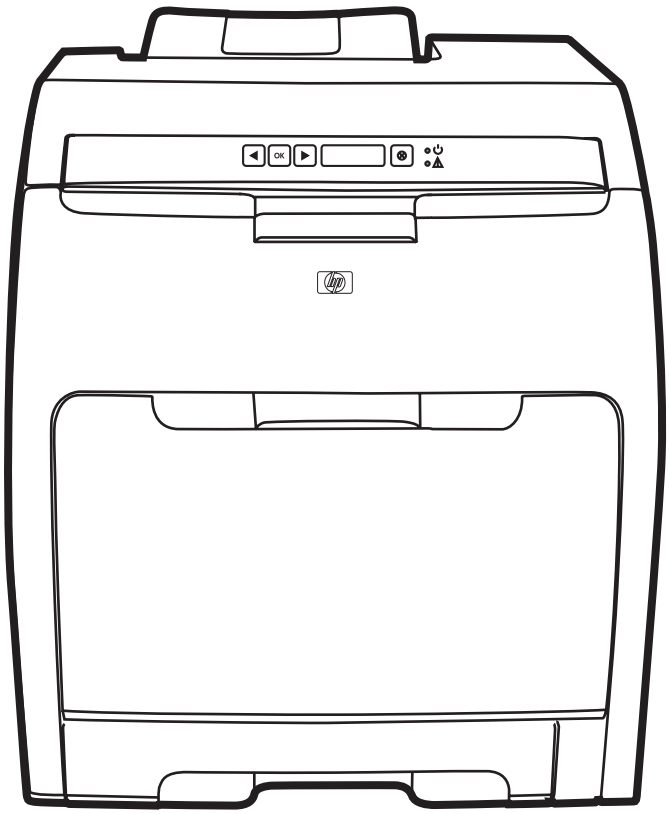
HP Color LaserJet 2700 Series printers
Service Manual



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HP Color LaserJet 2700 Series printers

Service Manual

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1 Product information

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- Features at a glance
- Walkaround
- Understanding control-panel features
- Using the control-panel menus
- Printer software
- Print-media specifications
- Selecting print media
- Printing and storage environment
- Printing on special media

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Printers at a glance

HP Color LaserJet 2700 printer	HP Color LaserJet 2700n printer
• Prints up to 20 pages per minute (ppm) on letter-size media or 20 ppm on A4-size media in monochrome (black and white), and 15 ppm in color • 100-sheet multipurpose tray (tray 1) and 250-sheet input tray (tray 2) • Hi-Speed universal serial bus (USB) 2.0 port • 64 megabytes (MB) of random access memory (RAM)	HP Color LaserJet 2700 printer, plus: • Built-in networking to connect to 10Base-T/100Base-TX networks

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Features at a glance

Feature	HP Color LaserJet 2700 Series printer
Performance	• 300 MHz processor
User interface	• Two-line LCD display • The HP ToolboxFX (a status and troubleshooting tool) • Windows® and Macintosh printer drivers • Embedded Web server to gain access to support and to order supplies (administrator tool for network-connected models only)
Printer drivers	• HP PCL 6 • HP Postscript level 3 emulation
Fonts	• 80 internal fonts available for both PCL and PostScript 3 emulation • 80 printer-matching screen fonts in TrueType format available with the software solution
Accessories	• Optional 500-sheet input tray (tray 3) • Dual inline memory module (DIMM)
Connectivity	• Hi-Speed USB 2.0 cable interface • Built-in networking (HP Color LaserJet 2700n printer only)
Environmental features	• High content of recyclable components and materials
Supplies	• Supplies status page contains information about toner level, page count, and approximate pages remaining. • No-shake cartridge design • Printer checks for authentic HP print cartridges at cartridge installation. • Internet-enabled supply-ordering capabilities (using the HP ToolboxFX)
Accessibility	• The online user guide is compatible with text screen-readers. • Print cartridges can be installed and removed by using one hand. • All doors and covers can be opened by using one hand. • Media can be loaded in tray 1 by using one hand.

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Walkaround

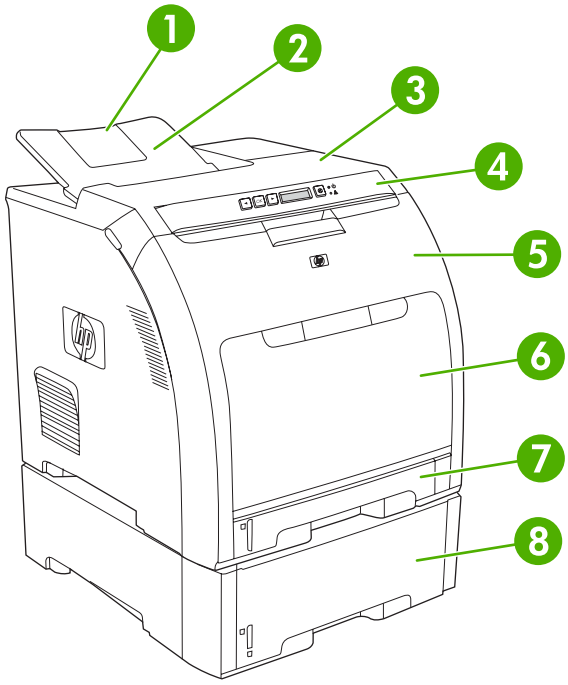

Figure 1-1 Front view (shown with optional 500-sheet input tray)

1	Output bin extender
2	Output bin
3	Top cover
4	Printer control panel
5	Front door
6	Tray 1 (holds 100 sheets of standard paper)
7	Tray 2 (holds 250 sheets of standard paper)
8	Tray 3 (optional; holds 500 sheets of standard paper)

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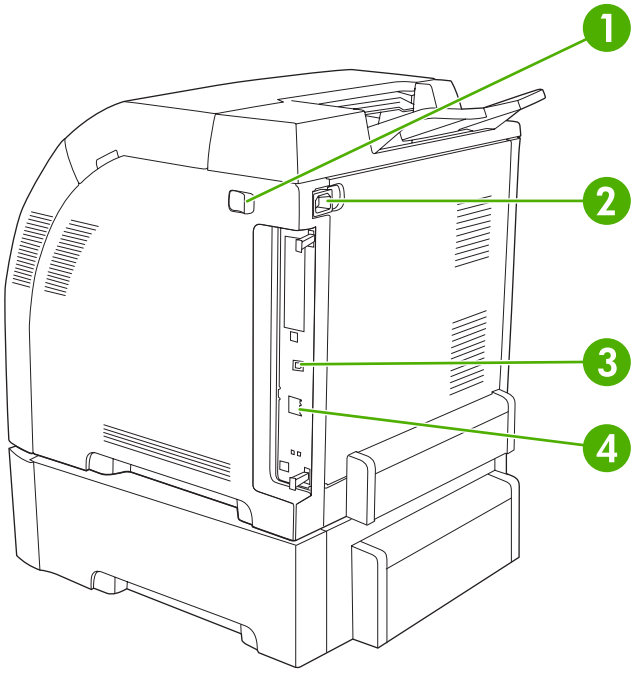

Figure 1-2 Back and side view

1	On/off (power) switch
2	Power connection
3	Hi-Speed USB 2.0 port
4	Network port (available on the HP Color LaserJet 2700n printer only)

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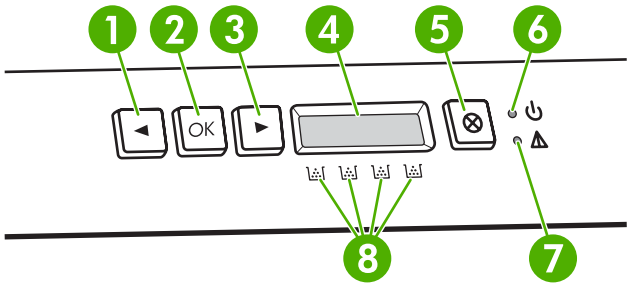
Understanding control-panel features

The printer has the following lights and buttons on the control panel:



1	**Left arrow button** (<): Press this button to navigate through the menus or to decrease a value that appears on the display. **NOTE** Press the left and right arrow buttons simultaneously to print a demo page.
2	**OK button**: Press the OK button for the following actions: • Open the control-panel menus. • Select a menu item. • Clear some printer errors. • Continue printing after reloading a tray. • Acknowledge that a non-HP supply is in use. • Return the printer to the **Ready** state whenever the ready light is blinking.
3	**Right arrow button** (>): Press this button to navigate through the menus or to increase a value that appears on the display.
4	**Display**: The display provides information about the printer. Use the menus on the display to establish printer settings. See Using the control-panel menus on page 7.
5	**Cancel Job button** (X): Press this button to cancel a print job whenever the attention light is blinking. You can also press this button to exit the control-panel menus.
6	**Ready light** (green): The ready light is on when the printer is ready to print. It blinks when the printer is receiving print data.
7	**Attention light** (amber): The attention light blinks when a print cartridge is empty. **NOTE** The attention light does *not* blink if more than one print cartridge is empty.
8	**Print-cartridge-status gauges**: These gauges show the consumption level for each print cartridge (black, yellow, cyan, and magenta). If the consumption level is unknown, a ? symbol appears. This can occur in the following circumstances: • The print cartridge is missing or installed incorrectly. • The print cartridge is defective. • The print cartridge might not be an HP cartridge.

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Using the control-panel menus

To use the menus

1. Press OK to open the menus.
2. Press < or > to navigate through the listings.
3. Press OK to select the appropriate option. An asterisk (*) appears next to the active selection.
4. Press X to exit the menu without saving any changes.

The sections that follow describe the options for each of the main menus:

- Reports menu on page 8
- System Setup menu on page 9
- Network Config. menu (HP Color LaserJet 2700n printer only) on page 11
- Service menu on page 12

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Reports menu

Use the **Reports** menu to print reports that provide information about the printer.

Menu item	Description
Demo page	Prints a color page that demonstrates print quality.
Menu structure	Prints a map of the control-panel-menu layout. The active settings for each menu are listed.
Config report	Prints a list of all the printer settings. Includes network information when the printer is connected to a network.
Supplies status	Prints the status for each print cartridge, including the following information: • Estimated pages remaining • Part number • Number of pages printed
Network report	Prints a list of all printer network settings (HP Color LaserJet 2700n printer only).
Usage page	Lists PCL pages, PCL 6 pages, PS pages, pages that were jammed or mispicked in the printer, monochrome (black and white) or color pages; and reports the page count.
Color usage log	Prints a report that shows the user name, application name, and color usage information on a job-by-job basis.
PCL font list	Prints a list of all the PCL fonts that are installed.
PS font list	Prints a list of all the PostScript (PS) fonts that are installed.
PCL6 font list	Prints a list of all the PCL6 fonts that are installed.
Service page	Prints the service report.

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System Setup menu

Use this menu to establish basic printer settings. The **System Setup** menu has several sub-menus. Each is described in the following table.

Menu item	Sub-menu item	Sub-menu item	Description
Language			Select the language for the control-panel display messages and the printer reports.
Paper setup	**Def. paper size**	**Letter** **A4** **Legal**	Select the size for printing internal reports or any print job that does not specify a size.
	Def. paper type	A list of available media types appears.	Select the media type for printing internal reports or any print job that does not specify a type.
	Tray 1	**Paper size** **Paper type**	Select the default size and type for tray 1 from the list of available sizes and types.
	Tray 2	**Paper size** **Paper type**	Select the default size and type for tray 2 from the list of available sizes and types.
	Tray 3	**Paper size** **Paper type**	Select the default size and type for tray 3 from the list of available sizes and types.
	Paper out action	**Wait forever** **Override** **Cancel**	Select how the printer should react when a print job requires a size or type that is not available or when a specified tray is empty. Select **Wait forever** to make the printer wait until you load the correct media and press OK. This is the default setting. Select **Override** to print on a different size or type after a specified delay. Select **Cancel** to automatically cancel the print job after a specified delay. If you select either **Override** or **Cancel**, the control panel prompts you to specify the number of seconds to delay. Press > to increase the time, up to 3600 seconds. Press < to decrease the time.
Print quality	**Calibrate color**	**After power on** **Calibrate now**	**After power on**: Select how soon the printer should calibrate after you turn it on. The default setting is **15 minutes**. **Calibrate now**: Makes the printer perform a calibration immediately. If a job is processing, the printer calibrates after the job is complete. If an error message is on the display, you must clear the error first.

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Menu item	Sub-menu item	Sub-menu item	Description
	Color supply out	**Stop** **Continue black**	Select **Stop** to halt printing until the empty cartridge is replaced. Select **Continue black** to allow future color jobs to print in monochrome (black and white) mode until the empty cartridge is replaced.
	Replace supplies	**Override out** **Stop at out**	**Override out**: If the printer determines that a print cartridge is empty, you can continue printing until you notice a decrease in print quality. **Stop at out**: If the printer determines that a print cartridge is empty, you must replace the cartridge before printing can continue. This is the default setting.
	Cartridge low	**Low threshold (1-20)**	The percentage threshold determines when the printer begins reporting low toner. The message is either reported on the control-panel display or using the toner LED, if it exists. The default setting is 10%.
	Restrict color	**Enable color** **Disable color**	Select **Enable color** to allow the job to print in either monochrome (black and white) or color depending on the specifications of the job. Select **Disable color** to disable color printing. All jobs will print in monochrome (black and white).
Courier font	**Regular** **Dark**		Selects a version of the Courier font. The default is **Regular**.
Display contrast	**Medium** **Darker** **Darkest** **Lightest** **Lighter**		Select the level of contrast for the display. The default setting is **Medium**.

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Network Config. menu (HP Color LaserJet 2700n printer only)

Use this menu to establish network configuration settings.

Menu item	Sub-menu item	Description
TCP/IP config	**Automatic** **Manual**	Select **Automatic** to automatically configure all the TCP/IP settings. Select **Manual** to manually configure the IP address, subnet mask, and default gateway.
Link Speed	**Automatic** **10T Full** **10T Half** **100TX Full** **100TX Half**	The printer should automatically detect the correct link speed for the network. Use this menu to set the link speed manually, if necessary. After you set the link speed, the printer automatically restarts.
Restore defaults		Press OK to restore the network configuration settings to the default values.

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Service menu

Use this menu to restore default settings, clean the printer, and activate special modes that affect print output.

Menu item	Description
Restore defaults	Sets all customized settings to the factory default values.
Cleaning mode	Use this option to clean the printer if you see toner specks or other marks on the printed output. The cleaning process removes dust and excess toner from the paper path. When you select this item, the printer prompts you to load plain paper in tray 1 and then press OK to start the cleaning process. Wait until the process is complete. Discard the page that prints.
USB speed	Sets the USB speed to high or full. For the printer to actually operate at high speed, it must have high speed enabled and be connected to an EHCI host controller which is also operating at high speed. This menu item also does not reflect the current operating speed of the printer.
Less paper curl	If printed pages are consistently curled, use this option to set the printer to a mode that reduces curl. The default setting is **Off**.
Archive print	If you are printing pages that will be stored for a long time, use this option to set the printer to a mode that reduces toner smearing and dusting. The default setting is **Off**.

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Printer software

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

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

NOTE For a list of the network environments that the network-administrator software components support, see Network configuration (HP Color LaserJet 2700n only) on page 38.

For a list of printer drivers and updated HP printer software, go to www.hp.com/go/clj2700_software.

Supported operating systems and printer drivers

The printer uses the PCL 6 and PostScript 3 emulation PDL drivers.

NOTE For Windows 2000, Windows XP, and Windows Server 2003, the printer includes a monochrome PCL 6 driver that can be installed for users who will be printing only black-and-white print jobs.

Operating system[1]	Network support	PCL 6[2]	PS 3 emulation
Windows 2000	✔	✔	✔
Windows XP Home/Professional	✔	✔	✔
Windows Server 2003	✔	✔	✔
Mac OS X V10.2 and later	✔		✔

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

2 The printer includes both a monochrome and color PCL 6 driver for Windows 2000, Windows XP, and Windows Server 2003 users.

Additional drivers

The following drivers are not included on the CD, but are available from the following Web sites:

- UNIX® model scripts: www.hp.com/go/unixmodelscripts
- Linux driverswww.hp.com/go/linuxprinting

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Opening the printer drivers

Operating System	To change the settings for all print jobs until the software program is closed	To change the default settings for all print jobs	To change the product configuration settings
Windows 2000, XP, and Server 2003	1. On the **File** menu in the software program, click **Print**. 2. Select the driver, and then click **Properties** or **Preferences**. The steps can vary; this procedure is most common.	1. Click **Start**, click **Settings**, and then click **Printers** or **Printers and Faxes**. 2. Right-click the driver icon, and then select **Printing Preferences**.	1. Click **Start**, click **Settings**, and then click **Printers** or **Printers and Faxes**. 2. Right-click the driver icon, and then select **Properties**. 3. Click the **Device Settings** tab.
Mac OS X V10.2 and later	1. On the **File** menu, click **Print**. 2. Change the settings that you want on the various pop-up menus.	1. On the **File** menu, click **Print**. 2. Change the settings that you want on the various pop-up menus. 3. On the **Presets** pop-up menu, click **Save as** and type a name for the preset. These settings are saved in the **Presets** menu. To use the new settings, you must select the saved preset option every time you open a program and print.	1. In the Finder, on the **Go** menu, click **Applications**. 2. Open **Utilities**, and then open **Print Center** (Mac OS X V10.2 and V10.3) or **Printer Setup Utility** (Mac OS X V10.4). 3. Click on the print queue. 4. On the **Printers** menu, click **Show Info**. 5. Click the **Installable Options** menu. **NOTE** Configuration settings might not be available in Classic mode.

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Software for Windows

The HP ToolboxFX

The HP ToolboxFX is a software program that you can use for the following tasks:

- Checking the printer status
- Checking the supplies status and ordering supplies online
- Setting up alerts
- Setting up e-mail notification for certain printer and supplies events
- Viewing and changing printer settings
- Viewing printer documentation
- Gaining access to troubleshooting and maintenance tools

You can view the HP ToolboxFX when the printer is directly connected to your computer or when it is connected to a network. Perform a complete software installation in order to use the HP ToolboxFX.

Software for Macintosh

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

If both the printer and the Macintosh computer are connected to a network, use the embedded Web server to configure the printer. For more information, see Using the embedded Web server on page 59.

PostScript Printer Description (PPD) files

The PPDs, in combination with the Apple PostScript printer drivers, provide access to printer features. An installation program for the PPDs and other software is provided on the CD that comes with the printer. Use the Apple PostScript printer driver that comes with the computer.

Macintosh Configure Device

The Macintosh Configure Device software provides access to features that are not available in the printer driver. Use the illustrated screens to select printer features and complete the following tasks:

- Name the printer.
- Assign the printer to a zone on the network.
- Assign an Internet protocol (IP) address to the printer.
- Configure the printer for network printing.

Macintosh Configure Device is available for USB and network connections.

For more information about using Macintosh Configure Device, see Using Macintosh Configure Device on page 69.

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Software for networks

HP Web Jetadmin

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

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

When installed on a host server, any client can gain access to HP Web Jetadmin by using a supported Web browser (such as Microsoft® Internet Explorer 6.*x* or Netscape Navigator 7.*x* or later) and navigating to the HP Web Jetadmin host.

UNIX

For HP-UX and Solaris networks, go to www.hp.com/support/net_printing to download the network printer installer for UNIX.

Linux

For information, go to www.hp.com/go/linuxprinting.

Embedded Web server

The HP Color LaserJet 2700n printer is equipped with an embedded Web server, which provices access to information about printer and network activities. This information appears in a Web browser, such as Microsoft Internet Explorer or Netscape Navigator.

The embedded Web server resides on the printer. It is not loaded on a network server. The embedded Web server is available only when the printer is connected to a network. No special software is installed or configured, but you must have a supported Web browser on your computer.

For a complete explanation of the features and functionality of the embedded Web server, see Using the embedded Web server on page 59.

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Print-media specifications

For optimum results, use conventional 75 g/m^2 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, or bent edges.

Tray 1 and tray 2

Media type	Dimensions[1]	Weight	Capacity[2]
Paper (including postcards)	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)	60 to 163 g/m^2 (16 to 43 lb) Up to 176 g/m^2 (47 lb) for postcards	Tray 1: up to 100 sheets Tray 2: up to 250 sheets
HP Color Laser Photo Paper, gloss and HP Color Laser Photo Paper, matte[3]	Same as for paper	75 to 220 g/m^2 (20 to 58 lb)	Tray 1: up to 60 sheets Tray 2: up to 100 sheets
HP Cover Paper[3]	Same as for paper	200 g/m^2 (53 lb)	Tray 1: up to 60 sheets Tray 2: up to 100 sheets
Transparencies and opaque film	Same as for paper	Thickness: 0.12 to 0.13 mm (4.7 to 5.1 mils)	Tray 1: up to 60 sheets Tray 2: up to 50 sheets
Labels[4]	Same as for paper	Thickness: up to 0.23 mm (9 mils)	Tray 1: up to 60 sheets Tray 2: up to 100 sheets
Envelopes	Same as for paper	Up to 90 g/m^2 (24 lb)	Tray 1: up to 10 envelopes Tray 2: up to 10 envelopes

1 The printer 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 on other types of heavy paper.
4 Smoothness: 100 to 250 (Sheffield)

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Optional tray 3

Media type	Size	Weight	Capacity[1]
Paper	Letter	60 to 120 g/m^2 (16 to 32 lb)	Up to 500 sheets
	Legal		
	Executive		
	A4		
	A5		
	B5-JIS		
	8.5 x 13		
HP Color Laser Photo Paper, gloss and HP Color Laser Photo Paper, matte[2]	Same as for paper	106 to 120 g/m^2 (28 to 32 lb)	Up to 200 sheets
Cardstock	Same as for paper	up to 120 g/m^2 (32 lb)	Up to 200 sheets
Letterhead	Same as for paper	60 to 120 g/m^2 (16 to 32 lb)	Up to 500 sheets

1 Capacity can vary depending on media weight and thickness, and environmental conditions.
2 Hewlett-Packard does not guarantee results when printing on other types of heavy paper.

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Selecting print media

You can use many types of paper and other print media with this printer.

Before purchasing any paper or specialized forms in quantity, verify that your paper supplier has obtained and understands the print-media requirements that are specified in the *HP LaserJet Printer Family Print Media Specification Guide*.

See Accessories and supplies on page 239 to order the *HP LaserJet Printer Family Print Media Specification Guide*. To download a copy of the guide, go to www.hp.com/support/ljpaperguide. Select **Manuals**.

It is possible that paper could meet all of the guidelines in this chapter or the *HP LaserJet Printer Family Print Media Specification Guide* and still not print satisfactorily. This can result from abnormal characteristics of the printing environment or other variables over which HP has no control (for example, extremes in temperature and humidity).

Hewlett-Packard Company recommends testing any paper before buying it in large quantities.

CAUTION Using paper that does not conform to the specifications listed here or in the print media guide can cause problems that require service. This service is not covered by the Hewlett-Packard warranty or service agreements.

Paper to avoid

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

- Do not use paper that is too rough.
- Do not use paper, other than standard prepunched paper, that contains cutouts or perforations.
- Do not use multipart forms.
- Do not use paper that has already been printed on, or that has been fed through a photocopier.
- Do not use paper that contains a watermark if you are printing solid patterns.

Paper that can damage the printer

In rare circumstances, paper can damage the printer. The following paper must be avoided to prevent possible damage to the printer:

- Do not use paper with staples attached.
- Do not use transparencies that are designed for Inkjet printers or other low temperature printers, or for monochrome printing. Use only transparencies that are specified for use with HP Color LaserJet printers.
- Do not use photo paper that is intended for Inkjet printers.
- Do not use paper that is embossed or coated, or any media that produces hazardous emissions, or that melts, offsets, or discolors when exposed to 190°C (374°F) for 0.1 second. Also, do not use letterhead paper that is made with dyes or inks that cannot withstand that temperature.

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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 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.

Evaluate purchasing 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 printer performance. The recommended 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 paper 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 printer environment is subject to extremes, unwrap only the amount of paper to be used during the day's operation 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.

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Printing on special media

Transparencies

- Handle transparencies by the edges. Oils from your fingers can cause print-quality problems.
- Use only overhead transparencies recommended for use in this printer. Hewlett-Packard recommends using HP Color LaserJet Transparencies with this printer. HP products are designed to work together for optimum printing results.
- In either the software program or the printer driver, select **Transparency** as the media type, or print from a tray that is configured for transparencies.

CAUTION Transparencies that are not designed for laser printing might melt in the printer, causing damage to the printer.

Glossy paper

- In either the software program or the driver, select **GLOSSY** as the media type, or print from a tray that is configured for glossy paper.
- Because this affects all print jobs, it is important to return the printer to its original settings once the job has printed. See Configuring trays on page 28 for more information.

Colored paper

- Colored paper should be of the same high quality as white xerographic paper.
- Pigments used must be able to withstand the printer's fusing temperature of 190°C (374°F) for 0.1 second without deterioration.
- Do not use paper with a colored coating that was added after the paper was produced.
- The printer creates colors by printing patterns of dots, overlaying and varying their spacing to produce various colors. Varying the shade or color of the paper will affect the shades of the printed colors.

Envelopes

Adhere to the following guidelines to help ensure proper printing on envelopes and to help prevent printer jams:

- In either the software program or the printer driver, select **Envelope** as the media type, or configure tray 1 for envelopes. See Configuring trays on page 28.
- The weight rating of envelopes should not exceed 90 g/m^2 (24 lb bond).
- Envelopes should be flat.
- Do not use envelopes with windows or clasps.
- Envelopes must not be wrinkled, nicked, or otherwise damaged.
- Envelopes with peel-off adhesive strips must use adhesives that can withstand the heat and pressures of the printer's fusing process.

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If your software does not automatically format an envelope, specify **Landscape** for page orientation in the software program. Use the guidelines in the table that follows to set margins for return and destination addresses on Commercial #10 or DL envelopes.

Address type	Left margin	Top margin
Return	15 mm (0.6 inch)	15 mm (0.6 inch)
Destination	102 mm (4.0 inch)	51 mm (2.0 inch)

Labels

- In either the software program or the printer driver, select **Labels** as the media type, or configure tray 1 or tray 2 for labels. See Configuring trays on page 28.
- Verify that the labels' adhesive material can tolerate temperatures of 190°C (374°F) for 0.1 second.
- Verify that there is no exposed adhesive material between the labels. Exposed areas can cause labels to peel off during printing, which can cause paper jams. Exposed adhesive can also cause damage to printer components.
- Do not re-feed a sheet of labels.
- Verify that labels lie flat.
- Do not use labels that are wrinkled, bubbled, or otherwise damaged.

Heavy paper

- For information about which heavy paper is supported in each tray, see Print-media specifications on page 17
- In either the software program or the printer driver, select **Heavy** or **Cardstock** as the media type, or print from a tray that is configured for heavy paper. Because this setting affects all print jobs, it is important to return the printer back to its original settings after the job has been printed. See Configuring trays on page 28.

CAUTION In general, do not use paper that is heavier than the media specification recommended for this printer. Doing so can cause misfeeds, jams, reduced print quality, and excessive mechanical wear.

Preprinted forms and letterhead

- Forms and letterhead must be printed with heat-resistant inks that will not melt, vaporize, or release hazardous emissions when subjected to the printer's fusing temperature of approximately 190°C (374°F) for 0.1 second.
- Inks must be nonflammable and should not adversely affect any printer rollers.
- Forms and letterhead should be sealed in a moisture-proof wrapping to prevent changes during storage.
- Before loading preprinted paper, verify that the ink on the paper is dry. During the fusing process, wet ink can come off of preprinted paper.

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NOTE For information about how to load letterhead and preprinted forms, see Loading special media on page 36.

Recycled paper

This printer supports the use of recycled paper. Recycled paper must meet the same specifications as standard paper. See the *HP LaserJet Printer Family Print Media Specification Guide*. Hewlett-Packard recommends that recycled paper contain no more than 5% ground wood.

HP LaserJet media

Hewlett-Packard offers many types of media that are made specifically for use in HP LaserJet printers. HP products are designed to work together for optimum printing results.

For more information about HP LaserJet media, go to www.hp.com.

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2 Installation and configuration

- What is in the box
- Site requirements
- Configuring trays
- USB configuration
- Network configuration (HP Color LaserJet 2700n only)
- Printer memory

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What is in the box

The following items come in the box with the printer.

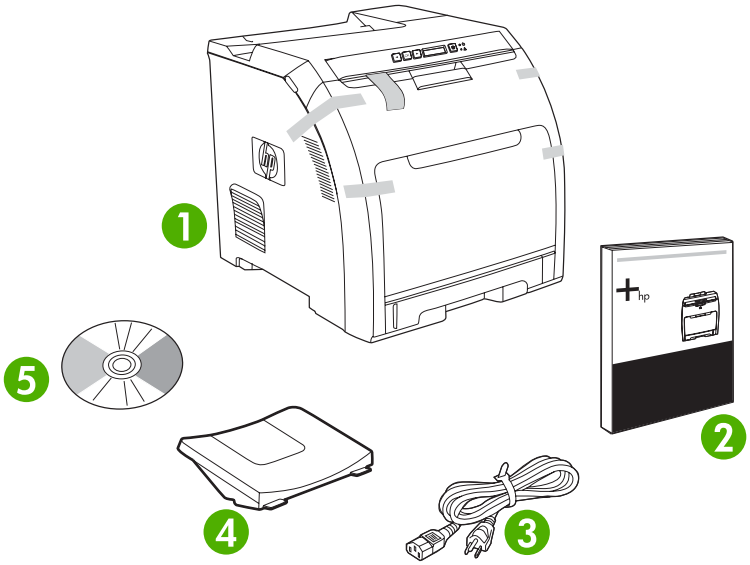

Figure 2-1 What is in the shipping box

1. Printer
2. Getting started guide
3. Power cord
4. Output bin
5. CD that contains the printer software and the electronic user guide.

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Site requirements

Select a sturdy, well-ventilated, dust-free area that is away from direct sunlight to position the printer. Allow enough space around the printer to open the doors and trays.

Physical specifications

Product	Height	Depth	Width	Weight[1]
Base model	400 mm (15.7 inches)	450 mm (17.7 inches)	400 mm (15.7 inches)	20.3 kg (44.8 lb)
Base model plus optional tray 3	540 mm (21.3 inches)	450 mm (17.7 inches)	400 mm (15.7 inches)	25.4 kg (56.0 lb)

[1] The printer weight does not include print cartridges.

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Configuring trays

You can configure the printer trays by type and size. Load different media in the printer trays and then request media by type or size in the software program.

The following instructions are for configuring the trays at the printer control panel. You can also configure the trays from your computer through the embedded Web server (see Using the embedded Web server on page 59) or through HP ToolboxFX (see Using the HP ToolboxFX on page 62).

Configuring size

1. Press OK.
2. Press > to highlight **System Setup**, and then press OK.
3. Press > to highlight **Paper Setup**, and then press OK.
4. Press > to highlight **Tray 1** or **Tray 2**, and then press OK.
5. Press > to highlight **Paper size**, and then press OK.
6. Press > to highlight the appropriate size, and then press OK.

Configuring type

1. Press OK.
2. Press > to highlight **System Setup**, and then press OK.
3. Press > to highlight **Paper Setup**, and then press OK.
4. Press > to highlight **Tray 1** or **Tray 2**, and then press OK.
5. Press > to highlight **Paper type**, and then press OK.
6. Press > to highlight the appropriate type, and then press OK.

Configuring trays for custom paper

Some software programs and printer drivers allow you to specify custom media-size dimensions. Be sure to set the correct media size in both the page setup and print dialog boxes. If your software does not allow this, specify the custom media-size dimensions at the control panel. See System Setup menu on page 9 for more information.

Use the **Any size** size setting when the selected media does not exactly match the size of the paper specified in the document you are printing. If no source tray is specified, the printer looks first for paper that exactly matches the document, and then it looks for and prints from a tray set to **Any size** or **Any type**.

Printing from tray 1 (100-sheet multipurpose tray)

Tray 1 holds up to 100 sheets of media. It provides a convenient way to print envelopes, transparencies, custom-size paper, or other types of paper without having to unload the other trays.

Loading tray 1

See Print-media specifications on page 17 for a list of media types and sizes that tray 1 supports.

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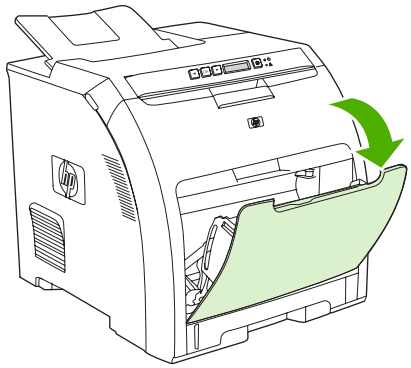
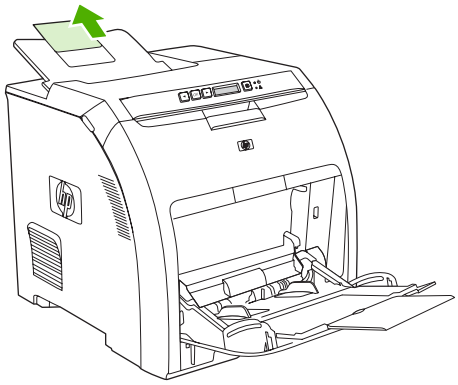
CAUTION Avoid adding print media to tray 1 while the printer is printing, or jams can occur.

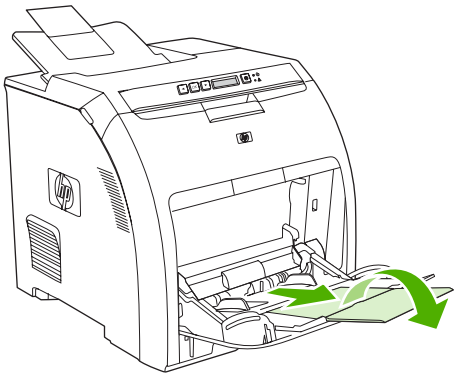
1. Open tray 1.



2. Slide the output bin extension out from the bin.



3. Slide out the tray extender and, if necessary, open the additional tray extender.



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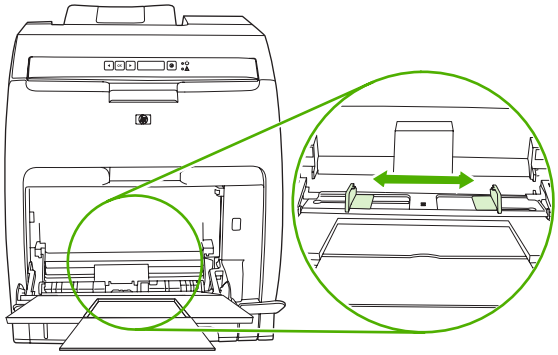
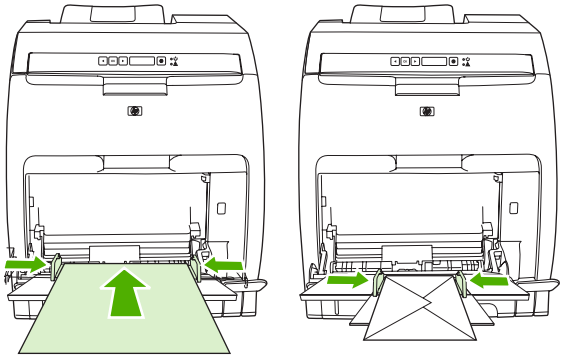
4. Slide the width guides to the size of the print media.



5. Place print media into the tray with the side to be printed down, and the top, short edge in first.

   Load an envelope with the side to be printed down, the stamp area farthest from the printer, and the short edge toward the printer.



NOTE See Loading special media on page 36 for complete information about how to orient the media and configure the printer.

Printing from tray 2 or optional tray 3

Tray 2 holds up to 250 sheets of standard paper, and optional tray 3 holds up to 500 sheets of standard paper. Tray 2 and optional tray 3 adjust for many sizes. Optional tray 3 is installed underneath tray 2. When optional tray 3 is installed, the printer detects it and lists tray 3 as a choice in the control panel **Paper setup** menu.

CAUTION The paper path for optional tray 3 passes through tray 2. If either tray 2 or tray 3 is partially pulled out or removed, media from tray 3 cannot feed into the printer.

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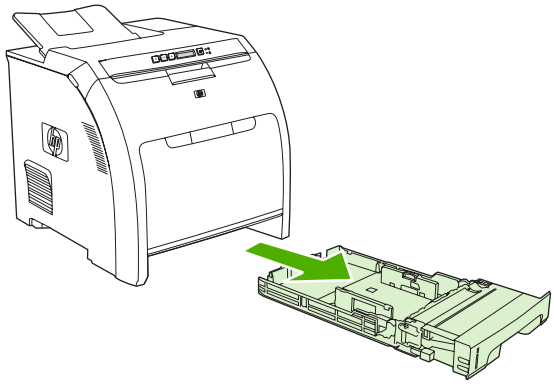
Loading tray 2

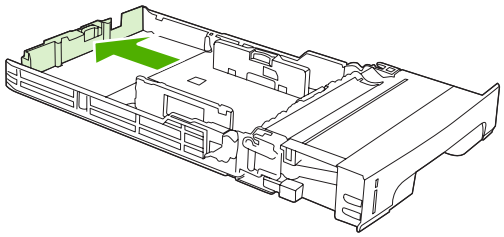
CAUTION To avoid jams, never open or remove a tray during printing.

1. Pull tray 2 out of the printer and remove any media.



2. Slide the output bin extension out from the bin.

3. Adjust the length guide until the arrow points to the size that you are loading.



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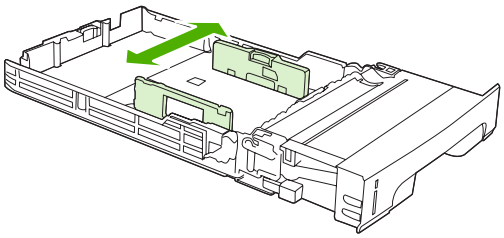
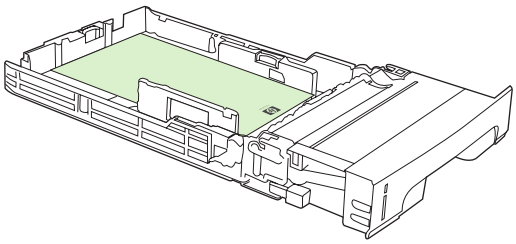
4. Adjust the side width guides until the arrow on the right width guide points to the size that you are loading.

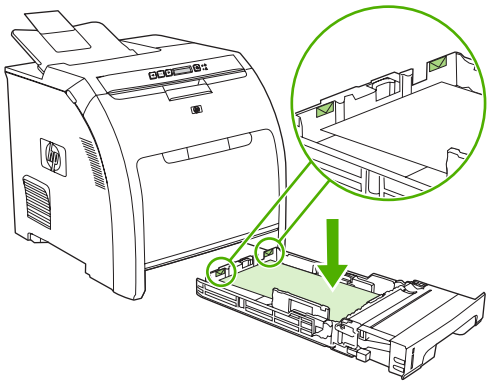


5. Load the media into the tray.

NOTE If you are printing on special media such as labels, letterhead, or envelopes, see Loading special media on page 36 for complete information about how to orient the media and configure the printer.



6. Make sure that the stack of media is flat and that the media is below the height tabs.



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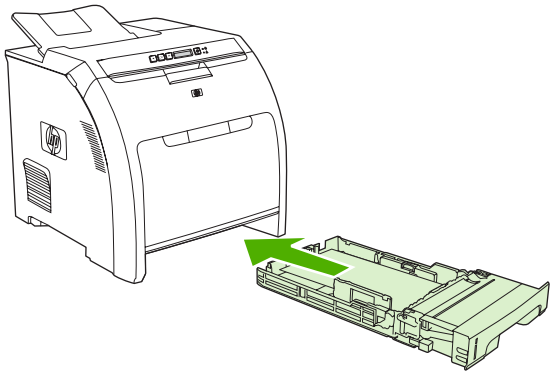
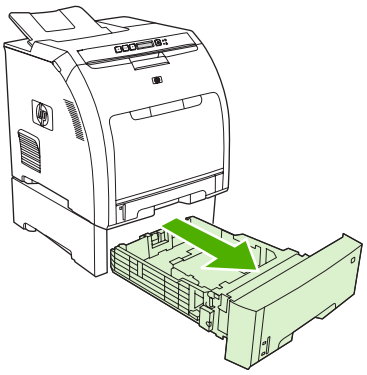
7. Slide the tray back into the printer.

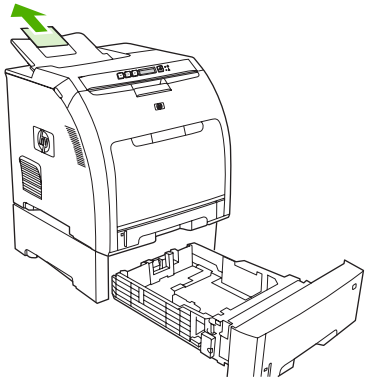


Loading optional tray 3

1. Pull the tray out of the printer and remove any media.



2. Raise the output bin extension.



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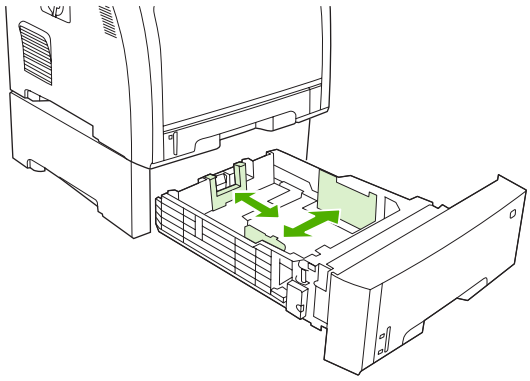
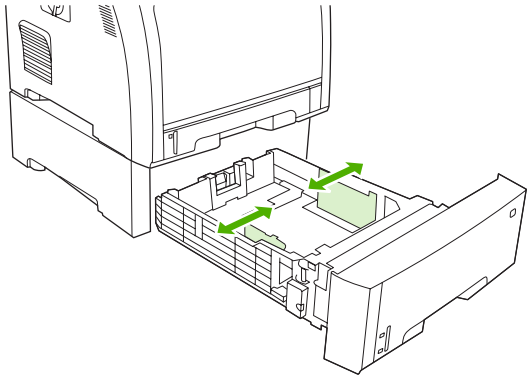
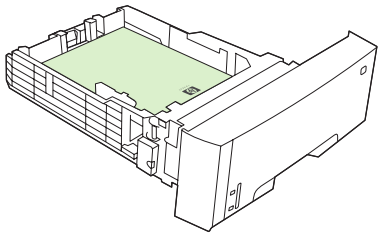
3. Adjust the length guide until the arrow points to the size that you are loading.



4. Adjust the side width guides until the arrow on the right width guide points to the size that you are loading.



5. Load the media into the tray. If you are printing on special media such as labels or letterhead, see Loading special media on page 36 for complete information about how to orient the media and configure the printer.



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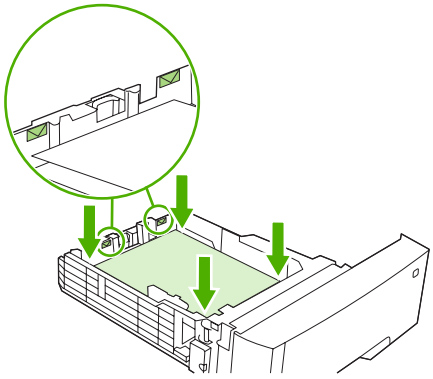
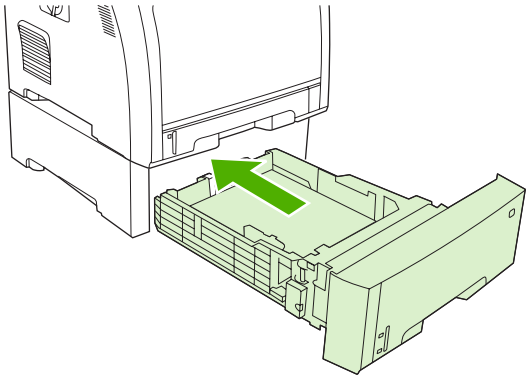
6. Make sure that the stack of media is flat in the tray at all four corners, and keep it below the height tabs.



7. Slide the tray back into the printer.



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Loading special media

The following table provides guidelines for loading special media and configuring the printer driver. Use the correct media-type setting in the printer driver to obtain the best print quality. For some types of media, the printer reduces the print speed.

NOTE In the Windows printer driver, adjust the media type on the **Paper** tab in the **Type is** drop-down list.

In the Macintosh printer driver, adjust the media type on the **Printer features** pop-up menu in the **Media type** drop-down list.

Media type	Printer-driver setting	Tray 1 media orientation	Tray 2 or tray 3 media orientation
Normal	Plain or unspecified	Side to be printed facing down	Side to be printed facing up
Envelopes[1]	Envelope	Side to be printed facing down, stamp area farthest from the printer, short edge toward the printer	Use only tray 1 for printing envelopes
Labels	Labels	Side to be printed facing down	Side to be printed facing up
Transparencies	Transparencies	Side to be printed facing down	Side to be printed facing up
Glossy	Glossy	Side to be printed facing down	Side to be printed facing up
Letterhead	Letterhead	Side to be printed facing down, bottom edge toward the printer	Side to be printed facing up, top edge at the front of the tray
Light	Light	Side to be printed facing down	Side to be printed facing up
Intermediate	Intermediate	Side to be printed facing down	Side to be printed facing up
Heavy	Heavy	Side to be printed facing down	Side to be printed facing up
Extra heavy	Extra heavy	Side to be printed facing down	Side to be printed facing up
Cardstock	Cardstock	Side to be printed facing down	Side to be printed facing up
Rough	Rough	Side to be printed facing down	Side to be printed facing up

[1] Tray 2 and optional tray 3 do not support envelopes.

For more information about print media, go to www.hp.com/support/ljpaperguide

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USB configuration

All printer models support USB connections. The USB port is on the right side of the printer.

Connecting the USB cable

Plug the USB cable into the printer. Plug the other end of the USB cable into the computer.

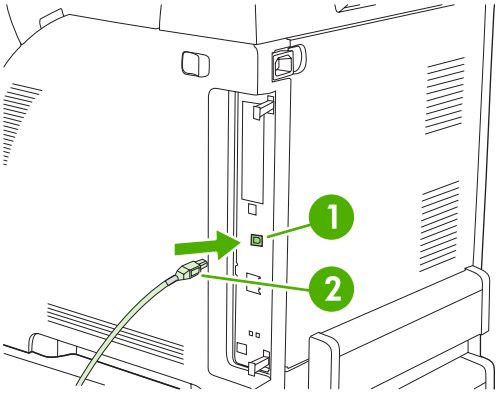

Figure 2-2 USB port connection

1	USB port
2	USB cable

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Network configuration (HP Color LaserJet 2700n only)

You might need to configure certain network parameters on the printer. You can configure these parameters from the printer control panel, the embedded Web server, or, for Windows operating systems, from the HP ToolboxFX software.

Set up the printer and use it on the network

Hewlett-Packard recommends that you use the HP software installer on the CD-ROMs that came with the printer to set up printer drivers for networks.

To set up a network port-connected configuration (direct mode or peer-to-peer printing)

In this configuration, the printer is connected directly to the network, and all computers on the network print directly to the printer.

1. Connect the printer directly to the network by inserting a network cable into the printer network port.
2. At the printer, use the control panel to print a Configuration page. See Reports menu on page 8.
3. Insert the printer CD-ROM into your computer. If the software installer does not start, navigate to the HPSETUP.EXE file on the CD-ROM and double-click the file.
4. Click **Install**.
5. On the **Welcome** screen, click **Next**.
6. On the **Installer updates** screen, click **Yes** to search for installer updates on the Web.
7. For Windows 2000/XP, on the **Installation Options** screen, choose the installation option. Hewlett-Packard recommends a typical installation, if your system supports it.
8. On the **License Agreement** screen, read the license agreement, indicate that you accept the terms, and then click **Next**.
9. For Windows 2000/XP, on the **HP Extended Capabilities** screen, choose whether you want extended capabilities, and then click **Next**.
10. On the **Destination Folder** screen, choose the destination folder, and then click **Next**.
11. On the **Ready to Install** screen, click **Next** to begin installation.

NOTE If you want to change your settings, instead of clicking **Next**, click **Back** to return to previous screens, and then change the settings.

12. On the **Connection Type** screen, select **Through the network**, and then click **Next**.
13. On the **Identify Printer** screen, identify the printer either by searching for it or by specifying a hardware or IP address, which is listed on the Configuration page you printed earlier. In most cases an IP address is assigned, but you can change it by clicking **Specify the printer by Address** on the **Identify Printer** screen. Click **Next**.
14. Allow the installation process to complete.

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Using the embedded Web server or the HP ToolboxFX

You can use the embedded Web server (EWS) or the HP ToolboxFX to view or change your IP configuration settings. To access the embedded Web server, type the IP address for the printer in the address line of the browser.

For complete information about using the embedded Web server and the HP ToolboxFX software, including instructions about how to open these tools, see Using the embedded Web server on page 59 and Using the HP ToolboxFX on page 62.

From the **Networking** tab (EWS) or the **Network Settings** tab (the HP ToolboxFX), you can change the following configurations:

- Host Name
- Manual IP Address
- Manual Subnet Mask
- Manual Default Gateway

NOTE Changing the network configuration might require you to change the browser URL before you can communicate with the printer again. The printer will be unavailable for a few seconds while the network resets.

Setting a system password

Use the HP ToolboxFX or the embedded Web server to set a system password.

1. In the embedded Web server, click the **Settings** tab.

   In the HP ToolboxFX, click the **Device Settings** tab.

   NOTE If a password has been set for the printer previously, you will be prompted to type the password. Type the password, and then click **Apply**.

2. Click **Password**.
3. In the **Password** box, type the password that you want to set, and then in the **Confirm password** box, type the same password again to confirm your choice.
4. Click **Apply** to save the password.

Using the printer control panel

IP configuration

You can configure the IP address manually or automatically.

Manual configuration

1. On the control panel menu, press OK.
2. Use the < or the > button to select **Network Config.**, and then press OK.
3. Use the < or the > button to select **TCP/IP config**, and then press OK.

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4. Use the < or the > button to select **Manual**, and then press OK.
5. Press the > button to increase the value for the first section of the IP address. Press the < button to decrease the value. When the value is correct, press OK to accept the value and move the cursor to the next field.
6. If the address is correct, use the < or the > button to select **Yes**, and then press OK. Repeat step 5 for the subnet mask and default gateway settings.

   -or-

   If the IP address is incorrect, use the < or the > button to select **No**, and then press OK. Repeat step 5 to establish the correct IP address, and then repeat step 5 for the subnet mask and default gateway settings.

Automatic configuration

1. On the control panel menu, press OK.
2. Use the < or the > button to select **Network Config.**, and then press OK.
3. Use the < or the > button to select **TCP/IP config**, and then press OK.
4. Use the < or the > button to select **Automatic**, and then press OK.

   It might take several minutes before the automatic IP address is ready for use.

NOTE If you want to disable or enable specific automatic IP modes (such as BOOTP, DHCP, or AutoIP), these settings can be changed by using the embedded Web server or the HP ToolboxFX only.

Link speed and link duplex settings

NOTE Incorrect changes to the link speed and link duplex settings might prevent the printer from communicating with other network devices. For most situations, use the **Automatic** mode.

Making changes causes the printer to restart. Make changes only while the printer is idle.

1. On the control panel menu, press OK.
2. Use the < or the > button to select **Network Config.**, and then press OK.
3. Use the < or the > button to select **Link Speed**, and then press OK.
4. Use the < or the > button to select one of the following settings.
   - 10T Full
   - 10T Half
   - 100TX Full
   - 100TX Half

   NOTE The printer setting must be the same as the setting for the network device to which you are connecting (a network hub, switch, gateway, router, or computer).
5. Press OK. The printer restarts.

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Supported network protocols

The printer supports the TCP/IP network protocol, the most widely used and accepted networking protocol. Many networking services utilize this protocol. For more information, see TCP/IP on page 42. The following table lists the supported networking services and protocols.

Table 2-1 Printing

Service name	Description
port9100 (Direct Mode)	Printing service
Line printer daemon (LPD)	Printing service

Table 2-2 Network device discovery

Service name	Description
SLP (Service Location Protocol)	Device-discovery protocol, used to help find and configure network devices. Used primarily by Microsoft-based programs.
Bonjour	Device-discovery protocol, used to help find and configure network devices. Used primarily by Apple Macintosh-based programs.

Table 2-3 Messaging and management

Service name	Description
HTTP (Hyper Text Transfer Protocol)	Allows Web browsers to communicate with embedded Web server.
EWS (embedded Web server)	Allows a user to manage the device through a Web browser.
SNMP (Simple Network Management Protocol)	Used by network applications for device management. SNMP v1 and standard MIB-II (Management Information Base) objects are supported.

Table 2-4 IP addressing

Service name	Description
DHCP (Dynamic Host Configuration Protocol)	For automatic IP address assignment. The DHCP server provides the printer with an IP address. Generally, no user intervention is required for the printer to obtain an IP address from a DHCP server.
BOOTP (Bootstrap Protocol)	For automatic IP address assignment. The BOOTP server provides the printer with an IP address. Requires the administrator to input a device's MAC hardware address on the BOOTP server for the printer to obtain an IP address from that server.
Auto IP	For automatic IP address assignment. If neither a DHCP server nor a BOOTP server is present, the printer uses this service to generate a unique IP address.

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TCP/IP

Similar to a common language that people use to communicate with each other, TCP/IP (Transmission Control Protocol/Internet Protocol) is a suite of protocols designed to define the way computers and other devices communicate with each other over a network.

Internet Protocol (IP)

When information is sent across the network, the data is broken down into small packets. Each packet is sent independently. Each packet is encoded with IP information, such as the IP address of the sender and receiver. IP packets can be routed over routers and gateways: devices that connect a network with other networks.

IP communications require no connection. When IP packets are sent, they might not arrive at their destination in the correct sequence. However, higher-level protocols and programs place the packets in the correct sequence, so IP communications are efficient.

Each node or device that communicates on the network requires an IP address.

Transmission Control Protocol (TCP)

TCP breaks the data into packets and recombines them on the receiving end by providing a connection-oriented, reliable, and guaranteed delivery service to another node on the network. When data packets are received at their destination, TCP calculates a checksum for each packet to verify that the data is not corrupt. If the data in the packet has been corrupted during transmission, TCP discards the packet and requests that the packet be resent.

IP address

Every host (workstation or node) on an IP network requires a unique IP address for each network interface. This address is a software address that is used to identify both the network and specific hosts that are located on that network. It is possible for a host to query a server for a dynamic IP address each time the device boots up (for example, using DHCP and BOOTP).

An IP address contains four bytes of information, divided into sections that each contain one byte. The IP address has the following format:

`xxx.xxx.xxx.xxx`

NOTE When assigning IP addresses, always consult the IP address administrator. Setting the wrong address can disable other equipment operating on the network or interfere with communications.

Configuring IP parameters

TCP/IP configuration parameters can be configured manually, or they can be automatically downloaded by using DHCP or BOOTP each time the printer is turned on.

When turned on, a new printer that is unable to retrieve a valid IP address from the network automatically assigns itself a default IP address. The default IP address depends on the type of network to which the printer is connected. On a small private network, a technique called link-local addressing is used to assign a unique IP address in the range of 169.254.1.0 to 169.254.254.255, which should be valid. On a large or enterprise network, a temporary address of 192.0.0.192 is assigned until the printer is configured for your network. The IP address for the printer is listed on the printer Configuration page.

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Dynamic Host Configuration Protocol (DHCP)

DHCP allows a group of devices to use a set of IP addresses that are maintained by a DHCP server. The device or host sends a request to the server, and if an IP address is available, the server assigns it to that device.

BOOTP

BOOTP is a bootstrap protocol used to download configuration parameters and host information from a network server. In order for devices to start and load configuration information into RAM, they must communicate with the server as a client through the bootstrap protocol BOOTP.

The client broadcasts a boot request packet that contains the hardware address of the device (the printer hardware address). The server answers with a boot reply packet that contains the information that the device needs for configuration.

Subnets

When an IP network address for a particular network class is assigned to an organization, no provision is made for more than one network being present at that location. Local network administrators use subnets to partition a network into several different subnetworks. Splitting a network into subnets can result in better performance and improved use of limited network address space.

Subnet mask

The subnet mask is a mechanism used to divide a single IP network into several different subnetworks. For a given network class, a portion of an IP address that would normally be used to identify a node is used, instead, to identify a subnetwork. A subnet mask is applied to each IP address to specify the portion used for subnetworks, and the portion used to identify the node.

Gateways

Gateways (routers) are used to connect networks together. Gateways are devices that act as translators between systems that do not use the same communication protocols, data formatting, structures, languages, or architectures. Gateways repackage the data packets and change the syntax to match that of the destination system. When networks are divided into subnets, gateways are required to connect one subnet to another.

Default gateway

The default gateway is the IP address of the gateway or router that moves packets between networks.

If multiple gateways or routers exist, then the default gateway is typically the address of the first, or nearest, gateway or router. If no gateways or routers exist, then the default gateway will typically assume the IP address of the network node (such as the workstation or printer).

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Printer memory

The printer has one dual inline memory module (DIMM) slot. Use the DIMM slot to upgrade the printer with the following items:

- More printer memory (DIMMs are available in 64, 128, and 256 MB).
- Other DIMM-based printer languages and printer options

NOTE Single in-line memory modules (SIMMs) that are used on previous HP LaserJet printers are not compatible with these printers.

You might want to add more memory to the printer if you often print complex graphics or PostScript documents, if you use many downloaded fonts, or if a Jetdirect EIO print server will be installed for network printing capabilities. Additional memory also allows the printer to print multiple collated copies at the maximum speed.

Before ordering additional memory, see how much memory is currently installed by printing a configuration page. See Using printer information pages on page 58.

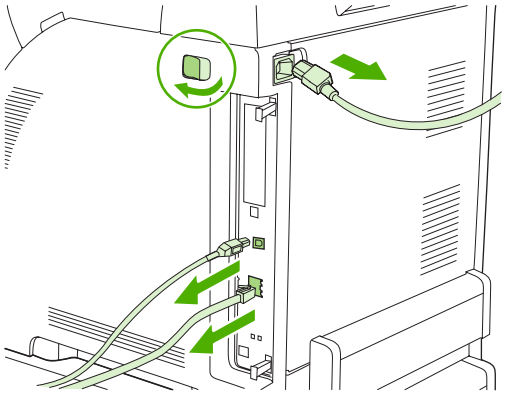
Installing memory DIMMs

You can install more memory for the printer, and you can also install a font DIMM to allow the printer to print characters for languages such as Chinese or the Cyrillic alphabet.

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

To install memory and font DIMMs

1. Turn the printer off, and then disconnect all power and interface cables.



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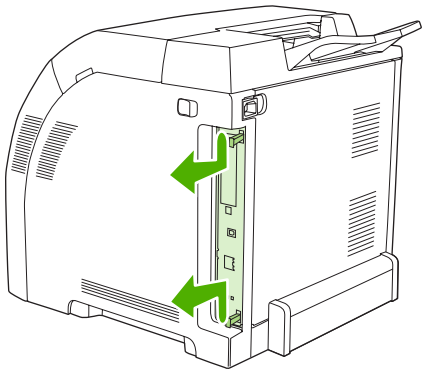
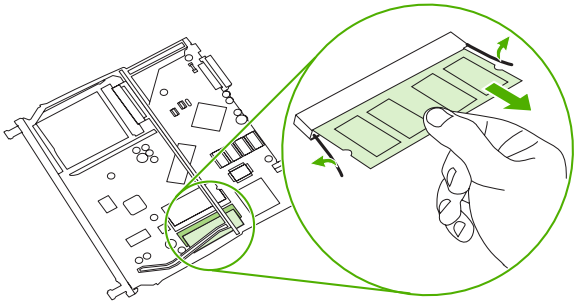
2. On the right side of the printer, gently pull the black tabs together, and then pull the formatter assembly from the printer.

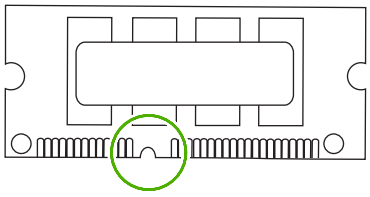


3. Place the formatter board on a clean, flat, grounded surface.

   To replace a DIMM that is currently installed, spread the latches apart on each side of the DIMM slot, lift the DIMM up at an angle, and pull it out.



4. Remove the new DIMM from the antistatic package, and then locate the alignment notch on the bottom edge of the DIMM.



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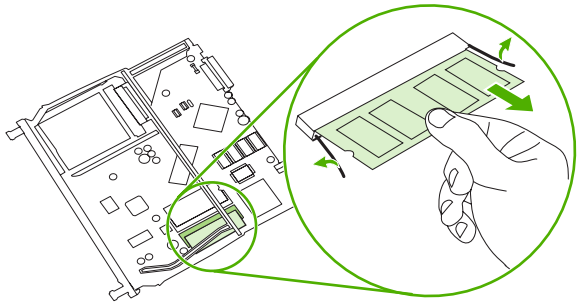
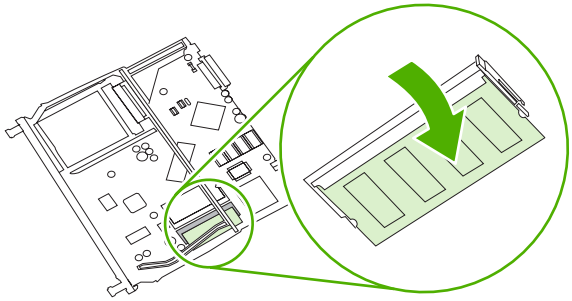
5. Holding the DIMM by the edges, align the notch on the DIMM with the bar in the DIMM slot at an angle and firmly press the DIMM into the slot until it is fully seated. When installed correctly, the metal contacts are not visible.

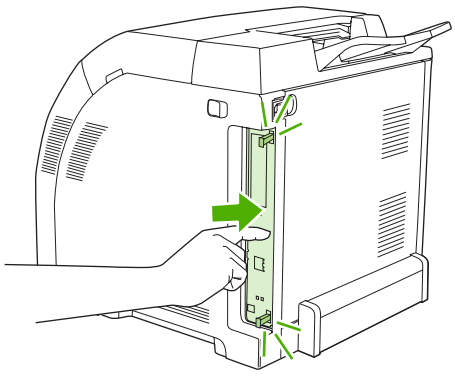


6. Push down on the DIMM until both latches engage the DIMM.



NOTE If you have difficulty inserting the DIMM, make sure that the notch on the bottom of the DIMM is aligned with the bar in the slot. If the DIMM still does not go in, make sure that you are using the correct DIMM type.

7. Align the edge of the formatter board in the tracks at the top and bottom of the slot, and then slide the board back into the printer. Push the formatter firmly until you hear the formatter latches click into place.



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8. Reconnect the power cable and USB or network cable, and then turn on the printer.
9. After installing a memory DIMM, see Enabling memory on page 47.

Enabling memory

If you installed a memory DIMM, set the printer driver to recognize the newly added memory.

To enable memory for Windows

1. On the **Start** menu, point to **Settings**, and click **Printers** or **Printers and Faxes**.
2. Select this printer and select **Properties**.
3. On the **Configure** tab, click **More**.
4. In the **Total Memory** field, type or select the total amount of memory that is now installed.
5. Click **OK**.
6. Go to Checking DIMM installation on page 47.

Checking DIMM installation

Check that the DIMMs are installed correctly and working.

To check DIMM installation

1. Turn the printer on. Check that the printer is in the **Ready** state after it has gone through the startup sequence. If an error message appears, a DIMM might have been incorrectly installed.
2. Print a configuration page. See Using printer information pages on page 58.
3. Check the Installed Personalities and Options section on the configuration page and compare it with the configuration page that you printed before the DIMM installation.
4. The DIMM might not be installed correctly. Repeat the installation procedure.

   -or-

   The DIMM may be defective. Try a new DIMM.

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3 Maintenance

This chapter describes ways to maintain your printer. The following topics are covered:

- Managing supplies
- Replacing supplies and parts
- Cleaning the printer
- Calibrating the printer
- Tools for managing the printer

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Managing supplies

Using, storing, and monitoring print cartridges can help ensure quality printer output.

Supplies life

Average cartridge yield is 6,500 pages for the black print cartridge and 3,500 pages for the color print cartridges, in accordance with ISO/IEC 19752.

Approximate print-cartridge replacement intervals

The following table lists the estimated replacement intervals for print cartridges.

Page count	Approximate time period[1]
6,500 pages (black)	6 months
3,500 pages (color)	

[1] Approximate life is based on 1,500 pages per month.

To order supplies online, go to www.hp.com/support/clj2700.

Checking the print-cartridge life

You can check the print-cartridge life using the printer control panel, the embedded Web server, printer software, the HP ToolboxFX, or HP Web Jetadmin software. Check the supplies gauge on the printer control panel for approximate supply levels.

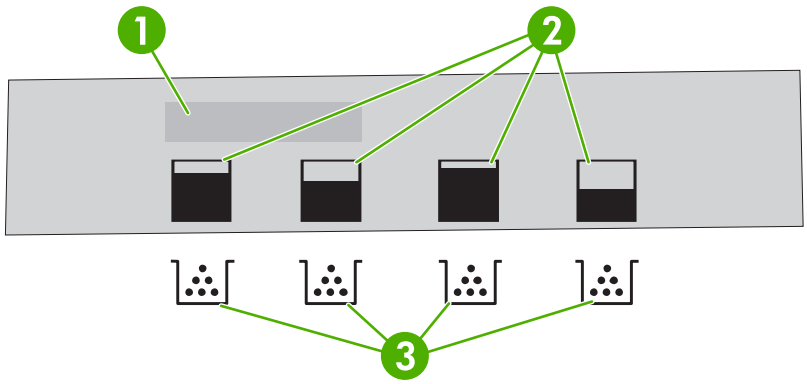

Figure 3-1 Printer display

1	Message/Prompt area
2	Supplies gauge
3	Print cartridge colors from left to right: black, yellow, cyan, and magenta

For more precise levels, follow the instructions in the table below to print a supplies status page.

Device	Procedure

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Printer control panel	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **Supplies status**, and then press OK.
The HP ToolboxFX	In the **Status** tab, click **Supplies Status** to open the supplies status page.
Embedded Web server	1. In your browser, enter the IP address for the printer home page and press Enter to open the printer status page. See Using the embedded Web server on page 59. 2. On the left side of the screen, click **Supplies Status** to open the supplies status page. **NOTE** The IP address is found on the printer network configuration page. See Using printer information pages on page 58.
HP Web Jetadmin	In HP Web Jetadmin, select the printer device. The device status page shows print cartridge information.

Print-cartridge storage

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

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

HP print cartridges

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

- Percentage of supplies remaining
- Approximate pages remaining
- Number of pages printed

Non-HP print cartridges

Hewlett-Packard Company cannot recommend use of non-HP print cartridges, either new or remanufactured. Because they are not genuine HP products, HP cannot influence their design or control their quality. Service or repair that is required as a result of using a non-HP print cartridge *will not* be covered under the printer warranty.

If you use a non-HP print cartridge, HP cannot ensure the accuracy of certain features.

If the non-HP print cartridge was sold to you as a genuine HP product, see HP fraud hotline and Web site on page 52.

Print-cartridge authentication

The printer automatically authenticates the print cartridges when the cartridges are inserted into the printer. During authentication, the printer will let you know whether a cartridge is a genuine HP print cartridge.

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If the printer control panel message states that this is not a genuine HP print cartridge and you believe you purchased an HP print cartridge, see HP fraud hotline and Web site on page 52.

HP fraud hotline and Web site

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

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

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

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Replacing supplies and parts

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

Supply replacement guidelines

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

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

For instructions on installing supplies, see the installation guides provided with each supply item or go to www.hp.com/support/clj2700.

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

Changing print cartridges

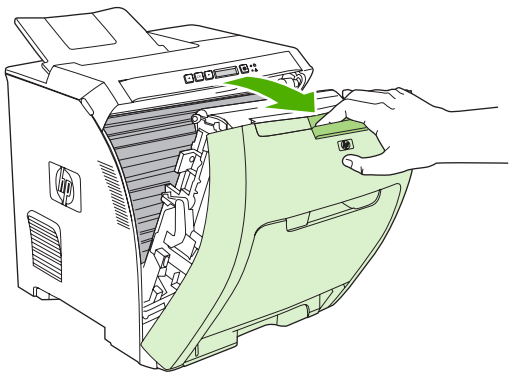
When a print cartridge approaches the end of useful life, the control panel displays a message recommending that you order a replacement. The printer can continue to print using the current print cartridge until the control panel displays a message instructing you to replace the cartridge.

The printer uses four colors and has a different print cartridge for each color: black (K), cyan (C), magenta (M), and yellow (Y).

Replace a print cartridge when **Replace <color> cartridge** appears on the control panel.

To change the print cartridge

1. Open the front door.



CAUTION Do not place anything on the transfer unit and do not touch the transfer unit, which is located on the inside of the front door.

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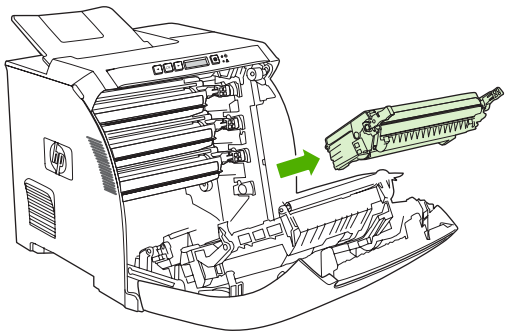
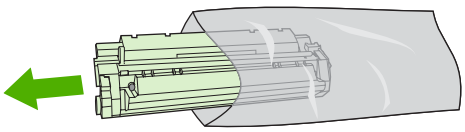
2. Remove the used print cartridge from the printer.

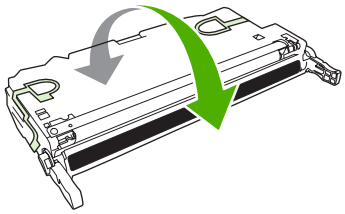


3. Remove the new print cartridge from the bag. Place the used print cartridge in the bag for recycling.



4. Grasp both sides of the print cartridge and distribute the toner by gently rocking the print cartridge from front to back.

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



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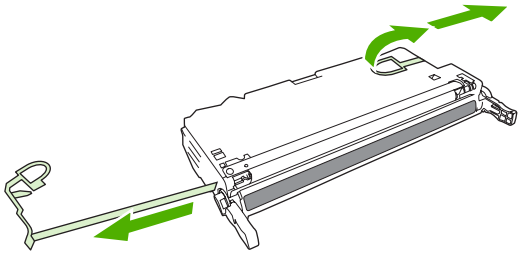
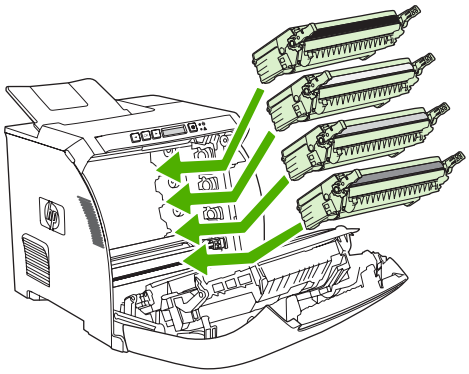
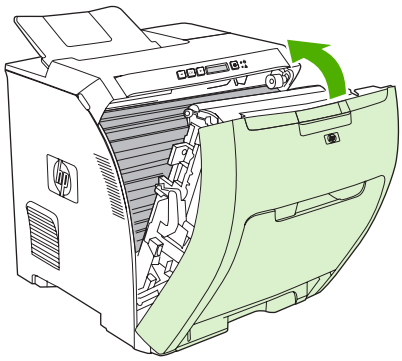
5. Remove the orange shipping locks and the shipping tape attached to the left shipping lock from the new print cartridge. Discard the shipping tape and shipping locks according to local regulations.



6. Align the print cartridge with the tracks inside the printer, and using the handles, insert the print cartridge until it is firmly seated.



7. Firmly close the front door.



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

8. Installation is complete. Place the used print cartridge in the box in which the new cartridge arrived. See the enclosed recycling guide for recycling instructions.

9. If you are using a non-HP print cartridge, check the printer control panel for further instructions.

For additional help, see the Web sites listed in Supply replacement guidelines on page 53.

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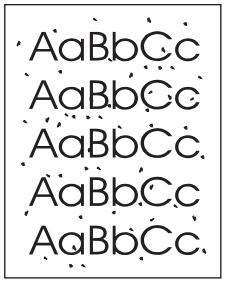
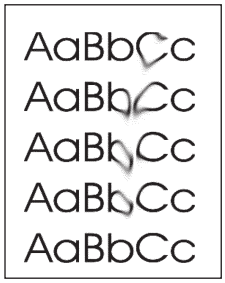
Cleaning the printer

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





To clean the printer using the printer control panel

1. Press OK.
2. Press > to highlight **Service**, and then press OK.
3. Press > to highlight **Cleaning mode**, and then press OK.
4. Load tray 1 with plain paper, and then press OK to start the cleaning process.

To clean the printer using the HP ToolboxFX

1. Open the HP ToolboxFX.
2. In the **Devices** pane, double-click the printer icon.
3. Double-click the **HP** folder, and click **Troubleshooting**.
4. Under **Cleaning Page**, click **Print Page**. A patterned page prints.
5. At the printer, load the patterned page face-up in tray 1.
6. At the computer, click **Clean**.

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Calibrating the printer

Calibration is a printer function that optimizes print quality. If you experience any print-quality problems, calibrate the printer.

1. Press OK.
2. Press > to highlight **System Setup**, and then press OK.
3. Press > to highlight **Print quality**, and then press OK.
4. Press > to highlight **Calibrate now**, and then press OK.

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Tools for managing the printer

Using printer information pages

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

Page description	How to print the page
Menu structure Shows the control-panel menus and available settings.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. If **Menu structure** is not highlighted, press < or > until it is highlighted, and then press OK. For a complete list of control panel menus and possible values, see Using the control-panel menus on page 7.
Configuration page Shows printer settings and installed accessories.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **Config report**, and then press OK.
Supplies status Shows print-cartridge toner levels.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **Supplies status**, and then press OK. **NOTE** If you are using non-HP supplies, the supplies status page might not show the remaining life for those supplies. For more information, see Non-HP print cartridges on page 51.
Demo page Shows a color page that you can use to check print quality.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **Demo page**, and then press OK.
Network page (HP Color LaserJet 2700n printer only) Shows the printer network settings.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **Network report**, and then press OK.
Usage page Lists PCL pages, PCL 6 pages, PS pages, pages that were jammed or mispicked in the printer, monochrome (black and white) or color pages; and reports the page count.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **Usage page**, and then press OK.
Color usage log Shows color usage information for the printer.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **Color usage log**, and then press OK.

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Page description	How to print the page
PCL font list Shows which PCL fonts are currently installed in the printer.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **PCL font list**, and then press OK.
PS font list Shows which PS fonts are currently installed in the printer.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **PS font list**, and then press OK. **NOTE** The font lists also show which fonts are resident on an optional flash DIMM.
PCL6 font list Shows which PCL6 fonts are currently installed in the printer.	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **PCL6 font list**, and then press OK.
Service page	1. Press OK. 2. Press > to highlight **Reports**, and then press OK. 3. Press > to highlight **Service page**, and then press OK.

Using the embedded Web server

When the printer is connected to the network, the embedded Web server is automatically available. You can open the embedded Web server from Windows 95 and later.

NOTE When the printer is directly connected to a computer, use the HP ToolboxFX to view the printer status.

Use the embedded Web server to view printer and network status and to manage printing functions from your computer instead of from the printer control panel.

- View printer control status information
- Set the type of paper loaded in each tray
- Determine the remaining life on all supplies and order new ones
- View and change tray configurations
- View and change the printer settings
- View and print internal pages
- View and change network configuration
- View support content that is specific to the current state of the printer
- Restrict access to color-printing features

To use the embedded Web server, you must have Microsoft Internet Explorer 6 or later, Netscape Navigator 7 or later, Safari 1.2 or later, Konqueror 3.2 or later, Firefox 1.0 or later, Mozilla 1.6 or later,

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or Opera 7 or later. The embedded Web server works when the printer is connected to an IP-based network. The embedded Web server does not support IPX-based or AppleTalk printer connections. You do not need Internet access to open and use the embedded Web server.

To access the embedded Web server by using a network connection

1. In a supported Web browser on your computer, type the IP address for the printer in the address/URL field. (To find the IP address, print a configuration page. See Using printer information pages on page 58.)

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

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

   See the following section for more information about each tab.

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Embedded Web server sections

The table below describes the basic screens of the embedded Web server.

Tab or section	Description
Status tab Provides printer, status, and configuration information.	• **Device Status**: Shows the printer status and shows the life remaining of HP supplies, with 0% indicating that a supply is empty. • **Supplies Status**: Shows the life remaining of HP supplies, with 0 percent indicating that a supply is empty. This page also provides supplies part numbers. • **Device Configuration**: Shows the information found on the printer Configuration page. • **Network Summary**: Shows the information found on the printer Network Configuration page. • **Print Info Pages**: Allows you to print the PCL, PCL6, PS Font Lists, and the supplies status page that the printer generates. • **Color Usage Job Log**: Shows user color print jobs on a job-by-job basis. • **Event log**: Shows a list of all printer events and errors. • **Support** button: Provides a link to the product support page. The **Support** button can be password-protected. • **Shop for Supplies** button: Provides a link to a page where you can order supplies for the printer. The **Shop for Supplies** button can be password-protected.

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Tab or section	Description
Settings tab Provides the ability to configure the printer from your computer.	• **Device Information**: Allows you to name the printer and assign an asset number to it. Enter the name for the primary contact who will receive information about the printer. • **Paper Handling**: Allows you to change the paper-handling defaults for the printer. • **Printing**: Allows you to change the printing defaults for the printer. • **PCL 5c**: Allows you to change the PCL 5c defaults for the printer. • **PostScript**: Allows you to change the PostScript defaults for the printer. • **Print Quality**: Allows you to change the print quality defaults for the printer, including calibration settings. • **Print Density**: Allows you to change the contrasts, highlights, midtones, and shadows values for each supply. • **Paper Types**: Allows you to configure print modes that correspond to the media types that the printer accepts. • **System Setup**: Allows you to change the system defaults for the printer • **Service**: allows you to start the cleaning procedure on the printer. • **Support** button: Provides a link to the product support page. The **Support** button can be password-protected. • **Shop for Supplies** button: Provides a link to a page where you can order supplies for the printer. The **Shop for Supplies** button can be password-protected. **NOTE** The **Settings** tab can be password-protected. If this printer is on a network, always consult with the printer administrator before changing settings on this tab.
Networking tab Provides the ability to change network settings from your computer.	Network administrators can use this tab to control network-related settings for the printer when it is connected to an IP-based network. This tab does not appear if the printer is directly connected to a computer. **NOTE** The **Networking** tab can be password-protected.

Using the HP ToolboxFX

The HP ToolboxFX is a program that you can use to complete the following tasks:

- Check the printer status.
- Configure the printer settings.
- Configure pop-up-alert messages.
- View troubleshooting information.
- View online documentation.

You can view the HP ToolboxFX when the printer is directly connected to your computer or when it is connected to the network. You must perform a typical software installation to use the HP ToolboxFX.

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NOTE The HP ToolboxFX is not supported for Windows Server 2003 or Macintosh operating systems. To use the HP ToolboxFX, you must have TCP/IP protocol installed on your computer.

NOTE You do not have to have Internet access to open and use the HP ToolboxFX.

To view the HP ToolboxFX

Open the HP ToolboxFX in one of these ways:

- In the Windows system tray, double-click the HP ToolboxFX icon.
- On the Windows **Start** menu, click **Programs** (or **All Programs** in Windows XP), click **HP**, click **HP Color LaserJet 2700 Series**, and then click **HP ToolboxFX**.

The HP ToolboxFX software contains the following sections:

- Status on page 64
- Alerts on page 65
- Help on page 65
- Device settings on page 66
- Network settings on page 69

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Status

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

- **Device status**. View printer status information. This page indicates printer conditions such as a jam or an empty tray. After you correct a printer problem, click **Refresh status** to update the printer 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.
- **Device configuration**. View a detailed description of the current printer configuration, including the amount of memory installed and whether optional trays are installed.
- **Network summary**. View a detailed description of the current network configuration, including the IP address and network status.
- **Print info pages**. Print the Configuration page and various other information pages that are available for the printer, such as the Supplies Status page and the Demo page.
- **Color usage job log**. View color usage information for the printer.
- **Event log**. View a history of printer errors. The most recent error is at the top of the list.

Event log

The Event log is a four-column table where the printer events are logged for your reference. The log contains codes that correspond to the error messages that appears on the printer control-panel display. The number in the Page Count column specifies the total number of pages that the printer had printed when the error occurred. The Event log also contains a brief description of the error. For more information about error messages, see Control-panel messages on page 180.

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Alerts

The **Alerts** folder contains links to the following main pages:

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

Set up status alerts

Use the HP ToolboxFX to set up the printer so that it issues pop-up alerts to your computer when certain events occur. Events that trigger alerts include jams, low levels of toner in HP print cartridges, non-HP print cartridge in use, empty input trays, and specific error messages.

Select the pop-up format, the system tray icon format, desktop alert, or any combination for the alerts. The pop-up and desktop alerts only appear when the printer is printing from the computer on which you set up the alerts. Desktop alerts are only visible momentarily, and disappear automatically.

Change the **Cartridge low threshold** setting, which sets the toner level that causes a low toner alert, on the **System setup** page.

NOTE You must click **Apply** before your changes take effect.

Set up e-mail alerts

Use the HP ToolboxFX to configure up to two e-mail addresses to receive alerts when certain events occur. You can specify different events for each e-mail address. Use the information for the e-mail server that will send out the e-mail alert messages for the printer.

NOTE You can only configure e-mail alerts to be sent from a server that does not require user authentication. If your e-mail server requires you to log in with a username and password, you cannot enable e-mail alerts.

NOTE You must click **Apply** before your changes take effect.

Help

The **Help** folder contains links to the following main pages:

- **Troubleshooting.** Print troubleshooting pages, clean the printer, and open Microsoft Office Basic Colors.
- **How do I?** Link to the user-guide index.
- **Animated demonstrations**
- **User Guide**. View information about the printer usage, warranty, specifications, and support. The user guide is available in both HTML and PDF format.

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Device settings

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

- **Device information**. View information about the printer, such as the printer description and a contact person.
- **Paper handling**. Configure trays or change the printer paper-handling settings, such as default paper size and default paper type.
- **Printing**. Change the default printer print settings, such as number of copies and paper orientation.
- **PCL5c**. View and change the PCL settings.
- **PostScript**. View and change the PS settings.
- **Print quality**. Change the printer print-quality settings.
- **Print density**. Change the print-density settings, such as contrast, highlights, midtones, and shadows.
- **Paper types**. Change the printer mode settings for a each media type, such as letterhead, prepunched, or glossy paper.
- **System setup**. Change the printer system settings, such as jam recovery and auto-continue. Change the **Cartridge low threshold** setting, which sets the toner level that causes a low toner alert.
- **Service**. Gain access to various procedures required to maintain the printer.
- **Password**. Set a password to protect the device settings. Once a password is set, users will be prompted to enter the password before being allowed to change device settings. This password is the same as the embedded Web server password.

Device information

The Device information page stores data about your printer for future reference. The information that you type in these fields appears on the Configuration page. You can type any character in each of these fields.

NOTE You must click **Apply** before your changes take effect.

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Paper handling

Use the HP ToolboxFX paper-handling options to configure your default settings. These are the same options that are available on the menus on the control panel. For more information, see Using the control-panel menus on page 7.

Three options are available for handling print jobs when the product is out of media:

- Select **Wait for paper to be loaded**.
- Select **Cancel** from the **Paper out action** drop-down list to cancel the print job.
- Select **Override** from the **Paper out time** drop-down list to send the print job to another paper tray.

The **Paper out time** field specifies how long the printer waits before acting on your selections. You can specify from 0 to 3600 seconds.

NOTE You must click **Apply** before your changes take effect.

Printing

Use the HP ToolboxFX printing options to configure the settings for all print functions. These are the same options that are available on the control panel. For more information, see Using the control-panel menus on page 7.

NOTE You must click **Apply** before your changes take effect.

PCL5c

Use the PCL options to configure the settings when you are using the PCL print personality.

NOTE You must click **Apply** before your changes take effect.

PostScript

Use the PostScript option when you are using the PostScript print personality. When the **Print PostScript error** option is turned on, the PostScript error page automatically prints when PostScript errors occur.

NOTE You must click **Apply** before your changes take effect.

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Print quality

Use the HP ToolboxFX print-quality options to improve the appearance of your print jobs. These are the same options that are available on the control panel. For more information, see Using the control-panel menus on page 7.

The following options are provided for controlling print quality:

Color Calibration

- **Power On Calibration**. Specify whether the printer should calibrate when you turn it on.
- **Calibration Timing**. Specify how frequently the printer should calibrate.
- **Calibrate Now**. Set the printer to calibrate immediately.

NOTE You must click **Apply** before your changes take effect.

Print density

Use the print density settings to make fine adjustments in the amount of each color of toner that is used for your printed documents.

- **Contrasts**. Contrast is the range of difference between light (highlight) and dark (shadow) colors. To increase the overall range between light and dark colors, increase the **Contrasts** setting.
- **Highlights**. Highlights are colors that are nearly white. To darken highlight colors, increase the **Highlights** setting. This adjustment does not affect midtone or shadow colors.
- **Midtones**. Midtones are colors that are halfway between white and solid density. To darken midtone colors, increase the **Midtones** setting. This adjustment does not affect highlight or shadow colors
- **Shadows**. Shadows are colors that are nearly solid density. To darken shadow colors, increase the **Shadows** setting. This adjustment does not affect highlight or midtone colors.

Paper types

Use the HP ToolboxFX **Paper types** options to configure print modes that correspond to the various media types. When you select **Restore modes**, all of the modes are reset to the factory settings.

NOTE You must click **Apply** before your changes take effect.

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System setup

Use the HP ToolboxFX system settings options to configure miscellaneous print settings. These settings are not available on the control panel.

NOTE You must click **Apply** before your changes take effect.

Service

During the printing process, paper, toner and dust particles can accumulate inside the printer. Over time, this buildup can cause print-quality problems such as toner specks or smearing. The HP ToolboxFX provides an easy method for cleaning the paper path. For more information, see Cleaning the printer on page 56.

Network settings

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

Using Macintosh Configure Device

Macintosh Configure Device is a Web-based program that you can use to configure and maintain the printer from a computer running Mac OS X V10.3 or V10.4. You can use Macintosh Configure Device when the printer is directly connected to the computer or when it is connected to the network. You do not need Internet access in order to open and use Macintosh Configure Device.

NOTE You must perform a complete software installation to use Macintosh Configure Device.

Use Macintosh Configure Device for the following tasks:

- Check the printer status and print information pages.
- Check and change printer system settings.
- Check default print settings.
- Check and change network settings, including the following settings:
  - ☐ IP configuration
  - ☐ Advanced network settings
  - ☐ mDNS settings
  - ☐ SNMP settings
  - ☐ password

To view Macintosh Configure Device when the printer is directly connected to the computer

1. Open HP Director by clicking the **HP Director** icon in the dock.
2. In HP Director, click **Settings**.
3. Select **Configure device**. The Macintosh Configure Device home page opens.

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To view Macintosh Configure Device when the printer is connected to a network

1. Open one of the following supported Web browsers:
   - Safari 1.2 or later
   - Netscape Navigator 7 or later
   - Opera 7 or later
2. Type the IP address of the printer into the Web browser address bar. The Macintosh Configure Device home page opens.

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4 Theory of operation

This chapter presents an overview of the major components of the printer, and includes a detailed discussion of the image-formation system.

- Engine control system
- Laser/scanner system
- Pickup-and-feed-system
- Image-formation system

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Engine control system

The engine control system coordinates all printer functions and drives the other three systems.

The engine control system contains the DC controller, high-voltage power-supply PCB, and low-voltage power-supply unit.

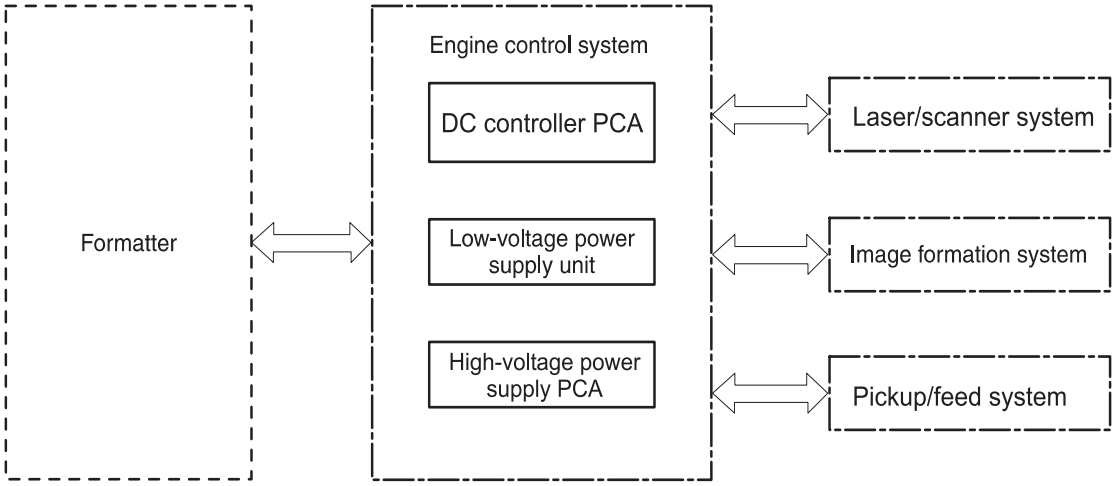

Figure 4-1 Engine control system components

Table 4-1 Sequence of operation

Period	Duration	Purpose	Remarks
WAIT	From the time the power is turned on or the door is closed until the drum-phase adjustment is complete	Clears the potential from the drum surface, adjusts the drum phase, and cleans the ETB	Detects the toner level, cartridge presence, and environment; completes any required calibration (color registration control and image stability)
STBY (Standby period)	From end of the WAIT or LSTR period until either the print command is received from the formatter or the power is turned off	Maintains the printer in readiness for a print command	The printer enters sleep mode when the formatter sends a sleep command, and performs color registration and the image stability control when the formatter sends those commands
INTR (Initial rotation)	From the time the print command is received until the media is picked up	Prepares the photosensitive drum for printing	
PRINT	From the end of INTR period until the fuser paper sensor detects the trailing edge of paper	Forms the images on the photosensitive drum and transfers the toner image to the print media	Performs image stabilization at a specified print interval or at specified times
LSTR (Last rotation)	From the end of the PRINT period until the delivery motor stops rotating	Moves the printed sheet out of the printer	The printer enters the INTR period as soon as the formatter sends another print command

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Power-on sequence

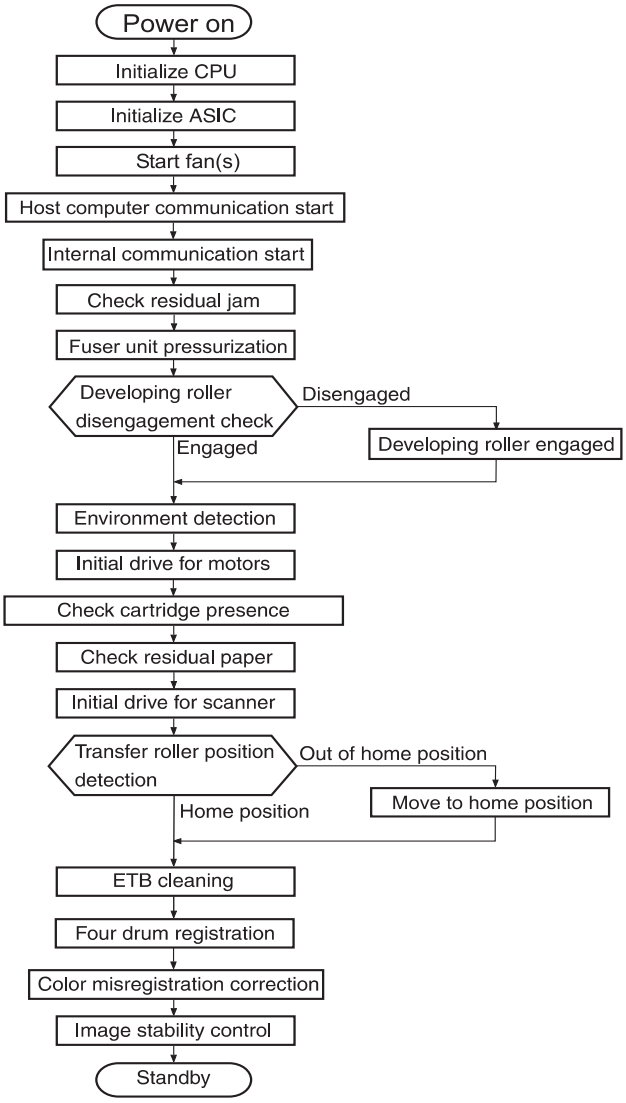

Figure 4-2 Power-on sequence

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Motors, fans, and solenoids

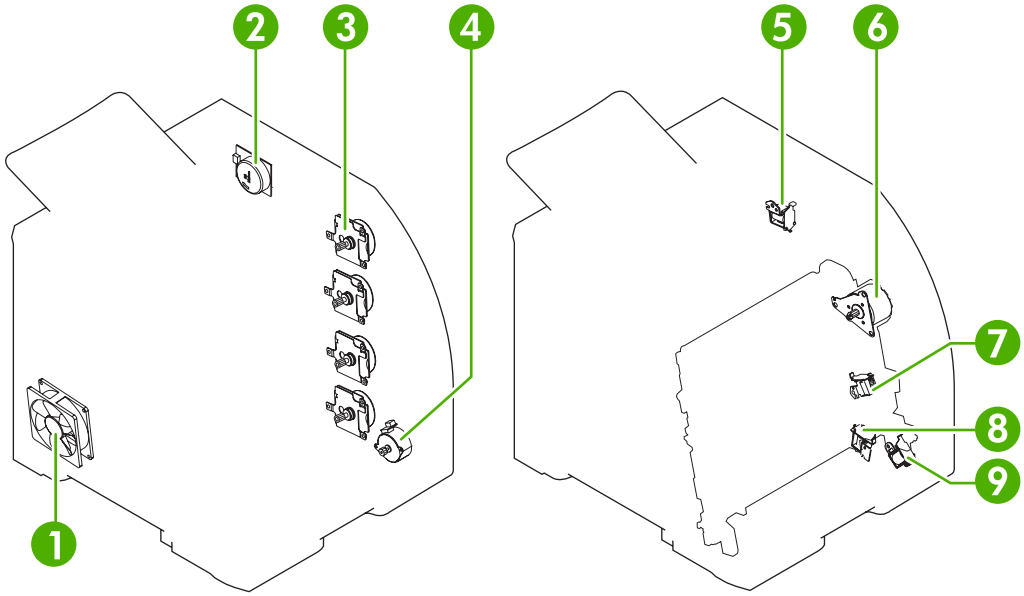

Figure 4-3 Motors, fans, and solenoids

1. Main fan (FM1)
2. Fuser drive motor (M1)
3. Print-cartridge drive motors (M6, M7, M8, M9))
4. Pickup-and-feed motor (M4)
5. Developing separation solenoids (SL5014, SL5015)
6. ETB drive motor (M5)
7. Developing separation solenoid (SL5011)
8. Cassette pickup solenoid (SL5012)
9. Multipurpose tray pickup solenoid (SL5013)

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Laser/scanner system

The formatter sends video signals to the DC controller, which controls the laser/scanner. When the laser/scanner system receives those signals it converts them to latent images on the photosensitive drum.

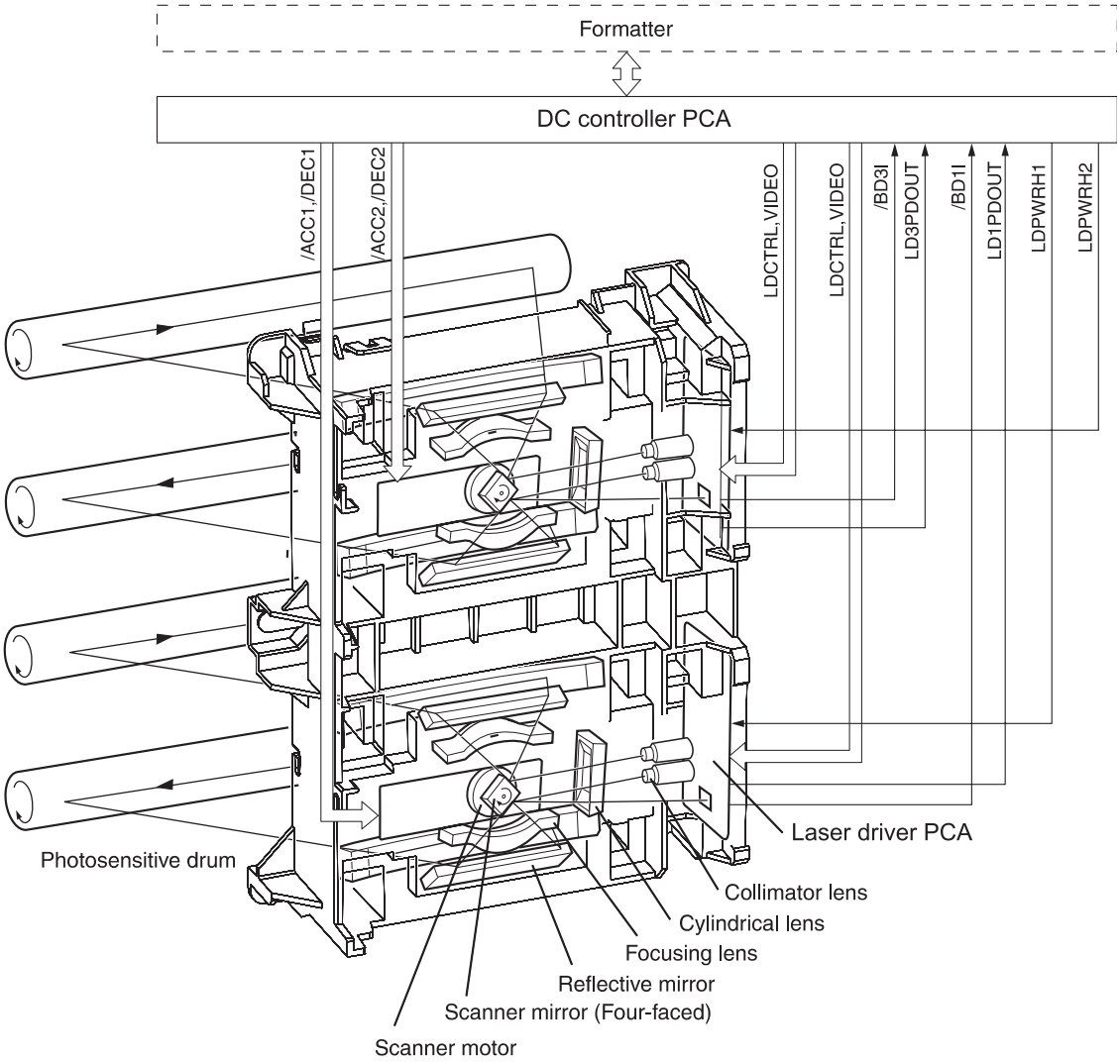

Figure 4-4 Laser/scanner system

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Pickup-and-feed-system

The pickup and feed system consists of several types of feed rollers and sensors.

The DC controller drives the system by controlling the feed motor (M4), ETB motor (M5), and four drum motors (M6, M7, M8, M9) and the solenoids for the trays.

NOTE Tray 2 must be installed in order to print from tray 1 or tray 3.

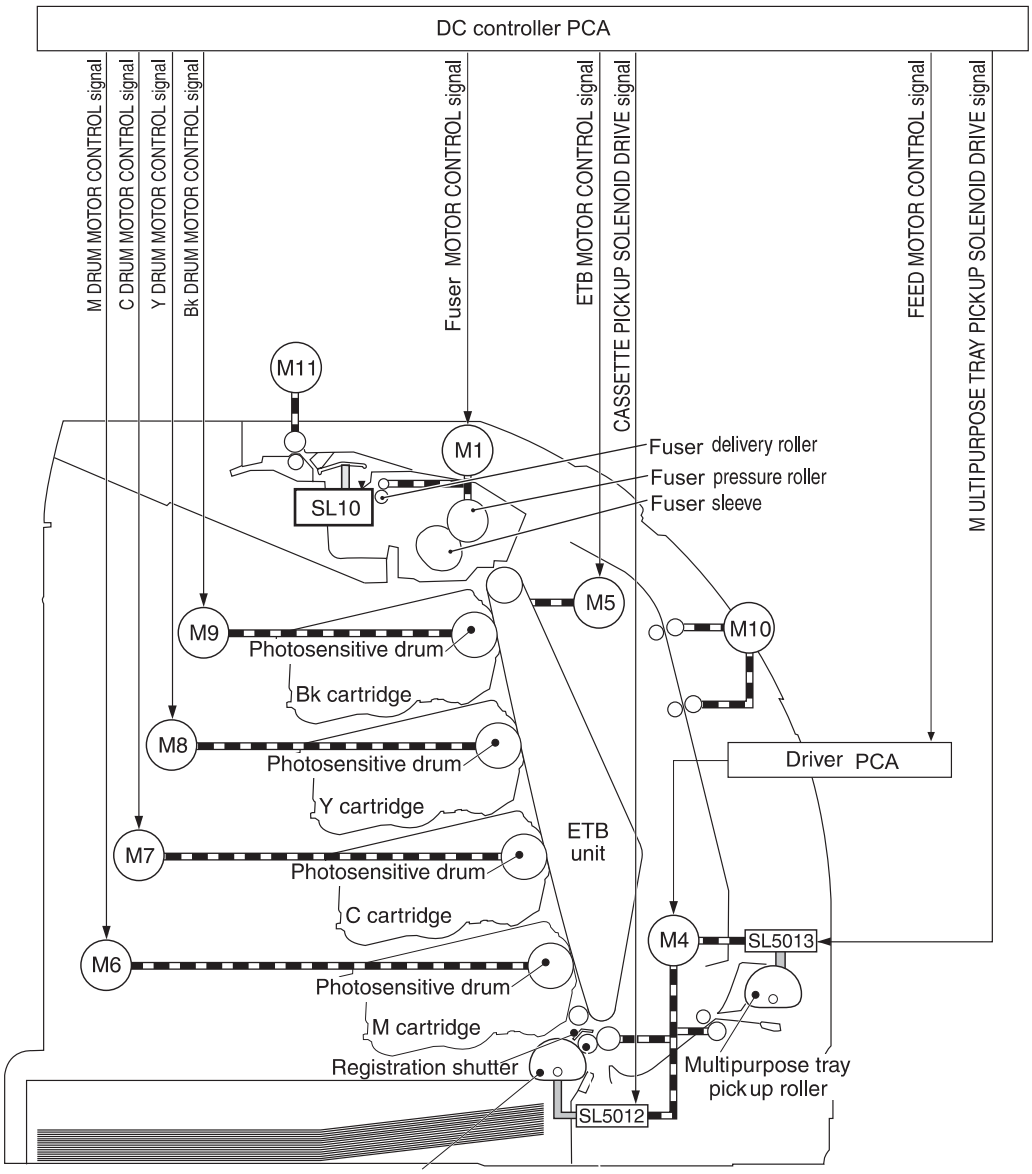

Figure 4-5 Pickup-and-feed system

Sensors in the pickup-and-feed system trays (cassettes)

Paper sensors detect media in the trays. Other sensors react to the media as it moves through the paper path. If the media does not reach or pass each sensor within a specified time period, the DC controller determines that a jam has occurred and alerts the formatter.

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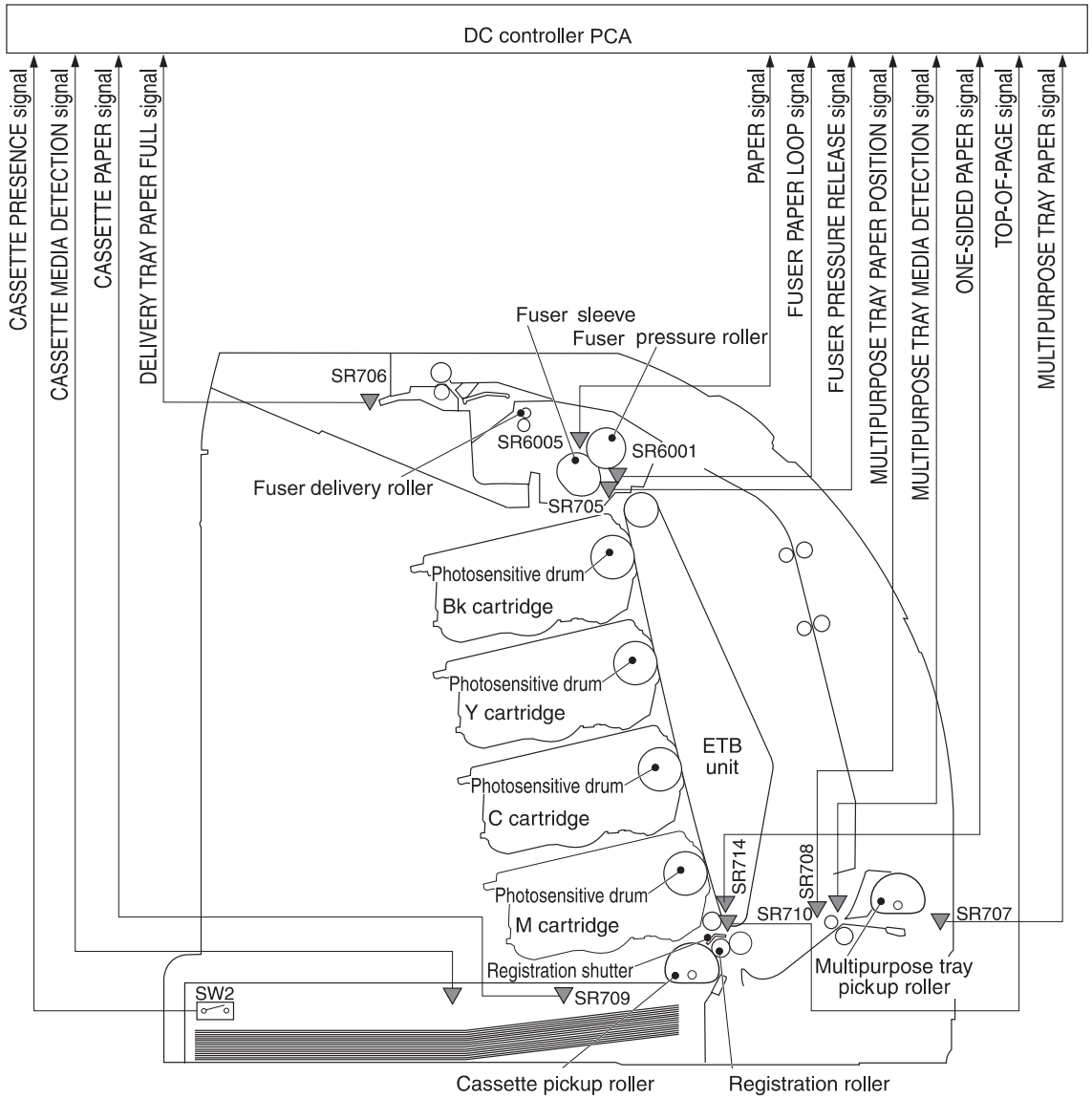

Figure 4-6 Pickup-and-feed system sensors

SR705	Fuser pressure-release sensor
SR706	Output-bin-full sensor
SR707	Multipurpose-tray paper sensor
SR708	Multipurpose-tray paper-position sensor
SR709	Cassette paper-presence sensor
SR710	Top-of-page sensor
SR714	One-sided paper sensor
SR6001	Paper-warp sensor
SR6005	Fuser paper sensor
SW2	Cassette-presence switch

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Cassette pickup mechanism

When the cassette is correctly installed, SW2 detects its presence. The cassette paper sensor (SR709) detects whether media is present in the cassette, and the cassette media sensor detects the type of media. When the cassette is correctly installed and the correct media type is present, the cassette pickup operation begins.

1. The DC controller receives a print command from the formatter, and then begins rotating the pickup-and-feed motor (M4) at the correct speed for the media type.
2. After the motor reaches the correct speed and the fuser is at the correct temperature, the cassette pickup solenoid (SL5012) turns on and the cassette pickup roller begins rotating.
3. The cassette lifting plate lifts the paper stack, and the cassette pickup roller picks up one sheet of media. The separation pad prevents multi-feeds.

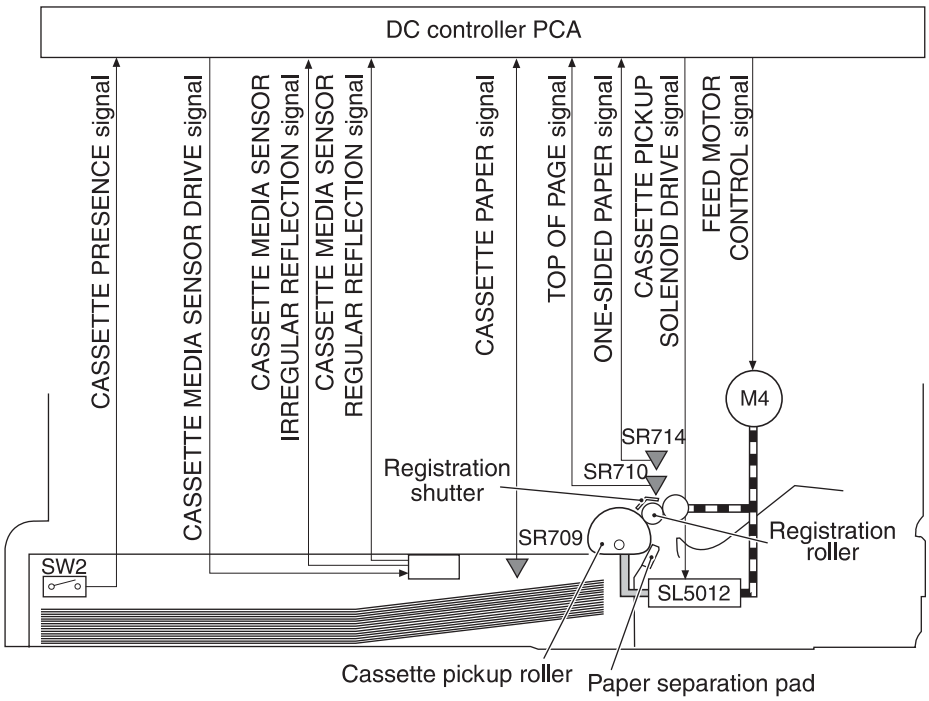

Figure 4-7 Cassette pickup mechanism

Multipurpose-tray pickup mechanism

The cassette must be installed in order for the multipurpose (MP) tray to operate. The MP tray paper sensor (SR707) detects whether media is present in the MP tray. When the cassette is correctly installed and media is present, the MP tray pickup operation begins.

1. The DC controller receives a print command from the formatter, and then begins rotating the pickup-and-feed motor (M4) at the correct speed for the media type.
2. After the motor reaches the correct speed and the fuser is at the correct temperature, the MP pickup solenoid (SL5013) turns on and the MP pickup roller begins rotating.
3. The MP pickup roller picks up one sheet of media. The separation pad prevents multi-feeds.
4. The MP tray media sensor detects the media type as the media enters the printer.

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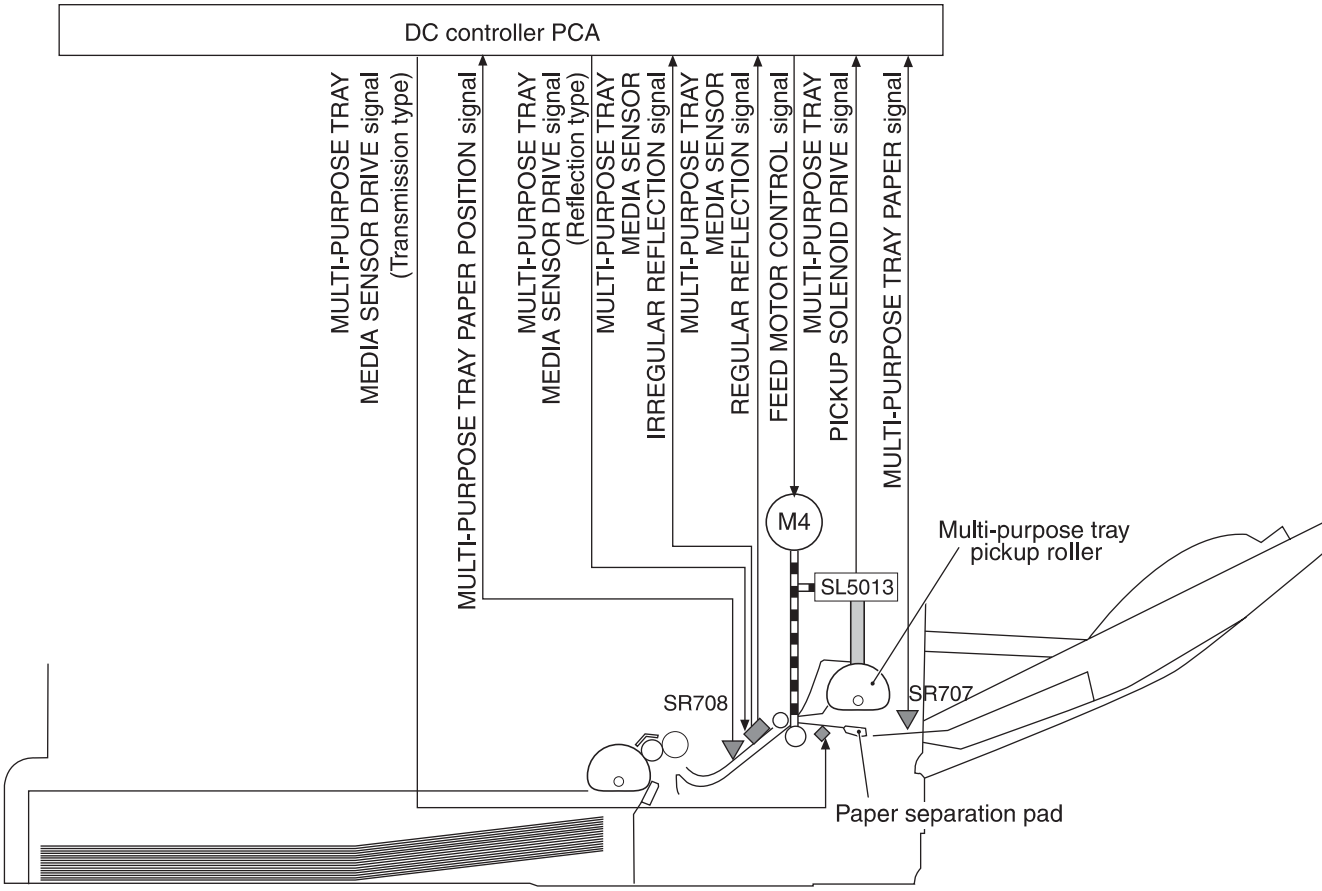

Figure 4-8 Multipurpose-tray pickup mechanism

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Feed-speed control

To optimize print quality, the pickup-and-feed motor rotates at different speeds depending on the type of media.

NOTE In the following table, normal speed is 20 ppm.

Media type	Full-color mode	Monochrome mode
Plain	7.5 ppm	20 ppm
Rough	7.5 ppm	15 ppm
Thin	7.5 ppm	20 ppm
Thick	7.5 ppm	15 ppm
Thicker	7.5 ppm	15 ppm
Postcard	7.5 ppm	15 ppm
Thicker postcard	7.5 ppm	15 ppm
Glossy	7.5 ppm	15 ppm
Heavy Glossy	7.5 ppm	15 ppm
Extra Heavy glossy	7.5 ppm	15 ppm
Envelope	7.5 ppm	15 ppm
Label	7.5 ppm	15 ppm
Gloss film	7.5 ppm	15 ppm
Transparency	7.5 ppm	15 ppm

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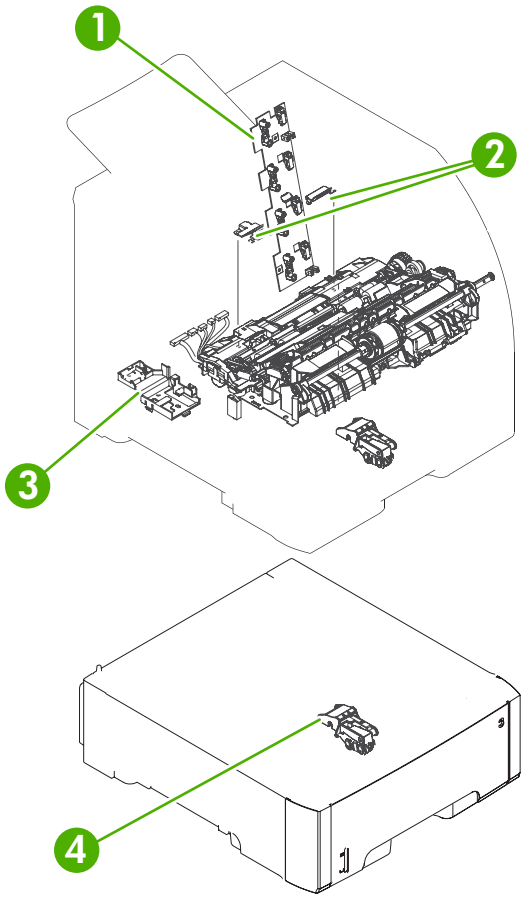
Sensor jam detection



1. Cartridge sensor assembly
2. Paper and registration sensor covers
3. Temperature sensor

The following jams can occur during operation:

- Pick-up delay jam. The printer makes three attempts to pick up media from a tray. When the top-of-page sensor (SR710) does not detect the leading edge of a page within a specific time after the third attempt, the printing operation stops. The specific times are the following:
  - ☐ From the cassette (tray 2): 1.3 seconds
  - ☐ From the multipurpose tray (tray 1): 2.2 seconds
  - ☐ From the paper feeder (tray 3): 2.3 seconds
- Pick-up stationary jam. The printing operation stops when the top-of-page sensor (SR710) does not detect the trailing edge of a page within approximately 3.2 seconds after it has detected the leading edge.

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- Delivery delay jam. The printing operation stops when the fuser paper sensor (SR6005) does not detect the leading edge of a page within approximately 3.0 seconds (in Normal print mode) after it has detected the leading edge.
- Wrapping jam. The printing operation stops when the fuser paper sensor (SR6005) does not detect any media within approximately 1.9 seconds (in Normal print mode with Letter-size media). The time varies depending on the length of the media that the top-of-page sensor (SR710) detected.
- Delivery stationary jam. The printing operation stops when the fuser paper sensor (SR6005) continues to detect paper for approximately 3.1 seconds (in Normal print mode) after the top-of-page sensor (SR710) detected its presence.
- Residual-paper jam. The printing operation stops when any of the following sensors detects media during the initial sequence period:

  Top-of-page sensor (SR710)

  Paper-warp sensor (SR6001)

  Fuser paper sensor (SR6005)

  Multipurpose tray (MPT) paper-position sensor (SR708)
- Door-open jam. The printing operation stops when the DC controller detects that a printer door is open.

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Image-formation system

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

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

The printer includes four print cartridges that contain the toner than is used to create the image on the media. Toner is applied in the following order, using only the colors necessary for a specific image: magenta (M), cyan (C), yellow (Y), and black (Bk).

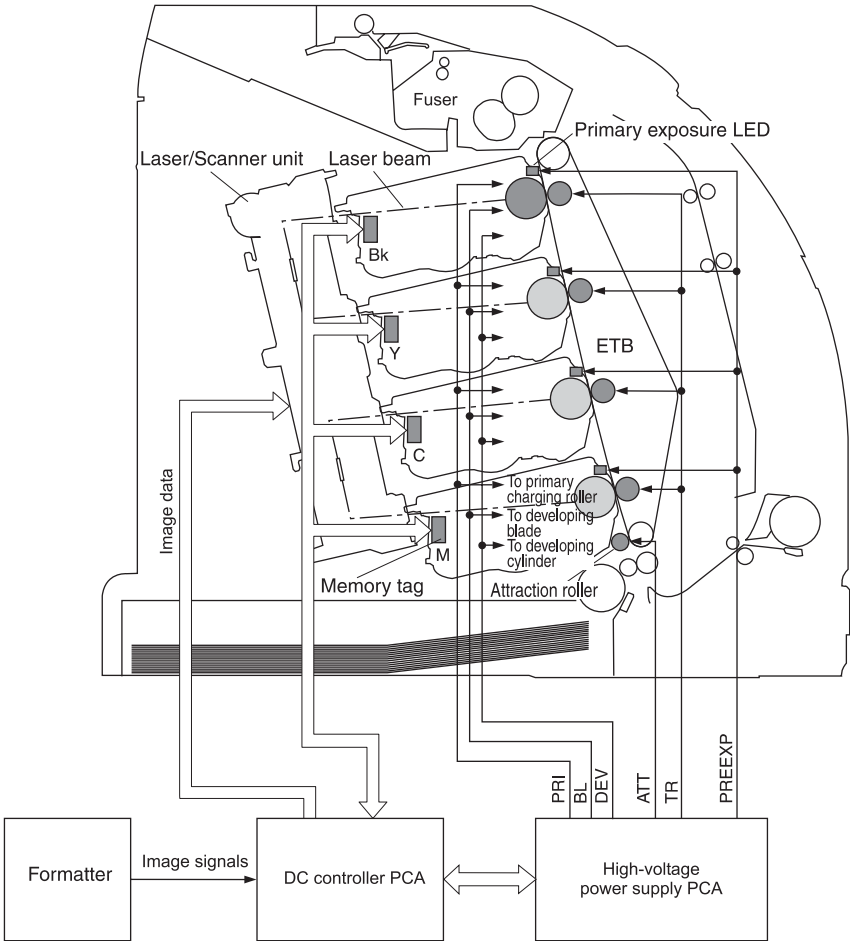

Figure 4-9 Image formation system

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Image-formation process

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

1. Latent-image formation
2. Developing
3. Image transfer
4. Fusing
5. Transfer-belt cleaning

These processes are divided into ten steps, which are shown in Figure 4-10 Image-formation steps on page 84 and described in the following sections.

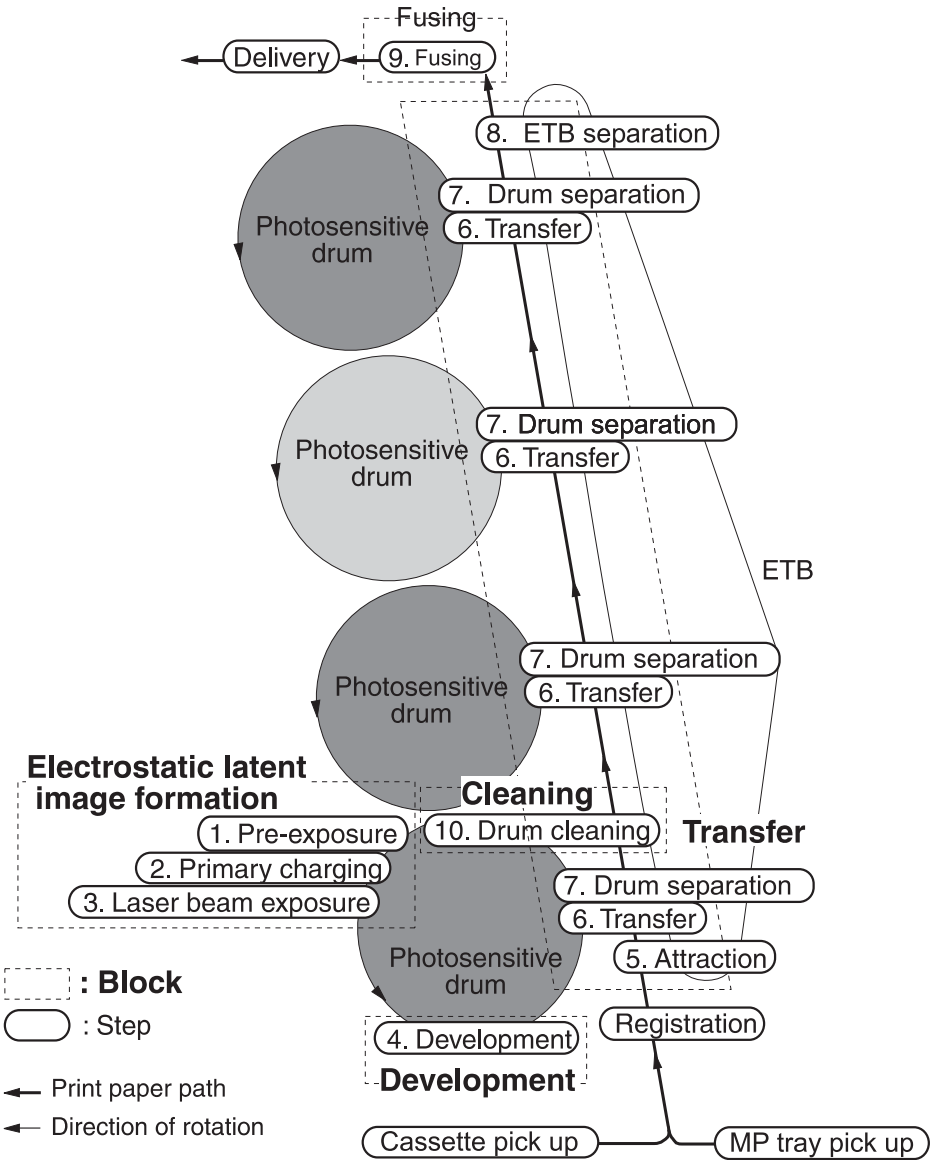

Figure 4-10 Image-formation steps

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Latent-image formation stage

During the three steps that comprise this stage, a latent image is formed by applying a negative charge to the photosensitive drum. You cannot see this image on the drum.

Step 1: pre-exposure

The pre-exposure LED hits the photosensitive drum surface and eliminates any residual charge on the surface.

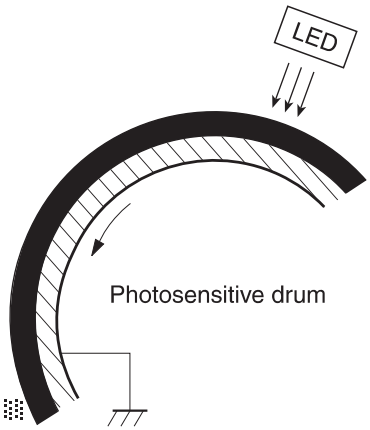

Figure 4-11 Pre-exposure

Step 2: primary charging

A high-voltage dc bias is applied to the primary charging roller, which is made of conductive rubber and is in contact with the drum surface. As the roller moves across the drum, it applies the negative charge to that surface.

Step 3: laser-beam exposure

The laser beam scans the photosensitive drum to neutralize the negative charge on portions of the drum surface. An electrostatic latent image is formed where the negative charge was neutralized.

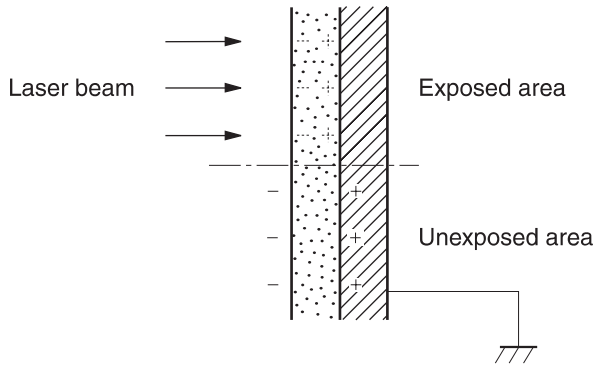

Figure 4-12 Laser-beam exposure

Developing stage

The developing cylinder comes in contact with the photosensitive drum and deposits toner on the electrostatic latent image.

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Step 4: developing

Toner acquires a negative charge as a result of the friction from the developing cylinder rotating against the developing blade. When the negatively charged toner comes in contact with the drum, it adheres to the electrostatic latent image. When the toner is on the drum the image becomes visible.

Transfer stage

Step 5: media feed

The printer generates electrostatic force to pull a sheet of print media to the ETB. The sheet adheres to the belt and travels between the ETB engaged motor and the attraction roller.

The attraction roller transfer positive dc bias to the media so that the negatively charged toner can be easily transferred from the drum to the sheet.

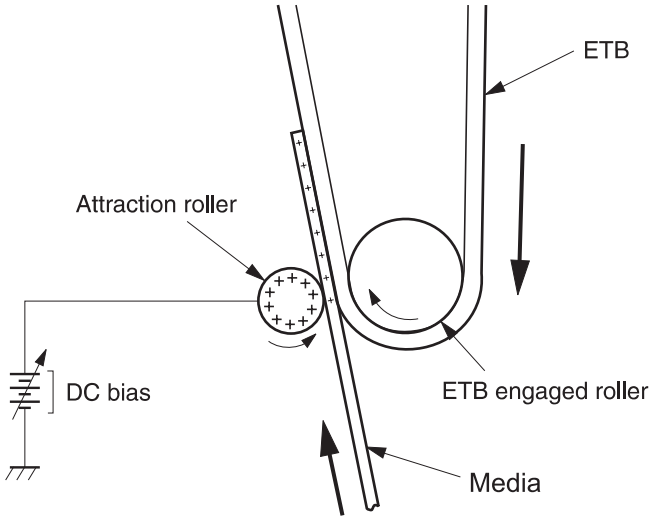

Figure 4-13 Media feed

Step 6: image transfer

The ETB carries the positively charged media over the photosensitive drum. As it passes between the transfer roller and the drum, the transfer roller applies a positive dc bias to the belt. The negatively charged media and belt attract the negatively charged toner from the drum surface. This process is repeated for each toner color.

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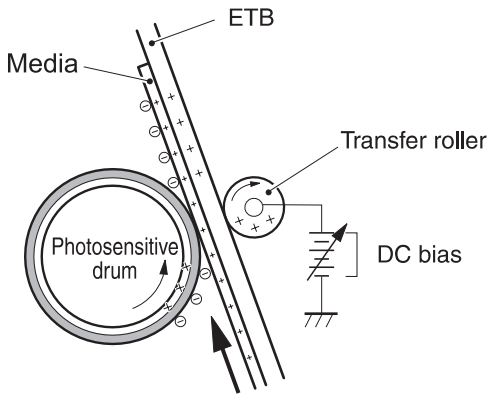

Figure 4-14 Image transfer

Step 7: separation from the drum

The elasticity of the print media causes it to separate from the drum surface. The sheet remains on the ETB and continues to travel through the printer.

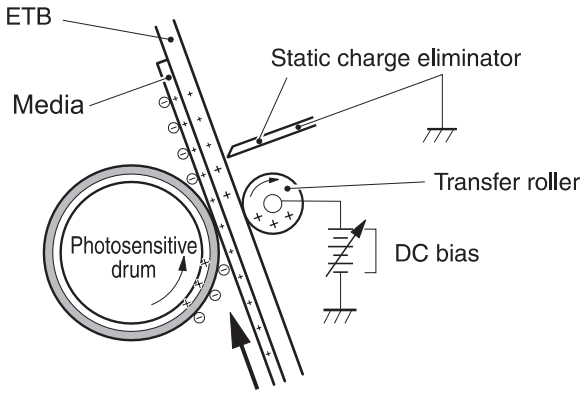

Figure 4-15 Separation from the drum

Step 8: separation from the ETB

The elasticity of the print media causes it to separate from the ETB. The static-charge eliminator is not involved during this step.

Fusing stage

Until the fusing stage is complete, the image is not permanently affixed to the print media. The toner can be easily smudged until the heat and pressure of the fusing process fix the image to the sheet.

Step 9: fusing

The printer uses a ceramic heater to accomplish the color-on-demand fusing process. The heater has a low heat capacity, which results in a short warm-up period and yields energy savings.

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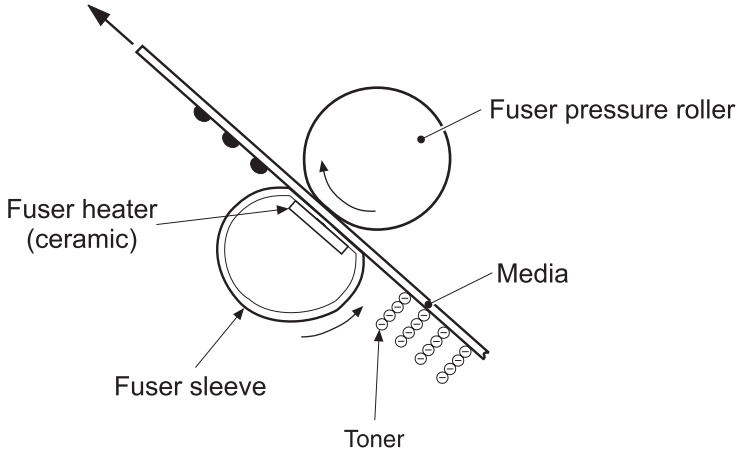

Figure 4-16 Fusing

Cleaning stage

Not all of the toner is removed from the photosensitive drum during the transfer stage. During the cleaning stage, the residual, or waste, toner is cleared from the drum surface to prepare the surface for the next latent-image formation.

Step 10: drum cleaning

The cleaning blade scrapes the residual toner off the surface of the photosensitive drum and deposits it in the waste-toner container. The drum is now clear, and is ready for the next image-formation process.

Print cartridge

This printer has four print cartridges: magenta (M), cyan (C), yellow (Y), and black (Bk). Each cartridge holds non-magnetic, single-component toner that is composed of resins in the four colors.

In addition to the toner, each cartridge contains a developing cylinder, toner-feed roller, and stirrer. The developer motor rotates these parts so that each print cartridge can deposit toner to form a visible image on the photosensitive drum.

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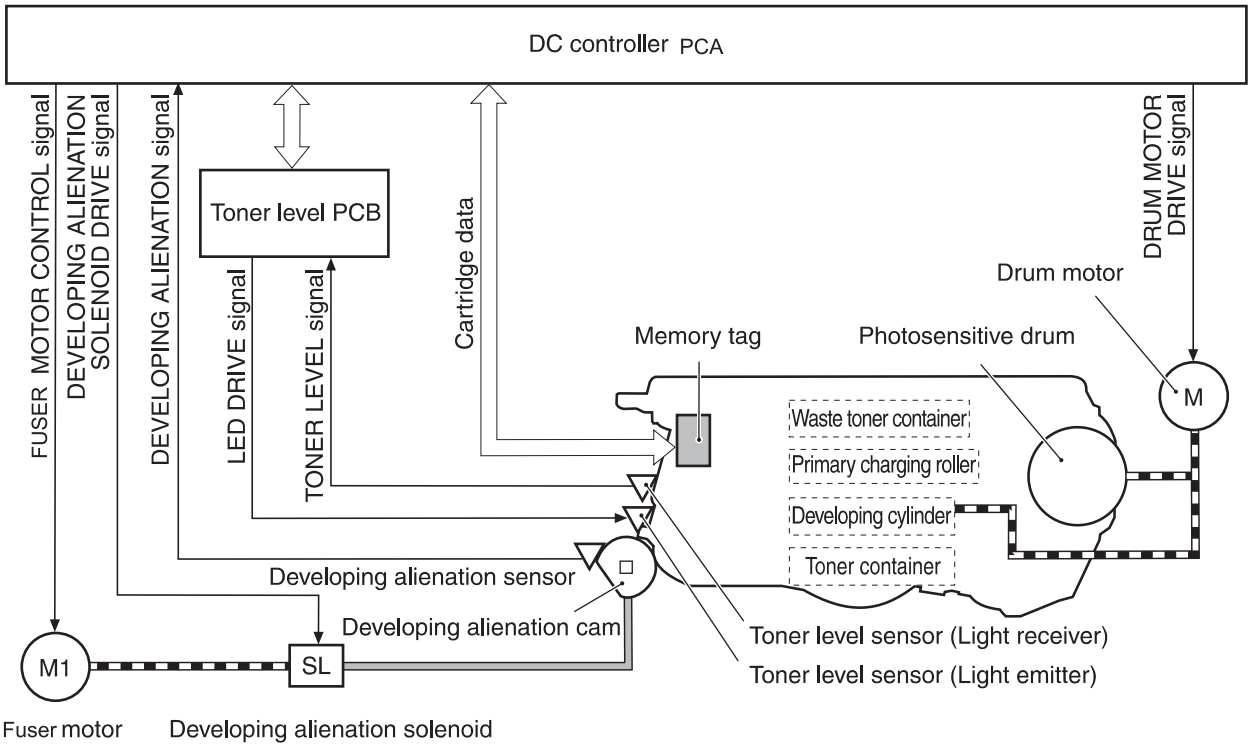

Figure 4-17 Print cartridge

The cartridges in this printer include the photosensitive drum, the primary charging roller, and the developing roller. Each cartridge performs these functions:

- Memory tag control
- Cartridge presence detection
- Developing roller engagement and disengagement control

Print-cartridge activation

A memory tag is a nonvolatile memory that is built into the print cartridge. The DC controller reads and writes data that is stored in the memory tag. The DC controller reads data at the following times:

- When the power is turned on
- When someone closes the front cover
- When it receives a command from the formatter

The DC controller writes information at the following times:

- At a specified interval during printing
- When it receives a command from the formatter

When the read/write operation fails or the wrong data is read or written, the DC controller determines that an error has occurred and notifies the formatter of a cartridge-memory abnormality. Printing then stops.

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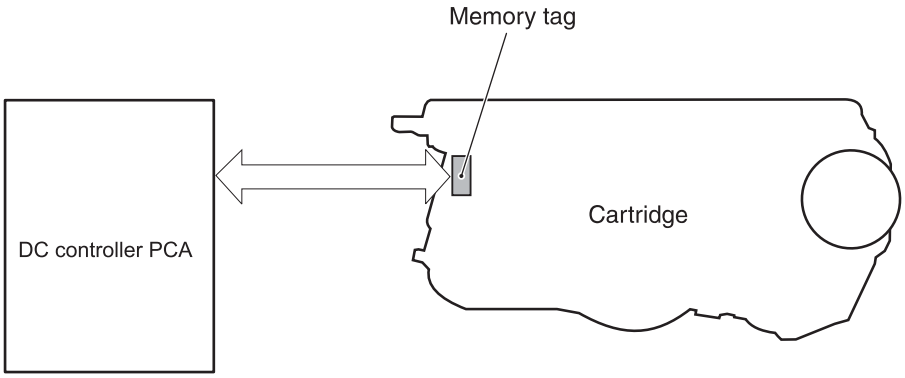

Figure 4-18 Print-cartridge activation

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5 Removal and replacement

- Removal and replacement strategy
- External doors, covers, and panels
- Internal assemblies
- Printed circuit assemblies (PCAs)
- Sensors
- 500-sheet feeder

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Removal and replacement strategy

Introduction

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

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

HP does not support repairing individual subassemblies or troubleshooting to the component level.

WARNING! Turn the printer off, wait 5 seconds, and then remove the power cord before attempting to service the printer. If this warning is not followed, severe injury can result, as well as damage to the device. The power must be on for certain functional checks during troubleshooting. However, the power supply should be disconnected during parts removal.

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

The sheet-metal parts can have sharp edges. Be careful when handling sheet-metal parts.

CAUTION Some parts are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing printer parts. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

CAUTION Do not bend or fold the flat flexible cables (FFCs) during removal or installation.

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

The printer shown in this chapter is slightly different than this model. It has a fan mounted to the front cover, a duplex-feed-drive assembly, and a duplexing-reverse-drive assembly mounted under the upper (top) cover. This printer does not have these parts.

The electrostatic transfer belt (ETB) shown in this chapter is for a different model printer. The ETB for this model looks different.

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Required tools

- #2 Phillips screwdriver with a magnetic tip and a 152-mm (6-inch) shaft length
- Small flatblade screwdriver
- Needle-nose pliers
- ESD mat (if one is available)
- Penlight (optional)

CAUTION Always use a Phillips screwdriver (callout 1). Do not use a pozidrive screwdriver (callout 2) or any motorized screwdriver. These can damage screws or screw threads.

CAUTION Do *not* pull directly on the wires to disconnect them. *Always* pull on the plastic body of a connector to avoid damaging the connector wires.

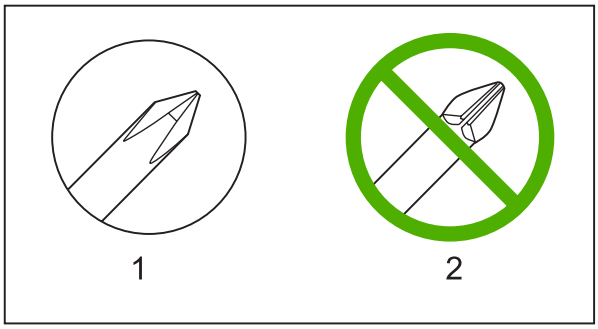

Figure 5-1 Phillips and pozidrive screwdriver comparison

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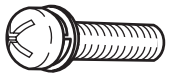
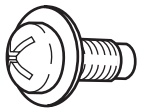
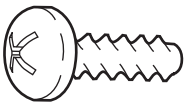
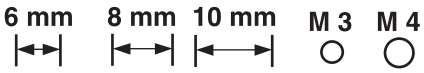
Types of screws

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



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Service approach

Printer repair normally begins by using the printer internal diagnostics and the following two-step process:

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

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

Before performing service

- Remove all media.
- Unplug the power cable.
- Place the product on an ESD mat (if available).
- Remove the print cartridges.
- Remove the tray 2 cassette.

After performing service

- Return all media to the trays.
- Plug in the power cable.
- Reinstall the print cartridges.
- Reinstall the tray 2 cassette.

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Print cartridges

1. Open the front cover.

Figure 5-2 Remove the print cartridges (1 of 2)

2. Grasp the two blue handles on the print cartridge, and pull the cartridge out of the printer.

Figure 5-3 Remove the print cartridges (2 of 2)

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External doors, covers, and panels

Front cover

This part is called the front door in the user documentation and in chapter 1, “Product information.”

NOTE The printer shown in the following procedure is a different model, and has a fan mounted to the front-cover assembly. This printer does not have the fan.

NOTE The electrostatic transfer belt (ETB) shown in this chapter is for a different model printer. The ETB for this model looks different.

1. Open the front cover.
2. Push in the two blue ETB latch buttons (callout 1) and pull the ETB out of the printer.

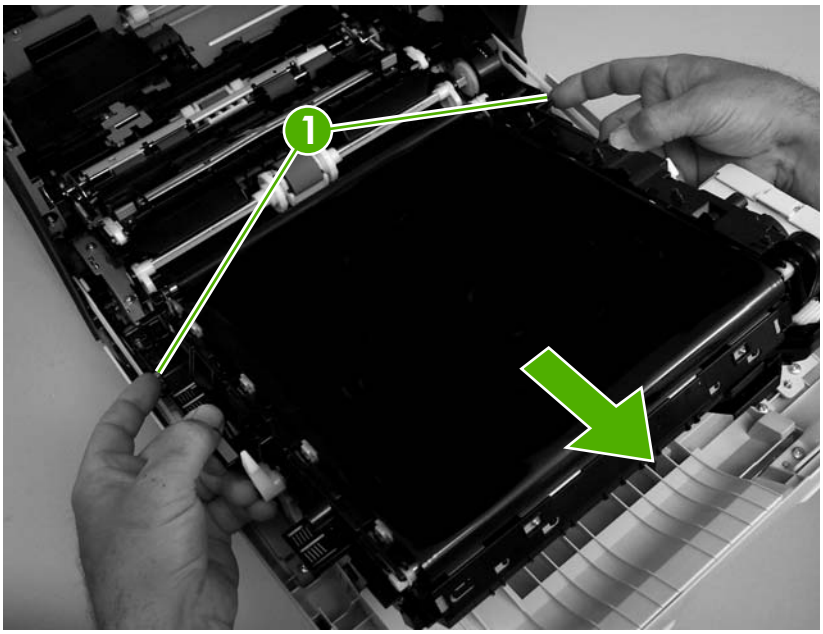

Figure 5-4 Remove the front cover (1 of 7)

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3. Move the two ETB connectors (callout 2) to the raised position (as when the front cover is closed).

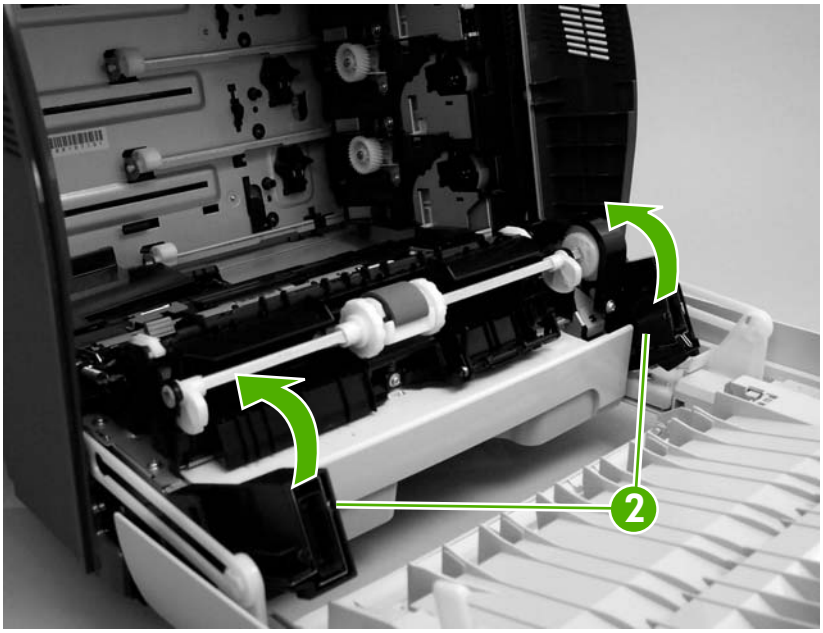

Figure 5-5 Remove the front cover (2 of 7)

4. Lift the front cover slightly, and then gently pry the retainer arms off of the clips.

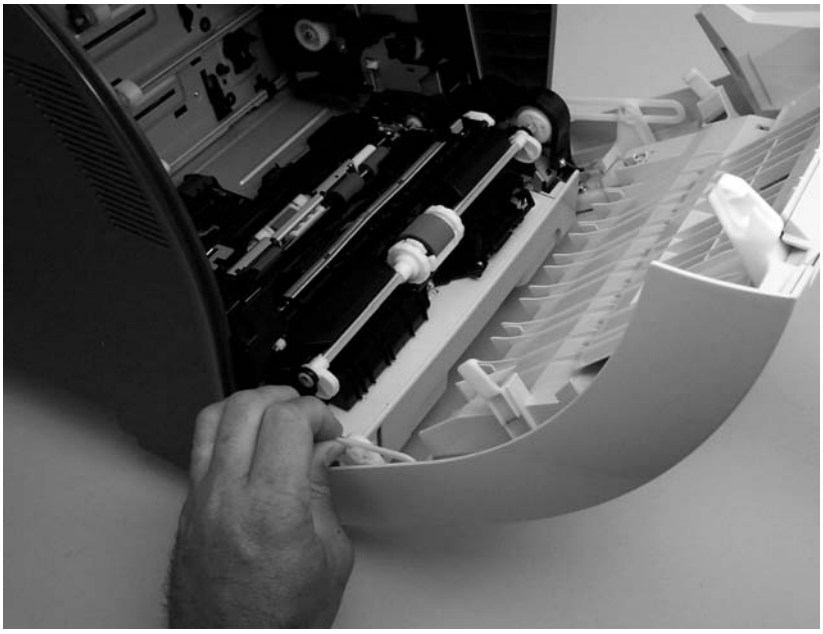

Figure 5-6 Remove the front cover (3 of 7)

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5. Support the door and remove four screws (callout 6).

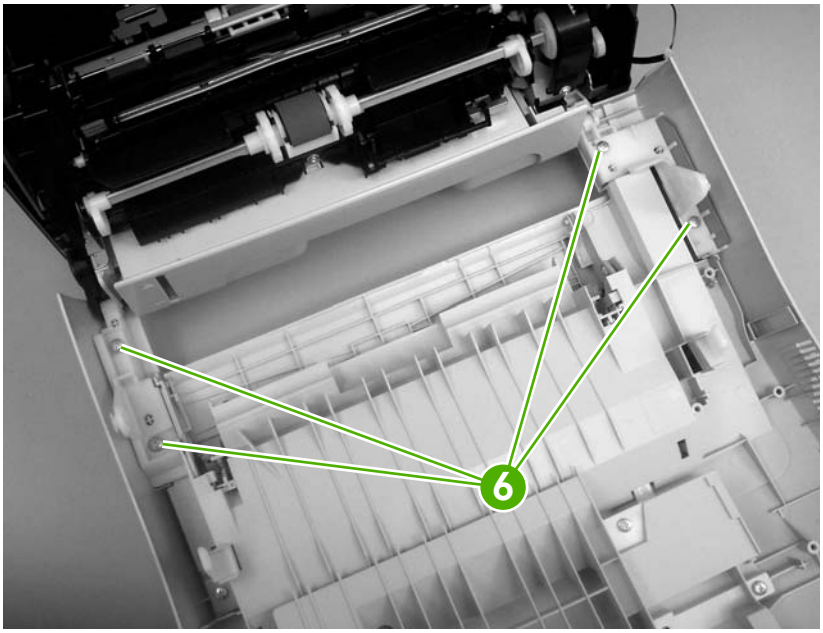

Figure 5-7 Remove the front cover (6 of 7)

6. Pull the front cover forward to remove it.

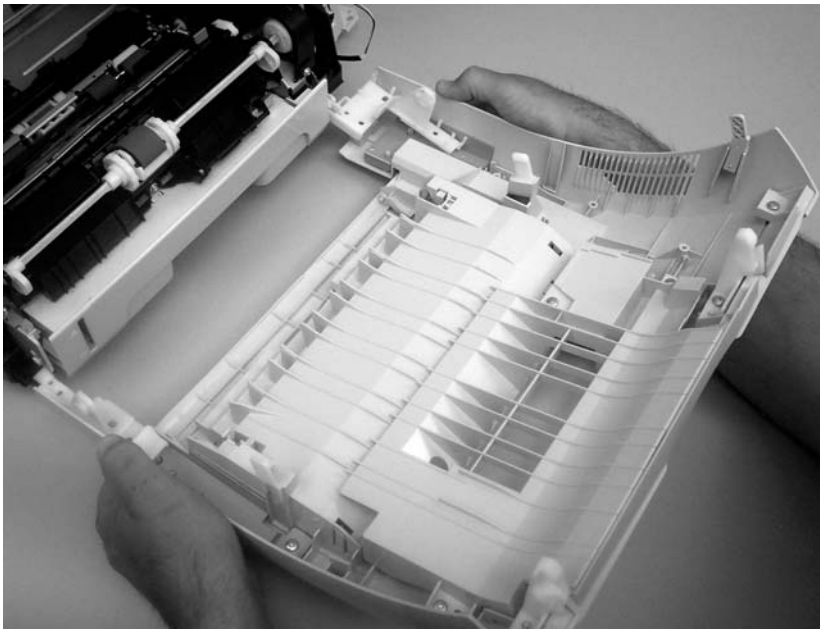

Figure 5-8 Remove the front cover (7 of 7)

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Upper cover (fuser door)

1. Rotate the output bin towards the front of the printer and remove it.

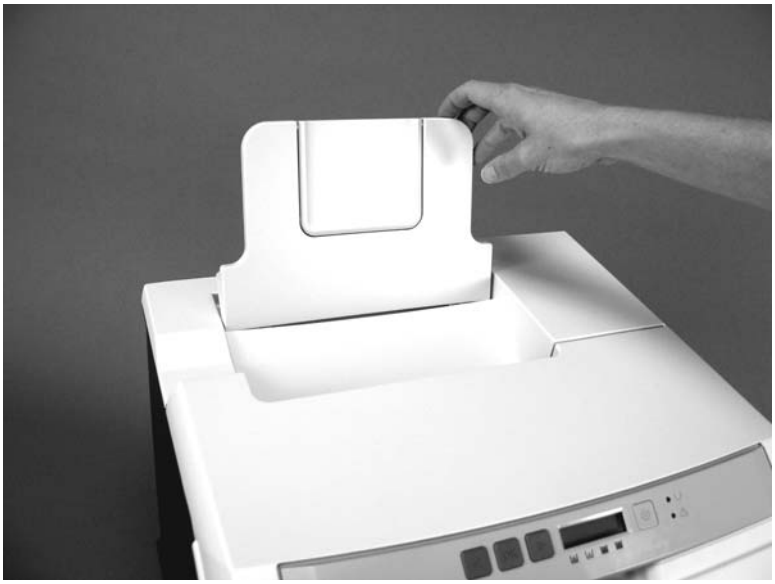

Figure 5-9 Remove the upper cover (1 of 5)

2. Open the upper cover, and then squeeze the two blue fuser-locking levers to release the fuser. Rotate the fuser up and out of the printer.

> **CAUTION** The fuser might be hot. Wait for the fuser to cool *before* you remove it.

Figure 5-10 Remove the upper cover (2 of 5)

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3. Support the upper cover and remove four screws (callout 1).

NOTE The screw in the recessed area (see Figure 5-11 Remove the upper cover (3 of 5) on page 101) is longer than the other three mounting screws. Make sure to replace this screw in the correct location when installing the upper cover.

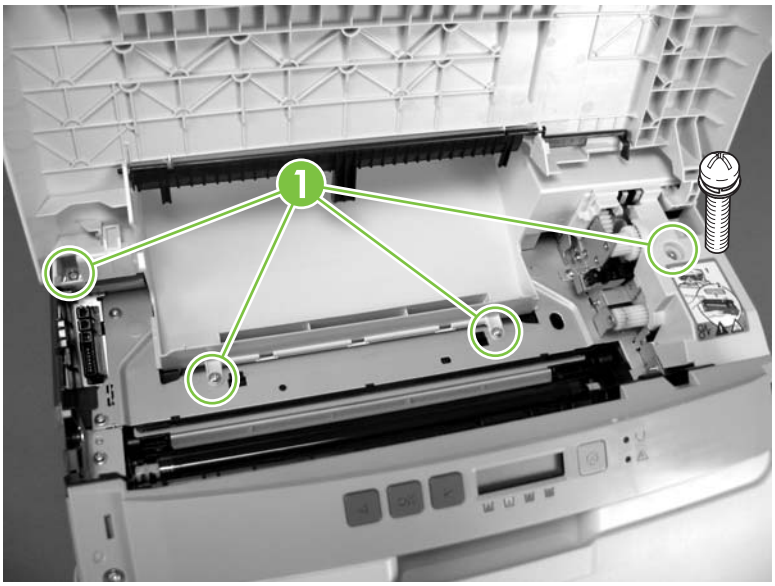

Figure 5-11 Remove the upper cover (3 of 5)

4. Lift up slightly on the right of the upper cover and disconnect one connector (callout 2).

Figure 5-12 Remove the upper cover (4 of 5)

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5. Lift the upper cover to remove it.

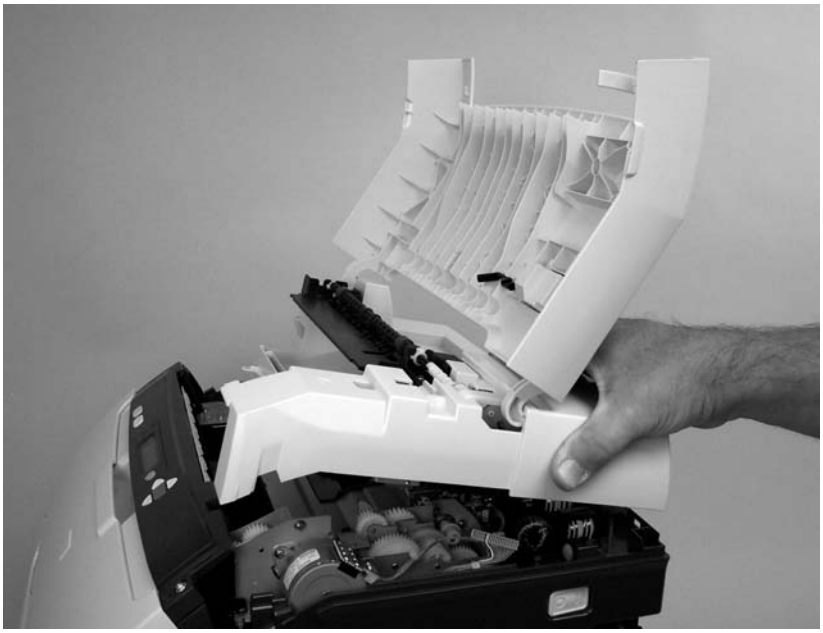

Figure 5-13 Remove the upper cover (5 of 5)

Tip Make sure that the upper cover is seated correctly when it is reinstalled. Wire-harness cables can block the cover alignment pin and become pinched or frayed when the cover is fastened to the chassis.

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Rear lower cover

1. Carefully flex the hinge bracket until you can dislodge the hinge pin. Move the rear lower cover away from the bracket to remove it.

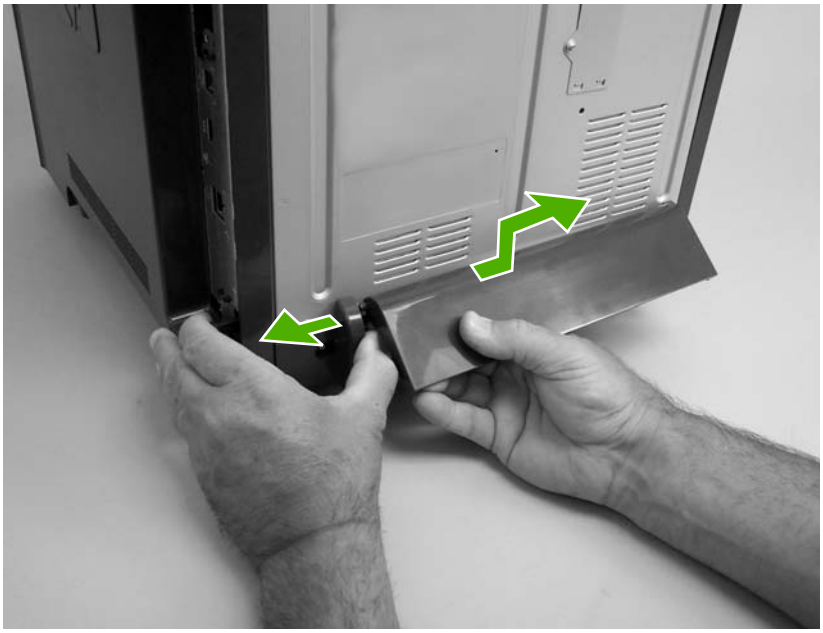

Figure 5-14 Remove the rear lower cover (1 of 2)

NOTE Step 2 is only necessary if you are removing the rear upper cover or installing a replacement hinge bracket.

2. Remove one screw (callout 1), and then remove the hinge bracket (callout 2).

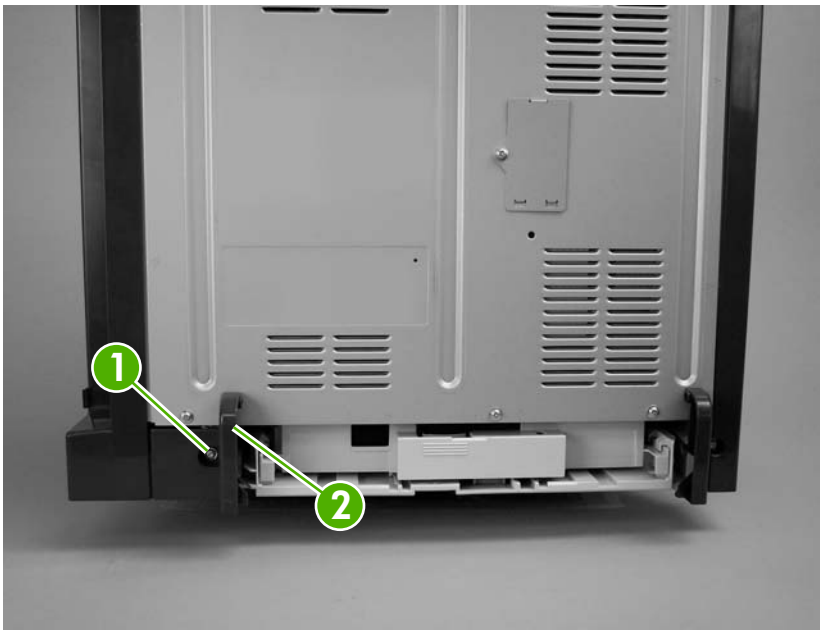

Figure 5-15 Remove the rear lower cover (2 of 2)

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Left cover

1. Remove the following components:
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
2. Remove two screws (callout 1).

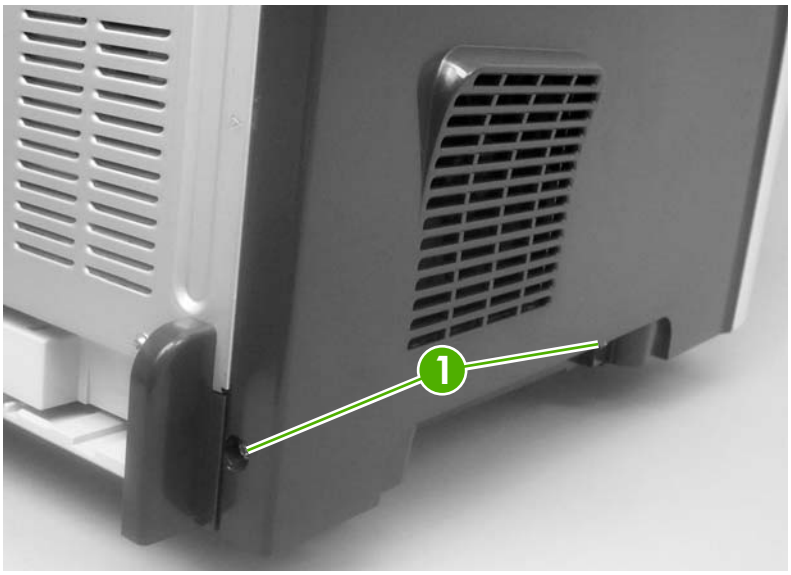

Figure 5-16 Remove the left cover (1 of 5)

3. Open the front cover.
4. Use a flatblade screwdriver to release the three locking tabs (callout 2) at the front of the left cover.

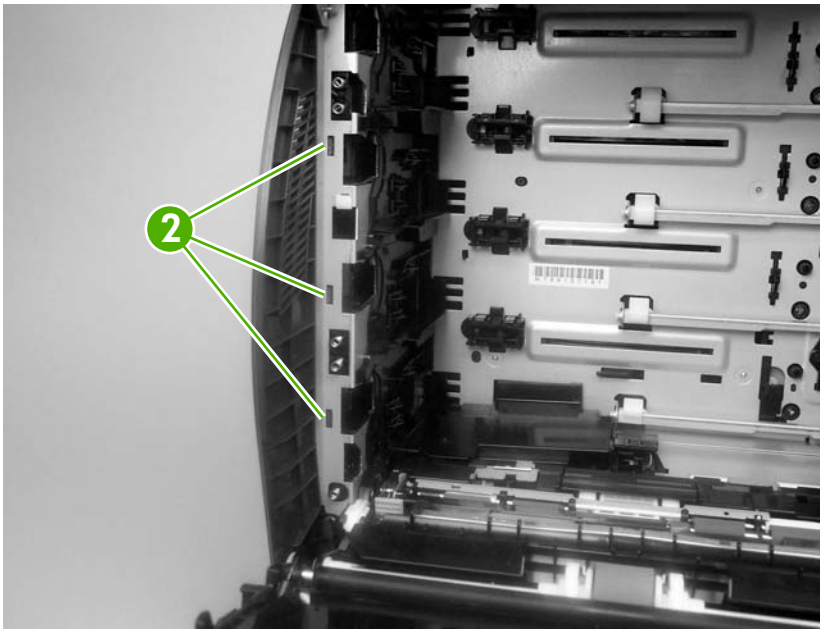

Figure 5-17 Remove the left cover (2 of 5)

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5. Release the locking tab (callout 3) at the upper front of the left cover.

Figure 5-18 Remove the left cover (3 of 5)

6. Release the two locking tabs at the rear of the left cover.

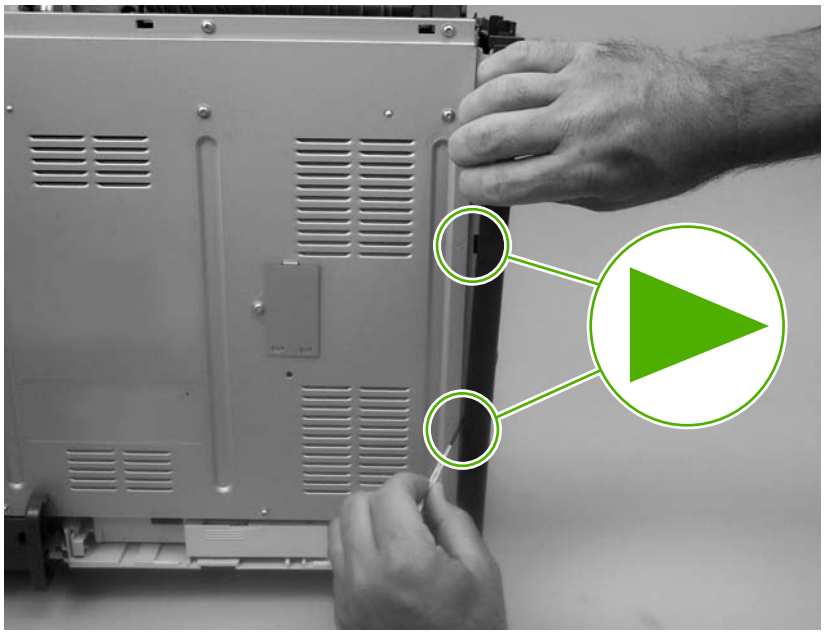

Figure 5-19 Remove the left cover (4 of 5)

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7. Rotate the back of the cover away from the printer, and then slide the cover to the rear to disengage the two front locking tabs and release the cover.

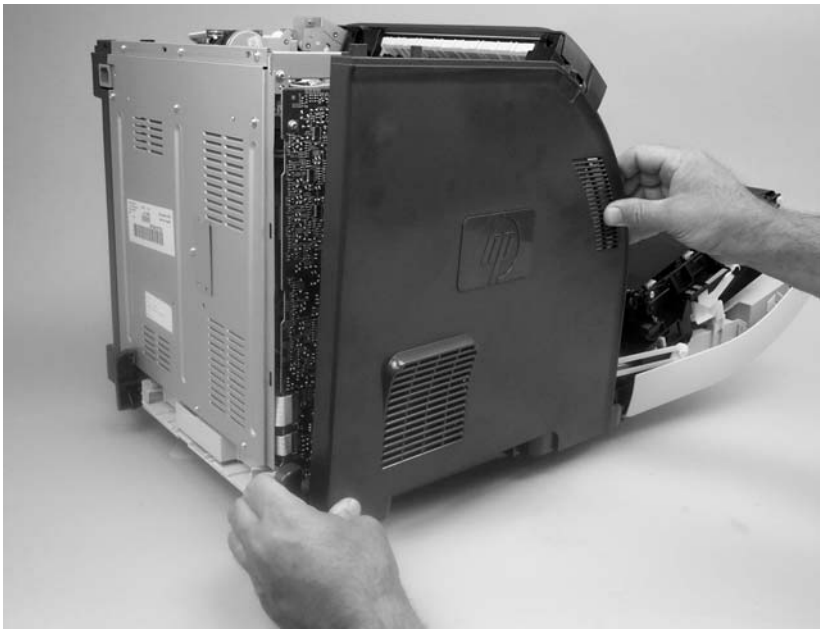
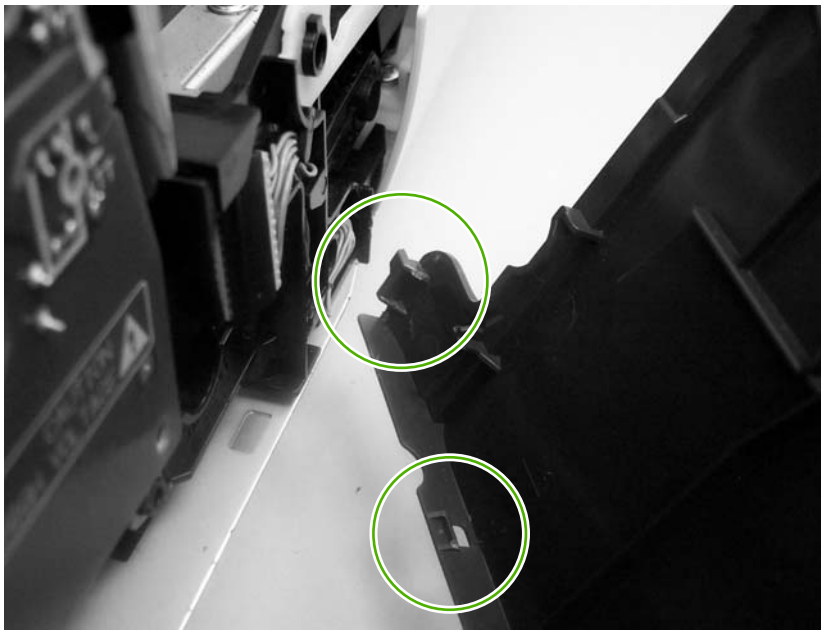


Figure 5-20 Remove the left cover (5 of 5)

NOTE This photograph shows the two front locking tabs low on the inside of the left cover.



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Right cover

1. Remove the following components:
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Formatter cage. See Formatter cage on page 112.
2. Remove one screw (callout 1).

Figure 5-21 Remove the right cover (1 of 4)

3. Open the front cover.

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4. Use a flatblade screwdriver to release the two locking tabs (callout 2) on the front of the right cover, and the tab on the printer chassis (callout 3).

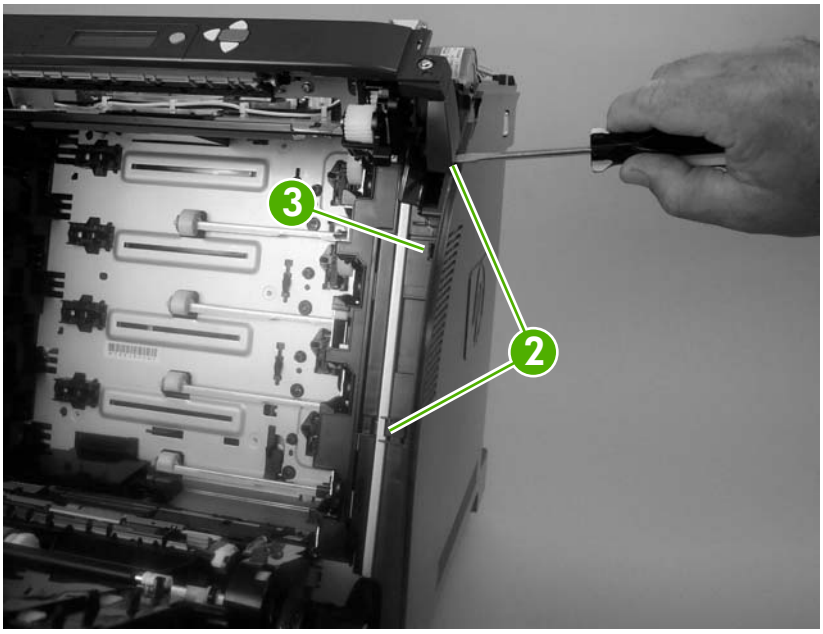
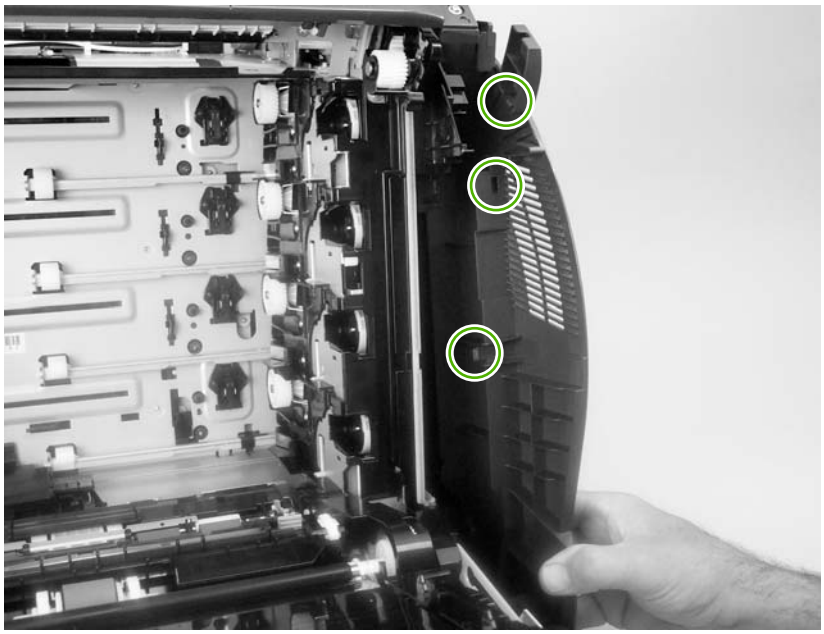


Figure 5-22 Remove the right cover (2 of 4)

NOTE This photograph shows the front locking tabs on the inside of the right cover.



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5. Remove the power-switch arm.

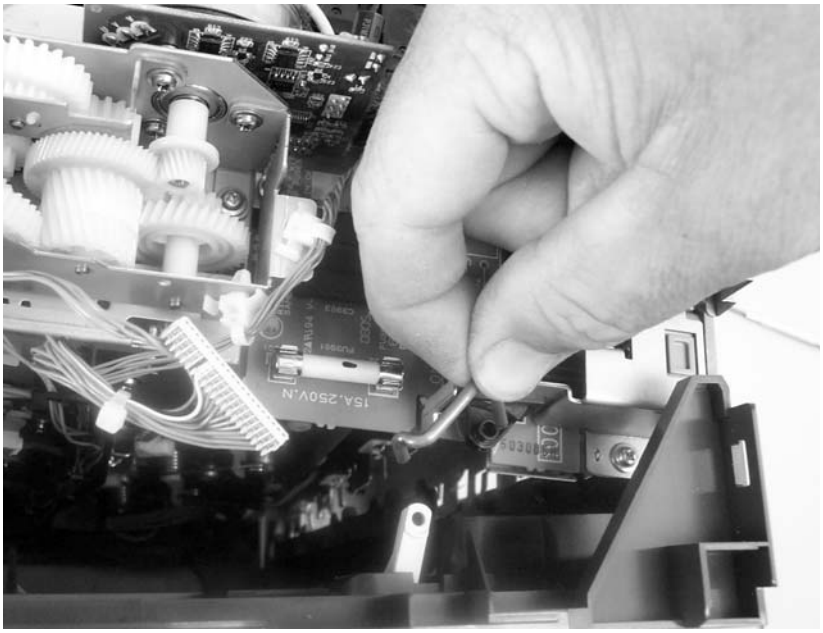

Figure 5-23 Remove the right cover (3 of 4)

CAUTION Always turn the printer off and unplug the power cord before removing the covers. If the metal rod that attaches the power switch to the cover touches the fuse while the printer is turned on, an electrical short can occur. The fuse can become welded to the metal rod.

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6. Remove the cover by releasing the two rear locking tabs.

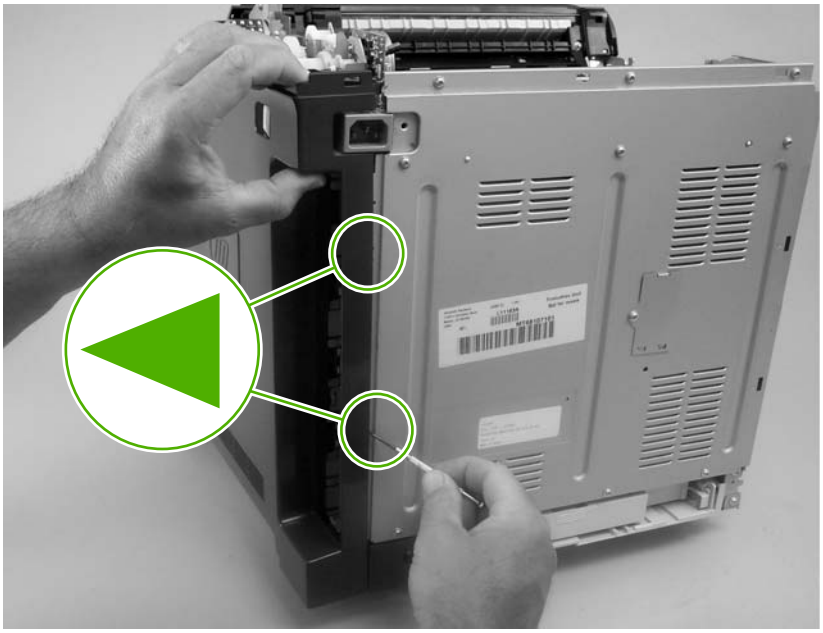

Figure 5-24 Remove the right cover (4 of 4)

Tip When installing the right cover, make sure that the metal power-switch arm is engaged with the power switch.

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Rear upper cover

1. Remove the following components:
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Right cover. See Right cover on page 107.
2. Release the cover by removing 10 screws (callout 1).

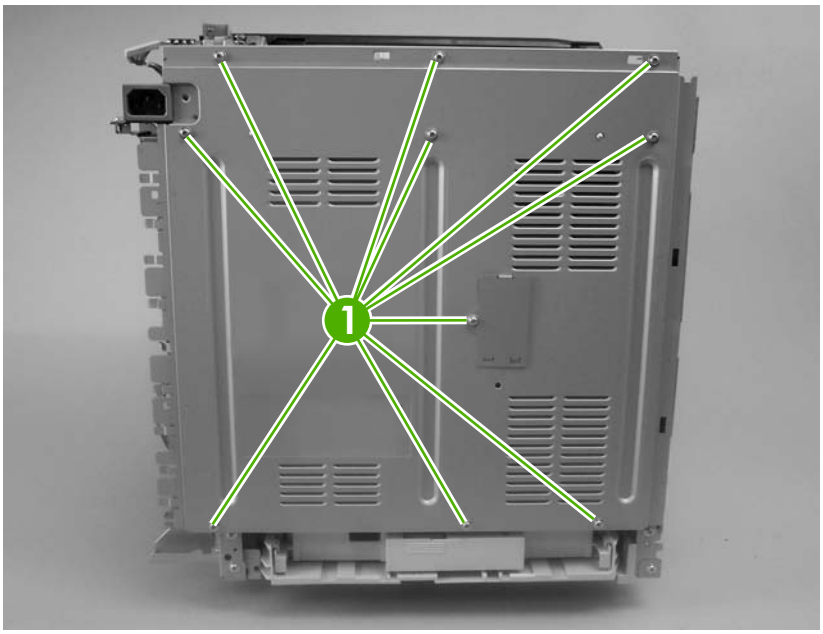

Figure 5-25 Remove the rear upper cover

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Internal assemblies

Formatter cage

WARNING! Do *not* replace the formatter and the DC controller at the same time. Install the replacement formatter and then turn the power on. After the printer initializes, turn the power off and install the replacement DC controller.

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Before you install a replacement formatter, open the Reports menu, print the **Usage page** and the **Config report**, and record the following values:

   Usage page

   - Mono cycle count
   - Color cycle count

   Config report

   - Serial number
   - Service ID

2. Push in on the two black locking levers.

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3. Pull the formatter cage away from the printer to remove it.

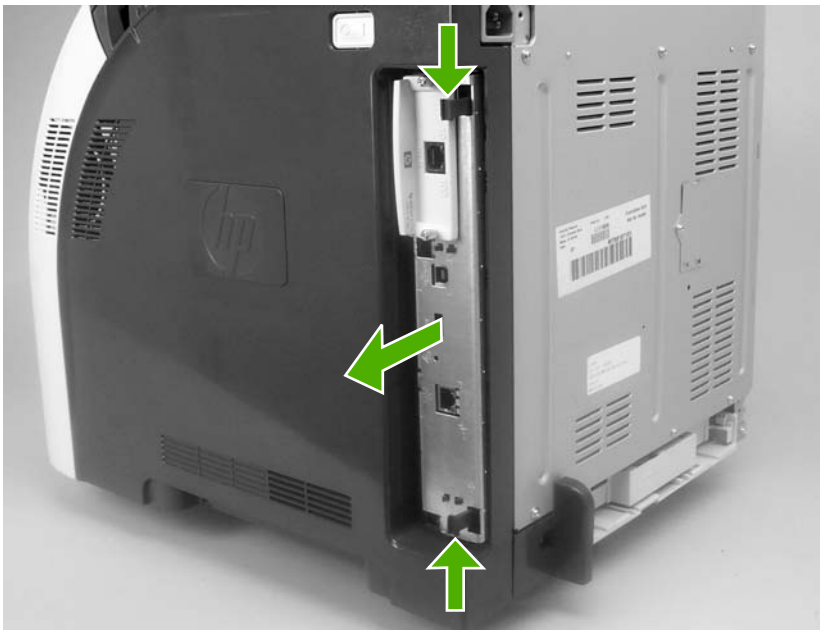

Figure 5-26 Remove the formatter cage

4. Use the configuration utility that is available on the Service and Support CD to transfer the page counts, serial number, and service ID to the new formatter. For more information see Configuration utility on page 224.

5. When you install a replacement formatter, you must calibrate the printer. See Calibrating the printer on page 57.

NOTE After replacing the formatter cage, make sure that the control panel is functioning. If the printer fans and motors are operating correctly but the control panel is not, turn the power off, and then remove the formatter cage and reinstall it. You might have to repeat this step several times to seat the formatter correctly.

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Electrostatic transfer belt (ETB)

NOTE The electrostatic transfer belt (ETB) shown in this chapter is for a different model printer. The ETB for this model looks different.

1. Open the front cover.
2. Push in the two blue latch buttons (callout 1) and pull the ETB out of the printer.

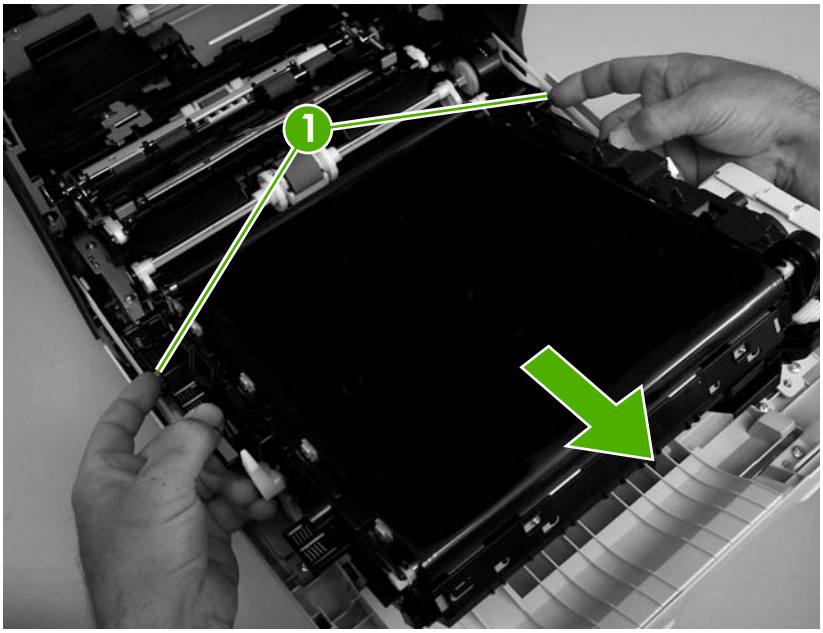

Figure 5-27 Remove the front ETB

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Fuser

CAUTION The fuser might be hot. Wait for the fuser to cool *before* you remove it.

1. Open the upper (top) cover (fuser door).
2. Squeeze the two blue fuser locking levers to release the fuser.
3. Rotate the fuser up and out of the printer.

Figure 5-28 Remove the fuser

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Print-cartridge drive motors

1. Remove the right cover. See Right cover on page 107.
2. To remove the motor, disconnect one connector (callout 1) and remove three screws (callout 2). Repeat this procedure for the remaining print-cartridge motors.

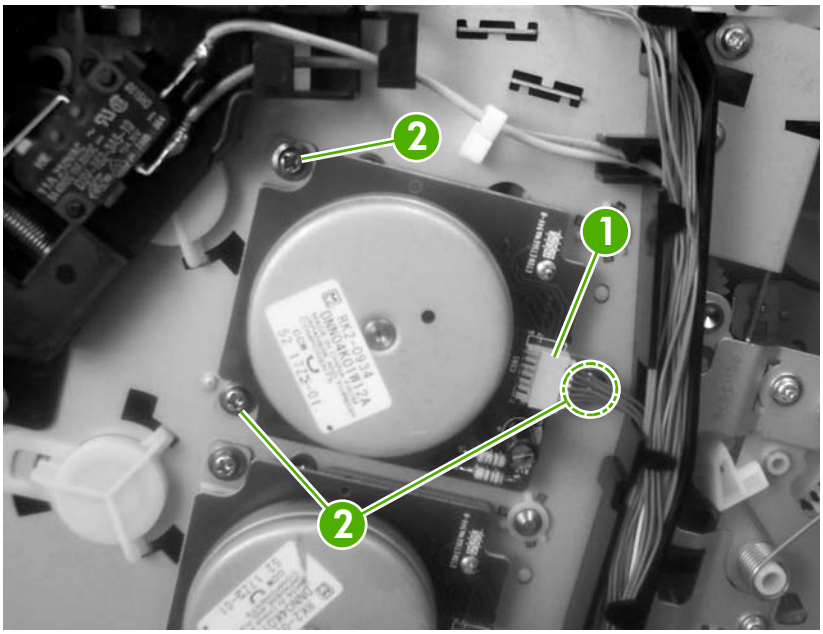

Figure 5-29 Remove the print-cartridge motor

NOTE The black (K) motor is different than the color motors, and it is not interchangable with them. See the Parts chapter for the appropriate part numbers.

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Fuser drive assembly

1. Remove the following components:
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Right cover. See Right cover on page 107.
2. Disconnect one connector (callout 1) and release two cable clamps (callout 2).

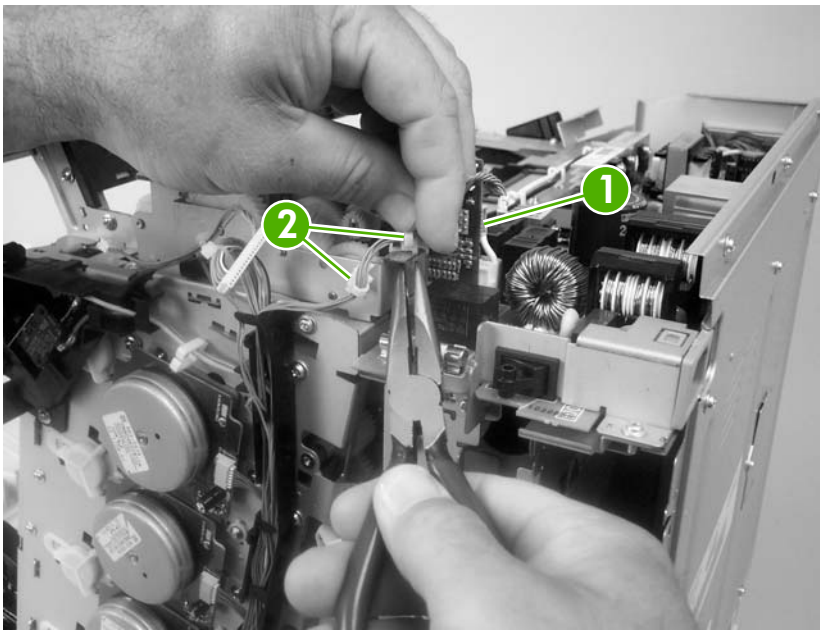

Figure 5-30 Remove the fuser drive assembly (1 of 4)

3. Remove four screws (callout 3).

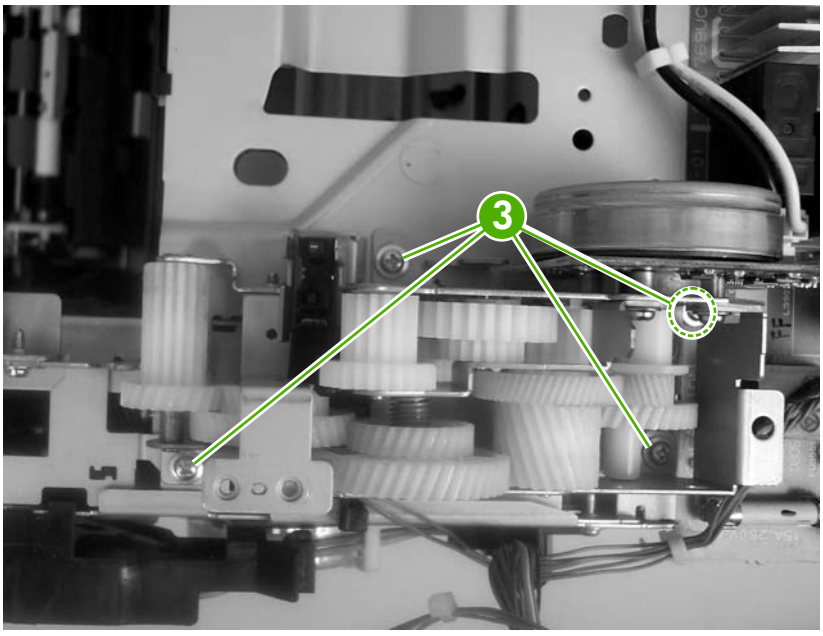

Figure 5-31 Remove the fuser drive assembly (2 of 4)

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4. Disconnect one connector (callout 4; J213) on the driver PCA assembly and remove the wire-harness from the guide (callout 5).

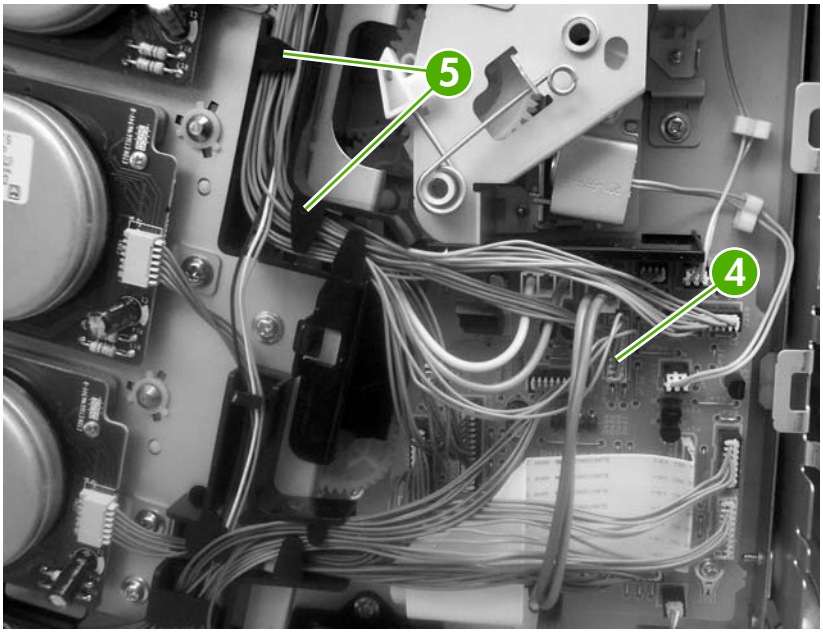

Figure 5-32 Remove the fuser drive assembly (3 of 4)

Tip You might have to use needle-nose pliers to reattach the cable straps to the two cable clamps.

5. Lift the fuser drive assembly off of the printer chassis.

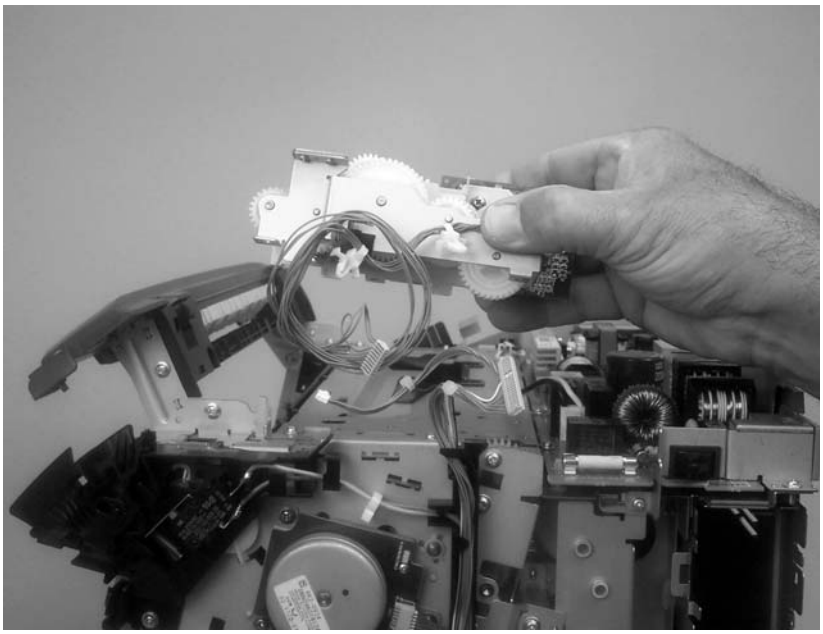

Figure 5-33 Remove the fuser drive assembly (4 of 4)

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Developing separation-drive assembly

1. Remove the following components:
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Right cover. See Right cover on page 107.
   - Fuser. See Fuser on page 115.
2. Use a small flatblade screwdriver to release the wire-guide locking tab (callout 1), and then move the guide slightly towards the front of the printer.

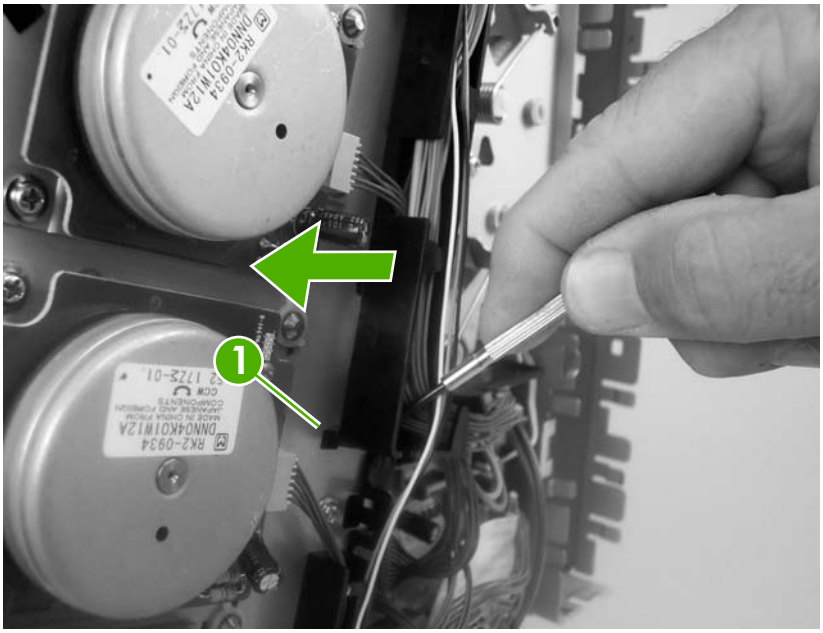

Figure 5-34 Remove the developing separation-drive assembly (1 of 4)

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3. Remove three screws (callout 2) and the sheet-metal plate (callout 3).

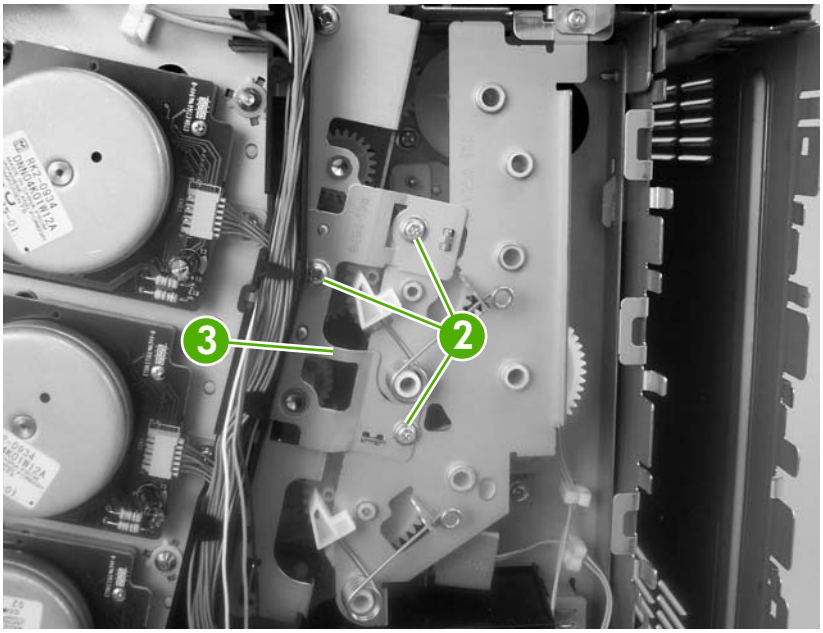

Figure 5-35 Remove the developing separation-drive assembly (2 of 4)

4. Disconnect two connectors (callout 4; J403 and J405) on the driver PCA and remove the wire-harnesses from the two retainers (callout 5).

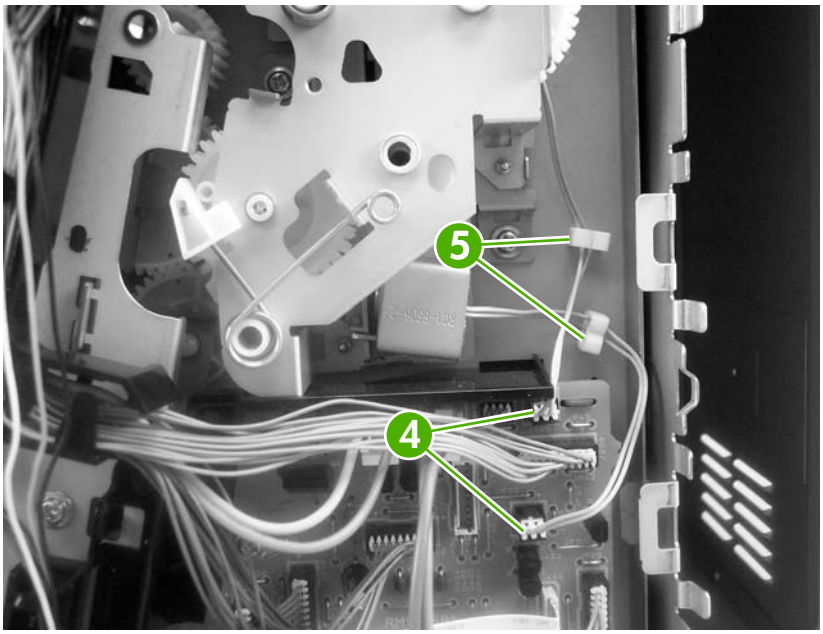

Figure 5-36 Remove the developing separation-drive assembly (3 of 4)

Tip When you reinstall the developing separation-drive assembly, the upper solenoid wire-harness connects to J405 and the lower solenoid wire-harness connects to J403.

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5. Remove three screws (callout 6) to release the developing separation-drive assembly.

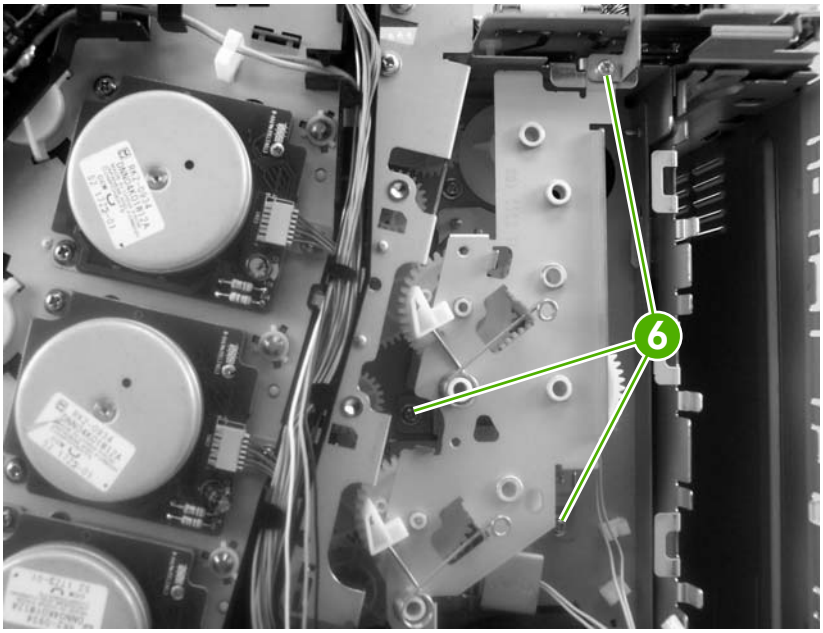
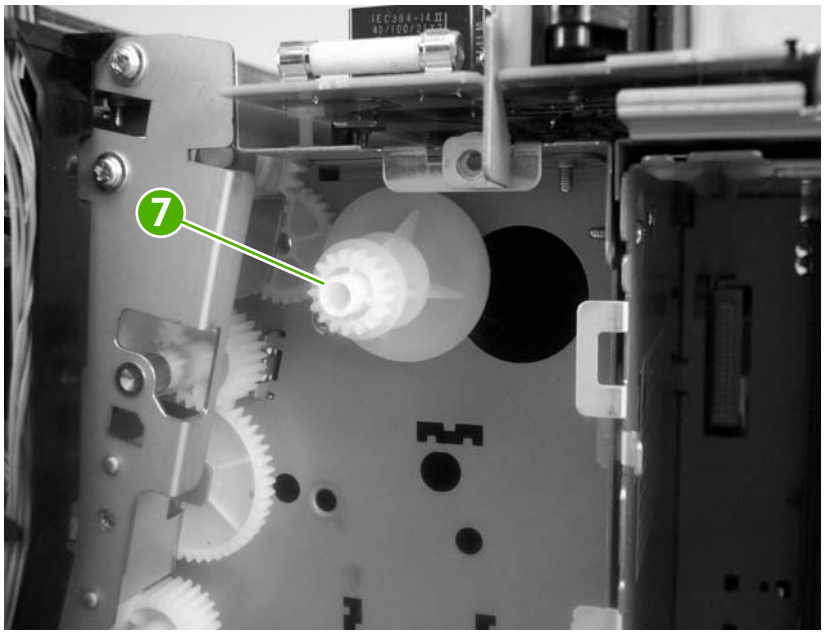


Figure 5-37 Remove the developing separation-drive assembly (4 of 4)

NOTE The upper drive gear (callout 7) behind the developing separation-drive assembly is *not* captive. Be careful not to lose the gear.



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Reinstall the developing separation-drive assembly

CAUTION While the developing separation-drive assembly is out of the printer, be careful not to rotate the gears or the cams. If the gears and cams are not in the correct position, a **59.C0 Error** could result. Before reinstalling the assembly, use the following procedure to verify that the gears and cams are in the correct position.

1. On the side of the developing separation-drive assembly, observe the position of the gears. Each gear has one tooth that is half-width. For each gear, this tooth should align with the oval hole on the back of the assembly (callout 1). If you need to rotate a gear, pull forward on the white lever (callout 2), to release the gear.

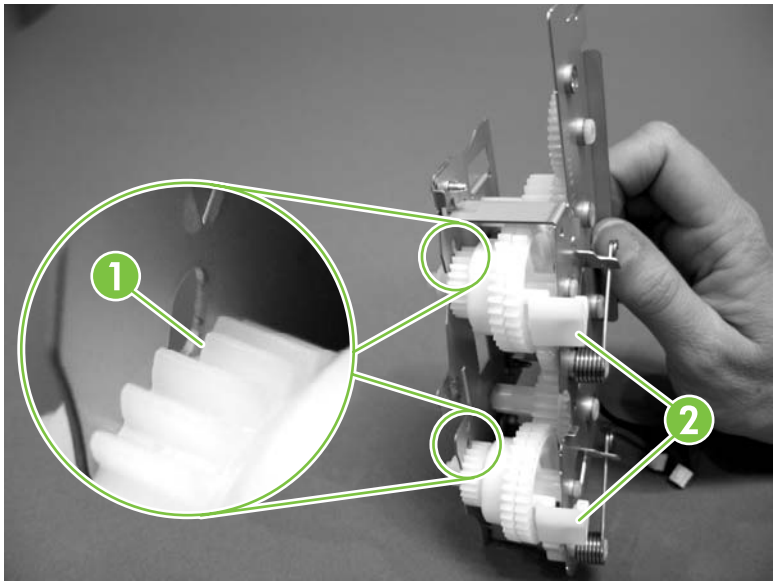

Figure 5-38 Reinstall the developing separation-drive assembly (1 of 2)

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2. Remove the ETB and the print cartridges from the printer. Observe the position of the black flags on the top and bottom cartridge-drive shafts (callout 3). Make sure that the shafts are rotated so that each flag is pointing straight back and seated in the photo sensor.

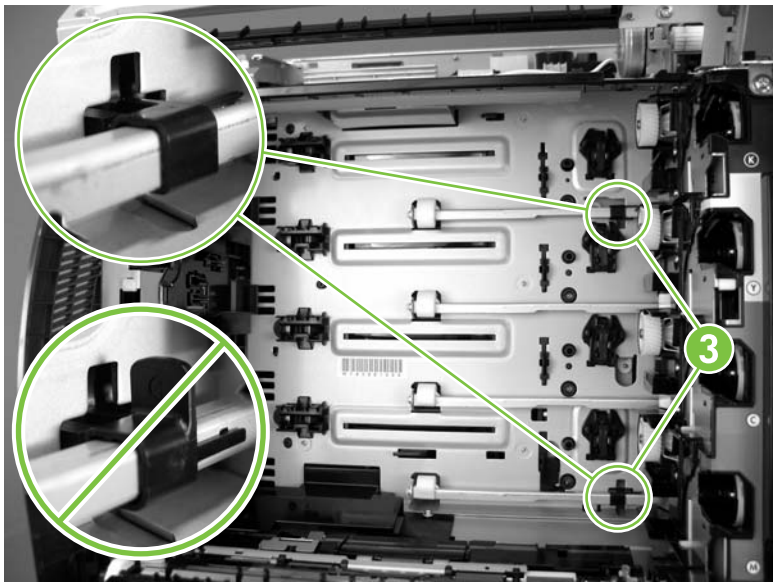

Figure 5-39 Reinstall the developing separation-drive assembly (2 of 2)

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Pickup-and-feed assembly

1. Remove the following components:
   - Front cover. See Front cover on page 97.
   - Left cover. See Left cover on page 104.
2. Disconnect one connector (callout 1) on the left side of the printer.

Tip Remove the wire-harness from the guide on the pickup-and-feed assembly to make it easier to detach the connector.

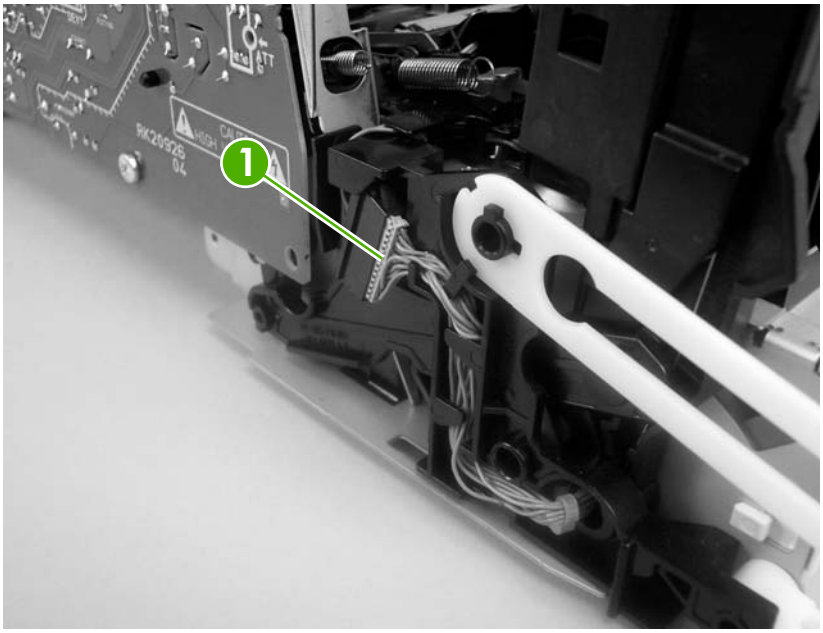

Figure 5-40 Remove the pickup-and-feed assembly (1 of 8)

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3. Remove one screw (callout 2), and then remove the gear cover.

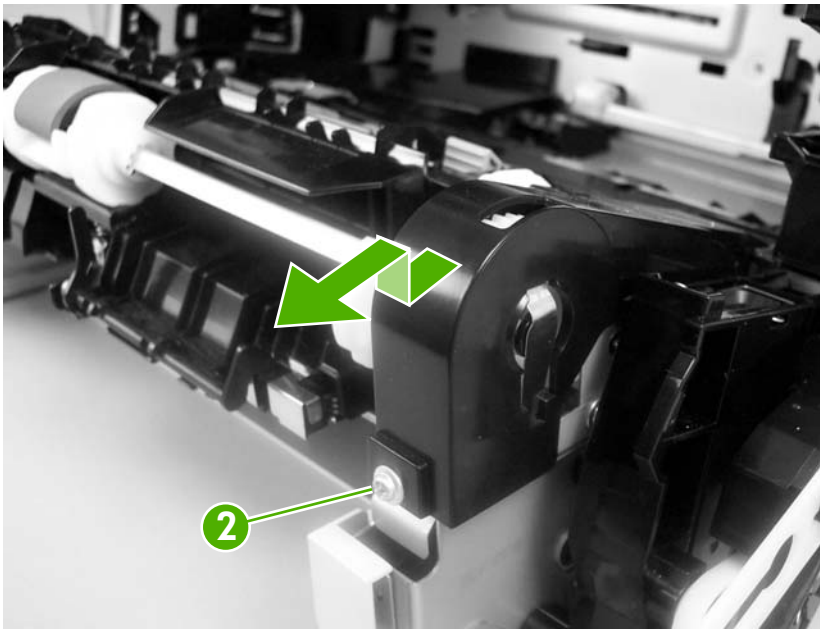

Figure 5-41 Remove the pickup-and-feed assembly (2 of 8)

4. Remove two screws (callout 3), and then remove the two sheet-metal covers (callout 4).

CAUTION Do not bend the locator tabs on the covers.

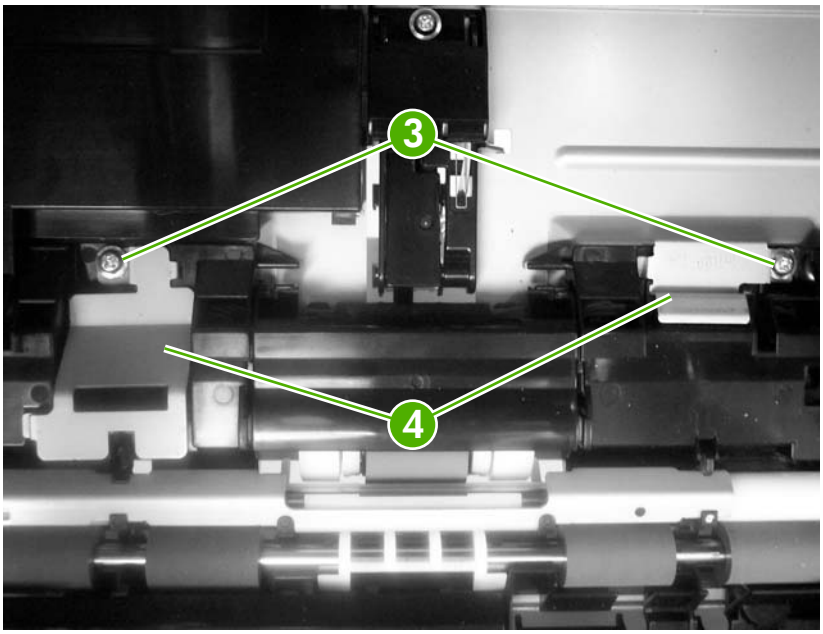

Figure 5-42 Remove the pickup-and-feed assembly (3 of 8)

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5. Release the locking tab (callout 5) on the pickup-and-feed driver PCA cover (callout 6), and then remove the cover.

CAUTION Do not damage or bend the print-cartridge high-voltage springs (callout 7) when you remove the cover.

Tip It might be easier to remove the cover if you squeeze the right end of the cover, and then lift it slightly up and to the right to release it.

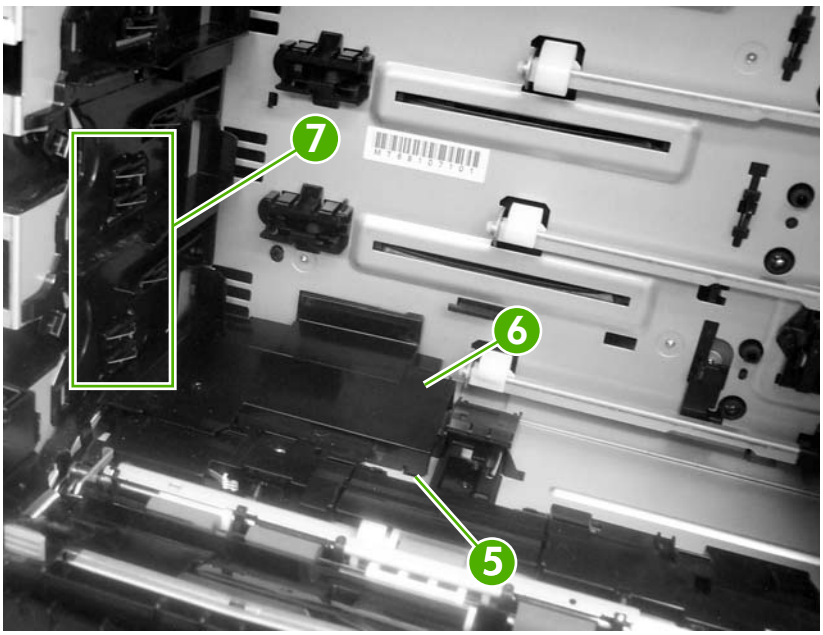

Figure 5-43 Remove the pickup-and-feed assembly (4 of 8)

6. Disconnect five connectors (callout 8).

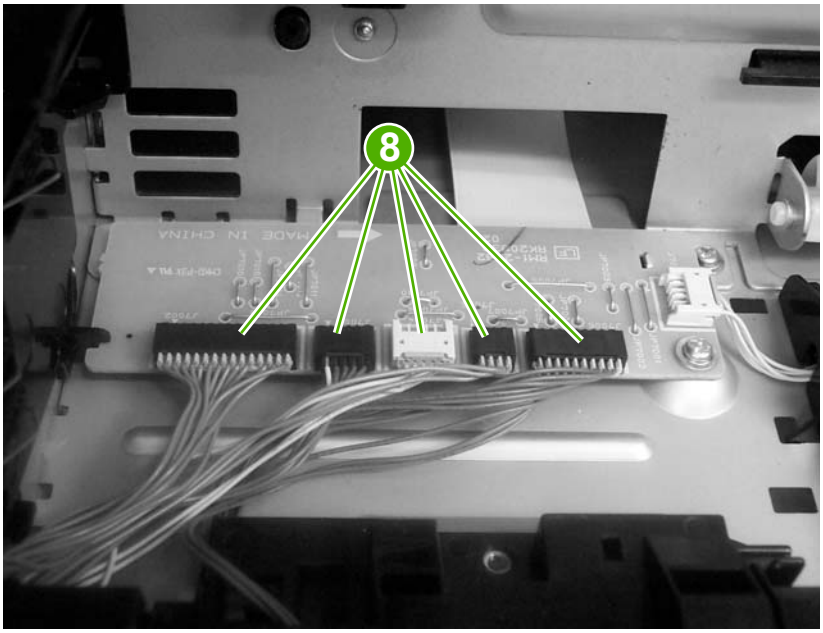

Figure 5-44 Remove the pickup-and-feed assembly (5 of 8)

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7. Remove two screws (callout 9) from the left side of the assembly.

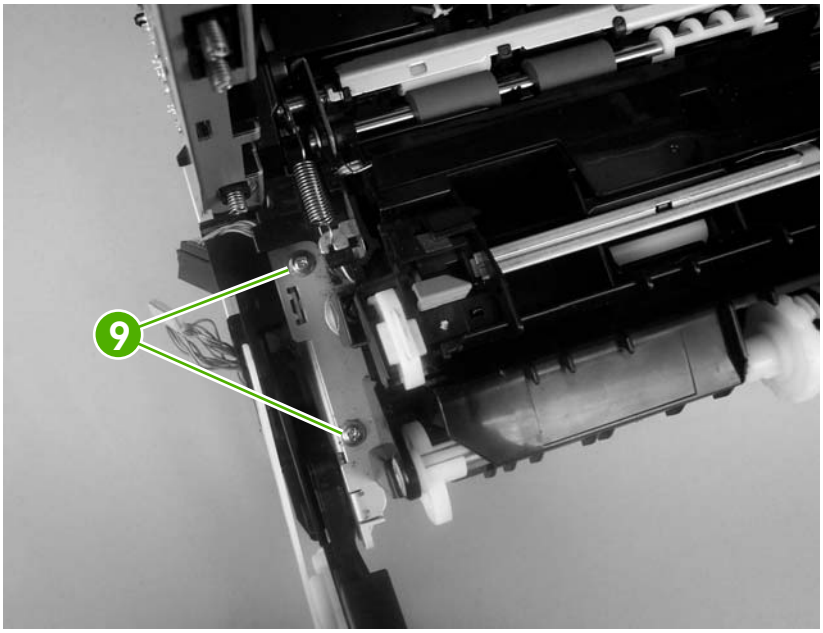

Figure 5-45 Remove the pickup-and-feed assembly (6 of 8)

8. Remove two screws (callout 10) from the right side of the assembly.

Tip When you reinstall the lower screw, you might need to rotate the cam so it does not block access to the screw-hole.

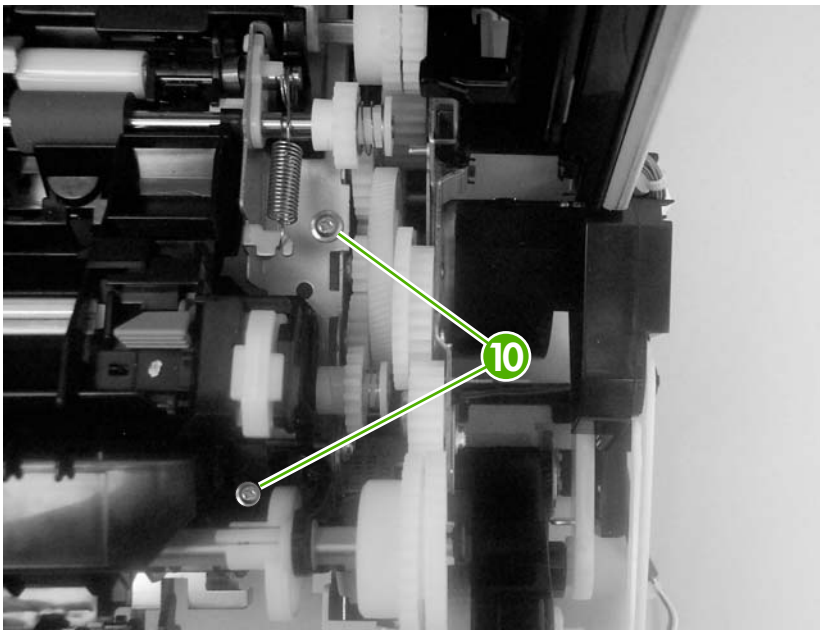

Figure 5-46 Remove the pickup-and-feed assembly (7 of 8)

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9. Lift the pickup-and-feed assembly out of the printer.

Figure 5-47 Remove the pickup-and-feed assembly (8 of 8)

Tip Slightly flex the chassis when you reinstall the pickup-and-feed assembly. Make sure that the assembly is flush with the chassis after it is installed.

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Pickup-drive assembly

1. Remove the following components:
    - Front cover. See Front cover on page 97.
    - Right cover. See Right cover on page 107.
    - Pickup-and-feed assembly. See Pickup-and-feed assembly on page 124.

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2. Release the locking tab (callout 1) on the cassette guide rail to the right, and slide the rail forward to remove it.

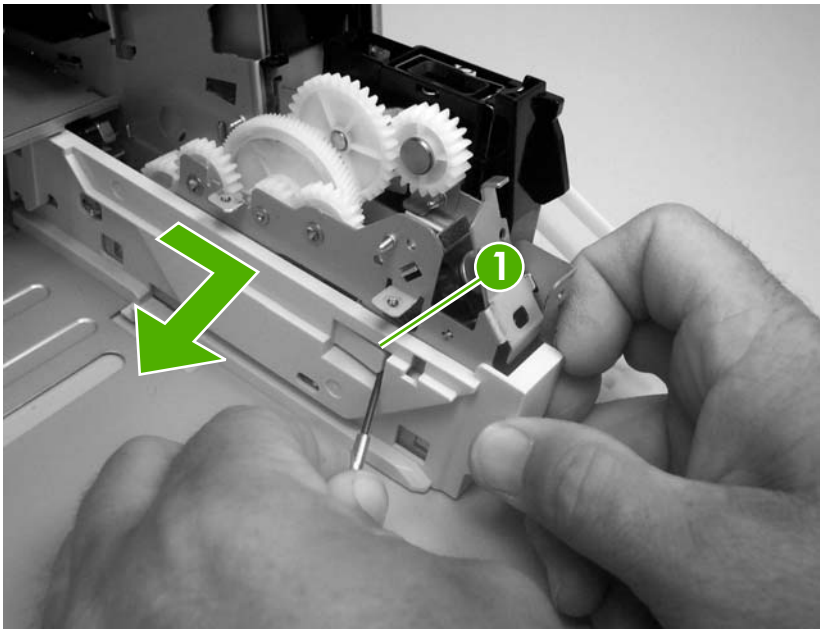
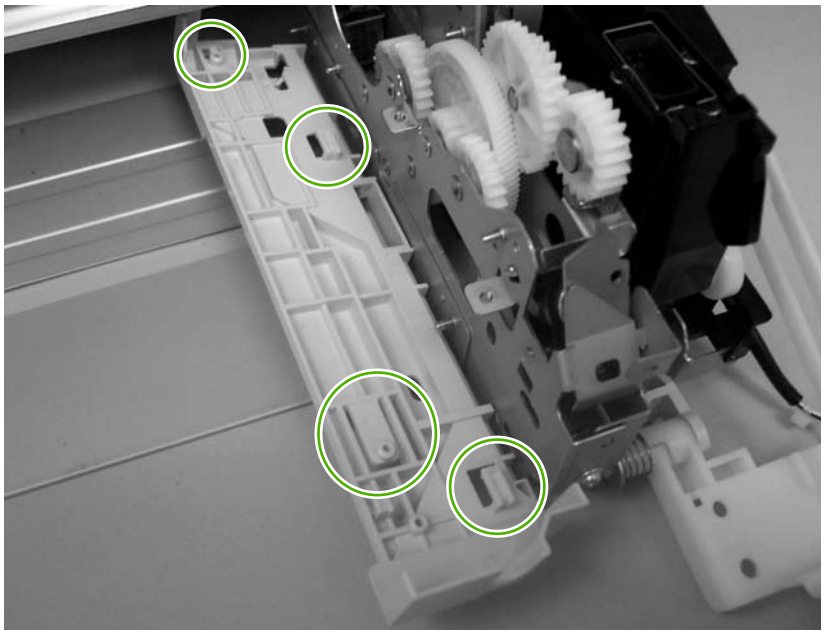


Figure 5-48 Remove the pickup-drive assembly (1 of 13)

NOTE This photograph shows the locking tab and retainers on the guide rail.



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3. Remove one screw (callout 2) and remove the front-cover hinge (callout 3).

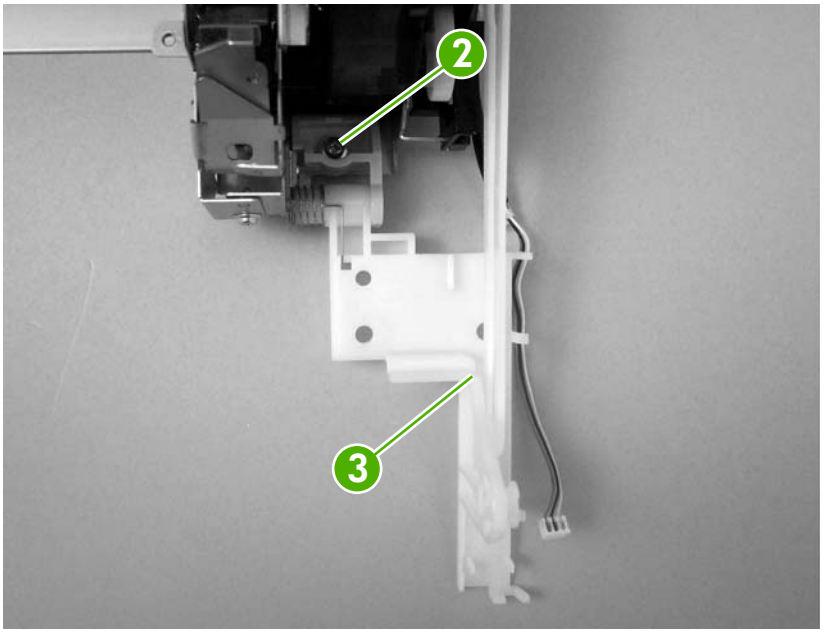

Figure 5-49 Remove the pickup-drive assembly (2 of 13)

4. Rotate the retainer arm (callout 4) up until the tab on the pivot pin (callout 5) is aligned with the slot in the retainer arm, and then slide the retainer off of the pivot pin.

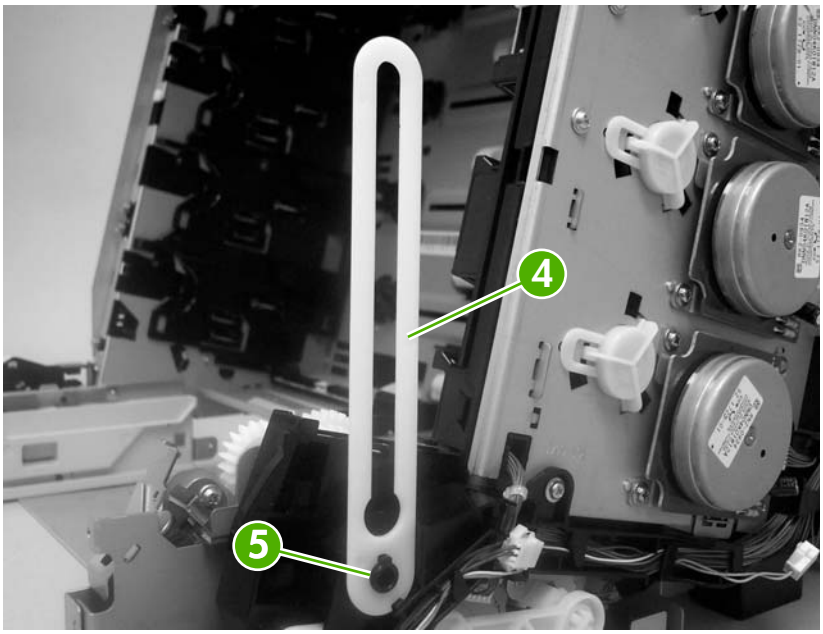

Figure 5-50 Remove the pickup-drive assembly (3 of 13)

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5. Remove all of the wire-harnesses from the guide (callout 6).

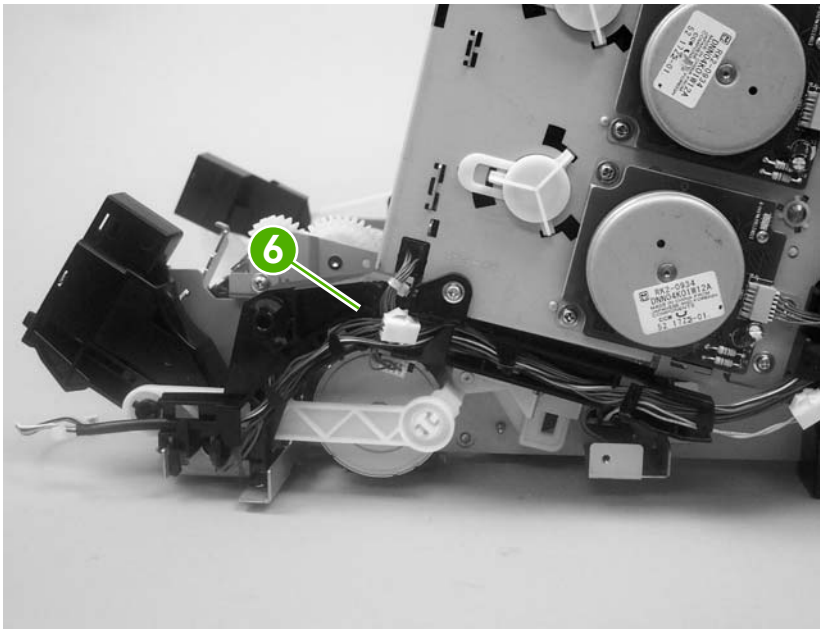

Figure 5-51 Remove the pickup-drive assembly (4 of 13)

6. Disconnect three connectors (callout 7).

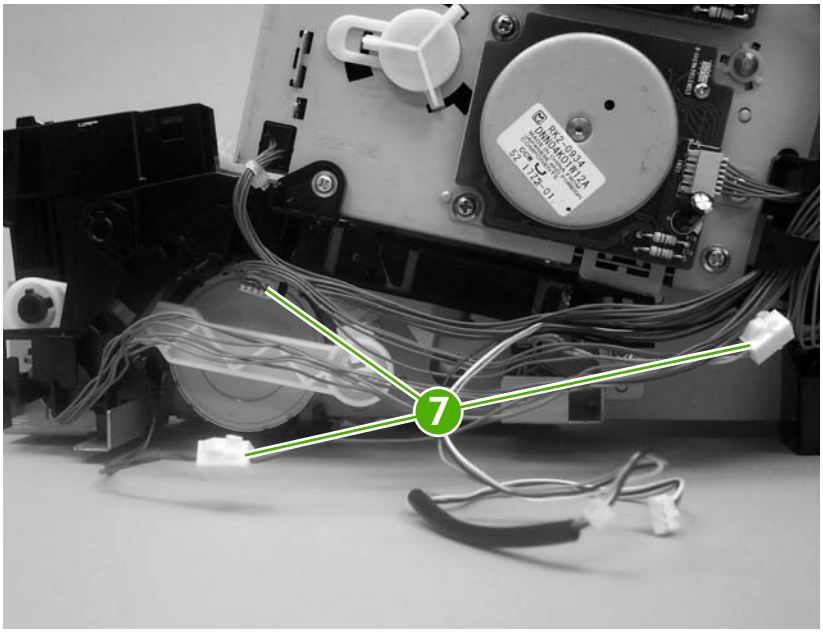

Figure 5-52 Remove the pickup-drive assembly (5 of 13)

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7. Remove one screw (callout 8), and then lift up on the locking tab (callout 9) to release it. Remove the guide (callout 10).

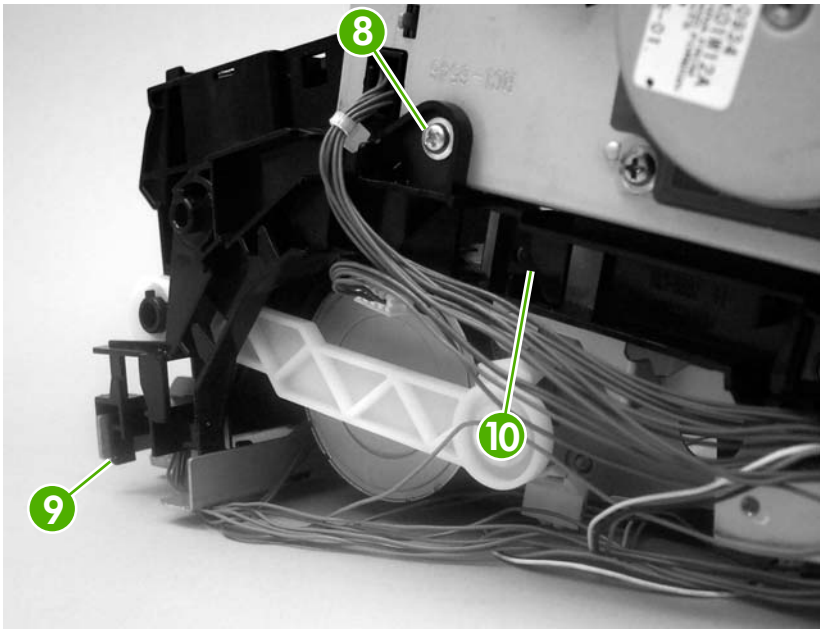
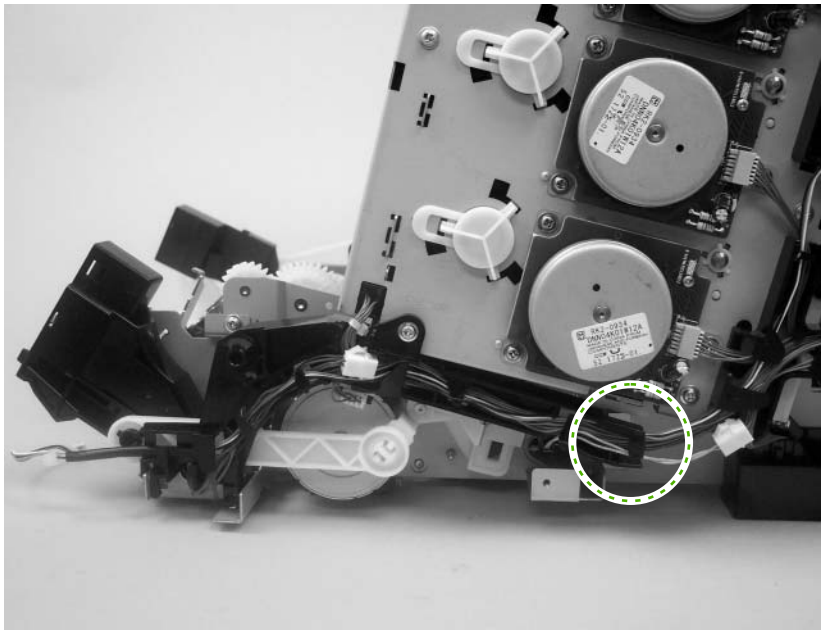


Figure 5-53 Remove the pickup-drive assembly (6 of 13)

Tip When you reinstall the guide, make sure that the rear locking tab is seated in the sheet-metal chassis.



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8. Release the retainer tabs on the ETB connector link arm (callout 11) and slide the link arm off of the pivot pin.

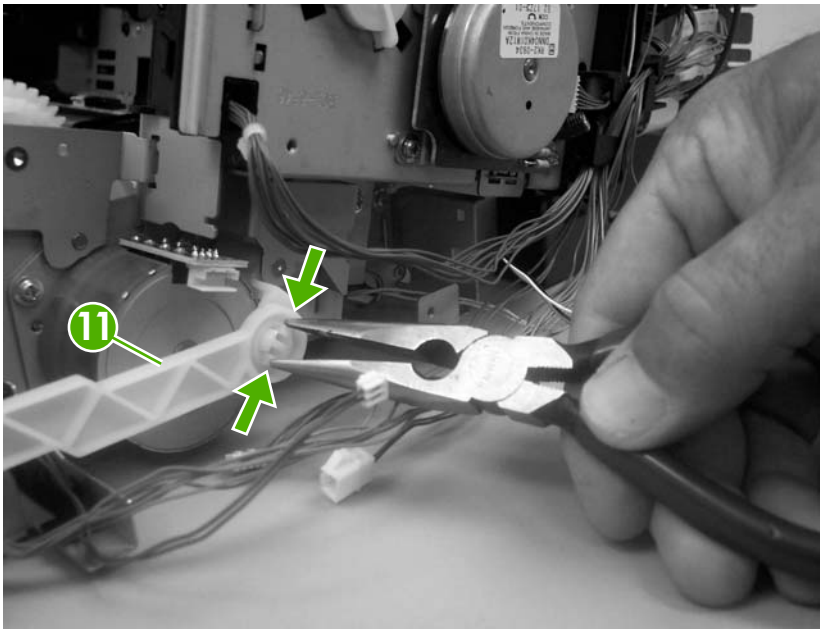

Figure 5-54 Remove the pickup-drive assembly (7 of 13)

9. Rotate the link arm until the tab on the pivot pin (callout 12) is aligned with the slot in the link arm. Remove the link arm.

Tip The link arm causes the print-cartridge-shutter doors to open when the front cover is closed. If the shutter doors are not operating correctly, make sure that the link arm is correctly installed.

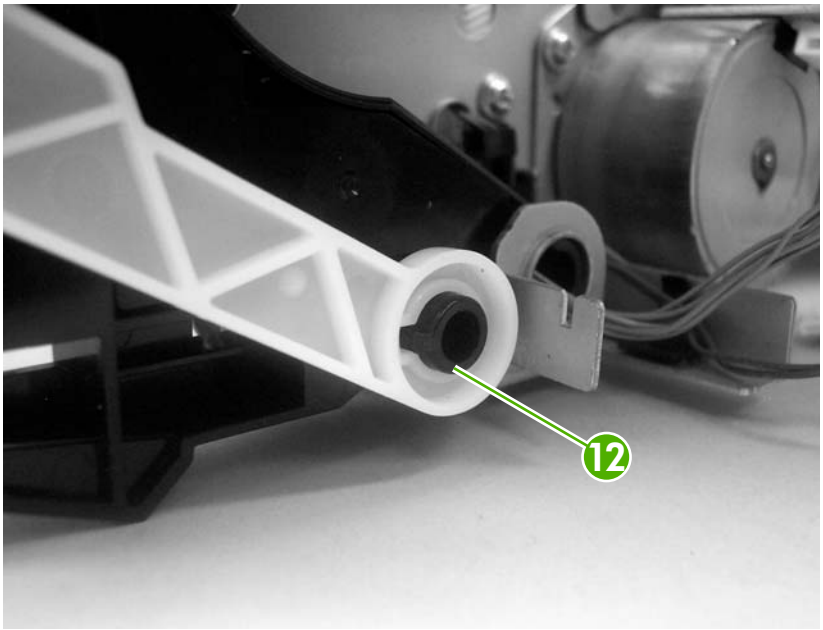

Figure 5-55 Remove the pickup-drive assembly (8 of 13)

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10. Remove two screws (callout 13), and then remove the ETB connector bracket (callout 14).

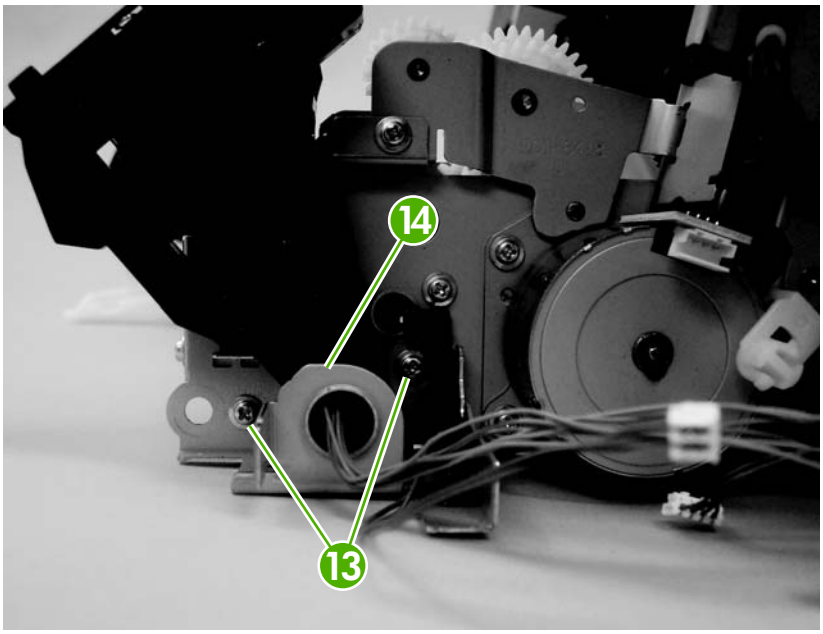

Figure 5-56 Remove the pickup-drive assembly (9 of 13)

11. Remove one screw (callout 15), and then remove the sheet-metal support bracket (callout 16).

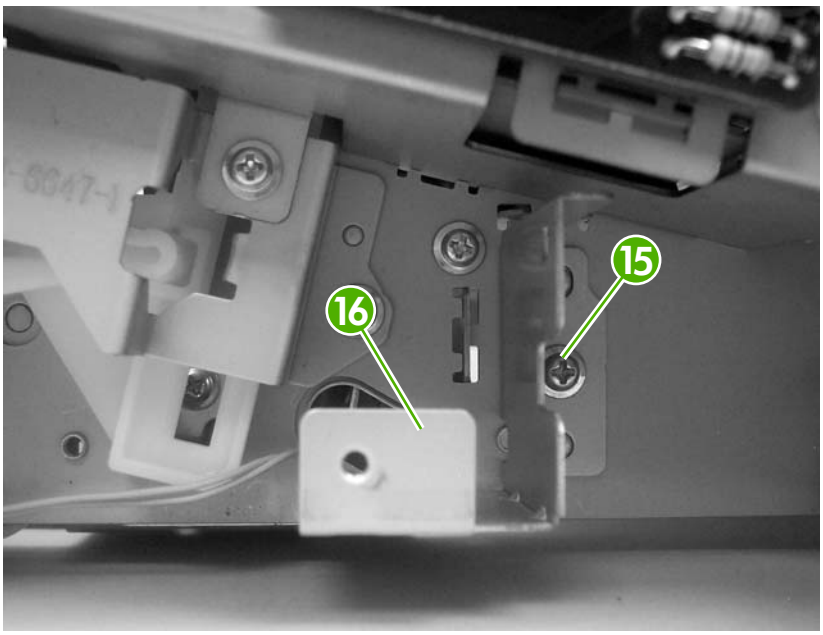

Figure 5-57 Remove the pickup-drive assembly (10 of 13)

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12. Remove four screws (callout 17).

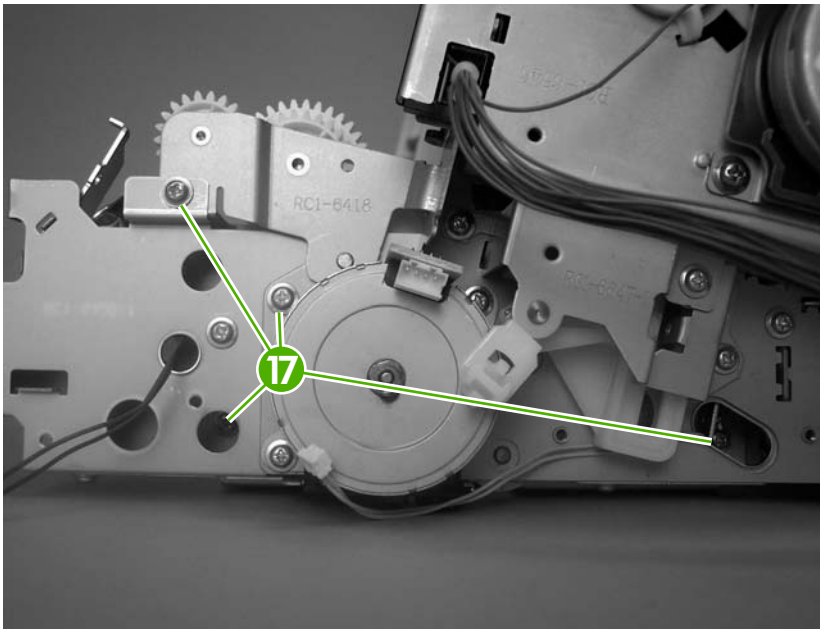

Figure 5-58 Remove the pickup-drive assembly (11 of 13)

13. Carefully turn the printer onto its right side. Gently pry the sheet-metal bottom plate off of its locator pins (callout 18) and away from the pickup-drive assembly (callout 19).

NOTE The plastic printer foot can be dislodged when the bottom plate is separated from the chassis. Be careful to not lose the printer foot.

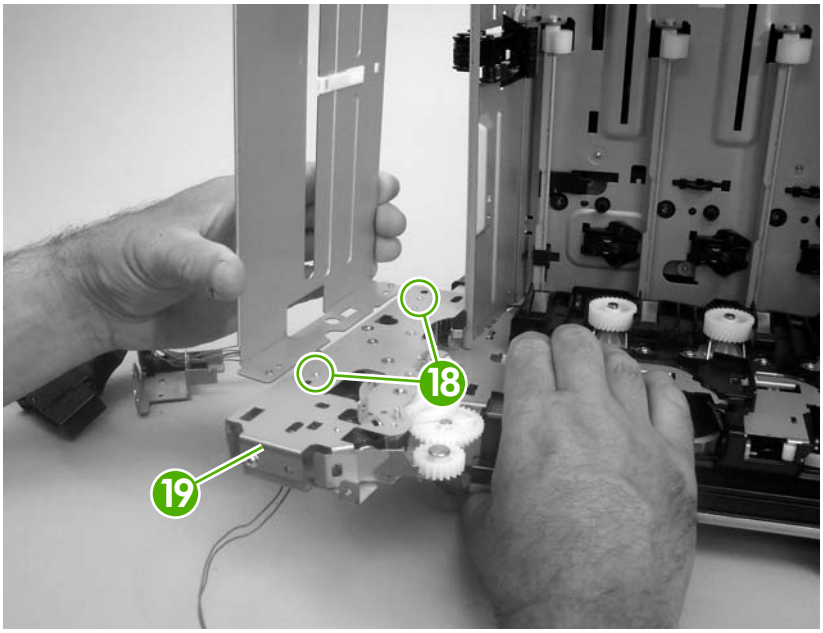

Figure 5-59 Remove the pickup-drive assembly (12 of 13)

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14. Remove two screws (callout 20) to release the pickup-drive assembly.

NOTE Figure 5-60 Remove the pickup-drive assembly (13 of 13) on page 137 shows the pickup drive assembly from the tray 2 cassette side.

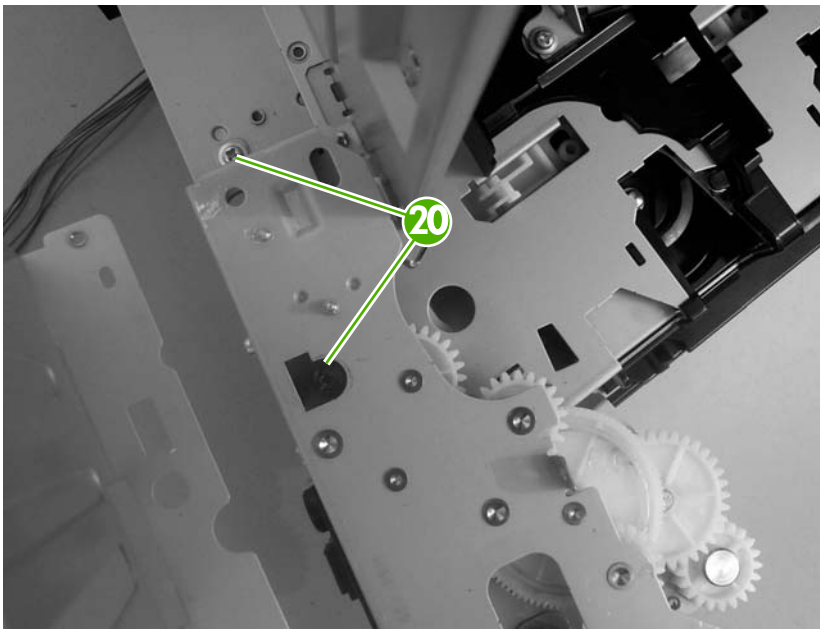
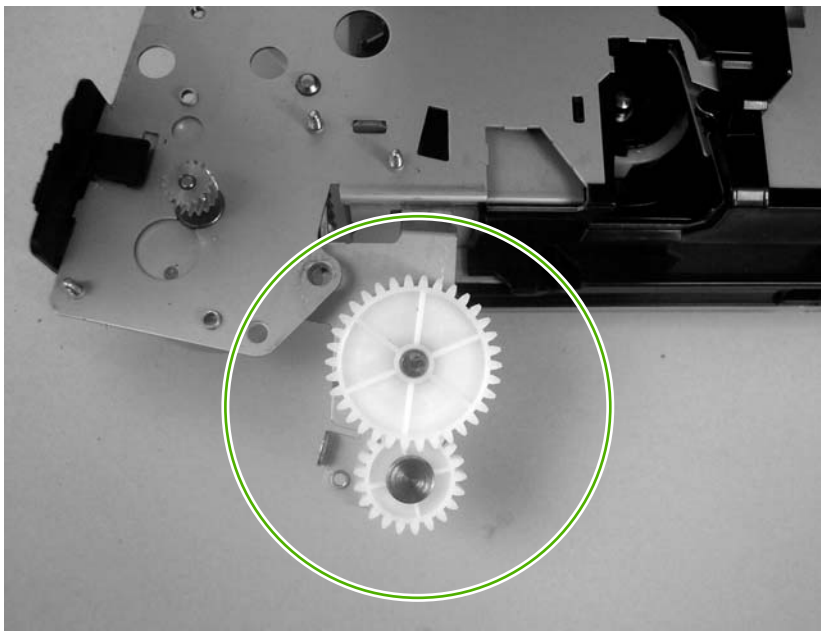


Figure 5-60 Remove the pickup-drive assembly (13 of 13)

CAUTION The small gear assembly above the pickup-drive-assembly motor is *not* captive. Do not lose the gears when you remove the drive assembly.



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Laser/scanner assembly

NOTE Always perform a full calibration procedure when you replace the laser/scanner assembly.

1. Remove the following components:
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Right cover. See Right cover on page 107.
   - Rear upper cover. See Rear upper cover on page 111.
2. Remove four screws (callout 1) and remove the sheet-metal shield (callout 2).

NOTE Only three screws secure the sheet-metal shield, but removing the fourth screw is necessary for tasks later in this procedure.

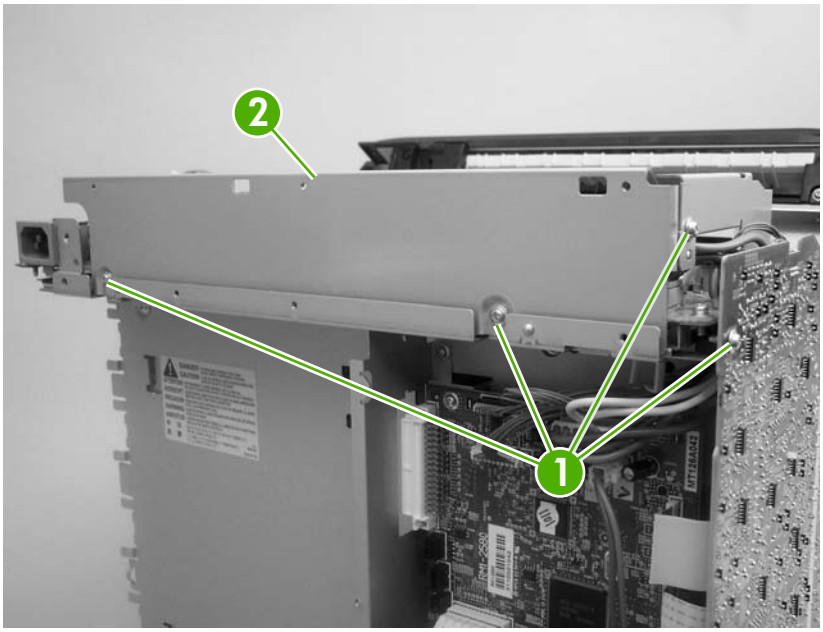

Figure 5-61 Remove the laser/scanner assembly (1 of 6)

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3. Disconnect all of the wire-harness connectors and flat flexible cables (FFCs) on the DC controller PCA (eight wire-harness connectors and eight FFCs).

CAUTION Do not bend or fold the FFCs during removal or installation.

NOTE Remove the wire-harnesses from all of the retainers near the DC controller.

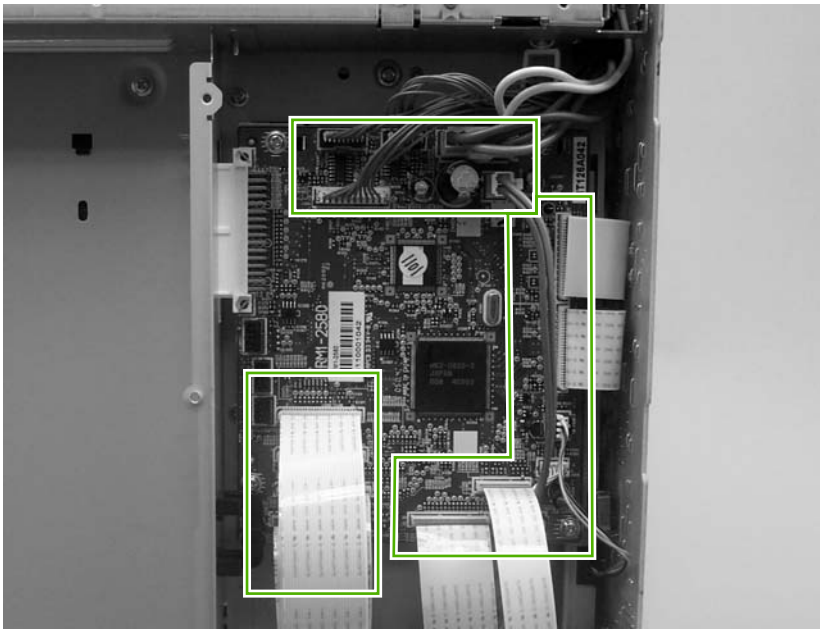

Figure 5-62 Remove the laser/scanner assembly (2 of 6)

4. Remove 10 screws (callout 3). Push up on the sheet-metal shield to release it from the printer chassis, and remove it.

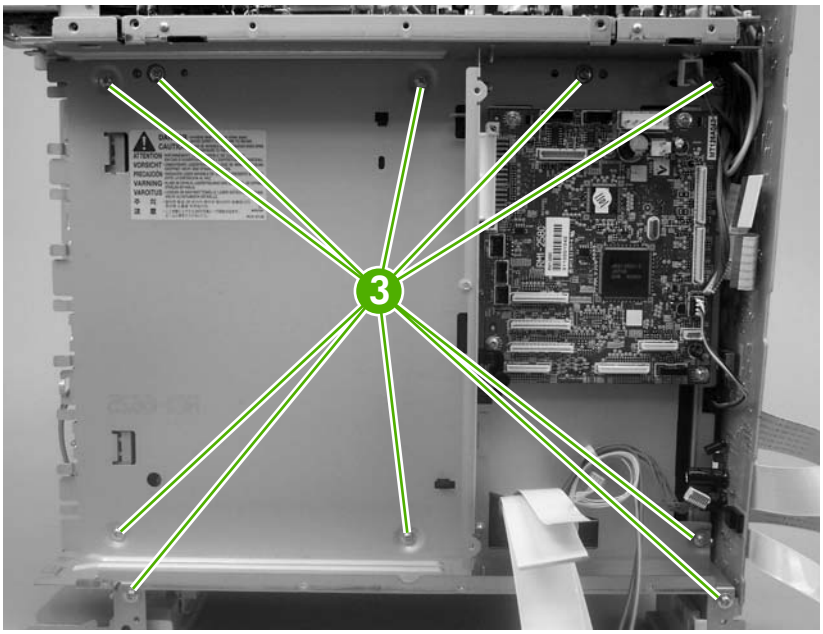

Figure 5-63 Remove the laser/scanner assembly (3 of 6)

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5. Remove the laser/scanner wire-harness from the guide (callout 4) and the retainer (callout 5).

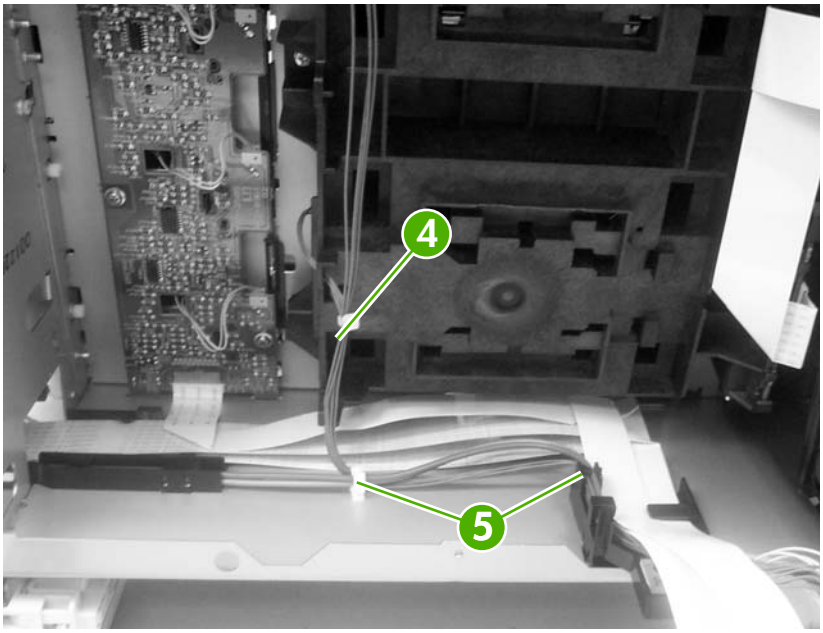

Figure 5-64 Remove the laser/scanner assembly (4 of 6)

6. Disconnect two FFCs (callout 6), and then remove five screws (callout 7). Remove the laser/scanner.

CAUTION Do not bend or fold the FFCs during removal or installation.

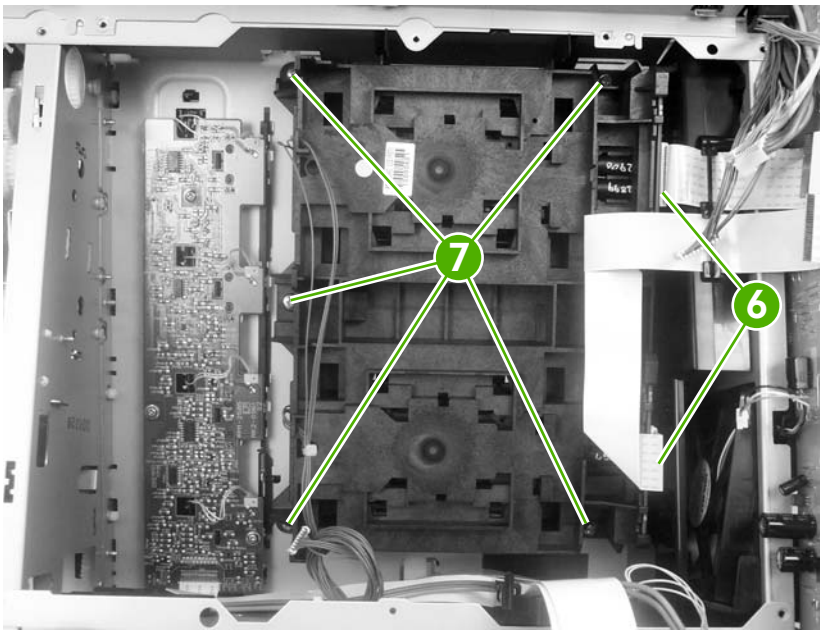

Figure 5-65 Remove the laser/scanner assembly (5 of 6)

Tip When you reinstall the laser/scanner, the longest FFC connects to the bottom connector, and the short FFC connects to the top connector on the laser/scanner.

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7. Disconnect two wire-harnesses (callout 8).

CAUTION To prevent ESD damage, do not touch the laser/scanner PCAs (callout 9) or the laser/scanner lenses (callout 10).

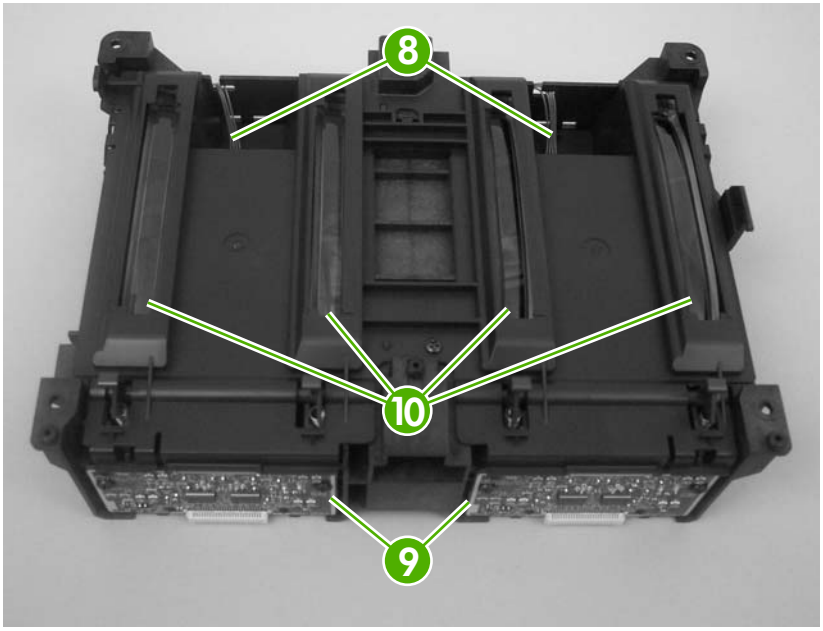

Figure 5-66 Remove the laser/scanner assembly (6 of 6)

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Main fan

1. Remove the following components:
   - Fuser. See Fuser on page 115.
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Rear upper cover. See Rear upper cover on page 111.
   - High-voltage power supply. See High-voltage power supply on page 150.
2. Disconnect one connector (callout 1; J1008) on the DC controller.

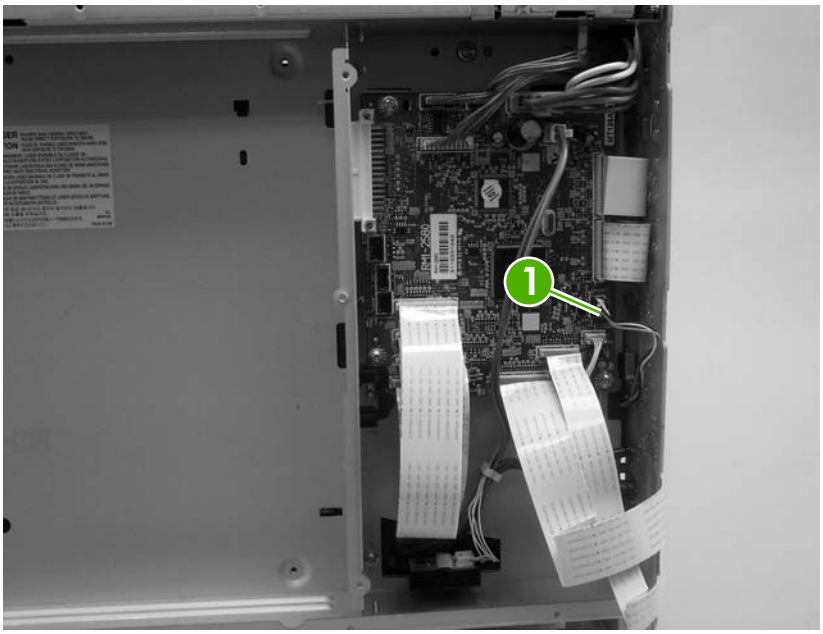

Figure 5-67 Remove the main fan (1 of 2)

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3. Remove one screw (callout 2) to release the fan.

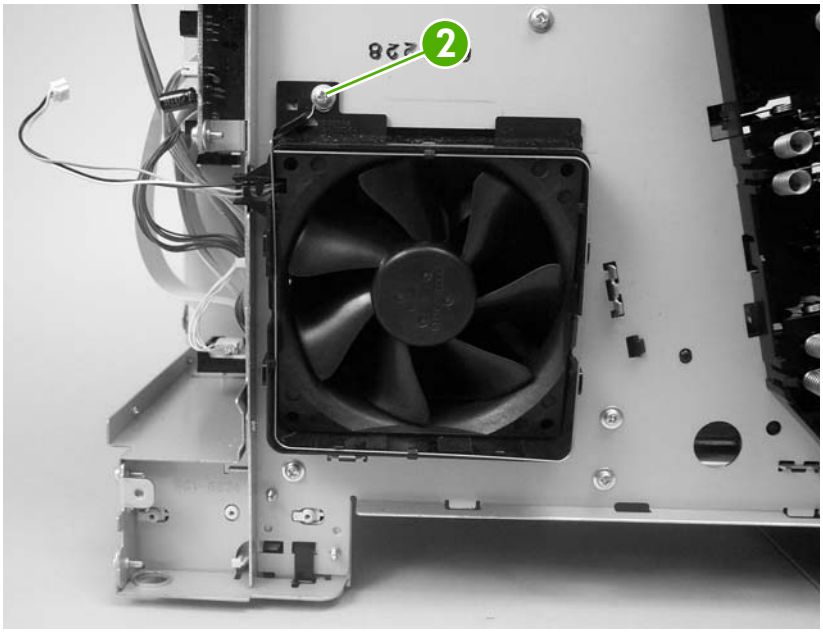

Figure 5-68 Remove the main fan (2 of 2)

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Printed circuit assemblies (PCAs)

NOTE For information about removing the 500-sheet feeder PCA, see 500-sheet feeder driver PCA on page 172 in the 500-sheet feeder section of this chapter.

Low-voltage power-supply PCA

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

CAUTION When you turn off the printer, the capacitor inside the low-voltage power supply retains electrical charge. To avoid electrical shock, use the low-voltage power-supply discharge tool to drain the capacitor. This tool is available from HP; order part number RK2–1007–01. The tool comes with instructions that explain how to use it.

1. Remove the following components:
   - Fuser. See Fuser on page 115.
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Right cover. See Right cover on page 107.
   - Rear upper cover. See Rear upper cover on page 111.

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2. Disconnect four wire-harness (callout 1; J1004, J1005, J1002 and J1006) on the DC controller PCA and remove the wire-harnesses from the retainer.

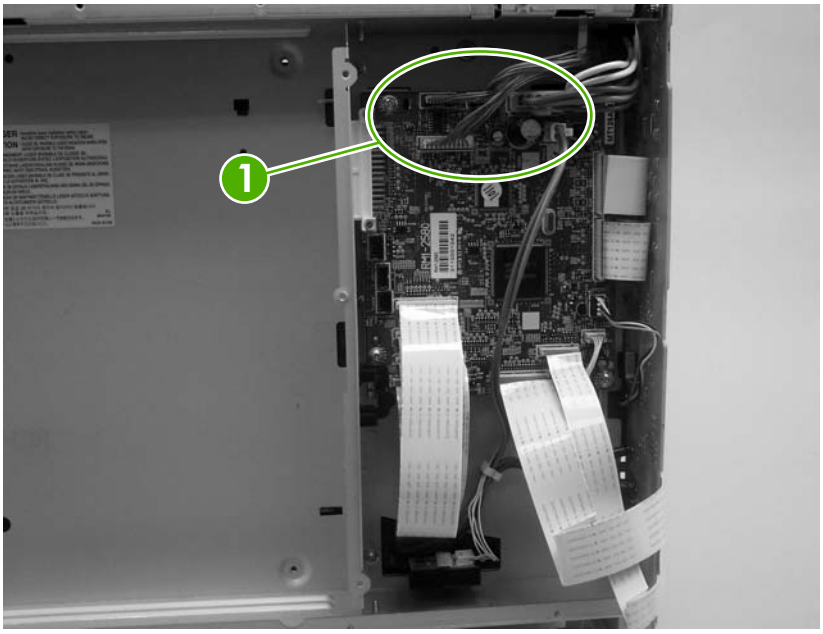

Figure 5-69 Remove the low-voltage power-supply PCA (1 of 6)

3. Remove four screws (callout 2), and then remove the sheet-metal shield (callout 3).

NOTE It might not appear that you need to remove the screw securing the high-voltage power supply to the chassis, but it must be removed to feed the low-voltage power supply wire-harnesses out of the printer later in this procedure.

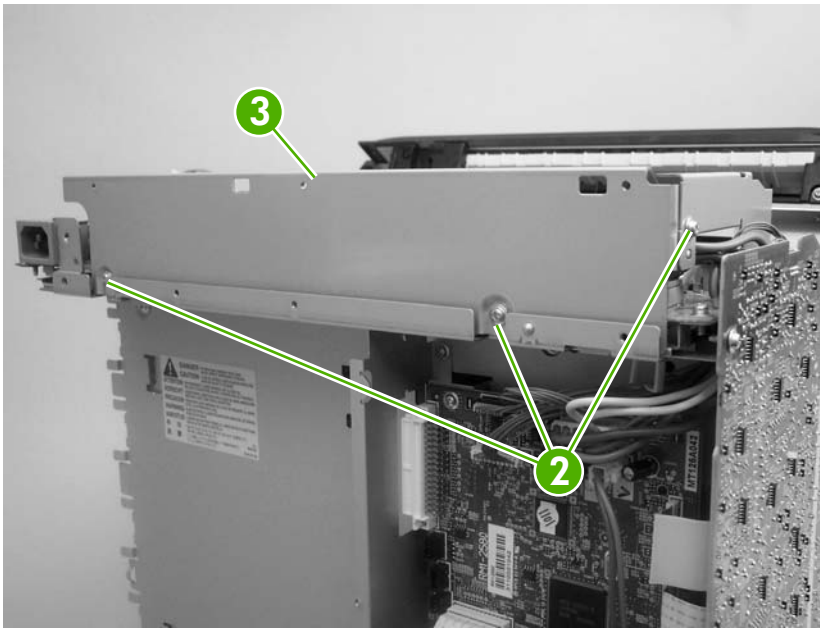

Figure 5-70 Remove the low-voltage power-supply PCA (2 of 6)

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4. Remove one screw (callout 4).

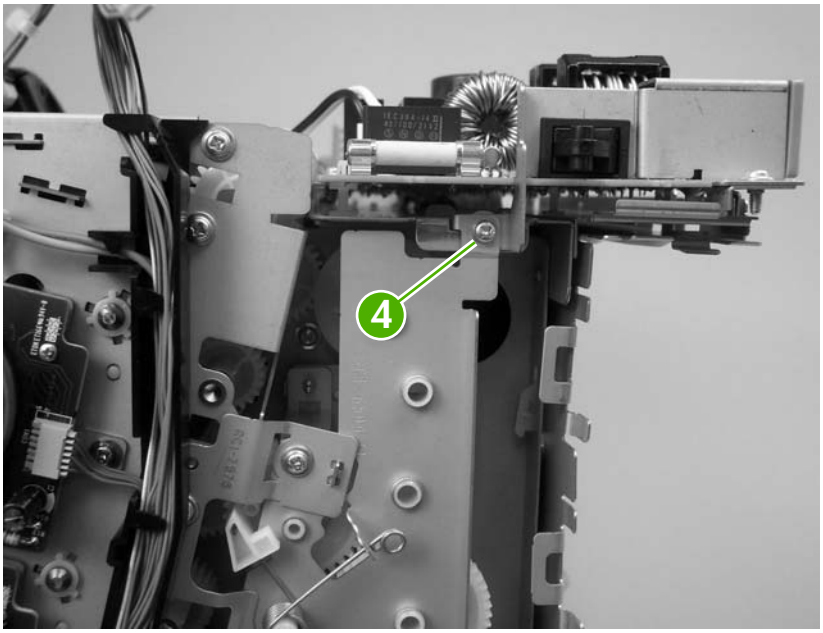

Figure 5-71 Remove the low-voltage power-supply PCA (3 of 6)

5. Disconnect one connector (callout 5), and remove five screws (callout 6).

NOTE Two of the screws have washers attached to them. Make sure that these screws are reinstalled in the same place that they are removed from.

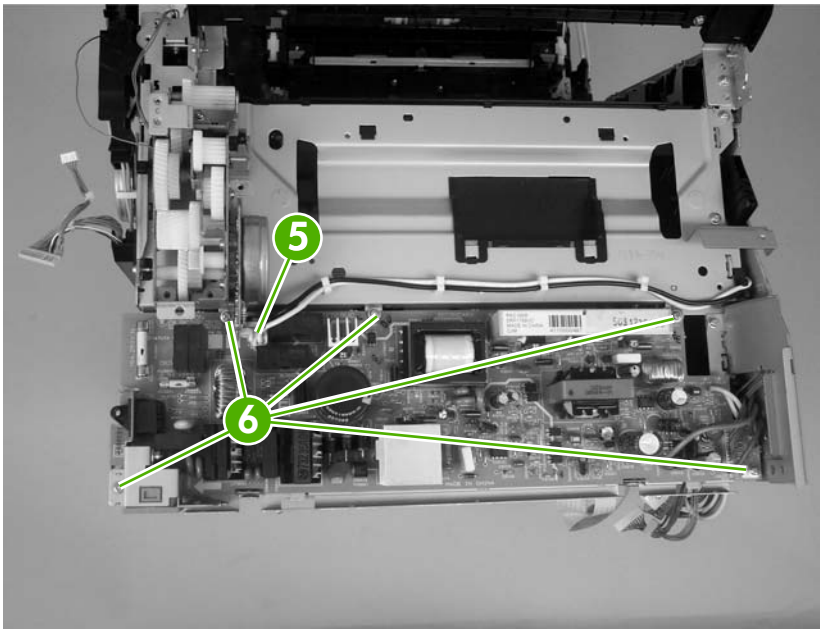

Figure 5-72 Remove the low-voltage power-supply PCA (4 of 6)

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6. Use needle-nose pliers to gently squeeze the retainer tabs on the PCA standoff, and carefully pull up on the PCA to release it.

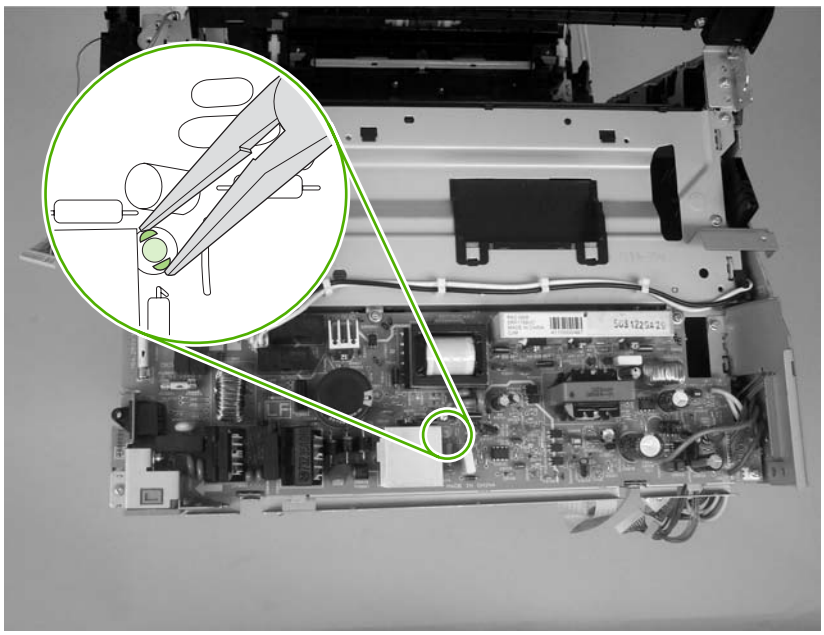

Figure 5-73 Remove the low-voltage power-supply PCA (5 of 6)

7. Lift the low-voltage power-supply PCA off of the printer chassis.

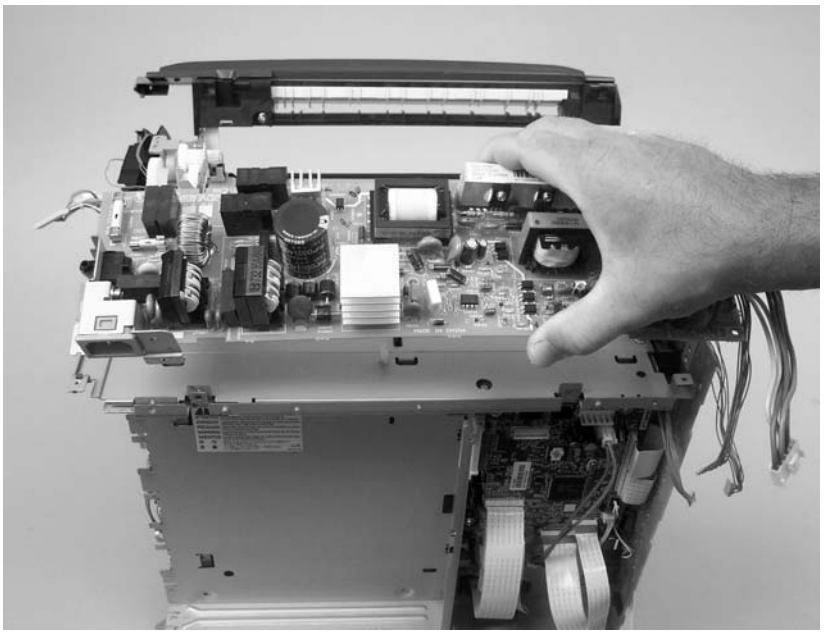

Figure 5-74 Remove the low-voltage power-supply PCA (6 of 6)

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DC controller PCA

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Remove the following components:
   - Formatter cage. See Formatter cage on page 112.
   - Fuser. See Fuser on page 115.
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Rear upper cover. See Rear upper cover on page 111.
2. Disconnect all of the wire-harness connectors and FFCs on the DC controller PCA (eight wire-harness connectors and eight FFCs).

CAUTION Do not bend or fold the FFCs during removal or installation.

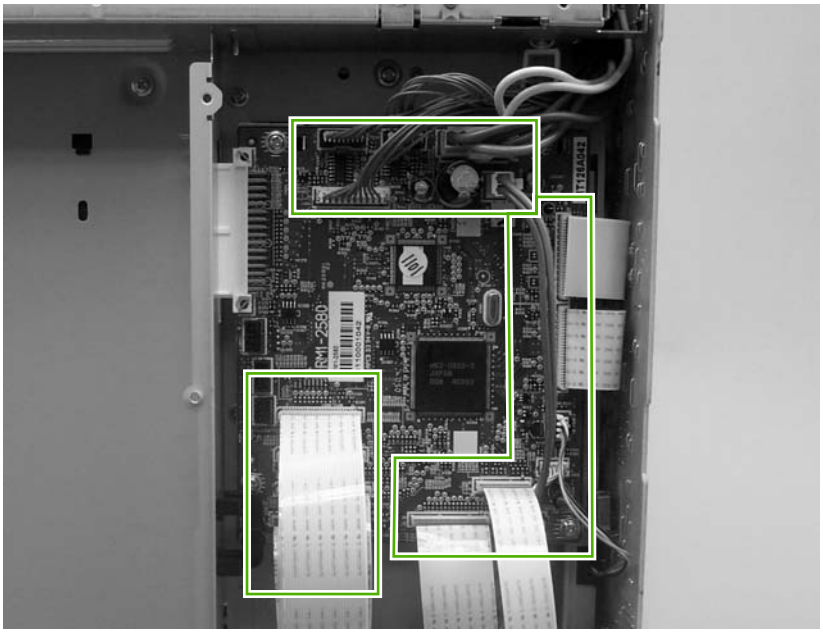

Figure 5-75 Remove the DC controller PCA (1 of 3)

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3. Release four locking tabs (callout 1), and then remove the engine-test print switch (callout 2).

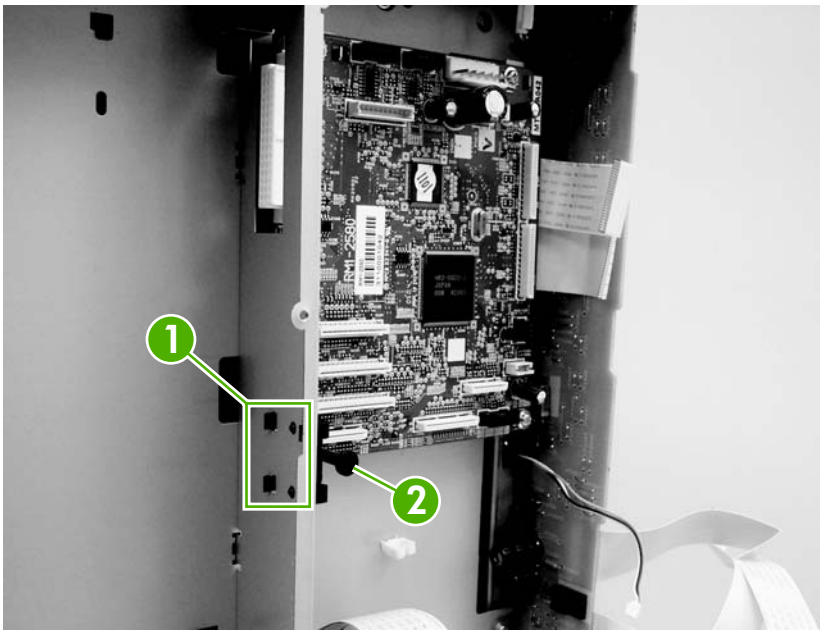

Figure 5-76 Remove the DC controller PCA (2 of 3)

4. Remove four screws (callout 3) to release the DC controller PCA.

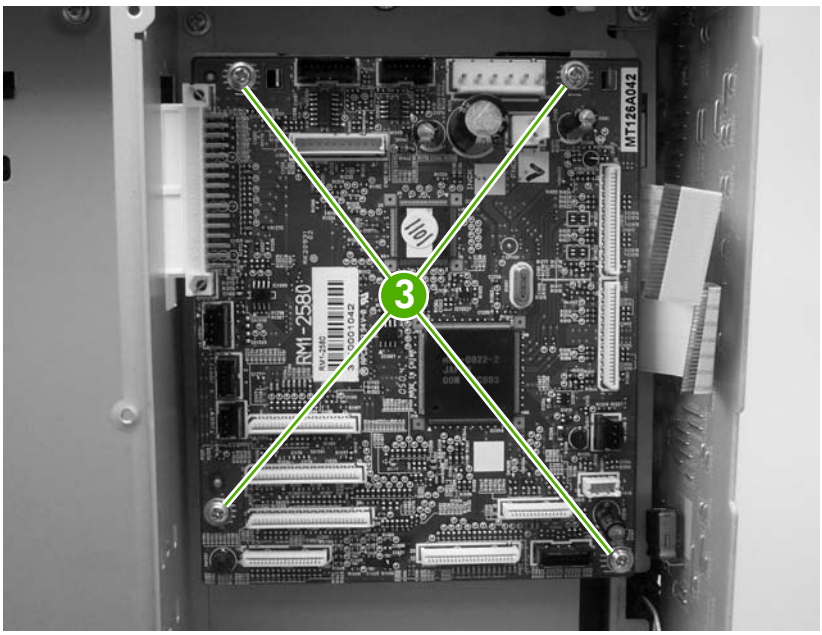

Figure 5-77 Remove the DC controller PCA (3 of 3)

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High-voltage power supply

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Remove the following components:
   - Fuser. See Fuser on page 115.
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Rear upper cover. See Rear upper cover on page 111.
2. Disconnect two FFCs (callout 1, J1009, and J1019) on the DC controller.

CAUTION Do not bend or fold the FFCs during removal or installation.

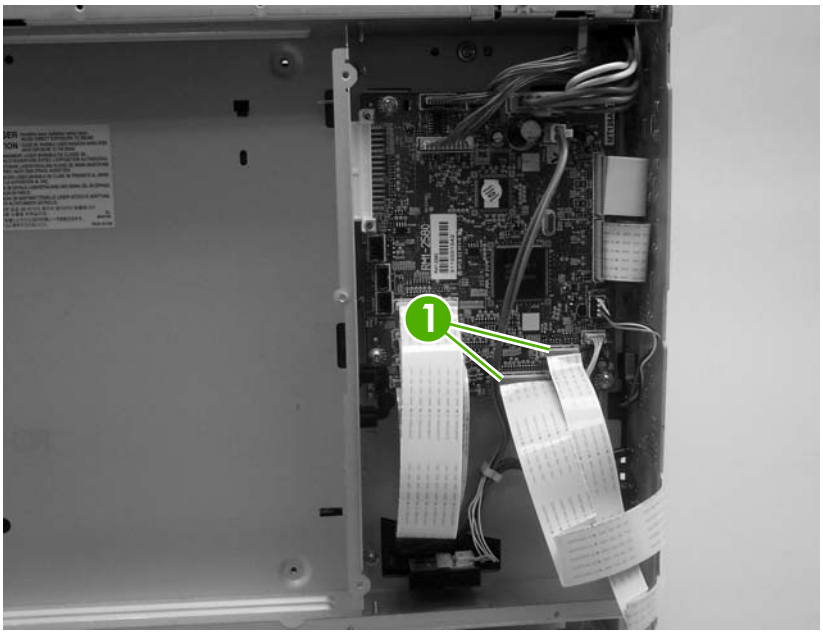

Figure 5-78 Remove the high-voltage power supply (1 of 3)

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3. Remove four screws (callout 2), and then disconnect two connectors (callout 3).

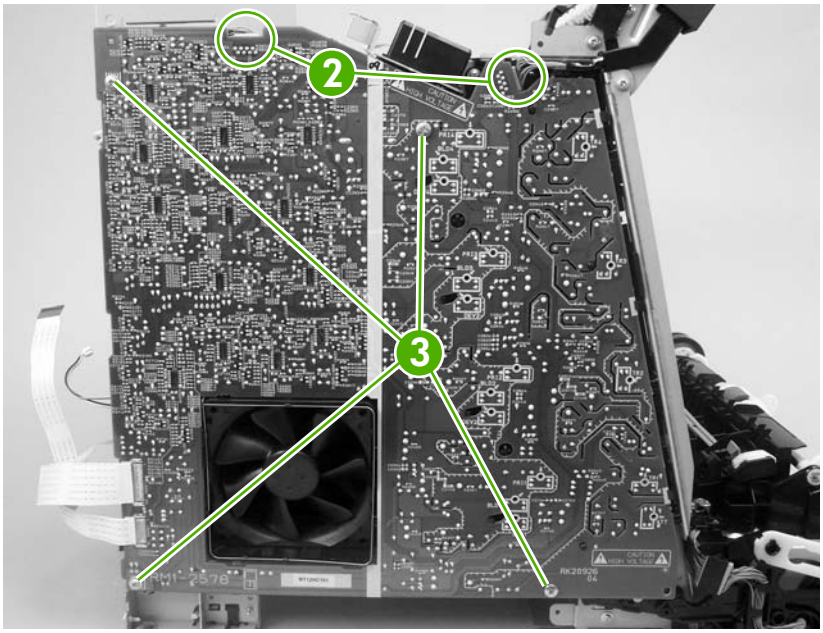

Figure 5-79 Remove the high-voltage power supply (2 of 3)

4. Release seven locking tabs (callout 4), and then remove the high-voltage power supply.

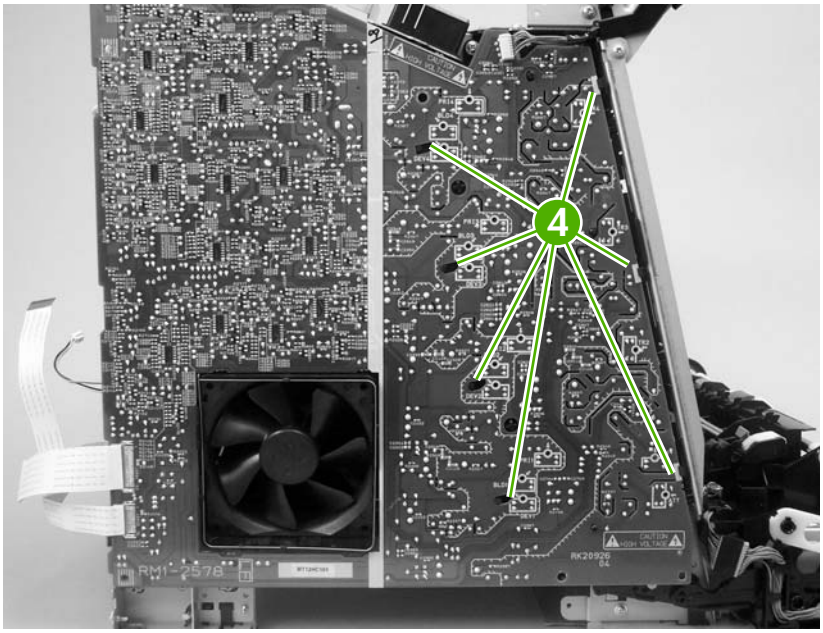

Figure 5-80 Remove the high-voltage power supply (3 of 3)

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Memory-controller PCA

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Remove the following components:
   - Fuser. See Fuser on page 115.
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Right cover. See Right cover on page 107.
   - Rear upper cover. See Rear upper cover on page 111.
2. Remove one FFC (callout 1) from the cable guide (callout 2).

CAUTION Do not bend or fold the FFCs during removal or installation.

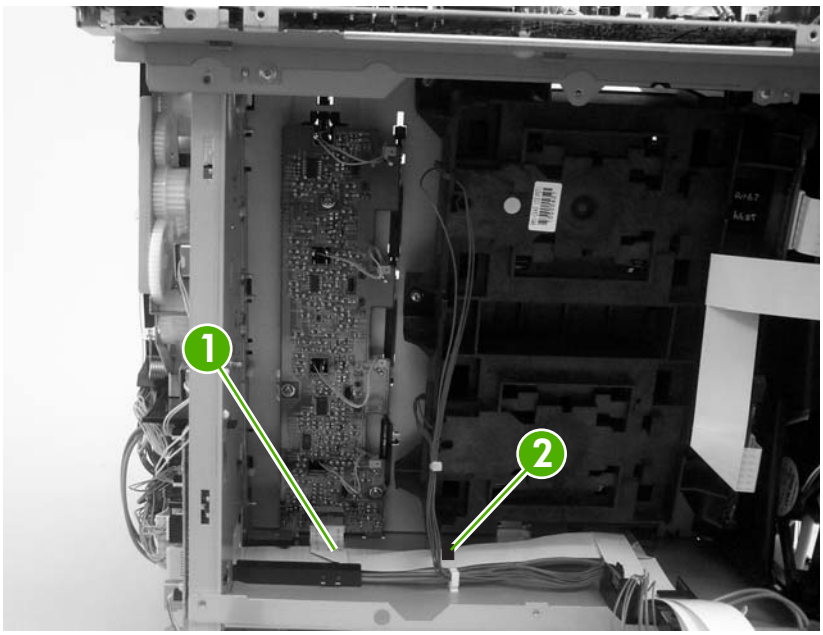

Figure 5-81 Remove the memory-controller PCA (1 of 2)

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3. Disconnect four connectors (callout 3), and then remove three screws (callout 4) to release the memory-controller PCA.

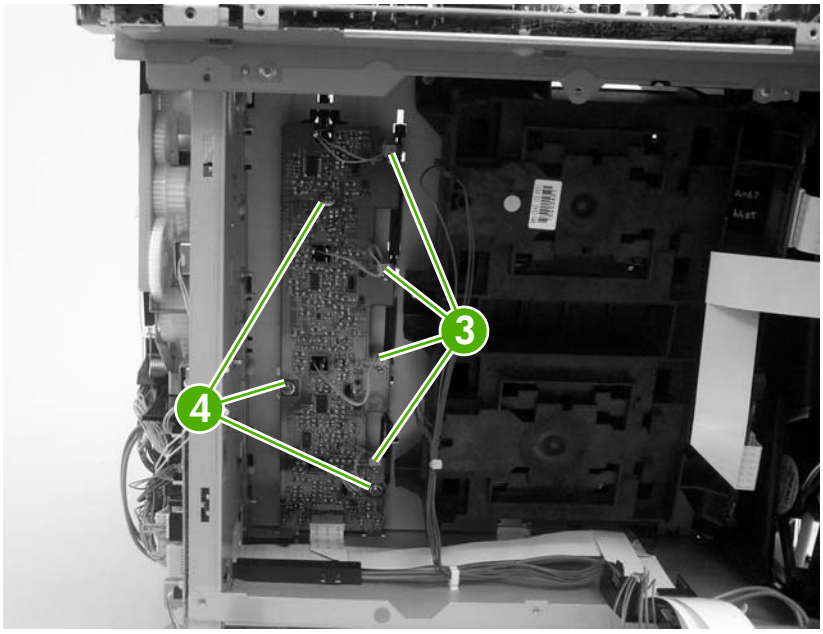

Figure 5-82 Remove the memory-controller PCA (2 of 2)

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Driver PCA

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Remove the following components:
   - Fuser. See Fuser on page 115.
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Right cover. See Right cover on page 107.
2. Disconnect all of the connectors and FFCs on the driver PCA.

CAUTION Do not bend or fold the FFCs during removal or installation.

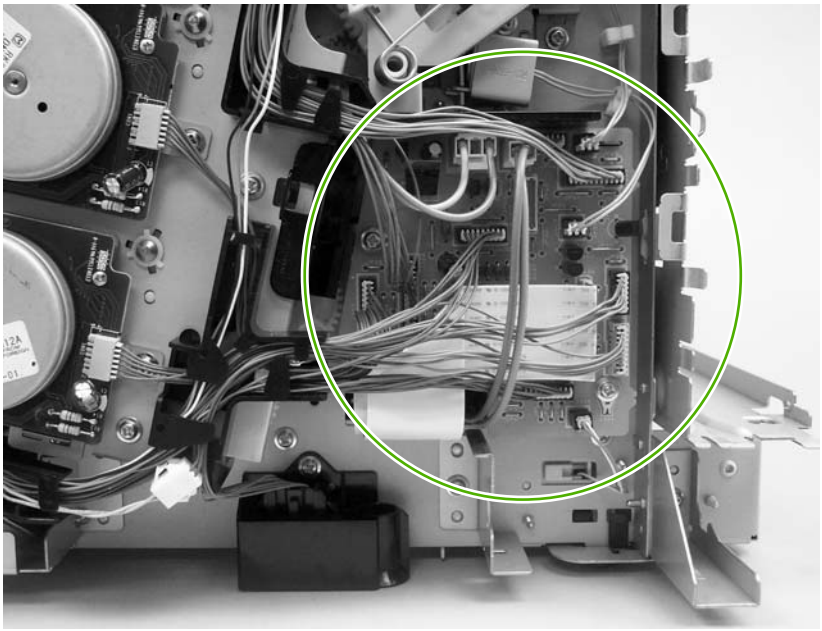

Figure 5-83 Remove the driver PCA (1 of 2)

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3. Remove two screws (callout 1) to release the driver PCA.

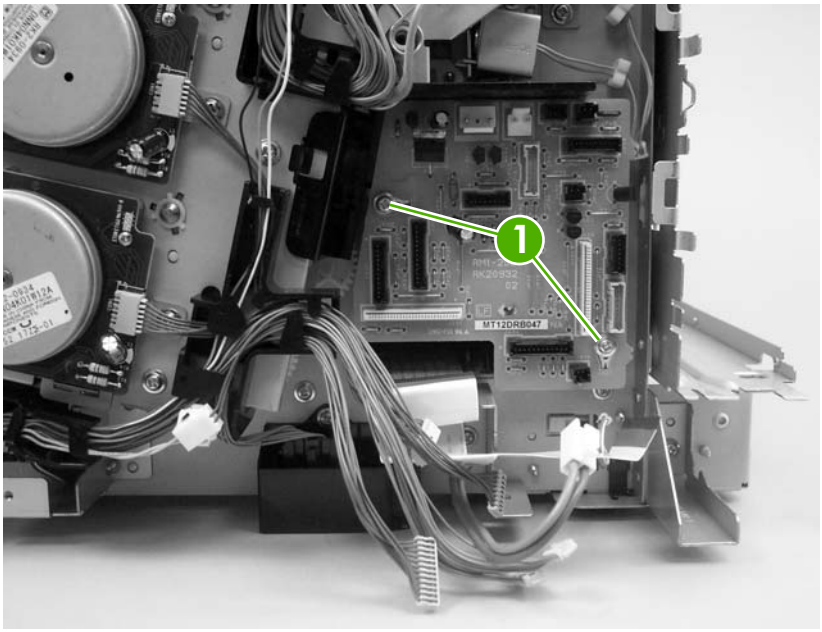

Figure 5-84 Remove the driver PCA (2 of 2)

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Control panel

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Remove the following components:
   - Fuser. See Fuser on page 115.
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Left cover. See Left cover on page 104.
2. Release the guide locking tab (callout 1) and disconnect one connector (callout 2).

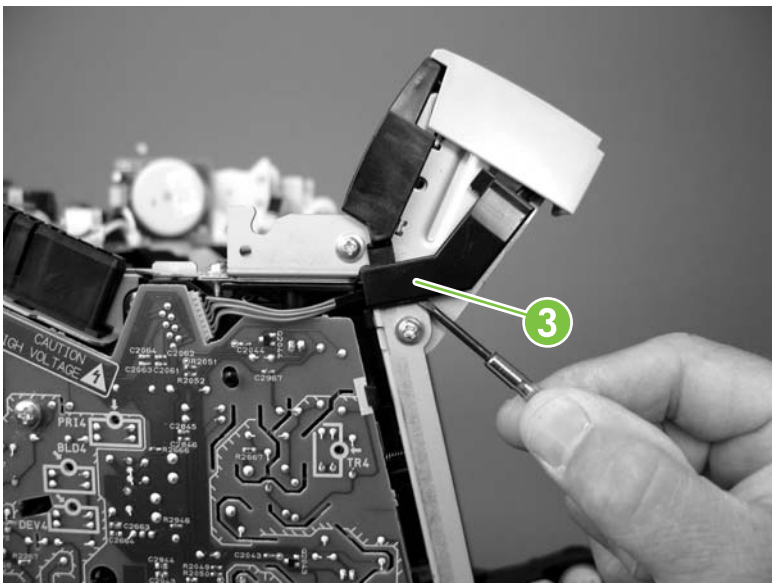

Figure 5-85 Remove the control panel (1 of 2)

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3. Remove two screws (callout 3) to release the control panel.

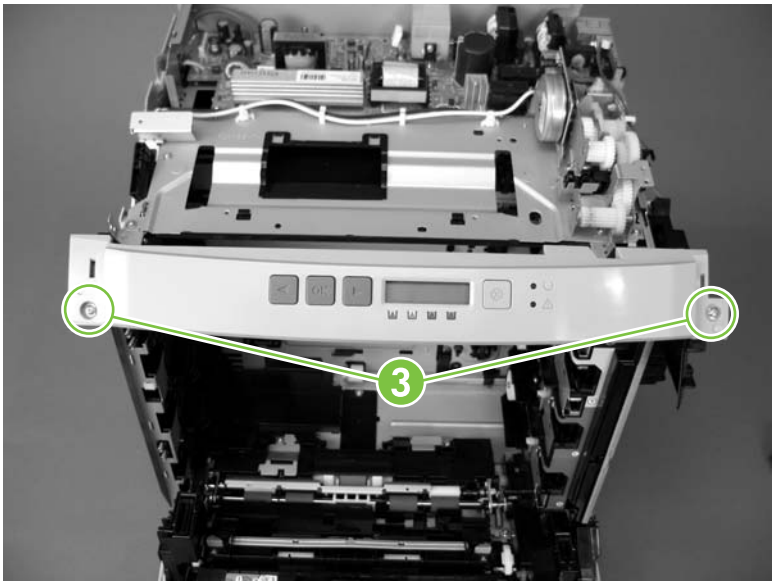

Figure 5-86 Remove the control panel (2 of 2)

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Pickup-and-feed driver (relay) PCA

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Open the front cover.
2. Release the locking tab (callout 1) on the pickup-and-feed driver PCA cover (callout 2), and then remove the cover.

CAUTION Do not damage or bend the print-cartridge high-voltage springs (callout 3) when you remove the cover.

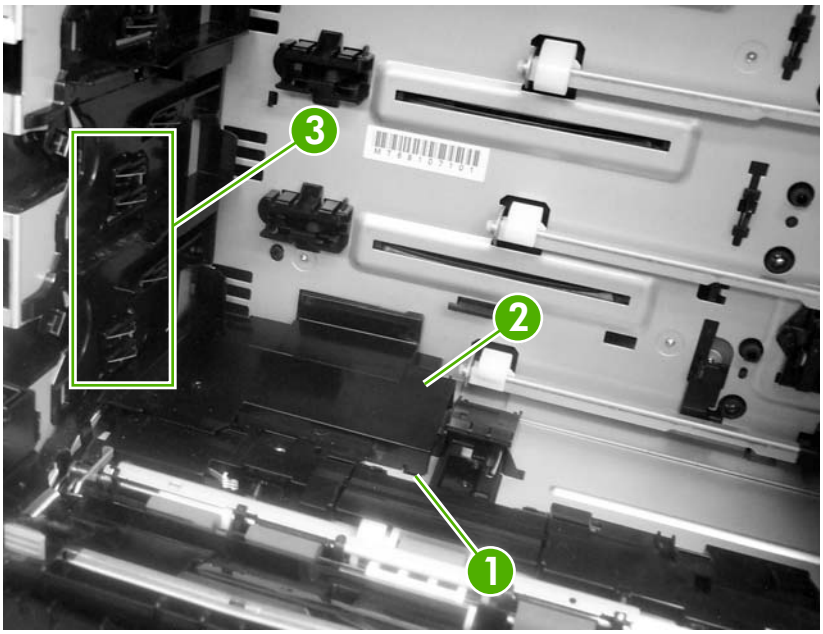

Figure 5-87 Remove the pickup-and-feed driver PCA (1 of 3)

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3. Disconnect one FFC (callout 4; J014) on the DC controller.

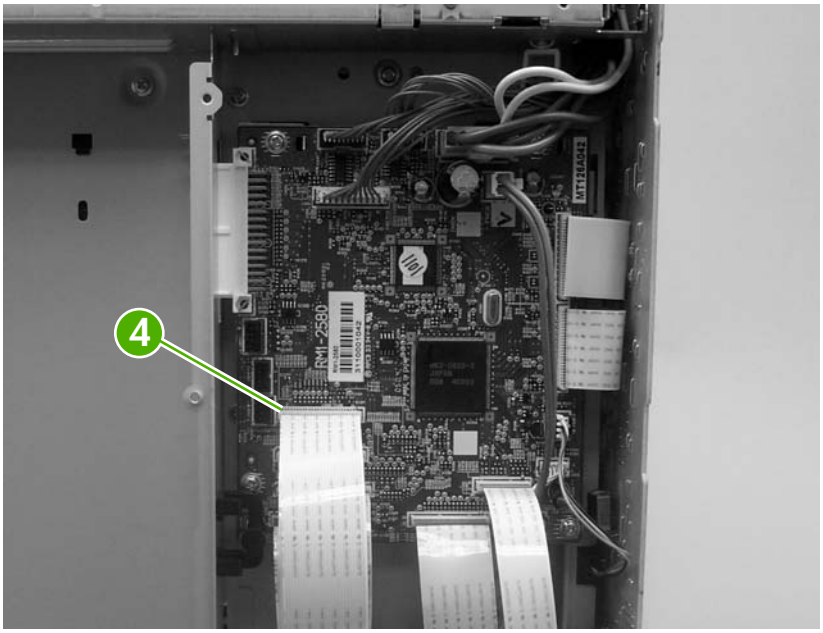

Figure 5-88 Remove the pickup-and-feed driver PCA (2 of 3)

4. Disconnect four connectors (callout 5), and remove one screw (callout 6) to release the pickup-and-feed driver PCA.

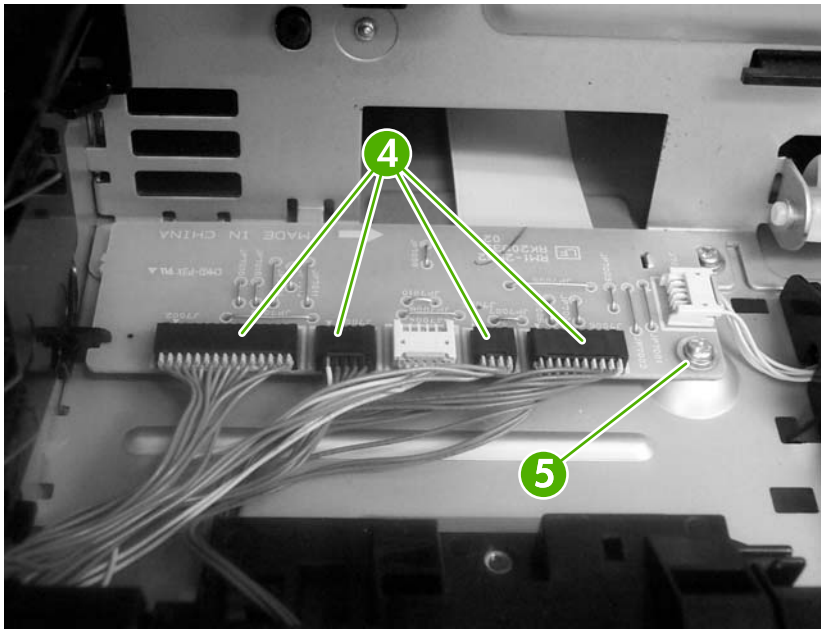

Figure 5-89 Remove the pickup-and-feed driver PCA (3 of 3)

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Sensors

Temperature sensor

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Remove the following components:
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Right cover. See Right cover on page 107.
   - Rear upper cover. See Rear upper cover on page 111.
2. Disconnect one connector (callout 1; J1018) and release the locking tab (callout 2). Remove the temperature sensor (callout 3).

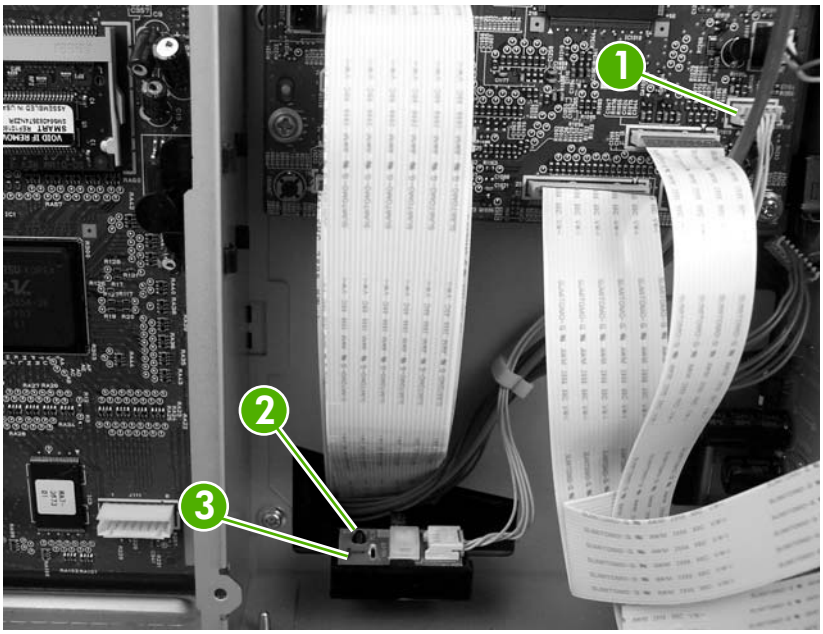

Figure 5-90 Remove the temperature sensor

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Paper and registration sensor covers

1. Open the front cover and remove the ETB. See Electrostatic transfer belt (ETB) on page 114.
2. Remove two screws (callout 1) and the paper and registration sensor covers (callout 2).

CAUTION Do not bend the locator tabs on the covers.

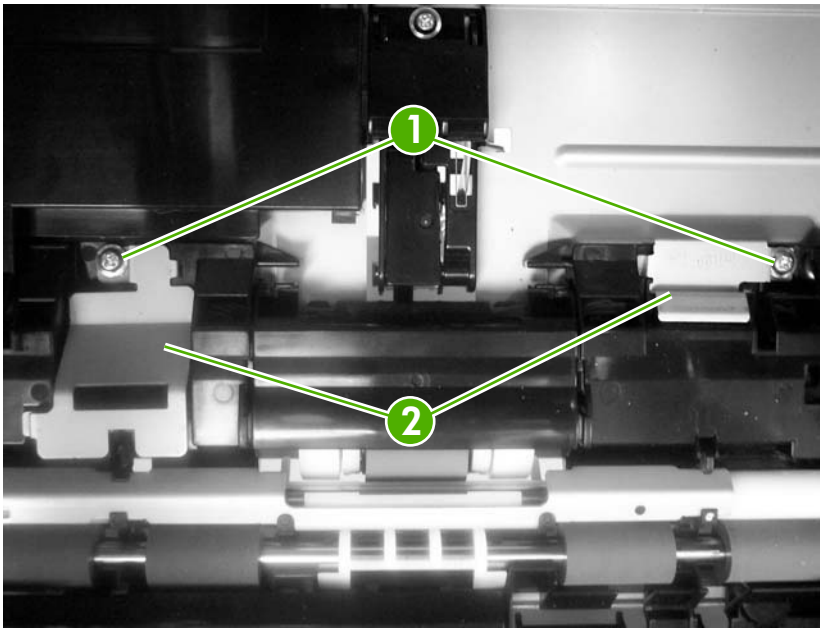

Figure 5-91 Remove the paper and registration sensor covers

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Cartridge-sensor PCA

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Remove the following components:
   - Upper cover. See Upper cover (fuser door) on page 100.
   - Rear lower cover. See Rear lower cover on page 103.
   - Left cover. See Left cover on page 104.
   - Right cover. See Right cover on page 107.
   - Rear upper cover. See Rear upper cover on page 111.
2. Remove four screws (callout 1) and remove the sheet-metal shield (callout 2).

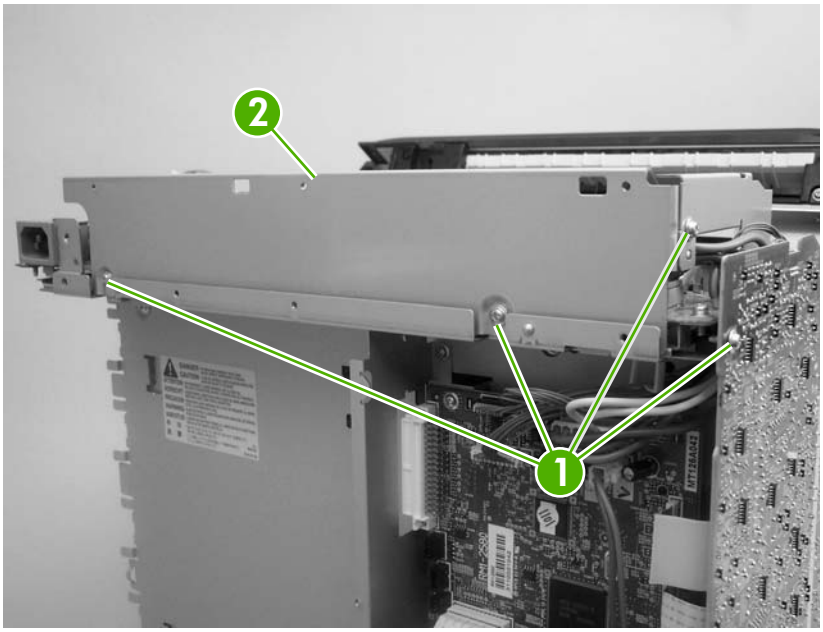

Figure 5-92 Remove the cartridge-sensor PCA (1 of 4)

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3. Disconnect all of the wire-harness connectors and flat flexible cables (FFCs) on the DC controller PCA (eight wire-harness connectors and eight FFCs).

CAUTION Do not bend or fold the FFCs during removal or installation.

NOTE Remove the wire-harnesses from all of the retainers near the DC controller.

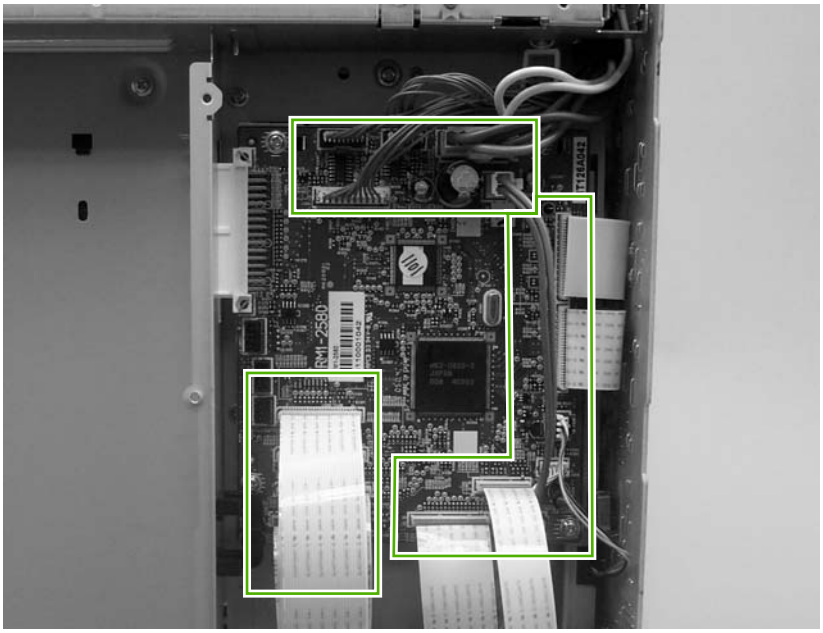

Figure 5-93 Remove the cartridge-sensor PCA (2 of 4)

4. Remove 10 screws (callout 3). Push up on the sheet-metal shield to release it from the printer chassis, and remove it.

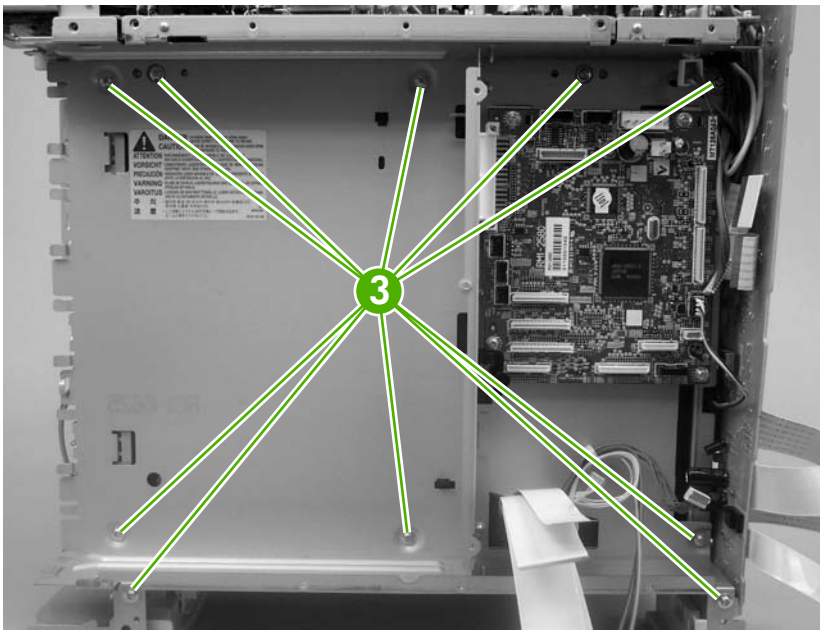

Figure 5-94 Remove the cartridge-sensor PCA (3 of 4)

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5. Disconnect four connectors (callout 4) and remove three screws (callout 5). Remove the cartridge-sensor PCA from the printer.

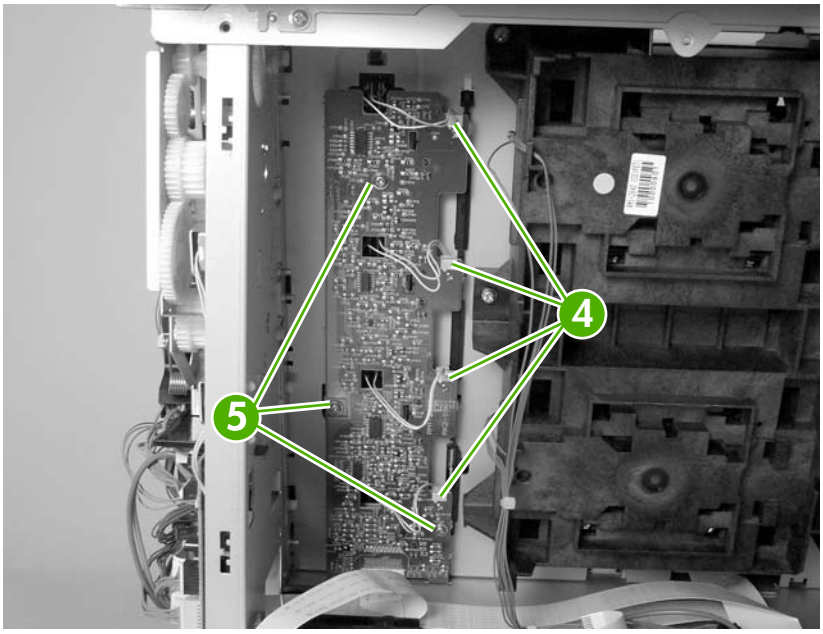

Figure 5-95 Remove the cartridge-sensor PCA (4 of 4)

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500-sheet feeder

500-sheet feeder right cover

1. Remove one screw (callout 1).

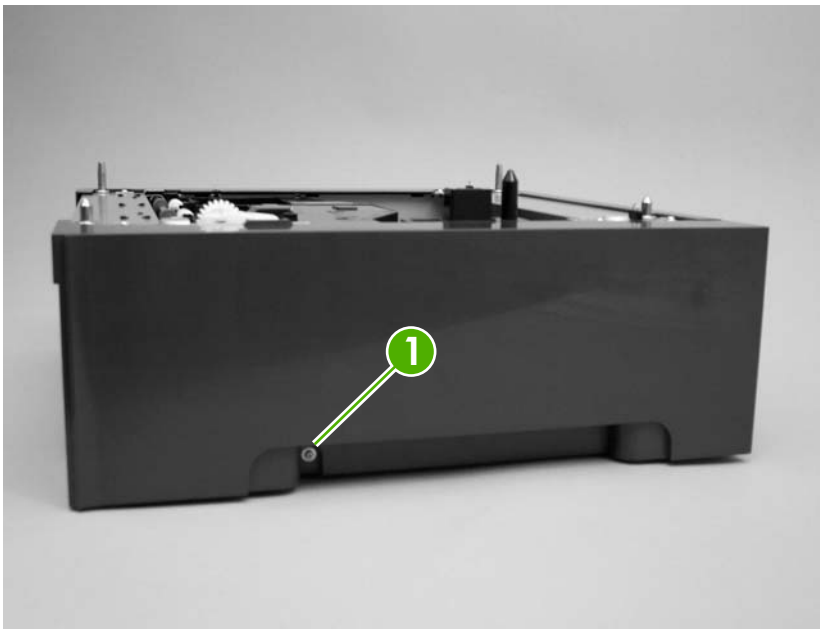
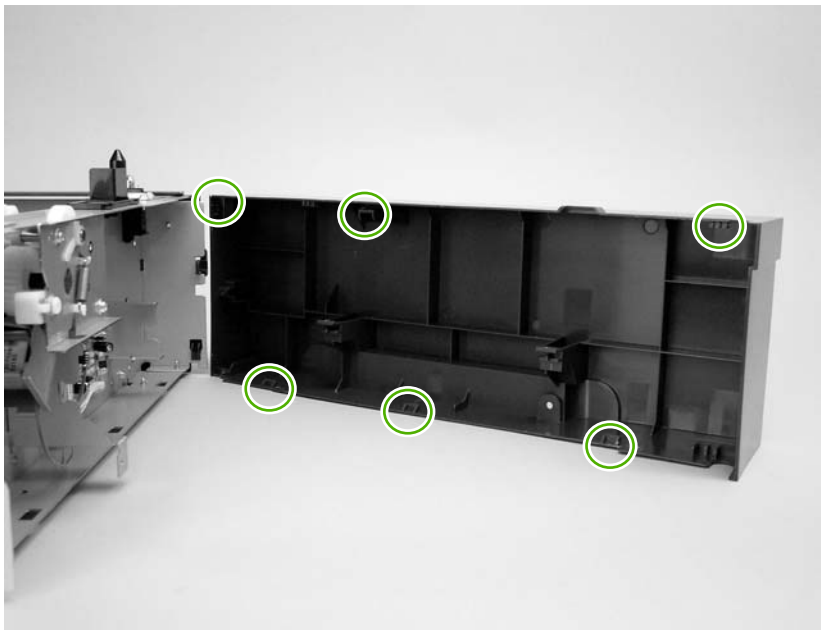


Figure 5-96 Remove the 500-sheet feeder right cover (1 of 3)

Tip Before proceeding, look at the following figure and note the location of the locking tabs on the right cover.



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2. Carefully pry loose the two locking tabs along the top of the cover.

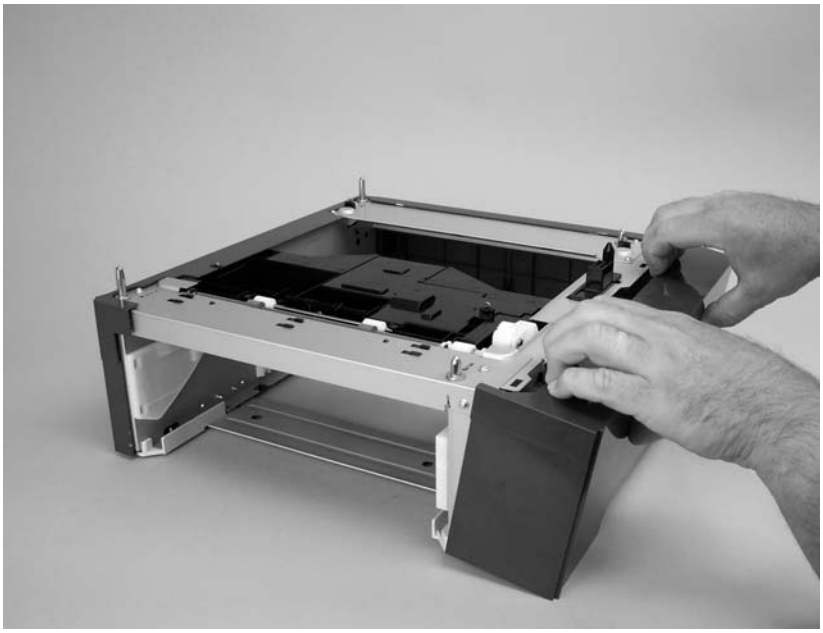

Figure 5-97 Remove the 500-sheet feeder right cover (2 of 3)

3. Rotate the top of the cover away from the feeder to release three locking tabs along the bottom of the cover.

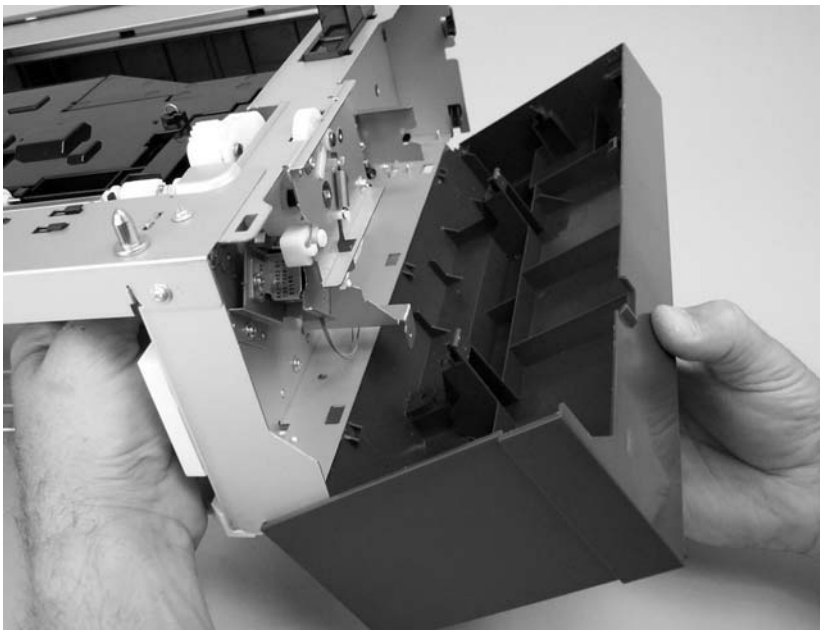

Figure 5-98 Remove the 500-sheet feeder right cover (3 of 3)

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500-sheet feeder left cover

1. Remove one screw (callout 1).

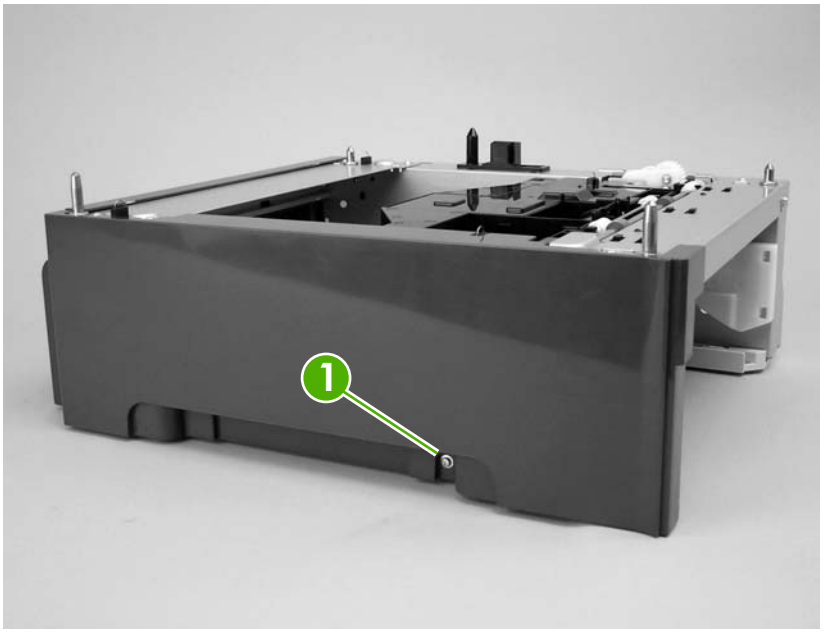
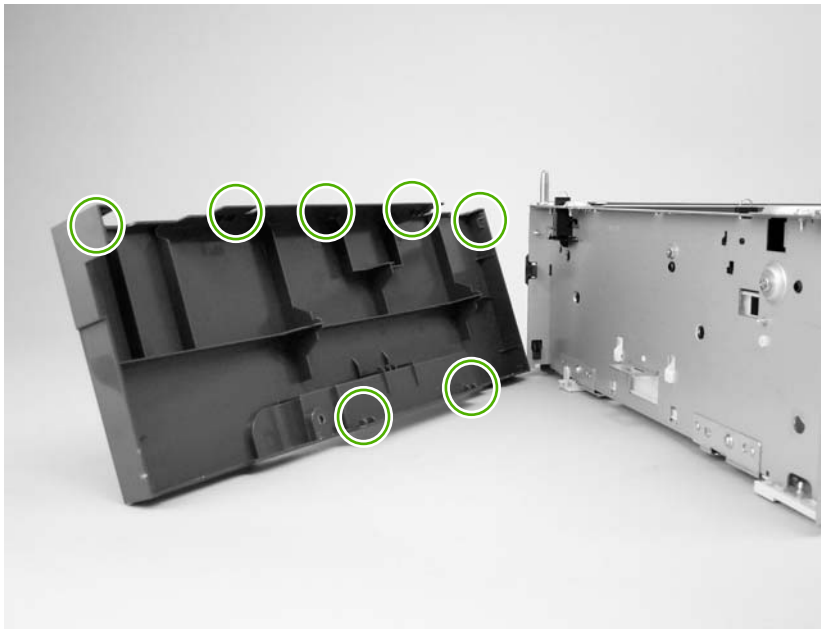


Figure 5-99 Remove the 500-sheet feeder left cover (1 of 5)

Tip Before proceeding, look at the following figure and note the location of the locking tabs on the left cover.



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2. Carefully pry loose the three locking tabs along the top of the cover.

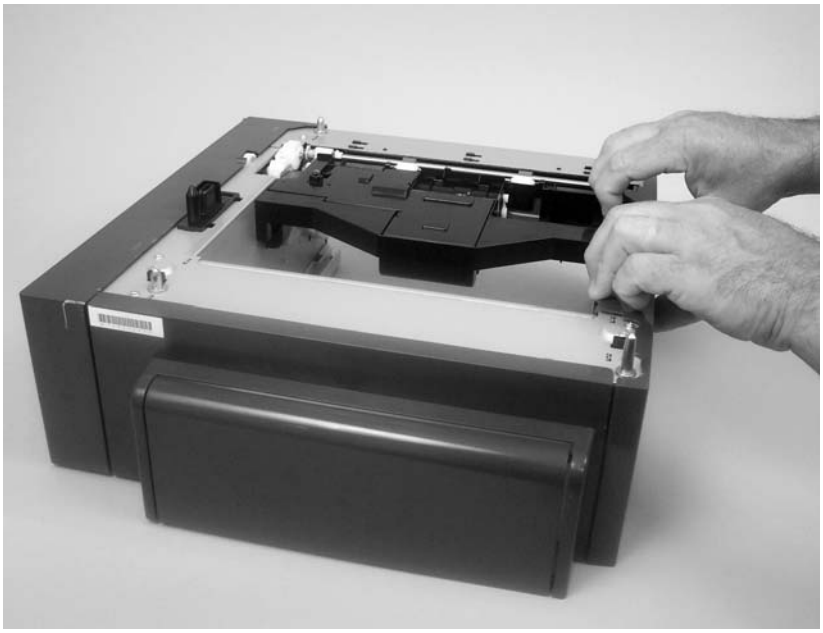

Figure 5-100 Remove the 500-sheet feeder left cover (2 of 5)

3. Use a flatblade screwdriver to release the locking tab at the front of the cover.

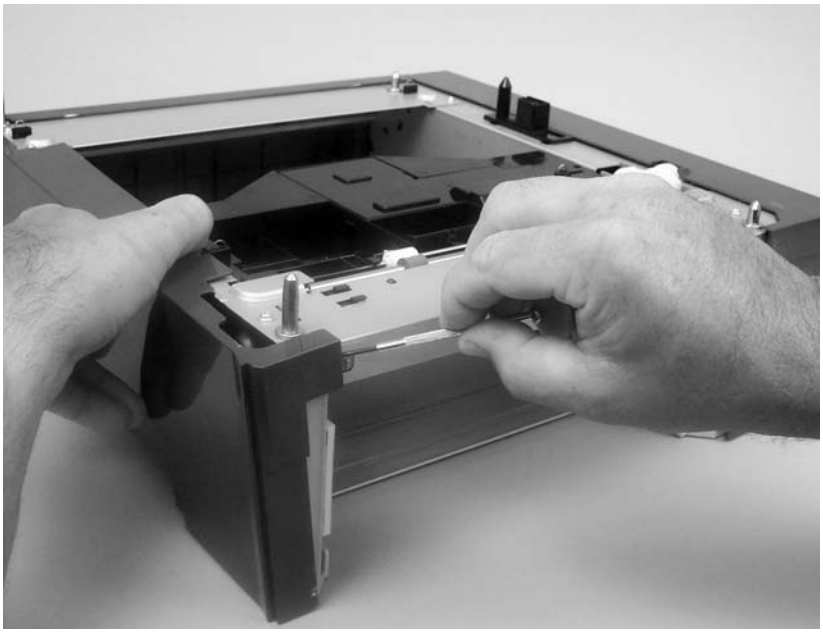

Figure 5-101 Remove the 500-sheet feeder left cover (3 of 5)

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4. Use a flatblade screwdriver to release the locking tab at the rear of the cover.

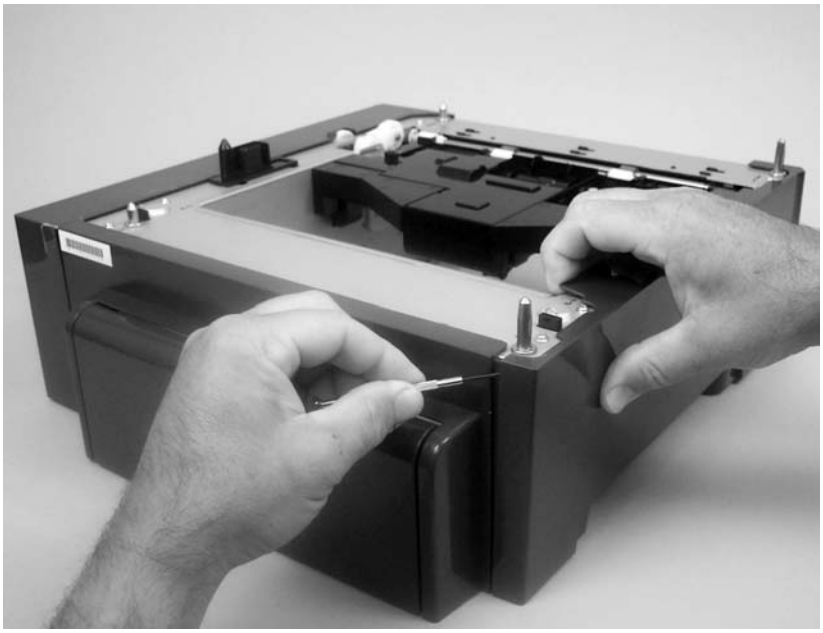

Figure 5-102 Remove the 500-sheet feeder left cover (4 of 5)

5. Rotate the top of the cover away from the feeder to release two locking tabs along the bottom of the cover.

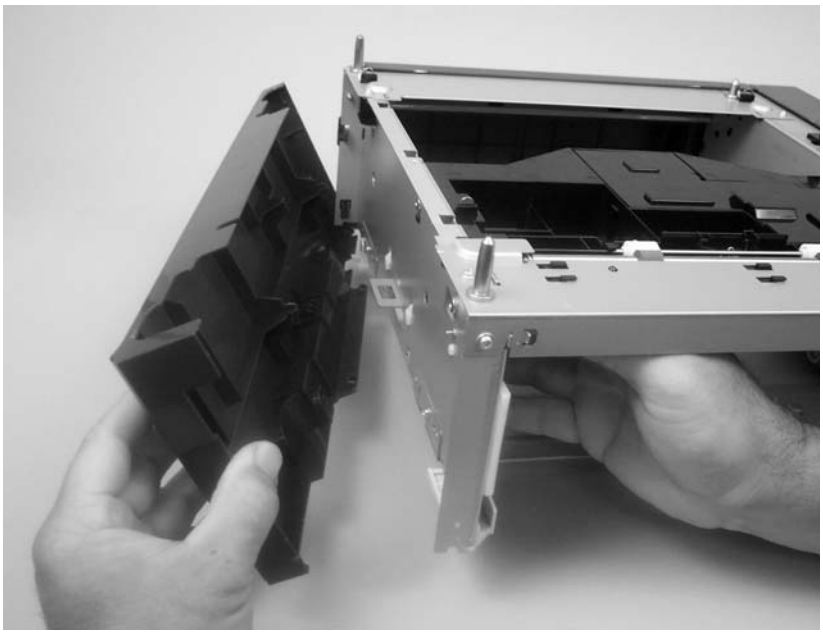

Figure 5-103 Remove the 500-sheet feeder left cover (5 of 5)

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500-sheet feeder rear cover

1. Remove the following components:
   - 500-sheet feeder right cover. See 500-sheet feeder right cover on page 165.
   - 500-sheet feeder left cover. See 500-sheet feeder left cover on page 167.
2. Release the two locking tabs along the side of the cover.

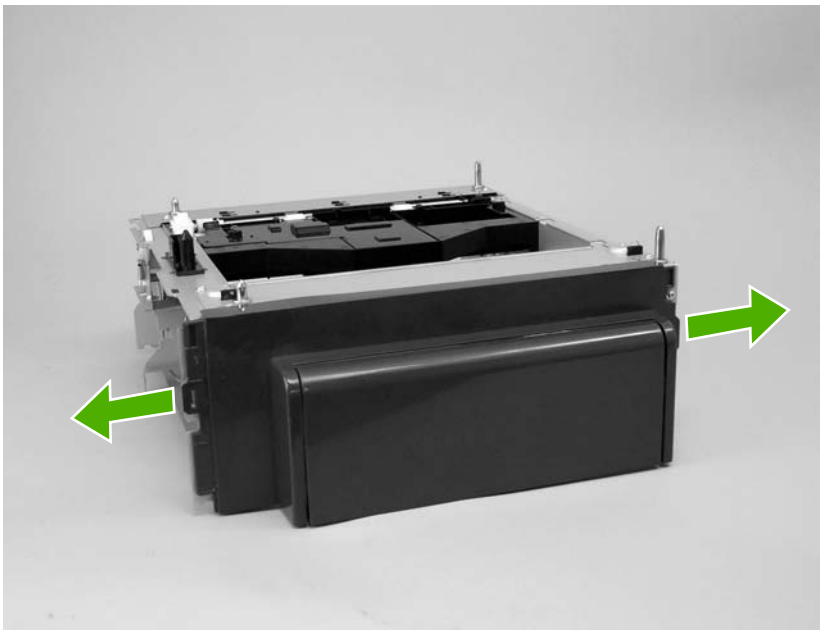
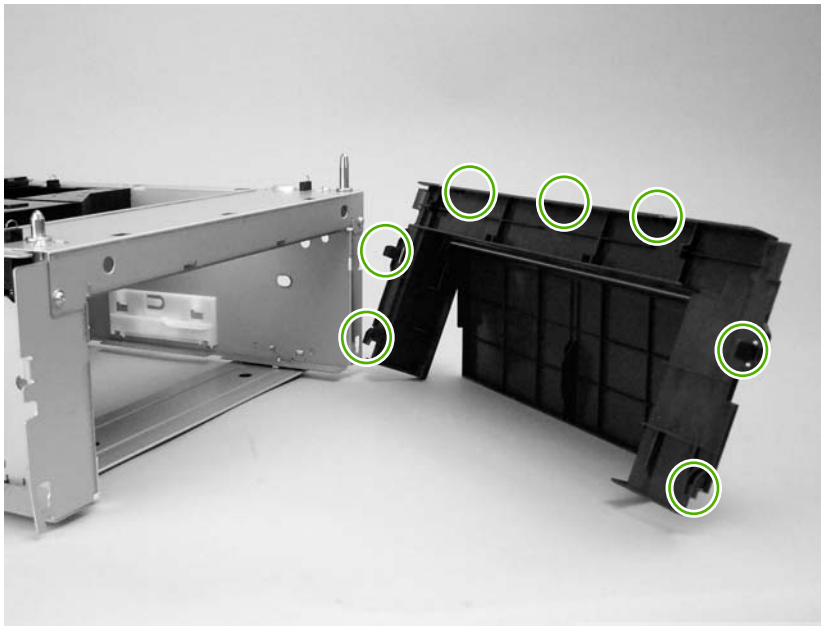


Figure 5-104 Remove the 500-sheet feeder rear cover (1 of 3)

Tip Before proceeding, look at the following figure and note the location of the locking tabs on the rear cover.



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3. Carefully pry loose the three locking tabs along the top of the cover.

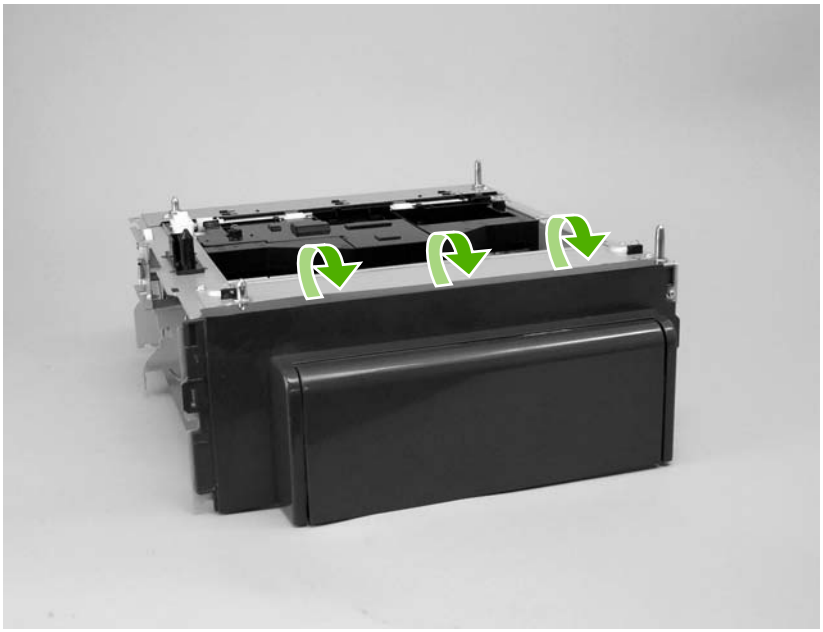

Figure 5-105 Remove the 500-sheet feeder rear cover (2 of 3)

4. Rotate the cover up and away from the feeder chassis to remove it.

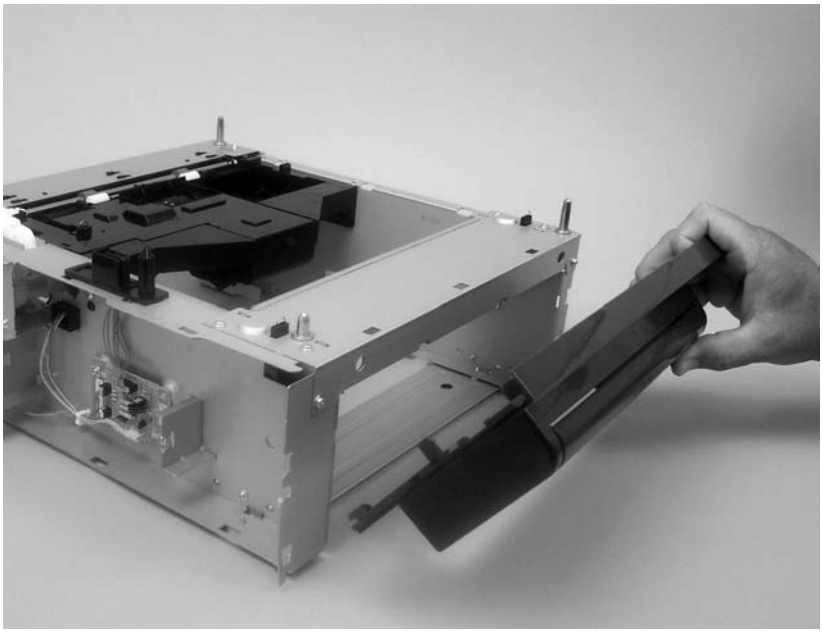

Figure 5-106 Remove the 500-sheet feeder rear cover (3 of 3)

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500-sheet feeder driver PCA

CAUTION PCAs are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing PCAs. Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the printer.

1. Remove the 500-sheet feeder right cover. See 500-sheet feeder right cover on page 165.
2. Disconnect four connectors (callout 1)

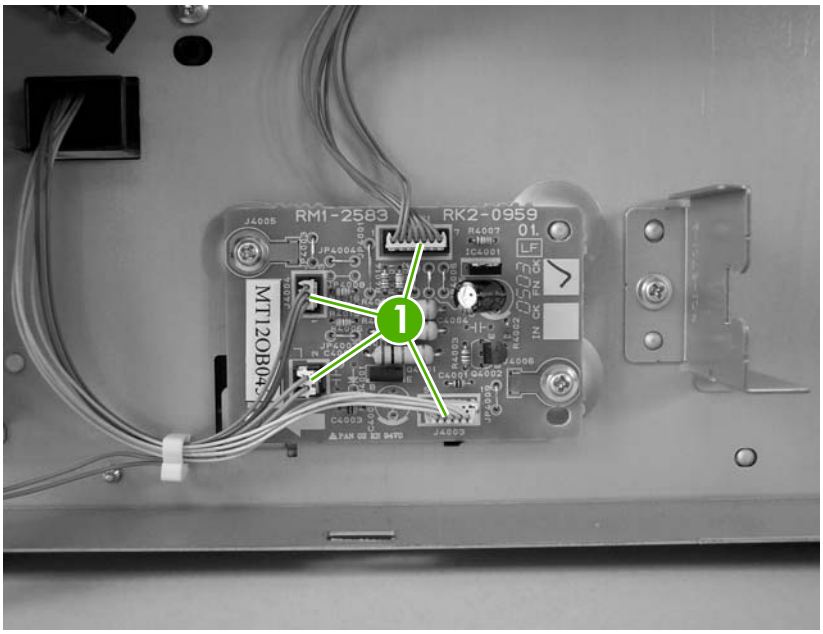

Figure 5-107 Remove the 500-sheet-feeder driver PCA (1 of 2)

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3. Release the 500-sheet-feeder PCA by removing two screws (callout 2).

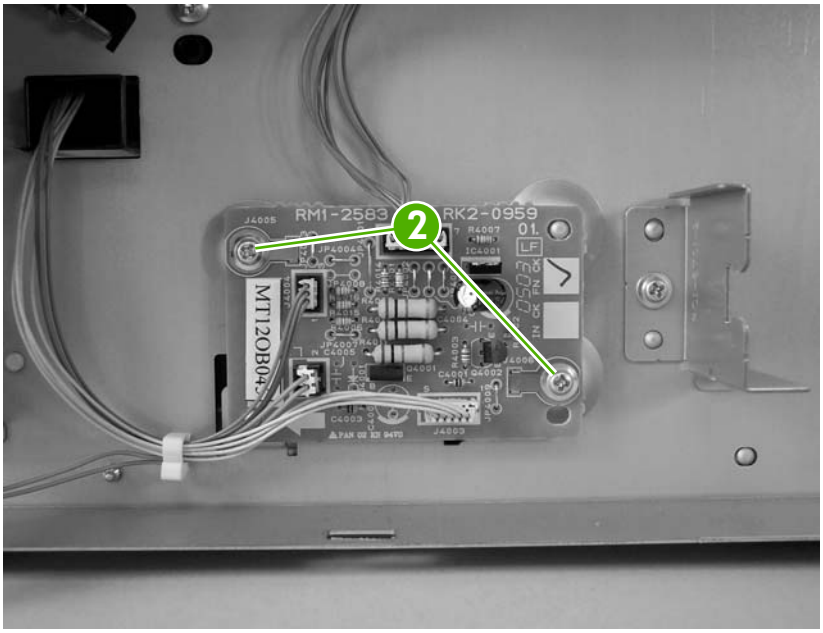

Figure 5-108 Remove the 500-sheet-feeder driver PCA (2 of 2)

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6 Troubleshooting

To use the information in this chapter, you should have a basic understanding of the HP LaserJet printing process. Explanations of each mechanical assembly, the printer systems, and the basic theory of operation are contained in Theory of operation on page 71. Do not perform any of these troubleshooting processes unless you understand the function of each printer component.

- Troubleshooting process
- Control-panel messages
- Event-log messages
- Jams
- Image defects
- Repetitive-defects troubleshooting
- Interface troubleshooting
- Secondary service menu
- Test pages
- Engine resets
- Troubleshooting diagrams

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Troubleshooting process

When the printer malfunctions or encounters an unexpected situation, the printer control panel alerts you to the situation. This chapter also contains information to help diagnose and solve problems.

- Use the pre-troubleshooting checklist to evaluate the source of the problem and to reduce the number of steps that are required to fix the problem.
- Use the troubleshooting flowchart to pinpoint the root cause of hardware malfunctions. The flowchart guides you to the section of this chapter that contains steps for correcting the malfunction.

Before beginning any troubleshooting procedure, check the following issues:

- Are supply items within their rated life?
- Does the configuration page reveal any configuration errors?

NOTE The customer is responsible for checking supplies and for using supplies that are in good condition.

Pre-troubleshooting checklist

The following table includes basic questions to ask the customer to quickly help define the problem(s).

General topic	Questions
Environment	• Is the printer installed on a solid, level surface (+/- 1°)? • Is the power-supply voltage within ± 10 volts of the specified power source? • Is the power-supply plug inserted in the printer and the outlet? • Is the operating environment within the specified parameters? • Is the printer exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials? • Is the printer exposed to direct sunlight?
Media	• Does the customer use only supported media? • Is the media in good condition (no curls, folds, or distortion)? • Is the media stored correctly and within environmental limits?
Input trays	• Is the amount of media in the tray within specifications? • Is the media correctly placed in the tray? • Are the paper guides aligned with the stack? • Is the cassette installed in the printer correctly?
Print cartridges	• Is each print cartridge installed correctly?
Transfer unit and fuser	• Are the transfer unit and fuser installed correctly?
Covers	• Is the front cover closed?

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General topic	Questions
Condensation	• Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe affected parts dry or leave the printer on for 10 to 20 minutes. • Was a print cartridge opened soon after being moved from a cold to a warm room? If so, allow the print cartridge to sit at room temperature for 1 to 2 hours.
Miscellaneous	• Check for and remove any non-HP components (print cartridges, memory modules, and EIO cards) from the printer. • If the hardware or software configuration has not changed or the problem is not associated with any specific software, contact the Customer Care Center (see chapter 1). • Remove the printer from the network and ensure that the failure is associated with the printer before beginning troubleshooting. • For any print-quality issues, calibrate the printer.

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Troubleshooting flowchart

This flowchart highlights the general processes that you can follow to isolate and solve printer hardware problems quickly.

Each row depicts a major troubleshooting step. A “yes” answer to a question allows you to proceed to the next major step. A “no” answer indicates that additional testing is needed. Proceed to the appropriate section in this chapter, and follow the instructions there. After completing the instructions, proceed to the next major step in this troubleshooting flowchart.

Table 6-1 Troubleshooting flowchart

1 **Power on**	Is the printer on and does a readable message appear? Yes ↓ No →	Follow the power-on troubleshooting checks. After the control-panel display is functional, go to step 2.
2 **Control-panel messages**	Does the message **Ready** appear on the control-panel display? Yes ↓ No →	If an error message appears, see Control-panel messages on page 180. After the errors have been corrected, go to step 3.
3 **Event log**	Open the **DIAGNOSTICS** menu and print an event log to see the history of errors with this printer. Does the event log print? Yes ↓ No →	If the event log does not print, see Control-panel messages on page 180. If the paper jams inside the printer, see Jams on page 194. If error messages appear on the control-panel display when you try to print an event log, see Control-panel messages on page 180. After successfully printing and evaluating the event log, go to step 4.
4 **Information pages**	Open the **INFORMATION** menu and print the configuration pages to verify that all of the accessories are installed. Are all of the accessories installed? Yes ↓ No →	If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it. After evaluating the configuration pages, go to step 5.
5 **Image quality**	Does the print quality meet the customer's requirements? Yes ↓ No →	Compare the images with the sample defects in the image-defect tables. After the print quality is acceptable, go to step 6.
6 **Interface**	Can the customer print successfully from the host computer? Yes. This is the end of the troubleshooting process. No →	Verify that all I/O cables are connected correctly and that a valid IP address is listed on the Jetdirect configuration page. When the customer can print from the host computer, the troubleshooting process ends.

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Power-on checks

When you turn on the printer, if it does not make any sound or if the control-panel display is blank, check the following items:

1. Verify that the printer is plugged directly into an active electrical outlet that has the correct voltage and not plugged into a surge protector or power strip.
2. Verify that the on/off switch is in the on position.
3. Make sure that the fan is running, which indicates that the system is operational.
4. Verify that the formatter is seated and operating correctly.
5. Remove any HP Jetdirect or other devices, then try to turn the printer on again.
6. Make sure that the control-panel display is connected.
7. Check the two fuses on the power supply.
8. If necessary, replace the power supply.
9. If necessary, replace the DC controller.

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Control-panel messages

Control-panel message	Description	Recommended action
10.XXXX Supply Error **Reinstall**	The printer cannot read or write to at least one print cartridge memory tag, or at least one memory tag is missing. XXXX Description: 0000 = Black e-label memory error 0001 = Cyan e-label memory error 0002 = Magenta e-label memory error 0003 = Yellow e-label memory error 1000 = Black e-label missing 1001 = Cyan e-label missing 1002 = Magenta e-label missing 1003 = Yellow e-label missing	1. Open the front door. 2. Remove the print cartridges, and then reinstall them. 3. Close the front door. 4. Turn the printer off and then on. 5. Clean the memory controller PCA contacts to the memory tag if they are dirty. 6. Replace the memory controller PCA if necessary. 7. Replace the DC controller PCA if necessary.
49 Error **Turn off then on**	A critical firmware error has occurred.	1. Turn the printer off and then on. 2. Try printing a job from a different program. If the job prints, try printing a different file from the original program. If the message appears only with a certain program or print job, contact the software vendor for assistance. 3. If the message persists with different programs and print jobs, disconnect all of the printer cables that connect to the network or the computer. 4. Turn the printer off. 5. Remove all memory DIMMs or third-party DIMMs from the printer. (Do not remove the firmware DIMM in the lower slot J1). 6. Remove the printer EIO card. 7. Turn the printer on. 8. If the error does not persist, install each DIMM and EIO device one at a time. Turn the printer off and then on again after installing each device. 9. Replace DIMMs and EIO devices as necessary. 10. Reconnect all of the printer cables. 11. If the error persists, replace the firmware DIMM. 12. Replace the formatter and calibrate the printer.

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Control-panel message	Description	Recommended action
50.X Fuser Error **Turn off then on**	A fuser error has occurred. X Description: 1 Low fuser temperature 2 Fuser-warmup service 3 High fuser temperature 4 Faulty fuser 7 Fuser pressure release mechanism failure 8 Low fuser temperature (subthermistor) 9 High fuser temperature (subthermistor)	**WARNING!** The fuser is hot. Turn the printer off and allow it to cool for approximately 10 minutes before removing the fuser. 50.1 Error: 1. Verify the fuser is installed correctly and fully seated. 2. Check that connector J6007 on the fuser is seated correctly. Replace the connector as necessary. 3. Turn off the printer. 4. Remove the fuser. 5. If there is *no* conduction in the main thermistor, measure the resistance between fuser connectors J6007LA-1 and J6007LA-3. If the resistance is not 100 kohms to 3 Mohms, replace the fuser. 6. If there is *no* conduction in the fuser heater, measure the resistance between fuser connectors J6007LAF-1 and J6007-2. If the resistance is not 5 ohms to 1 kohms (100 to 127 V) or 20 ohms to 1 kohms (220 to 240 V), replace the fuser. 7. Replace the DC controller PCA. 50.2 Error: 1. Verify the fuser is installed correctly and fully seated. 2. Check that connector J6007 on the fuser is seated correctly. Replace the connector as necessary. 3. Turn off the printer. 4. Remove the fuser. 5. If there is *no* conduction in the subthermistor, measure the resistance between fuser connectors J6007LA-2 and J6007LA-3. If the resistance is not 100 kohms to 3 Mohms, replace the fuser. 6. If there is *no* conduction in the fuser heater, measure the resistance between fuser connectors J6007LAF-1 and J6007-2. If the resistance is not 5 ohms to 1 kohms (100 to 127 V) or 20

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Control-panel message	Description	Recommended action
		ohms to 1 kohms (220 to 240 V), replace the fuser. 7. Replace the DC controller PCA. 50.3 Error: 1. Verify the fuser is installed correctly and fully seated. 2. Check that connector J6007 on the fuser is seated correctly. Replace the connector as necessary. 3. Turn off the printer. 4. Remove the fuser. 5. Measure the resistance between fuser connectors J6007LA-1 and J6007LA-3. If the resistance is not 100 kohms to 3 Mohms, replace the fuser. 6. Replace the DC controller PCA. 50.4 Error: 1. Improve the power supply if the power supply frequency is not 40 to 70 Hz. 2. Replace the low-voltage power-supply PCA. 3. Replace the DC controller PCA. 50.7 Error: 1. Verify the fuser is installed correctly and fully seated. 2. Check that fuser connector J705, fuser motor connector J5008, and driver PCA connector J213 are seated correctly. 3. Replace the fuser drive assembly. 4. Replace the DC controller PCA. 50.8 Error: 1. Verify the fuser is installed correctly and fully seated. 2. Check that connector J6007 on the fuser is seated correctly. Replace the connector as necessary. 3. Turn off the printer. 4. Remove the fuser. 5. If there is *no* conduction in the subthermistor, measure the resistance between fuser connectors J6007LA-1 and J6007LA-3. If the resistance is not

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Control-panel message	Description	Recommended action
		100 kohms to 3 Mohms, replace the fuser. 6. If there is *no* conduction in the fuser heater, measure the resistance between fuser connectors J6007LAF-1 and J6007-2. If the resistance is not 5 ohms to 1 kohms (100 to 127 V) or 20 ohms to 1 kohms (220 to 240 V), replace the fuser. 7. Replace the DC controller PCA. 50.9 Error: 1. Verify the fuser is installed correctly and fully seated. 2. Check that connector J6007 on the fuser is seated correctly. Replace the connector as necessary. 3. Turn off the printer. 4. Remove the fuser. 5. Measure the resistance between fuser connectors J6007LA-2 and J6007LA-3. If the resistance is not 100 kohms to 3 Mohms, replace the fuser. 6. Replace the DC controller PCA.
51.XX Error **Turn off then on**	A printer error has occurred. X Description: 2 laser Y Description: 0 Black 1 Cyan 2 Yellow 3 Magenta	1. Press OK to continue. 2. If the message persists, turn the printer off and then on. 3. Reseat DC controller connectors J1010, J1012, and J1021. 4. Replace the flat cable. 5. Replace the DC controller PCA as necessary.
54.XX Error	An error has occurred with one of the toner-level sensors. XX Description: 15 Yellow 16 Magenta 17 Cyan 18 Black	1. Make sure that connector J1020 on the DC controller is seated correctly. 2. Replace the DC controller PCA.

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Control-panel message	Description	Recommended action
55.X Error **Turn off then on**	A communication error between the DC controller and the formatter has occurred.	1. Turn the printer off. 2. Reconnect the connector between the DC controller and the formatter. 3. Replace the DC controller PCA.
56.XX Error	One of the trays is installed incorrectly.	Make sure tray 2 and optional tray 3 are completely closed.
57.XX Error **Turn off then on**	A printer fan error has occurred.	1. Check that connector J1008 on the DC controller is seated correctly. 2. Replace the fan. 3. Replace the DC controller PCA.
59.30 Error **59.40 Error**	An error occurred with the fuser motor during startup or rotation.	1. Turn the printer off then on. 2. Check that connectors J5008 on the fuser motor and J213 on the driver PCA are seated correctly. 3. Replace the fuser. 4. Replace the fuser drive motor.
59.50 Error **59.60 Error**	An error occurred with the black print-cartridge drive motor during startup or rotation.	1. Check that connectors J5006 on the black print-cartridge drive motor and J208 on the driver PCA are seated correctly. 2. Replace the black print-cartridge drive motor. 3. Replace the driver PCA.
59.51 Error **59.61 Error**	An error occurred with the cyan print-cartridge drive motor during startup or rotation.	1. Check that connectors J5004 on the cyan print-cartridge drive motor and J207 on the driver PCA are seated correctly. 2. Replace the cyan print-cartridge drive motor. 3. Replace the driver PCA.
59.52 Error **59.62 Error**	An error occurred with the magenta print-cartridge drive motor during startup or rotation.	1. Check that connectors J5003 on the magenta print-cartridge drive motor and J207 on the driver PCA are seated correctly. 2. Replace the magenta print-cartridge drive motor. 3. Replace the driver PCA.

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Control-panel message	Description	Recommended action
59.53 Error **59.63 Error**	An error occurred with the yellow print-cartridge drive motor during startup or rotation.	1. Check that connectors J5005 on the yellow print-cartridge drive motor and J208 on the driver PCA are seated correctly. 2. Replace the yellow print-cartridge drive motor. 3. Replace the driver PCA.
59.73 Error **59.83 Error**	An error occurred with the developer motor.	1. Check that connectors J403 and J405 on the driver PCA are seated correctly. 2. Check that connector J1020 on the DC controller PCA is seated correctly. 3. Check that connector J5008 on the fuser motor and J213 on the driver PCA are seated correctly. 4. Replace the developer motor solenoid (s). 5. Replace the memory tag PCA. 6. Replace the fuser.
59.90 Error **59.A0 Error**	An error occurred with the ETB motor during startup or rotation.	1. Check that connectors J5002 on the ETB motor and J206 on the driver PCA are seated correctly. 2. Replace the ETB. 3. Replace the driver PCA.
59.C0 Error	An error occurred with the developing separation-drive assembly.	1. Check that the following connectors on the driver PCA are seated correctly: J403, J405, J213. 2. Check that connector J1020 on the DC controller is seated correctly. 3. Check that connector J5008 on the fuser motor is seated correctly. 4. Replace the developing separation-drive assembly. 5. Replace the fuser.
59.F0 Error	The transfer rollers in the ETB are not engaged.	1. Check that the following connectors on the driver PCA are seated correctly: • J5002 on the ETB motor • J5011 on the transfer-roller separation solenoid • J206 on the driver PCA • J1019 on the DC controller 2. Replace the ETB motor. 3. Replace solenoid SL5011.

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Control-panel message	Description	Recommended action
		4. Replace the ETB. 5. Replace the high-voltage power supply PCA.
79 Error **Turn off then on**	A critical hardware error has occurred.	1. Turn the printer off and then on. 2. Reseat the firmware DIMM. 3. Reseat the formatter. 4. Replace the firmware DIMM. 5. Replace the formatter.
79 Service Error **Turn off then on**	The DIMM is not compatible.	Install a supported DIMM. See Accessories and supplies on page 239.
Color disabled **Using black only** alternates with **Ready**	The printer is set to print in black only, but the job is in color.	Enable color printing on the **System Setup** menu. Open the **Print quality** menu and set **Restrict color** to **Enable color**.
Device error **Press OK**	A beam-detect error has occurred.	1. Press OK to continue. 2. If the message persists, turn the printer off then on.
Door open	If the top cover and front door are closed, the problem might be with the connections for the door-detection switch.	Close the top cover and front door. 1. Make sure the top cover and front door are closed. 2. If the message persists, make sure the following connectors are seated correctly: On the driver PCA, connectors J201, J202, and J203. On the DC controller, connectors J1022 and J1024. 3. Replace the DC controller PCA.
Engine comm. error	The printer experienced an internal communication error.	**NOTE** This is a warning message only. Output might be affected. 1. Plug the printer into a different power outlet. 2. Try a different power cord. 3. Disconnect all cables except the power cord. Turn the printer off and then on. 4. Make sure all orange packing material has been removed from inside the printer.
HP supplies installed	A new HP cartridge has been installed. The printer returns to the **Ready** state after approximately 5 seconds.	No action necessary.

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Control-panel message	Description	Recommended action
Incorrect <color>	A color cartridge is installed in an incorrect slot.	Make sure each print cartridge is installed in the correct slot. See Changing print cartridges on page 53 for more information.
Incorrect supplies	Two or more print cartridges are installed in the incorrect slot.	Make sure each print cartridge is installed in the correct slot. See Replacing supplies and parts on page 53 for more information.
Initializing . . .	This message appears when the printer is turned on and begins initialization.	No action necessary.
Insert or close tray X	A tray is open and the printer is trying to print from another tray.	Close the tray indicated so that printing can continue. **NOTE** Tray 2 must be correctly installed in order to print from the MP tray or optional tray 3. **Tray 2** 1. Reconnect the following connectors: • Driver PCA: J210 and J201 • DC controller: J1022 2. Replace the driver PCA. 3. Replace the DC controller PCA. **Tray 3** 1. Remove the 500-sheet feeder and reinstall it. 2. Reconnect the following connectors: • Driver PCA: J410 and J401 • DC controller: J1023 3. Replace the 500-sheet feeder PCA. 4. Replace the DC controller PCA.
Install <color> cartridge	The cartridge is either not installed or not correctly installed in the printer.	1. Remove and reinstall the cartridge. 2. If the cartridge is installed correctly, reconnect the following connectors: • Driver PCA: J201 and J401 • DC Controller: J1022 and J1023 3. Replace the DC controller PCA.
Install supplies	Two or more cartridges are missing.	Install the missing cartridges. See Supply replacement guidelines on page 53 for more information.

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Control-panel message	Description	Recommended action
Invalid driver **Press OK**	The driver is not correct for this printer.	Select the correct printer driver.
Jam in output bin alternates with **Open front door or top cover**	A jam has occurred in the fuser area or the output area.	1. Open the front door and top cover and clear the jam. For more information, see Jams on page 194. 2. If the problem persists, replace the fuser. 3. Replace the DC controller PCA.
Jam in print paper path alternates with **Open front door and clear jam**	A jam has occurred inside the front door.	1. Open the front door and clear the jam. For more information, see Jams on page 194. 2. If the problem persists, replace the ETB. 3. The drive gears might be damaged. If they are, replace the pickup-drive assembly. 4. Replace the DC controller PCA.
Jam in print paper path alternates with **Open front door or top cover**	A jam has occurred in the fuser area or the drum area.	1. Open the front door and top cover and clear the jam. For more information, see Jams on page 194. 2. If the problem persists, replace the fuser. 3. Replace the DC controller PCA.
Jam in print paper path alternates with **Open tray X or front door**	A jam has occurred in the input area from the indicated tray or inside the front door.	1. Open the tray and the front door and clear the jam. For more information, see Jams on page 194. 2. If the tray 1 pickup roller is worn, replace it. 3. Clean the separation pad, and replace it if necessary. 4. Replace the MP tray pickup assembly. 5. Replace the ETB motor. 6. Replace the DC controller PCA.
Jam in tray X alternates with **Clear jam and then press OK**	A page is jammed in the tray that is indicated.	1. Open the tray and clear the jam. For more information, see Jams on page 194. 2. If the pickup rollers are worn, replace them. 3. Clean the separation pad, and replace it if necessary. 4. Replace the registration rollers if they are damaged. 5. Replace the pickup-drive assembly.

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Control-panel message	Description	Recommended action
		6. Replace the ETB motor. 7. Replace the DC controller PCA.
Load paper	All trays are empty.	Load the trays with the type and size for which they are configured.
Load tray # **Press OK**	The printer is processing a manual-duplex job, and has printed the first sides. The printer waits for you to load the pages into the tray to print the second sides.	Load the printed pages into the tray to print the second sides.
Load tray # <TYPE> <SIZE> alternates with **Press OK for available media**	Tray X is either empty or configured for a type and size other than that specified in the job.	Press OK to print from another tray, or load the tray with the correct media. **Tray 1** 1. Reconnect the following connectors: • Relay PCA: J7003 and J7001 • DC controller: J1014 2. Replace the tray 1 paper sensor. 3. Replace the DC controller PCA. **Tray 2** 1. Reconnect the following connectors: • Relay PCA: J7006 and J7001 • DC controller: J1014 2. Replace the cassette paper sensor. 3. Replace the DC controller PCA. **Tray 3** 1. Reconnect the connector J4004 on the 500-sheet feeder PCA. 2. Replace the paper-feeder paper sensor. 3. Replace the 500-sheet feeder PCA. 4. Replace the DC controller.
Manual feed <TYPE>, <SIZE> alternates with **Press OK for available media**	No media is in the multipurpose tray, and a print job requires a specific type and size that is available in another tray.	Press OK to print from another tray.

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Control-panel message	Description	Recommended action
Memory is low **Press OK**	The printer has received more data from the computer than fits in available memory.	1. Press OK to continue printing. **NOTE** Data will be lost. 2. Reduce the complexity of the print job to avoid this error. 3. Adding memory to the printer might accommodate printing of more complex pages.
Misprint **Press OK**	Print media has been delayed as it moves through the printer.	Press OK to clear the message.
Non-HP <color> installed alternates with **To accept press OK**	A new, non-HP supply has been installed. This message appears until an HP supply is installed or you press OK.	If you believe you purchased an HP supply, go to www.hp.com/go/anticounterfeit. Service or repairs that are required as a result of using non-HP supplies are not covered under HP warranty. To continue printing, press OK.
Non-HP supply in use alternates with **Ready**	The printer has detected that a non-HP supply is currently installed but OK was pressed to override.	If you believe you purchased an HP supply, go to www.hp.com/go/anticounterfeit. Service or repairs that are required as a result of using non-HP supplies are not covered under HP warranty.
Order <color> cartridge alternates with **Ready**	The identified print cartridge is nearing the end of its useful life. The printer is ready and will print for the estimated number of pages indicated.	Order the identified print cartridge. Printing will continue until **Replace <color> cartridge** appears. **NOTE** Estimated pages remaining is based on historical page coverage with this supply. **NOTE** To prevent this message from appearing, in the **System Setup** menu, select **Cartridge low**, and set the **Low threshold** to 0%.
Order supplies alternates with **Ready**	More than one supply item is low.	Order the supplies. Printing can continue until **Replace supplies** appears.
Output bin full alternates with **Remove all paper from bin**	The output bin is full. Printing cannot continue.	1. Empty the output bin. Printing resumes automatically. 2. If the message persists, replace the output-bin-full sensor. 3. Replace the DC controller PCA.
Page too complex **Press OK**	The printer cannot process the page.	Press OK to continue printing the job, but output might be affected.

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Control-panel message	Description	Recommended action
PowerSave on	The printer is in the sleep mode. Any button press or data received clears the sleep mode.	No action necessary. The printer automatically exits sleep mode.
Remove shipping locks from all cartridges	If all the shipping locks have been removed, the problem might be with the connectors on the DC controller PCA.	1. Remove all the print cartridges and check for orange shipping locks at each end of each cartridge. Remove any that remain. 2. Reinstall the print cartridges. 3. On the DC controller, make sure that connector J1020 is seated correctly 4. Replace the DC controller PCA.
Replace <color> cartridge	The print cartridge has reached its end of life. Printing will not continue until the cartridge is replaced.	Replace the print cartridge.
Replace supplies	At least two print cartridges are out and need to be replaced.	Replace the print cartridges.
Replace supply **Override in use** alternates with **Ready**	At least one print cartridge is out, but printing is continuing. Print-quality problems might occur.	Order the identified supplies.
Replace supply **Using black only** alternates with **Ready**	At least one color print cartridge is out. Printing can continue, but only the black cartridge is being used.	Order the identified supplies.
Sensor Error **Turn off then on**	A problem has occurred with the top-of-page sensor.	1. Turn the printer off, wait 30 seconds, and turn the printer on. 2. If you are using a surge protector, remove it. Plug the printer directly into the wall socket. Always use the power switch to turn the printer on and off.
Unauthorized <color> alternates with **To accept press OK**	A new, non-HP supply has been installed. This message appears until an HP supply is installed or you press OK.	If you believe that you purchased an HP supply, go to www.hp.com/go/anticounterfeit. Service or repairs that are required as a result of using non-HP supplies are not covered under HP warranty. To continue printing, press OK. The first pending print job will be cancelled.

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Control-panel message	Description	Recommended action
Unauthorized supply in use alternates with **Ready**	The printer has detected that a non-HP supply is currently installed and OK was pressed to override.	If you believe you purchased an HP supply, go to www.hp.com/go/anticounterfeit. Service or repairs that are required as a result of using non-HP supplies are not covered under HP warranty.
Unexpected size in tray # alternates with **Load <SIZE>** **Press OK**	Media is loaded that is longer or shorter in the feed direction than the size configured for the tray.	1. Press OK to print from a different tray. 2. To print from the current tray, load the tray with the size and type indicated. 3. If the message persists, reconnect the following connectors: • Relay PCA: J7006 and J7001 • DC controller: J1014 4. Replace the top-of-page sensor. 5. Replace the DC controller PCA. Ensure that all trays are configured correctly before printing again.

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Event-log messages

The following printer events do not produce a message that appears on the control panel. Instead, they are recorded in the event log. To print the event log, open the secondary service menu, select **Service Reports**, and then select **Error Report**. For more information, see Secondary service menu on page 219.

Table 6-2 Event-log messages

Event code	Description
54.06	Color-density-sensor error
54.14	Color-plane-registration sensor error
54.1200	Black-density measurement abnormality
54.1201	Cyan-density measurement abnormality
54.1202	Magenta-density measurement abnormality
54.1203	Yellow-density measurement abnormality
54.1500	Black density pattern cannot be read
54.1501	Cyan density pattern cannot be read
54.1502	Magenta density pattern cannot be read
54.1503	Yellow density pattern cannot be read
54.21	Beam-detect error

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Jams

Use this illustration to troubleshoot jams in the printer. For instructions to clear jams, see Clearing jams on page 195.

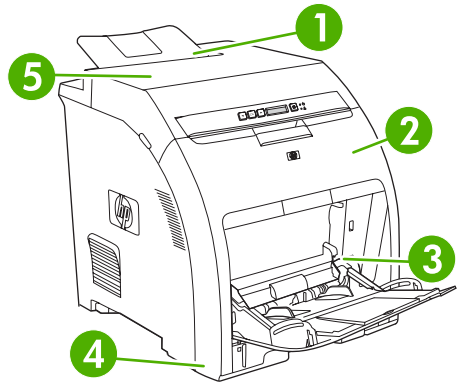

Figure 6-1 Jam locations (printer shown without optional tray 3)

1	Output bin
2	Paper path
3	Tray 1
4	Trays 2 or 3
5	Fuser

Common causes of jams

Common causes of jams[1]

Cause	Solution
The media does not meet specifications.	Use only media that meets HP specifications. See Print-media specifications on page 17.
A component is installed incorrectly.	Verify that all print cartridges, trays, and the fuser are correctly installed.
You are using media that has already passed through a printer or copier.	Do not use media that has been previously printed on or copied.
An input tray is loaded incorrectly.	Remove any excess media from the input tray. Make sure that the stack is below the maximum stack height mark in the tray. See Configuring trays on page 28.
The media is skewed.	The input-tray guides are not adjusted correctly. Adjust them so they hold the stack firmly in place without bending it.
The media is binding or sticking together.	Remove the media, flex it, rotate it 180 degrees, or flip it over. Reload the media into the input tray. **NOTE** Do not fan paper. Fanning can create static electricity, which can cause paper to stick together.

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Common causes of jams[1]

Cause	Solution
The media is removed before it settles into the output bin.	Reset the printer. Wait until the page completely settles in the output bin before removing it.
The media is in poor condition.	Replace the media.
The internal rollers from tray 2 or optional tray 3 are not picking up the media.	Remove the top sheet of media. If the media is heavier than 163 g/m^2 (43 lb), it might not be picked from the tray.
The media has rough or jagged edges.	Replace the media.
The media is perforated or embossed.	Perforated or embossed media does not separate easily. Feed single sheets from tray 1.
Printer supply items have reached the end of their useful life.	Check the printer control panel for messages prompting you to replace supplies, or print a supplies status page to verify the remaining life of the supplies. See Replacing supplies and parts on page 53.
Paper was not stored correctly.	Replace the paper in the trays. Paper should be stored in the original packaging in a controlled environment.

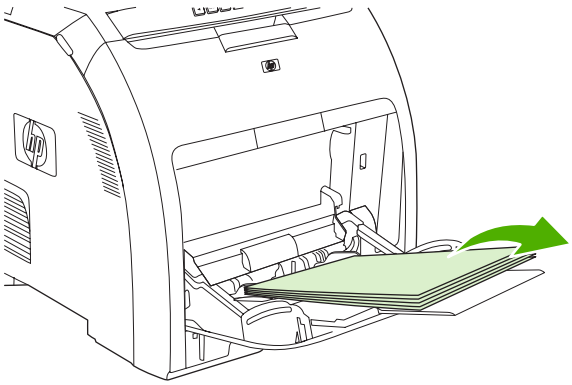
[1] If the printer still continues to jam, contact HP Customer Support or your authorized HP service provider.

Clearing jams

Procedures in the following sections correspond with a jam message that might appear on the control panel.

Jam in tray 1

1. Remove the media from tray 1.



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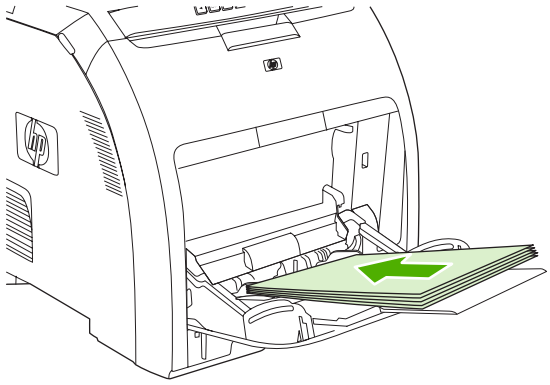
2. Grasp the jammed sheet by both corners and pull.

3. Place the media stack in tray 1.



4. Confirm that the media guides are against the media without bending it.

5. Press OK to resume printing.

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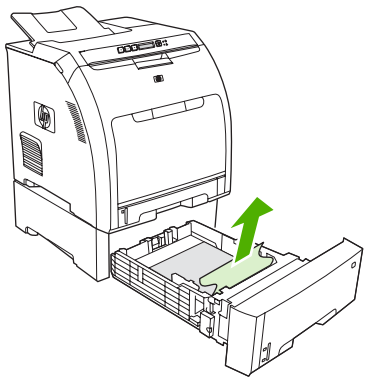
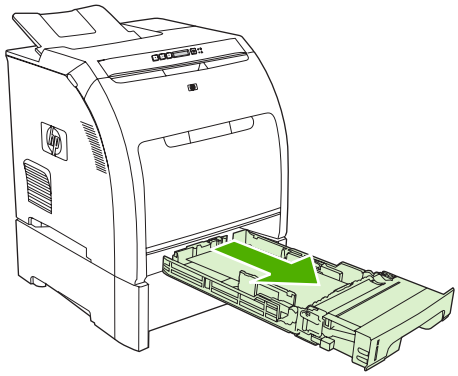
Jam in tray 2 or optional tray 3

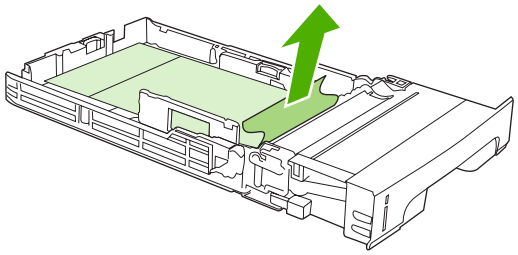
1. If the optional tray 3 is installed, pull it out and place it on a flat surface. If the jammed sheet is visible, remove it.



2. If the sheet is not visible, check inside the printer at the top of the tray opening. Remove any jammed media.
3. Pull out tray 2 and place it on a flat surface.



4. If the jammed sheet is visible, remove it.



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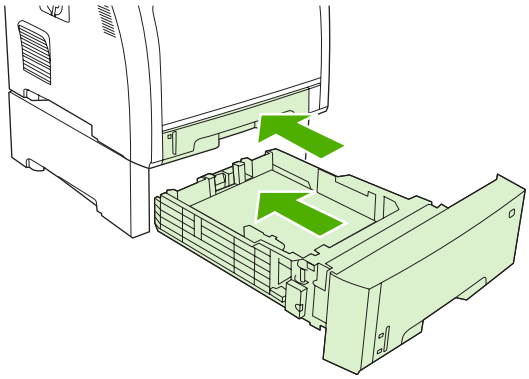
5. If the sheet is not visible, check inside the printer at the top of the tray opening. Remove any jammed media.

6. Replace tray 2 and optional tray 3.



7. Press OK to resume printing.

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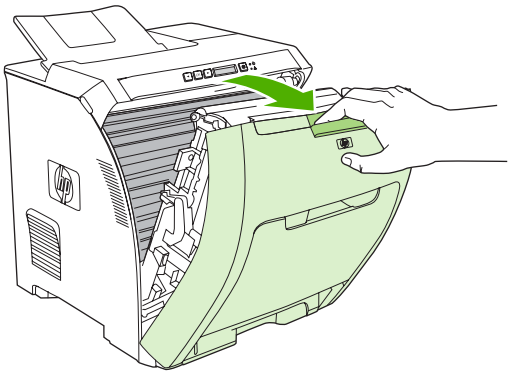
Jam in print paper path

For this control-panel messages, look in two areas for jams. First, check the front door area for a jam. Next, starting with step 6, check the top cover area.

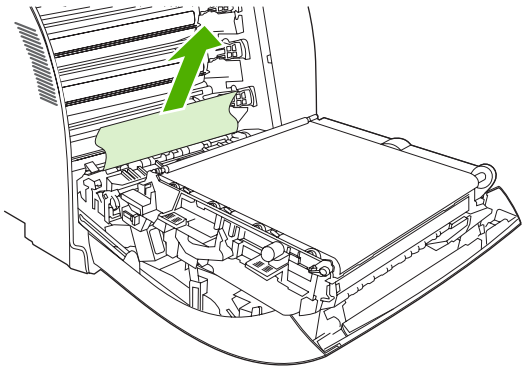
1. Open the front door.



CAUTION Do not place anything on the transfer unit. Do not touch the top of the transfer unit or the contacts on the left side of it.

NOTE If the sheet tears, make sure that all fragments are removed before resuming printing.

2. Remove any visible media.



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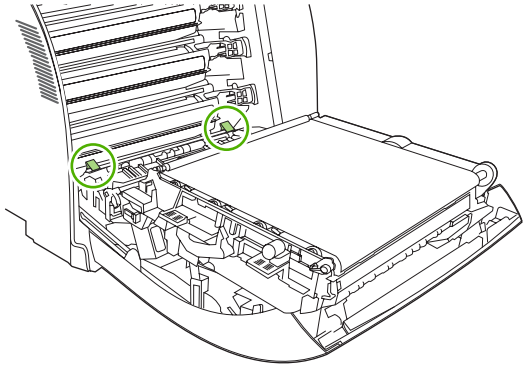
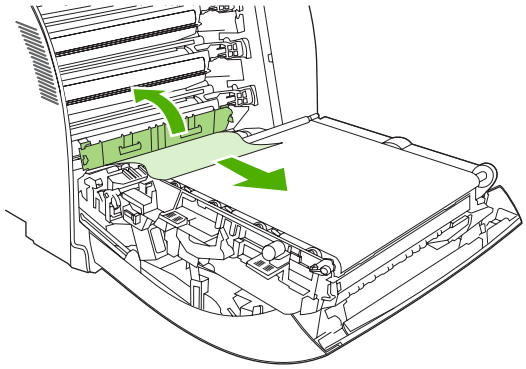
3. Locate the green registration-plate tabs that are below the bottom print cartridge.

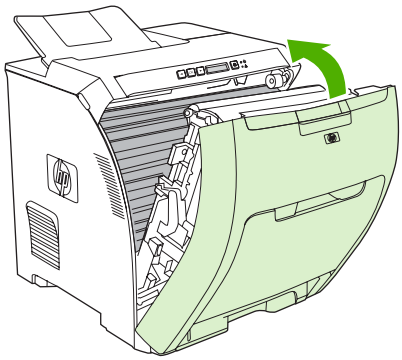


4. Press the tabs, and then lift the registration plate. Remove any jammed media, and then return the registration plate to its closed position.



NOTE If the sheet tears, make sure that all fragments are removed before resuming printing.

5. Close the front door.



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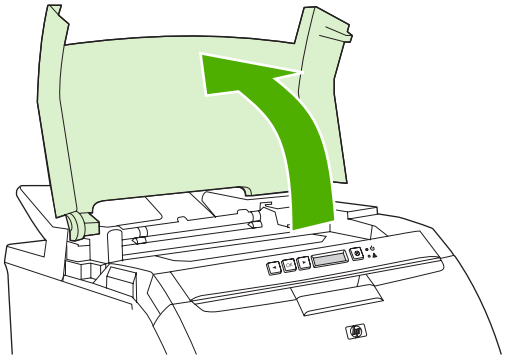
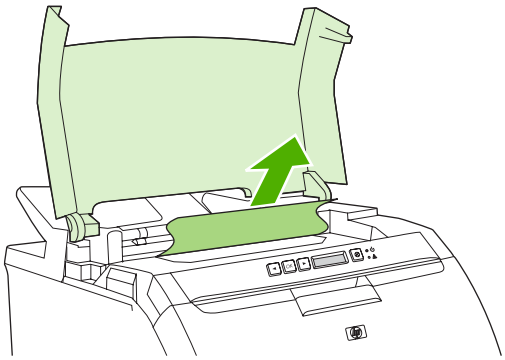
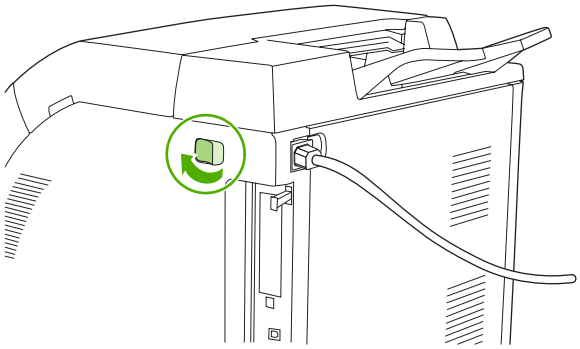
6. Open the top cover.



7. If the jammed sheet is visible, remove it and then close the top cover.



8. If the sheet is not visible, use the power switch to turn off the printer.



WARNING! The fuser will be hot. Wait 10 minutes before proceeding.

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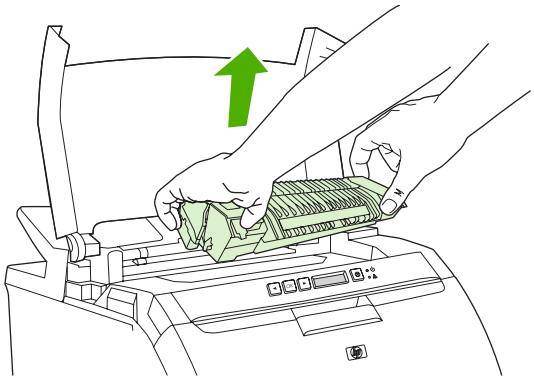
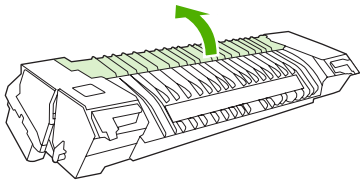
9. Place your thumbs on the fuser latches, squeeze the latches, and pull up on the fuser to remove it.



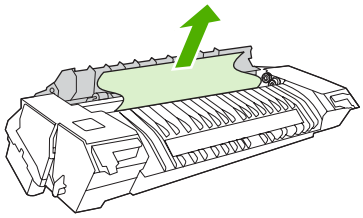
10. On the fuser, lift the shutter door.

CAUTION Do not open the shutter door while the fuser is in the printer.



11. Remove any jammed sheets.

NOTE If the sheet tears, make sure that all fragments are removed before you resume printing.



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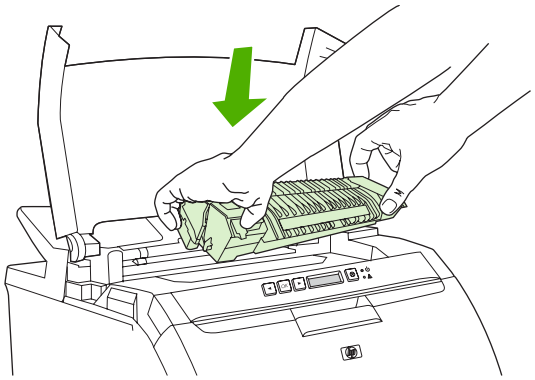
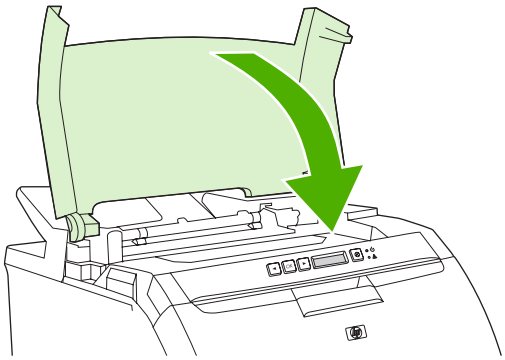
12. Hold the fuser with your thumbs on the latches, and then push both sides of the fuser into the printer. Press the fuser down until it clicks into place.



13. Close the top cover and then turn on the printer.

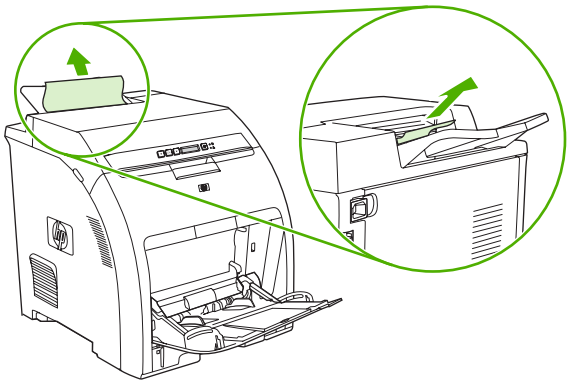


Jam in output bin

For this control-panel message, look in two places for jams. First, check the output bin area for a jam. Next, starting with step 3, check the top cover area.

1. Look for jammed paper in the output bin area.
2. Remove any visible media.

NOTE If the sheet tears, make sure that all fragments are removed before resuming printing.



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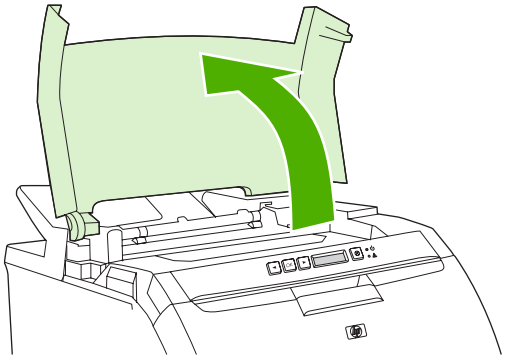
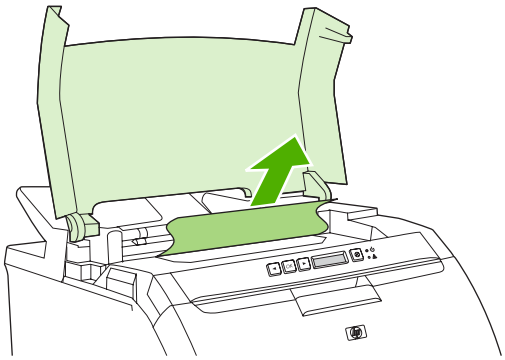
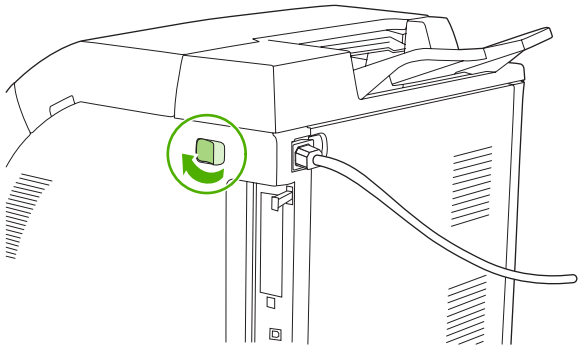
3. Open the top cover.



4. If the jammed sheet is visible, remove it and then close the top cover.



5. If the sheet is not visible, use the power switch to turn off the printer.



WARNING! The fuser will be hot. Wait 10 minutes before proceeding.

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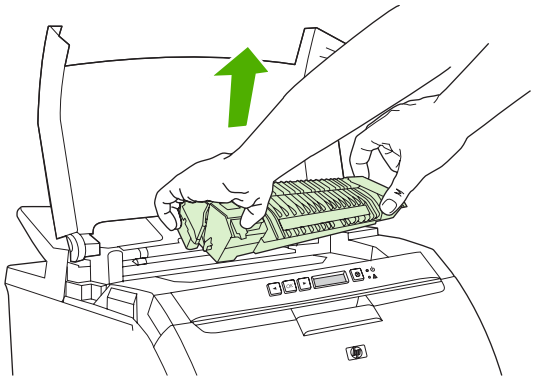
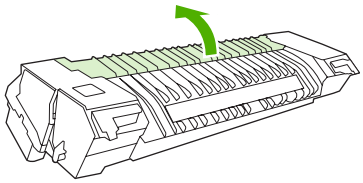
6. Place your thumbs on the fuser latches, squeeze the latches, and pull up on the fuser to remove it.



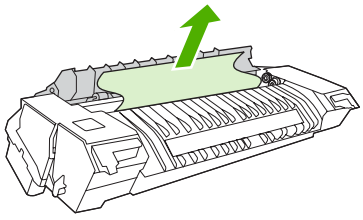
7. On the fuser, lift the shutter door.

CAUTION Do not open the shutter door while the fuser is in the printer.



8. Remove any jammed sheets.

NOTE If the sheet tears, make sure that all fragments are removed before you resume printing.



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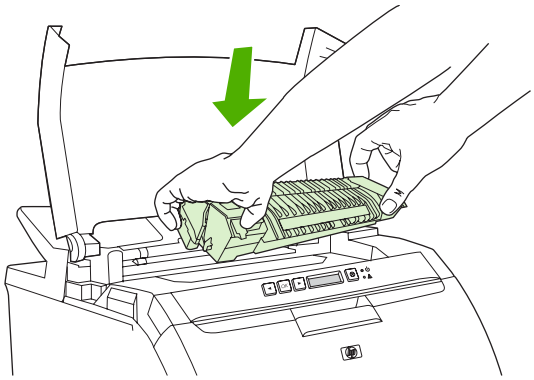
9. Hold the fuser with your thumbs on the latches, and then push both sides of the fuser into the printer. Press the fuser down until it clicks into place.



10. Close the top cover and then turn on the printer.

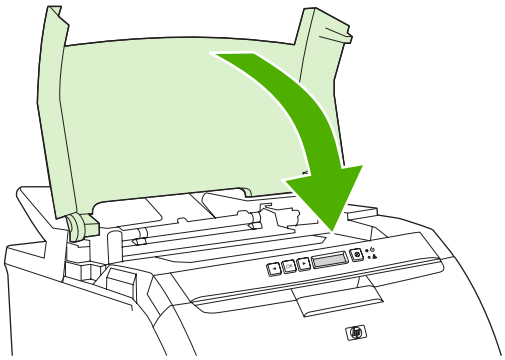


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Image defects

If specific defects occur repeatedly, print a Print Quality Troubleshooting page and follow the instructions on the first page. If you cannot resolve the problem, use the information in this section to identify the root cause of the problem.

Image defects fall into the following categories. Links to possible causes and recommended solutions are included. In general, the items are listed in order, from minor repairs to major repairs. Check each item in the order in which it appears.

Table 6-3 Image defects

Image defect	Description	More information
Light image	Image light in all colors	See Table 6-4 Causes for light images on page 208.
Light color	Image light in a particular color	See Table 6-5 Causes for one color printing light on page 208.
Dark image	Image dark in all colors	See Table 6-6 Causes for dark images on page 209.
Dark color	Image dark in a particular color	See Table 6-7 Causes for one color printing darker than others on page 209.
Completely blank	No image prints	See Table 6-8 Causes for a completely blank image on page 210.
All black/solid color	Image is all black or solid color	See Table 6-9 Causes for an all black or solid colored image on page 210.
Dots in vertical lines	White dots appear in image	See Table 6-10 Causes for vertical lines of white dots on page 210.
Dirt on back of paper	Dirt on the back of the page	See Table 6-11 Causes for dirt on the back of the paper on page 210.
Dirt on front of paper	Dirt on the front of the page	See Table 6-12 Causes for dirt on the front of the paper on page 211.
Vertical lines	Vertical line appears in image	See Table 6-13 Causes for vertical lines on page 211.
White vertical lines	White vertical line appears in image	See Table 6-14 Causes for white vertical lines on page 211.
Horizontal lines	Horizontal line appears in image	See Table 6-15 Causes for horizontal line on page 212.
White horizontal lines	White horizontal line appears in image	See Table 6-16 Causes for white horizontal lines on page 212.
Missing color	Image in a particular color does not come out in color	See Table 6-17 Causes for a missing color on page 213.
Blank spots	Blank spots appear in image	See Table 6-18 Causes for blank spots on page 213.

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Table 6-3 Image defects (continued)

Image defect	Description	More information
Poor fusing	Toner image is not fully fixed on the media	See Table 6-19 Causes for poor fusing on page 213.
Distorted Image	Image is distorted	See Table 6-19 Causes for poor fusing on page 213.
Color misregistration	Some color is misregistered	See Table 6-21 Causes for color misregistration on page 214.
Smearing	Image smeared in whole or in part	See Table 6-22 Causes for smearing on page 215.
Misplaced image	Whole image is incorrectly placed	See Table 6-23 Causes for a misplaced image on page 215.
Reversed color	White in image is output in color, and color is output in white	See Table 6-24 Causes for reversed color on page 215.
Snail tracks	Streaks on the page (that look like snail tracks); the media might wrinkle	See Table 6-25 Causes for snail tracks on page 215.

Light image

Table 6-4 Causes for light images

Cause	Solution
The image density is not adjusted correctly	Calibrate the printer.
The transfer unit has deteriorated	If the transfer unit is at the end of its life or its surface has deteriorated, replace the transfer unit.
Poor secondary-transfer-bias contacts exist	On the secondary transfer roller, check the bias contacts to the high-voltage PCB. Clean them, if necessary. Replace defective parts and deformed or damaged contacts.
The secondary transfer charging roller is deformed or has deteriorated	Replace the secondary transfer charging roller.
The high-voltage PCB is defective	Replace the high-voltage PCB.
The DC controller PCB is defective	Replace the DC controller PCB.

Light color

Use an external device to print a solid-filled image as an example of the problem. As the sample prints, turn the printer off and remove the cartridge. Open the cartridge shutter. If the toner image on the drum before transfer is light, go to step A. If the toner image on the photosensitive drum is not fully transferring to the transfer unit, go to step B in the following table.

Table 6-5 Causes for one color printing light

	Cause	Solution
Step A	Poor developing-bias contacts	Check the developing-bias contacts to the high-voltage PCB. Clean the contacts as necessary.

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Table 6-5 Causes for one color printing light (continued)

	Cause	Solution
		Replace any deformed or damaged contacts.
	Deteriorated cartridge (photosensitive drum)	Replace the cartridge that produces the light color.
	Defective high-voltage PCB	Replace the high-voltage PCB.
	Defective DC controller PCB	Replace the DC controller PCB.
Step B	Poor primary-transfer-bias contacts	On the transfer unit, check the primary transfer-bias-contacts to the high-voltage PCB. Clean the contacts as necessary. Replace any deformed or damaged contacts.
	Deformed or deteriorated primary-transfer charging roller	Replace the transfer unit.
	Defective high-voltage PCB	Replace the high-voltage PCB.
	Defective laser/scanner unit	Replace the laser/scanner unit.
	Defective DC controller PCB	Replace the DC controller PCB.

Dark image

Table 6-6 Causes for dark images

Cause	Solution
Image density is not adjusted correctly	Calibrate the printer.
Color misregistration sensor lens is dirty	Clean the color misregistration sensor lens.
Color misregistration sensor is defective	Replace the color misregistration sensor.
Environmental sensor is defective	Replace the environmental sensor.
DC controller PCB is defective	Replace the DC controller PCB.

Dark color

Table 6-7 Causes for one color printing darker than others

Cause	Solution
Poor contacts with the primary-charging bias, developing bias, or drum grounding	On the cartridge that is producing the darker color, check the primary-charging bias and developing-bias contacts to the high-voltage PCB, or the drum-grounding contacts. Clean the contacts as necessary. Replace any deformed or damaged contacts.
High-voltage PCB is defective	Replace the high-voltage PCB.
DC controller PCB is defective	Replace the DC controller PCB.

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Completely blank image

Table 6-8 Causes for a completely blank image

Cause	Solution
High-voltage PCB is defective (no developing-bias output)	Replace the high-voltage PCB.
DC controller PCB is defective	Replace the DC controller PCB. Calibrate the printer after replacing the DC controller.

All black or solid color

Table 6-9 Causes for an all black or solid colored image

Cause	Solution
Poor contacts with the primary-charging bias, developing bias, or drum grounding	On the cartridge that is producing the solid color, check the primary-charging bias and developing-bias contacts to the high-voltage PCB, or the drum-grounding contacts. Clean the contacts as necessary. Replace any deformed or damaged contacts.
Cartridge (primary-charging roller) is defective	Replace the cartridge that is producing the solid color.
High-voltage PCB is defective	Replace the high-voltage PCB.
DC controller PCB is defective	Replace the DC controller PCB. Calibrate the printer after replacing the DC controller.

Dots in vertical lines

Table 6-10 Causes for vertical lines of white dots

Cause	Solution
Transfer unit or primary-transfer charging roller is deformed or deteriorated	Replace the transfer unit.
Secondary-transfer charging roller is deformed or deteriorated	Replace the secondary-transfer charging roller.
High-voltage PCB is defective	Replace the high-voltage PCB.
DC controller PCB is defective	Replace the DC controller PCB. Calibrate the printer after replacing the DC controller.

Dirt on back of paper

If the defect is repetitive dirt, go to step A; if not, go to step B.

Table 6-11 Causes for dirt on the back of the paper

	Cause	Solution
A	Repetitive dirt (dirty registration roller, pressure roller, feed roller, fuser delivery roller, or face-down delivery sub-roller)	See Table 6-26 Causes of repetitive defects on page 216 to identify the roller with which the problem is

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Table 6-11 Causes for dirt on the back of the paper (continued)

	Cause	Solution
		associated. Clean the dirty roller. Replace the roller if the dirt does not come off.
B	Dirty cassette pickup roller, feed guide, fuser inlet guide, or fuser delivery guide	Clean any dirt from the rollers. Replace the roller if the dirt does not come off.

Dirt on front of paper

If the defect appears in a particular color, go to step A. If it does *not* appear in a particular color *and* it is repetitive, go to step B. If it is not repetitive, go to step C.

Table 6-12 Causes for dirt on the front of the paper

	Cause	Solution
A	Defective cartridge (deteriorated toner or scratches on the developing cylinder, photosensitive drum, or primary charging roller)	Replace the cartridge of the color that matches the defect.
B	Repetitive dirt (dirty registration sub-roller, fuser sleeve, feed sub-roller, or face-down delivery roller)	See Table 6-26 Causes of repetitive defects on page 216 to identify the roller with which the problem is associated. Clean the dirty roller. Replace the roller if the dirt does not come off.
C	Dirty multipurpose tray pickup roller	Clean dirt from the roller. Replace the roller if the dirt does not come off.
	Defective transfer unit	Check the transfer-unit surface. If it is scratched or dented, replace it.
	Defective transfer-unit cleaning blade	Replace the transfer unit.

Vertical lines

Table 6-13 Causes for vertical lines

Cause	Solution
Photosensitive drum has grooves on the circumference	Replace the cartridge that produces the vertical lines.
Fuser sleeve has grooves on the circumference	Replace the fuser.

White vertical lines

If the lines appear in a particular color, go to step A. If they appear in a full-color print, go to step B.

Table 6-14 Causes for white vertical lines

	Cause	Solution
A	Scratches on the circumference of the developing cylinder (print cartridge)	Replace the print cartridge.
	Scratches on the circumference of the photosensitive drum	Replace the print cartridge.

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Table 6-14 Causes for white vertical lines (continued)

	Cause	Solution
B	Vertical scratches on the transfer unit	Replace the transfer unit.
	Vertical scratches on the fuser sleeve	Replace the fuser.

Horizontal line

If the line appears in a particular color, go to step A. If it appears in the full-color print, go to step B.

Table 6-15 Causes for horizontal line

	Cause	Solution
A	The developing cylinder is deformed by remaining engaged with the photosensitive drum for too long.	See Table 6-26 Causes of repetitive defects on page 216 to determine whether a developing cylinder is involved. If so, print about 20 pages to solve the problem. If the problem is not resolved, replace the cartridge.
	Horizontal scratches on the photosensitive drum (cartridge)	See Table 6-26 Causes of repetitive defects on page 216 to determine whether a photosensitive drum is involved. If so, replace the cartridge.
	The print-cartridge cleaning blade leaves a line of toner on the drum (C-blade blur). The line repeats every 77 mm (3.0 inches).	At the printer control panel, set CONFIGURE DEVICE/ PRINT QUALITY/OPTIMIZE/ PRE-ROTATION=ON.
B	Horizontal scratches on the fuser sleeve	See Table 6-26 Causes of repetitive defects on page 216 to determine whether a fuser sleeve is involved. If so, replace the fuser.

White horizontal line

If the line appears in a particular color, go to A. If it appears in full color, go to B.

Table 6-16 Causes for white horizontal lines

	Cause	Solution
A	Horizontal scratches on the photosensitive drum (cartridge)	See Table 6-26 Causes of repetitive defects on page 216 to determine whether a photosensitive drum is involved. If so, replace the print cartridge.
B	Horizontal scratches on the transfer unit	Check the transfer unit surface for horizontal scratches. If any, replace the transfer unit.
C	The fuser sleeve is deformed by remaining engaged with the pressure roller for too long	See Table 6-26 Causes of repetitive defects on page 216 to determine whether the fuser sleeve is involved. If so, replace the fuser.

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Color missing

Table 6-17 Causes for a missing color

Cause	Solution
Defective laser shutter	Check the problem color laser shutter. Clean the shutter as necessary. Replace the shutter if it is deformed or damaged.
Poor developing-bias contacts	For the cartridge with the problem (color missing), check the developing-bias contacts to the high-voltage PCB. Clean contacts, if dirty. Replace defective parts if the contacts are deformed or damaged.
Defective cartridge (primary-charging roller)	Replace the problem (color missing) color cartridge.
Laser/scanner unit is defective	Replace the laser/scanner for any missing color. Calibrate the printer after replacing the laser/scanner.
High-voltage PCB is defective	Replace the high-voltage PCB.
DC controller PCB is defective	Replace the DC controller PCB. Calibrate the printer after replacing the DC controller.

Blank spots

Table 6-18 Causes for blank spots

Cause	Solution
Poor secondary-transfer-bias contacts	On the secondary-transfer roller, check the bias contacts to the high-voltage PCB. Clean the contacts as necessary. Replace any deformed or damaged contacts.
High-voltage PCB is defective	Replace the high-voltage PCB.
DC controller PCB is defective	Replace the DC controller PCB. Calibrate the printer after replacing the DC controller.

Poor fusing

Table 6-19 Causes for poor fusing

Cause	Solution
Media is not within specifications	Use media that meets specifications.
Fuser is not within nip-width specifications	See Table 6-26 Causes of repetitive defects on page 216 to determine whether a fuser sleeve is involved. If so, replace the fuser sleeve unit.
Fuser sleeve is scarred or damaged	Replace the fuser.
Pressure roller is scarred or damaged	See Table 6-26 Causes of repetitive defects on page 216 to determine if a pressure roller is involved. If so, replace the fuser.
Printer is not properly set for media type	Set the printer for the media type being used.

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Table 6-19 Causes for poor fusing (continued)

Cause	Solution
Thermistor is deteriorated	Replace the fuser.
DC controller PCB is defective	Replace the DC controller PCB. Calibrate the printer after replacing the DC controller.

Image distortion

Table 6-20 Causes for distortion or blurring

Cause	Solution
Transfer unit is defective	Replace the transfer unit. Calibrate the printer after replacing the transfer unit.
Secondary-transfer roller is defective	If it does not rotate smoothly or is deformed, replace the secondary-transfer roller.
DC controller PCB is defective	Replace the DC controller PCB. Calibrate the printer after replacing the DC controller.

Color misregistration

If the misregistration occurs in a particular color, go to A. If it occurs in all colors, go to step B. If another misregistration issue is evident, perform the steps in order.

Table 6-21 Causes for color misregistration

	Cause	Solution
	The printer is not calibrated correctly	Calibrate the printer. Open the front door and remove the ETB shipping locks on each side of the ETB assembly, toward the bottom.
A	Cartridge is defective	Check if the photosensitive drum in the problem cartridge rotates smoothly. If not, replace the cartridge.
	Cartridge drive gears are worn or chipped	Check the drive gears connected to the problem cartridge. If a gear is worn or chipped, replace the gear.
B	Color misregistration sensor is dirty	Clean the color misregistration sensor lens.
	Color misregistration sensor is defective	Replace the color misregistration sensor.
	Transfer unit is defective	If the transfer unit does not rotate smoothly, replace it.
	Drive gears are worn or chipped	Check the drive gears between the image drive unit and the drum motor. If one is worn or chipped, replace it.
	Image drive unit is defective	Replace the image drive unit.
	Laser/scanner unit is defective	Replace the laser/scanner unit.
	DC controller PCB is defective	Replace the DC controller PCB.

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Smearing

Table 6-22 Causes for smearing

Cause	Solution
Poor contacts exist to each cartridge and printer grounding	Clean the grounding contacts on each cartridge and the printer. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts. Make sure that all contacts are connected correctly.
The movement of the fuser front paper sensor lever is not smooth	Reseat the lever to make the movement smooth.
Foreign substances or dirt on the fuser inlet guide	Clean the fuser inlet guide.

Misplaced image

Table 6-23 Causes for a misplaced image

Cause	Solution
The oblique rollers are worn (if problem only occurs on the back side of duplex printing only)	Replace the oblique rollers.
DC controller PCB is defective	Replace the DC controller PCB. Calibrate the printer after replacing the DC controller.

Reversed color

Table 6-24 Causes for reversed color

Cause	Solution
The FFC that connects the DC controller to the formatter is not correctly connected	Reseat the FFC to the DC controller PCB J1001.
DC controller PCB is defective	Replace the DC controller PCB.

Snail tracks

Table 6-25 Causes for snail tracks

Cause	Solution
This occurs in high-temperature, high-humidity environments on the second side of duplexing jobs when the fuser pressure roller is bent.	Replace the fuser.

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Repetitive-defects troubleshooting

Defects on printer rollers can cause image defects to appear at regular intervals on the page. Use Table 6-26 Causes of repetitive defects on page 216 to determine which roller is causing the defect. To resolve the problem, try cleaning the roller. If the roller remains dirty after cleaning or if it is damaged, replace it.

Repetitive defects for the transfer unit normally appear on every other page, because the transfer belt is longer than a page. However, the period of the repetitive defect can vary depending on the type of media, and a repetitive defect can occur more than once on the same page.

CAUTION Do not use solvents or oils to clean rollers. Instead, use lint-free paper to clean the roller. If dirt is difficult to remove, dampen the paper with rubbing alcohol.

NOTE Defects on the tray 2 pickup roller or the multipurpose-tray pickup roller do not cause a repetitive defect, but instead cause a defect on the leading edge of the page.

Table 6-26 Causes of repetitive defects

Problem Area	Period of defect (mm)	Problem			
		Dirt on front	Blank spots	Dirt on back	Poor fuser
Primary charging roller	About 27	X	X		
Developing cylinder	About 27	X	X		
Registration roller (inside)	About 35	X			
Registration roller (outside)	About 36			X	
Transfer roller	About 44		X	X	
Fuser sleeve	About 75	X	X		X
Photosensitive drum	About 76	X	X		
Fuser pressure roller	About 79	X		X	X

Repetitive print defects are usually caused by a specific roller, cylinder, or drum in the printer or the print cartridge. Use the following figure to isolate the cause of repetitive print defects. Align the first occurrence of the defect with the top of the “ruler” (at the top or bottom of the misprinted page), and measure to the next occurrence of the defect to determine which roller, cylinder, or drum is causing the defect. When the defect pattern matches the pattern of the ruler, replace the indicated part.

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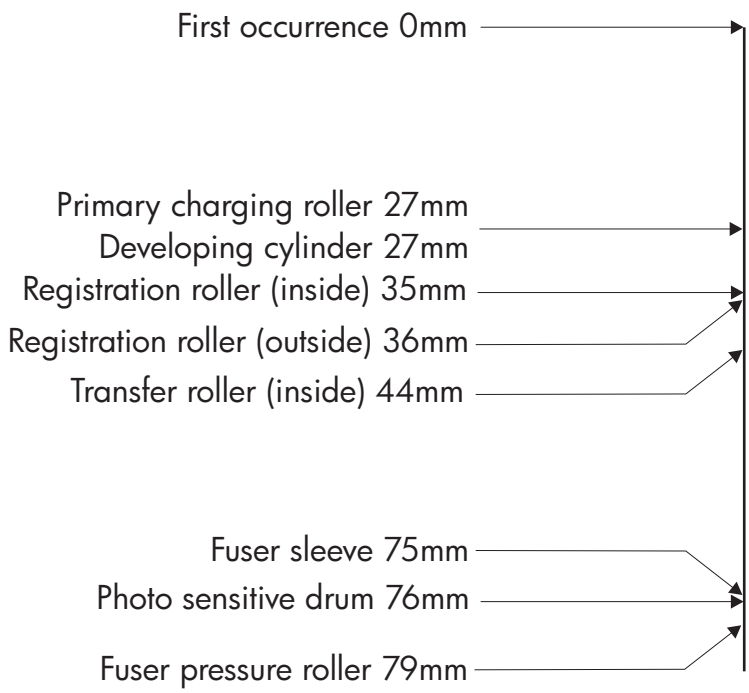

Figure 6-2 Repetitive defect ruler

NOTE Transfer unit defects usually appear on every other page because the transfer belt is longer than a page. However, the defect distance might vary depending on the type of media that is being used. It is possible to see a repetitive defect more than once on the same page.

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Interface troubleshooting

Communication checks

NOTE Communication problems are normally the customer's responsibility. Time spent attempting to resolve these problems might not be covered by the Hewlett-Packard warranty.

Refer the customer to the network administrator for assistance in troubleshooting network problems.

If the printer is *not* connected to an MS-DOS-based host, use the following table to check the connection.

Table 6-27 Communication check

Check	Action
Does the computer configuration match the parameters described in the configuration instructions?	Verify that the configuration of the computer's communications port matches these parameters. View the Jetdirect configuration page for print server status, and to verify configuration parameters for operation on your network. **NOTE** If these parameters are not set correctly, an error message might appear on the control panel.

EIO troubleshooting

If the printer contains an optional HP Jetdirect print server and you cannot communicate with the printer over the network, verify the operation of the print server. Print a configuration page. If the Jetdirect card does not appear under "Installed personalities and options" on the configuration page, see the troubleshooting section of the *HP Jetdirect Print Server Administrators Guide* supplied with the print server.

If the host system and printer still do not communicate, replace the formatter PCB or the EIO card and reconfigure the printer. If the problem persists, use a protocol analyzer to find the source of the problem.

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

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Secondary service menu

Use the secondary service menu to print service-related reports and to run special tests. Customers do not have access to this menu.

Open the secondary service menu

1. Make sure the printer is in the Ready state.
2. Press OK to enter the menus.
3. Simultaneously press < and OK to open the secondary service menu.
4. Press < and > to navigate through the menu.

Secondary service menu structure

Table 6-28 2ndary Service menu

Menu item	Sub-menu item	Description
Service Reports	**Cont. Self-Test**	Print a continuous configuration page.
	Error report	Print an error report.
Location	A list of available locations appears	This item sets certain printer parameters that are dependent on the location, such as the default paper size and the symbol set. Scroll to the appropriate location and select **Yes** to set the location. The printer automatically restarts after you change the location.
Display test		Use this test to verify that the LEDs and characters on the control-panel display function correctly. At the beginning of the test, each of the LEDs is turned on one-at-time. Press OK to continue to the next LED. After the LED test is complete, the character test begins by testing the pixels on each line. Then, each of the 255 characters is displayed in groups of 16. Press OK to continue to the next group of 16 characters. You can cancel the test at any time by pressing X.
Button test		Use this test to verify that the control-panel buttons function correctly. The display prompts you to press each button.
Show FW Version		This item shows the current date code of the firmware.

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Table 6-28 2ndary Service menu (continued)

Menu item	Sub-menu item	Description
Color Cal.	**Adjust color**	Use this item to adjust density settings for contrast, highlights, midtones, and shadows. Adjust each color individually.
	Timing	Use this item to specify how frequently the printer should automatically perform a color calibration. The default setting is 48 hours. You can also turn off automatic calibration.
Enter MAC Addr.		Use this item to specify the MAC address for the printer. The MAC address is in hexadecimal code. Use the > button to scroll through the possible values for each character. When a digit is correct, press OK to move to the next digit.
Clock Dithering		Use this item to turn clock dithering on or off. The default setting is **On**.

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Test pages

Engine test page

Print an engine test page to make sure that the printer is functioning. Use a small, pointed object to depress the test-page switch on the back of the printer.

Figure 6-3 Engine test page

Formatter test

Print a configuration page to make sure that the formatter is functioning.

1. Press OK to open the menus.
2. Press > to highlight **Reports**, and then press OK.
3. Press > to highlight **Config report**, and then press OK.

Half-self test

Perform a half-self test to determine which stage of the print process is malfunctioning.

1. Press OK.
2. Press > to highlight **Reports**, and then press OK.
3. Press > to highlight **Demo page**, and then press OK to print a demo page.
4. Open the front cover when the leading edge of the paper exits the printer.
5. Remove the print cartridges.
6. Open the print-cartridge drum shield to view the drum surface. If a dark and distinct toner image is present on the drum surface, then the two functions of the electrophotographic process are

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functioning (image-formation and development). Any failure is occurring in the transfer or fusing stage.

Drum-rotation test

The photosensitive drum, located in the print cartridge, must rotate in order for the print process to work. The photosensitive drum receives its drive from the main motor through a system of gears on the right side of the printer.

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

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

If the mark did not move, inspect the drive shaft that moves into the print-cartridge area when the front door is closed to make sure that it is meshing with the print cartridge. If the drive shaft looks functional and the drum does not move, then replace the print cartridge. If the drive shaft is damaged, then replace the printer.

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Engine resets

Use the following information to perform system-wide reset procedures. Customers do not have access to this information.

Engine resets

Restore defaults (cold reset)

The traditional **cold reset** function that other HP LaserJet printers have is not supported for this printer. The equivalent function is the **Restore defaults** option in the **Service** menu.

Restoring the default settings unlocks menus that have been previously locked and resets all control-panel menu items to the factory defaults. It does *not* reset the serial number and the page counts.

NOTE Before restoring defaults, print a menu structure report and a configuration page. Use the information on these pages to reset customer-specific settings.

CAUTION All HP Jetdirect settings are also reset. Be sure to print a configuration page before restoring defaults. Make note of the IP address that is listed on the Jetdirect configuration page. You might need to restore the IP address after performing a cold reset.

To restore default settings

1. Press OK to enter the menus.
2. Press > to highlight **Service**, and press OK.
3. Press > to highlight **Restore defaults**, if it is not already highlighted. Press OK.

NVRAM initialization

CAUTION All HP Jetdirect settings are also reset. Be sure to print a configuration page before performing an NVRAM initialization. Make note of the IP address that is listed on the Jetdirect configuration page. You need to restore the IP address after performing an NVRAM initialization.

Performing an NVRAM initialization resets the following settings and information:

- All menu settings are reset to factory default values.
- All localization settings, including language and country/region, are reset.

After performing an NVRAM initialization, reconfigure any computers that print to this printer so that the computers can recognize the printer.

To perform an NVRAM initialization

1. Turn the printer off.
2. Simultaneously press > and X. Hold these buttons as you turn on the printer.
3. When **Permanent storage init.** appears on the display, release both buttons.
4. When the printer has finished the NVRAM initialization, it returns to the Ready state.

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Configuration utility

A software utility is available on the Service and Support CD-ROM that you can use to restore page counts and serial numbers that are lost when you replace the formatter. Use this utility to restore any of the following settings:

- Color page count
- Total page count
- Serial number
- Service ID

You can run the utility from the CD-ROM, or you can copy it to your computer. To open the utility, select the **Library** folder, and double-click the **2700config.exe** program.

NOTE To use this program, the printer must be directly connected to your computer with a USB cable.

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Troubleshooting diagrams

The diagrams in this section include connector locations, DC controller connectors, major assembly locations, printer timing, and printed circuit block diagrams.

Connector locations

Use these diagrams to identify connector locations.

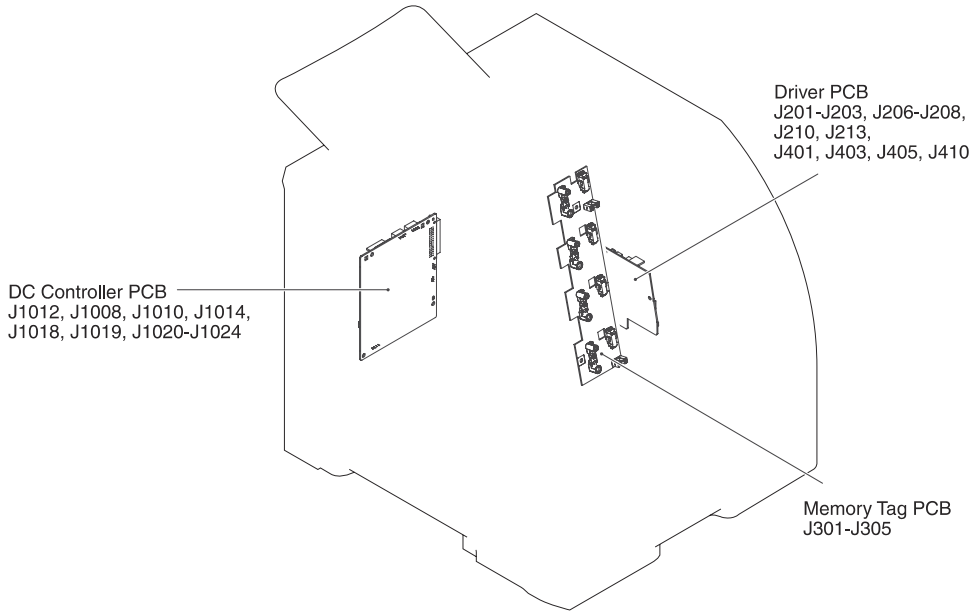

Figure 6-4 Printer connector locations

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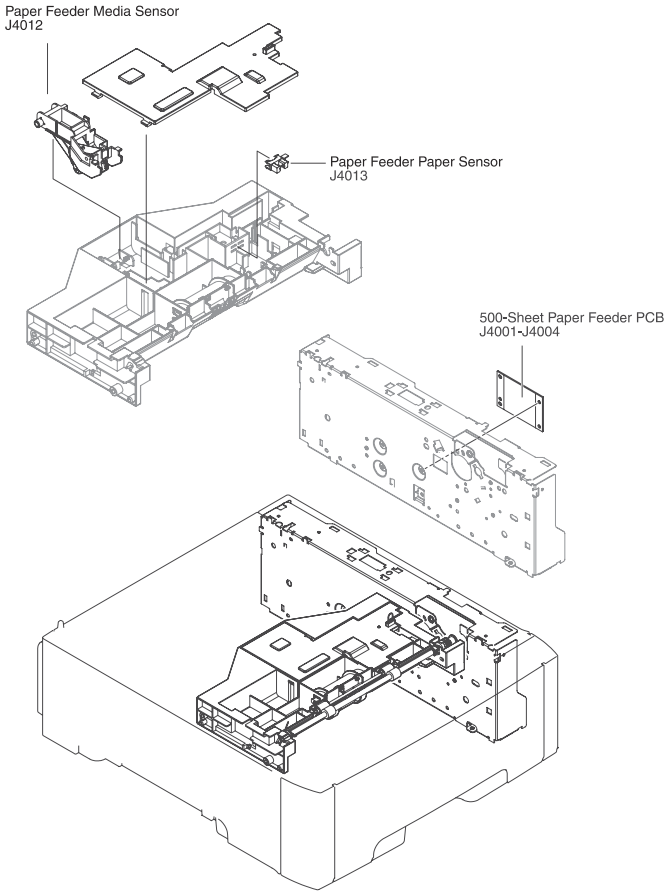

Figure 6-5 500-sheet tray connector locations

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Major assemblies

Use this diagram to identify major assemblies in the printer.

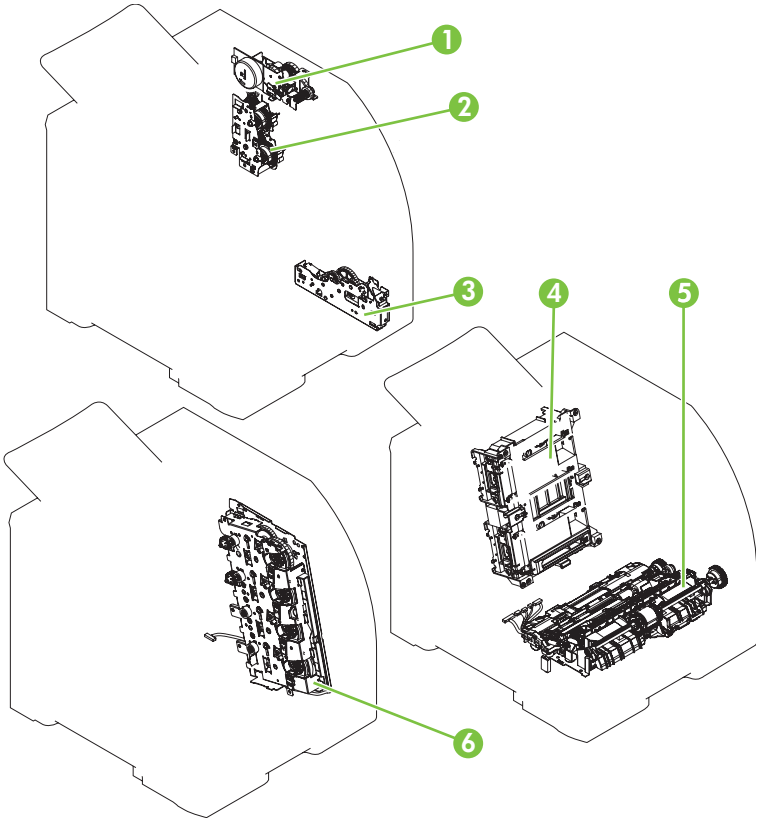

Figure 6-6 Major assemblies (1 of 4)

1. Fuser drive assembly
2. Developing-separation drive assembly
3. Pickup drive assembly
4. Laser/scanner assembly
5. Pickup-and-feed assembly
6. Main drive assembly

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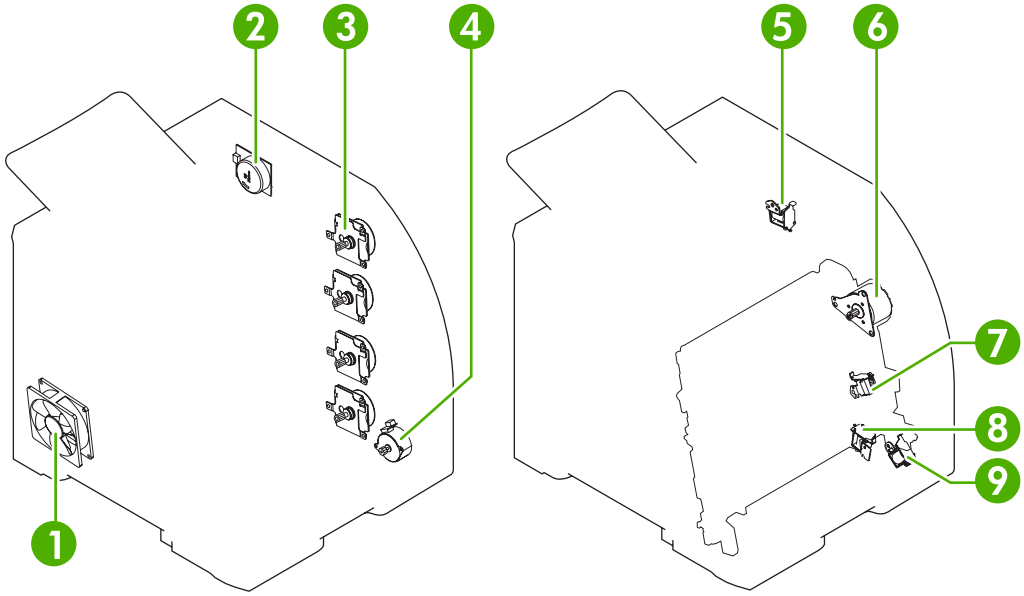

Figure 6-7 Major assemblies (2 of 4)

1. Main fan
2. Fuser drive motor
3. Print cartridge drive motors (M6, M7, M8, M9)
4. Pickup-and-feed motor (M4)
5. Developing separation solenoids (SL5014 and SL5015)
6. ETB drive motor (M5)
7. Developing separation solenoid (SL5011)
8. Cassette pickup solenoid (SL5012)
9. Multipurpose tray pickup solenoid (SL5013)

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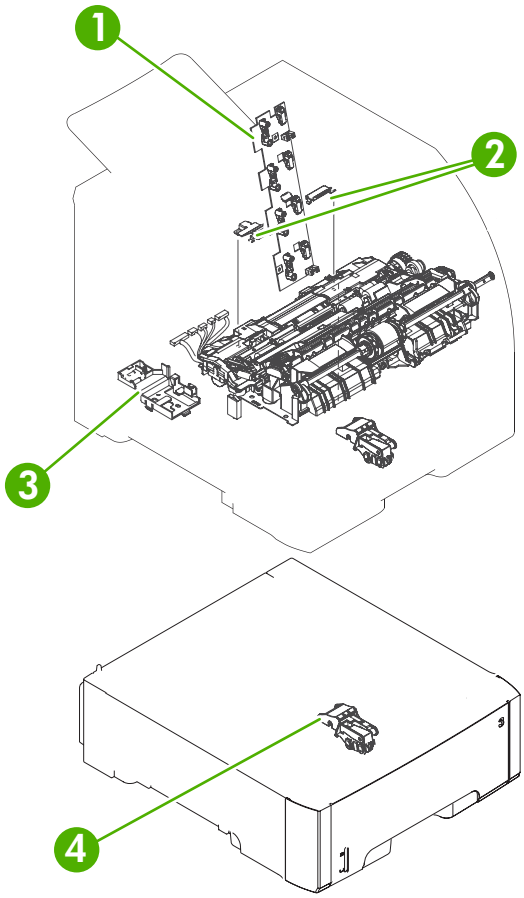

Figure 6-8 Major assemblies (3 of 4)

1. Cartridge sensor assembly
2. Paper and registration sensor covers
3. Temperature sensor

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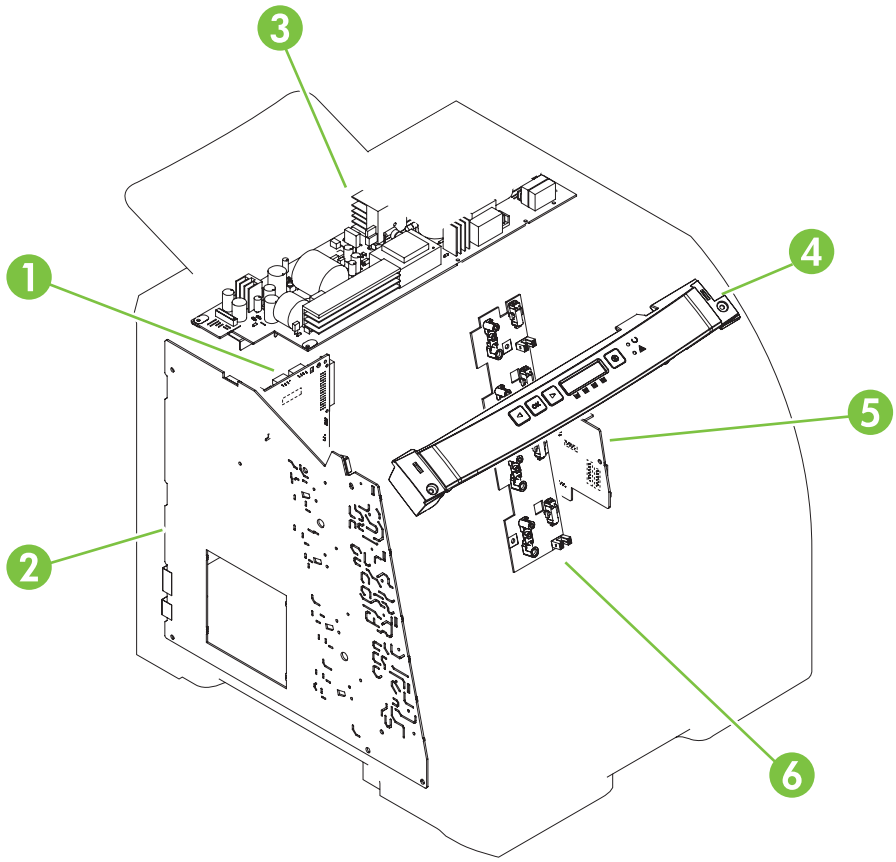

Figure 6-9 Major assemblies (4 of 4)

1. Low-voltage power supply
2. DC controller PCA
3. High-voltage power supply
4. Memory-controller PCA
5. Driver PCA
6. Control panel

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DC controller connectors

This diagram shows the connectors on the DC controller PCA.

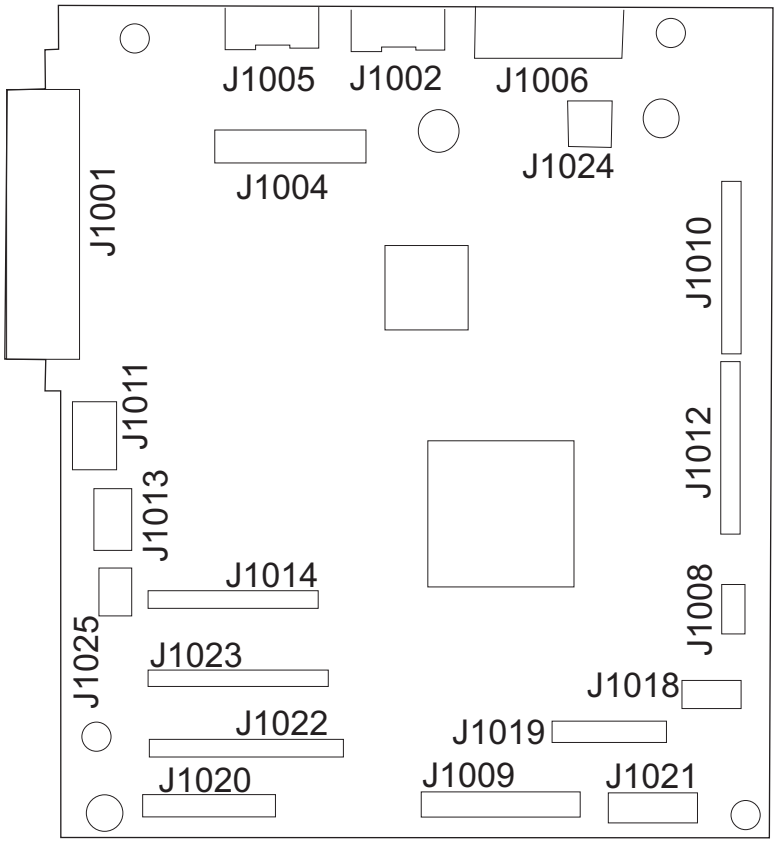

Figure 6-10 DC controller connectors

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Timing diagram

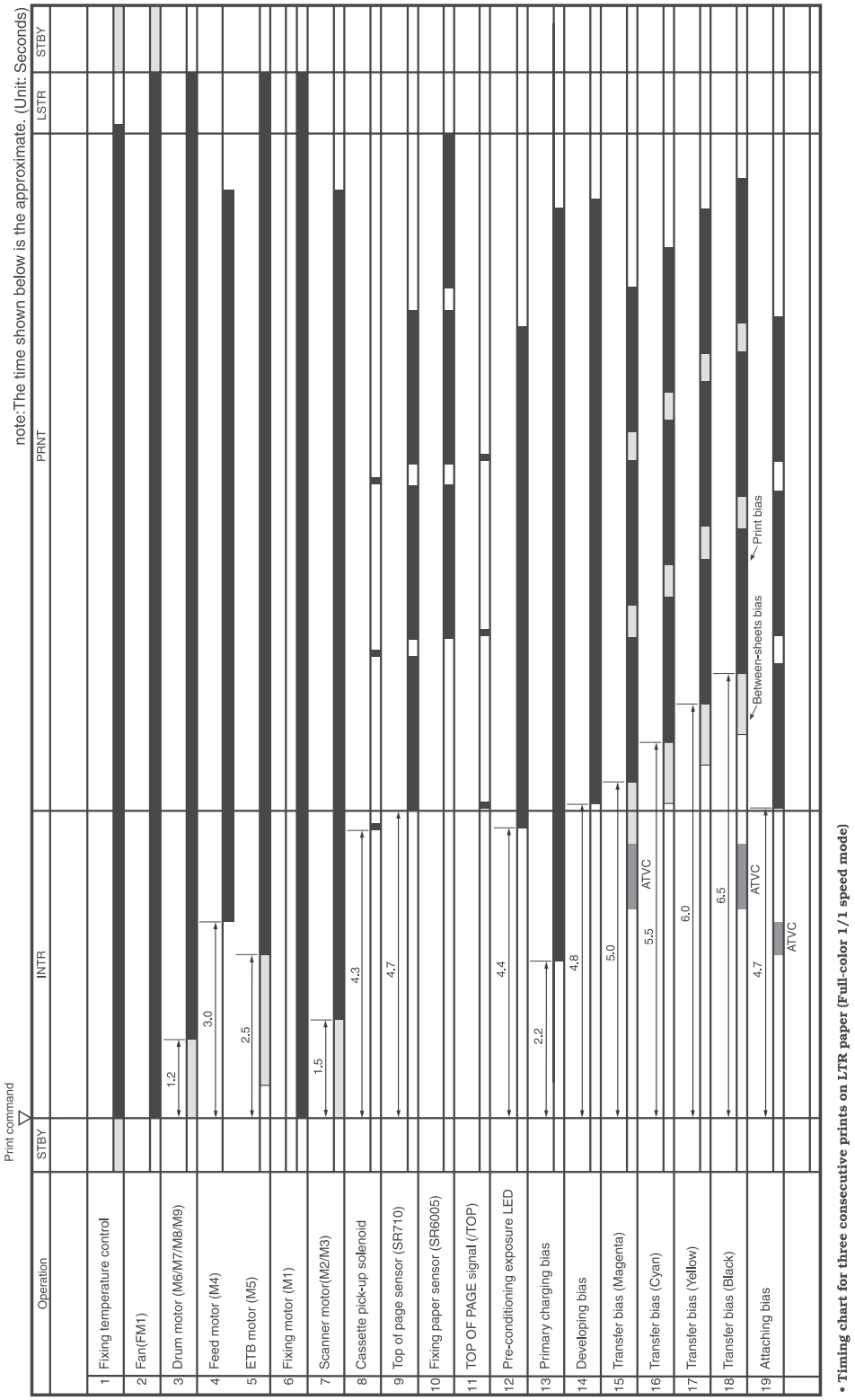

Figure 6-11 Timing diagram

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Circuit diagrams

The following diagrams show the printer circuits.

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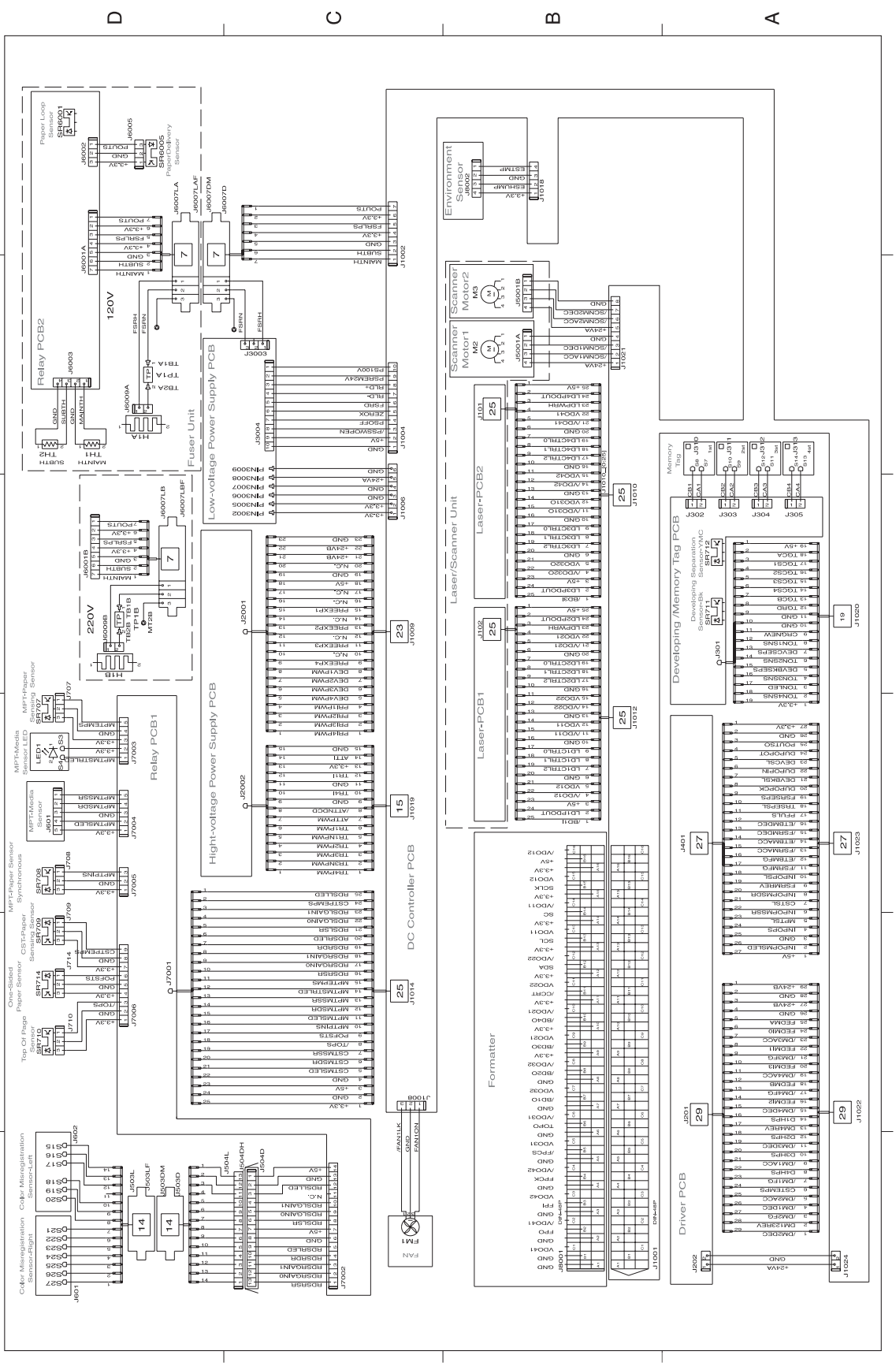

Figure 6-12 General circuit diagram (1 of 2)

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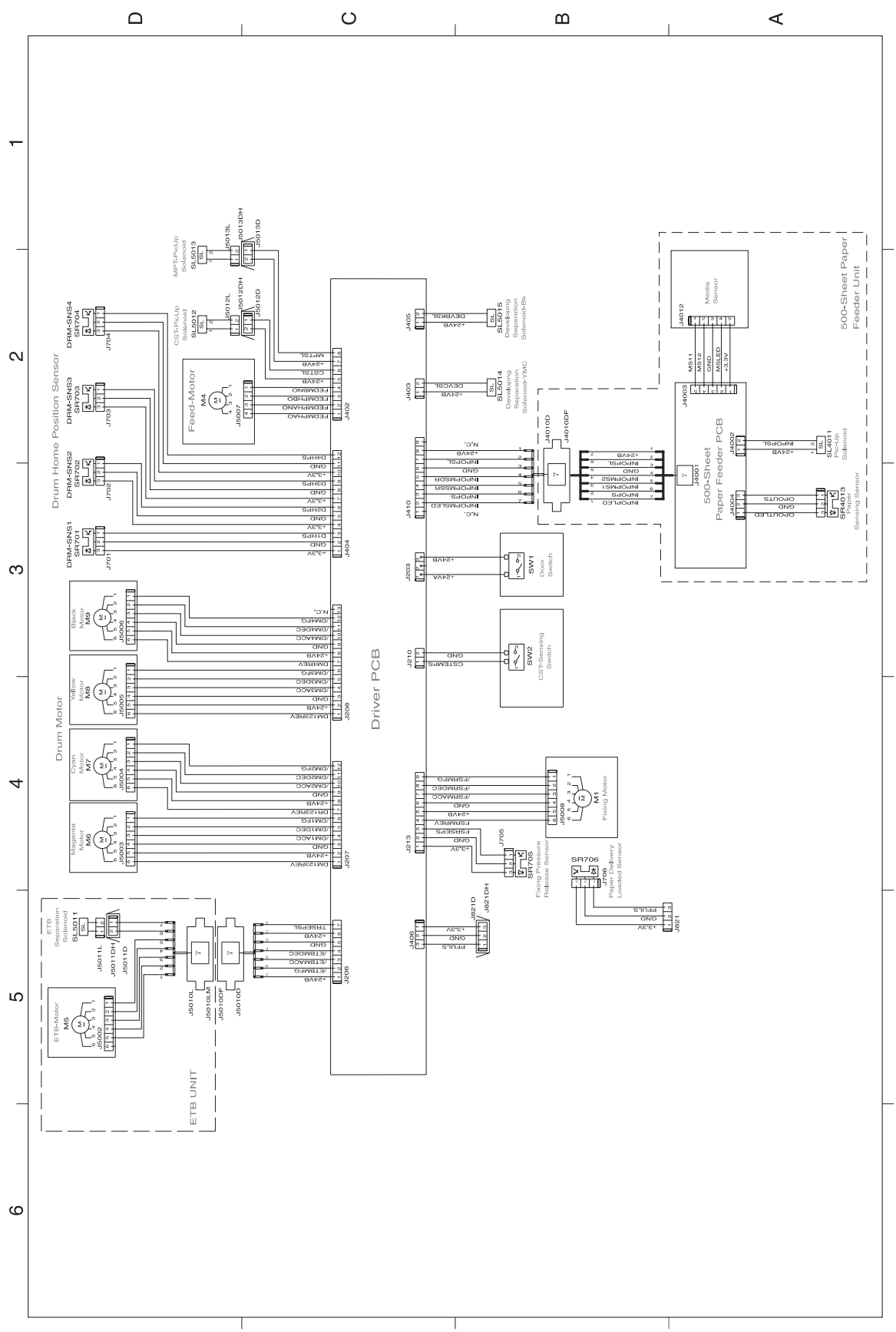

Figure 6-13 General circuit diagram (2 of 2)

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7 Parts and diagrams

- Ordering parts and supplies
- External panels and covers
- Internal components
- Paper-pickup drive assembly
- Developing separation-drive assembly
- Fuser drive assembly
- Cassette (tray 2)
- Paper-pickup assembly
- Electrostatic transfer belt
- Multipurpose tray assembly (tray 1)
- Fuser
- PCAs
- 500-sheet feeder cassette (tray 3)
- 500-sheet feeder paper-pickup assembly
- 500-sheet feeder PCA
- Alphabetical parts list
- Numerical parts list

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Ordering parts and supplies

This section describes Web resources for ordering parts and for technical support and resources for ordering related documentation and software.

Parts

Order replacement parts from the following Web sites:

- HP Parts Store: www.hp.com/buy/parts
- Partsurfer: www.partsurfer.hp.com
- HP Parts Portal: www.hp.com/go/HPparts

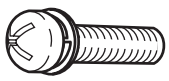
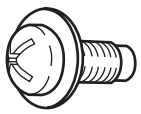
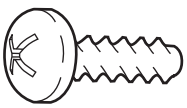
How to use the parts lists and diagrams

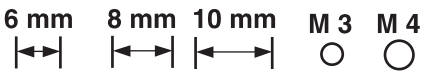
The figures in this chapter show the major subassemblies in the printer and their component parts. A parts list table follows each exploded-view assembly diagram. Each table lists the item number, the associated part number, and the description of each part. If a part is not listed in the table, then it is not a field replacement unit (FRU).

CAUTION Be sure to order the correct part. When looking for part numbers for electrical components, pay careful attention to the voltage that is listed in the description column to ensure that the part number selected is for the correct printer model.

NOTE In this manual, the abbreviation “PCA” stands for “printed circuit board assembly.” components described as a PCA might consist of a single circuit board or a circuit board plus other parts, such as cables and sensors.

Types of screws

Illustration	Description	Size	Part Number	Use
	Screw w/washer	M3X8	XA9-1420-000CN	Used to secure metal components to metal components (for example, a ground wire to the frame)
	Screw, RS	M3X6	XA9-1566-000CN	Used to secure metal to metal
		M12	XA9-1447-000CN	
		M4X6	XA9-0685-000CN	
		M3X8	XA9-1449-000CN	
	Screw, tapping, truss head	M4X10	XB4-7401-005CN	Used to secure anything to plastic



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Related documentation and software

Table 7-1 Technical support Web sites

HP Customer Care Online Software drivers, support documentation, and answers to frequently asked questions	www.hp.com/go/support
HP Technical Training (North America) Classes and schedules	www.hp.com/go/resellertraining

Accessories and supplies

Part	Part number	Type/size
Memory upgrades (DIMMs)	Q1887A	Synchronous 64 MB DDR SDRAM DIMM
	Q7721A	Synchronous 128 MB DDR SDRAM DIMM
	Q7722A	Synchronous 256 MB DDR SDRAM DIMM
Accessories	Q5985A	Optional 500-sheet paper feeder (tray 3)
	J6035D	HP Jetdirect 175x print server (fast Ethernet, 10/100base-TX, USB 1.1)
	J6072A	HP bt1300 Bluetooth[1] wireless printer adapter (USB 1.1 interface)
	J7942A	HP Jetdirect en3700 print server (fast Ethernet, full feature set, 10/100base-TX, USB 2.0)
	J7951A	HP Jetdirect ew2400 wired/wireless print server (fast Ethernet, value feature set, USB 2.0)
Printer supplies	Q7560A	Black print cartridge
	Q7561A	Cyan print cartridge
	Q7562A	Yellow print cartridge
	Q7563A	Magenta print cartridge
Cables	C6518A	USB 2.0 printer cable (2-meter [6.5-foot] standard)
Reference materials	5851-1468	*HP LaserJet Printer Family Print Media Specification Guide*
	5021-0337	*PCL/PJL Technical Reference Package* For downloadable versions, go to www.hp.com/support/clj2700. When connected, select **Manuals**.
	?????	Service CD
	Q7824-90941	Service manual (a printed copy of this manual)

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Part	Part number	Type/size
Media	C2934A	50 sheets HP Color LaserJet Transparencies (letter)
	C2936A	50 sheets HP Color Laser Transparencies (A4)
	Q1298A	HP LaserJet Tough paper (letter)
	Q1298B	HP LaserJet Tough paper (A4)
	HPU1132	500 sheets HP Premium Choice LaserJet paper (letter)
	CHP410	500 sheets HP Premium Choice LaserJet paper (A4)
	HPJ1124	500 sheets HP LaserJet paper (letter)
	CHP310	500 sheets HP LaserJet paper (A4)
	Q6608A	100 sheets HP Color Laser Photo Paper, glossy
	Q6611A	150 sheets HP Color Laser Brochure Paper, glossy (letter)
	Q6541A	200 sheets HP Presentation Laser Paper, soft gloss (letter)
	Q6543A	150 sheets HP Brochure Laser Paper, matte (letter)
	Q2546A	300 sheets HP Presentation laser paper, glossy
	Q6549A	100 sheets HP Photo Paper, matte (letter)
	HPL285R	500 sheets HP Color Laser Paper (letter)

[1] Bluetooth is a trademark owned by its proprietor and used by Hewlett-Packard Company under license.

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External panels and covers

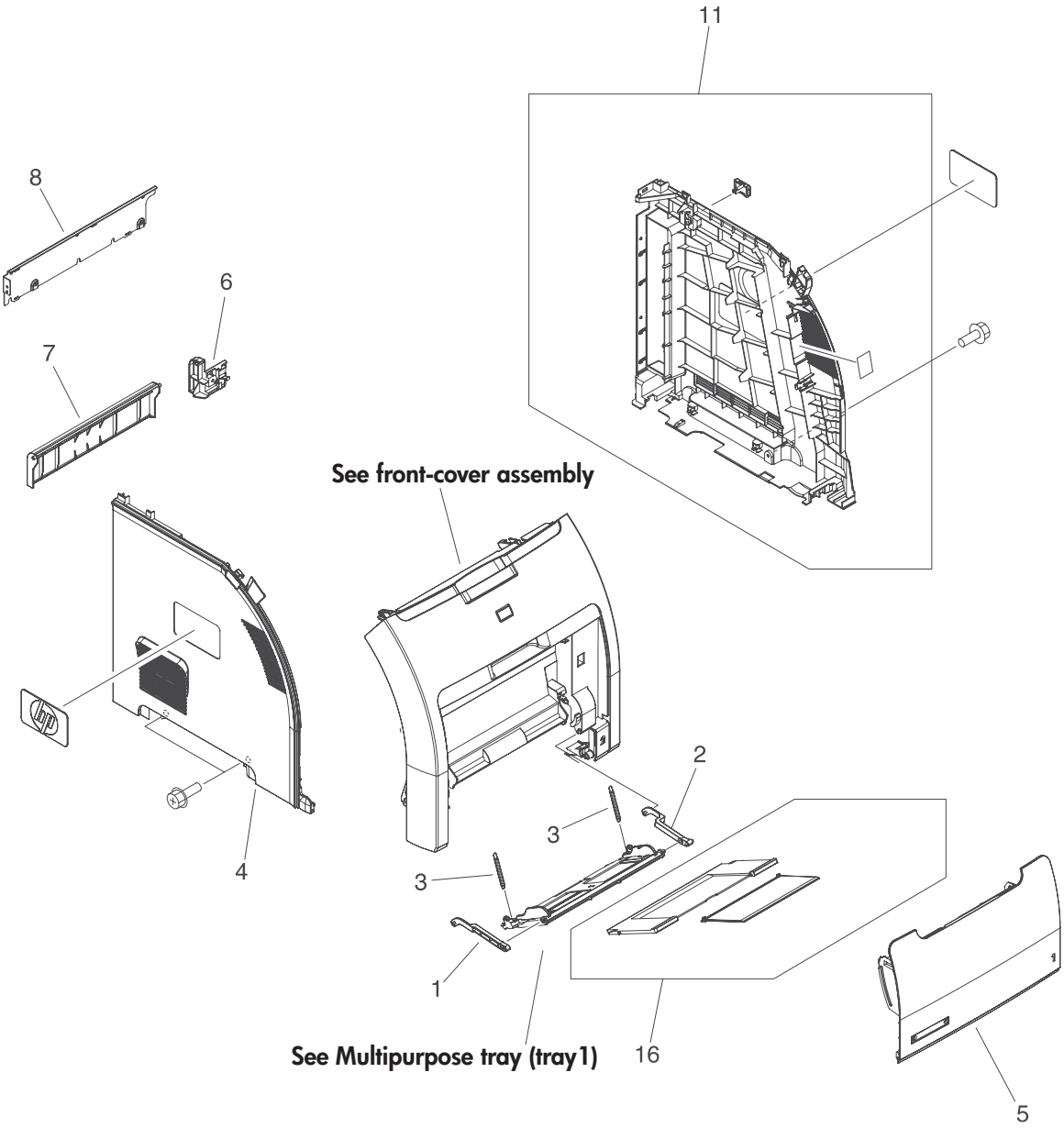

Figure 7-1 External panels and covers (1 of 2)

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Table 7-2 External panels and covers (1 of 2)

Ref	Description	Part number	Qty
1	Link, multipurpose tray (tray 1) hinge left	RC1-6381-000CN	1
2	Link, multipurpose tray (tray 1) hinge right	RC1-6382-000CN	1
3	Spring, tension	RC1-6383-000CN	2
4	Cover, left	RC1-6687-000CN	1
5	Cover, multipurpose tray (tray 1)	RC1-6690-000CN	1
6	Cover, cassette rear right (hinge)	RC1-6691-000CN	1
7	Cover, cassette rear left	RC1-6792-000CN	1
8	Cover, rear lower	RC1-7550-000CN	1
11	Cover, right	RM1–2669–000CN	1
16	Multipurpose tray (tray 1) extension tray assembly	RM1-2710-000CN	1

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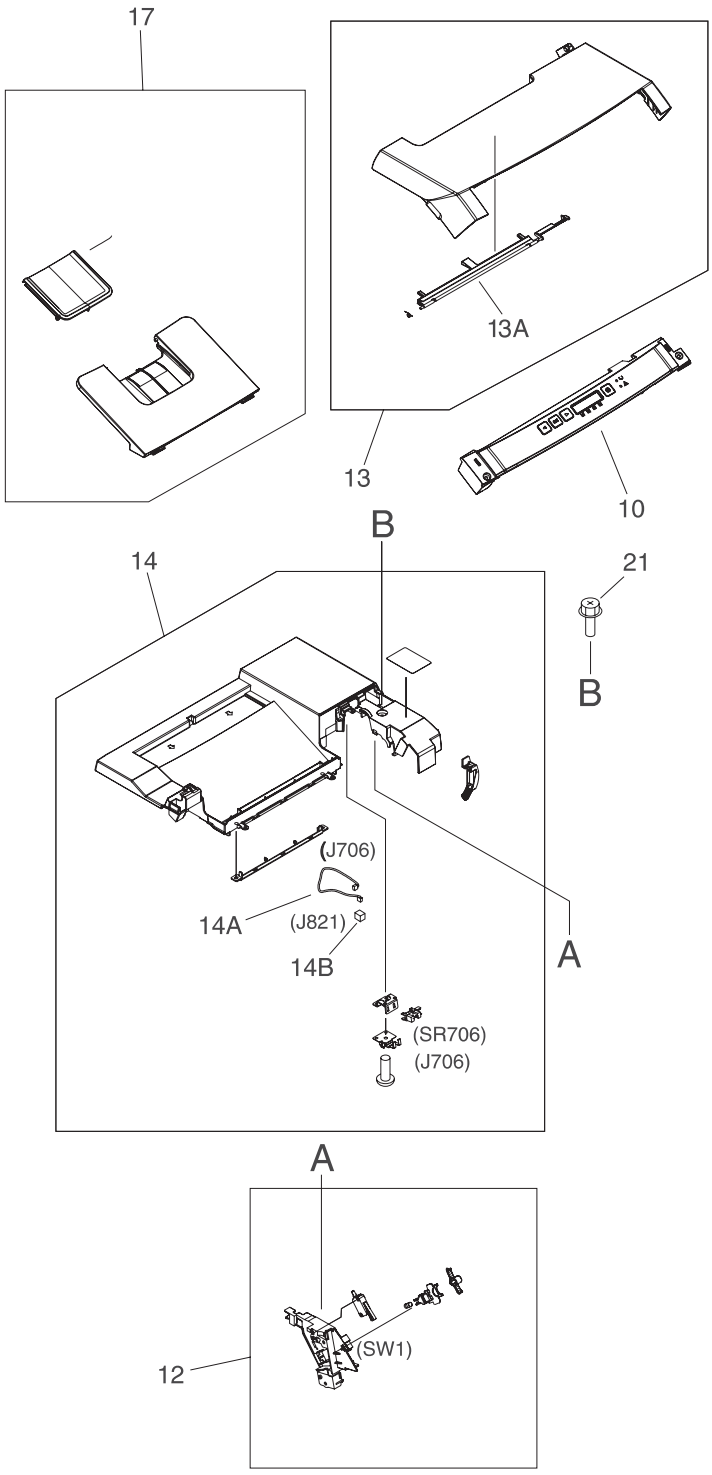

Figure 7-2 External panels and covers (2 of 2)

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Table 7-3 External panels, and covers (2 of 2)

Ref	Description	Part number	Qty
10	Control-panel assembly	RM1-3868-000CN	1
12	Interlock-switch assembly	RM1-2670-000CN	1
13	Upper cover assembly (fuser door)	RM1-2671-000CN	1
13A	Sensor, output bin	RC1-6286-000CN	1
14	Top-cover assembly	RM1-2672-000CN	1
14A	Cable, paper-full	RM1-2630-000CN	1
14B	Connector, snap-tight	VS1-7207-003CN	1
17	Face-down tray assembly	RM1-2777-000CN	1

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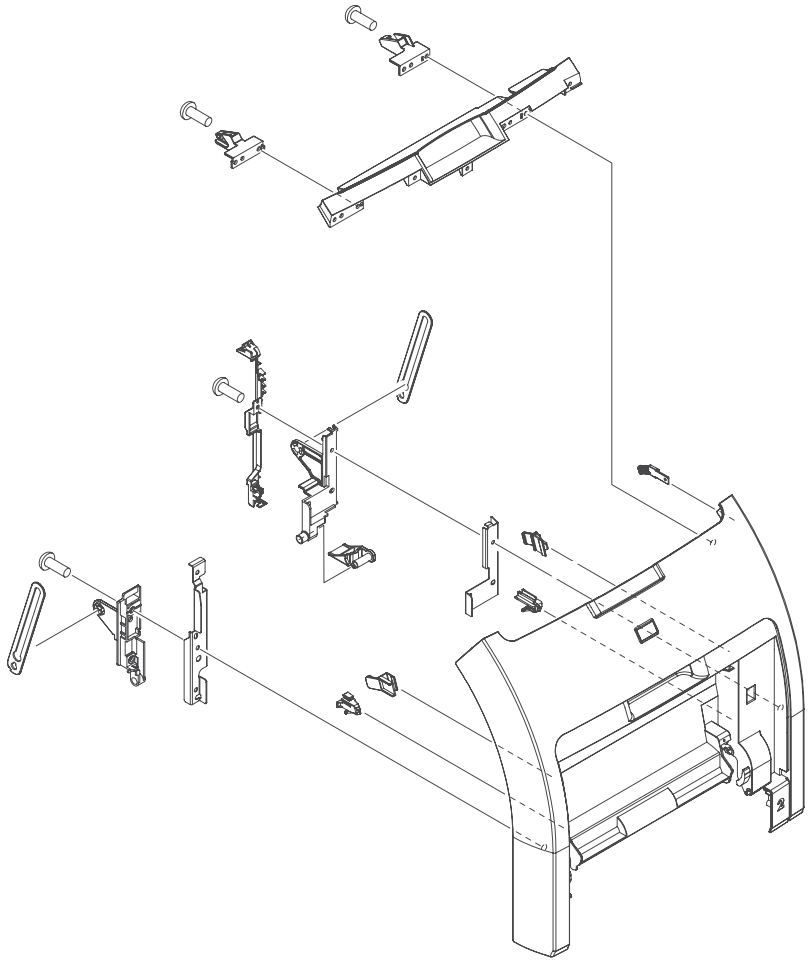

Figure 7-3 Front-cover assembly

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Table 7-4 Front-cover assembly

Ref	Description	Part number	Qty
All	Front-cover assembly	RM1-2673-000CN	1

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Internal components

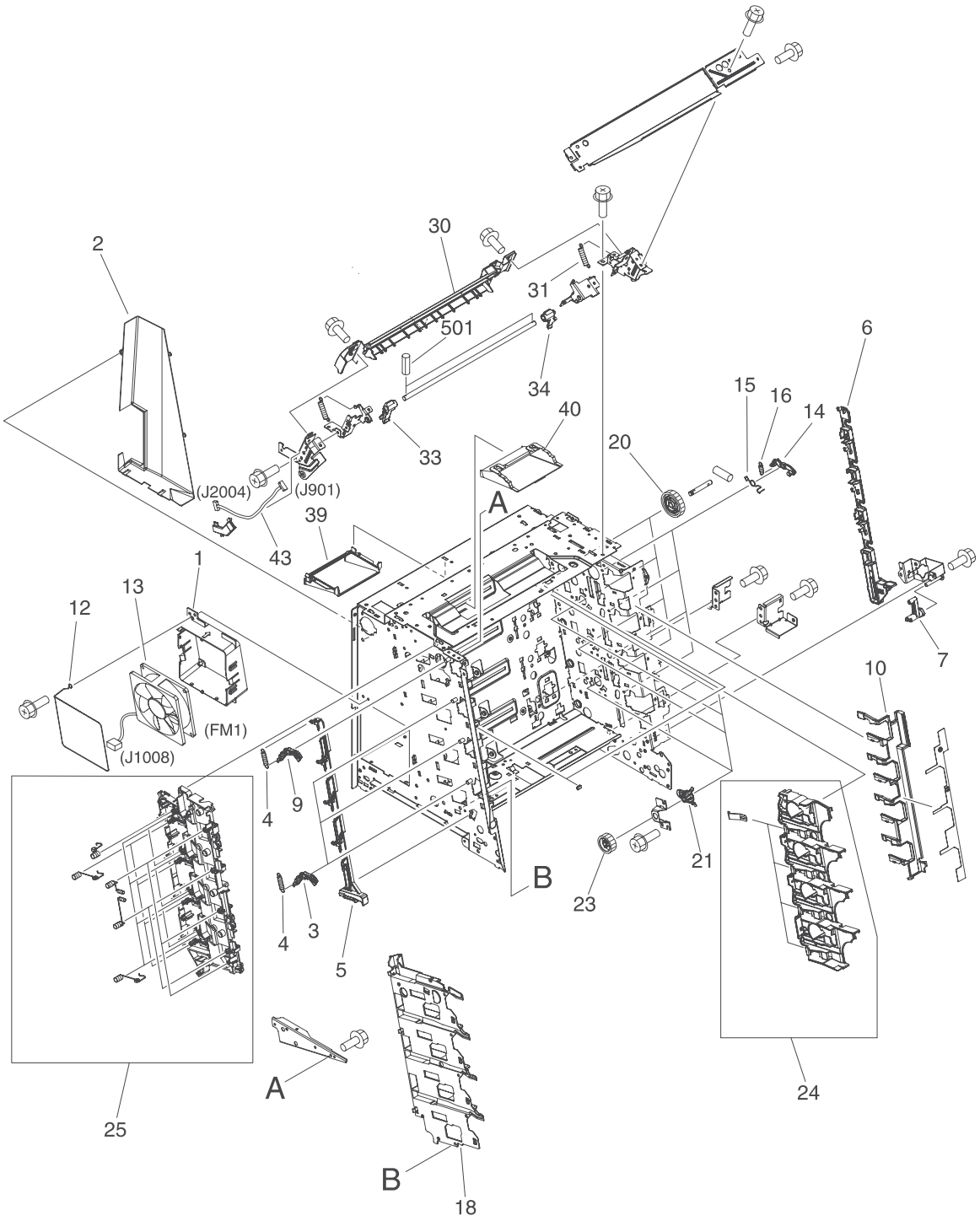

Figure 7-4 Internal components (1 of 5)

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Table 7-5 Internal components (1 of 5)

Ref	Description	Part number	Qty
1	Holder, fan	RC1-6631-000CN	1
2	Duct, fan	RC1-6632-000CN	1
3	Lever lock, left	RC1-6633-000CN	3
4	Spring, tension	RC1-6634-000CN	4
5	Lever, lock slide, left	RC1-6636-000CN	1
6	Lever, lock slide, right	RC1-6643-000CN	1
7	Cam, slide, right	RC1-6645-000CN	1
9	Lever, lock, left upper	RC1-7618-000CN	1
10	Cover, slide plate, right	RC1-6824-000CN	1
12	Spring, grounding	RC1-7583-000CN	1
13	Fan	RK2-0954-000CN	1
14	Cartridge lock kit (includes four locks and four springs)	Q5982-67921	1
16	Spring, tension	RC1-6677-000CN	4
18	Guide, cartridge, left	RC1-6629-000CN	1
20	Gear, 58T	RC1–6571-000CN	4
21	Bushing	RC1-6573-000CN	4
23	Gear, 29T	RC1-6575-000CN	4
24	Cartridge, guide, right assembly	RM1-2771-000CN	1
25	Contact-holder assembly	RM1-2683-000CN	1
30	Cover, guide crossmember	RC1-6795-000CN	1
31	Spring, tension	RC1-7552-000CN	2
33	Latch, left	RC1-7554-000CN	1
34	Latch, right	RC1-7555-000CN	1
39	Duct, 2	RC1-7547-000CN	1
40	Duct, 3	RC1-7548-000CN	1
43	Cable, panel	RM1-2596-000CN	1

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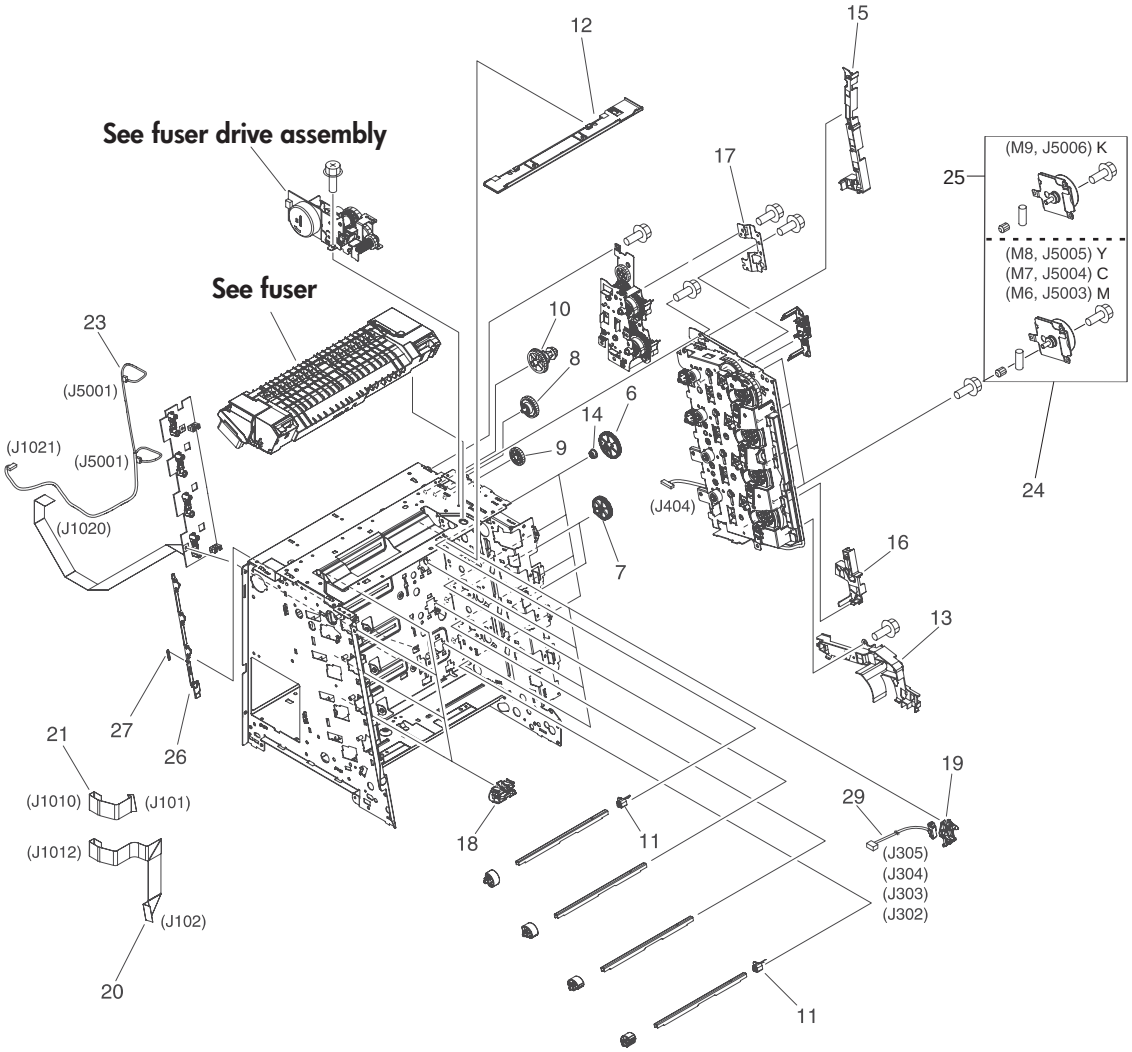

Figure 7-5 Internal components (2 of 5)

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Table 7-6 Internal components (2 of 5)

Ref	Description	Part number	Qty
6	Cam, gear. 48T	RC1-6584-000CN	4
7	Gear, 41T	RC1-6589-000CN	2
8	Gear, 19T/30T	RC1-6593-000CN	1
9	Gear, 31T	RC1-6594-000CN	1
10	Gear, 17T/41T	RC1-6596-000CN	1
11	Flag, developing estrangement (developing separation)	RC1-6605-000CN	2
12	Cover, crossmember, upper	RC1-6668-000CN	1
13	Guide, cable, right 1	RC1-6682-000CN	1
14	Bushing	RC1-6823-000CN	4
15	Guide, cable, right 3	RC1-7544-000CN	1
16	Guide, cable, right 4	RC1-7545-000CN	1
17	Crossmember, drive side plate	RC1-7576-000CN	1
18	Cover, shutter, left	RC1-6651-000CN	4
19	Holder, toner cartridge	RC1-6771-000CN	4
20	Cable, scanner flat (long)	RK2-0971-000CN	1
21	Cable, scanner flat (short)	RK2-0967-000CN	1
23	Cable, scanner	RM1-2594-000CN	1
24	Drive-motor assembly, print-cartridge (Y, C, M cartridges only)	RM1-2689-000CN	1
25	Drive-motor assembly, print-cartridge (K cartridge only)	RM1-2773-000CN	1
26	Lever, sensing	RC1-7597-000CN	1
27	Spring, tension	RC1-7598-000CN	1
29	Cable, memory tag	RM1-2627-000CN	1

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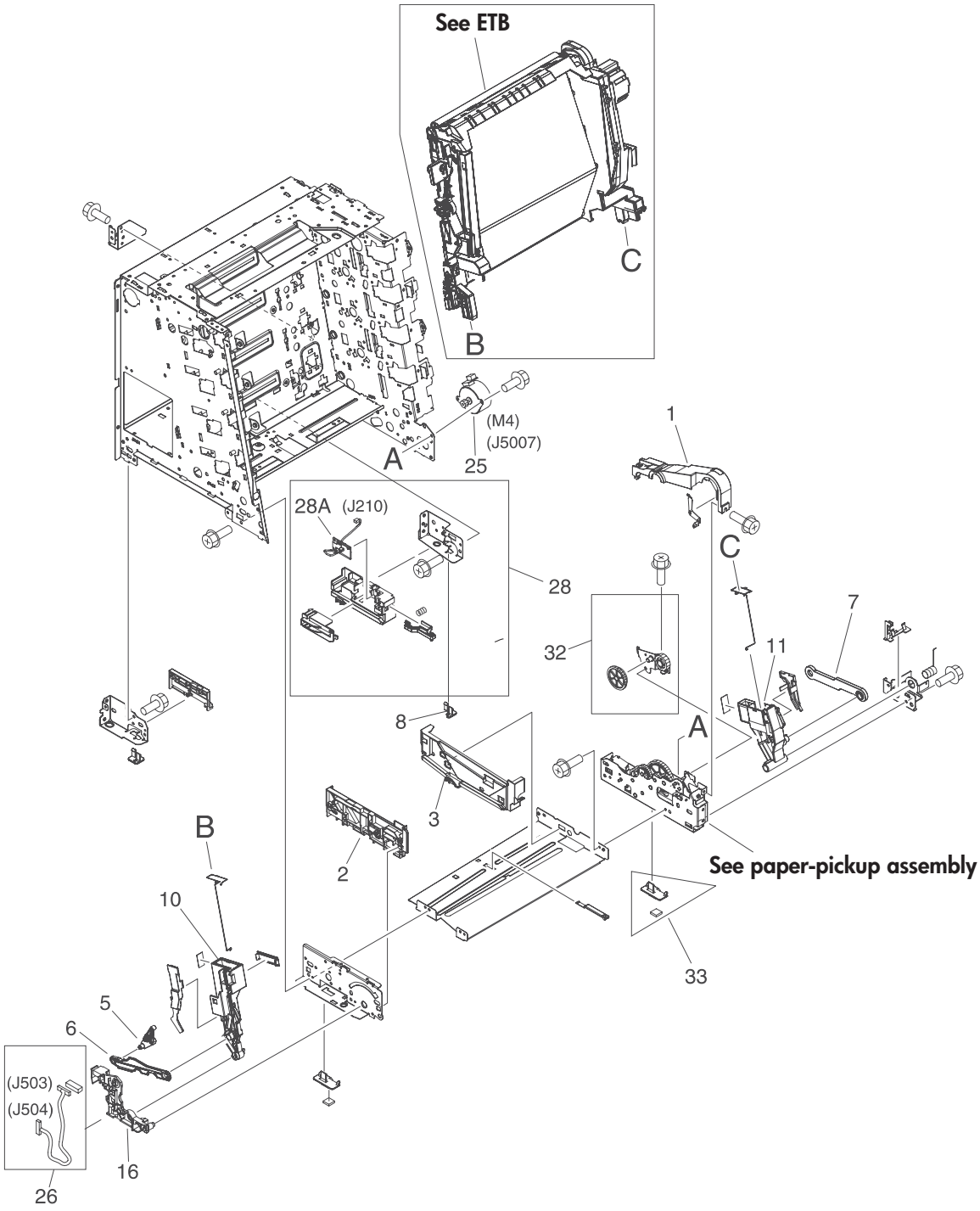

Figure 7-6 Internal components (3 of 5)

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Table 7-7 Internal components (3 of 5)

Ref	Description	Part number	Qty
1	Cover, gear	RC1-6405-000CN	1
2	Guide, cassette front, left	RC1-6499-000CN	1
3	Guide, cassette front, right	RC1-6502-000CN	1
5	Cam, slide, left	RC1-6638-000CN	1
6	Rod, link, left	RC1-6639-000CN	1
7	Rod, link, right	RC1-6646-000CN	1
8	Foot, rear	RC1-6650-000CN	2
10	Holder, ETB, left	RC1-6673-000CN	1
11	Holder, ETB, right	RC1-6674-000CN	1
16	Mount, hinge, left	RC1-6684-000CN	1
25	Motor, AC 24V, 9W	RK2-0939-000CN	1
26	Cable, sensor	RM1-2603-000CN	1
27	Plate lock release, tray 2	RC1-6833-000CN	1
28	Right-rear base assembly	RM1-2678-000CN	1
28A	Cassette sensor PCA	RM1-2576-000CN	1
32	Plate, gear 3	RL1-1069-000CN	1
33	Foot, rubber assembly, front	RL1-1067-000CN	2

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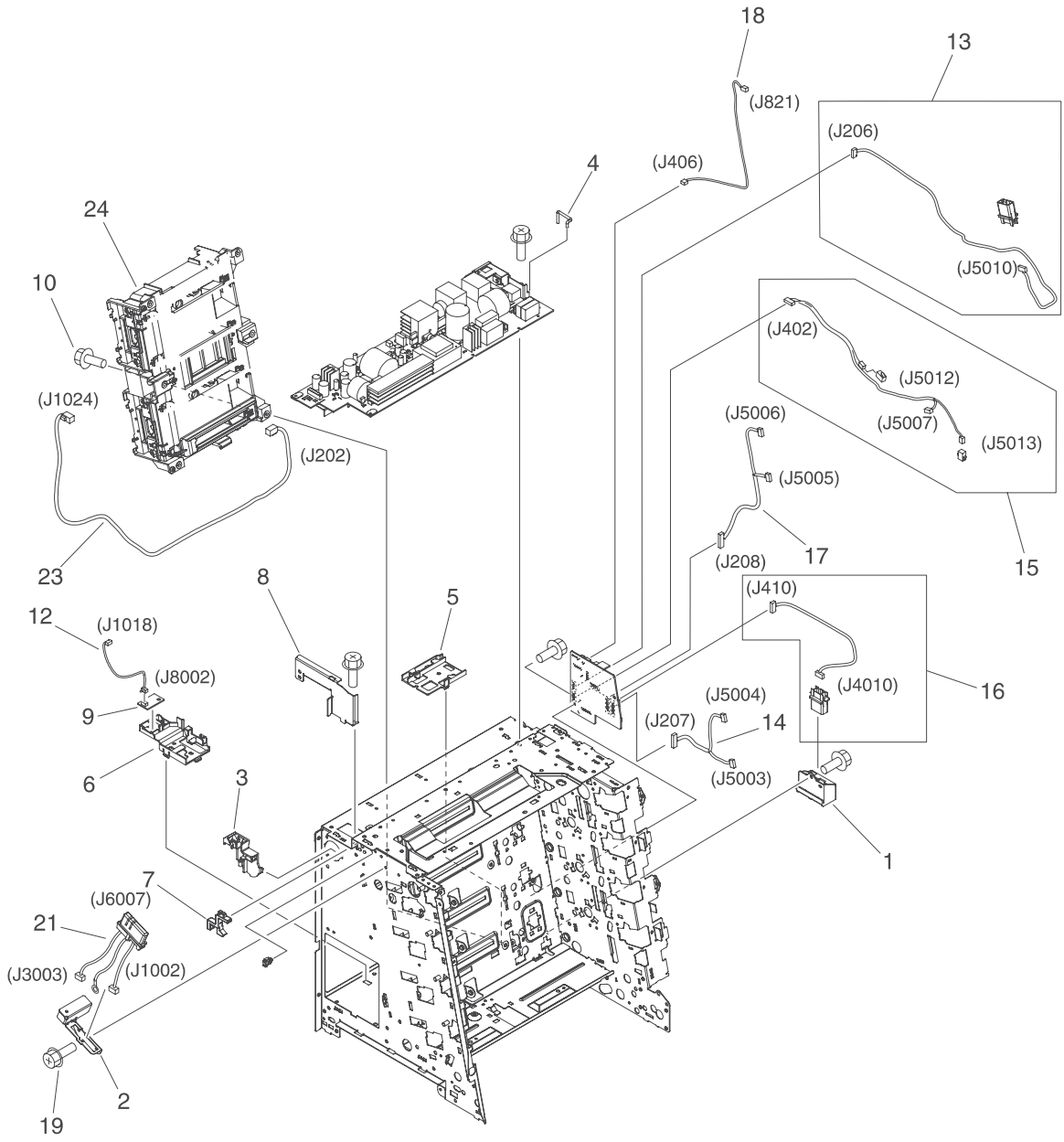

Figure 7-7 Internal components (4 of 5)

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Table 7-8 Internal components (4 of 5)

Ref	Description	Part number	Qty
1	Holder, drawer connector	RC1-6652-000CN	1
2	Holder, drawer	RC1-6653-000CN	1
3	Guide, cable, left	RC1-6681-000CN	1
4	Arm, switch-link	RC1-6700-000CN	1
5	Guide, flexible flat cable 1	RC1-6772-000CN	1
6	Guide, flexible flat cable 2	RC1-6773-000CN	1
7	Guard, cable	RC1-6825-000CN	1
8	Bracket, left, rear	RC1-7551-000CN	1
9	Sensor, temperature	WP2-5214-000CN	1
12	Cable, environment sensor	RM1-2595-000CN	1
13	Cable, ETB	RM1-2608-000CN	1
14	Cable, drum motor	RM1-2610-000Cn	1
15	Cable, solenoid	RM1-2611-000CN	1
16	Cable, cassette	RM1-2613-000CN	1
17	Cable, drum motor	RM1-2629-000CN	1
18	Cable, paper-full	RM1-2628-000CN	1
21	Fuser cable assembly	RM1-2597-000CN	1
23	Cable, drive power	RM1-2605-000CN	1
24	Scanner assembly	RM1-2952-000CN	1

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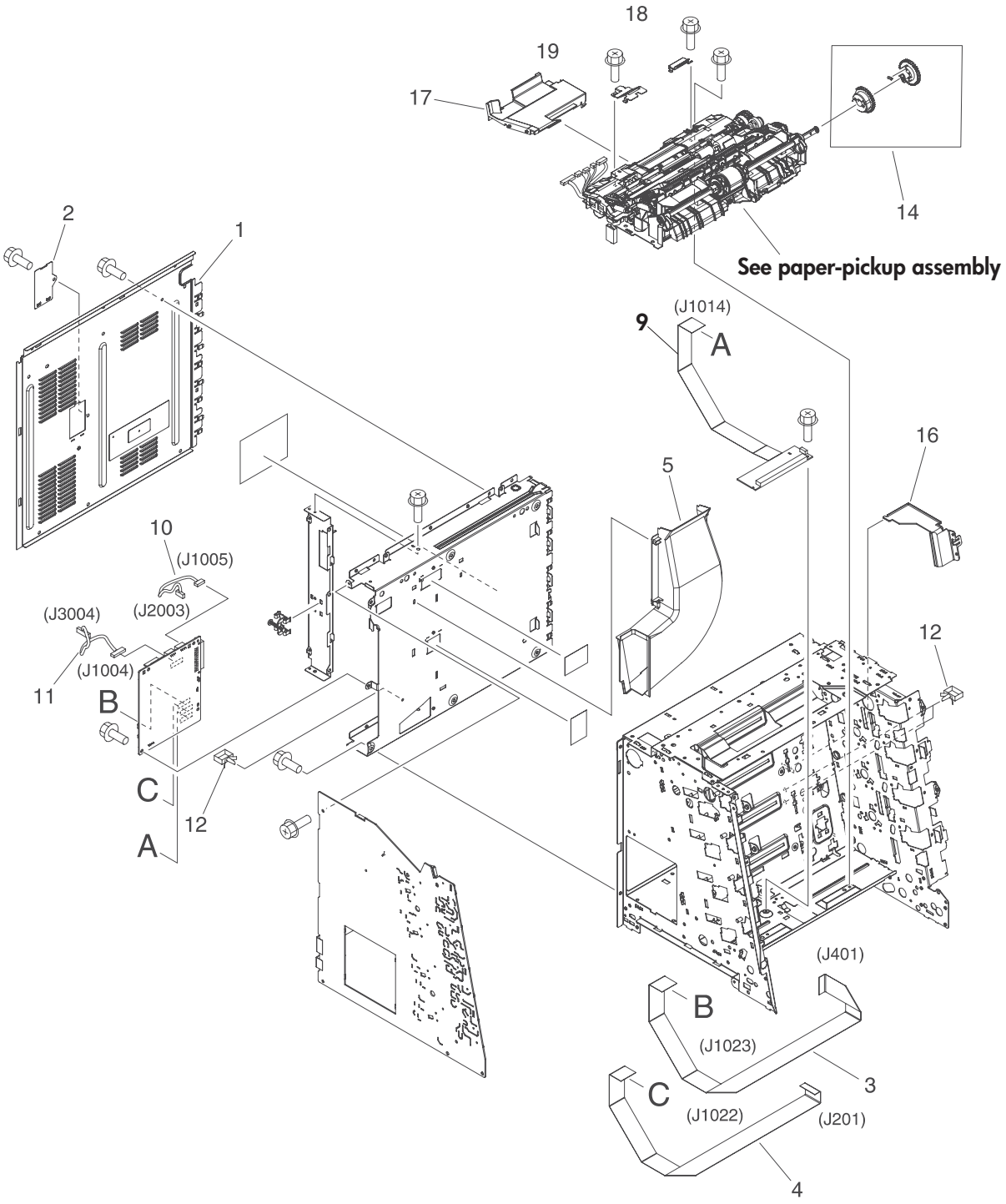

Figure 7-8 Internal components (5 of 5)

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Table 7-9 Internal components (5 of 5)

Ref	Description	Part number	Qty
1	Cover, rear	RC1-6627-000CN	1
2	Cover	RC1-7577-000CN	1
3	Cable, drive flat 1	RK2-0969-000CN	1
4	Cable, drive flat 2	RK2-0970-000CN	1
5	Duct 1	RC1-7546-000CN	1
9	Relay, PCA	RM1-2582-000CN	1
10	Cable, panel connecting	RM1-2587-000CN	1
11	Cable, power control	RM1-2592-000CN	1
12	Cable, clamp	WT2-5944-000CN	2
14	Multipurpose tray paper-pickup gear assembly	RM1-2704-000CN	1
16	Shield, PCA	RC1-7599-000CN	1
17	Cover, connector	RC1-6607-000CN	1
18	Cover, paper sensor	RC1-6611-000CN	1
19	Cover, registration sensor	RC1-6612-000CN	1

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Paper-pickup drive assembly

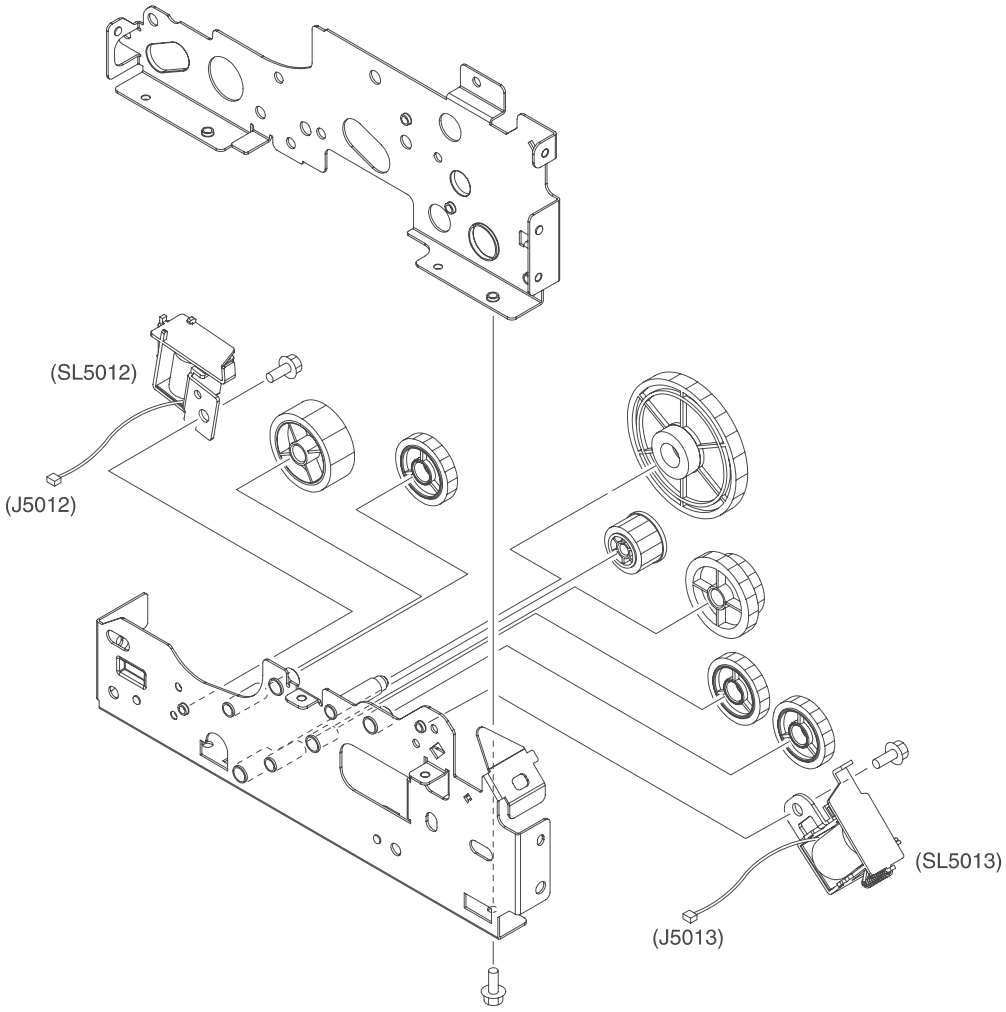

Figure 7-9 Paper-pickup drive assembly

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Table 7-10 Paper-pickup drive assembly

Ref	Description	Part number	Qty
All	Paper-pickup drive assembly	RM1-2679-000CN	1

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Developing separation-drive assembly

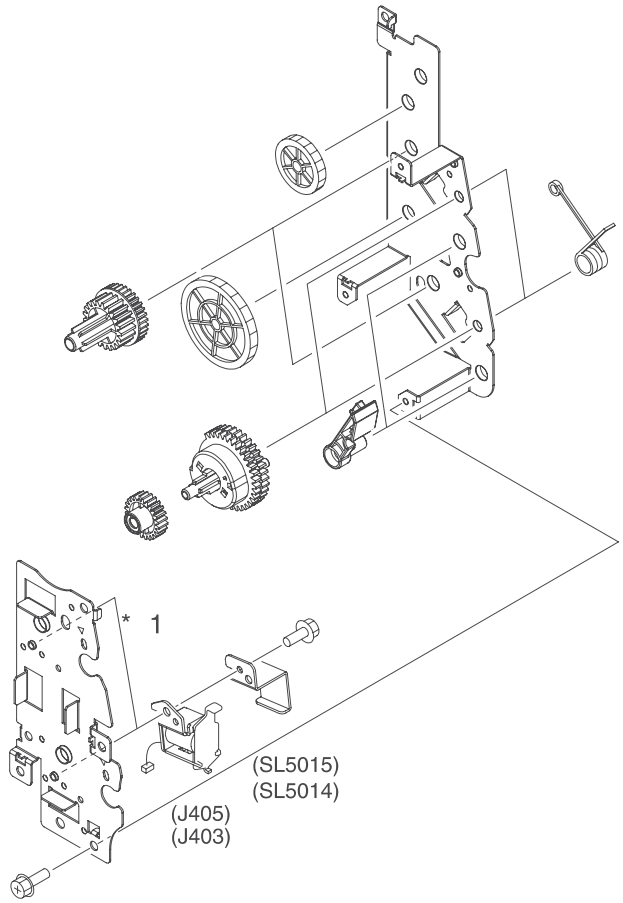

Figure 7-10 Developing separation-drive assembly

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Table 7-11 Developing separation-drive assembly

Ref	Description	Part number	Qty
All	Developing separation (estrangement) drive assembly	RM1-2687-000CN	1

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Fuser drive assembly

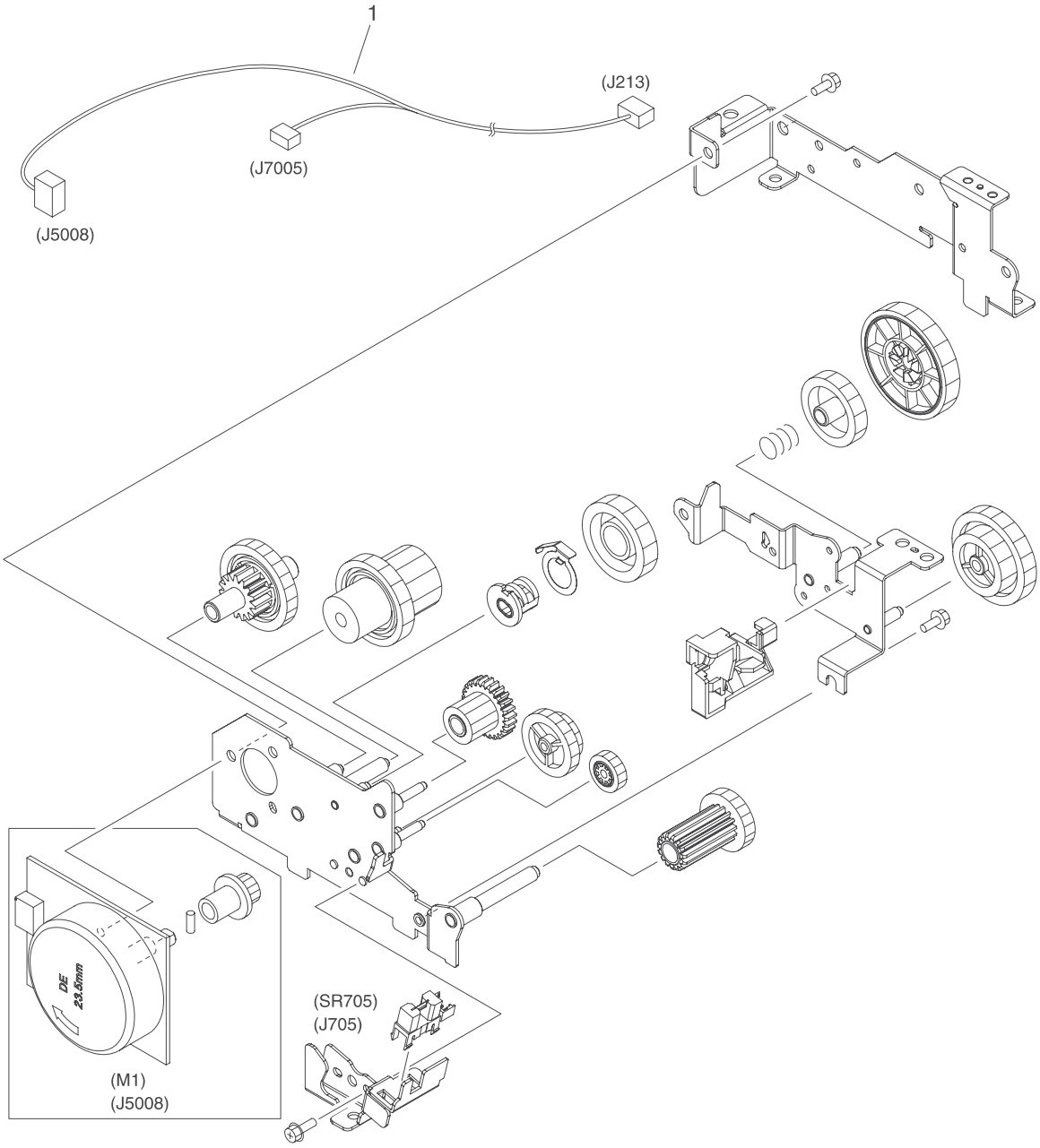

Figure 7-11 Fuser drive assembly

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Table 7-12 Fuser drive assembly

Ref	Description	Part number	Qty
All	Fuser drive assembly	RM1-2668-000CN	1
1	Cable, fuser drive	RM1-2619-000CN	1

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Cassette (tray 2)

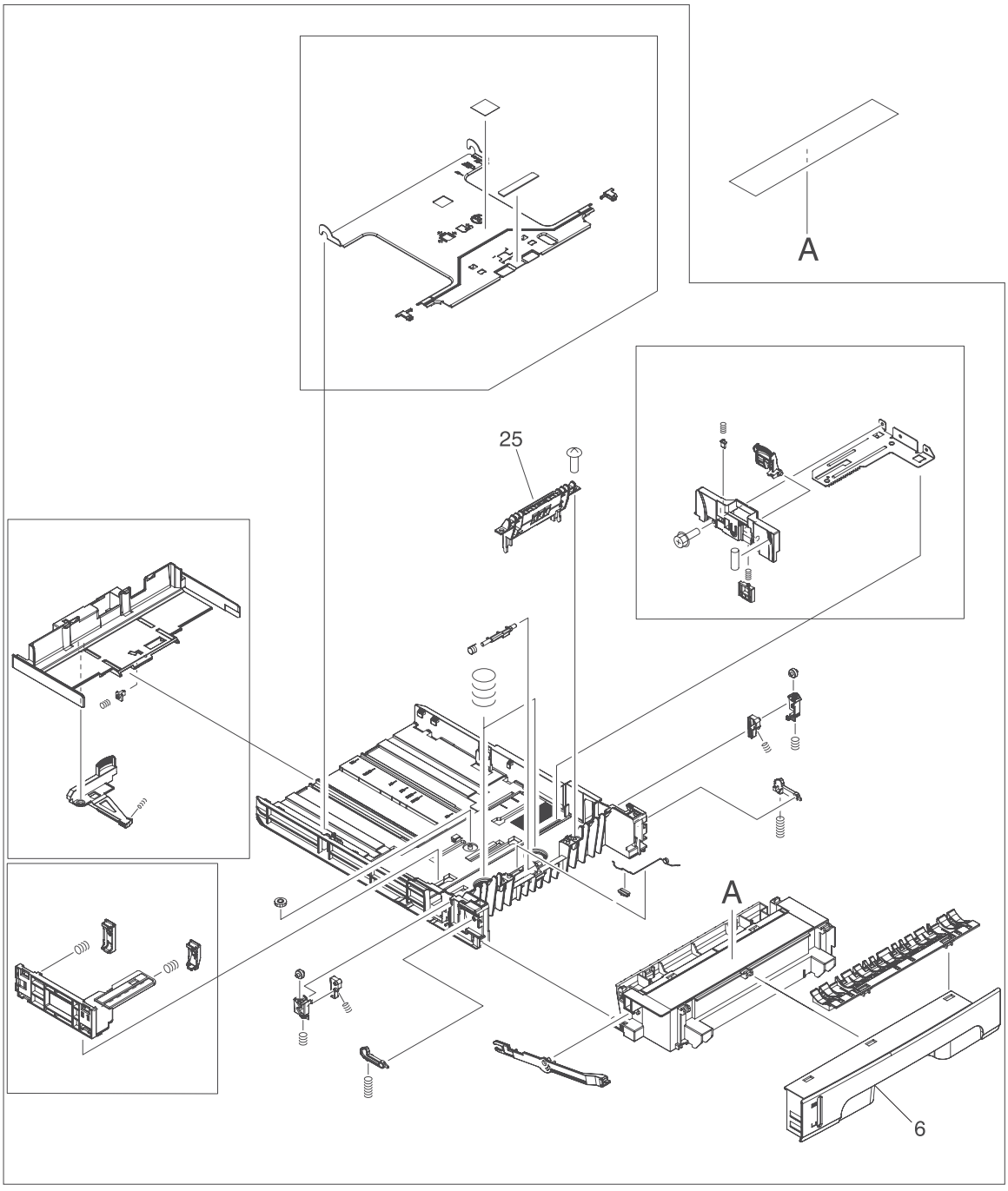

Figure 7-12 Cassette (tray 2)

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Table 7-13 Cassette (tray 2)

Ref	Description	Part number	Qty
All	Cassette, 250-sheet	RM1-2705-000CN	1
6	Cover, cassette, front	RC1-6491-000CN	1
25	Separation-pad assembly	RM1-2709-000CN	1

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Paper-pickup assembly

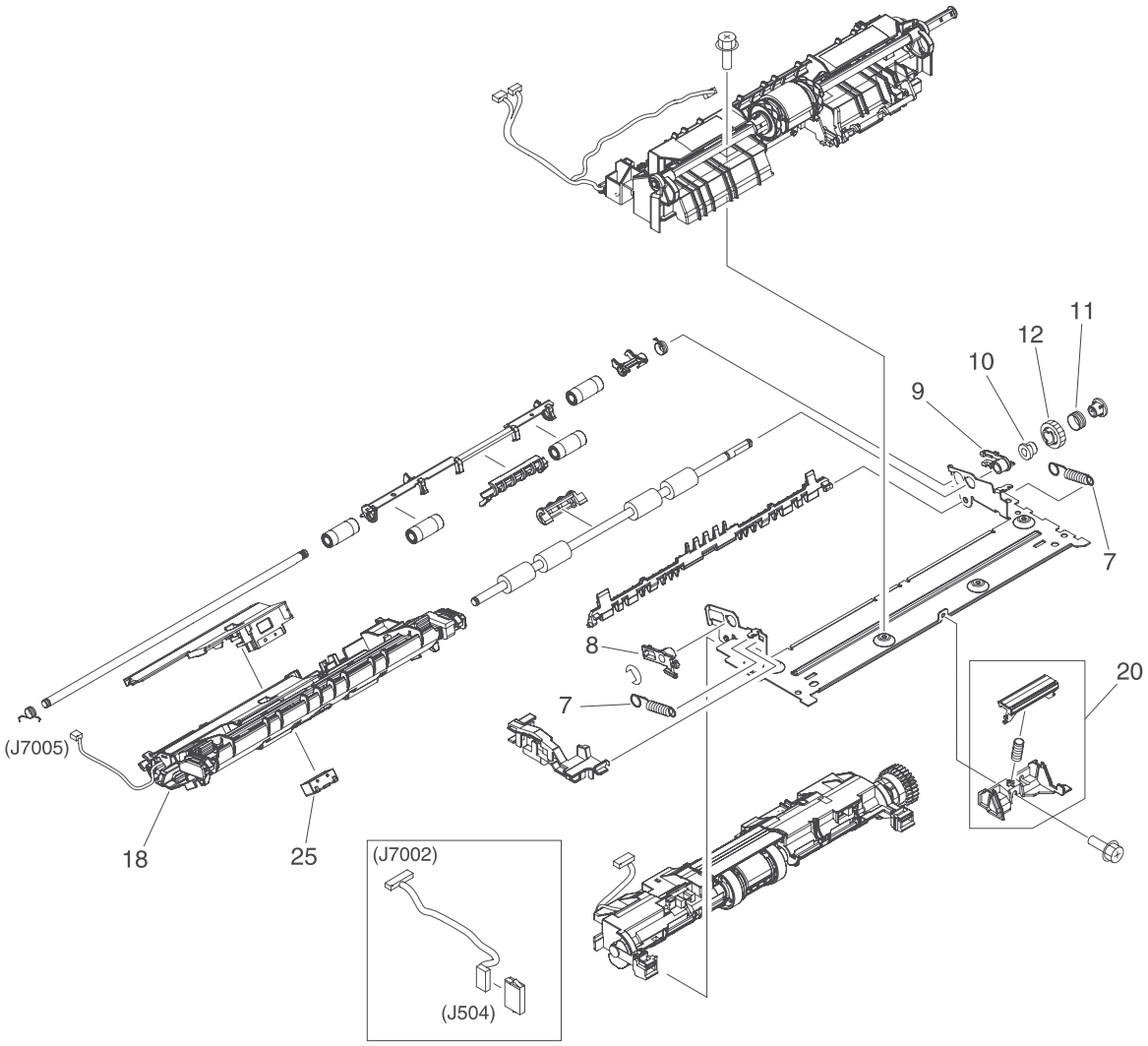

Figure 7-13 Paper-pickup assembly

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Table 7-14 Paper-pickup assembly

Ref	Description	Part number	Qty
All	Paper-pickup assembly	RM1-2774-000CN	1
7	Spring, tension	RC1-6516-000CN	2
8	Bushing	RC1-6517-000CN	1
9	Bushing	RC1-6519-000CN	1
10	Clutch, mechanical	RM1-2699-000CN	1
11	Spring, compression	RC1-6520-000CN	1
12	Gear, 18T	RC1-6521-000CN	1
18	Preregistration-guide assembly	RM1-2775-000CN	1
20	Pad, separation (tray 1)	RC1–2699–000CN	1
24	Case, media sensor	RC1-6394-000CN	1
25	Block, multipurpose path	RC1-7959-000CN	1

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Electrostatic transfer belt

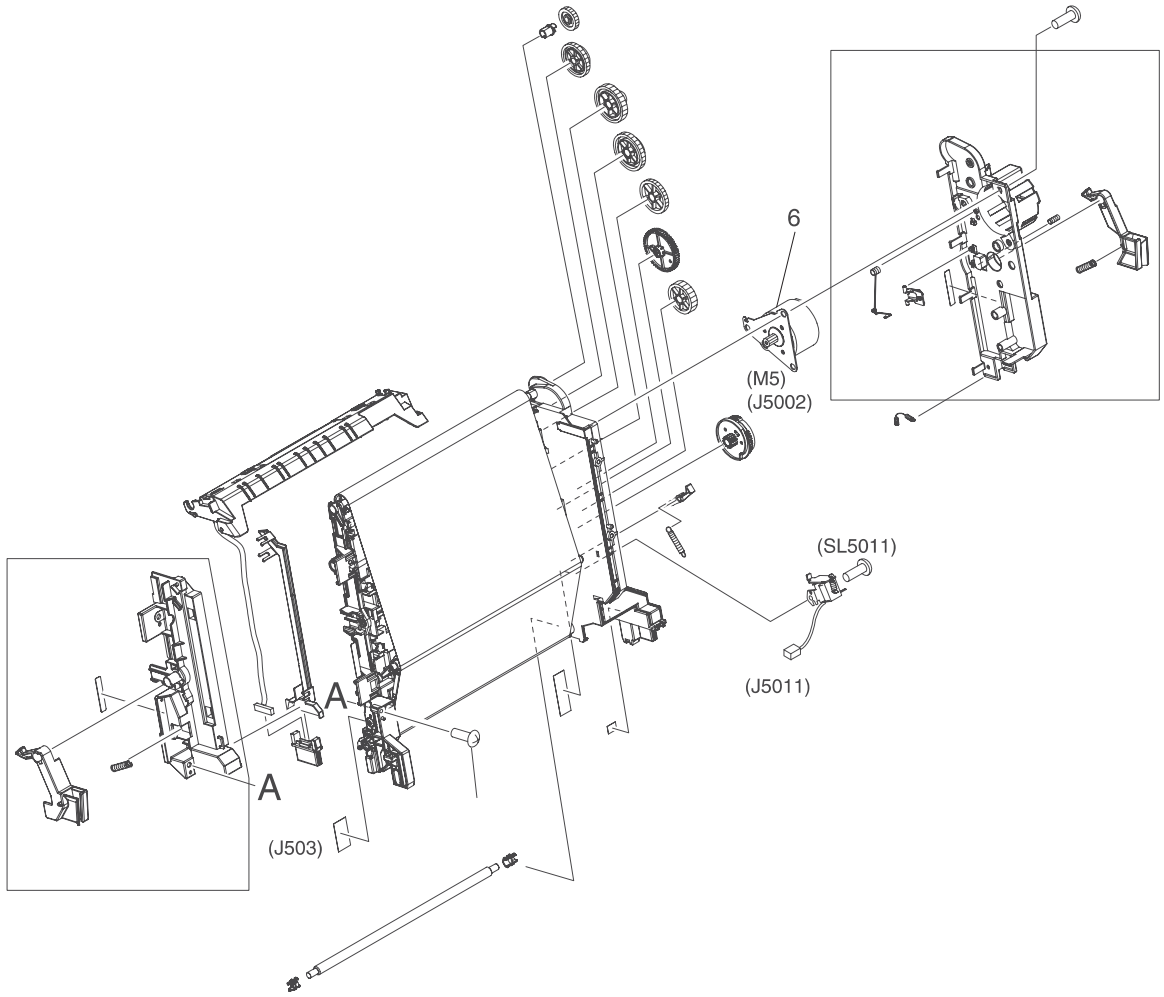

Figure 7-14 Electrostatic transfer belt

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Table 7-15 Electrostatic transfer belt

Ref	Description	Part number	Qty
All	Electrostatic transfer belt	RM1-2759-040CN	1
6	Motor, DC (ETB)	RK2-0937-000CN	1

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Multipurpose tray assembly (tray 1)

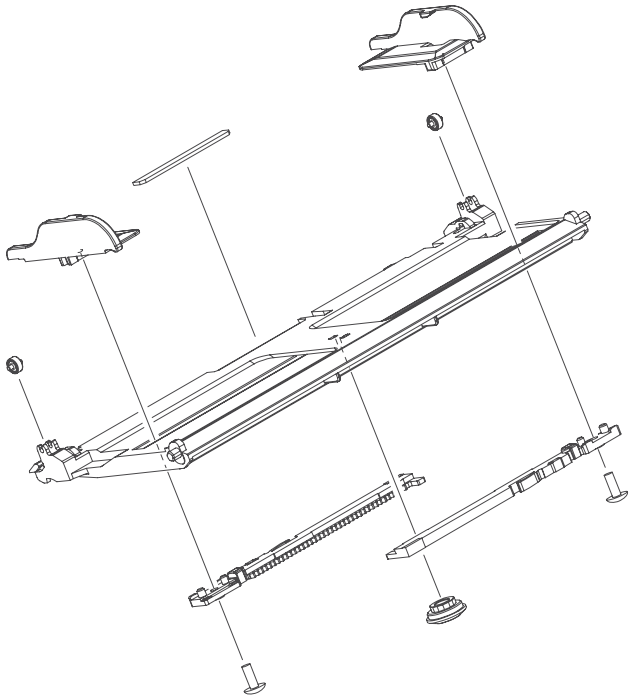

Figure 7-15 Multipurpose tray assembly (tray 1)

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Table 7-16 Multipurpose tray assembly (tray 1)

Ref	Description	Part number	Qty
All	Multipurpose tray assembly (tray 1)	RM1-2711-000CN	1

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Fuser

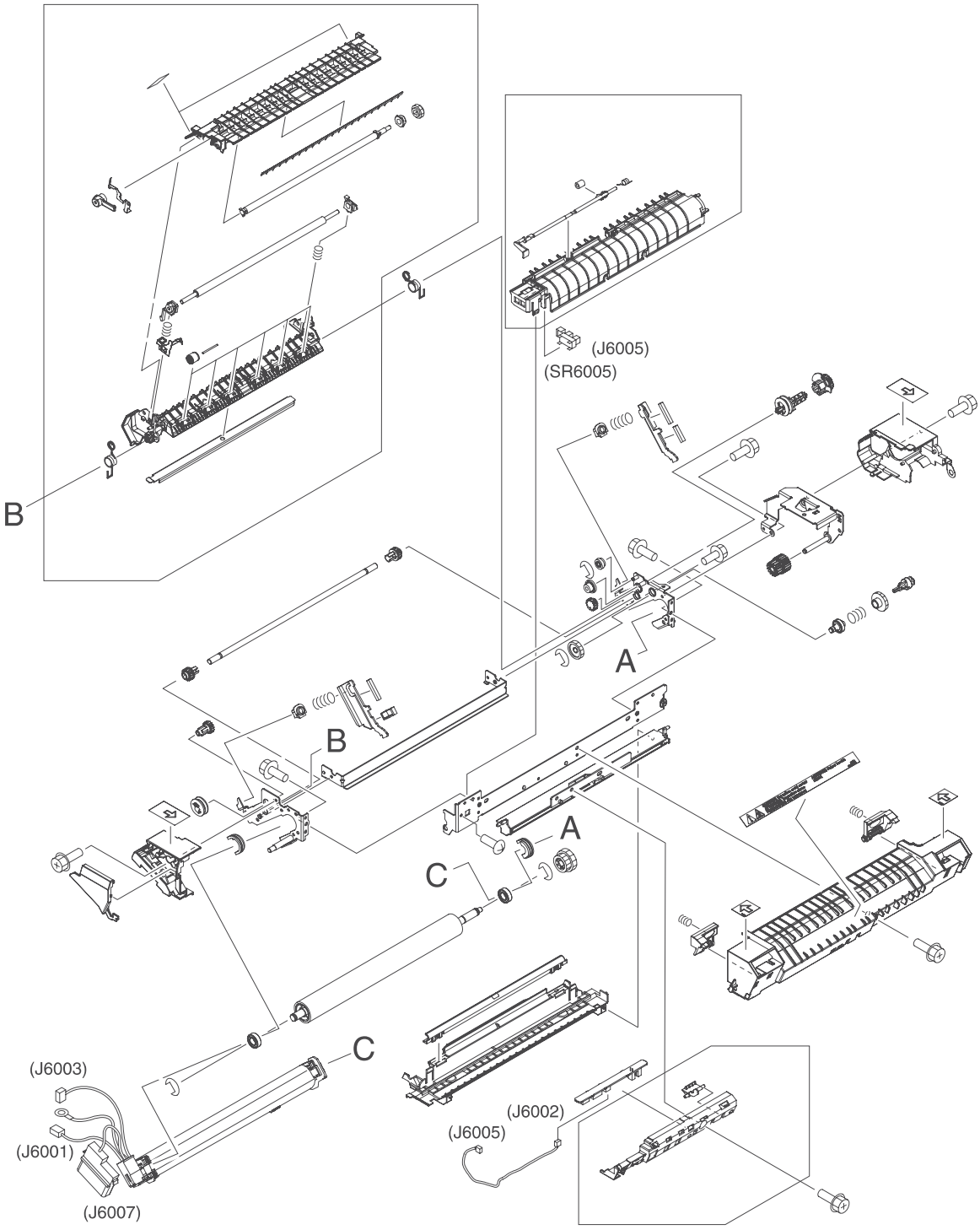

Figure 7-16 Fuser

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Table 7-17 Fuser

Ref	Description	Part number	Qty
All	Fuser assembly 110V-127V	RM1-2665-000CN	1
All	Fuser assembly 220V-240V	RM1-2743-000CN	1

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PCAs

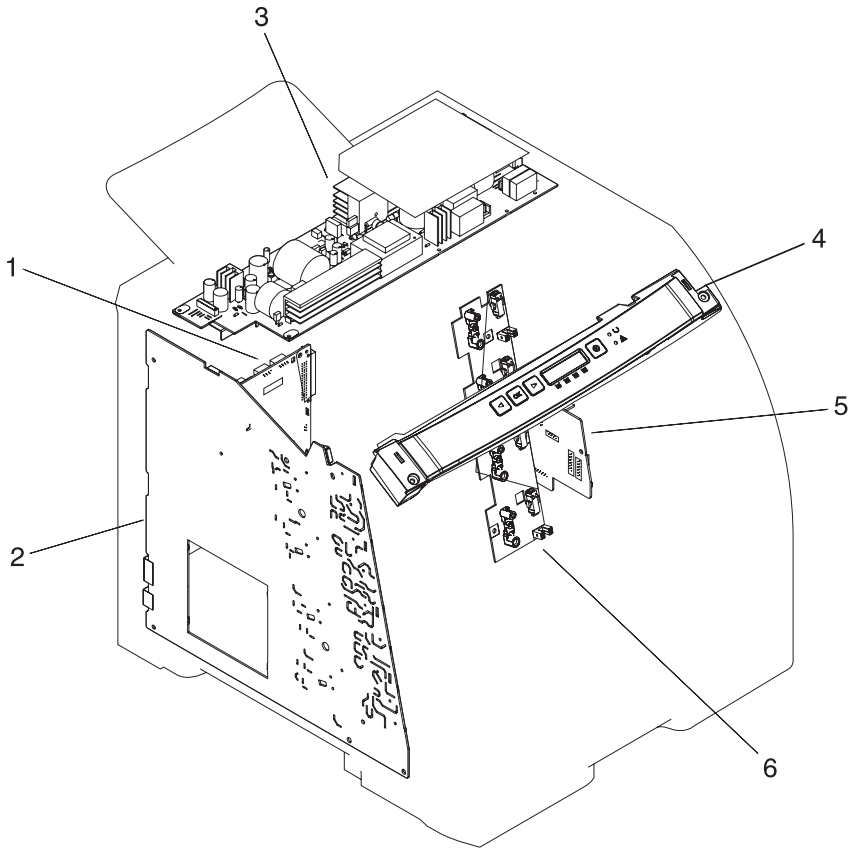

Figure 7-17 PCAs

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Table 7-18 PCAs

Ref	Description	Part number	Qty
1	DC controller PCA assembly	RM1-2600-000CN	1
2	High-voltage PCA assembly	RM1-2578-000CN	1
3	Low-voltage power PCA assembly (110V-127V)	RM1-4377-000CN	1
3	Low-voltage power PCA assembly (220V-240V)	RM1-4378-000CN	1
4	Control panel-assembly	RM1-3868-000CN	1
5	Driver PCA	RM1-2581-000CN	1
6	Cartridge-sensor PCA	RM1-2585-000CN	1
	Formatter, base, new	Q7824-67901	1
	Formatter, network, new	Q7825–67901	1
	Formatter, base, exchange	Q7824-69001	1
	Formatter, network, exchange	Q7825-69001	
	Discharge tool, low-voltage power-supply	RK2-1007–01	1

NOTE This illustration does not show the relay PCA. See callout 9 in Figure 7-8 Internal components (5 of 5) on page 256.

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500-sheet feeder cassette (tray 3)

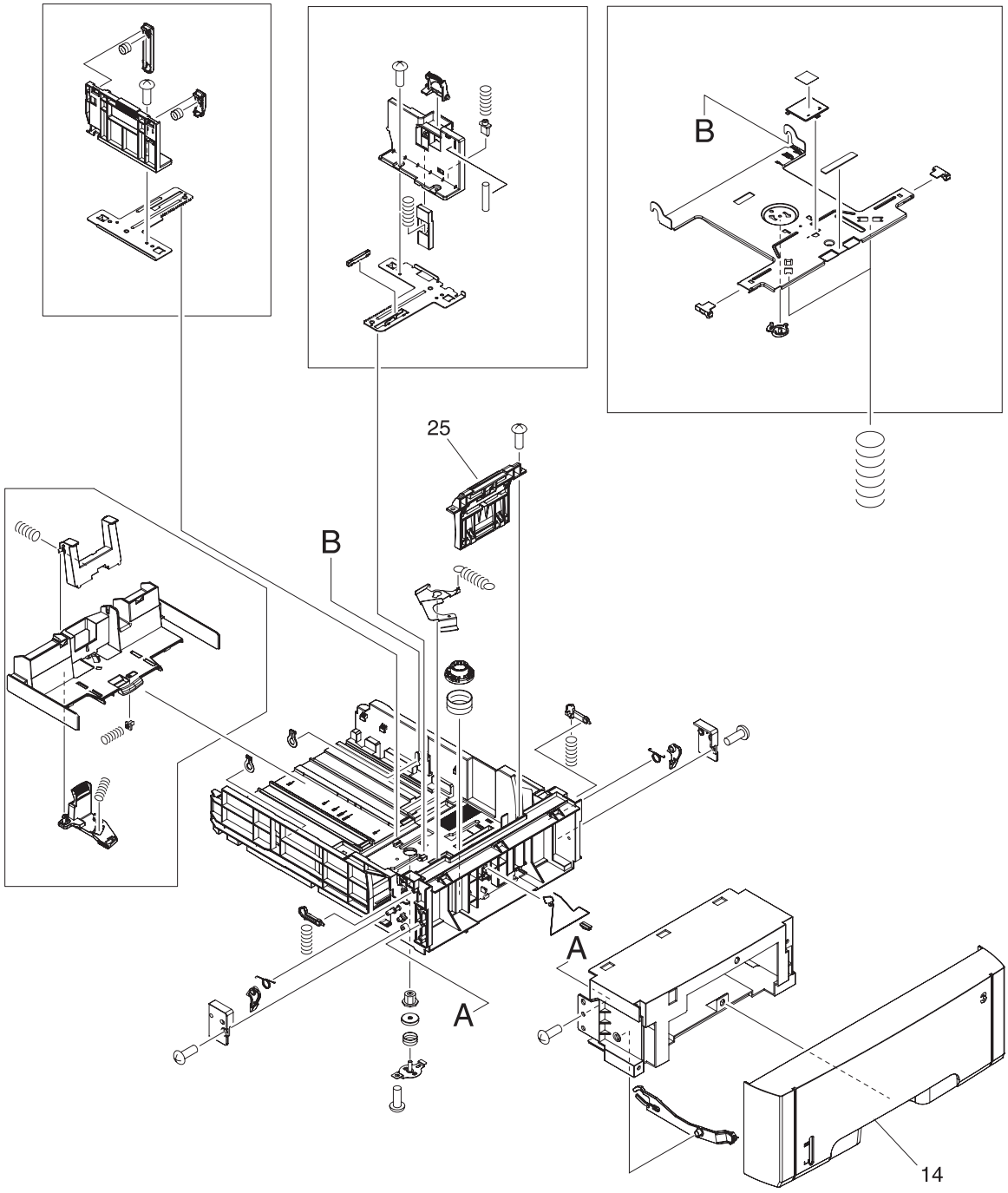

Figure 7-18 500-sheet feeder cassette (tray 3)

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Table 7-19 500-sheet feeder cassette (tray 3)

Ref	Description	Part number	Qty
	500–sheet feeder and cassette	Q5985–67901	1
All	500–sheet cassette (only), tray 3	RM1-2732-000CN	1
14	Cover, 500-sheet cassette	RC1-6945-000CN	1
25	Separation-pad-holder assembly (500-sheet feeder)	RM1-2735-000CN	

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500-sheet feeder paper-pickup assembly

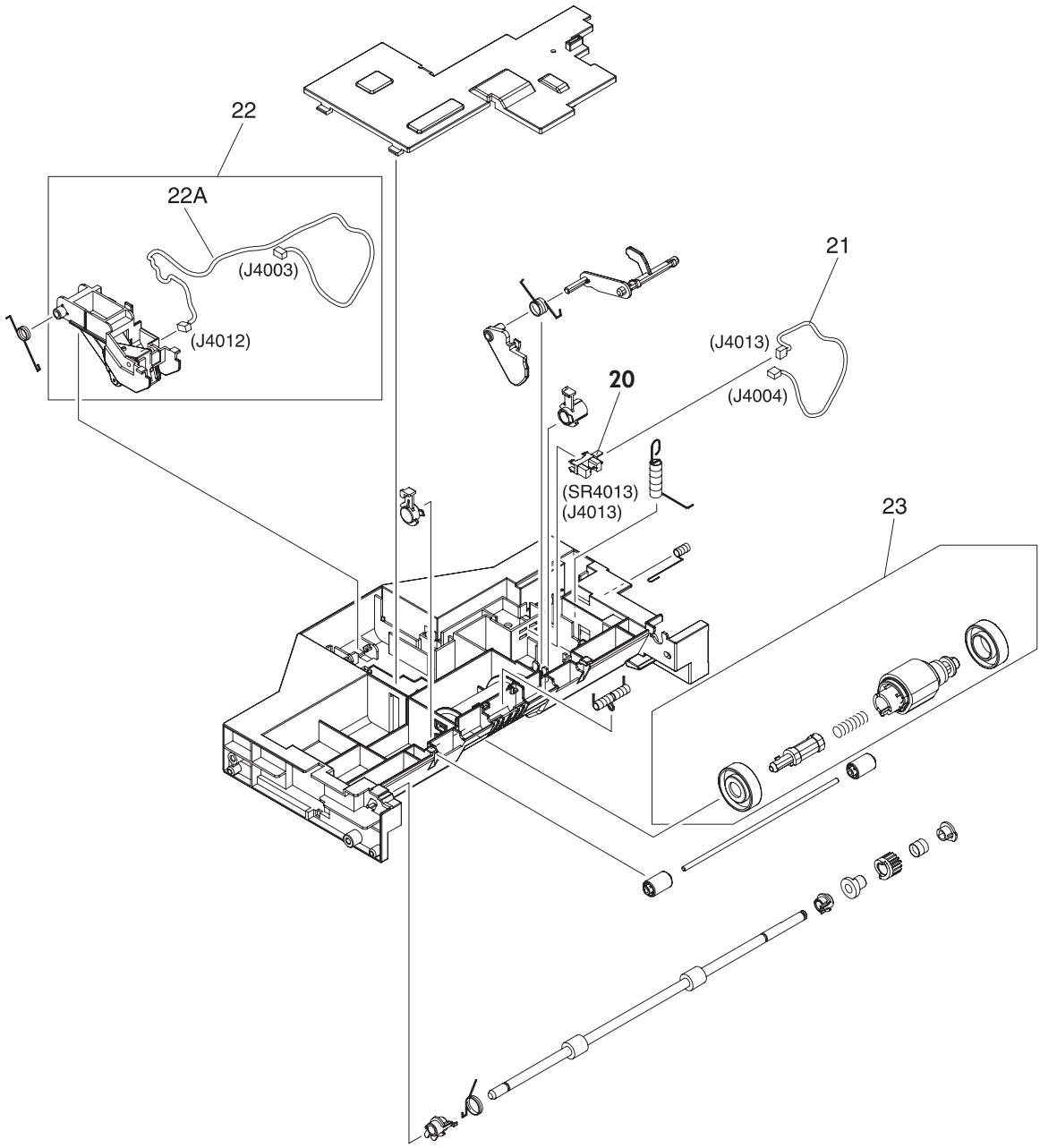

Figure 7-19 500-sheet feeder paper-pickup assembly

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Table 7-20 500-sheet feeder paper-pickup assembly

Ref	Description	Part number	Qty
All	500-sheet feeder paper-pickup assembly	RM1-2725-000CN	1
20	Photointerruptor	WG8-5696-000CN	1
21	Cable, option sensor	RM1-2625-000CN	1
22	Sensor, media assembly	RM1-2757-000CN	1
22A	Cable, option media sensor (500-sheet feeder)	RM1-2624-000CN	1
23	Paper-pickup-roller assembly (500-sheet feeder)	RM1–2727–000CN	1

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500-sheet feeder PCA

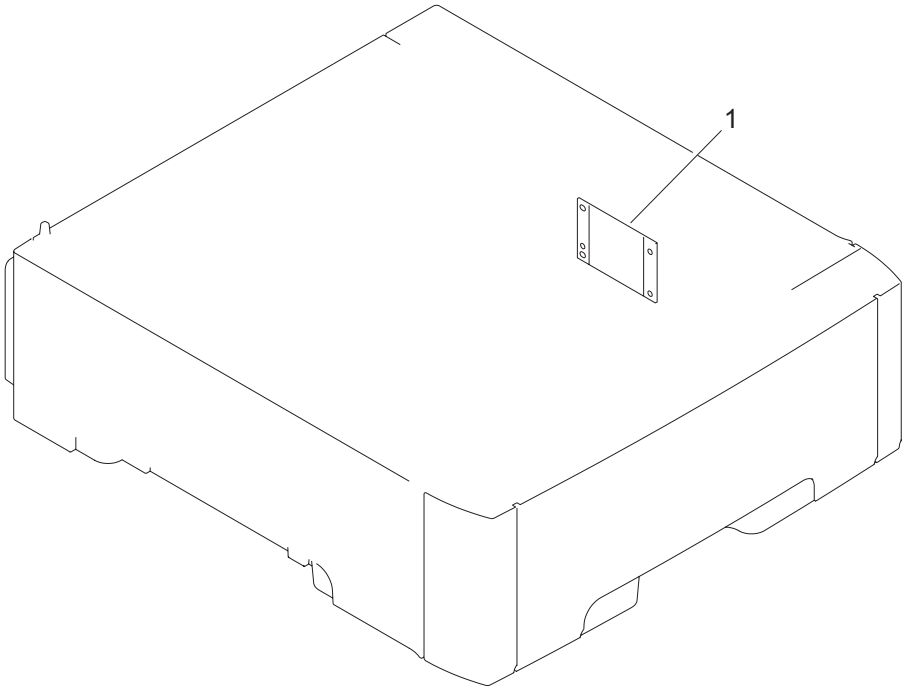

Figure 7-20 500-sheet feeder PCA

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Table 7-21 500-sheet feeder PCA

Ref	Description	Part number	Qty
1	PCA assembly (500-sheet feeder)	RM1-2583-000CN	1

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Alphabetical parts list

Table 7-22 Alphabetical parts list

Description	Part number	Table and page
500-sheet feeder paper-pickup assembly	RM1-2725-000CN	500-sheet feeder paper-pickup assembly on page 279
500–sheet cassette (only), tray 3	RM1-2732-000CN	500-sheet feeder cassette (tray 3) on page 277
500–sheet feeder and cassette	Q5985–67901	500-sheet feeder cassette (tray 3) on page 277
Arm, switch-link	RC1-6700-000CN	Internal components (4 of 5) on page 255
Block, multipurpose path	RC1-7959-000CN	Paper-pickup assembly on page 267
Bracket, left, rear	RC1-7551-000CN	Internal components (4 of 5) on page 255
Bushing	RC1-6573-000CN	Internal components (1 of 5) on page 249
Bushing	RC1-6823-000CN	Internal components (2 of 5) on page 251
Bushing	RC1-6517-000CN	Paper-pickup assembly on page 267
Bushing	RC1-6519-000CN	Paper-pickup assembly on page 267
Cable, cassette	RM1-2613-000CN	Internal components (4 of 5) on page 255
Cable, clamp	WT2-5944-000CN	Internal components (5 of 5) on page 257
Cable, drive flat 1	RK2-0969-000CN	Internal components (5 of 5) on page 257
Cable, drive flat 2	RK2-0970-000CN	Internal components (5 of 5) on page 257
Cable, drive power	RM1-2605-000CN	Internal components (4 of 5) on page 255
Cable, drum motor	RM1-2610-000Cn	Internal components (4 of 5) on page 255
Cable, drum motor	RM1-2629-000CN	Internal components (4 of 5) on page 255
Cable, environment sensor	RM1-2595-000CN	Internal components (4 of 5) on page 255
Cable, ETB	RM1-2608-000CN	Internal components (4 of 5) on page 255
Cable, fuser drive	RM1-2619-000CN	Fuser drive assembly on page 263

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Table 7-22 Alphabetical parts list (continued)

Description	Part number	Table and page
Cable, memory tag	RM1-2627-000CN	Internal components (2 of 5) on page 251
Cable, option media sensor (500-sheet feeder)	RM1-2624-000CN	500-sheet feeder paper-pickup assembly on page 279
Cable, option sensor	RM1-2625-000CN	500-sheet feeder paper-pickup assembly on page 279
Cable, panel	RM1-2596-000CN	Internal components (1 of 5) on page 249
Cable, panel connecting	RM1-2587-000CN	Internal components (5 of 5) on page 257
Cable, paper-full	RM1-2630-000CN	External panels, and covers (2 of 2) on page 245
Cable, paper-full	RM1-2628-000CN	Internal components (4 of 5) on page 255
Cable, power control	RM1-2592-000CN	Internal components (5 of 5) on page 257
Cable, scanner	RM1-2594-000CN	Internal components (2 of 5) on page 251
Cable, scanner flat (long)	RK2-0971-000CN	Internal components (2 of 5) on page 251
Cable, scanner flat (short)	RK2-0967-000CN	Internal components (2 of 5) on page 251
Cable, sensor	RM1-2603-000CN	Internal components (3 of 5) on page 253
Cable, solenoid	RM1-2611-000CN	Internal components (4 of 5) on page 255
Cam, gear. 48T	RC1-6584-000CN	Internal components (2 of 5) on page 251
Cam, slide, left	RC1-6638-000CN	Internal components (3 of 5) on page 253
Cam, slide, right	RC1-6645-000CN	Internal components (1 of 5) on page 249
Cartridge lock kit (includes four locks and four springs)	Q5982-67921	Internal components (1 of 5) on page 249
Cartridge, guide, right assembly	RM1-2771-000CN	Internal components (1 of 5) on page 249
Cartridge-sensor PCA	RM1-2585-000CN	PCAs on page 275
Case, media sensor	RC1-6394-000CN	Paper-pickup assembly on page 267
Cassette sensor PCA	RM1-2576-000CN	Internal components (3 of 5) on page 253
Cassette, 250-sheet	RM1-2705-000CN	Cassette (tray 2) on page 265
Clutch, mechanical	RM1-2699-000CN	Paper-pickup assembly on page 267

Table 7-22 Alphabetical parts list (continued)

Description	Part number	Table and page
Connector, snap-tight	VS1-7207-003CN	External panels, and covers (2 of 2) on page 245
Contact-holder assembly	RM1-2683-000CN	Internal components (1 of 5) on page 249
Control panel-assembly	RM1-3868-000CN	PCAs on page 275
Control-panel assembly	RM1-3868-000CN	External panels, and covers (2 of 2) on page 245
Cover	RC1-7577-000CN	Internal components (5 of 5) on page 257
Cover, 500-sheet cassette	RC1-6945-000CN	500-sheet feeder cassette (tray 3) on page 277
Cover, cassette rear left	RC1-6792-000CN	External panels and covers (1 of 2) on page 243
Cover, cassette rear right (hinge)	RC1-6691-000CN	External panels and covers (1 of 2) on page 243
Cover, cassette, front	RC1-6491-000CN	Cassette (tray 2) on page 265
Cover, connector	RC1-6607-000CN	Internal components (5 of 5) on page 257
Cover, crossmember, upper	RC1-6668-000CN	Internal components (2 of 5) on page 251
Cover, gear	RC1-6405-000CN	Internal components (3 of 5) on page 253
Cover, guide crossmember	RC1-6795-000CN	Internal components (1 of 5) on page 249
Cover, left	RC1-6687-000CN	External panels and covers (1 of 2) on page 243
Cover, multipurpose tray (tray 1)	RC1-6690-000CN	External panels and covers (1 of 2) on page 243
Cover, paper sensor	RC1-6611-000CN	Internal components (5 of 5) on page 257
Cover, rear	RC1-6627-000CN	Internal components (5 of 5) on page 257
Cover, rear lower	RC1-7550-000CN	External panels and covers (1 of 2) on page 243
Cover, registration sensor	RC1-6612-000CN	Internal components (5 of 5) on page 257
Cover, right	RM1–2669–000CN	External panels and covers (1 of 2) on page 243
Cover, shutter, left	RC1-6651-000CN	Internal components (2 of 5) on page 251
Cover, slide plate, right	RC1-6824-000CN	Internal components (1 of 5) on page 249
Crossmember, drive side plate	RC1-7576-000CN	Internal components (2 of 5) on page 251

Table 7-22 Alphabetical parts list (continued)

Description	Part number	Table and page
DC controller PCA assembly	RM1-2600-000CN	PCAs on page 275
Developing separation (estrangement) drive assembly	RM1-2687-000CN	Developing separation-drive assembly on page 261
Discharge tool, low-voltage power-supply	RK2-1007–01	PCAs on page 275
Drive-motor assembly, print-cartridge (K cartridge only)	RM1-2773-000CN	Internal components (2 of 5) on page 251
Drive-motor assembly, print-cartridge (Y, C, M cartridges only)	RM1-2689-000CN	Internal components (2 of 5) on page 251
Driver PCA	RM1-2581-000CN	PCAs on page 275
Duct 1	RC1-7546-000CN	Internal components (5 of 5) on page 257
Duct, 2	RC1-7547-000CN	Internal components (1 of 5) on page 249
Duct, 3	RC1-7548-000CN	Internal components (1 of 5) on page 249
Duct, fan	RC1-6632-000CN	Internal components (1 of 5) on page 249
Electrostatic transfer belt	RM1-2759-040CN	Electrostatic transfer belt on page 269
Face-down tray assembly	RM1-2777-000CN	External panels, and covers (2 of 2) on page 245
Fan	RK2-0954-000CN	Internal components (1 of 5) on page 249
Flag, developing estrangement (developing separation)	RC1-6605-000CN	Internal components (2 of 5) on page 251
Foot, rear	RC1-6650-000CN	Internal components (3 of 5) on page 253
Foot, rubber assembly, front	RL1-1067-000CN	Internal components (3 of 5) on page 253
Formatter, base, exchange	Q7824-69001	PCAs on page 275
Formatter, base, new	Q7824-67901	PCAs on page 275
Formatter, network, exchange	Q7825-69001	PCAs on page 275
Formatter, network, new	Q7825–67901	PCAs on page 275
Front-cover assembly	RM1-2673-000CN	Front-cover assembly on page 247
Fuser assembly 110V-127V	RM1-2665-000CN	Fuser on page 273
Fuser assembly 220V-240V	RM1-2743-000CN	Fuser on page 273
Fuser cable assembly	RM1-2597-000CN	Internal components (4 of 5) on page 255
Fuser drive assembly	RM1-2668-000CN	Fuser drive assembly on page 263

Table 7-22 Alphabetical parts list (continued)

Description	Part number	Table and page
Gear, 17T/41T	RC1-6596-000CN	Internal components (2 of 5) on page 251
Gear, 18T	RC1-6521-000CN	Paper-pickup assembly on page 267
Gear, 19T/30T	RC1-6593-000CN	Internal components (2 of 5) on page 251
Gear, 29T	RC1-6575-000CN	Internal components (1 of 5) on page 249
Gear, 31T	RC1-6594-000CN	Internal components (2 of 5) on page 251
Gear, 41T	RC1-6589-000CN	Internal components (2 of 5) on page 251
Gear, 58T	RC1–6571-000CN	Internal components (1 of 5) on page 249
Guard, cable	RC1-6825-000CN	Internal components (4 of 5) on page 255
Guide, cable, left	RC1-6681-000CN	Internal components (4 of 5) on page 255
Guide, cable, right 1	RC1-6682-000CN	Internal components (2 of 5) on page 251
Guide, cable, right 3	RC1-7544-000CN	Internal components (2 of 5) on page 251
Guide, cable, right 4	RC1-7545-000CN	Internal components (2 of 5) on page 251
Guide, cartridge, left	RC1-6629-000CN	Internal components (1 of 5) on page 249
Guide, cassette front, left	RC1-6499-000CN	Internal components (3 of 5) on page 253
Guide, cassette front, right	RC1-6502-000CN	Internal components (3 of 5) on page 253
Guide, flexible flat cable 1	RC1-6772-000CN	Internal components (4 of 5) on page 255
Guide, flexible flat cable 2	RC1-6773-000CN	Internal components (4 of 5) on page 255
High-voltage PCA assembly	RM1-2578-000CN	PCAs on page 275
Holder, drawer	RC1-6653-000CN	Internal components (4 of 5) on page 255
Holder, drawer connector	RC1-6652-000CN	Internal components (4 of 5) on page 255
Holder, ETB, left	RC1-6673-000CN	Internal components (3 of 5) on page 253
Holder, ETB, right	RC1-6674-000CN	Internal components (3 of 5) on page 253

Table 7-22 Alphabetical parts list (continued)

Description	Part number	Table and page
Holder, fan	RC1-6631-000CN	Internal components (1 of 5) on page 249
Holder, toner cartridge	RC1-6771-000CN	Internal components (2 of 5) on page 251
Interlock-switch assembly	RM1-2670-000CN	External panels, and covers (2 of 2) on page 245
Latch, left	RC1-7554-000CN	Internal components (1 of 5) on page 249
Latch, right	RC1-7555-000CN	Internal components (1 of 5) on page 249
Lever lock, left	RC1-6633-000CN	Internal components (1 of 5) on page 249
Lever, lock slide, left	RC1-6636-000CN	Internal components (1 of 5) on page 249
Lever, lock slide, right	RC1-6643-000CN	Internal components (1 of 5) on page 249
Lever, lock, left upper	RC1-7618-000CN	Internal components (1 of 5) on page 249
Lever, sensing	RC1-7597-000CN	Internal components (2 of 5) on page 251
Link, multipurpose tray (tray 1) hinge left	RC1-6381-000CN	External panels and covers (1 of 2) on page 243
Link, multipurpose tray (tray 1) hinge right	RC1-6382-000CN	External panels and covers (1 of 2) on page 243
Low-voltage power PCA assembly (110V-127V)	RM1-4377-000CN	PCAs on page 275
Low-voltage power PCA assembly (220V-240V)	RM1-4378-000CN	PCAs on page 275
Motor, AC 24V, 9W	RK2-0939-000CN	Internal components (3 of 5) on page 253
Motor, DC (ETB)	RK2-0937-000CN	Electrostatic transfer belt on page 269
Mount, hinge, left	RC1-6684-000CN	Internal components (3 of 5) on page 253
Multipurpose tray (tray 1) extension tray assembly	RM1-2710-000CN	External panels and covers (1 of 2) on page 243
Multipurpose tray assembly (tray 1)	RM1-2711-000CN	Multipurpose tray assembly (tray 1) on page 271
Multipurpose tray paper-pickup gear assembly	RM1-2704-000CN	Internal components (5 of 5) on page 257
Pad, separation (tray 1)	RC1–2699–000CN	Paper-pickup assembly on page 267
Paper-pickup assembly	RM1-2774-000CN	Paper-pickup assembly on page 267
Paper-pickup drive assembly	RM1-2679-000CN	Paper-pickup drive assembly on page 259

Table 7-22 Alphabetical parts list (continued)

Description	Part number	Table and page
Paper-pickup-roller assembly (500-sheet feeder)	RM1–2727–000CN	500-sheet feeder paper-pickup assembly on page 279
PCA assembly (500-sheet feeder)	RM1-2583-000CN	500-sheet feeder PCA on page 281
Photointerruptor	WG8-5696-000CN	500-sheet feeder paper-pickup assembly on page 279
Plate lock release, tray 2	RC1-6833-000CN	Internal components (3 of 5) on page 253
Plate, gear 3	RL1-1069-000CN	Internal components (3 of 5) on page 253
Preregistration-guide assembly	RM1-2775-000CN	Paper-pickup assembly on page 267
Relay, PCA	RM1-2582-000CN	Internal components (5 of 5) on page 257
Right-rear base assembly	RM1-2678-000CN	Internal components (3 of 5) on page 253
Rod, link, left	RC1-6639-000CN	Internal components (3 of 5) on page 253
Rod, link, right	RC1-6646-000CN	Internal components (3 of 5) on page 253
Scanner assembly	RM1-2952-000CN	Internal components (4 of 5) on page 255
Sensor, media assembly	RM1-2757-000CN	500-sheet feeder paper-pickup assembly on page 279
Sensor, output bin	RC1-6286-000CN	External panels, and covers (2 of 2) on page 245
Sensor, temperature	WP2-5214-000CN	Internal components (4 of 5) on page 255
Separation-pad assembly	RM1-2709-000CN	Cassette (tray 2) on page 265
Separation-pad-holder assembly (500-sheet feeder)	RM1-2735-000CN	500-sheet feeder cassette (tray 3) on page 277
Shield, PCA	RC1-7599-000CN	Internal components (5 of 5) on page 257
Spring, compression	RC1-6520-000CN	Paper-pickup assembly on page 267
Spring, grounding	RC1-7583-000CN	Internal components (1 of 5) on page 249
Spring, tension	RC1-6383-000CN	External panels and covers (1 of 2) on page 243
Spring, tension	RC1-6634-000CN	Internal components (1 of 5) on page 249
Spring, tension	RC1-6677-000CN	Internal components (1 of 5) on page 249

Table 7-22 Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, tension	RC1-7552-000CN	Internal components (1 of 5) on page 249
Spring, tension	RC1-7598-000CN	Internal components (2 of 5) on page 251
Spring, tension	RC1-6516-000CN	Paper-pickup assembly on page 267
Top-cover assembly	RM1-2672-000CN	External panels, and covers (2 of 2) on page 245
Upper cover assembly (fuser door)	RM1-2671-000CN	External panels, and covers (2 of 2) on page 245

Numerical parts list

Table 7-23 Numerical parts list

Part number	Description	Table and page
Q5982-67921	Cartridge lock kit (includes four locks and four springs)	Internal components (1 of 5) on page 249
Q5985–67901	500–sheet feeder and cassette	500-sheet feeder cassette (tray 3) on page 277
Q7824-67901	Formatter, base, new	PCAs on page 275
Q7824-69001	Formatter, base, exchange	PCAs on page 275
Q7825-69001	Formatter, network, exchange	PCAs on page 275
Q7825–67901	Formatter, network, new	PCAs on page 275
RC1-6286-000CN	Sensor, output bin	External panels, and covers (2 of 2) on page 245
RC1-6381-000CN	Link, multipurpose tray (tray 1) hinge left	External panels and covers (1 of 2) on page 243
RC1-6382-000CN	Link, multipurpose tray (tray 1) hinge right	External panels and covers (1 of 2) on page 243
RC1-6383-000CN	Spring, tension	External panels and covers (1 of 2) on page 243
RC1-6394-000CN	Case, media sensor	Paper-pickup assembly on page 267
RC1-6405-000CN	Cover, gear	Internal components (3 of 5) on page 253
RC1-6491-000CN	Cover, cassette, front	Cassette (tray 2) on page 265
RC1-6499-000CN	Guide, cassette front, left	Internal components (3 of 5) on page 253
RC1-6502-000CN	Guide, cassette front, right	Internal components (3 of 5) on page 253
RC1-6516-000CN	Spring, tension	Paper-pickup assembly on page 267
RC1-6517-000CN	Bushing	Paper-pickup assembly on page 267
RC1-6519-000CN	Bushing	Paper-pickup assembly on page 267
RC1-6520-000CN	Spring, compression	Paper-pickup assembly on page 267
RC1-6521-000CN	Gear, 18T	Paper-pickup assembly on page 267
RC1-6573-000CN	Bushing	Internal components (1 of 5) on page 249
RC1-6575-000CN	Gear, 29T	Internal components (1 of 5) on page 249

Table 7-23 Numerical parts list (continued)

Part number	Description	Table and page
RC1-6584-000CN	Cam, gear. 48T	Internal components (2 of 5) on page 251
RC1-6589-000CN	Gear, 41T	Internal components (2 of 5) on page 251
RC1-6593-000CN	Gear, 19T/30T	Internal components (2 of 5) on page 251
RC1-6594-000CN	Gear, 31T	Internal components (2 of 5) on page 251
RC1-6596-000CN	Gear, 17T/41T	Internal components (2 of 5) on page 251
RC1-6605-000CN	Flag, developing estrangement (developing separation)	Internal components (2 of 5) on page 251
RC1-6607-000CN	Cover, connector	Internal components (5 of 5) on page 257
RC1-6611-000CN	Cover, paper sensor	Internal components (5 of 5) on page 257
RC1-6612-000CN	Cover, registration sensor	Internal components (5 of 5) on page 257
RC1-6627-000CN	Cover, rear	Internal components (5 of 5) on page 257
RC1-6629-000CN	Guide, cartridge, left	Internal components (1 of 5) on page 249
RC1-6631-000CN	Holder, fan	Internal components (1 of 5) on page 249
RC1-6632-000CN	Duct, fan	Internal components (1 of 5) on page 249
RC1-6633-000CN	Lever lock, left	Internal components (1 of 5) on page 249
RC1-6634-000CN	Spring, tension	Internal components (1 of 5) on page 249
RC1-6636-000CN	Lever, lock slide, left	Internal components (1 of 5) on page 249
RC1-6638-000CN	Cam, slide, left	Internal components (3 of 5) on page 253
RC1-6639-000CN	Rod, link, left	Internal components (3 of 5) on page 253
RC1-6643-000CN	Lever, lock slide, right	Internal components (1 of 5) on page 249
RC1-6645-000CN	Cam, slide, right	Internal components (1 of 5) on page 249
RC1-6646-000CN	Rod, link, right	Internal components (3 of 5) on page 253
RC1-6650-000CN	Foot, rear	Internal components (3 of 5) on page 253

Table 7-23 Numerical parts list (continued)

Part number	Description	Table and page
RC1-6651-000CN	Cover, shutter, left	Internal components (2 of 5) on page 251
RC1-6652-000CN	Holder, drawer connector	Internal components (4 of 5) on page 255
RC1-6653-000CN	Holder, drawer	Internal components (4 of 5) on page 255
RC1-6668-000CN	Cover, crossmember, upper	Internal components (2 of 5) on page 251
RC1-6673-000CN	Holder, ETB, left	Internal components (3 of 5) on page 253
RC1-6674-000CN	Holder, ETB, right	Internal components (3 of 5) on page 253
RC1-6677-000CN	Spring, tension	Internal components (1 of 5) on page 249
RC1-6681-000CN	Guide, cable, left	Internal components (4 of 5) on page 255
RC1-6682-000CN	Guide, cable, right 1	Internal components (2 of 5) on page 251
RC1-6684-000CN	Mount, hinge, left	Internal components (3 of 5) on page 253
RC1-6687-000CN	Cover, left	External panels and covers (1 of 2) on page 243
RC1-6690-000CN	Cover, multipurpose tray (tray 1)	External panels and covers (1 of 2) on page 243
RC1-6691-000CN	Cover, cassette rear right (hinge)	External panels and covers (1 of 2) on page 243
RC1-6700-000CN	Arm, switch-link	Internal components (4 of 5) on page 255
RC1-6771-000CN	Holder, toner cartridge	Internal components (2 of 5) on page 251
RC1-6772-000CN	Guide, flexible flat cable 1	Internal components (4 of 5) on page 255
RC1-6773-000CN	Guide, flexible flat cable 2	Internal components (4 of 5) on page 255
RC1-6792-000CN	Cover, cassette rear left	External panels and covers (1 of 2) on page 243
RC1-6795-000CN	Cover, guide crossmember	Internal components (1 of 5) on page 249
RC1-6823-000CN	Bushing	Internal components (2 of 5) on page 251
RC1-6824-000CN	Cover, slide plate, right	Internal components (1 of 5) on page 249
RC1-6825-000CN	Guard, cable	Internal components (4 of 5) on page 255

Table 7-23 Numerical parts list (continued)

Part number	Description	Table and page
RC1-6833-000CN	Plate lock release, tray 2	Internal components (3 of 5) on page 253
RC1-6945-000CN	Cover, 500-sheet cassette	500-sheet feeder cassette (tray 3) on page 277
RC1-7544-000CN	Guide, cable, right 3	Internal components (2 of 5) on page 251
RC1-7545-000CN	Guide, cable, right 4	Internal components (2 of 5) on page 251
RC1-7546-000CN	Duct 1	Internal components (5 of 5) on page 257
RC1-7547-000CN	Duct, 2	Internal components (1 of 5) on page 249
RC1-7548-000CN	Duct, 3	Internal components (1 of 5) on page 249
RC1-7550-000CN	Cover, rear lower	External panels and covers (1 of 2) on page 243
RC1-7551-000CN	Bracket, left, rear	Internal components (4 of 5) on page 255
RC1-7552-000CN	Spring, tension	Internal components (1 of 5) on page 249
RC1-7554-000CN	Latch, left	Internal components (1 of 5) on page 249
RC1-7555-000CN	Latch, right	Internal components (1 of 5) on page 249
RC1-7576-000CN	Crossmember, drive side plate	Internal components (2 of 5) on page 251
RC1-7577-000CN	Cover	Internal components (5 of 5) on page 257
RC1-7583-000CN	Spring, grounding	Internal components (1 of 5) on page 249
RC1-7597-000CN	Lever, sensing	Internal components (2 of 5) on page 251
RC1-7598-000CN	Spring, tension	Internal components (2 of 5) on page 251
RC1-7599-000CN	Shield, PCA	Internal components (5 of 5) on page 257
RC1-7618-000CN	Lever, lock, left upper	Internal components (1 of 5) on page 249
RC1-7959-000CN	Block, multipurpose path	Paper-pickup assembly on page 267
RC1–2699–000CN	Pad, separation (tray 1)	Paper-pickup assembly on page 267
RC1–6571-000CN	Gear, 58T	Internal components (1 of 5) on page 249

Table 7-23 Numerical parts list (continued)

Part number	Description	Table and page
RK2-0937-000CN	Motor, DC (ETB)	Electrostatic transfer belt on page 269
RK2-0939-000CN	Motor, AC 24V, 9W	Internal components (3 of 5) on page 253
RK2-0954-000CN	Fan	Internal components (1 of 5) on page 249
RK2-0967-000CN	Cable, scanner flat (short)	Internal components (2 of 5) on page 251
RK2-0969-000CN	Cable, drive flat 1	Internal components (5 of 5) on page 257
RK2-0970-000CN	Cable, drive flat 2	Internal components (5 of 5) on page 257
RK2-0971-000CN	Cable, scanner flat (long)	Internal components (2 of 5) on page 251
RK2-1007–01	Discharge tool, low-voltage power-supply	PCAs on page 275
RL1-1067-000CN	Foot, rubber assembly, front	Internal components (3 of 5) on page 253
RL1-1069-000CN	Plate, gear 3	Internal components (3 of 5) on page 253
RM1-2576-000CN	Cassette sensor PCA	Internal components (3 of 5) on page 253
RM1-2578-000CN	High-voltage PCA assembly	PCAs on page 275
RM1-2581-000CN	Driver PCA	PCAs on page 275
RM1-2582-000CN	Relay, PCA	Internal components (5 of 5) on page 257
RM1-2583-000CN	PCA assembly (500-sheet feeder)	500-sheet feeder PCA on page 281
RM1-2585-000CN	Cartridge-sensor PCA	PCAs on page 275
RM1-2587-000CN	Cable, panel connecting	Internal components (5 of 5) on page 257
RM1-2592-000CN	Cable, power control	Internal components (5 of 5) on page 257
RM1-2594-000CN	Cable, scanner	Internal components (2 of 5) on page 251
RM1-2595-000CN	Cable, environment sensor	Internal components (4 of 5) on page 255
RM1-2596-000CN	Cable, panel	Internal components (1 of 5) on page 249
RM1-2597-000CN	Fuser cable assembly	Internal components (4 of 5) on page 255
RM1-2600-000CN	DC controller PCA assembly	PCAs on page 275
RM1-2603-000CN	Cable, sensor	Internal components (3 of 5) on page 253

Table 7-23 Numerical parts list (continued)

Part number	Description	Table and page
RM1-2605-000CN	Cable, drive power	Internal components (4 of 5) on page 255
RM1-2608-000CN	Cable, ETB	Internal components (4 of 5) on page 255
RM1-2610-000Cn	Cable, drum motor	Internal components (4 of 5) on page 255
RM1-2611-000CN	Cable, solenoid	Internal components (4 of 5) on page 255
RM1-2613-000CN	Cable, cassette	Internal components (4 of 5) on page 255
RM1-2619-000CN	Cable, fuser drive	Fuser drive assembly on page 263
RM1-2624-000CN	Cable, option media sensor (500-sheet feeder)	500-sheet feeder paper-pickup assembly on page 279
RM1-2625-000CN	Cable, option sensor	500-sheet feeder paper-pickup assembly on page 279
RM1-2627-000CN	Cable, memory tag	Internal components (2 of 5) on page 251
RM1-2628-000CN	Cable, paper-full	Internal components (4 of 5) on page 255
RM1-2629-000CN	Cable, drum motor	Internal components (4 of 5) on page 255
RM1-2630-000CN	Cable, paper-full	External panels, and covers (2 of 2) on page 245
RM1-2665-000CN	Fuser assembly 110V-127V	Fuser on page 273
RM1-2668-000CN	Fuser drive assembly	Fuser drive assembly on page 263
RM1-2670-000CN	Interlock-switch assembly	External panels, and covers (2 of 2) on page 245
RM1-2671-000CN	Upper cover assembly (fuser door)	External panels, and covers (2 of 2) on page 245
RM1-2672-000CN	Top-cover assembly	External panels, and covers (2 of 2) on page 245
RM1-2673-000CN	Front-cover assembly	Front-cover assembly on page 247
RM1-2678-000CN	Right-rear base assembly	Internal components (3 of 5) on page 253
RM1-2679-000CN	Paper-pickup drive assembly	Paper-pickup drive assembly on page 259
RM1-2683-000CN	Contact-holder assembly	Internal components (1 of 5) on page 249
RM1-2687-000CN	Developing separation (estrangement) drive assembly	Developing separation-drive assembly on page 261

Table 7-23 Numerical parts list (continued)

Part number	Description	Table and page
RM1-2689-000CN	Drive-motor assembly, print-cartridge (Y, C, M cartridges only)	Internal components (2 of 5) on page 251
RM1-2699-000CN	Clutch, mechanical	Paper-pickup assembly on page 267
RM1-2704-000CN	Multipurpose tray paper-pickup gear assembly	Internal components (5 of 5) on page 257
RM1-2705-000CN	Cassette, 250-sheet	Cassette (tray 2) on page 265
RM1-2709-000CN	Separation-pad assembly	Cassette (tray 2) on page 265
RM1-2710-000CN	Multipurpose tray (tray 1) extension tray assembly	External panels and covers (1 of 2) on page 243
RM1-2711-000CN	Multipurpose tray assembly (tray 1)	Multipurpose tray assembly (tray 1) on page 271
RM1-2725-000CN	500-sheet feeder paper-pickup assembly	500-sheet feeder paper-pickup assembly on page 279
RM1-2732-000CN	500–sheet cassette (only), tray 3	500-sheet feeder cassette (tray 3) on page 277
RM1-2735-000CN	Separation-pad-holder assembly (500-sheet feeder)	500-sheet feeder cassette (tray 3) on page 277
RM1-2743-000CN	Fuser assembly 220V-240V	Fuser on page 273
RM1-2757-000CN	Sensor, media assembly	500-sheet feeder paper-pickup assembly on page 279
RM1-2759-040CN	Electrostatic transfer belt	Electrostatic transfer belt on page 269
RM1-2771-000CN	Cartridge, guide, right assembly	Internal components (1 of 5) on page 249
RM1-2773-000CN	Drive-motor assembly, print-cartridge (K cartridge only)	Internal components (2 of 5) on page 251
RM1-2774-000CN	Paper-pickup assembly	Paper-pickup assembly on page 267
RM1-2775-000CN	Preregistration-guide assembly	Paper-pickup assembly on page 267
RM1-2777-000CN	Face-down tray assembly	External panels, and covers (2 of 2) on page 245
RM1-2952-000CN	Scanner assembly	Internal components (4 of 5) on page 255
RM1-3868-000CN	Control-panel assembly	External panels, and covers (2 of 2) on page 245
RM1-3868-000CN	Control panel-assembly	PCAs on page 275
RM1-4377-000CN	Low-voltage power PCA assembly (110V-127V)	PCAs on page 275
RM1-4378-000CN	Low-voltage power PCA assembly (220V-240V)	PCAs on page 275
RM1–2669–000CN	Cover, right	External panels and covers (1 of 2) on page 243

Table 7-23 Numerical parts list (continued)

Part number	Description	Table and page
RM1–2727–000CN	Paper-pickup-roller assembly (500-sheet feeder)	500-sheet feeder paper-pickup assembly on page 279
VS1-7207-003CN	Connector, snap-tight	External panels, and covers (2 of 2) on page 245
WG8-5696-000CN	Photointerruptor	500-sheet feeder paper-pickup assembly on page 279
WP2-5214-000CN	Sensor, temperature	Internal components (4 of 5) on page 255
WT2-5944-000CN	Cable, clamp	Internal components (5 of 5) on page 257

A Printer specifications

The printer specifications provide information about the size and weight, amount of power needed and used, and noise output of the printer. The specifications also describe how the different operating modes affect power consumption, heat output, and noise output.

Physical specifications

Table A-1 Printer dimensions

Product	Height	Depth	Width	Weight[1]
Base model	400 mm (15.7 inches)	450 mm (17.7 inches)	400 mm (15.7 inches)	20.3 kg (44.8 lb)
Base model plus optional tray 3	540 mm (21.3 inches)	450 mm (17.7 inches)	400 mm (15.7 inches)	25.4 kg (56.0 lb)

[1] The printer weight does not include print cartridges.

Electrical specifications

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

Table A-2 Power requirements

Item	110-volt models	220-volt models
Power requirements	100 to 127 V (+/-10%)	220 to 240 V (+/-10%)
	50 to 60 Hz (+/-2 Hz)	50 to 60 Hz (+/-2 Hz)
Minimum recommended circuit capacity	6.5 A	3.5 A

Table A-3 Power consumption (average, in watts)[1]

Product Model	Printing[2]	Ready[3]	Sleep[4]	Off	Heat output-Ready (BTU/hour)[5]
HP Color LaserJet 2700	385	45	40	0.5	100
HP Color LaserJet 2700n	385	45	40	0.5	100

1 The power consumption reflects the highest values measured for color and monochrome printing when using standard voltages.
2 The printing speed is 15 ppm for letter-size media and 20 ppm for A4-size media.
3 The default activation time from ready mode to sleep mode is 30 minutes.
4 The recovery time from sleep mode to the start of printing is 6 seconds.
5 Maximum heat dissipation for all models in ready mode is 171 BTU per hour.

NOTE These values are subject to change.

Acoustic emissions

Table A-4 Acoustic emissions

Sound power level	Declared per ISO 9296
Printing (15 ppm)[1]	L_{WAd} = 6.9 Bels (A) [69 dB (A)]
Ready	L_{WAd} = 5.3 Bels (A) [53 dB (A)]
Sound pressure level: bystander position	**Declared per ISO 9296**
Printing (15 ppm)[1]	L_{pAm} = 55 dB (A)
Ready	L_{pAm} = 39 dB (A)

[1] The color printing speed is 15 ppm for letter-size media and A4-size media. The monochrome printing speed is 20 ppm for letter-size media and 20 ppm for A4-size media.

NOTE These values are subject to change.

Operating-environment specifications

Table A-5 Operating-environment specifications

Environment	Recommended	Allowed
Temperature	17° to 25°C (62.6° to 77°F)	10° to 27°C (50° to 81 F)
Humidity	20% to 60% relative humidity (RH)	10% to 70% RH
Altitude	Not applicable	0 to 2600 m (0 to 8530 ft)

NOTE These values are subject to change.

B Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP Color LaserJet 2700 and 2700n printers	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 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.

HP Customer Care

Online Services

For 24-hour access to updated HP printer-specific software, product information, and support information using an Internet connection, go to www.hp.com/support/clj2700.

Go to www.hp.com/support/net_printing for information about the built-in networking.

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

Telephone support

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

Software utilities, drivers, and electronic information

- www.hp.com/go/clj2700_software

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

HP direct ordering for accessories or supplies

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

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

HP service information

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

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

HP service agreements

Call 1-800-835-4747 (U.S.) or 1-800-268-1221 (Canada).

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

The HP ToolboxFX

To check the printer status and settings and view troubleshooting information and online documentation, use the HP ToolboxFX. You must have performed a complete software installation in order to use the HP ToolboxFX. See Using the HP ToolboxFX on page 62.

HP support and information for Macintosh computers

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

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

HP maintenance agreements

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

On-site service agreements

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

Next-day on-site service

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

Weekly (volume) on-site service

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

Extended warranty

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

Repacking the printer

If your printer needs to be moved or shipped to another location, perform the following procedure to repack the printer.

CAUTION Shipping damage as a result of inadequate packing is the customer's responsibility. The printer must remain upright during shipment.

To repack the printer

CAUTION It is *extremely important* to remove the print cartridges before shipping the printer. Print cartridges left in the printer during shipping will leak and entirely cover the printer engine and other parts with toner.

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

1. Remove all four print cartridges and ship separately.
2. Remove optional tray 3 and ship the tray separately.
3. Use the original shipping container and packing material, if possible. If you have already disposed of the printer packing material, contact a local mailing service for information about repacking the printer. HP recommends insuring the equipment for shipment.

C Regulatory information

This section contains the following regulatory information:

- FCC regulations
- Environmental product stewardship program
- Declaration of conformity
- Safety statements
- Laser statement for Finland

FCC regulations

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

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

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

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

Environmental product stewardship program

Protecting the environment

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

Ozone production

This product generates no appreciable ozone gas (O_3).

Power consumption

Power usage drops significantly while in Sleep mode, which saves natural resources and saves money without affecting the high performance of this product.

Paper use

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

Plastics

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

HP LaserJet printing supplies

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

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

HP printing supplies returns and recycling program information

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

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

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

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

Paper

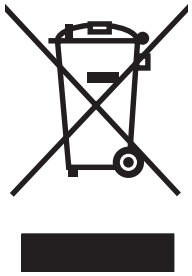
This product is capable of using recycled papers when the paper meets the guidelines outlined in the *HP LaserJet Printer Family Print Media Specification Guide*. This product is suitable for the use of recycled paper according to EN12281:2002.

Material restrictions

This HP product does not contain added mercury.

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

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



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

Material Safety Data Sheet (MSDS)

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

Extended warranty

HP SupportPack provides coverage for the HP hardware product and all HP supplied internal components. The hardware maintenance covers a three-year period from date of the HP product purchase. The customer must purchase HP SupportPack within the stated factory warranty. For more information, contact the HP Customer Care Service and HP Customer Support group. See Hewlett-Packard limited warranty statement on page 306.

For more information

To obtain information about these environmental topics:

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

Visit www.hp.com/go/environment or www.hp.com/hpinfo/community/environment/productinfo/safety.

Declaration of conformity

Declaration of Conformity
according to ISO/IEC Guide 22 and EN 45014

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

declares, that the product

Product Name:	HP Color LaserJet 2700 Series
Regulatory Model:[3)]	BOISB-0504-01
Product Options:	All
Toner Cartridges:	Q7560A, Q7561A, Q7562A, Q7563A

conforms to the following Product Specifications:

SAFETY:	IEC 60950-1:2001 / EN60950-1: 2001 +A11 IEC 60825-1:1993 +A1+A2 / EN 60825-1:1994 +A1 +A2 (Class 1 Laser/LED Product) GB4943-2001
EMC:	CISPR22:1993 +A1 +A2 / EN55022:1994 +A1 +A2 - Class B[1)] EN 61000-3-2:2000 EN 61000-3-3:1995 +A1 EN 55024:1998 +A1 +A2 FCC Title 47 CFR, Part 15 Class B[2)] / ICES-003, Issue 4 GB9254-1998, GB17625.1-2003

Supplementary Information:

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

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

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

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

Boise, Idaho 83713, USA

June, 2006

For Regulatory Topics Only:

Australia Contact	Product Regulations Manager, Hewlett-Packard Australia Ltd., 31-41 Joseph Street,, Blackburn, Victoria 3130, Australia
European Contact	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard Gmbh, Department HQ-TRE / Standards Europe, Herrenberger Strasse 140, Böblingen, D-71034, Germany, (FAX+49-7031-14-3143)
USA Contact	Product Regulations Manager, Hewlett-Packard Company, PO Box 15, Mail Stop 160, Boise, ID 83707-0015, USA, (Phone: 208-396-6000)

Safety statements

Laser safety

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration has implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States. The 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 this user guide may result in exposure to hazardous radiation.

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

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

EMI statement (Korea)

B급 기기 (가정용 정보통신기기)

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

VCCI statement (Japan)

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

Power cord statement (Japan)

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

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP Color LaserJet 2700, 2700n, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

VAROITUS !

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

VARNING !

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

HUOLTO

HP Color LaserJet 2700, 2700n -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 näkymättömällelasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

VARNING !

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

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