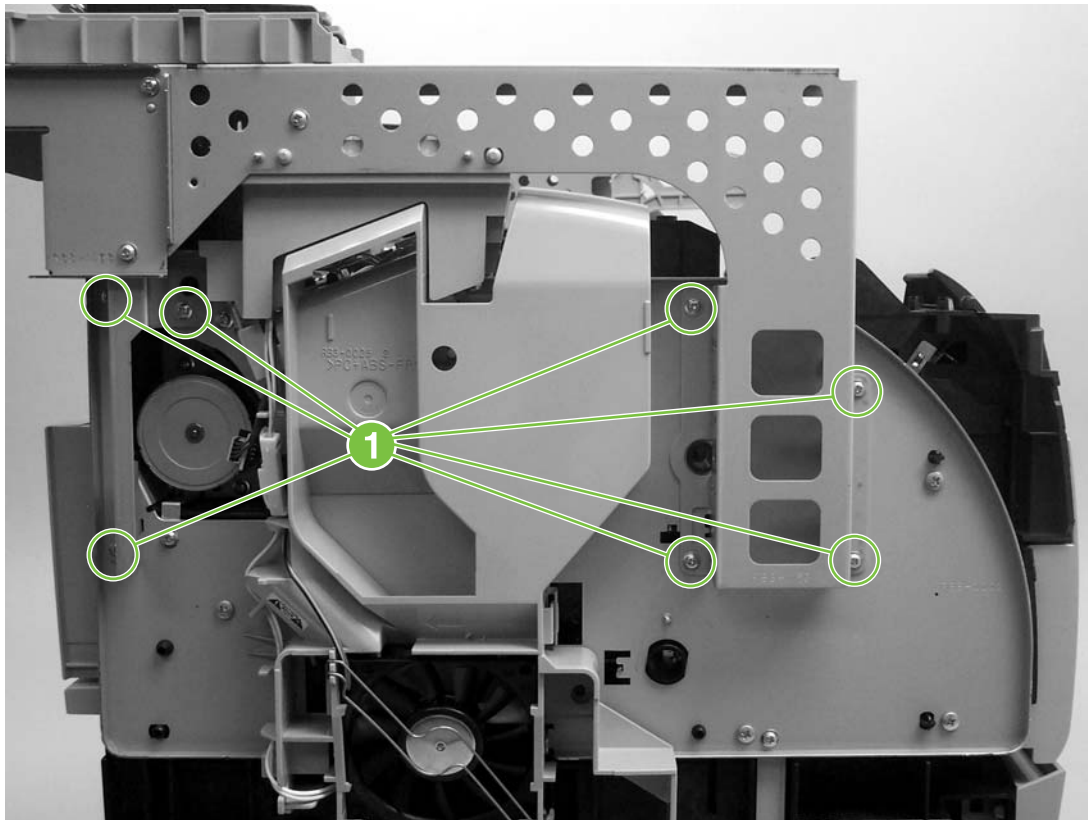
Figure 5-52 Remove the left support assembly

Removing the right support assembly

1 Remove the following covers:

- Right cover (see Removing the right cover)

- Right upper cover (see Removing the right upper cover)

- Right rear cover (see Removing the right rear cover)

- I/O cover (see Removing the input/output (I/O) cover)

- Back cover (see Removing the back cover)

- Top cover assembly (see Removing the top cover assembly)

- Scanning assembly (see Removing the scanning assembly)

- Formatter cage (see Removing the formatter cage)

2 Remove three screws (callout 1) from the front part of the support, and lift the piece away from the device.
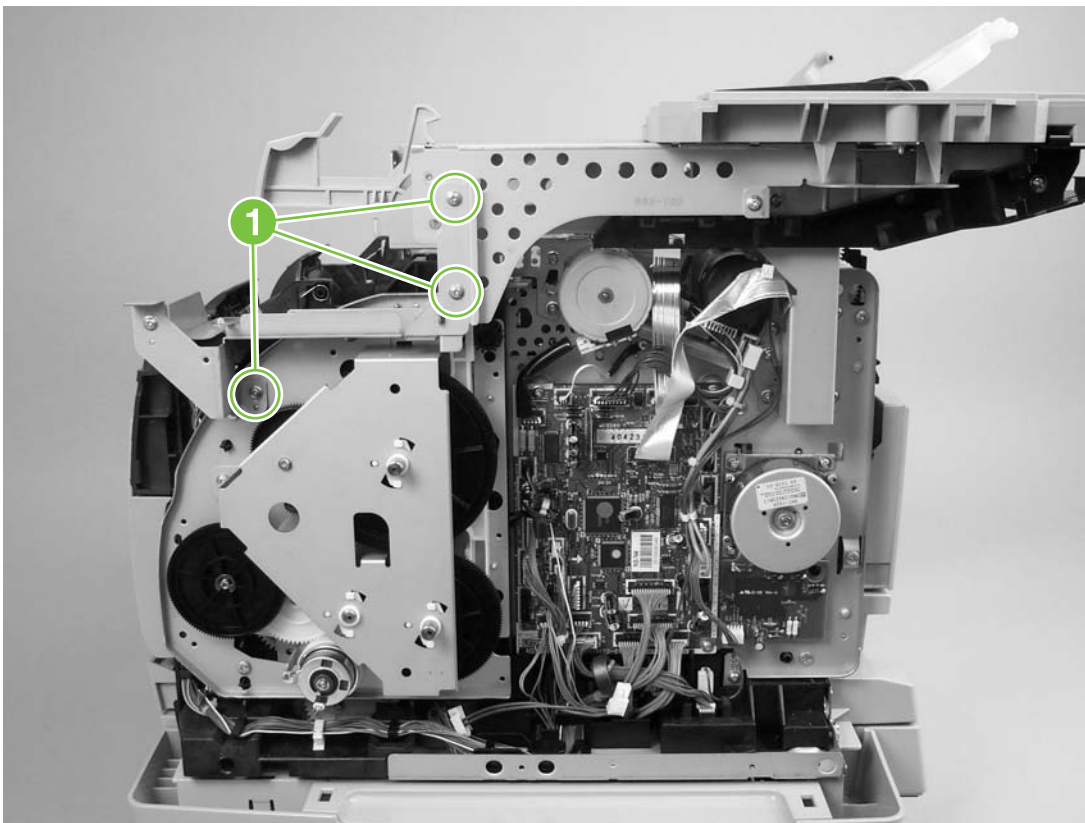
Figure 5-53 Remove the right support assembly (1 of 2)

3 Remove six screws (callout 2) from the rest of the right support assembly, and then pull the support up and away from the device.
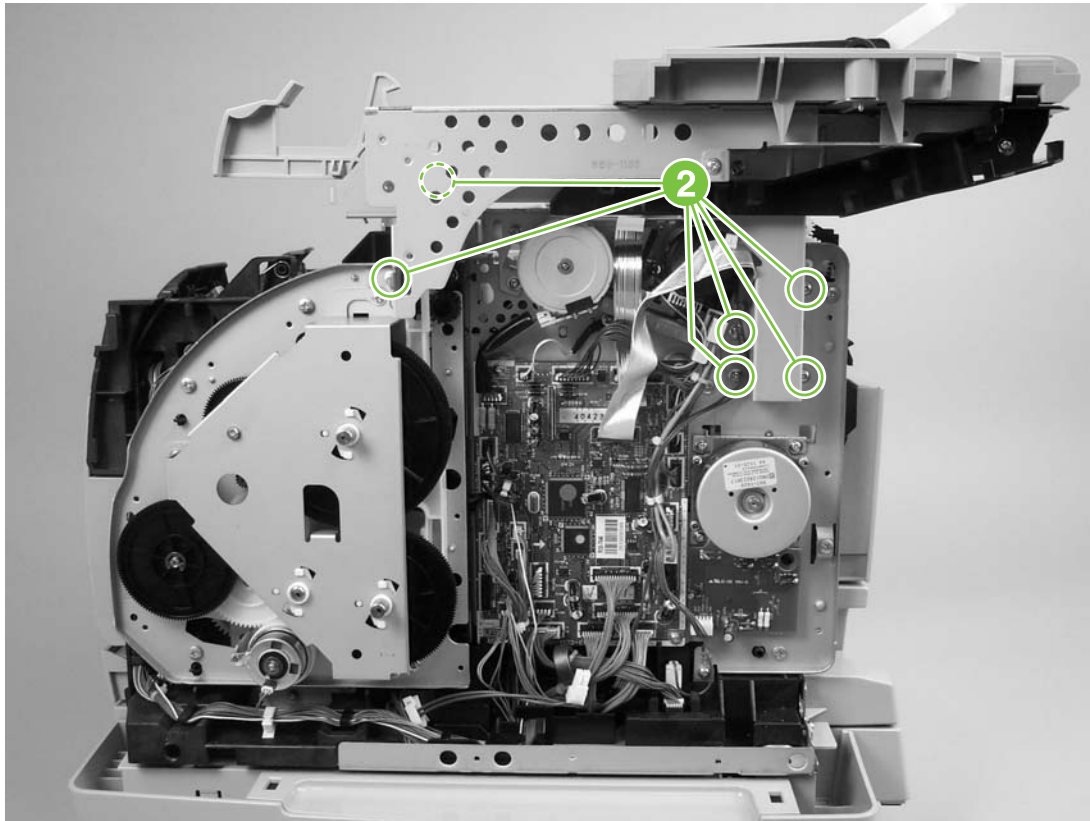
Figure 5-54 Remove the right support assembly (2 of 2)

Removing the laser/scanner assembly

1 Remove the following covers:

- Top cover assembly (see Removing the top cover assembly)

- I/O cover (see Removing the input/output (I/O) cover)

- Back cover (see Removing the back cover)

2 Unplug the two cable connectors (callout 1), and unroute the cables from the cable holders.

3 Disconnect the flat flexible cable from the cable socket (callout 2) on the laser/scanner.

4 Lift the two forming holders, rotate the lower part of the face-down cover (callout 3) toward the front of the device, and then lift away from the device.

5   Remove four screws (callout 4).
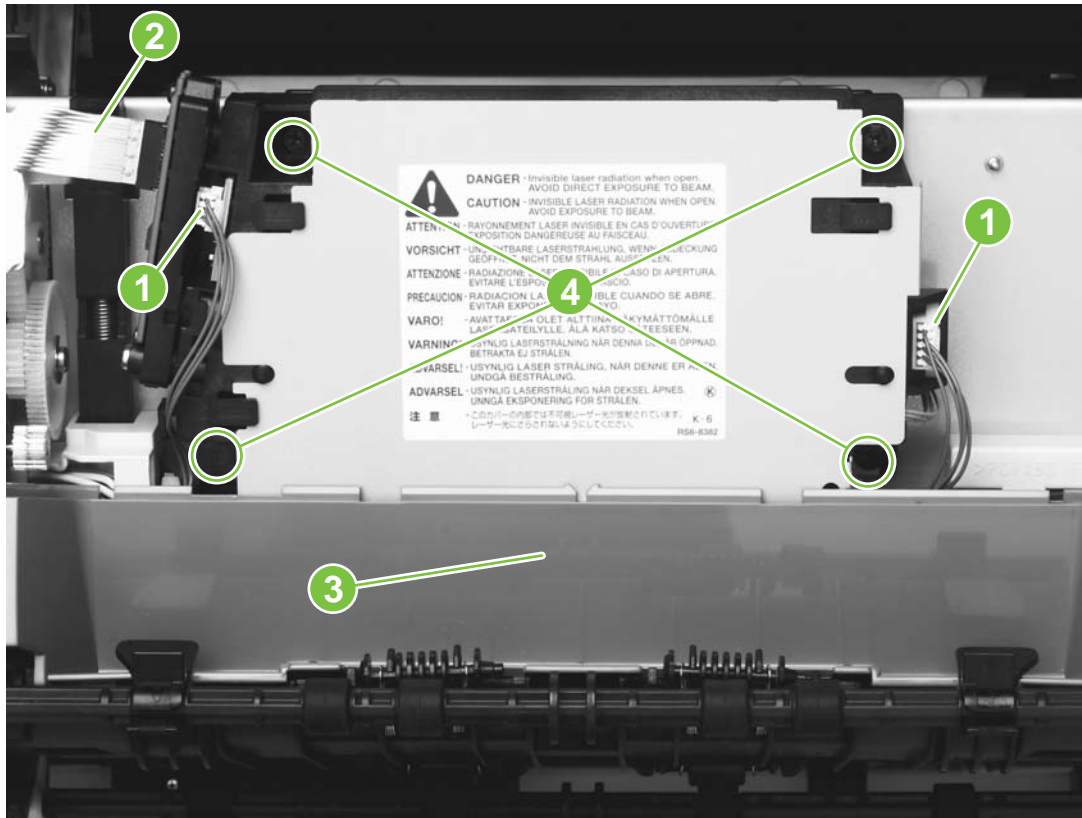
Figure 5-55 Remove the laser/scanner assembly

6   Unroute the cables from the cable harness attached to the back of the laser/scanner.

7   Lift the laser/scanner assembly straight up to remove it from the device.

8 When reinstalling the face-down cover (callout 3 in Figure 5-55 Remove the laser/scanner assembly), place the two forming holders (on the upper face-down roller) on top of the cover, as shown in Figure 5-56 Reinstall the face-down cover.
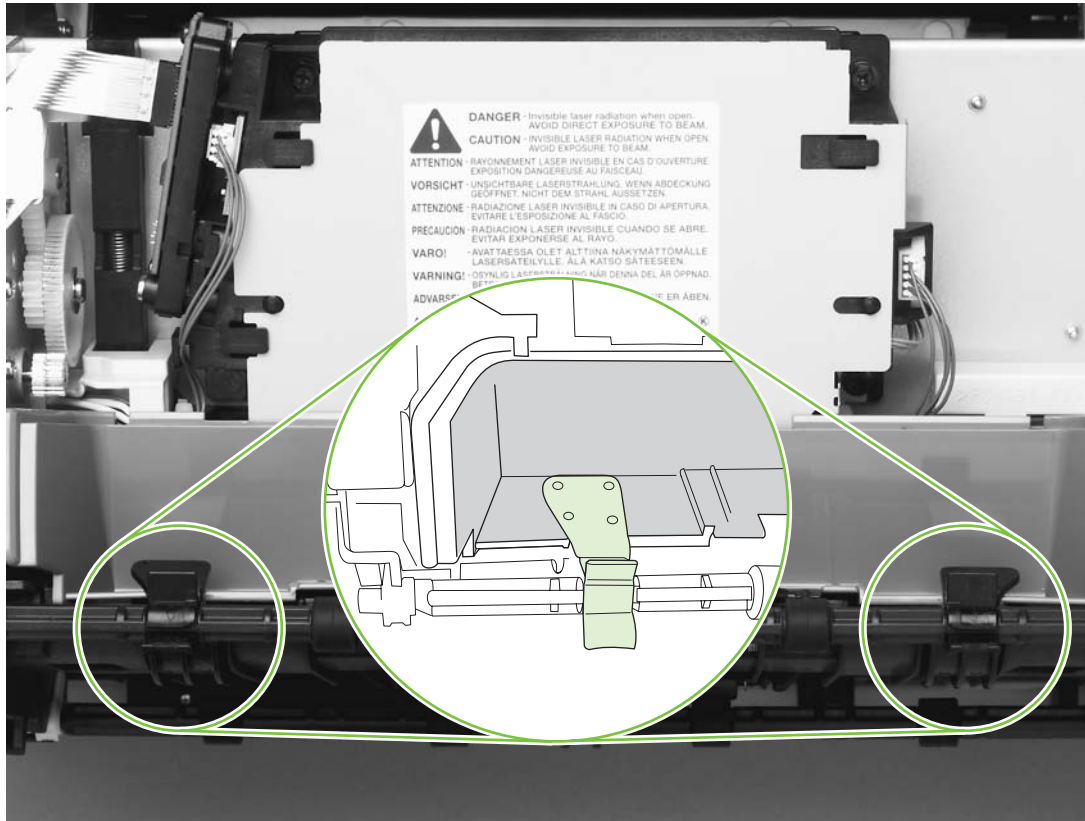
Figure 5-56 Reinstall the face-down cover

9 After replacing the laser/scanner assembly, run a print-quality test (see Test 1 (print-quality test)).

Removing the transfer-roller plate

⚠ **CAUTION** Do not touch the black sponge portion of the transfer roller.

1 Remove the toner-catch tray (see Removing the toner-catch tray).

2 Remove two screws (callout 1) from the transfer-roller plate.
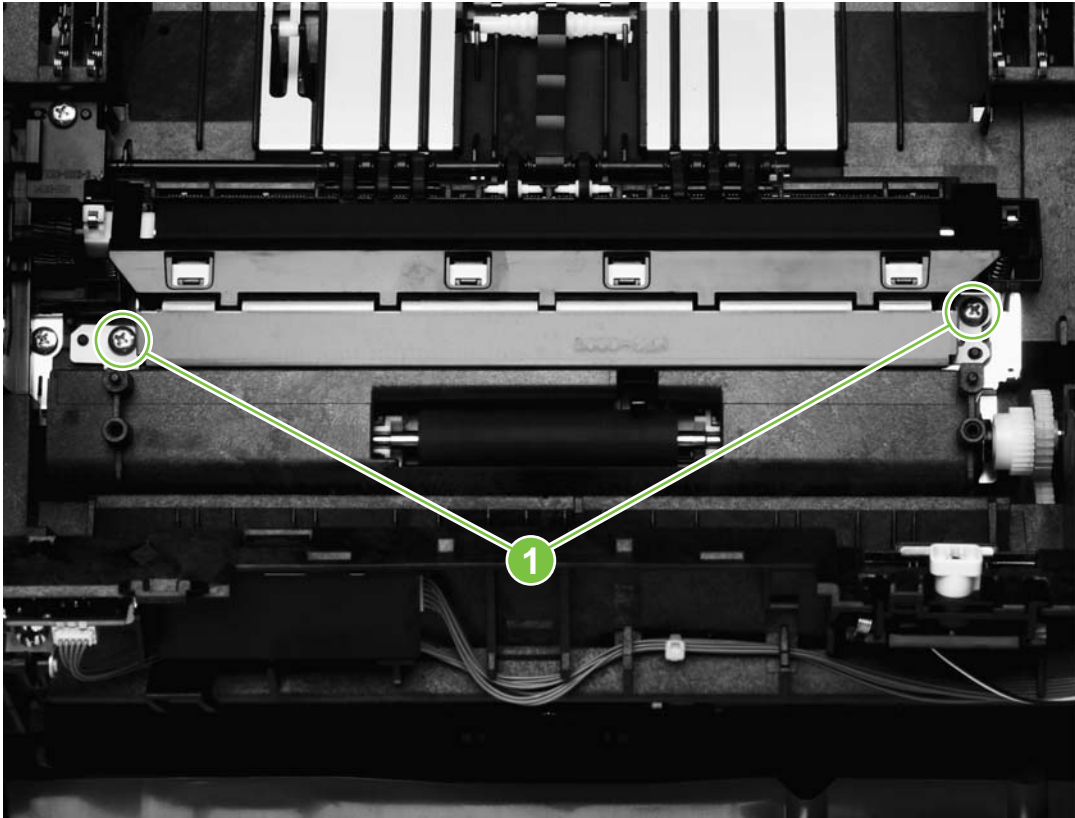
Figure 5-57 Remove the transfer-roller plate

3 Lift the transfer-roller plate straight up to remove it from the device.

☀ **Reinstallation tip** When reinstalling the transfer-roller plate, make sure that the ground springs are properly aligned with the transfer-roller plate.

4 After replacing the transfer-roller plate, run a copy-quality test (see Test 2 (copy-quality test)).

Removing the transfer roller

⚠ **CAUTION** Do not touch the black sponge portion of the transfer roller.

1 Remove the following assemblies:

- Toner-catch tray (see Removing the toner-catch tray)

- Transfer-roller plate (see Removing the transfer-roller plate)

2 Use needle-nose pliers to gently squeeze the small tabs at the right side of the transfer roller (see the detail in Figure 5-58 Remove the transfer roller) and then also squeeze the tabs at the left side of the transfer roller to release the roller.
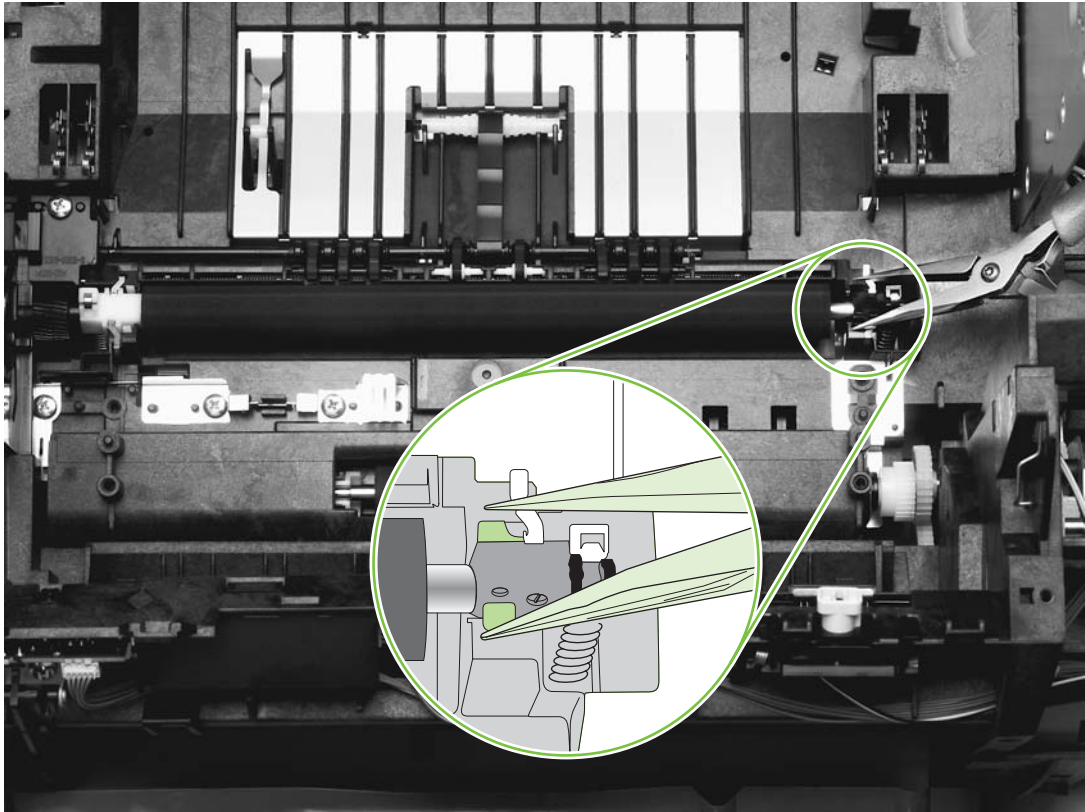
Figure 5-58 Remove the transfer roller

NOTE Be careful not to bend the thin metal strip adjacent to the tabs on the right side of the roller.

3 Lift the transfer roller up from the right side, slide it to the right, and lift it out of the device.

NOTE The small grounding spring that is underneath the left side of the transfer roller is attached to the transfer roller. It is removed with the transfer roller.
The small grounding spring that is underneath the right side of the transfer roller remains in the chassis.

4 After replacing the transfer roller, run a copy-quality test (see Test 2 (copy-quality test)).

Removing the formatter assemblies

Removing the formatter cage

1   Remove the following covers and assembly:

    ● Right cover (see Removing the right cover)

    ● Right rear cover (see Removing the right rear cover)

    ● I/O cover (see Removing the input/output (I/O) cover)

2   Detach four or five (HP Color LaserJet 2840 all-in-one only) cables (callout 1) at the top of the formatter cage.
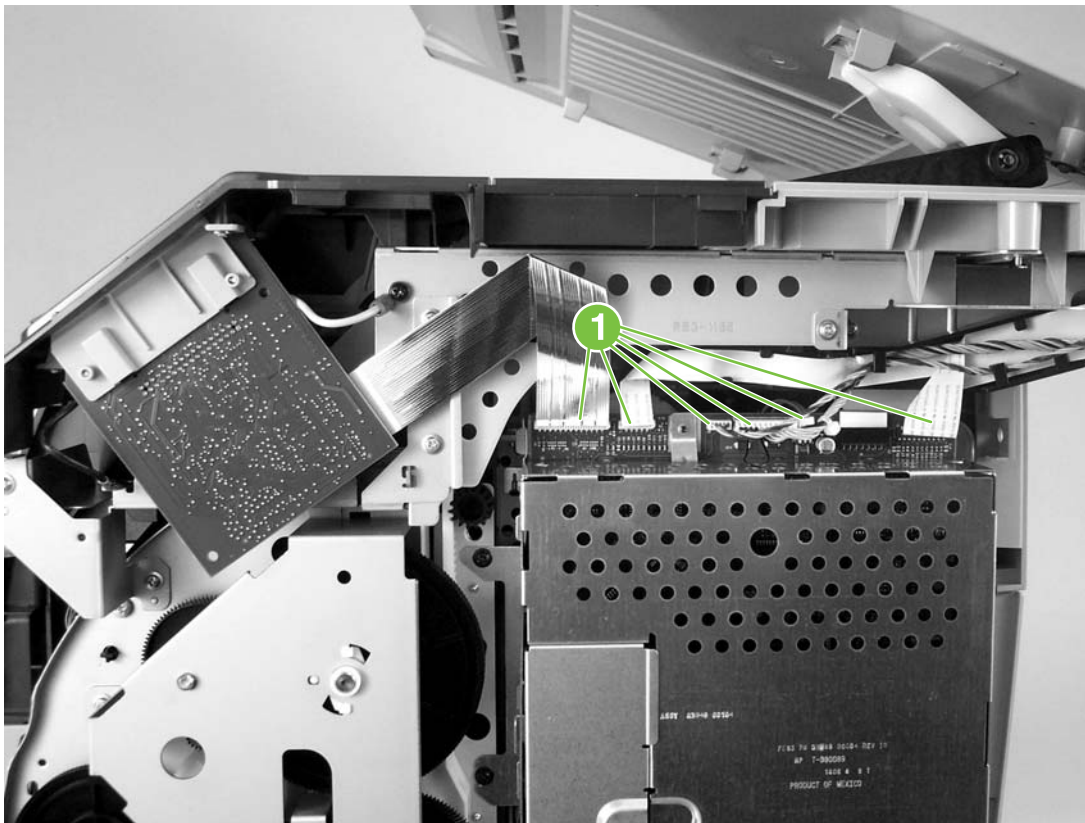
Figure 5-59 Remove the formatter cage (1 of 3)

3 Open the formatter cage memory door, and then use a flatblade screwdriver to push the tab on the cable connector (callout 2) to unplug the connector.
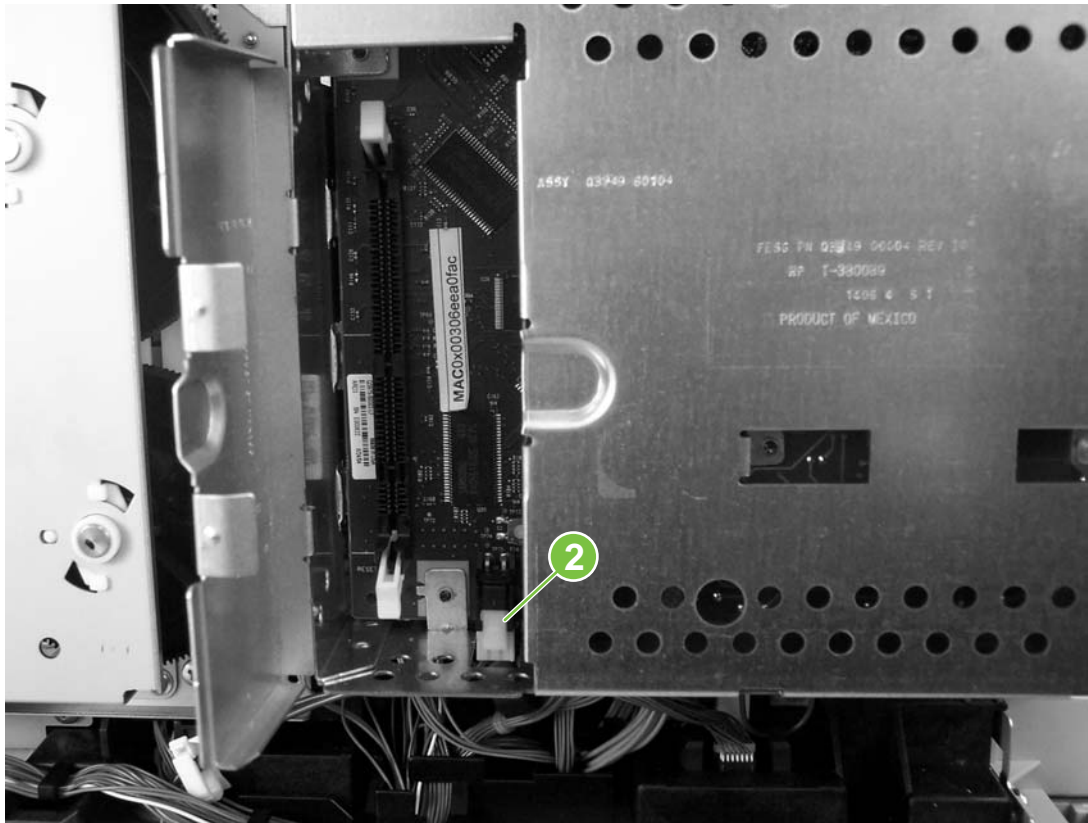
Figure 5-60 Remove the formatter cage (2 of 3)

4 Remove four screws (callout 3) from the formatter cage, and then lift the formatter to disengage the hooks at the top of the formatter cage (see inset in Figure 5-61 Remove the formatter cage (3 of 3)).
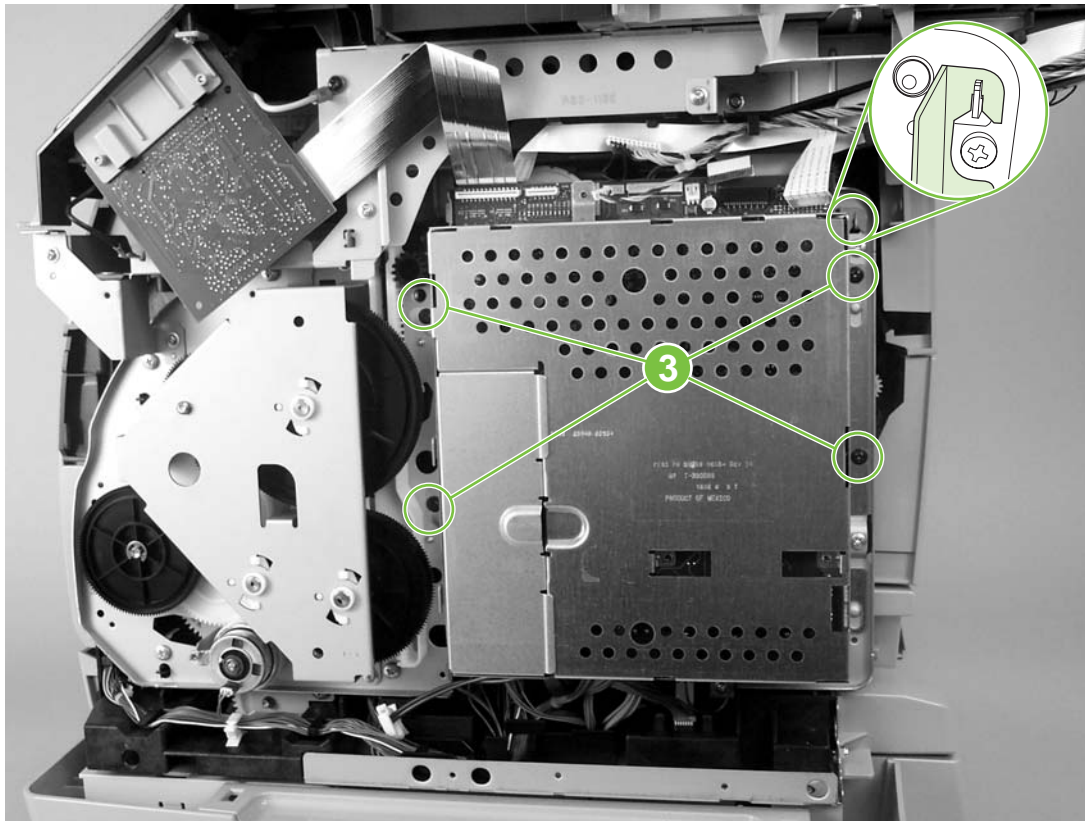
Figure 5-61 Remove the formatter cage (3 of 3)

5 Lift the formatter cage up, and then pull it slightly away from the device.

6 Disconnect the flat, flexible cable that connects the back of the formatter cage to the DC controller.

7 After replacing the formatter cage, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

> 📝 **NOTE** If you are servicing an HP Color LaserJet 2840 all-in-one, run a fax-quality test (see Test 3 (fax-quality test)) and a memory-card test (see Test 4 (memory-card test)) as well.

Removing the formatter and line interface unit (LIU)

1 Remove the formatter cage (see Removing the formatter cage).

2 Remove five screws (callout 1) from the metal plate on the back of the formatter cage, and then remove the metal plate.

3 Lift the front edge (callout 2) of the plate upward to clear the tabs (callout 3, two of five shown in the callout), and then lift the plate away from the formatter cage.
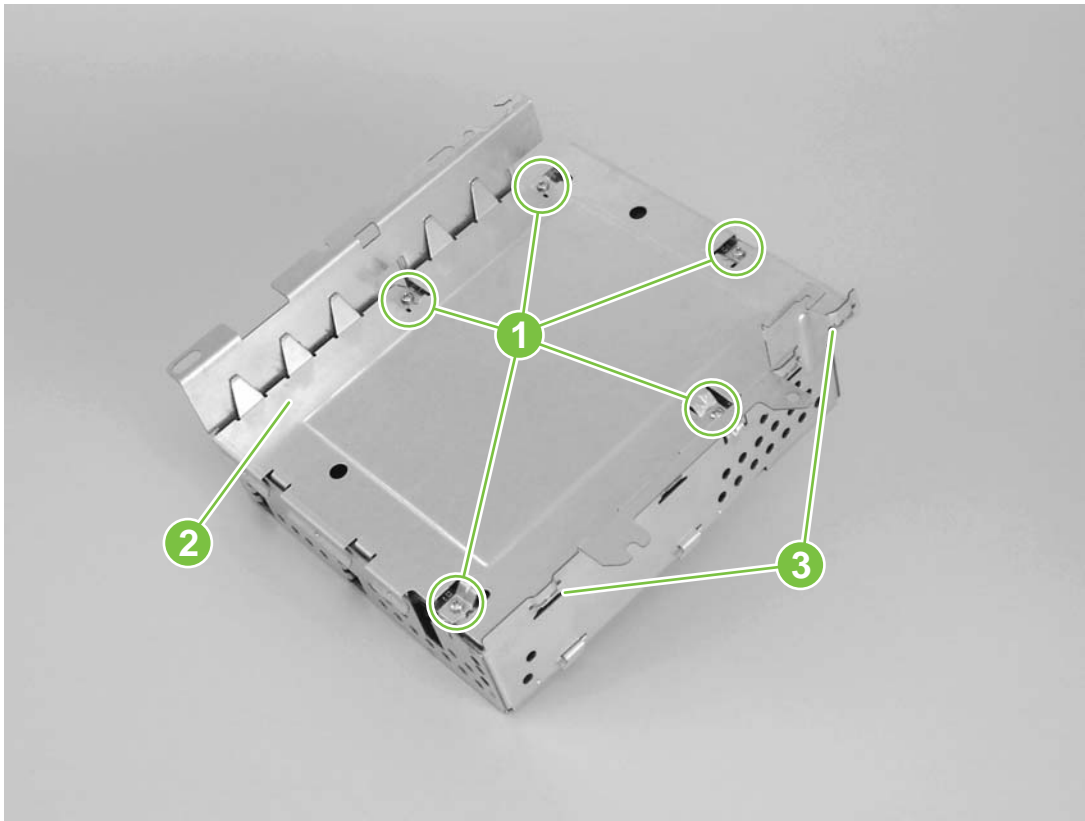
Figure 5-62 Remove the formatter (1 of 2)

💡 **Reinstallation tip**   Make sure that the tabs (callout 3) are seated correctly when you reattach the cover to the formatter cage. If the tabs on the cover are not seated correctly, they can cause the formatter cage to bow out.

4 Unplug the top of the connector (callout 4), and then lift the formatter from the formatter cage.
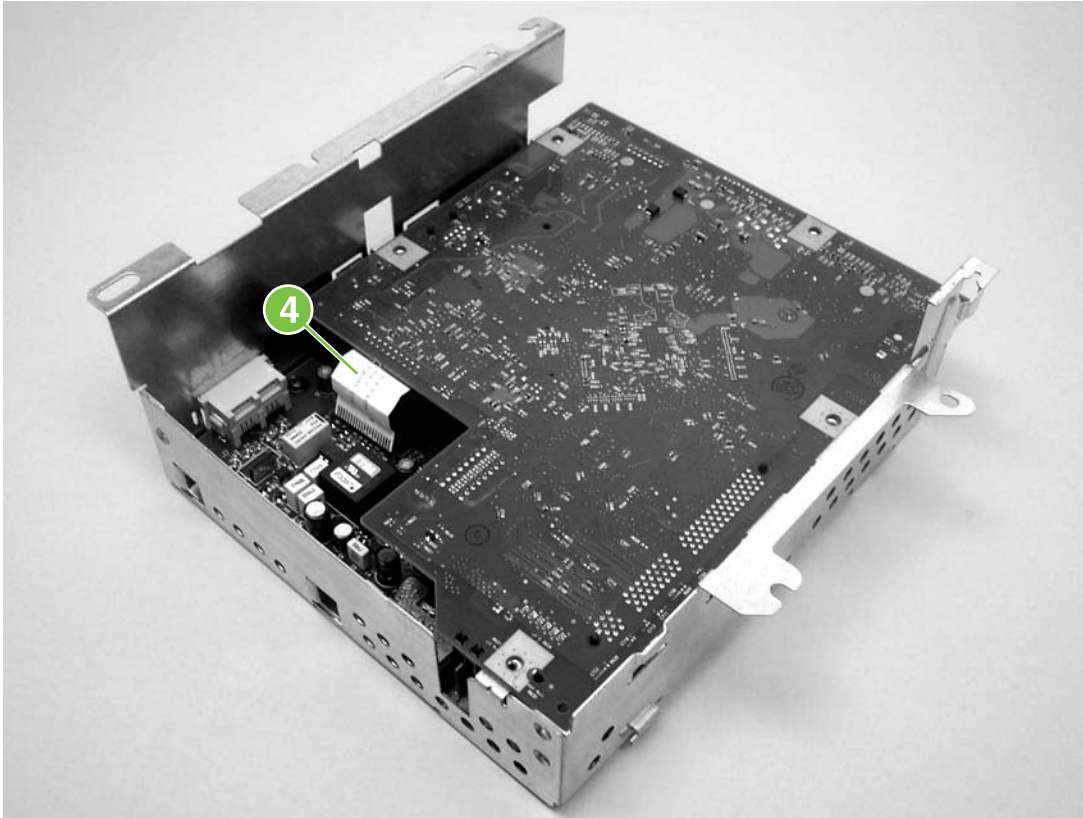
Figure 5-63 Remove the formatter (2 of 2)

5 To remove the line interface unit (LIU), remove two screws (callout 5) and then lift the LIU from the formatter cage.

> ☼ **Reinstallation tip** To avoid damaging the metal, do not overtighten the screws when reinstalling the LIU. If too much force is applied to the screws, the tabs can deform and might break off.
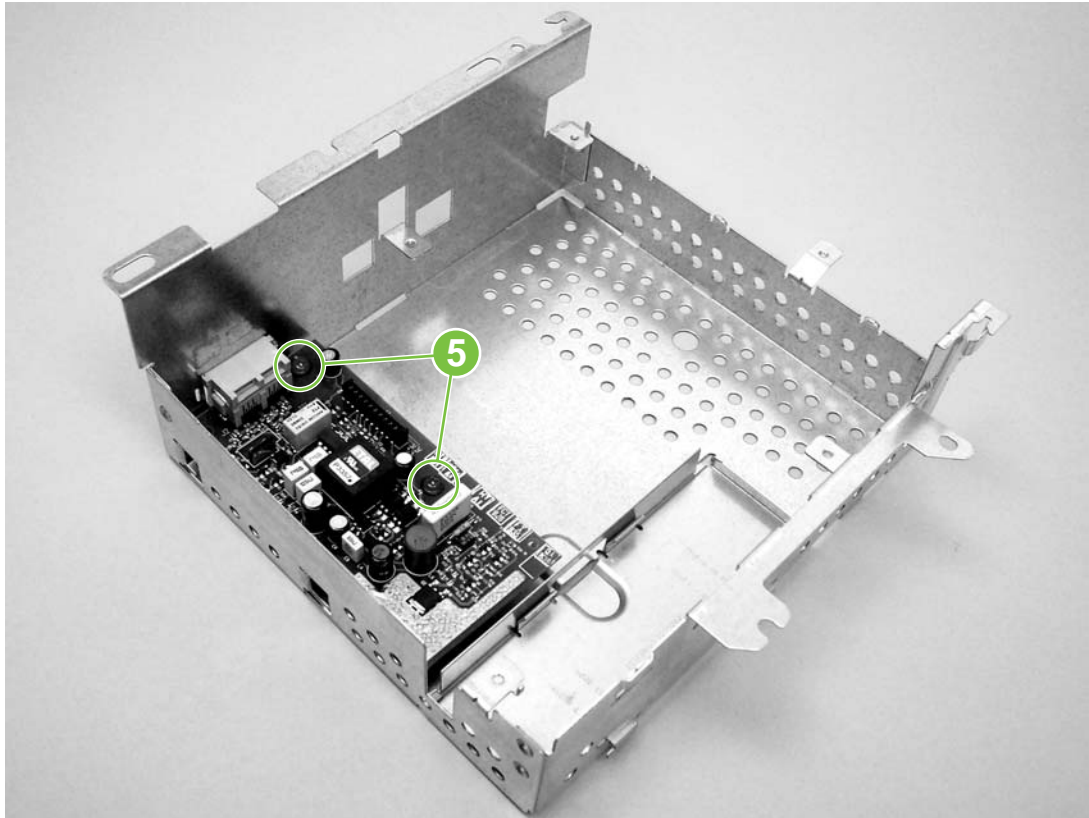
Figure 5-64 Remove the LIU

Removing the E-label reader (for imaging-drum E-labels)

1 Remove the following covers and assembly:

- Right cover (see Removing the right cover)
- Upper multipurpose cover (see Removing the upper multipurpose cover)
- Formatter cage (see Removing the formatter cage)

2   Use a small flatblade screwdriver to lift two tabs (callout 1), one on each side of the E-label reader housing.
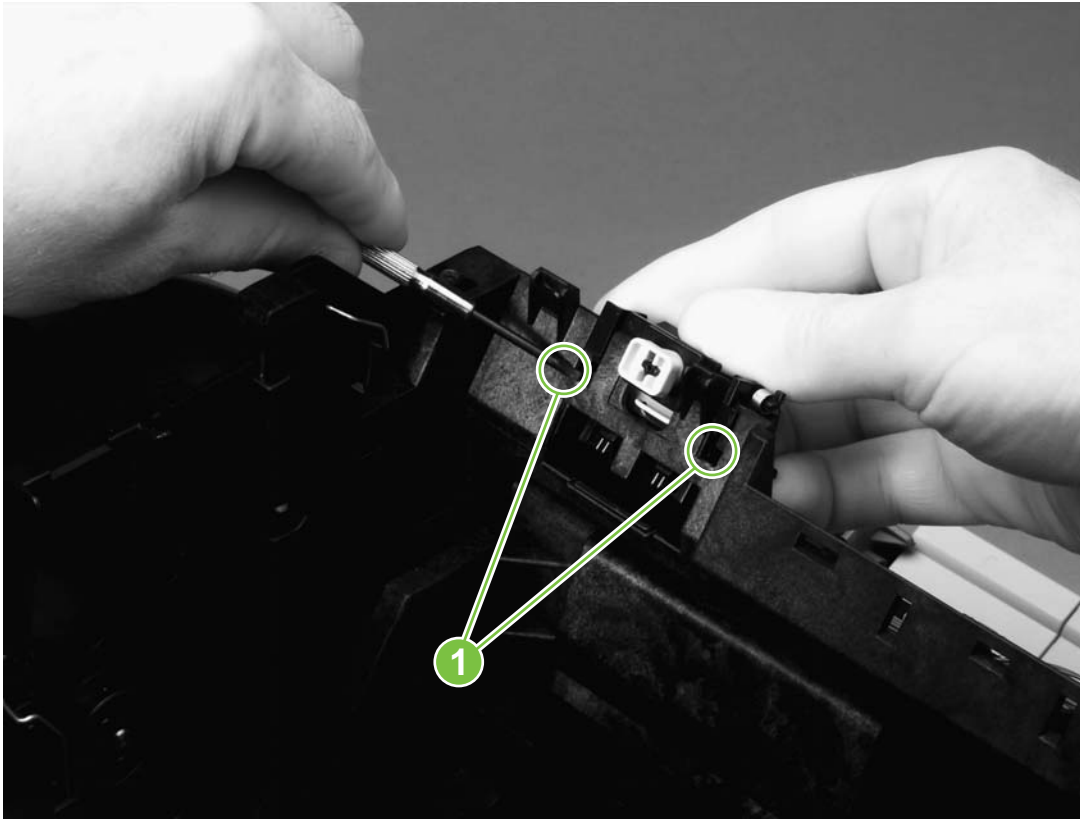
Figure 5-65   Remove the E-label reader (1 of 2)

3   Slide the E-label reader off of its rails.

4   Unplug the E-label reader connector (callout 2) from the DC controller.

> 📝 **NOTE**   Examine the cable routing as you lift the E-label reader from the device.
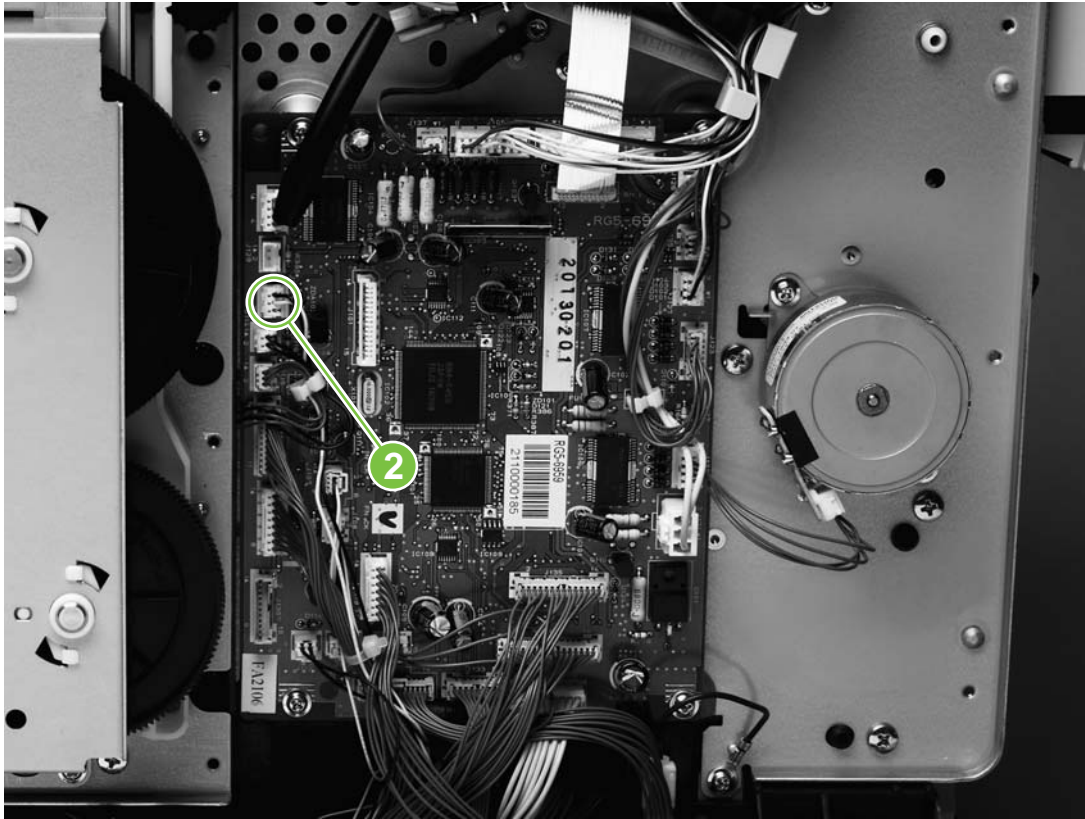
Figure 5-66   Remove the E-label reader (2 of 2)

5   After replacing the E-label reader, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

> 📝 **NOTE**   If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Removing the DC controller

1   Remove the formatter cage (see Removing the formatter cage).

2   Unplug the two flat, flexible cables (callout 1).

3   Release the cables from two cable-holders (callout 2).

4   Unplug one cable connector (callout 3) by pressing and releasing the tab on the side of the connector.

5   Unplug two cable connectors (callout 4) by releasing a clip on each connector (see the detail in the lower-left corner of Figure 5-67 Remove the DC controller).

6 Unplug the remaining 24 cable connectors, and then remove the two screws (callout 5) at the bottom of the DC controller before removing two screws (callout 6) at the top of the DC controller.
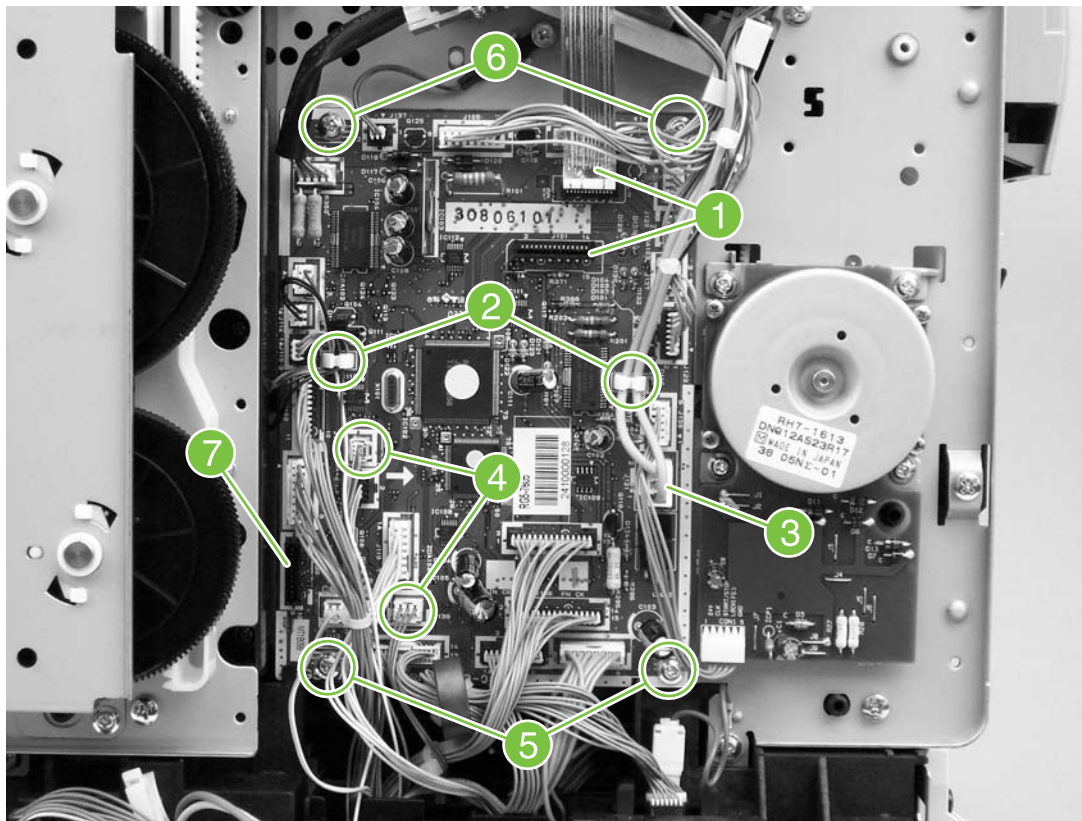
Figure 5-67 Remove the DC controller

7 Lift the DC controller up and then away from the device.

> 💡 **Reinstallation tip** The connection that remains empty upon reinstallation is shown in callout 7 in Figure 5-67 Remove the DC controller. The connection is used to update the DC controller firmware.
>
> **Reinstallation tip** When reinstalling the DC controller, avoid overtightening the screws, which can damage parts of the device.

8 After replacing the DC controller, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

> 📝 **NOTE** If you are servicing an HP Color LaserJet 2840 all-in-one, run a fax-quality test (see Test 3 (fax-quality test)) and a memory-card test (see Test 4 (memory-card test)) as well.

Removing the top plate

1   Remove the following covers and assemblies:

   ● Left support assembly (see Removing the left support assembly)

   ● Right support assembly (see Removing the right support assembly)

   ● Air duct (see Removing the air duct and fan)

   ● Laser/scanner assembly (see Removing the laser/scanner assembly)

2   Unplug the flat flexible cable (callout 1) from the laser/scanner assembly.

3   Release the cables from one cable-holder (callout 2).

4   Unplug one cable connector (callout 3) by pressing and releasing the tab on the side of the connector.

5   Unplug five connectors (callout 4) from the DC controller.
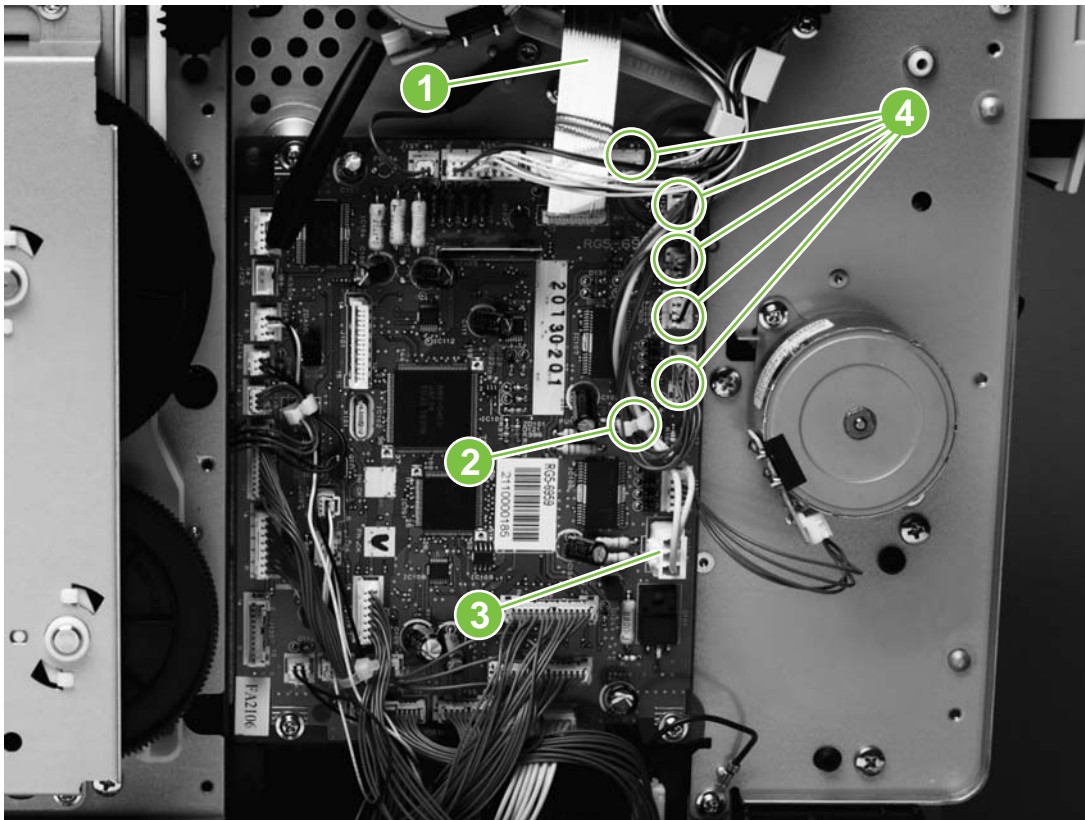
Figure 5-68 Remove the top plate (1 of 3)

6   Unroute two cables (callout 5).

   NOTE   Examine the routing of the cables. If the cables are not reinstalled to their correct routing, then the cables can become pinched by other assemblies.

7   Unplug two connectors (callout 6).

8 Remove two screws at the left side of the device (callout 7) and then remove the two corresponding screws from the right side of the device.
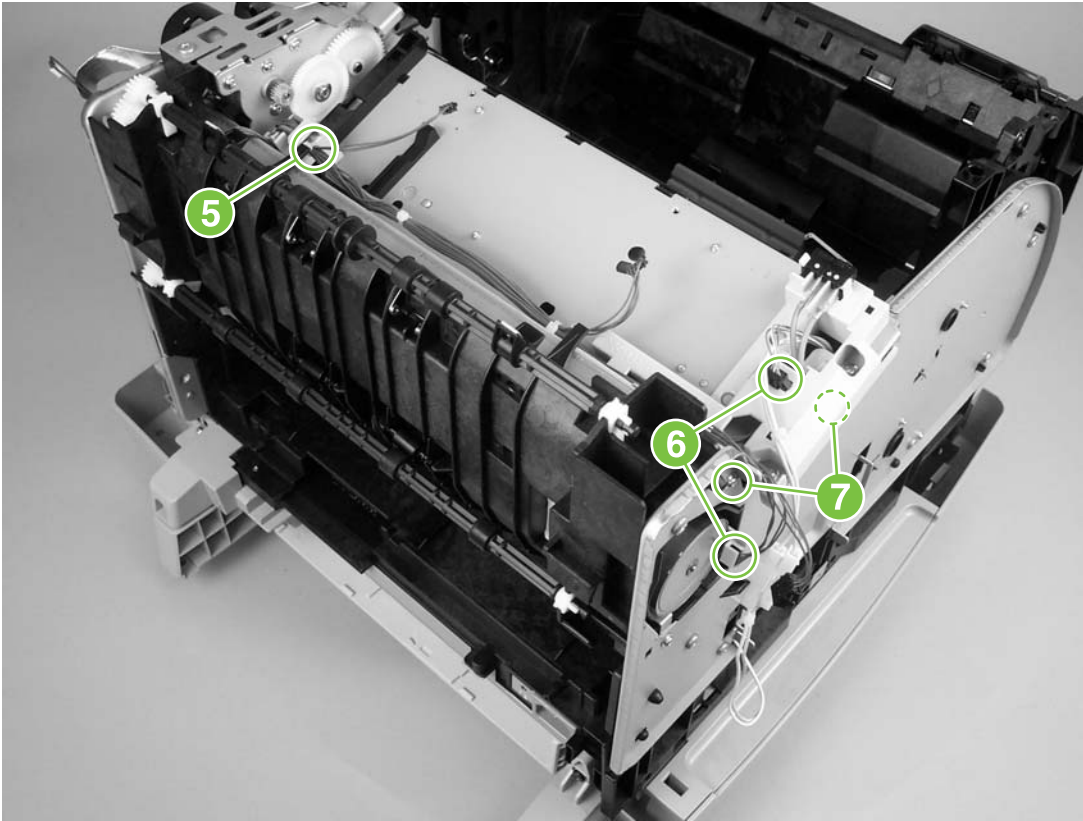
Figure 5-69 Remove the top plate (2 of 3)

9   The "hidden" screw in callout 7 secures a grounding plate (callout 8) to the chassis. Removing the screw releases the grounding plate. Upon reinstallation of the top plate, make sure that the grounding plate tab is in its correct position on the outside of the carousel drive shaft.
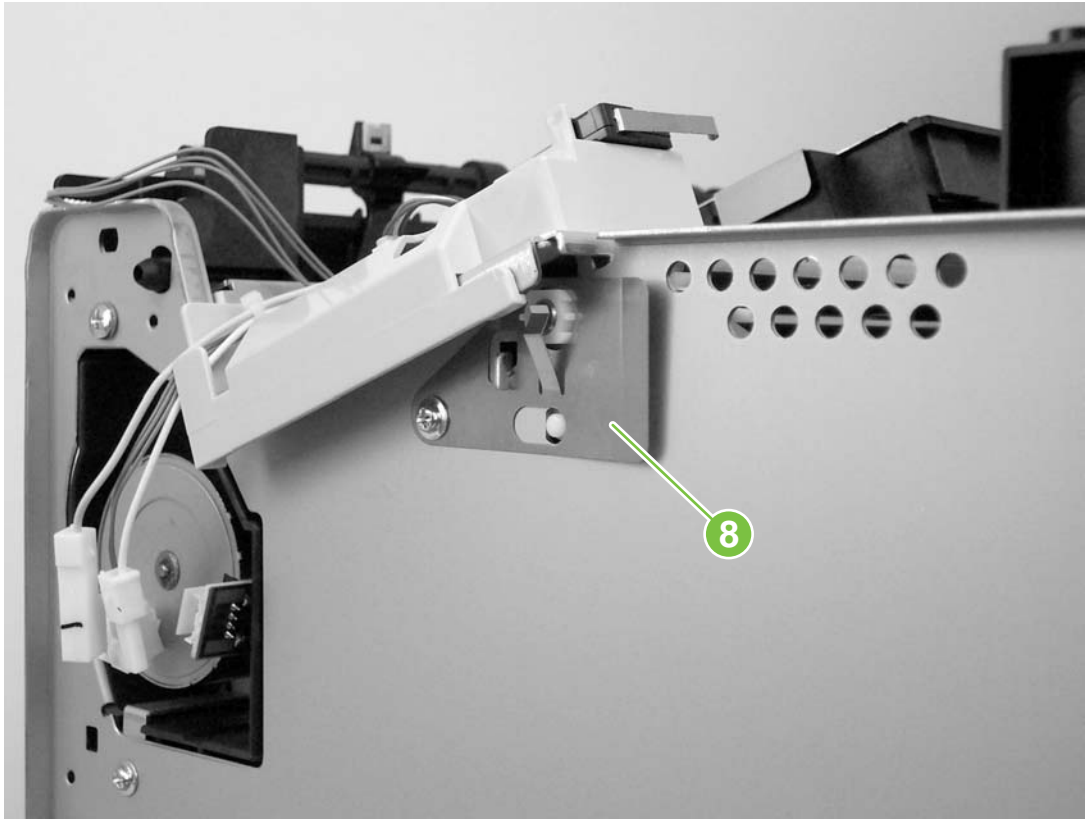
Figure 5-70 Reinstall the grounding plate

10 Remove four screws (callout 9) from the top plate.
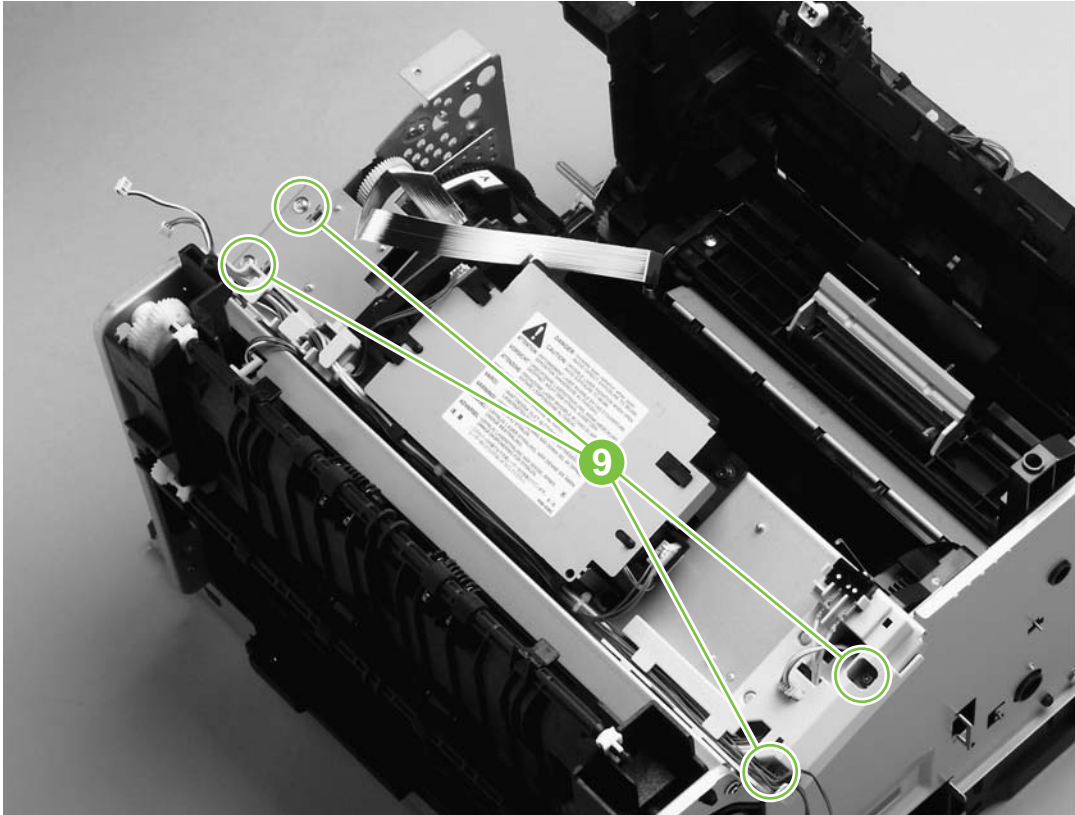
Figure 5-71 Remove the top plate (3 of 3)

11 Carefully lift the top plate off of the device frame.

12 After replacing the top plate, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

📝 **NOTE** If you are servicing an HP Color LaserJet 2840 all-in-one, run a fax-quality test (see Test 3 (fax-quality test)) and a memory-card test (see Test 4 (memory-card test)) as well.

Removing the gear assembly

1 Remove the right support assembly (see Removing the right support assembly).

2 Disconnect one connector (callout 1, hidden, is the connector to the main motor).

3 Disconnect two connectors (callout 2) from the DC controller.

💡 **Reinstallation tip** The connectors in callout 2 can become lost behind the DC controller upon reinstallation of the DC controller. Use care when reinstalling them.

4 Pinch the cable holder (callout 3) and then unwind the cable.

⚠ **CAUTION** Do not attempt to disconnect the clutch cable from the clutch. Doing so can damage the cable.

5 Remove the e-clip (callout 4) from the clutch, and then pull the clutch away from the device.

6 Remove the uppermost gear (callout 5) from the rack (callout 6) by pushing the gear's shaft from the inside of the device with the rack in its lowest position.
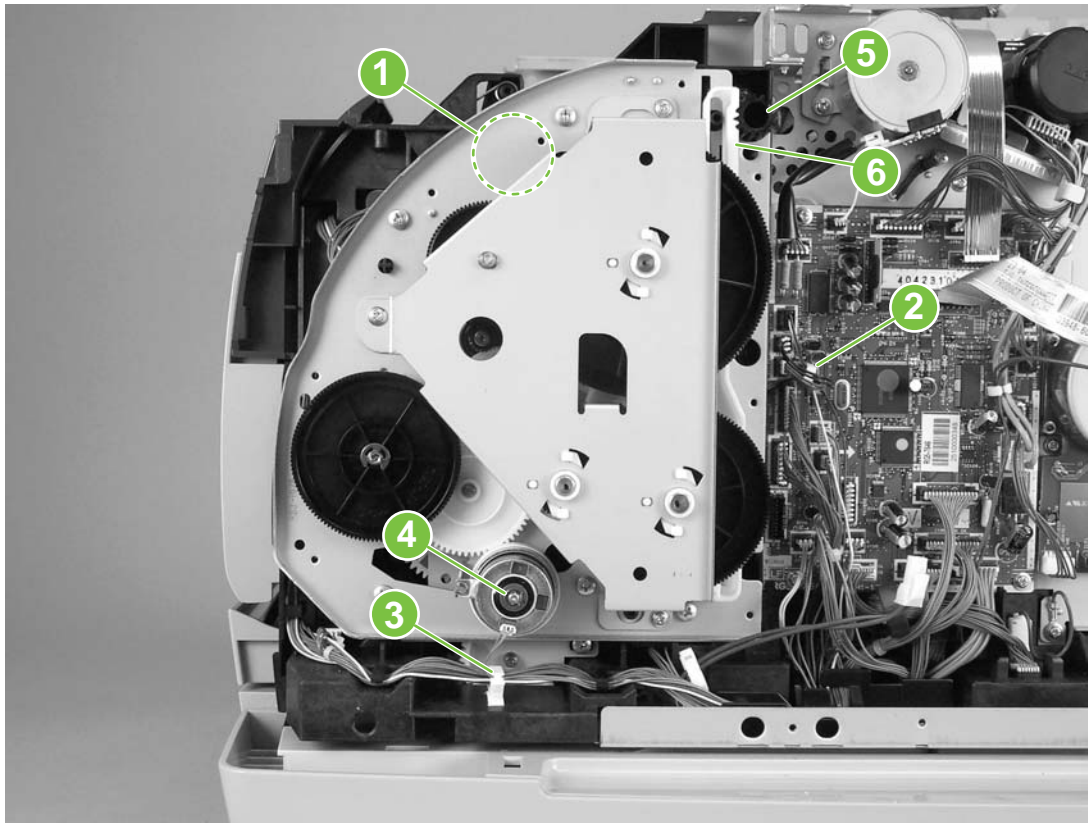
Figure 5-72 Remove the gear assembly (1 of 2)

7 Remove eight screws (callout 7) from the gear plate.

8   Rotate the gear assembly away from the device, beginning with the front edge.

> 📝 **NOTE**   A grounding spring (callout 8, hidden) should remain attached to the device chassis. If it does not, then either reattach it to the chassis or place it with the gear assembly to prevent misplacing it.
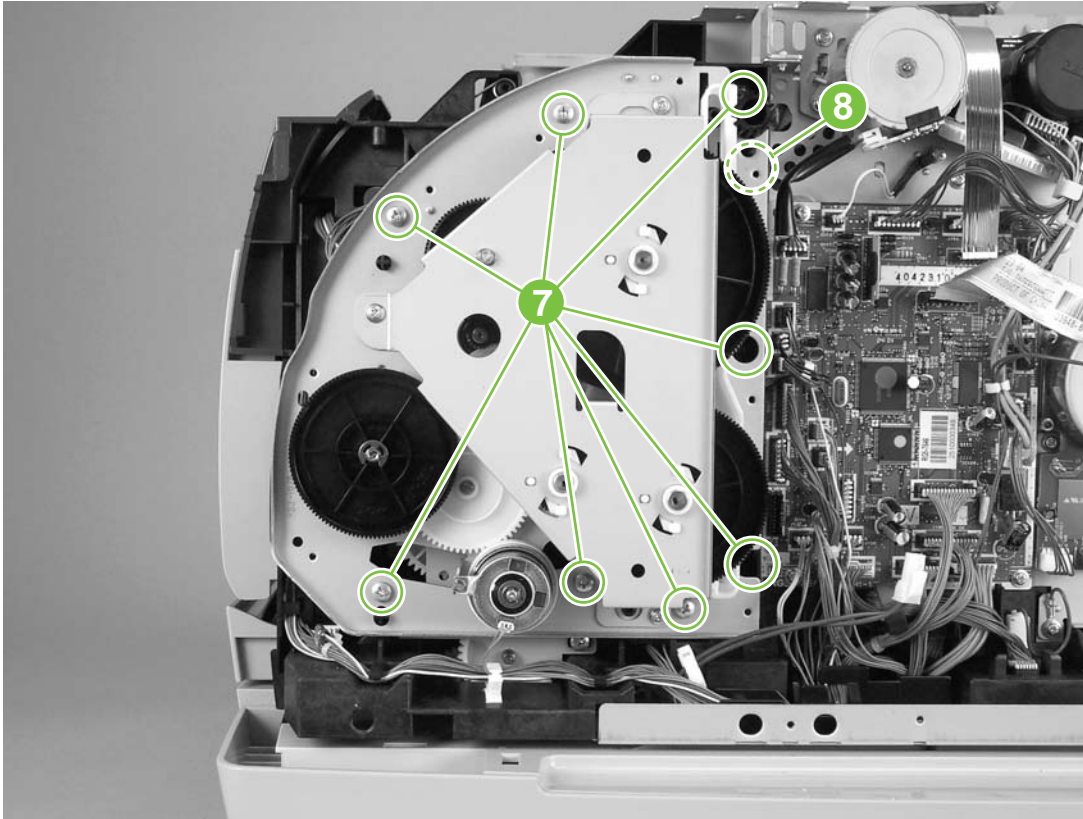
Figure 5-73 Remove the gear assembly (2 of 2)

> 💡 **Reinstallation tip**   A grounding wire at the lower-back corner of the gear assembly must be hooked around the chassis at reinstallation. Callout 2 in Figure 5-74 Remove the waste-toner sensor shows the grounding wire, and callout 3 shows the grounding spring attached to the chassis.

When reinstalling, align the following parts with the device chassis:

●   Gear assembly shaft (at the bottom of the gear assembly)

●   Grounding spring (callout 3 in Figure 5-74 Remove the waste-toner sensor)

●   Grounding wire (callout 2 in Figure 5-74 Remove the waste-toner sensor)

9   After replacing the gear assembly, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

> 📝 **NOTE**   If you are servicing an HP Color LaserJet 2840 all-in-one, run a fax-quality test (see Test 3 (fax-quality test)) and a memory-card test (see Test 4 (memory-card test)) as well.

Removing the waste-toner sensor

1 Remove the gear assembly (see Removing the gear assembly).

2 Unroute the cable from several cable holders.

3 Remove one screw (callout 1).

4 Lift the waste-toner sensor away from the device.

> **NOTE** Callout 2 shows the grounding wire that must be hooked around the device chassis upon reinstallation of the gear assembly. Callout 3 shows the grounding spring.
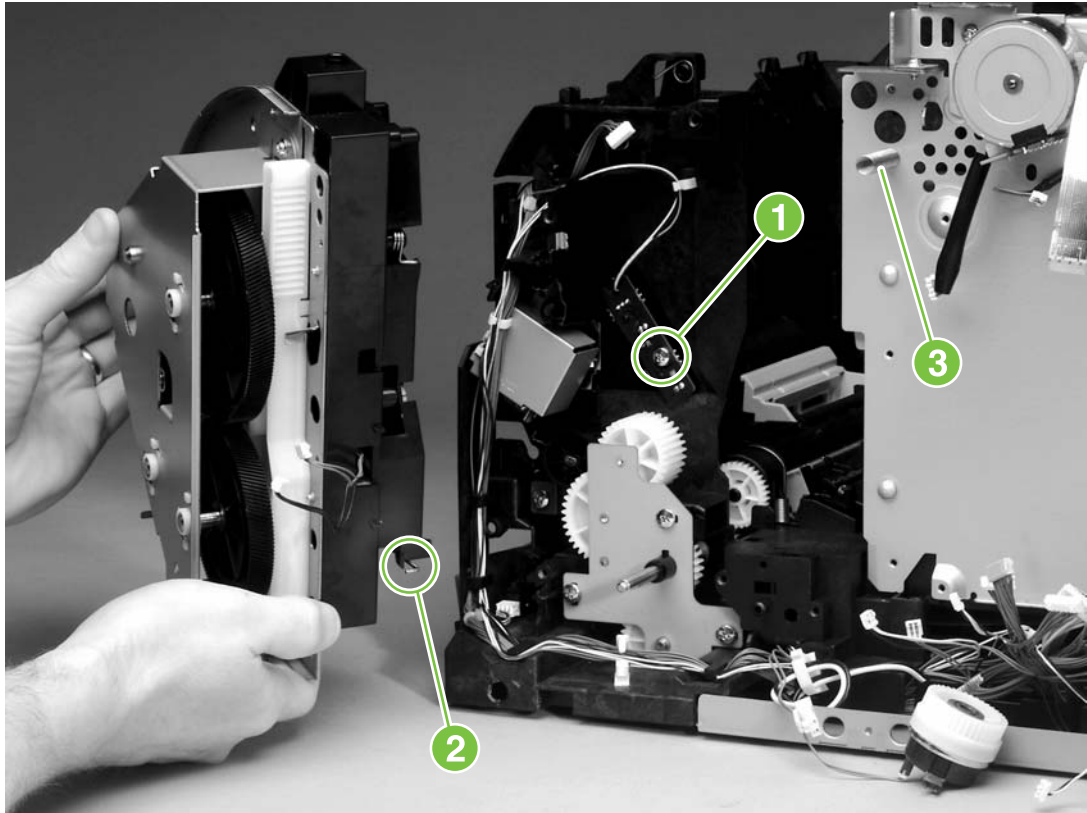
Figure 5-74 Remove the waste-toner sensor

5 After replacing the waste-toner sensor, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

> **NOTE** If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Removing the rotary-drive assembly

NOTE The rotary-drive assembly includes the developer motor, the brake solenoid, and the encoder motor.

1   Remove the following assemblies:

   ● Left support assembly (see Removing the left support assembly)

   ● Right support assembly (see Removing the right support assembly)

2   Unplug three cable connectors (callout 1) from the DC controller and unplug the flat laser/scanner cable (callout 2) from the laser/scanner.
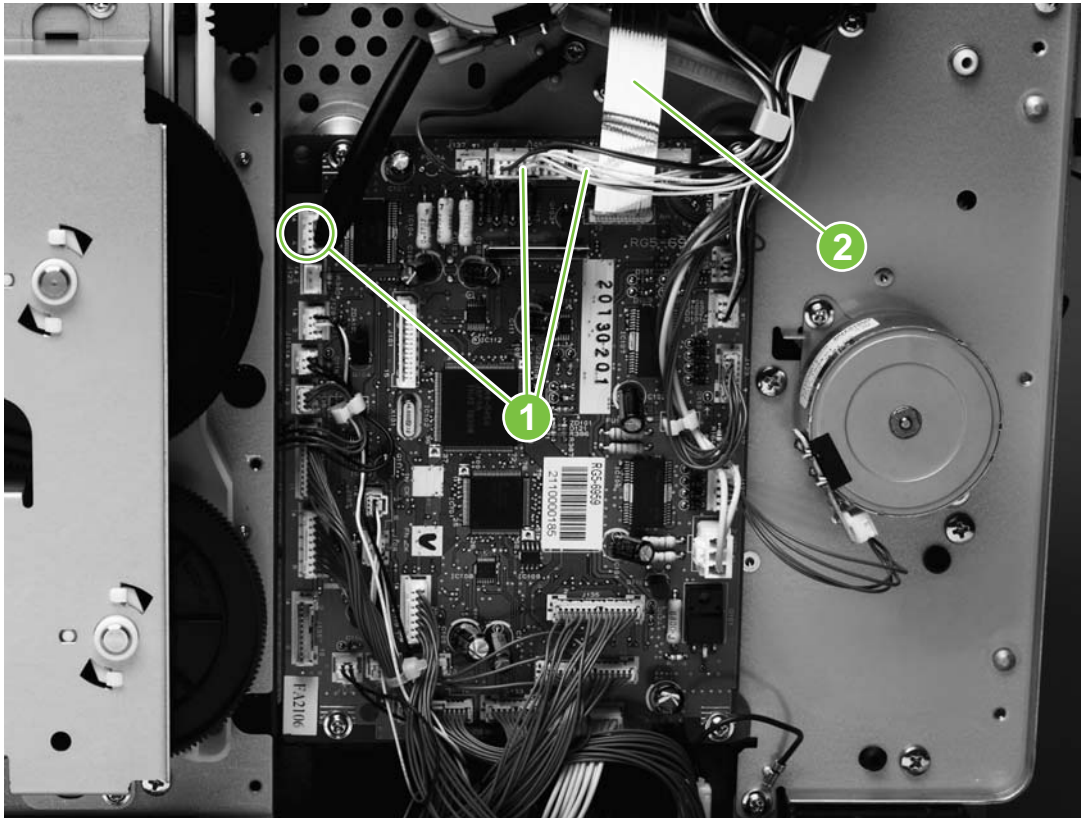
Figure 5-75 Remove the rotary-drive assembly (1 of 3)

3   Remove one screw (callout 3) from the motor.

4 Remove one of the four screws that secures the rotary-drive assembly to the chassis (callout 4).
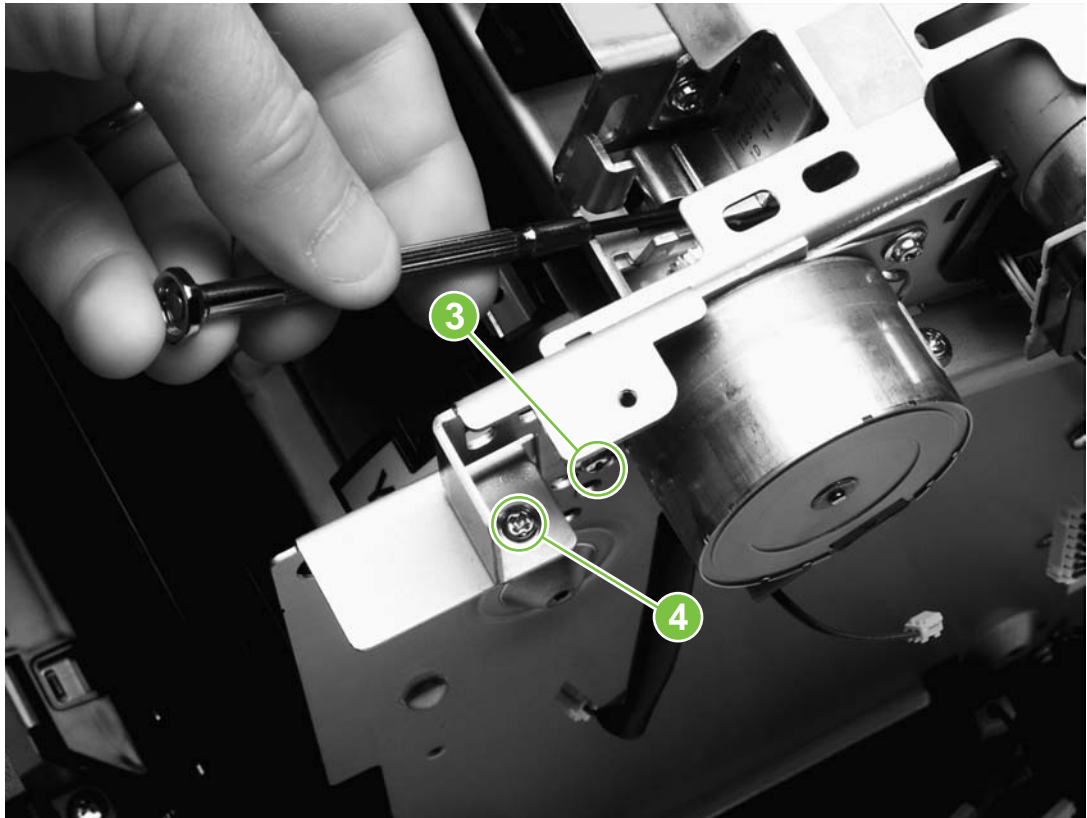
Figure 5-76 Remove the rotary-drive assembly (2 of 3)

5 From the top of the device, remove the other three screws that secure the rotary-drive assembly to the chassis (callout 5).
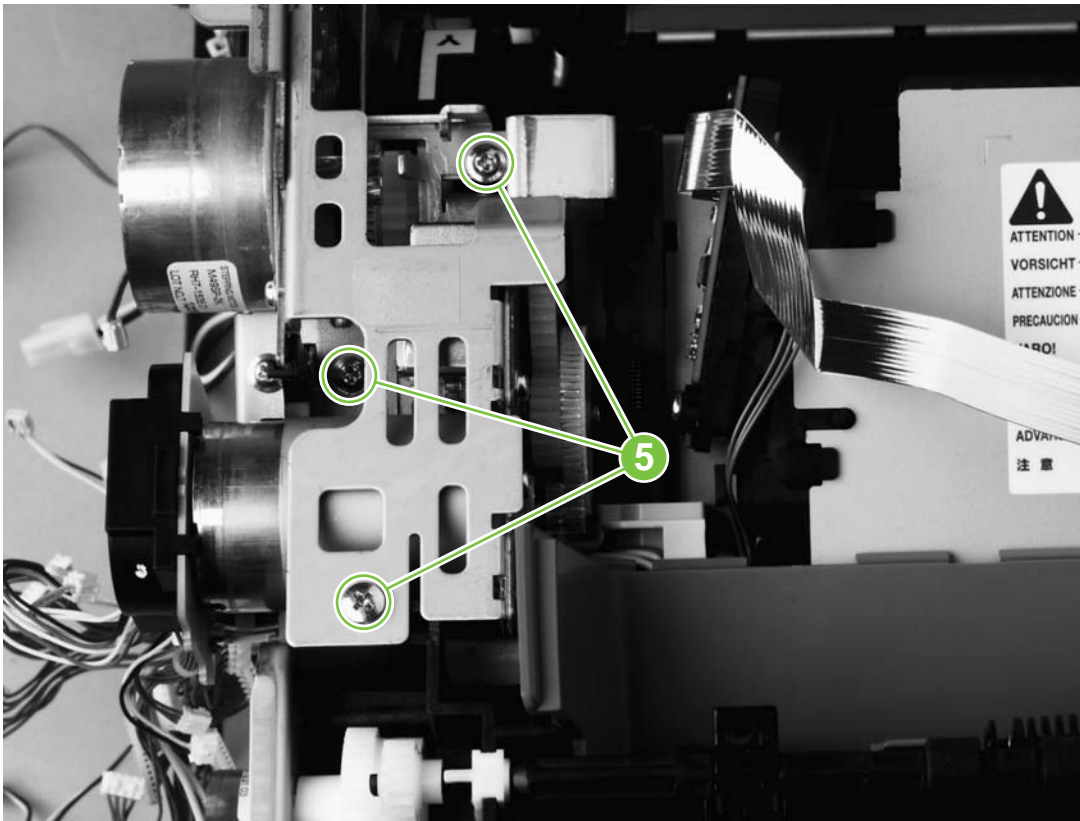
Figure 5-77 Remove the rotary-drive assembly (3 of 3)

6 Lift the rotary-drive assembly straight up to remove it from the device.

> **Reinstallation tip** Insert the metal protrusion at the back of the rotary-drive assembly into the slot in the rear frame assembly and then lower the rotary-drive assembly into position over the alignment pins. Make sure that no cables are pinched.

7 After replacing the rotary-drive assembly, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

> **NOTE** If you are servicing an HP Color LaserJet 2840 all-in-one, run a fax-quality test (see Test 3 (fax-quality test)) and a memory-card test (see Test 4 (memory-card test)) as well.

Removing the print-cartridge carousel

1 Remove the following covers and assemblies:

   ● Formatter cage (see Removing the formatter cage)

   ● Fuser assembly (see Replacing the fuser assembly)

   ● Left support assembly (see Removing the left support assembly)

   ● Right support assembly (see Removing the right support assembly)

   ● Air duct (see Removing the air duct and fan)

   ● Rotary-drive assembly (see Removing the rotary-drive assembly)

   ● Top plate (see Removing the top plate)

2 Remove two screws (callout 1) from the back of the device.
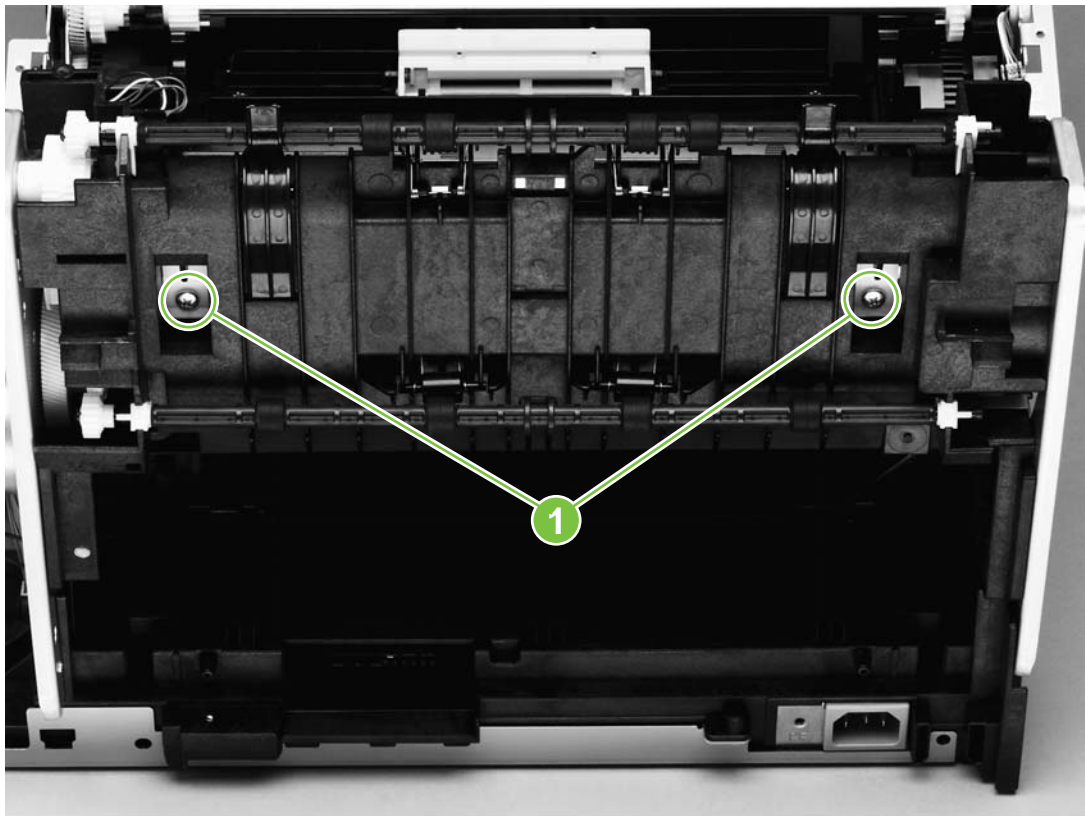
Figure 5-78 Remove the print-cartridge carousel (1 of 3)

☀ **Reinstallation tip**   Because the remainder of the print-cartridge carousel removal procedures are performed from the left, right, and front of the device, it is easy to forget to replace the two screws at the back of the device.

3 Press the white plastic tab (callout 2) at the left side of the device to release the left swing-shaft bushing, and then rotate the bushing to a vertical position.
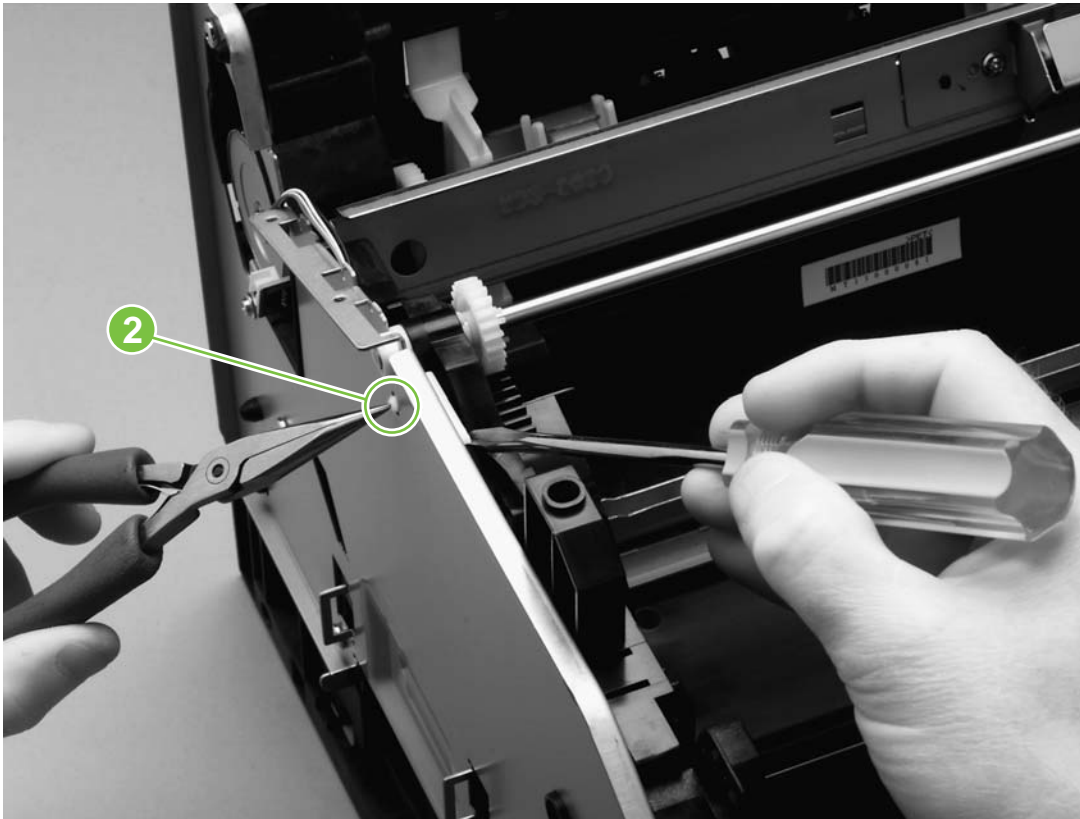
Figure 5-79 Remove the print-cartridge carousel (2 of 3)

4 On the right side of the device, repeat step 3 on the right swing-shaft bushing.

Examine the positions of the left pressure-shaft holder (callout 3), the right pressure-shaft holder (callout 4), and the pressure-shaft gear (callout 5) before you perform step 5. The pressure-shaft holders must be reinstalled to their correct positions when reinstalling the print-cartridge carousel.

5 Use the flatblade screwdriver to pry two white tabs on the pressure-shaft holders from their seated positions in the rear frame assembly.
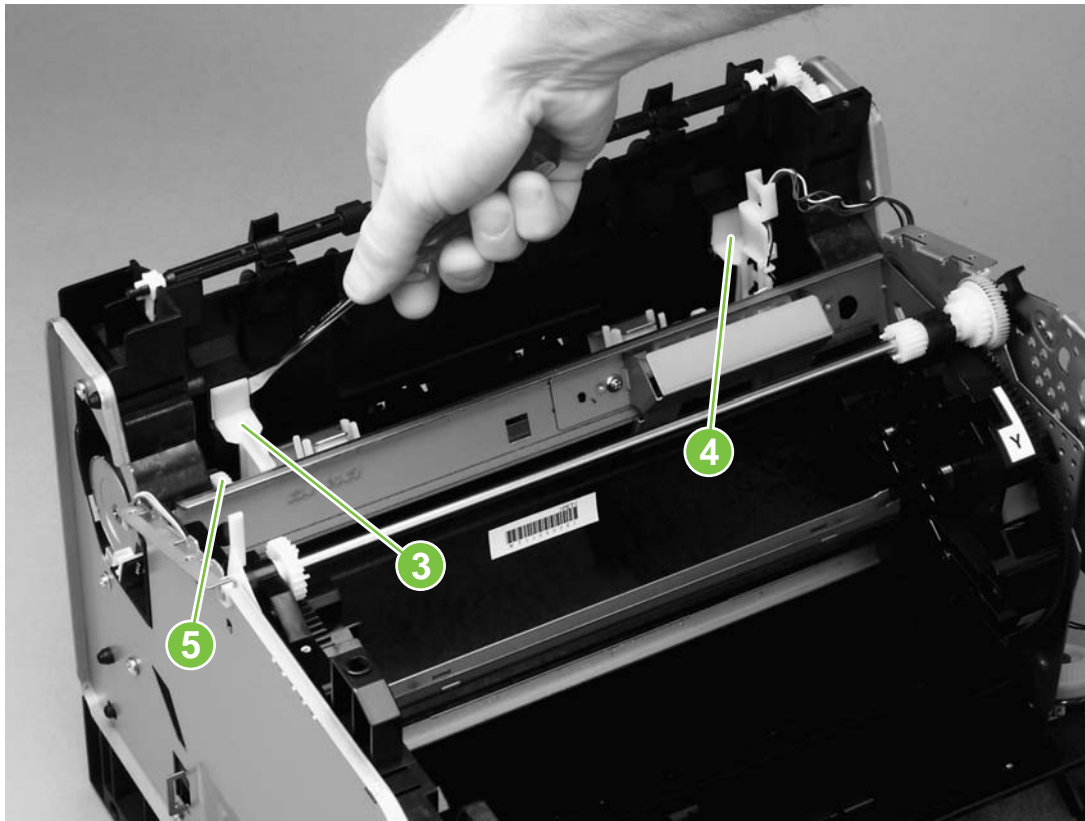
Figure 5-80 Remove the print-cartridge carousel (3 of 3)

6   Lift the print-cartridge carousel out of the device.

Incorrect reinstallation of the "feet" is shown, followed by correct installation.
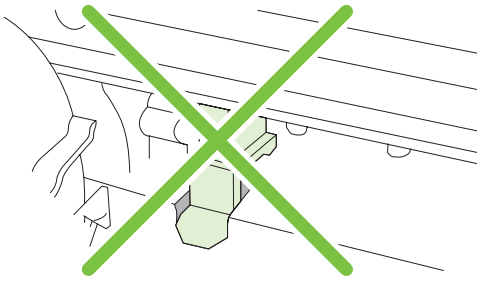
Figure 5-81 Installation of "feet" (1 of 2)
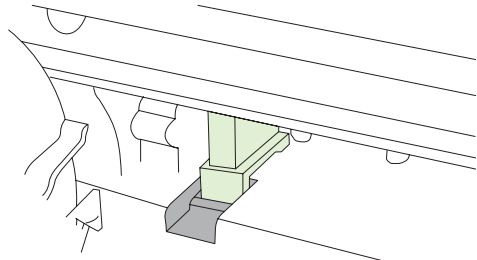
Figure 5-81 Installation of "feet" (2 of 2)

Also make sure that the tab on the pressure-shaft gear points down.
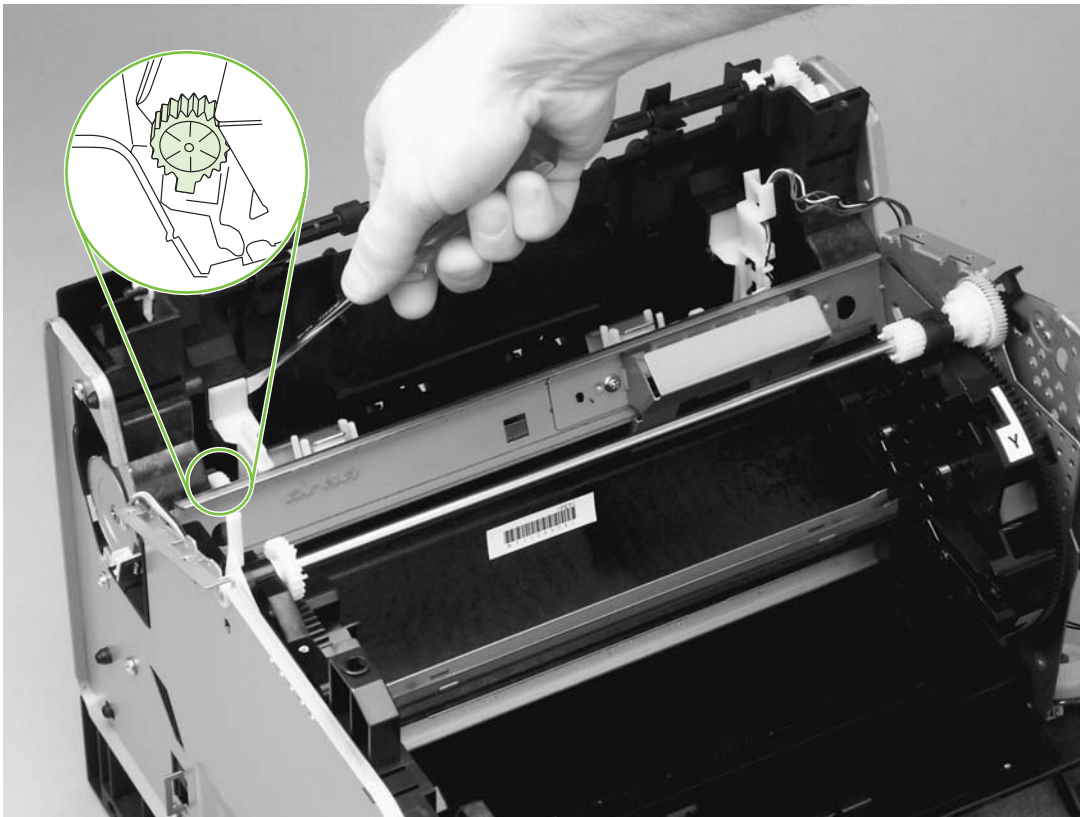
Figure 5-82 Correct gear placement

7   After replacing the print-cartridge carousel, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

NOTE If you are servicing an HP Color LaserJet 2840 all-in-one, run a fax-quality test (see Test 3 (fax-quality test)) and a memory-card test (see Test 4 (memory-card test)) as well.

Aligning the carousel gears

Make sure that the gears in the print-cartridge carousel are aligned correctly before placing the carousel back into the device.

1   Rotate the carousel so that the marker for the yellow print cartridge faces the front of the device.

2   Examine the gears: two marks on the smaller gear should line up with the single mark on the larger gear (see the detail of the gears in Figure 5-83 Reinstall the print-cartridge carousel).

NOTE The single mark on the larger gear is adjacent to the slot for the black cartridge, marked with a "K."

3   If the gears are not aligned correctly, locate the marks on the gears and realign the gears.
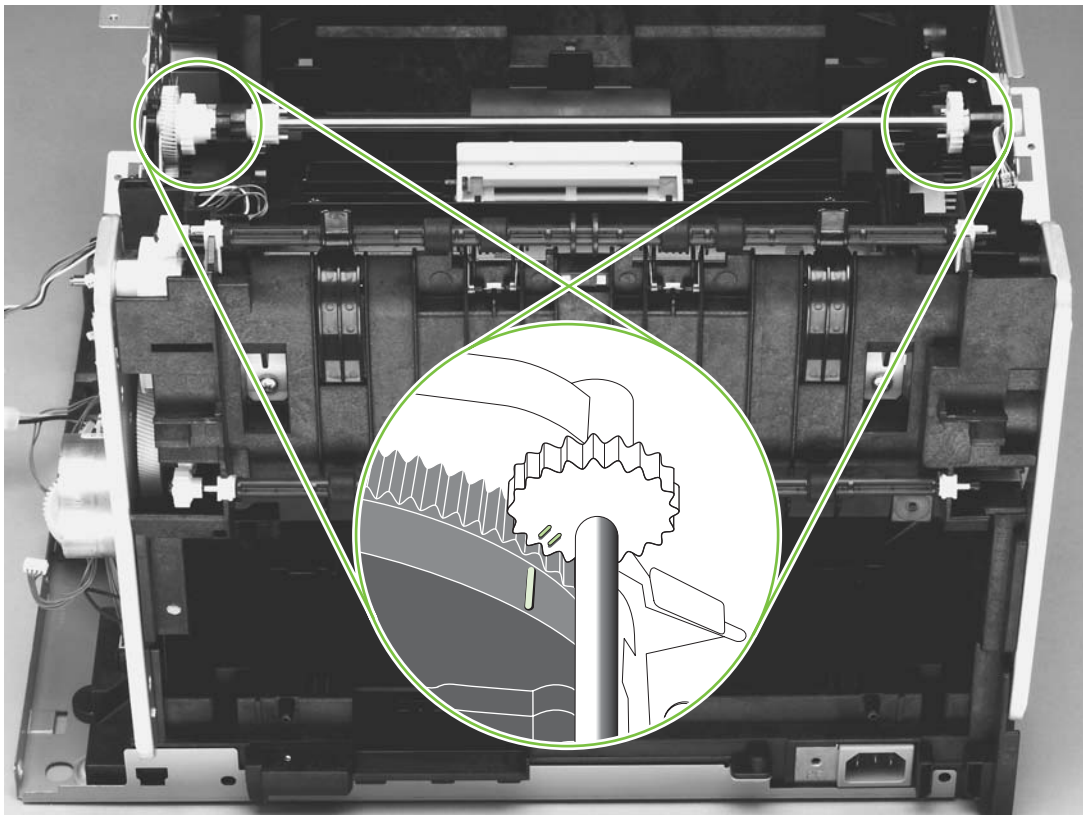
Figure 5-83 Reinstall the print-cartridge carousel

Removing the registration-roller assembly

1 Remove two screws (callout 1) from the registration-shutter assembly.
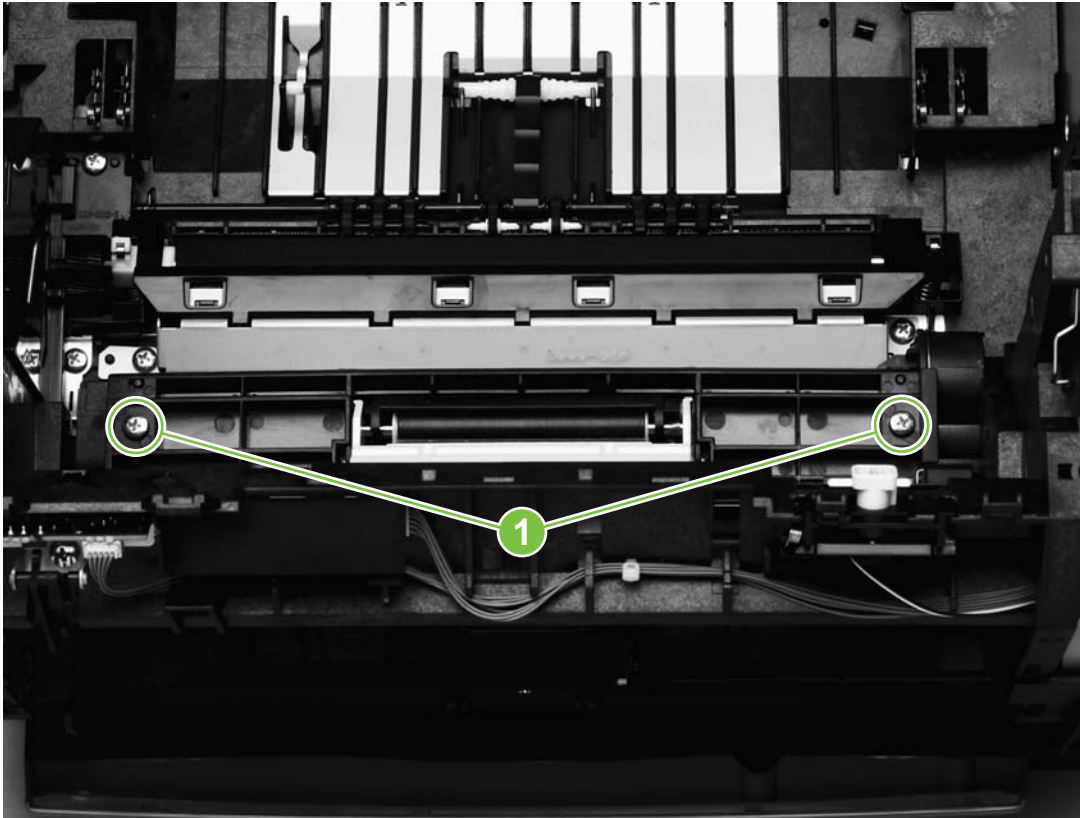
Figure 5-84 Remove the registration-roller assembly

2 Rotate the registration-roller assembly toward the front of the device and then lift it towards the rear of the device and up to remove it from the device.

3 After replacing the registration-roller assembly, run a print-quality test (see Test 1 (print-quality test)).

Removing the toner-catch tray

The toner-catch tray is secured by two tabs underneath the tray (see Figure 5-85 Remove the toner-catch tray), toward the front of the tray.

1 Remove the print cartridges (see Replacing the print cartridges) and the imaging drum (see Replacing the imaging drum).

2 Release one tab on either side of the toner-catch tray and then pull the tray approximately 2 or 3 mm (approximately 0.125 inch) toward the front of the device to make sure that the tab does not reattach as you perform the next step.

3 Release the tab on the other side and then lift the tray out of the device.
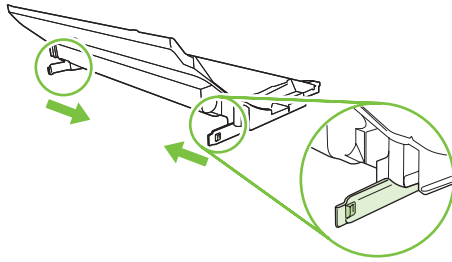
Figure 5-85 Remove the toner-catch tray

Removing the feed-drive shaft and belts

⚠ **CAUTION** This procedure requires turning the device over onto its top. The device is heavy. Hewlett-Packard recommends that two people lift the device and turn it over onto a smooth, soft surface.

1 Remove the following covers and assemblies:

- Right rear cover (see Removing the right rear cover)

- I/O cover (see Removing the input/output (I/O) cover)

- ADF (see Replacing the ADF)

- Fuser assembly (see Replacing the fuser assembly)

- Toner-catch tray (see Removing the toner-catch tray)

- Transfer-roller plate (see Removing the transfer-roller plate)

- Transfer roller (see Removing the transfer roller)

- Optional tray 2, if installed (see Removing optional tray 2 (250-sheet tray))

- Print cartridges (see Replacing the print cartridges)

- Imaging drum (see Replacing the imaging drum)

2 Prepare a smooth, soft surface (with an ESD pad, if possible) on which the overturned device will rest. Avoid placing small items such as screws or tools in this area.

3 Clean out loose toner from inside the device, and then turn the device over so that it rests on the scanning assembly in the area that you prepared in step 2.

4 Remove the power supply assembly (see Removing the power supply cover plate), and then remove the plastic protector sheet from the bottom of the device.
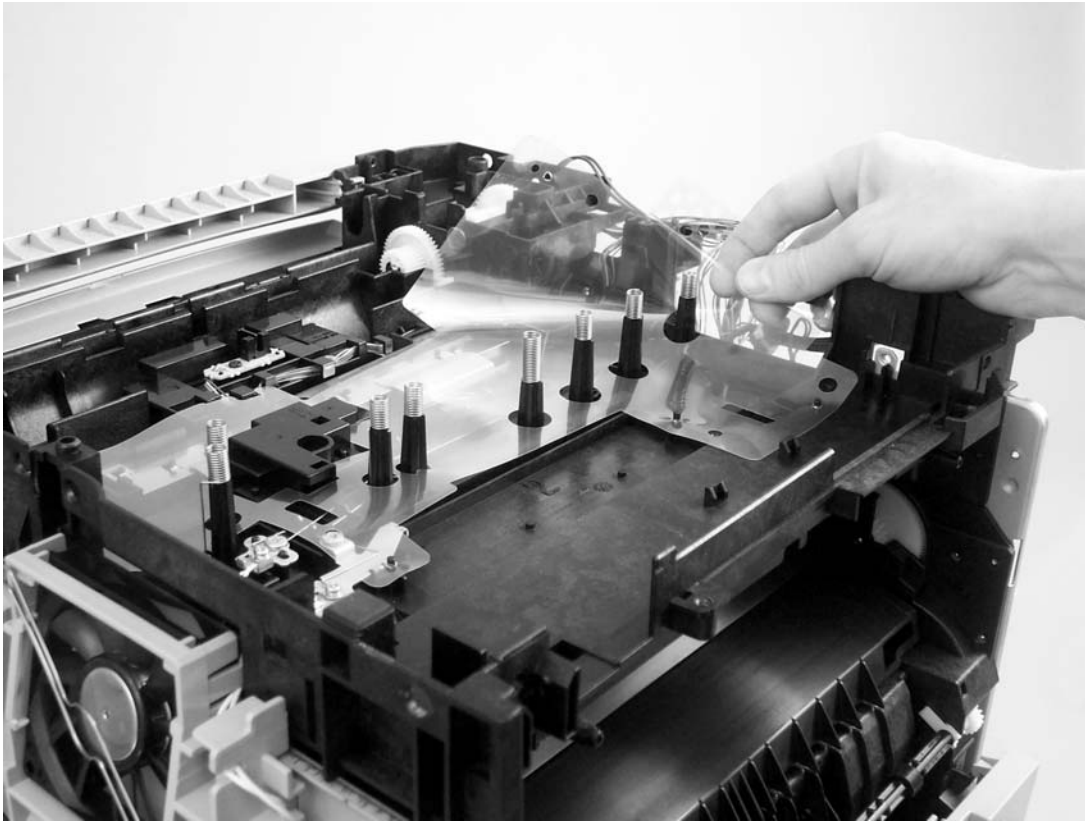
Figure 5-86 Replacing the feed-drive shaft and belts (1 of 8)

5 Lay the device on its back.

6   With one hand holding the belt roller shaft on the inside of the device, use the other hand to simultaneously push both the hooks (callout 1) of the spring clip through the holes in the bottom of the printer. Use care not to loosen the spring clip.
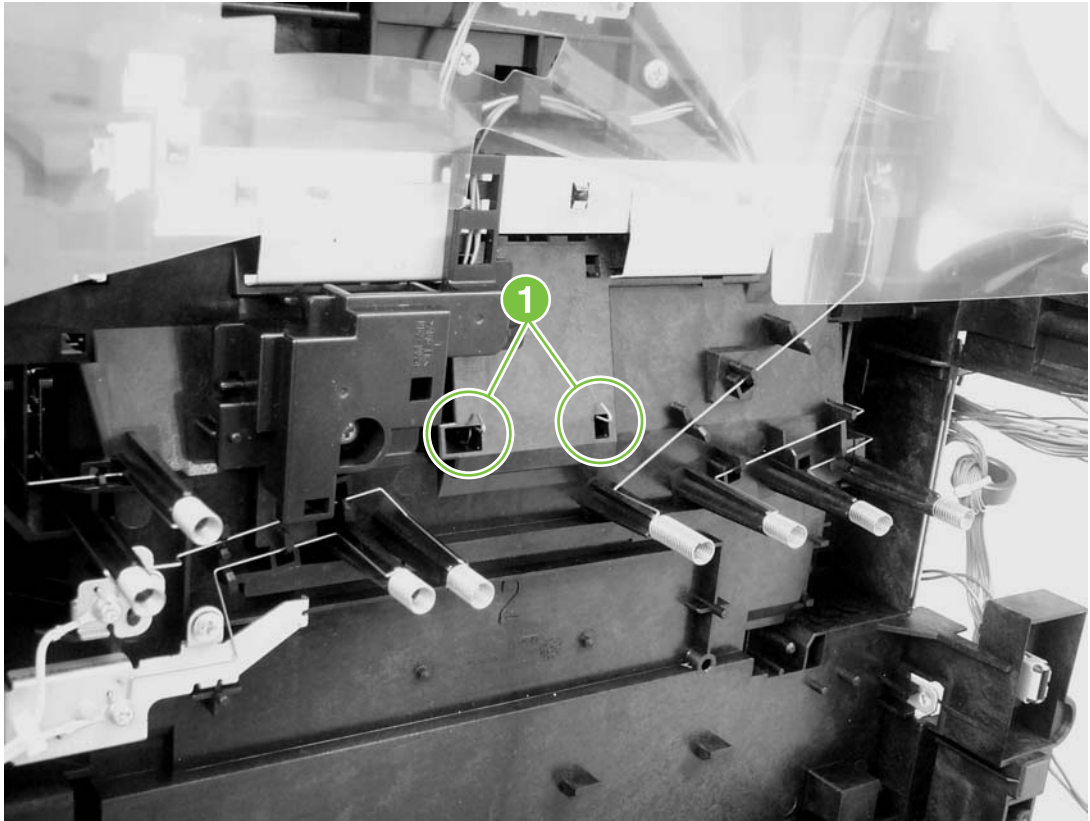
Figure 5-87 Replacing the feed-drive shaft and belts (2 of 8)

7 Lift the belt roller (callout 2) from its hooks.
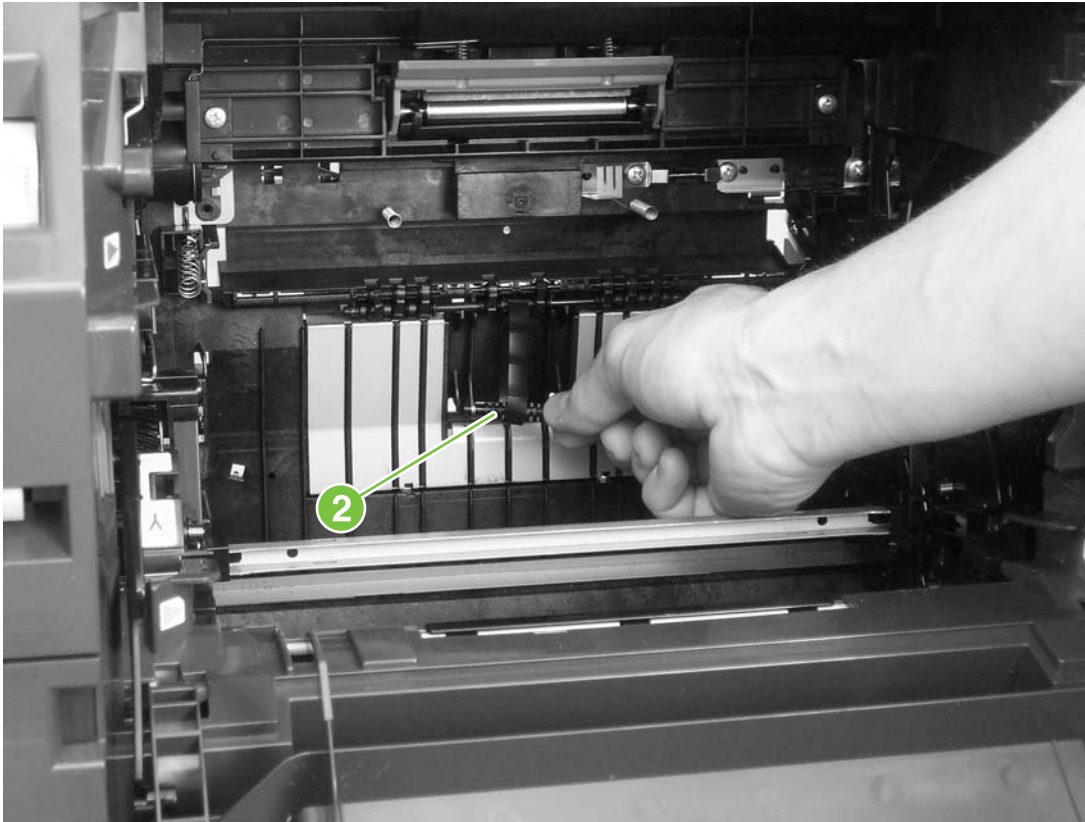
Figure 5-88 Replacing the feed-drive shaft and belts (3 of 8)

8   Remove one screw (callout 3) from the gear cover, and then lift the gear cover to remove it.
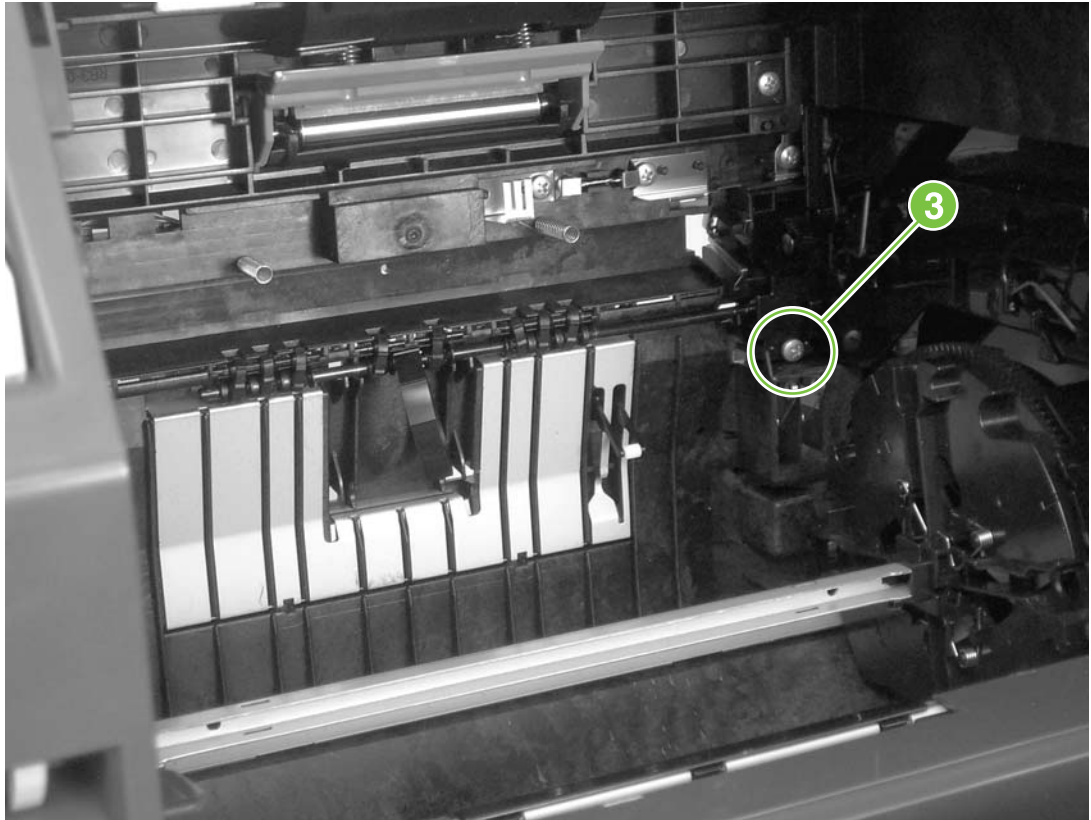
Figure 5-89 Replacing the feed-drive shaft and belts (4 of 8)

9   Use a small flatblade screwdriver to pry the feed-drive shaft (callout 4) off of the hooks that
    secure it to the device, and then remove the larger timing belt.
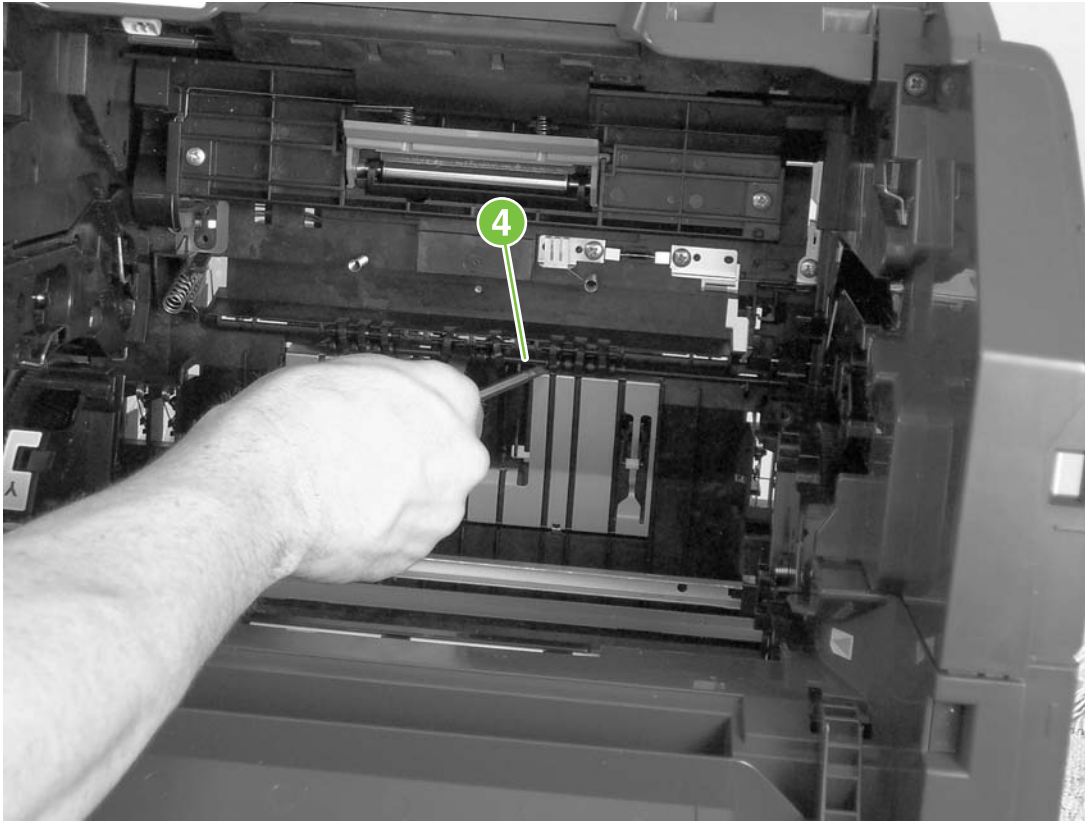
Figure 5-90 Replacing the feed-drive shaft and belts (5 of 8)

10 Use a small flatblade screwdriver to pry the individual idler rollers (callout 5) from their hooks, and then remove the belts from the rollers and the feed-drive shaft.
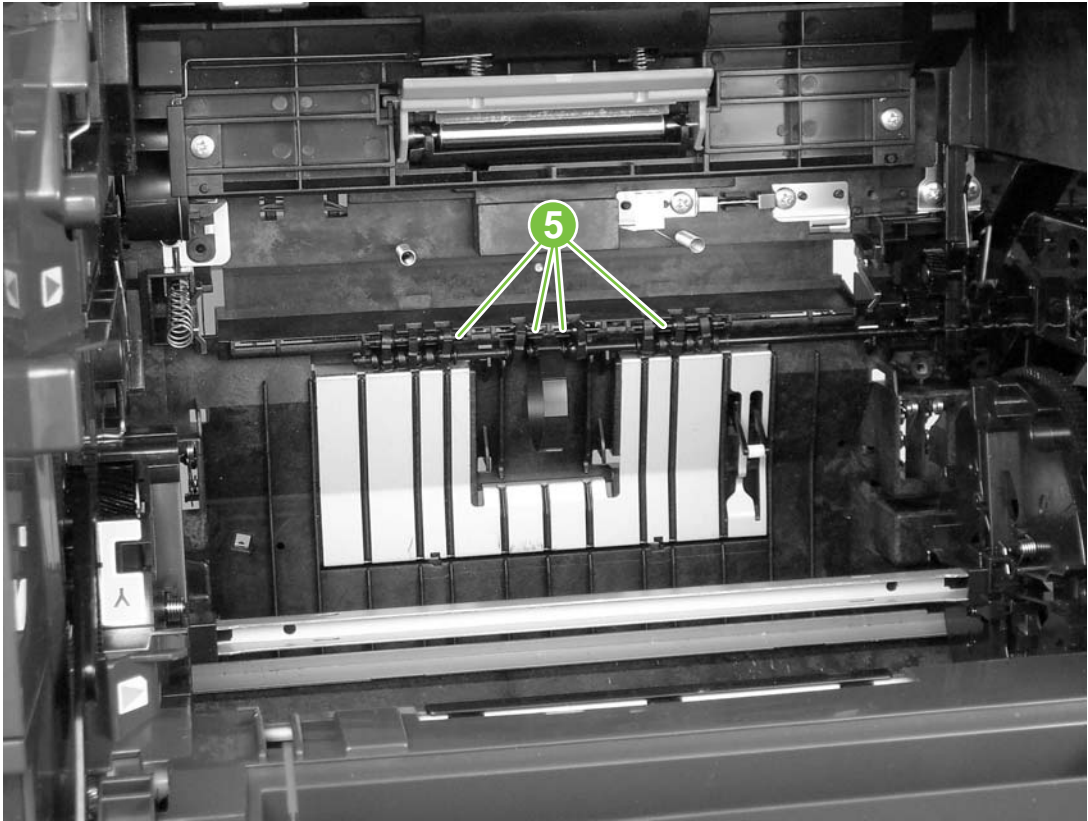
Figure 5-91 Replacing the feed-drive shaft and belts (6 of 8)

💡 **Reinstallation tip**   Examine the timing belt before removing it from the device. The leading and trailing sides of the ridges are different, and the belt must be reinstalled correctly to prevent media-feed problems.

11 Place the new smaller belts and the larger timing belt on the feed drive shaft first and place them into the approximate place that the old belts resided.

12 Start the right end of the feed-drive shaft in the gear box, snap the shaft into place, and then reinstall the gear cover.

13 Feed the individual idler rollers through the smaller belts (callout 6) and snap them into place.
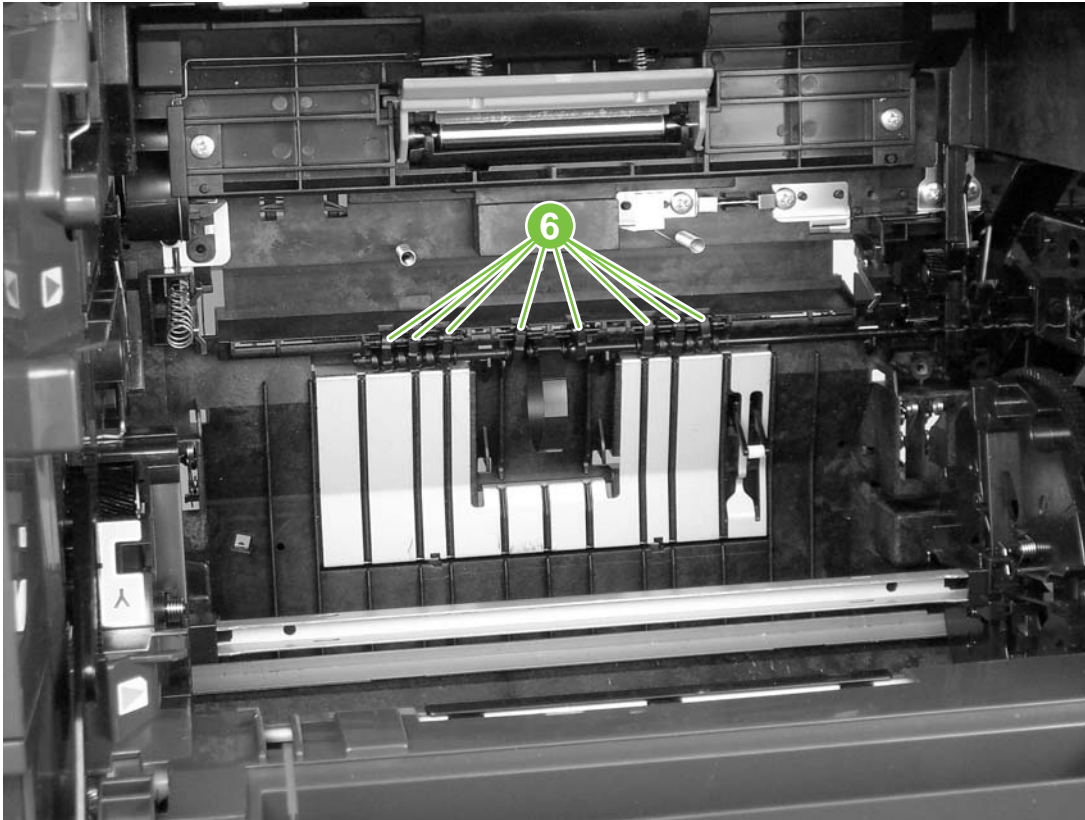
Figure 5-92 Replacing the feed-drive shaft and belts (7 of 8)

14 Put the feed belt on the roller shaft, and then put the spring clip on the shaft so that the hooks of the spring clip face the front of the device.
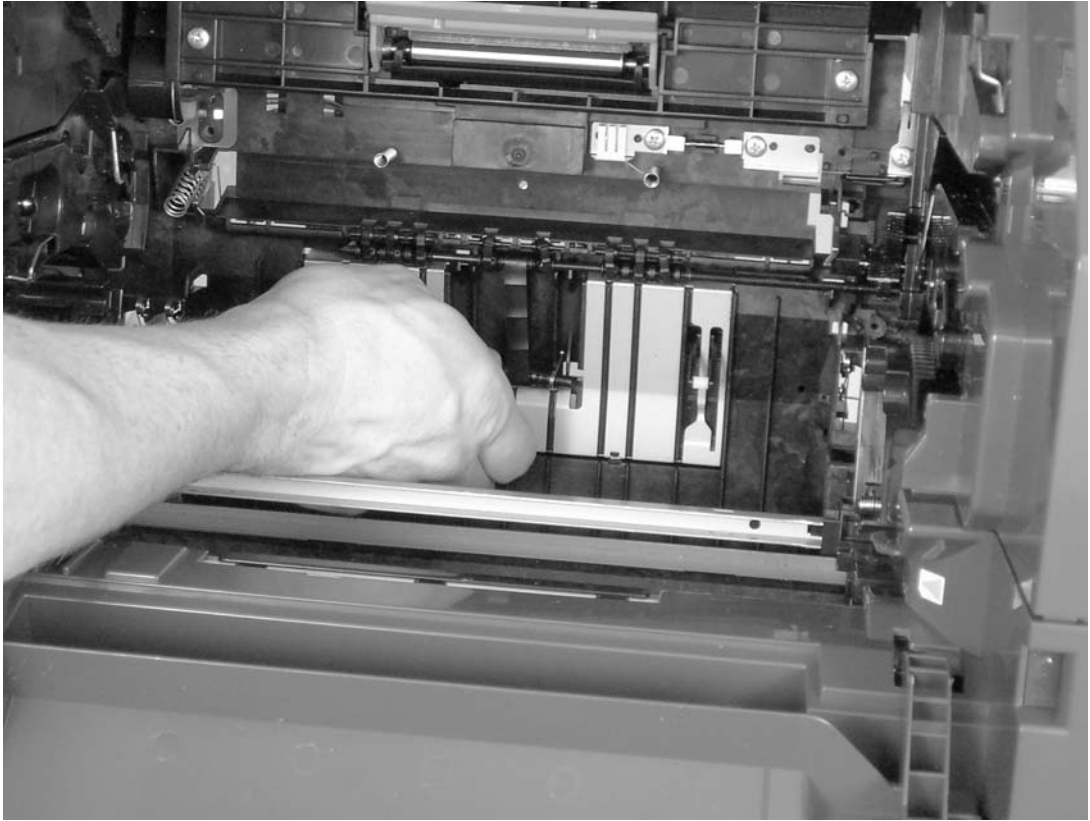
Figure 5-93 Replacing the feed-drive shaft and belts (8 of 8)

15 Push the spring clip hooks through the slots in the bottom of the device, and then push the hooks toward the front of the device to fasten them to the bottom of the device (see Figure 5-87 Replacing the feed-drive shaft and belts (2 of 8)).

16 After reassembling the device, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

> **NOTE** If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Removing the power supply cover plate

> ⚠ **CAUTION** This procedure requires turning the device over onto its top. The device is heavy. Hewlett-Packard recommends that two people lift the device and turn it over onto a smooth, soft surface.

1 Remove the following covers and assemblies:

   - ADF (see Replacing the ADF)

   - Left cover (see Removing the left cover)

   - Right cover (see Removing the right cover)

   - Left rear cover (see Removing the left rear cover)

   - Right rear cover (see Removing the right rear cover)

   - I/O cover (see Removing the input/output (I/O) cover)

   - Back cover (see Removing the back cover)

   - Fuser assembly (see Replacing the fuser assembly)

   - Top cover assembly (see Removing the top cover assembly)

   - Formatter cage (see Removing the formatter cage)

   - Optional tray 2 (see Removing optional tray 2 (250-sheet tray))

   - Toner-catch tray (see Removing the toner-catch tray)

2 Prepare a smooth, soft surface (with an ESD pad, if possible) on which the overturned device will rest. Avoid placing small items such as screws or tools in this area.

3 Unplug five cable connectors (callout 1) from the DC controller, and then unroute the cables from the clip in the bottom of the plate.

4 Remove one screw (callout 2) from the grounding wire.
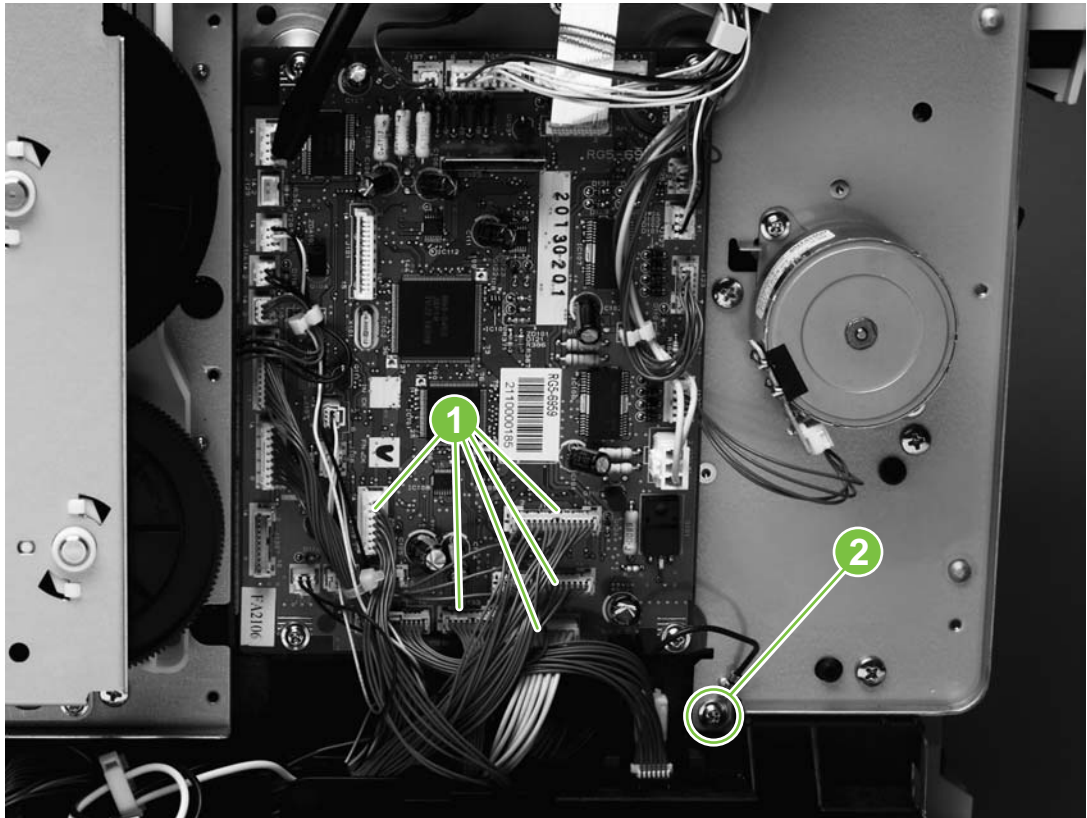
Figure 5-94 Remove the power supply cover plate (1 of 2)

5 Clean out loose toner from inside the device, and then turn the device over so that it rests on the scanning assembly in the area that you prepared in step 2.
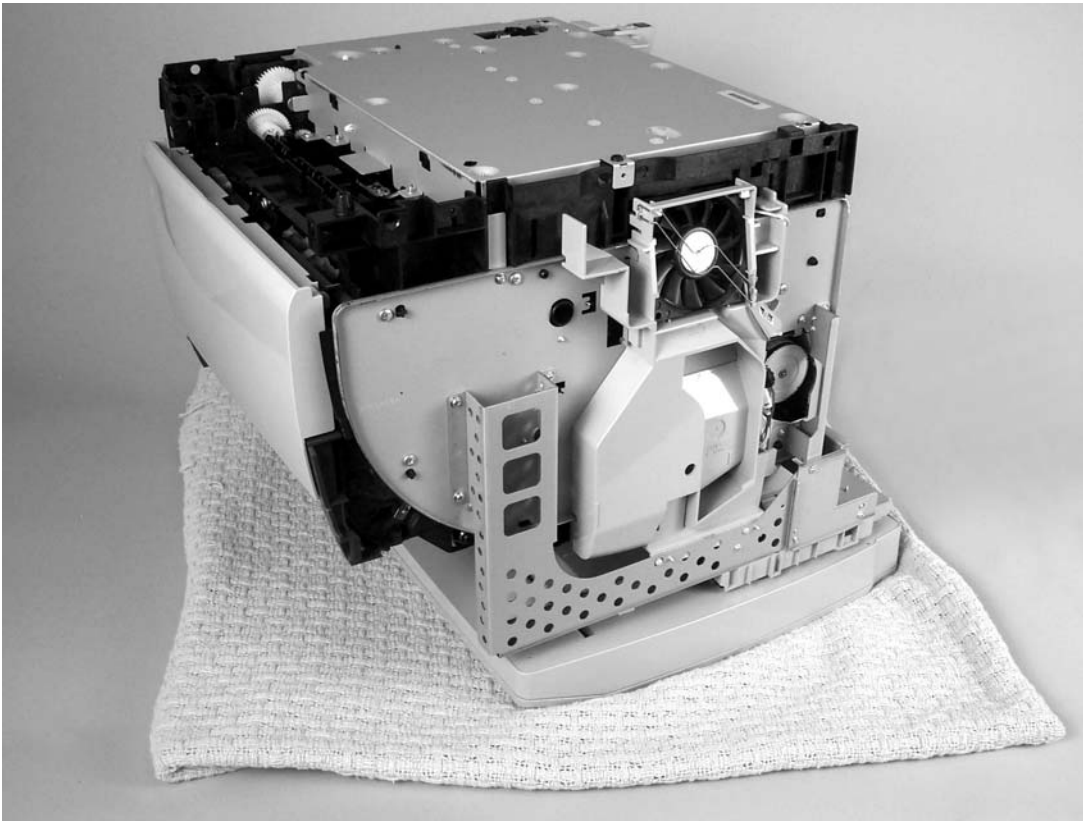
Figure 5-95 Remove the power supply cover plate (2 of 3)

6 Remove one screw from the left side of the device (callout 3).

7 Remove eight screws (callout 4) from the bottom of the power supply cover plate.
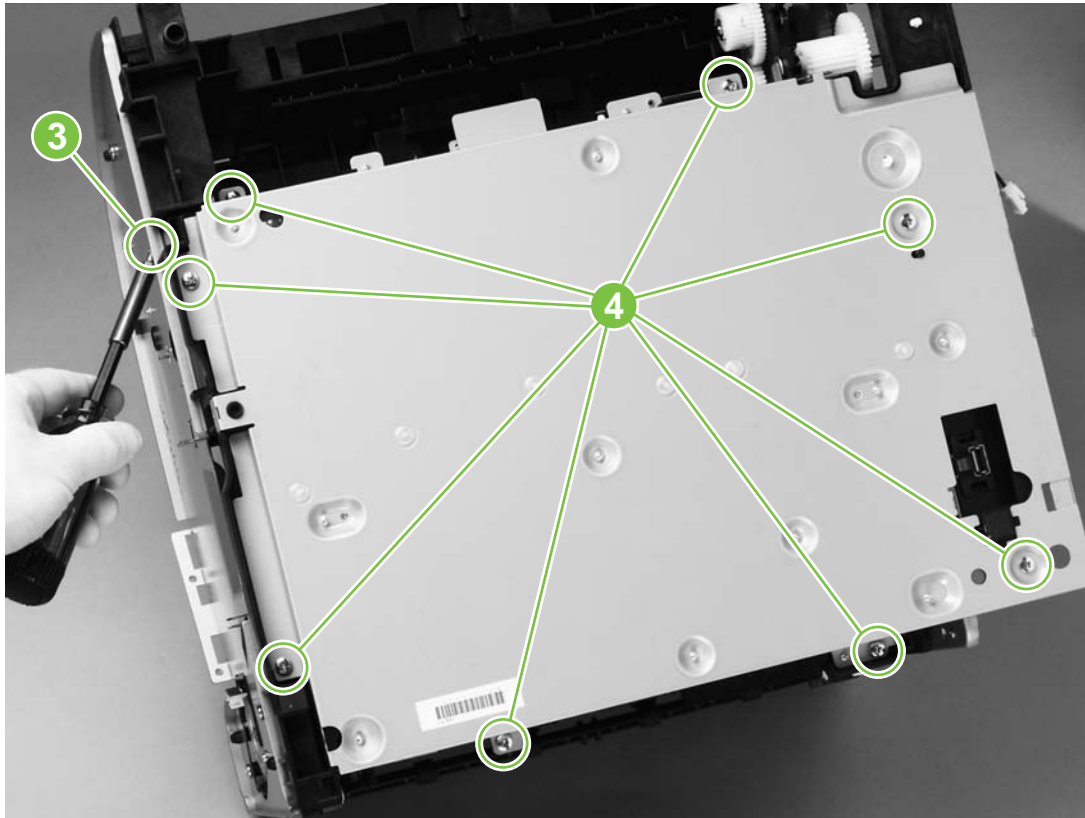
Figure 5-96 Remove the power supply cover plate (3 of 3)

8 Lift the power supply cover plate off of the device.

9 During reinstallation, make sure that the grounding springs are attached to each of the eight power supply cover plate connections before reinstalling the plate.
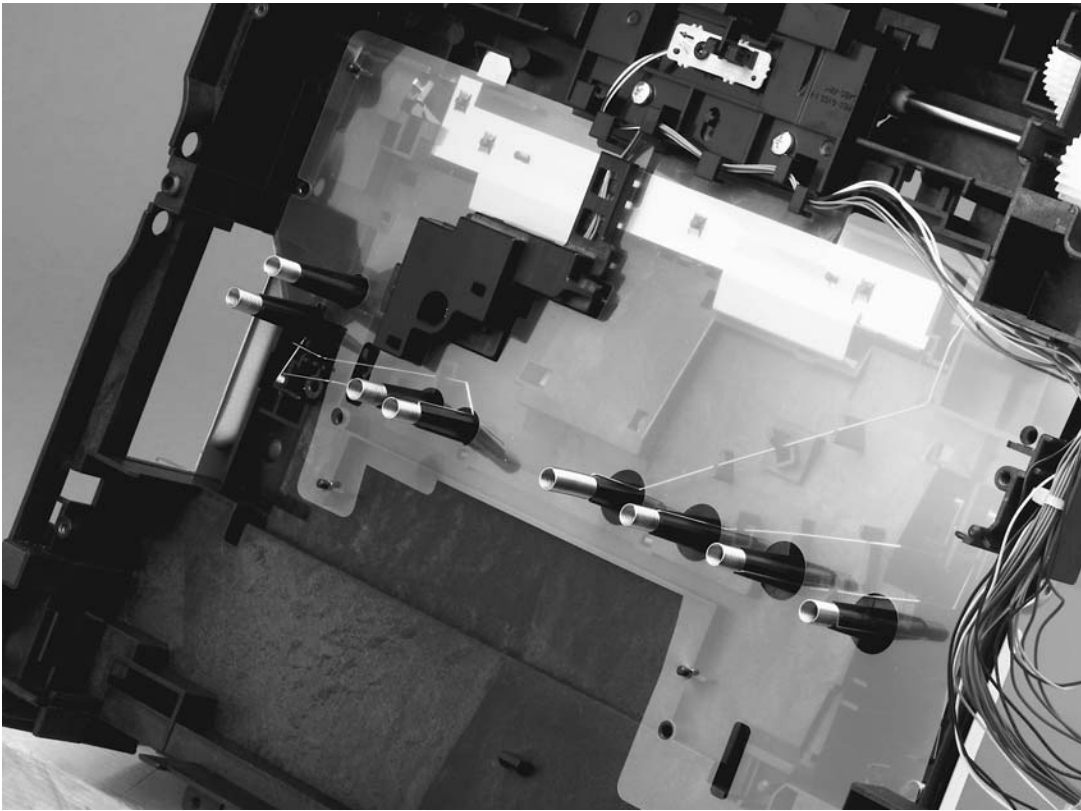
Figure 5-97 Power supply cover plate connections

10 After replacing the power supply cover plate, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

📝 **NOTE** If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Removing the paper-top sensor

1 Remove the following assemblies:

- Fuser assembly (see Replacing the fuser assembly)

- Optional tray 2 (see Removing optional tray 2 (250-sheet tray))

- Toner-catch tray (see Removing the toner-catch tray)

- Power supply cover plate (see Removing the power supply cover plate).

2 Remove one screw (callout 1).
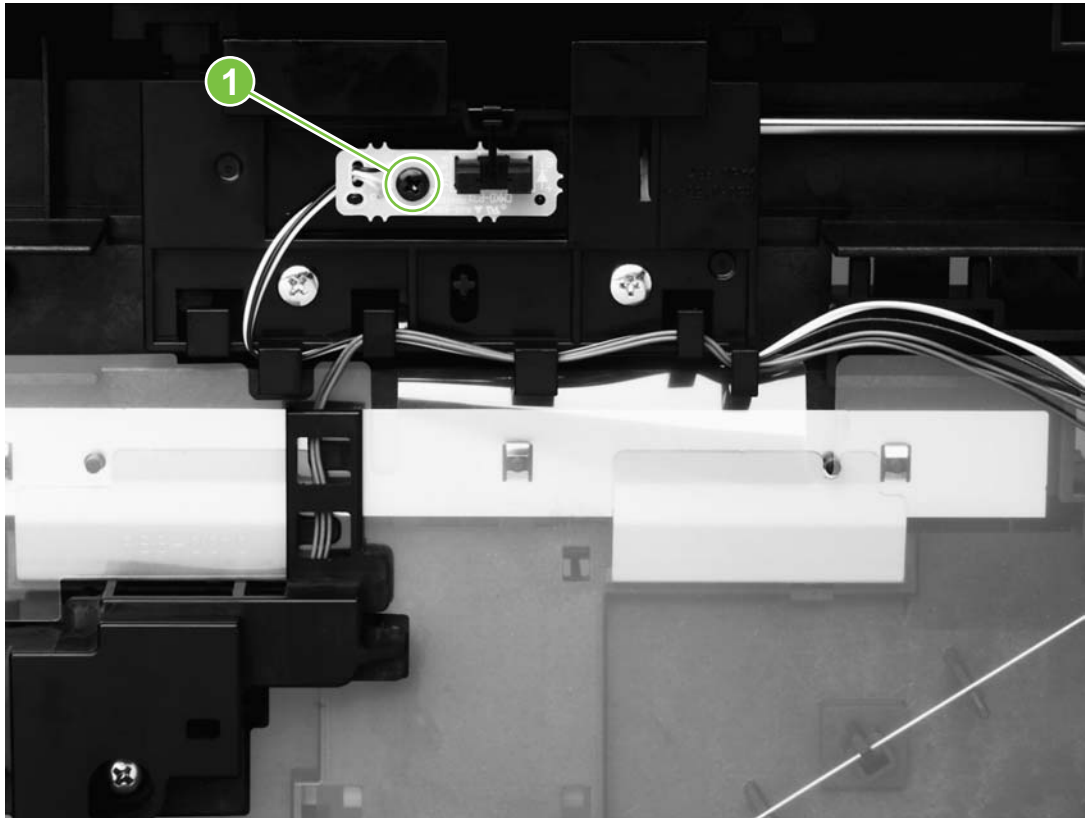
Figure 5-98 Remove the paper-top sensor

3 Lift the paper-top sensor straight up to remove it from the device.

4 Unwind the cable from the cable harness, and unplug the cable from the DC controller.

> ⚠ **CAUTION** Do not attempt to disconnect the paper-top sensor cable from the paper-top sensor. Doing so can damage the cable.

5 After replacing the paper-top sensor, run a print-quality test (see Test 1 (print-quality test)).

Removing the fuser-wrap sensor

1 Remove the power supply cover plate (see Removing the power supply cover plate).

2 Inside the device, remove the fuser-wrap sensor roller (callout 1).
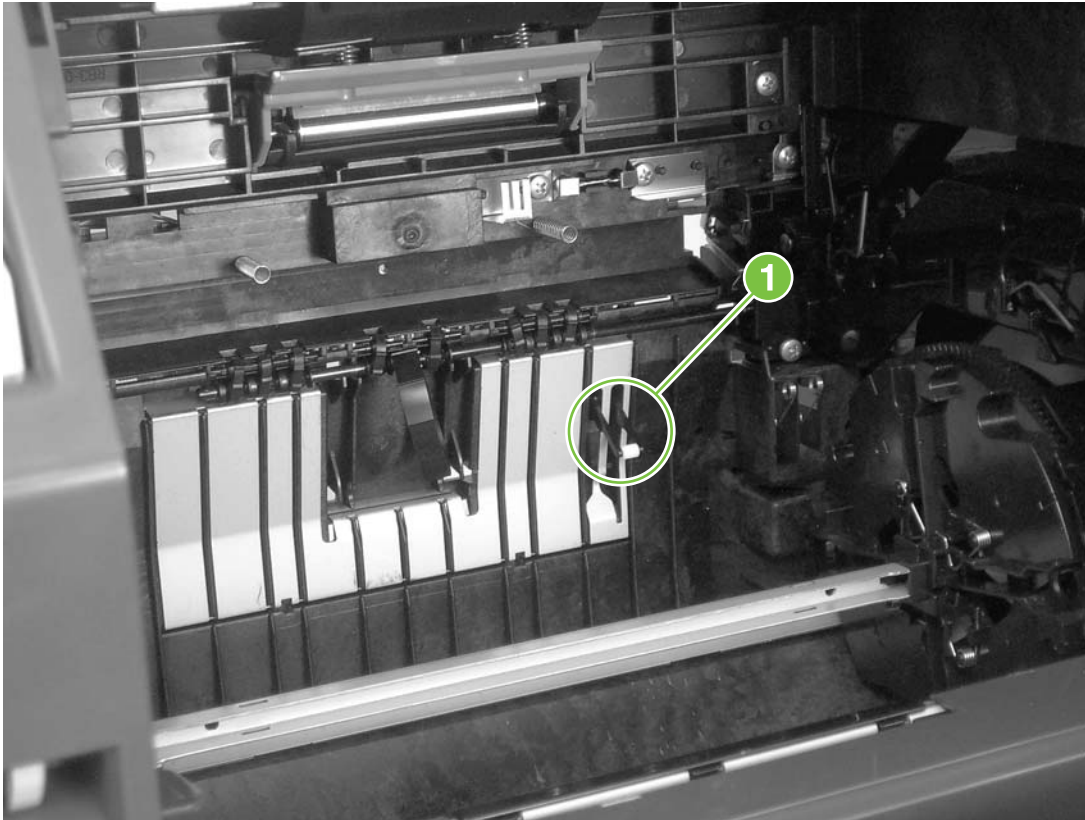
Figure 5-99 Remove the fuser-wrap sensor (1 of 2)

3 On the bottom of the device, remove one screw (callout 2) from the fuser-wrap sensor.
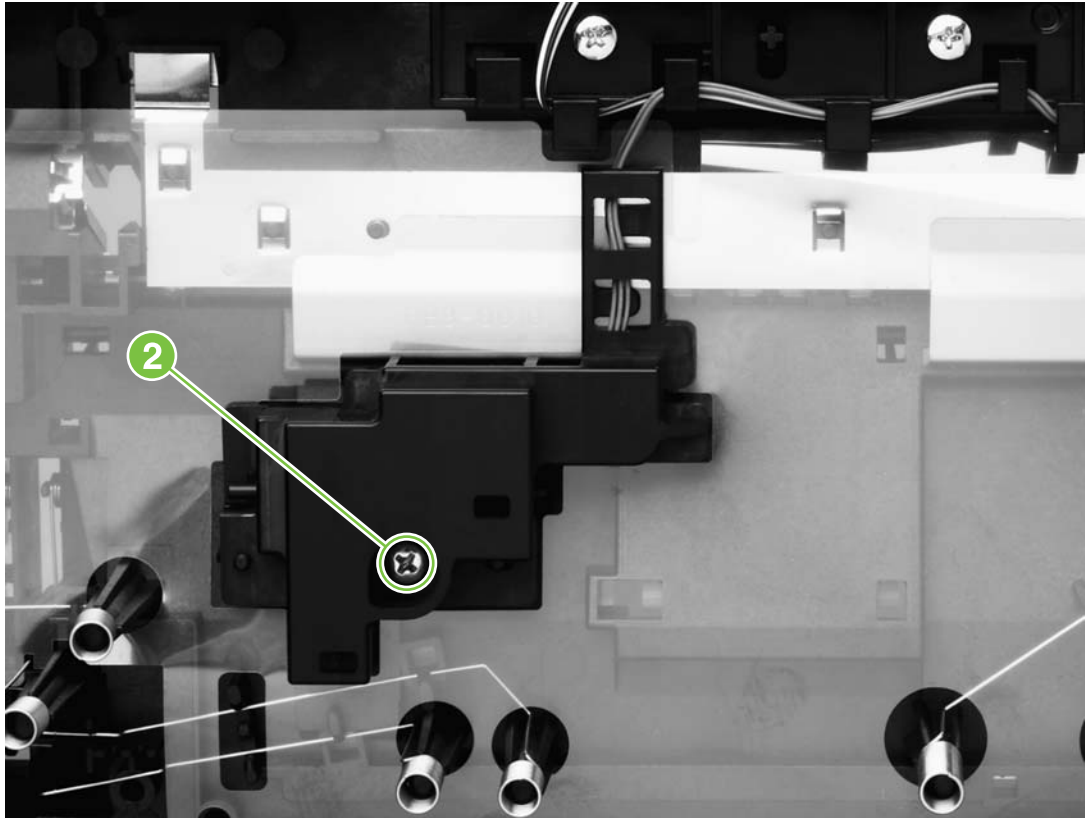
Figure 5-100 Remove the fuser-wrap sensor (2 of 2)

4 Unwind the cable from the cable harness, and unplug the cable from the DC controller.

5 After replacing the fuser-wrap sensor, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

NOTE If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Motors and fans

Removing the fuser motor

1   Remove the following covers and assembly:

   ●   Right cover (see Removing the right cover)

   ●   I/O cover (see Removing the input/output (I/O) cover)

   ●   Formatter cage (see Removing the formatter cage)

2   Unplug one connector (callout 1).

3   Remove four screws (callout 2).
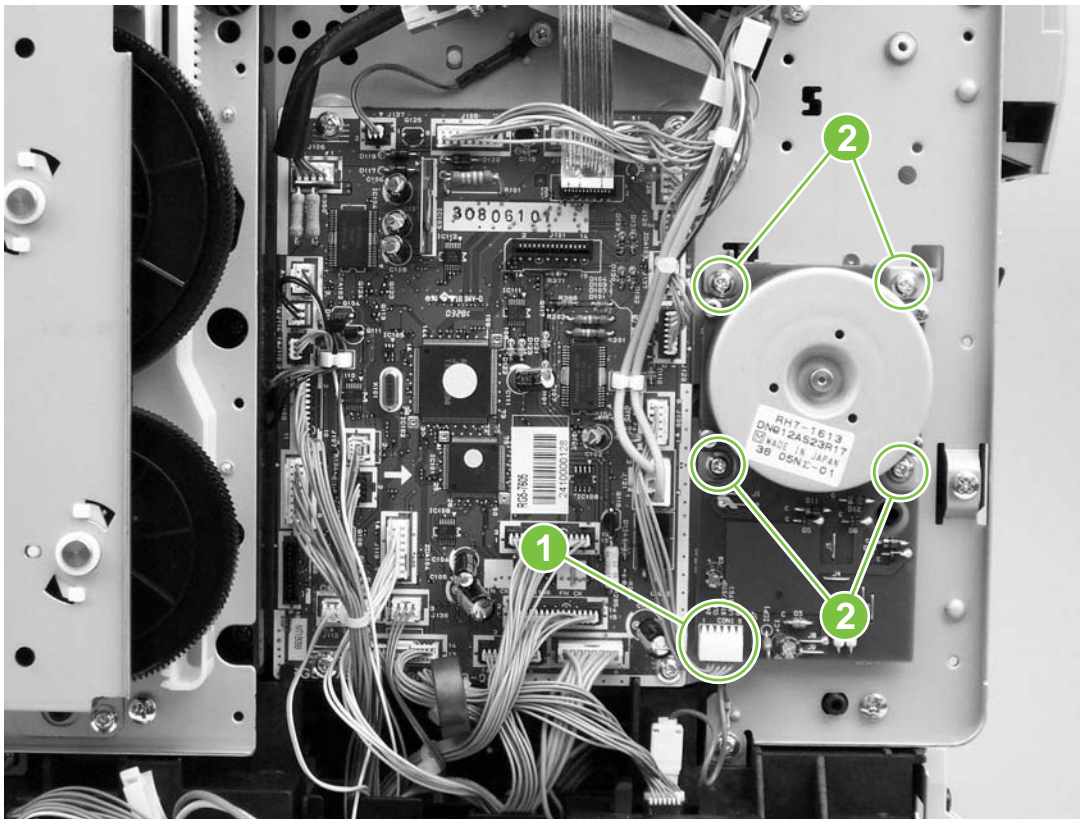
Figure 5-101 Remove the fuser motor

4   Pull the motor away from the device.

5   After replacing the fuser motor, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

📝   **NOTE**   If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Removing the carousel-engagement motor

1   Remove the left cover (see Removing the left cover).

2   Unplug the cable connector (callout 1).

3   Remove two screws (callout 2).

4   Rotate the motor counterclockwise to clear the metal lock-tab.

5   Pull the carousel-engagement motor away from the device to remove it.
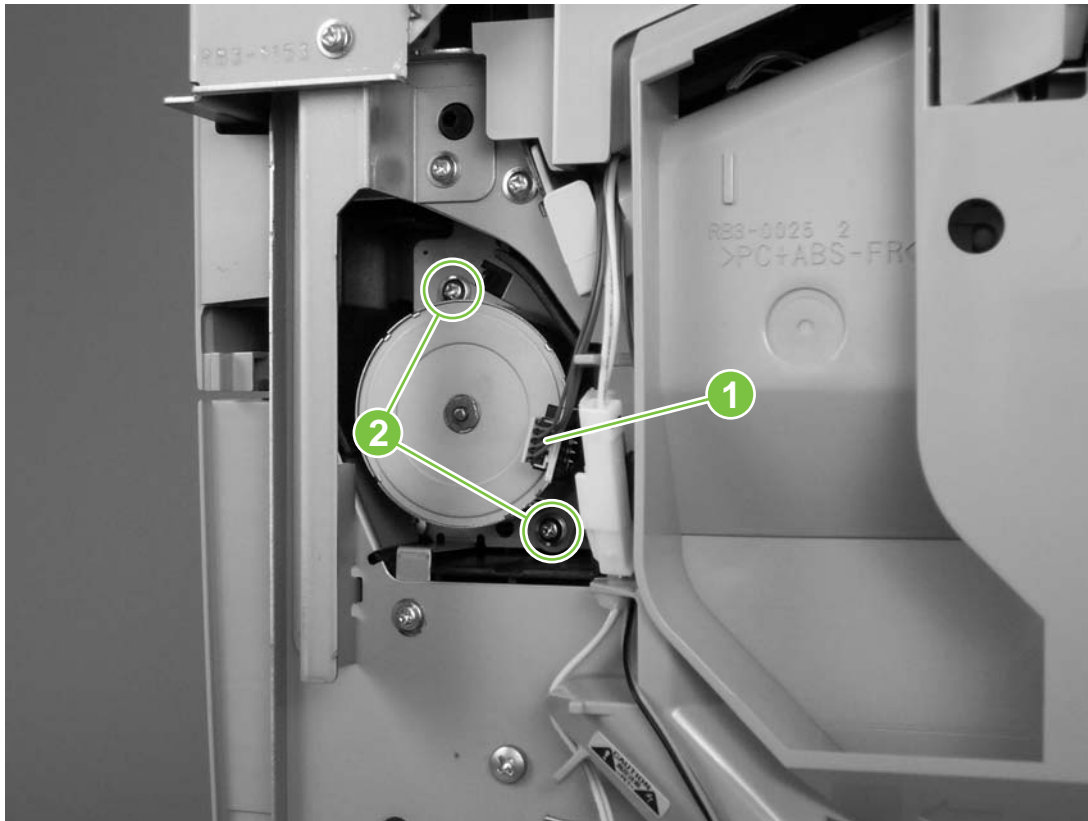
Figure 5-102 Remove the carousel-engagement motor

6   After replacing the carousel-engagement motor, run a print-quality test (see Test 1 (print-quality test)).

Removing the air duct and fan

1   Remove the following covers:

●   Top cover (see Removing the top cover assembly)

●   Left support assembly (see Removing the left support assembly)

2   Disconnect the black connector (callout 1), and then unroute the wires (callout 2) with white connectors from the left side of the air duct.

3   Release two tabs (callout 3).

4 Lift the air duct straight up to release two hidden tabs at the top of the air duct, and lift the air duct away from the device.
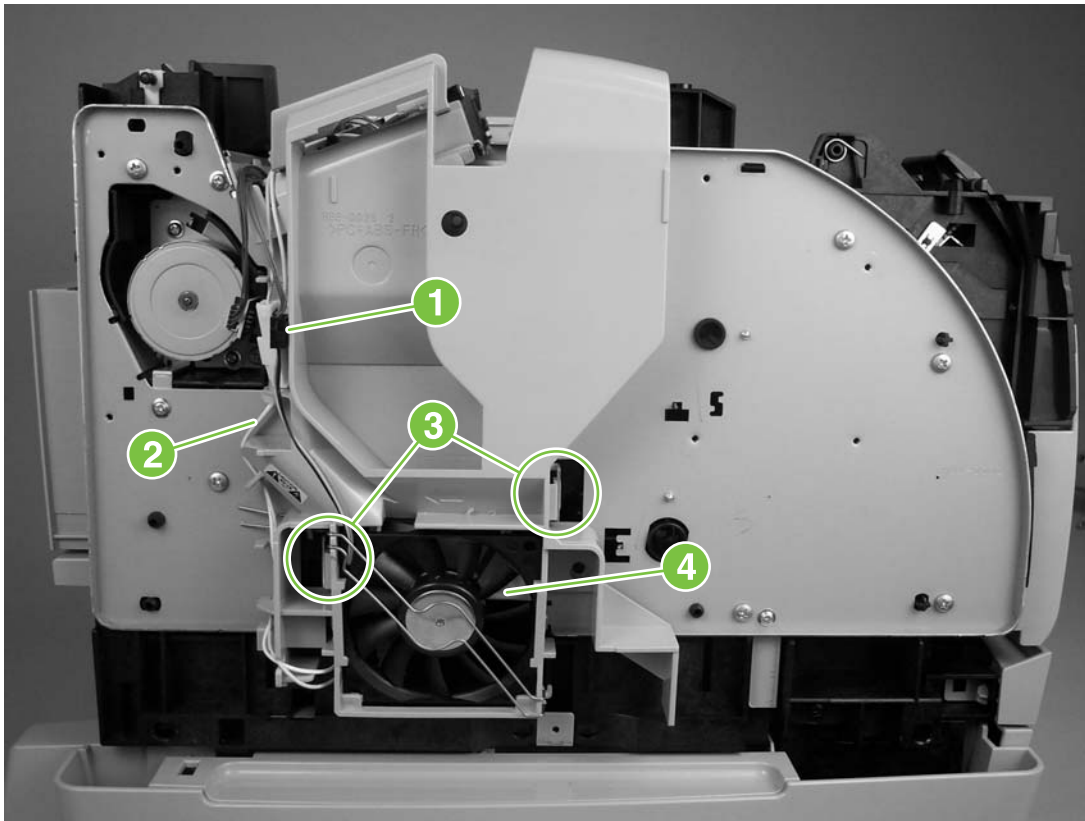
Figure 5-103 Remove the air duct and fan

5 To remove the fan (callout 4) from the air duct, release two tabs on the side of the air duct that faces the device, and then lift the fan from the air duct.

6 After replacing the air duct and fan, run a print-quality test (see Test 1 (print-quality test)).

Printed circuit assemblies (PCAs)

Removing the sub-high-voltage transformer PCA

1   Remove the power supply cover plate (see Removing the power supply cover plate).

2   Unplug one connector (callout 1) from the high-voltage transformer PCA.

3   Remove two screws (callout 2).

4   Lift up the sub-high-voltage transformer PCA and its holder, and then unplug one connector (callout 3) from the high-voltage transformer PCA.
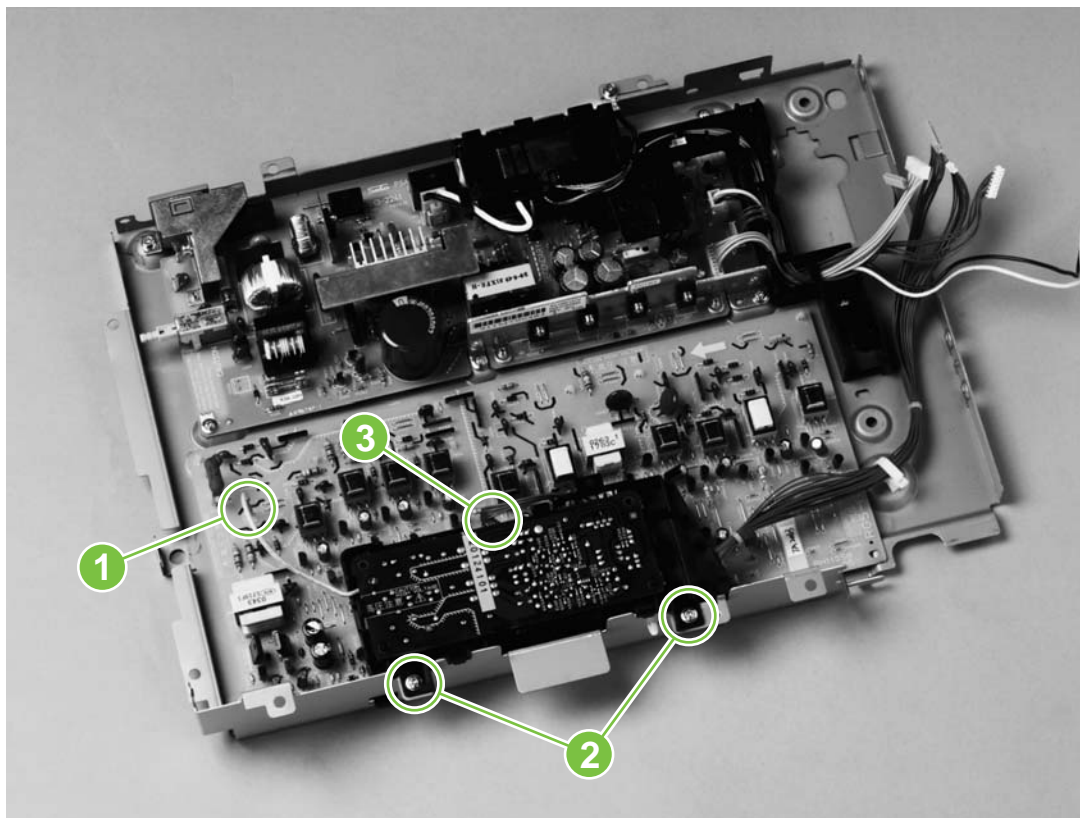
Figure 5-104   Remove the sub-high-voltage transformer PCA

5   After replacing the sub-high-voltage transformer PCA, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

📝 **NOTE**   If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Removing the high-voltage transformer PCA

1 Remove the following covers and assemblies:

   ● Power supply cover plate (see Removing the power supply cover plate)

   ● Sub-high-voltage transformer PCA (see Removing the sub-high-voltage transformer PCA)

2 Release two cable holders (callout 1) and then unplug two connectors (callout 2).

3 Remove two screws (callout 3).

4 Pinch six plastic pins (callout 4) and then lift the high-voltage transformer PCA off of the power supply cover plate.
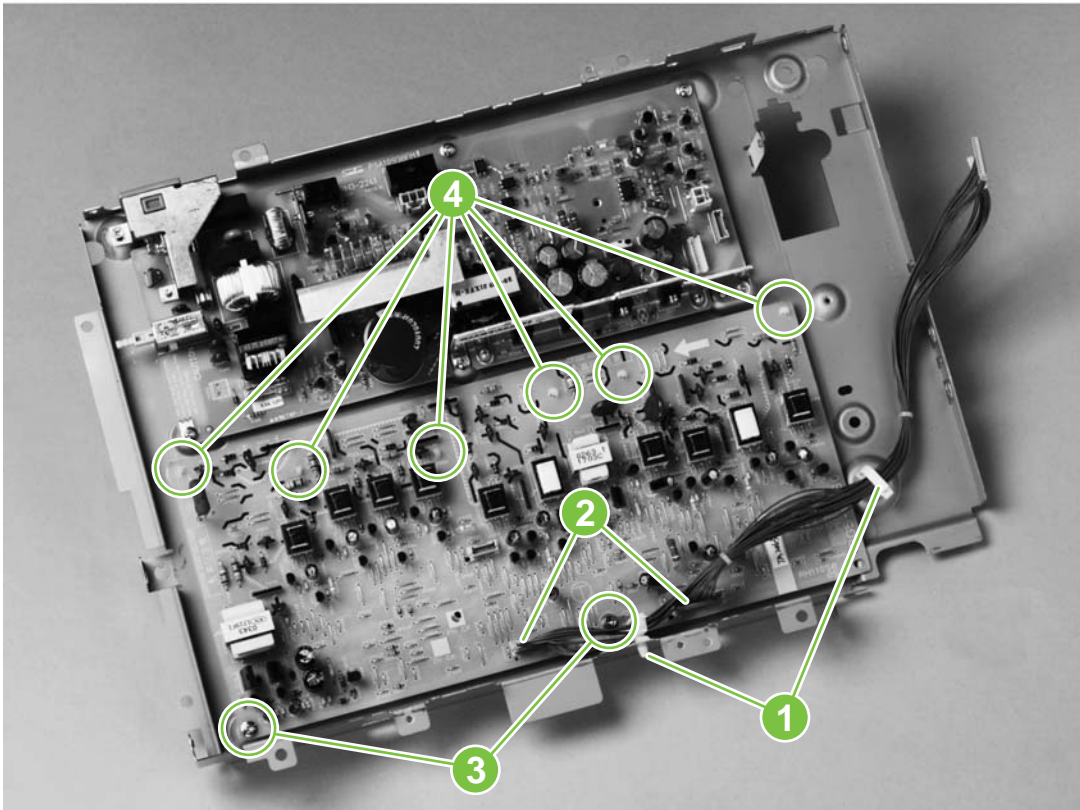
Figure 5-105 Remove the high-voltage transformer PCA

5 After replacing the high-voltage transformer PCA, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

📝 **NOTE** If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Removing the low-voltage PCA

1 Remove the power supply cover plate (see Removing the power supply cover plate).

2 Unplug four connectors (callout 1) from the low-voltage PCA.

3 Remove one screw (callout 2) from the grounding wire.

4 Remove two screws (callout 3) from the fuser-connector holder and lift the holder off of the low-voltage PCA.
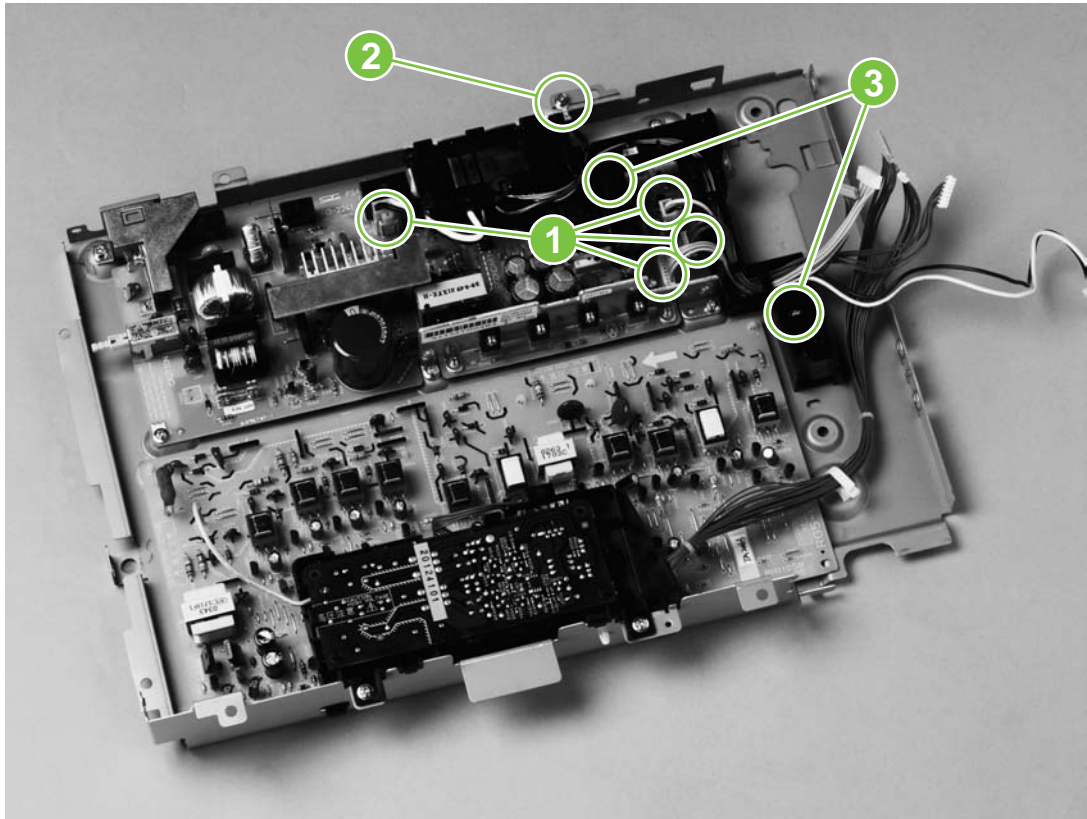
Figure 5-106 Remove the low-voltage PCA (1 of 2)

5   Remove six screws (callout 4) from the low-voltage PCA, and then lift the PCA off of the power supply cover plate.
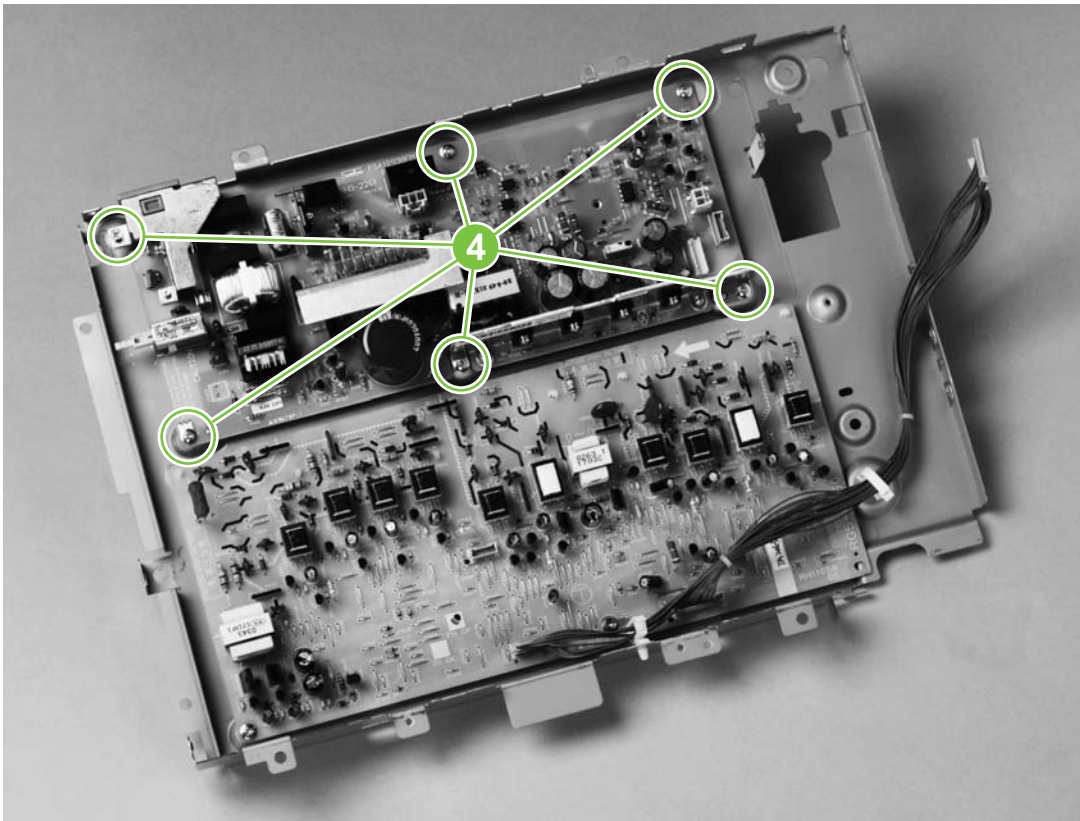
Figure 5-107 Remove the low-voltage PCA (2 of 2)

6   After replacing the low-voltage PCA, run a print-quality test (see Test 1 (print-quality test)) and a copy-quality test (see Test 2 (copy-quality test)).

> **NOTE**   If you are servicing an HP Color LaserJet 2840 all-in-one, run a memory-card test (see Test 4 (memory-card test)) as well.

Trays

Removing tray 1 (multipurpose tray)

1 Remove the following covers:

   ● Left cover (see Removing the left cover)

   ● Multipurpose roller cover (see Removing the multipurpose roller cover)

2 Open tray 1.

3 Press the multipurpose-roller cover (not shown) inward toward the device, and then grasp the top edge to remove it.

4 Lift the tray cover slightly to align the notch (callout 1) with the hinge pins of the tray hinges (callout 2).

5 Push the tray hinge to the left while pulling the tray cover to the right to carefully disengage the hinge pin from the tray cover.

6 Disengage the right tray hinge from the tray.

7 Close the tray guide (callout 3), open the tray cover, and then slide the tray cover to the left to remove it from its pins.
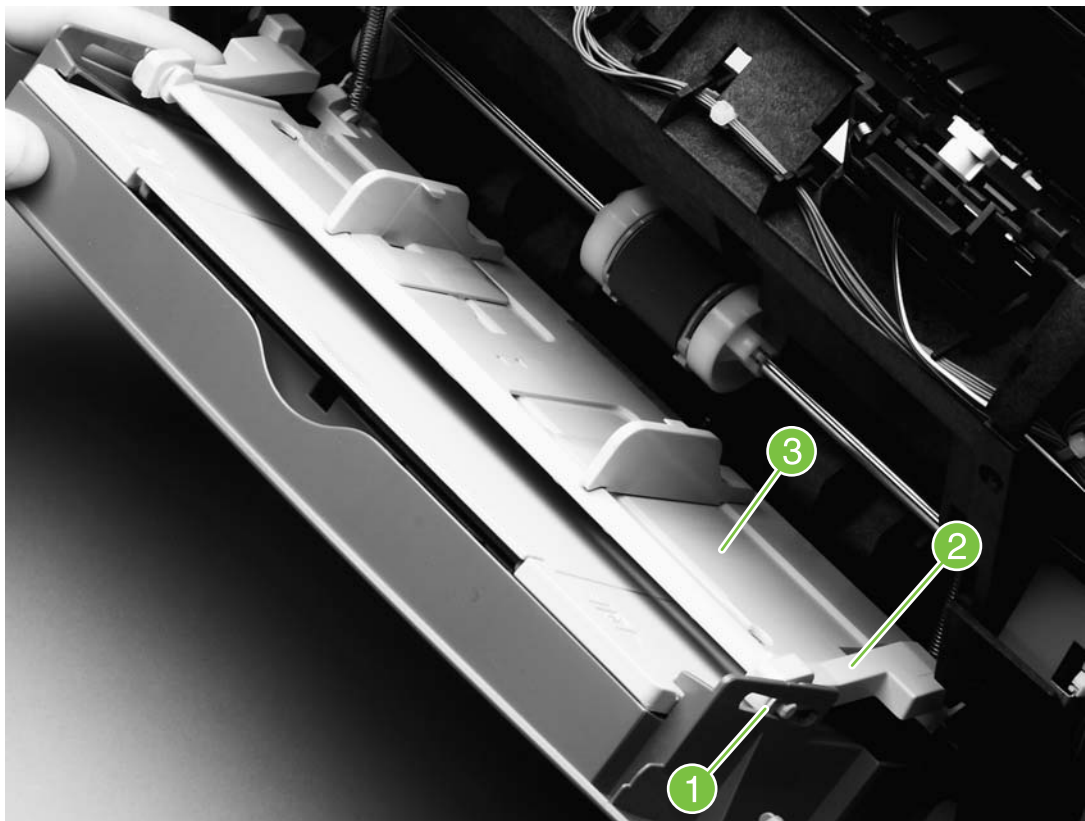
Figure 5-108 Remove tray 1 (1 of 2)

8   Disengage the left and right hinges from the tray guide and then slide both hinges off of their keyed holes (callout 4) in the device.

9   Use needle-nose pliers to unhook two springs (callout 5), one at each side of the tray guide, and then remove the tray guide.
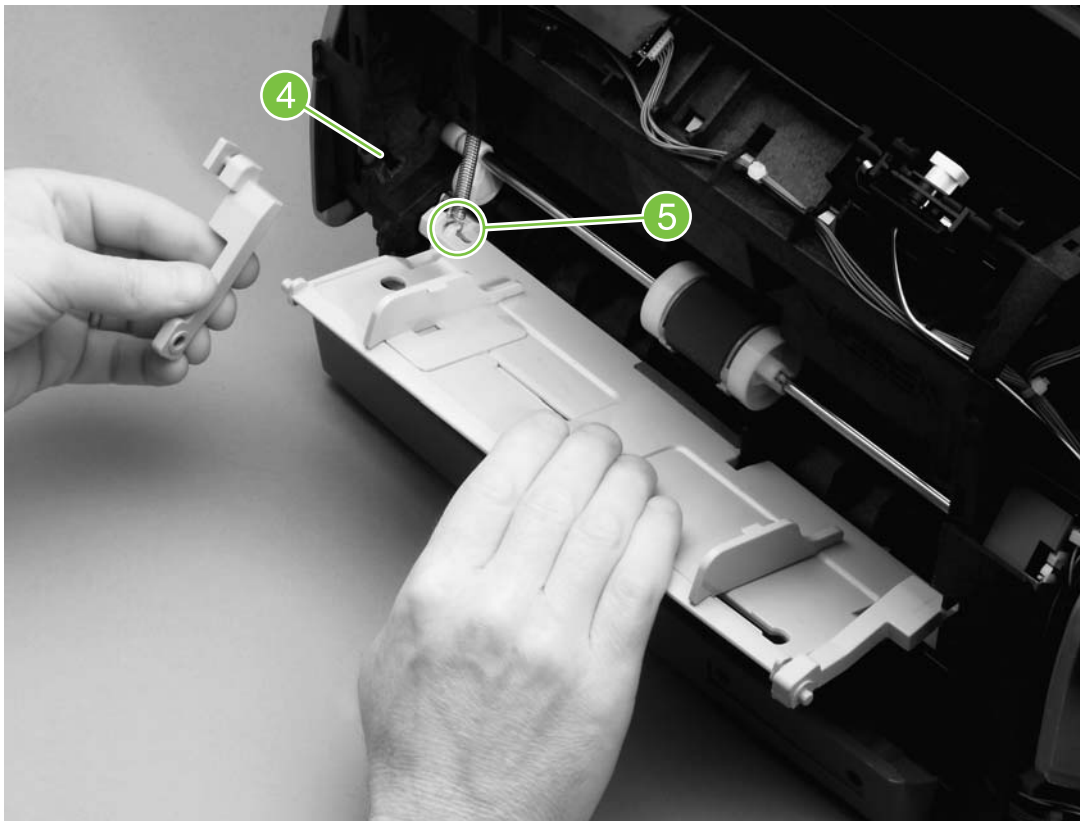
Figure 5-109 Remove tray 1 (2 of 2)

💡 **Reinstallation tip** The two springs should remain attached to two pegs inside the device. If the springs are not attached, use needle-nose pliers to reattach them before reinstalling the tray guide.

10 After replacing the multipurpose tray, run a copy-quality test (see Test 2 (copy-quality test)).

Removing optional tray 2 (250-sheet tray)

⚠️ **CAUTION** This procedure requires lifting the device. The device is heavy. Hewlett-Packard recommends that two people lift the device off of tray 2.

1   Remove the right and left covers (see Removing the right cover and Removing the left cover).

2 Remove one screw (callout 1) from optional tray 2.
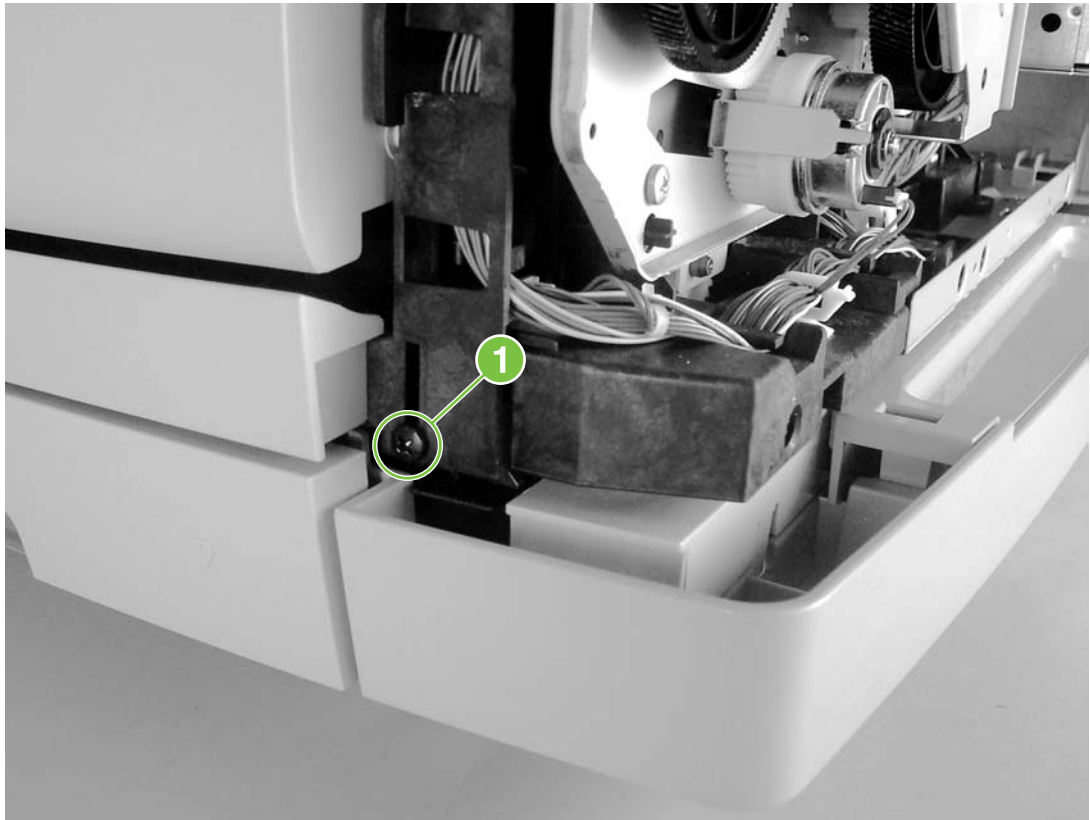
Figure 5-110 Remove optional tray 2 (1 of 2)

3 Remove one screw (callout 2) from the left side at the front of the device.

4 Remove two screws (callout 3) from the back of optional tray 2.
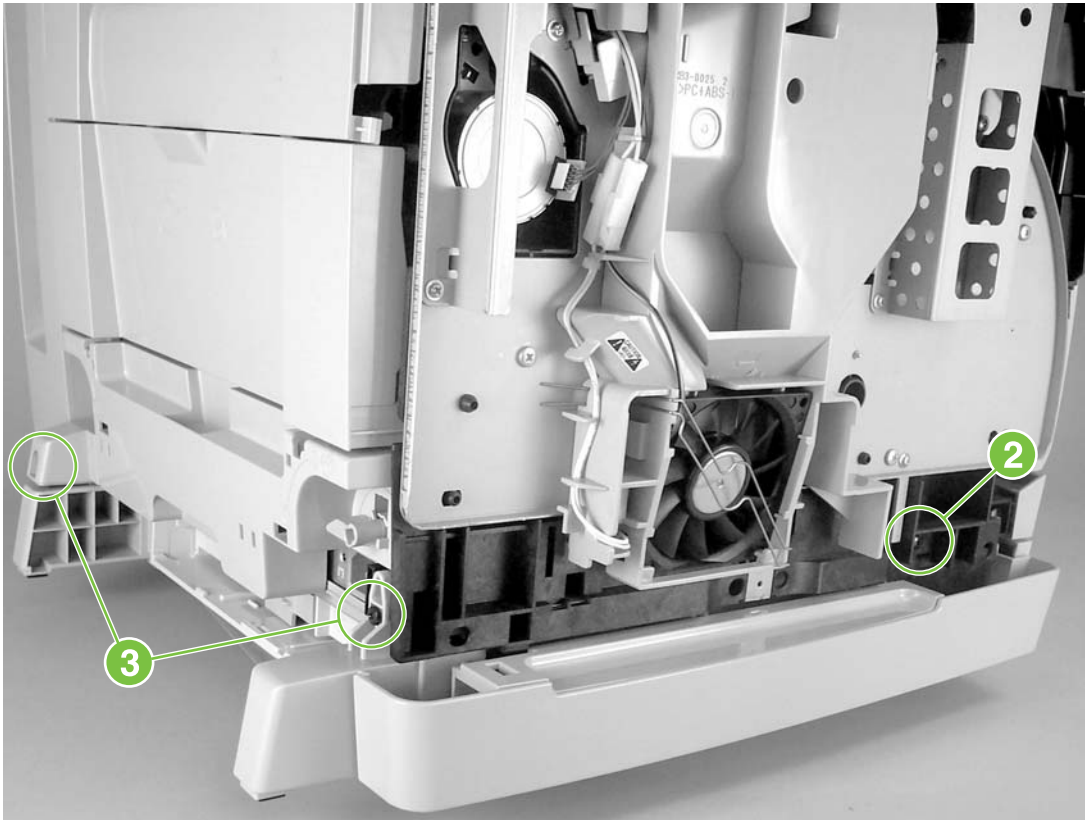
Figure 5-111 Remove optional tray 2 (2 of 2)

5 Grasp the device frame on each side, and then carefully lift the device off of tray 2.

> ⚙ **Reinstallation tip** When reinstalling optional tray 2, line up the posts on the bottom of the device with the slots in optional tray 2.
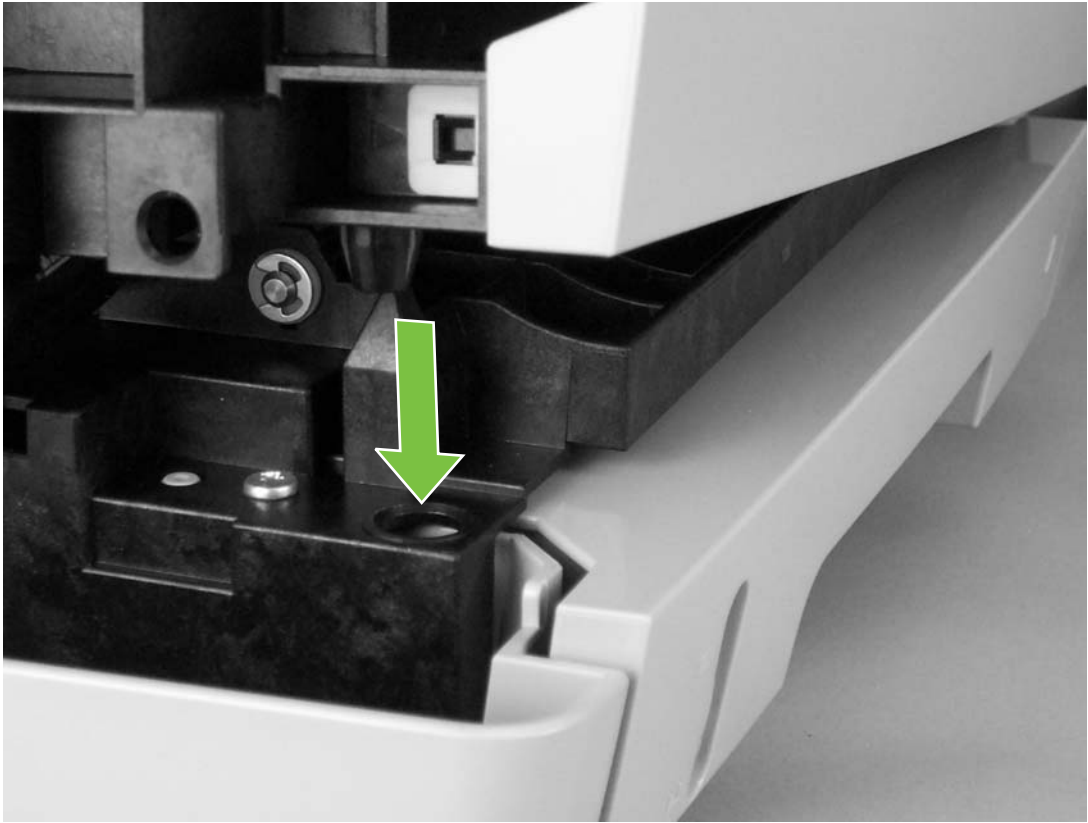
Figure 5-112 Reinstall tray 2

6 After replacing optional tray 2, run a copy-quality test (see Test 2 (copy-quality test)).

Removing the optional tray 2 pickup roller

1 Remove all paper from the 250-sheet feeder and then remove the 250-sheet feeder from the device.

2 Press the lift plate down and then pull the tray out of the feeder.

3 Turn the feeder upside-down.

4 Use a flatblade screwdriver to disengage the white, plastic lever, and then rotate the lever toward the front of the feeder to release the roller.

5 Lift the pickup roller up to remove it.
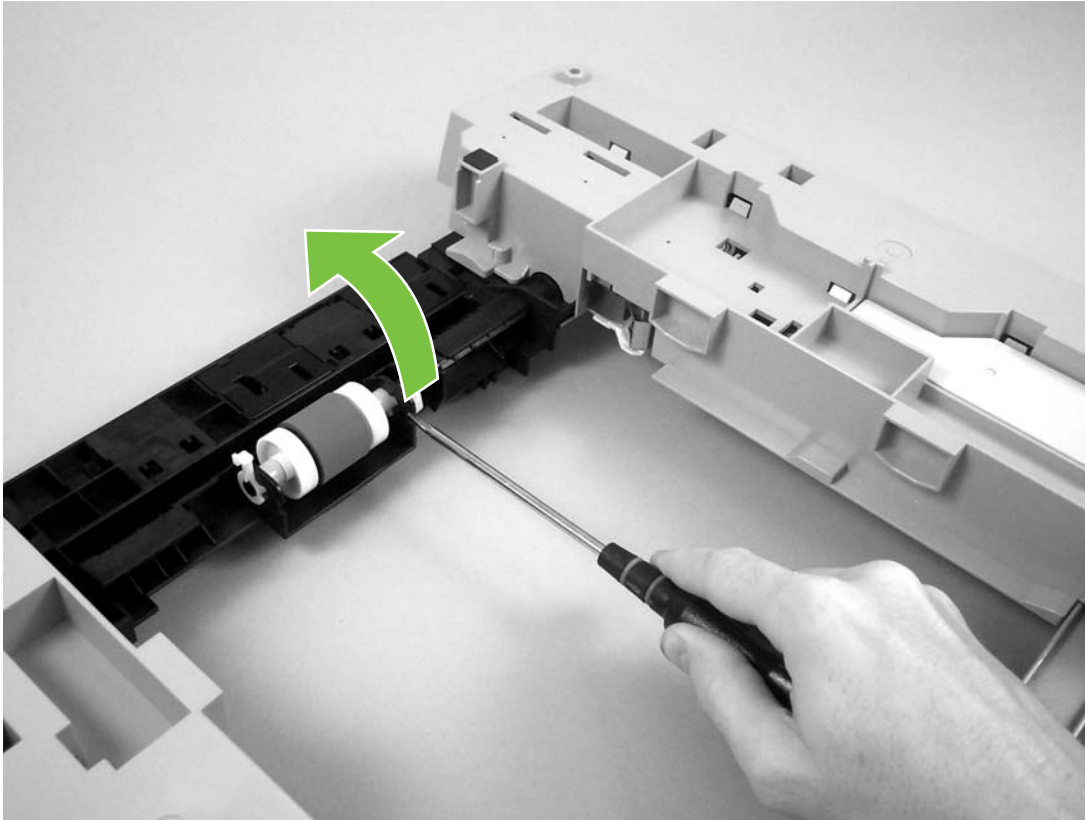
Figure 5-113 Remove the 250-sheet feeder pickup roller

6 After replacing the optional tray 2 pickup roller, run a copy-quality test (see Test 2 (copy-quality test)).

Replacing the optional tray 2 separation pad

1 Remove the tray from the device and place it on a flat surface. Remove any paper from the tray.
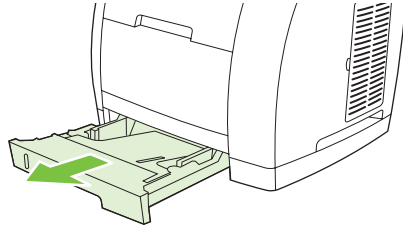
2 Locate the separation pad in the base at the inside-front edge of the tray.
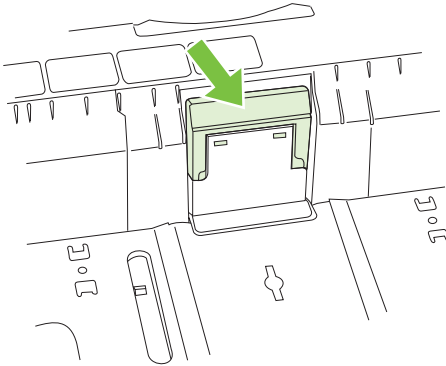
3 Press the large metal plate at the bottom of the tray down. Insert a flatblade screwdriver in the slots on each side of the base and push the tabs out of the slots.
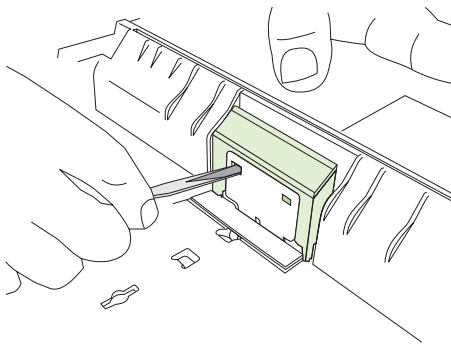
4 Pull the separation pad up and out of the tray.
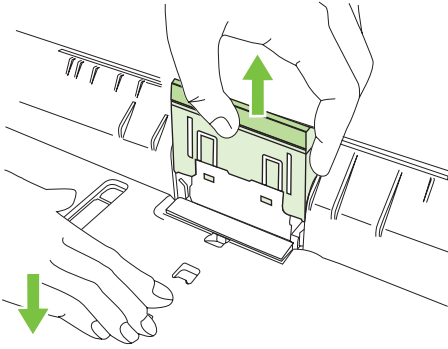
5 Use one hand to position the new separation pad above the empty base. Align the grooves on the sides of the pad with the sides of the base, and then slide the pad down until the tabs snap into the slots on the base.
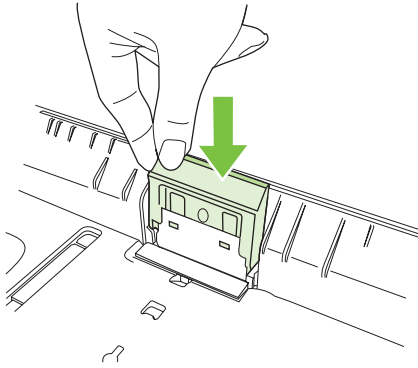
6 Reload any print media, and then slide the tray into the device.
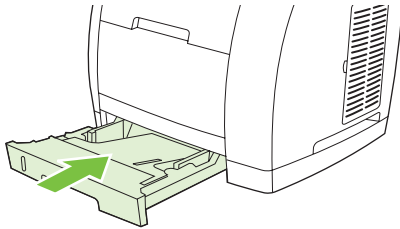
7 After replacing the optional tray 2 separation pad, run a copy-quality test (see Test 2 (copy-quality test)).

6 Troubleshooting

This troubleshooting information is organized to help you resolve printing problems. Choose the general topic or type of problem from the following list.

- Support strategy
- Troubleshooting process
- Control-panel messages
- Clearing jams
- Print problems
- Scan problems
- Copy problems
- Fax problems
- Memory card problems
- Functional tests
- Service-mode functions
- Troubleshooting tools
- Updating or recovering the firmware code

Support strategy

This device has a one-year limited warranty. Warranty service and support options might vary depending on your country/region. Refer to the support flyer that came in your box for contact information, or visit http://www.hp.com.

Troubleshooting process

Use the troubleshooting checklist to solve issues with the device.

Troubleshooting checklist

Follow the steps below when trying to solve a problem with the device.

📝 **NOTE** The service CD-ROM contains sound files of normal device operations. Refer to those files if you are in doubt of what a "normal" device should sound like.

Table 6-1 Troubleshooting checklist

Step number	Verification step	Possible problems	Solutions
1	**Is the power on?** When the device is connected to a grounded power source, the control panel shows **Hewlett Packard** with moving cursors indicating that the firmware code is loading, and the print engine motor rotates for approximately 45 to 60 seconds. When the firmware is done loading, **Scanner bulb warming up** appears in the control panel, and the scan head moves back and forth for 10-15 seconds. If you lift the scanner lid, you will see that the scanner bulb is lit. Near the end of this time, the automatic document feeder (ADF) motor turns on for about two seconds.	No power due to failed power source, cable, switch, or fuse.	1 Verify that the device is plugged in. 2 Verify that the power cable is functional and that the power switch is on. 3 Check the power source by plugging the device directly into the wall or into a different outlet.
		Print engine motor does not rotate.	1 If the device control panel indicates a jam, verify that the fuser shipping locks have been removed. 2 Verify that the rear output door is closed. See To clear output area jams. 3 Verify that the print cartridges and imaging drum are properly installed. Look at the control-panel messages and follow the instructions to remove and replace the cartridges. 4 Verify that the top cover is closed completely.
		ADF motor does not rotate.	Open the ADF cover and remove any orange shipping tape inside the ADF. Verify that the ADF cable is connected correctly to the scanner. If the ADF motor still does not rotate, verify that the cables from the scanner to the formatter are connected correctly. See

Table 6-1 Troubleshooting checklist (continued)

Step number	Verification step	Possible problems	Solutions
			Removing the scanning assembly. If the problem persists replace parts in the following order one at a time: the ADF, the scanner, and then finally the formatter.
		Scanner bulb does not light.	If the scanner bulb does not light, verify that the cables from the scanner to the formatter are connected correctly. See Removing the scanning assembly. If the error persists, replace parts one at a time in the following order until the problem is resolved: scanner assembly, and finally the formatter (see Removing the formatter assemblies).
2	**Does Ready appear in the device control panel?** The control panel should function without error messages.	Control panel shows an error.	See Control-panel messages for a list of common messages that will help you correct the error. If no display appears in the control panel, verify that the control panel cables are connected correctly. See Removing the control panel.
3	**Do information pages print?** Print a Configuration page.	Control panel displays an error message.	See Control-panel messages for a list of common messages that will help you correct the error.
		Media does not move smoothly through the device paper path.	Clean the paper path.
		Poor print quality.	See Print quality problems.
4	**Does the device copy?** Place the Configuration page into the ADF and make a copy. The report should feed smoothly through the ADF, and copies should print without print-quality problems. Make a copy from the flatbed as well.	Poor copy quality from the ADF.	1 If the print quality from the internal tests and the copy from the flatbed were acceptable, clean the ADF scanning window. See To clean the scanner glass. 2 If the ADF is damaged, replace the ADF. See Replacing the ADF.
		Media does not move smoothly through the ADF path.	1 Clean the ADF pick roller and ADF separation pad. 2 If the problem persists, replace the ADF pickup roller. See Replacing the ADF pickup-roller assembly. 3 If the problem persists, replace the ADF. See Replacing the ADF.

Table 6-1 Troubleshooting checklist (continued)

Step number	Verification step	Possible problems	Solutions
		Poor copy quality from the flatbed.	1 If the print quality from the internal tests and the copy from the ADF were acceptable, clean the flatbed glass. See To clean the scanner glass.
			2 If, after performing the maintenance, the problem persists, see Copy problems. If the problem persists, replace the scanning assembly. See Removing the scanning assembly.
5	**Does the device send a fax?** (HP Color LaserJet 2830/2840 all-in-one models only) Connect the telephone line and press START FAX to verify that a dial tone exists (using a hand set, if necessary). Attempt to send a fax.	The telephone line is not operational or the device is not plugged into the telephone line.	Verify that the device is plugged into a telephone line that you know works.
		The telephone cord is faulty or is plugged into the wrong connector.	1 Try plugging the telephone cord into the other connector. 2 Try a new telephone cord.
		The device fax settings are set incorrectly.	Review and reset the device fax settings.
		Sent fax is incomplete or of poor quality.	See Fax problems.
6	**Does the device receive a fax?** (HP Color LaserJet 2830/2840 all-in-one models only) Use another fax machine to send a fax to the device.	Too many telephone devices are plugged in, or telephone devices are not connected in the correct order.	Make sure that the HP Color LaserJet 2830 all-in-one or HP Color LaserJet 2840 all-in-one is the only device on the telephone line and try again to receive the fax.
		The device fax settings are set incorrectly.	Review and reset the device fax settings.
7	**Does the device print from the computer?** Connect the network cable or USB cable to the device and the computer. Use a word-processing application to send a print job to the device.	Software is not installed correctly or an error occurred during software installation.	If the computer is connected to the device by a USB cable, disconnect the USB cable, and then uninstall and reinstall the system software using the device installation CD-ROM. Reconnect the USB cable when prompted to do so by the installation procedure.
		The cable is not connected correctly.	Reconnect the cable.
		An incorrect driver is selected.	Select the proper driver.
		Other devices are connected to the USB port.	Disconnect the other devices and try again to print.
		There might be a problem with the network connection.	If printing through the network, verify that the device has a valid

Table 6-1 Troubleshooting checklist (continued)

Step number	Verification step	Possible problems	Solutions
			TCP/IP address by checking the network configuration. If the issue persists, verify that the green LED on the network connector on the back of the device is lit. If it is not lit, there might be a bad network connection, cable, or network device (router or hub).
			If the issue persists after verifying the above, uninstall and then reinstall the network driver software from the device installation CD. Print a Configuration page for reference to the TCP/IP address during reinstallation.
			If the problem still persists, replace the formatter.
		There is a port driver problem in Microsoft Windows.	Uninstall and then reinstall the device software. Verify that you are using the correct installation procedure and the correct port setting.
8	Does the device scan back to the computer when you use the SCAN To button on the device control panel? ⚠ **CAUTION**	If connected by a USB cable, the USB cable might not be connected correctly.	Reconnect the USB cable.
		If connected by a USB cable, the USB cable might be damaged.	Replace the USB cable with a Hi-Speed USB cable.
		Scan-to folder or scan-to-email software application might not be set up correctly.	Verify the settings for your scan-to folder or scan-to-email software application by using HP Toolbox. See Scan to tab.
		Network problems might exist.	Verify that the device functions on network by sending a print job to the device from the computer.
		If the error persists, turn off the device and then turn on the device.	
9	**Does the device scan from a software application?** Initiate a scan from the basic desktop software at your computer.	Software is not installed correctly or an error occurred during software installation.	Uninstall and then reinstall the device software from the installation CD-ROM. Verify that you are using the correct installation procedure and the correct port setting.
		The software application or the computer operating system might not be recognizing the scanner driver.	1 Verify that the software application is selected the correct scanner driver. 2 Switch from the current driver to the alternate driver. For example, instead of using the WIA scanner driver, select the TWAIN driver for the 2800 series.

Table 6-1 Troubleshooting checklist (continued)

Step number	Verification step	Possible problems	Solutions
			If the error persists, turn off the device and then turn on the device.
10	**Does the device recognize and print from a memory card?** Insert a memory card and print an index page.	The device does not recognize the card.	Remove the card and reinsert it into the memory-card slot. Verify that the card is fully inserted into the slot.
			Verify that the memory-card type is a supported type.
			Verify that only one card is inserted in the memory-card slots.
			Verify that the memory-card assembly ribbon cable is connected correctly to the formatter. See Replacing the memory-card assembly (HP Color LaserJet 2840 all-in-one only).
			If the problem persists with multiple types of memory cards, replace the following parts one at a time in the following order: memory-card assembly, ribbon cable, and then formatter.
		The device does not print certain images.	Verify that the files on the memory card are in the correct format. The device recognizes only SRGB format .JPEG files.

Control-panel messages

The majority of the control-panel messages are intended to guide the user through typical operation. The control-panel messages indicate the status of the current operation, and include a page count on the second line of the display, if appropriate. When the device is receiving fax data, print data, or scanning commands, control-panel messages indicate this status. In addition, alert messages, warning messages, and critical error messages indicate situations that might require some action.

Alert and warning messages

Alert and warning messages appear temporarily and might require the user to acknowledge the message by pressing ENTER to resume or by pressing CANCEL to cancel the job. With certain warnings, the job might not complete or the print quality might be affected. If the alert or warning message is related to printing and the auto-continue feature is on, the device will attempt to resume the printing job after the warning has appeared for 10 seconds without acknowledgement.

Table 6-2 Alert and warning messages

Control panel message	Description	Recommended action
10.000x Supply error	E-label can't be read or print cartridge is not properly installed.	1 Reinstall print cartridge. 2 Power cycle device. 3 If the problem is not solved, replace the cartridge.
ADF door is open	The ADF lid is open or a sensor is malfunctioning.	Make sure that the ADF lid is closed. Remove the ADF and reinstall it. If the message persists, turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the device to initialize. If the error persists, replace the ADF. See Replacing the ADF.
Canceled copy. Clear document	The CANCEL button was pressed to cancel the current job while pages were feeding from the ADF. The cancel process does not automatically clear the ADF.	Remove the jammed item. See Media jams occur in the automatic document feeder (ADF). Then, clear the items in the ADF tray and start over. If the error persists, turn off the device and then turn on the device.
Canceled scan. Clear document	The CANCEL button was pressed to cancel the current job while pages were feeding from the ADF. The cancel process does not automatically clear the ADF.	Remove the jammed item. See Media jams occur in the automatic document feeder (ADF). Then, clear the items in the ADF tray and start over. If the error persists, turn off the device and then turn on the device.
Canceled send. Clear document	The CANCEL button was pressed to cancel the current job while pages were feeding from the ADF tray. The cancel process does not automatically clear the ADF. If the error persists, turn off the device and then turn on the device.	Remove the jammed item. See Media jams occur in the automatic document feeder (ADF). Then, clear the items in the ADF tray and start over. If the error persists, turn off the device and then turn on the device.

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
Card is not fully inserted	The memory card has not been fully inserted.	Verify that the memory card is inserted completely.
		If the card is fully inserted, try inserting another memory card.
		If more than one memory card type has the same issue, verify that the LED glows when the card inserted. If the LED does not glow, verify that the flat cable that connects the memory-card assembly to the formatter is connected correctly. See Replacing the memory-card assembly (HP Color LaserJet 2840 all-in-one only).
		If the issue persists, replace the memory-card assembly.
Comm. error	A fax communication error occurred between the device and the sender or receiver.	Allow the device to retry sending the fax. Unplug the device telephone cord from the wall, plug in a telephone, and try making a call. Plug the device phone cord into a jack for another phone line.
		Try a different phone cord.
		If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. See Removing the formatter and line interface unit (LIU).
		Update the firmware. See Updating or recovering the firmware code.
		If the error persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
Device error. [Enter] to cont.	An internal error occurred in the device.	Press ENTER to resume the job.
		If the error persists:
		1. Turn off the device and then turn on the device.
		2. If possible, print the error log from the **Secondary service** menu, and then troubleshoot the last error on the list.
		3. If the error still persists and you cannot print an error log, replace the components in the following order: the formatter and then the DC controller.
Device is busy.	The device is currently in use.	Wait for the device to finish the current job.
Try again later		If the error persists, turn off the device and then turn on the device.
Doc feeder jam	A piece of media is jammed in the ADF tray.	Open the ADF cover, clear the jam, close the ADF cover, and reload the paper into
Clear, Reload		

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
		the ADF tray. See To clear a media jam from the automatic document feeder (ADF).
		If the error persists, replace the ADF separation pad (see Removing the ADF separation pad) and ADF pickup roller (see Replacing the ADF pickup-roller assembly).
Document feeder mispick. Reload	Media in the ADF tray was not picked up.	Remove the media from the ADF tray, and then reload it.
		If the error persists, replace the ADF separation pad (see Removing the ADF separation pad) and ADF pickup roller (see Replacing the ADF pickup-roller assembly).
Engine comm. error	The device experienced an internal communication error.	This is a warning message only. Job output might be affected.
		If the error persists, turn off the device and then turn on the device.
Fax delayed – send storage full	Fax memory is full.	Cancel the fax by pressing ENTER or CANCEL. Resend the fax. You might need to send the fax in multiple sections if the error occurs again.
		If the error persists, clear the fax memory:
		1 Press MENU, use the < or > button to select **Fax functions**, and then press ENTER.
		2 Use the < or > button to select **Clear saved faxs**, and then press ENTER.
Fax is busy **Canceled send**	The fax line to which you were sending a fax was busy. The device has canceled sending the fax.	Call the recipient to ensure that the fax machine is on and ready.
		Check that you are dialing the correct fax number.
		Check that the **Redial if busy** option is enabled.
		Check for a dial tone on the phone line by pressing START FAX.
		Make sure that the phone is working by disconnecting the device, plugging in a telephone to the phone line, and making a voice call.
		Plug the device phone cord into a jack for another phone line, and then try sending the fax again.
		Try a different phone cord.
		If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
		persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
Fax is busy **Redial pending**	The fax line to which you were sending a fax was busy. The device automatically redials the busy number.	Allow the device to retry sending the fax. Call the recipient to ensure that the fax machine is on and ready. Check that you are dialing the correct fax number. Check for a dial tone on the phone line by pressing START FAX. Make sure that the phone is working by disconnecting the device, plugging in a telephone to the phone line, and making a voice call. Plug the device phone cord into a jack for another phone line, and try sending the fax again. Try a different phone cord. If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
Fax memory full **Canceling recv.**	During the fax transmission, the device ran out of memory. Only the pages that fit into memory will be printed.	Print all of the faxes and have the sender resend the fax. Cancel all fax jobs or clear the faxes from memory. 📝 **NOTE** Adding a memory DIMM does not help resolve this issue.
Fax memory full **Canceling send**	During the fax job, the memory filled. All pages of the fax have to be in memory for a fax job to work correctly. Only the pages that fit into memory were sent.	Print all received faxes or wait until all pending faxes are sent. Ask the sender to send the fax again. Cancel all fax jobs or clear the faxes from memory.
Fax recv. error	An error occurred while trying to receive a fax.	Ask the sender to resend the fax. Try faxing back to the sender or another fax machine. Check for a dial tone on the phone line by pressing START FAX. Check that the telephone cord is securely connected by unplugging and replugging the cord. Make sure that you are using the telephone cord that came with the device.

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
		Make sure that the phone is working by disconnecting the device, plugging in a telephone to the phone line, and making a voice call.
		Make sure that the telephone cord connects the device directly to the wall jack. Remove any third-party devices, such as an answering machine, that are connected between the device and the wall jack.
		Turn off error-correction mode (ECM), and turn off V.34. Ask the sender to resend the fax.
		Connect the device to a different phone line.
		If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
Fax Send error	An error occurred while trying to send a fax.	Try resending the fax.
		Try faxing to another fax number.
		Check for a dial tone on the phone line by pressing START FAX.
		Check that the telephone cord is securely connected by unplugging and replugging the cord.
		Make sure that you are using the telephone cord that came with the device.
		Make sure that the phone is working by disconnecting the device, plugging in a telephone to the phone line, and making a voice call.
		Make sure that the telephone cord connects the device directly to the wall jack. Remove any third-party devices, such as an answering machine, that are connected between the device and the wall jack.
		Connect the device to a different phone line.
		Set the fax resolution to **Standard** instead of the default of **Fine**.
		If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
Fit to Page on **flatbed only**	The copy reduce/enlarge feature (called "Fit to Page") applies only to copies made from the flatbed scanner.	Use the flatbed or select another reduction/enlargement setting.

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
Group dial not allowed in group	The speed-dial code that you typed is programmed for a group. Adding a group-dial to another group-dial is not allowed.	Add one-touch buttons (programmed as an individual speed dial) or speed-dial codes to a group-dial.
Insert Memory Card	Card is not in memory slot or is not inserted completely.	Insert card or verify that card is inserted completely.
Invalid date	An invalid date was entered, such as June 35.	Re-enter the date.
Invalid driver	You are using the incorrect printer driver.	Reselect the printer driver appropriate for your device.
Invalid entry	Invalid data or response.	Correct the entry.
Invalid Memory Card	The proof sheet does not match the files on the memory card.	Remove the memory card and insert the correct memory card.
Memory Card is in backwards	The memory card was inserted backwards into the card slot.	Remove, turn, and reinsert the card.
Memory is low. **Press [Enter]**	The device memory has been almost completely filled.	Allow the device to finish the job, or press ENTER to cancel the job. If the error persists, turn off the device and then turn on the device. If the error persists, add memory to the device.
Mem. low 1 copy **Press [cancel]**	The device completed making one copy. The remaining copies have been canceled because of low device-memory.	Press CANCEL to clear the error. Break the job into smaller jobs that contain fewer pages. If the error persists, turn off the device and then turn on the device. If the error persists, add memory to the device.
Memory low **Only 1 copy made**	The device does not have enough memory to complete the collated copy job.	Break the job into smaller jobs that contain fewer pages. If the error persists, turn off the device and then turn on the device. If the error persists, add memory to the device.
Memory is low **Try again later**	The device does not have enough memory to start a new job.	Wait until the current job is finished before starting a new job. If the error persists, turn off the device and then turn on the device. If the error persists, add memory to the device.
No Dial Tone	The device could not detect a dial tone.	Check for a dial tone on the phone line by pressing START FAX. Unplug the telephone cord from both the device and the wall and replug the cord.

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
		Make sure that you are using the telephone cord that came with the device.
		Unplug the device telephone cord from the wall, plug in a telephone, and try making a voice call.
		Plug the device telephone cord into a jack for another phone line.
		Make sure that the telephone cord connects the device directly to the wall jack. Remove any third-party devices, such as an answering machine, that are connected between the device and the wall jack.
		Update the firmware. See Updating or recovering the firmware code.
		If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
No document sent	The device did not scan any pages, or it did not receive any pages from the computer to transmit a fax.	Try sending the fax again.
No fax answer. **Canceled send**	Attempts to redial a fax number failed, or the "Redial-no answer" option was turned off.	Call the recipient to ensure that the fax machine is on and ready.
		Check that you are dialing the correct fax number.
		Check that the redial option is enabled.
		Unplug the telephone cord from both the device and the wall and replug the cord.
		Unplug the device telephone cord from the wall, plug in a telephone, and try making a voice call.
		Plug the device phone cord into a jack for another phone line.
		Make sure that the telephone cord connects the device directly to the wall jack. Remove any third-party devices, such as an answering machine, that are connected between the device and the wall jack.
		If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
No fax answer **Redial pending**	The receiving fax line did not answer. The device attempts to redial after a few minutes.	Allow the device to retry sending the fax.
		Call the recipient to ensure that the fax machine is on and ready.

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
		Check that you are dialing the correct fax number.
		If the device continues to redial, unplug the device telephone cord from the wall, plug in a telephone, and try making a voice call.
		Plug the device phone cord into a jack for another phone line.
		Try a different phone cord.
		Make sure that the telephone cord connects the device directly to the wall jack. Remove any third-party devices, such as an answering machine, that are connected between the device and the wall jack.
		If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
No fax detected	The device answered the incoming call but did not detect that a fax machine was calling.	Allow the device to retry receiving the fax.
		Try a different phone cord.
		Plug the device phone cord into a jack for another phone line.
		Make sure that the telephone cord connects the device directly to the wall jack. Remove any third-party devices, such as an answering machine, that are connected between the device and the wall jack.
		If the error persists, check the flat flexible cable between the LIU and the formatter. Reseat or replace the cable. If the error persists, replace the LIU. See Removing the formatter and line interface unit (LIU).
No image layout selected	An image layout might not be selected on the proof sheet.	Verify that you have marked one of the bubbles corresponding to an image layout.
No images selected	You might not have selected any images on the proof sheet.	Verify that you have marked the bubbles underneath the images you want to print.
No paper pickup **[Enter] to cont.**	The print engine has failed to pick up a piece of media.	In tray 1, verify that the media was inserted far enough into the tray. In optional tray 2, verify that the paper-length guide is in the correct position for the media size that you are using.
		Reload the media in the input tray and press ENTER to continue the job.
		If the error persists, replace the pickup roller. See Replacing the tray 1 pickup roller and separation pad.
No paper type selected	A paper type might not be selected on the proof sheet.	Verify that you have marked one of the bubbles corresponding to a paper type.

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
No Proof Sheet Found	The proof sheet is not on the scanner, is in the wrong position, or is face up.	Verify that the proof sheet is in the scanner and is properly positioned, face down in the lower right corner.
Only 1 memory card at a time	More than one memory card has been inserted.	Remove all but one memory card.
Page too complex [Enter] to cont.	The device could not print the current page because of its complexity.	Press ENTER to clear the message. Allow the device to finish the job, or press CANCEL to cancel the job.
Photo Job Pending	Second photo job was started prior to completion of first job.	No action required. Message will cease when first job completes.
Photos Not Found	An image has been selected that has been deleted. The image checked on the bubble sheet has been deleted. Memory card has been removed from the memory slot.	Reinsert the card and reselect the image.
Printer jam **Clear paper path**	The device has detected a jam.	Open the scanner assembly and the top cover, and then clear the jam. See Clearing jams. The job should continue to print. If it does not, try reprinting the job. If media jams frequently, see Maintenance.
ProofSheet Error Not Readable	The proof sheet cannot be read because the bubbles have not been completely filled, the proof sheet is wrinkled, the page is skewed on the scanner, or the proof sheet is face up. This feature has been optimized and tested for use with Genuine HP Toner Supplies (variations in color shading can impact the performance of this feature).	1 Verify that the proof sheet bubbles are completely filled. Verify that the proof sheet is face down and properly positioned in the lower right corner. 2 Verify that the proof sheet was not printed crookedly on the paper. 3 Verify that the proof sheet is not lying crookedly on the scanner glass. 4 Verify that you are using genuine HP toner.
Proof Sheet Flatbed Only	A document is in the ADF.	Remove the document from the ADF and verify that the proof sheet is properly positioned on the scanner.
Scanner reserved **for PC scan**	A computer is using the device to create a scan.	Wait until the computer scan has finished, or cancel the scan from the computer software, or press CANCEL.
Scanning error **Cannot connect**	The device cannot transmit scan information to a computer.	Verify that the connection cable is not loose or damaged. Replace the cable if necessary, and try the scan again.
Settings cleared	The device has cleared job settings.	Re-enter any appropriate job settings.
Unauthorized <color>	A new supply has been installed that is not made by HP. This message is displayed	If you believe you purchased an HP supply, please call the HP fraud hotline at 1-877-219-3183. Service or repairs

Table 6-2 Alert and warning messages (continued)

Control panel message	Description	Recommended action
	until an HP supply is installed or ENTER is pressed.	required as a result of using non-HP supplies is not covered under HP warranty. To continue printing, press ENTER. The first pending job will be cancelled.
Unknown Memory Card Error	There is an issue with either the memory card or the device memory-card reader.	Reinsert the card. If the error persists, insert a different card.
Unsupported Memory Card	The memory card that you have inserted is not a type that is supported.	Insert a card that is supported. The HP Color LaserJet 2840 all-in-one supports the following cards: ■ CompactFlash ■ Ultra CompactFlash ■ Smart Media ■ Memory Stick ■ Secure Digital ■ Multi Media Card ■ XD Card

Critical error messages

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

Table 6-3 Critical error messages

Control panel message	Description	Recommended action
50.x Fuser Error	The device has experienced an internal hardware error.	Turn off the device, and then disconnect the power cord. Remove the fuser (see To clear output area jams), and then wait at least **20 minutes**. Reinstall the fuser, turn on the device, and then wait for the device to initialize. ⚠ **CAUTION** The parts on the internal surface of the fuser are very hot. To avoid burning yourself, do not touch those parts. Perform the heating-element check. See Heating element test. If the error persists, replace the fuser assembly. See Replacing the fuser assembly. If, after replacing the fuser assembly, the error persists, replace the power supply. See Removing the power supply cover plate.

Table 6-3 Critical error messages (continued)

Control panel message	Description	Recommended action
51 Laser Error	The device has experienced an internal hardware error.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the device to initialize. If the error persists, replace the laser/scanner assembly. See Removing the laser/scanner assembly.
52 Scanner Error	The device has experienced an internal hardware error.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the device to initialize. If the error persists, replace the scanning assembly. See Removing the scanning assembly.
54.2, 55.1, 59.16, 59.192, 59.4, 59.99 Errors	The device has experienced an internal hardware error.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the device to initialize. **54.2—Carousel rotation error**: Replace the carousel drive motor (see Removing the carousel-engagement motor). If the error persists, replace the DC controller (see Removing the DC controller). If the error still persists, inspect or replace the engaging detection flag. **55.1—DC controller Memory Error**: Replace the DC controller. See Removing the DC controller. **59.16—Main Motor rotation error**: Check the cable connections to the DC controller. If the error persists, replace the DC controller (seeRemoving the DC controller). If the error still persists, replace the main motor. **59.192—Developer Motor rotation error**: Check the cable connections to the DC controller. If the error persists, replace the DC controller (seeRemoving the DC controller). If the error still persists, replace the developer motor. **59.4—Fuser motor error**: Verify that the fuser is seated completely. If the error persists, replace the fuser motor. If the error still persists, replace the DC controller (seeRemoving the DC controller). **59.99—T2 Clutch error**: Check the cable connections to the DC controller. If the error persists, remove the imaging drum and check the clutch. If the error persists, replace the T2 clutch. If the error still persists, replace the DC controller (seeRemoving the DC controller).

Table 6-3 Critical error messages (continued)

Control panel message	Description	Recommended action
57 Fan Error **Turn off then on**	The device has experienced a problem with its internal fan.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the device to initialize. If the error persists, replace the fan. See Removing the air duct and fan. If the error still persists, replace the DC controller. See Removing the DC controller.
79 Error **Turn off then on**	The device has experienced an internal firmware error.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the device to initialize. If you have recently installed a memory DIMM in the device, turn off the device, remove the memory DIMM, reinstall the DIMM to verify that it is seated properly, and then turn on the device. If a surge protector is being used, remove it. Plug the device directly into the wall socket. Use the power switch to turn the device on. If the error persists, upgrade the firmware. See Updating or recovering the firmware code. If the error persists, replace the formatter. See Removing the formatter assemblies.
Engine error	The device has experienced an engine error.	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the device to initialize.
Sensor error	The device has experienced an internal sensor error (most likely, the top-of-page sensor).	Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the device to initialize. If the error persists, check the top-of-page sensor. See Removing the density sensor and top-of-page sensor. If the error persists, replace the DC controller. See Removing the DC controller.

Clearing jams

This section contains instructions for clearing jams from the device.

Media jams occur in the device

Occasionally, paper or other print media can become jammed during a print job. Some causes include the following events:

■ The input trays are loaded improperly or overfilled, or the media guides are not set properly.

■ Optional tray 2 is removed during a print job.

■ The top cover is opened during a print job.

■ Too many sheets have accumulated in an output area, or sheets are blocking an output area. The top output bin should contain no more than 125 sheets. With the rear output door, pages should be removed as soon as they exit the device.

■ The print media that is being used does not meet HP specifications. See Media specifications.

■ The media is damaged or has foreign objects attached to it, such as staples or paper clips.

■ The environment in which the print media was stored is too humid or too dry. See Printing and storage environment.

Tips to avoid media jams

■ Verify that the input tray is not overfilled. The input tray capacity varies depending on the type of print media that you are using.

■ Verify that the media guides are properly adjusted.

■ Check that the input tray is securely in place.

■ Do not add print media into the input tray while the device is printing.

■ Use only HP-recommended media types and sizes. See Media specifications for more information about print media types.

■ Do not let print media stack up in the output bin. The print media type and the amount of toner used affect the output bin capacity.

■ Check the power connection. Make sure that the power cord is firmly connected to both the device and the power supply box. Plug the power cord into a grounded AC power outlet.

Where to look for jams

Jams can occur in these locations:

■ Inside the device—under the imaging drum or along the internal paper path

■ In output areas—either the top output bin or the rear output door

■ In the automatic document feeder (ADF)

Find and remove the jam by using the instructions on the following pages. If the location of the jam is not obvious, first look inside the device.

Loose toner might remain in the device after a jam. This problem typically resolves itself after a few sheets have been printed.

To clear a media jam inside the device

⚠ **CAUTION** Media jams might result in loose toner on the page. If toner gets on your clothing, wipe the toner off with a clean cloth, wash the items in cold water, and air dry. Using hot water or heat from a dryer will set the toner in the fabric. If you get any toner on your hands, wash them in cold water.

Do *not* use a sharp object, such as a pencil or scissors, to remove jammed media.

1 On the back of the device, open the rear-output door, and then push down the fuser levers.
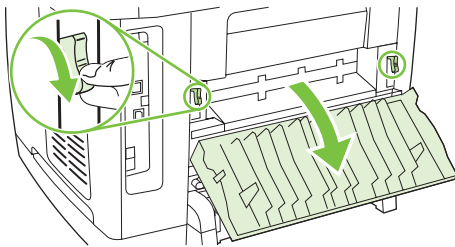
Releasing the fuser levers relieves tension on the device rollers, which allows you to remove the jammed pages.

2 Push the scanner-release button to open the scanner assembly.
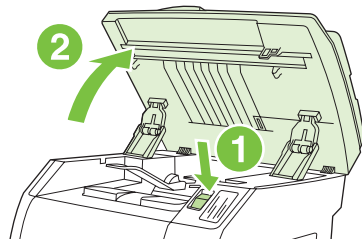
3 Open the top cover, and then remove the image drum and set it aside.
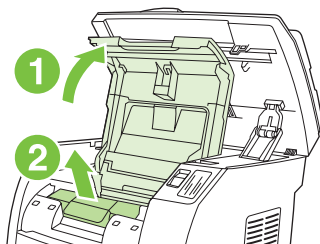
4 With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the device.
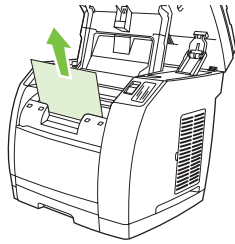
5 When you have removed the jammed media, replace the image drum, and close the top cover and the scanner assembly.
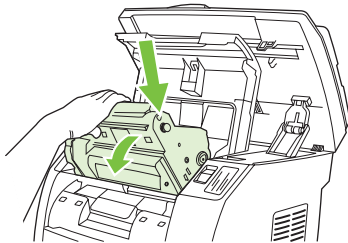
6 Close the rear output door to return the fuser levers to their original upward position.

After clearing the media jam, you might need to turn the device off, and then turn it on again.

NOTE When you add new media, remove all of the media from the input tray, straighten the stack after adding the new media, place the stack in the tray, and then adjust the media guides.

To clear output area jams

If the media has jammed where it exits the device, complete the following steps.

CAUTION Do *not* use a sharp object, such as a pencil or scissors, to remove jammed media.

1 On the back of the device, open the rear-output door, and then push down the fuser levers.
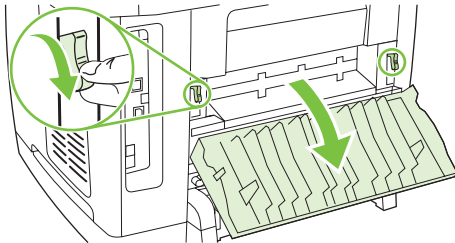
Releasing the fuser levers relieves tension on the device rollers, which allows you to remove the jammed pages.

2 Grasp the leading edge of the media and pull the media out through the output bin.
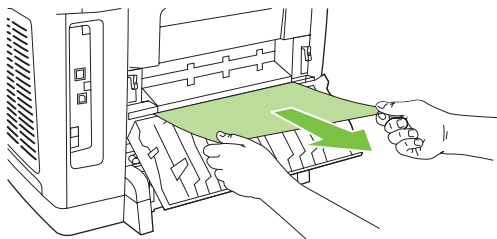
3 Return the fuser levers to their original upward position, and then close the rear-output door.

> **NOTE** If you turned the device off before clearing the media jam, turn it on again, and then restart your printing or copying job.

If the jam is too far into the device to remove, you might have to remove the fuser. To do so, complete the following steps.

1 Turn off the device, and then disconnect the power cable.

2 Rotate the locks on the fuser to the unlocked position.
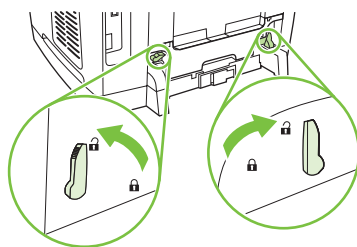
3 Grasp the fuser handle and pull the fuser assembly from the device.
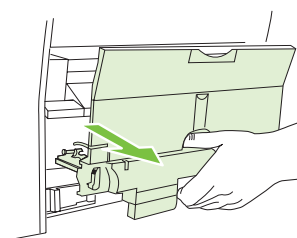
> ⚠ **CAUTION** The parts on the internal surface of the fuser are very hot. To avoid burning yourself, do not touch those parts.

4 Using both hands, slowly and steadily remove any print media from inside the device. Then, carefully reinsert the fuser and secure the locks.

5 Reconnect the power cable, and then turn on the device.

Media jams occur in the automatic document feeder (ADF)

Occasionally, media becomes jammed during a copy, scan, or fax job.

You are notified of a media jam by the **Doc feeder jam Clear, Reload** message that appears on the device control-panel display. Possible problems include the following:

■ The ADF input tray is loaded incorrectly or is too full. See Loading documents to scan for more information.

■ The media does not meet HP specifications, such as those for size or type. See Media specifications for more information.

■ The media is not of good quality. If it is not free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, paper clips and curled or bent edges, replace it.

To clear a media jam from the automatic document feeder (ADF)

1 Open the ADF cover.
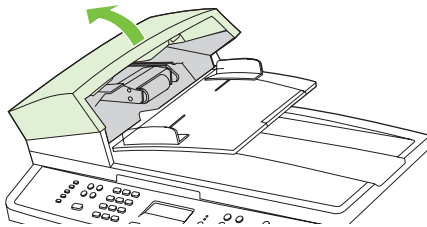
📝 **NOTE** Verify that any shipping tape inside the ADF has been removed.

2 Remove the jam cleanout part. Using both hands, lift up on the two handles until the part unsnaps. Rotate and lift out the cleanout part and set it aside.
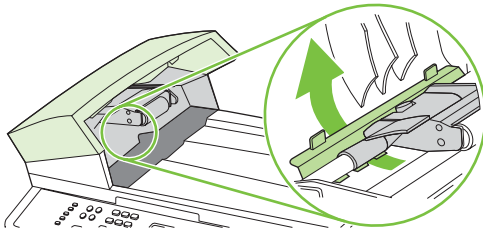
3 Lifting the green lever, rotate the pick mechanism until it stays open.
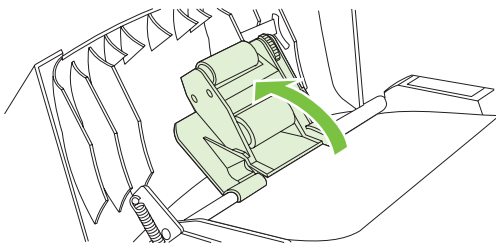
4 Gently try to remove the page without tearing it. If you feel resistance, go to the next step.
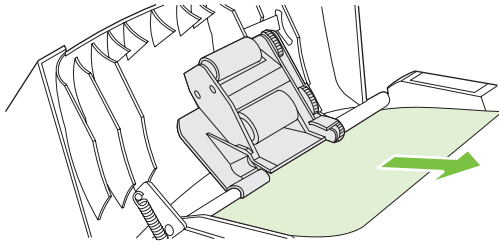
5 Open the ADF lid and gently loosen the media by using both hands. Be careful that the ADF input tray does not fall off while the ADF lid is open.
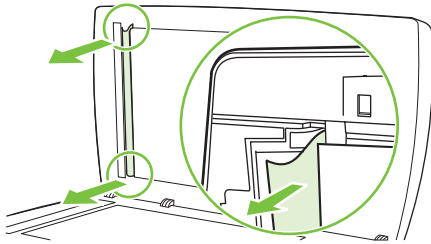
6 When the media is free, gently pull it out in the direction shown.
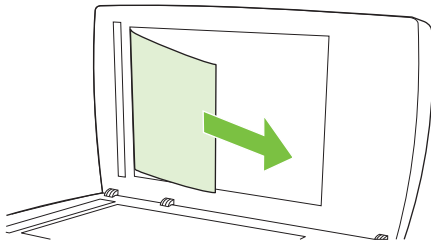
7 Close the lid to the flatbed scanner.
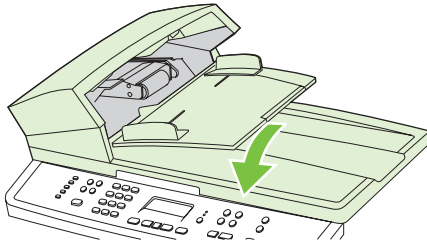
8 Lower the green lever.
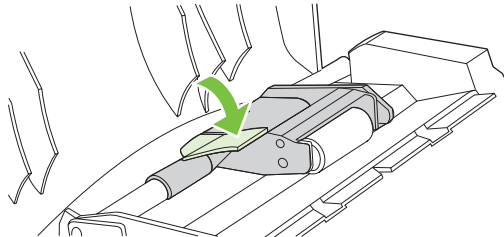
9   Reinstall the cleanout part by inserting it as shown. Push down on the two tabs until the part snaps into place. Install the cleanout part correctly, because future jamming might occur if the cleanout part is not replaced correctly.
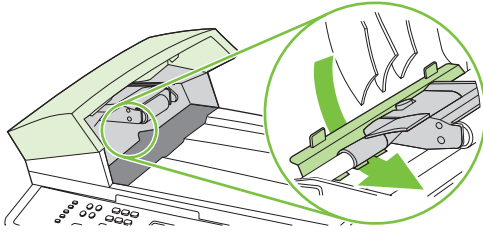
10 Close the ADF lid.
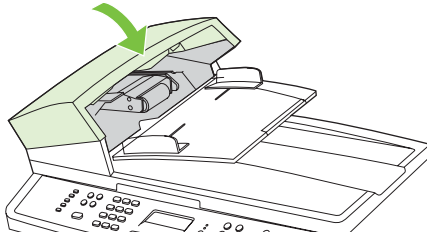
Print problems

Print quality problems

Occasionally, you might encounter problems with print quality. The information in the following sections helps you identify and resolve these issues.

> **NOTE** If you are having copy problems, see Copy problems.

Improving print quality

Use the print-quality settings to prevent print-quality problems.

Understanding print-quality settings

Print-quality settings affect how light or dark the print is on the page and the style in which the graphics are printed. You can also use the print-quality settings to optimize the print quality for a specific media type.

You can change the settings in the device properties to accommodate the types of jobs that you are printing.

To temporarily change print-quality settings

To change the print-quality settings only for the current software program, open the properties through the **Print Setup** menu in the program that you are using to print.

To change print-quality settings for all future jobs

> **NOTE** For Macintosh instructions, see the device user guide for more information.

For Windows 98, Windows 2000, and Windows Me:

1 In the Windows system tray, click **Start**, select **Settings**, and then click **Printers**.

2 Right-click the device icon.

3 Click **Properties** (in Windows 2000, you can also click **Printing Preferences**).

4 Change the settings, and click **OK**.

For Windows XP (corporate version):

1 In the Windows system tray, click **Start**, and then click **Printers and Faxes**.

2 Right-click the device icon.

3 Click **Properties**, or click **Printing Preferences**.

4 Change the settings, and click **OK**.

Identifying and correcting print defects

Use the checklist and print-quality issues charts in this section to solve print-quality problems.

Print-quality checklist

General print-quality problems can be solved by using the following checklist:

1 Make sure that the paper or print media that you are using meets specifications. See Media specifications. Generally, smoother paper provides better results.

   Some paper reams are marked with an arrow on the label that indicates the smooth side of the paper. Make sure that you are printing on the side indicated.
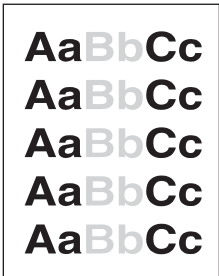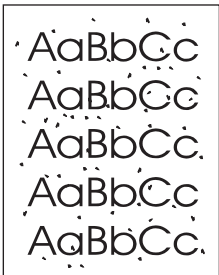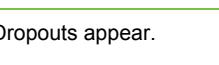
2 If you are using a special print media such as labels, transparencies, glossy, or letterhead, ensure that you have printed by type.

3 Print a Configuration page and Supplies Status page at the device.

   ● Check the Supplies Status page to see if any supplies are low or empty. No information is provided for non-HP print cartridges.

   ● If the pages do not print correctly, the problem is with the hardware.
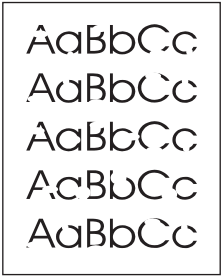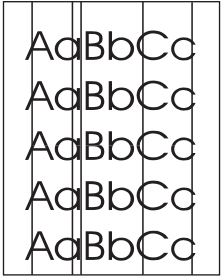
      To determine the hardware problem, lightly press the switch in the upper left corner of the open multipurpose tray, toward the rear of the device frame, with at least three sheets of paper in the multipurpose tray. The device should print a sheet with horizontal lines of all four colors. If one or more colors are missing, inspect the device imaging system. If all colors are printed, troubleshoot for a formatter issue.
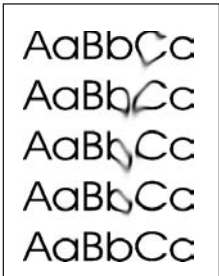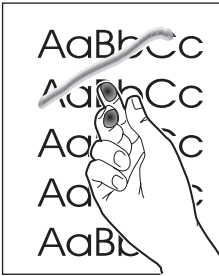
4 Print a Demo page from HP Toolbox. If the page prints, the problem is with the printer driver. Try printing from the other printer driver. For example, if you are using the PCL 6 printer driver, print from the PS printer driver.

   ● Use the Add Printer Wizard in the **Printers** (or **Printers and Faxes** in Windows XP) dialog box to install the PS driver.

5 Try printing from a different program. If the page prints correctly, the problem is with the program from which you were printing.

6 Restart the computer and the device and try printing again. If the problem is not resolved, choose one of these options:

   ● If you suspect the problem is with the engine print and paper path, perform an engine test. See Engine test.

   ● If the problem is affecting all printed pages, see General print quality issues.

   ● If the problem is affecting only pages printed in color, see Solving issues with color documents.
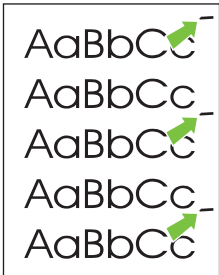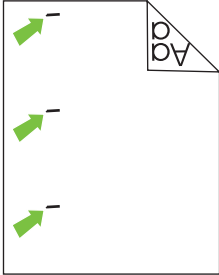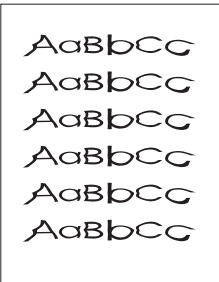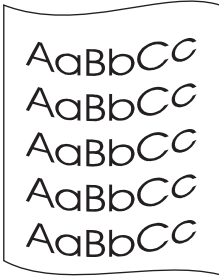
General print quality issues
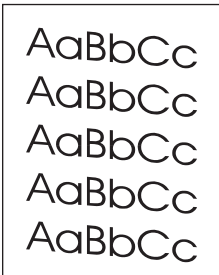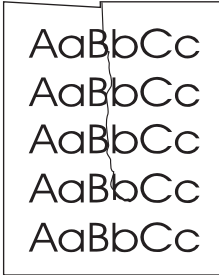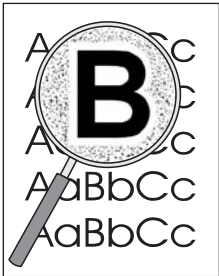
The following examples depict letter-size paper that has passed through the device short edge first. These examples illustrate problems that would affect all of the pages that you print, whether you print in color or in black only. The topics that follow list the typical cause and solution for each of these examples.

Problem	Cause	Solution
Print is light or faded.	The media might not meet HP specifications.	Use media that meets HP specifications. See Media specifications.
	One or more print cartridges might be low. If you are using non-HP print cartridges, no messages appear on the device control panel or in HP Toolbox.	Replace any low print cartridges. See Replacing the print cartridges.
		If you are using non-HP print cartridges, replace them with HP cartridges.
		If none of the print cartridges or the imaging drum is low or empty, remove the print cartridges one at a time and inspect the toner roller in each to see if the roller is damaged. If so, replace the print cartridge.
	The imaging drum might be low or damaged.	Print the Supplies Status page to check the remaining life, and verify that the imaging drum has not been exposed to light for a long period of time. Replace the imaging drum if it is low or damaged. See Replacing the imaging drum.
	The device might not be calibrated correctly.	Calibrate the device. See Printer calibration.
	If the light printing is on the left side of the page, the carousel might be dislocated.	Verify that the print-cartridge carousel drive teeth are aligned correctly. If the teeth are aligned correctly, replace the print-cartridge carousel. See Removing the print-cartridge carousel.
Toner specks appear.	The media might not meet HP specifications.	Use media that meets HP specifications. See Media specifications.
	The paper path might need cleaning.	Clean the paper path. See Cleaning the paper path, or see the HP Toolbox online Help.
Dropouts appear.	A single sheet of print media might be defective.	Try reprinting the job.
	The moisture content of the paper is uneven or the paper has moist spots on its surface.	Try different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.

Problem	Cause	Solution
AaBbCc AaBbCc AaBbCc AcBbCc AaBbCc	The paper lot is flawed. The manufacturing processes can cause some areas to reject toner.	Try different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.
	The imaging drum might be defective.	Replace the imaging drum. See Replacing the imaging drum.
Vertical streaks or bands appear on the page. AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	One or more print cartridges might be low or defective. If you are using non-HP print cartridges, no messages appear on the device control panel or in the HP Toolbox.	Replace any low print cartridges. See Replacing the print cartridges.
	If the error occurs during copy jobs only, the scanner glass of the ADF window might be dirty.	Clean the scanner glass and the ADF window. See .
	The imaging drum might be low.	Replace the imaging drum. See Replacing the imaging drum.
The amount of background toner shading becomes unacceptable. AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	The media might not meet HP specifications.	Use a different paper with a lighter basis weight. See Media specifications.
	Very dry (low humidity) conditions can increase the amount of background shading.	Check the device environment.
	One or more print cartridges might be low. If you are using non-HP print cartridges, no messages appear on the device control panel or in the HP Toolbox.	Replace any low print cartridges. See Replacing the print cartridges.
	The imaging drum might be low.	Replace the imaging drum. See Replacing the imaging drum.
Toner smears appear on the media.	The media might not meet HP specifications.	Use media that meets HP specifications. See Media specifications.
	If toner smears appear on the leading edge of the paper, the media guides are dirty, or debris has accumulated in the print path.	Clean the media guides and the paper path. See Cleaning the paper path.
	The imaging drum might be low.	Replace the imaging drum. See Replacing the imaging drum.

Problem	Cause	Solution
AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	Media might be jammed in the imaging drum.	Complete the following steps to clear the jam:

1 Remove the imaging drum from the device. See Replacing the imaging drum.

2 Rotate the black dial (jam clearance door lock), located on the top, left-hand side of the imaging drum, counterclockwise.

3 Lift upward to open the black jam clearance door near the green handle on the top of the imaging drum.

4 Remove the media from inside the imaging drum.

> **NOTE** Do not touch the white sleeve in the imaging drum when removing the media, as fingerprints will cause print-quality issues. If necessary, use a lint-free cloth to gently wipe any fingerprints off the white sleeve.

5 Close the jam clearance door, and then rotate the locking mechanism clockwise.

6 Reinstall the imaging drum in the device.

Problem	Cause	Solution
The toner smears easily when touched. AaBbCc AaBbCc AaBbCc AaBb AaBb	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of media on which you are printing. Print speed might be slower if you are using heavy paper.
	The media might not meet HP specifications.	Use media that meets HP specifications. See Media specifications.
	The paper path might need cleaning.	Clean the device. See Cleaning the device.
	If the error persists, verify that the fuser is working correctly. If it is not working correctly, replace the fuser. See Removing the formatter assemblies. If the error still persists, replace the DC controller. See Removing the DC controller.	
Marks repeatedly appear at even intervals on the printed side of the page.	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of paper on which you are printing. Print speed might be slower if you are using heavy paper.

Problem	Cause	Solution
AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	Internal parts might have toner on them.	The problem typically corrects itself after a few more pages. Run a cleaning page through the device. See Cleaning the device.
	The paper path might need cleaning.	Run a cleaning page through the device. See Cleaning the device.
	The imaging drum might be low.	Replace the imaging drum. See Replacing the imaging drum.
	The fuser might be damaged.	Replace the fuser. See Replacing the fuser assembly.
Marks repeatedly appear at even intervals on the unprinted side of the page.	Internal parts might have toner on them.	The problem typically corrects itself after a few more pages. Run a cleaning page through the device. See Cleaning the device.
	The paper path might need cleaning.	Run a cleaning page through the device. See Cleaning the device.
	The imaging drum might be low.	Replace the imaging drum. See Replacing the imaging drum.
	The fuser might be damaged.	Replace the fuser. See Replacing the fuser assembly.
The printed page contains misformed characters.	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.
AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	If characters are incorrectly formed so that they produce a wavy effect, the laser/scanner assembly might need service.	Verify that the problem also occurs on the Configuration page. If so, replace the laser/scanner assembly. See Removing the laser/scanner assembly.
The printed page is curled or wavy.	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of paper on which you are printing. Print speed might be slower if you are using heavy paper.
AaBbCC AaBbCC AaBbCC AaBbCC AaBbCC	The paper path is curling the media.	Open the rear output door to print to the straight-through paper path.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.
	Both high temperature and humidity can cause paper curl.	Check the device environment.
Text or graphics are skewed on the printed page.	The media might be loaded incorrectly.	Make sure that the paper or other print media is loaded correctly and that the

Problem	Cause	Solution
AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc		media guides are not too tight or too loose against the stack. See Loading media.
	If the error occurs using either tray 1 or optional tray 2, the paper path might be obstructed.	Remove any media jammed in the paper path. See Clearing jams.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.
	The laser scanner might be incorrectly seated in the device.	Verify that the laser/scanner assembly is correctly seated. See Removing the laser/scanner assembly.
The printed page contains wrinkles or creases. AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	The media might be loaded incorrectly.	Turn over the stack of paper in the input tray, or try rotating the paper 180° in the input tray. Verify that the media is loaded correctly and that the media guides are not too tight or too loose against the stack. See Loading media.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.
	The paper path is curling the media.	Open the rear output door to print to the straight-through paper path.
Toner appears around the printed characters. AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	The media might be loaded incorrectly.	Turn over the stack of paper in the tray.
	If large amounts of toner have scattered around the characters, the paper might have high resistivity.	Use a different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.
	The device might not be calibrated correctly.	Calibrate the device. See Printer calibration.
An image that appears at the top of the page (in solid black) repeats farther down the page (in a gray field). AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	Software settings might affect image printing.	In your software program, change the tone (darkness) of the field in which the repeated image appears. In your software program, rotate the whole page 180° to print the lighter image first.
	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of paper on which you are printing. Print speed might be slower if you are using heavy paper.
	The order of images printed might affect printing.	Change the order in which the images are printed. For example, have the

Problem	Cause	Solution
		lighter image at the top of the page, and the darker image farther down the page.
	A power surge might have affected the device.	If the defect occurs later in a print job, turn the device off for 10 minutes, and then turn on the device to restart the print job.

Solving issues with color documents

This section describes issues that can occur when you print in color.

Problem	Cause	Solution
Only black is printing when the document should be printing in color.	Color mode is not selected in your program or printer driver.	Select color mode instead of grayscale mode.
	The correct printer driver might not be selected in the program.	Select the correct printer driver.
	The device might not be correctly configured.	1 To determine if a hardware problem exists, lightly press the switch in the upper left corner of the open multipurpose tray, toward the rear of the device frame, with at least three sheets of paper in the multipurpose tray. The device should print a sheet with horizontal lines of all four colors. If one or more colors are missing, inspect the device imaging system. If all colors are printed, inspect the formatter.
		2 Print a Configuration page. If no color appears on the Configuration page, replace the imaging drum. See Replacing the imaging drum.
One or more colors are not printing, or are inaccurate.	Sealing tape might be on the print cartridges.	Verify that the sealing tape has been completely removed from the print cartridges.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.
	The device might be operating in excessively humid conditions.	Verify that the device environment is within humidity specifications.
	One or more print cartridges might be low. If you are using non-HP print cartridges, no messages appear on the device control panel or in the HP Toolbox.	Replace any low print cartridges. See Replacing the print cartridges.
A color is printing inconsistently after you load a new print cartridge.	Another print cartridge might be low. If you are using a non-HP print cartridge, it might be low or empty but you will receive no indication.	Check the control-panel display or HP Toolbox to see if a print cartridge is low, and replace it if necessary.
	Print cartridges might be incorrectly installed.	Remove the print cartridge for the color that is printing inconsistently and reinstall it.
	The device might have calibrated incorrectly after you installed a print cartridge.	Calibrate the device. See Printer calibration.

Problem	Cause	Solution
The colors on the printed page do not match the colors as they appear on the screen.	The colors on your computer monitor might differ from the device output.	Select **Screen Match** in the **Color** tab of the printer driver.
	The printer driver might affect color printing.	Try printing from a different program or one of the other printer drivers. For example, if you are using the PCL 6 printer driver, try the PS printer driver.
	If extremely light colors or extremely dark colors on screen are not printing, your software program might interpret extremely light colors as white or extremely dark colors as black.	If possible, avoid using extremely light or extremely dark colors.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers. See Media specifications.
The finish on the printed color page is inconsistent.	The media might be too rough.	Use a smooth paper or print media, such as a high-quality paper that is made for color laser printers. Generally, smoother media produces better the results. See Media specifications.

Media-handling problems

Use the information in this section when the device experiences media-handling problems.

Print-media guidelines

- For best results, make sure that the paper is of good quality, and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.

- For best-quality color printing, use a smooth type of paper. Generally, smoother media produces better results. For more information, see Media specifications.

- If you are unsure what type of paper you are loading (such as bond or recycled), check the label on the package of paper.

  △ **CAUTION** Do not use media that is designed for Inkjet printers only. Use media that is designed for color LaserJet printers.

- Do not use letterhead paper that is printed with low-temperature inks, such as those used in some types of thermography.

- Do not use raised or embossed letterhead.

■ The device uses heat and pressure to fuse toner to the paper. Make sure that any colored paper or preprinted forms use inks that are compatible with this fusing temperature (210°C or 410°F for 0.2 second).

⚠ **CAUTION** Failure to follow these guidelines could cause jams or damage to the device.

Solving print-media problems

The following problems with paper cause print quality deviations, jamming, or even damage to the device.

Problem	Cause	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy or too smooth, or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, 4 to 6% moisture content.
Dropouts, jamming, or curl	The paper has been stored incorrectly.	Store paper flat in its moisture-proof wrapping.
	The paper has variability from one side to the other.	Turn the paper over.
Excessive curl	The paper is too moist, has the wrong grain direction, or is of short-grain construction	Open the rear output bin, or use long-grain paper.
	The paper varies from side-to-side.	Turn the paper over.
Jamming, damage to device	The paper has cutouts or perforations.	Use paper that is free of cutouts or perforations.
Problems with feeding	The paper has ragged edges.	Use high-quality paper that is made for color laser printers.
	The paper varies from side-to-side.	Turn the paper over.
	The paper is too moist, too rough, too heavy or too smooth, has the wrong grain direction, or is of short-grain construction or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, 4 to 6% moisture content.
		Open the rear output bin, or use long-grain paper.
Print is skewed (crooked).	The media guides might be incorrectly adjusted.	Remove all media from the input tray, straighten the stack, and then load the media in the input tray again. Adjust the media guides to the width and length of the media that you are using and try printing again.
	If the error occurs using either tray 1 or optional tray 2, the paper path might be obstructed	Remove any media jammed in the paper path. See Clearing jams.
More than one sheet feeds at one time.	The media tray might be overloaded.	Remove some of the media from the tray. See Loading media.
	The media might be wrinkled, folded, or damaged.	Verify that the media is not wrinkled, folded, or damaged. Try printing on media from a new or different package.

Problem	Cause	Solution
Device does not pull media from the media input tray.	The device might be in manual feed mode.	■ If **Manual feed** appears on the device control-panel display, press ENTER to print the job. ■ Verify that the device is not in manual feed mode and print your job again.
	The pickup roller might be dirty or damaged.	Clean or replace the pickup roller. See Replacing the tray 1 pickup roller and separation pad.
	The paper-length adjustment control in tray 2 (HP Color LaserJet 2840 all-in-one only) is set at a length that is greater than the media size.	Adjust the paper-length adjustment control to the correct length.

Performance problems

Try the tips in this section if pages exit the device, but have nothing printed on them, or when the device does not print any pages.

Problem	Cause	Solution
Pages print but are totally blank.	The sealing tape might still be in the print cartridges.	Verify that the sealing tape has been completely removed from the print cartridges.
	The document might contain blank pages.	Check the document that you are printing to see if content appears on all of the pages.
	The device might be malfunctioning.	To check the device, print a Configuration page.
Pages print very slowly.	Printing in color can slow the print job.	If you do not need color for your print job, set the driver to print in grayscale.
	Certain media types can slow the print job. See Table 1-15 Special media print speeds.	Print on a different type of media.
Pages did not print.	The device might not be pulling media correctly.	See Media-handling problems.
	The media is jamming in the device.	Clear the jam. See Clearing jams.
	The USB cable might be defective or incorrectly connected.	■ Disconnect the USB cable at both ends and reconnect it. ■ Try printing a job that has printed in the past. ■ Try using a different USB cable.
	Other devices are running on your computer.	The device might not share a USB port. If you have an external hard drive or network switchbox that is connected

Problem	Cause	Solution
		to the same port as the device, the other device might be interfering. To connect and use the device, you must disconnect the other device or you must use two USB ports on the computer.

Scan problems

This section helps you identify and resolve scanning problems.

Solving scanned image problems

Use the table below to solve image-scan issues.

Problem	Cause	Solution
The scanned image is of poor quality.	The original might be a second-generation photo or picture.	■ To eliminate the patterns, try reducing the size of the image after scanning. ■ Print the scanned image to see if the quality is better. ■ Verify that your resolution and color settings are correct for the type of scan job that you are performing. ■ For best results, use the flatbed scanner for scanning rather than the automatic document feeder (ADF).
	If the scanned page has a background but the original document does not, the original might be too thin to scan or copy cleanly.	On the flatbed scanner, place three sheets of clean paper on top of the original, close the flatbed scanner cover, and then re-scan the original.
	The image that appears on the screen might not be an accurate representation of the quality of the scan.	■ Try adjusting your computer monitor settings to use more colors (or levels of gray). Typically, you make this adjustment by opening **Display** in Windows Control Panel. ■ Try adjusting the resolution and color settings in the scanner software.
	The original might have been loaded incorrectly.	Use the media guides when you load the originals into the ADF. See Loading documents to scan.
	The scanner might be dirty.	Clean the scanner. See To clean the scanner glass.
	The graphics settings might not be suitable for the type of scan job that you are performing.	Try changing the graphics settings or the scan mode.
Part of the image did not scan.	The original might have been loaded incorrectly.	Use the media guides when you load the originals into the ADF. See Loading documents to scan.
	A colored background might be causing images in the foreground to blend into the background.	Try adjusting the settings before you scan the original or enhancing the image after you scan the original.

Problem	Cause	Solution
	The original is longer than 381 mm (15 inches).	The maximum scannable length is 381 mm (15 in) when you use the automatic document feeder (ADF) input tray. If the page exceeds the maximum length, the scanner stops. (Copies can be longer.) ⚠ **CAUTION** Do not try to pull the original from the ADF; you might damage the scanner or your original. See Media jams occur in the automatic document feeder (ADF).
	The original is too small.	The minimum size that the flatbed scanner supports is 25 by 25 mm (1 by 1 inches). The minimum size that the ADF supports is 127 by 127 mm (5 by 5 inches). The original might be jammed. See Media jams occur in the automatic document feeder (ADF).
	The media size is incorrect.	In Scan settings, make sure that the input media size is large enough for the document that you are scanning.
The scan takes too long	The resolution or color level is set too high.	Change the resolution and color level settings to the correct settings for your job.
	The software is set to scan in color.	The system default is color, which takes longer to scan even when scanning a monochrome original. If you acquire an image through TWAIN or WIA, you can change the settings so that the original scans in grayscale or black-and-white. See the device software Help for details.
	A print job or copy job was sent before you tried to scan.	If someone sent a print job or copy job before you tried to scan, the scan will start if the scanner is not busy. However, because the printer and scanner share memory, the scan might be slower.

Scan quality problems

This section provides information about improving scan quality by preventing or correcting problems.

Preventing problems

The following are a few simple steps you can take to improve copy and scan quality.

■ Use the flatbed scanner, rather than the automatic document feeder (ADF) input tray, to scan.

■ Use high-quality originals.

- Load the media correctly. If the media is loaded incorrectly, it might skew, which causes unclear images. See Loading media for instructions.

- Adjust the software settings according to how you plan to use the scanned page.

  - Use the **Text** setting for items that contain mostly text.

  - Use the **Photo** setting when you are making a copy of a photo or graphic.

  - Use the **Mixed** setting for documents that include both text and graphics.

  - Use the **Draft** setting if you want to conserve toner or if the copy quality is not as important.

- If your device frequently feeds more than one page at a time, the separation pad might need to be replaced. See Replacing the tray 1 pickup roller and separation pad.

- Use or make a carrier sheet to protect your originals.

Solving scan-quality problems

Problem	Cause	Solution
Blank pages	The original might have been loaded upside down.	In the automatic document feeder (ADF), put the top end of the stack of originals into the ADF input tray, with the media stack face-up and the first page to be scanned on top of the stack. On the flatbed scanner, place the original document face-down with the upper-left corner of the document at the lower-right corner of the glass.
	The scanner bulb might not be working.	If the scanner bulb does not light, verify that the cables from the scanner to the formatter are connected correctly. See Removing the scanning assembly. If the error persists, replace parts one at a time in the following order until the problem is resolved: scanner assembly, and finally the formatter (see Removing the formatter assemblies).
Too light or dark	The resolution and color levels may be set incorrectly.	Verify that you have the correct resolution and color settings. - Use the **Text** setting for items that contain mostly text. - Use the **Photo** setting when you are making a copy of a photo or graphic. - Use the **Mixed** setting for documents that include both text and graphics. - Use the **Draft** setting if you want to conserve toner or if the copy quality is not as important.

Problem	Cause	Solution
Unwanted lines	Ink, glue, correction fluid, or an unwanted substance might be on the glass.	Clean the flatbed scanner surface. See To clean the scanner glass.
	The ADF glass might be dirty.	Clean the ADF glass. See To clean the scanner glass.
Black dots or streaks	Ink, glue, correction fluid, or an unwanted substance might be on the glass.	Clean the flatbed scanner surface. See To clean the scanner glass.
Unclear text	The resolution and color levels may be set incorrectly.	Verify that you have the correct resolution and color settings.
The scanned page has a background but the original document does not.	The original might be too thin to scan cleanly.	On the flatbed scanner, place three sheets of clean paper on top of the original, close the flatbed scanner cover, and then re-scan the original.

Scan-specific error messages

Table 6-4

Message	Description	Solution
BulbWarmupFromCoarse	The lamp light level might be too low, or the lamp stability criteria might not be met.	1 Power cycle the device.
BulbWarmupFromOff	The scanner might not be meeting the threshold light level.	2 Replace the scanning assembly. See Removing the scanning assembly.
CalLabelFind	Find cal label black/white transition and then find cal label black squares.	3 Replace the formatter. See Removing the formatter assemblies.
CalLabelFindAfterScan	Find cal label after a scan or copy return-to-home.	
DarkFind	The bulb will not light, and the scanner moves to the right. The CCD might not be able to find a suitable dark spot in the scanning assembly to warm up.	
DocOriginFind	Find bezel notch.	
LMWFinalFind	Scanner sets final LMW window.	
LMWTempFind	Scanner sets temporary LMW window.	

Copy problems

This section helps you identify and resolve copying problems.

Preventing problems

The following are a few simple steps you can take to improve copy quality:
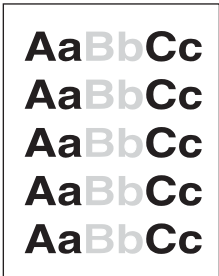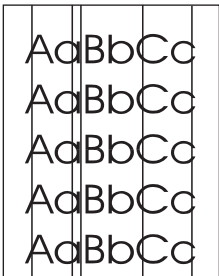
- Copy from the flatbed scanner. This will produce a higher quality copy than copying from the automatic document feeder (ADF).

- Use quality originals.

- Load the media correctly. If the media is loaded incorrectly, it might skew, causing unclear images and problems with the OCR application. See Loading documents to scan for instructions.

- Use or make a carrier sheet to protect your originals.

NOTE Verify that the media meets HP specifications. If the media meets HP specifications, recurring feed problems indicate the separation pad is worn and needs to be replaced. See Replacing the tray 1 pickup roller and separation pad.

Image problems

Problem	Cause	Solution
Images are missing or faded.	One or more print cartridges might be low.	Replace any low print cartridges. See Replacing the print cartridges.
	The device might have calibrated incorrectly after you installed a print cartridge.	Calibrate the device. See Printer calibration.
	The original might be of poor quality.	If your original is too light or damaged, the copy might not be able to compensate, even if you adjust the contrast. If possible, find an original document in better condition.
	The original might have a colored background.	Colored backgrounds might cause images in the foreground to blend into the background, or the background might appear in a different shade. If possible, use an original document without a colored background.
Vertical white or faded stripes appear on the copy.	The media might not meet HP specifications.	Use media that meets HP specifications. See Media specifications.
	One or more print cartridges might be low.	Replace any low print cartridges. See Replacing the print cartridges. If the error persists, inspect the print cartridges for defects in the printing area.
	If the error persists, inspect the image drum for damage. See Replacing the imaging drum. If the error persists, inspect the transfer roller for contamination or damage. See Removing the transfer roller. If error persists, inspect the laser/	

Problem	Cause	Solution
AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc		scanner for contamination (paper dust or fibers) on the window. See Removing the laser/scanner assembly. If the error occurs only on copy jobs, clean the ADF scanning window (see To clean the scanner glass). If the error still persists, replace the scanning assembly. See Removing the scanning assembly.
Unwanted lines appear on the copy.	Tray 1 might not be placed correctly.	Verify that tray 1 is in place.
AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc	The flatbed scanner or the ADF scanning window might be dirty.	Clean the flatbed scanner or the ADF scanning window. See To clean the scanner glass.
	The imaging drum might have been scratched.	Replace the imaging drum. See Replacing the imaging drum.
	An image exists on the back of the original, or defects exist on the scanner cover.	On the flatbed scanner, place three sheets of clean paper on top of the original, close the flatbed scanner cover, and then re-scan the original.
	If the error persists, a print a document from the computer. If the printed page is free of the unwanted lines, and if the flatbed glass and ADF scanning window are clean, replace the scanning assembly. See Removing the scanning assembly.	
Black dots or streaks appear on the copy.	Ink, glue, correction fluid, or an unwanted substance might be on the automatic document feeder (ADF) or flatbed scanner.	Clean the device. See Cleaning the device.
	The imaging drum might be damaged or contaminated.	Inspect the imaging drum, and replace it if necessary. See Replacing the imaging drum.
	The fuser rollers might be contaminated.	Inspect the fuser rollers, and clean them if necessary.
Copies are too light or dark.	The device settings may be incorrect.	Verify that the quality settings are correct on the device control panel. See the device software Help for more information about changing the settings.
	The device might not be calibrated correctly.	Calibrate the device. See Printer calibration.
Text is unclear.	The device settings may be incorrect.	Verify that the quality settings are correct on the device control panel. See the device software Help for more information about changing the settings.
	The device might not be calibrated correctly.	Calibrate the device. See Printer calibration.

Problem	Cause	Solution
	The original is of poor quality.	Try copying another document. If the copy is free of defects, obtain a better-quality original.
	If the error persists, a print a document from the computer. If the printed page is free of unclear text, and if the flatbed glass and ADF scanning window are clean, replace the scanning assembly. See Removing the scanning assembly.	

Media-handling problems

Problem	Cause	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy or too smooth, or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, 4 to 6% moisture content.
	The device settings are not compatible with the media you are using.	Change the device settings to reflect the media that you are using.
Dropouts, jamming, or curl	The paper has been stored incorrectly.	Store paper flat in its moisture-proof wrapping.
	The paper has variability from one side to the other.	Turn the paper over.
Excessive curl	The paper is too moist, has the wrong grain direction, or is of short-grain construction	Open the rear output bin, or use long-grain paper.
	The paper varies from side-to-side.	Turn the paper over.
Jamming, damage to device	The paper has cutouts or perforations.	Use paper that is free of cutouts or perforations.
	The paper has staples or paper clips.	Remove any staples or paper clips from the original document.
Problems with feeding	The paper has ragged edges.	Use high-quality paper that is made for color laser printers.
	The paper varies from side-to-side.	Turn the paper over.
	The paper is too moist, too rough, too heavy or too smooth, has the wrong grain direction, or is of short-grain construction or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, 4 to 6% moisture content.
		Open the rear output bin, or use long-grain paper.
Print is skewed (crooked).	The media guides might be incorrectly adjusted.	Remove all media from the input tray, straighten the stack, and then load the media in the input tray again. Adjust the media guides to the width and length of the media that you are using and try printing again.
More than one sheet feeds at one time.	The media tray might be overloaded.	Remove some of the media from the tray. See Loading media.
	The media might be wrinkled, folded, or damaged.	Verify that the media is not wrinkled, folded, or damaged. Try printing on media from a new or different package.

Problem	Cause	Solution
Device does not pull media from the media input tray.	The device might be in manual feed mode.	■ If **Manual feed** appears on the device control-panel display, press ENTER to print the job. ■ Verify that the device is not in manual feed mode and print your job again.
	The device does not detect media in the tray.	Verify that there is media in the tray. If the error persists, inspect the sensor. See Removing the density sensor and top-of-page sensor.
	The pickup roller might be dirty or damaged.	Clean or replace the pickup roller. See Replacing the tray 1 pickup roller and separation pad.
	The paper-length adjustment control in tray 2 (HP Color LaserJet 2840 all-in-one only) is set at a length that is greater than the media size.	Adjust the paper-length adjustment control to the correct length.

Performance problems

Problem	Cause	Solution
No copy came out.	The input tray might be empty.	Load media in the device. See Loading documents to scan for more information.
	The original might have been loaded incorrectly.	In the automatic document feeder (ADF), load the original with the narrow side forward and the side to be scanned facing up. On the flatbed scanner, place the original document face-down with the upper-left corner of the document at the lower-right corner of the glass.
	If the error persists, determine if a hardware problem exists. Lightly press the switch in the upper left corner of the open multipurpose tray, toward the rear of the device frame, with at least three sheets of paper in the multipurpose tray. The device should print a sheet with horizontal lines of all four colors. If one or more colors are missing, inspect the device imaging system.	
Copies are blank.	The sealing tape might not have been removed from the print cartridges.	Remove the print cartridges from the device, pull out the sealing tape, and reinstall the print cartridges.
	The original might have been loaded incorrectly.	In the ADF, load the original with the narrow side forward and the side to be scanned facing up. On the flatbed scanner, make sure that the original document is placed face-down with the upper-left corner of the document at the lower-right corner of the glass.

Problem	Cause	Solution
	The media might not meet HP specifications.	Use media that meets HP specifications. See Media specifications.
	One or more print cartridges might be low.	Replace any low print cartridges. See Replacing the print cartridges.
	If the error persists, determine if a hardware problem exists. Lightly press the switch in the upper left corner of the open multipurpose tray, toward the rear of the device frame, with at least three sheets of paper in the multipurpose tray. The device should print a sheet with horizontal lines of all four colors. If one or more colors are missing, inspect the device imaging system.	
The wrong original was copied.	The ADF might be loaded.	Make sure that the ADF is empty.
Copies are reduced in size.	The device software settings might be set to reduce the scanned image.	See the HP Toolbox Help for more information about changing the settings.

Fax problems

This section helps you identify and resolve fax problems.

Problems receiving faxes

Use the table in this section to solve problems that might occur when receiving faxes.

📝 **NOTE** You must use the fax cord that came with the device in order to ensure that the device functions correctly.

Problem	Cause	Solution
The device cannot receive faxes from an extension telephone.	The extension-telephone setting might be disabled.	Change the setting to allow faxes from an extension telephone.
	The fax cord might not be securely connected.	Verify that the fax cord is securely connected between the telephone jack and the device (or another device that is connected to the device). Press 1-2-3 in sequence (tone-dial mode only), wait for three seconds, and then hang up.
	The device dialing mode might be incorrectly set, or the extension phone might be incorrectly set.	Verify that the device dialing mode is set to **Tone**. Verify that the extension phone is set up for tone dialing as well.
Incoming fax calls are not being answered by the device.	The answer mode might be set to **Manual**.	If the answer mode is set to **Manual**, the device does not answer calls. You have to start the fax-receiving process manually.
	The rings-to-answer setting might not be set correctly.	Check the rings-to-answer setting for your configuration.
	The answer-ring pattern feature might be turned on, but you do not have the service, or you do have the service and the feature is not set correctly.	Check the answer-ring pattern feature to verify that it is set properly.
	The fax cord might not be correctly connected, or the fax cord is not working.	See the device getting started guide to check the installation. Verify that you are using the fax cord that came with the device.
	The device might not be able to detect incoming fax tones because the answering machine is playing a voice message.	Re-record your answering machine message, leaving at least two seconds of silence at the beginning of the message.
	Too many devices might be connected to the telephone line.	You should not have more than three devices attached to the line. Try removing the last device that was connected and determine whether the device works. If not, continue removing devices one at a time and retry after removing each one.

Problem	Cause	Solution
	The telephone line might not be working.	Do one of the following: ■ Increase the volume on the device, and then press START FAX on the control panel. If you hear a dial tone, the telephone line is working. ■ Disconnect the device from the telephone jack, and then connect a telephone. Try to make a telephone call to verify that the telephone line is working.
Incoming fax calls are not being answered by the device.	A voice-messaging service might be interfering with the device as it attempts to answer calls.	Do one of the following: ■ Disable the messaging service. ■ Get a telephone line that is dedicated to fax calls. ■ Set the device answer mode to **Manual**. In manual mode, you must start the fax-receive process yourself. ■ Leave the device set to automatic mode and lower the rings-to-answer setting for the device to a number less than the rings-to-answer setting for the voice mail. The device will answer all incoming calls.
	The device might be out of paper and the memory is full.	Refill the media input tray. Press ENTER. The device prints all of the faxes it has saved in memory and then resumes answering fax calls.
	If the error persists, verify that the flat cable that connects the formatter to the line interface unit (LIU) is connected correctly. If the error still persists, replace the LIU. See Removing the formatter and line interface unit (LIU).	
Faxes are not printing.	The media input tray is empty.	Load media. Any faxes that are received while the input tray is empty are stored in memory and will print after the tray has been refilled.
	The receive-to-PC option might be selected, and faxes are being received by the computer.	Check to determine whether the computer is receiving faxes.
Faxes are printing on two pages instead of one.	The autoreduction setting might not be set correctly.	Turn on the autoreduction setting.
	The incoming faxes might have been sent on larger media.	Turn on the autoreduction setting to allow larger pages to be printed on one page.
Received faxes are too light or are printing only on half of the page.	The device ran out of toner while printing a fax.	The device stores the most recently printed faxes. (The amount of memory that is available determines the actual

Problem	Cause	Solution
		number of faxes stored for reprinting.) As soon as possible, replace the print cartridge, and then reprint the fax.
	The fax that was sent was too light.	Contact the sender and have the sender resend the fax after altering the settings.

Problems sending faxes

Use the information in this table to solve problems that might occur when sending faxes.

Problem	Cause	Solution
The document stops feeding in the middle of faxing.	The maximum length of a page that you can load is 381 mm (15 inches). Faxing of a longer page stops at 381 mm (15 inches).	Print the document on shorter media. If no jam exists and less than one minute has elapsed, wait a moment before pressing CANCEL. If a jam exists, see Clearing jams. Then, resend the job.
	If the item is too small, it can jam inside the automatic document feeder (ADF).	Use the flatbed scanner. The minimum page size for the ADF is 127 by 127 mm (5 by 5 inches). If a jam exists, see Clearing jams. Then, resend the job.
Faxes stop during sending.	The fax machine to which you are sending might be malfunctioning.	Try sending to another fax machine.
	Your telephone line might not be working.	Do one of the following: ■ Turn up the volume on the device, and then press START FAX on the control panel. If you hear a dial tone, the telephone line is working. ■ Disconnect the device from the jack in the wall, and then connect a telephone to the jack. Try to make a telephone call to verify that the telephone line is working.
	A communication error might be interrupting the fax job.	Change the redial-on-communication-error setting to **On**.
The device is receiving faxes but is not sending them.	If your device is on a PBX system, the PBX system might be generating a dial tone that the device cannot detect.	Disable the detect-dial-tone setting.
	A poor telephone connection might exist.	Try again later.
	The fax machine to which you are sending might be malfunctioning.	Try sending to another fax machine.

Problem	Cause	Solution
	Your telephone line might not be working.	Do one of the following: ■ Turn up the volume on the device and press START FAX on the control panel. If you hear a dial tone, the telephone line is working. ■ Disconnect the device from the telephone jack and connect a telephone. Try to make a telephone call to verify that the telephone line is working.
Outgoing fax calls continue to be dialed.	The device automatically redials a fax number if the redial options are set to **On**.	To stop the redials while the device is dialing, press CANCEL. Change the redial setting.
Faxes that you send are not arriving at the receiving fax machine.	The receiving fax machine might be off or might have an error condition, such as being out of paper.	Call the recipient to verify that the fax machine is on and ready to receive faxes.
	The originals might be incorrectly loaded.	Verify that the original documents are correctly loaded into the ADF input tray or flatbed scanner. See Loading media
	A fax might be in memory because it is waiting to redial a busy number, other jobs that are ahead of it are waiting to be sent, or the fax is set up for a delayed send.	If a fax job is in memory for any of these reasons, an entry for the job appears in the fax log. Print the fax activity log and check the **Status** column for jobs that show a **Pending** designation.
Faxes you send include a block of gray shading at the end of each page.	You might be sending a fax from the flatbed scanner with the glass-fax size set incorrectly.	Verify that the setting is correct.
Faxes you send have data missing from the end of each page.	You might be sending a fax from the flatbed scanner with the glass-fax size set incorrectly.	Verify that the setting is correct.

Voice call problems

Problem	Cause	Solution
Voice calls are not being received by the telephone or answering machine that is connected to the line.	The fax cord might not be correctly connected.	See the device getting started guide to check the installation. The device must be the first device connected to the telephone line.
	The answer mode or rings-to-answer settings might not be correctly set.	Verify that the rings-to-answer setting is set higher than the answering machine setting.
	The answering machine or telephone might not be functioning.	Connect the telephone or answering machine directly to the telephone line and determine if it works by itself.

Media-handling problems

Use the information in this table to solve problems that involve print media.

NOTE   For information about removing jams, see Clearing jams.

Problem	Cause	Solution
Print is skewed.	The media input tray might be overloaded.	Remove some of the media from the input tray.
	The media guides might be incorrectly set, broken, or missing.	Verify that the guides are not adjusted too tightly or too loosely against the paper. Check for broken or missing guides, and replace them if necessary.
	The media might not meet HP specifications.	Use media that meets HP specifications. See Media specifications.
Pages are curled or wrinkled.	The media might not meet HP specifications.	Use media that meets HP specifications. See Media specifications.
	The paper path might be affecting the pages.	Open the straight-through output door on the back of the device and use this paper path.
	The media is not stored properly.	When possible, store media in its sealed ream at room temperature.
	The media has been in the input tray too long.	Turn over the stack of media in the tray or rotate the media 180° in the paper tray.

Performance problems

Problem	Cause	Solution
Faxes are transmitting or being received very slowly.	The fax might be very complex, such as one with many graphics.	Complex faxes take longer to be sent or received. Breaking longer faxes into multiple jobs and decreasing the resolution can increase the transmission speed.
	The receiving fax machine might have a slow modem speed.	The device only sends the fax at the fastest modem speed that the receiving fax machine can accept.
	The resolution at which the fax was sent or is being received might be very high.	If you are receiving the fax, call and ask the sender to lower the resolution and resend the fax. If you are sending the fax, lower the resolution and resend the fax.
	Your telephone line might not be working.	Hang up and resend the fax. Have the telephone company check the telephone line.
	You are sending a fax via an international call.	You must allow more time to transmit fax jobs internationally.

Problem	Cause	Solution
The fax activity logs or fax call reports are printing at inappropriate times.	The fax activity log or fax call reports settings are not correct.	Print a Configuration page and check when the reports print.
The device sounds are too loud or too soft.	The volume setting might not be adjusted correctly.	Adjust the volume setting to the correct volume level.

Memory card problems

This section helps you identify and resolve memory card-related problems.

📝 **NOTE** For help with control-panel error messages while printing from a memory card, see Control-panel messages.

Missing or wrong files

Use the table in this section to solve problems with memory-card files.

Problem	Cause	Solution
Device cannot detect files on the memory card.	The memory card might be missing or inserted incorrectly.	Verify that the memory card is inserted correctly. If the card is correctly inserted, use another memory card. If more than one memory type card has the same issue, verify that the LED lights when a card inserted. If the LED does not light, verify that the flat cable from the formatter is connected correctly to the memory-card assembly. If the error persists, replace the memory-card assembly. See Replacing the memory-card assembly (HP Color LaserJet 2840 all-in-one only).
	The files might not be in the correct format.	To print from the device control panel, the files must be in the sRGB JPEG format. To print other formats, you must use a software program on your computer.
	You might have inserted more than one memory card.	Only one card slot can be occupied for the device to detect JPEG files. Verify that only one card is inserted.

Index page not printing

Use the table in this section to solve problems with index-page printing.

Problem	Cause	Solution
The index page will not print.	The memory card might have been removed before the device could print the page, or the memory card might have been inserted incorrectly.	Reinsert the card and reprint the index page. If the card is correctly inserted, use another memory card. If more than one memory type card has the same issue, verify that the LED lights when a card inserted. If the LED does not light, verify that the flat cable from the formatter is connected correctly to the memory-card assembly. If the error persists, replace the memory-card

Problem	Cause	Solution
		assembly. See Replacing the memory-card assembly (HP Color LaserJet 2840 all-in-one only).
	You might have inserted more than one memory card.	Only one card slot can be occupied for the device to detect JPEG files. Verify that only one card is inserted.
	One or more print cartridges might be low.	Replace any low print cartridges. See Replacing the print cartridges.

Proof sheet not printing

Use the table in this section to solve problems with proof-sheet printing.

Problem	Cause	Solution
The proof sheet will not print.	The memory card might have been removed before the device could print the page, or the memory card might have been inserted incorrectly.	Reinsert the card and reprint the proof sheet.
		If the card is correctly inserted, use another memory card. If more than one memory type card has the same issue, verify that the LED lights when a card inserted. If the LED does not light, verify that the flat cable from the formatter is connected correctly to the memory-card assembly. If the error persists, replace the memory-card assembly. See Replacing the memory-card assembly (HP Color LaserJet 2840 all-in-one only).
	You might have inserted more than one memory card.	Only one card slot can be occupied for the device to detect JPEG files. Verify that only one card is inserted.
	One or more print cartridges might be low.	Replace any low print cartridges. See Replacing the print cartridges.

Proof sheet not scanning

Use the table in this section to solve problems with proof-sheet scanning.

Problem	Cause	Solution
The proof sheet will not scan correctly.	The flatbed scanner glass might be dirty.	Clean the flatbed scanner glass. See To clean the scanner glass.
	The automatic document feeder (ADF) might be loaded.	Remove any media from the ADF.
	The scanner might not be able to read the photo selections. This feature has been optimized and tested for use with Genuine HP Toner Supplies (variations in color shading can impact the performance of this feature).	Verify that you have colored the bubbles darkly enough for the scanner to read.

Problem	Cause	Solution
	The proof sheet might be loaded incorrectly.	On the flatbed scanner, place the original document face-down with the upper-left corner of the document at the lower-right corner of the glass. The device will not scan a proof sheet from the ADF.
	The proof sheet might be skewed on the paper.	Reprint the proof sheet and verify that it is not skewed on the page.

Issues with photo printing

Use the table in this section to solve problems with photo printing.

NOTE   The HP Color LaserJet 2840 all-in-one memory card reader recognizes only files in .JPEG file and sRGB color format when printing from the device control panel.

Problem	Cause	Solution
The wrong photo printed.	An incorrect memory card might be inserted.	Verify that the correct memory card is inserted.
	You might have selected the wrong number from the memory card.	If you cannot remember the number of the photo that you wish to print, print an index page to verify the file number.
The photo did not print.	The media input tray might be empty.	Load media into the input tray.
	The memory card might have been removed before the device could print the page, or the memory card might have been inserted incorrectly.	Reinsert the card and reprint the photo. If the card is correctly inserted, use another memory card. If more than one memory type card has the same issue, verify that the LED lights when a card inserted. If the LED does not light, verify that the flat cable from the formatter is connected correctly to the memory-card assembly. If the error persists, replace the memory-card assembly. See Replacing the memory-card assembly (HP Color LaserJet 2840 all-in-one only).
The photo quality is unacceptable.	The original photo quality might be poor.	Use a software program to enhance photo quality, and then print the photo from your computer.
	The default settings on the device might not produce the desired quality.	Use a software program to print the photo at the desired settings.
The photo is the wrong size.	The appropriate job size might not be available from the device control panel.	Use a software program to resize the photo at the desired settings, and then print the photo from your computer.
	You might have selected an incorrect job size.	Verify that the correct setting is selected at the device control panel.

Problem	Cause	Solution
Cannot edit, save, or delete images on the memory card.	The device cannot read the memory card.	Verify that the memory card is properly inserted and that the card is one that is supported. **NOTE** You cannot edit memory-card files from the device control panel. Use a software program to edit, delete, or save images.
Scanner did not read proof sheet.	The device is using non-HP supplies. This feature has been optimized and tested for use with Genuine HP Toner Supplies (variations in color shading can impact the performance of this feature).	Use a software program to print the photo from your computer. Print photos directly from the memory card by using the control panel. Install HP supplies in the device and reprint the proof sheet.
	The proof sheet might be skewed on the paper.	Reprint the proof sheet and verify that it is not skewed on the page.

Functional tests

Engine test

The purpose of the engine test is to determine which image-formation process is malfunctioning. The image-formation process can be divided into the following stages:

- Conditioning stage (charges the drum)
- Writing stage (writes a latent image to the drum with the laser)
- Development stage (forms a toner image on the drum)
- Transfer stage (transfers the image to paper)
- Separation stage (separates the media from the drum)
- Fusing stage (applies heat and pressure to make the image on paper permanent)
- Cleaning stage (removes excess toner from the drum)

The engine test switch is inside tray 1, on the left side, just below the front cover.

To print an engine test:

1 Turn off the device.

2 Turn on the device.

3 Open tray 1 and load paper.

> **NOTE** If tray 1 is empty, the device will not perform an engine test. You cannot perform an engine test from optional tray 2.

4 Press the engine-test switch (shown below).

> **NOTE** The formatter must be connected to the power supply cover plate to perform an engine test. Otherwise, the device does not print the engine test.
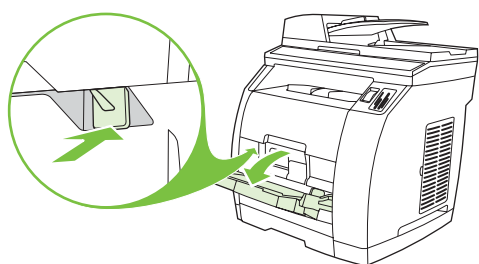
Figure 6-1 Location of the engine-test switch

The device prints an engine-test page that contains four columns of horizontal lines, with each column corresponding to one of the print cartridge colors.

Half self-test check

If an engine test reveals a problem with the image-formation process, the half self-test check allows you to narrow down the area in which the problem exists.

To perform a half self-test check, complete the following steps:

1   Perform an engine test. See Engine test.

2   During the engine test, open the cartridge door after the paper advances halfway through the device (about five seconds after the motor begins rotation). The leading edge of the paper should have advanced past the imaging drum.

3   Remove the imaging drum.

4   Open the imaging drum shield to view the drum surface. If a dark and distinct toner image is present on the drum surface, assume that the first three functions of the image-formation process (see the list at the beginning of Engine test) are functioning (through the development stage). Troubleshoot the failure as a transfer or fusing problem.

If, during the half self-test check, no image is present on the imaging drum, perform these checks:

1   Make sure that you removed the entire length of the sealing tape from the print cartridge before you installed the cartridge.

2   Perform a cartridge high-voltage contact test. (See Cartridge high-voltage contact test.)

Heating element test

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

1   Unplug the device for at least ten minutes, and then remove the fuser. See Replacing the fuser assembly.

2 Measure the fuser heating element resistance.

> 📝 **NOTE** Normal resistance is 14 ohms +/- 10 ohms for the 110 V device and 50 ohms +/- 20 ohms for the 220 V device.
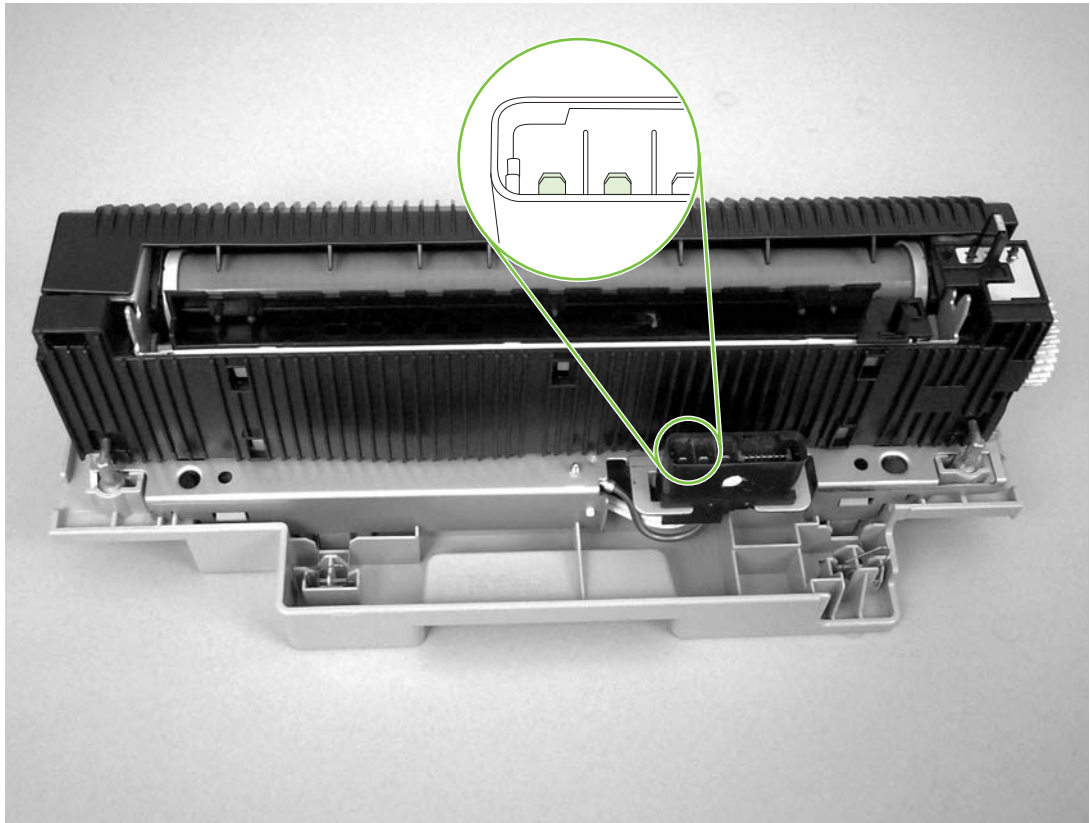
Figure 6-2 Measure the resistance for the heating element

3 Measure the thermistor resistance.

📝 **NOTE** Normal resistance is 1.5 ohms.
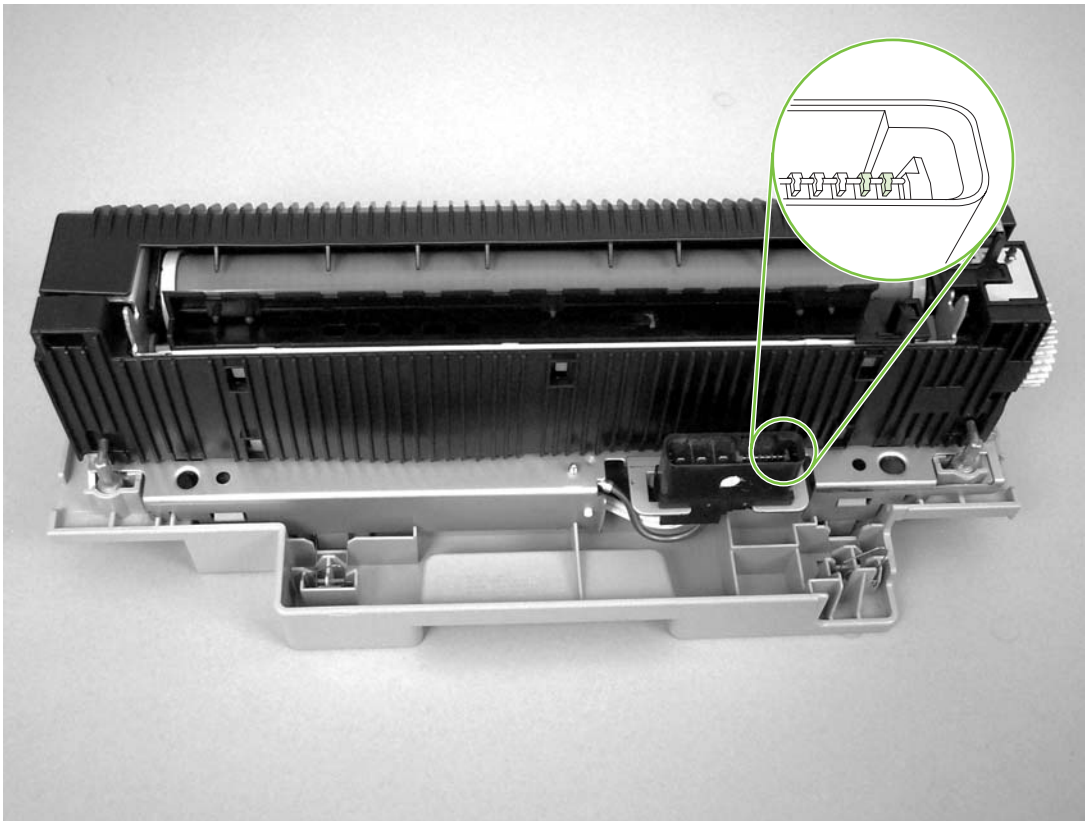
Figure 6-3 Measure the thermistor resistance

If no resistance is measured, replace the fuser.

Cartridge high-voltage contact test

To check the print cartridge connection points, complete the following steps:

1   Turn the print cartridge over and visually inspect the two connection points on the ends of the print cartridge. If they are dirty or corroded, clean the connections. If they are damaged, replace the print cartridge.
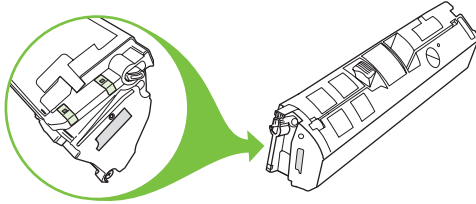
Figure 6-4 Print cartridge high-voltage contacts

2   If the connection points are dirty or corroded, then clean the connections. If they are damaged, then replace the print cartridge.

NOTE   Use only isopropyl alcohol to clean the connections.

Paper-path test

If media is not being picked up or is not moving through the paper path, you might want to observe all of the paper-motion activities. Override the door interlock (SW301) and the laser/scanner switch to observe the following actions:

■   Motor rotation

■   Solenoid action

■   Pickup-roller motion

■   Drive-roller, transfer-roller, fuser-roller and gear, and delivery-roller motion

1   To override the door interlock (SW301), push a piece of heavy paper into the slot in the top cover (callout 1) to override SW301.

2 To override the laser/scanner switch, use a small flatblade screwdriver to override the laser/scanner switch (callout 2).
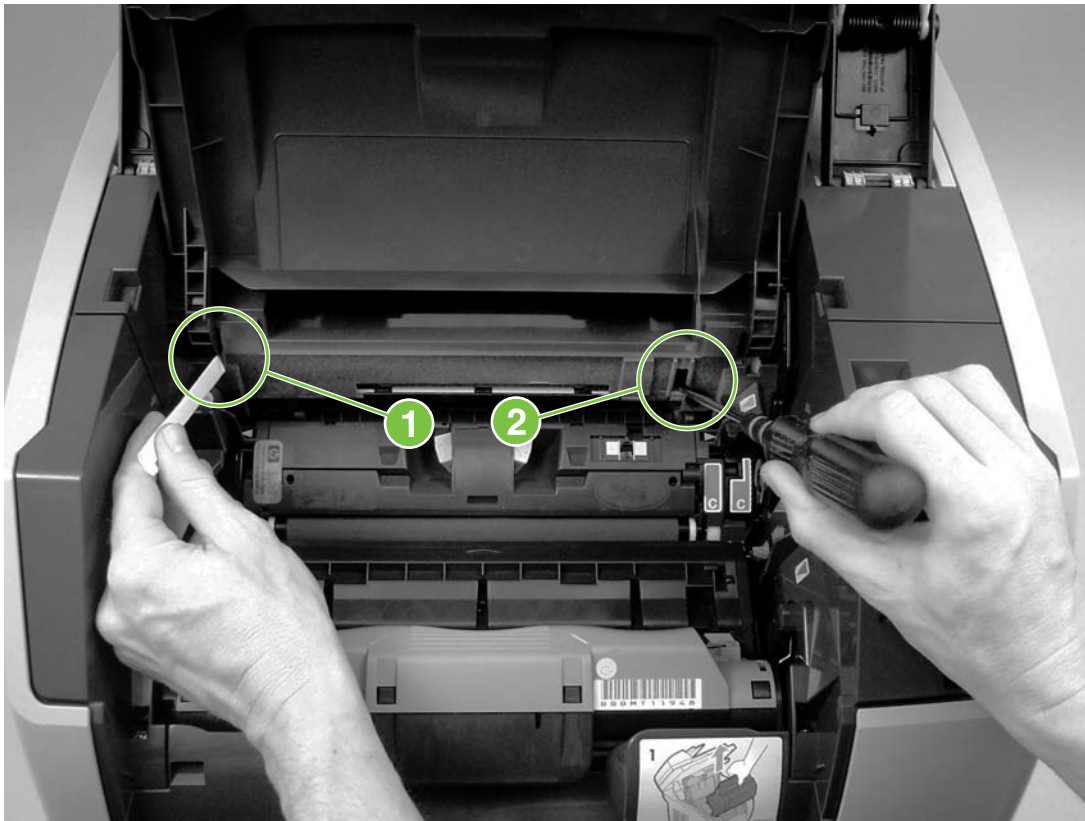
Figure 6-5 Override SW301 and the laser/scanner switch

3 Perform an engine test. See Engine test.

⚠ **CAUTION** Do not look directly at the laser/scanner while the engine test is under way.

Service-mode functions

Use the following information to perform system-wide reset procedures and to adjust certain global settings such as the country/region. Users do not have access to this information.

NVRAM initialization

An NVRAM initialization will return the device settings to the factory-set defaults, including:

■ All menu settings, including the fax header and company name

■ Fax numbers and names that are associated with one-touch keys and speed-dial codes

Additionally, all faxes stored in memory are cleared.

1 Turn off the device.

2 Simultaneously press and hold the ENTER button and the * button, and then turn on the device.

3 Wait until the message **Permanent storage init.** appears, and then release the ENTER and * buttons.

When the NVRAM initialization process has been completed, the device control panel shows the **Ready** message.

Secondary service menu

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

Table 6-5 Secondary service menu

Main menu	Submenu	Submenu
2ndary Service	**Service Reports**	**Cont. Self-Test**
		Extended Keymap
		Error Report
	Location	**USA**
		1=Yes 2=No
	Display test	(none)
	Show FW Version	(none)

Table 6-5 Secondary service menu (continued)

Main menu	Submenu	Submenu
	Memory Cards	**Enabled**
	(HP Color LaserJet 2840 all-in-one only)	**Disabled**
	Color Cal.	**Adjust color**
		▪ **Contrasts**
		▫ **Cyan density**
		▫ **Magenta density**
		▫ **Yellow density**
		▫ **Black density**
		▪ **Highlights**
		▫ **Cyan density**
		▫ **Magenta density**
		▫ **Yellow density**
		▫ **Black density**
		▪ **Midtones**
		▫ **Cyan density**
		▫ **Magenta density**
		▫ **Yellow density**
		▫ **Black density**
		▪ **Shadows**
		▫ **Cyan density**
		▫ **Magenta density**
		▫ **Yellow density**
		▫ **Black density**
		Timing
		▪ **Off**
		▪ **12 hours**
		▪ **24 hours**
		▪ **48 hours**
		▪ **96 hours**
		▪ **128 hours**
		▪ **168 hours**

To print secondary service reports

1   Make sure that the control-panel display reads **Ready**.

2   Press MENU.

3   Press 2 on the keypad.

> **NOTE**   You can gain access to the secondary service menu from any other menu by pressing 2.

4   Use the < or > button to select **Service Reports**, and then press **Enter**.

5   Use the < or > button to select one of the following reports:

●   **Cont. Self-Test**

●   **Extended Keymap**

●   **Error Report** (see Error log)

6   Press **Enter** to print the report.

7   To exit the secondary service menu and remove it from the menu tree, press CANCEL to return to the **Ready** display, and then press CANCEL again.

To reset the device location

The device location setting affects telecom (fax) and other settings, depending on the country/region in which the device is used. To change the device location setting, complete the following steps.

1   Make sure that the control-panel display reads **Ready**.

2   Press MENU.

3   Press 2 on the keypad.

> **NOTE**   You can gain access to the secondary service menu from any other menu by pressing 2.

4   Use the < or > button to select **Location**, and then press **Enter**.

5   Use the < or > button to select the country/region in which the device is operating, and then press **Enter**.

6   Press 1 to select **Yes**.

The device turns off and then turns on. When the device returns to the **Ready** state, it reflects the new location setting.

To test the control-panel display

To test the control-panel display and ensure that all characters are working correctly, complete the following steps.

1   Make sure that the control-panel display reads **Ready**.

2   Press MENU.

3   Press 2 on the keypad.

> **NOTE**   You can gain access to the secondary service menu from any other menu by pressing 2.

4   Use the < or > button to select **Display test**, and then press **Enter**.

The device cycles through 15 characters at a time until the test is complete.

To view the firmware version

Use the secondary service menu to determine the device firmware version.

1   Make sure that the control-panel display reads **Ready**.

2   Press MENU.

3   Press 2 on the keypad.

> **NOTE**   You can gain access to the secondary service menu from any other menu by pressing 2.

4   Use the < or > button to select **Show FW Version**, and then press **Enter**.

The control panel shows the device firmware version number.

To enable or disable the memory-card slots

> **NOTE**   This procedure applies to the HP Color LaserJet 2840 all-in-one only.

1   Make sure that the control-panel display reads **Ready**.

2   Press MENU.

3   Press 2 on the keypad.

> **NOTE**   You can gain access to the secondary service menu from any other menu by pressing 2.

4   Use the < or > button to select **Memory Cards**, and then press **Enter**.

5   Use the < or > button to select **Enabled** or **Disabled**, and then press **Enter**.

To calibrate the color

1   Make sure that the control-panel display reads **Ready**.

2   Press MENU.

3 Press 2 on the keypad.

📝 **NOTE** You can gain access to the secondary service menu from any other menu by pressing 2.

4 Use the < or > button to select **Color Cal.**, and then press **Enter**.

5 Use the < or > button to select one of the following settings:

- **Contrasts**
- **Highlights**
- **Midtones**
- **Shadows**

Press **Enter**.

6 Use the < or > button to select one of the following color settings:

- **Cyan density**
- **Magenta density**
- **Yellow density**
- **Black density**

Press **Enter**.

7 Use the < or > button to adjust the density setting. Increasing the setting darkens the density, while decreasing the setting lightens the density.

8 Press **Enter** to save the setting.

Troubleshooting tools

The section describes the tools that can help you solve problems with your device.

Device pages and reports

This section describes the pages and reports that help you diagnose and solve problems with the device.

Demo page

To print the Demo page, complete the following steps.

1   On the device control panel, press MENU until the **Reports** menu appears, and then press ENTER.

2   Use the < or the > button until **Demo Page** appears, and then press ENTER.

Configuration page

The Configuration page lists the current settings and properties of the device. You can print a Configuration page from the device or HP Toolbox. To print the Configuration page from the device, complete the following steps.

1   On the device control panel, press MENU.

2   Use the < or the > button to select **Reports**, and then press ENTER.

3   Use the < or the > button to select **Config report**, and then press ENTER.

Supplies Status page

The Supplies Status page lists the remaining life of the HP print cartridges and the HP imaging drums. It also lists the estimated pages remaining, number of pages printed, and other supplies information. You can print a Supplies Status page from the device or HP Toolbox. To print from the device, complete the following steps.

1   On the control-panel menu, press MENU.

2   Use the < or the > button to select **Reports**, and then press ENTER.

3   Use the < or the > button to select **Supplies Status**, and then press ENTER.

Usage page

The Usage page displays usage statistics, such as the number of copies made from the flatbed scanner or the automatic document feeder, the number of faxes sent or received (HP Color LaserJet 2830/2840 all-in-one models only), the number of pages printed, or the number of pages jammed in the scanner engine.

You can print a Usage page from the device or HP Toolbox. To print a Usage page from the device, complete the following steps.

1   On the device control panel, press MENU.

2   Use the < or the > button to select **Reports**, and then press ENTER.

3   Use the < or the > button to select **Usage page**, and then press ENTER.

Engine-test page

The engine-test page is printed when you perform an engine test. See Engine test.

Error log

A small error log appears on the Configuration page (see Configuration page). However, a more detailed report is available from the secondary service menu.

1 Make sure that the control-panel display reads **Ready**.

2 Press MENU.

3 Press 2 on the keypad.

> **NOTE** You can gain access to the secondary service menu from any other menu by pressing 2.

4 Use the < or > button to select **Service Reports**, and then press **Enter**.

5 Use the < or > button to select **Error Report**, and then press **Enter**.

The device prints an error log that shows the most recent device errors.

Fax reports

This section describes the fax reports that help you diagnose and solve problems with the device.

Fax activity log

The fax activity log provides a chronological history of the last 40 faxes that were received, sent, or deleted, and any errors that occurred.

1 On the device control panel, press MENU.

2 Use the < or the > button to select **Reports**, and then press ENTER.

3 Use the < or the > button to select **Fax Activity log**, and then press ENTER.

4 Press ENTER to select **Print log now**. The device exits the menu settings and prints the log.

Fax call report

A fax call report is a brief report that indicates the status of the last fax that was sent or received.

1 On the device control panel, press MENU.

2 Use the < or the > button to select **Reports**, and then press ENTER.

3 Use the < or the > button to select **Fax Call report**, and then press ENTER.

4 Press ENTER to select **Print report now**. The device exits the menu settings and prints the report.

T.30 protocol trace

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

Send a fax from the device or receive a fax to the device from another fax machine, and then print a T.30 trace report after the fax prints.

1   On the device control panel, press MENU.

2   Use the < or the > button to select **Service**, and then press ENTER.

3   Use the < or the > button to select **Print T.30**, and then press ENTER.

The device exits the menu settings and prints the reports.

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

●   **Date** and **Time** identify when the fax begins.

●   **Type** is the type of fax activity: send or receive.

●   **Identification** is the phone number to which a fax is sent.

●   **Result** explains the status of the fax:

■   "OK" means that the fax was successful.

■   "Pending" faxes are in memory or are printing.

■   An error code means that your device might need service. The following tables, Table 6-6 Fax receive error codes and Table 6-7 Fax send error codes, define the error codes.

📝 **NOTE**   These codes also appear in the fax call report and the fax activity log.

Table 6-6 Fax receive error codes

Error code	Description	Solution
200	The fax session has completed without errors.	N/A
221	User has pressed CANCEL button, causing the fax session to be prematurely halted.	Have sender resend the fax.
222	The receiving device has answered a call but has been unable to detect the presence of a calling fax device for one of the following reasons: ● Typically this will be due to the receiving fax device answering a voice call. ● The sender canceled the fax transmission by pressing the CANCEL button immediately prior to, or just as the receiving device answered the call. ● The sending device automatically ended the call immediately prior to, or just as the receiving device answered the call.	1 Confirm that the sender is a fax device and not a voice caller - typically you must rely on the sender informing the caller that the fax session is failing. 2 If the sending device ends the call just as the receiving device starts reception, reduce the ring count after which the receiving device answers. Alternatively suggest that the sender manually dials to the receiving device and then manually starts the fax session, by pressing the START FAX button once fax tones have been heard from the receiving device. 3 Confirm that the sender is not inadvertently attempting to poll transmit from the receiving

Table 6-6 Fax receive error codes (continued)

Error code	Description	Solution
	● The sending (sending) fax device determined there was a feature incompatibility between the two and disconnected immediately before transmitting any further fax tones or T.30 frames. (This is very rare.)	device, instead of transmitting to the receiving device. 4 Reconfigure the receiving fax device to use different configuration settings, toggle the ECM state, and/or select a slower reception speed.
223 (ECM error)	The receiving device has been unable to receive an entire page even after multiple attempts to re-receive the parts of the page that contain errors. This is usually due to extremely poor line conditions.	1 Reattempt the fax reception at a different time when telephone line conditions have improved. 2 If the error persists, disable ECM. Errors may still occur, and may result in degraded image quality on the received page. However, the ability to receive the entire document will be improved.
224	The receiving device has received one or more pages with excessive errors. This is usually due to extremely poor line conditions. Error correction is not used during this session so errors are not corrected.	Reattempt the fax reception at a different time when telephone line conditions have improved.
225	The sending device has attempted to initiate a sending diagnostic session with this device even though sending diagnostic access is receivingly disabled.	Enable the sending diagnostics capability on the receiving device.
226	The sending device has attempted to initiate a sending diagnostic session with this device but the sending diagnostic versions supported by the two devices are incompatible.	None. sending diagnostics cannot occur between devices with incompatible sending versions.
227	The sending device has attempted to initiate a fax session at a speed and modulation that is not supported by the receiving device.	Reconfigure the receiving device to receive at a slower speed.
228	The sending device has attempted to initiate a poll transmission from the receiving device even though the receiving device is not configured for poll transmission.	1 Confirm that polling by the sender is desired. It is possible that the sender has inadvertently attempted to poll. If this is the case reattempt a normal transmission from the sending device. 2 If polling by the remote user was desired, confirm that the receiving device was correctly configured for poll transmission.
229	The sending device has attempted to initiate a secure poll transmission from the receiving device but has not provided a valid password.	If the sender is the desired recipient for the polled document, confirm that the sender has the correct password, and that the receiving device is configured with the same password.
230	The sending device has attempted to initiate an operation that requires error correction but has not selected error correction for the session.	Enable ECM on both the receiving device and the sending device.
231	The sending device has attempted to initiate a transmission to the receiving device even though	Ensure that the receiving device is capable of receiving a document. Check that paper is correctly loaded, paper is not jammed within the

Table 6-6 Fax receive error codes (continued)

Error code	Description	Solution
	the capability to receive is disabled at the receiving device.	device, and any other system abnormalities have been cleared.
232	One of the following has occurred:	1 Re-attempt the fax reception at a different time when telephone line conditions have improved.
233 and 234	● A communication failure has occurred between the two devices.	
235 and 236 (ECM error)	● The user at the remote device may have pressed the CANCEL button.	2 If the error persists, and error correction is in use for the fax session, disable ECM.
237	● The power at the remote device has been interrupted or deliberately turned off, causing the fax session to be interrupted.	
238	The sending fax device sent an unexpected communication. This is a defect in the sending device.	N/A
239–241		
242	The sending fax device is attempting to receive instead of send. Both devices have attempted to start a reception at the same time. It is possible to accidentally initiate a fax reception after dialing on many devices, if there is no paper in the device or if the paper is not correctly loaded and cannot be sensed by the appropriate document sensor.	Ensure that a document is ready and correctly loaded in the sending fax device and that the sending device is attempting to initiate a transmission and not a reception.
243 and 244	One of the following has occurred: ● The user of the remote device has pressed that device's CANCEL button, causing the session to be prematurely terminated. ● The sending fax device determined there was a feature incompatibility between the two devices and has terminated the session. An example would be when the receiving device wanted to initiate polling, but the sending device did not support this mode of operation.	1 Confirm that the sender is not inadvertently attempting to poll transmit from the receiving device, instead of transmitting to the receiving device. This mode of operation must be specially configured on the receiving device. If poll transmission from the receiving device is the desired mode of operation, confirm that the receiving device has been configured for this operation. 2 2. Reconfigure the receiving fax device to use different configuration settings, toggle the ECM state, and/or select a slower reception speed.
245 and 246 (ECM error)	The user of the sending device has pressed that device's CANCEL button, causing the session to be prematurely terminated. The receiving device has been "holding off" the remote device during reception of a large and/or complex document due to lack of available memory. This hold-off time has exceeded the timeout (typically 60 seconds) used by the sending device, and it has terminated the session.	1 If the document was large, ask the sender to retransmit the document as two or more smaller documents. 2 Disable ECM and reattempt the fax reception.
247-251	The sending device appears to be "stuck on."	N/A

Table 6-6 Fax receive error codes (continued)

Error code	Description	Solution
252	Telephone line conditions were too poor to receive a fax.	1 Reattempt the fax reception at a later time when line conditions may have improved. 2 Configure the receiving device to start reception at a lower speed. 3 If the receiving device received successfully several pages of a larger document, ask the sender to transmit the document in several smaller parts.
253	The sending device has attempted to initiate a page transmission using a page width that is not supported by the receiving device.	Ask the sender to reconfigure the fax device to transmit using a "normal" (letter/A4) page width.
281	The receiving device has not received any data at the start of a page during non-ECM reception, although the modem has not detected a sending disconnect. The sending device is probably transmitting fill bytes instead of data and has either jammed or broken.	Reattempt the fax reception after first requesting that the sender check the sending device.
282	The receiving device has not received any data at the start of a page during ECM reception although the modem has not detected a sending disconnect. The sending device is probably transmitting sync frames instead of data and has either jammed or broken.	
283	The receiving device has detected that the modem carrier has stopped. Either the line has been disconnected or the sending device has aborted the transmission.	
284	The receiving device has not received any data during non-ECM page reception and a timeout failure has occurred. The sending device is probably transmitting fill bytes instead of data and has either jammed or broken.	
285	The receiving device has stopped receiving any data during an ECM page reception although the modem has not detected a sending disconnect. The sending device is probably transmitting sync frames instead of data and has either jammed or broken.	
286	The sending device has transmitted invalid data. The receiving device has received frames with errors during an ECM reception and requested retransmission of the errored frames. The data that is resent does not correspond to the data that was requested. This is an implementation error from the sending device.	Disable ECM and reattempt the reception.
290	The sending device has attempted to renegotiate the session mode from ECM to non-ECM between pages. This operation is not supported and the session has been abandoned.	Reattempt the fax reception and split the document into two portions corresponding to the ECM and non-ECM portions. Some devices will attempt to use non-ECM for photo mode, so this may be associated with a between-page encoding change to support photo mode.

Table 6-6 Fax receive error codes (continued)

Error code	Description	Solution
291	This is not a communication error and it is not expected that this error will occur under non-development scenarios. Reception has failed because the receiving device is unable to open a file to receive data into. May be associated with low memory, although low memory should be handle more gracefully than this.	If the error persists, reinitialize the device.
292	The sending device has attempted to renegotiate the encoding mode from non-JPEG to JPEG. This operation is not supported and the session has been abandoned.	Reattempt the fax reception and split the document into two portions corresponding to the JPEG and non-JPEG portions. Some devices will attempt to use JPEG for photo mode, so this may be associated with a between-page encoding change to support photo mode.

Table 6-7 Fax send error codes

Error code	Description	Solution
300	Fax session has completed without errors	N/A
311	The user of the receiving device has pressed the CANCEL button, causing the session to be prematurely halted before all pages have been transmitted.	Resend the fax.
312	A sending fax device has failed to answer the call. Specifically fax tones or the fax handshake from a sending device has not been detected. Typically this is due to the user calling the wrong number, the correct number has been called but the device has been configured not to answer, or the sending device has temporarily disabled answering due to a condition such as lack of paper or a paper jam.	Confirm the sending fax device is ready to receive a document and reattempt the transmission.
313	A busy signal has been detected each time the receiving device has attempted to call the sending device.	Reattempt the fax transmission at a later time when the line is no longer busy.
314	The receiving device has attempted to initiate a sending diagnostic session but has detected that sending diagnostics are disabled at the sending device.	Enable sending diagnostics on the sending device.
315	The receiving device has attempted to initiate a sending diagnostic session but has detected that the sending diagnostic version supported by the sending device is incompatible.	No solution. Sending diagnostics cannot occur between devices with incompatible sending versions.
316	The receiving device is setup to initiate document transmission, but it has detected that the sending device is not able to receive a document. This error should be very rare since normally a sending device will not answer if it cannot receive a document. On of the few exceptions to this would occur if the sending device was configured to poll transmit a document but was unable to receive.	Configure the sending device for reception. Typically the sender should ensure paper is loaded in the device, paper jams are fixed, and any other system abnormalities are cleared.

Table 6-7 Fax send error codes (continued)

Error code	Description	Solution
317	The sending device cannot support a fax reception at any speed or modulation that is supported by the receiving device.	N/A
318	The sending device cannot support a fax reception at the page width selected by the receiving device.	N/A
319	The receiving device has attempted to initiate a binary file transfer (BFT) but has detected that the sending device does not support this mode of operation.	Do one of the following: ● Enable the BFT capability on the sending device if it is supported. ● Retransmit the document as a normal fax, rather than attempting a BFT transfer.
320	The receiving device is set up to initiate poll reception with a sending device, but it has detected that the sending device is not configured to do this. Poll transmission from a sending device is typically configured on a session-by-session basis.	Do one of the following: ● Confirm that the receiver really wants to attempt a poll reception. If not, reconfigure the receiving device for a normal fax transmission ● Configure the sending device for poll transmission. The sender must load a document to transmit and then configure the device for polling.
321	There was a communication error with the receiving fax device due to poor telephone line conditions.	Reattempt the fax transmission at a different time when telephone line conditions have improved.
322–324	Telephone line conditions were too poor to send a fax.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 If the session fails after transmitting several pages of a large document, retransmit the document as several smaller documents.
325-328 (ECM error)	Telephone line conditions were very poor.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 If the error persists, disable ECM. Errors may still occur, and may result in a degraded image quality on the received page. However, the ability to transmit the entire document will be improved.
329–331	The sending device has reported that one or more pages have been received (non-ECM mode) with excessive errors. This error does not result in the session being terminated immediately. Subsequent page transmission can still occur and later pages may be received without error.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 If the error persists, select a lower speed for the initial transmission speed.
332–337	There is a defect in the sending fax device.	Send from another device.

Table 6-7 Fax send error codes (continued)

Error code	Description	Solution
338–342 (ECM error)		
343		
344–348	One of the following has occurred:	1 Reattempt the fax transmission at a different time when telephone line conditions have improved.
349-353 (ECM error)	● The sending device has failed to respond to a fax command from the receiving device due to the connection being interrupted.	
354 and 355		2 fax session was using error correction, disable ECM.
	● The sender has pressed the CANCEL button while the reception was in progress.	
	● In rare conditions, incompatibility between the two devices may cause the sending device to abandon the call.	
356-361	One of the following has occurred:	1 Configure the sending device for document reception by clearing any paper jams, loading sufficient paper, and clearing any other system errors.
362-366 (ECM error)	● The sender has pressed the CANCEL button, causing the session to be aborted.	
	● The sending device has encountered a system problem such as no paper or a paper jam, which has inhibited it from receiving any more pages, and which has caused it to terminate the session prematurely.	2 Configure the receiving fax device to use different configurations, toggle the ECM state, or select a slower reception speed.
	● A feature incompatibility has been encountered by the sending device, causing it to terminate the session.	
367-372	The sending device appears to be "stuck on".	N/A
373-377 (ECM error)		
378 and 379		
380	The sending device has failed to issue a valid response to a CTC frame. This occurs during ECM transmission after multiple retransmissions of erred data.	Send from another device.
381	One of the following has occurred:	1 Reattempt the fax transmission at a different time when telephone line conditions have improved.
	● The sending device has failed to respond to a fax command from the receiving device due to the connection being interrupted.	2 If the error persists, disable ECM.
	● The sender has pressed the CANCEL button while the reception was in progress.	
382	The sending fax device has been "holding off" the receiving fax device from continuing the ongoing transmission due to a temporary low memory condition at the sending device. If this "hold-off" period exceeds a device's specific timeout value, the session will terminate.	1 Resend the document as two or more separate fax transmissions. Wait several minutes between the end of one transmission and the start of the next transmission.
		2 If the error persists, disable ECM.

Table 6-7 Fax send error codes (continued)

Error code	Description	Solution
383	One of the following has occurred: ● The sending device has failed to respond to a fax command from the receiving device due to the connection being interrupted ● The sender has pressed the CANCEL button while the reception was in progress.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 If the error persists, disable ECM.
384	The receiving device has attempted a black JPEG transmission to a device that does not support this mode.	Reattempt the fax transmission using a different mode.
385	The receiving device has failed to complete the third phase of the initial V.34 handshake after originating a fax session. This is usually due to poor line conditions although it may be a compatibility issue with certain devices and/or line conditions.	1 Reattempt the fax transmission at a different time when telephone line conditions have improved. 2 Disable V.34 on the receiving device and attempt the transmission using the V.17 mode.
387	The receiving device has failed to successfully negotiate the initial V.8 handshake with the sending device after originating a fax session. Typically this will occur when the sending device is not fax capable or has disabled reception. It may also be a compatibility issue with certain devices and/or line conditions.	
388	The receiving device has originated a fax session and detected a sending fax device but has been unable to detect any T30 frames. If the device is in V.17 mode it is likely that the connection has been interrupted. In V.34 mode is also possible for this error to occur due to compatibility problems with certain devices and/or line conditions.	
389	The receiving device has originated a fax session and has reattempted V.8 negotiations multiple times without success.	
390	The receiving device has originated a fax session using error correction (either V.34 or V.17). Transmission of an image has been abandoned after a timeout when no data has become ready for transmission. This is most likely due to a low memory condition although it could be due to other internal problems that cause generation of data for transmission to stall.	Reattempt the transmission after making sure documents stored in memory are printed and the device has paper ready for printing. If the problem persists reinitialize permanent storage.
391	The receiving device has originated a fax session without error correction (not V.34). Transmission of an image has been abandoned after a timeout when no data has become ready for transmission. This is most likely due to a low memory condition although it could be due to other internal problems that cause generation of data for transmission to stall.	

Table 6-7 Fax send error codes (continued)

Error code	Description	Solution
392	The receiving device has answered a fax session and completed the initial V.34 handshake but has been to detect any T30 frames. This failure is either a compatibility problems with certain devices or is due to line conditions.	1 Reattempt the fax reception at a different time when telephone line conditions have improved. 2 Disable V.34 on the receiving device and attempt the transmission using the V.17 mode.
393	The receiving device has failed to complete the third phase of the initial V.34 handshake after answering a fax session. This is usually due to poor line conditions although it may be a compatibility issue with certain devices and/or line conditions.	
394	The receiving device has failed to successfully negotiate the initial V.8 handshake with the sending device after answering a fax session. Typically this will occur when the calling device is not fax capable. It may also be a compatibility issue with certain devices and/or line conditions.	
395	An unexpected T.30 frame has been received between pages during a multipage V.34 reception. This is almost certainly a compatibility problem with the sending device and may be due to an error with the implementation of the sending device.	1 Reattempt the fax reception. If transmission errors are not encountered because line conditions have improved, then this error will probably be avoided. 2 Disable V.34 on the receiving device and attempt the transmission using the V.17 mode.
396–409	An error occurred during a V.34 transmission when the receiving device was unable to correctly handshake with the sending device and was consequently unable to transmit a T30 frame. This occurs when the line was disconnected or if line conditions degrade during the session.	Reattempt the fax transmission at a different time when telephone line conditions have improved.
410–419	An error occurred during a V.34 reception when the receiving device was unable to correctly handshake with the sending device and was consequently unable to transmit a T30 frame. This occurs when the line is disconnected or if line conditions degrade during the session.	
420	V.34 negotiations have failed from the originating device during phase four, which occurs after V.8 and before the first T.30 frames are exchanged. Compatibility problems have been observed in this area when sending to non-HP units.	
421	V.34 negotiations have failed from the originating device during phase three, which occurs after V.8, before phase four, and before the first T.30 frames are exchanged. Compatibility problems have been observed in this area when sending to non-HP units.	
422	V.34 negotiations have failed from the answering device during phase four, which occurs after V.8 and before the first T.30 frames are exchanged.	
423	V.34 negotiations have failed from the answering device during phase three, which occurs after	

Table 6-7 Fax send error codes (continued)

Error code	Description	Solution
	V.8, before phase4, and before the first T.30 frames are exchanged.	
430	The transmitting device is unable to send continuous ones at the end of the control channel prior to starting the primary channel. This is a V.34 error. This error may be associated with line conditions although it is more likely to be due to internal problems with the modem.	
431	The transmitting device has not received a response after aborting a transmission. Depending upon when the session is aborted, some sending devices may not respond. It should be noted that the receiving unit always attempts to abort the session in a way that allows the sending device to respond to the final PPS_EOP.	N/A
440–444	An error occurred during a V.34 transmission after one or more partial pages (image data) were transmitted using the primary channel. The transmitting device was unable to restart the control channel in order to resume the T30 handshake. This typically occurs when the receiving device prematurely disconnects during partial page reception, although it is possible it may also be due to compatibility issues.	Reattempt the fax reception at a different time when telephone line conditions have improved.

HP Toolbox

HP Toolbox is a Web application that you can use for troubleshooting tasks.

To view HP Toolbox

Open HP Toolbox in one of these ways:

- On the Windows desktop, double-click the HP Toolbox icon.

- On the Windows **Start** menu, click **Programs** (**All Programs** in Windows XP), and then click **HP Toolbox**.

Troubleshooting tab

HP Toolbox includes a **Troubleshooting** tab that contains links to the following main pages:

- **Control Panel Messages**. View descriptions of device control-panel messages.

- **Clearing Jams**. View information about locating and clearing jams.

- **Print Problems**. View Help topics that can help you solve print problems.

- **Scan Problems**. View Help topics that can help you solve scan problems.

- **Copy Problems**. View Help topics that can help you solve copy problems.

- **Fax Problems**. View Help topics that can help you solve fax problems.

- **Memory Card Problems**. View Help topics that can help you solve memory-card problems.

- **Connectivity Problems**. View Help topics that can help you solve networking problems.

- **Troubleshooting Tools**. Employ such troubleshooting tools as a cleaning page or a color troubleshooting page to maintain the device.

- **Animated Demonstrations**. View animated Help demonstrations for the device.

> **NOTE** Other tabs on HP Toolbox might be helpful in troubleshooting device problems. For information about the other tabs on HP Toolbox, see HP Toolbox.

Service menu

Use the control-panel **Service** menu to troubleshoot device problems.

Restoring the factory-set defaults

Restoring the factory-set defaults returns all of the settings to the factory defaults, and it also clears the fax header name and phone number.

> **CAUTION** This procedure clears fax numbers and names that are associated with one-touch keys and speed-dial codes, and deletes any pages that are stored in the memory. The procedure then automatically restarts the device.

1   On the device control panel, press MENU.

2   Use the < or the > button to select **Service**, and then press ENTER.

3   Use the < or the > button to select **Restore defaults**, and then press ENTER.

    The device automatically restarts.

> **NOTE** If the Receive to PC setting is turned on, you also must delete a folder on your computer to completely restore the factory-default settings. Navigate to C:\Program Files \Hewlett-Packard\Toolbox\Apache Tomcat4.0\webapps\Toolbox4.0\products \hp_color_LaserJet_2800_all_in_one\ directory and delete the **FaxData** folder.

> **NOTE** You also can restore the default settings from HP Toolbox. Open HP Toolbox, click **Device Settings**, on the **System Settings** tab click the **Service** page, and then in the **Resets** section click **Restore**.
>
> **NOTE** You can save system settings before restoring the default settings from HP Toolbox. Open HP Toolbox, click **Device Settings**, on the **System Settings** tab click the **Save / Restore** page, and then click **Save**. After resetting the settings, you can restore the previous settings by using the same page in HP Toolbox.

Cleaning the paper path

The device features a special cleaning mode to clean the paper path.

> **NOTE** If you have access to HP Toolbox, HP recommends cleaning the paper path by using HP Toolbox. See To clean the paper path from HP Toolbox.

1   On the device control panel, press MENU.

2   Use the < or the > button to select **Service**, and then press ENTER.

3   Use the < or the > button to select **Cleaning Mode**, and then press ENTER.

     A page feeds through the device slowly. Discard the page when the process is completed.

4   Load plain letter or A4 paper when you are prompted.

5   Press ENTER again to confirm and begin the cleaning process.

     A page feeds through the device slowly. Discard the page when the process is completed.

Setting the scanner bulb power save time

The **PowerSave time** setting allows you to set the amount of time that the scanner bulb is on before entering the power save mode. The bulb is automatically turned on when the device is turned on, or when a scanner feature is started.

1   On the device control panel, press MENU.

2   Use the < or the > button to select **Service**, and then press ENTER.

3   Use the < or the > button to select **PowerSave time**, and then press ENTER.

4   Use the < or the > button to select one of the following menu items:

     ● **8 hours**

     ● **12 hours**

     ● **2 hours**

     ● **4 hours**

5   Press ENTER to save the setting.

> **NOTE** You also can change this setting from HP Toolbox. Open HP Toolbox, click **Device Settings**, on the **System Settings** tab click the **Service** page, and then in the **Power save time** section use the drop-down box to set the power save time and click **Apply**.

Reducing paper curl

The **Less paper curl** setting reduces paper curl by reducing the fuser temperature.

1   On the device control panel, press MENU.

2   Use the < or the > button to select **Service**, and then press ENTER.

3   Use the < or the > button to select **Less paper curl**, and then press ENTER.

4   Use the < or the > button to select **Off** or **On**, and then press ENTER.
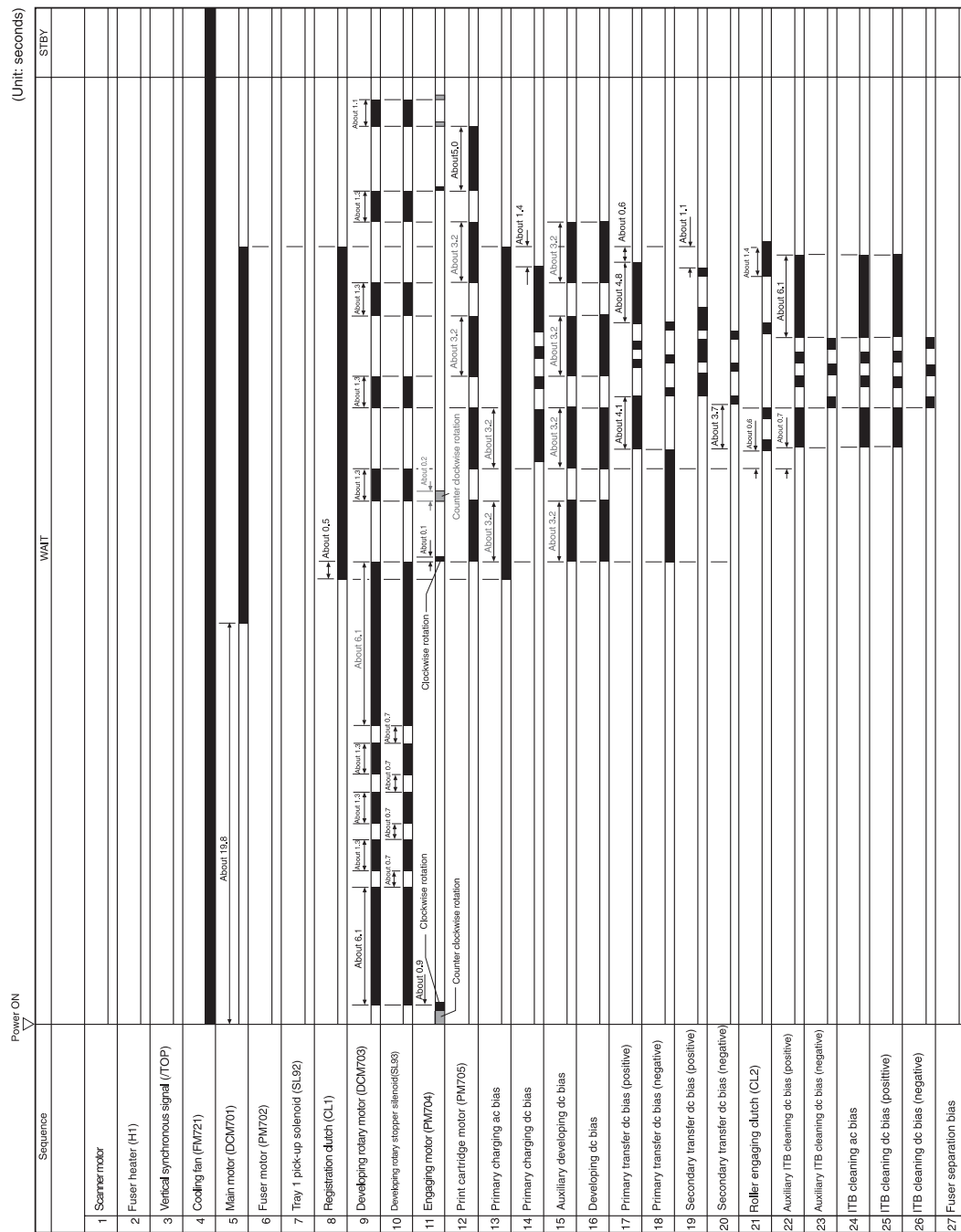
Service-only tools

Timing charts

Figure 6-6 General timing chart—WAIT period

- Timing chart for printing on one normal paper in the mono color mode (normal speed)
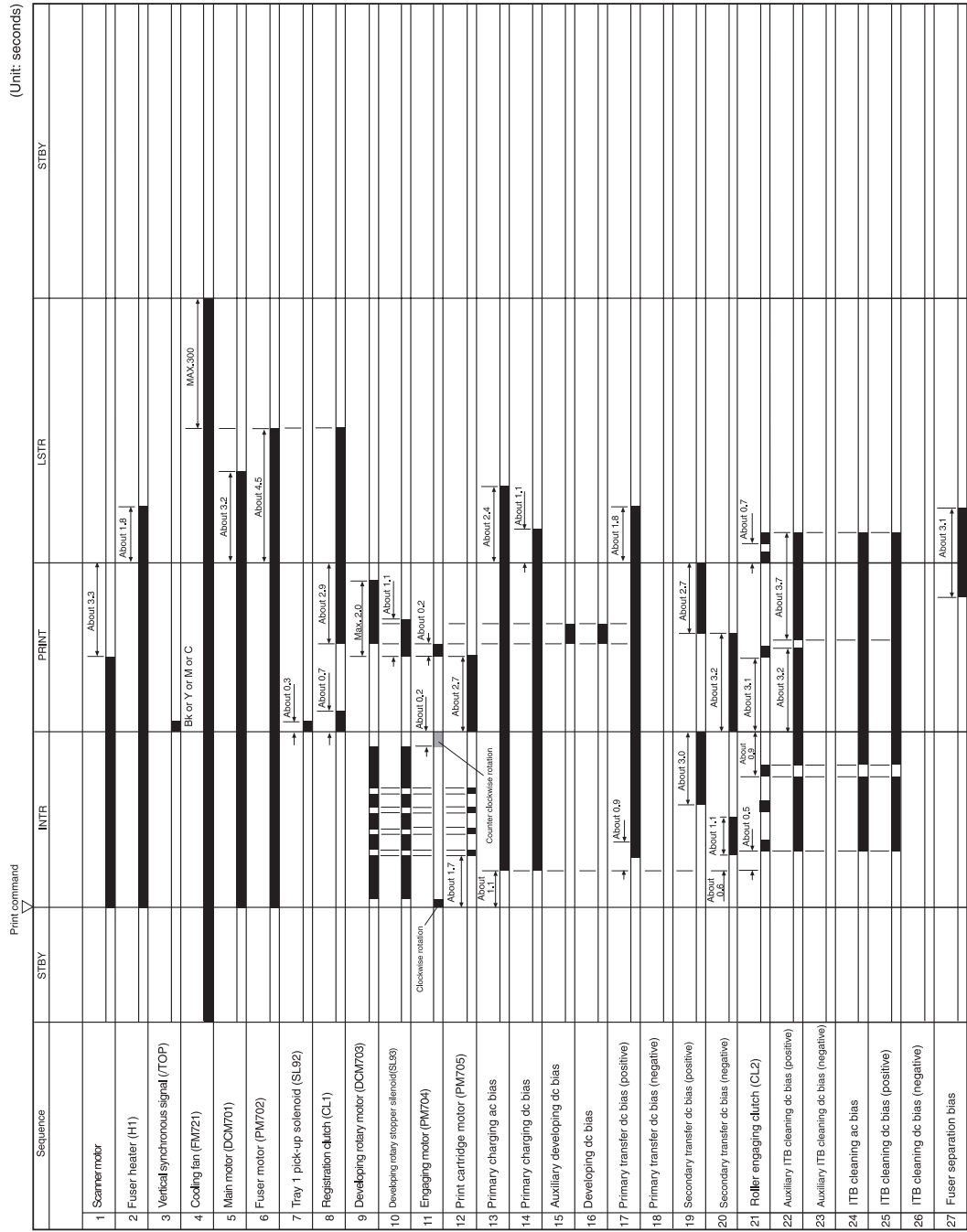
(Unit: seconds)

Figure 6-7 General timing chart—one page, full-color, normal speed
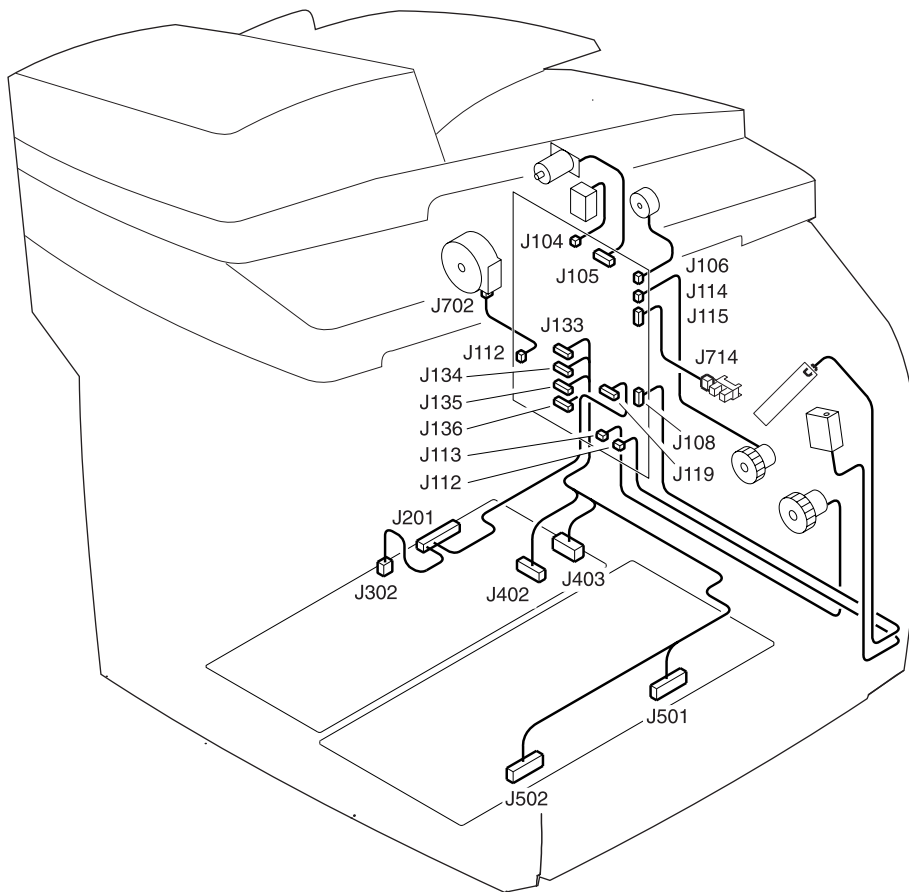
Locations of connectors

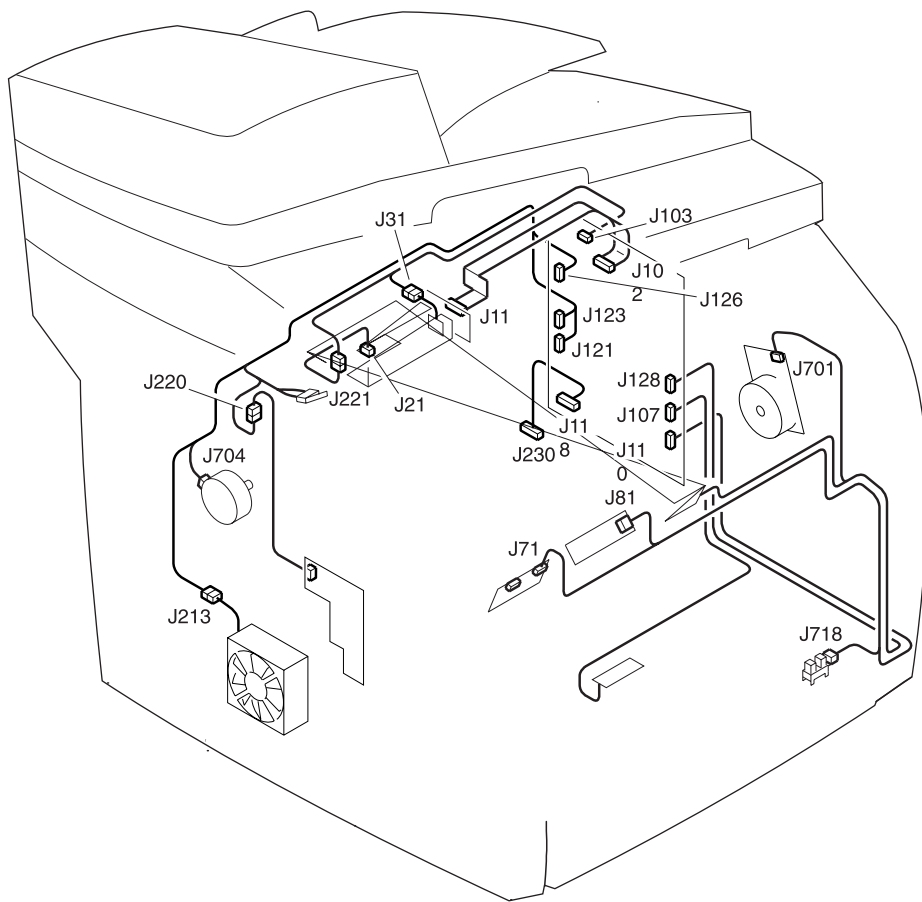**Figure 6-8** Locations of device connectors (1 of 3)

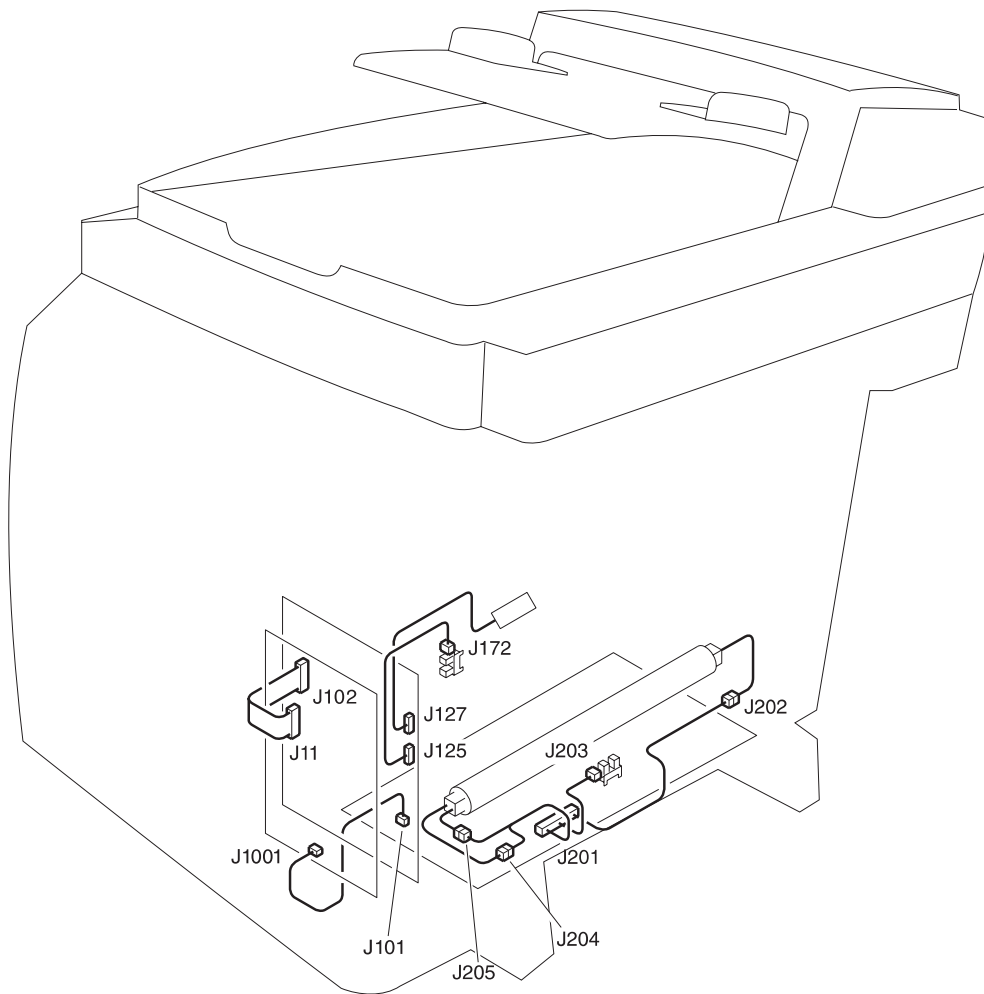**Figure 6-9** Locations of device connectors (2 of 3)

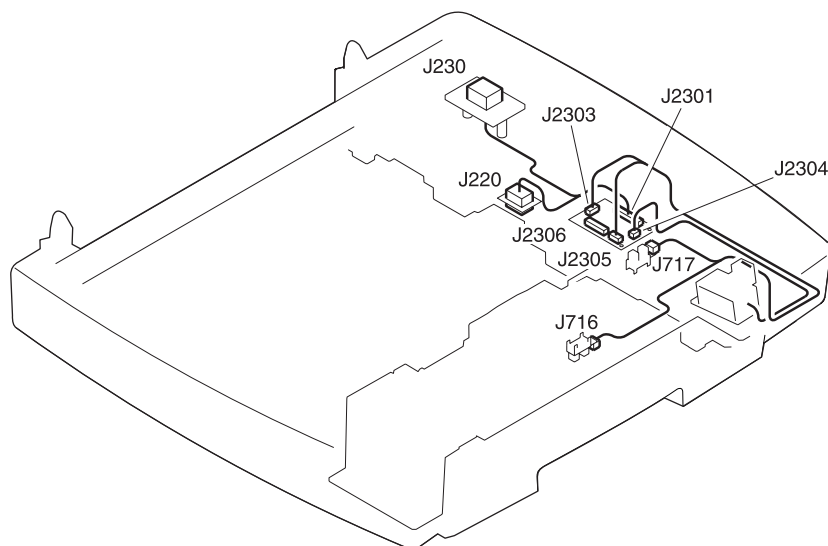**Figure 6-10** Locations of device connectors (3 of 3)

Figure 6-11 Locations of 250-sheet tray connectors

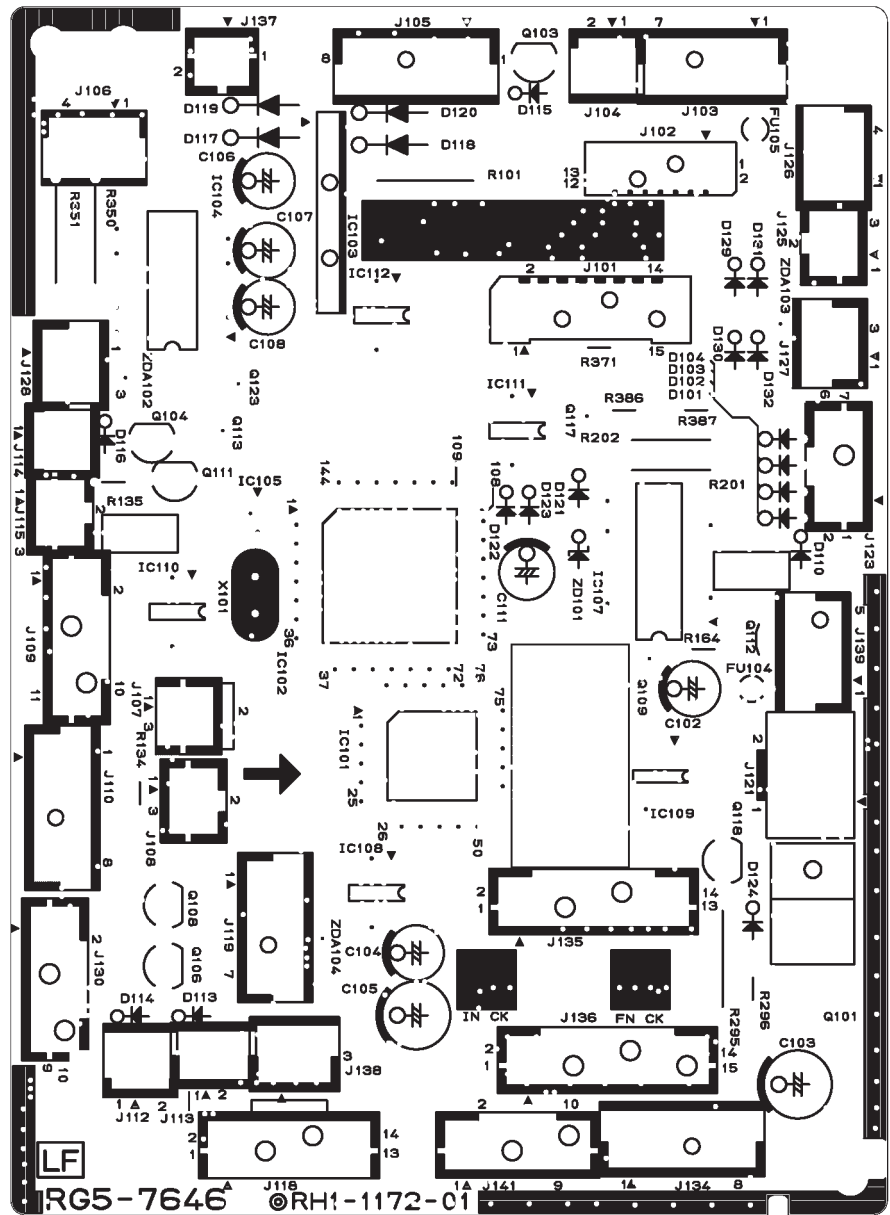## DC controller connections

Figure 6-12 DC controller connections

Printer calibration

You can set the device to calibrate the printer manually or automatically each time the device is turned on. To calibrate the printer or to set up an automatic calibration process, complete the following steps:

1   On the device control panel, press MENU.

2   Use the < or the > button to select **System setup**, and then press ENTER.

3   Use the < or the > button to select **Print quality**, and then press ENTER.

4   Use the < or the > button to select **Calibrate color**, and then press ENTER.

5   Use the < or the > button to select **Calibrate now** or **After power on**, and then press ENTER.

   ●   Selecting **Calibrate now** starts the calibration process immediately. The control panel displays **Calibrating** until the process is complete and the device returns to the **Ready** state.

   ●   Selecting **After power on** opens a menu that allows you to set the time period following the device being turned on in which you want the calibration process performed. Use the < or the > button to select one of the following menu items:

      ■   **Immediately**

      ■   **5 minutes**

      ■   **15 minutes**

      ■   **30 minutes**

      ■   **60 minutes**

      ■   **Never**

   Press ENTER to save the selection.

> **NOTE**   Calibration must be performed when the device is in the **Ready** state. If the device is processing a job or if it is displaying an error message, the device will not calibrate.
>
> **NOTE**   You also can perform a calibration or change the calibration settings from HP Toolbox. Open HP Toolbox, click **Device Settings**, on the **System Settings** tab click the **Print Quality** page, and then in the **Color Calibration** section change the settings and click **Apply**.

Repetitive 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 Figure 6-13 Repetitive image defect ruler to identify the component that is causing the defect.

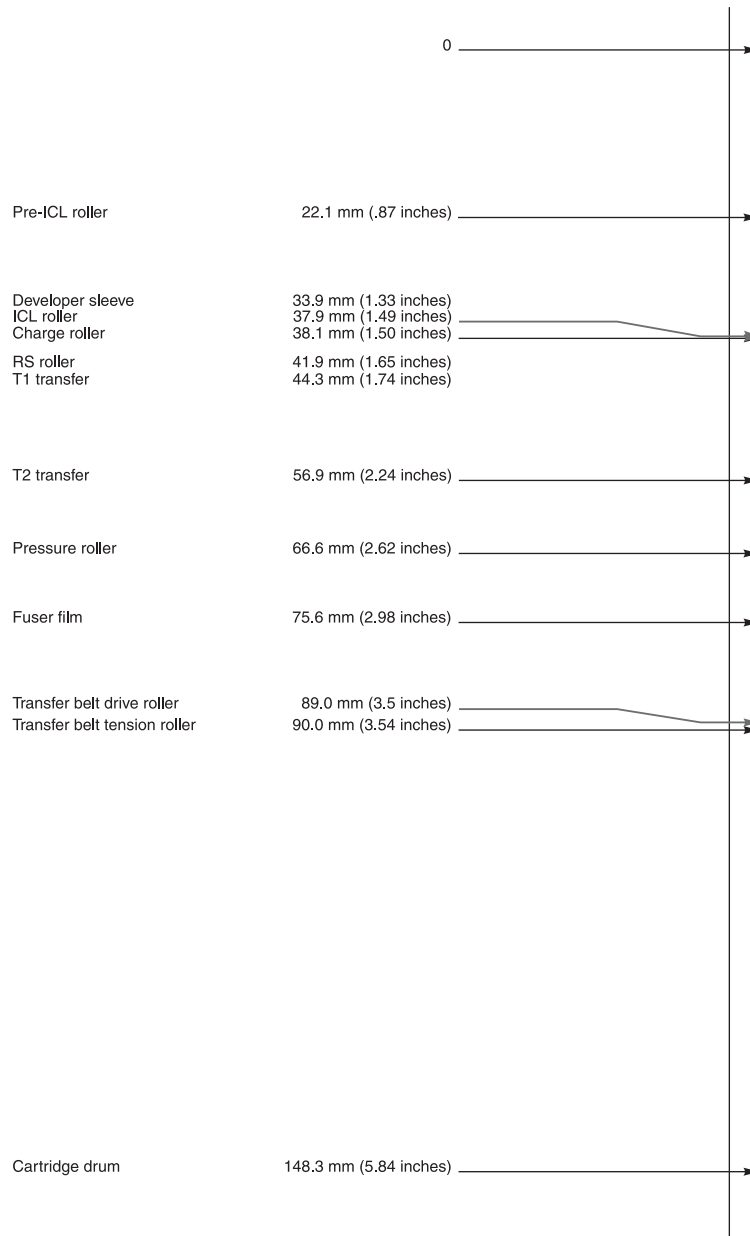|	
	0
Pre-ICL roller	22.1 mm (.87 inches)
Developer sleeve	33.9 mm (1.33 inches)
ICL roller	37.9 mm (1.49 inches)
Charge roller	38.1 mm (1.50 inches)
RS roller	41.9 mm (1.65 inches)
T1 transfer	44.3 mm (1.74 inches)
T2 transfer	56.9 mm (2.24 inches)
Pressure roller	66.6 mm (2.62 inches)
Fuser film	75.6 mm (2.98 inches)
Transfer belt drive roller	89.0 mm (3.5 inches)
Transfer belt tension roller	90.0 mm (3.54 inches)
Cartridge drum	148.3 mm (5.84 inches)

Figure 6-13 Repetitive image defect ruler

NOTE Due to differences in printing mechanisms and letter/A4 media size issues, HP recommends that you use only the measurements and not a printed sheet to judge banding issues.
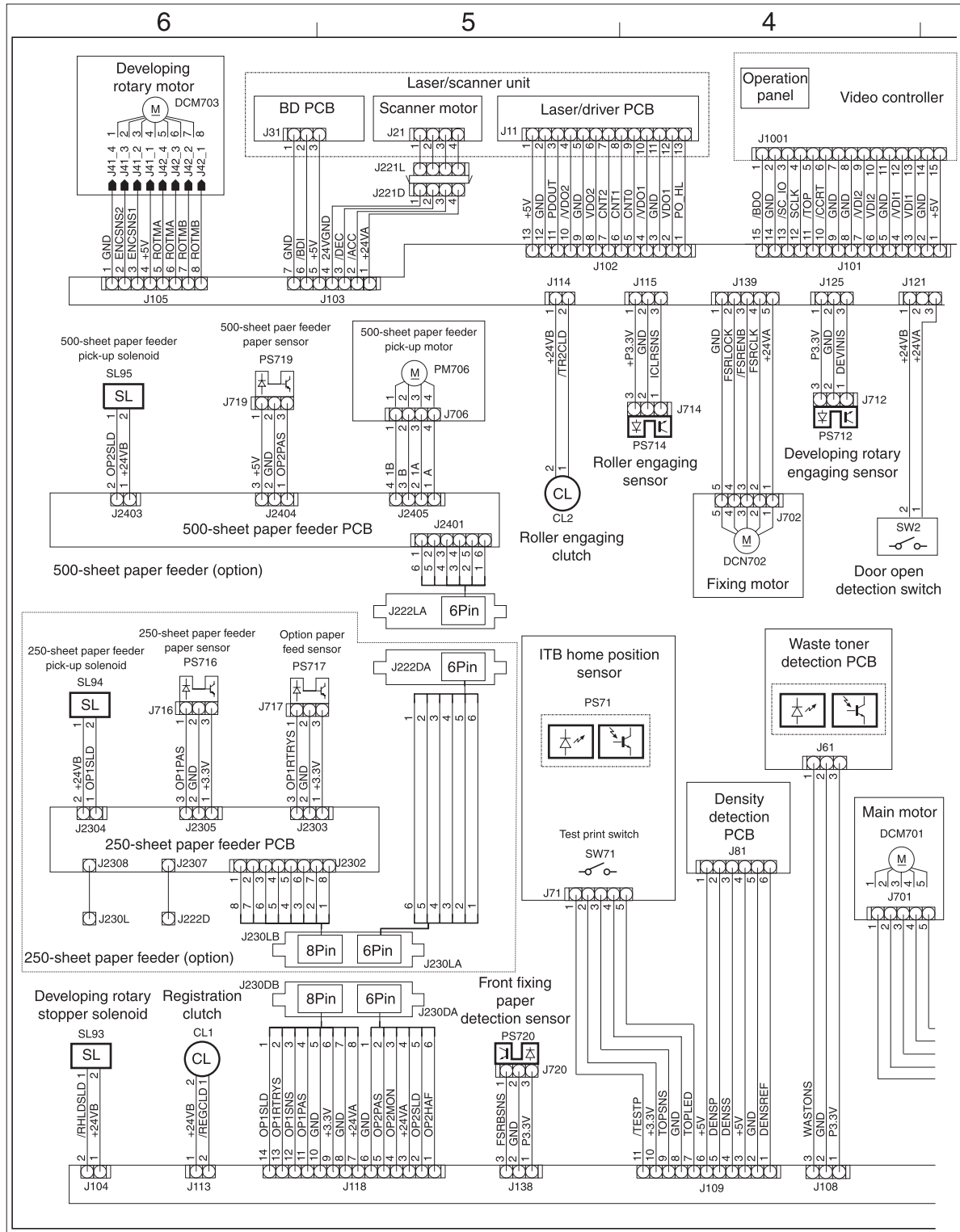
Main wiring diagram

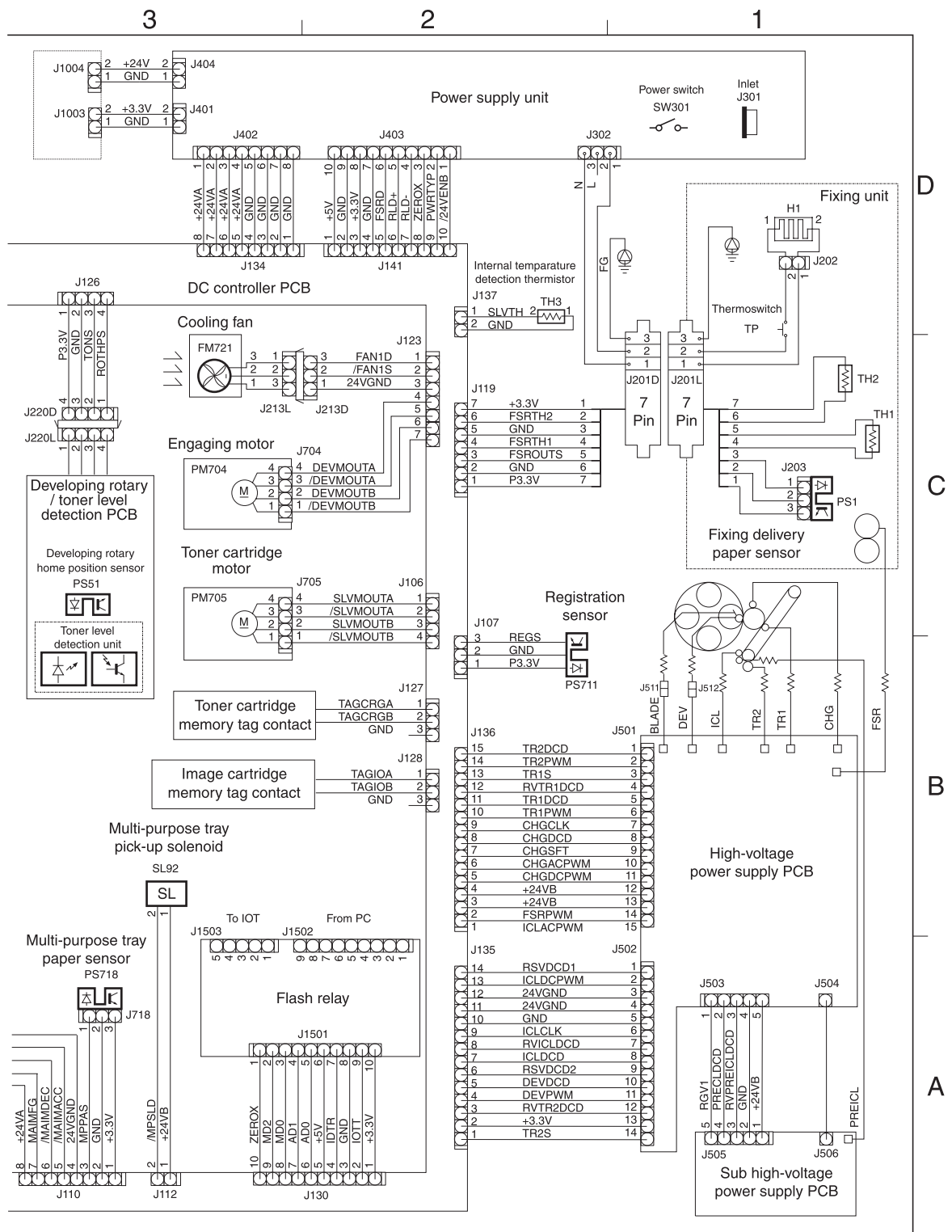**Figure 6-14** Main wiring (1 of 2)

Figure 6-15 Main wiring (2 of 2)

Updating or recovering the firmware code

The device has a flash-memory-based formatter that enables the firmware code to be updated in the event that new firmware is released for the device. Using flash memory also provides a way to recover the firmware in the event of code corruption or failure.

Firmware update by using flash executable

The Configuration page lists the firmware version of the device. On flash-memory-based devices, you can update the firmware code by downloading the latest flash executable for the device and running the program according to the readme instructions that come with it. Turn the device off and then on before running the executable file. If the firmware becomes corrupted or fails (usually because of an interruption when attempting to update the firmware), the device no longer functions. In this case, a firmware-recovery DIMM is available from HP.

Firmware-recovery DIMM

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

1   Order a firmware-recovery DIMM (RDIMM) from HP.

2   Turn off the device.

3   Open the memory cover on the right side of the device, and then open the formatter cage memory door.

4   Install the firmware-recovery DIMM into the DIMM slot (callout 1).
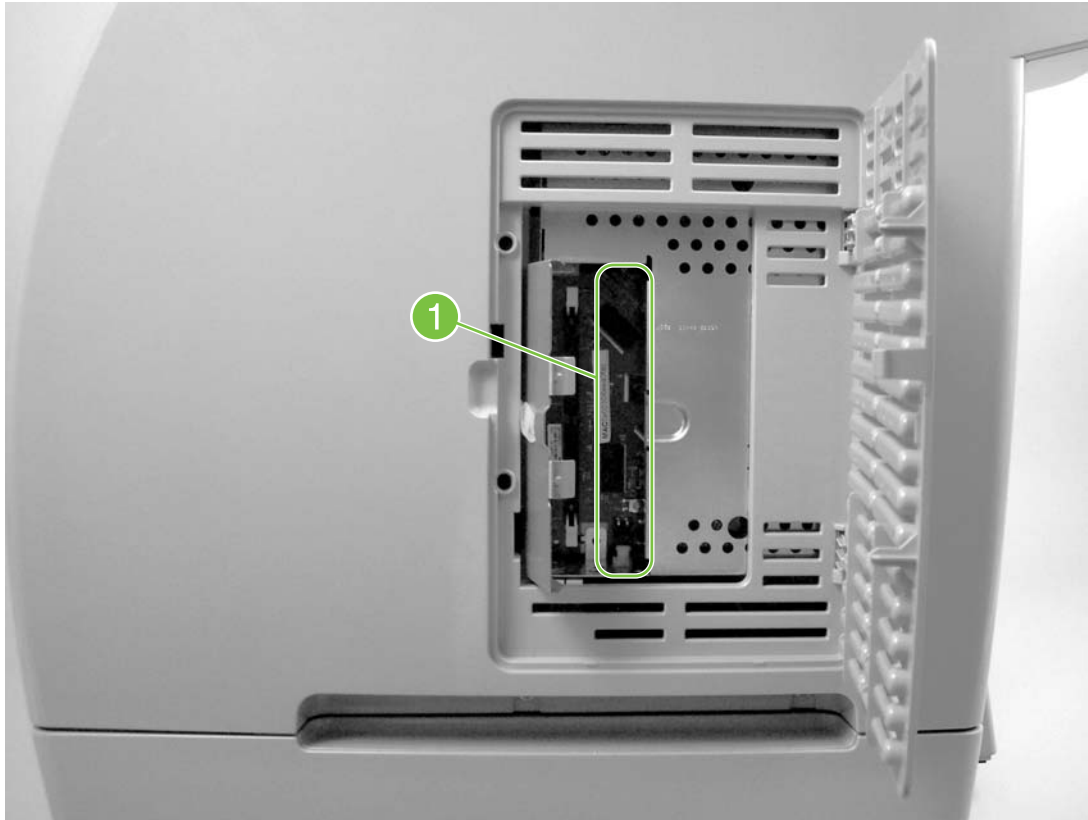
Figure 6-16 Install the firmware-recovery DIMM

5   Turn on the device. The firmware-recovery DIMM takes a few minutes to automatically restore both blocks of firmware code. Wait until the message **Complete** appears on the control-panel display.

6   Turn off the device and remove the recovery DIMM.

7   Turn on the device. It should start up normally. If the device does not start up normally, repeat the recovery process.

7 Parts and diagrams

Chapter contents

Ordering parts and supplies

Parts

Order replacement parts from the following Web sites:

h30074.www3.hp.com/csn-aux/srvcdlvry/epdo/default/ePDOLogin.asp (technicians)

h20141.www2.hp.com/hpparts (customers)

Related documentation and software

Order documentation and software from the companies listed in the following table; some documentation and software are available at the following Web sites.

Table 7-1 Technical support Web sites

HP Customer Care Online Software drivers, support documentation, and answers to frequently asked questions	www.hp.com/support
HP Technical Training (North America) Classes and schedules	education.itrc.hp.com/TrainerII/en-US/index.jsp

Supplies

Device supplies are listed in Table 3-1 Life expectancies of components. Consumables are available directly from HP at the following numbers.

- US: 800-538-8787

- Canada: 800-387-3154 (in Toronto: 416-671-8383)

- United Kingdom: 0734-441212

- Germany: 0130-3322

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

Accessories

Accessories

Table 7-2 Accessories

Product name	Description	Product number	Part number	Exchange number
Print cartridges				
Print cartridge	Black print cartridge	Q3960A	Q3960-67901	N/A
			Q3960-67902 (EMEA)	
Print cartridge	Yellow print cartridge, 2k	Q3972A	Q3972-67901	N/A
			Q3972-67902 (EMEA)	
Print cartridge	Yellow print cartridge, 4k	Q3962A	Q3962-67901	N/A
			Q3962-67902 (EMEA)	
Print cartridge	Magenta print cartridge, 2k	Q3973A	Q3973-67901	N/A
			Q3973-67902 (EMEA)	
Print cartridge	Magenta print cartridge, 4k	Q3963A	Q3963-67901	N/A
			Q3963-67902 (EMEA)	
Print cartridge	Cyan print cartridge, 2k	Q3971A	Q3971-67901	N/A
			Q3971-67902 (EMEA)	
Print cartridge	Cyan print cartridge, 4k	Q3961A	Q3961-67901	N/A
			Q3961-67902 (EMEA)	
Imaging drums				
Imaging drum	Imaging drum	Q3964A	Q3964-67901	N/A
Trays and tray accessories				
Optional 250-sheet tray	1 optional 250-sheet tray	Q3709A	Q3709-67901	N/A
Tray 1 kit	1 pickup roller and 1 separation pad	C9706-67901	C9706-67901	N/A
Tray 1 kit with extra separation pads	1 pickup roller and 3 separation pads	C9706-67902	C9706-67902	N/A
Memory				
SDRAM DIMM	128 MB SDRAM DIMM	C9121A	C9121A	N/A
SDRAM DIMM	64 MB SDRAM DIMM	C9680A	C9680A	N/A
SDRAM DIMM	32 MB SDRAM DIMM	C7845A	C7845A	N/A
SDRAM DIMM	Firmware recovery DIMM	Q6482CA	Q6482CA	N/A
Cables				

Table 7-2 Accessories (continued)

Product name	Description	Product number	Part number	Exchange number
USB cable	USB cable (a-b), 2-meter	C6518A	C6518A	N/A
Accessory kits				
ADF assembly	ADF assembly, errata sheet	Q3948-60189	Q3948-60189	N/A
Scanner assembly	Scanner assembly	Q3948-60191	Q3948-60191	N/A
ADF cover replacement kit	ADF cover, cover hinge	Q3948-67901	Q3948-67901	N/A
Paper pick module replacement kit	Pickup roller assembly, screws	Q3948-67903	Q3948-67903	N/A
ADF pickup roller replacement kit	Separation pad, pickup roller, screws, errata sheet	Q3948-67904	Q3948-67904	N/A
ADF flag replacement kit	ADF input tray flag, ADF input flag spring	Q3948-67902	Q3948-67902	N/A
ADF hinge replacement kit	left hinge, right hinge, screws	Q3948-67905	Q3948-67905	N/A
ADF window replacement kit	ADF window, window frame, screws	Q3948-67906	Q3948-67906	N/A
Formatter copy exchange kit	Formatter cage, copy formatter PCA, screws, LIU cover plate	Q3948-69001	N/A	Q3948-69001
Formatter US LIU exchange kit	Formatter cage, Euro LIU PCA, fax formatter PCA, screws, LIU cable	Q3948-69002	N/A	Q3948-69002
Formatter Euro LIU exchange kit	Formatter cage, US LIU PCA, fax formatter PCA, screws, LIU cable	Q3948-69003	N/A	Q3948-69003
Engine paper pick roll/ separation pad replacement kit	Separation pad, pickup roller, errata sheet	Q3948-67907	Q3948-67907	N/A
Photo card assembly kit	Memory card assembly (HP Color LaserJet 2840 all-in-one only)	Q3948-67908	Q3948-67908	N/A

Replacement kits

The table below shows replacement kits that are available from HP.

Table 7-3 Replacement kits

Kit—part number	Parts (quantity)	Part number
Right mount link kit—Q3948-67909	Spring, torsion (1)	RS6-2772-000CN
	Mount, right link (1)	RB3-1158-000CN
Screw kit—Q3948-67910	Screw, RS, M3X8 (10)	XA9-1291-000CN
	Screw, P, M3X8 (5)	XB4-5300-809CN
	E-ring (5)	XD2-1100-502CN
	Screw, RS, M3X10 (5)	XA9-1501-000CN
	Retaining ring (5)	XD2-1100-322CN
	Screw, S, M3X8 (5)	XA9-1500-000CN
	Screw, tapping, truss head, M4X10 (15)	XB4-7401-005CN
	Screw, RS, M3X6 (5)	XA9-0849-000CN
	Clamp, cable (5)	WT2-5700-000CN
	Screw, RS, M3X6 (5)	XA9-1495-000CN
	Screw, RS, M3X8 (5)	XA9-1449-000CN
	Screw, RS, M3X6 (10)	XA9-1495-010CN
	Screw, w/ washer, M3X6 (5)	XB2-4300-605CN
	Screw, S, M3X8 (5)	XA9-1500-010CN
Power switch kit—Q3948-67911	Spring, compression (1)	RS6-2771-000CN
	Rod, power button (1)	RB3-1145-000CN
	Mount, power button rod (1)	RB3-1146-000CN
Multipurpose pickup roller kit—Q3948-67912	Pad, paper separation (1)	RF5-4012-000CN
	Roller, multipurpose paper pickup (1)	RB3-0160-000CN
Front frame gear kit—Q3948-67913	Gear, 20T/40T (1)	RS7-0424-000CN
	Gear, 26T (1)	RS7-0429-000CN0
	Bushing (1)	RS5-1635-000CN
	Gear assembly (1)	RG5-6938-000CN
Upper multipurpose cover kit—Q3948-67914	Cover, multipurpose, upper (1)	RB3-1134-000CN
	Label, image cartridge (1)	RS6-8687-000CN
Fan duct kit—Q3948-67915	Duct fan (1)	RB9-0901-000CN
	Label, high voltage (1)	RS6-8668-000CN
Output gear kit—Q3948-67916	Gear, 32T/37T (1)	RS7-0435-000CN
	Gear, 37T/43T (1)	RS7-0436-000CN

Table 7-3 Replacement kits (continued)

| Kit—part number	Parts (quantity)	Part number
	Gear, 51T (1)	RS7-0437-000CN
Upper face down roller kit—Q3948-67917	Spring, torsion (2)	RB2-9905-000CN
	Roller, face-down, upper (2)	RF5-4068-000CN
Feed belt kit—Q3948-67918	Belt, timing (1)	RB1-8668-030CN
	Pulley (2)	RB3-0061-000CN
	Belt, paper feed (8)	RB3-0063-000CN
	Pulley (2)	RB3-0067-000CN
Feed shaft kit—Q3948-67919	Shaft, feed drive (1)	RB3-0011-000CN
	Roller, SM belt (1)	RB3-0012-000CN
	Shaft, idler gear (1)	RB3-0060-000CN
	Gear, 23T (1)	RB3-0022-000CN
	Spring, torsion (1)	RB2-9999-000CN
Transfer roll kit—Q3948-67920	Plate, transfer (2)	RB3-0057-000CN
	Roller, transfer (1)	RF5-4067-000CN
	Bushing (1)	RB3-1094-000CN
	Spring, compression (1)	RB3-0015-000CN
	Spring, compression (1)	RB3-1092-000CN
250–sheet pickup roller kit—Q3948-67921	Roller (2)	RB2-2892-000CN
	Roller, paper pickup (1)	RB3-0161-000CN
	Separation pad assembly (1)	RF5-4258-000CN
	Spring, compression (1)	RS6-2769-000CN
Lower face-down roller kit—Q3948-67922	Spring, torsion (2)	RB3-1065-000CN
	Roller, face-down (2)	RB2-9909-000CN

Automatic document feeder and scanner assembly
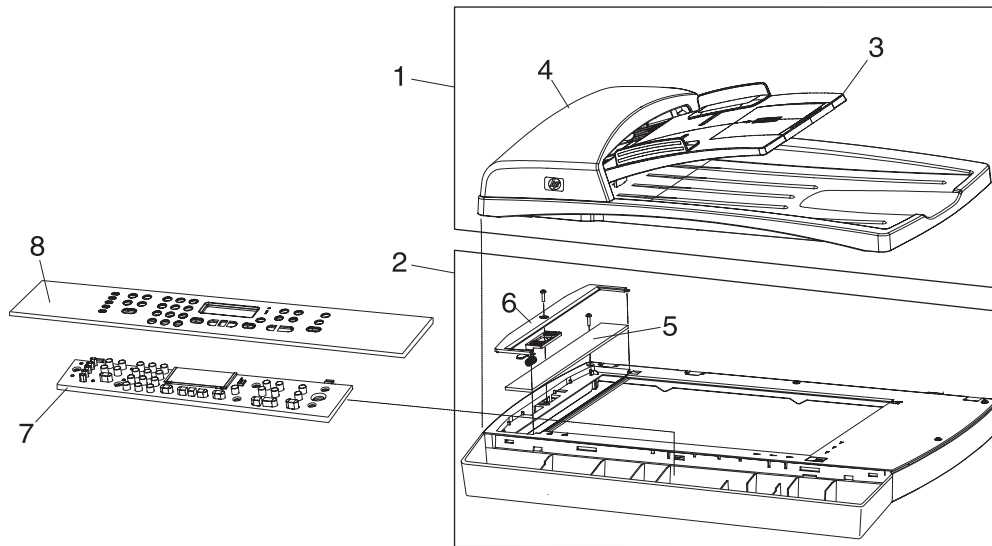
Figure 7-1 ADF and scanner assembly

Table 7-4 ADF and scanner assembly

Ref	Description	Part number	Qty
1	ADF assembly	Q3948-60189CN	1
2	Scanning assembly	Q3948-60191CN	1
3	ADF input tray	Q3948-60145CN	1
Not pictured	ADF separation pad	Q2665-60125CN	1
Not pictured	ADF pickup roller	Q3948-60140CN	1
Not pictured	ADF cleanout part	C7309-40153CN	1
Not pictured	ADF input-tray flag	C7309-40013CN	1
Not pictured	ADF input-tray spring	C7309-80013CN	1
4	ADF cover	Q3948-40007CN	1
5	ADF scanning window	C7296-00014CN	1
6	ADF scanning window frame	Q1636-40037CN	1
7	Control panel, copy (HP Color LaserJet 2820 all-in-one)	Q3948-60111CN	1
7	Control panel, fax (HP Color LaserJet 2830 all-in-one and HP Color LaserJet 2840 all-in-one)	Q3949-60134CN	1
8	Control-panel bezel, copy, English	Q3948-60136CN	1
8	Control-panel bezel, fax, English	Q3950-60101CN	1
8	Control-panel bezel, copy, French	Q3948-60149CN	1
8	Control-panel bezel, fax, French	Q3950-60105CN	1
8	Control-panel bezel, copy, German	Q3948-60148CN	1
8	Control-panel bezel, fax, German	Q3950-60104CN	1
8	Control-panel bezel, copy, Italian	Q3948-60151CN	1
8	Control-panel bezel, fax, Italian	Q3950-60107CN	1
8	Control-panel bezel, copy, Spanish	Q3948-60146CN	1
8	Control-panel bezel, fax, Spanish	Q3950-60102CN	1
8	Control-panel bezel, copy, Arabic	Q3948-60164CN	1
8	Control-panel bezel, fax, Arabic	Q3950-60120CN	1
8	Control-panel bezel, copy, Danish	Q3948-60155CN	1
8	Control-panel bezel, fax, Danish	Q3950-60111CN	1
8	Control-panel bezel, copy, Dutch	Q3948-60150CN	1
8	Control-panel bezel, fax, Dutch	Q3950-60106CN	1
8	Control-panel bezel, copy, Finnish	Q3948-60154CN	1
8	Control-panel bezel, fax, Finnish	Q3950-60110CN	1

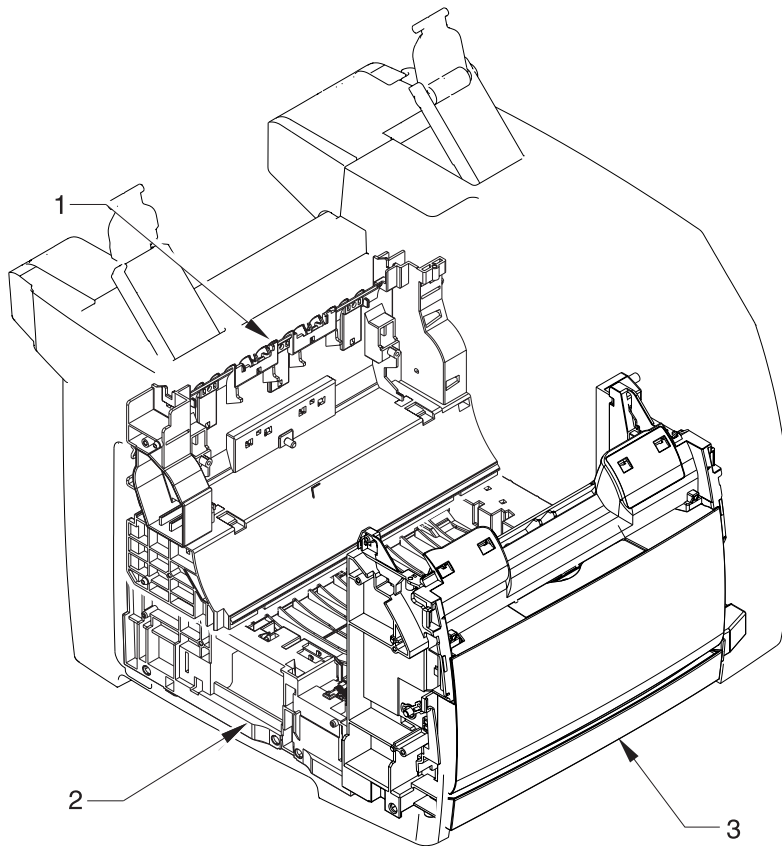| Ref	Description	Part number	Qty
8	Control-panel bezel, copy, Hebrew	Q3948-60163CN	1
8	Control-panel bezel, fax, Hebrew	Q3950-60119CN	1
8	Control-panel bezel, copy, Norwegian	Q3948-60153CN	1
8	Control-panel bezel, fax, Norwegian	Q3950-60109CN	1
8	Control-panel bezel, copy, Portuguese	Q3948-60147CN	1
8	Control-panel bezel, fax, Portuguese	Q3950-60103CN	1
8	Control-panel bezel, copy, Swedish	Q3950-60108CN	1
8	Control-panel bezel, fax, Swedish	Q3948-60152CN	1
8	Control-panel bezel, copy, Czech	Q3948-60157CN	1
8	Control-panel bezel, fax, Czech	Q3950-60113CN	1
8	Control-panel bezel, copy, Hungarian	Q3948-60158CN	1
8	Control-panel bezel, fax, Hungarian	Q3950-60114CN	1
8	Control-panel bezel, copy, Polish	Q3948-60159CN	1
8	Control-panel bezel, fax, Polish	Q3950-60115CN	1
8	Control-panel bezel, copy, Russian	Q3948-60156CN	1
8	Control-panel bezel, fax, Russian	Q3950-60112CN	1
8	Control-panel bezel, copy, Slovak	Q3948-60160CN	1
8	Control-panel bezel, fax, Slovak	Q3950-60116CN	1
8	Control-panel bezel, copy, Turkish	Q3948-60161CN	1
8	Control-panel bezel, fax, Turkish	Q3950-60117CN	1
8	Control-panel bezel, copy, Korean	Q3948-60166CN	1
8	Control-panel bezel, fax, Korean	Q3950-60122CN	1
8	Control-panel bezel, copy, simplified Chinese	Q3948-60167CN	1
8	Control-panel bezel, fax, simplified Chinese	Q3950-60123CN	1
8	Control-panel bezel, copy, traditional Chinese	Q3948-60165CN	1
8	Control-panel bezel, fax, traditional Chinese	Q3950-60121CN	1
8	Control-panel bezel, copy, Thai	Q3948-60168CN	1
8	Control-panel bezel, fax, Thai	Q3950-60124CN	1
8	Control-panel bezel, copy, Vietnamese	Q3948-60169CN	1
8	Control-panel bezel, fax, Vietnamese	Q3950-60125CN	1

Assembly locations (1 of 2)

Figure 7-2 Assembly locations (1 of 2)

Table 7-5

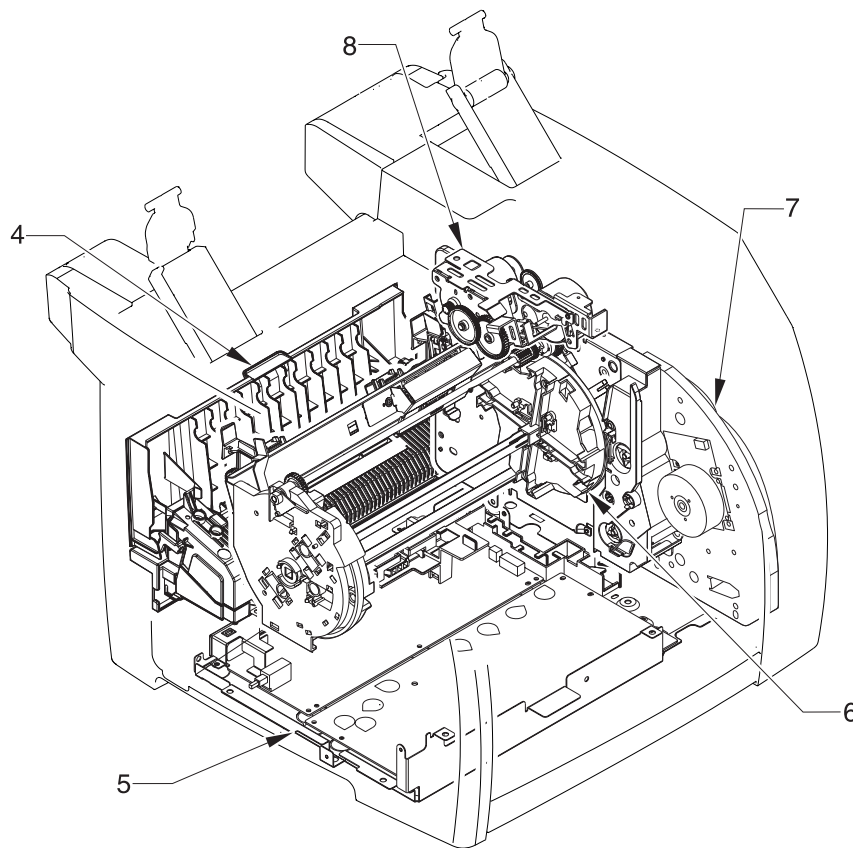| Ref	Description	Part number	Qty
1	Rear frame assembly	See Covers	1
2	Middle frame assembly	See Middle frame assembly	1
3	Front frame assembly	See Front frame assembly	1

Assembly locations (2 of 2)

Figure 7-3 Assembly locations (2 of 2)

Table 7-6 Assembly locations (2 of 2)

Ref	Description	Part number	Qty
4	Fuser, 110-127 V	RG5-7602-000CN	1
4	Fuser, 220-240 V	RG5-7603-000CN	1
1	Power-supply base assembly	See Power-supply base assembly	1
1	Rotary assembly	RG5-7587-000CN	1
1	Main drive assembly	RG5-7579-000CN	1
1	Rotary drive assembly	RG5-7592-000CN	1

Covers
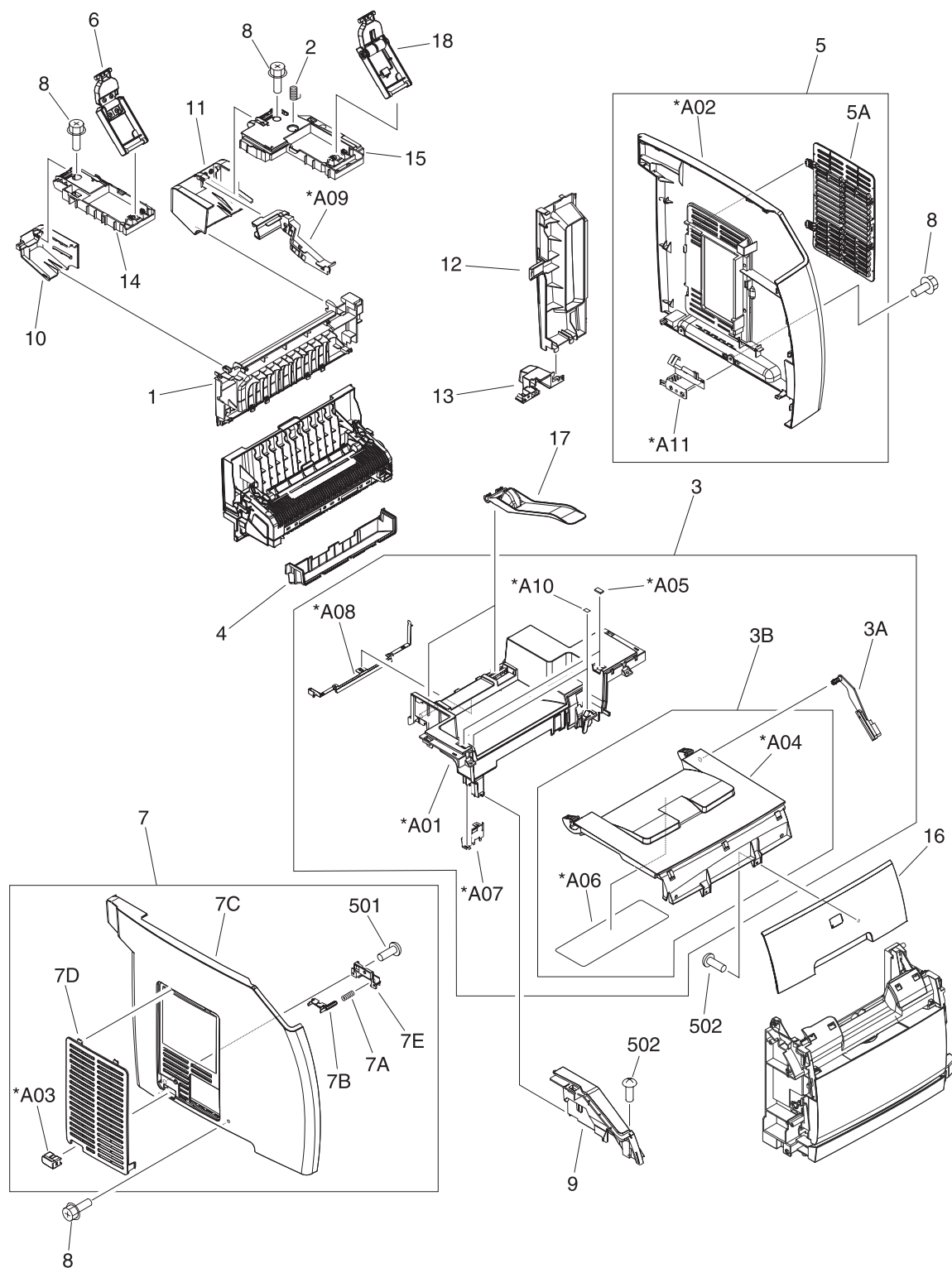
Figure 7-4 Covers

Table 7-7 Covers

Ref	Description	Part number	Qty
1	Cover, rear	RB3-1130-000CN	1
2	Spring, torsion	RS6-2772-000CN	1
3	Cover, top (assembly)	RG5-7597-000CN	1
3A	Cover, rack	RB3-0089-030CN	1
3B	Cover, cartridge	RF5-4055-000CN	1
4	Cover, face-down	RB3-1136-000CN	1
5	Right cover assembly	RG5-7599-000CN	1
5A	Cover, memory	RB3-1138-000CN	1
6	Link unit, left	RG5-7645-000CN	1
7	Left cover assembly	RG5-7598-000CN	1
7A	Spring, compression	RS6-2771-000CN	1
7B	Rod, power button	RB3-1145-000CN	1
7C	Cover, left	RB3-1128-000CN	1
7D	Cover, vent	RB3-1139-000CN	1
7E	Mount, power button rod	RB3-1146-000CN	1
8	Screw, RS, M3x8	XA9-1291-000CN	7
9	Cover, left upper	RB3-1126-000CN	1
10	Cover, left rear	RB3-1131-000CN	1
11	Cover, right rear	RB3-1132-000CN	1
12	Cover, I/O	RB3-1137-000CN	1
13	Foot, fall prevention	RB3-1147-000CN	1
14	Mount, left link	RB3-1154-000CN	1
15	Mount, right link	RB3-1158-000CN	1
16	Cover, front	RB3-1125-000CN	1
17	Arm, face-down	RB3-1083-000CN	2
18	Link unit, right	RG5-7630-000CN	1
501	Screw, P, M3x8	XB4-5300-809CN	2
502	Screw, tapping, truss head, M4X10	XB4-7401-005CN	2
A01	Cover, top		
A02	Cover, right		
A03	Button, power		
A04	Cover, cartridge		
A05	Sheet, noise-proof rubber		
A06	Label, I/O operation		

Ref	Description	Part number	Qty
A07	Plate, interlock switch shield		
A08	Plate, static eliminator		
A09	Guide, cable		
A10	Label, CRG		
A11	Plate, formatter grounding		

Internal assemblies
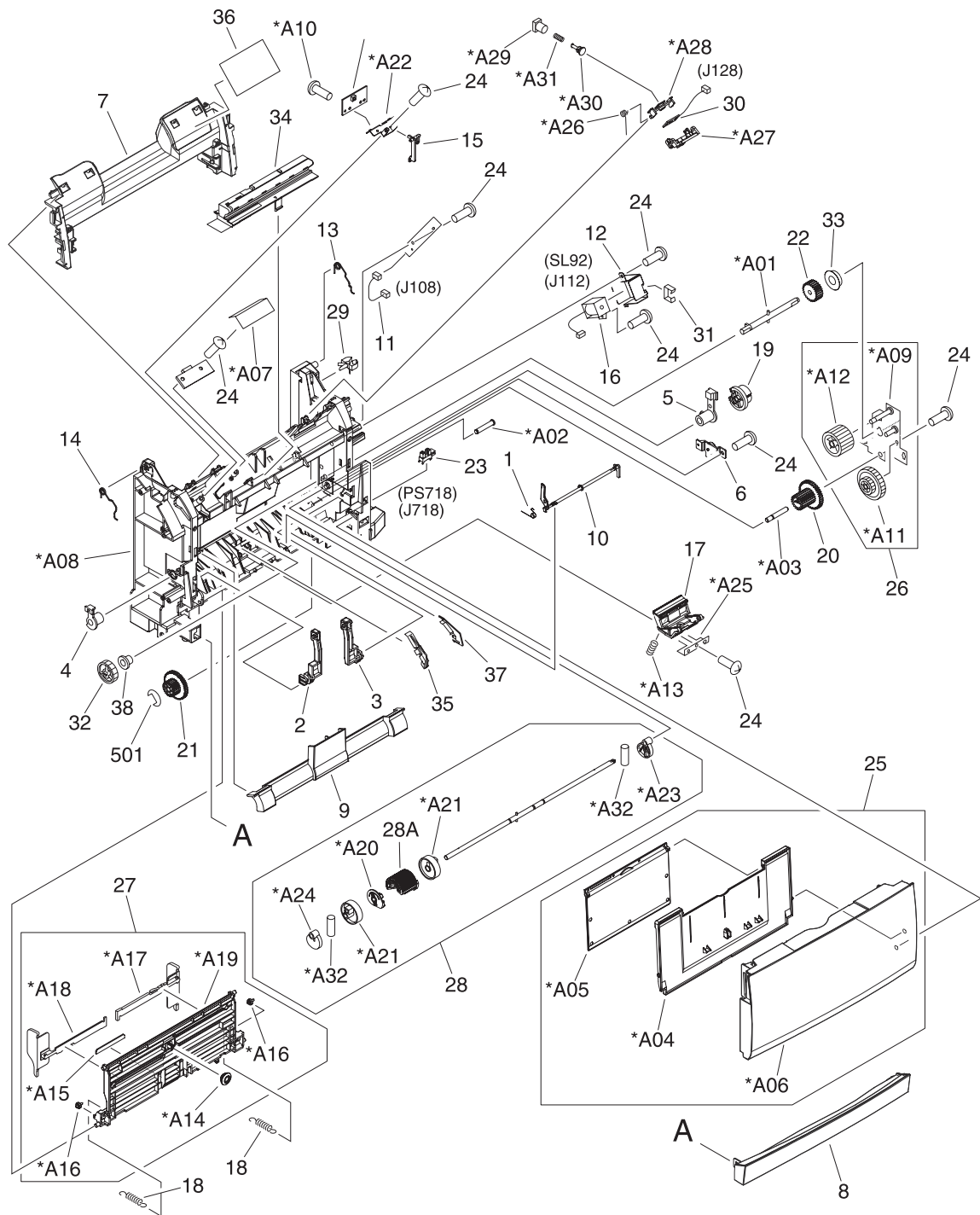
Figure 7-5 Front frame assembly

Table 7-8 Front frame assembly

Ref	Description	Part number	Qty
1	Spring, torsion	RB2-9952-000CN	1
2	Hinge, multipurpose, right	RB9-0890-000CN	1
3	Hinge, multipurpose, left	RB9-0889-000CN	1
4	Bushing, left	RB2-3043-000CN	1
5	Bushing, right	RB2-3044-000CN	1
6	Damper assembly	RB2-6248-000CN	1
7	Cover, multipurpose, upper	RB3-1134-000CN	1
8	Cover, multipurpose, lower	RB3-1135-000CN	1
9	Cover, multipurpose, roller	RB3-0104-000CN	1
10	Flag, multipurpose sensor	RB3-0111-000CN	1
11	Cable, waste toner	RG5-7624-000CN	1
12	Cover, MP. gauss blocking	RB3-0120-000CN	1
13	Spring, torsion	RB3-0121-000CN	1
14	Spring, torsion	RB3-0122-000CN	1
15	Flag, test print switch	RB3-0135-000CN	1
16	Solenoid	RH7-5383-000CN	1
17	Pad, paper separation	RF5-4012-000CN	1
18	Spring, tension	RS6-2030-000CN	2
19	Gear, 26T	RS7-0418-000CN	1
20	Gear, 20T/40T	RS7-0424-000CN	1
21	Gear, 26T/50T	RS7-0426-000CN	1
22	Gear, 26T	RS7-0429-000CN	1
23	Photo interrupter TLP1242	WG8-5593-000CN	1
24	Screw, tapping, truss head, M4X10	XB4-7401-005CN	11
25	Multipurpose cover assembly	RG5-7601-000CN	1
26	Gear assembly	RG5-6938-000CN	1
27	Multipurpose inner plate assembly	RG5-7584-000CN	1
28	Multipurpose paper pickup roller assembly	RG5-6952-000CN	1
28A	Roller, multipurpose paper pickup	RB3-0160-000CN	1
29	Clamp, cable	WT2-5700-000CN	2
30	Tag contact PCA	RG5-7131-000CN	1
31	Clip, cable	WT2-5056-000CN	1
32	Gear, 30T	RS7-0425-000CN	1
33	Bushing	RS5-1635-000CN	1

Ref	Description	Part number	Qty
34	Pad, light-blocking	RF5-4047-000CN	1
35	Guide, paper feed, left	RB2-9954-000CN	1
36	Label, image cartridge	RS6-8687-000CN	1
37	Guide, paper feed, right	RB2-9955-000CN	1
38	Bushing	RS5-1638-000CN	1
501	Ring, E	XD2-1100-502CN	1
A01	Shaft, paper pickup clutch gear		
A02	Shaft		
A03	Shaft		
A04	Tray, expansion, 1		
A05	Tray, expansion, 2		
A06	Cover, multipurpose		
A07	Sheet, dust-proof		
A08	Frame, front		
A09	Holder, gear		
A10	Screw, TP, M3X6		
A11	Gear, 20T/40T		
A12	Gear, 31T		
A13	Spring, compression		
A14	Gear, 18T		
A15	Sheet, separation		
A16	Roller		
A17	Rack, slide, right		
A18	Rack, slide, left		
A19	Plate, multipurpose inner		
A20	Cam, roller		
A21	Roller		
A22	Holder, top sensor PCA		
A23	Cam, multipurpose, right		
A24	Cam, multipurpose, left		
A25	Holder, separation pad		
A26	Spring, torsion		
A27	Holder, tag contact		
A28	Holder, tag		
A29	Support, tag pin		

Ref	Description	Part number	Qty
A30	Pin, tag		
A31	Spring, compression		
A32	Pin, dowel		
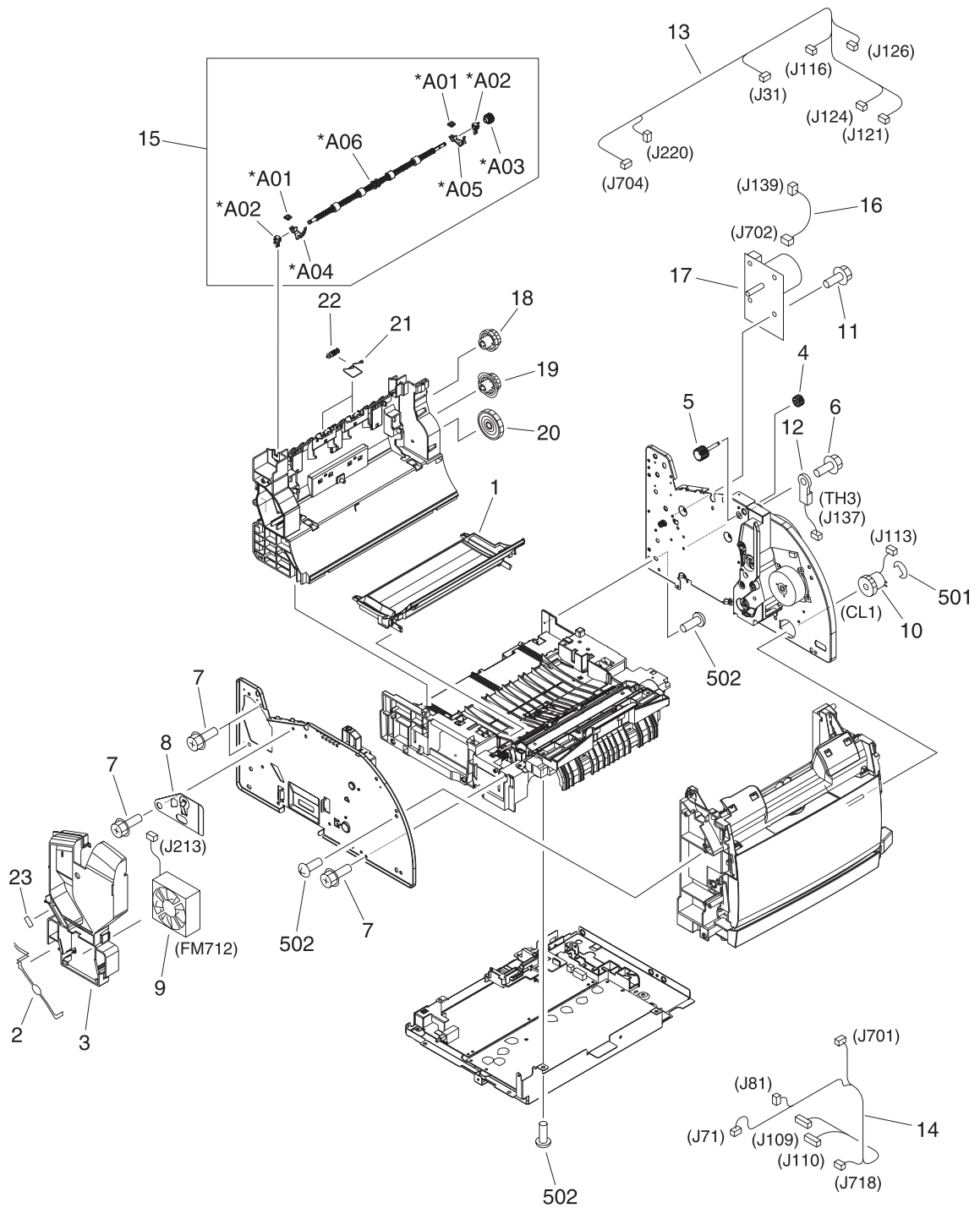
Figure 7-6 Internal components (1 of 2)

Table 7-9 Internal components (1 of 2)

Ref	Description	Part number	Qty
1	Tray, toner	RB3-0019-000CN	1
2	Guard, fan shield	RB2-9932-000CN	1
3	Duct, fan	RB9-0901-000CN	1
4	Gear, 18T	RB3-0091-000CN	1
5	Gear, 15T	RB3-0092-000CN	1
6	Screw, RS, M3x8	XA9-1449-000CN	1
7	Screw, RS, M3x6	XA9-1495-000CN	5
8	Plate, swing shaft grounding	RB3-1113-000CN	1
9	Fan	RH7-1630-000CN	1
10	Clutch, electromagnetic	RH7-5389-000CN	1
11	Screw, RS, M3x10	XA9-1501-000CN	4
12	Sleeve thermistor unit	RH7-7159-000CN	1
13	Cable, upper	RG5-7160-000CN	1
14	Cable, front frame	RG5-7145-000CN	1
15	Upper face-down roller assembly,	RG5-7637-000CN	1
16	Cable, fuser motor	RG5-7620-000CN	1
17	Motor, DC	RH7-1628-000CN	1
18	Gear, 32T/37T	RS7-0435-000CN	1
19	Gear, 37T/43T	RS7-0436-000CN	1
20	Gear, 51T	RS7-0437-000CN	1
21	Spring, torsion	RB2-9905-000CN	2
22	Roller, face-down, upper	RF5-4068-000CN	2
23	Label, high voltage caution	RS6-8668-000CN	1
501	E-ring	XD2-1100-322CN	1
502	Screw, tapping, truss head, M4x10	XB4-7401-005CN	31
A01	Plate, rating		
A02	Bushing		
A03	Gear, 17T		
A04	Holder, forming left		
A05	Holder, forming right		
A06	Roller, face-down, upper		
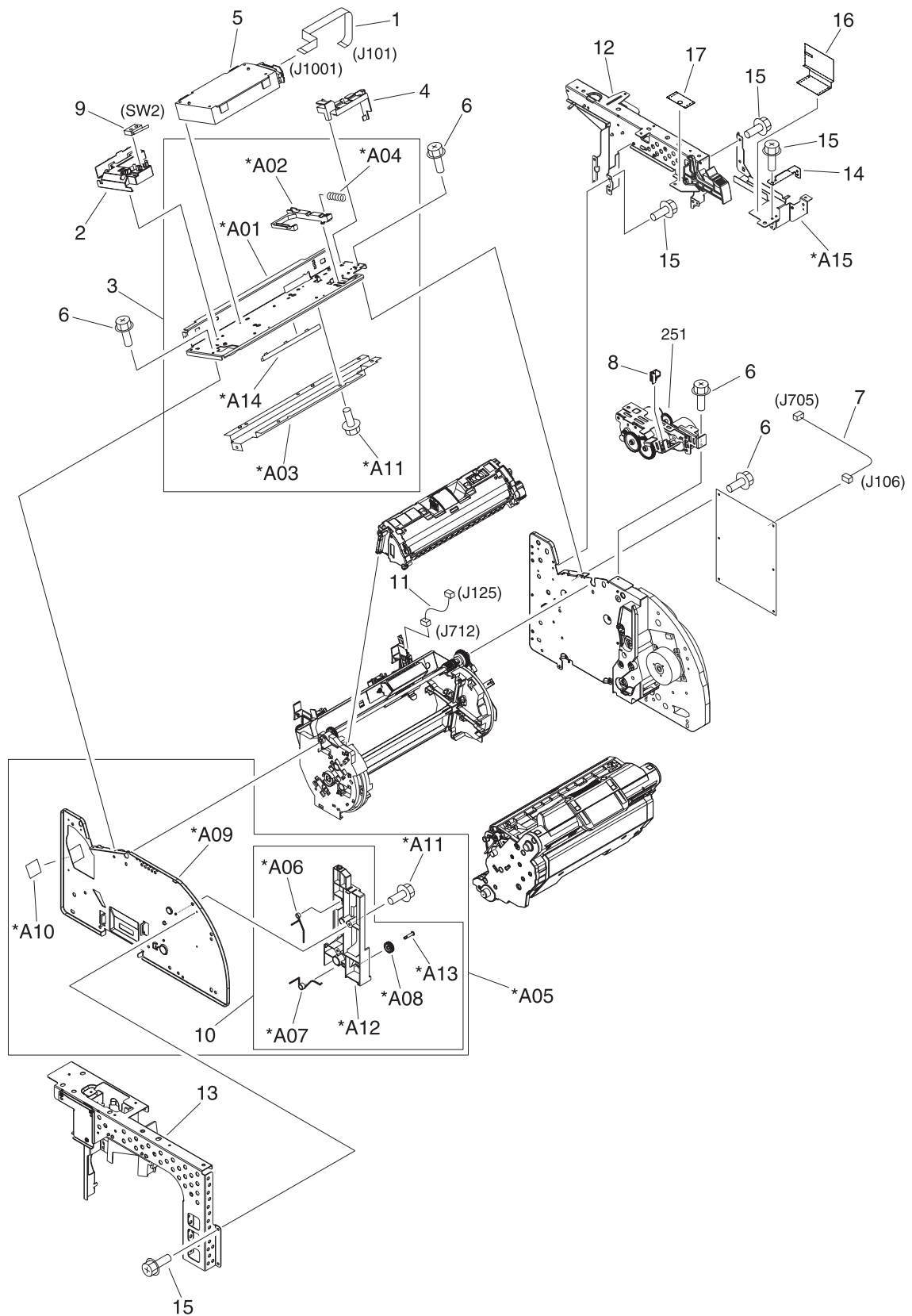
Figure 7-7 Internal components (2 of 2)

Table 7-10 Internal components (2 of 2)

Ref	Description	Part number	Qty
1	Flat cable, laser	RH2-5524-000CN	1
2	Holder, interlock switch	RB3-0023-000CN	1
3	Scanner crossmember assembly	RG5-6907-000CN	1
4	Cable guide	RB2-9903-000CN	1
5	Laser/scanner	RG5-6890-000CN	1
6	Screw, RS, M3x6	XA9-0849-000CN	18
7	Cable, motor	RG5-7114-000CN	1
8	Guide, rotary release	RB2-9852-000CN	1
9	Microswitch	RH7-6051-000CN	1
10	Left cartridge guide assembly	RG5-6935-000CN	1
11	Cable, sensor	RG5-7117-000CN	1
12	Right support assembly	RG5-7631-000CN	1
13	Left support assembly	RG5-7632-000CN	1
14	Plate, photo card crossmember	RB2-9976-000CN	1
15	Screw, RS, M3x6	XA9-1495-000CN	15
16	Sheet, protective, A	RB3-1379-000CN	1
17	Sheet, protective, B	RB3-1380-000CN	1
A01	Crossmember, scanner		
A02	Arm, shutter		
A03	Crossmember, beam		
A04	Spring, compression		
A05	Left side plate assembly		
A06	Spring, torsion		
A07	Spring, torsion		
A08	Gear, 34T		
A09	Side plate, left		
A10	Sheet		
A11	Screw, RS, M3X6		
A12	Guide, left cartridge		
A13	Shaft, gear		
A14	Cover, edge		
A15	Plate, photo card mounting		
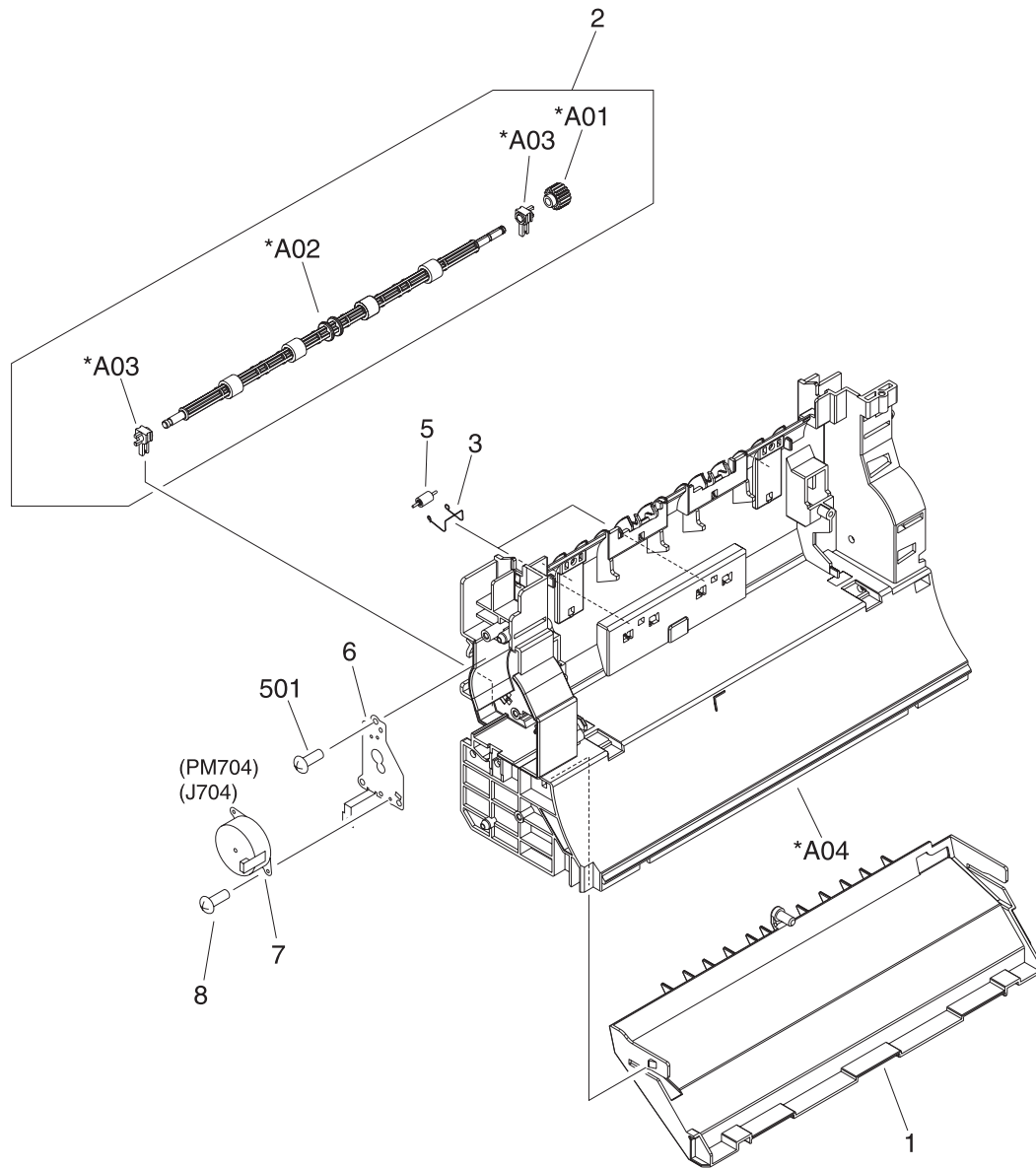
Figure 7-8 Rear frame assembly

Table 7-11 Rear frame assembly

Ref	Description	Part number	Qty
1	Duct, fuser	RB2-9904-000CN	1
2	Lower face-down roller assembly	RG5-7595-000CN	1
3	Spring, torsion	RB3-1065-000CN	2
4	Screw, RS, M3x6	XA9-0849-000CN	2
5	Roller, face-down, lower	RB2-9909-000CN	2
6	Cover, pressure motor	RB2-9916-000CN	1
7	Motor, DC, 24 V	RH7-1629-000CN	1
501	Screw, tapping, truss head, M4x10	XB4-7401-005CN	3
A01	Gear, 17T		
A02	Roller, face-down		
A03	Bushing		
A04	Frame, rear		
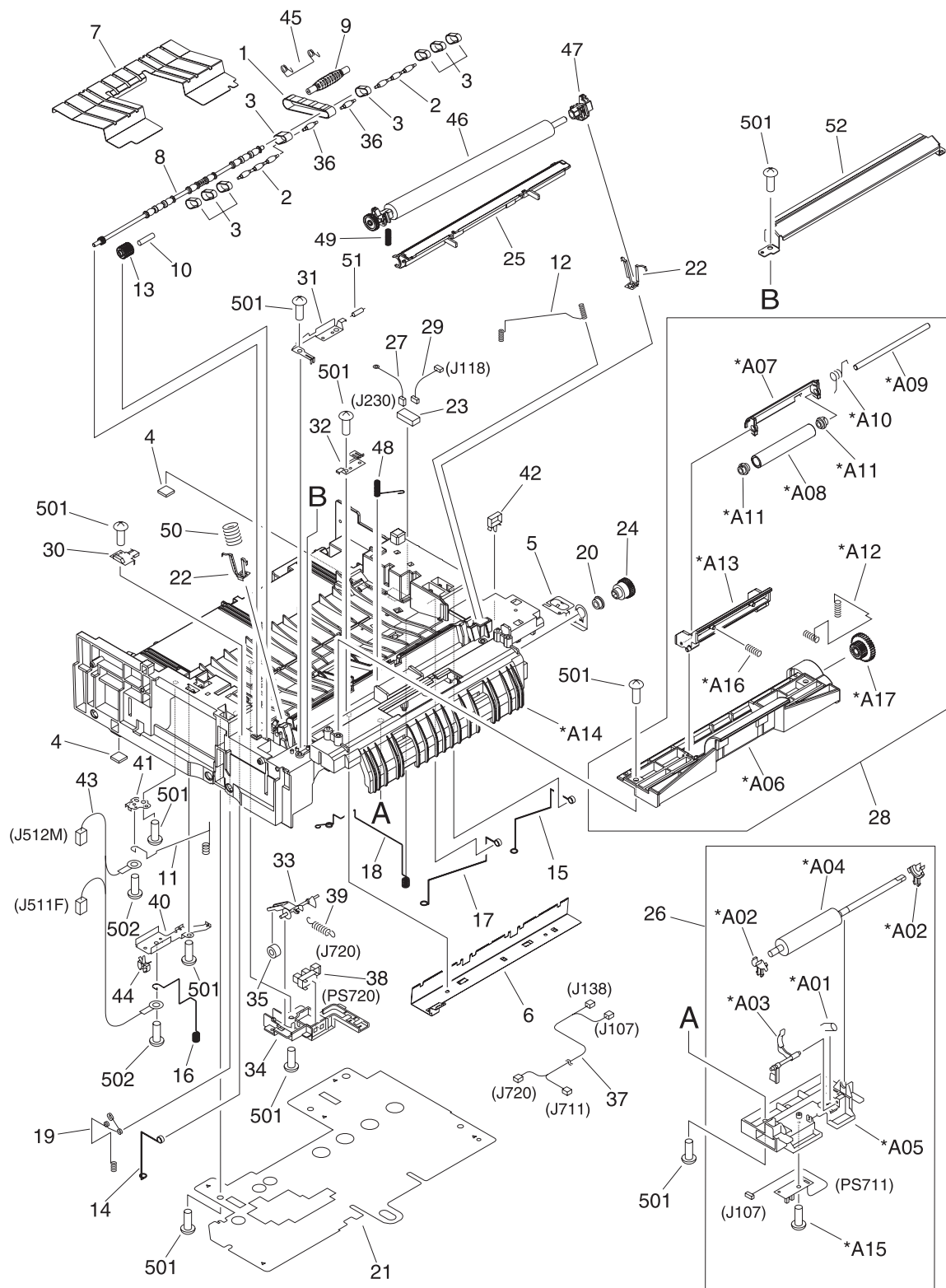
Figure 7-9 Middle frame assembly

Table 7-12 Middle frame assembly

Ref	Description	Part number	Qty
1	Timing belt	RB1-8668-030CN	1
2	Pulley	RB3-0061-000CN	2
3	Paper feed belt	RB3-0063-000CN	8
4	Rubber foot	RB2-6297-000CN	2
5	Roller grounding plate	RB3-0286-000CN	1
6	Static charge eliminator plate	RB3-0009-000CN	1
7	Paper feed plate	RB3-0010-000CN	1
8	Shaft, feed drive	RB3-0011-000CN	1
9	Roller, belt	RB3-0012-000CN	1
10	Shaft, idler gear	RB3-0060-000CN	1
11	Spring, torsion	RB3-0045-000CN	1
12	Spring, torsion	RB3-0016-000CN	1
13	Gear, 23T	RB3-0022-000CN	1
14	Spring, torsion	RB3-0042-000CN	1
15	Spring, torsion	RB3-0043-000CN	1
16	Spring, torsion	RB3-0044-000CN	1
17	Spring, torsion	RB3-0046-000CN	1
18	Spring, torsion	RB3-0047-000CN	1
19	Spring, torsion	RB3-0048-000CN	1
20	Bushing	RS5-1637-000CN	1
21	Insulating sheet	RB3-1110-000CN	1
22	Transfer slide plate	RB3-0057-000CN	2
23	Drawer connector	WS1-6336-000CN	1
24	Gear, 30T	RS7-0428-000CN	1
25	Entrance guide assembly	RF5-4065-000CN	1
26	Registration roller assembly	RG5-6939-000CN	1
27	Cable, grounding	RG5-7123-000CN	1
28	Registration shutter assembly	RG5-6940-000CN	1
29	Cable, interface	RG5-7122-000CN	1
30	Cover, gear	RB3-0052-000CN	1
31	Grounding spring	RB3-0065-000CN	1
32	Grounding spring	RB3-0066-000CN	1
33	Sensor flag arm	RB2-9925-000CN	1
34	Holder, transfer sensor	RB2-9924-000CN	1

Ref	Description	Part number	Qty
35	Roller, transfer sensor	RB2-7195-000CN	1
36	Pulley	RB3-0067-000CN	2
37	Paper sensor cable	RG5-7128-000CN	1
38	Photo interrupter TLP1242	WG8-5593-000CN	1
39	Spring, tension	RS6-2766-000CN	1
40	Mount, terminal	RB2-9850-000CN	1
41	Mount, antenna contact	RB2-9851-000CN	1
42	Clip, cable	WT2-5610-000CN	2
43	Cable, high-voltage transformer	RG5-7130-000CN	1
44	Clamp, cable	WT2-5700-000CN	1
45	Spring, torsion	RB2-9999-000CN	1
46	Roller, transfer	RF5-4067-000CN	1
47	Bushing	RB3-1094-000CN	1
48	Spring, compression	RB3-1091-000CN	1
49	Spring, compression	RB3-1092-000CN	1
50	Spring, compression	RB3-0015-000CN	1
51	Resistor, 500MOHM, 0.3W	RH5-3169-000CN	1
52	Guide, transfer inlet	RB3-1088-000CN	1
501	Screw, tapping, truss head, M4x10	XB4-7401-005CN	13
502	Screw, w/washer, M3x6	XB2-4300-605CN	2
A01	Spring, torsion		
A02	Bushing		
A03	Flag, registration-sensor		
A04	Registration roller		
A05	Registration holder		
A06	Registration front guide		
A07	Registration shutter		
A08	Registration roller		
A09	Registration roller shaft		
A10	Spring, torsion		
A11	Bushing		
A12	Spring, compression		
A13	Registration pressure arm		
A14	Middle frame		
A15	Screw, B, M3x8		

Ref	Description	Part number	Qty
A16	Spring, compression		
A17	Gear, 26T/34T		
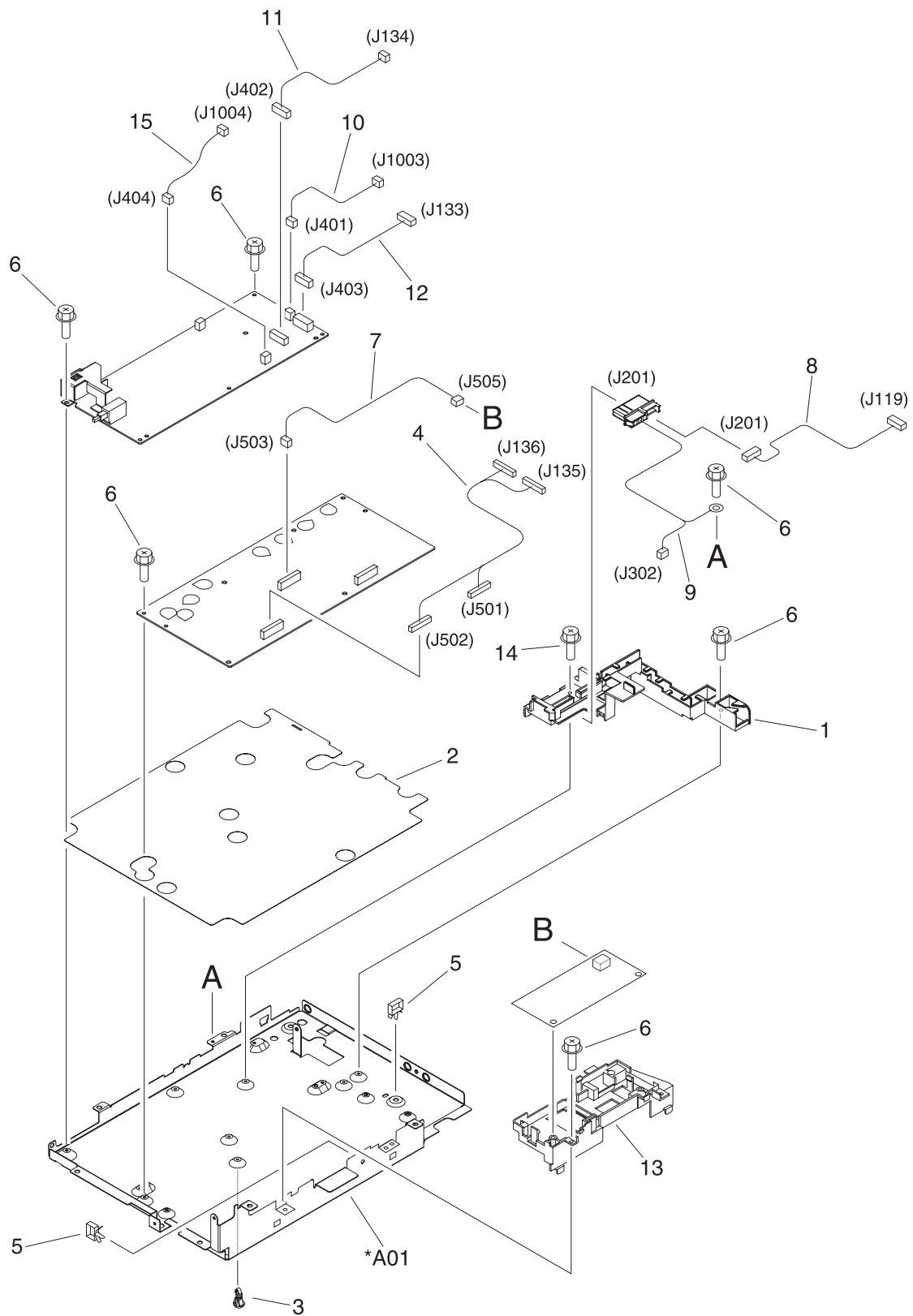
Figure 7-10 Power-supply base assembly

Table 7-13 Power-supply base assembly

Ref	Description	Part number	Qty
1	Holder, fuser connector	RB3-0006-000CN	1
2	Insulating sheet	RB3-0007-000CN	1
3	Support, high-voltage PCA	VT2-0012-005CN	6
4	Cable, high-voltage transformer	RG5-7146-000CN	1
5	Clip, cable	WT2-5737-000CN	2
6	Screw, RS, M3x8	XA9-1449-000CN	9
7	Cable, sub-high-voltage transformer	RG5-7126-000CN	1
8	Cable, fuser connector, DC controller	RG5-7109-000CN	1
9	Cable, fuser, power	RG5-7161-000CN	1
10	Cable, video interface, power	RG5-7106-000CN	1
11	Cable, power (1)	RG5-7621-000CN	1
12	Cable, power (2)	RG5-7108-000CN	1
13	Holder, high-voltage	RB3-0062-000CN	1
14	Screw, S, M3x8	XA9-1500-000CN	4
15	Cable, formatter	RG5-7156-000CN	1
A01	Crossmember, power supply base		
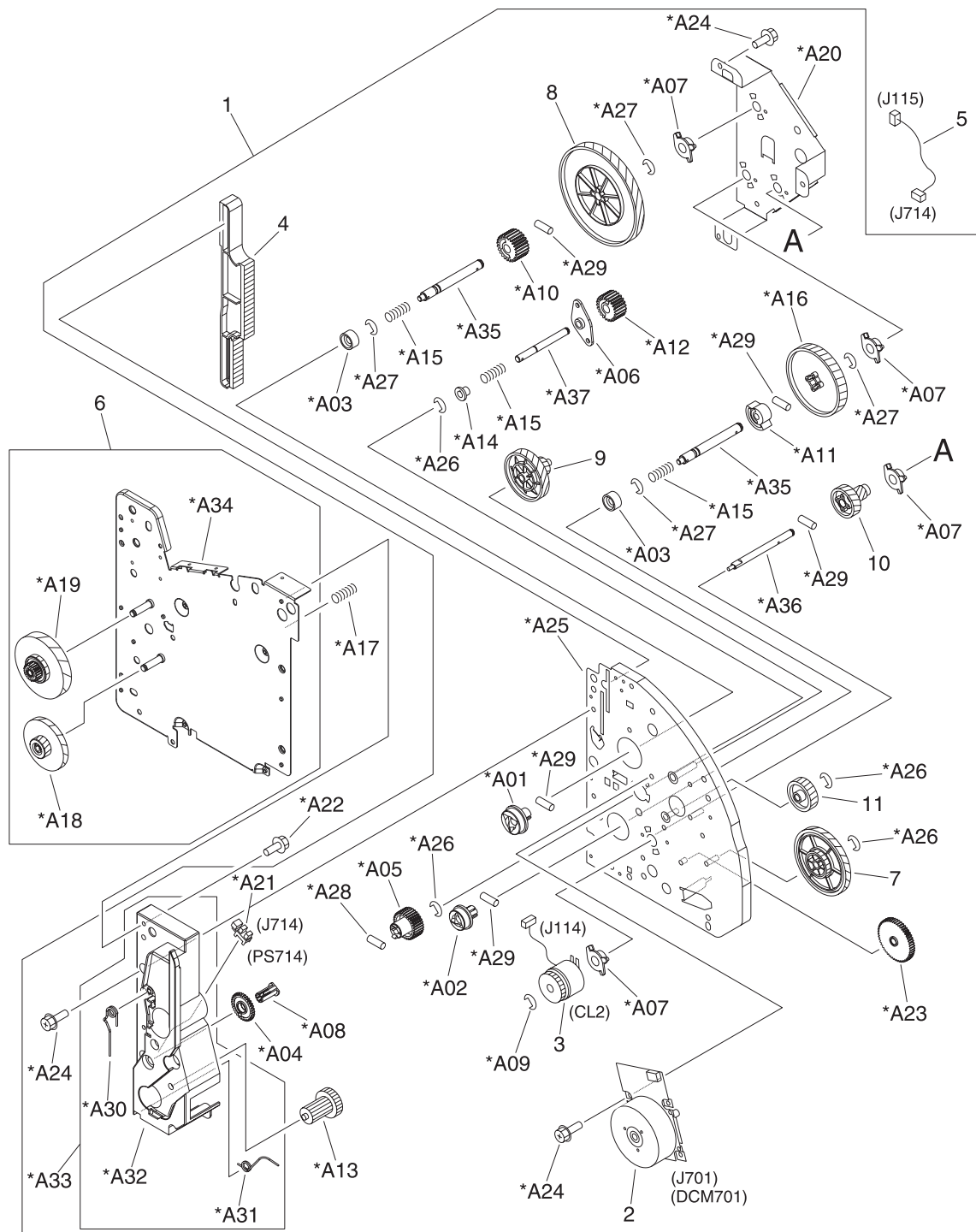
Figure 7-11 Main drive assembly

Table 7-14 Main drive assembly

Ref	Description	Part number	Qty
	Main drive assembly	RG5-7579-000CN	1
1	Right side plate front assembly	RG5-7581-000CN	1
2	Motor unit	RF5-4063-000CN	1
3	Clutch, electromagnetic	RH7-5335-000CN	1
4	Rack	RB3-0090-000CN	1
5	Cable, second, transfer sensor	RG5-7115-000CN	1
6	Right side plate rear assembly	RG5-7580-000CN	1
7	Gear, 32T/123T	RS7-0574-000CN	1
8	Gear, 186T	RS7-0573-000CN	1
9	Gear, 31T/90T	RS7-0572-000CN	1
10	Gear, 23T/54T	RS7-0571-000CN	1
11	Gear, 81T	RS7-0570-000CN	1
A01	Coupling, drum		
A02	Coupling, ITB		
A03	Support, spring		
A04	Gear, 35T		
A05	Gear, 35T		
A06	Bushing, gear drive shaft		
A07	Bushing, IS drive shaft		
A08	Pin, support		
A09	E-ring		
A10	Gear, 13T		
A11	Gear, 13T		
A12	Gear, 12T		
A13	Gear, 21T/35T		
A14	Support, spring		
A15	Spring, compression		
A16	Gear, 138T		
A17	Spring, grounding		
A18	Gear, 17T/98T		
A19	Gear, 120T/20T		
A20	Side plate, right rear		
A21	Photo interrupter TLP1242		
A22	Screw, S, M3X8		

Ref	Description	Part number	Qty
A23	Gear, 64T		
A24	Screw, RS, M3X6		
A25	Side plate, right front		
A26	E-ring		
A27	E-ring		
A28	Pin, dowel		
A29	Pin, dowel		
A30	Spring, torsion		
A31	Spring, torsion		
A32	Guide, right cartridge		
A33	Right cartridge guide assembly		
A34	Side plate, right rear		
A35	Shaft, main drive		
A36	Shaft, image drive		
A37	Shaft, gear drive		

Figure 7-12 Rotary (carousel) assembly
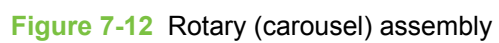
Table 7-15 Rotary assembly

Ref	Description	Part number	Qty
	Rotary assembly	RG5-7587-000CN	1
1	Tag contact assembly	RG5-7132-000CN	1
2	Rotary left side plate assembly	RG5-6942-000CN	1
3	Dev. rotary cable	RG5-7129-000CN	1
4	Rotary pressure assembly	RG5-7589-000CN	1
5	Busing, swing shaft, left	RB2-9809-000CN	1
6	Bushing, swing shaft, right	RB9-0879-000CN	1
7	Toner-sensor PCA	RG5-6964-000CN	1
A01	Rotary center shaft		
A02	Rotary swing shaft		
A03	Reinforcement plate		
A04	Gear, 75T		
A05	Center shaft end support		
A06	Stopper, A		
A07	Gear, 28T		
A08	Gear, 49T		
A09	Gear, 28T		
A10	Gear, 18T		
A11	Screw, RS, M3x6		
A12	Spring, torsion		
A13	Spring, torsion		
A14	Pin, dowel		
A15	Cover, right side plate		
A16	Bushing, center shaft, right		
A17	Grounding plate		
A18	Rotary side plate, right		
A19	Gear, 93T		
A20	Gear, 75T		
A21	Gear, 27T		
A22	Ball bearing		
A23	Cap		
A24	Rotary side plate, left		
A25	Bushing, center shaft, left		
A26	Spring, torsion		

Ref	Description	Part number	Qty
A27	Plate, spring positioning		
A28	Spring, torsion		
A29	Crossmember, rotary pressure		
A30	Support, spring, right		
A31	Support, spring, left		
A32	Flag, pressure shaft		
A33	Holder, pressure shaft, right		
A34	Holder, pressure shaft, left		
A35	Holder, tag contact		
A36	Support, tag contact		
A37	Plate, tag contact		
A38	Spring, torsion		
A39	Plate, pressure lock		
A40	Spring, compression		
A41	Spring, compression		
A42	Gear, 25T		
A43	Washer		
A44	Cam, pressure		
A45	Cam, tag contact drive		
A46	Spring, torsion		
A47	Shaft, rotary pressure		
A48	Disc, rotary right		
A49	Spring, torsion		
A50	Label, rotary inlet		
A51	Label, rotary inlet		
A52	Label, rotary inlet		
A53	Label, rotary inlet		
A54	Disc, rotary left		
A55	Spring, torsion		
A56	Rotary right side plate assembly		
A57	Rotary right disc assembly		
A58	Rotary left disc assembly		
A59	Screw, w/washer, M3x6		
A60	Rotary pressure shaft assembly		
A61	Stopper, B		

Ref	Description	Part number	Qty
A62	Photo interrupter, TLP1242		
A63	Pin, silencer		
A64	Sheet, discharge		
A65	Spring		
A66	Screw, TP, M3x4		
A67	Gear, 19T		
A68	Plate, silencer pin		
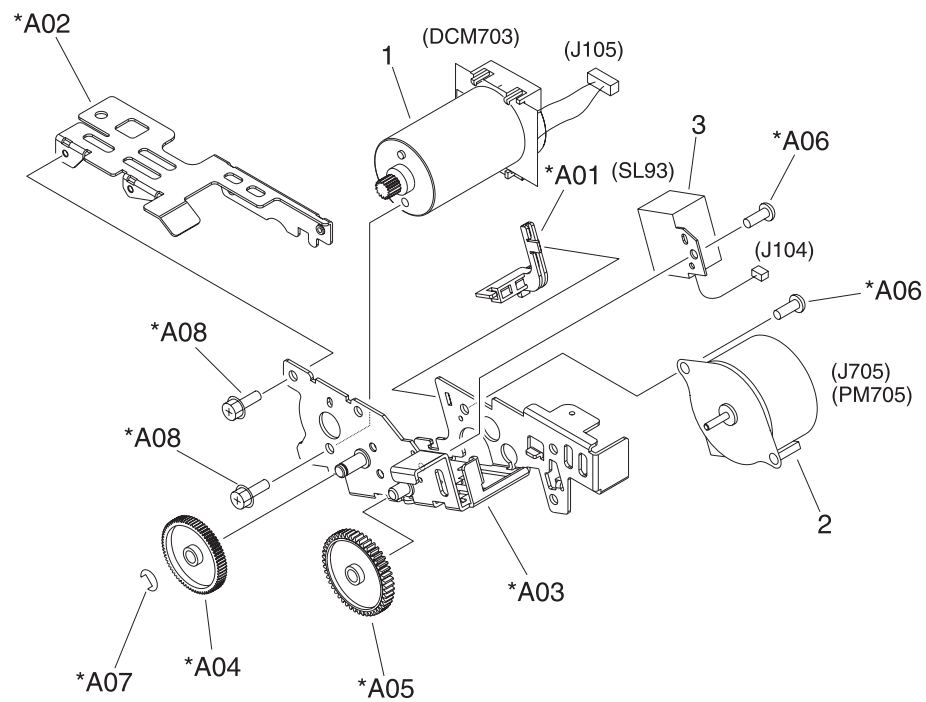
Figure 7-13 Rotary-drive assembly

Table 7-16 Rotary-drive assembly

Ref	Description	Part number	Qty
	Rotary drive assembly	RG5-7842-000CN	1
1	Motor unit	RH7-1651-000CN	1
2	Motor (DC 24V)	RH7-1625-000CN	1
3	Solenoid	RH7-5384-000CN	1
A01	Guide, rotary drive		
A02	Cover, mount motor		
A03	Mount, motor		
A04	Gear, 20T/70T		
A05	Gear, 48T		
A06	Screw, TP, M3x4		
A07	E-ring		
A08	Screw, RS, M3x6		

Figure 7-14 Fuser assembly

Table 7-17 Fuser assembly

Ref	Description	Part number	Qty
	Fuser assembly, 110–127V	RG5-7602-000CN	1
	Fuser assembly, 220–240V	RG5-7603-000CN	1
1	Bushing	RB3-1026-000CN	1
2	Bushing	RB3-1027-000CN	1
3	Lever, lock release, right	RB3-0178-000CN	1
4	Lever, lock release, left	RB3-0179-000CN	1
5	Guide, paper inlet	RB3-0180-000CN	1
6	Pressure plate	RB3-1024-000CN	2
7	High-temperature caution label	RU5-8125-000CN	1
8	Roller, pressure	RB3-1034-000CN	1
9	Screw, RS, M3x8	XA9-1500-000CN	4
10	Base plate, fixing	RF5-4060-000CN	1
11	Spring, compression	RB3-1025-000CN	2
12	Gear, 30T	RS7-0580-000CN	1
13	Clamp, cable	WT2-5700-000CN	1
14	Fuser film assembly	RG5-7162-000CN	1
14	Fuser film assembly	RG5-7163-000CN	1
15	Separation upper guide assembly	RG5-7576-000CN	1
15A	Roller, delivery	RB2-9950-000CN	2
16	Lever, pressure-release, right	RB3-1166-000CN	1
17	Face-up cover assembly	RG5-7604-000CN	1
17A	Cover, face-up, upper	RB3-1140-000CN	1
18	Separation lower guide assembly	RG5-7577-000CN	1
19	Lever, pressure-release, left	RB3-1167-000CN	1
20	Spring, grounding	RB3-1150-000CN	2
21	Holder, delivery idle gear shaft	RB3-1029-000CN	1
22	Cover, fuser, upper	RB3-1032-000CN	1
23	Shaft, lever	RB2-4933-000CN	2
24	Cable, fuser AC	RG5-7154-000CN	1
24	Cable, fuser AC	RG5-7155-000CN	1
25	Gear, 28T	RS7-0582-000CN	1
26	Screw, RS, M3x8	XA9-1449-000CN	2
27	Spacer, right	RB2-9934-000CN	1
28	Spacer, left	RB2-9935-000CN	1

Ref	Description	Part number	Qty
A01	Frame, fuser		
A02	Spring, torsion		
A03	Cover, face-up, lower		
A04	Guide, upper separation		
A05	Guide, lower separation		
A06	Flag, paper-delivery sensor		
A07	Spring, torsion		
A08	Bushing		
A09	Roller, paper-delivery		
A10	Spring, torsion		
A11	Lever, pressure-release sensor, right		
A12	Gear, 17T		
A13	Lever, pressure-release sensor, left		
A14	Photo interrupter, TLP1242		
A15	Frame, separation, lower		
A16	Screw, with washer, M4x12		

Printed circuit assemblies (PCAs)
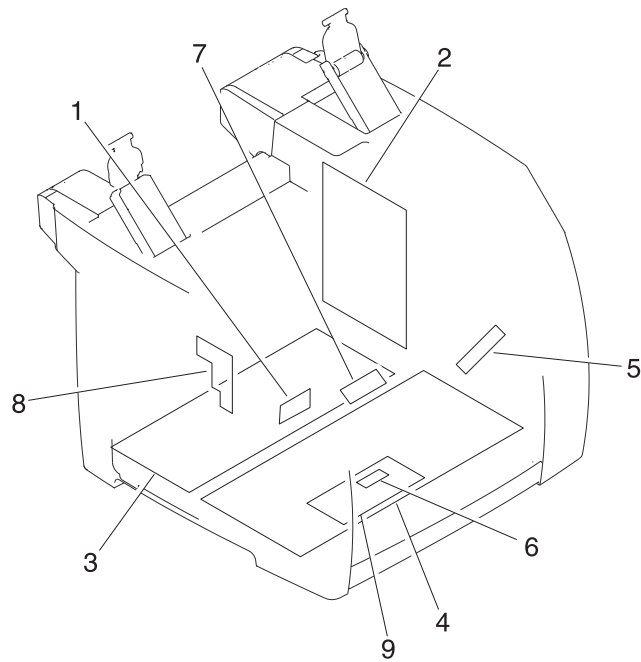
Figure 7-15 PCAs

Table 7-18 PCA assemblies

Ref	Description	Part number	Qty
1	Top sensor PCA	RG5-7612-000CN	1
2	DC Controller PCA	RG5-7646-000CN	1
3	Low-voltage PCA, 110-127 V	RH3-2260-000CN	1
3	Low-voltage PCA, 220-240 V	RH3-2261-000CN	1
4	High-voltage transformer PCA	RG5-7647-000CN	1
5	Waste-toner sensor PCA	RG5-7648-000CN	1
6	Registration-sensor PCA	RG5-7613-000CN	1
7	Density-sensor PCA	RH7-7158-000CN	1
8	Toner-sensor PCA	RG5-7609-000CN	1
9	Sub-high-voltage transformer PCA	RG5-7616-000CN	1

Alphabetical parts list

Table 7-19 Alphabetical parts list

Description	Part number	Table and page
ADF assembly	Q3948-60189CN	ADF and scanner assembly
ADF cleanout part	C7309-40153CN	ADF and scanner assembly
ADF cover	Q3948-40007CN	ADF and scanner assembly
ADF input tray	Q3948-60145CN	ADF and scanner assembly
ADF input-tray flag	C7309-40013CN	ADF and scanner assembly
ADF input-tray spring	C7309-80013CN	ADF and scanner assembly
ADF pickup roller	Q3948-60140CN	ADF and scanner assembly
ADF scanning window	C7296-00014CN	ADF and scanner assembly
ADF scanning window frame	Q1636-40037CN	ADF and scanner assembly
ADF separation pad	Q2665-60125CN	ADF and scanner assembly
Arm, face-down	RB3-1083-000CN	Covers
Arm, shutter		Internal components (2 of 2)
Ball bearing		Rotary assembly
Base plate, fixing	RF5-4060-000CN	Fuser assembly
Bushing	RS5-1635-000CN	Front frame assembly
Bushing	RS5-1638-000CN	Front frame assembly
Bushing		Internal components (1 of 2)
Bushing		Rear frame assembly
Bushing	RS5-1637-000CN	Middle frame assembly
Bushing	RB3-1094-000CN	Middle frame assembly
Bushing		Middle frame assembly
Bushing		Middle frame assembly
Bushing	RB3-1026-000CN	Fuser assembly
Bushing	RB3-1027-000CN	Fuser assembly
Bushing		Fuser assembly
Bushing, center shaft, left		Rotary assembly
Bushing, center shaft, right		Rotary assembly
Bushing, gear drive shaft		Main drive assembly
Bushing, IS drive shaft		Main drive assembly
Bushing, left	RB2-3043-000CN	Front frame assembly
Bushing, right	RB2-3044-000CN	Front frame assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Bushing, swing shaft, right	RB9-0879-000CN	Rotary assembly
Busing, swing shaft, left	RB2-9809-000CN	Rotary assembly
Button, power		Covers
Cable guide	RB2-9903-000CN	Internal components (2 of 2)
Cable, formatter	RG5-7156-000CN	Power-supply base assembly
Cable, front frame	RG5-7145-000CN	Internal components (1 of 2)
Cable, fuser AC	RG5-7154-000CN	Fuser assembly
Cable, fuser AC	RG5-7155-000CN	Fuser assembly
Cable, fuser connector, DC controller	RG5-7109-000CN	Power-supply base assembly
Cable, fuser motor	RG5-7620-000CN	Internal components (1 of 2)
Cable, fuser, power	RG5-7161-000CN	Power-supply base assembly
Cable, grounding	RG5-7123-000CN	Middle frame assembly
Cable, high-voltage transformer	RG5-7130-000CN	Middle frame assembly
Cable, high-voltage transformer	RG5-7146-000CN	Power-supply base assembly
Cable, interface	RG5-7122-000CN	Middle frame assembly
Cable, motor	RG5-7114-000CN	Internal components (2 of 2)
Cable, power (1)	RG5-7621-000CN	Power-supply base assembly
Cable, power (2)	RG5-7108-000CN	Power-supply base assembly
Cable, second, transfer sensor	RG5-7115-000CN	Main drive assembly
Cable, sensor	RG5-7117-000CN	Internal components (2 of 2)
Cable, sub-high-voltage transformer	RG5-7126-000CN	Power-supply base assembly
Cable, upper	RG5-7160-000CN	Internal components (1 of 2)
Cable, video interface, power	RG5-7106-000CN	Power-supply base assembly
Cable, waste toner	RG5-7624-000CN	Front frame assembly
Cam, multipurpose, left		Front frame assembly
Cam, multipurpose, right		Front frame assembly
Cam, pressure		Rotary assembly
Cam, roller		Front frame assembly
Cam, tag contact drive		Rotary assembly
Cap		Rotary assembly
Center shaft end support		Rotary assembly
Clamp, cable	WT2-5700-000CN	Front frame assembly
Clamp, cable	WT2-5700-000CN	Middle frame assembly
Clamp, cable	WT2-5700-000CN	Fuser assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Clip, cable	WT2-5056-000CN	Front frame assembly
Clip, cable	WT2-5610-000CN	Middle frame assembly
Clip, cable	WT2-5737-000CN	Power-supply base assembly
Clutch, electromagnetic	RH7-5389-000CN	Internal components (1 of 2)
Clutch, electromagnetic	RH7-5335-000CN	Main drive assembly
Control panel, copy (HP Color LaserJet 2820 all-in-one)	Q3948-60111CN	ADF and scanner assembly
Control panel, fax (HP Color LaserJet 2830 all-in-one and HP Color LaserJet 2840 all-in-one)	Q3949-60134CN	ADF and scanner assembly
Control-panel bezel, copy, Arabic	Q3948-60164CN	ADF and scanner assembly
Control-panel bezel, copy, Czech	Q3948-60157CN	ADF and scanner assembly
Control-panel bezel, copy, Danish	Q3948-60155CN	ADF and scanner assembly
Control-panel bezel, copy, Dutch	Q3948-60150CN	ADF and scanner assembly
Control-panel bezel, copy, English	Q3948-60136CN	ADF and scanner assembly
Control-panel bezel, copy, Finnish	Q3948-60154CN	ADF and scanner assembly
Control-panel bezel, copy, French	Q3948-60149CN	ADF and scanner assembly
Control-panel bezel, copy, German	Q3948-60148CN	ADF and scanner assembly
Control-panel bezel, copy, Hebrew	Q3948-60163CN	ADF and scanner assembly
Control-panel bezel, copy, Hungarian	Q3948-60158CN	ADF and scanner assembly
Control-panel bezel, copy, Italian	Q3948-60151CN	ADF and scanner assembly
Control-panel bezel, copy, Korean	Q3948-60166CN	ADF and scanner assembly
Control-panel bezel, copy, Norwegian	Q3948-60153CN	ADF and scanner assembly
Control-panel bezel, copy, Polish	Q3948-60159CN	ADF and scanner assembly
Control-panel bezel, copy, Portuguese	Q3948-60147CN	ADF and scanner assembly
Control-panel bezel, copy, Russian	Q3948-60156CN	ADF and scanner assembly
Control-panel bezel, copy, simplified Chinese	Q3948-60167CN	ADF and scanner assembly
Control-panel bezel, copy, Slovak	Q3948-60160CN	ADF and scanner assembly
Control-panel bezel, copy, Spanish	Q3948-60146CN	ADF and scanner assembly
Control-panel bezel, copy, Swedish	Q3950-60108CN	ADF and scanner assembly
Control-panel bezel, copy, Thai	Q3948-60168CN	ADF and scanner assembly
Control-panel bezel, copy, traditional Chinese	Q3948-60165CN	ADF and scanner assembly
Control-panel bezel, copy, Turkish	Q3948-60161CN	ADF and scanner assembly
Control-panel bezel, copy, Vietnamese	Q3948-60169CN	ADF and scanner assembly
Control-panel bezel, fax, Arabic	Q3950-60120CN	ADF and scanner assembly
Control-panel bezel, fax, Czech	Q3950-60113CN	ADF and scanner assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Control-panel bezel, fax, Danish	Q3950-60111CN	ADF and scanner assembly
Control-panel bezel, fax, Dutch	Q3950-60106CN	ADF and scanner assembly
Control-panel bezel, fax, English	Q3950-60101CN	ADF and scanner assembly
Control-panel bezel, fax, Finnish	Q3950-60110CN	ADF and scanner assembly
Control-panel bezel, fax, French	Q3950-60105CN	ADF and scanner assembly
Control-panel bezel, fax, German	Q3950-60104CN	ADF and scanner assembly
Control-panel bezel, fax, Hebrew	Q3950-60119CN	ADF and scanner assembly
Control-panel bezel, fax, Hungarian	Q3950-60114CN	ADF and scanner assembly
Control-panel bezel, fax, Italian	Q3950-60107CN	ADF and scanner assembly
Control-panel bezel, fax, Korean	Q3950-60122CN	ADF and scanner assembly
Control-panel bezel, fax, Norwegian	Q3950-60109CN	ADF and scanner assembly
Control-panel bezel, fax, Polish	Q3950-60115CN	ADF and scanner assembly
Control-panel bezel, fax, Portuguese	Q3950-60103CN	ADF and scanner assembly
Control-panel bezel, fax, Russian	Q3950-60112CN	ADF and scanner assembly
Control-panel bezel, fax, simplified Chinese	Q3950-60123CN	ADF and scanner assembly
Control-panel bezel, fax, Slovak	Q3950-60116CN	ADF and scanner assembly
Control-panel bezel, fax, Spanish	Q3950-60102CN	ADF and scanner assembly
Control-panel bezel, fax, Swedish	Q3948-60152CN	ADF and scanner assembly
Control-panel bezel, fax, Thai	Q3950-60124CN	ADF and scanner assembly
Control-panel bezel, fax, traditional Chinese	Q3950-60121CN	ADF and scanner assembly
Control-panel bezel, fax, Turkish	Q3950-60117CN	ADF and scanner assembly
Control-panel bezel, fax, Vietnamese	Q3950-60125CN	ADF and scanner assembly
Coupling, drum		Main drive assembly
Coupling, ITB		Main drive assembly
Cover, cartridge	RF5-4055-000CN	Covers
Cover, cartridge		Covers
Cover, edge		Internal components (2 of 2)
Cover, face-down	RB3-1136-000CN	Covers
Cover, face-up, lower		Fuser assembly
Cover, face-up, upper	RB3-1140-000CN	Fuser assembly
Cover, front	RB3-1125-000CN	Covers
Cover, fuser, upper	RB3-1032-000CN	Fuser assembly
Cover, gear	RB3-0052-000CN	Middle frame assembly
Cover, I/O	RB3-1137-000CN	Covers

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, left	RB3-1128-000CN	Covers
Cover, left rear	RB3-1131-000CN	Covers
Cover, left upper	RB3-1126-000CN	Covers
Cover, memory	RB3-1138-000CN	Covers
Cover, mount motor		Rotary-drive assembly
Cover, MP. gauss blocking	RB3-0120-000CN	Front frame assembly
Cover, multipurpose		Front frame assembly
Cover, multipurpose, lower	RB3-1135-000CN	Front frame assembly
Cover, multipurpose, roller	RB3-0104-000CN	Front frame assembly
Cover, multipurpose, upper	RB3-1134-000CN	Front frame assembly
Cover, pressure motor	RB2-9916-000CN	Rear frame assembly
Cover, rack	RB3-0089-030CN	Covers
Cover, rear	RB3-1130-000CN	Covers
Cover, right		Covers
Cover, right rear	RB3-1132-000CN	Covers
Cover, right side plate		Rotary assembly
Cover, top		Covers
Cover, top (assembly)	RG5-7597-000CN	Covers
Cover, vent	RB3-1139-000CN	Covers
Crossmember, beam		Internal components (2 of 2)
Crossmember, power supply base		Power-supply base assembly
Crossmember, rotary pressure		Rotary assembly
Crossmember, scanner		Internal components (2 of 2)
Damper assembly	RB2-6248-000CN	Front frame assembly
DC Controller PCA	RG5-7646-000CN	PCA assemblies
Density-sensor PCA	RH7-7158-000CN	PCA assemblies
Dev. rotary cable	RG5-7129-000CN	Rotary assembly
Disc, rotary left		Rotary assembly
Disc, rotary right		Rotary assembly
Drawer connector	WS1-6336-000CN	Middle frame assembly
Duct, fan	RB9-0901-000CN	Internal components (1 of 2)
Duct, fuser	RB2-9904-000CN	Rear frame assembly
E-ring	XD2-1100-322CN	Internal components (1 of 2)
E-ring		Main drive assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
E-ring		Main drive assembly
E-ring		Main drive assembly
E-ring		Rotary-drive assembly
Entrance guide assembly	RF5-4065-000CN	Middle frame assembly
Face-up cover assembly	RG5-7604-000CN	Fuser assembly
Fan	RH7-1630-000CN	Internal components (1 of 2)
Flag, multipurpose sensor	RB3-0111-000CN	Front frame assembly
Flag, paper-delivery sensor		Fuser assembly
Flag, pressure shaft		Rotary assembly
Flag, registration-sensor		Middle frame assembly
Flag, test print switch	RB3-0135-000CN	Front frame assembly
Flat cable, laser	RH2-5524-000CN	Internal components (2 of 2)
Foot, fall prevention	RB3-1147-000CN	Covers
Frame, front		Front frame assembly
Frame, fuser		Fuser assembly
Frame, rear		Rear frame assembly
Frame, separation, lower		Fuser assembly
Front frame assembly	See Front frame assembly	
Fuser assembly, 110–127V	RG5-7602-000CN	Fuser assembly
Fuser assembly, 220–240V	RG5-7603-000CN	Fuser assembly
Fuser film assembly	RG5-7162-000CN	Fuser assembly
Fuser film assembly	RG5-7163-000CN	Fuser assembly
Fuser, 110-127 V	RG5-7602-000CN	Assembly locations (2 of 2)
Fuser, 220-240 V	RG5-7603-000CN	Assembly locations (2 of 2)
Gear assembly	RG5-6938-000CN	Front frame assembly
Gear, 120T/20T		Main drive assembly
Gear, 12T		Main drive assembly
Gear, 138T		Main drive assembly
Gear, 13T		Main drive assembly
Gear, 13T		Main drive assembly
Gear, 15T	RB3-0092-000CN	Internal components (1 of 2)
Gear, 17T		Internal components (1 of 2)
Gear, 17T		Rear frame assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Gear, 17T		Fuser assembly
Gear, 17T/98T		Main drive assembly
Gear, 186T	RS7-0573-000CN	Main drive assembly
Gear, 18T		Front frame assembly
Gear, 18T	RB3-0091-000CN	Internal components (1 of 2)
Gear, 18T		Rotary assembly
Gear, 19T		Rotary assembly
Gear, 20T/40T	RS7-0424-000CN	Front frame assembly
Gear, 20T/40T		Front frame assembly
Gear, 20T/70T		Rotary-drive assembly
Gear, 21T/35T		Main drive assembly
Gear, 23T	RB3-0022-000CN	Middle frame assembly
Gear, 23T/54T	RS7-0571-000CN	Main drive assembly
Gear, 25T		Rotary assembly
Gear, 26T	RS7-0418-000CN	Front frame assembly
Gear, 26T	RS7-0429-000CN	Front frame assembly
Gear, 26T/34T		Middle frame assembly
Gear, 26T/50T	RS7-0426-000CN	Front frame assembly
Gear, 27T		Rotary assembly
Gear, 28T		Rotary assembly
Gear, 28T		Rotary assembly
Gear, 28T	RS7-0582-000CN	Fuser assembly
Gear, 30T	RS7-0425-000CN	Front frame assembly
Gear, 30T	RS7-0428-000CN	Middle frame assembly
Gear, 30T	RS7-0580-000CN	Fuser assembly
Gear, 31T		Front frame assembly
Gear, 31T/90T	RS7-0572-000CN	Main drive assembly
Gear, 32T/123T	RS7-0574-000CN	Main drive assembly
Gear, 32T/37T	RS7-0435-000CN	Internal components (1 of 2)
Gear, 34T		Internal components (2 of 2)
Gear, 35T		Main drive assembly
Gear, 35T		Main drive assembly
Gear, 37T/43T	RS7-0436-000CN	Internal components (1 of 2)
Gear, 48T		Rotary-drive assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Gear, 49T		Rotary assembly
Gear, 51T	RS7-0437-000CN	Internal components (1 of 2)
Gear, 64T		Main drive assembly
Gear, 75T		Rotary assembly
Gear, 75T		Rotary assembly
Gear, 81T	RS7-0570-000CN	Main drive assembly
Gear, 93T		Rotary assembly
Grounding plate		Rotary assembly
Grounding spring	RB3-0065-000CN	Middle frame assembly
Grounding spring	RB3-0066-000CN	Middle frame assembly
Guard, fan shield	RB2-9932-000CN	Internal components (1 of 2)
Guide, cable		Covers
Guide, left cartridge		Internal components (2 of 2)
Guide, lower separation		Fuser assembly
Guide, paper feed, left	RB2-9954-000CN	Front frame assembly
Guide, paper feed, right	RB2-9955-000CN	Front frame assembly
Guide, paper inlet	RB3-0180-000CN	Fuser assembly
Guide, right cartridge		Main drive assembly
Guide, rotary drive		Rotary-drive assembly
Guide, rotary release	RB2-9852-000CN	Internal components (2 of 2)
Guide, transfer inlet	RB3-1088-000CN	Middle frame assembly
Guide, upper separation		Fuser assembly
High-temperature caution label	RU5-8125-000CN	Fuser assembly
High-voltage transformer PCA	RG5-7647-000CN	PCA assemblies
Hinge, multipurpose, left	RB9-0889-000CN	Front frame assembly
Hinge, multipurpose, right	RB9-0890-000CN	Front frame assembly
Holder, delivery idle gear shaft	RB3-1029-000CN	Fuser assembly
Holder, forming left		Internal components (1 of 2)
Holder, forming right		Internal components (1 of 2)
Holder, fuser connector	RB3-0006-000CN	Power-supply base assembly
Holder, gear		Front frame assembly
Holder, high-voltage	RB3-0062-000CN	Power-supply base assembly
Holder, interlock switch	RB3-0023-000CN	Internal components (2 of 2)
Holder, pressure shaft, left		Rotary assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Holder, pressure shaft, right		Rotary assembly
Holder, separation pad		Front frame assembly
Holder, tag		Front frame assembly
Holder, tag contact		Front frame assembly
Holder, tag contact		Rotary assembly
Holder, top sensor PCA		Front frame assembly
Holder, transfer sensor	RB2-9924-000CN	Middle frame assembly
Insulating sheet	RB3-1110-000CN	Middle frame assembly
Insulating sheet	RB3-0007-000CN	Power-supply base assembly
Label, CRG		Covers
Label, high voltage caution	RS6-8668-000CN	Internal components (1 of 2)
Label, I/O operation		Covers
Label, image cartridge	RS6-8687-000CN	Front frame assembly
Label, rotary inlet		Rotary assembly
Label, rotary inlet		Rotary assembly
Label, rotary inlet		Rotary assembly
Label, rotary inlet		Rotary assembly
Laser/scanner	RG5-6890-000CN	Internal components (2 of 2)
Left cartridge guide assembly	RG5-6935-000CN	Internal components (2 of 2)
Left cover assembly	RG5-7598-000CN	Covers
Left side plate assembly		Internal components (2 of 2)
Left support assembly	RG5-7632-000CN	Internal components (2 of 2)
Lever, lock release, left	RB3-0179-000CN	Fuser assembly
Lever, lock release, right	RB3-0178-000CN	Fuser assembly
Lever, pressure-release sensor, left		Fuser assembly
Lever, pressure-release sensor, right		Fuser assembly
Lever, pressure-release, left	RB3-1167-000CN	Fuser assembly
Lever, pressure-release, right	RB3-1166-000CN	Fuser assembly
Link unit, left	RG5-7645-000CN	Covers
Link unit, right	RG5-7630-000CN	Covers
Low-voltage PCA, 110-127 V	RH3-2260-000CN	PCA assemblies
Low-voltage PCA, 220-240 V	RH3-2261-000CN	PCA assemblies
Lower face-down roller assembly	RG5-7595-000CN	Rear frame assembly
Main drive assembly	RG5-7579-000CN	Assembly locations (2 of 2)

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Main drive assembly	RG5-7579-000CN	Main drive assembly
Microswitch	RH7-6051-000CN	Internal components (2 of 2)
Middle frame		Middle frame assembly
Middle frame assembly	See Middle frame assembly	
Motor (DC 24V)	RH7-1625-000CN	Rotary-drive assembly
Motor unit	RF5-4063-000CN	Main drive assembly
Motor unit	RH7-1651-000CN	Rotary-drive assembly
Motor, DC	RH7-1628-000CN	Internal components (1 of 2)
Motor, DC, 24 V	RH7-1629-000CN	Rear frame assembly
Mount, antenna contact	RB2-9851-000CN	Middle frame assembly
Mount, left link	RB3-1154-000CN	Covers
Mount, motor		Rotary-drive assembly
Mount, power button rod	RB3-1146-000CN	Covers
Mount, right link	RB3-1158-000CN	Covers
Mount, terminal	RB2-9850-000CN	Middle frame assembly
Multipurpose cover assembly	RG5-7601-000CN	Front frame assembly
Multipurpose inner plate assembly	RG5-7584-000CN	Front frame assembly
Multipurpose paper pickup roller assembly	RG5-6952-000CN	Front frame assembly
Pad, light-blocking	RF5-4047-000CN	Front frame assembly
Pad, paper separation	RF5-4012-000CN	Front frame assembly
Paper feed belt	RB3-0063-000CN	Middle frame assembly
Paper feed plate	RB3-0010-000CN	Middle frame assembly
Paper sensor cable	RG5-7128-000CN	Middle frame assembly
Photo interrupter TLP1242	WG8-5593-000CN	Front frame assembly
Photo interrupter TLP1242	WG8-5593-000CN	Middle frame assembly
Photo interrupter TLP1242		Main drive assembly
Photo interrupter, TLP1242		Rotary assembly
Photo interrupter, TLP1242		Fuser assembly
Pin, dowel		Front frame assembly
Pin, dowel		Main drive assembly
Pin, dowel		Main drive assembly
Pin, dowel		Rotary assembly
Pin, silencer		Rotary assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Pin, support		Main drive assembly
Pin, tag		Front frame assembly
Plate, formatter grounding		Covers
Plate, interlock switch shield		Covers
Plate, multipurpose inner		Front frame assembly
Plate, photo card crossmember	RB2-9976-000CN	Internal components (2 of 2)
Plate, photo card mounting		Internal components (2 of 2)
Plate, pressure lock		Rotary assembly
Plate, rating		Internal components (1 of 2)
Plate, silencer pin		Rotary assembly
Plate, spring positioning		Rotary assembly
Plate, static eliminator		Covers
Plate, swing shaft grounding	RB3-1113-000CN	Internal components (1 of 2)
Plate, tag contact		Rotary assembly
Power-supply base assembly	See Power-supply base assembly	Assembly locations (2 of 2)
Pressure plate	RB3-1024-000CN	Fuser assembly
Pulley	RB3-0061-000CN	Middle frame assembly
Pulley	RB3-0067-000CN	Middle frame assembly
Rack	RB3-0090-000CN	Main drive assembly
Rack, slide, left		Front frame assembly
Rack, slide, right		Front frame assembly
Rear frame assembly	See Covers	
Registration front guide		Middle frame assembly
Registration holder		Middle frame assembly
Registration pressure arm		Middle frame assembly
Registration roller		Middle frame assembly
Registration roller		Middle frame assembly
Registration roller assembly	RG5-6939-000CN	Middle frame assembly
Registration roller shaft		Middle frame assembly
Registration shutter		Middle frame assembly
Registration shutter assembly	RG5-6940-000CN	Middle frame assembly
Registration-sensor PCA	RG5-7613-000CN	PCA assemblies
Reinforcement plate		Rotary assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Resistor, 500MOHM, 0.3W	RH5-3169-000CN	Middle frame assembly
Right cartridge guide assembly		Main drive assembly
Right cover assembly	RG5-7599-000CN	Covers
Right side plate front assembly	RG5-7581-000CN	Main drive assembly
Right side plate rear assembly	RG5-7580-000CN	Main drive assembly
Right support assembly	RG5-7631-000CN	Internal components (2 of 2)
Ring, E	XD2-1100-502CN	Front frame assembly
Rod, power button	RB3-1145-000CN	Covers
Roller		Front frame assembly
Roller		Front frame assembly
Roller grounding plate	RB3-0286-000CN	Middle frame assembly
Roller, belt	RB3-0012-000CN	Middle frame assembly
Roller, delivery	RB2-9950-000CN	Fuser assembly
Roller, face-down		Rear frame assembly
Roller, face-down, lower	RB2-9909-000CN	Rear frame assembly
Roller, face-down, upper	RF5-4068-000CN	Internal components (1 of 2)
Roller, face-down, upper		Internal components (1 of 2)
Roller, multipurpose paper pickup	RB3-0160-000CN	Front frame assembly
Roller, paper-delivery		Fuser assembly
Roller, pressure	RB3-1034-000CN	Fuser assembly
Roller, transfer	RF5-4067-000CN	Middle frame assembly
Roller, transfer sensor	RB2-7195-000CN	Middle frame assembly
Rotary assembly	RG5-7587-000CN	Assembly locations (2 of 2)
Rotary assembly	RG5-7587-000CN	Rotary assembly
Rotary center shaft		Rotary assembly
Rotary drive assembly	RG5-7592-000CN	Assembly locations (2 of 2)
Rotary drive assembly	RG5-7842-000CN	Rotary-drive assembly
Rotary left disc assembly		Rotary assembly
Rotary left side plate assembly	RG5-6942-000CN	Rotary assembly
Rotary pressure assembly	RG5-7589-000CN	Rotary assembly
Rotary pressure shaft assembly		Rotary assembly
Rotary right disc assembly		Rotary assembly
Rotary right side plate assembly		Rotary assembly
Rotary side plate, left		Rotary assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Rotary side plate, right		Rotary assembly
Rotary swing shaft		Rotary assembly
Rubber foot	RB2-6297-000CN	Middle frame assembly
Scanner crossmember assembly	RG5-6907-000CN	Internal components (2 of 2)
Scanning assembly	Q3948-60191CN	ADF and scanner assembly
Screw, B, M3x8		Middle frame assembly
Screw, P, M3x8	XB4-5300-809CN	Covers
Screw, RS, M3x10	XA9-1501-000CN	Internal components (1 of 2)
Screw, RS, M3X6		Internal components (2 of 2)
Screw, RS, M3X6		Main drive assembly
Screw, RS, M3x6	XA9-1495-000CN	Internal components (1 of 2)
Screw, RS, M3x6	XA9-0849-000CN	Internal components (2 of 2)
Screw, RS, M3x6	XA9-1495-000CN	Internal components (2 of 2)
Screw, RS, M3x6	XA9-0849-000CN	Rear frame assembly
Screw, RS, M3x6		Rotary assembly
Screw, RS, M3x6		Rotary-drive assembly
Screw, RS, M3x8	XA9-1291-000CN	Covers
Screw, RS, M3x8	XA9-1449-000CN	Internal components (1 of 2)
Screw, RS, M3x8	XA9-1449-000CN	Power-supply base assembly
Screw, RS, M3x8	XA9-1500-000CN	Fuser assembly
Screw, RS, M3x8	XA9-1449-000CN	Fuser assembly
Screw, S, M3X8		Main drive assembly
Screw, S, M3x8	XA9-1500-000CN	Power-supply base assembly
Screw, tapping, truss head, M4X10	XB4-7401-005CN	Covers
Screw, tapping, truss head, M4X10	XB4-7401-005CN	Front frame assembly
Screw, tapping, truss head, M4x10	XB4-7401-005CN	Internal components (1 of 2)
Screw, tapping, truss head, M4x10	XB4-7401-005CN	Rear frame assembly
Screw, tapping, truss head, M4x10	XB4-7401-005CN	Middle frame assembly
Screw, TP, M3x4		Rotary assembly
Screw, TP, M3x4		Rotary-drive assembly
Screw, TP, M3X6		Front frame assembly
Screw, w/washer, M3x6	XB2-4300-605CN	Middle frame assembly
Screw, w/washer, M3x6		Rotary assembly
Screw, with washer, M4x12		Fuser assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Sensor flag arm	RB2-9925-000CN	Middle frame assembly
Separation lower guide assembly	RG5-7577-000CN	Fuser assembly
Separation upper guide assembly	RG5-7576-000CN	Fuser assembly
Shaft		Front frame assembly
Shaft		Front frame assembly
Shaft, feed drive	RB3-0011-000CN	Middle frame assembly
Shaft, gear		Internal components (2 of 2)
Shaft, gear drive		Main drive assembly
Shaft, idler gear	RB3-0060-000CN	Middle frame assembly
Shaft, image drive		Main drive assembly
Shaft, lever	RB2-4933-000CN	Fuser assembly
Shaft, main drive		Main drive assembly
Shaft, paper pickup clutch gear		Front frame assembly
Shaft, rotary pressure		Rotary assembly
Sheet		Internal components (2 of 2)
Sheet, discharge		Rotary assembly
Sheet, dust-proof		Front frame assembly
Sheet, noise-proof rubber		Covers
Sheet, protective, A	RB3-1379-000CN	Internal components (2 of 2)
Sheet, protective, B	RB3-1380-000CN	Internal components (2 of 2)
Sheet, separation		Front frame assembly
Side plate, left		Internal components (2 of 2)
Side plate, right front		Main drive assembly
Side plate, right rear		Main drive assembly
Side plate, right rear		Main drive assembly
Sleeve thermistor unit	RH7-7159-000CN	Internal components (1 of 2)
Solenoid	RH7-5383-000CN	Front frame assembly
Solenoid	RH7-5384-000CN	Rotary-drive assembly
Spacer, left	RB2-9935-000CN	Fuser assembly
Spacer, right	RB2-9934-000CN	Fuser assembly
Spring		Rotary assembly
Spring, compression	RS6-2771-000CN	Covers
Spring, compression		Front frame assembly
Spring, compression		Front frame assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, compression		Internal components (2 of 2)
Spring, compression	RB3-1091-000CN	Middle frame assembly
Spring, compression	RB3-1092-000CN	Middle frame assembly
Spring, compression	RB3-0015-000CN	Middle frame assembly
Spring, compression		Middle frame assembly
Spring, compression		Middle frame assembly
Spring, compression		Main drive assembly
Spring, compression		Rotary assembly
Spring, compression		Rotary assembly
Spring, compression	RB3-1025-000CN	Fuser assembly
Spring, grounding		Main drive assembly
Spring, grounding	RB3-1150-000CN	Fuser assembly
Spring, tension	RS6-2030-000CN	Front frame assembly
Spring, tension	RS6-2766-000CN	Middle frame assembly
Spring, torsion	RS6-2772-000CN	Covers
Spring, torsion	RB2-9952-000CN	Front frame assembly
Spring, torsion	RB3-0121-000CN	Front frame assembly
Spring, torsion	RB3-0122-000CN	Front frame assembly
Spring, torsion		Front frame assembly
Spring, torsion	RB2-9905-000CN	Internal components (1 of 2)
Spring, torsion		Internal components (2 of 2)
Spring, torsion		Internal components (2 of 2)
Spring, torsion	RB3-1065-000CN	Rear frame assembly
Spring, torsion	RB3-0045-000CN	Middle frame assembly
Spring, torsion	RB3-0016-000CN	Middle frame assembly
Spring, torsion	RB3-0042-000CN	Middle frame assembly
Spring, torsion	RB3-0043-000CN	Middle frame assembly
Spring, torsion	RB3-0044-000CN	Middle frame assembly
Spring, torsion	RB3-0046-000CN	Middle frame assembly
Spring, torsion	RB3-0047-000CN	Middle frame assembly
Spring, torsion	RB3-0048-000CN	Middle frame assembly
Spring, torsion	RB2-9999-000CN	Middle frame assembly
Spring, torsion		Middle frame assembly
Spring, torsion		Middle frame assembly

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, torsion		Main drive assembly
Spring, torsion		Main drive assembly
Spring, torsion		Rotary assembly
Spring, torsion		Rotary assembly
Spring, torsion		Rotary assembly
Spring, torsion		Rotary assembly
Spring, torsion		Rotary assembly
Spring, torsion		Rotary assembly
Spring, torsion		Rotary assembly
Spring, torsion		Rotary assembly
Spring, torsion		Fuser assembly
Spring, torsion		Fuser assembly
Spring, torsion		Fuser assembly
Static charge eliminator plate	RB3-0009-000CN	Middle frame assembly
Stopper, A		Rotary assembly
Stopper, B		Rotary assembly
Sub-high-voltage transformer PCA	RG5-7616-000CN	PCA assemblies
Support, high-voltage PCA	VT2-0012-005CN	Power-supply base assembly
Support, spring		Main drive assembly
Support, spring		Main drive assembly
Support, spring, left		Rotary assembly
Support, spring, right		Rotary assembly
Support, tag contact		Rotary assembly
Support, tag pin		Front frame assembly
Tag contact assembly	RG5-7132-000CN	Rotary assembly
Tag contact PCA	RG5-7131-000CN	Front frame assembly
Timing belt	RB1-8668-030CN	Middle frame assembly
Toner-sensor PCA	RG5-6964-000CN	Rotary assembly
Toner-sensor PCA	RG5-7609-000CN	PCA assemblies
Top sensor PCA	RG5-7612-000CN	PCA assemblies
Transfer slide plate	RB3-0057-000CN	Middle frame assembly
Tray, expansion, 1		Front frame assembly
Tray, expansion, 2		Front frame assembly
Tray, toner	RB3-0019-000CN	Internal components (1 of 2)

Table 7-19 Alphabetical parts list (continued)

Description	Part number	Table and page
Upper face-down roller assembly,	RG5-7637-000CN	Internal components (1 of 2)
Washer		Rotary assembly
Waste-toner sensor PCA	RG5-7648-000CN	PCA assemblies

Numerical parts list

Table 7-20 Numerical parts list

Part number	Description	Table and page
	Cover, top	Covers
	Cover, right	Covers
	Button, power	Covers
	Cover, cartridge	Covers
	Sheet, noise-proof rubber	Covers
	Label, I/O operation	Covers
	Plate, interlock switch shield	Covers
	Plate, static eliminator	Covers
	Guide, cable	Covers
	Label, CRG	Covers
	Plate, formatter grounding	Covers
	Shaft, paper pickup clutch gear	Front frame assembly
	Shaft	Front frame assembly
	Shaft	Front frame assembly
	Tray, expansion, 1	Front frame assembly
	Tray, expansion, 2	Front frame assembly
	Cover, multipurpose	Front frame assembly
	Sheet, dust-proof	Front frame assembly
	Frame, front	Front frame assembly
	Holder, gear	Front frame assembly
	Screw, TP, M3X6	Front frame assembly
	Gear, 20T/40T	Front frame assembly
	Gear, 31T	Front frame assembly
	Spring, compression	Front frame assembly
	Gear, 18T	Front frame assembly
	Sheet, separation	Front frame assembly
	Roller	Front frame assembly
	Rack, slide, right	Front frame assembly
	Rack, slide, left	Front frame assembly
	Plate, multipurpose inner	Front frame assembly
	Cam, roller	Front frame assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
	Roller	Front frame assembly
	Holder, top sensor PCA	Front frame assembly
	Cam, multipurpose, right	Front frame assembly
	Cam, multipurpose, left	Front frame assembly
	Holder, separation pad	Front frame assembly
	Spring, torsion	Front frame assembly
	Holder, tag contact	Front frame assembly
	Holder, tag	Front frame assembly
	Support, tag pin	Front frame assembly
	Pin, tag	Front frame assembly
	Spring, compression	Front frame assembly
	Pin, dowel	Front frame assembly
	Plate, rating	Internal components (1 of 2)
	Bushing	Internal components (1 of 2)
	Gear, 17T	Internal components (1 of 2)
	Holder, forming left	Internal components (1 of 2)
	Holder, forming right	Internal components (1 of 2)
	Roller, face-down, upper	Internal components (1 of 2)
	Crossmember, scanner	Internal components (2 of 2)
	Arm, shutter	Internal components (2 of 2)
	Crossmember, beam	Internal components (2 of 2)
	Spring, compression	Internal components (2 of 2)
	Left side plate assembly	Internal components (2 of 2)
	Spring, torsion	Internal components (2 of 2)
	Spring, torsion	Internal components (2 of 2)
	Gear, 34T	Internal components (2 of 2)
	Side plate, left	Internal components (2 of 2)
	Sheet	Internal components (2 of 2)
	Screw, RS, M3X6	Internal components (2 of 2)
	Guide, left cartridge	Internal components (2 of 2)
	Shaft, gear	Internal components (2 of 2)
	Cover, edge	Internal components (2 of 2)
	Plate, photo card mounting	Internal components (2 of 2)
	Gear, 17T	Rear frame assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
	Roller, face-down	Rear frame assembly
	Bushing	Rear frame assembly
	Frame, rear	Rear frame assembly
	Spring, torsion	Middle frame assembly
	Bushing	Middle frame assembly
	Flag, registration-sensor	Middle frame assembly
	Registration roller	Middle frame assembly
	Registration holder	Middle frame assembly
	Registration front guide	Middle frame assembly
	Registration shutter	Middle frame assembly
	Registration roller	Middle frame assembly
	Registration roller shaft	Middle frame assembly
	Spring, torsion	Middle frame assembly
	Bushing	Middle frame assembly
	Spring, compression	Middle frame assembly
	Registration pressure arm	Middle frame assembly
	Middle frame	Middle frame assembly
	Screw, B, M3x8	Middle frame assembly
	Spring, compression	Middle frame assembly
	Gear, 26T/34T	Middle frame assembly
	Crossmember, power supply base	Power-supply base assembly
	Coupling, drum	Main drive assembly
	Coupling, ITB	Main drive assembly
	Support, spring	Main drive assembly
	Gear, 35T	Main drive assembly
	Gear, 35T	Main drive assembly
	Bushing, gear drive shaft	Main drive assembly
	Bushing, IS drive shaft	Main drive assembly
	Pin, support	Main drive assembly
	E-ring	Main drive assembly
	Gear, 13T	Main drive assembly
	Gear, 13T	Main drive assembly
	Gear, 12T	Main drive assembly
	Gear, 21T/35T	Main drive assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
	Support, spring	Main drive assembly
	Spring, compression	Main drive assembly
	Gear, 138T	Main drive assembly
	Spring, grounding	Main drive assembly
	Gear, 17T/98T	Main drive assembly
	Gear, 120T/20T	Main drive assembly
	Side plate, right rear	Main drive assembly
	Photo interrupter TLP1242	Main drive assembly
	Screw, S, M3X8	Main drive assembly
	Gear, 64T	Main drive assembly
	Screw, RS, M3X6	Main drive assembly
	Side plate, right front	Main drive assembly
	E-ring	Main drive assembly
	E-ring	Main drive assembly
	Pin, dowel	Main drive assembly
	Pin, dowel	Main drive assembly
	Spring, torsion	Main drive assembly
	Spring, torsion	Main drive assembly
	Guide, right cartridge	Main drive assembly
	Right cartridge guide assembly	Main drive assembly
	Side plate, right rear	Main drive assembly
	Shaft, main drive	Main drive assembly
	Shaft, image drive	Main drive assembly
	Shaft, gear drive	Main drive assembly
	Rotary center shaft	Rotary assembly
	Rotary swing shaft	Rotary assembly
	Reinforcement plate	Rotary assembly
	Gear, 75T	Rotary assembly
	Center shaft end support	Rotary assembly
	Stopper, A	Rotary assembly
	Gear, 28T	Rotary assembly
	Gear, 49T	Rotary assembly
	Gear, 28T	Rotary assembly
	Gear, 18T	Rotary assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
	Screw, RS, M3x6	Rotary assembly
	Spring, torsion	Rotary assembly
	Spring, torsion	Rotary assembly
	Pin, dowel	Rotary assembly
	Cover, right side plate	Rotary assembly
	Bushing, center shaft, right	Rotary assembly
	Grounding plate	Rotary assembly
	Rotary side plate, right	Rotary assembly
	Gear, 93T	Rotary assembly
	Gear, 75T	Rotary assembly
	Gear, 27T	Rotary assembly
	Ball bearing	Rotary assembly
	Cap	Rotary assembly
	Rotary side plate, left	Rotary assembly
	Bushing, center shaft, left	Rotary assembly
	Spring, torsion	Rotary assembly
	Plate, spring positioning	Rotary assembly
	Spring, torsion	Rotary assembly
	Crossmember, rotary pressure	Rotary assembly
	Support, spring, right	Rotary assembly
	Support, spring, left	Rotary assembly
	Flag, pressure shaft	Rotary assembly
	Holder, pressure shaft, right	Rotary assembly
	Holder, pressure shaft, left	Rotary assembly
	Holder, tag contact	Rotary assembly
	Support, tag contact	Rotary assembly
	Plate, tag contact	Rotary assembly
	Spring, torsion	Rotary assembly
	Plate, pressure lock	Rotary assembly
	Spring, compression	Rotary assembly
	Spring, compression	Rotary assembly
	Gear, 25T	Rotary assembly
	Washer	Rotary assembly
	Cam, pressure	Rotary assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
	Cam, tag contact drive	Rotary assembly
	Spring, torsion	Rotary assembly
	Shaft, rotary pressure	Rotary assembly
	Disc, rotary right	Rotary assembly
	Spring, torsion	Rotary assembly
	Label, rotary inlet	Rotary assembly
	Label, rotary inlet	Rotary assembly
	Label, rotary inlet	Rotary assembly
	Label, rotary inlet	Rotary assembly
	Disc, rotary left	Rotary assembly
	Spring, torsion	Rotary assembly
	Rotary right side plate assembly	Rotary assembly
	Rotary right disc assembly	Rotary assembly
	Rotary left disc assembly	Rotary assembly
	Screw, w/washer, M3x6	Rotary assembly
	Rotary pressure shaft assembly	Rotary assembly
	Stopper, B	Rotary assembly
	Photo interrupter, TLP1242	Rotary assembly
	Pin, silencer	Rotary assembly
	Sheet, discharge	Rotary assembly
	Spring	Rotary assembly
	Screw, TP, M3x4	Rotary assembly
	Gear, 19T	Rotary assembly
	Plate, silencer pin	Rotary assembly
	Guide, rotary drive	Rotary-drive assembly
	Cover, mount motor	Rotary-drive assembly
	Mount, motor	Rotary-drive assembly
	Gear, 20T/70T	Rotary-drive assembly
	Gear, 48T	Rotary-drive assembly
	Screw, TP, M3x4	Rotary-drive assembly
	E-ring	Rotary-drive assembly
	Screw, RS, M3x6	Rotary-drive assembly
	Frame, fuser	Fuser assembly
	Spring, torsion	Fuser assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
	Cover, face-up, lower	Fuser assembly
	Guide, upper separation	Fuser assembly
	Guide, lower separation	Fuser assembly
	Flag, paper-delivery sensor	Fuser assembly
	Spring, torsion	Fuser assembly
	Bushing	Fuser assembly
	Roller, paper-delivery	Fuser assembly
	Spring, torsion	Fuser assembly
	Lever, pressure-release sensor, right	Fuser assembly
	Gear, 17T	Fuser assembly
	Lever, pressure-release sensor, left	Fuser assembly
	Photo interrupter, TLP1242	Fuser assembly
	Frame, separation, lower	Fuser assembly
	Screw, with washer, M4x12	Fuser assembly
C7296-00014CN	ADF scanning window	ADF and scanner assembly
C7309-40013CN	ADF input-tray flag	ADF and scanner assembly
C7309-40153CN	ADF cleanout part	ADF and scanner assembly
C7309-80013CN	ADF input-tray spring	ADF and scanner assembly
Q1636-40037CN	ADF scanning window frame	ADF and scanner assembly
Q2665-60125CN	ADF separation pad	ADF and scanner assembly
Q3948-40007CN	ADF cover	ADF and scanner assembly
Q3948-60111CN	Control panel, copy (HP Color LaserJet 2820 all-in-one)	ADF and scanner assembly
Q3948-60136CN	Control-panel bezel, copy, English	ADF and scanner assembly
Q3948-60140CN	ADF pickup roller	ADF and scanner assembly
Q3948-60145CN	ADF input tray	ADF and scanner assembly
Q3948-60146CN	Control-panel bezel, copy, Spanish	ADF and scanner assembly
Q3948-60147CN	Control-panel bezel, copy, Portuguese	ADF and scanner assembly
Q3948-60148CN	Control-panel bezel, copy, German	ADF and scanner assembly
Q3948-60149CN	Control-panel bezel, copy, French	ADF and scanner assembly
Q3948-60150CN	Control-panel bezel, copy, Dutch	ADF and scanner assembly
Q3948-60151CN	Control-panel bezel, copy, Italian	ADF and scanner assembly
Q3948-60152CN	Control-panel bezel, fax, Swedish	ADF and scanner assembly
Q3948-60153CN	Control-panel bezel, copy, Norwegian	ADF and scanner assembly
Q3948-60154CN	Control-panel bezel, copy, Finnish	ADF and scanner assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
Q3948-60155CN	Control-panel bezel, copy, Danish	ADF and scanner assembly
Q3948-60156CN	Control-panel bezel, copy, Russian	ADF and scanner assembly
Q3948-60157CN	Control-panel bezel, copy, Czech	ADF and scanner assembly
Q3948-60158CN	Control-panel bezel, copy, Hungarian	ADF and scanner assembly
Q3948-60159CN	Control-panel bezel, copy, Polish	ADF and scanner assembly
Q3948-60160CN	Control-panel bezel, copy, Slovak	ADF and scanner assembly
Q3948-60161CN	Control-panel bezel, copy, Turkish	ADF and scanner assembly
Q3948-60163CN	Control-panel bezel, copy, Hebrew	ADF and scanner assembly
Q3948-60164CN	Control-panel bezel, copy, Arabic	ADF and scanner assembly
Q3948-60165CN	Control-panel bezel, copy, traditional Chinese	ADF and scanner assembly
Q3948-60166CN	Control-panel bezel, copy, Korean	ADF and scanner assembly
Q3948-60167CN	Control-panel bezel, copy, simplified Chinese	ADF and scanner assembly
Q3948-60168CN	Control-panel bezel, copy, Thai	ADF and scanner assembly
Q3948-60169CN	Control-panel bezel, copy, Vietnamese	ADF and scanner assembly
Q3948-60189CN	ADF assembly	ADF and scanner assembly
Q3948-60191CN	Scanning assembly	ADF and scanner assembly
Q3949-60134CN	Control panel, fax (HP Color LaserJet 2830 all-in-one and HP Color LaserJet 2840 all-in-one)	ADF and scanner assembly
Q3950-60101CN	Control-panel bezel, fax, English	ADF and scanner assembly
Q3950-60102CN	Control-panel bezel, fax, Spanish	ADF and scanner assembly
Q3950-60103CN	Control-panel bezel, fax, Portuguese	ADF and scanner assembly
Q3950-60104CN	Control-panel bezel, fax, German	ADF and scanner assembly
Q3950-60105CN	Control-panel bezel, fax, French	ADF and scanner assembly
Q3950-60106CN	Control-panel bezel, fax, Dutch	ADF and scanner assembly
Q3950-60107CN	Control-panel bezel, fax, Italian	ADF and scanner assembly
Q3950-60108CN	Control-panel bezel, copy, Swedish	ADF and scanner assembly
Q3950-60109CN	Control-panel bezel, fax, Norwegian	ADF and scanner assembly
Q3950-60110CN	Control-panel bezel, fax, Finnish	ADF and scanner assembly
Q3950-60111CN	Control-panel bezel, fax, Danish	ADF and scanner assembly
Q3950-60112CN	Control-panel bezel, fax, Russian	ADF and scanner assembly
Q3950-60113CN	Control-panel bezel, fax, Czech	ADF and scanner assembly
Q3950-60114CN	Control-panel bezel, fax, Hungarian	ADF and scanner assembly
Q3950-60115CN	Control-panel bezel, fax, Polish	ADF and scanner assembly
Q3950-60116CN	Control-panel bezel, fax, Slovak	ADF and scanner assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
Q3950-60117CN	Control-panel bezel, fax, Turkish	ADF and scanner assembly
Q3950-60119CN	Control-panel bezel, fax, Hebrew	ADF and scanner assembly
Q3950-60120CN	Control-panel bezel, fax, Arabic	ADF and scanner assembly
Q3950-60121CN	Control-panel bezel, fax, traditional Chinese	ADF and scanner assembly
Q3950-60122CN	Control-panel bezel, fax, Korean	ADF and scanner assembly
Q3950-60123CN	Control-panel bezel, fax, simplified Chinese	ADF and scanner assembly
Q3950-60124CN	Control-panel bezel, fax, Thai	ADF and scanner assembly
Q3950-60125CN	Control-panel bezel, fax, Vietnamese	ADF and scanner assembly
RB1-8668-030CN	Timing belt	Middle frame assembly
RB2-3043-000CN	Bushing, left	Front frame assembly
RB2-3044-000CN	Bushing, right	Front frame assembly
RB2-4933-000CN	Shaft, lever	Fuser assembly
RB2-6248-000CN	Damper assembly	Front frame assembly
RB2-6297-000CN	Rubber foot	Middle frame assembly
RB2-7195-000CN	Roller, transfer sensor	Middle frame assembly
RB2-9809-000CN	Busing, swing shaft, left	Rotary assembly
RB2-9850-000CN	Mount, terminal	Middle frame assembly
RB2-9851-000CN	Mount, antenna contact	Middle frame assembly
RB2-9852-000CN	Guide, rotary release	Internal components (2 of 2)
RB2-9903-000CN	Cable guide	Internal components (2 of 2)
RB2-9904-000CN	Duct, fuser	Rear frame assembly
RB2-9905-000CN	Spring, torsion	Internal components (1 of 2)
RB2-9909-000CN	Roller, face-down, lower	Rear frame assembly
RB2-9916-000CN	Cover, pressure motor	Rear frame assembly
RB2-9924-000CN	Holder, transfer sensor	Middle frame assembly
RB2-9925-000CN	Sensor flag arm	Middle frame assembly
RB2-9932-000CN	Guard, fan shield	Internal components (1 of 2)
RB2-9934-000CN	Spacer, right	Fuser assembly
RB2-9935-000CN	Spacer, left	Fuser assembly
RB2-9950-000CN	Roller, delivery	Fuser assembly
RB2-9952-000CN	Spring, torsion	Front frame assembly
RB2-9954-000CN	Guide, paper feed, left	Front frame assembly
RB2-9955-000CN	Guide, paper feed, right	Front frame assembly
RB2-9976-000CN	Plate, photo card crossmember	Internal components (2 of 2)

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
RB2-9999-000CN	Spring, torsion	Middle frame assembly
RB3-0006-000CN	Holder, fuser connector	Power-supply base assembly
RB3-0007-000CN	Insulating sheet	Power-supply base assembly
RB3-0009-000CN	Static charge eliminator plate	Middle frame assembly
RB3-0010-000CN	Paper feed plate	Middle frame assembly
RB3-0011-000CN	Shaft, feed drive	Middle frame assembly
RB3-0012-000CN	Roller, belt	Middle frame assembly
RB3-0015-000CN	Spring, compression	Middle frame assembly
RB3-0016-000CN	Spring, torsion	Middle frame assembly
RB3-0019-000CN	Tray, toner	Internal components (1 of 2)
RB3-0022-000CN	Gear, 23T	Middle frame assembly
RB3-0023-000CN	Holder, interlock switch	Internal components (2 of 2)
RB3-0042-000CN	Spring, torsion	Middle frame assembly
RB3-0043-000CN	Spring, torsion	Middle frame assembly
RB3-0044-000CN	Spring, torsion	Middle frame assembly
RB3-0045-000CN	Spring, torsion	Middle frame assembly
RB3-0046-000CN	Spring, torsion	Middle frame assembly
RB3-0047-000CN	Spring, torsion	Middle frame assembly
RB3-0048-000CN	Spring, torsion	Middle frame assembly
RB3-0052-000CN	Cover, gear	Middle frame assembly
RB3-0057-000CN	Transfer slide plate	Middle frame assembly
RB3-0060-000CN	Shaft, idler gear	Middle frame assembly
RB3-0061-000CN	Pulley	Middle frame assembly
RB3-0062-000CN	Holder, high-voltage	Power-supply base assembly
RB3-0063-000CN	Paper feed belt	Middle frame assembly
RB3-0065-000CN	Grounding spring	Middle frame assembly
RB3-0066-000CN	Grounding spring	Middle frame assembly
RB3-0067-000CN	Pulley	Middle frame assembly
RB3-0089-030CN	Cover, rack	Covers
RB3-0090-000CN	Rack	Main drive assembly
RB3-0091-000CN	Gear, 18T	Internal components (1 of 2)
RB3-0092-000CN	Gear, 15T	Internal components (1 of 2)
RB3-0104-000CN	Cover, multipurpose, roller	Front frame assembly
RB3-0111-000CN	Flag, multipurpose sensor	Front frame assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
RB3-0120-000CN	Cover, MP. gauss blocking	Front frame assembly
RB3-0121-000CN	Spring, torsion	Front frame assembly
RB3-0122-000CN	Spring, torsion	Front frame assembly
RB3-0135-000CN	Flag, test print switch	Front frame assembly
RB3-0160-000CN	Roller, multipurpose paper pickup	Front frame assembly
RB3-0178-000CN	Lever, lock release, right	Fuser assembly
RB3-0179-000CN	Lever, lock release, left	Fuser assembly
RB3-0180-000CN	Guide, paper inlet	Fuser assembly
RB3-0286-000CN	Roller grounding plate	Middle frame assembly
RB3-1024-000CN	Pressure plate	Fuser assembly
RB3-1025-000CN	Spring, compression	Fuser assembly
RB3-1026-000CN	Bushing	Fuser assembly
RB3-1027-000CN	Bushing	Fuser assembly
RB3-1029-000CN	Holder, delivery idle gear shaft	Fuser assembly
RB3-1032-000CN	Cover, fuser, upper	Fuser assembly
RB3-1034-000CN	Roller, pressure	Fuser assembly
RB3-1065-000CN	Spring, torsion	Rear frame assembly
RB3-1083-000CN	Arm, face-down	Covers
RB3-1088-000CN	Guide, transfer inlet	Middle frame assembly
RB3-1091-000CN	Spring, compression	Middle frame assembly
RB3-1092-000CN	Spring, compression	Middle frame assembly
RB3-1094-000CN	Bushing	Middle frame assembly
RB3-1110-000CN	Insulating sheet	Middle frame assembly
RB3-1113-000CN	Plate, swing shaft grounding	Internal components (1 of 2)
RB3-1125-000CN	Cover, front	Covers
RB3-1126-000CN	Cover, left upper	Covers
RB3-1128-000CN	Cover, left	Covers
RB3-1130-000CN	Cover, rear	Covers
RB3-1131-000CN	Cover, left rear	Covers
RB3-1132-000CN	Cover, right rear	Covers
RB3-1134-000CN	Cover, multipurpose, upper	Front frame assembly
RB3-1135-000CN	Cover, multipurpose, lower	Front frame assembly
RB3-1136-000CN	Cover, face-down	Covers
RB3-1137-000CN	Cover, I/O	Covers

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
RB3-1138-000CN	Cover, memory	Covers
RB3-1139-000CN	Cover, vent	Covers
RB3-1140-000CN	Cover, face-up, upper	Fuser assembly
RB3-1145-000CN	Rod, power button	Covers
RB3-1146-000CN	Mount, power button rod	Covers
RB3-1147-000CN	Foot, fall prevention	Covers
RB3-1150-000CN	Spring, grounding	Fuser assembly
RB3-1154-000CN	Mount, left link	Covers
RB3-1158-000CN	Mount, right link	Covers
RB3-1166-000CN	Lever, pressure-release, right	Fuser assembly
RB3-1167-000CN	Lever, pressure-release, left	Fuser assembly
RB3-1379-000CN	Sheet, protective, A	Internal components (2 of 2)
RB3-1380-000CN	Sheet, protective, B	Internal components (2 of 2)
RB9-0879-000CN	Bushing, swing shaft, right	Rotary assembly
RB9-0889-000CN	Hinge, multipurpose, left	Front frame assembly
RB9-0890-000CN	Hinge, multipurpose, right	Front frame assembly
RB9-0901-000CN	Duct, fan	Internal components (1 of 2)
RF5-4012-000CN	Pad, paper separation	Front frame assembly
RF5-4047-000CN	Pad, light-blocking	Front frame assembly
RF5-4055-000CN	Cover, cartridge	Covers
RF5-4060-000CN	Base plate, fixing	Fuser assembly
RF5-4063-000CN	Motor unit	Main drive assembly
RF5-4065-000CN	Entrance guide assembly	Middle frame assembly
RF5-4067-000CN	Roller, transfer	Middle frame assembly
RF5-4068-000CN	Roller, face-down, upper	Internal components (1 of 2)
RG5-6890-000CN	Laser/scanner	Internal components (2 of 2)
RG5-6907-000CN	Scanner crossmember assembly	Internal components (2 of 2)
RG5-6935-000CN	Left cartridge guide assembly	Internal components (2 of 2)
RG5-6938-000CN	Gear assembly	Front frame assembly
RG5-6939-000CN	Registration roller assembly	Middle frame assembly
RG5-6940-000CN	Registration shutter assembly	Middle frame assembly
RG5-6942-000CN	Rotary left side plate assembly	Rotary assembly
RG5-6952-000CN	Multipurpose paper pickup roller assembly	Front frame assembly
RG5-6964-000CN	Toner-sensor PCA	Rotary assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
RG5-7106-000CN	Cable, video interface, power	Power-supply base assembly
RG5-7108-000CN	Cable, power (2)	Power-supply base assembly
RG5-7109-000CN	Cable, fuser connector, DC controller	Power-supply base assembly
RG5-7114-000CN	Cable, motor	Internal components (2 of 2)
RG5-7115-000CN	Cable, second, transfer sensor	Main drive assembly
RG5-7117-000CN	Cable, sensor	Internal components (2 of 2)
RG5-7122-000CN	Cable, interface	Middle frame assembly
RG5-7123-000CN	Cable, grounding	Middle frame assembly
RG5-7126-000CN	Cable, sub-high-voltage transformer	Power-supply base assembly
RG5-7128-000CN	Paper sensor cable	Middle frame assembly
RG5-7129-000CN	Dev. rotary cable	Rotary assembly
RG5-7130-000CN	Cable, high-voltage transformer	Middle frame assembly
RG5-7131-000CN	Tag contact PCA	Front frame assembly
RG5-7132-000CN	Tag contact assembly	Rotary assembly
RG5-7145-000CN	Cable, front frame	Internal components (1 of 2)
RG5-7146-000CN	Cable, high-voltage transformer	Power-supply base assembly
RG5-7154-000CN	Cable, fuser AC	Fuser assembly
RG5-7155-000CN	Cable, fuser AC	Fuser assembly
RG5-7156-000CN	Cable, formatter	Power-supply base assembly
RG5-7160-000CN	Cable, upper	Internal components (1 of 2)
RG5-7161-000CN	Cable, fuser, power	Power-supply base assembly
RG5-7162-000CN	Fuser film assembly	Fuser assembly
RG5-7163-000CN	Fuser film assembly	Fuser assembly
RG5-7576-000CN	Separation upper guide assembly	Fuser assembly
RG5-7577-000CN	Separation lower guide assembly	Fuser assembly
RG5-7579-000CN	Main drive assembly	Assembly locations (2 of 2)
RG5-7579-000CN	Main drive assembly	Main drive assembly
RG5-7580-000CN	Right side plate rear assembly	Main drive assembly
RG5-7581-000CN	Right side plate front assembly	Main drive assembly
RG5-7584-000CN	Multipurpose inner plate assembly	Front frame assembly
RG5-7587-000CN	Rotary assembly	Assembly locations (2 of 2)
RG5-7587-000CN	Rotary assembly	Rotary assembly
RG5-7589-000CN	Rotary pressure assembly	Rotary assembly
RG5-7592-000CN	Rotary drive assembly	Assembly locations (2 of 2)

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
RG5-7595-000CN	Lower face-down roller assembly	Rear frame assembly
RG5-7597-000CN	Cover, top (assembly)	Covers
RG5-7598-000CN	Left cover assembly	Covers
RG5-7599-000CN	Right cover assembly	Covers
RG5-7601-000CN	Multipurpose cover assembly	Front frame assembly
RG5-7602-000CN	Fuser, 110-127 V	Assembly locations (2 of 2)
RG5-7602-000CN	Fuser assembly, 110–127V	Fuser assembly
RG5-7603-000CN	Fuser, 220-240 V	Assembly locations (2 of 2)
RG5-7603-000CN	Fuser assembly, 220–240V	Fuser assembly
RG5-7604-000CN	Face-up cover assembly	Fuser assembly
RG5-7609-000CN	Toner-sensor PCA	PCA assemblies
RG5-7612-000CN	Top sensor PCA	PCA assemblies
RG5-7613-000CN	Registration-sensor PCA	PCA assemblies
RG5-7616-000CN	Sub-high-voltage transformer PCA	PCA assemblies
RG5-7620-000CN	Cable, fuser motor	Internal components (1 of 2)
RG5-7621-000CN	Cable, power (1)	Power-supply base assembly
RG5-7624-000CN	Cable, waste toner	Front frame assembly
RG5-7630-000CN	Link unit, right	Covers
RG5-7631-000CN	Right support assembly	Internal components (2 of 2)
RG5-7632-000CN	Left support assembly	Internal components (2 of 2)
RG5-7637-000CN	Upper face-down roller assembly,	Internal components (1 of 2)
RG5-7645-000CN	Link unit, left	Covers
RG5-7646-000CN	DC Controller PCA	PCA assemblies
RG5-7647-000CN	High-voltage transformer PCA	PCA assemblies
RG5-7648-000CN	Waste-toner sensor PCA	PCA assemblies
RG5-7842-000CN	Rotary drive assembly	Rotary-drive assembly
RH2-5524-000CN	Flat cable, laser	Internal components (2 of 2)
RH3-2260-000CN	Low-voltage PCA, 110-127 V	PCA assemblies
RH3-2261-000CN	Low-voltage PCA, 220-240 V	PCA assemblies
RH5-3169-000CN	Resistor, 500MOHM, 0.3W	Middle frame assembly
RH7-1625-000CN	Motor (DC 24V)	Rotary-drive assembly
RH7-1628-000CN	Motor, DC	Internal components (1 of 2)
RH7-1629-000CN	Motor, DC, 24 V	Rear frame assembly
RH7-1630-000CN	Fan	Internal components (1 of 2)

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
RH7-1651-000CN	Motor unit	Rotary-drive assembly
RH7-5335-000CN	Clutch, electromagnetic	Main drive assembly
RH7-5383-000CN	Solenoid	Front frame assembly
RH7-5384-000CN	Solenoid	Rotary-drive assembly
RH7-5389-000CN	Clutch, electromagnetic	Internal components (1 of 2)
RH7-6051-000CN	Microswitch	Internal components (2 of 2)
RH7-7158-000CN	Density-sensor PCA	PCA assemblies
RH7-7159-000CN	Sleeve thermistor unit	Internal components (1 of 2)
RS5-1635-000CN	Bushing	Front frame assembly
RS5-1637-000CN	Bushing	Middle frame assembly
RS5-1638-000CN	Bushing	Front frame assembly
RS6-2030-000CN	Spring, tension	Front frame assembly
RS6-2766-000CN	Spring, tension	Middle frame assembly
RS6-2771-000CN	Spring, compression	Covers
RS6-2772-000CN	Spring, torsion	Covers
RS6-8668-000CN	Label, high voltage caution	Internal components (1 of 2)
RS6-8687-000CN	Label, image cartridge	Front frame assembly
RS7-0418-000CN	Gear, 26T	Front frame assembly
RS7-0424-000CN	Gear, 20T/40T	Front frame assembly
RS7-0425-000CN	Gear, 30T	Front frame assembly
RS7-0426-000CN	Gear, 26T/50T	Front frame assembly
RS7-0428-000CN	Gear, 30T	Middle frame assembly
RS7-0429-000CN	Gear, 26T	Front frame assembly
RS7-0435-000CN	Gear, 32T/37T	Internal components (1 of 2)
RS7-0436-000CN	Gear, 37T/43T	Internal components (1 of 2)
RS7-0437-000CN	Gear, 51T	Internal components (1 of 2)
RS7-0570-000CN	Gear, 81T	Main drive assembly
RS7-0571-000CN	Gear, 23T/54T	Main drive assembly
RS7-0572-000CN	Gear, 31T/90T	Main drive assembly
RS7-0573-000CN	Gear, 186T	Main drive assembly
RS7-0574-000CN	Gear, 32T/123T	Main drive assembly
RS7-0580-000CN	Gear, 30T	Fuser assembly
RS7-0582-000CN	Gear, 28T	Fuser assembly
RU5-8125-000CN	High-temperature caution label	Fuser assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
See Covers	Rear frame assembly	
See Middle frame assembly	Middle frame assembly	
See Front frame assembly	Front frame assembly	
See Power-supply base assembly	Power-supply base assembly	Assembly locations (2 of 2)
VT2-0012-005CN	Support, high-voltage PCA	Power-supply base assembly
WG8-5593-000CN	Photo interrupter TLP1242	Front frame assembly
WG8-5593-000CN	Photo interrupter TLP1242	Middle frame assembly
WS1-6336-000CN	Drawer connector	Middle frame assembly
WT2-5056-000CN	Clip, cable	Front frame assembly
WT2-5610-000CN	Clip, cable	Middle frame assembly
WT2-5700-000CN	Clamp, cable	Front frame assembly
WT2-5700-000CN	Clamp, cable	Middle frame assembly
WT2-5700-000CN	Clamp, cable	Fuser assembly
WT2-5737-000CN	Clip, cable	Power-supply base assembly
XA9-0849-000CN	Screw, RS, M3x6	Internal components (2 of 2)
XA9-0849-000CN	Screw, RS, M3x6	Rear frame assembly
XA9-1291-000CN	Screw, RS, M3x8	Covers
XA9-1449-000CN	Screw, RS, M3x8	Internal components (1 of 2)
XA9-1449-000CN	Screw, RS, M3x8	Power-supply base assembly
XA9-1449-000CN	Screw, RS, M3x8	Fuser assembly
XA9-1495-000CN	Screw, RS, M3x6	Internal components (1 of 2)
XA9-1495-000CN	Screw, RS, M3x6	Internal components (2 of 2)
XA9-1500-000CN	Screw, S, M3x8	Power-supply base assembly
XA9-1500-000CN	Screw, RS, M3x8	Fuser assembly
XA9-1501-000CN	Screw, RS, M3x10	Internal components (1 of 2)
XB2-4300-605CN	Screw, w/washer, M3x6	Middle frame assembly
XB4-5300-809CN	Screw, P, M3x8	Covers
XB4-7401-005CN	Screw, tapping, truss head, M4X10	Covers
XB4-7401-005CN	Screw, tapping, truss head, M4X10	Front frame assembly
XB4-7401-005CN	Screw, tapping, truss head, M4x10	Internal components (1 of 2)
XB4-7401-005CN	Screw, tapping, truss head, M4x10	Rear frame assembly
XB4-7401-005CN	Screw, tapping, truss head, M4x10	Middle frame assembly

Table 7-20 Numerical parts list (continued)

Part number	Description	Table and page
XD2-1100-322CN	E-ring	Internal components (1 of 2)
XD2-1100-502CN	Ring, E	Front frame assembly

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