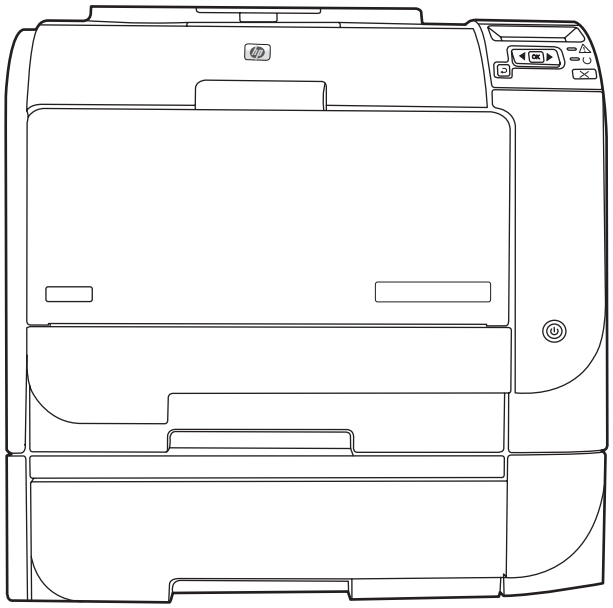
HP Color LaserJet CP2020 Series
Service Manual



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HP Color LaserJet CP2020 Series
Service Manual

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Safety information

WARNING!

Potential Shock Hazard

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

Read and understand all instructions in the user guide.

Observe all warnings and instructions marked on the product.

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

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

Unplug the product from wall outlets before cleaning.

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

Install the product securely on a stable surface.

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

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

Refer all servicing questions to qualified personnel.

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

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1 Product basics

- Quick access to product information
- Product comparison
- Product features
- Walkaround
- Supported operating systems
- Supported product software
- Connectivity

Quick access to product information

Use the following Web site to find information about the product:

- www.hp.com/support/ljcp2020series

Table 1-1 Product guides

Guide	Description
Getting Started Guide	Provides step-by-step instructions for installing and setting up the product.
User Guide	Provides detailed information for using the product and for problem solving. Available on the product CD or in ui.message>Program Group if the software is installed on a computer.
HP ToolboxFX	To check the product status and settings, and to view problem solving information and online documentation, use HP ToolboxFX. You must have performed a recommended software installation to use HP ToolboxFX. See the user guide for more information about software installation.
Embedded Web server	Use the embedded Web server to view product and network status and manage printing functions from your computer. See Embedded Web server on page 9
Online Help	Provides information about options that are available in the printer drivers. To view a Help file, open the online Help through the printer driver.

Product comparison

HP Color LaserJet CP2020 Series

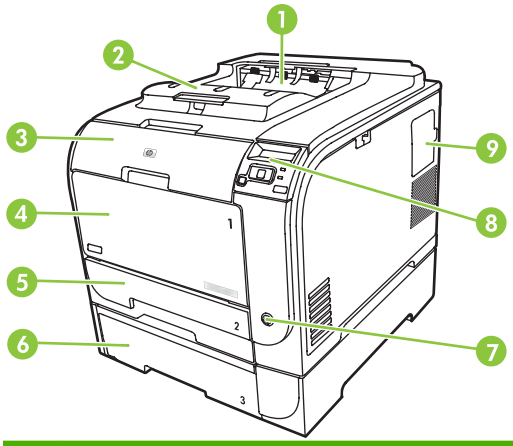
- Prints up to 21 pages per minute (ppm) on letter-size media (20 ppm on A4-size media).
- 50-sheet multipurpose tray (Tray 1) and 250-sheet input tray (Tray 2)
- Optional 250-sheet input tray (Tray 3) (standard on the x model)
- Hi-Speed universal serial bus (USB) 2.0 port
- Built-in networking to connect to 10Base-T/100Base-TX networks (n, dn, and x models only)
- Automatic duplexer (d, dn, and x models only)

Product features

Print	• Prints up to 21 pages per minute (ppm) on letter-size media (20 ppm on A4-size media). • Prints at 600 dots per inch (dpi). • Includes adjustable settings to optimize print quality. • The print cartridges use HP ColorSphere toner. For information about the number of pages the cartridges can print, see www.hp.com/go/pageyield. Actual yield depends on specific use. • Offers automatic duplexing (d, dn, and x models only).
Memory	• Includes 128-megabyte (MB) random-access memory (RAM).
Paper handling	• Tray 1 (multipurpose tray) holds up to 50 sheets of print media or 10 envelopes. • Tray 2 holds up to 250 sheets of print media. • Optional Tray 3 holds up to 250 sheets of print media (standard tray with the x model). • Output bin holds up to 150 sheets of print media.
Printer driver features	• ImageREt 3600 produces 3600 dpi print quality for fast, high-quality printing of business text and graphics.
Interface connections	• Includes a Hi-Speed USB 2.0 port • Built-in networking to connect to 10Base-T/100Base-TX networks (n, dn, and x models).
Environmental features	• To determine the ENERGY STAR® qualification status for this product see the Product Data Sheet or Specifications Sheet.
Economical printing	• Provides N-up printing (printing more than one page on a sheet). • The printer driver provides the option to manually print on both sides, or automatically with the d, dn, and x models.
Supplies	• Uses print cartridges with HP ColorSphere toner.
Accessibility	• 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.

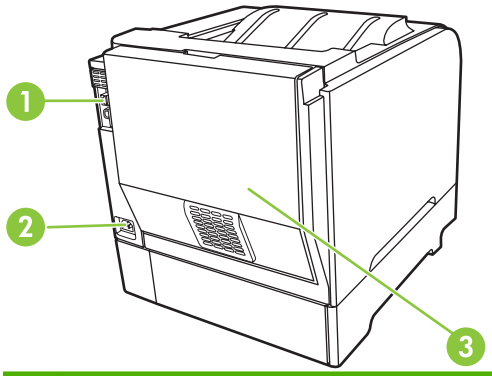
Walkaround

Front and side view



1	Output bin (holds 150 sheets of standard paper)
2	Legal-output extension
3	Front door (provides access to the print cartridges)
4	Tray 1 (multipurpose tray)
5	Tray 2 (holds 250 sheets of standard paper and provides jam access)
6	Optional Tray 3 (holds 250 sheets of standard paper)
7	Power switch
8	Control panel
9	DIMM door (for adding more memory)

Back view

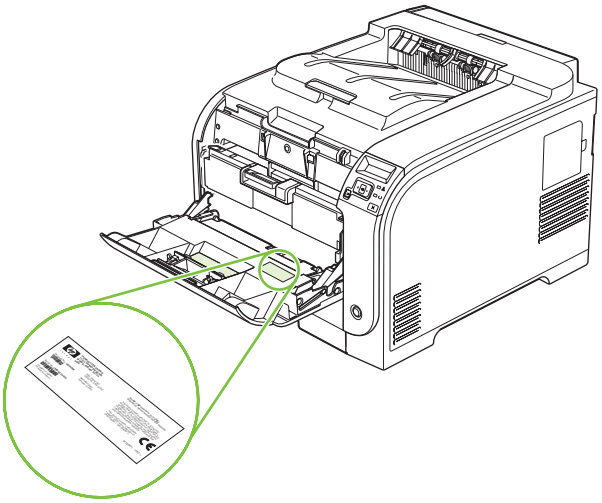


1	Hi-Speed USB 2.0 port and network port. (Network port present on HP Color LaserJet CP2025n, HP Color LaserJet CP2025dn, and HP Color LaserJet CP2025x models only.)
2	Power connection
3	Rear door (for jam access)

Model and serial numbers

The model number and serial number appear on an identification label located inside the front door.

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



Supported operating systems

The product supports the following operating systems:

- Windows 2000
- Windows XP (32-bit and 64-bit)
- Windows Server 2003 (32-bit)
- Windows Vista (32-bit and 64-bit)
- Windows Vista Starter
- Mac OS X V10.2.8 and later
- Linux; Web only (print driver only)
- UNIX model scripts; Web only (print driver only)

Supported product software

Software included with the product

There are several options for completing a recommended install. The Easy Install will complete the installation with default settings. The Advanced Install allows you to select custom settings and select the components that are installed.

Recommended Installation for Windows

- Printer driver
- HP Update program
- HP Customer Participation Program
- Shop for HP Supplies program

Express Installation

An Express installation includes the following software:

- Printer driver
- Printer status and alerts

NOTE: Use the Microsoft® Add Printer wizard to install the HP Postscript Universal Emulation Print Drivers.

Macintosh software

- HP Product Setup Assistant
- HP Device Configuration
- HP Uninstaller

Printer driver

The product comes with software (called a printer driver) for Windows that allows the computer to communicate with the product. Printer drivers provide access to product features, such as printing on custom-sized paper, resizing documents, and inserting watermarks.

NOTE: The most recent drivers are available at www.hp.com/go/ljcp2020series_software. Depending on the configuration of Windows-based computers, the installation program for the product software automatically checks the computer for Internet access to obtain the latest drivers.

Other software provided

Software for Windows

HP ToolboxFX

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

- Checking the product status
- Checking the supplies status and ordering supplies online
- Setting up alerts
- Viewing and changing product settings
- Viewing product documentation
- Gaining access to troubleshooting and maintenance tools

To use HP ToolboxFX, perform a Full Installation of the product software from the product CD.

Software for Macintosh

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

PostScript Printer Description (PPD) files

The PPD, in combination with the Apple PostScript printer drivers, provides access to product features. An installation program for the PPD and other software is provided on the product CD.

Configure the product using a Macintosh

For information about configuring the product using a Macintosh and the embedded Web server (EWS), see Embedded Web server on page 40.

Status Alerts software

The Status Alerts software provides information about the current status of the product.

The software also provides pop-up alerts when certain events occur, such as an empty tray or a problem with the product. The alert includes information about solving the problem.

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 system administrator's computer.

To download a current version of HP Web Jetadmin and for the latest list of supported host systems, go to 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.

Embedded Web server

The EWS provides access to information about product and network activities. This information appears in a Web browser, such as Microsoft Internet Explorer, Netscape Navigator, or Macintosh OS Safari.

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

NOTE: Macintosh users can open the EWS by clicking the **Utility** button when viewing the print queue. This starts a Web browser, such as Safari, which allows the user to access the EWS. The EWS can also be accessed directly by typing the network IP address or DNS name of the product into the Web browser.

HP USB EWS Gateway software, which is automatically installed, also allows a Web browser to access the product if the product is connected using a USB cable. Click the **Utility** button when using a USB connection to access the EWS though the Web browser.

For a complete explanation of the features and functionality of the embedded Web server, see Embedded Web server on page 40.

Linux

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

System requirements

Windows requirements

- 512 MB of RAM
- 350 MB of disk space

Macintosh requirements

- 256 MB of RAM
- 150 MB of disk space

Connectivity

Supported network operating systems

The following operating systems support network printing:

Recommended software installation

- Windows 2003 Server (64-bit)
- Windows XP (32-bit and 64-bit)
- Windows Vista (32-bit and 64-bit)
- Mac OS X V10.2.8, V10.3, V10.5

Printer driver only

- Linux (Web only)
- UNIX model scripts (Web only)

Printer sharing disclaimer

HP does not support peer-to-peer networking, as the feature is a function of Microsoft operating systems and not of the HP printer drivers. Go to Microsoft at www.microsoft.com.

Supported network protocols

The product supports the TCP/IP network protocol. It is the most widely used and accepted networking protocol. Many networking services use this protocol. This product also supports IPv4 and IPv6. The following tables list the networking services/protocols that are supported on the product.

Table 1-2 Printing

Service name	Description
port9100 (Direct Mode)	Printing service
Line printer daemon (LPD)	Printing service
ws-print	Microsoft plug-and-play printing solution

Table 1-3 Network product discovery

Service name	Description
SLP (Service Location Protocol)	Device Discovery Protocol, used to help find and configure network devices. Used primarily by Microsoft-based software programs.
mDNS (multicast Domain Name Service - also known as “Rendezvous” or “Bonjour”)	Device Discovery Protocol, used to help find and configure network devices. Used primarily by Apple Macintosh-based software programs.
ws-discover	Used by Microsoft-based software programs

Table 1-4 Messaging and management

Service name	Description
HTTP (hypertext transfer protocol)	Allows Web browsers to communicate with embedded Web server.

Table 1-4 Messaging and management (continued)

Service name	Description
EWS (embedded Web server)	Allows a user to manage the product through a Web browser.
SNMP (simple network management protocol)	Used by network programs for product management. SNMP V1 and standard MIB-II (Management Information Base) objects are supported.

Table 1-5 IP addressing

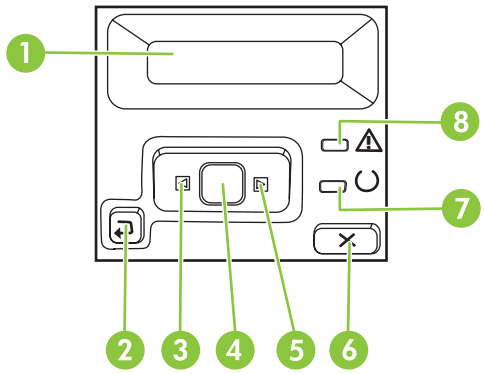
Service name	Description
DHCP (dynamic host configuration protocol), IPv4, and IPv6	For Automatic IP address assignment. DHCP server provides the product with an IP address. Generally requires no user intervention for product to obtain IP address from a DHCP server.
BOOTP (bootstrap protocol)	For Automatic IP address assignment. BOOTP server provides the product with an IP address. Requires an administrator to type the product MAC hardware address on the BOOTP server in order for the product 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, this service allows the product to generate a unique IP address.

2 Control panel

- Control-panel walkaround
- Control-panel menus

Control-panel walkaround

The product has the following items on the control panel.



1	**Control-panel display**: The display provides information about the product. Use the menus on the display to establish product settings.
2	Back arrow (⮌) button: Use this button for the following actions: • Exit the control-panel menus. • Scroll back to a previous menu in a submenu list. • Scroll back to a previous menu item in a submenu list (without saving changes to the menu item).
3	Left arrow (◄) button: Use this button to navigate through the menus or to decrease a value that appears on the display.
4	OK button: Press the OK button for the following actions: • Open the control-panel menus. • Open a submenu displayed on the control-panel display. • Select a menu item. • Clear some errors. • Begin a print job in response to a control-panel prompt (for example, when the message **[OK] to print** appears on the control-panel display).
5	Right arrow (►) button: Use this button to navigate through the menus or to increase a value that appears on the display.
6	Cancel Job (X) button: Press this button to cancel a print job whenever the attention light is blinking or to exit the control-panel menus.
7	Ready light (green): The Ready light is on when the product is ready to print. It blinks when the product is receiving print data.
8	Attention light (amber): The Attention light blinks when the product requires user attention.

Control-panel menus

Use the menus

1. Press OK to open the menus.
2. Press the Left arrow (◄) or Right arrow (►) button to navigate through the listings.
3. Press OK to select the option. An asterisk (*) displays next to the active selection.
4. Press the Back arrow (⮌) button to scroll back through the submenus.
5. 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 16
- System setup menu on page 17
- Network config. menu on page 20
- Service menu on page 19

Reports menu

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

Menu item	Description
Demo page	Prints a color page that demonstrates print quality
Menu structure	Prints a map of the control-panel-menu layout
Config report	Prints a list of all the product settings-Including network information when the product is connected to a network.
Supplies status	Prints the status for each print cartridge, including the following information: • Approximate pages remaining • Approximate percentage of cartridge life remaining for each color • Part number • Number of pages printed
Network report	Prints a list of all product network settings
Usage page	Prints a page that lists PCL pages, PCL 6 pages, HP Postscript Emulation Universal Print Driver pages, pages that were jammed or mispicked in the product, monochrome (black and white) or color pages, and reports the page count
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
Color usage log	Prints a report that shows the user name, program name, and color usage information on a job-by-job basis
Service page	Prints the service report
Diagnostics page	Prints the calibration and color diagnostics pages

System setup menu

Use this menu to establish basic product settings. The **System setup** menu has several submenus that are 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 product 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.	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**	If optional Tray 3 is installed, 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 product 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 product 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 the Right arrow (►) button to increase the time, up to 3600 seconds. Press the Left arrow (◄) button to decrease the time.
Print quality	**Restrict color**	**Enable color** **Disable color**	Select **Enable color** to allow the job to print in monochrome (black and white) or color depending on the job. This is the default setting. Select **Disable color** to make color printing unavailable. All jobs will print in monochrome (black and white). Some internal pages still print in color.

Menu item	Sub-menu item	Sub-menu item	Description
	Calibrate color	**After power on** **Calibrate now**	**After power on**: Select how soon the product will calibrate after you turn it on. The default setting is **15 minutes**. **Calibrate now**: Makes the product perform a calibration immediately. If a job is processing, the product calibrates after the job is complete. If an error message is displayed, you must clear the error first.
	Cartridge low	**(1-20)**	The percentage threshold determines when the product begins reporting low toner. The message is either reported on the control-panel display or using the toner LED, if it exists.
	Replace Supplies	**Override out** **Stop at out**	**Override out**: If the product determines that a print cartridge has reached the end of life, select this setting to continue printing until there is a decrease in print quality. **Stop at out**: If the product determines that a print cartridge is empty, the cartridge must be replaced before printing can continue. This is the default setting.
	Color Supply Out	**Stop Printing** (default) **Continue Black**	**Stop Printing**: If the product determines that a color cartridges is empty, it stops printing. This is the default setting. **Continue Black**: If the product determines that a color cartridges is empty, continue printing using black only.
	Adjust Alignment	**Print Test Page** **Adjust Tray <X>**	**Print Test Page**: Print a test page that tests printer alignment. **Adjust Tray <X>**: Adjust the alignment of the specified tray.
Display contrast	**Lightest** **Lighter** **Medium** **Darker** **Darkest**		Select the level of contrast for the display. The default setting is **Medium**.

Service menu

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

Menu item	Sub-menu item	Description
Cleaning mode		Use this option to clean the product 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 product 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.
PowerSave		Sets how long the product remains idle before it enters **PowerSave** mode. The product automatically exits **PowerSave** mode when you send a print job or press a control-panel button. The default setting is **1 minute**.
USB speed	**High** **Full**	Sets the USB speed to **High** or **Full**. For the product to actually operate at high speed, it must have high speed enabled and be connected to an EHCI host controller that is also operating at high speed. This menu item also does not reflect the current operating speed of the product. The default setting is **High**.
Less paper curl	**Off** **On**	If printed pages are consistently curled, use this option to set the product to a mode that reduces curl. The default setting is **Off**.
Archive print	**Off** **On**	If you are printing pages that will be stored for a long time, use this option to set the product to a mode that reduces toner smearing and dusting. The default setting is **Off**.
Restore defaults		Press OK to restore the factory default settings to the default values.

Network config. menu

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. The default setting is **Automatic**.
Auto crossover	**On** **Off**	This item is used when you are connecting the product directly to a personal computer using an Ethernet cable (you might have to set this to **On** or **Off** depending on the computer being used). The default setting is **On**.
Network services	**IPv4** **IPv6** **DHCPv6**	This item is used by the system administrator to limit the network services available on this product. **On** **Off** The default setting for all items is **On**.
Show IP address	**No** **Yes**	**No**: The product IP address does not appear on the control-panel display. **Yes**: The product IP address appears on the control-panel display, alternating between supplies information and the IP address of the device. The IP address does not display if an error condition exits. The default setting is **No**.
Link speed	**Automatic** (default) **10T Full** **10T Half** **100TX Full** **100TX Half**	Sets the link speed manually if needed. After setting the link speed, the product automatically restarts.
Restore defaults		Press OK to restore the network configuration settings to the default values.

3 Paper and print media

Understand paper and print media use

This product supports a variety of paper and other print media in accordance with the guidelines in this user guide. Paper or print media that does not meet these guidelines might cause the following problems:

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

For best results, use only HP-brand paper and print media designed for laser printers or multiuse. Do not use paper or print media made for inkjet printers. Hewlett-Packard Company cannot recommend the use of other brands of media because HP cannot control their quality.

It is possible for paper to meet all of the guidelines in this user guide and still not produce satisfactory results. This might be the result of improper handling, unacceptable temperature and/or humidity levels, or other variables over which Hewlett-Packard has no control.

△ **CAUTION:** Using paper or print media that does not meet Hewlett-Packard's specifications might cause problems for the product, requiring repair. This repair is not covered by the Hewlett-Packard warranty or service agreements.

Supported paper and print media sizes

This product supports several paper sizes, and it adapts to various media.

NOTE: To obtain the best print results, select the correct paper size and type in your print driver before printing.

Table 3-1 Supported paper and print media sizes

Size	Dimensions	Tray 1	Tray 2 or optional Tray 3
Letter	216 x 279 mm (8.5 x 11 inches)	✓	✓
Legal	216 x 356 mm (8.5 x 14 inches)	✓	✓
A4	210 x 297 mm (8.27 x 11.69 inches)	✓	✓
Executive	184 x 267 mm (7.24 x 10.51 inches)	✓	✓
A3	297 x 420 mm (11.69 x 16.54 inches)		
A5	148 x 210 mm (5.83 x 8.27 inches)	✓	✓
A6	105 x 148 mm (4.13 x 5.83 inches)	✓	✓
B4 (JIS)	257 x 364 mm (10.12 x 14.33 inches)		
B5 (JIS)	182 x 257 mm (7.17 x 10.12 inches)	✓	✓
B5 (ISO)	176 x 250 mm (6.93 x 9.84 inches)		
B6 (ISO)	125 x 176 mm (4.92 x 6.93 inches)		
16k	184 x 260 mm (7.24 x 10.23 inches) 195 x 270 mm (7.68 x 10.62 inches) 197 x 273 mm (7.75 x 10.75 inches)	✓	✓
8.5 x 13	216 x 330 mm (8.5 x 13 inches)	✓	✓
4 x 6	107 x 152 mm (4 x 6 inches)	✓	✓
5 x 8	127 x 203 mm (5 x 8 inches)	✓	✓
10 x 15 cm	100 x 150 mm (3.9 x 5.9 inches)	✓	✓
Custom	(76 - 216) x (127 - 356) mm ((3 - 8.5) x (5 - 14) inches)	✓	
Custom	(102 - 216) x (153 - 356) mm ((4 - 8.5) x (6 - 14) inches)		✓

Table 3-2 Supported envelopes and postcards

Size	Dimensions	Tray 1	Tray 2
Envelope #10	105 x 241 mm (4.13 x 9.49 inches)	✓	✓

Table 3-2 Supported envelopes and postcards (continued)

Size	Dimensions	Tray 1	Tray 2
Envelope DL	110 x 220 mm (4.33 x 8.66 inches)	✓	✓
Envelope C5	162 x 229 mm (6.93 x 9.84 inches)	✓	✓
Envelope B5	176 x 250 mm (6.7 x 9.8 inches)	✓	✓
Envelope Monarch	98 x 191 mm (3.9 x 7.5 inches)	✓	✓
Postcard	100 x 148 mm (3.94 x 5.83 inches)	✓	✓
Double postcard	148 x 200 mm (5.83 x 7.87 inches)	✓	✓

Supported paper types and tray capacity

Table 3-3 Tray 1

Media type	Weight	Capacity[1]	Paper orientation
Every day: • Plain • Light • Bond • Recycled	60 to 90 g/m^2 (16 to 24 lb)	Up to 50 sheets	Side to be printed, place face-up, with the top edge at the back of the tray
Presentation: • Matte paper, midweight to heavy • Glossy paper, midweight to heavy	Up to 176 g/m^2 (47 lb)[2]	Up to 5 mm (0.2 inch) stack height	Side to be printed, place face-up, with the top edge at the back of the tray
Brochure: • Matte paper, midweight to heavy • Glossy paper, midweight to heavy	Up to 176 g/m^2 (47 lb)[2]	Up to 5 mm (0.2 inch) stack height	Side to be printed, place face-up, with the top edge at the back of the tray
Photo and cover: • Matte cover paper • Glossy cover paper • Matte photo paper • Glossy photo paper • Card stock	Up to 176 g/m^2 (47 lb)[2]	Up to 5 mm (0.2 inch) stack height	Side to be printed, place face-up, with the top edge at the back of the tray
Other: • Color laser transparency • Labels • Letterhead envelope • Heavy envelope • Preprinted • Prepunched • Colored • Rough • Tough		Up to 50 sheets or 10 envelopes	Side to be printed, place face-up, with the top edge at the back of the tray or the stamp-end at the back of the tray

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

[2] The device supports up to 220 g/m^2 (59 lb) for glossy and glossy photo paper.

Table 3-4 Tray 2 and Tray 3

Media type	Weight	Capacity[1]	Paper orientation
Every day: • Plain • Light • Bond • Recycled	60 to 90 g/m^2 (16 to 24 lb)	Up to 250 sheets	Side to be printed, place face-up, with the top edge at the back of the tray
Presentation: • Matte paper, midweight to heavy • Glossy paper, midweight to heavy	Up to 176 g/m^2 (47 lb)[2]	Up to 12.5 mm (0.5 inch) stack height	Side to be printed, place face-up, with the top edge at the back of the tray
Brochure: • Matte paper, midweight to heavy • Glossy paper, midweight to heavy	Up to 176 g/m^2 (47 lb)[2]	Up to 12.5 mm (0.5 inch) stack height	Side to be printed, place face-up, with the top edge at the back of the tray
Photo and cover: • Matte cover paper • Glossy cover paper • Matte photo paper • Glossy photo paper • Card stock	Up to 176 g/m^2 (47 lb)[2]	Up to 12.5 mm (0.5 inch) stack height	Side to be printed, place face-up, with the top edge at the back of the tray
Other: • Color laser transparency • Labels • Letterhead envelope • Heavy envelope • Preprinted • Prepunched • Colored • Rough • Tough		Up to 50 sheets or 10 envelopes	Side to be printed, place face-up, with the top edge at the back of the tray or the stamp-end at the back of the tray

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

[2] The device supports up to 220 g/m^2 (59 lb) for glossy and glossy photo paper.

Special paper or print media guidelines

This product supports printing on special media. Use the following guidelines to obtain satisfactory results. When using special paper or print media, be sure to set the type and size in your print driver to obtain the best print results.

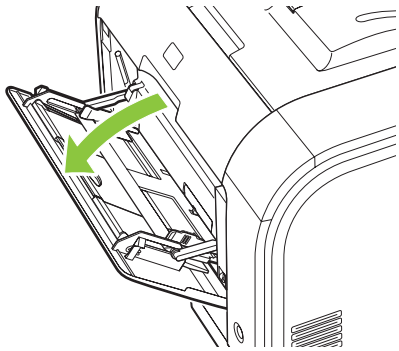
△ **CAUTION:** HP LaserJet printers use fusers to bond dry toner particles to the paper in very precise dots. HP laser paper is designed to withstand this extreme heat. Using inkjet paper not designed for this technology could damage your printer.

Media type	Do	Do not
Envelopes	• Store envelopes flat. • Use envelopes where the seam extends all the way to the corner of the envelope. • Use peel-off adhesive strips that are approved for use in laser printers.	• Do not use envelopes that are wrinkled, nicked, stuck together, or otherwise damaged. • Do not use envelopes that have clasps, snaps, windows, or coated linings. • Do not use self-stick adhesives or other synthetic materials.
Labels	• Use only labels that have no exposed backing between them. • Use Labels that lie flat. • Use only full sheets of labels.	• Do not use labels that have wrinkles or bubbles, or are damaged. • Do not print partial sheets of labels.
Transparencies	• Use only transparencies that are approved for use in laser printers. • Place transparencies on a flat surface after removing them from the product.	• Do not use transparent print media not approved for laser printers.
Letterhead or preprinted forms	• Use only letterhead or forms approved for use in laser printers.	• Do not use raised or metallic letterhead.
Heavy paper	• Use only heavy paper that is approved for use in laser printers and meets the weight specifications for this product.	• Do not use paper that is heavier than the recommended media specification for this product unless it is HP paper that has been approved for use in this product.
Glossy or coated paper	• Use only glossy or coated paper that is approved for use in laser printers.	• Do not use glossy or coated paper designed for use in inkjet products.

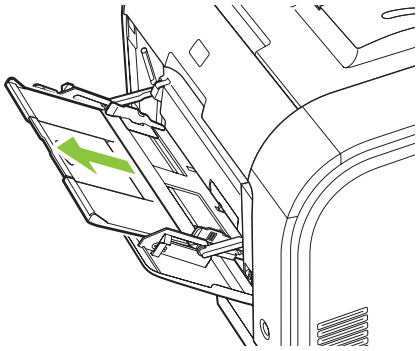
Load paper and print media

Load Tray 1

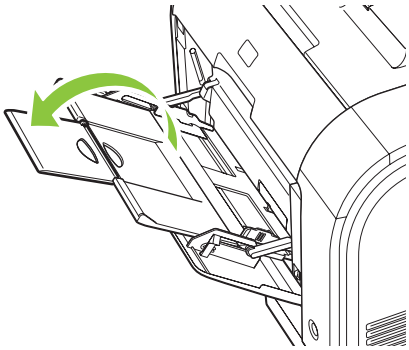
1. Open Tray 1.



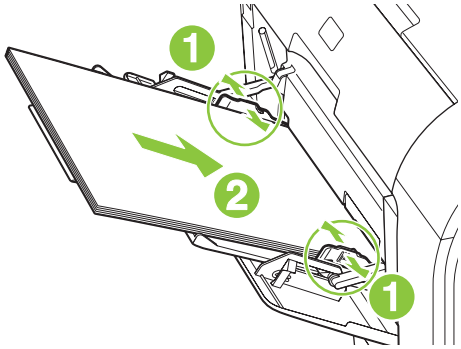
2. If loading long sheets of media, pull out the extension tray.



3. If necessary, flip out the extension.



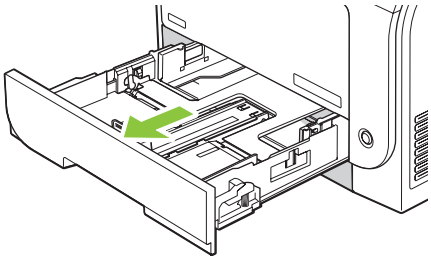
4. Extend the paper guides fully (callout 1) and then load the media stack into Tray 1 (callout 2). Adjust the paper guides to the size of the paper.



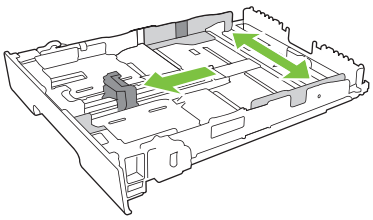
NOTE: Place the media into Tray 1 with the side to be printed on face-up and the top toward the product.

Load Tray 2 or 3

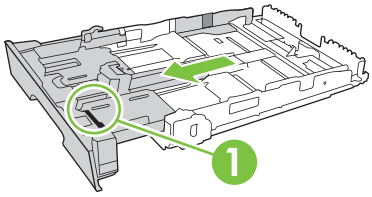
1. Pull the tray out of the product.



2. Slide open the paper length and width guides.

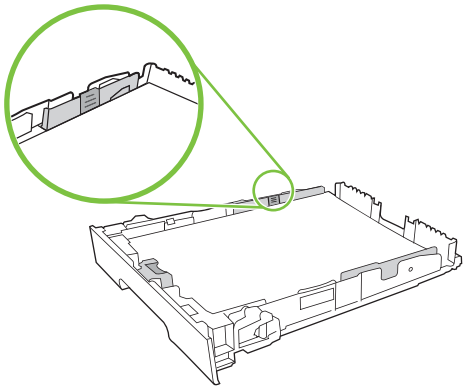


- To load Legal-size paper, extend the tray by pressing and holding the extension tab (callout1) while pulling the front of the tray toward you.

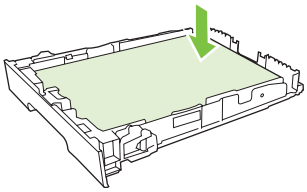


NOTE: When it is loaded with Legal-size paper, the tray extends from the front of the product about 64 mm (2.5 inches).

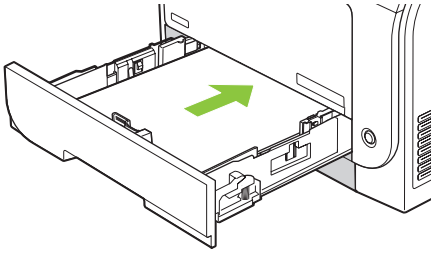
3. Place the paper in the tray and ensure that it is flat at all four corners. Slide the paper length and width guides so that they are against the stack of paper.



4. Push down on the paper to ensure that the paper stack is below the paper limit tabs on the side of the tray.



5. Slide the tray into the product.



4 Manage and maintain

- Information pages
- HP ToolboxFX
- Embedded Web server
- HP Web Jetadmin
- Manage supplies
- Replace print cartridges
- Memory and font DIMMs
- Clean the product
- Firmware updates

Information pages

Use the control panel to print information pages that give details about the product and its current settings.

1. Press OK to open the menus.
2. Press the Left arrow (◄) or Right arrow (►) button to navigate to **Reports**, and then press OK.
3. Press the Left arrow (◄) or Right arrow (►) button to navigate through the reports, and then press OK to print a report.
4. Press X to exit the menus.

The following information pages are available:

- Demo page
- Menu structure
- Configuration page
- Supplies status page
- Network configuration page
- Usage report
- PCL font list
- PS font list
- PCL6 font list
- Color usage report
- Service report
- Diagnostics report

HP ToolboxFX

Open HP ToolboxFX

Open HP ToolboxFX in one of these ways:

- In the Windows notification area, double-click the HP ToolboxFX icon ( ).
- On the Windows **Start** menu, click **Programs** (or **All Programs** in Windows XP and Vista), click **HP**, click **HP Color LaserJet CP2020 Series**, and then click **HP ToolboxFX**.

HP ToolboxFX contains the following folders:

- Status on page 33
- Alerts on page 34
- Product information on page 34
- Help on page 35
- Device Settings on page 36
- Network Settings on page 39

Status

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

- **Device status**. This page indicates product conditions such as a jam or an empty tray. After you correct a problem, click **Refresh status** to update the product status.
- **Supplies status**. View details such as the approximate 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 for ordering supplies and for finding recycling information.
- **Device configuration**. View a detailed description of the current product 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 other information pages, such as the Supplies status page. See Information pages on page 32.
- **Color usage job log**. View color usage information for recently printed documents.
- **Event log**. View a history of product events. The most recent event is listed first.

Event log

The Event log is a table that contains codes corresponding to error messages that have appeared on the product control-panel display, a brief description of each error, and the number of pages that printed when each error occurred. For more information about error messages, see Event log on page 202.

Alerts

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

- **Set up Status Alerts**. Set up the product to send you pop-up alerts for certain events, such as low levels of cartridge life.
- **Set up E-mail Alerts**. Set up the product to send you e-mail alerts for certain events, such as low levels of cartridge life.

Set up Status Alerts

Use this to set up the product so that it sends alerts to your computer when the following occur: jams, low levels of toner in HP print cartridges, a non-HP print cartridge in use, empty input trays, and specific error messages.

Select to receive a pop-up, a Windows notification area icon, a desktop alert, or any combination of these. The pop-up and desktop alerts appear only when the product 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 this 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 product.

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 user name and password, you cannot enable e-mail alerts.

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

Product information

The **Product information** folder contains links to the following page:

- **Demonstration Pages**. Print pages that show the color print quality potential and overall print characteristics of the product.

Set password

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

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

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

   NOTE: If a password has already been set, you are prompted for it. 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.

Help

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

- **Troubleshooting**. View troubleshooting help topics, print troubleshooting pages, clean the product, and open Microsoft Office Basic Colors.
- **Paper and Print Media**. Print information about how to obtain optimal results from your product using various types of paper and print media.
- **Color Printing Tools**. Open Microsoft Office Basic Colors or the full palette of colors with associated RGB values. Use the HP Basic Color Match to adjust spot colors in your printed output.
- **Animated Demonstrations**. View animations that show how to perform common tasks on your device, such as how to get the best print quality, how to remove paper jams, and how to replace a print cartridge.
- **User Guide**. View information about the product usage, warranty, specifications, and support. The User Guide is available in both HTML and PDF format.

Device Settings

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

- **Device Information**. View information such as the product description and a contact person.
- **Paper Handling**. Configure trays or change the product paper-handling settings, such as default paper size and default paper type.
- **Printing**. Change the default product print settings, such as number of copies and paper orientation.
- **PCL5c**. Change the PCL settings.
- **PostScript**. Change the PS settings.
- **Print Quality**. Change the print-quality settings.
- **Print Density**. Change the print-density settings, such as contrast, highlights, midtones, and shadows.
- **Paper Types**. Change the mode settings for each media type, such as letterhead, prepunched, or glossy paper.
- **System Setup**. Change the 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.
- **Save/Restore Settings**. Save the current settings for the product to a file on your computer. Use this file to load the same settings onto another product or to restore these settings to this product at a later time.
- **Password**. Set a password to protect the device settings. After a password is set, users are prompted to type 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 product for future reference. The information that you type in the fields on this page 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.

Paper Handling

Use these options to configure your default settings. These are the same options that are available on the control-panel menus on the control panel. For more information, see Control-panel menus on page 15.

The following 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 product 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 these 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 Control-panel menus on page 15.

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

PCL5c

Use these 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 this 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.

Print Quality

Use these options to improve the appearance of your print jobs. These are the same options that are available on the control panel menus. For more information, see Control-panel menus on page 15.

Color Calibration

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

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

Print Density

Use these 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 these options to configure print modes that correspond to the various media types. To reset all modes to factory default settings, select **Restore modes**.

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

System Setup

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

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

Save/Restore Settings

Save the current settings for the product to a file on your computer. Use this file to load the same settings onto another product or to restore these settings to this product at a later time.

Password

Set a password to protect the device settings. After a password is set, users are prompted to type the password before they can access any of the HP ToolboxFX pages that read or write data from the device. This password is the same as the embedded Web server password.

Service

During the printing process, paper, toner, and dust particles can accumulate inside the product. Over time, this buildup can cause print-quality problems such as toner specks or smearing. HP ToolboxFX provides an effective method for cleaning the paper path.

Network Settings

The system administrator can use this tab to control the network-related settings for the product when it is connected to an IP-based network.

Shop for Supplies

This button, at the top of each page, links to a Web site where you can order replacement supplies. You must have Internet access to use this feature.

Other Links

This section contains links that connect you to the Internet. You must have Internet access to use any of these links. If you use a dial-up connection and did not connect when you first opened HP ToolboxFX, you must connect before you can visit these Web sites. Connecting might require that you close HP ToolboxFX and reopen it.

- **HP Instant Support**. Connects to the HP Instant Support Web site.
- **Support and Troubleshooting**. Connects to the support site for the product where you can search for help with a specific problem.
- **Product Registration**. Connects to the HP product registration Web site.

Embedded Web server

When the product is connected to the network, the embedded Web server is automatically available. The embedded Web server can be accessed through a standard Web browser.

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

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

- View product control status information.
- Set the type of paper loaded in each tray.
- Determine the remaining life of all supplies and order new ones.
- View and change tray configurations.
- View and change the product settings.
- View and change network configuration.
- View support content that is specific to the current state of the product.
- 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, or Opera 7 or later. The embedded Web server works when the product 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.

View the HP embedded Web server

1. In a supported Web browser on your computer, type the IP address for the product in the address/URL field. To find the IP address, print a configuration page (see Information pages on page 32).

   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 product: 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.

Embedded Web server sections

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

Tab or section	Description
Status tab Provides product, status, and configuration information.	• **Device Status**: Shows the product status and shows the life remaining of HP supplies, with 0% indicating that a supply is empty. • **Supplies Status**: Shows the approximate 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 product Configuration page. • **Network Summary**: Shows the information found on the product Network Configuration page. • **Print Info Pages**: Allows you to print the PCL, PCL6, PS Font Lists, and the supplies status page that the product generates. • **Color Usage Job Log**: Shows user color print jobs on a job-by-job basis. • **Event Log**: Shows a list of all product events and errors. • **Support** button: Provides a link to the product support page. The **Support** button can be password-protected; see Set password on page 34 • **Shop for Supplies** button: Provides a link to a page where you can order supplies for the product. The **Shop for Supplies** button can be password-protected; see Set password on page 34
Settings tab Provides the ability to configure the product from your computer.	• **Device Information**: Allows you to name the product and assign an asset number to it. Also type the name for the primary contact who will receive information about the product. • **Paper Handling**: Allows you to change the paper-handling defaults for the product. • **Printing**: Allows you to change the printing defaults for the product. • **PCL 5c**: Allows you to change the PCL 5c defaults for the product. • **PostScript**: Allows you to change the PostScript defaults for the product. • **Print Quality**: Allows you to change the print quality defaults for the product, 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 product accepts. • **System Setup**: Allows you to change the system defaults for the product. • **Service**: Allows you to start the cleaning procedure on the product. • **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 product. The **Shop for Supplies** button can be password-protected.

Tab or section	Description
	NOTE: The **Settings** tab can be password-protected; see Set password on page 34. If this product 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.	System administrators can use this tab to control network-related settings for the product when it is connected to an IP-based network. **NOTE:** The **Networking** tab can be password-protected; see Set password on page 34.

HP Web Jetadmin

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

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

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

Manage supplies

Supplies life

The print cartridge use HP ColorSphere toner. For information about the number of pages the cartridges can print, see www.hp.com/go/pageyield. Actual yield depends on specific use.

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.

HP policy on non-HP print cartridges

Hewlett-Packard Company cannot recommend the use of non-HP print cartridges, either new or remanufactured.

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

To install a new HP print cartridge, see Replace print cartridges on page 46. To recycle the used cartridge, follow the instructions included with the new cartridge.

HP fraud hotline and Web site

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

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

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

Print when cartridge is out

An **Order Supplies** message appears when a print cartridge is nearing the end of its life. A **Replace Supplies** message appears when the print cartridge is depleted. To ensure optimal print quality, HP recommends replacing a print cartridge when the **Replace Supplies** message displays. Print-quality problems can occur when using a cartridge that is depleted, resulting in waste of print media and toner from other cartridges. Replacing a print cartridge when the **Replace Supplies** message displays can prevent this waste.

The **Auto continue** feature in HP ToolboxFX allows the product to continue using a print cartridge that has reached the recommended replacement point.

⚠ **WARNING!** Using the **Auto continue** feature can result in unsatisfactory print quality.

WARNING! All print defects or supply failures incurred when an HP supply is used in cartridge-out-override mode will not be considered to be defects in materials or workmanship in the supply under the HP Print Cartridge Warranty Statement. For warranty information, see Print cartridge limited warranty statement on page 268.

You can enable or disable the **Auto continue** feature at any time, and you do not have to re-enable it when you install a new print cartridge. When the **Auto continue** feature is turned on, the product automatically continues printing when a print cartridge reaches the recommended replacement level. A **Replace Supplies Override In Use** message displays while a print cartridge is being used in override mode. When you replace the print cartridge with a new supply, the product deactivates the override mode until another print cartridge reaches the recommended replacement level.

Enable or disable the Cartridge-out-override feature

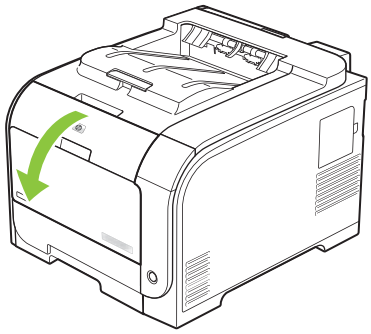
1. Open HP ToolboxFX.
2. Click the **Device Settings** folder, and then click **System Setup**.
3. Next to **Auto continue**, select **On** to activate the feature. Select **Off** to make it unavailable.

Enable or disable the Cartridge-out-override feature from the control panel

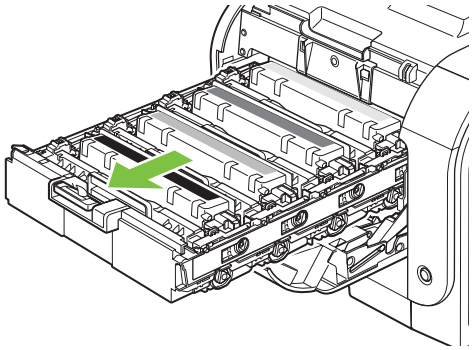
1. On the control-panel menu, press OK.
2. Use the Left arrow (◄) or the Right arrow (►) button to select **System setup**, and then press OK.
3. Use the Left arrow (◄) or the Right arrow (►) button to select **Print quality**, and then press OK.
4. Use the Left arrow (◄) or the Right arrow (►) button to select **Replace Supplies**, and then press OK.
5. To activate the feature, select **Override out**. Select **Stop at out** to make it unavailable.

Replace print cartridges

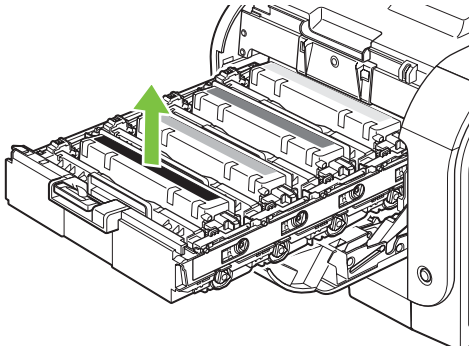
1. Open the front door.



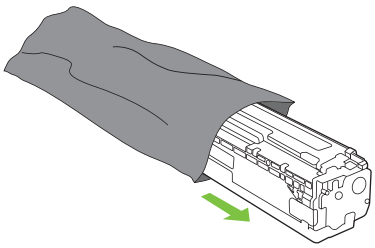
2. Pull out the print-cartridge drawer.



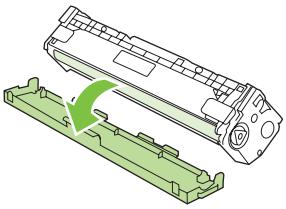
3. Grasp the handle on the old print cartridge and then pull the cartridge straight up to remove it.



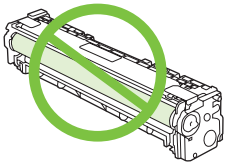
4. Remove the new print cartridge from the packaging.



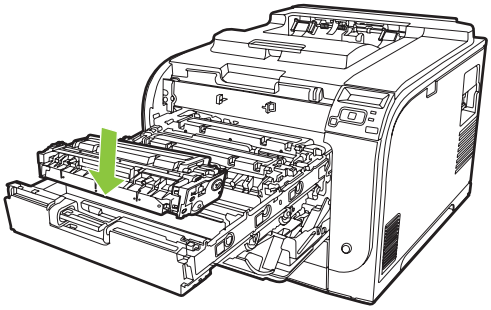
5. Remove the orange, plastic shield from the bottom of the new print cartridge.



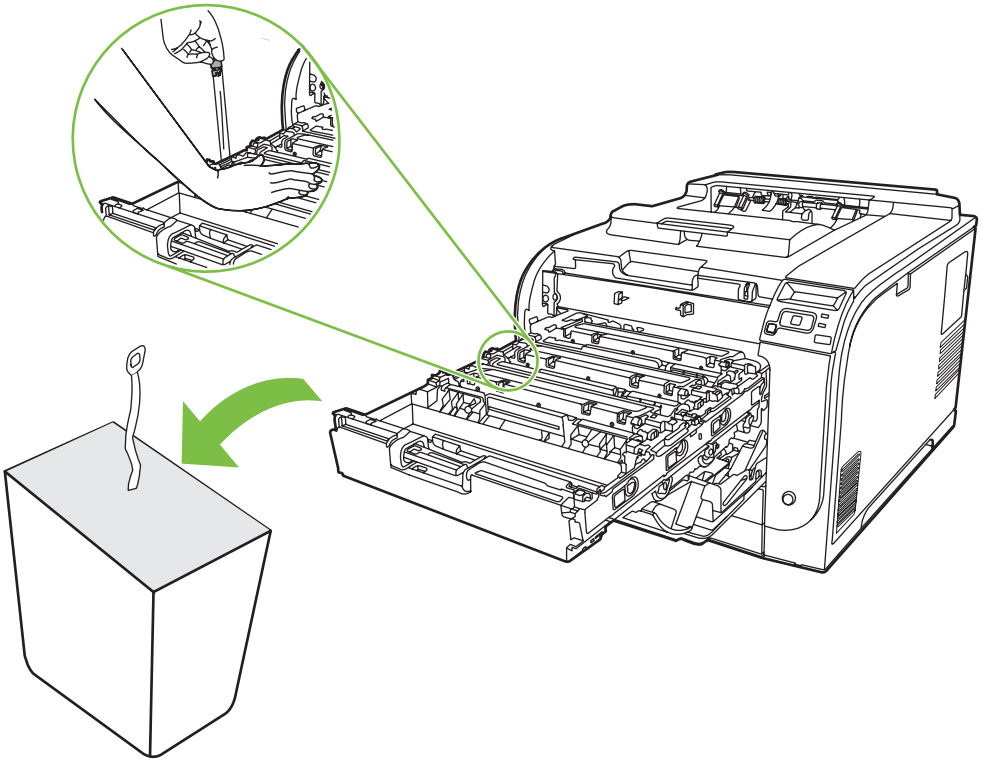
△ **CAUTION:** Do not touch the imaging drum on the bottom of the print cartridge. Fingerprints on the imaging drum can cause print-quality problems.



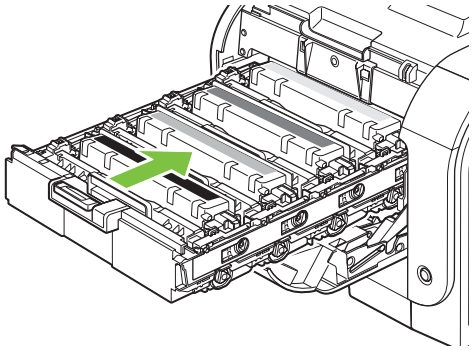
6. Insert the new print cartridge into the product.



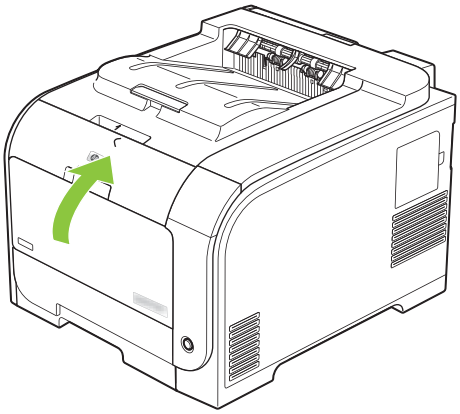
7. Pull the tab on the left side of the print cartridge straight up to completely remove the sealing tape. Discard the sealing tape.



8. Close the print-cartridge drawer.



9. Close the front door.



10. Place the old print cartridge in the box for the new print cartridge. Follow the recycling instructions that are included in the box.

Memory and font DIMMs

Product memory

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

- More product memory (DIMMs are available in 64, 128, and 256 MB)
- Other DIMM-based printer languages and product options
- Support-language character sets (for example, Chinese characters or Cyrillic alphabet characters).

NOTE: To order DIMMs, see Order parts, accessories, and supplies on page 230.

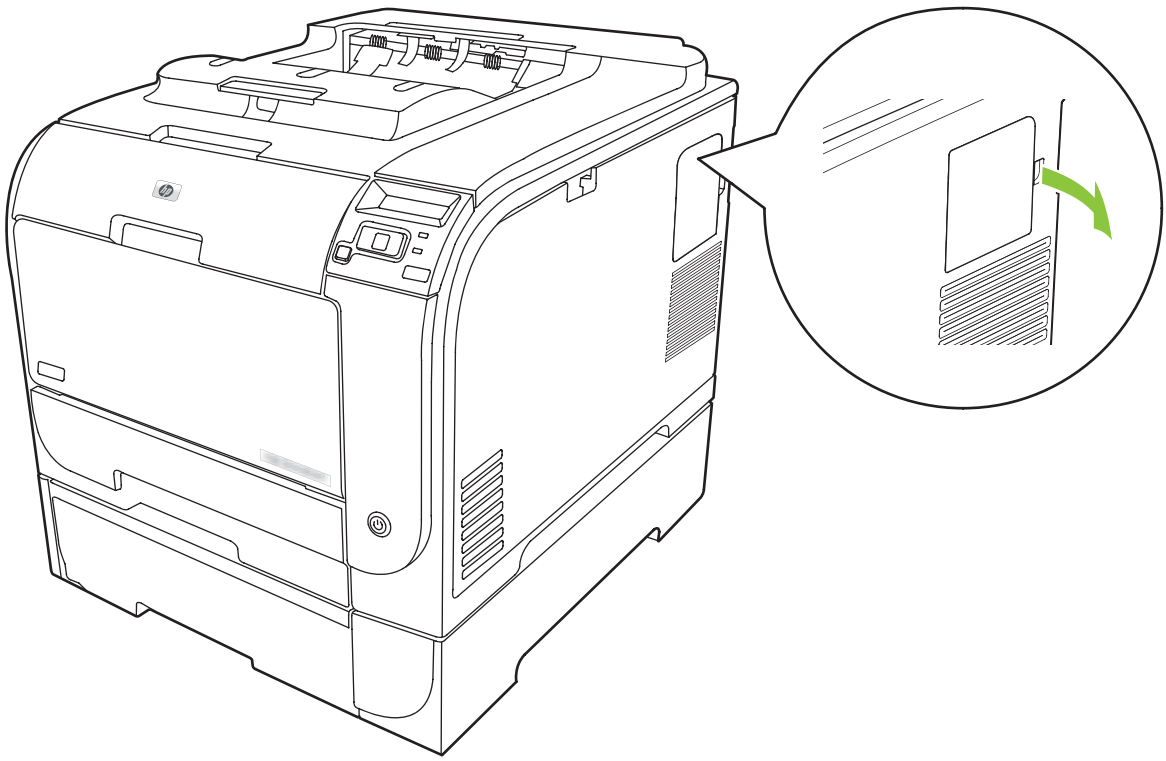
You might want to increase product memory if you often print complex graphics, HP Postscript Universal Emulation Printer Driver documents, or if you use many downloaded fonts. More memory also enables multiple collated copies to print at the maximum speed.

Before ordering more memory, see how much memory is installed by printing a Configuration page. See Information pages on page 32.

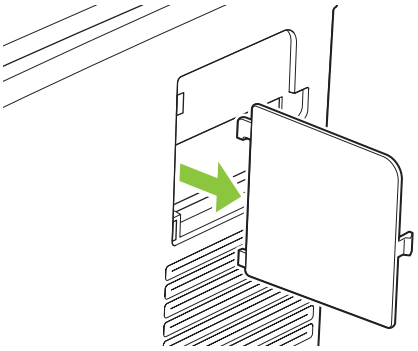
CAUTION: Static electricity can damage electronic parts. When installing DIMMs, either wear an antistatic wrist strap, or frequently touch the surface of the DIMM antistatic package and then touch bare metal.

Install memory and font DIMMs

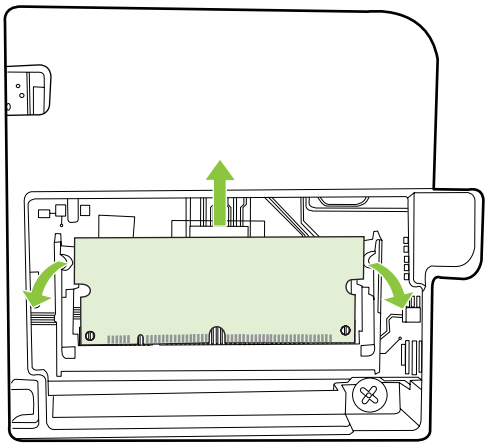
1. Turn the product off, and then disconnect all power and interface cables.
2. On the right side of the product, open the DIMM access door.



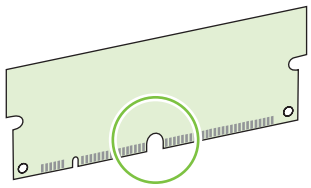
3. Remove the DIMM access door.



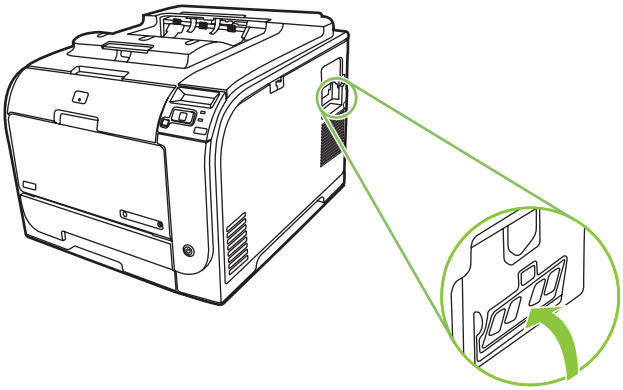
4. To replace an installed DIMM, spread the latches apart on each side of the DIMM slot, lift the DIMM up at an angle, and then pull it out.



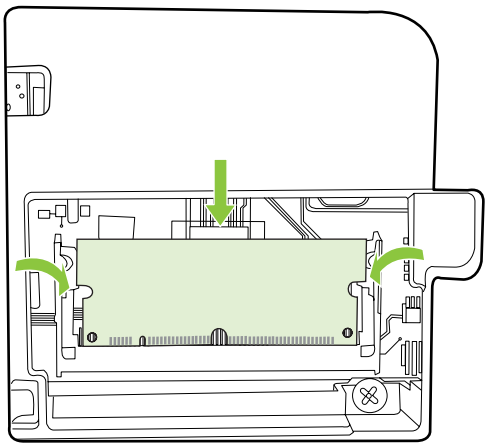
5. Remove the new DIMM from the antistatic package, and then find the alignment notch on the bottom edge of the DIMM.



6. Holding the DIMM by the edges, align the notch on the DIMM with the bar in the DIMM slot at an angle.

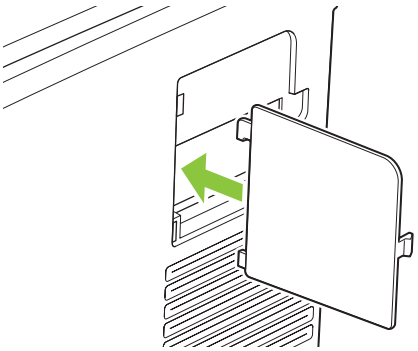


7. Push down on the DIMM until both latches engage the DIMM. When the installation is correct, the metal contacts are not visible.

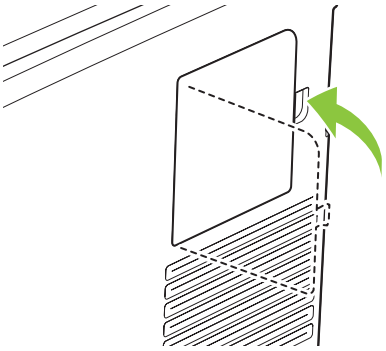


NOTE: If you have difficulty inserting the DIMM, check that the notch on the bottom of the DIMM is aligned with the bar in the slot. If the DIMM still does not go in, ensure that you are using the correct DIMM type.

8. Reinsert the DIMM access door.



9. Close the DIMM access door.



10. Reconnect the power cable and USB or network cable, and then turn on the product.
11. After installing a memory DIMM, see Enable memory on page 54.

Enable memory

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

Enable memory for Windows

1. On the **Start** menu, point to **Settings**, and click **Printers** or **Printers and Faxes**.
2. Select this product 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**.

Check DIMM installation

Turn the product on. Check that the product is in the **Ready** state after it has gone through the startup sequence. If an error message displays, do the following:

1. Print a Configuration page. See Information pages on page 32.
2. 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.
3. The DIMM might not be installed correctly. Repeat the installation procedure.

   -or-

   The DIMM might be defective. Try a new DIMM.

Clean the product

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

Clean the product using HP ToolboxFX

1. Open HP ToolboxFX. See Open HP ToolboxFX on page 33.
2. Click the **Device Settings** folder, and then click the **Service** page.
3. In the area for **Cleaning Mode**, click **Start** to begin the cleaning process.

   The product processes a single page, and then returns to the **Ready** state when the cleaning process is complete.

Clean the product using the control panel

1. Press OK to open the menus.
2. Press the Left arrow (◄) or Right arrow (►) button to highlight Service.
3. Press OK. An asterisk (*) displays next to the active selection.

4. Press the Left arrow (◄) or Right arrow (►) button to highlight Cleaning mode .
5. Press OK.

Clean the product using the embedded Web server

1. Open the embedded Web server.
2. Click the **Settings** tab.
3. Click the **Service** menu.
4. Click **Start**.

Firmware updates

To upgrade the product firmware, download the firmware-update file from www.hp.com/go/ljcp2020series_software, and save the file to your network or personal computer. See the product install notes for instructions on how to install the firmware-update file on the product.

5 Theory of operation

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

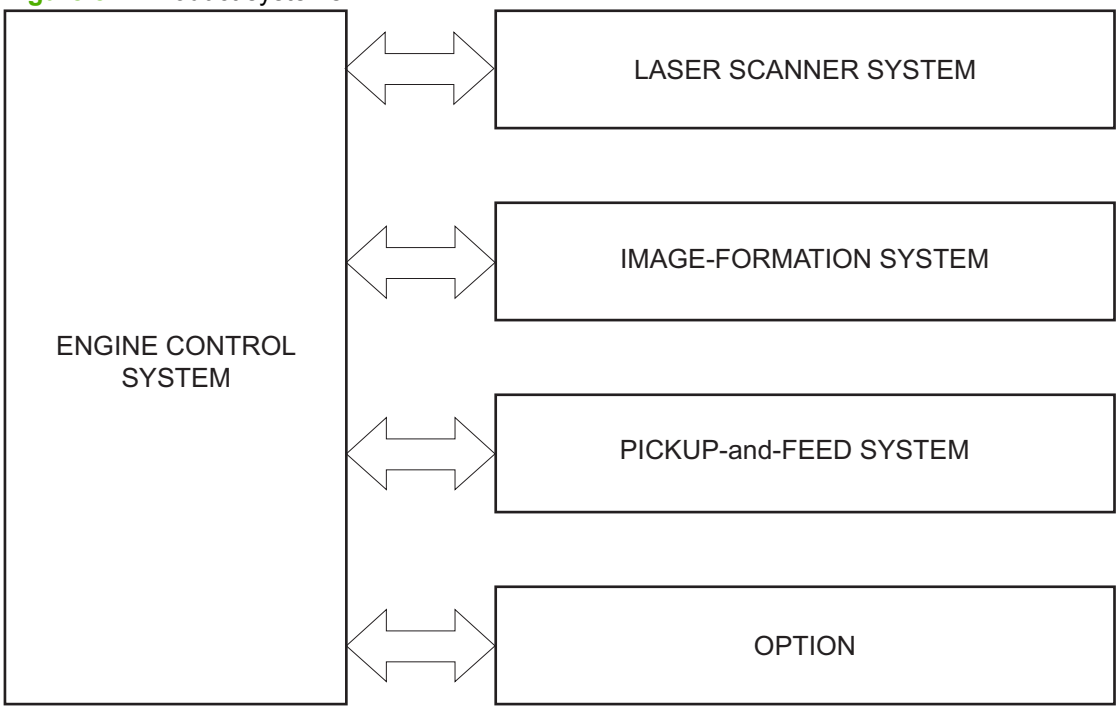
Basic operation

Major product systems

The product includes the following systems:

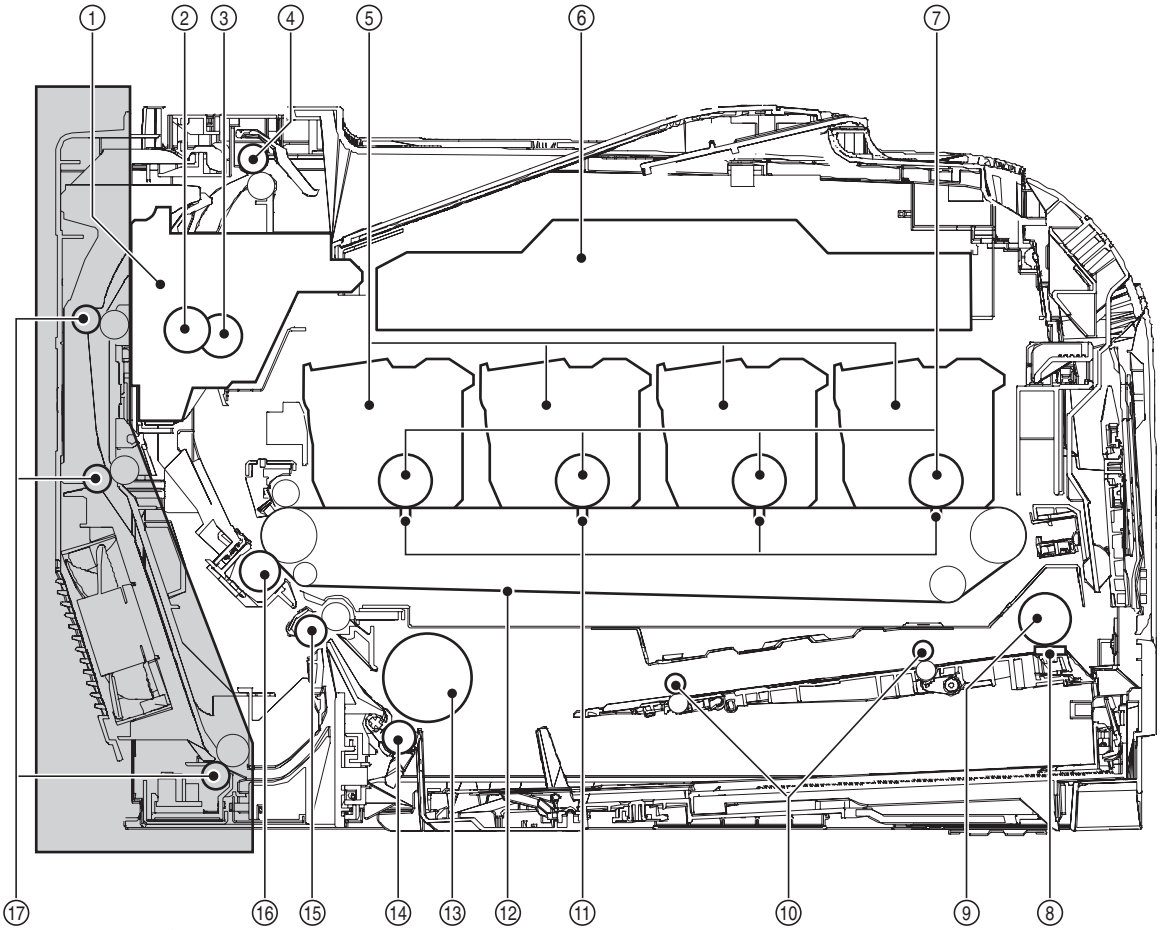
- Engine control system
- Laser/scanner system
- Image-formation system
- Pickup-and-feed system

Figure 5-1 Product systems



Product components

Figure 5-2 Product components



Item	Description	Item	Description
1	Fuser unit	10	MP-tray feed roller
2	Pressure roller	11	Prmary transfer pad
3	Fuser sleeve	12	Intermediate transfer belt (ITB)
4	Delivery roller	13	Cassette pickup roller
5	Cartridge	14	Cassette transfer roller
6	Laser/scanner	15	Registration roller
7	Photosensitive drum	16	Secondary transfer roller
8	MP-tray separation pad	17	Duplex feed roller (duplex models only)
9	MP-tray pickup roller		

Sequence of operation

Table 5-1 Sequence of operation

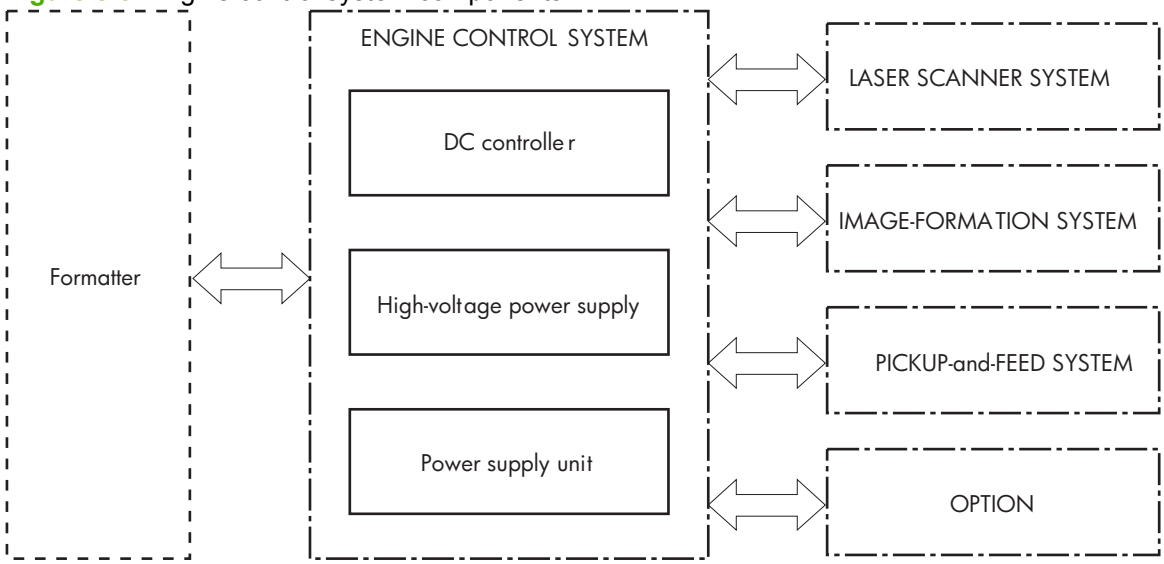
Period	Duration	Purpose	Remarks
WAIT	From the time the power is turned on, the door is closed, or the Sleep mode is released until the printer gets ready for a print job	Brings the printer to printing readiness	Detects the pressurization status of the pressure roller, presence of the cartridges, and home position of the development unit; cleans the ITB; and completes any required calibration (color registration control and image stability)
STBY (Standby period)	From the 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 image stability control when the formatter sends those commands
INTR (Initial rotation period)	From the time the print command is received from the formatter during STBY until the temperature of the fuser reaches the target temperature	Prepares the photosensitive drum for printing	Starts up each high-voltage bias, laser/scanner unit, and fuser unit
PRINT	From the end of INTR period until the last media completes the fusing operation	Forms the images on the photosensitive drum and transfers the toner image to the print media	Performs color misregistration control and image stabilization at a specified print interval
LSTR (Last rotation period)	From the end of the PRINT period until the delivery motor stops rotating	Moves the printed sheet out of the printer and stops operation of the laser/scanner unit and high-voltage biases	The printer enters the INTR period when the formatter sends another print command.

Engine control system

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

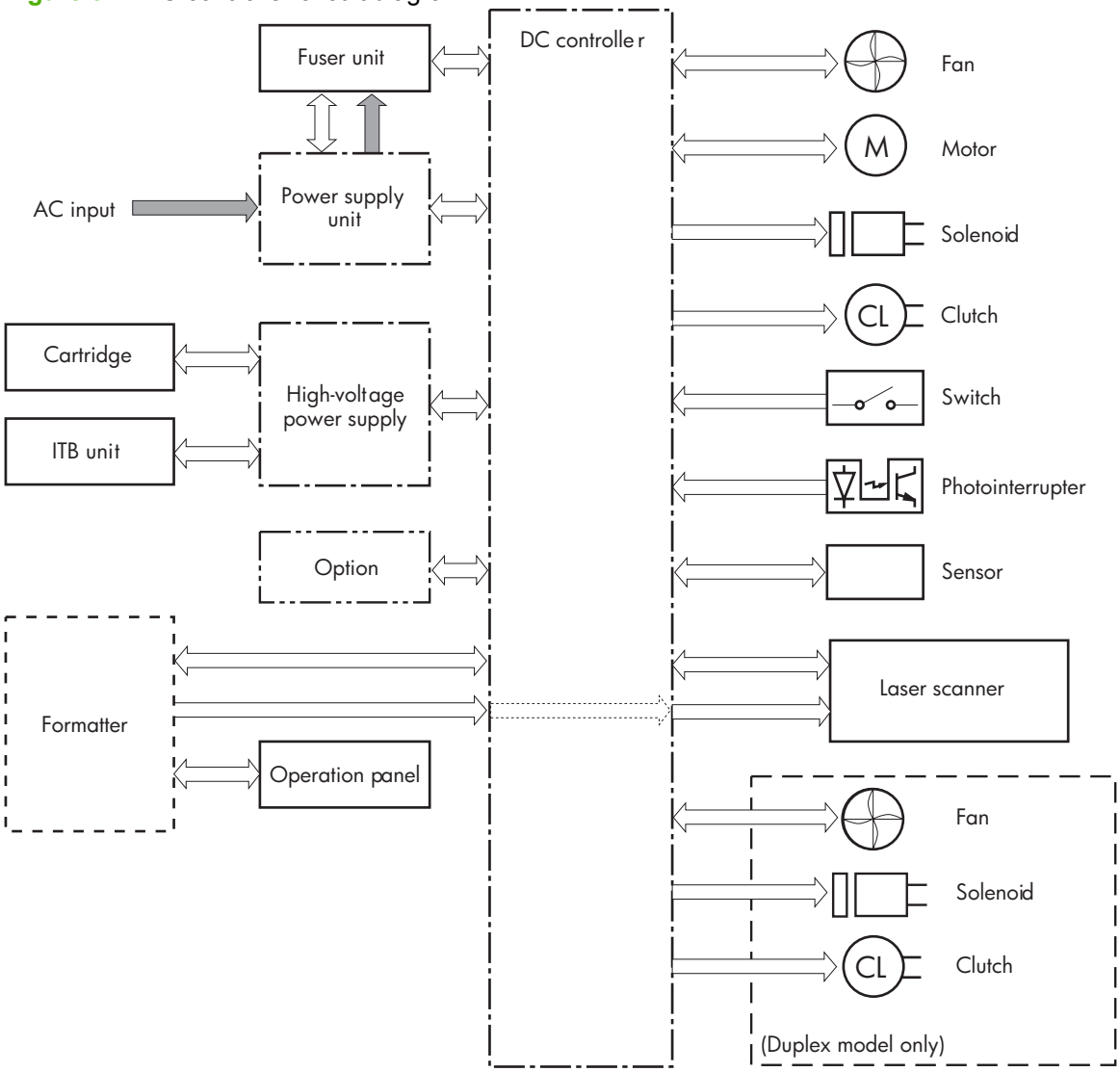
The engine control system contains the DC controller, high-voltage power-supply PCA, power-supply PCA, and fuser power supply PCA.

Figure 5-3 Engine control system components



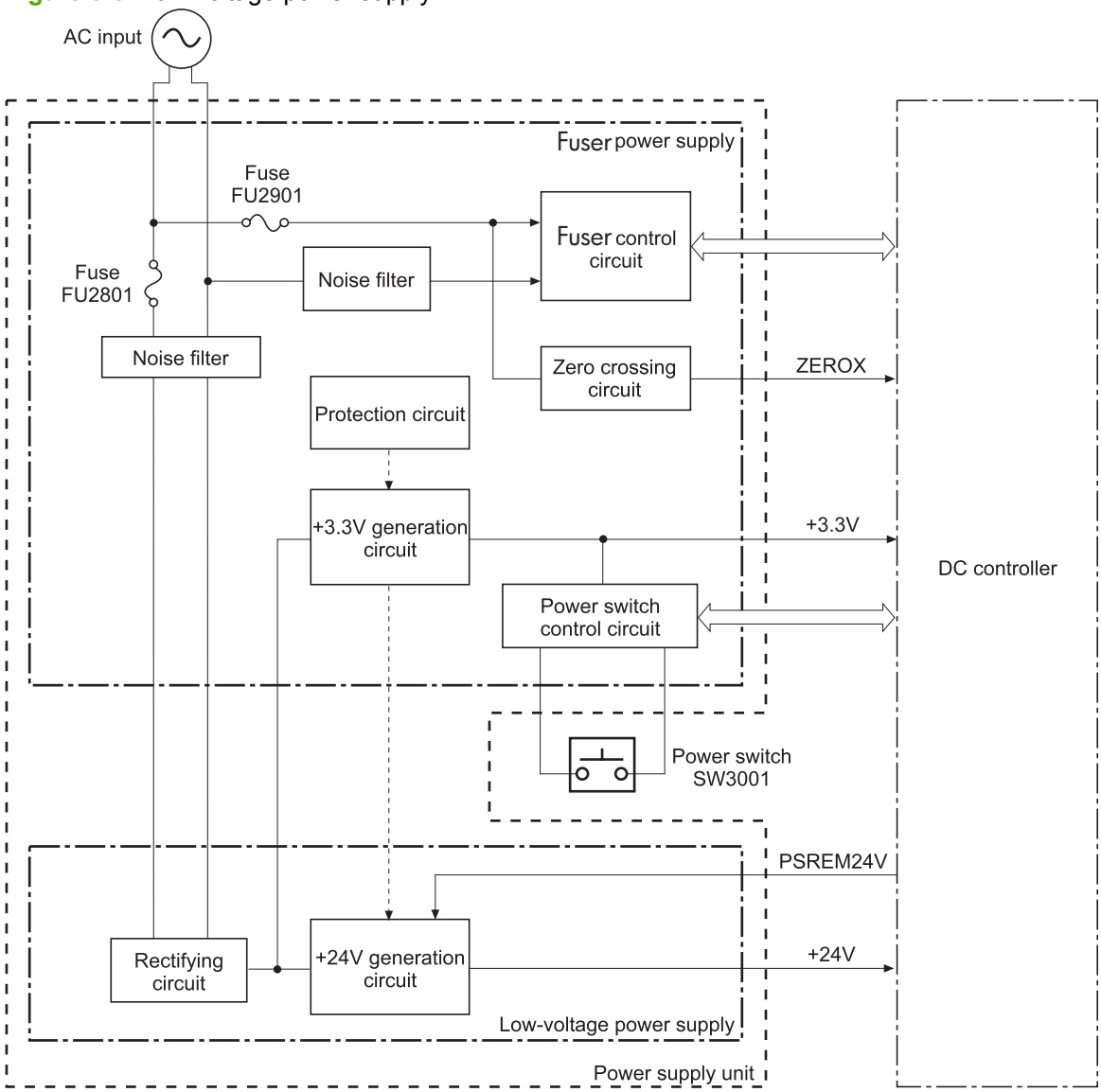
DC controller

Figure 5-4 DC controller circuit diagram



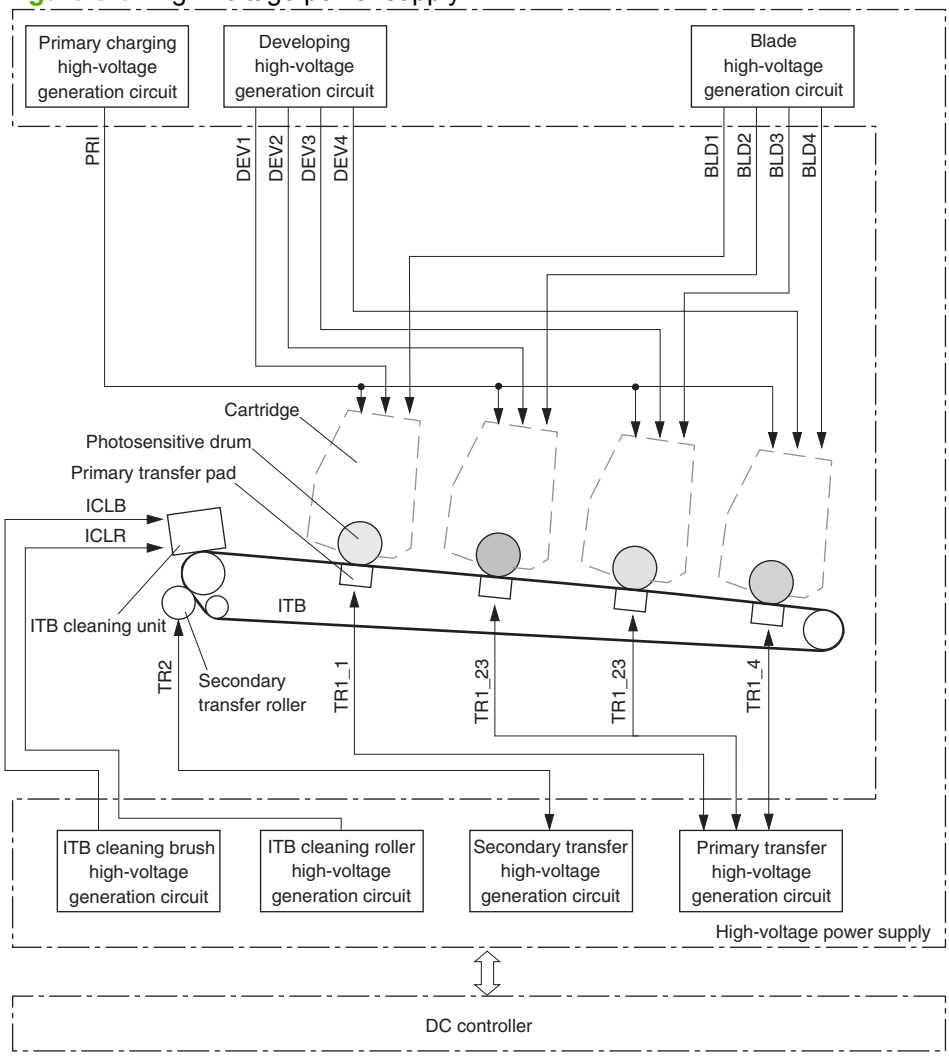
Low-voltage power supply

Figure 5-5 Low-voltage power supply



High-voltage power supply

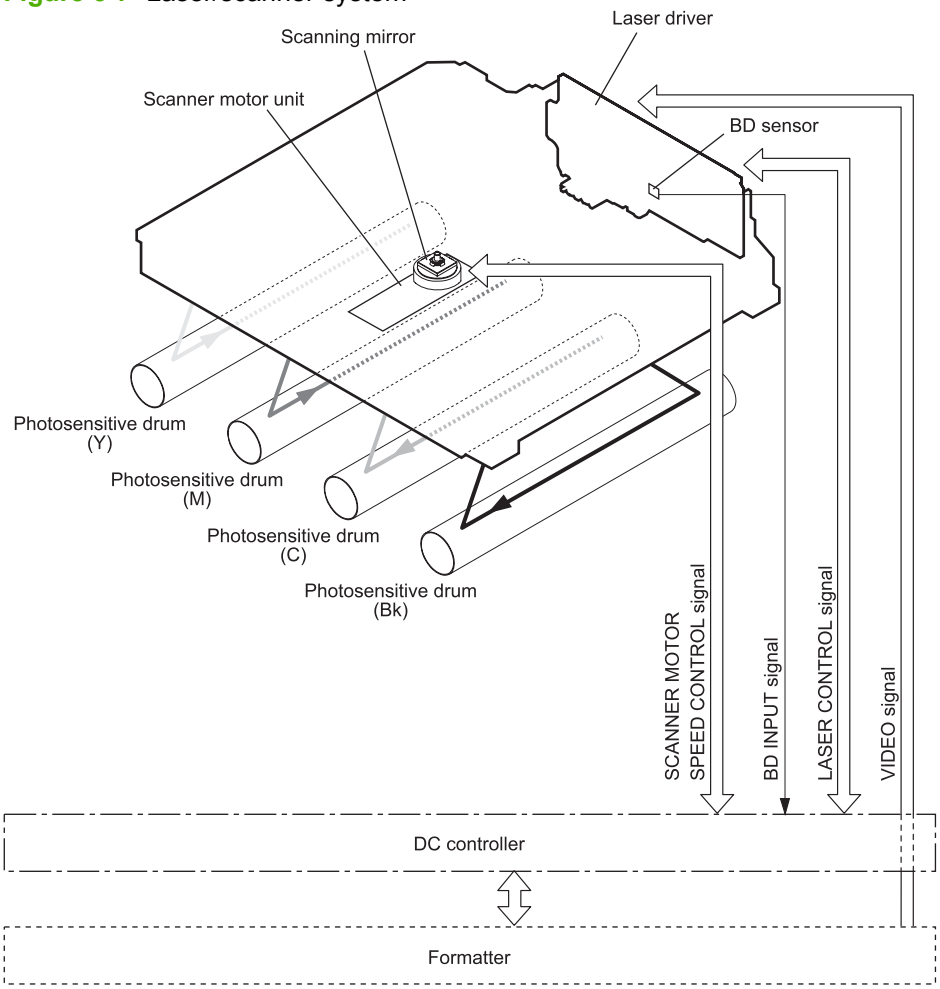
Figure 5-6 High-voltage power supply



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 5-7 Laser/scanner system



Laser failure detection

The optical-unit failure-detection sensor manages the laser/scanner unit failure-detection functions. The DC controller identifies the laser/scanner unit failure and notifies the formatter if the laser/scanner unit encounters the following conditions:

- Scanner motor failure
- BD failure

Image-formation system

The image-formation system forms a toner image on media. The product includes four print cartridges that contain the toner. Toner is applied in the following order, using only the colors necessary for a specific image: yellow (Y), magenta (M), cyan (C), and black (Bk).

Figure 5-8 Image-formation system

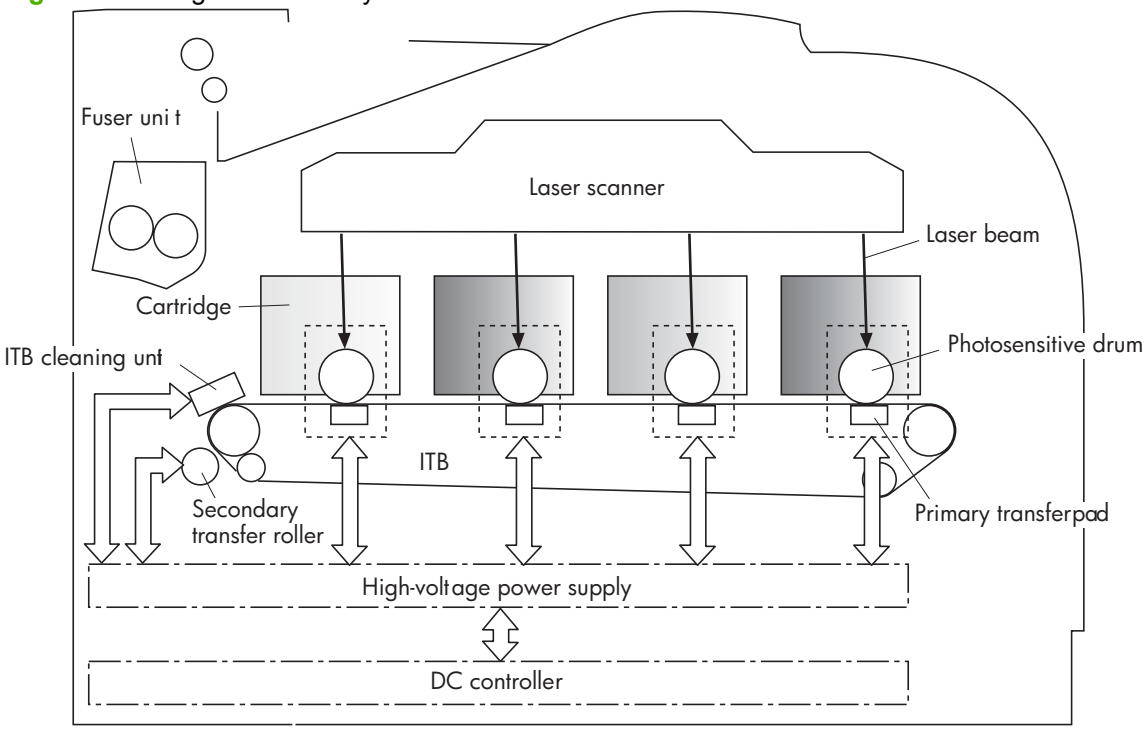


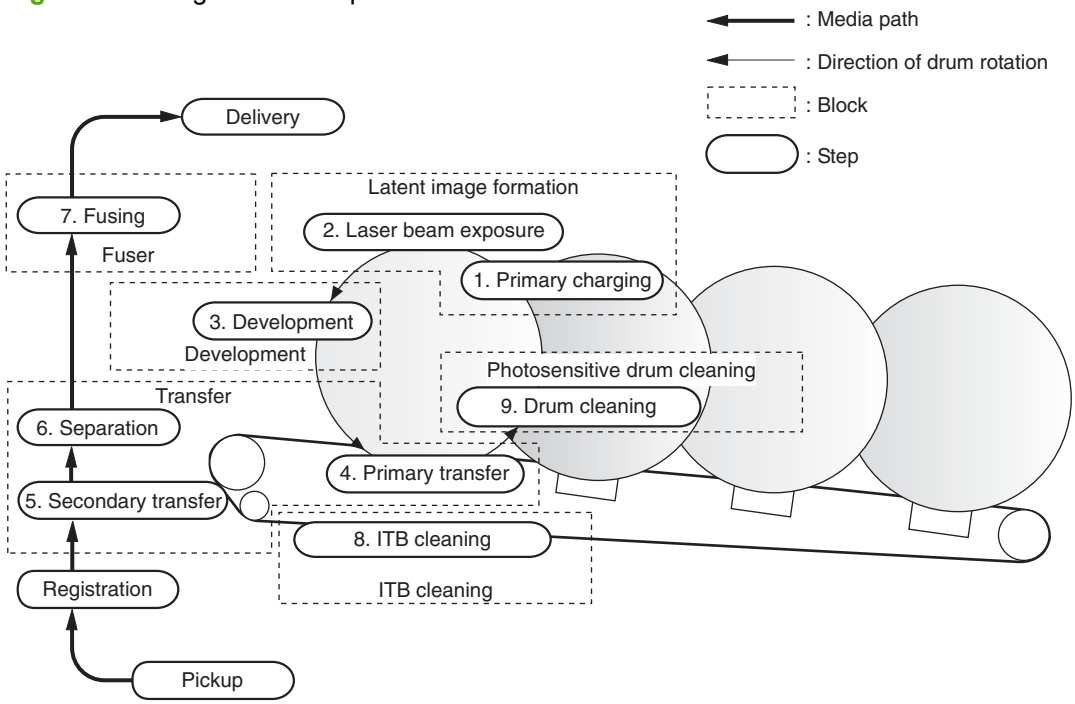
Image-formation process

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 processes:

- Latent-image formation
- Development
- Transfer
- Fuser
- ITB cleaning
- Drum cleaning

These processes are divided into nine steps, which are shown in Figure 5-9 Image-formation process on page 67 and described in the following sections.

Figure 5-9 Image-formation process



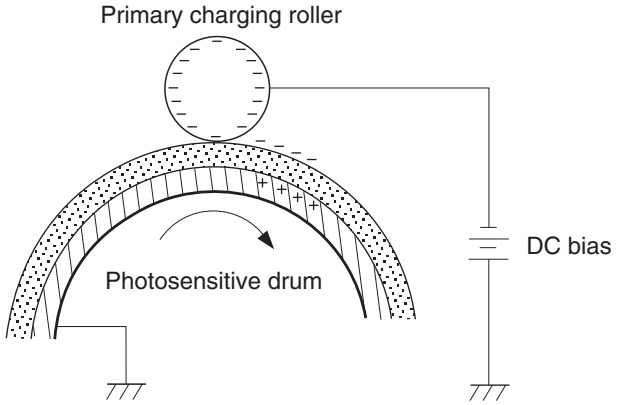
Latent-image formation stage

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: 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.

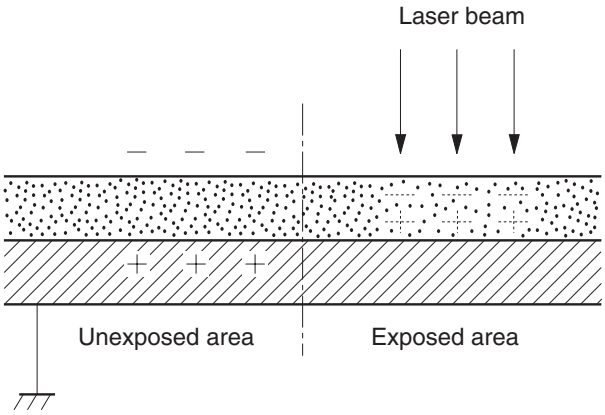
Figure 5-10 Primary charging



Step 2: 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 is neutralized.

Figure 5-11 Laser-beam exposure



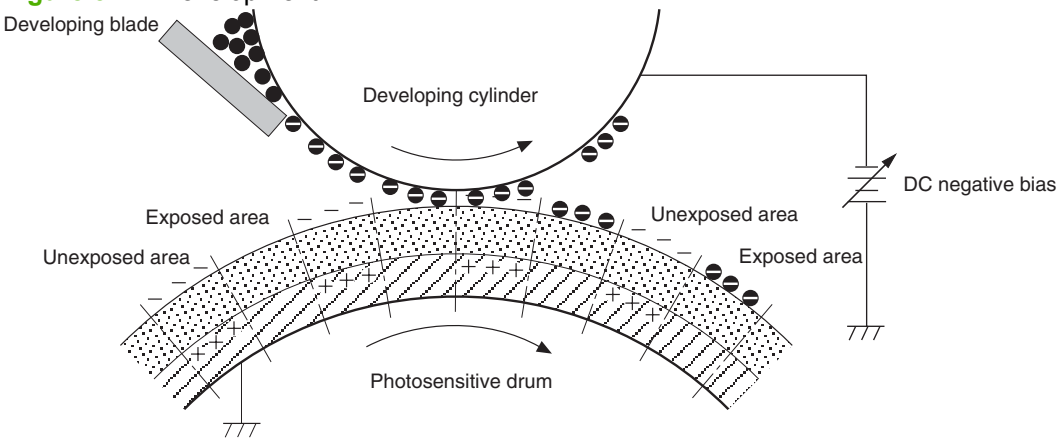
Developing stage

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

Step 3: development

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.

Figure 5-12 Development

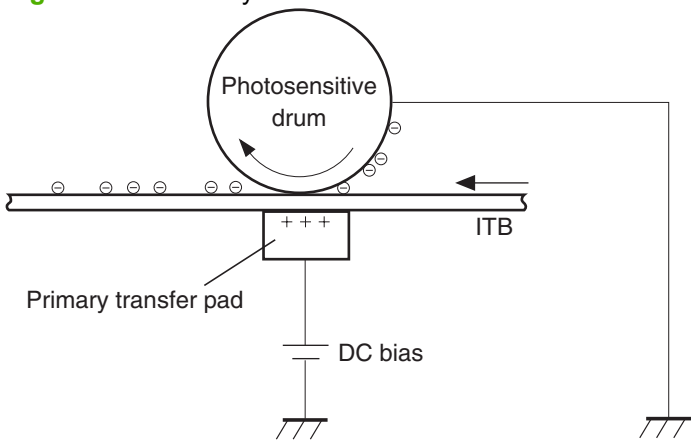


Transfer stage

Step 4: primary transfer

The toner image on the photosensitive drum is transferred to the ITB. The DC positive bias is applied to the primary transfer pad. The negatively charged toner transfers to the ITB from the drum surface.

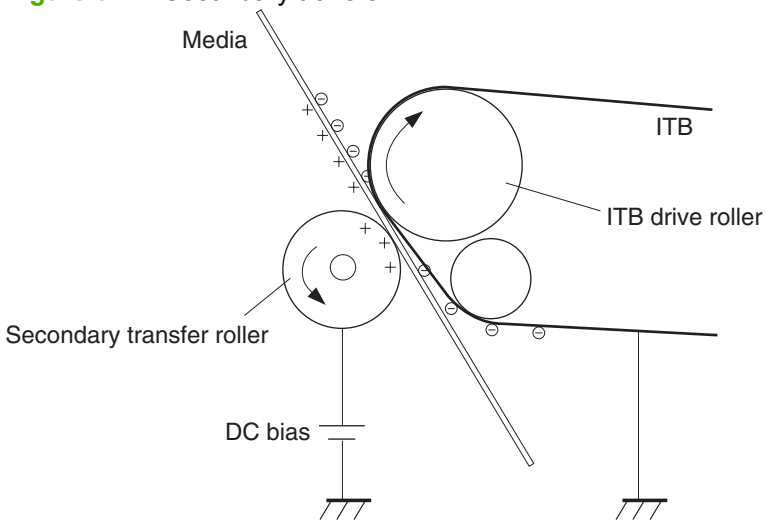
Figure 5-13 Primary transfer



Step 5: secondary transfer

The toner image on the ITB is transferred to the print media. The DC positive bias is applied to the secondary transfer roller. As the media passes between the secondary transfer roller and the ITB, the toner image is transferred to the media.

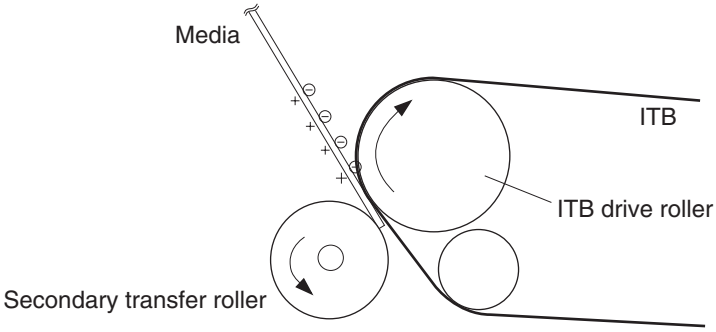
Figure 5-14 Secondary transfer



Step 6: separation from the drum

The elasticity of the print media and the curvature of the ITB drive roller cause the media to separate from the ITB.

Figure 5-15 Separation from the drum



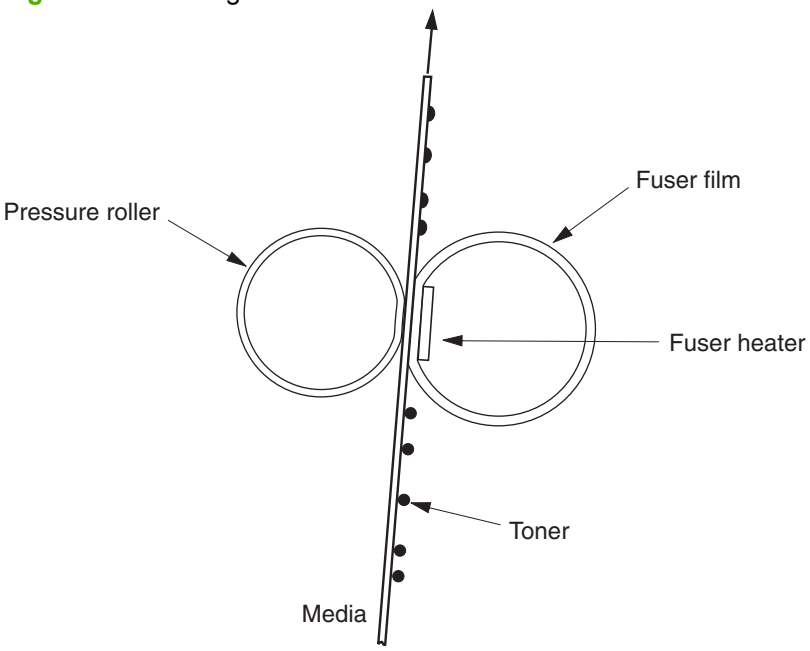
Fusing stage

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 7: fusing

The product uses an on-demand fixing method to fix the toner image onto the media. The toner image is permanently affixed to the print media by the heat and pressure.

Figure 5-16 Fusing

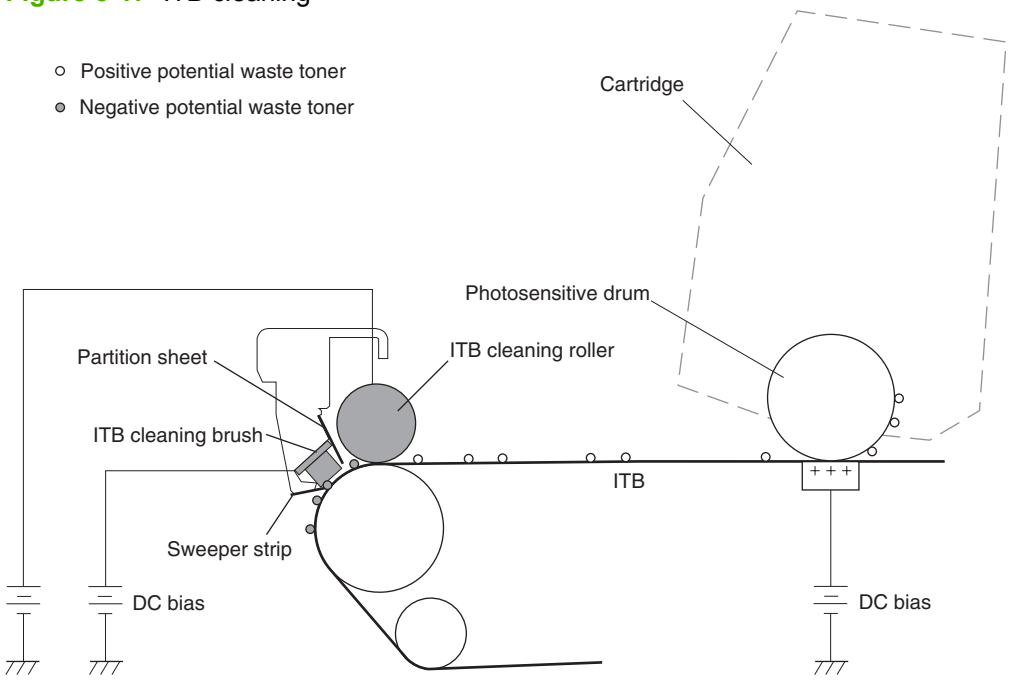


ITB cleaning stage

Step 8: ITB cleaning

The ITB cleaning roller and the cleaning brush are applied with the DC positive bias to charge the residual toner positive. Because the primary transfer pad is also applied with the DC positive bias, the positively-charged residual toner is reverse-transferred to the photosensitive drum from the ITB surface.

Figure 5-17 ITB cleaning



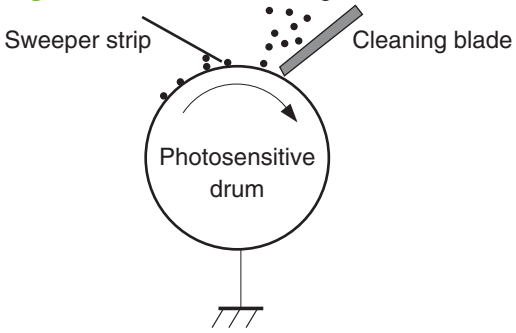
Drum cleaning stage

Most 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 9: 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.

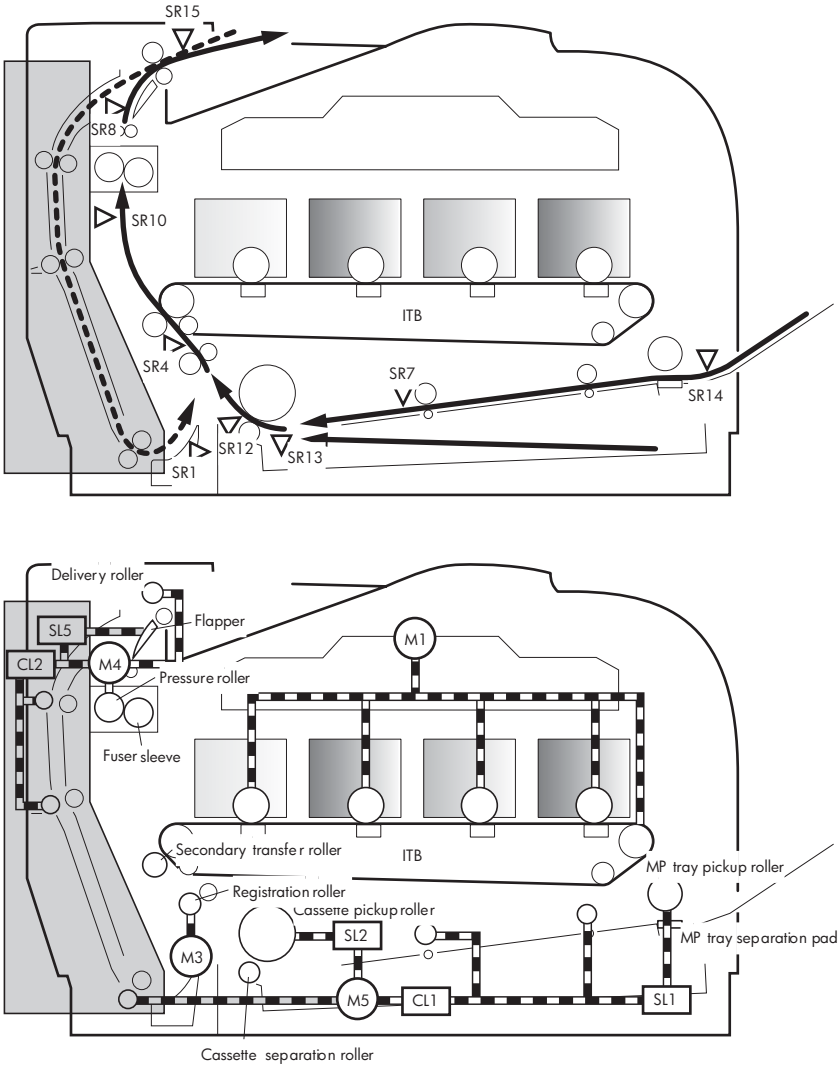
Figure 5-18 Drum cleaning



Pickup-and-feed system

The pickup-and-feed system picks up and feeds the print media. It consists of several types of rollers, sensors, motors, solenoids, and clutches.

Figure 5-19 Pickup-and-feed system



Item	Description	Item	Description
SR1	Paper feeder preregistration sensor	M1	Drum motor
SR4	Registration sensor	M3	Registration motor
SR7	MP tray preregistration sensor	M4	Fuser motor
SR8	Fuser delivery sensor	M5	Pickup motor
SR10	Loop sensor	SL1	MP tray pickup solenoid
SR12	Pre-registration sensor	SL2	Cassette pickup solenoid
SR13	Cassette media-present sensor	SL5	Duplex reverse solenoid (duplex models only)

Item	Description	Item	Description
SR14	MP tray media present sensor	CL1	MP tray feed clutch
SR15	Face-down bin media-full sensor (output bin)	CL2	Duplex feed clutch (duplex models only)

Jam detection

The product uses the following sensors to detect the presence of media and to check whether media is being fed correctly or has jammed:

- Cassette media-presence sensor
- Top-of-page sensor
- Loop sensor
- Priority slot media-presence sensor
- Priority slot top-of-page sensor
- Fuser delivery sensor

The product detects the following jams:

- Pickup delay jam
- Pickup stationary jam
- Delivery delay jam
- Delivery stationary jam
- Fixing wrapping jam
- Residual media jam

6 Removal and replacement

- Removal and replacement strategy
- Print cartridges
- Tray 2 cassette
- Rollers and pads
- Components and major assemblies

Removal and replacement strategy

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

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

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

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

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

General cautions during removal and replacement

⚠ **WARNING!** Turn the product off, wait 5 seconds, and then remove the power cord before attempting to service the product. If this warning is not followed, severe injury can result, as well as damage to the product. 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 product 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:** Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* ensure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Avoid pulling directly on wires to disconnect wire-harness connectors. Pull on the plastic body of a connector whenever possible to avoid damaging the connector wires.

NOTE: To install a self-tapping screw, first turn it counterclockwise to align it with the 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.

Electrostatic discharge

△

CAUTION: Some parts are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing product 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 product.

Required tools

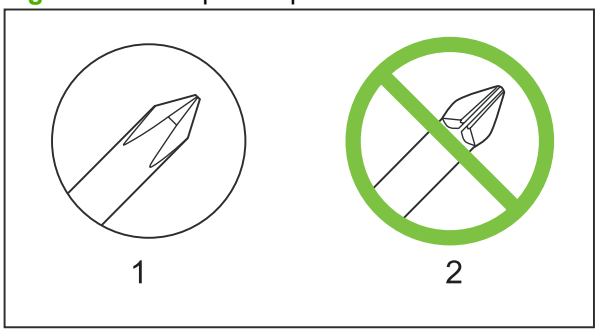
- #2 Phillips screwdriver with a magnetic tip and a 152-mm (6-inch) shaft length
- Precision, slotted screwdriver with a 1 mm (0.04 in) blade width

NOTE: This fine-point tool is required to release the front-door pins. The width of the blade must be 2 mm (0.08 in) or less to be able to push the door pins out of the mounting holes.

- Small, slotted 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.

Figure 6-1 Phillips and pozidrive screwdriver comparison



Types of screws

WARNING! Ensure that components are replaced with the correct screw type. Using the incorrect screw (for example, substituting a long screw for the correct shorter screw) can cause damage to the product or interfere with product operation. Do not intermix screws that are removed from one component with the screws that are removed from another component.

For a complete list of screw types and part numbers, see Parts and diagrams on page 229.

Before performing service

- Remove all media from the product.
- Turn off the power using the power switch.
- Unplug the power cable and interface cable or cables.
- Place the product on an ESD mat (if available). If an ESD workstation or mat is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.
- Remove the print cartridges. See Print cartridges on page 82.
- Remove the Tray 2 cassette.

After performing service

- Plug in the power cable.
- Reinstall the print cartridges.
- Reinstall the Tray 2 cassette.

Post-service test

After service has been completed, perform the following test to verify that the repair or replacement was successful.

Print-quality test

1. Verify that you have completed the necessary reassembly steps.
2. Ensure that the input tray contains clean, unmarked paper.
3. Attach the power cord and interface cable, and then turn on the product.
4. Verify that the expected startup sounds occur.
5. Print a configuration page, and then verify that the expected printing sounds occur.
6. Use the control-panel menus to calibrate the product. See System setup menu on page 17.
7. Print a diagnostic page, and then verify that the print quality is as expected. See Reports menu on page 16.
8. Send a print job from the host computer, and then verify that the output meets expectations.
9. If necessary, restore any customer-specified settings.
10. Clean the outside of the product with a damp cloth.

Print cartridges

△ **CAUTION:** If toner gets on any clothing, wipe it off with a dry cloth and wash the clothing in cold water. *Hot water sets toner into the fabric*.

1. Open the front door and pull out the print-cartridge drawer.
2. Grasp the handle on the print cartridge, and then pull the cartridge straight up to remove it. Repeat this step for the remaining print cartridges.

△ **CAUTION:** Do not touch the imaging drum (callout 1) on the bottom of the print cartridge. Finger prints on the imaging drum can cause print-quality problems.

Do not place the print cartridge on a surface with the image drum down (callout 2). Always protect the image drum. Dust and debris can stick to the drum and cause print-quality problems.

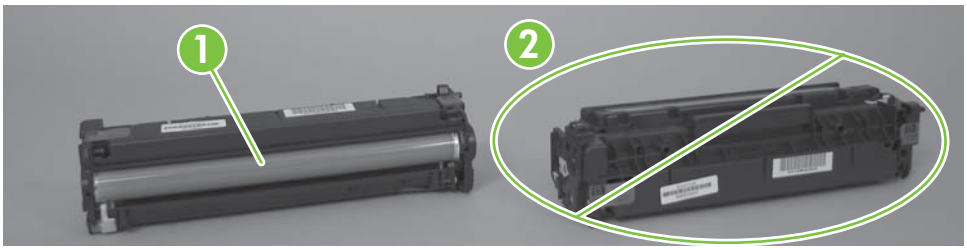
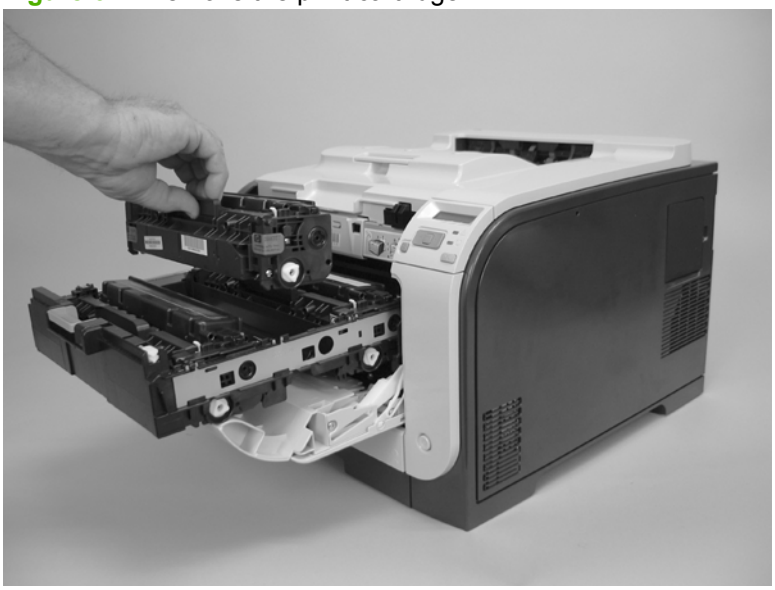


Figure 6-2 Remove the print cartridge



3. Close the print-cartridge and front doors.

Tray 2 cassette

Pull the tray straight out of the product to remove it.

Figure 6-3 Remove the Tray 2 cassette

Rollers and pads

Transfer roller

The transfer roller is a component of the paper-feed assembly and not available as an individual part. To remove and replace the transfer roller, install a replacement paper-feed assembly. See Paper-feed guide assembly on page 101.

Paper-pickup roller

The roller must be rotated into the service position to remove it.

△ **CAUTION:** Avoid touching the spongy roller surface unless you are going to replace the roller. Skin oils on the roller can cause paper-pickup problems.

1. Turn the product on, and wait for it to reach the **Ready** state. Perform the following steps to rotate the roller to the service position.

   NOTE: If you have removed Tray 2 to service the product, reinstall the tray before turning the product on.

   TIP: The following steps rotate the engine paper-pickup roller *and* the Tray 1 paper-pickup roller into the service position.

   a. Open the **2ndry Service** menu by pressing the Left Arrow ◄ button and the **Cancel** button simultaneously.

   b. Use the arrow buttons to select **Pick roller**, and then press OK.

      Press OK again to confirm that you want the roller to rotate.

   c. Listen for the roller to rotate. When the roller is done rotating, unplug the power cord, and then place the power switch in the off position.

      △ **CAUTION:** It is important to place the power switch in the off position *after* unplugging the power cord so that the product power does not come on immediately when the power cord is plugged in again.

   d. Remove Tray 2.

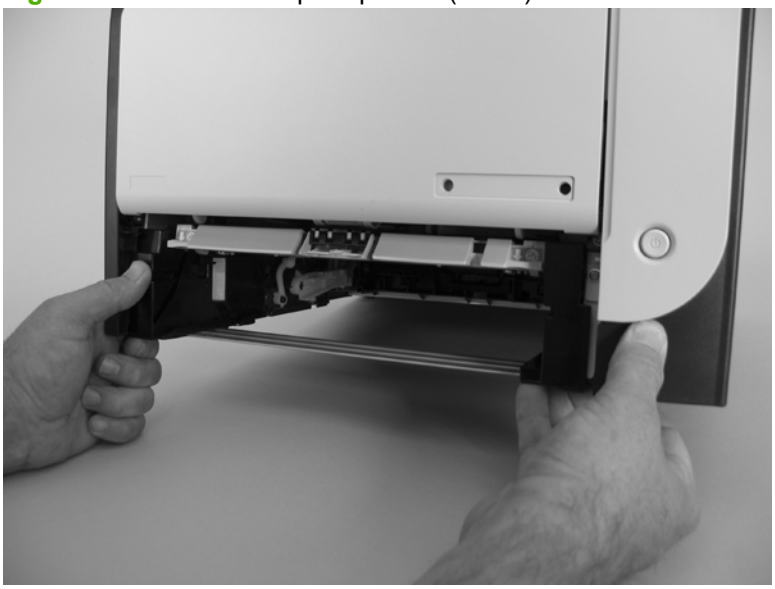
   e. Perform the remaining steps in this procedure to remove the roller. After replacing the roller, plug the power cord into the product, and then use the power switch to turn the product on.

2. Carefully raise the front of the product.

⚠ **WARNING!** Do not place the product face-up resting on the rear cover and rear door. Excess toner might enter the laser/scanner assembly and contaminate the mirrors, causing print-quality problems. The laser/scanner is not a FRU. If the laser/scanner mirrors are contaminated, the entire product must be replaced.

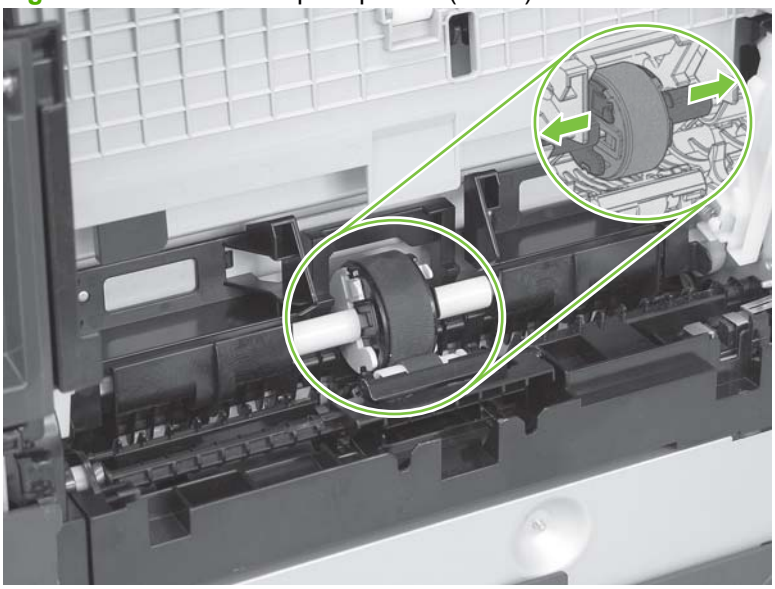
△ **CAUTION:** Do not lift the product by grasping the front door and Tray 2 cavity.

Figure 6-4 Remove the pickup roller (1 of 2)



3. Release the two white plastic locking tabs and remove the pickup roller.

Figure 6-5 Remove the pickup roller (2 of 2)



Separation roller

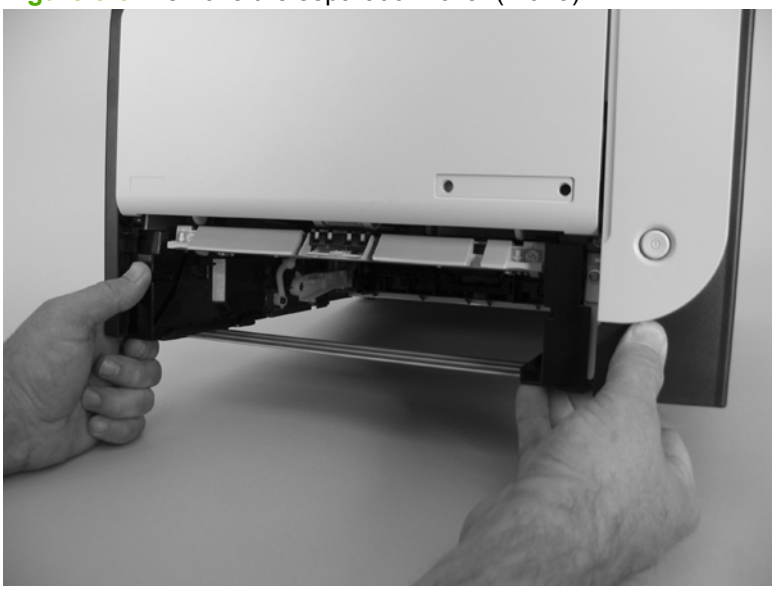
△ **CAUTION:** Avoid touching the spongy roller surface unless you are going to replace the roller. Skin oils on the roller can cause paper-pickup problems.

1. Remove the paper pickup roller. See Paper-pickup roller on page 85.
2. Remove Tray 2 (if installed), and then carefully raise the front of the product.

⚠ **WARNING!** Do not place the product face-up resting on the rear cover and rear door. Excess toner might enter the laser/scanner assembly and contaminate the mirrors, causing print-quality problems. The laser/scanner is not a FRU. If the laser/scanner mirrors are contaminated, the entire product must be replaced.

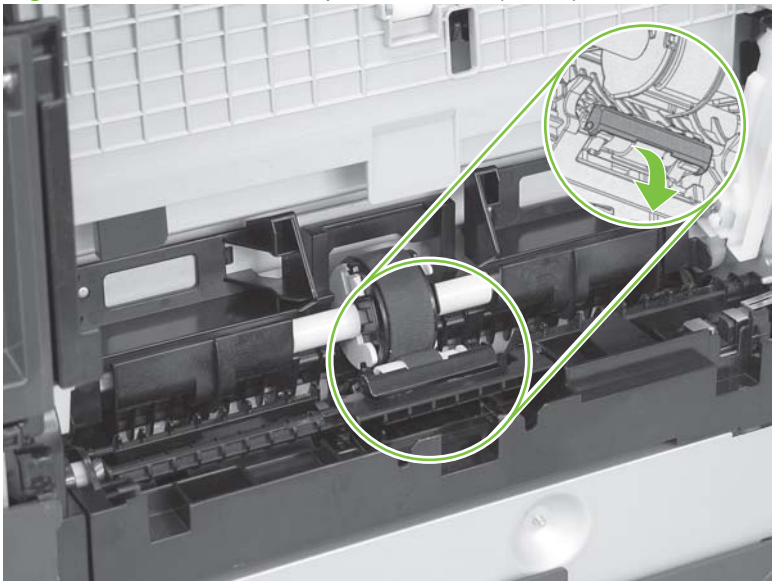
△ **CAUTION:** Do not lift the product by grasping the front door and Tray 2 cavity.

Figure 6-6 Remove the separation roller (1 of 3)



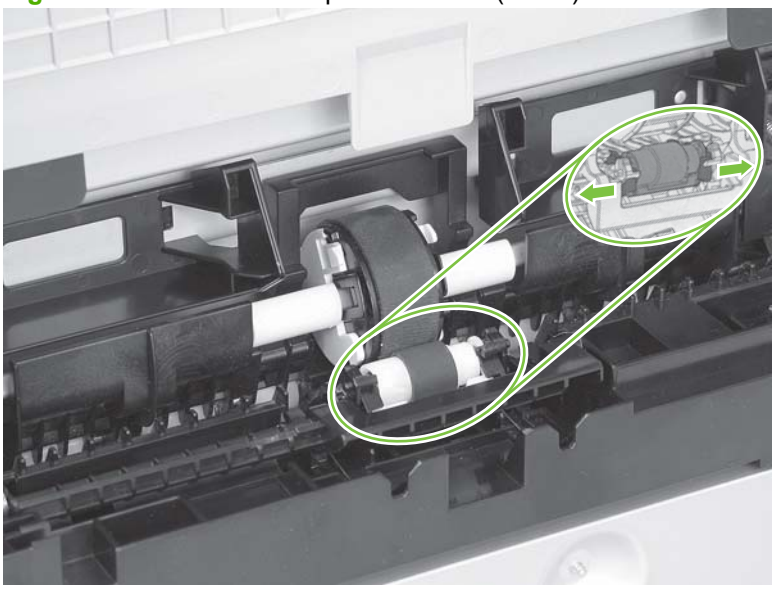
3. Release the two roller-cover locking pins, and then remove the cover.

Figure 6-7 Remove the separation roller (2 of 3)



4. Release the roller holder to release the roller-locking pins. Remove the separation roller.

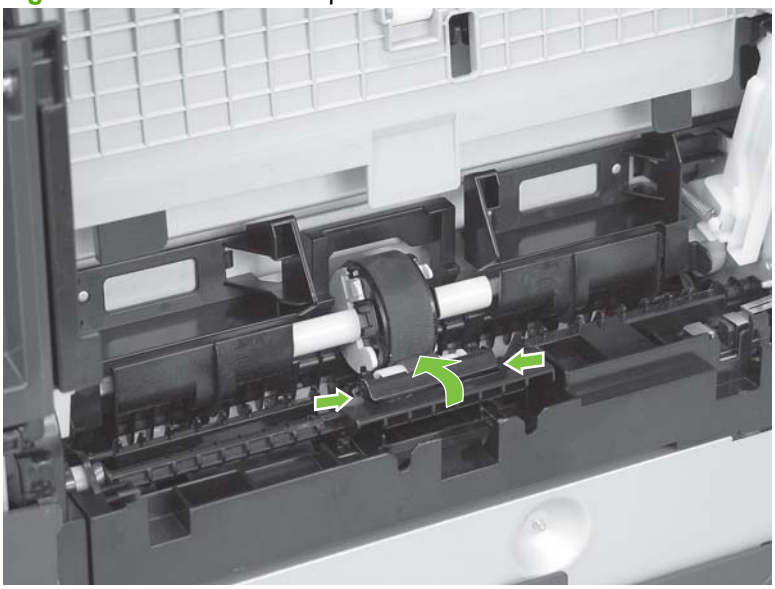
Figure 6-8 Remove the separation roller (3 of 3)



Reinstall the separation roller

1. Install the replacement separation roller.
2. Reinstall the separation roller cover on the locking pins, and then rotate it toward the roller until you hear it snap into place.

Figure 6-9 Reinstall the separation roller



Paper-pickup roller (Tray 1)

The roller must be rotated into the service position to remove it.

△ **CAUTION:** Avoid touching the spongy roller surface unless you are going to replace the roller. Skin oils on the roller can cause paper pickup problems.

1. Turn the product on, and wait for it to reach the **Ready** state. Perform the following steps to rotate the roller to the service position.

   NOTE: If you have removed Tray 2 to service the product, reinstall the tray before turning the product on.

   TIP: The following steps rotate the engine paper-pickup roller *and* the Tray 1 paper-pickup roller into the service position.

   a. Open the **2ndry Service** menu by pressing the Left Arrow ◄ button and the **Cancel** button simultaneously.

   b. Use the arrow buttons to select **Pick roller**, and then press OK.

      Press OK again to confirm that you want the roller to rotate.

   c. Listen for the roller to rotate. When the roller is done rotating, unplug the power cord, and then place the power switch in the off position.

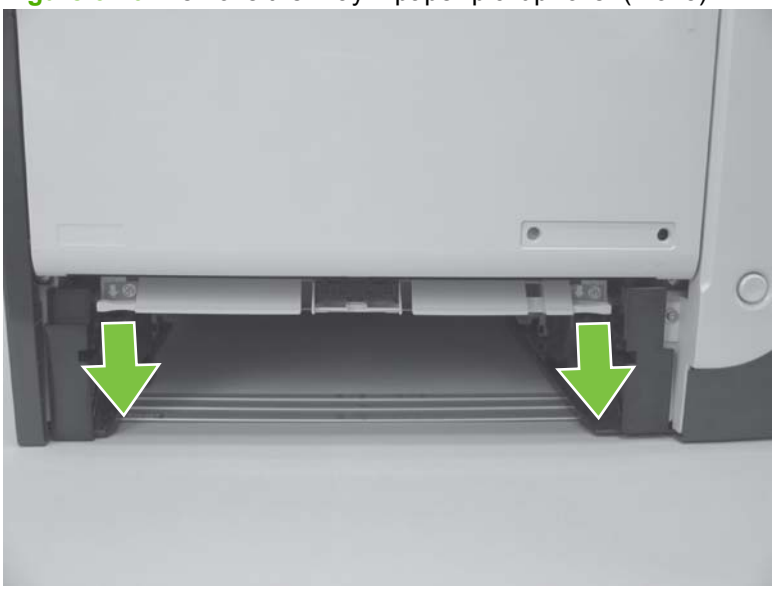
      △ **CAUTION:** It is important to place the power switch in the off position *after* unplugging the power cord so that the product power does not come on immediately when the power cord is plugged in again.

   d. Remove Tray 2.

   e. Perform the remaining steps in this procedure to remove the roller. After replacing the roller, plug the power cord into the product, and then use the power switch to turn the product on.

2. Lower the Tray 1 paper-pickup assembly by pushing down on the edges of the assembly.

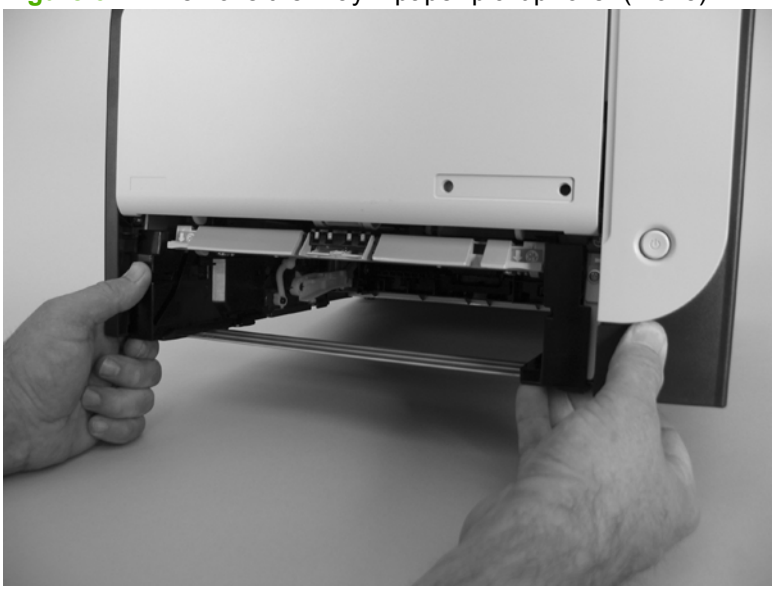
Figure 6-10 Remove the Tray 1 paper-pickup roller (1 of 3)



3. Carefully place the product front-side up.

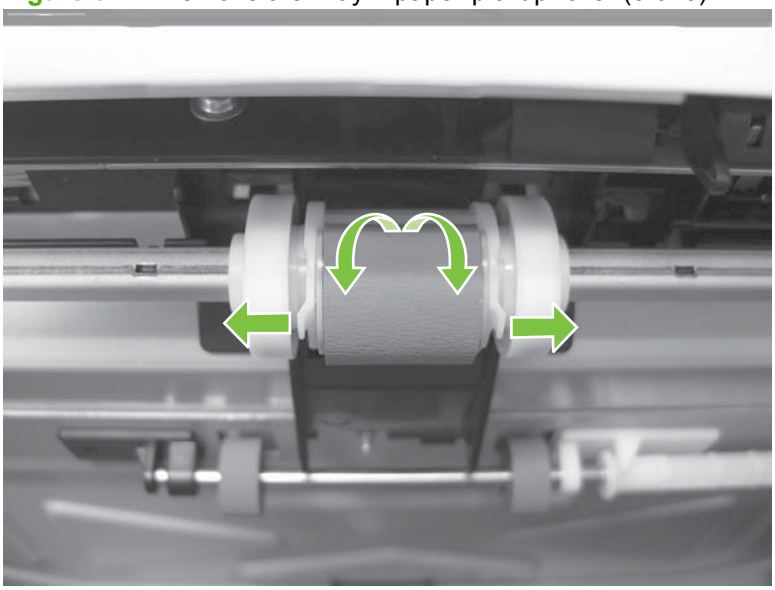
⚠ **WARNING!** Do not place the product face-up resting on the rear cover and rear door. Excess toner might enter the laser/scanner assembly and contaminate the mirrors, causing print-quality problems. The laser/scanner is not a FRU. If the laser/scanner mirrors are contaminated, the entire product must be replaced.

Figure 6-11 Remove the Tray 1 paper-pickup roller (2 of 3)



4. Release two tabs, and then rotate the roller away from the product to remove it.

Figure 6-12 Remove the Tray 1 paper-pickup roller (3 of 3)

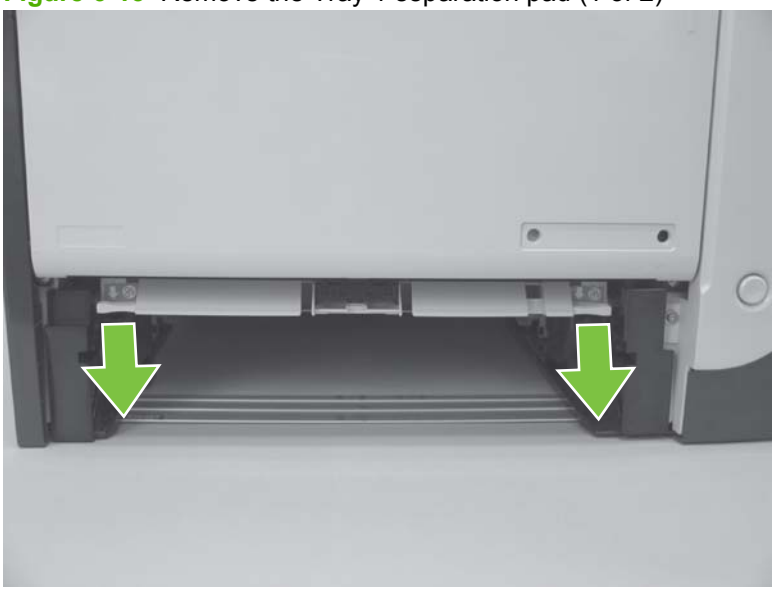


Separation pad (Tray 1)

△ **CAUTION:** Avoid touching the pad surface unless you are going to replace the pad. Skin oils on the pad can cause paper-pickup problems.

1. Remove Tray 2 (if installed).
2. Lower the Tray 1 paper-pickup assembly by pushing down on the edges of the assembly.

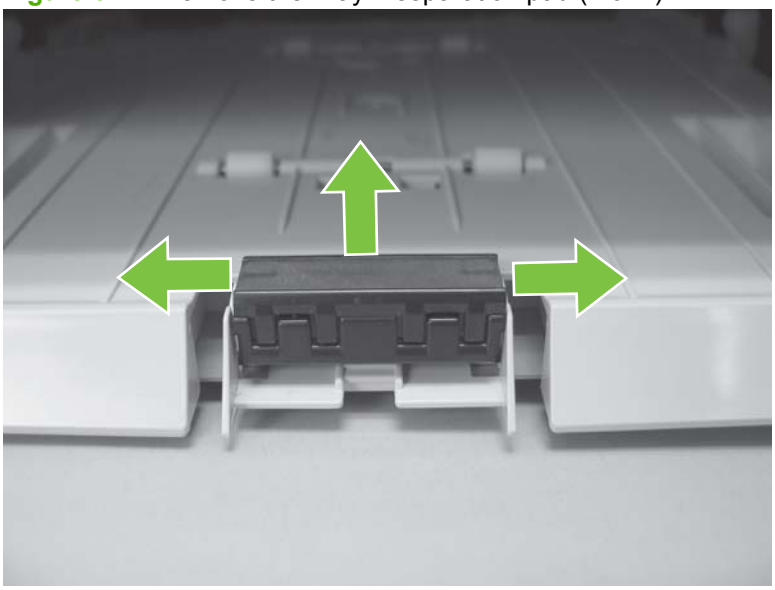
Figure 6-13 Remove the Tray 1 separation pad (1 of 2)



3. Release the retainer tabs, and then remove the separation pad from the base.

NOTE: The separation pad base can easily be dislodged when the pad is removed. If the base is dislodged, do not loose the spring under the base (it is not captive).

Figure 6-14 Remove the Tray 1 separation pad (2 of 2)



Components and major assemblies

Link guide

The link guide rarely fails and is not a FRU.

The link is attached to the paper guide (callout 1) and the rear door (simplex products; callout 2) or duplexing feed guide assembly (duplex products; callout 3).

If the link-guide attachment at the rear door or duplexing feed guide assembly fails, replace the appropriate component.

The interior paper guide is not replaceable. If the link guide to paper guide attachment fails, you must replace the entire product.

Figure 6-15 Replace the link guide (simplex products)

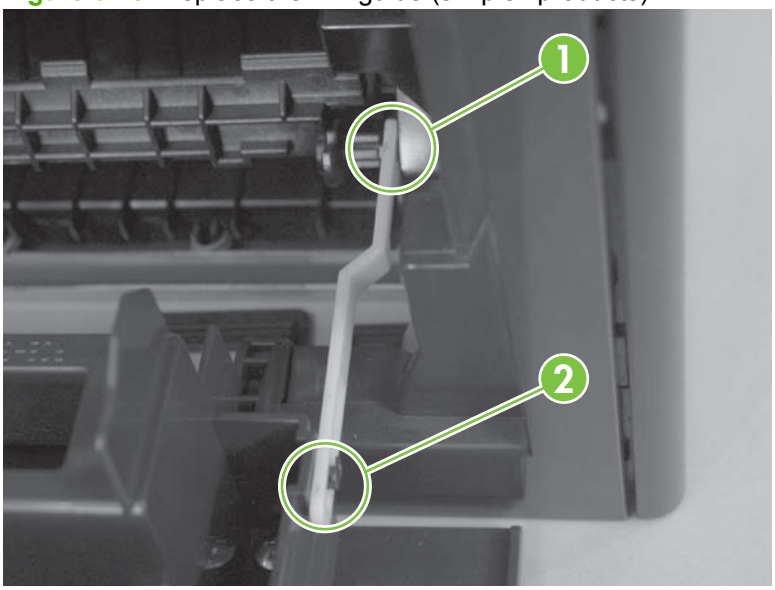
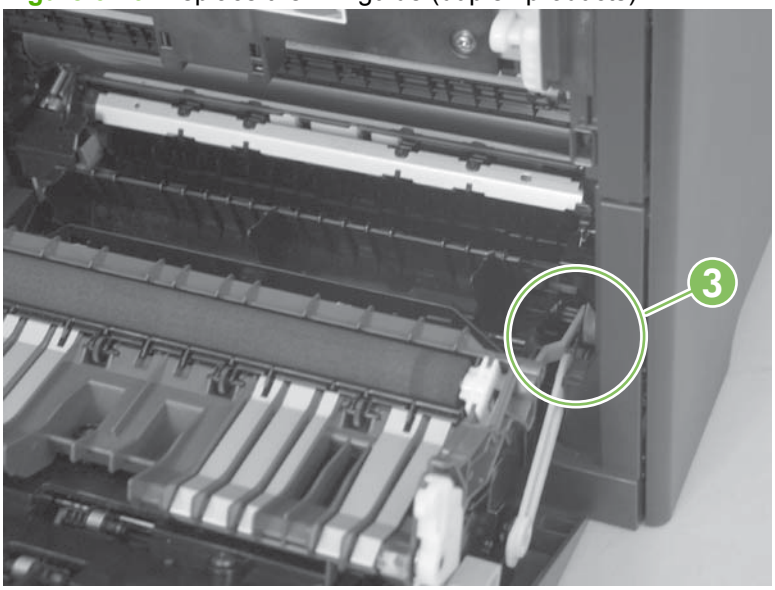


Figure 6-16 Replace the link guide (duplex products)



DIMM cover

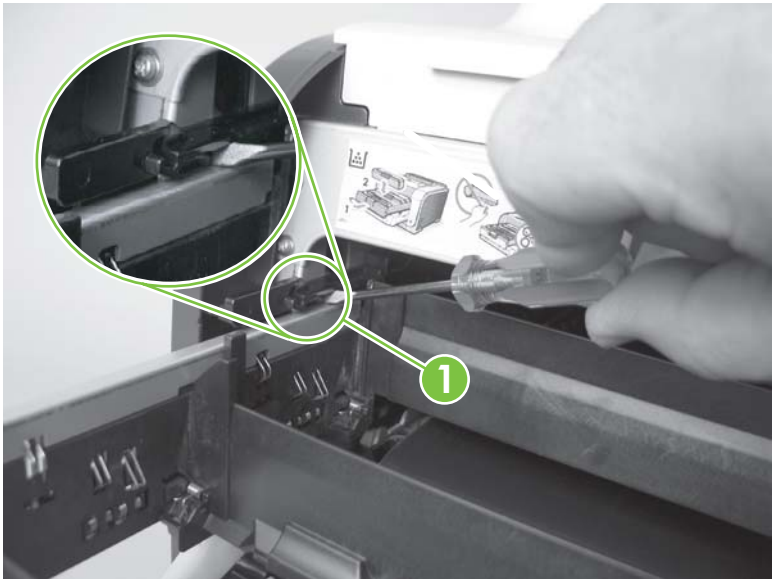
1. Open the DIMM cover.
2. Lift the cover up to release it, and then remove the cover.

Figure 6-17 Remove the DIMM cover

Print-cartridge drawer

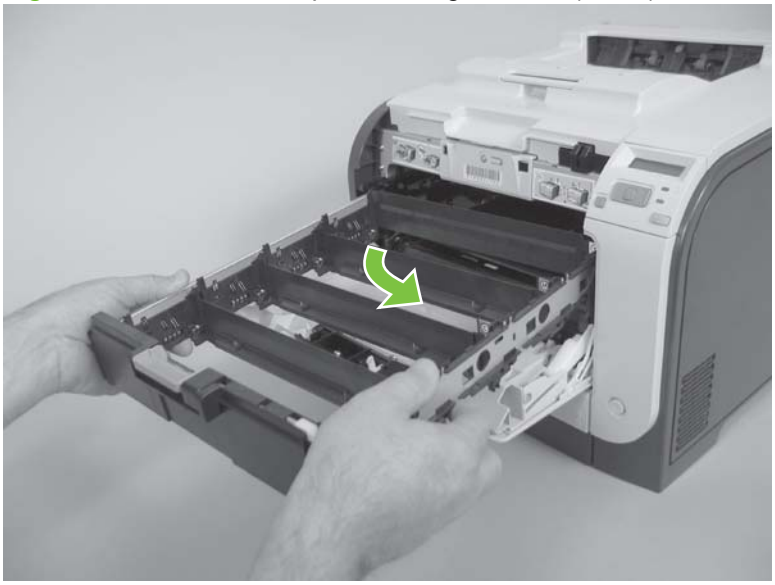
1. Open the front door.
2. Partially pull out the print-cartridge drawer, and then use a small, flat-blade screwdriver to release one tab (callout 1) on the left side of the product.

Figure 6-18 Remove the print-cartridge drawer (1 of 3)



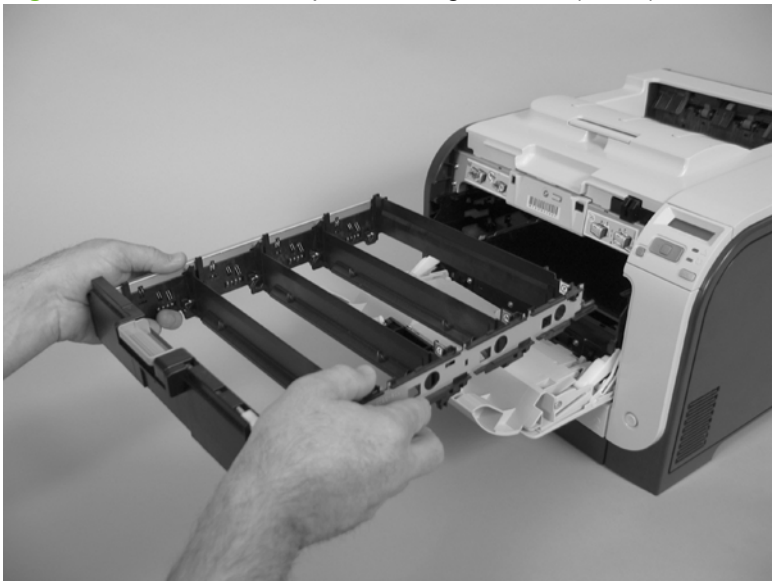
3. Carefully rotate the print-cartridge drawer toward the right side of the product to release it.

Figure 6-19 Remove the print-cartridge drawer (2 of 3)



4. Pull the print-cartridge drawer out of the product to remove it.

Figure 6-20 Remove the print-cartridge drawer (3 of 3)



Intermediate transfer belt (ITB)

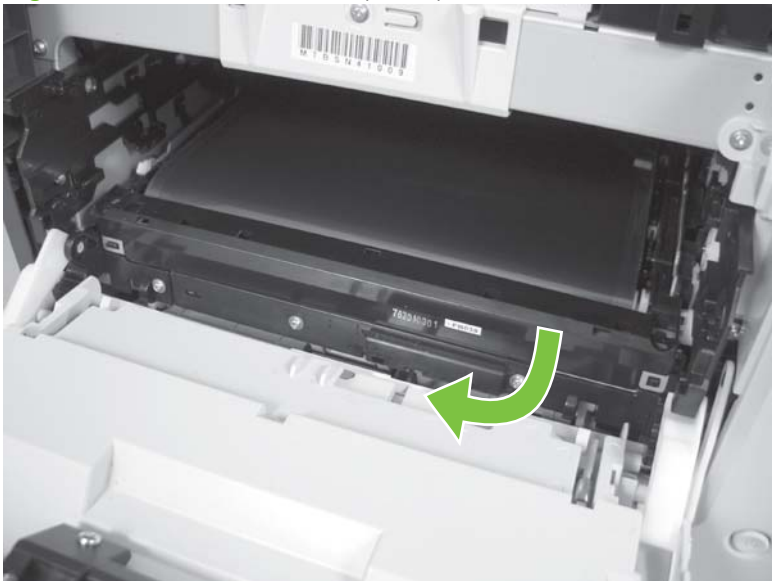
1. Remove the print-cartridge drawer. See Print-cartridge drawer on page 95.
2. Open the front door, and then remove two screws (callout 1).

Figure 6-21 Remove the ITB (1 of 6)

3. Carefully rotate the color misregistration sensor away from the ITB.

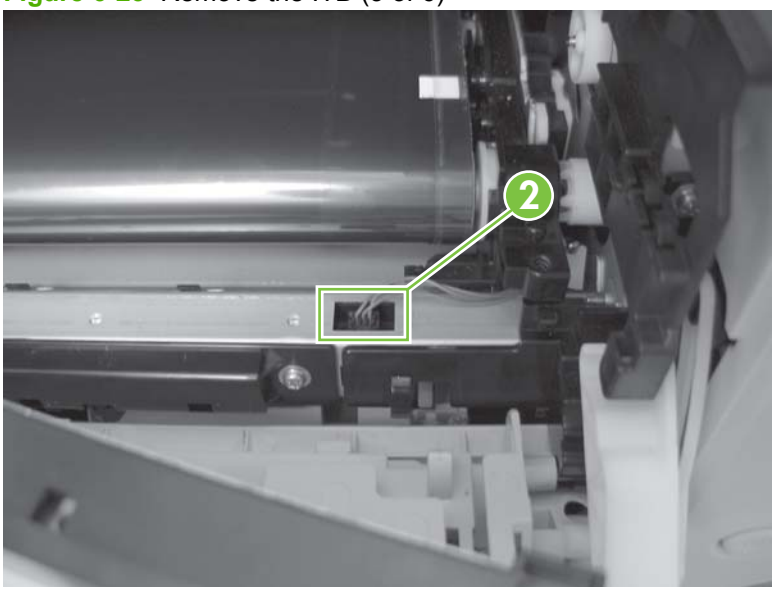
△ **CAUTION:** The sensor is still attached to the left side of the product and cannot be completely removed.

Figure 6-22 Remove the ITB (2 of 6)



4. Disconnect one connector (callout 2).

Figure 6-23 Remove the ITB (3 of 6)



5. Carefully lift up on the front of the ITB to release it.

△ **CAUTION:** Avoid touching the black plastic transfer belt. Skin oils on the belt might cause print-quality problems. Lift the ITB as shown below by using the hard-plastic edges of the ITB.

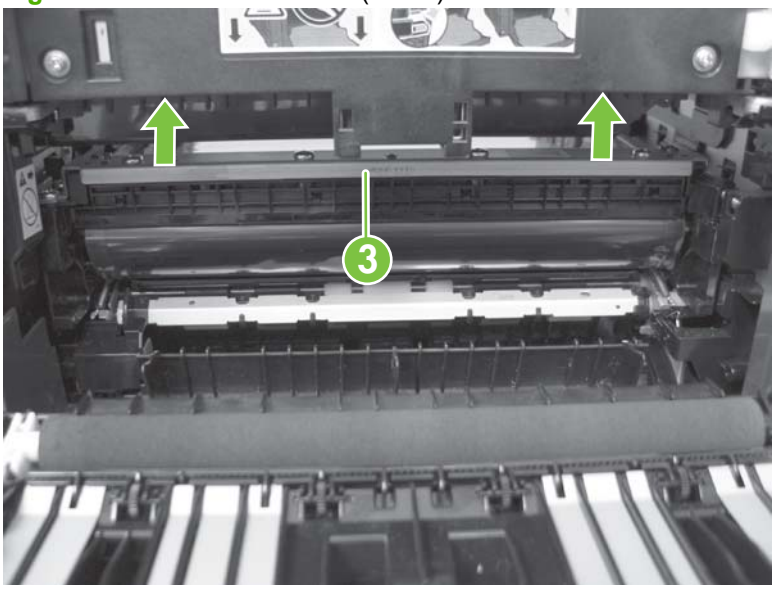
Figure 6-24 Remove the ITB (4 of 6)

6. To release the ITB, you might have to pen the rear door, and carefully lift up on the sheet-metal portion (callout 3).

△ **CAUTION:** Avoid touching the black plastic transfer belt. Skin oils on the belt might cause print-quality problems.

NOTE: You might need to reach in through the front door and support the front portion of the ITB to keep it from falling back into place as you perform this step.

Figure 6-25 Remove the ITB (5 of 6)



7. Carefully pull the ITB straight out of the product to remove it.

△ **CAUTION:** Avoid touching the black plastic transfer belt. Skin oils on the belt might cause print-quality problems. Handle the ITB as shown below.

Figure 6-26 Remove the ITB (6 of 6)

Reinstall the ITB

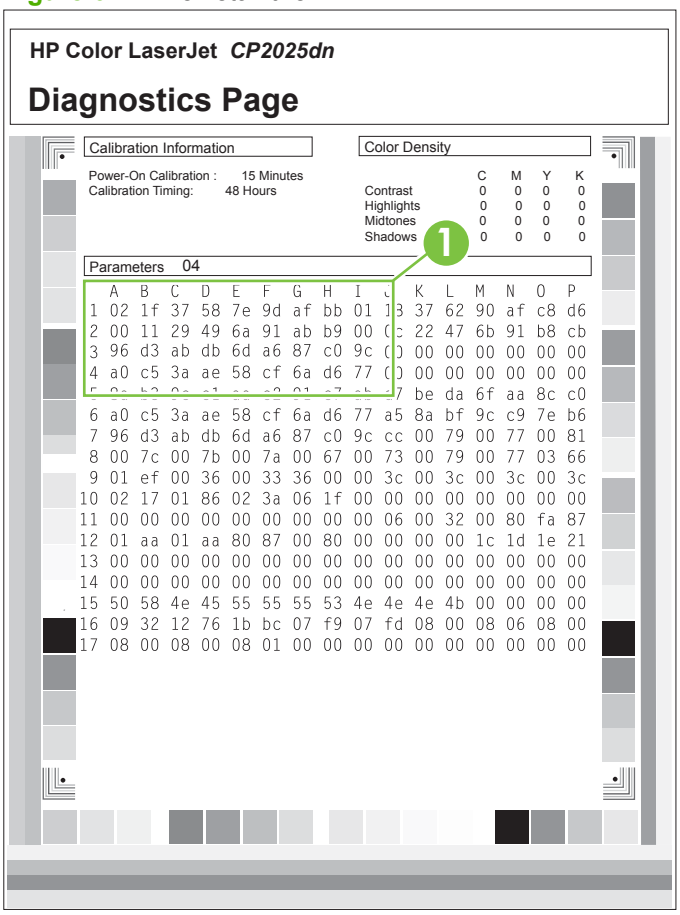
Use this procedure to verify that the ITB is correctly reinstalled.

1. Use the control panel to print a **Diagnostics page**. See Control-panel menus on page 15 and Reports menu on page 16.

2. Verify that rows **one** through **four**, columns **A** through **I** (callout 1) contain hexadecimal numbers.

   If these rows and columns are all zero, ensure that the calibration sensor was correctly reinstalled. The sensor must be correctly positioned and fit securely against the chassis before the mounting screws are installed. See Figure 6-22 Remove the ITB (2 of 6) on page 97 and Figure 6-21 Remove the ITB (1 of 6) on page 97.

Figure 6-27 Reinstall the ITB



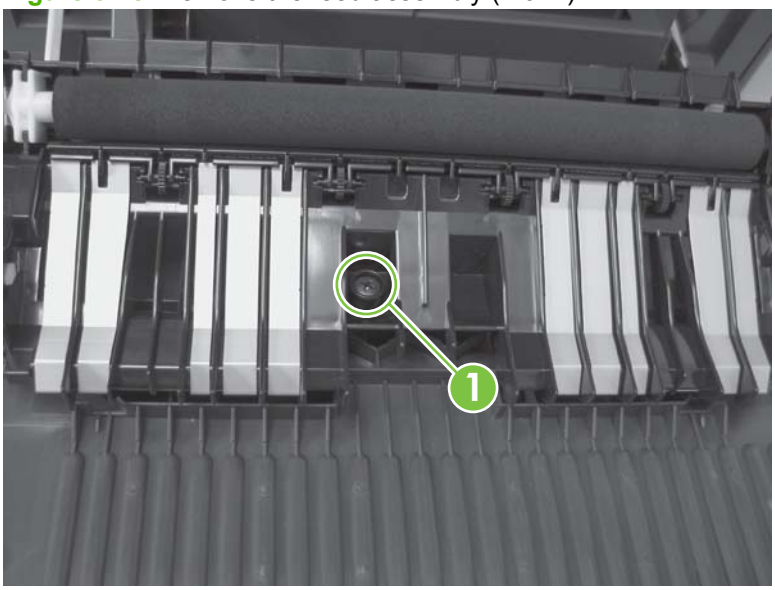
Paper-feed guide assembly

NOTE: A simplex model is shown below. Duplex and simplex models use the same paper-feed guide assembly, and the removal and replacement processes are identical.

1. Remove one screw (callout 1).

CAUTION: The bushing on this screw is not captive. Do not lose the bushing when the screw is removed.

Figure 6-28 Remove the feed assembly (1 of 2)



2. Remove the feed assembly.

△ **CAUTION:** Do not touch the black sponge portion of the roller. Skin oils on the roller can cause print-quality problems.

Reinstallation tip When the feed assembly is correctly reinstalled, the assembly can move in relation to the door. It should not be secured firmly to the door.

Figure 6-29 Remove the feed assembly (2 of 2)

Rear-door stopper and link caps (simplex product)

1. Open the rear door.
2. Use a pair of needle-nose pliers to release two tabs, and then remove the link cap.

TIP: It might be easier to remove the link caps if you remove the feed assembly. See Paper-feed guide assembly on page 101.

Figure 6-30 Remove the rear-door stopper and link caps (simplex product) (1 of 2)

3. Use a small, flat-blade screwdriver to carefully remove the remaining link cap, and then remove the rear-door stopper.

Figure 6-31 Remove the rear-door stopper and link cap (simplex product) (2 of 2)

Rear door (simplex product)

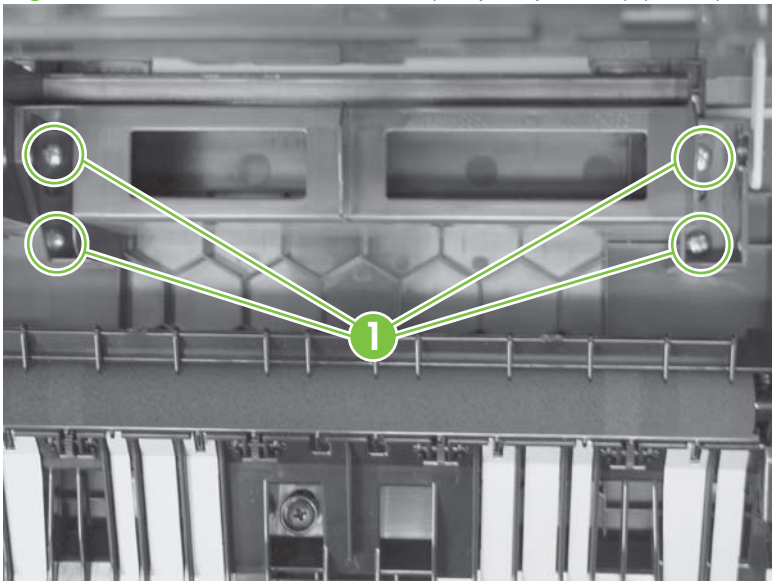
1. Open the rear door.
2. Use a pair of needle-nose pliers to release two tabs, and then remove the link cap.

TIP: It might be easier to remove the link cap if you remove the feed assembly. See Paper-feed guide assembly on page 101.

Figure 6-32 Remove the rear door (simplex product) (1 of 4)

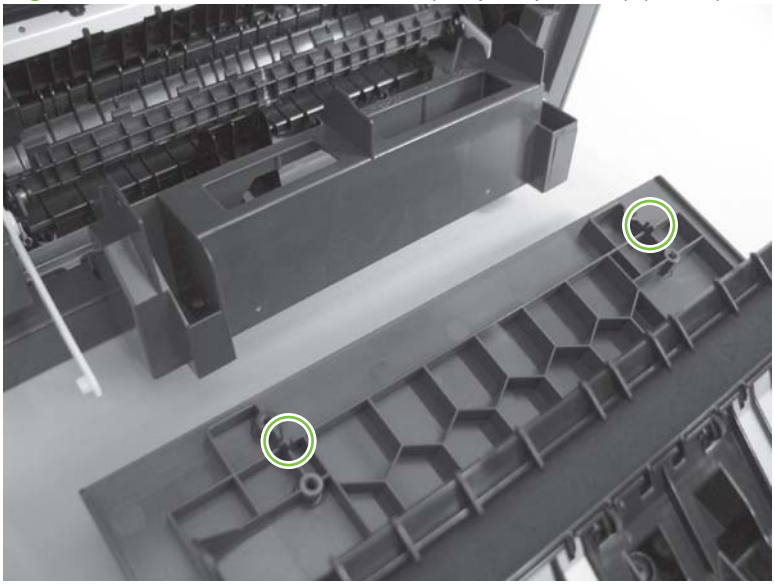
3. Remove four screws (callout 1).

Figure 6-33 Remove the rear door (simplex product) (2 of 4)



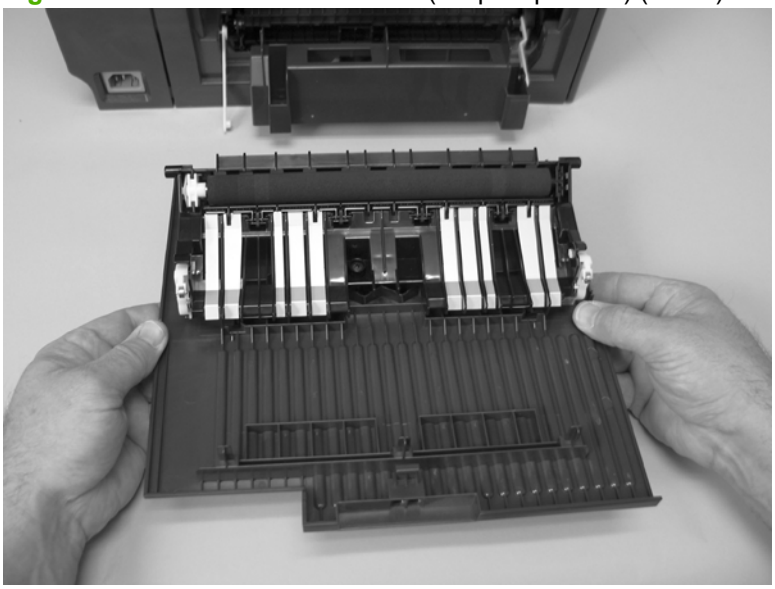
4. Before you remove the rear door, take note of the alignment pins on the door.

Figure 6-34 Remove the rear door (simplex product) (3 of 4)



5. Remove the rear door.

Figure 6-35 Remove the rear door (simplex product) (4 of 4)



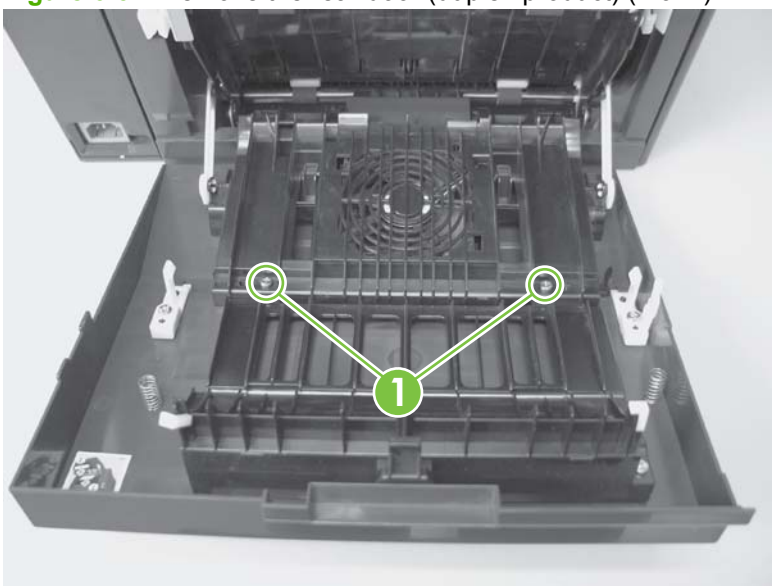
Rear door (duplex product)

1. Open the rear door.
2. Use the green handle to close the duplex-feed assembly.

Figure 6-36 Remove the rear door (duplex product) (1 of 4)

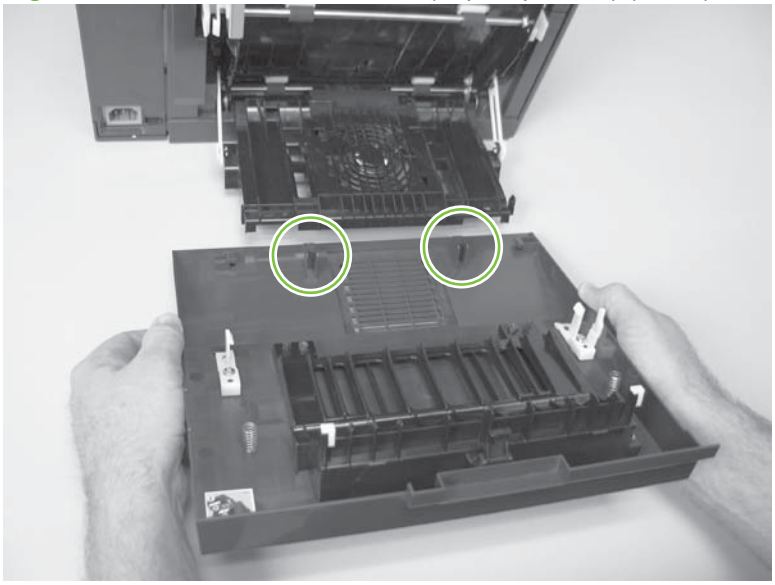
3. Remove two screws (callout 1).

Figure 6-37 Remove the rear door (duplex product) (2 of 4)



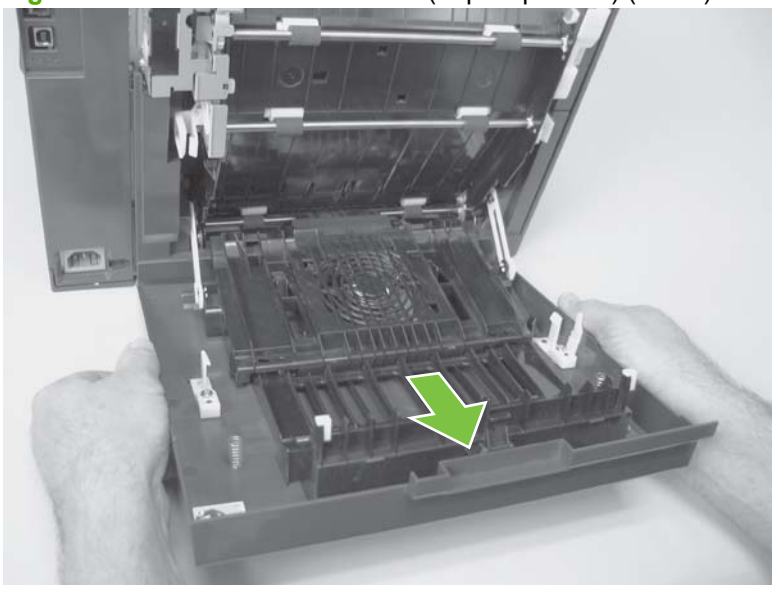
4. Before you remove the rear door, take note of the mounting tabs on the door.

Figure 6-38 Remove the rear door (duplex product) (3 of 4)



5. Slide the door away from the product to release two tabs, and then remove the door.

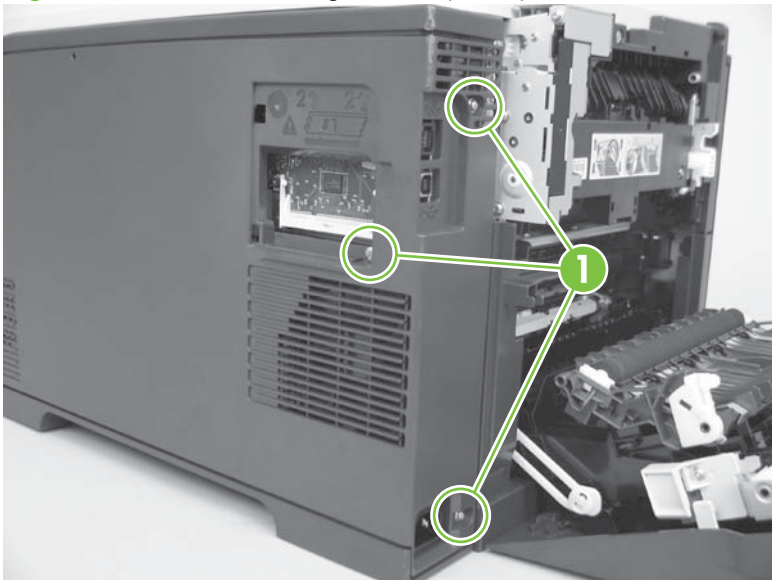
Figure 6-39 Remove the rear door (duplex product) (4 of 4)



Right cover

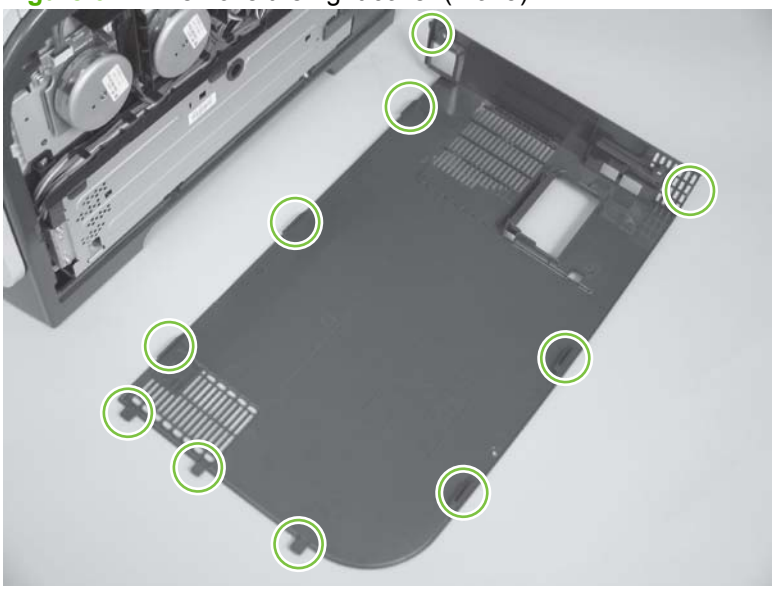
1. Remove the DIMM cover. See DIMM cover on page 94.
2. Open the rear cover, and then remove three screws (callout 1).

Figure 6-40 Remove the right cover (1 of 5)



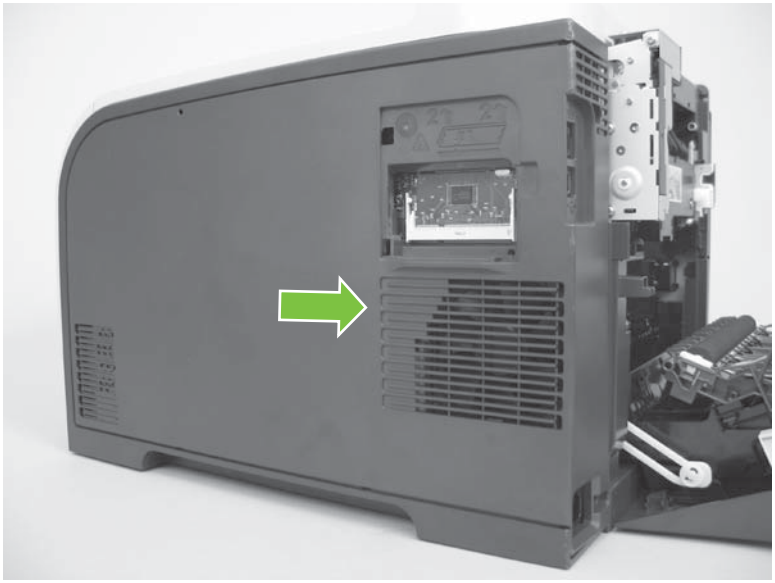
3. Before you proceed, take note of the mounting tab locations on the back of the cover.

Figure 6-41 Remove the right cover (2 of 5)



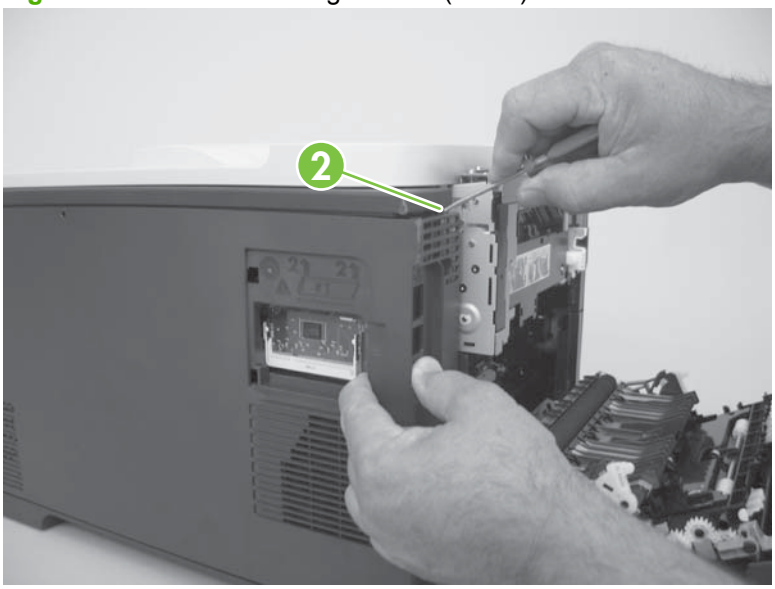
4. Slide the right cover toward the back of the product.

Figure 6-42 Remove the right cover (3 of 5)



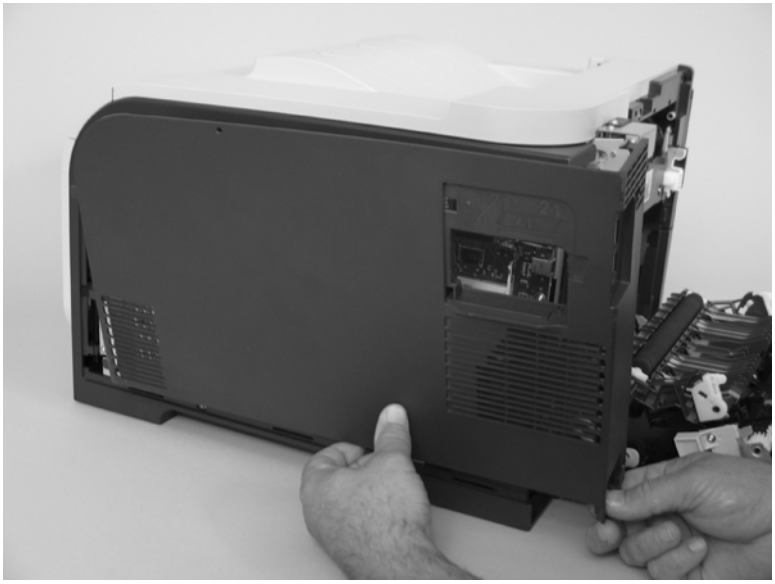
5. Release one tab (callout 2).

Figure 6-43 Remove the right cover (4 of 5)



6. Remove the right cover.

Figure 6-44 Remove the right cover (5 of 5)

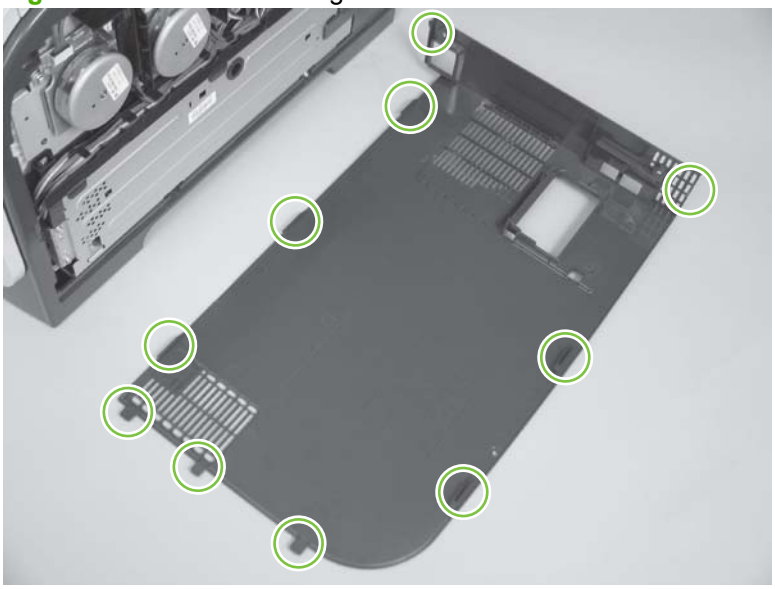


Reinstall the right cover

NOTE: Do not reinstall the DIMM cover before reinstalling the right cover. The cover will interfere with the product chassis and prevent the correct installation of the right cover.

- Before you reinstall the right cover, take note of the mounting tab locations on the back of the cover.

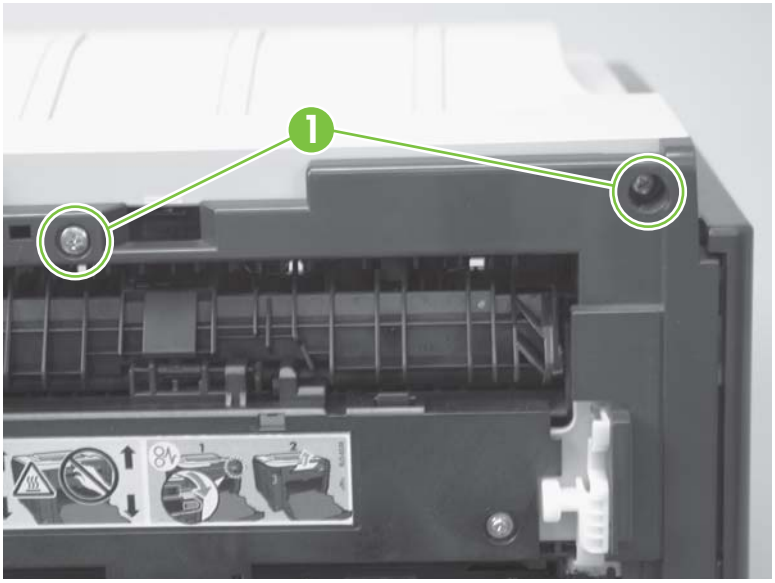
Figure 6-45 Reinstall the right cover



Rear-upper cover (duplex product)

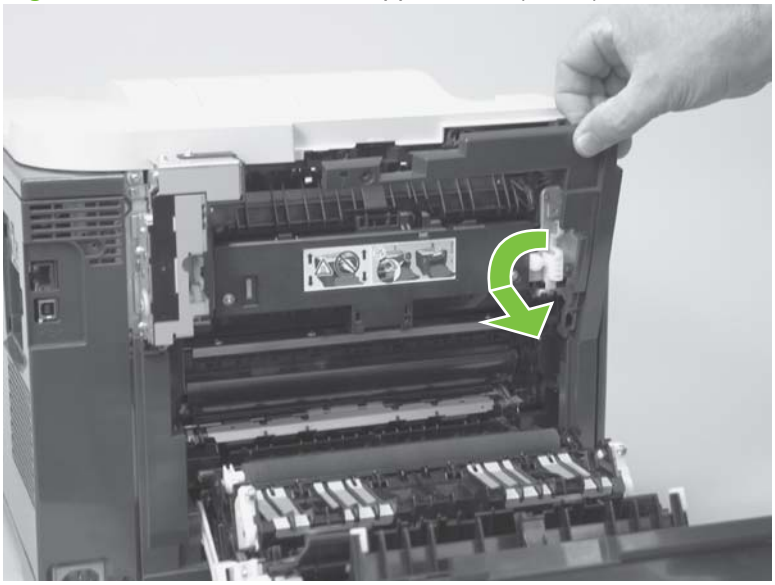
1. Open the rear cover.
2. Remove two screws (callout 1).

Figure 6-46 Remove the rear-upper cover (1 of 2)



3. Slightly separate the cover from the product, and rotate the cover down and then away from the product to remove it.

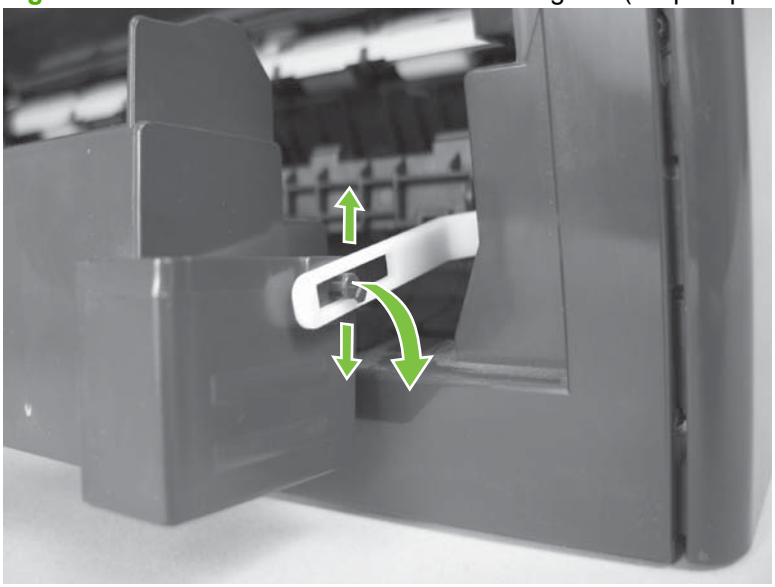
Figure 6-47 Remove the rear-upper cover (2 of 2)



Rear cover and feed guide (simplex product)

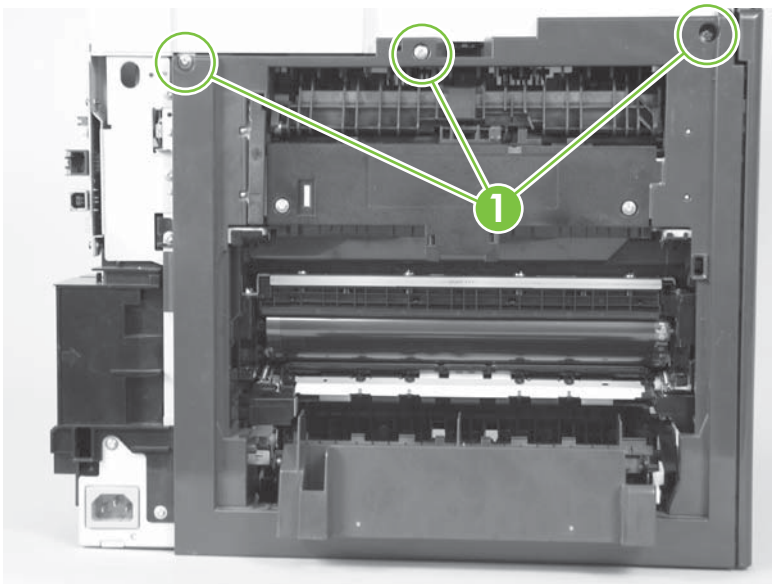
1. Remove the following components:
   - Rear-door stopper. See Rear-door stopper and link caps (simplex product) on page 103.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Right cover. See Right cover on page 108.
2. Carefully release the link guide from the pivot pin on the feed guide.

Figure 6-48 Remove the rear cover and feed guide (simplex product) (1 of 6)



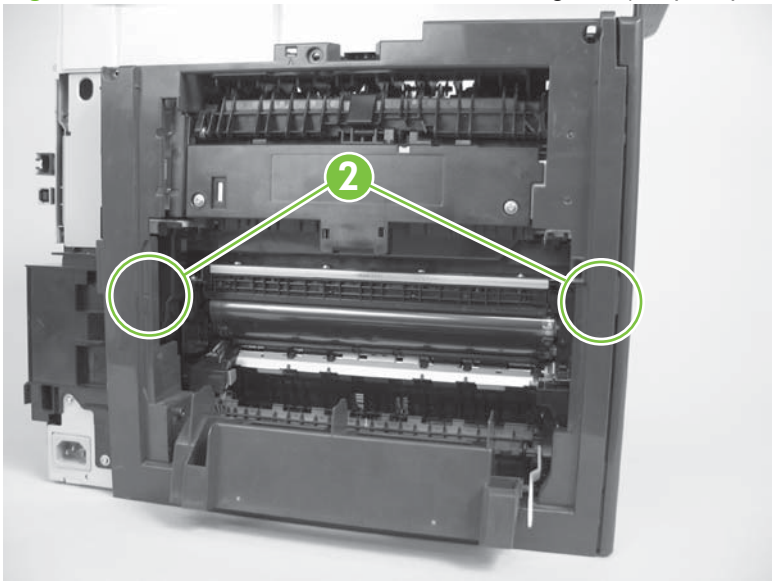
3. Remove three screws (callout 1).

Figure 6-49 Remove the rear cover and feed guide (simplex product) (2 of 6)



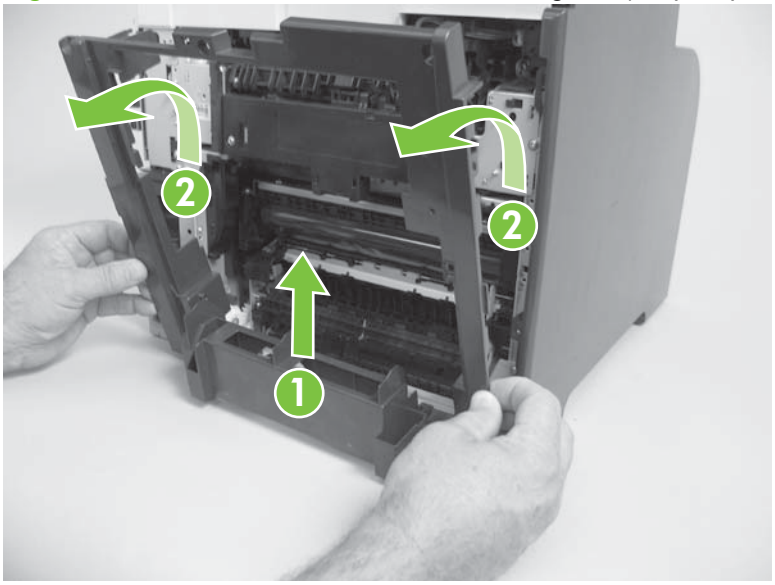
4. Release two tabs (callout 2).

Figure 6-50 Remove the rear cover and feed guide (simplex product) (3 of 6)

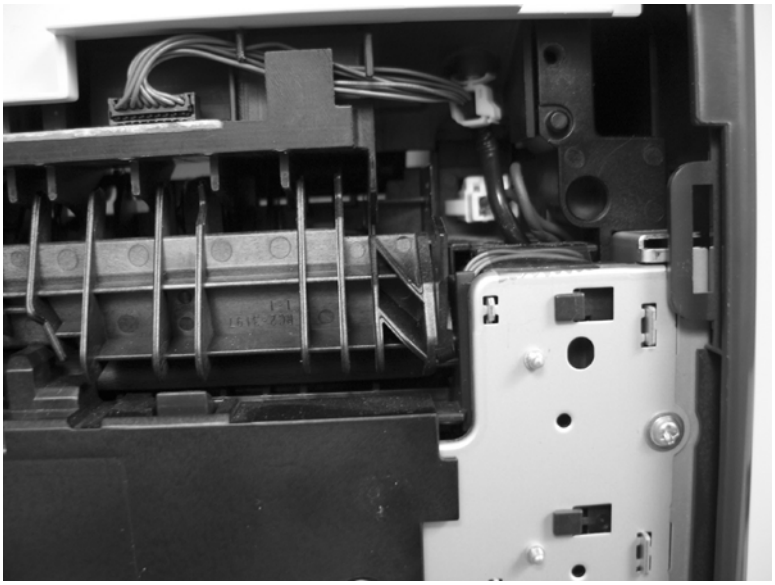


5. Carefully lift the cover up, and then rotate it away from the product to remove it.

Figure 6-51 Remove the rear cover and feed guide (simplex product) (4 of 6)

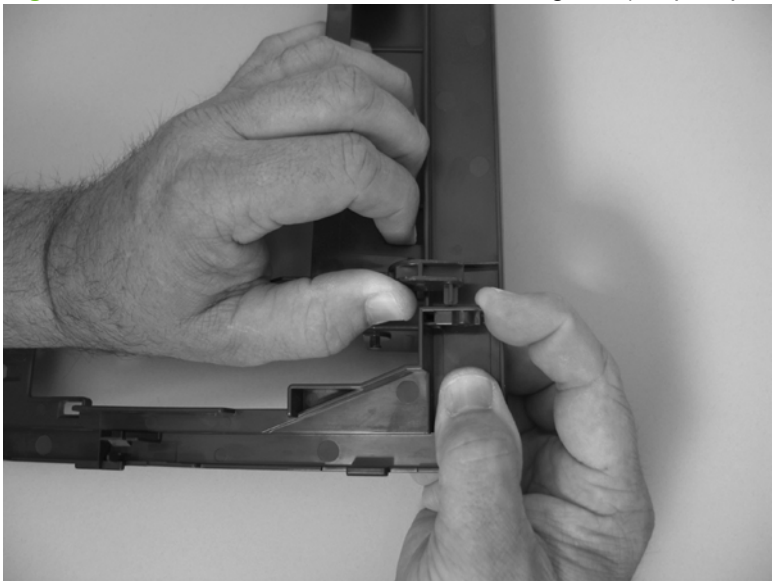


Reinstallation tip Make sure that the wire harnesses at the top of the chassis near the left-side cover are correctly retained so that they are not pinched when the rear cover is reinstalled.



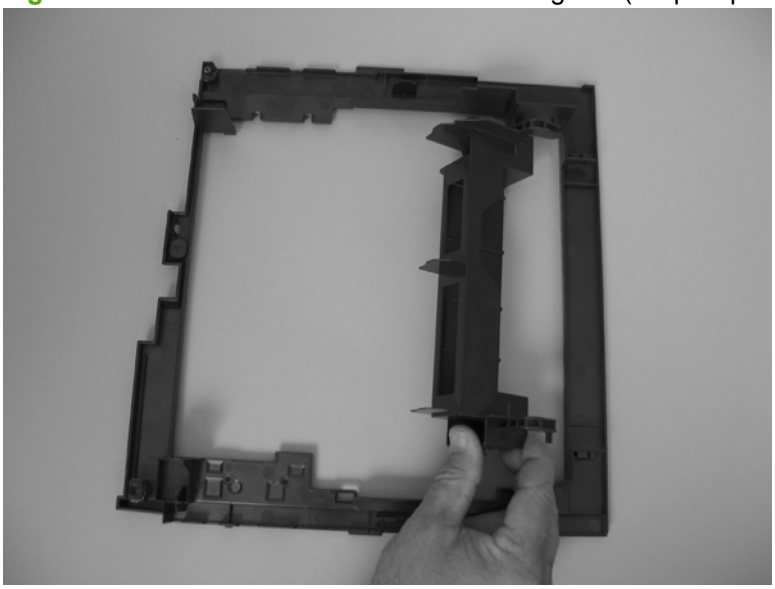
6. Carefully release a feed-guide hinge pin from the rear cover to release the feed guide.

Figure 6-52 Remove the rear cover and feed guide (simplex product) (5 of 6)



7. Remove the feed guide.

Figure 6-53 Remove the rear cover and feed guide (simplex product) (6 of 6)



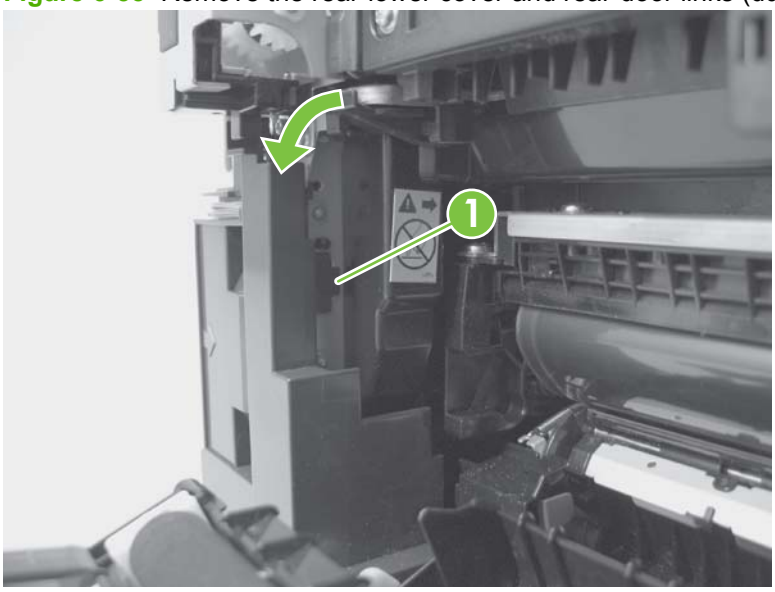
Rear-lower cover and rear-door links (duplex product)

1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Rear door (duplex products). See Rear door (duplex product) on page 106.
2. Use a pair of needle-nose pliers to release two tabs, and then remove the rear-door link cap. Repeat this step for the remaining rear-door link cap.

Figure 6-54 Remove the rear-lower cover and rear-door links (duplex product) (1 of 6)

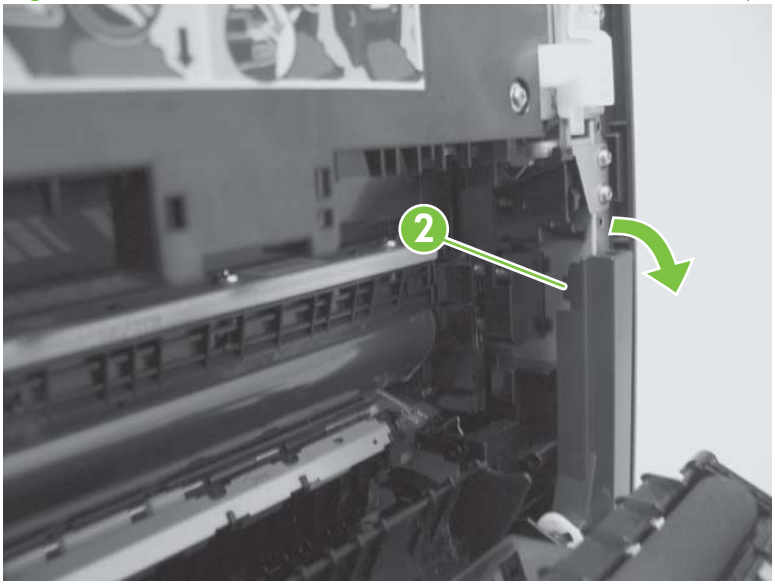
3. Open the duplex feed assembly.
4. Release one tab (callout 1) and slightly separate the cover from the product.

Figure 6-55 Remove the rear-lower cover and rear-door links (duplex product) (2 of 6)



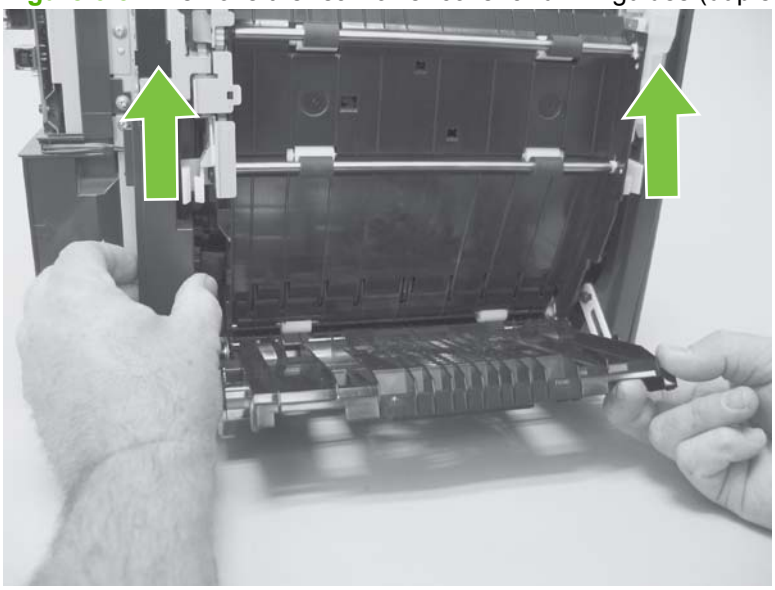
5. Release one tab (callout 2) and slightly separate the cover from the product.

Figure 6-56 Remove the rear-lower cover and rear-door links (duplex product) (3 of 6)



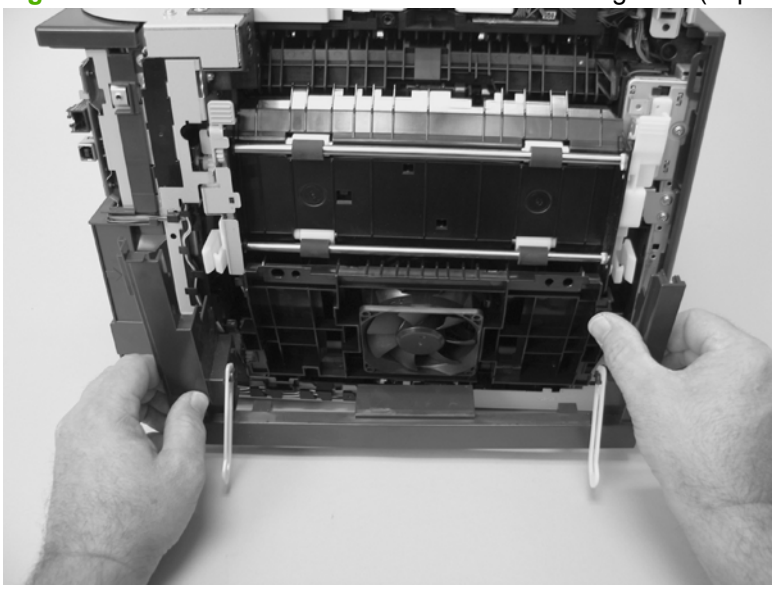
6. Close the duplex assembly, lift up on one side of the cover, and then lift up the other side of the cover to release it.

Figure 6-57 Remove the rear-lower cover and link-guides (duplex product) (4 of 6)



7. Slightly lift up the rear-door rib assembly, and then carefully slide the cover away from the product to remove it.

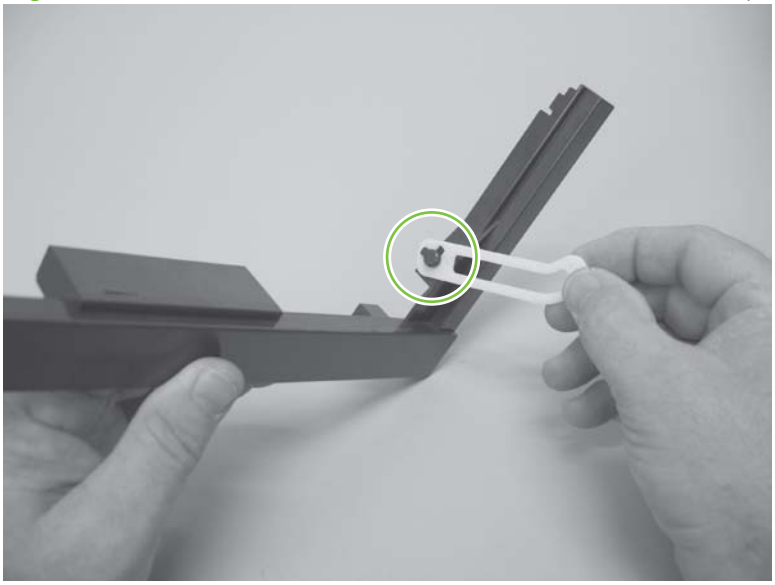
Figure 6-58 Remove the rear-lower cover and link-guides (duplex product) (5 of 6)



8. Rotate the rear-door link until the slot in the link aligns with the tap on the link-hinge pin, and then remove the rear-door link. Repeat this step for the remaining rear-door link.

NOTE: If you are installing a replacement rear-lower cover, remove the rear-door links from the discarded cover, and then install them on the replacement cover.

Figure 6-59 Remove the rear-lower cover and rear-door links (duplex product) (6 of 6)



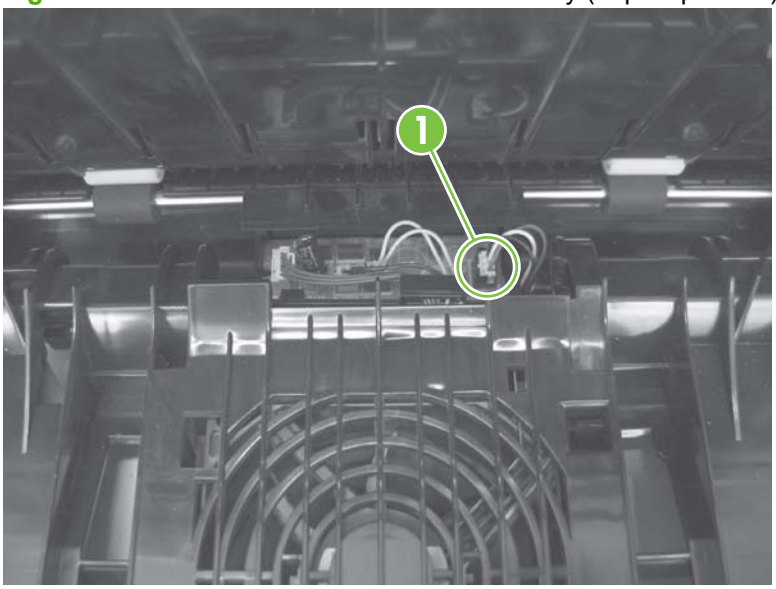
Rear-door rib assembly (duplex product)

NOTE: The duplex fan (FM2) is a component of the rear-door rib assembly.

1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Rear door (duplex products). See Rear door (duplex product) on page 106.
   - Rear-lower cover (duplex products). See Rear-lower cover and rear-door links (duplex product) on page 116.
2. Disconnect one connector (callout 1).

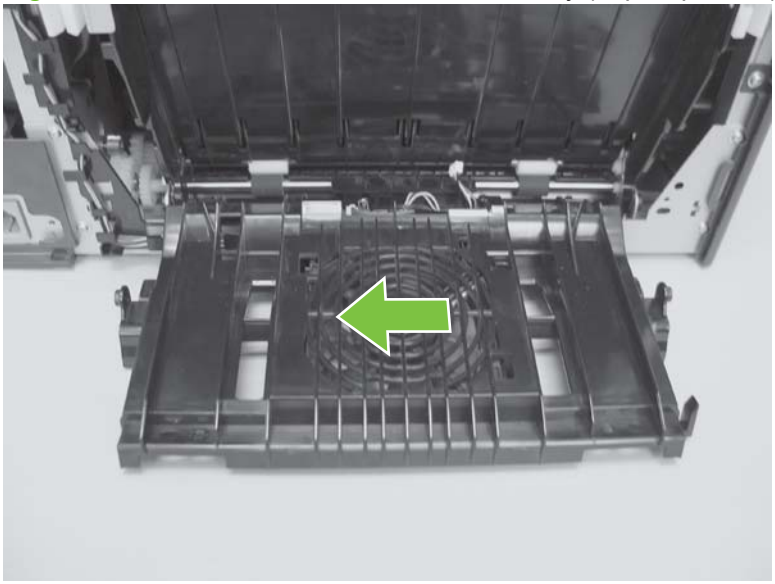
TIP: The PCA can be dislodged when disconnecting the connector. To secure the PCA, carefully push it towards the inside of the product to clear the mounting tabs near the rib assembly. Slide the PCA towards the rib assembly to position the edge of the PCA under the mounting tabs.

Figure 6-60 Remove the rear-door rib assembly (duplex product) (1 of 3)



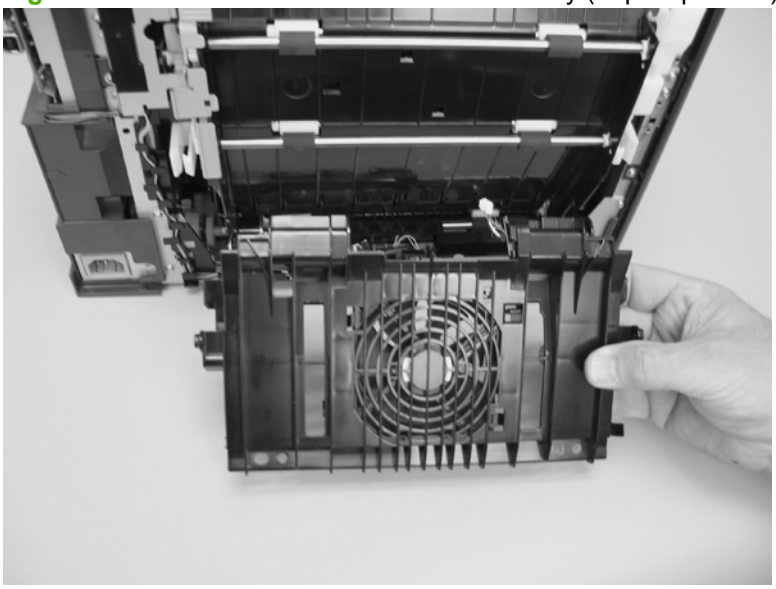
3. Slide the assembly toward the power cord side of the product to release the hinge pin.

Figure 6-61 Remove the rear-door rib assembly (duplex product) (2 of 3)



4. Remove the assembly.

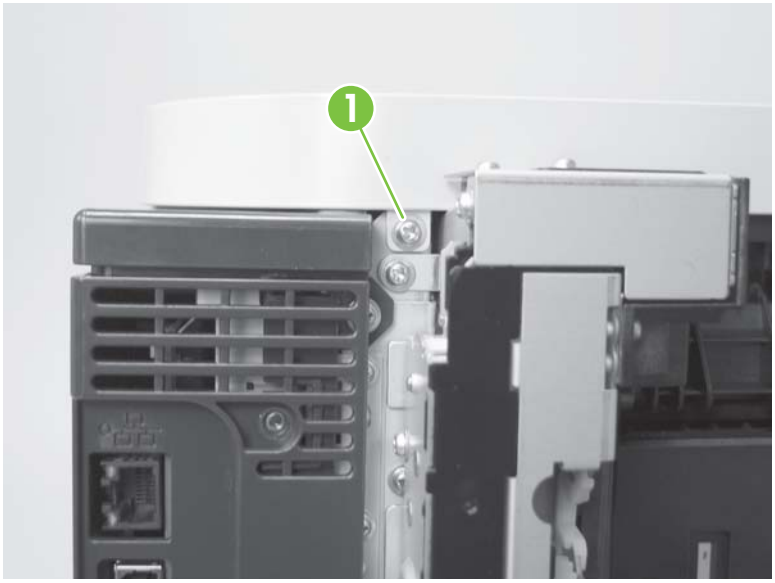
Figure 6-62 Remove the rear-door rib assembly (duplex product) (3 of 3)



Upper-cover assembly

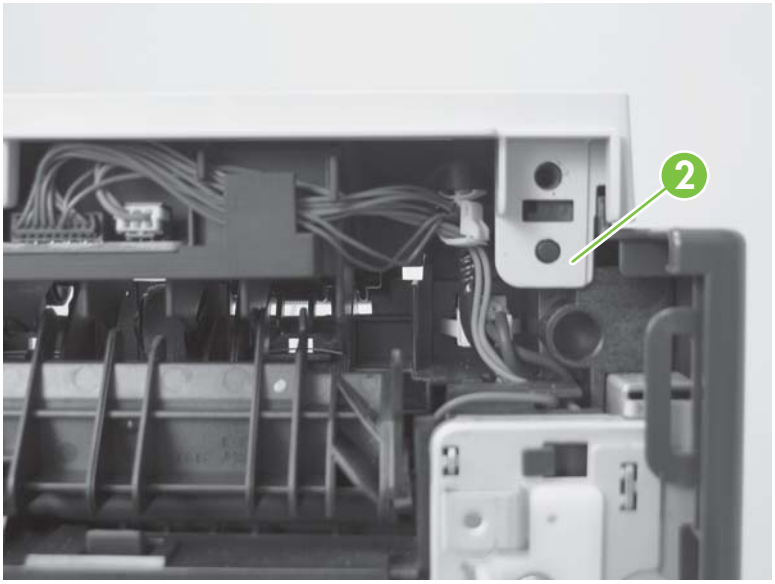
1. Remove the rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
2. Remove one screw (callout 1).

Figure 6-63 Remove the upper-cover assembly (1 of 4)



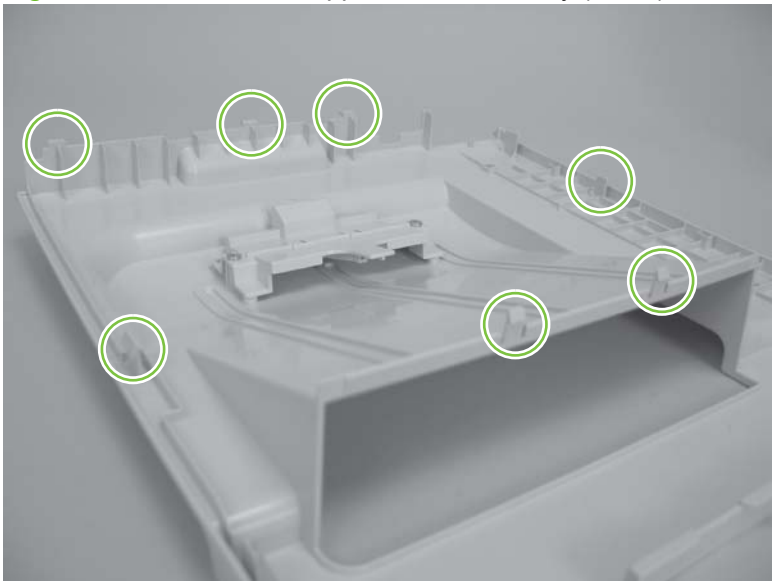
3. Release one tab (callout 2).

Figure 6-64 Remove the upper-cover assembly (2 of 4)



4. Before you proceed, take note of location of the top cover tabs.

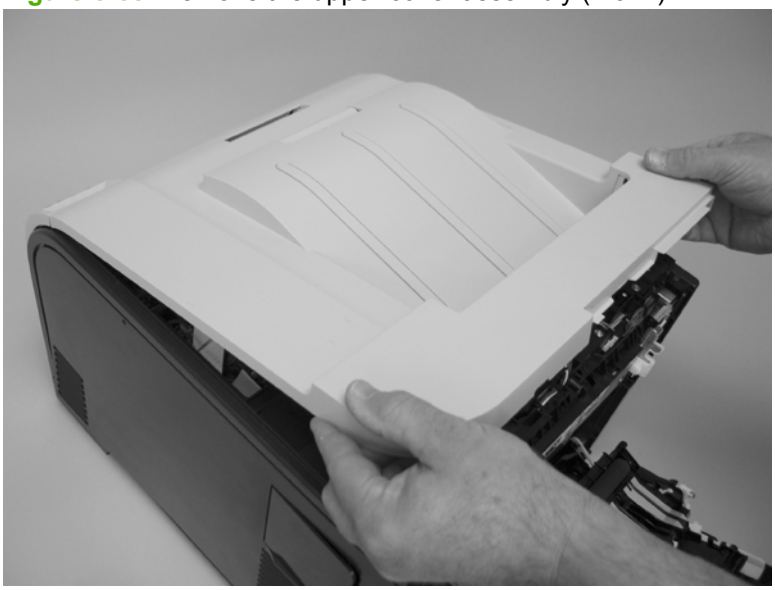
Figure 6-65 Remove the upper-cover assembly (3 of 4)



5. Carefully rotate the back side of the top cover up and off of the product to release the tabs, and then remove the cover.

NOTE: When you reinstall the upper cover, ensure that all the mounting tabs are correctly seated. See Reinstall the upper cover on page 123.

Figure 6-66 Remove the upper-cover assembly (4 of 4)



Reinstall the upper cover

- When you reinstall the upper cover, ensure that the two tabs in the paper delivery area are fully seated into the chassis.

Figure 6-67 Upper-cover tabs *not* correctly seated

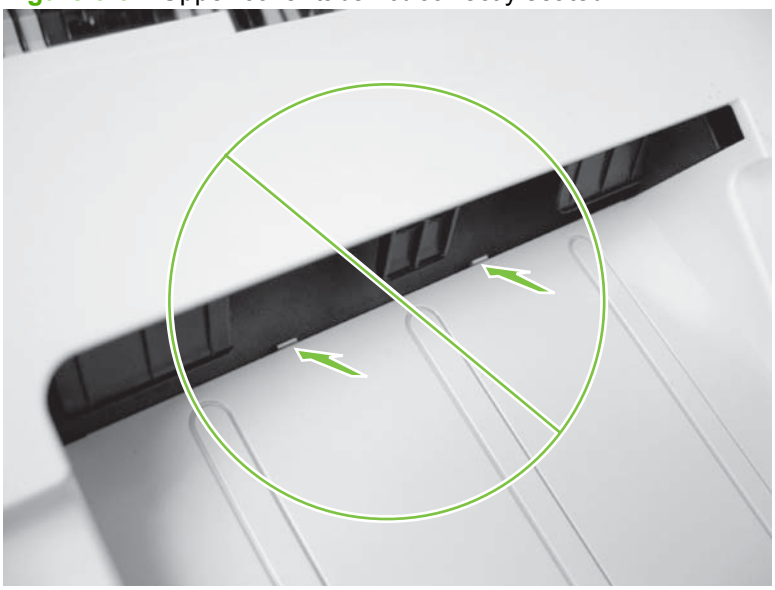
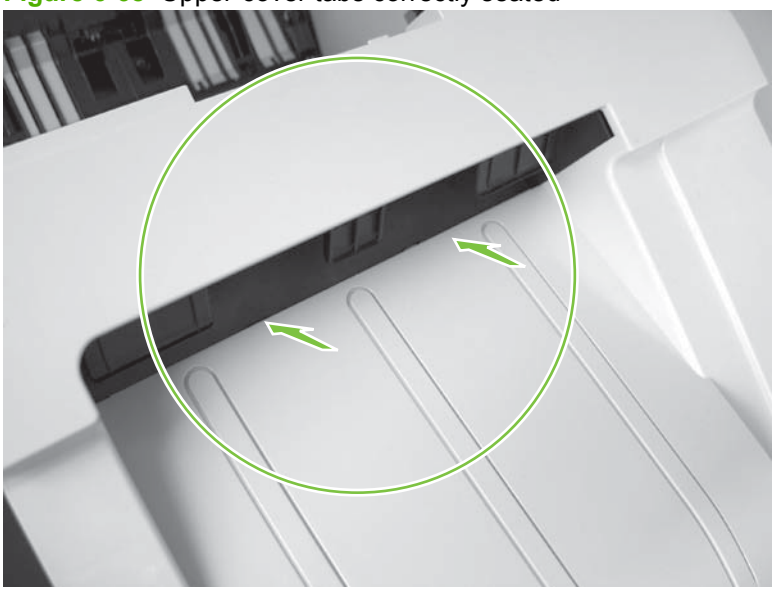


Figure 6-68 Upper-cover tabs correctly seated

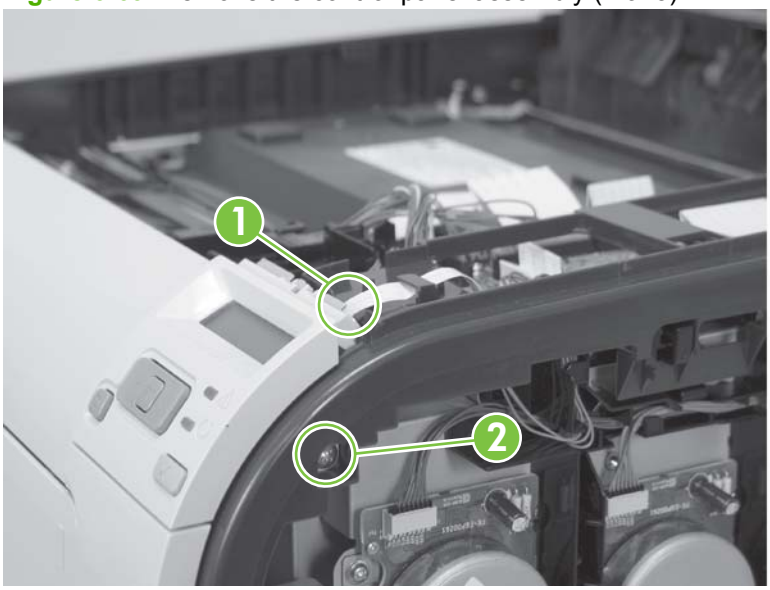


Control-panel assembly

△ **CAUTION:** Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* ensure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

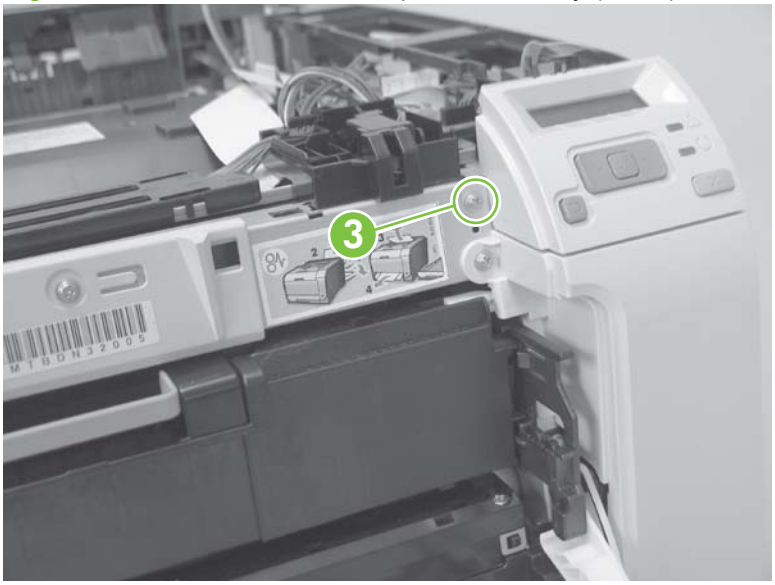
1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
2. Disconnect one FFC (callout 1), and then remove one screw (callout 2).

Figure 6-69 Remove the control-panel assembly (1 of 3)



3. Open the front door, and then remove one screw (callout 3).

Figure 6-70 Remove the control-panel assembly (2 of 3)



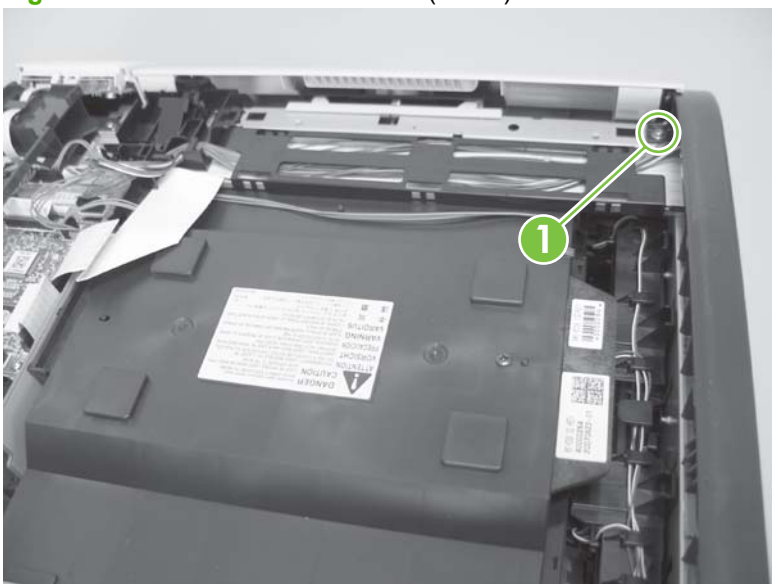
4. Remove the control-panel assembly.

Figure 6-71 Remove the control-panel assembly (3 of 3)

Left cover

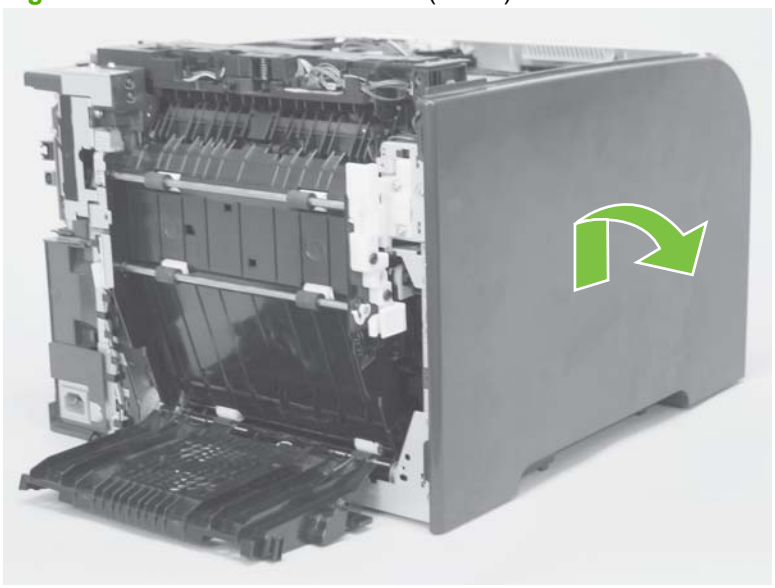
1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-lower cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
2. Remove one screw (callout 1).

Figure 6-72 Remove the left cover (1 of 3)



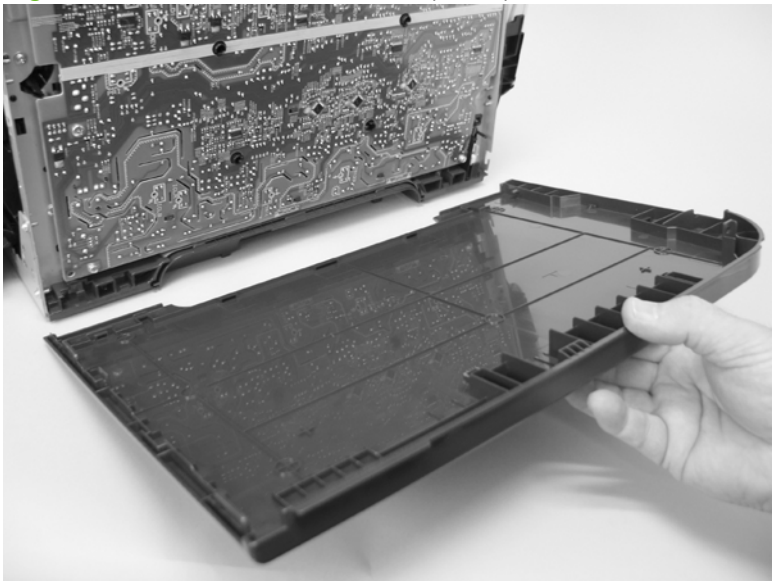
3. Slightly lift up on the cover, and then rotate the top of the cover away from the product.

Figure 6-73 Remove the left cover (2 of 3)



4. Remove the cover.

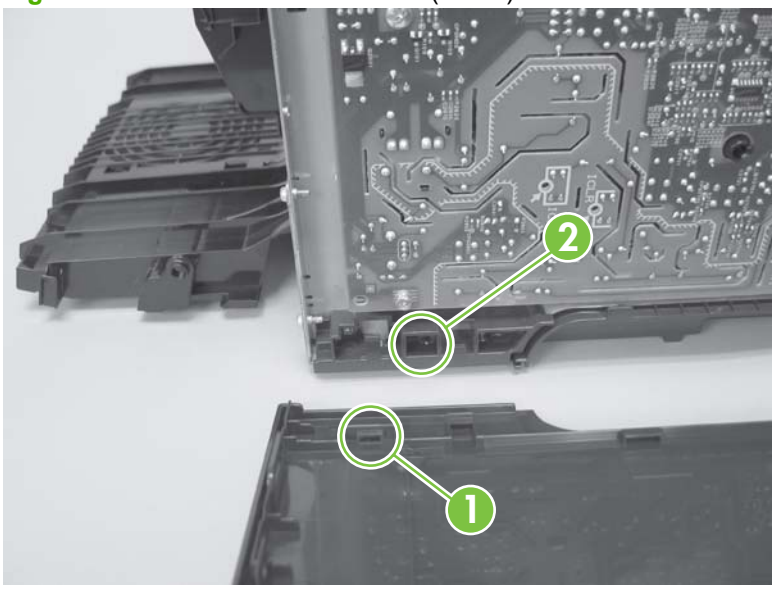
Figure 6-74 Remove the left cover (3 of 3)



Reinstall the left cover

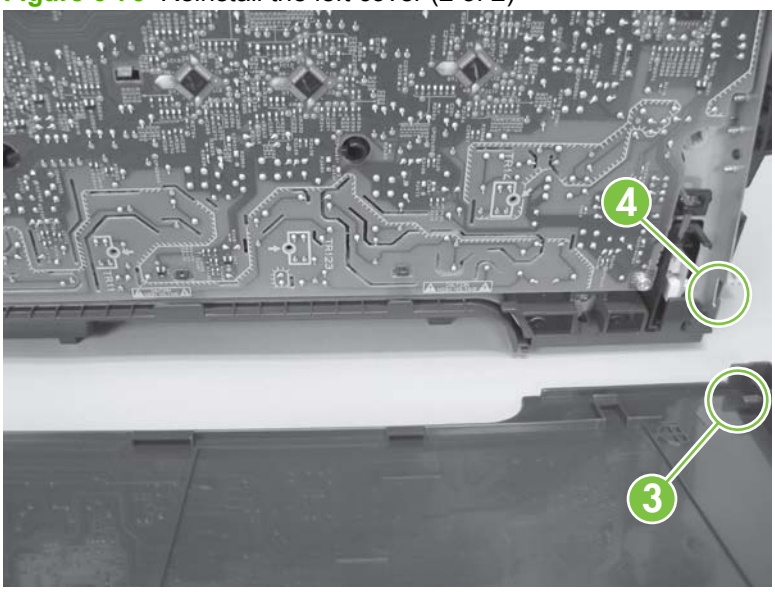
1. When you reinstall the left cover, ensure that the slot in the cover (callout 1) aligns with the tab (callout 2) on the product.

Figure 6-75 Reinstall the left cover (1 of 2)



2. When you reinstall the left cover, ensure that the pin on the cover (callout 3) aligns with the slot (callout 4) in the product.

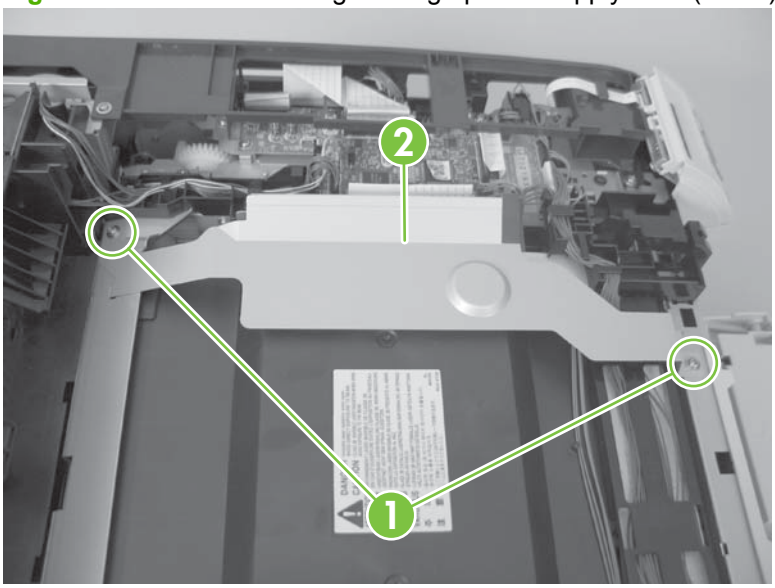
Figure 6-76 Reinstall the left cover (2 of 2)



High-voltage power-supply PCA

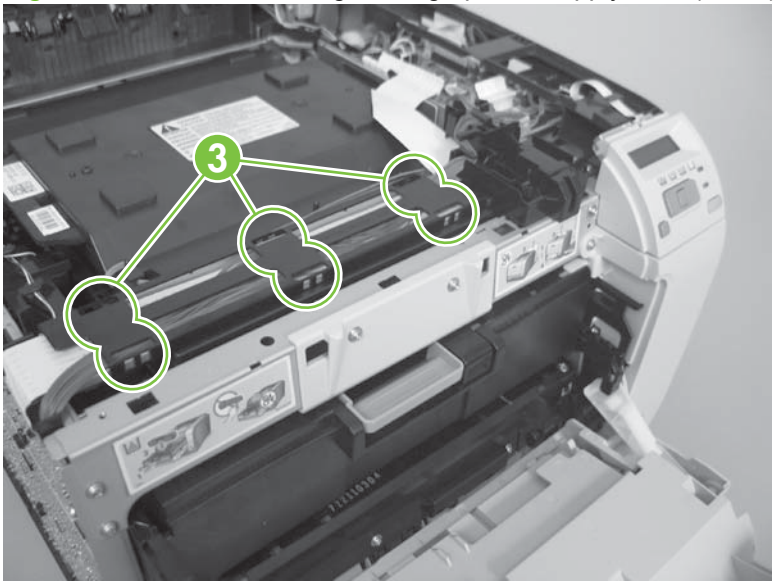
1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Left cover. See Left cover on page 126.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-lower cover (duplex products). See Rear-upper cover (duplex product) on page 111.
2. Remove two screws (callout 1), and then remove the sheet-metal plate (callout 2).

Figure 6-77 Remove the high-voltage power-supply PCA (1 of 5)



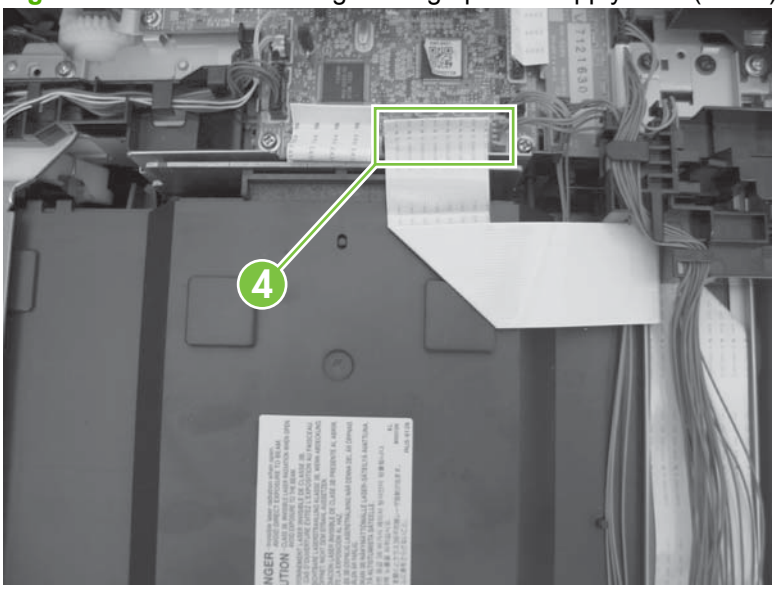
3. Release six tabs (callout 3), and then remove the black-plastic cover.

Figure 6-78 Remove the high-voltage power-supply PCA (2 of 5)



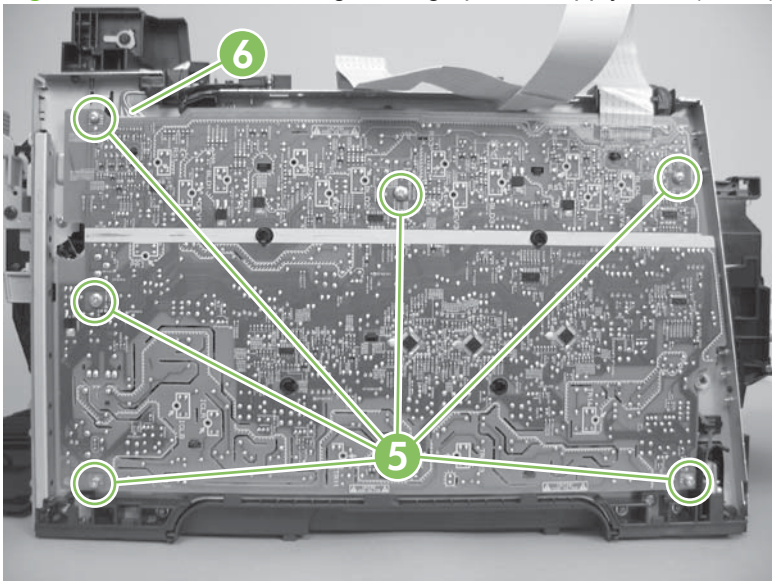
4. Disconnect one FFC (callout 4) on the DC controller.

Figure 6-79 Remove the high-voltage power-supply PCA (3 of 5)



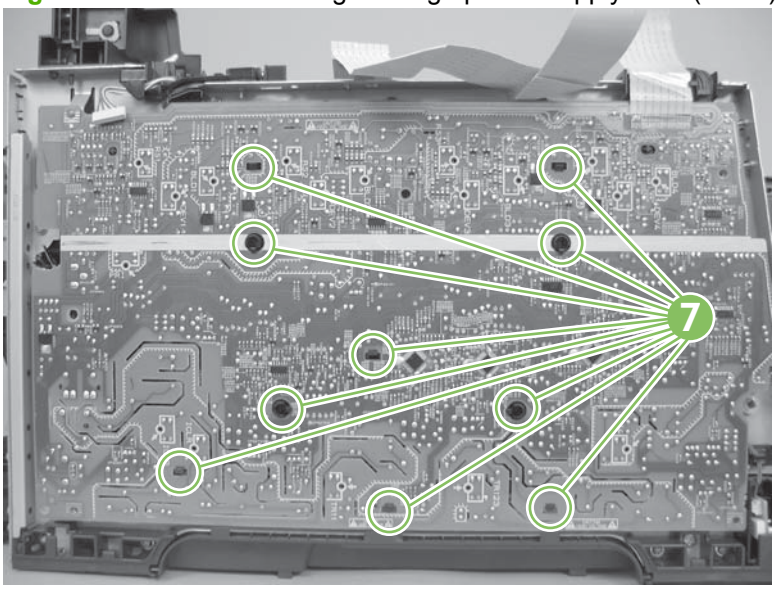
5. Disconnect one connector (callout 5), and then remove six screws (callout 6).

Figure 6-80 Remove the high-voltage power-supply PCA (4 of 5)



6. Release ten tabs (callout 7), and then remove the high-voltage power-supply PCA.

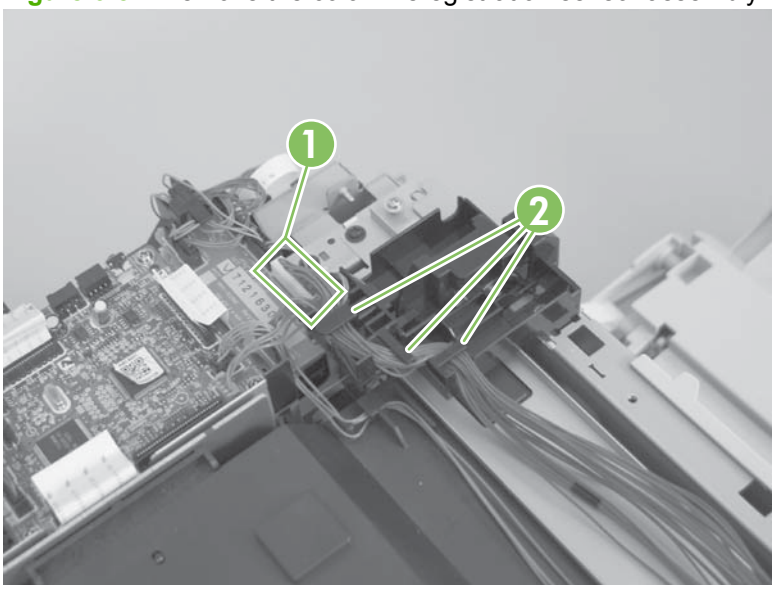
Figure 6-81 Remove the high-voltage power-supply PCA (5 of 5)



Color-misregistration sensor assembly PCA

1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Left cover. See Left cover on page 126.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-lower cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - High-voltage power-supply PCA. See High-voltage power-supply PCA on page 129.
2. Disconnect one connector (callout 1), and then release the wire harness from the guide (callout 2).

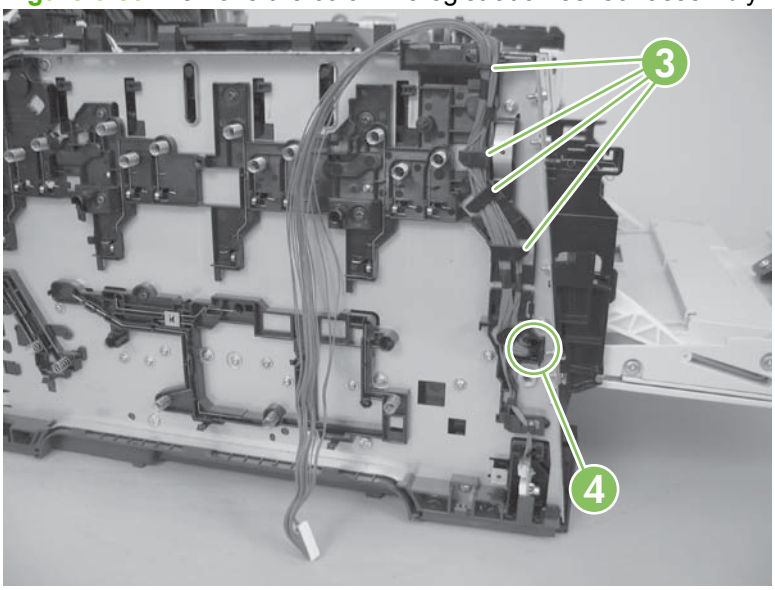
Figure 6-82 Remove the color-misregistration sensor assembly PCA (1 of 5)



3. Release the wire harness from the guide (callout 3).

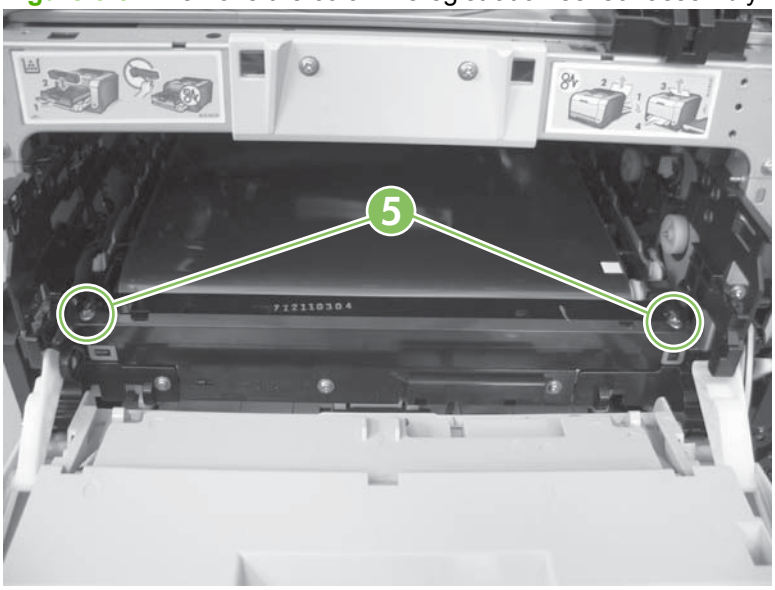
NOTE: When you remove the sensor assembly later in this procedure, pass the connector and wire harness through the hole in the chassis (callout 4).

Figure 6-83 Remove the color-misregistration sensor assembly PCA (2 of 5)



4. Remove two screws (callout 5).

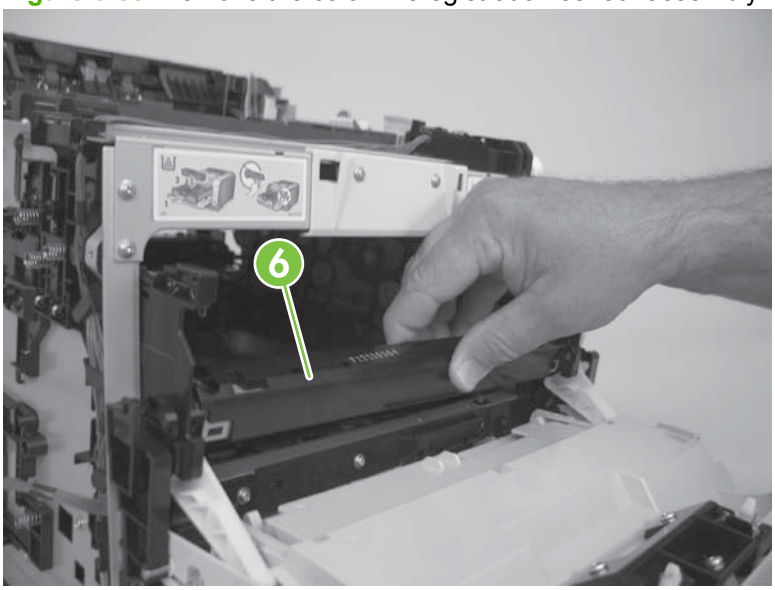
Figure 6-84 Remove the color-misregistration sensor assembly PCA (3 of 5)



5. Carefully separate the sensor assembly (callout 6) from the product and pass the wire harness through the hole in the chassis.

NOTE: See callout 4 in Figure 6-83 Remove the color-misregistration sensor assembly PCA (2 of 5) on page 133.

Figure 6-85 Remove the color-misregistration sensor assembly PCA (4 of 5)



6. Remove the sensor assembly from the product.

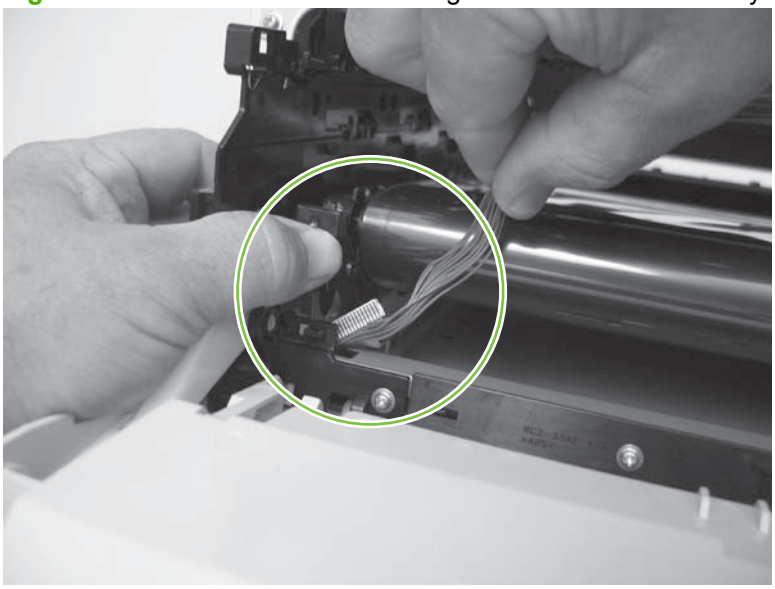
Figure 6-86 Remove the color-misregistration sensor assembly PCA (5 of 5)

Reinstall the color-misregistration sensor assembly

TIP: You might have to attempt this reinstall procedure several times before you successfully pass the connector through the hole in the chassis.

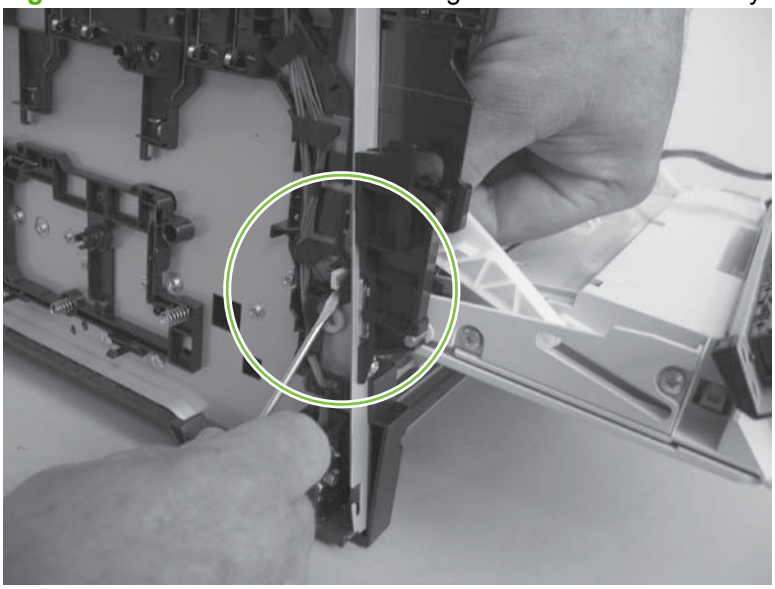
1. Push the sensor assembly wire-harness connector into the hole in the chassis from the ITB side of the product.

Figure 6-87 Reinstall the color-misregistration sensor assembly PCA (1 of 2)



2. Use a small flat blade screwdriver to guide the connector through the hole.

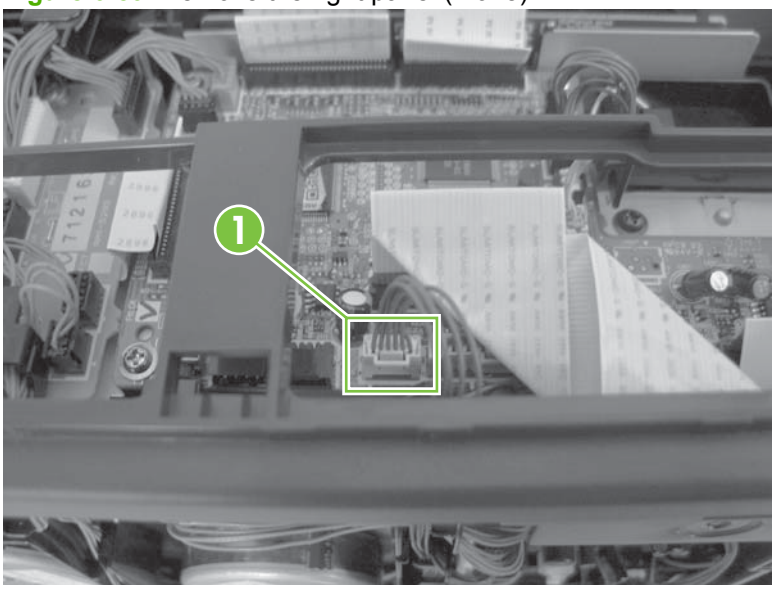
Figure 6-88 Reinstall the color-misregistration sensor assembly PCA (2 of 2)



Right panel

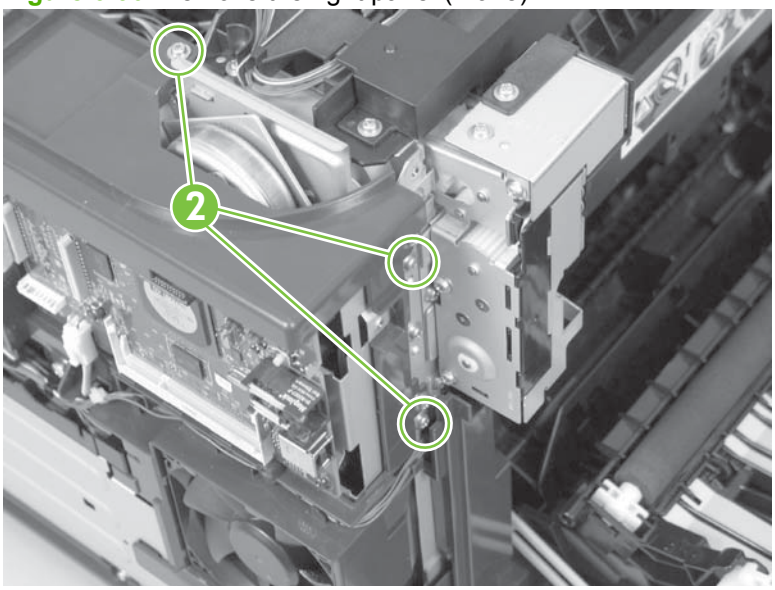
1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Control-panel assembly. See Control-panel assembly on page 124.
2. Disconnect one connector (callout 1; J206) on the DC controller.

Figure 6-89 Remove the right panel (1 of 8)



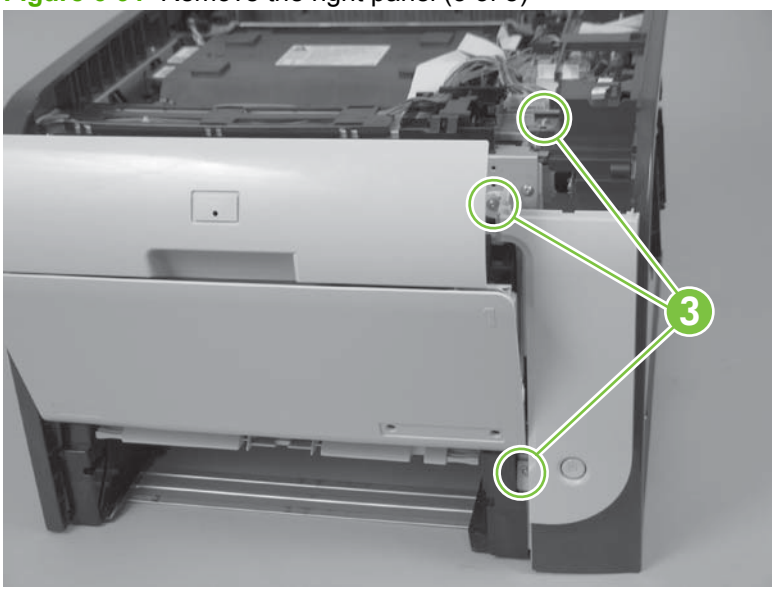
3. Remove three screws (callout 2).

Figure 6-90 Remove the right panel (2 of 8)



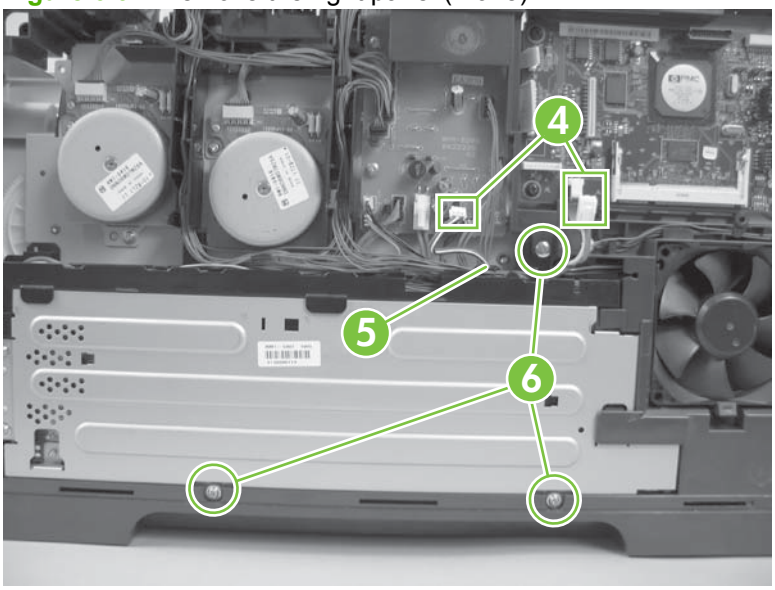
4. Remove three screws (callout 3).

Figure 6-91 Remove the right panel (3 of 8)



5. Disconnect two connectors (callout 4), release the fan wire harness from the guide (callout 5), and then remove three screws (callout 6).

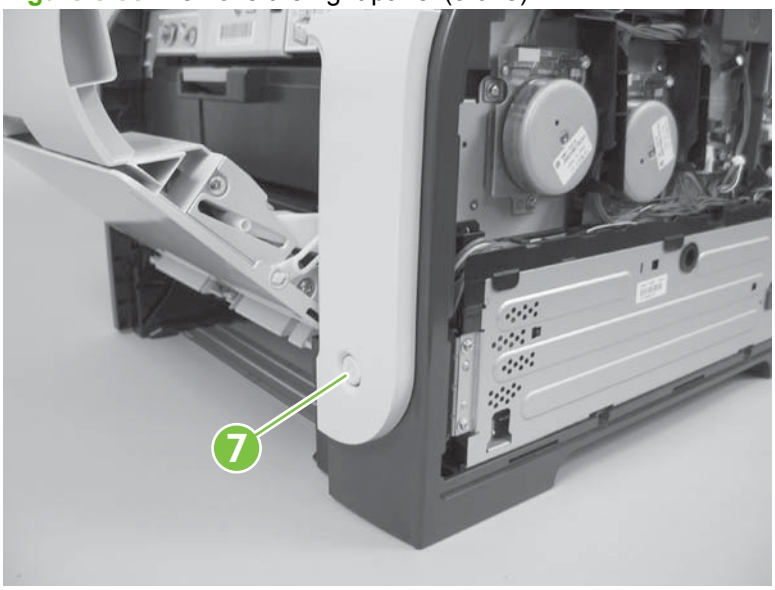
Figure 6-92 Remove the right panel (4 of 8)



6. Place the power button in the on position (callout 7).

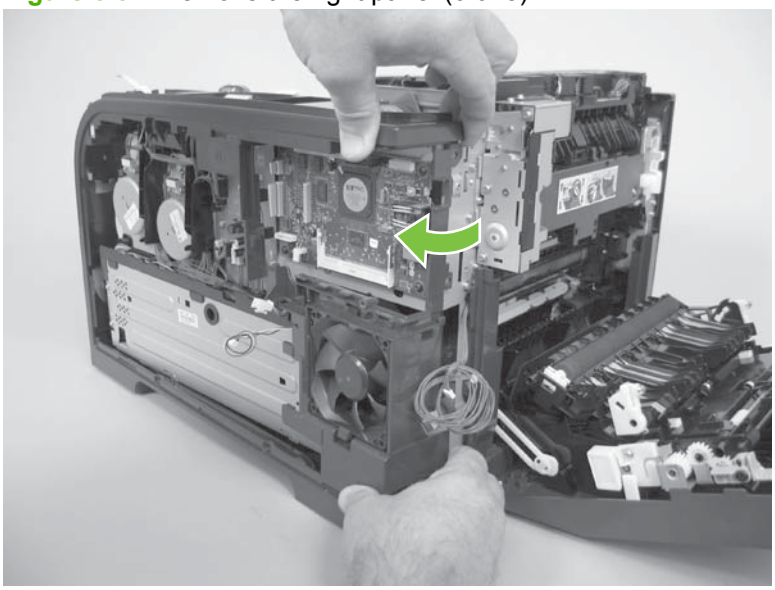
TIP: When you reinstall the panel, ensure that you place the power button in the off position so that the product does not immediately turn on when the power cord is plugged into the wall receptacle.

Figure 6-93 Remove the right panel (5 of 8)



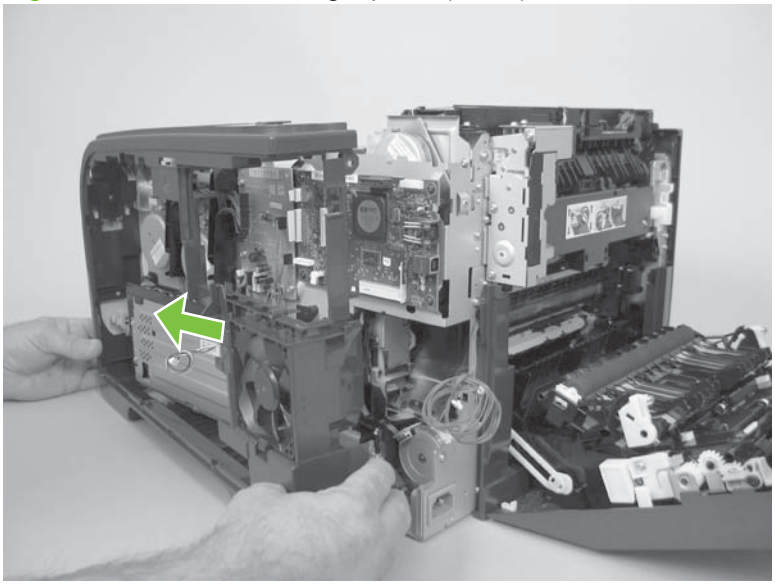
7. Carefully rotate the back edge of the panel away from the product.

Figure 6-94 Remove the right panel (6 of 8)



8. Carefully push the panel slightly toward the front of the product to release it.

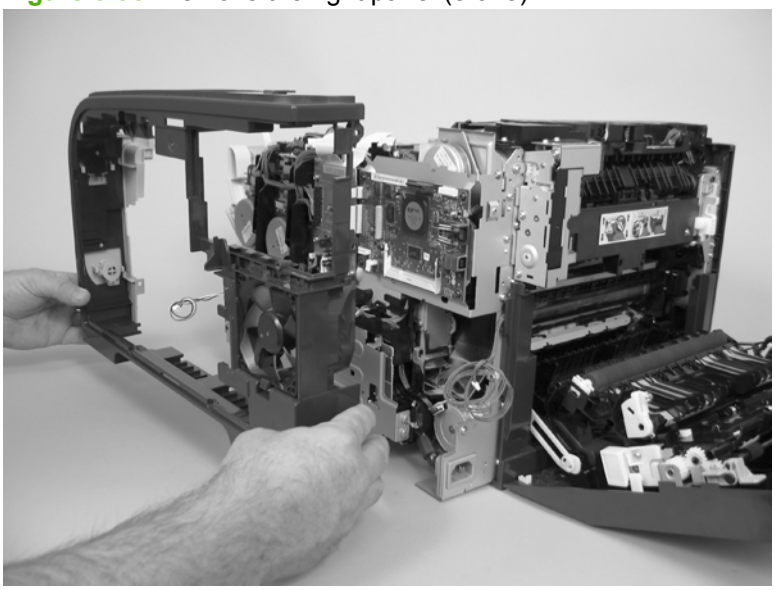
Figure 6-95 Remove the right panel (7 of 8)



9. Remove the right panel.

NOTE: If you are replacing the right panel, you must remove the fan and the right-front cover (the cover includes the power button) from the right panel. See Fan on page 146 and Right-front cover and power button on page 148.

Figure 6-96 Remove the right panel (8 of 8)



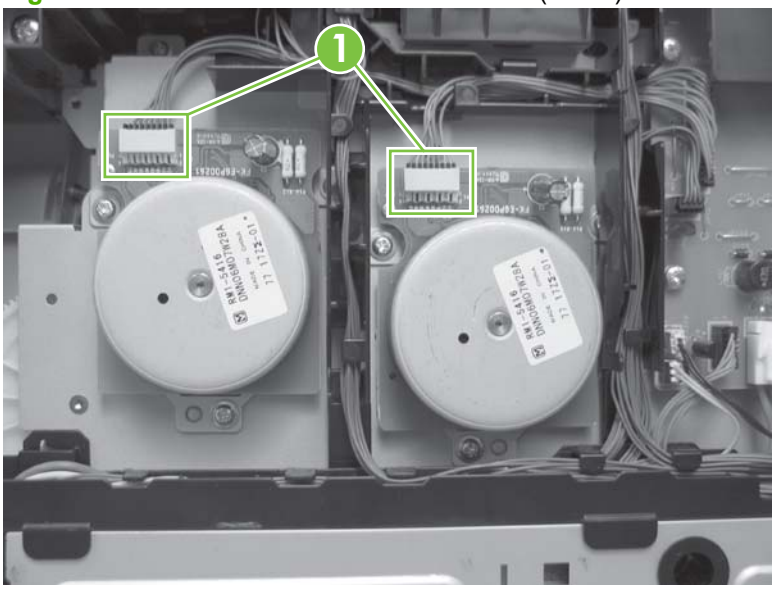
Motors (M1 and M2)

This procedure can be used to remove motor M1 or motor M2 separately.

△ **CAUTION:** HP does not recommend that you remove or replace both motors at the same time.

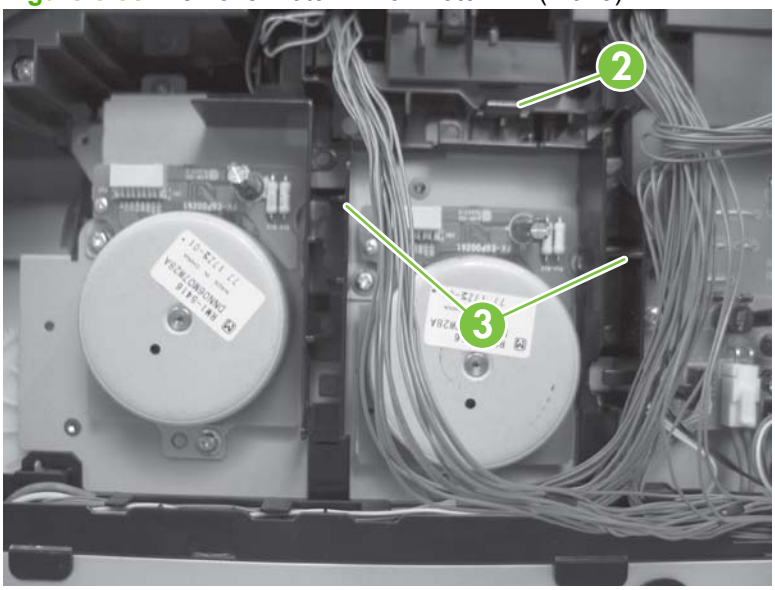
1. Remove the right cover. See Right cover on page 108.
2. Disconnect one connector (callout 1) for motor M1 or motor M2 (or both).

Figure 6-97 Remove motor M1 or motor M2 (1 of 3)



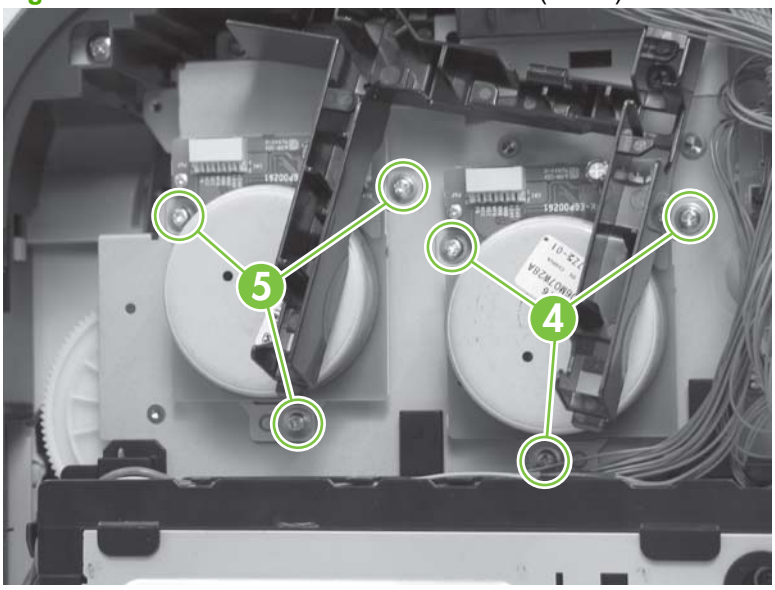
3. Release the wire harnesses from the retainer, and then release one tab (callout 2). Move the retainer (callout 3) to one side (you cannot completely remove the retainer from the product).

Figure 6-98 Remove motor M1 or motor M2 (2 of 3)



4. Remove three screws (callout 4) to remove motor M1, or remove three screws (callout 5) to remove motor M2.

Figure 6-99 Remove motor M1 or motor M2 (3 of 3)



DC controller PCA

Special considerations

⚠ **WARNING!** Do not install a *replacement* formatter PCA and a *replacement* DC controller PCA at the same time.

The formatter PCA and the DC controller PCA store important product configuration information (NVRAM data) that is lost if both PCAs are replaced at the same time. When the product power is turned on, the formatter restores the NVRAM data to a replacement DC controller.

Replacing both the DC controller and the formatter at the same time will result in severe print-quality problems.

Replacing the DC controller PCA before the formatter PCA

Use the following procedure if you need to install a replacement DC controller *and* a replacement formatter PCA.

NOTE: If you are only installing a replacement DC controller PCA, go to Remove the DC controller PCA on page 142.

1. Install a replacement DC controller PCA.
2. Turn the product on, and wait for the print-cartridge volume indicators to appear on the control-panel display.

   NOTE: This allows important product information to be written to the replacement DC controller PCA.

3. Turn the product off.
4. Install a replacement formatter PCA. See Formatter PCA on page 144.
5. Turn the product on.

Remove the DC controller PCA

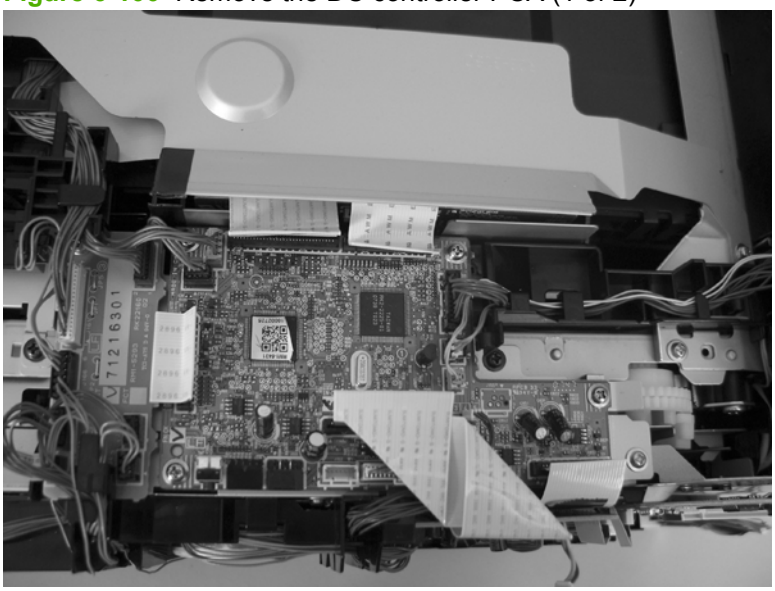
△ **CAUTION:** Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* ensure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Some parts are sensitive to electrostatic discharge (ESD). 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.

1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Upper cover. See Upper-cover assembly on page 121.
   - Right panel. See Right panel on page 136.

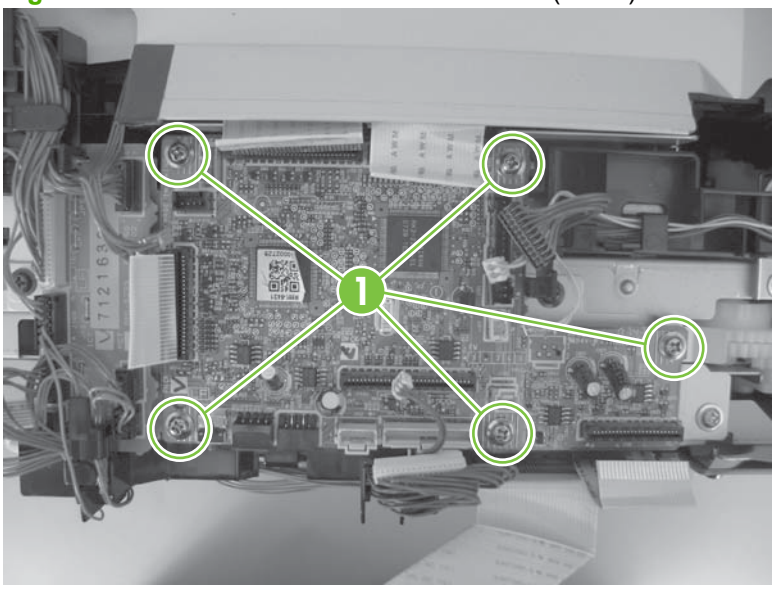
2. Disconnect all the connectors.

Figure 6-100 Remove the DC controller PCA (1 of 2)



3. Remove four screws (callout 1) and then remove the DC controller PCA.

Figure 6-101 Remove the DC controller PCA (2 of 2)



Formatter PCA

Special considerations

WARNING! Do not install a *replacement* formatter PCA and DC controller PCA at the same time.

The formatter PCA and the DC controller PCA store important product configuration information (NVRAM data) that is lost if both PCAs are replaced at the same time. When the product power is turned on, the DC controller restores the NVRAM data on the replacement formatter.

Replacing both the formatter and the DC controller at the same time will result in severe print-quality problems.

NOTE: The base model does not have a fax card installed.

Replacing the formatter PCA before the DC controller PCA

Use the following procedure if you need to install a replacement formatter PCA *and* a replacement DC controller.

NOTE: If you are only installing a replacement formatter PCA, go to Remove the formatter PCA on page 144.

1. Install a replacement formatter PCA.
2. Turn the product on, and wait for the print-cartridge volume indicators to appear on the control-panel display.

   NOTE: This allows important product information to be written to the replacement formatter PCA.

3. Turn the product off.
4. Install a replacement DC controller. See DC controller PCA on page 142.
5. Turn the product on.

Remove the formatter PCA

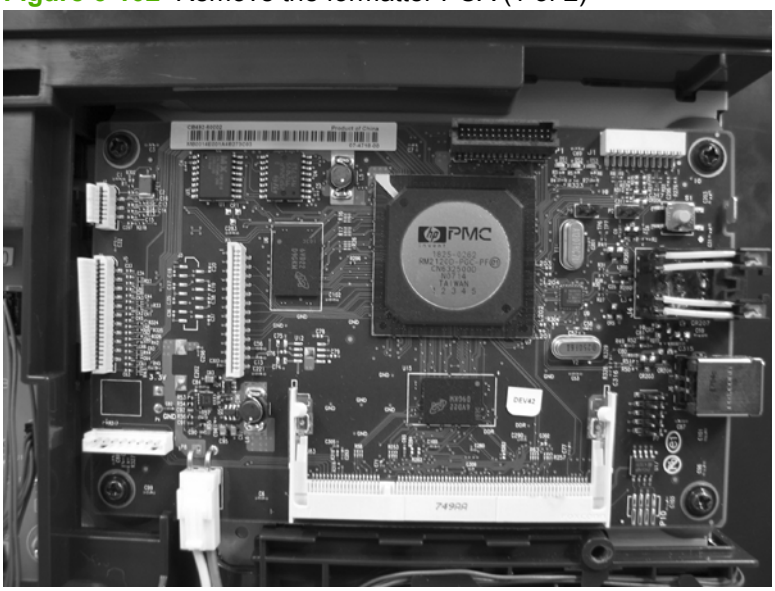
CAUTION: Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten prefolds in the FFCs. You *must* ensure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

Some parts are sensitive to electrostatic discharge (ESD). 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.

1. Remove the right cover. See Right cover on page 108.

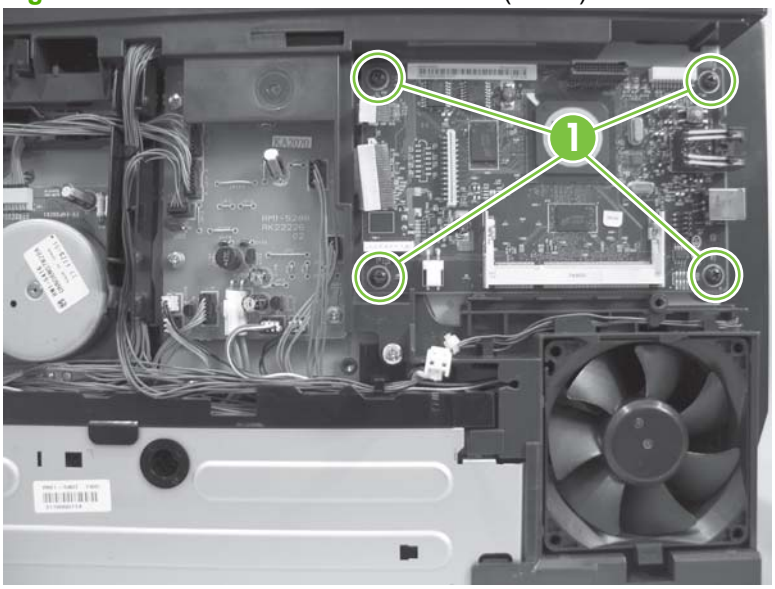
2. Disconnect all the connectors.

Figure 6-102 Remove the formatter PCA (1 of 2)



3. Remove four screws (callout 1), and then remove the formatter PCA.

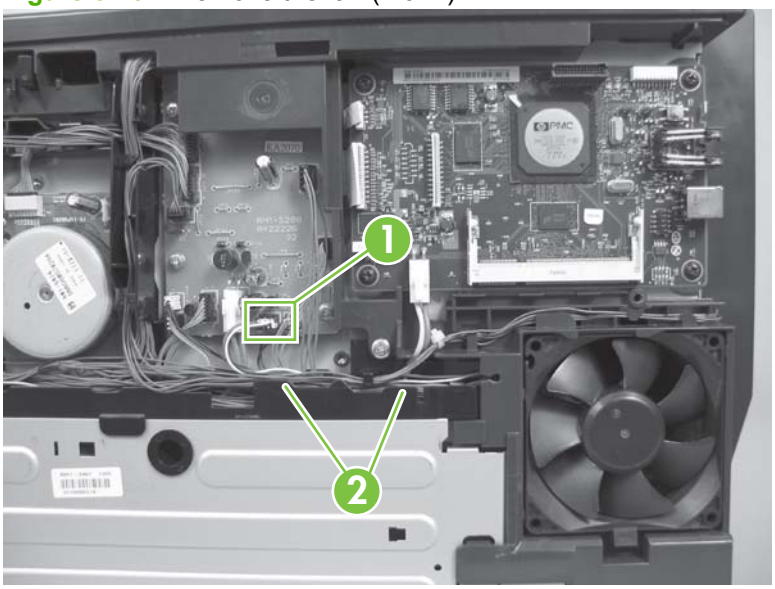
Figure 6-103 Remove the formatter PCA (2 of 2)



Fan

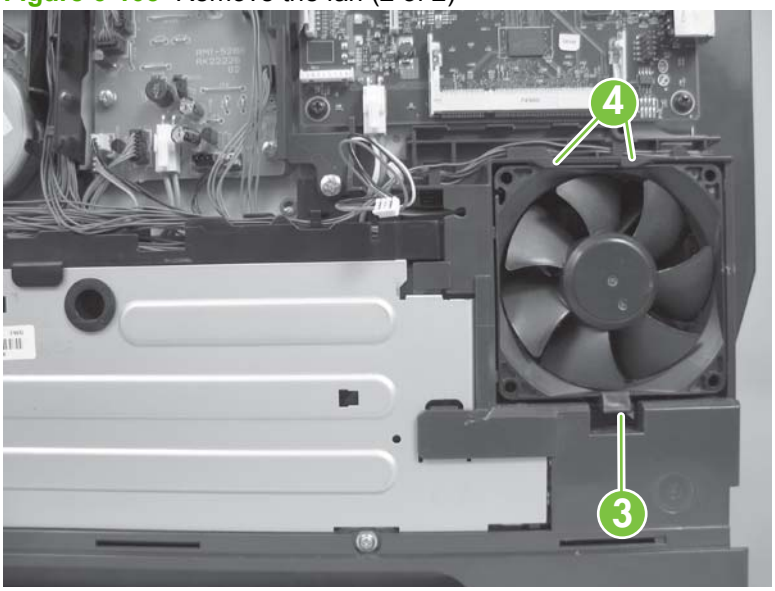
1. Remove the right cover. See Right cover on page 108.
2. Disconnect one connector (callout 1) and then release the wire harness from the retainer (callout 2).

Figure 6-104 Remove the fan (1 of 2)



3. Release one tab (callout 3), push down on the fan to release it from the mounting points (callout 4), and then remove the fan.

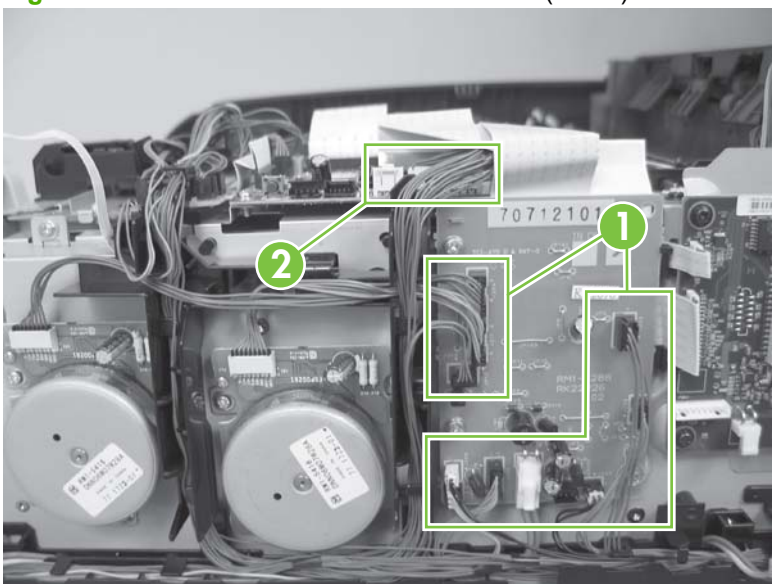
Figure 6-105 Remove the fan (2 of 2)



Intermediate PCA

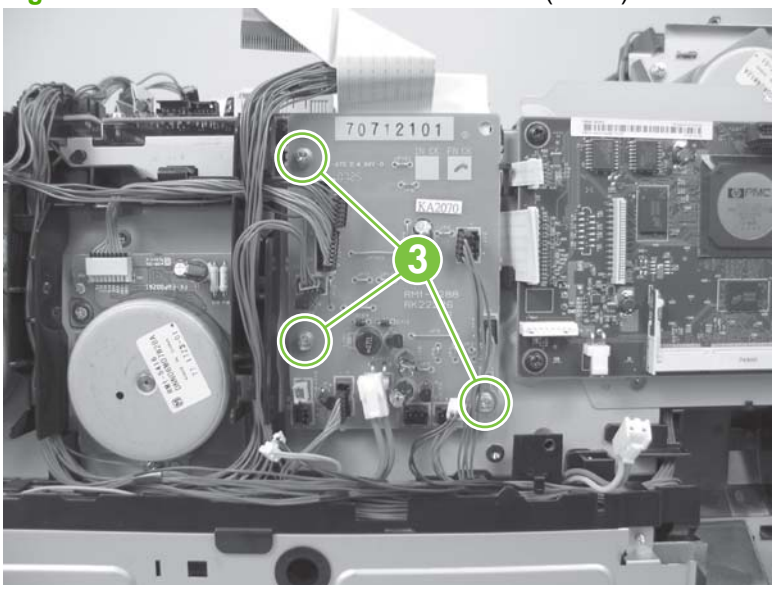
1. Remove the following components:
   - Upper cover. See Right cover on page 108.
   - Upper cover. See Upper-cover assembly on page 121.
   - Right panel. See Right panel on page 136.
2. Disconnect all the connectors (callout 1) on the PCA and one FFC (callout 2).

Figure 6-106 Remove the Intermediate PCA (1 of 2)



3. Remove three screws (callout 3), and then remove the intermediate PCA.

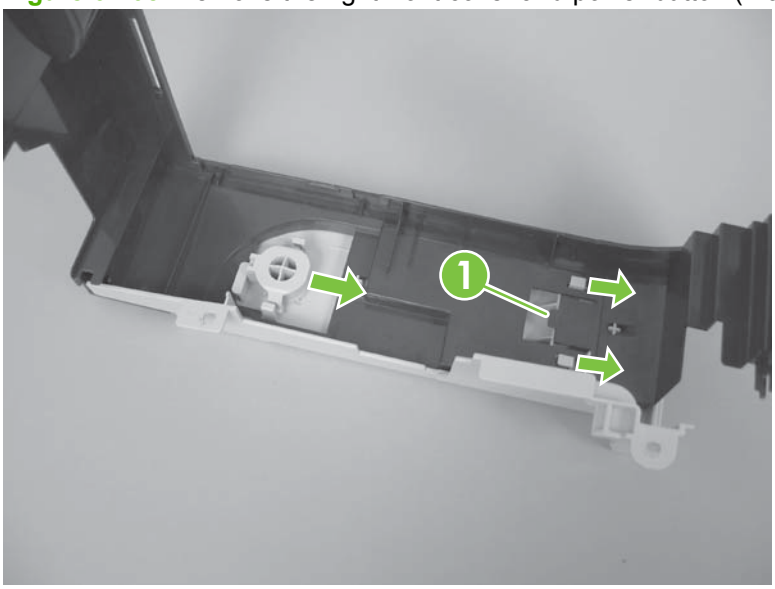
Figure 6-107 Remove the Intermediate PCA (2 of 2)



Right-front cover and power button

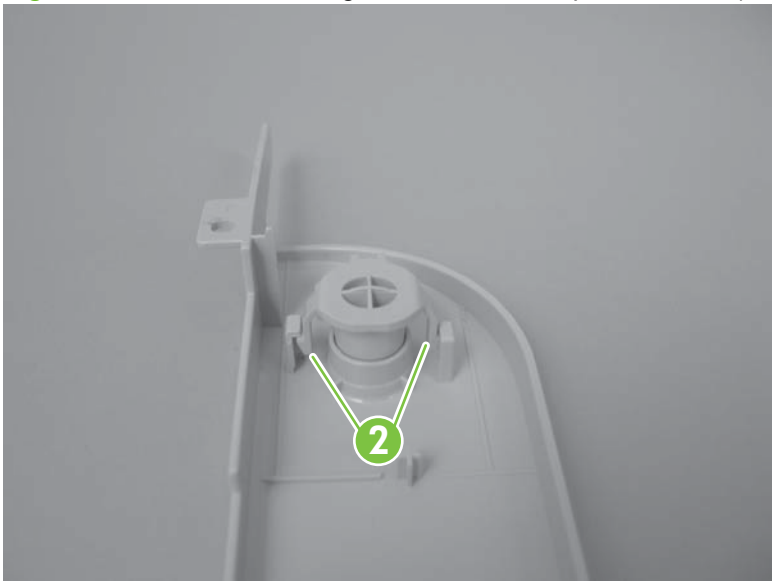
1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Control-panel assembly. See Control-panel assembly on page 124.
   - Right panel. See Right panel on page 136.
2. Lift up on one tab (callout 1) and then slide the right-front cover toward the top edge of the right panel to separate the cover from the panel.

Figure 6-108 Remove the right-front cover and power button (1 of 2)



3. Release two tabs (callout 2), and then remove the power button.

Figure 6-109 Remove the right-front cover and power button (2 of 2)

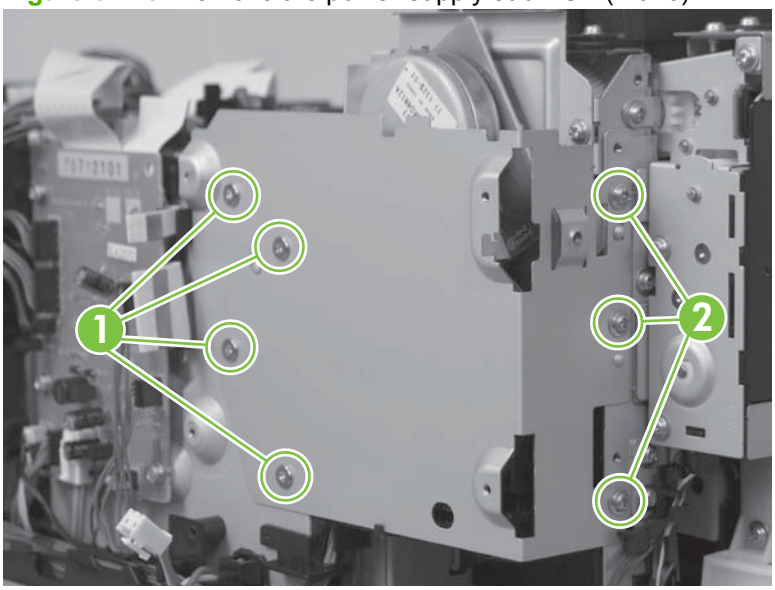


Power-supply sub PCA

1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Formatter PCA. See Formatter PCA on page 144.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Control-panel assembly. See Control-panel assembly on page 124.
   - Right panel. See Right panel on page 136.
2. Remove four flat-head screws (callout 1), three screws (callout 2), and then remove the sheet-metal plate.

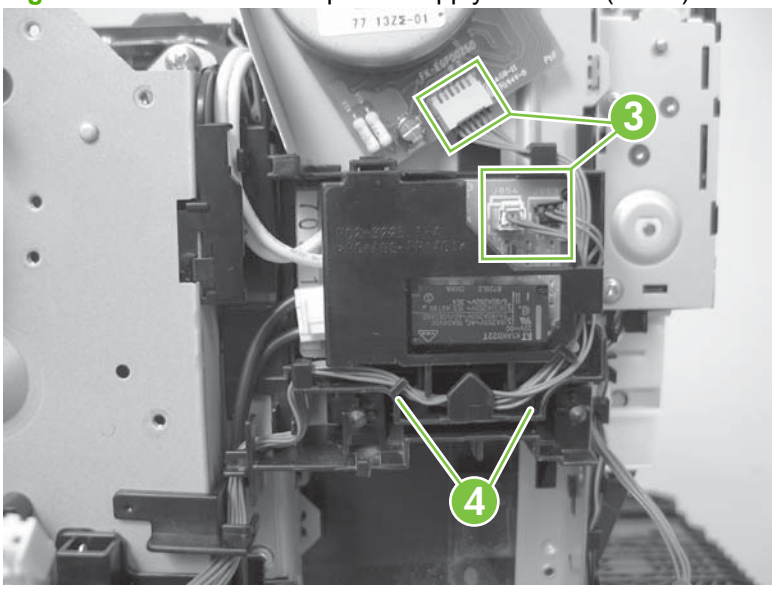
NOTE: The four flat-head screws must be installed in the correct position to avoid damage to the formatter. Standard screws can contact the formatter when it is installed and can cause a formatter short circuit.

Figure 6-110 Remove the power-supply sub PCA (1 of 6)



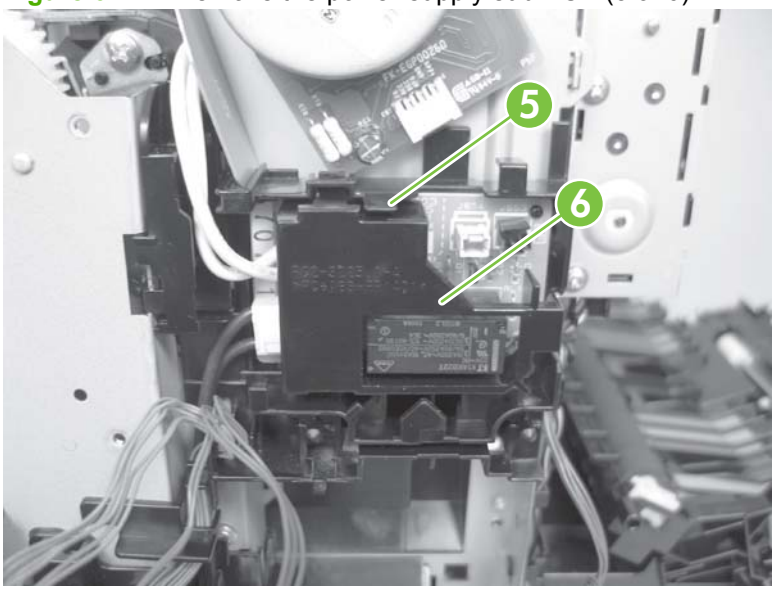
3. Disconnect three connectors (callout 3), and then release the wire harnesses from the retainer (callout 4).

Figure 6-111 Remove the power-supply sub PCA (2 of 6)



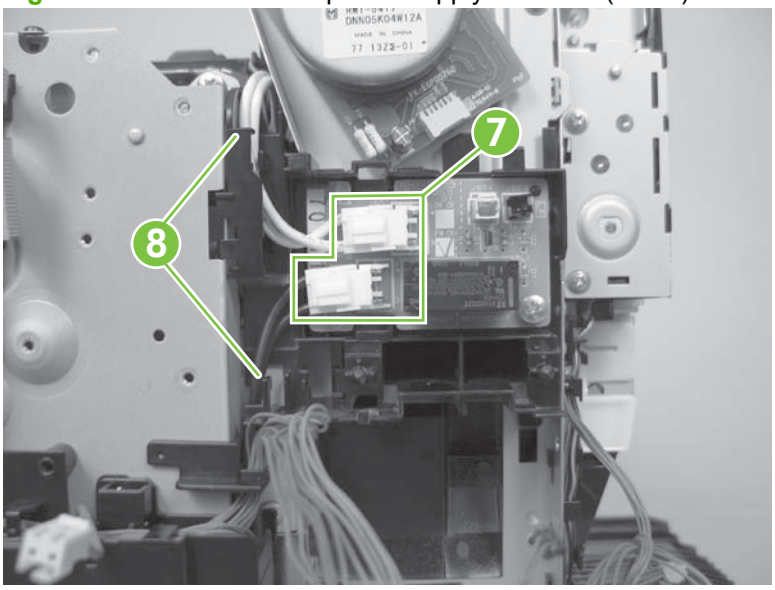
4. Release one tab (callout 5), and then remove the retainer (callout 6).

Figure 6-112 Remove the power-supply sub PCA (3 of 6)



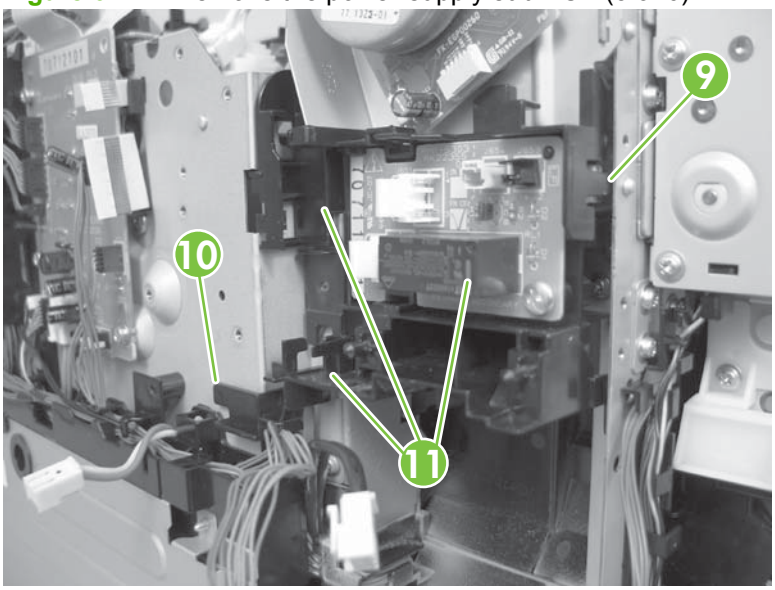
5. Disconnect two connectors (callout 7), and then release the wire harnesses from the retainer (callout 8).

Figure 6-113 Remove the power-supply sub PCA (4 of 6)



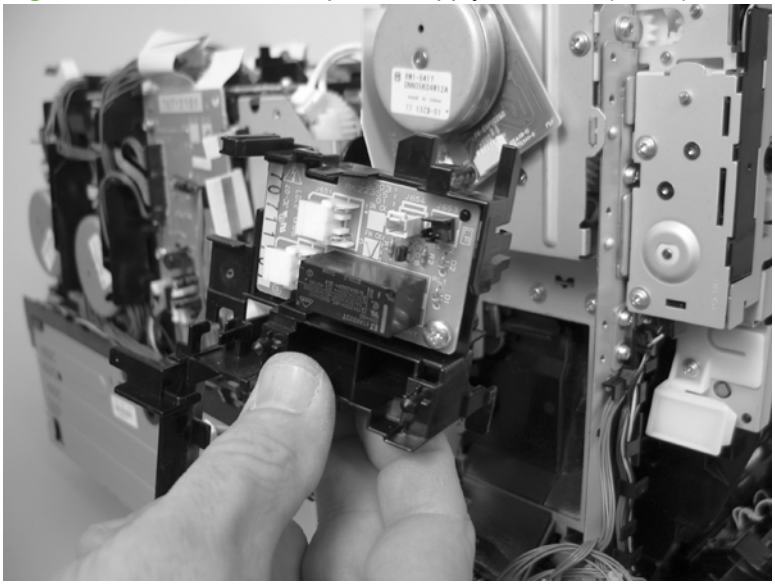
6. Release one tab (callout 9), and one pin (callout 10) to release the retainer and PCA assembly (callout 11).

Figure 6-114 Remove the power-supply sub PCA (5 of 6)



7. Remove the retainer and power-supply sub PCA.

Figure 6-115 Remove the power-supply sub PCA (6 of 6)

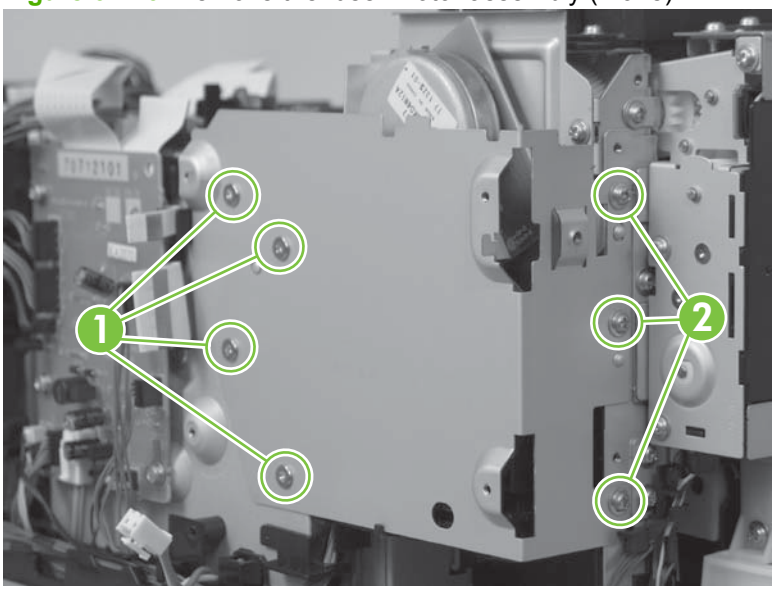


Fuser motor assembly

1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Formatter PCA. See Formatter PCA on page 144.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Control-panel assembly. See Control-panel assembly on page 124.
   - Right panel. See Right panel on page 136.
2. Remove four flat-head screws (callout 1), three screws (callout 2), and then remove the sheet-metal plate.

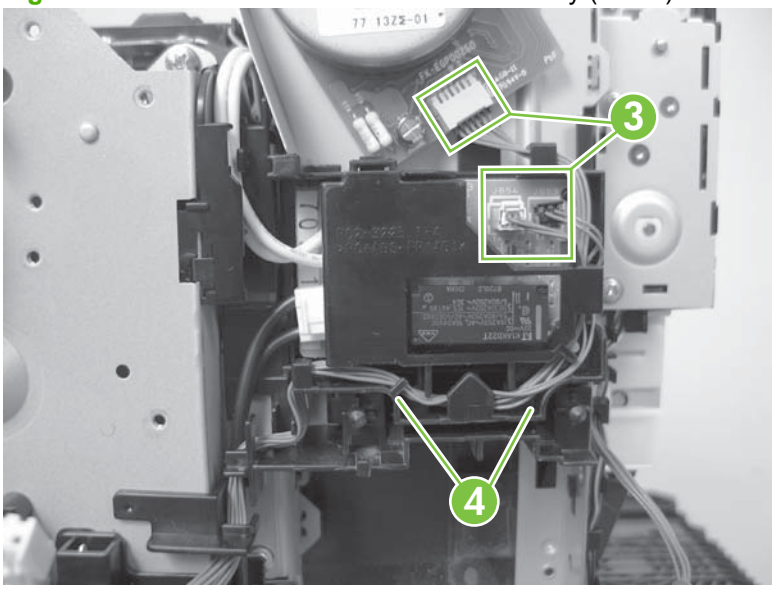
△ **CAUTION:** The four flat-head screws must be installed in the correct position to avoid damage to the formatter. Standard screws can contact the formatter when it is installed and can cause a short circuit.

Figure 6-116 Remove the fuser motor assembly (1 of 8)



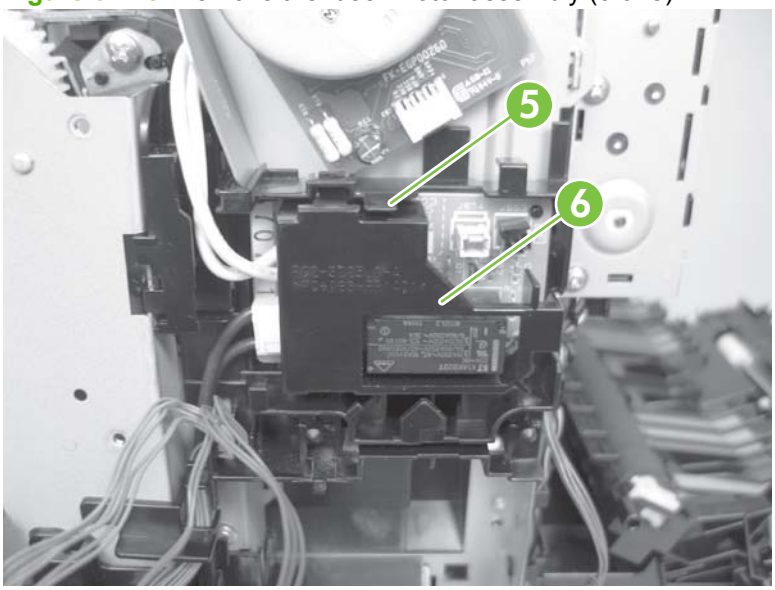
3. Disconnect three connectors (callout 3), and then release the wire harnesses from the retainer (callout 4).

Figure 6-117 Remove the fuser motor assembly (2 of 8)



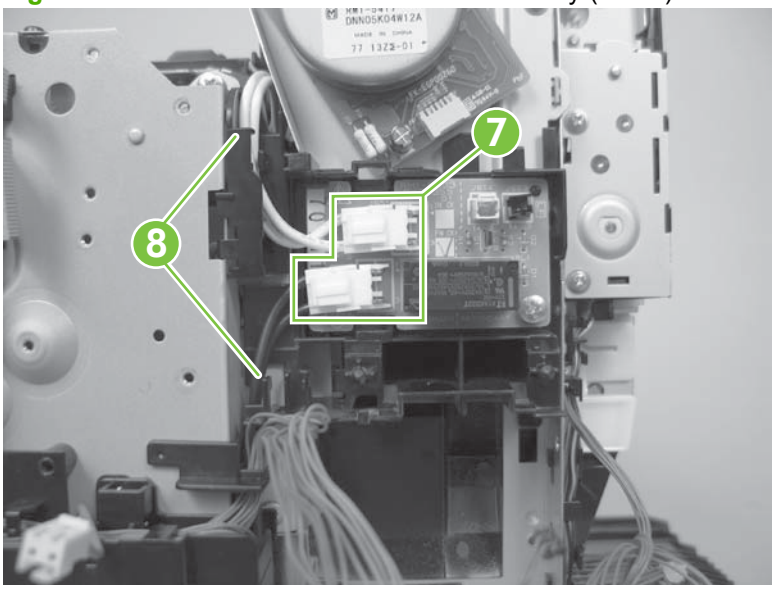
4. Release one tab (callout 5), and then remove the retainer (callout 6).

Figure 6-118 Remove the fuser motor assembly (3 of 8)



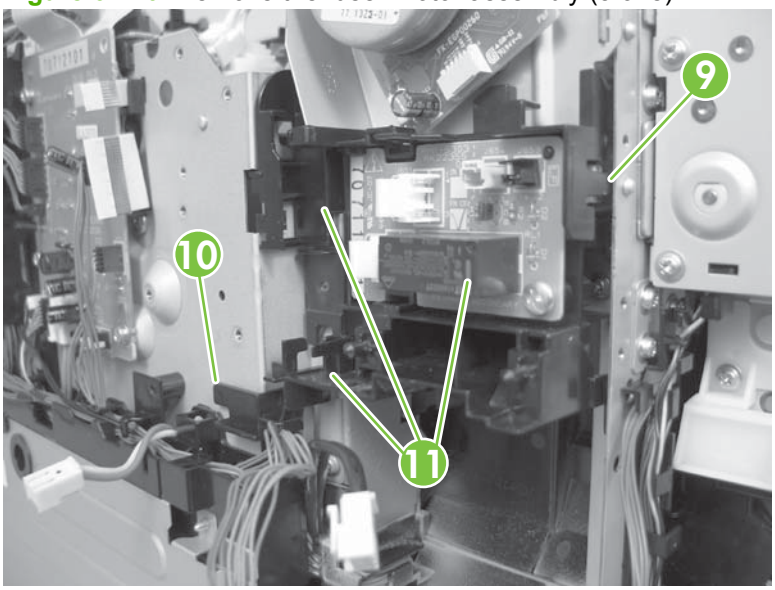
5. Disconnect two connectors (callout 7), and then release the wire harnesses from the retainer (callout 8).

Figure 6-119 Remove the fuser motor assembly (4 of 8)



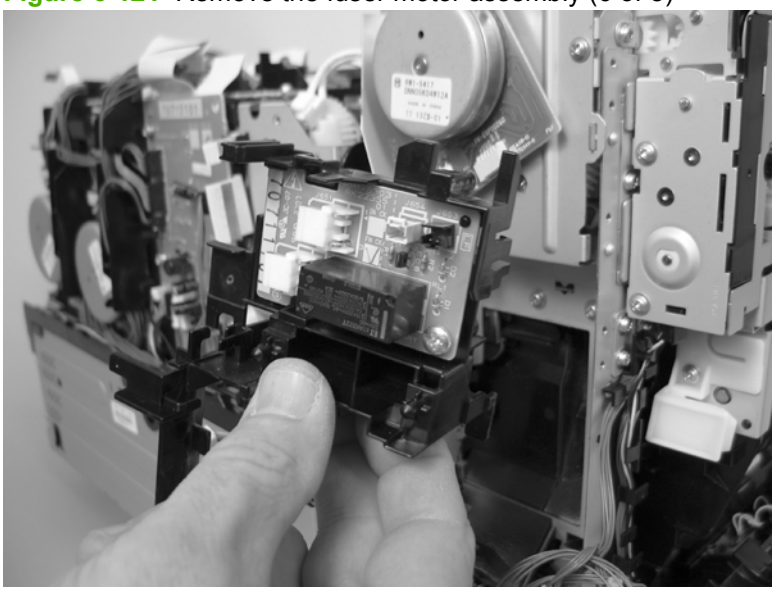
6. Release one tab (callout 9), and one pin (callout 10) to release the retainer and PCA assembly (callout 11).

Figure 6-120 Remove the fuser motor assembly (5 of 8)



7. Remove the retainer and PCA assembly.

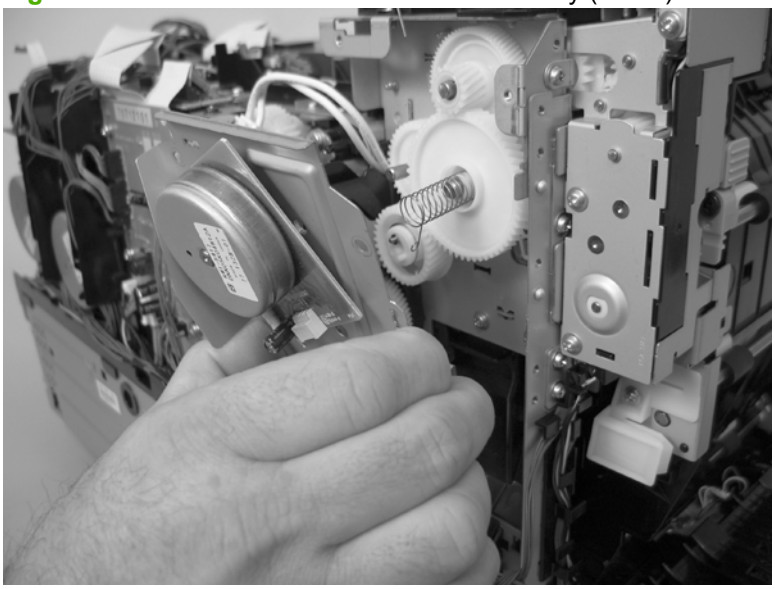
Figure 6-121 Remove the fuser motor assembly (6 of 8)



8. Be careful, the spring and the gears behind the fuser motor assembly are not captive.

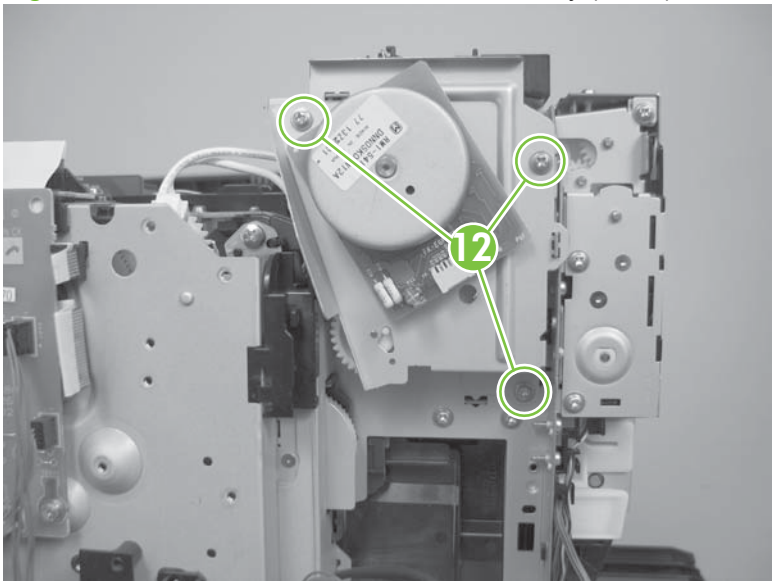
△ **CAUTION:** Do not lose the spring or gears when you remove the fuser motor assembly.

Figure 6-122 Remove the fuser motor assembly (7 of 8)



9. Remove three screws (callout 12), and then remove the fuser motor assembly.

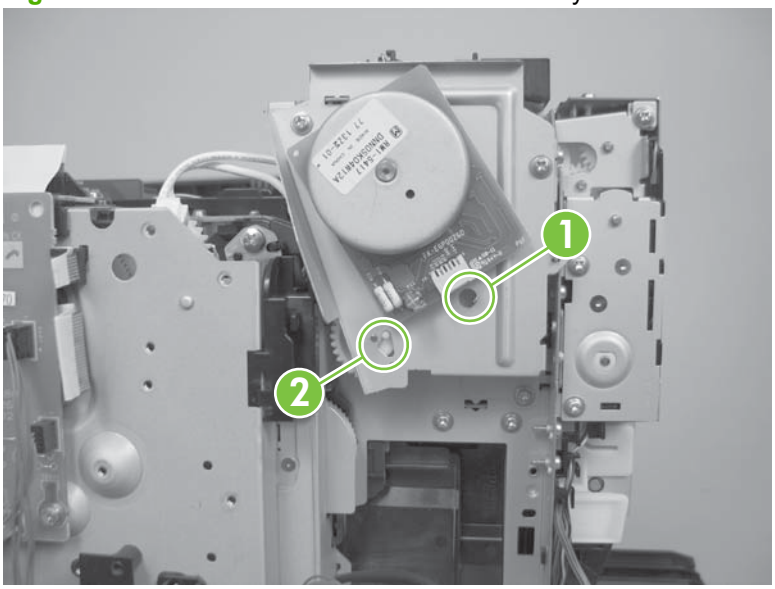
Figure 6-123 Remove the fuser motor assembly (8 of 8)



Reinstall the fuser motor assembly

Ensure that the fuser motor assembly spring (callout 1) and gear pin (callout 2) are correctly positioned in the hole and slot provided in the assembly mounting bracket. The assembly mounting bracket fits flat against the product chassis when the fuser motor assembly is correctly installed.

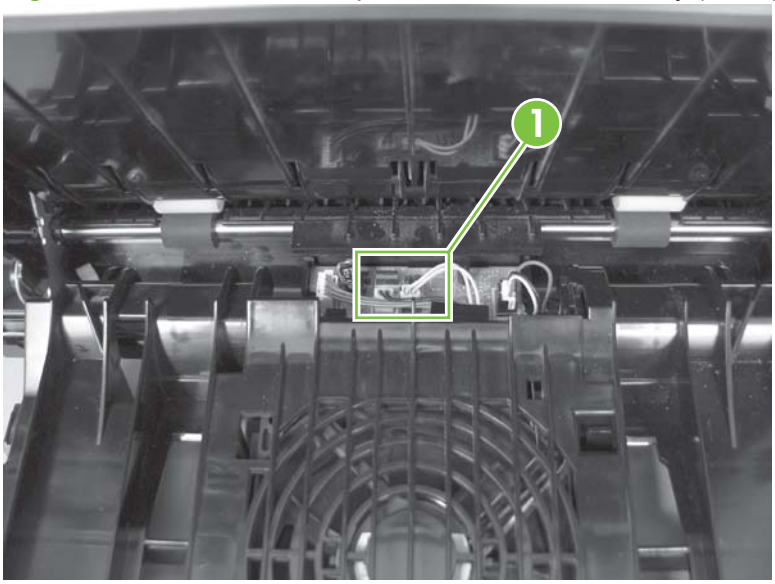
Figure 6-124 Reinstall the fuser motor assembly



Duplex reverse-drive assembly

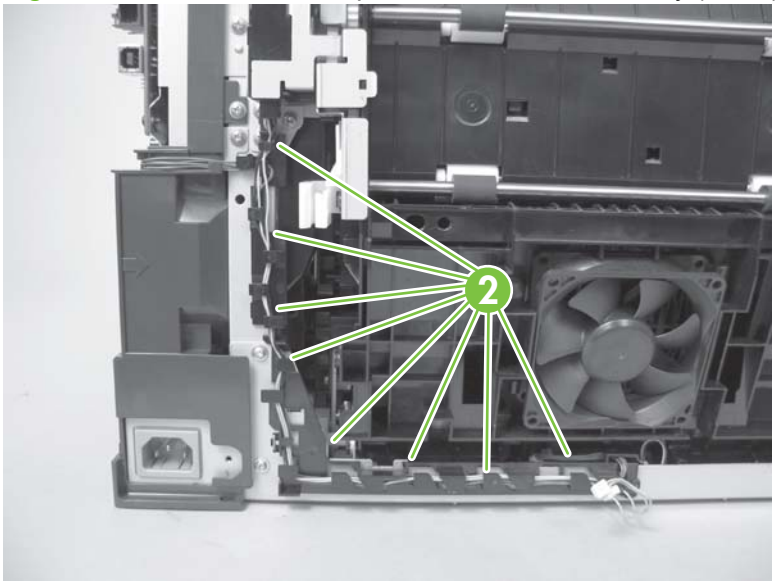
1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Rear door (duplex products). See Rear door (duplex product) on page 106.
   - Rear-lower cover (duplex products). See Rear-lower cover and rear-door links (duplex product) on page 116.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Control-panel assembly. See Control-panel assembly on page 124.
   - Right panel. See Right panel on page 136.
2. Disconnect two connectors (callout 1), and then pass the connectors under the rear-door rib assembly.

Figure 6-125 Remove the duplex reverse-drive assembly (1 of 4)



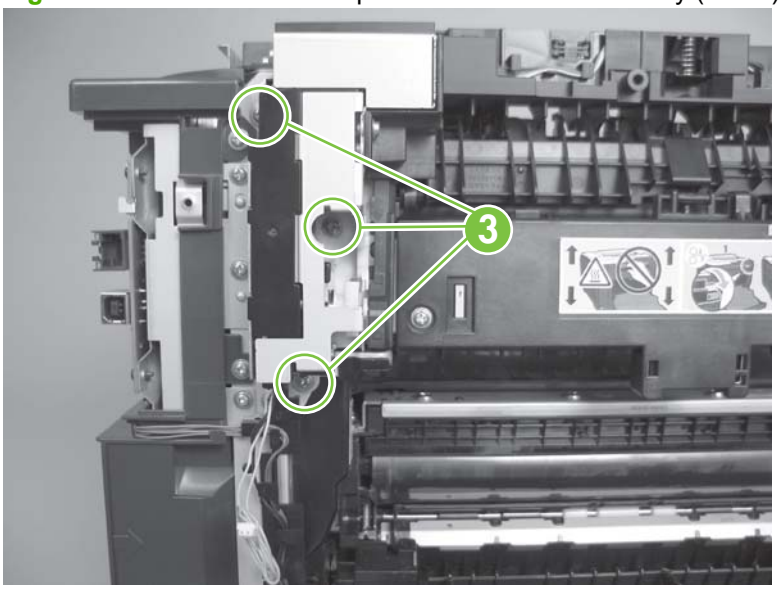
3. Release the wire harnesses from the retainer (callout 2).

Figure 6-126 Remove the duplex reverse-drive assembly (2 of 4)



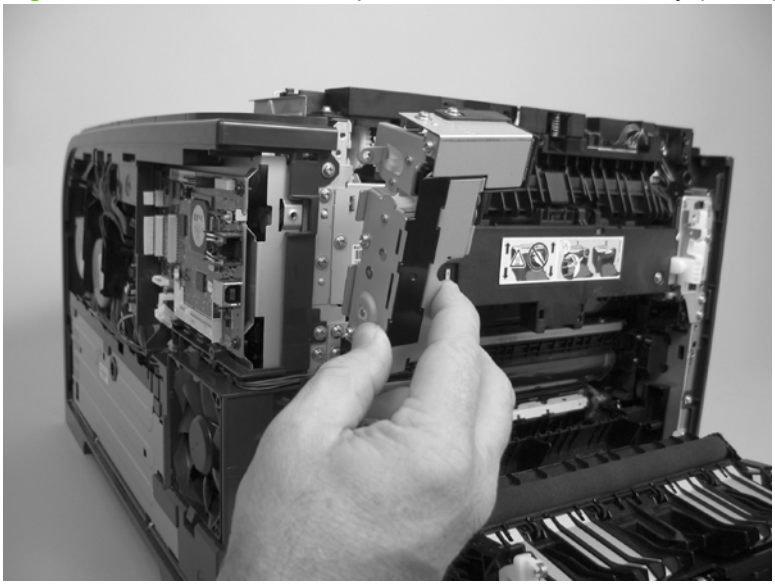
4. Remove three screws (callout 3).

Figure 6-127 Remove the duplex reverse-drive assembly (3 of 4)



5. Remove the duplex reverse-drive assembly.

Figure 6-128 Remove the duplex reverse-drive assembly (4 of 4)



Fuser

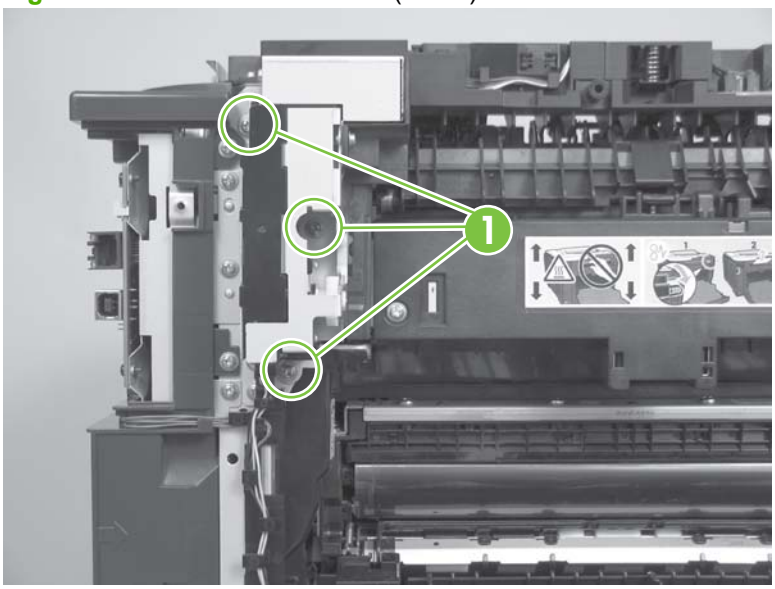
⚠ **WARNING!** The fuser might be hot. After turning off the product power, allow the fuser to cool for at least five minutes before removing it.

NOTE: The fuser can be removed without removing the upper-cover assembly. However, it might be easier to access some of the connectors with this component removed.

1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Left cover. See Left cover on page 126.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Rear door (duplex products). See Rear door (duplex product) on page 106.
   - Rear-lower cover (duplex products). See Rear-lower cover and rear-door links (duplex product) on page 116.
2. **Duplex models only**: Remove three screws (callout 1) and separate the duplex reverse-drive assembly from the product.

△ **CAUTION:** The duplex reverse-drive assembly is still attached to the product. Carefully set the assembly out of the way.

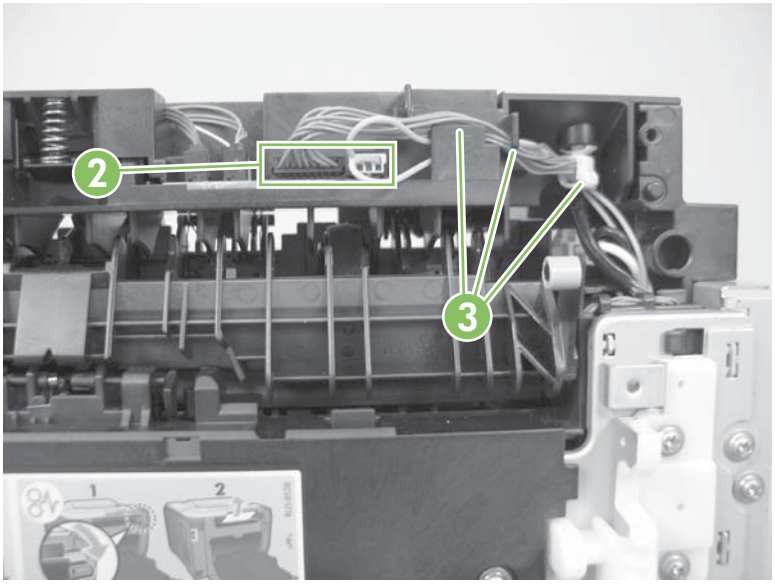
Figure 6-129 Remove the fuser (1 of 8)



3. Disconnect two connectors (callout 2), and then release the wire harnesses from the guide (callout 3).

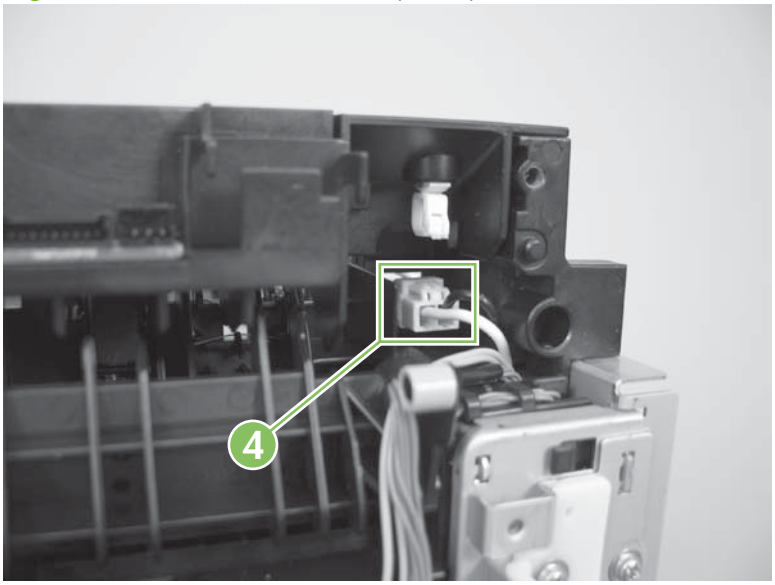
Reinstallation tip When the upper cover is reinstalled, make sure that these wire harnesses (near the connectors) are correctly routed under the cover.

Figure 6-130 Remove the fuser (2 of 8)



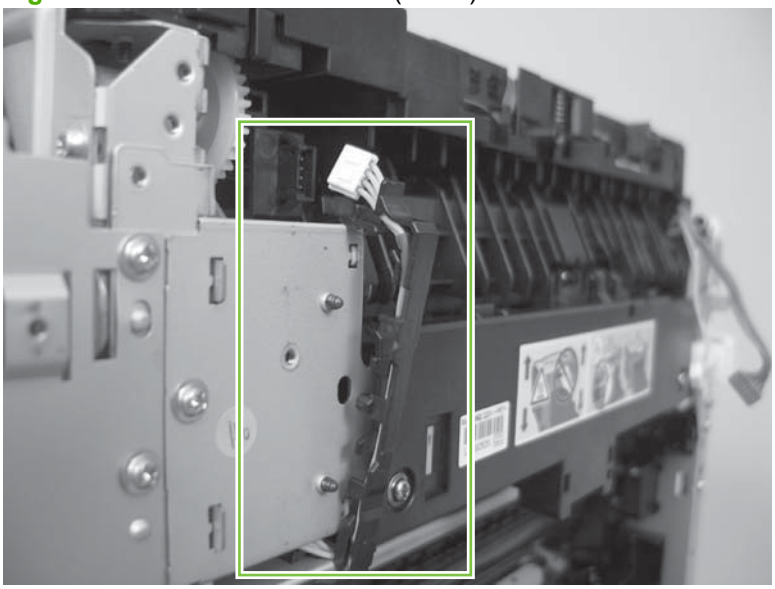
4. Disconnect one connector (callout 4).

Figure 6-131 Remove the fuser (3 of 8)



5. *Before you proceed*, look at Figure 6-132 Remove the fuser (4 of 8) on page 164. In the following step, the connector and guide will be separated from the fuser. You **must not** use too much force and damage the lower portion of the guide. If the guide is damaged, the fuser must be replaced.

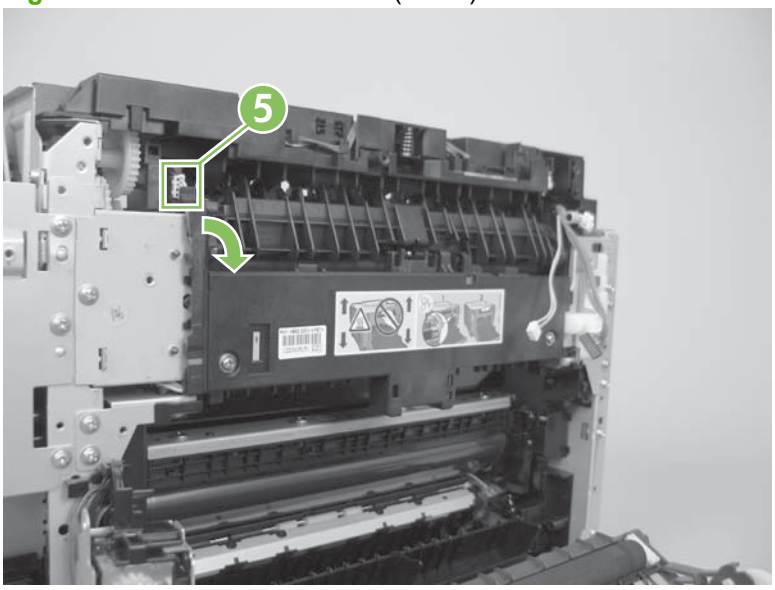
Figure 6-132 Remove the fuser (4 of 8)



6. Carefully disconnect one connector and rotate the connector and the top portion of the guide away from the fuser (callout 5).

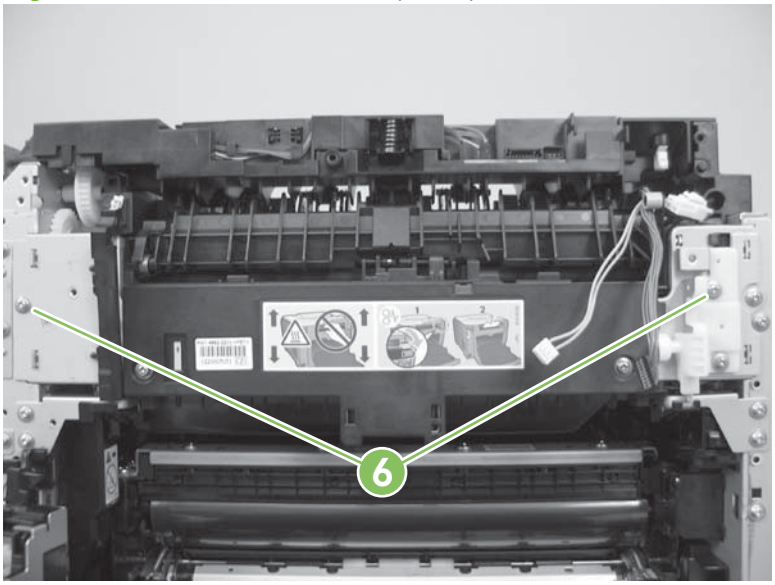
⚠ **WARNING!** Do not separate the connector and guide more than is shown in Figure 6-132 Remove the fuser (4 of 8) on page 164. If the guide is damaged, you must replace the fuser.

Figure 6-133 Remove the fuser (5 of 8)



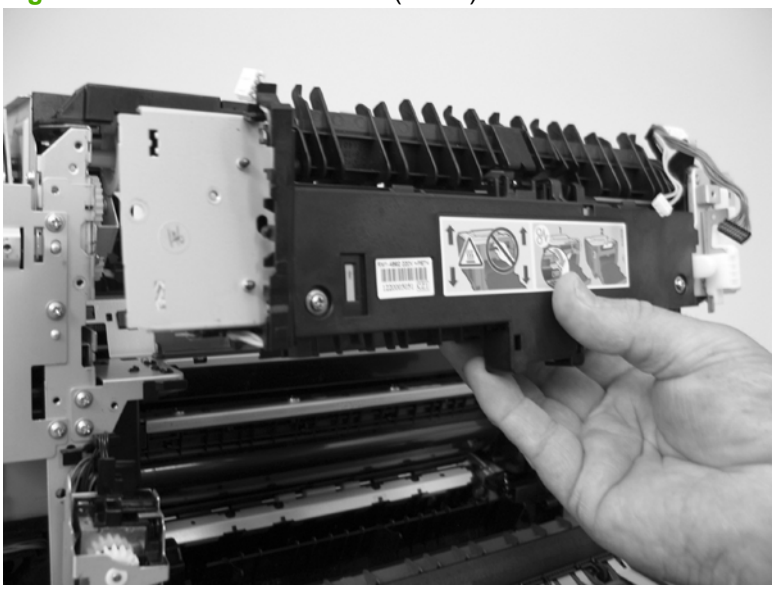
7. Remove two screws (callout 6).

Figure 6-134 Remove the fuser (6 of 8)



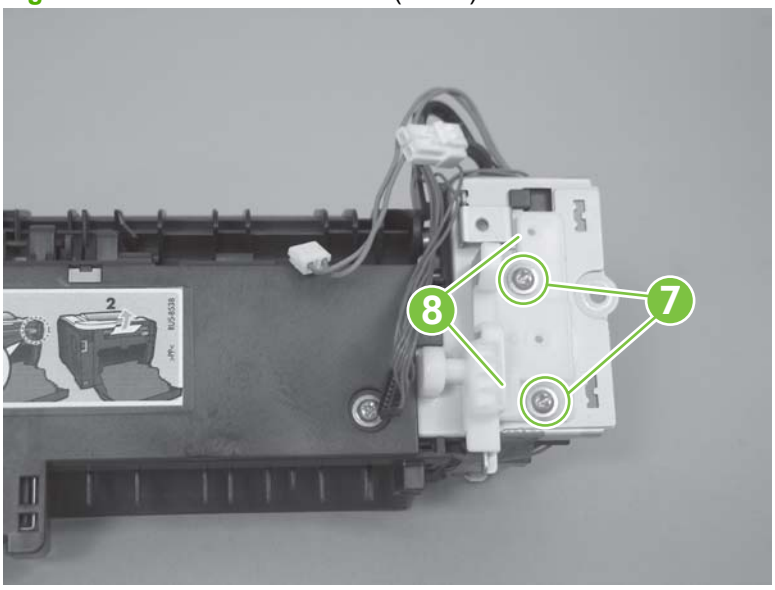
8. Remove the fuser.

Figure 6-135 Remove the fuser (7 of 8)



9. **Duplex models only**: Remove two screws (callout 7) and remove the duplex-gear assembly (callout 8). Install the assembly on the replacement fuser.

Figure 6-136 Remove the fuser (8 of 8)

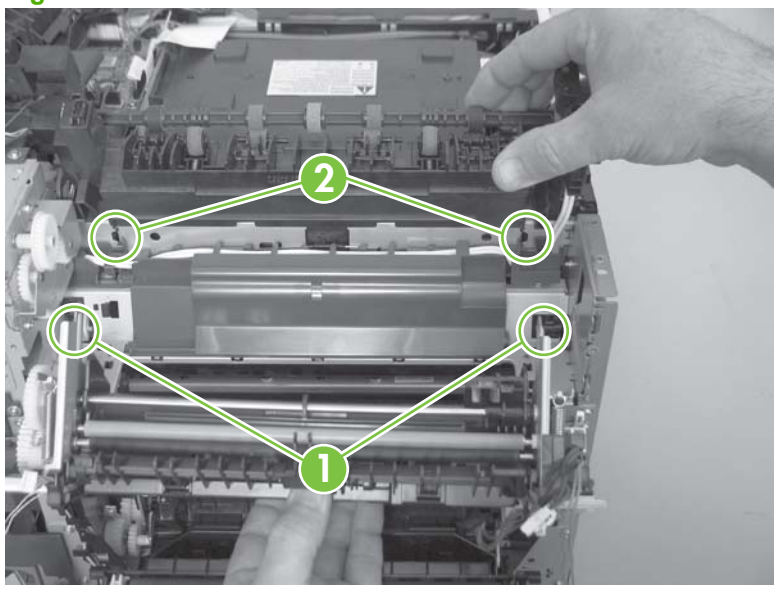


Reinstall the fuser

To reinstall you must insert the tabs (callout 1) on the fuser frame into the slots on the product chassis (callout 2).

⚠ **WARNING!** The fuser frame must be flush against the product chassis before you install the two fuser mounting screws. **Do not** use the screws to pull the fuser frame against the chassis.

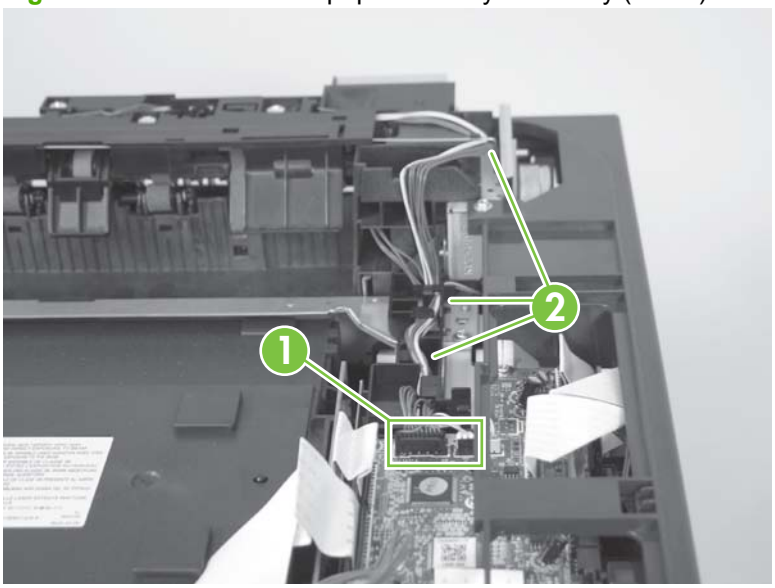
Figure 6-137 Reinstall the fuser



Paper-delivery assembly

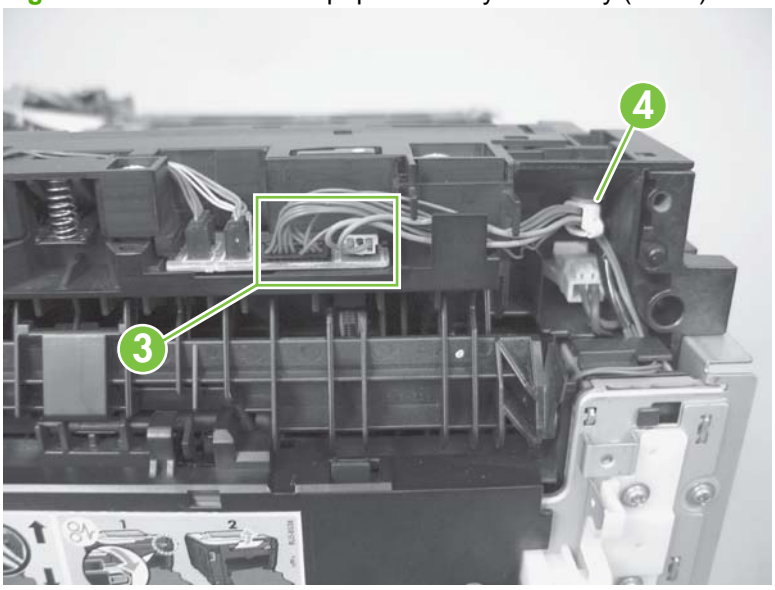
1. Remove the following components:
   - Right cover. See Right cover on page 108.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Left cover. See Left cover on page 126.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Rear door (duplex products). See Rear door (duplex product) on page 106.
   - Rear-lower cover (duplex products). See Rear-lower cover and rear-door links (duplex product) on page 116.
2. Disconnect two connectors (callout 1), and then release the wire harnesses from the retainer (callout 2).

Figure 6-138 Remove the paper-delivery assembly (1 of 4)



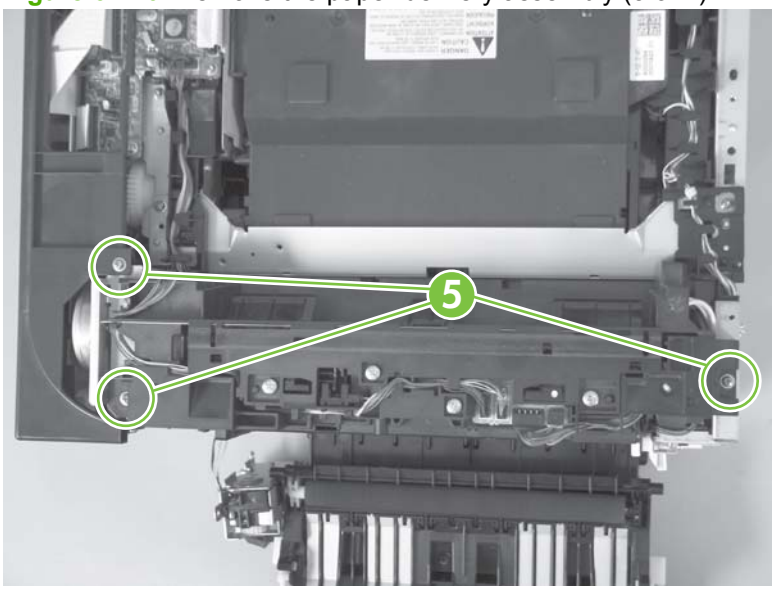
3. Disconnect two connectors (callout 3), and then release the wire harnesses from the wire clip (callout 4).

Figure 6-139 Remove the paper-delivery assembly (2 of 4)



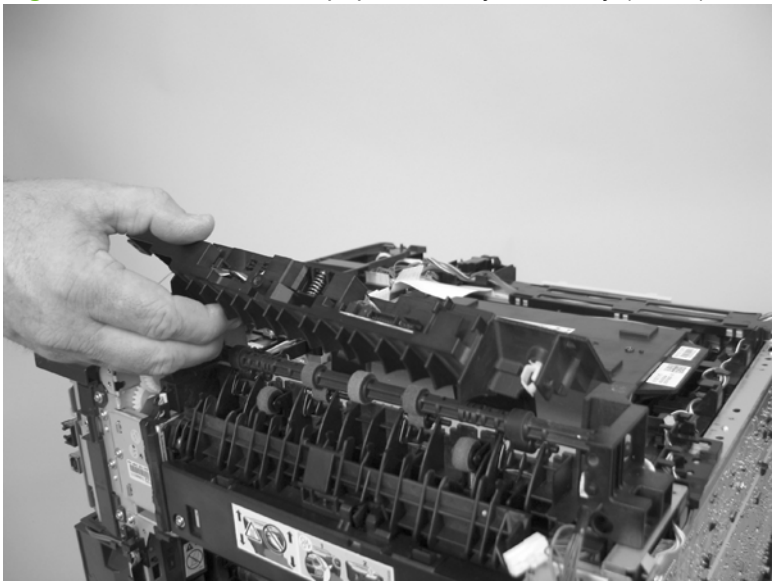
4. Remove three screws (callout 5).

Figure 6-140 Remove the paper-delivery assembly (3 of 4)



5. Remove the paper-delivery assembly.

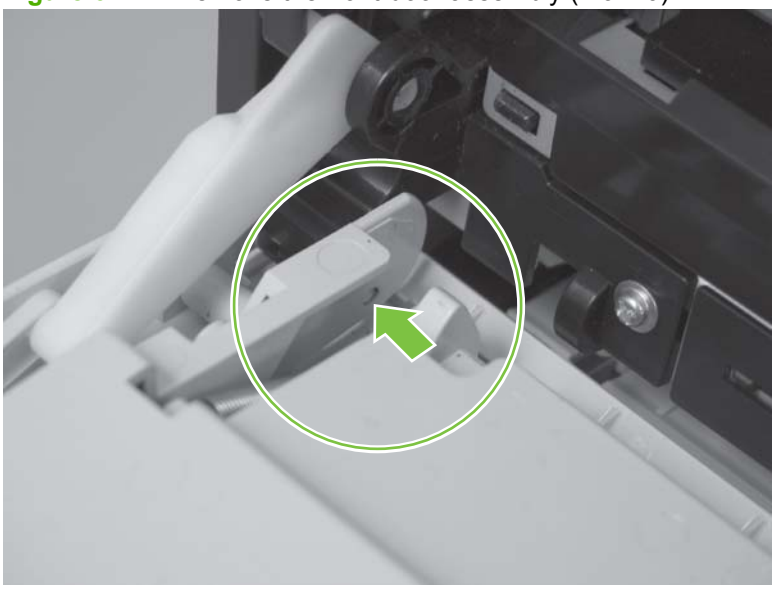
Figure 6-141 Remove the paper-delivery assembly (4 of 4)



Front-door assembly

1. Remove the following components:
   - Print-cartridge drawer. See Print-cartridge drawer on page 95
   - Right cover. See Right cover on page 108.
   - Upper-cover assembly. See Upper-cover assembly on page 121.
   - Left cover. See Left cover on page 126.
   - Rear door (simplex products). See Rear door (simplex product) on page 104.
   - Rear cover (simplex products). See Rear cover and feed guide (simplex product) on page 112.
   - Rear-upper cover (duplex products). See Rear-upper cover (duplex product) on page 111.
   - Rear door (duplex products). See Rear door (duplex product) on page 106.
   - Rear-lower cover (duplex products). See Rear-lower cover and rear-door links (duplex product) on page 116.
   - Control-panel. See Control-panel assembly on page 124
   - Right panel. See Right panel on page 136.
2. Find the front-door pin on the left-side door link.

Figure 6-142 Remove the front-door assembly (1 of 10)



3. Use a precision point screwdriver to push the left-side door pin out of the link.

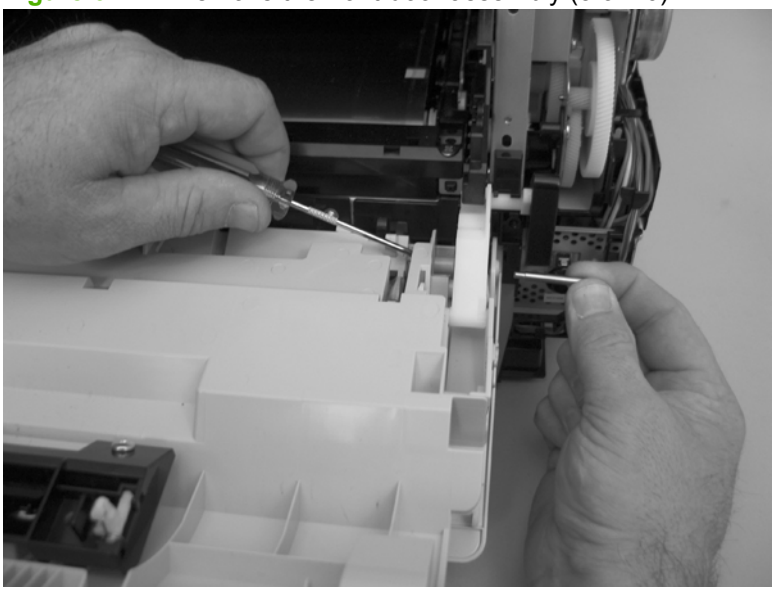
NOTE: A precision-point screwdriver is required to release the front door pins. The width of the blade must be 2 mm (0.08 in) or less to be able to push the door pins out of the mounting holes.

Figure 6-143 Remove the front-door assembly (2 of 10)

4. Use a precision-point screwdriver to push the right-side door pin out of the link.

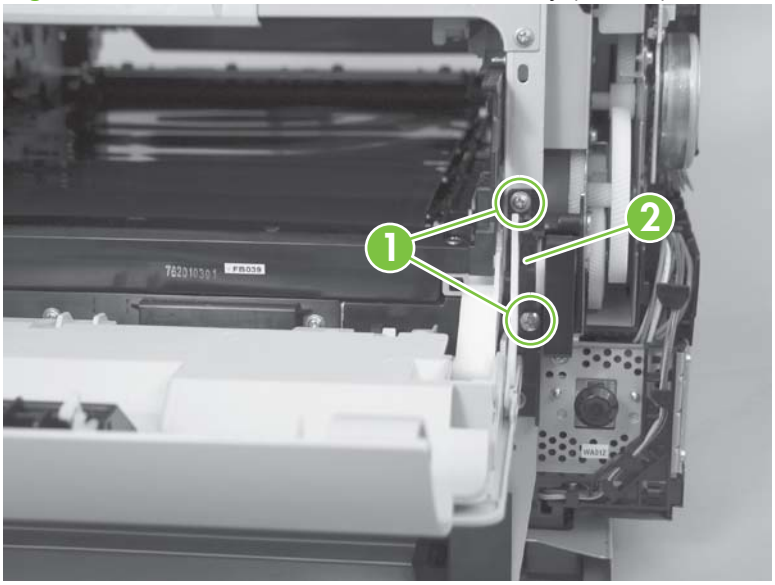
NOTE: A precision point screwdriver is required to release the front door pins. The width of the blade must be 2 mm (0.08 in) or less to be able to push the door pins out of the mounting holes.

Figure 6-144 Remove the front-door assembly (3 of 10)



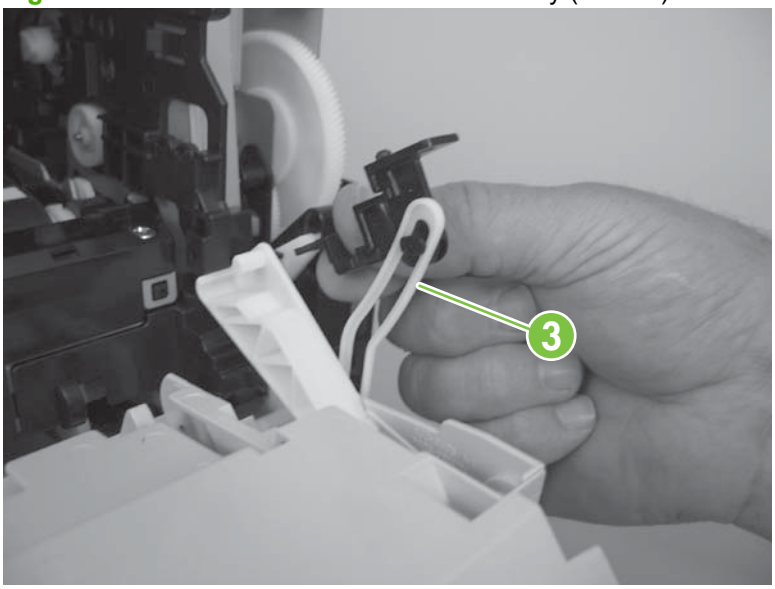
5. Remove two screws (callout 1) and separate the door bushing (callout 2) from the chassis.

Figure 6-145 Remove the front-door assembly (4 of 10)



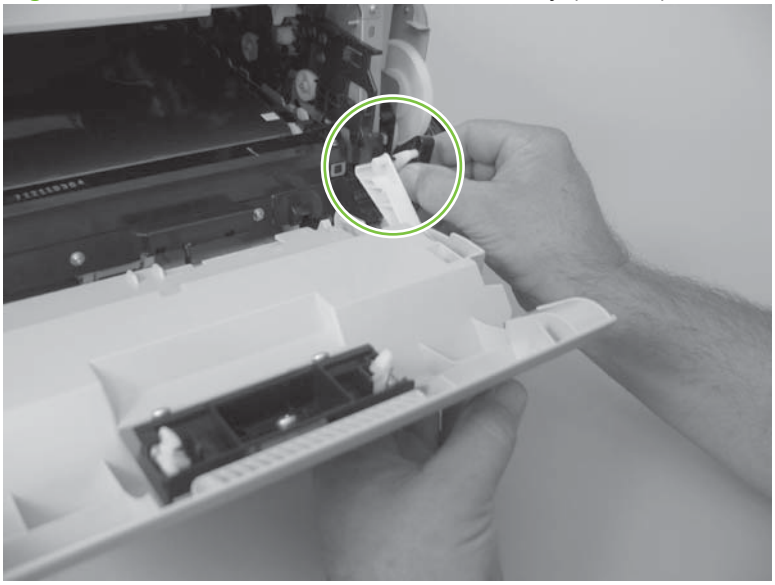
6. Release the bushing from the door-retainer link (callout 3).

Figure 6-146 Remove the front-door assembly (5 of 10)



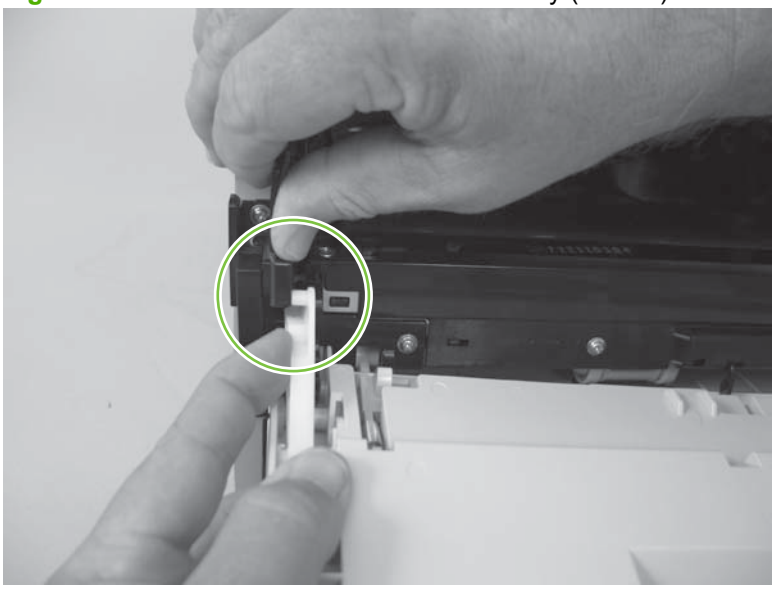
7. Support the door assembly, and carefully release the pin on the right-side link.

Figure 6-147 Remove the front-door assembly (6 of 10)



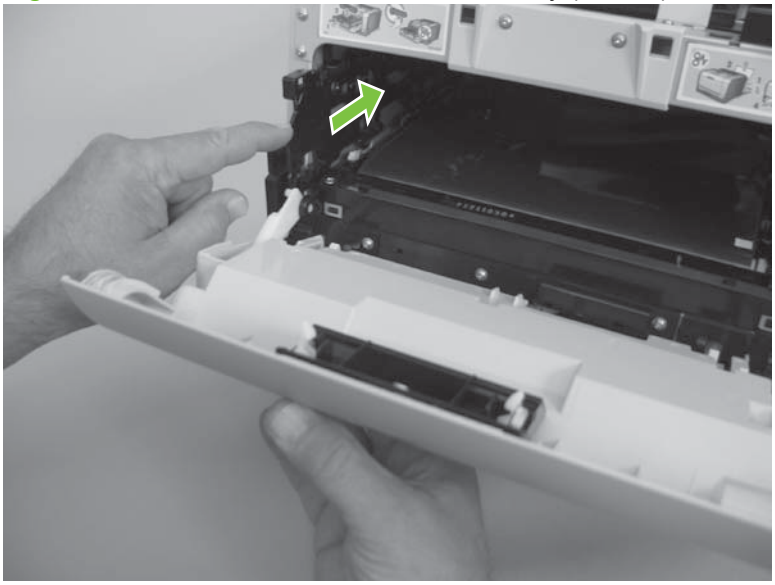
8. Support the door assembly, and carefully release the upper pin on the left-side link.

Figure 6-148 Remove the front-door assembly (7 of 10)



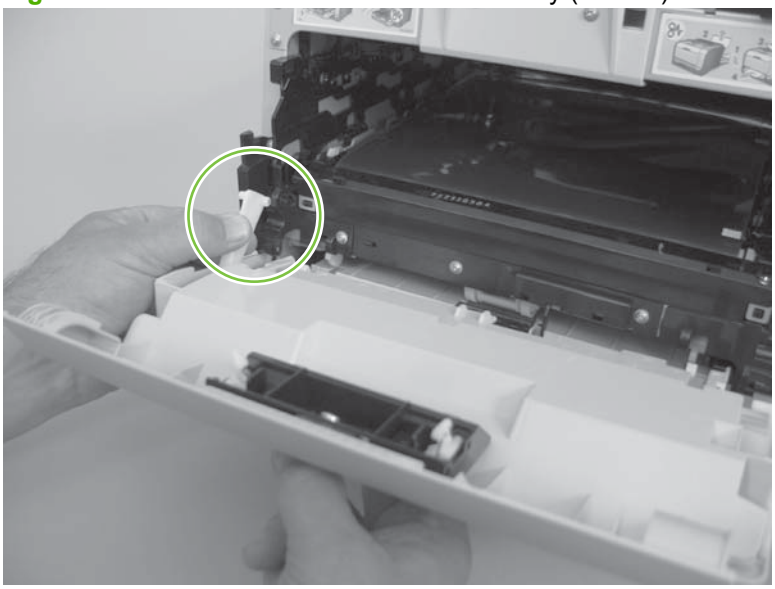
9. Push the black-plastic arm into the product.

Figure 6-149 Remove the front-door assembly (8 of 10)



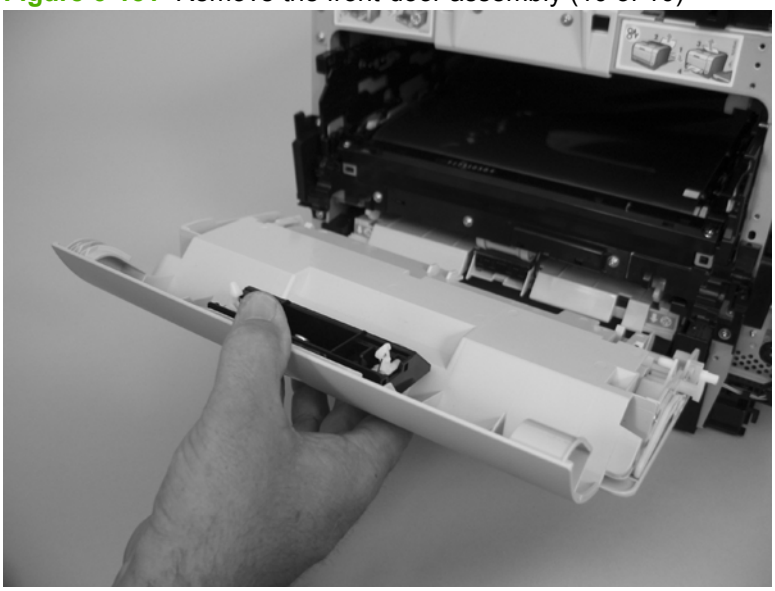
10. Support the door assembly, and carefully release the lower pin on the left-side link.

Figure 6-150 Remove the front-door assembly (9 of 10)



11. Remove the front-door assembly.

Figure 6-151 Remove the front-door assembly (10 of 10)

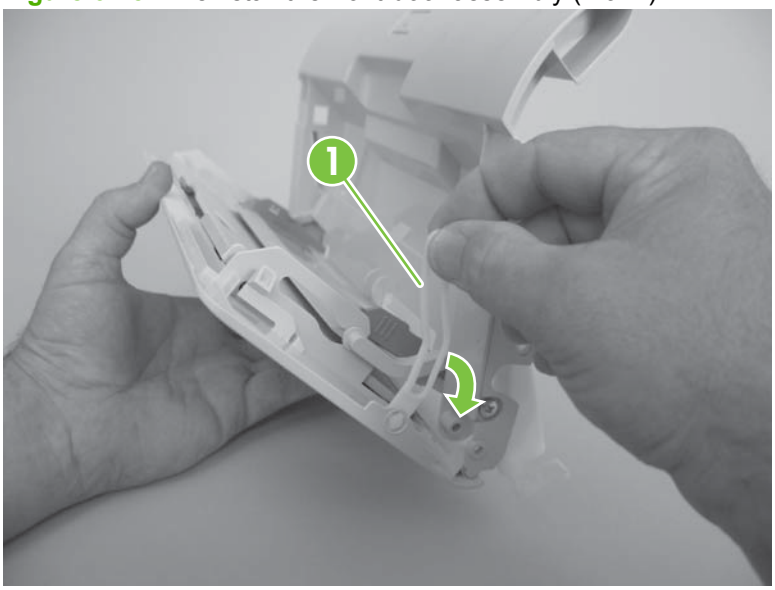


Reinstall the front-door assembly

Use this procedure if you are installing a *replacement* front-door assembly.

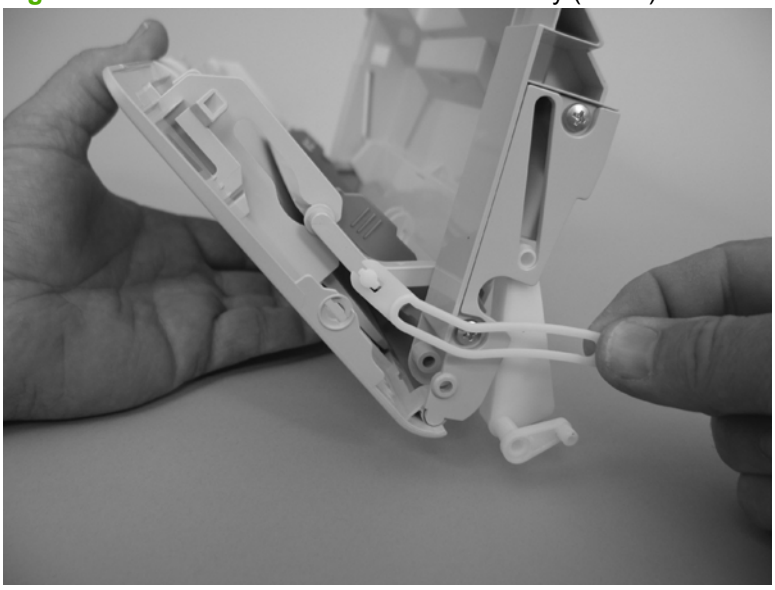
1. Open Tray 1, and then rotate the retainer arm until the tabs on the arm-hinge pin align with the slots in the mounting hole on Tray 1.

Figure 6-152 Reinstall the front-door assembly (1 of 2)



2. Remove the retainer arm from the door assembly, and then install it on the replacement-door assembly.

Figure 6-153 Reinstall the front-door assembly (2 of 2)



7 Problem solve

- Introduction
- Solve problems checklist
- Menu map
- Troubleshooting process
- Tools for troubleshooting
- Problem-solve diagrams
- Control-panel messages
- Pages and reports
- Paper-handling problems
- Image defects
- Solve connectivity problems
- Service mode functions
- Performance problems

Introduction

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 57. Do not perform any of these troubleshooting processes unless you understand the function of each product component.

Solve problems checklist

If you are experiencing problems with the product, use the following checklist to identify the cause of the problem:

- Is the product connected to power?
- Is the product on?
- Is the product in the **Ready** state?
- Are all necessary cables connected?
- Are any lights flashing or do any messages appear on the control panel?
- Are genuine HP supplies installed?
- Was a recently replaced print cartridge installed correctly, and was the pull tab on the cartridge removed?

For additional information about installation and setup, see the product getting started guide.

If you cannot find solutions to problems in this guide, go to www.hp.com/support/ljcp2020series.

Menu map

Print a menu map

1. Press OK to open the menus.
2. Use the arrow buttons to navigate to the **Reports** submenu, and then press OK.
3. Use the arrow buttons to navigate to the **Menu structure** submenu, and then press OK to print the menu structure.
4. Press X to exit the menus.

Troubleshooting process

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

- Use the pretroubleshooting 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.

Pretroubleshooting checklist

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

General topic	Questions
Environment	• Is the product 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 product and the outlet? • Is the operating environment within the specified parameters? • Is the product exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials? **NOTE:** Diazo copiers produce ammonia gas as part of the coping processes. Ammonia gas (from cleaning supplies or a diazo copier) can have an adverse affect on some product components (for example, the print-cartridge OPC). • Is the product 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 correctly installed in the product?
Print cartridges	• Is each print cartridge installed correctly?
Transfer unit and fuser	• Are the transfer unit and fuser installed correctly?
Doors	• Is the front door closed?

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 product 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 (for example, print cartridges or memory modules) from the product. • Check to see whether the hardware or software configuration has changed or the problem is not associated with any specific software. • Remove the product from the network and ensure that the failure is associated with the product before beginning troubleshooting. • For any print-quality issues, calibrate the product. See Calibrate the product on page 185

Power-on checks

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

- Verify that the product is plugged directly into an active electrical outlet that has the correct voltage. Do not plug the product into a surge protector or power strip.
- Verify that the power button is in the on position.
- Verify that the formatter is seated correctly.
- Remove any HP Jetdirect or other devices, and then try to turn the product on again.
- Ensure that the control-panel display is connected.
- Check the two fuses on the power supply.
- If necessary, replace the power supply.
- If necessary, replace the DC controller.

Tools for troubleshooting

This section describes the tools that can help you solve problems with your device.

Print-quality troubleshooting tools

Calibrate the product

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

1. Open HP ToolboxFX.
2. Click the **Device Settings** folder, and then click the **Print Quality** page.
3. In the area for Color Calibration, select the **Calibrate Now** check box.
4. Click **Apply** to calibrate the product immediately.

Problem-solve diagrams

- Repetitive image defects
- Interface ports
- DC controller PCA
- Major components
- Solenoids, clutches, and sensors
- Rollers
- Motors and fans
- PCAs
- Timing diagram
- Circuit diagram

Repetitive image defects

If the product output has a consistent, repetitive defect, use the table in this section to determine which part needs to be replaced based on the measured distance between the repetitions of the defect.

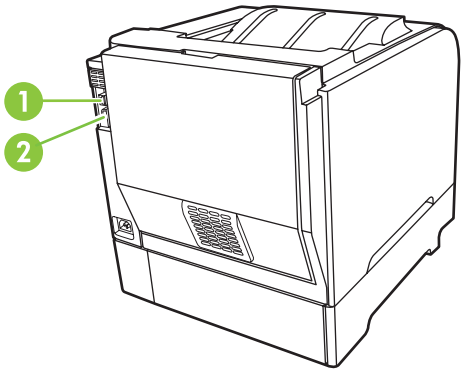
Repetitive defects caused by the ITB normally appear on every other page, because the ITB is longer than a page. However, the period of the repetitive defect can vary depending on the type of media, and a repetitive defect can occur more than once on the same page.

NOTE: The following table replaces the graphical repetitive defect ruler. You can make your own ruler by using these measurements.

Table 7-1 Repetitive image defects

Distance between identical defects	Component
About 22.0 mm (0.86 in)	Developer roller (one rotation)
About 38.0 mm (1.49 in)	Primary charging roller
About 44.0 mm (1.73 in)	Registration roller
About 58.0 mm (2.28 in)	Secondary transfer roller or Fuser sleeve
About 63.0 mm (2.48 in)	Pressure roller
About 75.0 mm (2.95 in)	Photosensitive drum
About 78.0 mm (3.07 in)	ITB (ITB drive roller or secondary transfer opposed roller)

Interface ports



1	Network port (HP Color LaserJet CP2025n, HP Color LaserJet CP2025dn, and HP Color LaserJet CP2025x models only)
2	Hi-Speed USB 2.0 port

DC controller PCA

Figure 7-1 DC controller connectors

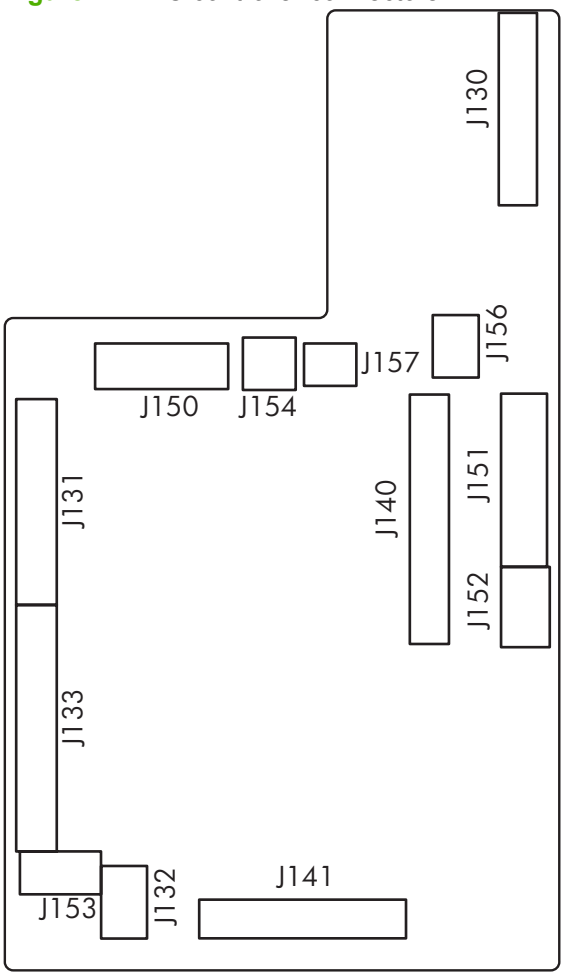


Table 7-2 DC controller connectors

Item	Description
J130	Formatter
J131	Laser-driver PCA
J132	Scanner motor (M7)
J133	High-voltage power supply
J140	Motor-driver PCA
J141	Relay PCA
J150	Fuser
J151	Low-voltage and fuser power supply
J152	Duplex driver PCA (duplex models only)
J153	Environmental sensor
J154	Developing disengagement solenoid

Table 7-2 DC controller connectors (continued)

Item	Description
J156	Sub-power supply PCA
157	Fuser relay PCA

Major components

Figure 7-2 Major components

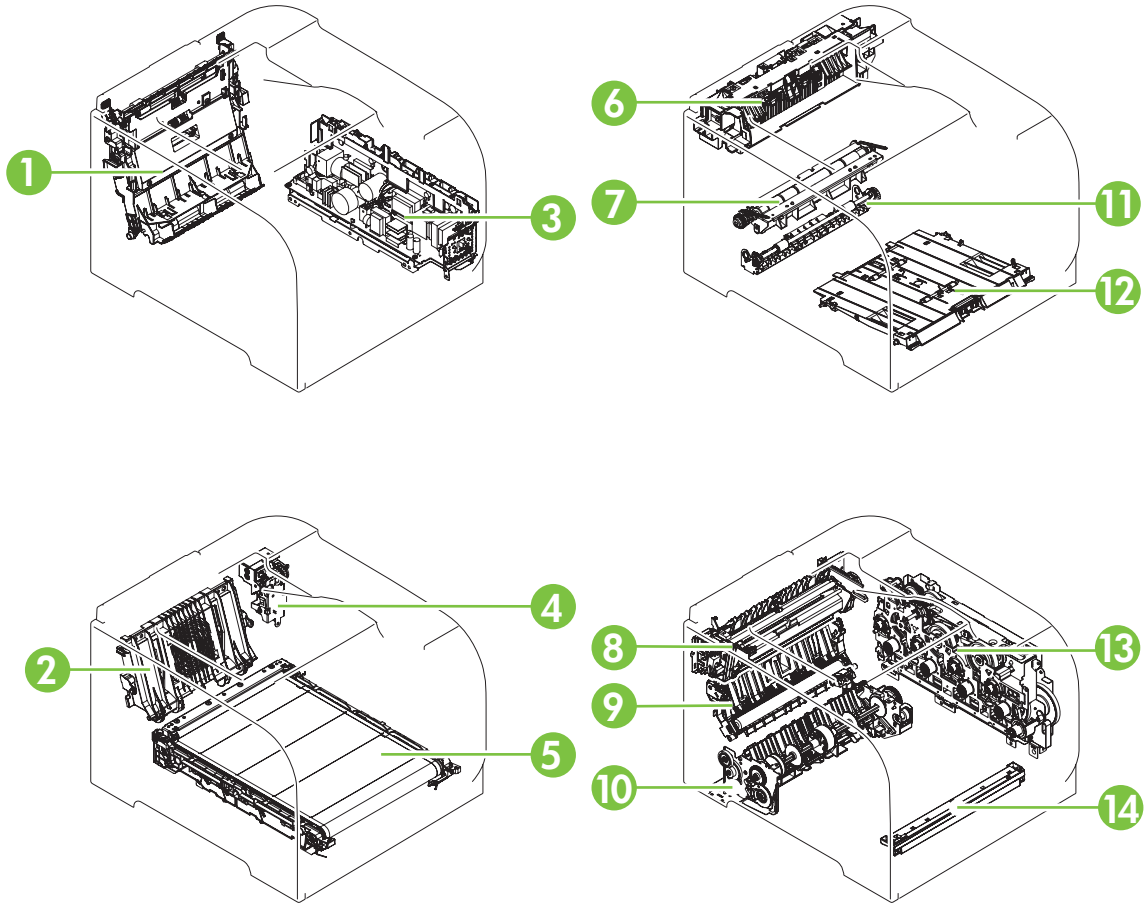


Table 7-3 Major components

Item	Description	Item	Description
1	Dulpex feed assembly (duplex models only)	8	Fuser
2	Rear-door rib assembly (duplex models only)	9	Paper-feed guide assembly (includes the transfer roller)
3	Power supply (low-voltage and fuser)	10	Cassette pickup assembly
4	Duplex reverse-drive assembly (duplex models only)	11	Duplex repick assembly (duplex models only)
5	ITB	12	MP tray pickup assembly
6	Paper-delivery assembly	13	Drive assembly
7	Registration assembly	14	Color misregistration sensor

Solenoids, clutches, and sensors

Figure 7-3 Solenoid, clutches, and sensors

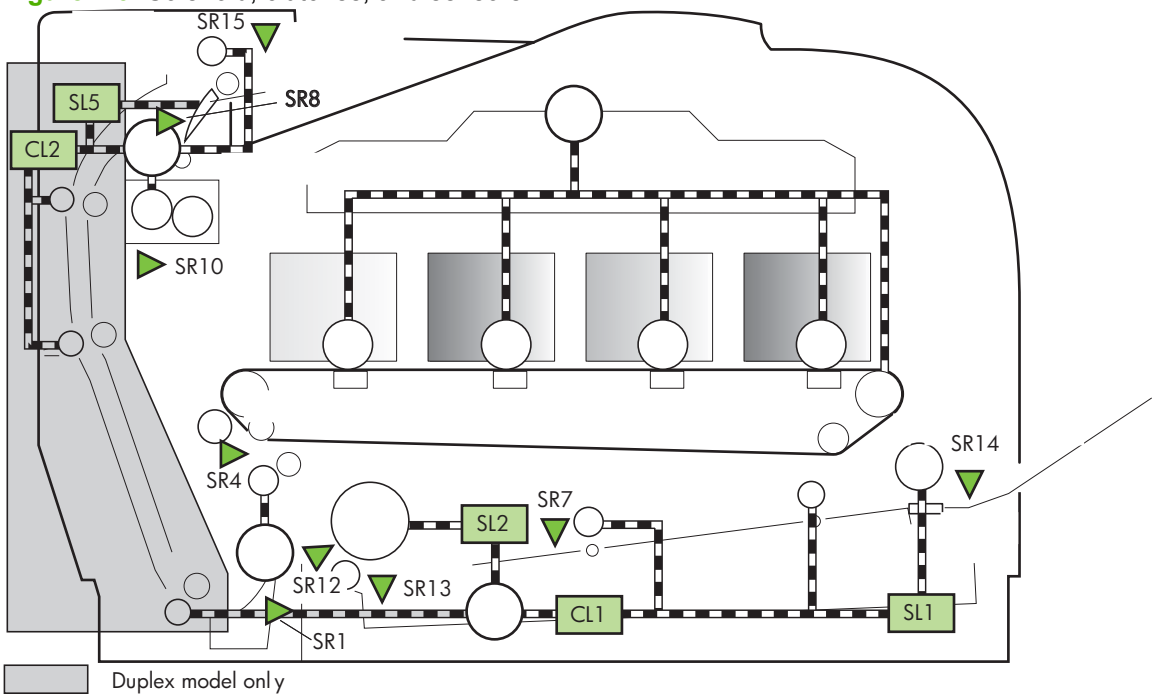


Table 7-4 **Solenoid, clutches, and sensors**

Item	Description	Item	Description
SR1	Paper feeder pre-registration sensor	SR14	MP tray media presence sensor
SR3	Paper feeder media presence sensor (in the optional paper feeder; not shown)	SR15	Face-down bin media full sensor (output bin)
SR4	Registration sensor	SL1	MP tray pickup solenoid
SR7	MP tray preregistration sensor	SL2	Cassette pickup solenoid
SR8	Fuser delivery sensor	SL5	Duplex reverse solenoid (duplex models only)
SR10	Loop sensor	SL6	Paper feeder pickup solenoid (in the optional paper feeder; not shown)
SR12	Pre-registration sensor	CL1	MP tray feed clutch
SR13	Cassette media presence sensor	CL2	Duplex feed clutch (duplex models only)

Rollers

Figure 7-4 Rollers

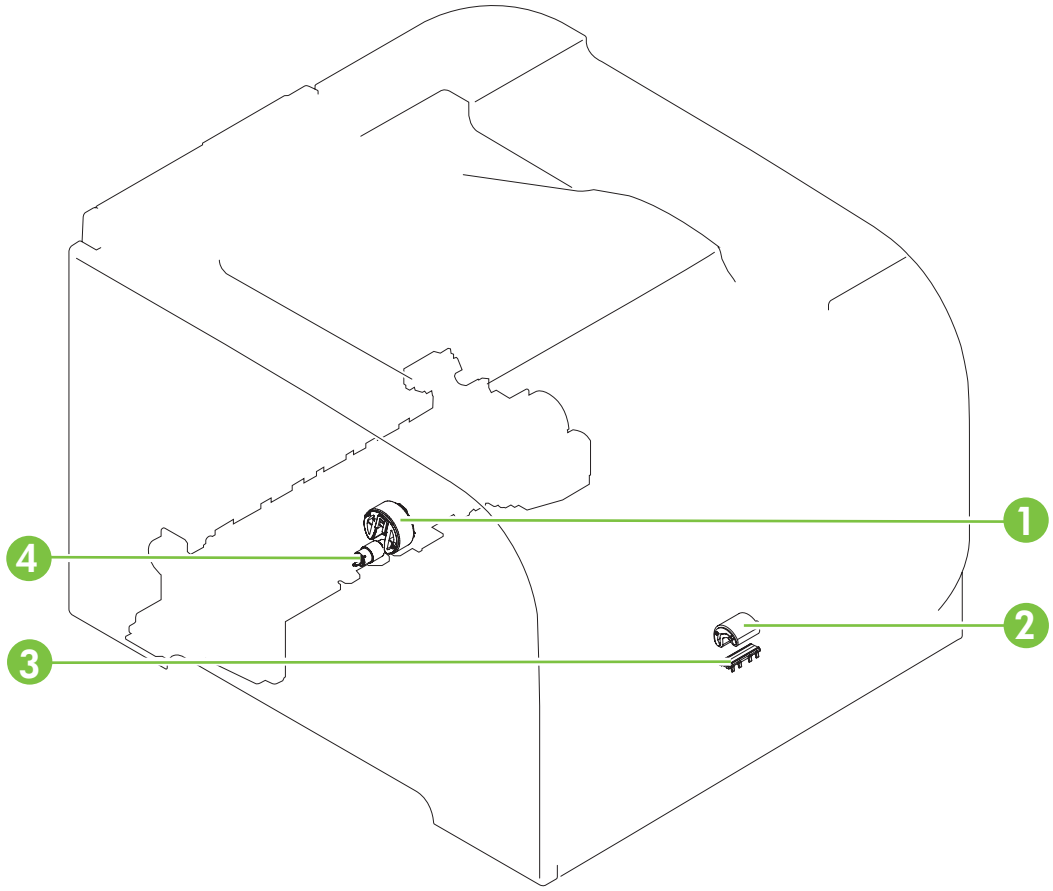
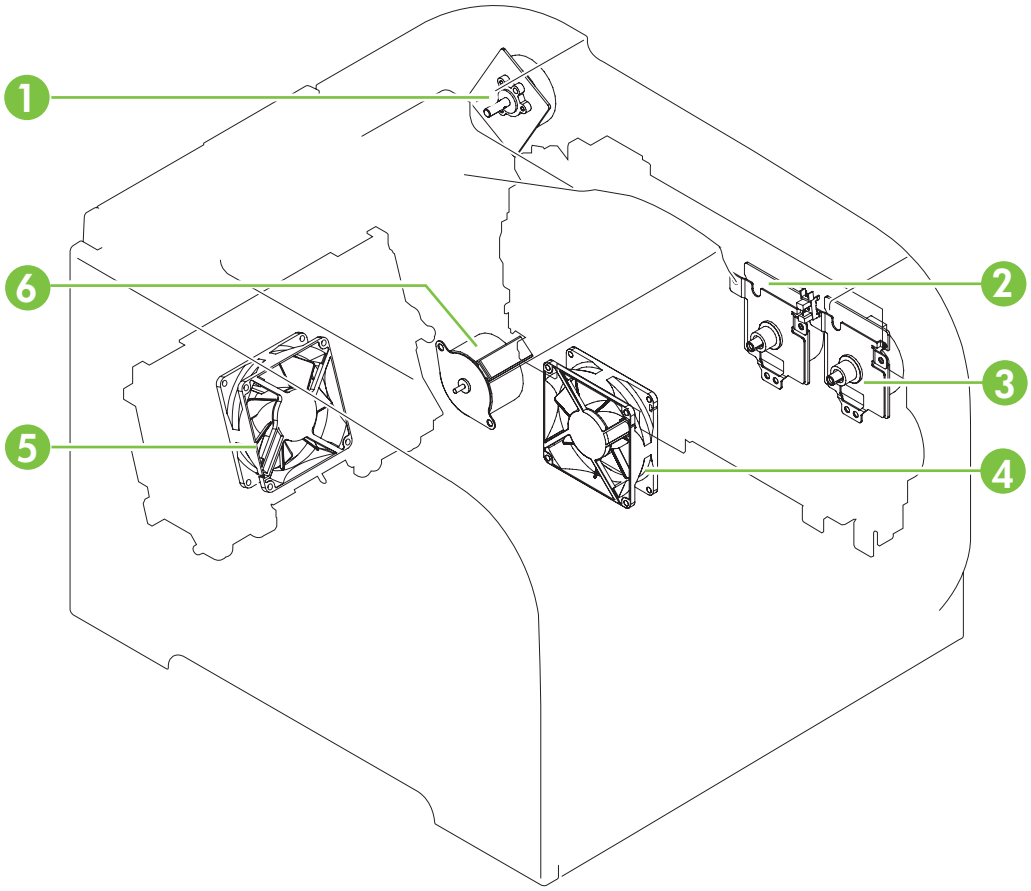


Table 7-5 Rollers

Item	Description	Item	Description
1	Cassette pickup roller	3	MP tray separation pad
2	MP tray pickup roller	4	Cassette separation roller

Motors and fans

Figure 7-5 Motors and fans



NOTE: The registration motor (M3) is not shown in this illustration.

Item	Description	Item	Description
1	Fuser motor (M4)	4	Fan 1
2	Drum motor (M1)	5	Fan 2 (duplex models only)
3	Developing motor (M2)	6	Pickup motor (M5)

PCAs

Figure 7-6 PCAs

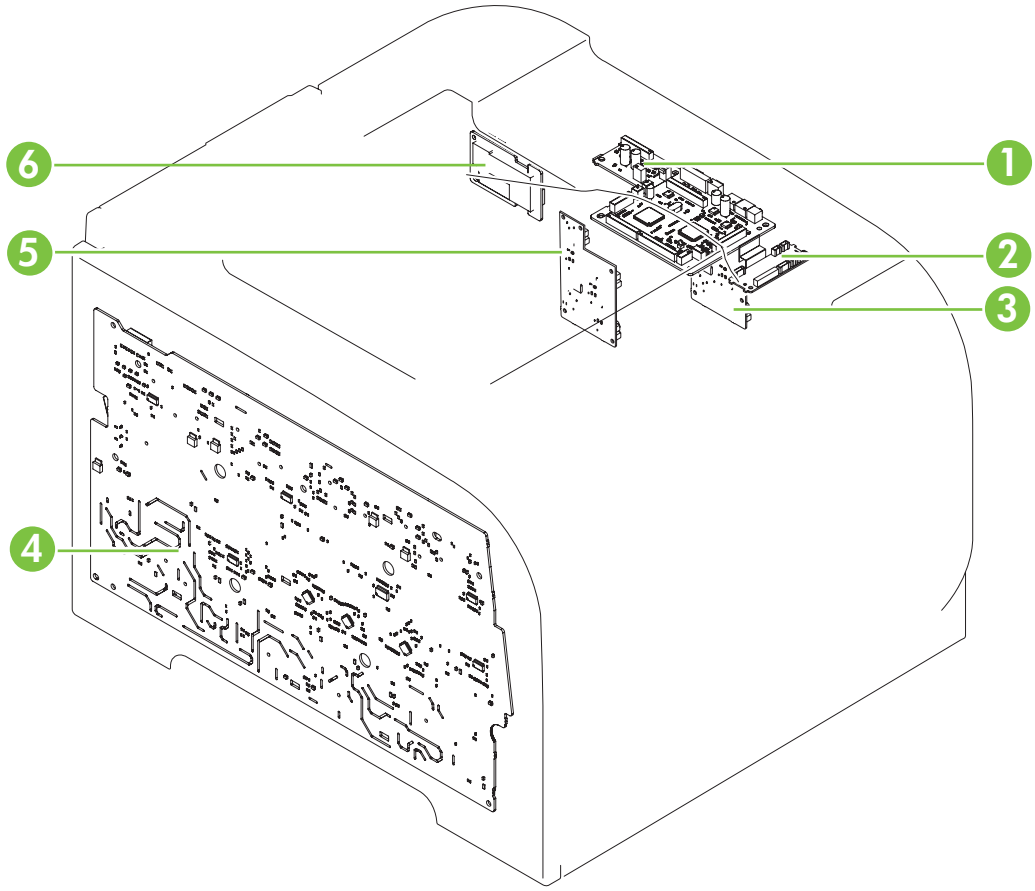


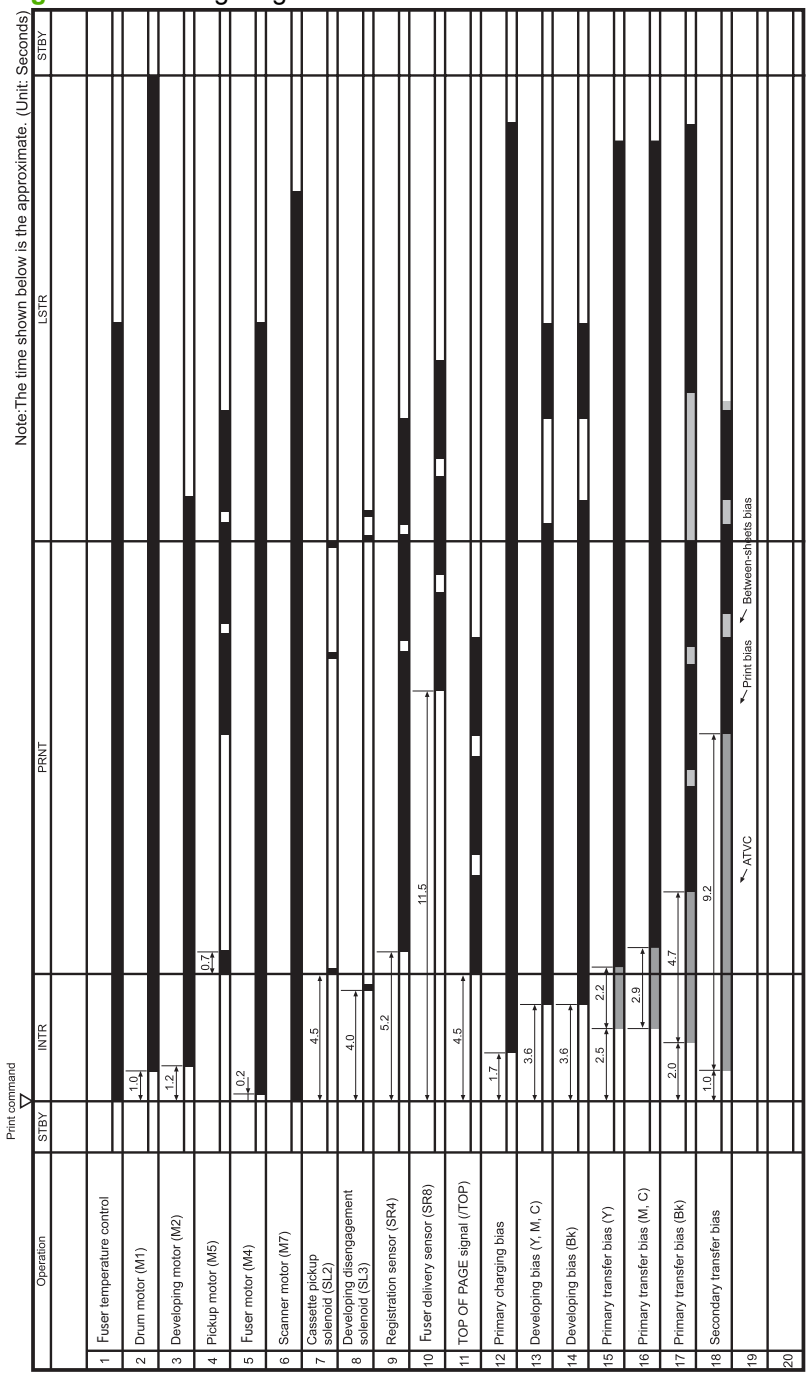
Table 7-6 PCAs

Item	Description	Item	Description
1	DC controller PCA	4	High-voltage power supply PCA
2	Connector PCA (relay PCA)	5	Formatter
3	Driver PCA	6	Sup-power PCA

Timing diagram

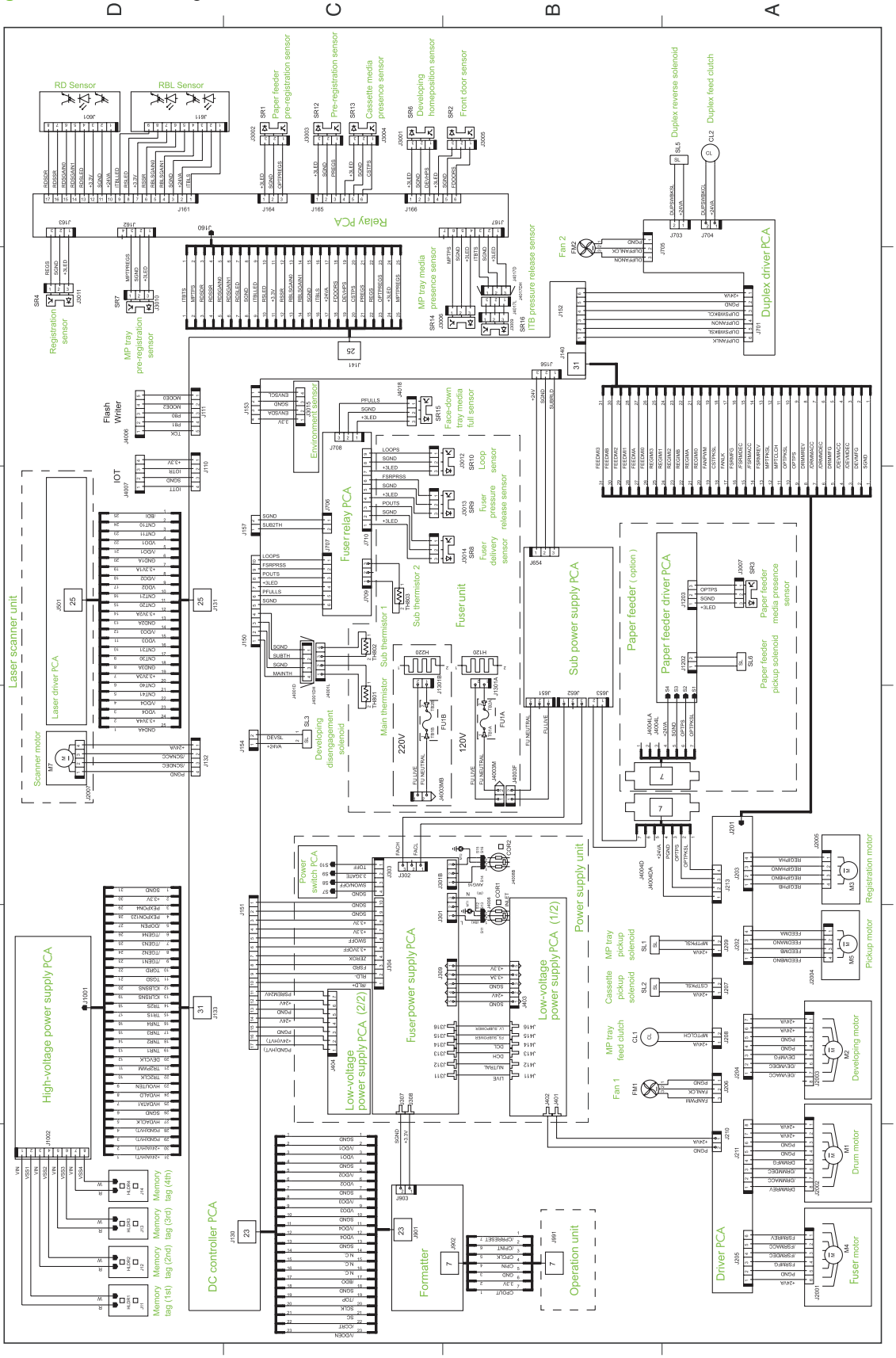
Approximate timing in seconds.

Figure 7-7 Timing diagram



Circuit diagram

Figure 7-8 Circuit diagram



Control-panel messages

Control-panel message	Status alert	Description	Recommended action
10.XXXX Supply error	✓	The e-label for one of the print cartridges cannot be read or is missing. • 10.0000 = black e-label error • 10.0001 = cyan e-label error • 10.0002 = magenta e-label error • 10.0003 = yellow e-label error • 10.1000 = black e-label is missing • 10.1001 = cyan e-label is missing • 10.1002 = magenta e-label is missing • 10.1003 = yellow e-label is missing	Reinstall the print cartridge. Turn the product off, and then on. If the problem is not solved, replace the cartridge.
49 Error **Turn off then on**	✓	The product experienced an internal error.	Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize. If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.
51.XX Error **Turn off then on**	✓	The product has experienced an internal hardware error.	Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize. If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.
54.XX Error **Turn off then on**	✓	The product has experienced an error with one of the internal sensors.	Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize. If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.
55.X Error **Turn off then on**	✓	The product has experienced an internal error.	Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize.

Control-panel message	Status alert	Description	Recommended action
			If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.
59.X Error **Turn off then on**	✓	The product has experienced a problem with one of the motors.	Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize. If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.
79 Error **Turn off then on**	✓	The product has experienced an internal firmware error.	Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize. If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.
79 Service error **Turn off then on**	✓	An incompatible DIMM is installed.	1. Turn the product off. 2. Install a DIMM that the product supports. 3. Turn the product on.
<Color> in wrong position	✓	A print cartridge is installed in the incorrect slot.	Ensure that each print cartridge is in the correct slot. From back to front, the print cartridges are installed in this order: yellow, magenta, cyan, black.
Device error **Press [OK]**	✓	An internal error occurred.	Press OK to resume the job.
Front Door open	✓	The product front door is open.	Close the door.
Fuser Error **Turn off then on**	✓	The product has experienced an error with the fuser.	Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize. Turn off the product, wait at least 25 minutes, and then turn on the product. If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.
Genuine HP supply installed	✓	A genuine HP supply is installed. This message will appear briefly after the supply is installed, and then is replaced by the message **Ready**.	No action necessary.

Control-panel message	Status alert	Description	Recommended action
Incorrect supplies	✓	More than one print cartridge is installed in the incorrect slot.	Ensure that each print cartridge is in the correct slot. From top to bottom, the print cartridges are installed in this order: yellow, magenta, cyan, black.
Install <Color> Cartridge	✓	The cartridge is either not installed or not correctly installed in the product.	Install the print cartridge. See Replace print cartridges on page 46.
Invalid driver **Press [OK]**	✓	You are using an incorrect printer driver.	Select the correct printer driver.
Jam in <location>	✓	The product has detected a jam.	Clear the jam from the place indicated. The job should continue to print. If it does not, try reprinting the job.
Load Paper <Type>	✓	Tray 2 is empty.	Load print media into Tray 2.
Load tray # <TYPE> <SIZE>	✓	A tray is configured for the media type and size that the print job is requesting, but that tray is empty.	Load the correct media into the tray, or press OK to use media in a different tray.
Load tray 1 plain <SIZE> **Cleaning mode [OK] to start**	✓	The product is ready to begin the cleaning operation.	Load Tray 1 with plain paper in the size indicated, and then press OK.
Load tray 1 <TYPE> <SIZE>	✓	No trays are configured for the media type and size that the print job is requesting.	Load the correct media into Tray 1, or press OK to use media in a different tray.
Manual duplex **Load tray # Press [OK]**	✓	The first side of a manual duplex job has printed, and the page needs to be loaded to process the second side.	Load the page in the indicated tray with the side to be printed face up, and the top of the page away from you, and then press OK.
Manual feed <TYPE> <SIZE> **Press [OK] for available media**	✓	The product is set for manual feed mode.	Press OK to clear the message *or* load the correct media into Tray 1.
Memory is low **Press [OK]**	✓	The product memory is almost full.	Press OK to finish the job, or press X to cancel the job. Break the job into smaller jobs that contain fewer pages.
Misprint **Press [OK]**	✓	Print media was delayed as it moved through the product.	Press OK to clear the message.
Non HP supply installed	✓	A non-HP supply is installed.	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	✓	The identified print cartridge is nearing the end of its useful life.	Order the identified print cartridge. Printing will continue

Control-panel message	Status alert	Description	Recommended action
			until **Replace <Color> Cartridge** displays.
Order supplies	✓	More than one supply item is low.	Check the supply-level gauges on the control panel, or print a supplies status page to determine which cartridges are low. See Information pages on page 32. Order the identified print cartridges. Printing continues until **Replace <Color> Cartridge** displays.
Print failure **Press [OK] If error repeats turn off then on**	✓	The product cannot process the page.	Press OK to continue printing the job, but output might be affected. If the error persists, turn the product off, and then on. Resend the print job.
Rear Door open	✓	The product rear door is open.	Close the door.
Remove shipping locks from <color> cartridge	✓	A print cartridge shipping lock is installed.	Ensure that the print cartridge shipping lock has been removed.
Remove shipping locks from all cartridges	✓	A print cartridge shipping lock is installed on one or more print cartridges.	Ensure that each print cartridge shipping lock has been removed.
Replace <Color> Cartridge	✓	The identified print cartridge has reached the end of life.	Replace the cartridge. See Replace print cartridges on page 46.
Replace supply **Override in use**	✓	The **Print quality** menu item **Replace Supplies** is set to **Override out**.	You can continue printing until you notice a decrease in print quality.
Tray 1 Jam **Clear jam and then Press [OK]**	✓	The product has detected a jam.	Clear the jam from the location indicated, and then press OK.
Unexpected size in tray # **Load [size] Press [OK]**	✓	The product has detected print media in the tray that does not match the configuration for the tray.	Load the correct media into the tray, or configure the tray for the size that you have loaded. See Load paper and print media on page 28.
Used <color> Cartridge in use	✓	A refilled print cartridge was detected and accepted.	No action necessary.
Used supplies in use	✓	Refilled print cartridges are installed.	No action necessary.
Used supply installed **To accept Press [OK]**	✓	A refilled print cartridge is installed.	Press OK to continue.

Pages and reports

This section describes the pages and reports that help you diagnose and solve problems with the device.

Diagnostic page

To verify that your product is functioning correctly, print a diagnostic page. See Reports menu on page 16.

Configuration page

The configuration page lists the current settings and properties of the product. You can use this page to check for color-plane registration and cartridge half tones. Print a configuration page from the product or from one of the Toolbox software programs.

For more information about the configuration page, see Information pages on page 32.

Supplies status page

The supplies status page lists the remaining life of the HP print cartridges. It also lists the estimated pages remaining, number of pages printed, and other supplies information. Print a supplies status page from the product or from one of the Toolbox software programs.

For more information about the supplies status page, see Information pages on page 32.

Event log

The event log is located on the configuration page (labeled Status Log) and lists the last five events.

Table 7-7 Event-log messages

Error log code	Description
10.0000	Black e-label error
10.0001	Cyan e-label error
10.0002	Magenta e-label error
10.0003	Yellow e-label error
10.1000	Black e-label missing
10.1001	Cyan e-label missing
10.1002	Magenta e-label missing
10.1003	Yellow e-label missing
10.3000	Non-HP black
10.3001	Non-HP cyan
10.3002	Non-HP magenta
10.3003	Non-HP yellow
13.0000	Paper jam, Tray 1 area
13.0001	Paper jam, Tray 2 area
13.0003	Paper jam, registration drum area
13.0004	Paper jam, drum fuser area
13.0005	Paper jam, fuser output area
20.0000	Memory out
21.0000	Video under run
50.1000	Low temperature fuser error
50.2000	Slow fuser error
50.3000	High temperature fuser error
50.4000	Fuser heater wire failure
50.5000	Fuser low temperature subtherm failure
50.6000	Fuser high temperature subtherm failure
52.0000	Scanner error, black laser failure
52.0100	Scanner error, cyan laser failure
52.0200	Scanner error, magenta laser failure
52.0300	Scanner error, yellow laser failure
54.0600	Density sensor error
54.1000	Color plane registration sensor error

Table 7-7 Event-log messages (continued)

Error log code	Description
54.2800	Sensor density contaminated
54.2801	Sensor color plane registration contaminated
55.0000	Engine comm fatal error
55.0001	Engine comm critical error
55.1000	DC controller memory error
59.0000	ITB rotation failure
59.0001	ITB ramp up failure
101.0000	Color-plane registration error
102.0000	DMAX calibration error
103.0000	DHALF calibration error

Paper-handling problems

Clear jams

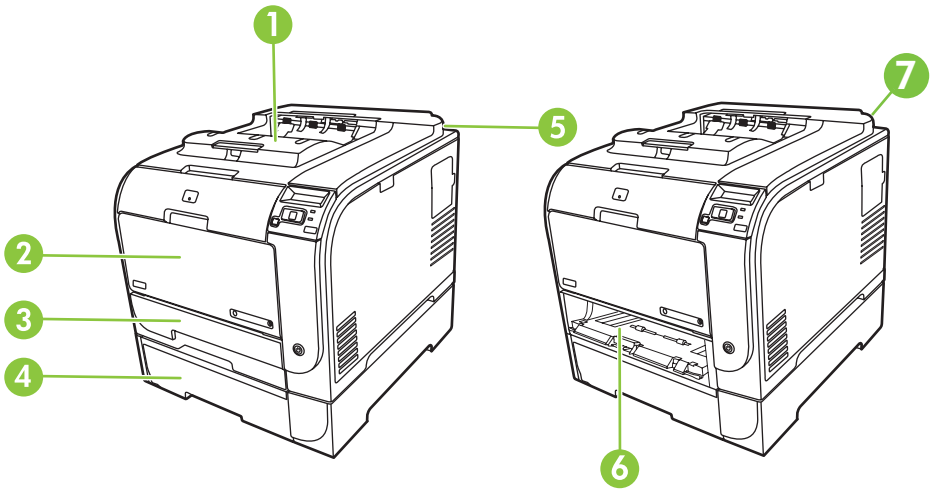
Common causes of jams

Common causes of jams

Cause	Solution
The paper length and width guides are not adjusted correctly.	Adjust the guides so they are against the paper stack.
The media does not meet specifications.	Use only media that meets HP specifications. See Understand paper and print media use on page 22.
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. Ensure that the stack is below the maximum stack height mark in the tray. See Supported paper types and tray capacity on page 25.
The media is skewed.	The 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°, 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.
The media is removed before it settles into the output bin.	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 the tray are not picking up the media.	Remove the top sheet of media. If the media is heavier than 176 g/m^2 (47 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. Load sheets one at a time.
Media was not stored correctly.	Replace the media in the trays. HP recommends that media should be stored in the original packaging in a controlled environment.

Jam locations

Use this illustration to find the locations of jams.



1	Output bin
2	Tray 1
3	Tray 2
4	Optional Tray 3
5	Fuser (behind the rear door)
6	Tray 2 jam-access area
7	Duplexer (located at the rear of the product)

Change Jam Recovery setting

When the **Jam Recovery** feature is turned on, the product reprints pages that are damaged during a jam.

Use HP ToolboxFX to turn on the Jam Recovery feature.

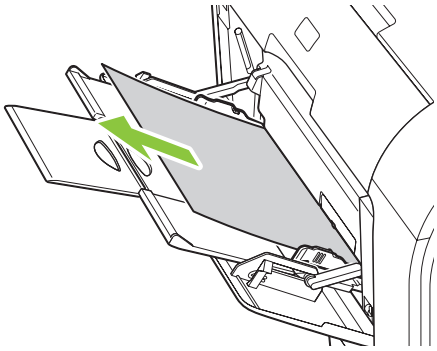
1. Open HP ToolboxFX.
2. Click the **Device Settings** folder, and then click **System Setup**.
3. Next to **Jam Recovery**, select **On** from the drop-down list.

Clear jams in Tray 1

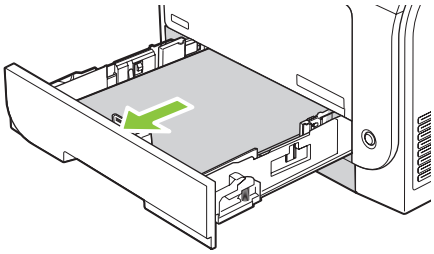
NOTE: If the sheet tears, ensure that the fragments are removed before you resume printing.

1. Pull the jammed sheet from Tray 1.

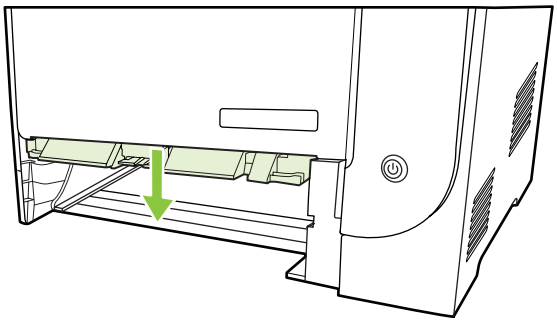
   NOTE: If paper has entered far enough into Tray 1 that you cannot remove the sheet, continue with this procedure.



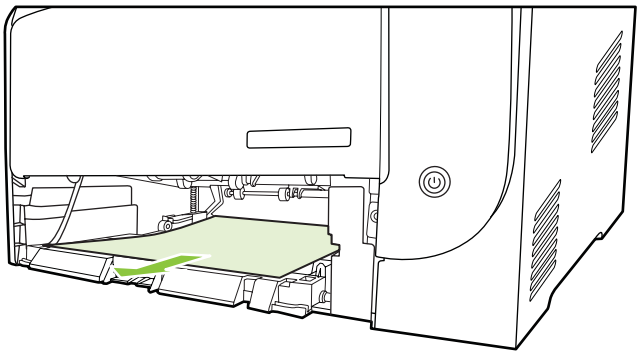
2. Pull out Tray 2, and place it on a flat surface.



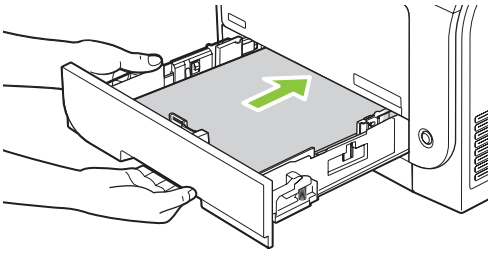
3. Lower the jam-access tray.



4. Remove the jammed sheet by pulling it straight out.



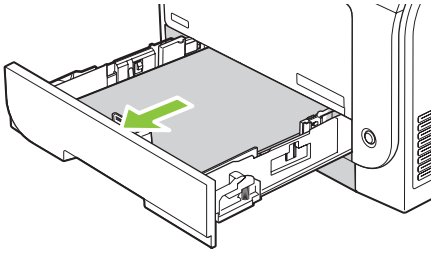
5. Replace Tray 2.



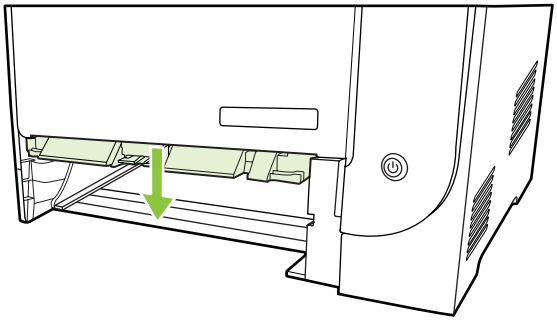
6. Press **OK** to continue printing.

Clear jams in Tray 2

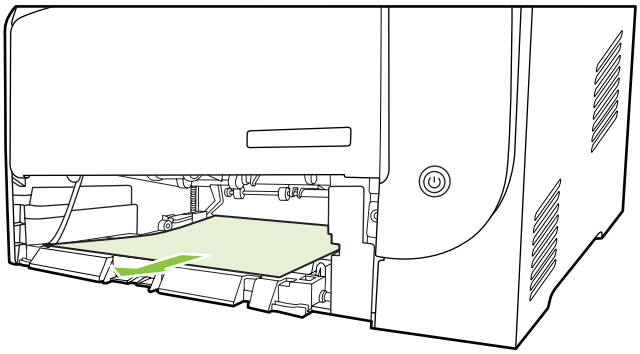
1. Pull out Tray 2, and place it on a flat surface.



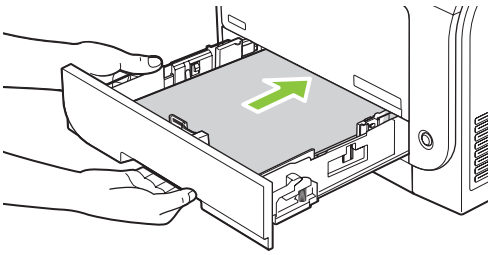
2. Lower the jam-access tray.



3. Remove the jammed sheet by pulling it straight out.



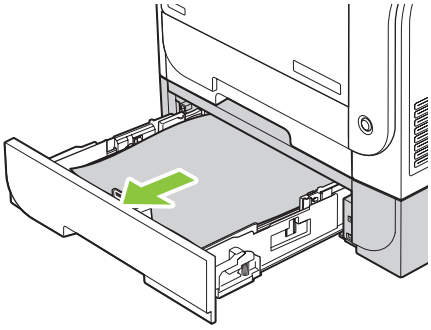
4. Replace Tray 2.



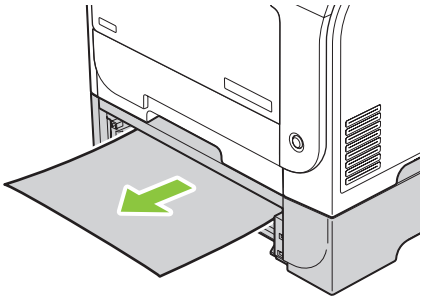
5. Press **OK** to continue printing.

Clear jams in Tray 3

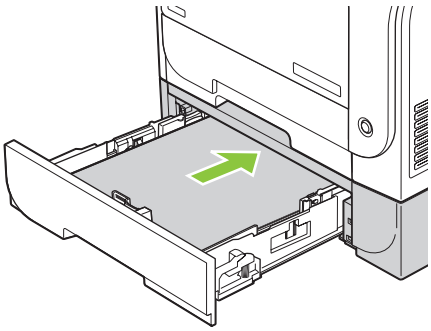
1. Pull out Tray 3 and place it on a flat surface.



2. Remove the jammed sheet by pulling it straight out.



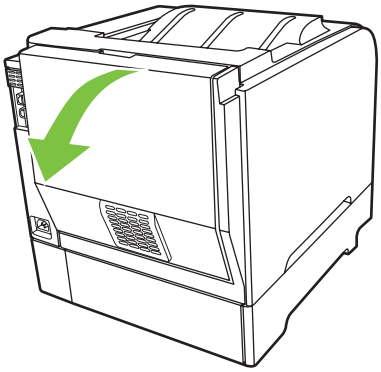
3. Replace Tray 3.



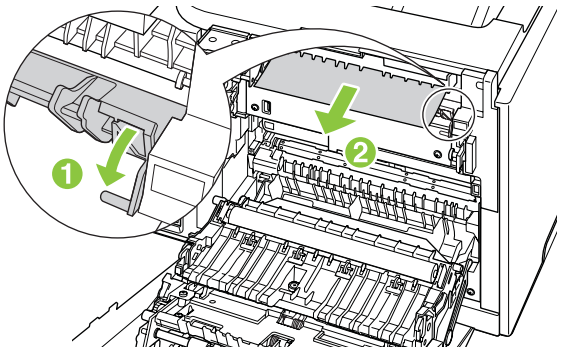
4. Press **OK** to continue printing.

Clear jams in fuser area

1. Open the rear door.

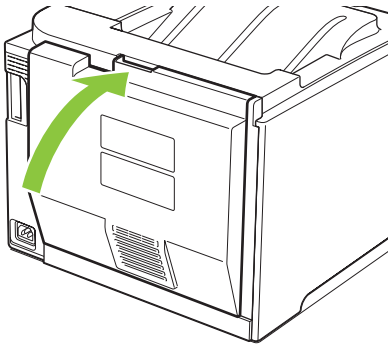


2. If necessary, push the guide (callout 1) and remove any visible paper (callout 2) from the bottom of the delivery area.



NOTE: If the sheet tears, ensure that the fragments are removed before you resume printing. Do not use sharp objects to remove fragments.

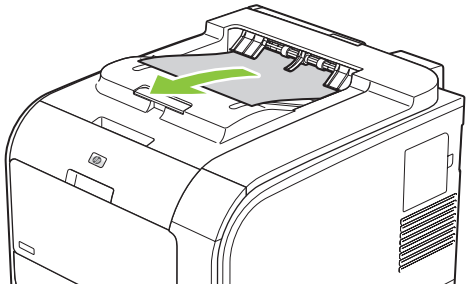
3. Close the rear door.



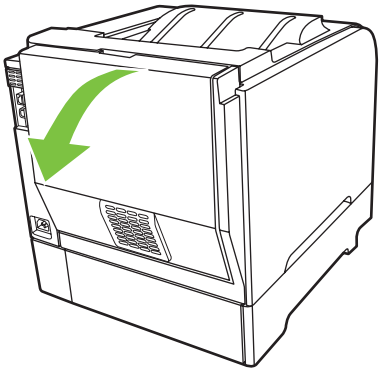
Clear jams in output bin

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

NOTE: If the sheet tears, ensure that the fragments are removed before you resume printing.

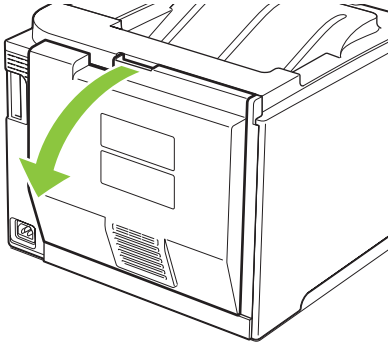


3. Open and then close the rear door to clear the message.

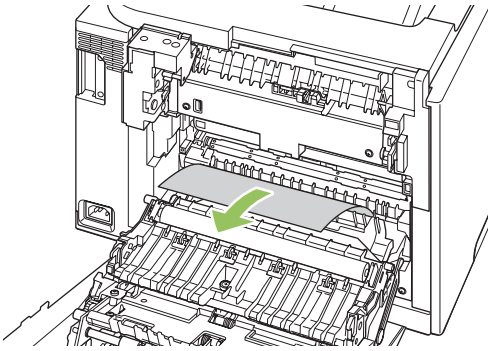


Clear jams in duplexer (duplexing models only)

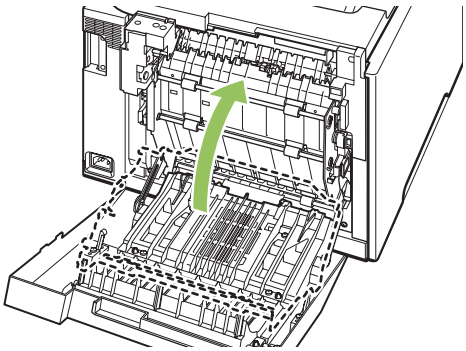
1. Open the rear door.



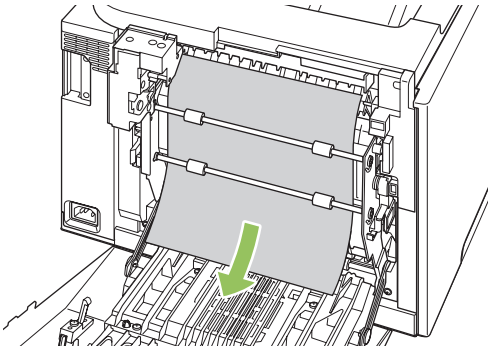
2. If present, remove any visible paper from bottom side of the duplexing unit.



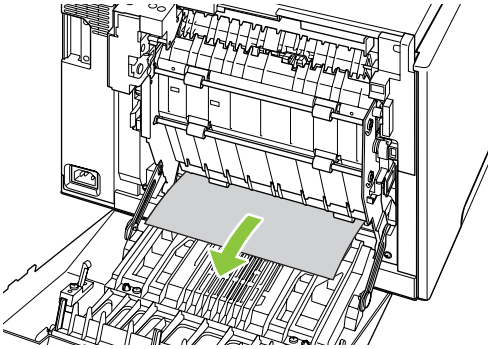
3. If you did not see any jammed paper, lift the duplexing unit using the tab on the side of the duplexing unit.



4. If you can see the trailing edge of the paper, remove the paper from the product.



5. If you can see the leading edge of the paper, remove it from the product.



6. Close the rear door.

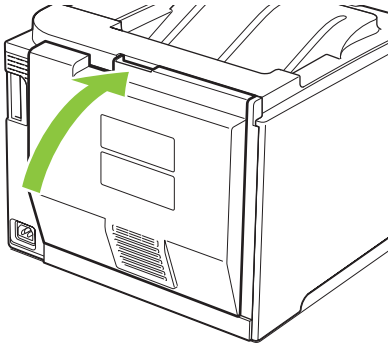
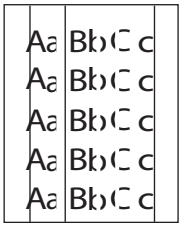
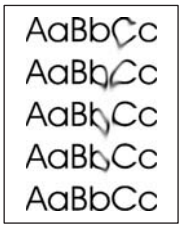
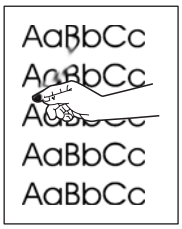


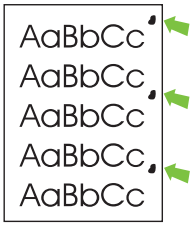
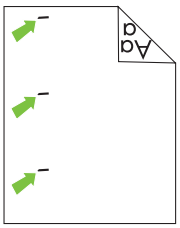
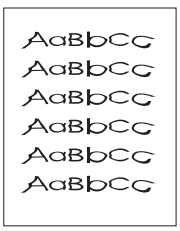
Image defects

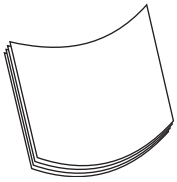
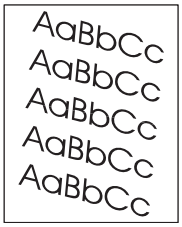
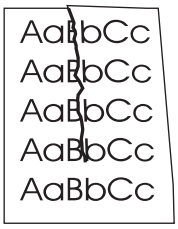
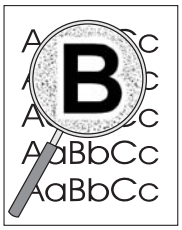
General print quality issues

The following examples depict Letter-size paper that has passed through the product short-edge first. These examples illustrate problems that would affect all the pages that you print, whether you print in color or in black only. The topics that follow list the typical cause and solution for each of these examples.

Problem	Cause	Solution
Print is light or faded. 	The media might not meet HP specifications.	Use media that meets HP specifications.
	One or more print cartridges might be defective.	Print the Supplies status page to check the remaining life. See Information pages on page 32. Replace any low print cartridges. See Replace print cartridges on page 46.
	The product is set to override the **Replace <Color> Cartridge** message and to continue printing.	Replace any low print cartridges. See Replace print cartridges on page 46.
	The print density settings might have been changed.	Set the print density setting to **0**.
	The product might need to be calibrated.	Run a calibration. See Calibrate the product on page 185.
Toner specks appear. 	The media might not meet HP specifications.	Use only media that meets HP specifications. See Understand paper and print media use on page 22.
	The paper path might need cleaning.	Clean the paper path. See Clean the product on page 54.
	One or more of the cartridges might be leaking.	Try to verify the color of the toner specks and check the cartridge for leaks.
	The cartridge waste tank might be overfilled.	Check for error code 10.98.XX in the event log. The XX portion of the code identifies the cartridge (00 is black, 01 is cyan, 02 is magenta, 03 is yellow). If the error was logged, replace the appropriate cartridge.
Dropouts appear. 	A single sheet of print media might be defective.	Try reprinting the job.
	The moisture content of the paper is uneven or the paper has moist spots on its surface.	Try different paper, such as high-quality paper that is intended for color laser printers.
	The media is flawed. The media manufacturing processes can cause some areas to reject toner.	Try different paper, such as high-quality paper that is intended for color laser printers.

Problem	Cause	Solution
Vertical streaks or bands appear on the page. 	One or more print cartridges might be defective.	Print the Supplies status page to check the remaining life. See Information pages on page 32. Use HP ToolboxFX. Replace any low print cartridges. See Replace print cartridges on page 46.
	The product is set to override the **Replace <Color> Cartridge** message and to continue printing.	Replace any low print cartridges. See Replace print cartridges on page 46.
The amount of background toner shading becomes unacceptable. 	Extreme dry (low humidity) conditions can increase the amount of background shading.	Check the device environment.
	The extended print mode setting is incorrect.	Try the print job again using the Transfer extended print mode, Dry paper setting.
	One or more print cartridges might be defective.	Replace any low print cartridges. See Replace print cartridges on page 46.
	The product is set to override the **Replace <Color> Cartridge** message and to continue printing.	Replace any low print cartridges. See Replace print cartridges on page 46.
	Smooth media shows more background than plain media	Think about using rougher media.
Toner smears appear on the media. 	The media might not meet HP specifications.	Use only media that meets HP specifications. See Understand paper and print media use on page 22.
	If toner smears appear on the leading edge of the paper, the media guides are dirty, or debris has accumulated in the print path.	Clean the media guides. Clean the paper path. See Clean the product on page 54.
The toner smears easily when touched. 	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of media on which you are printing. Print speed might be slower if you are using heavy paper.
	The media might not meet HP specifications.	Use only media that meets HP specifications. See Understand paper and print media use on page 22.
	The paper path might need cleaning.	Clean the paper path. See Clean the product on page 54.

Problem	Cause	Solution
Marks repeatedly appear at even intervals on the printed side of the page. 	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of paper on which you are printing. Print speed might be slower if you are using heavy paper.
	Internal parts might have toner on them.	The problem typically corrects itself after a few more pages.
	The paper path might need cleaning.	Clean the paper path. See Clean the product on page 54.
	The fuser might be damaged or dirty.	To determine if the fuser has a problem, open HP ToolboxFX, and print the print-quality diagnostics page. Clean the paper path. See Clean the product on page 54.
	A print cartridge might have a problem.	To determine which cartridge has a problem, open HP ToolboxFX, and print the print-quality diagnostics page.
Marks repeatedly appear at even intervals on the unprinted side of the page. 	Internal parts might have toner on them.	The problem typically corrects itself after a few more pages.
	The paper path might need cleaning.	Clean the paper path. See Clean the product on page 54.
	The fuser might be damaged or dirty.	To determine if the fuser has a problem, open HP ToolboxFX and print the print-quality diagnostics page. Clean the paper path. See Clean the product on page 54.
The printed page contains misformed characters. 	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
	If characters are incorrectly formed so that they produce a wavy effect, the laser scanner might need service.	Verify that the problem also occurs on the configuration page.

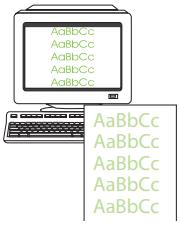
Problem	Cause	Solution
The printed page is curled or wavy. 	The device is not set to print on the type of media on which you want to print.	In the printer driver, select the **Paper** tab and set **Type is** to match the type of paper on which you are printing. Print speed might be slower if you are using heavy paper.
	The **Service** menu item **Less paper curl** is set to **Off**.	Use the control-panel menus to change the setting. See Control-panel menus on page 15.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
	Both high temperature and humidity can cause paper curl.	Check the device environment.
Text or graphics are skewed on the printed page. 	The media might be loaded incorrectly.	Ensure that the paper or other print media is loaded correctly and that the media guides are not too tight or too loose against the stack. See Load paper and print media on page 28.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
The printed page contains wrinkles or creases. 	The media might be loaded incorrectly.	Verify that the media is loaded correctly and that the media guides are not too tight or too loose against the stack. See Load paper and print media on page 28. Turn over the stack of paper in the input tray, or try rotating the paper 180° in the input tray.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
Toner appears around the printed characters. 	The media might be loaded incorrectly.	Turn over the stack of paper in the tray.
	If large amounts of toner have scattered around the characters, the paper might have high resistivity.	Use a different paper, such as high-quality paper that is intended for color laser printers.

Problem	Cause	Solution
An image that appears at the top of the page (in solid black) repeats farther down the page (in a gray field). 	Software settings might affect image printing.	In your software program, change the tone (darkness) of the field in which the repeated image appears. In your software program, rotate the whole page 180° to print the lighter image first.
	The order of images printed might affect printing.	Change the order in which the images are printed. For example, have the lighter image at the top of the page, and the darker image farther down the page.
	A power surge might have affected the device.	If the defect occurs later in a print job, turn the device off for 10 minutes, and then turn on the device to restart the print job.
		Use non-glossy media to help reduce the severity of the defect

Solve issues with color documents

This section describes issues that can occur when you print in color.

Problem	Cause	Solution
Only black is printing when the document should be printing in color. 	Color mode is not selected in your program or printer driver.	Select color mode instead of grayscale mode.
	The correct printer driver might not be selected in the program.	Select the correct printer driver.
	The device might not be correctly configured.	Print a configuration page (see Information pages on page 32) to check whether color appears on the configuration page.
	The color supply is out and the **Color Supply Out** menu setting is set to **Continue Black**.	Replace the color supply.

Problem	Cause	Solution
One or more colors are not printing, or are inaccurate. 	Sealing tape might be on the print cartridges.	Verify that the sealing tape has been completely removed from the print cartridges.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
	The device might be operating in excessively humid conditions.	Verify that the device environment is within humidity specifications.
	One or more print cartridges might be defective.	Replace any low print cartridges. See Replace print cartridges on page 46.
	The product is set to override the **Replace <Color> Cartridge** message and to continue printing.	Replace any low print cartridges. See Replace print cartridges on page 46.
	One or more of the cartridges might not have been engaged properly by the print engine.	Remove and reinstall the cartridges.
A color is printing inconsistently after you load a new print cartridge. 	Another print cartridge might be defective.	Remove the print cartridge for the color that is printing inconsistently and reinstall it.
	The product is set to override the **Replace <Color> Cartridge** message and to continue printing.	Replace any low print cartridges. See Replace print cartridges on page 46.
The colors on the printed page do not match the colors as they appear on the screen.  	The colors on your computer monitor might differ from the device output.	See the product user guide.
	If extremely light colors or extremely dark colors on-screen are not printing, your software program might interpret extremely light colors as white or extremely dark colors as black.	If possible, avoid using extremely light or extremely dark colors.
	The media might not meet HP specifications.	Use a different paper, such as high-quality paper that is intended for color laser printers.
The finish on the printed color page is inconsistent. 	The media might be too rough.	Use a smooth paper or print media, such as a high-quality paper that is made for color laser printers. Generally, smoother media produces better the results.

Solve connectivity problems

Solve direct-connection problems

If the product is experiencing connection issues while directly connected to a computer, complete the following steps:

1. Ensure that USB cable is no longer than 5 meters (16.5 feet).
2. Ensure that both ends of the USB cable are connected.
3. Ensure that the cable is a USB 2.0 Hi-Speed-certified cable.
4. If the error persists, use a different USB cable.

Solve network problems

Check the following items to verify that the product is communicating with the network. Before you begin this troubleshooting procedure, print a configuration page. See Information pages on page 32.

1. Are there any physical connection problems between the workstation or file server and the product?

   Verify that the network cable, connections, and router configurations are correct. Verify that the network cable lengths meet network specifications.

2. Are the network cables connected properly?

   Make sure that the product is attached to the network using the appropriate port and cable. Check each cable connection to make sure it is secure and in the right place. If the problem continues, try a different cable or ports on the hub or transceiver. The amber activity light and the green link status light next to the port connection on the back of the product should be lit.

3. Can you "ping" the product? (Windows)

   a. Click **Start**, click **Run**, type `cmd`, and click **OK** to open an MS-DOS command prompt.

   b. Type `ping` followed by the IP address. For example, type:
   `ping 192.168.45.39`

      If the ping command is successful, a list of replies from the product displays in the window.

   c. If you are able to ping the product, verify that the IP address configuration for the product is correct on the computer. If it is correct, delete the product, and then add it again.

      -or-

      If the ping command failed, verify that the network hubs are on, and then verify that the network settings, the product, and the computer are all configured for the same network.

4. Have any software programs been added to the network?

   Ensure new programs are compatible and that they are installed correctly and use the correct printer drivers.

5. Can other users print?

   The problem might be workstation-specific. Check the workstation network drivers, printer drivers, and redirection (capture in Novell NetWare).

6. If other users can print, are they using the same network operating system?

   Check your system for proper network operating-system setup.

7. Is your protocol enabled?

   Check the status of your protocol on the configuration report. You can also use the embedded Web server, HP ToolboxFX, or Macintosh Configure Device to check the status of other protocols.

8. Does the product appear in HP Web Jetadmin or other management programs?

   - Verify network settings on the Network configuration page.
   - Confirm the network settings for the product by using the control panel.

Service mode functions

Service menu

Use the control-panel **Service** menu to troubleshoot device problems.

Service menu settings

The **Service** menu is used to calibrate, restore factory default settings, and clean the print paper path.

The following **Service** menu items are available:

- **Restore defaults** — used to reset all customer-accessible menu settings back to the factory default settings (except language) using the control panel or software

> **NOTE:** This service menu item does not reset factory-settable settings, including formatter number, page counts, factory paper settings, language, and so on.

- **PowerSave** — used to configure the amount of idle time before the engine enters sleep mode
- **Cleaning mode** — used to remove dust and toner from the print paper path

Restore the factory-set defaults

1. Press OK to open the menus.
2. Use the Left arrow ◄ or the Right arrow ► button to select **Service**, and then press OK.
3. Use the Left arrow ◄ or the Right arrow ► button to select **Restore defaults**, and then press OK.

   The product automatically restarts.

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. Ensure the product is in the **Ready** state.
2. Press OK to open the menus.
3. Simultaneously press Left arrow ◄ and OK to open the secondary service menu.
4. Press the Left arrow ◄ and the Right arrow ► to navigate through the menu.

Secondary service menu structure

Table 7-8 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.

Table 7-8 2ndary Service menu (continued)

Menu item	Sub-menu item	Description
Location	A list of available locations appears	This item sets certain product parameters that are dependent on the location, such as the default paper size and the symbol set. Scroll to the desired location, and select **Yes** to set the location. The product 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 illuminates 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 displays 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.
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 product automatically performs a color calibration. The default setting is 48 hours. You can turn automatic calibration off.
Enter MAC Addr.		Use this item to specify the MAC address for the product. The MAC address is in hexadecimal code. Use the Right arrow ► button to scroll through the possible values for each character. When a digit is correct, press OK to move to the next digit.

Engine resets

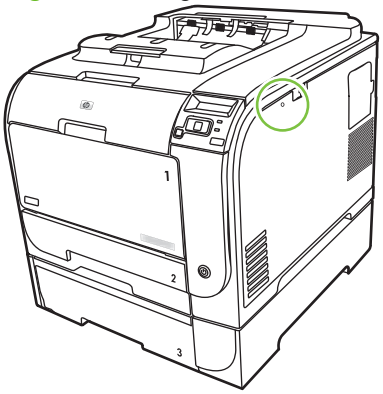
Engine test page

1. Turn the product on.
2. Use a fine-point tool, (for example a precision-slotted screwdriver with a 1 mm (0.04 in) blade width) to press the engine test button.

NOTE: Access the engine test button through a hole in the right-side cover.

3. An engine test page (horizontal lines in each of the print cartridge colors) prints.

Figure 7-9 Engine test button location



Cold reset

The traditional cold reset function found in other HP LaserJet products is not supported for this product. The equivalent function is the **Restore defaults** option in the HP ToolboxFX or the **Service** menu.

A cold reset 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.

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 product so that the computers can recognize the product.

Perform an NVRAM initialization

1. Turn the product off.
2. Simultaneously press the Right arrow ► button and the X button. Keep these buttons depressed as you turn the product on.
3. When **Permanent storage init.** appears on the display, release both buttons.
4. When the product has finished the NVRAM initialization, it returns to the **Ready** state.

Performance problems

Problem	Cause	Solution
Pages print but, are totally blank.	The sealing tape might still be in the print cartridges.	Verify that the sealing tape has been completely removed from the print cartridges.
	The document might contain blank pages.	Check the document that you are printing to see if content appears on all of the pages.
	The product might be malfunctioning.	To check the product, print a Configuration page.
Pages print very slowly. **NOTE:** The product print speed is effected by various factors (for example, media size or page complexity). For more information see, Print speeds on page 227.	Heavier media types can slow the print job.	Print on a different type of media.
	Complex pages can print slowly.	Proper fusing might require a slower print speed to ensure the best print quality.
	Paper type not set correctly.	Select the type to match the paper.
Pages did not print.	The product might not be pulling media correctly.	Ensure paper is loaded in the tray correctly. If the problem persists, you might need to replace the pickup rollers and the separation pad. See Customer support on page 269.
	The media is jamming in the device.	Clear the jam. See Clear jams on page 204.
	The USB cable might be defective or incorrectly connected.	• Disconnect the USB cable at both ends and reconnect it. • Try printing a job that has printed in the past. • Try using a different USB cable.
	Other devices are running on your computer.	The product might not share a USB port. If you have an external hard drive or network switchbox that is connected to the same port as the product, the other device might be interfering. To connect and use the product, you must disconnect the other device or you must use two USB ports on the computer.

Print speeds

Print speed is the number of pages that print in one minute. Print speed depends on different engine-process speeds or operational pauses between printed pages during normal product operation. Factors that determine the print speed of the product include the following:

- Page formatting time

  The product must pause for each page to be formatted before it prints. Complex pages take more time to format, resulting in reduced print speed. However, most jobs print at full engine speed (21 ppm on Letter-size media or 20 ppm on A4-size media).

- Color mode

  Monochrome printing (black only) provides the maximum print speed. Full color print jobs cause a reduction in print speed.

- Media size

  Legal-size media reduces print speed because it is longer than the standard Letter- or A4–size media. A reduce print speed is used when printing on narrow media to prevent the edges of the fuser from overheating.

- Media mode

  Some media types require a reduced print speed to achieve maximum print quality on that media. For example, glossy, heavy, and specialty media (for example, envelopes or photos) require a reduced print speed. To maximize the print speed for special media types, ensure that you select the correct media type in the print driver.

- Product temperature

  To prevent product damage, print speed is reduced if the product reaches a specific internal temperature (thermal slow down). The starting temperature of the product, ambient environment temperature, and the print job size effect the number of pages that can be printed before the product reduces the print speed. Thermal slow down reduces print speed by printing four pages and then pausing for an amount of time before printing continues.

- Other print speed reduction factors

  Other factors (especially during large print jobs) that can cause reduced print speeds include:

  - ITB cleaning and lubrication; occurs every 50 to 80 pages and takes about 60 seconds.
  - CPR control sequence; occurs every 450 pages and takes about 90 seconds.
  - Density control sequence; occurs every 150 pages and takes about 120 seconds.

8 Parts and diagrams

NOTE: In this chapter, part numbers are only listed for available replaceable parts.

- Order parts, accessories, and supplies
- Part numbers
- Screws
- How to use the parts lists and diagrams
- External components
- Internal components
- Major assemblies
- Optional 250-sheet paper cassette
- Alphabetical parts list
- Numerical parts list

Order parts, accessories, and supplies

Order directly from HP

You can obtain the following items directly from HP:

- **Replacement parts:** To order replacement parts in the U.S., go to www.hp.com/go/hpparts. Outside the United States, order parts by contacting your local authorized HP service center.
- **Supplies and accessories:** To order supplies in the U.S., go to www.hp.com/go/ljsupplies. To order supplies worldwide, go to www.hp.com/ghp/buyonline.html. To order accessories, go to www.hp.com/support/ljcp2020series.

Part numbers

Supplies

Product name	Part number	Service part number
Black print cartridge HP ColorSphere toner	CC530A	CC530-67901
Cyan print cartridge HP ColorSphere toner	CC531A	CC531-67901
Yellow print cartridge HP ColorSphere toner	CC532A	CC532-67901
Magenta print cartridge HP ColorSphere toner	CC533A	CC533-67901

NOTE: For information about the yield for the cartridges, see www.hp.com/go/pageyield. Actual yield depends on specific use.

Memory

Product name	Description	Part number
Memory upgrades (DIMMs)	64 MB	C1887A
	128 MB	C9121A

Cable and interface accessories

Product name	Description	Part number
USB cable	2-meter standard USB-compatible device connector	Q6264A
	3-meter standard USB-compatible device connector	C6520A

Paper-handling accessories

Product name	Description	Part number
Tray 2	250-sheet input tray	RM1-4860-000CN
Tray 3	250-sheet input tray for standard sizes.	RM1-4901-000CN

User-replaceable parts

Product name	Description	Part number
Legal media cover kit	Optional cover (used when the tray is loaded with Legal-size media) (North America only)	CC434-67903

Whole unit replacement

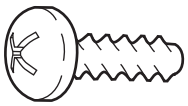
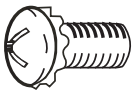
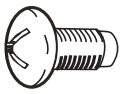
NOTE: To replace the HP Color LaserJet CP2025 base model, order the HP Color LaserJet CP2025n model.

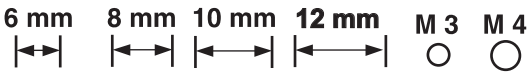
- CB494-69001
  - HP Color LaserJet CP2025n; 110 V
- CB494-69002
  - HP Color LaserJet CP2025n; 220 V
- CB495-69001
  - HP Color LaserJet CP2025dn; 110 V
- CB495-69002
  - HP Color LaserJet CP2025dn; 220 V

Screws

NOTE: The screw illustrations in the following table are for reference only. Screws might vary in size and appearance from those shown in this table.

Table 8-1 Common fasteners

Example	Description	Size	Part Number
	Screw, with washer	M3X8	XA9-1420-000CN
		M4X6	XB2-7400-605CN
		M4X12	XA9-1422-000CN
	Screw, tapping, truss head	M4X10	XB4-7401-005CN
		M4X15	XB4-7401-609CN
	Screw, TP	M3X4	XB6-7300-405CN
		M3X6	XB6-7300-605CN
	Screw, D	M3X6	XA9-1670-000CN
		M3X8	XA9-1671-000CN
	Screw, machine	M3X4	XB6-7300-409CN
	Screw, machine, flat head	M3X4	XA9-0679-000CN
	Screw, machine, flanged pan head	M3X6	XB6-7300-805CN



How to use the parts lists and diagrams

The figures in this chapter show the major subassemblies in the product and their component parts. A parts list table follows each exploded view-assembly diagram. Each table lists the item number, the part number, and a description of each part. If a part is not listed in the table, 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 listed in the description column. Doing so ensures that the part number selected is correct for the product.

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.

External covers and doors

All covers, panels, and doors are listed in Covers, panels, and doors on page 234, with the following exceptions.

- For simplex products, the rear cover and the rear door are listed in Figure 8-7 Internal components, simplex products (6 of 7) on page 246.
- For duplex products, the upper-rear cover, lower-rear cover, and the rear door are listed in Figure 8-8 Internal components, duplex products (7 of 7) on page 248.

External components

Covers, panels, and doors

Figure 8-1 Covers, panels, and doors

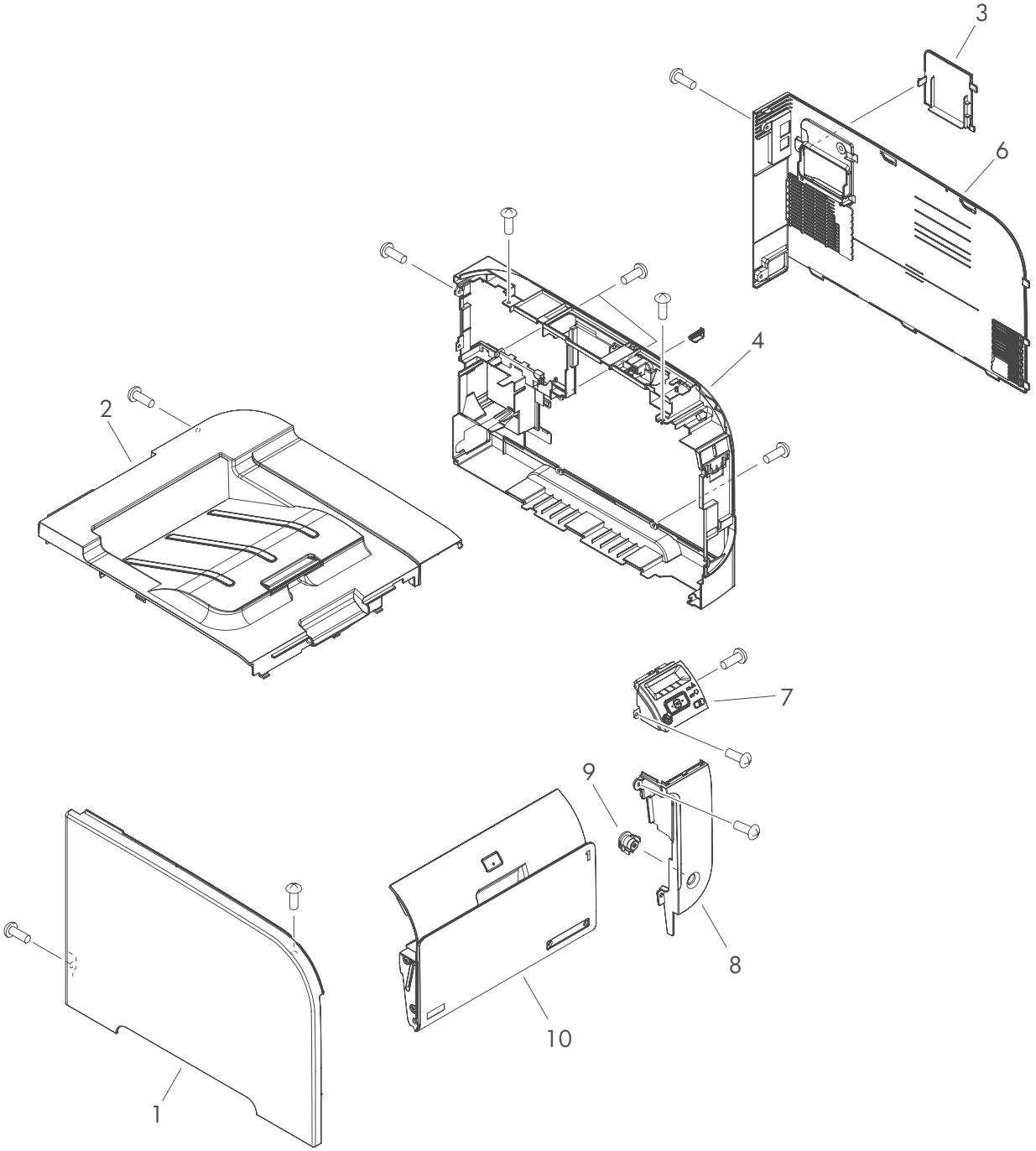


Table 8-2 Covers, panels, and doors

Ref	Description	Part number	Qty
1	Cover, left	RC2-3606-000CN	1
2	Cover, upper assembly	RM1-4831-000CN	1
3	Cover, DIMM	RC2-3614-000CN	1
4	Panel, right	RC2-3610-000CN	1
6	Cover, right	RC2-3618-000CN	1
7	Control-panel assembly	RM1-4832-000CN	1
8	Cover, right-front	RC2-3611-000CN	1
9	Button, power	RC2-3612-000CN	1
10	Door, front assembly	RM1-4848-000CN	1

Internal components

Internal components (1 of 7)

Figure 8-2 Internal components (1 of 7)

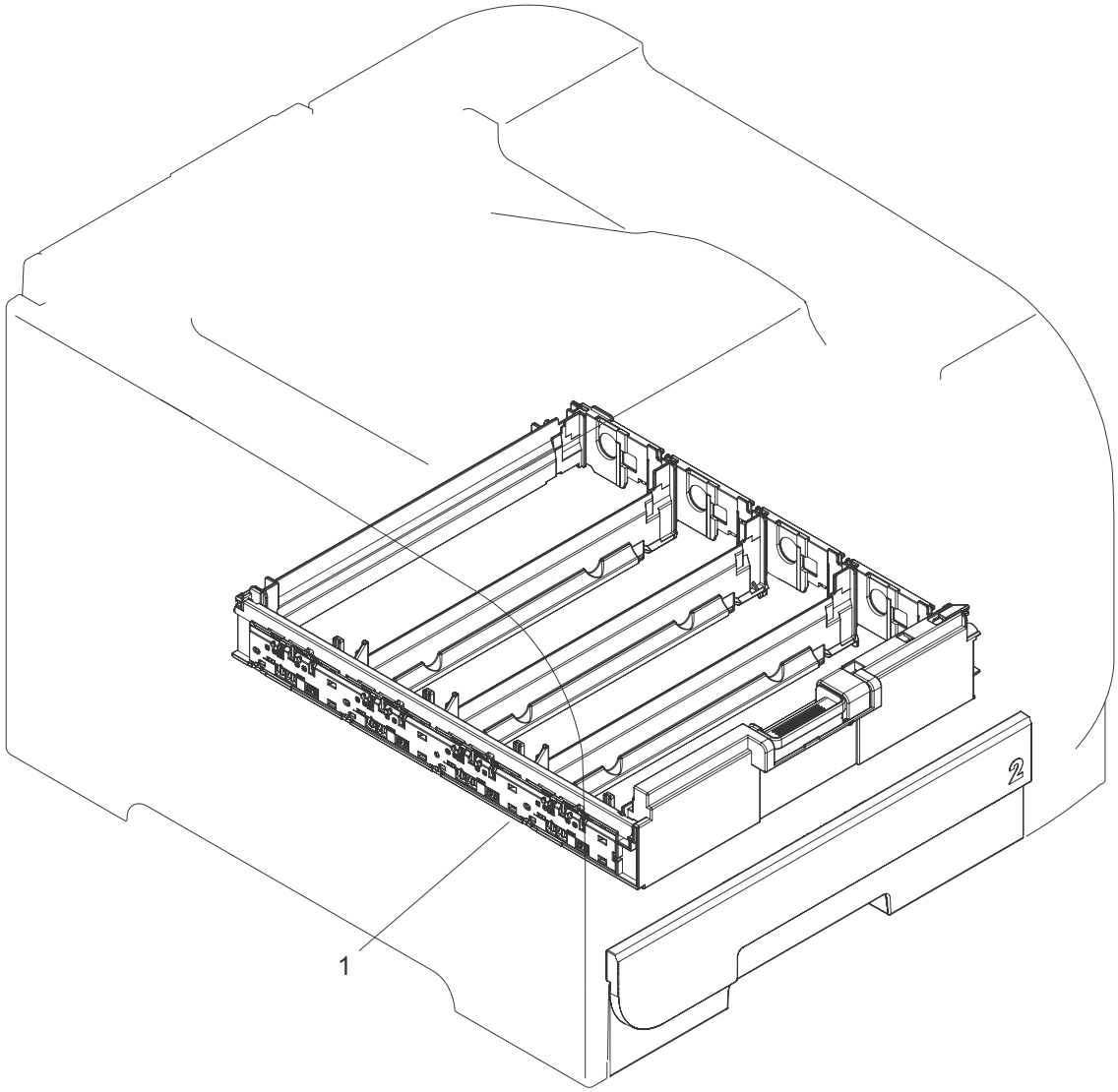


Table 8-3 Internal components (1 of 7)

Ref	Description	Part number	Qty
1	Cartridge-tray assembly	RM1-4836-000CN	1

Internal components (2 of 7)

Figure 8-3 Internal components (2 of 7)

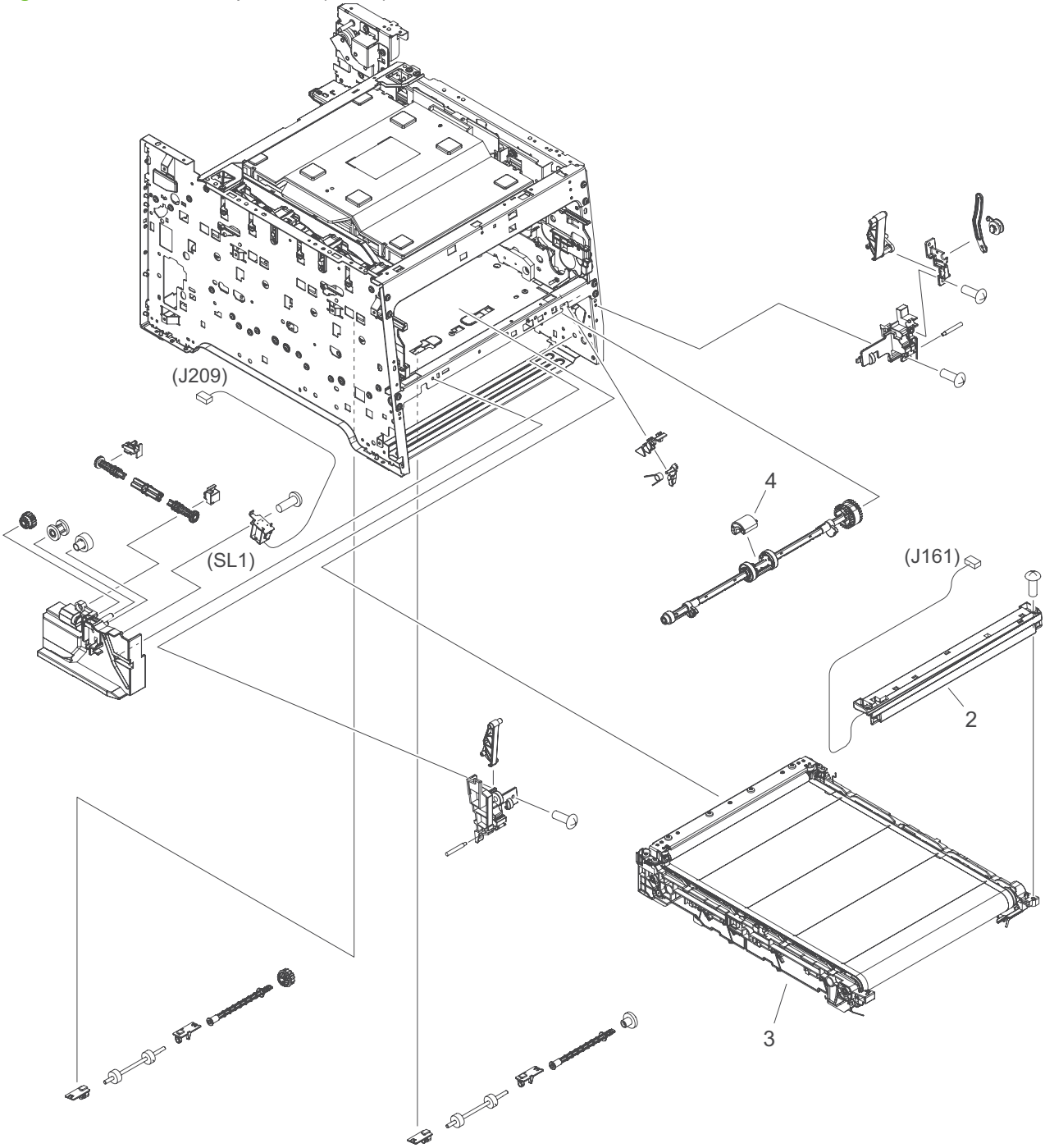


Table 8-4 Internal components (2 of 7)

Ref	Description	Part number	Qty
2	Color misregistration sensor assembly	RM1-4850-000CN	1
3	Intermediate transfer belt (ITB)	RM1-4852-000CN	1
4	Roller, paper-pickup (Tray 1)	RL1-1802-000CN	1

Internal components (3 of 7)

Figure 8-4 Internal components (3 of 7)

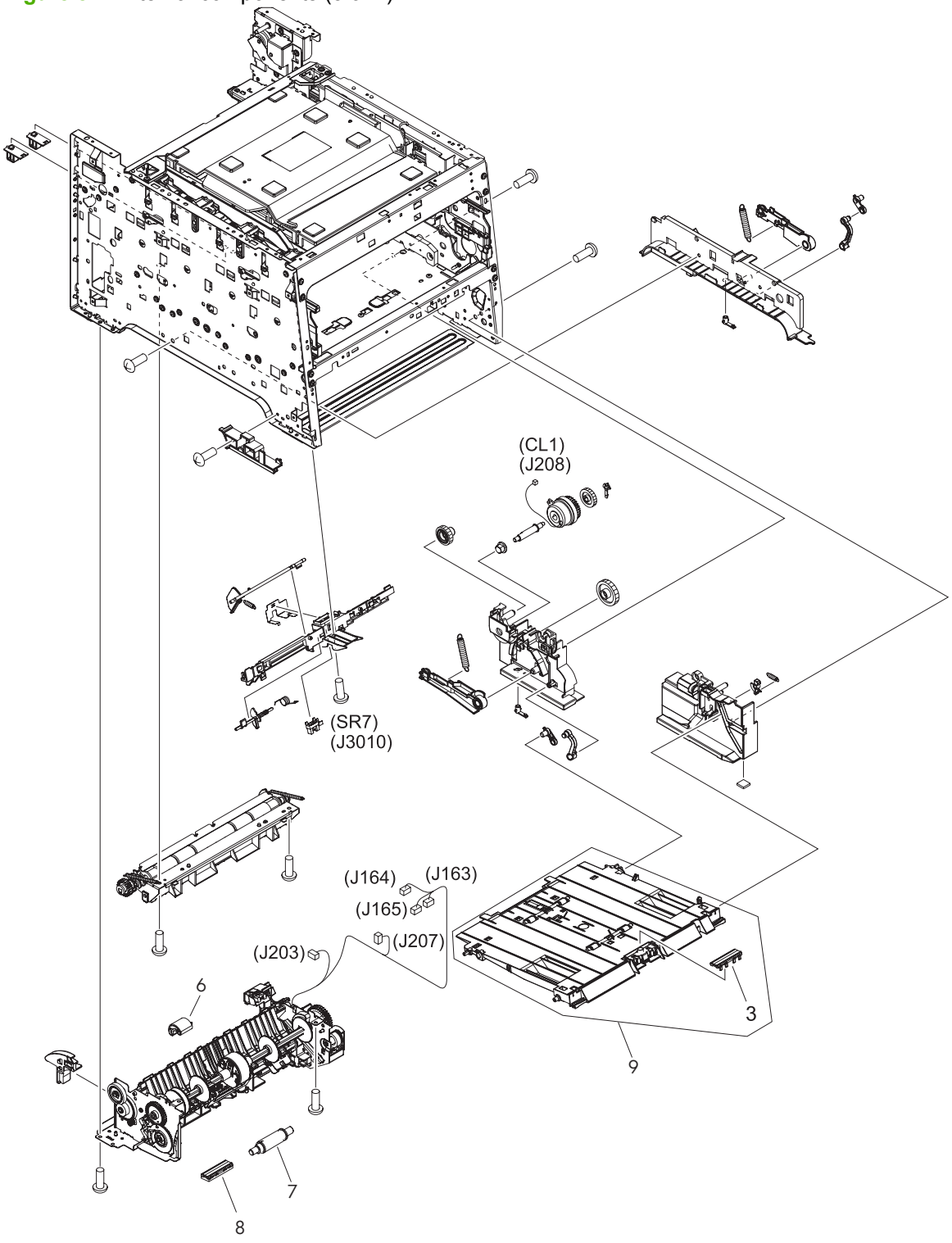


Table 8-5 Internal components (3 of 7)

Ref	Description	Part number	Qty
3	Pad, separation (Tray 1)	RL1-1785-000CN	1
6	Pickup roller assembly	RM1-4426-000CN	1
7	Separation roller assembly	RM1-4840-000CN	1
8	Cover, holder	RC2-2014-000CN	1
9	MP paper pickup assembly (Tray 1)	RM1-4839-000CN	1

Internal components (4 of 7)

Figure 8-5 Internal components (4 of 7)

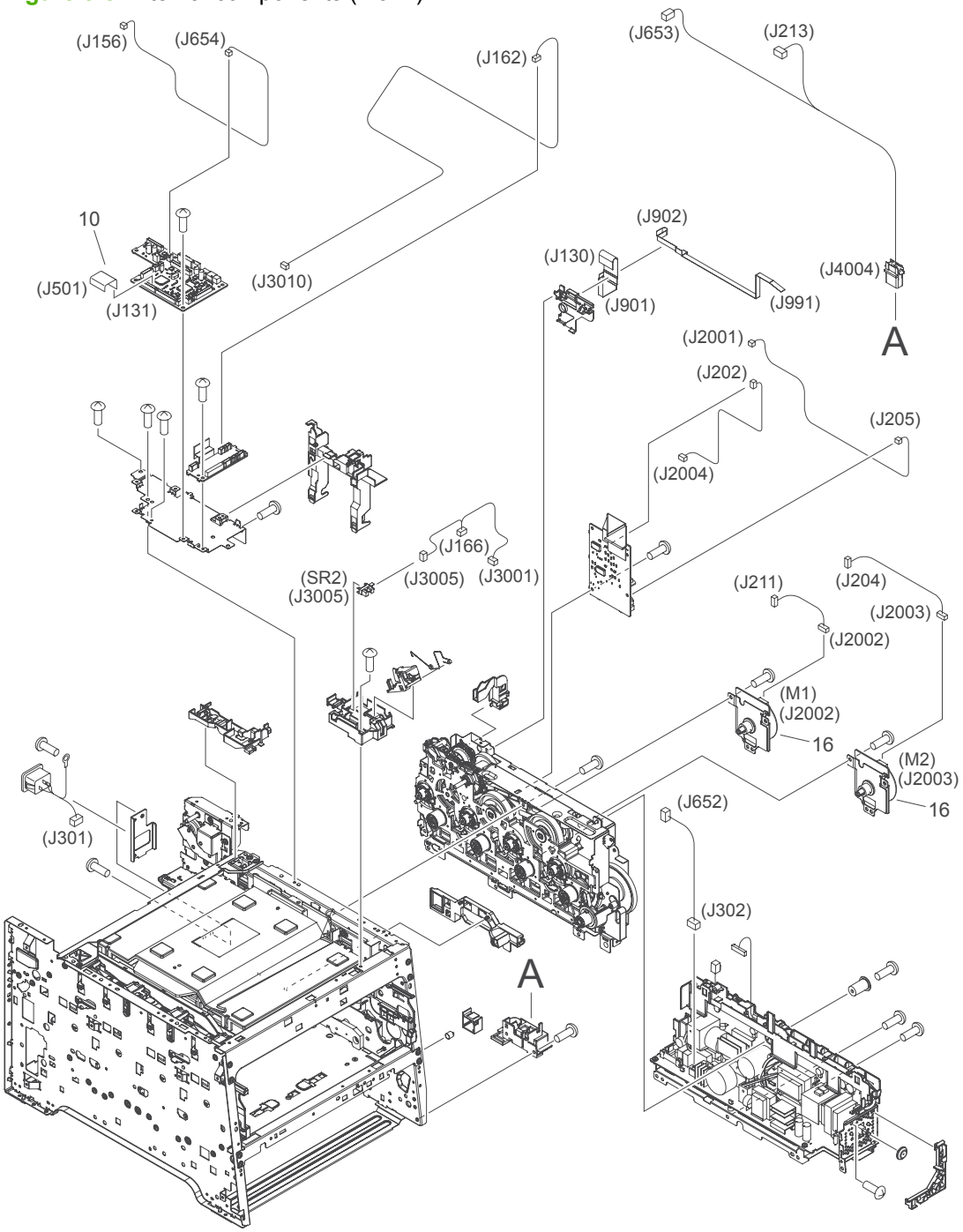


Table 8-6 Internal components (4 of 7)

Ref	Description	Part number	Qty
10	Cable, flat	RK2-2302-000CN	1
16	Motor, DC	RL1-1800-000CN	2

Internal components (5 of 7)

Figure 8-6 Internal components (5 of 7)

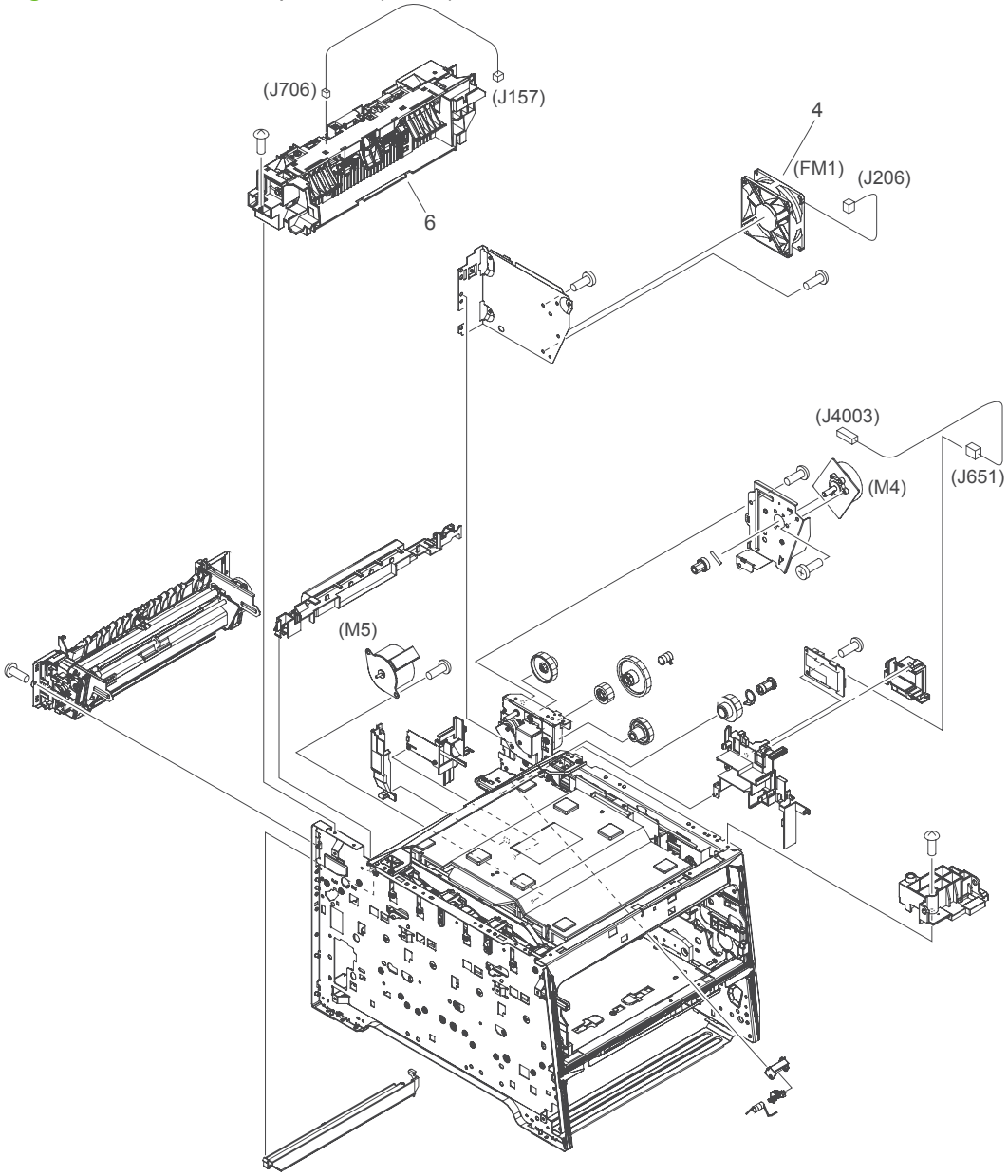
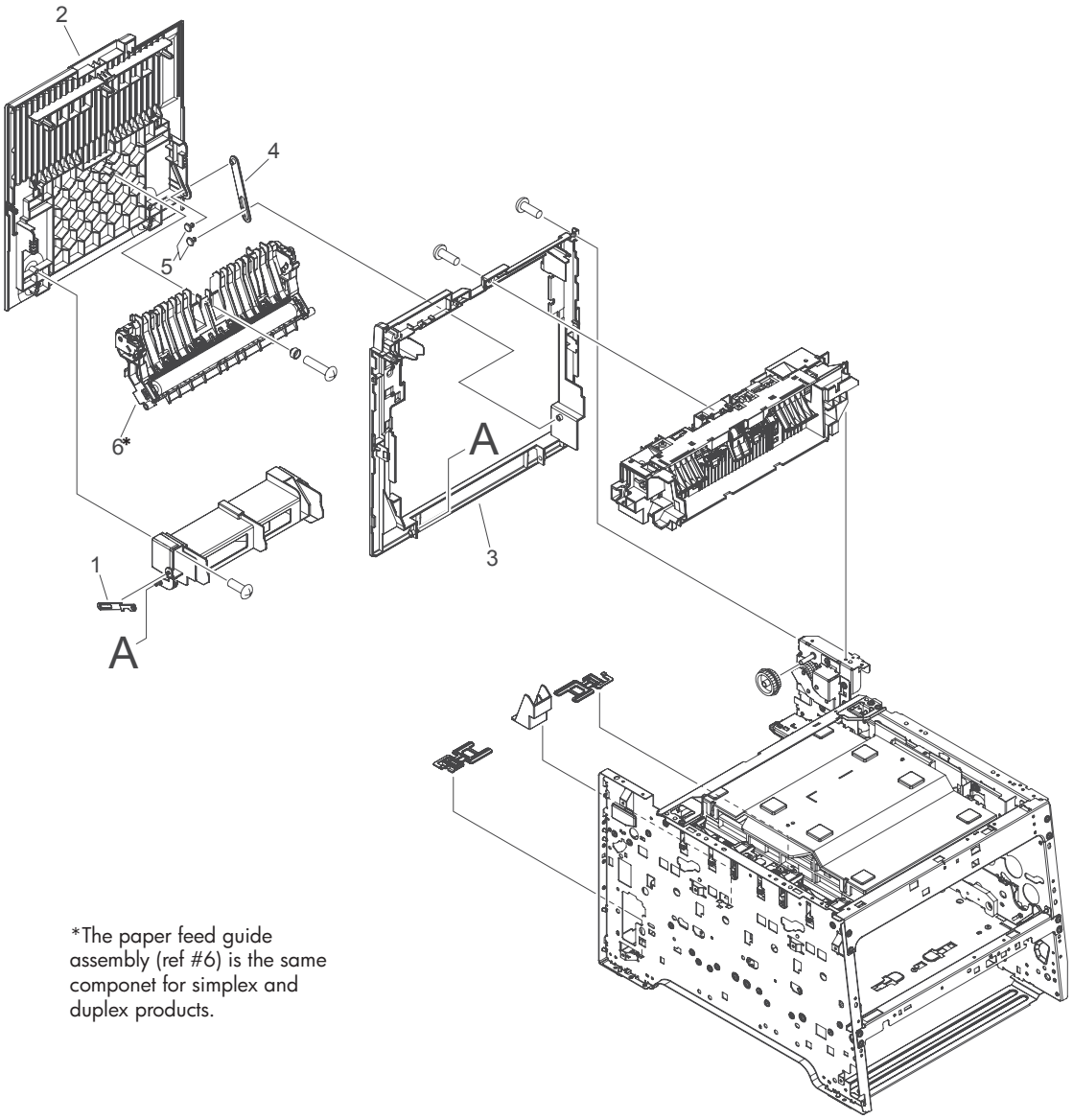


Table 8-7 Internal components (5 of 7)

Ref	Description	Part number	Qty
4	Fan	RK2-2276-000CN	1
6	Paper-delivery assembly	RM1-4873-000CN	1

Internal components, simplex products (6 of 7)

Figure 8-7 Internal components, simplex products (6 of 7)



*The paper feed guide assembly (ref #6) is the same componet for simplex and duplex products.

Table 8-8 Internal components, simplex products (6 of 7)

Ref	Description	Part number	Qty
1	Link, guide[1]	Not orderable	1
2	Door, rear	RC2-3604-000CN	1
3	Cover, rear	RC2-3605-000CN	1
4	Stopper, door rear	RC2-3598-000CN	1
5	Cap, link	RC2-3599-000CN	2
6	Paper-feed guide assembly (simplex and duplex products)[2]	RM1-4838-000CN	1

[1] Depending on which end of the link-guide attachment point has failed, replace either the rear door, or the entire product (the interior paper guide is not replaceable).

[2] The paper-feed guide includes the transfer roller.

Internal components, duplex products (7 of 7)

Figure 8-8 Internal components, duplex products (7 of 7)

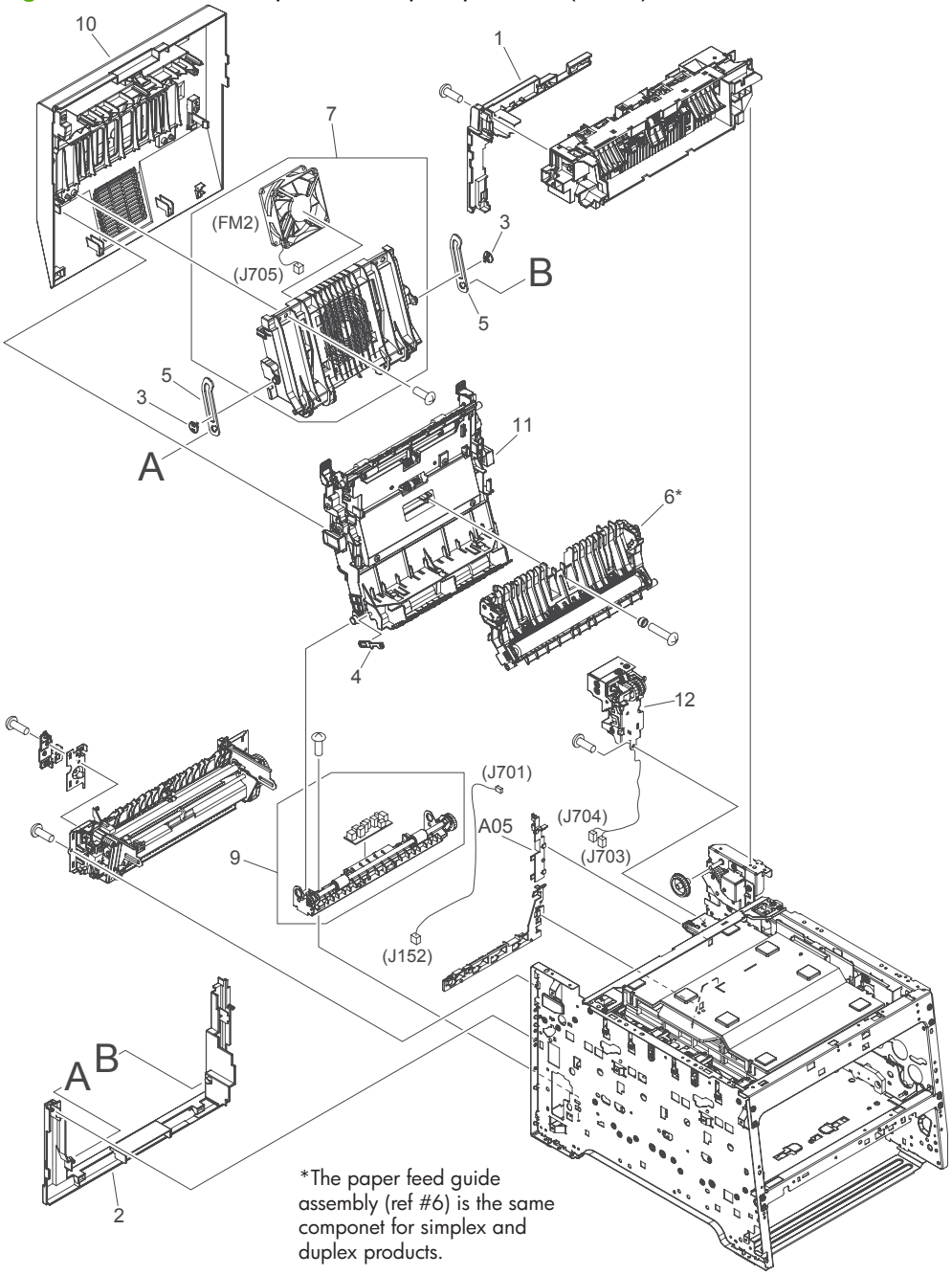


Table 8-9 Internal components, duplex products (7 of 7)

Ref	Description	Part number	Qty
1	Cover, upper-rear	RC2-3791-000CN	1
2	Cover, lower-rear	RC2-3748-000CN	1
3	Cap, link	RC2-3774-000CN	2
4	Link, guide[1]	Not orderable	1
5	Link, door	RC2-3750-000CN	2
6	Paper-feed guide assembly (simplex and duplex products)[2]	RM1-4838-000CN	1
7	Rib assembly, rear-door	RM1-4876-000CN	1
9	Paper-pickup guide assembly	RM1-4877-000CN	1
10	Door, rear assembly	RM1-4878-000CN	1
11	Duplexing-feed guide assembly	RM1-4879-000CN	1
12	Reverse-drive assembly	RM1-4880-000CN	1

[1] Depending on which end of the link-guide attachment point has failed, replace either the duplexing-feed guide assembly, or the entire product (the interior paper guide is not replaceable).

[2] The paper-feed guide includes the transfer roller.

Major assemblies

Cassette (Tray 2)

Figure 8-9 Cassette (Tray 2)

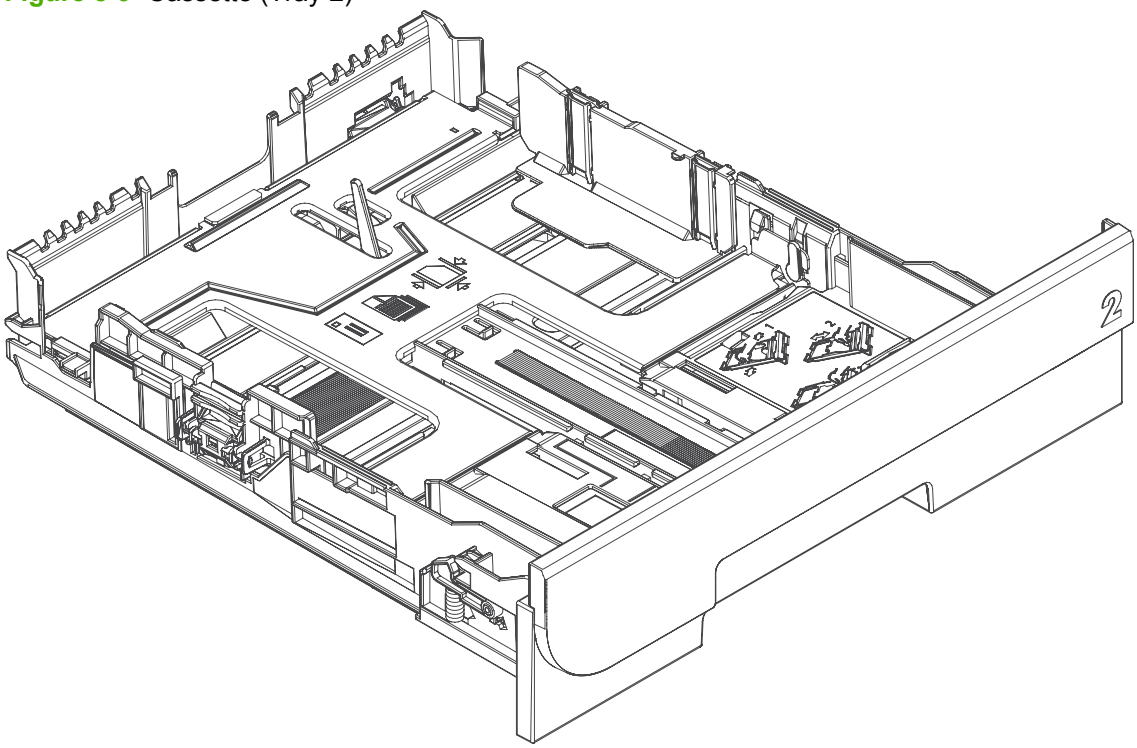


Table 8-10 Cassette (Tray 2)

Ref	Description	Part number	Qty
All	Cassette (Tray 2)	RM1-4860-000CN	1

Fuser assembly

Figure 8-10 Fuser assembly

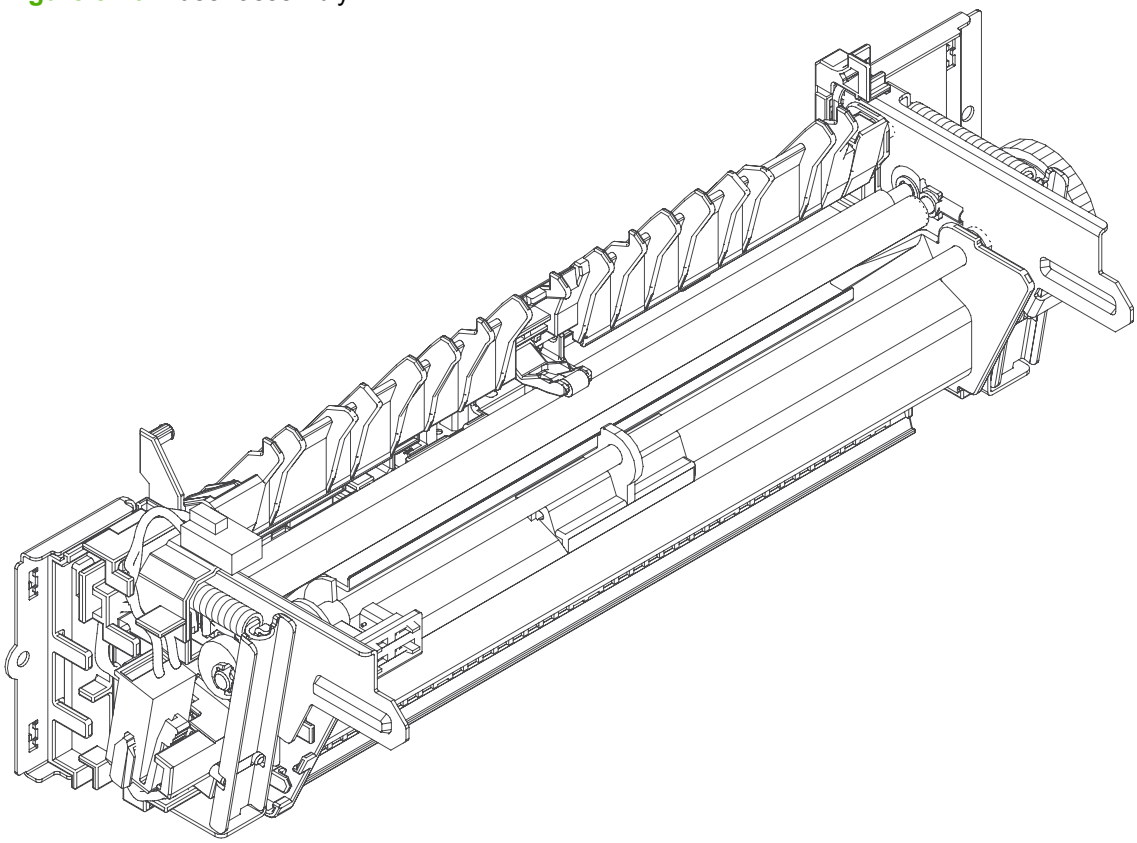


Table 8-11 Fuser assembly

Ref	Description	Part number	Qty
All	Fuser assembly (110V to 127V)	RM1-6740-000CN	1
All	Fuser assembly (220V to 240V)	RM1-6741-000CN	1

PCAs

Figure 8-11 PCAs

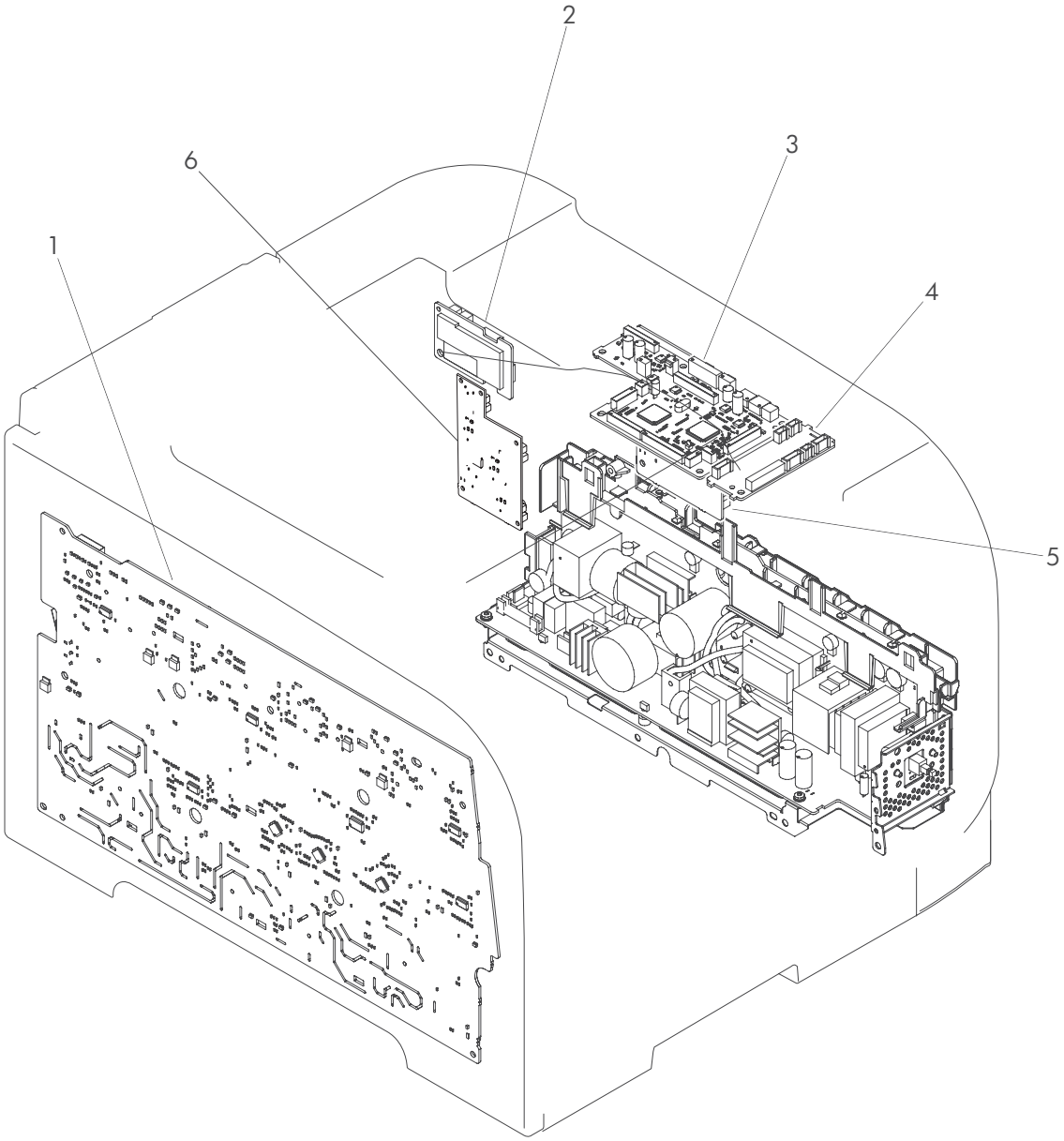


Table 8-12 PCAs

Ref	Description	Part number	Qty
1	Power supply high-voltage, assembly	RM1-5294-000CN	1
2	Power supply sub PCA, assembly	RM1-5303-000CN	1
3	DC controller PCA	RM1-5431-000CN	1
4	Relay PCA	RM1-5293-000CN	1
5	Driver PCA	RM1-5288-000CN	1
6	Formatter PCA, HP Color LaserJet CP 2025	CB492-60002	1

Optional 250-sheet paper cassette

Figure 8-12 Optional 250-sheet paper cassette

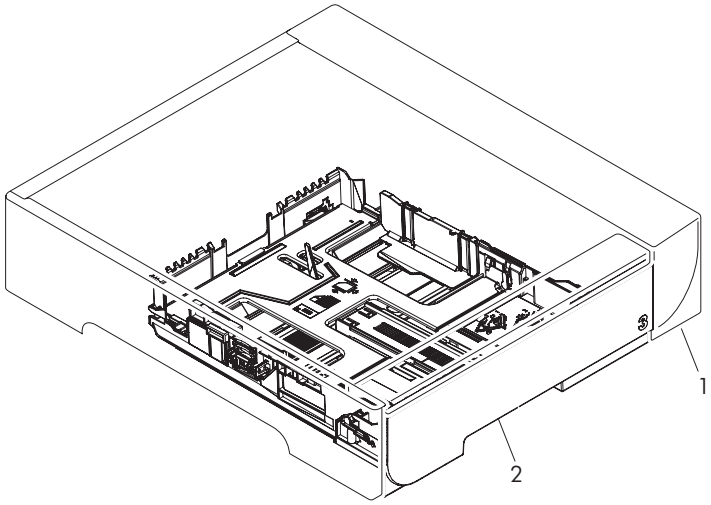


Table 8-13 250-sheet paper cassette

Ref	Description	Part number	Qty
1	Optional 250-sheet paper feeder (includes cassette)	CB500-67902	1
2	Optional 250-sheet paper cassette	RM1-4901-000CN	1

Alphabetical parts list

Table 8-14 Alphabetical parts list

Description	Part number	Table and page
Button, power	RC2-3612-000CN	Covers, panels, and doors on page 235
Cable, flat	RK2-2302-000CN	Internal components (4 of 7) on page 243
Cap, link	RC2-3599-000CN	Internal components, simplex products (6 of 7) on page 247
Cap, link	RC2-3774-000CN	Internal components, duplex products (7 of 7) on page 249
Cartridge-tray assembly	RM1-4836-000CN	Internal components (1 of 7) on page 237
Cassette (Tray 2)	RM1-4860-000CN	Cassette (Tray 2) on page 251
Color misregistration sensor assembly	RM1-4850-000CN	Internal components (2 of 7) on page 239
Control-panel assembly	RM1-4832-000CN	Covers, panels, and doors on page 235
Cover, DIMM	RC2-3614-000CN	Covers, panels, and doors on page 235
Cover, holder	RC2-2014-000CN	Internal components (3 of 7) on page 241
Cover, left	RC2-3606-000CN	Covers, panels, and doors on page 235
Cover, lower-rear	RC2-3748-000CN	Internal components, duplex products (7 of 7) on page 249
Cover, rear	RC2-3605-000CN	Internal components, simplex products (6 of 7) on page 247
Cover, right	RC2-3618-000CN	Covers, panels, and doors on page 235
Cover, right-front	RC2-3611-000CN	Covers, panels, and doors on page 235
Cover, upper assembly	RM1-4831-000CN	Covers, panels, and doors on page 235
Cover, upper-rear	RC2-3791-000CN	Internal components, duplex products (7 of 7) on page 249
DC controller PCA	RM1-5431-000CN	PCAs on page 255
Door, front assembly	RM1-4848-000CN	Covers, panels, and doors on page 235
Door, rear	RC2-3604-000CN	Internal components, simplex products (6 of 7) on page 247
Door, rear assembly	RM1-4878-000CN	Internal components, duplex products (7 of 7) on page 249
Driver PCA	RM1-5288-000CN	PCAs on page 255

Table 8-14 Alphabetical parts list (continued)

Description	Part number	Table and page
Duplexing-feed guide assembly	RM1-4879-000CN	Internal components, duplex products (7 of 7) on page 249
Fan	RK2-2276-000CN	Internal components (5 of 7) on page 245
Formatter PCA, HP Color LaserJet CP 2025	CB492-60002	PCAs on page 255
Fuser assembly (110V to 127V)	RM1-6740-000CN	Fuser assembly on page 253
Fuser assembly (220V to 240V)	RM1-6741-000CN	Fuser assembly on page 253
Intermediate transfer belt (ITB)	RM1-4852-000CN	Internal components (2 of 7) on page 239
Link, door	RC2-3750-000CN	Internal components, duplex products (7 of 7) on page 249
Link, guide[1]	Not orderable	Internal components, simplex products (6 of 7) on page 247
Link, guide[1]	Not orderable	Internal components, duplex products (7 of 7) on page 249
Motor, DC	RL1-1800-000CN	Internal components (4 of 7) on page 243
MP paper pickup assembly (Tray 1)	RM1-4839-000CN	Internal components (3 of 7) on page 241
Optional 250-sheet paper cassette	RM1-4901-000CN	250-sheet paper cassette on page 257
Optional 250-sheet paper feeder (includes cassette)	CB500-67902	250-sheet paper cassette on page 257
Pad, separation (Tray 1)	RL1-1785-000CN	Internal components (3 of 7) on page 241
Panel, right	RC2-3610-000CN	Covers, panels, and doors on page 235
Paper-delivery assembly	RM1-4873-000CN	Internal components (5 of 7) on page 245
Paper-feed guide assembly (simplex and duplex products)[2]	RM1-4838-000CN	Internal components, simplex products (6 of 7) on page 247
Paper-feed guide assembly (simplex and duplex products)[2]	RM1-4838-000CN	Internal components, duplex products (7 of 7) on page 249
Paper-pickup guide assembly	RM1-4877-000CN	Internal components, duplex products (7 of 7) on page 249
Pickup roller assembly	RM1-4426-000CN	Internal components (3 of 7) on page 241
Power supply high-voltage, assembly	RM1-5294-000CN	PCAs on page 255
Power supply sub PCA, assembly	RM1-5303-000CN	PCAs on page 255
Relay PCA	RM1-5293-000CN	PCAs on page 255
Reverse-drive assembly	RM1-4880-000CN	Internal components, duplex products (7 of 7) on page 249

Table 8-14 Alphabetical parts list (continued)

Description	Part number	Table and page
Rib assembly, rear-door	RM1-4876-000CN	Internal components, duplex products (7 of 7) on page 249
Roller, paper-pickup (Tray 1)	RL1-1802-000CN	Internal components (2 of 7) on page 239
Separation roller assembly	RM1-4840-000CN	Internal components (3 of 7) on page 241
Stopper, door rear	RC2-3598-000CN	Internal components, simplex products (6 of 7) on page 247

Numerical parts list

Table 8-15 Numerical parts list

Part number	Description	Table and page
CB492-60002	Formatter PCA, HP Color LaserJet CP 2025	PCAs on page 255
CB500-67902	Optional 250-sheet paper feeder (includes cassette)	250-sheet paper cassette on page 257
Not orderable	Link, guide[1]	Internal components, simplex products (6 of 7) on page 247
Not orderable	Link, guide[1]	Internal components, duplex products (7 of 7) on page 249
RC2-2014-000CN	Cover, holder	Internal components (3 of 7) on page 241
RC2-3598-000CN	Stopper, door rear	Internal components, simplex products (6 of 7) on page 247
RC2-3599-000CN	Cap, link	Internal components, simplex products (6 of 7) on page 247
RC2-3604-000CN	Door, rear	Internal components, simplex products (6 of 7) on page 247
RC2-3605-000CN	Cover, rear	Internal components, simplex products (6 of 7) on page 247
RC2-3606-000CN	Cover, left	Covers, panels, and doors on page 235
RC2-3610-000CN	Panel, right	Covers, panels, and doors on page 235
RC2-3611-000CN	Cover, right-front	Covers, panels, and doors on page 235
RC2-3612-000CN	Button, power	Covers, panels, and doors on page 235
RC2-3614-000CN	Cover, DIMM	Covers, panels, and doors on page 235
RC2-3618-000CN	Cover, right	Covers, panels, and doors on page 235
RC2-3748-000CN	Cover, lower-rear	Internal components, duplex products (7 of 7) on page 249
RC2-3750-000CN	Link, door	Internal components, duplex products (7 of 7) on page 249
RC2-3774-000CN	Cap, link	Internal components, duplex products (7 of 7) on page 249
RC2-3791-000CN	Cover, upper-rear	Internal components, duplex products (7 of 7) on page 249
RK2-2276-000CN	Fan	Internal components (5 of 7) on page 245
RK2-2302-000CN	Cable, flat	Internal components (4 of 7) on page 243

Table 8-15 Numerical parts list (continued)

Part number	Description	Table and page
RL1-1785-000CN	Pad, separation (Tray 1)	Internal components (3 of 7) on page 241
RL1-1800-000CN	Motor, DC	Internal components (4 of 7) on page 243
RL1-1802-000CN	Roller, paper-pickup (Tray 1)	Internal components (2 of 7) on page 239
RM1-4426-000CN	Pickup roller assembly	Internal components (3 of 7) on page 241
RM1-4831-000CN	Cover, upper assembly	Covers, panels, and doors on page 235
RM1-4832-000CN	Control-panel assembly	Covers, panels, and doors on page 235
RM1-4836-000CN	Cartridge-tray assembly	Internal components (1 of 7) on page 237
RM1-4838-000CN	Paper-feed guide assembly (simplex and duplex products)[2]	Internal components, simplex products (6 of 7) on page 247
RM1-4838-000CN	Paper-feed guide assembly (simplex and duplex products)[2]	Internal components, duplex products (7 of 7) on page 249
RM1-4839-000CN	MP paper pickup assembly (Tray 1)	Internal components (3 of 7) on page 241
RM1-4840-000CN	Separation roller assembly	Internal components (3 of 7) on page 241
RM1-4848-000CN	Door, front assembly	Covers, panels, and doors on page 235
RM1-4850-000CN	Color misregistration sensor assembly	Internal components (2 of 7) on page 239
RM1-4852-000CN	Intermediate transfer belt (ITB)	Internal components (2 of 7) on page 239
RM1-4860-000CN	Cassette (Tray 2)	Cassette (Tray 2) on page 251
RM1-4873-000CN	Paper-delivery assembly	Internal components (5 of 7) on page 245
RM1-4876-000CN	Rib assembly, rear-door	Internal components, duplex products (7 of 7) on page 249
RM1-4877-000CN	Paper-pickup guide assembly	Internal components, duplex products (7 of 7) on page 249
RM1-4878-000CN	Door, rear assembly	Internal components, duplex products (7 of 7) on page 249
RM1-4879-000CN	Duplexing-feed guide assembly	Internal components, duplex products (7 of 7) on page 249
RM1-4880-000CN	Reverse-drive assembly	Internal components, duplex products (7 of 7) on page 249
RM1-4901-000CN	Optional 250-sheet paper cassette	250-sheet paper cassette on page 257
RM1-5288-000CN	Driver PCA	PCAs on page 255

Table 8-15 Numerical parts list (continued)

Part number	Description	Table and page
RM1-5293-000CN	Relay PCA	PCAs on page 255
RM1-5294-000CN	Power supply high-voltage, assembly	PCAs on page 255
RM1-5303-000CN	Power supply sub PCA, assembly	PCAs on page 255
RM1-5431-000CN	DC controller PCA	PCAs on page 255
RM1-6740-000CN	Fuser assembly (110V to 127V)	Fuser assembly on page 253
RM1-6741-000CN	Fuser assembly (220V to 240V)	Fuser assembly on page 253

A Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP Color LaserJet CP2020 Series 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.

Customer self repair warranty service

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

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

Print cartridge limited warranty statement

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

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

Customer support

Get telephone support, free during your warranty period, for your country/region Have the product name, serial number, date of purchase, and problem description ready.	Country/region phone numbers are on the flyer that was in the box with your product or at www.hp.com/support/.
Get 24-hour Internet support	www.hp.com/support/ljcp2020series
Get support for products used with a Macintosh computer	www.hp.com/go/macosx
Download software utilities, drivers, and electronic information	www.hp.com/go/ljcp2020series_software
Order supplies and paper	www.hp.com/go/suresupply
Order genuine HP parts or accessories	www.hp.com/buy/parts
Order additional HP service or maintenance agreements	www.hp.com/go/carepack

Repack the product

If your product needs to be moved or shipped to another place, perform the following procedure to repack it.

△ **CAUTION:** Shipping damage as a result of inadequate packing is the customer's responsibility. The product must remain upright during shipment.

Repack the product

△ **CAUTION:** It is *extremely important* to remove the print cartridges before shipping the product. Print cartridges left in the product during shipping can leak and entirely cover the product with toner.

To prevent damage to the print cartridges, avoid touching the rollers, and store them in the original packing material or so that they are not exposed to light.

1. Remove all four print cartridges and ship separately.
2. Use the original shipping container and packing material, if possible. If you have already disposed of the packing material, contact a local mailing service for information about repacking the product. HP recommends insuring the equipment for shipment.

Service information form

WHO IS RETURNING THE EQUIPMENT?		Date:
Person to contact:		Phone:
Alternate contact:		Phone:
Return shipping address:	Special shipping instructions:	

WHAT ARE YOU SENDING?		
Model name:	Model number:	Serial number:
Please attach any relevant printouts. Do NOT ship accessories (manuals, cleaning supplies, and so on) that are not required to complete the repair.		
HAVE YOU REMOVED THE PRINT CARTRIDGES?		
You must remove them before shipping the printer, unless a mechanical problem prevents you from doing so.		
[ ] Yes.	[ ] No, I cannot remove them.	
WHAT NEEDS TO BE DONE? (Attach a separate sheet if necessary.)		
1. Describe the conditions of the failure. (What was the failure? What were you doing when the failure occurred? What software were you running? Is the failure repeatable?)		
2. If the failure is intermittent, how much time elapses between failures?		
3. If the unit connected to any of the following, give the manufacturer and model number.		
Personal computer:	Modem:	Network:
4. Additional comments:		

HOW WILL YOU PAY FOR THE REPAIR?		
[ ] Under warranty	Purchase/received date:	
(Attach proof of purchase or receiving document with original received date.)		
[ ] Maintenance contract number:		
[ ] Purchase order number:		
Except for contract and warranty service, a purchase order number and/or authorized signature must accompany any request for service. If standard repair prices do not apply, a minimum purchase order is required. Standard repair prices can be obtained by contacting an HP-authorized repair center.		
Authorized signature:		Phone:
Billing address:	Special billing instructions:	

B Specifications

- Physical specifications
- Electrical specifications
- Acoustic emissions
- Environmental specifications

Physical specifications

Table B-1 Physical specifications

Product	Height	Depth	Width	Weight
Non-duplexing model	322 mm (12.7 in)	454 mm (17.9 in)	405 mm (15.9 in)	19.90 kg (43.78 lb)
Duplexing model	322 mm (12.7 in)	484 mm (19.1 in)	405 mm (15.9 in)	21.10 kg (46.42 lb)
Optional Tray 3	100 mm (3.9 in)	447.5 mm (17.6 in)	400 mm (15.7 in)	3.90 kg (8.58 lb)

Electrical specifications

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

Table B-2 Electrical specifications

Item	110-volt models	220-volt models
Power requirements	100 to 127 V (+/-10%) 50 to 60 Hz (+/-2 Hz)	220 to 240 V (+/-10%) 50 to 60 Hz (+/-2 Hz)
Minimum recommended circuit capacity	6.0 A	3.0 A

Table B-3 Power consumption (average, in watts)[1,4]

Product Model	Printing (21 PPM)[2,3]	Ready[2]	Sleep[2]	Off[2]
HP Color LaserJet CP2020 Series Printer	260	13	3.8	0.0

1 Values are based on preliminary data. Go to www.hp.com/support/ljcp2020series for current information.

2 The power consumption reflects the highest values measured for color and monochrome printing when using all standard voltages.

3 HP Color LaserJet CP2020 Series print speed is 21 pages per minute (ppm) on letter-size media and 20 ppm on A4-size media in black-and-white or color.

4 Maximum heat dissipation for all models in Ready mode = 41 BTU/Hour.

Acoustic emissions

Table B-4 HP Color LaserJet CP2020 Series[1,2]

Sound power level	Declared per ISO 9296
Printing (21 ppm)[3]	L_{WAd} = 6.4 Bels (A) [64 dB (A)]
Ready	L_{WAd} = Inaudible
Sound pressure level - bystander position	**Declared per ISO 9296**
Printing (20 ppm)[3]	L_{pAm} = 67 dB (A)
Ready	L_{pAm} = Inaudible

1 Values are based on preliminary data. Go to www.hp.com/support/ljcp2020series for current information.

2 Configuration tested: HP Color LaserJet CP2020 Series monochrome simplex printing.

3 HP Color LaserJet CP2020 Series speed is 21/20 ppm for color printing and 21/20 ppm for monochrome printing (Letter/A4 size).

Environmental specifications

Table B-5 Operating-environment specifications

Environment	Recommended	Allowed
Temperature	15° to 27°C (59° to 80.6°F)	10° to 30°C (50° to 86°F)
Humidity	20% to 60% relative humidity (RH)	10% to 80% RH
Altitude	Not applicable	0 to 3048 m (0 to 10,000 ft)

NOTE: These values are based on preliminary data. Go towww.hp.com/support/ljcp2020series for current information.

C Regulatory information

- FCC regulations
- Declaration of conformity
- Safety statements

FCC regulations

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

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

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

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

Declaration of conformity

Declaration of conformity

according to ISO/IEC 17050-1 and EN 17050-1; DoC#: BOISB-0701–00–rel. 1.0

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 CP2020 Series
Regulatory Model:[2)]	BOISB-0701-00
	Including: CB500A— Optional 250-Sheet Input Tray
Product Options:	All
Toner Cartridges:	CC530A, CC531A, CC532A, CC533A

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:	CISPR22:2005 / EN55022:2006 - Class B[1)] EN 61000-3-2:2000 +A2 EN 61000-3-3:1995 +A1 EN 55024:1998 +A1 +A2 FCC Title 47 CFR, Part 15 Class B / ICES-003, Issue 4 GB9254-1998, GB17625.1-2003

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 2004/108/EEC and the Low Voltage Directive 2006/95/EC, and carries the CE-Marking CE accordingly.

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.

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

2) For regulatory purposes, these products are assigned a Regulatory model number. This number should not be confused with the product name or the product number(s).

Boise, Idaho 83713, USA

December, 2007

For Regulatory Topics Only:

European Contact	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard Gmbh, Department HQ-TRE / Standards Europe, Herrenberger Strasse 140, D-71034 Böblingen, Germany, (FAX+49-7031-14-3143), http://www.hp.com/go/certificates
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 device is certified as a “Class 1” laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside the device is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

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

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

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

VCCI statement (Japan)

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

Power cord statement (Japan)

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

EMI statement (Korea)

B급 기기 (가정용 정보통신기기)

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

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP Color LaserJet CP2020 Series, 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 CP2020 Series - 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.

Substances Table (China)

有毒有害物质表

根据中国电子信息产品污染控制管理办法的要求而出台

部件名称	有毒有害物质和元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
打印引擎	X	0	X	0	0	0
控制面板	0	0	0	0	0	0
塑料外壳	0	0	0	0	0	0
格式化板组件	X	0	0	0	0	0
碳粉盒	X	0	0	0	0	0

3685

0：表示在此部件所用的所有同类材料中，所含的此有毒或有害物质均低于 SJ/T11363-2006 的限制要求。

X：表示在此部件所用的所有同类材料中，至少一种所含的此有毒或有害物质高于 SJ/T11363-2006 的限制要求。

注：引用的“环保使用期限”是根据在正常温度和湿度条件下操作使用产品而确定的。

Certificate of Volatility

Types of memory

Volatile memory

The product utilizes volatile memory (128 MB of DDR2 DRAM) to store customer data during the printing and copying process. When the product is powered off, this volatile memory is erased.

Non-volatile memory

The product utilizes non-volatile memory (4 MB of SPI FLASH) to store system control data and user preference settings. No customer print or copy data is stored in non-volatile memory. This non-volatile memory can be cleared and restored to factory defaults by performing a Cold Reset or Restore Factory Defaults from the control panel.

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