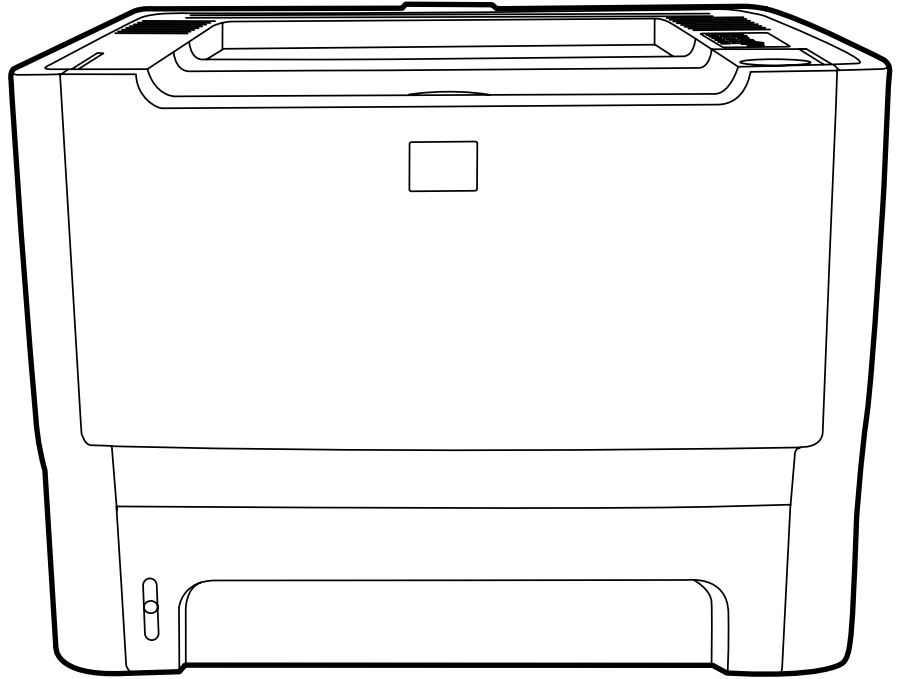


# HP LaserJet P2015 Series

## Service Manual





# HP LaserJet P2015 Series

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Service Manual



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## Safety information

### WARNING!

#### Potential Shock Hazard

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

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 printer 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 printer. Replace damaged cords immediately.

Unplug this product from wall outlets before cleaning.

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

Install the product securely on a stable surface.

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

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

Refer all servicing questions to qualified personnel.

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

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# 1 Product information

This chapter provides information on the following topics:

- [Product features](#)
- [Identify product parts](#)
- [Control panel](#)
- [Supported paper and other media](#)
- [Load media](#)

## Product features

The following are the standard configurations for the HP LaserJet P2015 Series printers.

### HP LaserJet P2015 printer

- 27 ppm (Letter-size), 26 ppm (A4-size)
- First page out in as few as 8.5 seconds
- ProRes 1200 (provides fine-line detail at 1200 x 1200 dpi)
- FastRes 1200 600x600x2
- 600 dpi (provides 600 x 600 dpi output with Resolution Enhancement Technology [REt] for improved text)
- 50-sheet multipurpose tray (tray 1)
- 250-sheet enclosed input tray (tray 2)
- Optional additional 250-sheet input tray (tray 3)
- EconoMode
- Print watermarks, booklets, multiple pages per sheet (N-up), and first page on different media than the rest of the document
- 32 MB RAM
- Memory can be upgraded to 288 MB
- 3,000-page or 7,000-page print cartridge
- PCL 6, PCL 5e, and HP postscript level 3 emulation (printer automatically determines and switches to the appropriate language)
- Compatible with USB 2.0 specifications
- Supported by Windows® 98 (printer driver only), Me (printer driver only), 2000, Server 2003 (printer driver only), XP 32-bit, XP 64-bit (printer driver only)
- Supported by Macintosh OS X V10.2.8, V10.3.9, V10.4.3
- On/off switch
- HP ToolboxFX (provides printer status information, troubleshooting information, and printer configuration information)
- Embedded Web server (EWS) with internal pages that are localized in 16 languages
- 45 HP fonts
- 35 HP postscript emulation level 3 fonts

### HP LaserJet P2015d printer

The HP LaserJet P2015d printer includes all of the features of the HP LaserJet P2015 plus automatic two-sided (duplex) printing.



## **HP LaserJet P2015n printer**

The HP LaserJet P2015n printer includes all of the features of the HP LaserJet P2015 plus an HP internal network port.

## **HP LaserJet P2015dn printer**

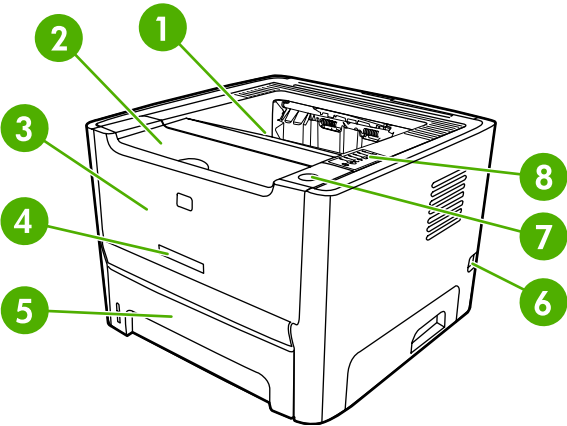
The HP LaserJet P2015dn printer includes all of the features of the HP LaserJet P2015d plus an HP internal network port.

## **HP LaserJet P2015x printer**

The HP LaserJet P2015x printer includes all of the features of the HP LaserJet P2015dn plus an additional 250-sheet input tray (tray 3).

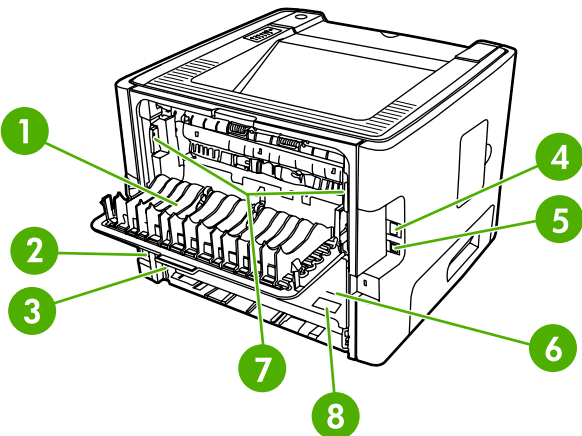
# Identify product parts

The following illustrations identify the components of the HP LaserJet P2015 Series printers. The HP LaserJet P2015dn model is shown.



**Figure 1-1** HP LaserJet P2015dn, front view

1	Output bin
2	Print-cartridge door
3	Tray 1 (50-sheet multipurpose tray)
4	Model number
5	Tray 2 (250-sheet enclosed input tray)
6	On/off switch
7	Print-cartridge-door button
8	Control panel



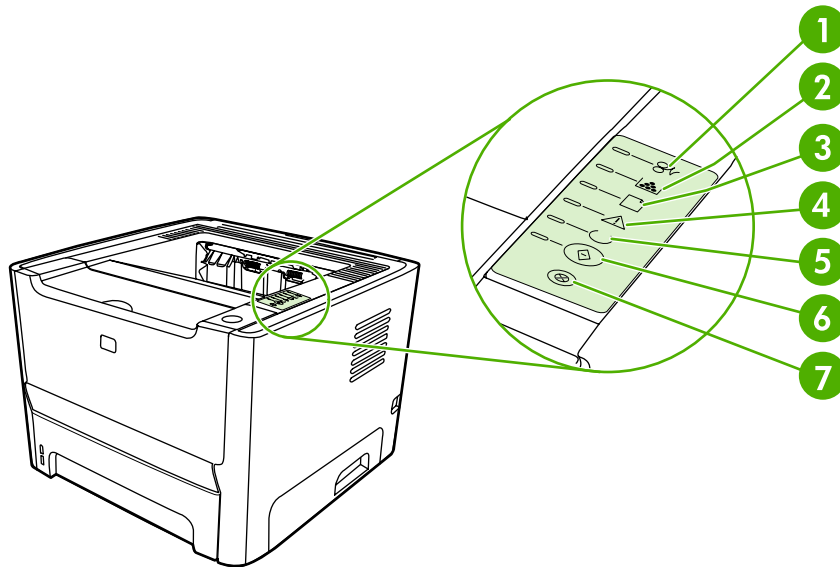
**Figure 1-2** HP LaserJet P2015dn, back view

1	Straight-through output door
2	Power receptacle

3	Automatic two-sided-printing media-size selector (duplex models only)
4	HP internal network port (network-ready models only)
5	USB port
6	Rear automatic two-sided path door (duplex models only)
7	Jam-clearing levers
8	Serial number

## Control panel

The printer control panel is comprised of six lights and two buttons. The lights produce patterns that identify the printer status.



1	<b>Jam light:</b> Indicates that there is a jam in the printer.
2	<b>Toner light:</b> When the print cartridge is low, the Toner light illuminates. When the print cartridge is out of the printer, the Toner light blinks.
3	<b>Paper out light:</b> Indicates that the printer is out of paper.
4	<b>Attention light:</b> Indicates that the print-cartridge door is open or other errors exist.
5	<b>Ready light:</b> Indicates that the printer is ready to print.
6	<b>Go button and light:</b> Initiates action or indicates status.
7	<b>Cancel button:</b> To cancel the print job that is currently printing, press the <b>Cancel</b> button.

## Supported paper and other media

The HP LaserJet P2015 Series printer can use a variety of paper and other print media in accordance with the guidelines in this user guide. Media that does not meet these guidelines might cause the following problems:

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

For best results, use only HP brand paper and print media. Hewlett-Packard Company cannot recommend the use of other brands. Because they are not HP products, HP cannot influence or control their quality.

It is possible for media 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 humidity levels, or other variables over which Hewlett-Packard has no control.

Before you purchase a large quantity of media, test the media and make sure that it meets the requirements specified in this user guide and in *HP LaserJet printer family media guide*. Download the guidelines from <http://www.hp.com/support/ljpaperguide/>.



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

### Optimize print quality for media types

The HP LaserJet P2015 Series printers provide a number of print modes that allow the unit to adapt to various media. You can change the print modes on the **Paper** tab in the printer driver, in HP ToolboxFX, or in the embedded Web server.



**NOTE** When using the CARDSTOCK, ENVELOPE, LABEL, and ROUGH modes, the printer pauses between pages and the number of pages per minute decreases.

**Table 1-1** Driver print modes

Mode	Media type
PLAIN	75 to 104 g/m <sup>2</sup> (20 to 27 lb)
LIGHT	Less than 75 g/m <sup>2</sup> (20 lb)
HEAVY	90 to 105 g/m <sup>2</sup> (24 to 28 lb)
CARDSTOCK	Card stock or thick media
TRANSPARENCY	4-mil, 0.1 Monochrome Overhead Transparencies (OHTs)
ENVELOPE	Standard HP LaserJet envelopes
LABEL	Standard HP LaserJet labels
BOND	Bond paper
ROUGH	Rough paper

## Guidelines for using media

You can print on a variety of media, such as paper (including up to 100% recycled-fiber-content paper), envelopes, labels, transparencies, and custom-size media. The following are the supported media sizes:

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

Properties such as weight, grain, and moisture content are important factors that affect printer performance and quality. To achieve the best possible print quality, only use high-quality media that is designed for laser printers.

### HP media

HP recommends a variety of media. See the *HP LaserJet Printer Family Print Media Guide* (<http://www.hp.com/support/ljpaperguide/>) for a full list.

### Media to avoid

- Do not use paper that is too rough.
- Do not use paper with cutouts or perforations other than standard 3-hole punched paper.
- Do not use multipart or multipage forms.
- Do not use paper that contains a watermark if you are printing solid patterns.

### Media that can damage the printer

- Do not use media with staples attached.
- Do not use transparencies designed for inkjet printers or other low-temperature printers. Use only transparencies that are specified for use with HP LaserJet printers.
- Do not use photo paper intended for inkjet printers.

- Do not use paper that is embossed or coated and is not designed for the temperatures of the printer's image fuser. Select media that can tolerate temperatures of 200°C (392°F) for 0.1 second. HP produces a selection of media that is designed for the HP LaserJet P2015 Series printers.
- Do not use letterhead paper that uses low temperature dyes or thermography. Preprinted forms or letterhead must use inks that can tolerate temperatures of 200°C (392°F) for 0.1 second.
- Do not use any media that produces hazardous emissions, or that melts, offsets, or discolors when exposed to temperatures of 200°C (392°F) for 0.1 second.

To order HP LaserJet printing supplies, go to <http://www.hp.com/go/ljsupplies/> in the U.S. or to <http://www.hp.com/ghp/buyonline.html/> worldwide.

## Paper

For best results, use conventional 75 g/m<sup>2</sup> (20 lb) paper. Make sure that the paper is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, and curled or bent edges.

## Labels

Print labels from tray 1 by using the straight-through output path.




---

**CAUTION** Do not feed a sheet of labels through the printer more than once. The adhesive degrades during the heat of printing and might damage the printer.

---

### Label construction

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

- **Adhesives:** The adhesive material should be stable at 200°C (392°F), the printer's maximum temperature.
- **Arrangement:** Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
- **Curl:** Prior to printing, labels must lie flat with no more than 13 mm (0.5 inch) of curl in any direction.
- **Condition:** Do not use labels that have wrinkles, bubbles, or other indications of separation.

## Transparencies

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

## Envelopes

Print envelopes from tray 1 by using the straight-through paper path.

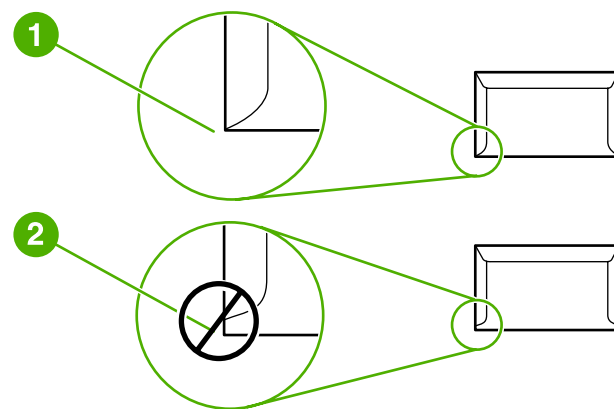
## Envelope construction

Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers but also within a box from the same manufacturer. When selecting envelopes, consider the following components:

- **Weight:** The weight of the envelope paper should not exceed 90 g/m<sup>2</sup> (24 lb), or jamming might result.
- **Construction:** Prior to printing, envelopes should lie flat with less than 6 mm (0.25 in.) curl and should not contain air. Envelopes that trap air may cause problems. Do not use envelopes that contain clasps, snaps, tie strings, transparent windows, holes, perforations, cut outs, synthetic materials, stamping, or embossing. Do not use envelopes with adhesives that do not require moistening, but rely instead on pressure to seal them.
- **Condition:** Make sure that the envelopes are not wrinkled, nicked, or otherwise damaged. Make sure that the envelopes do not have any exposed adhesive.
- **Sizes:** From 90 x 160 mm (3.5 x 6.3 inches) to 178 x 254 mm (7 x 10 inches).

## Envelopes with double-side seams

An envelope with double-side-seam construction has vertical seams at both ends of the envelope rather than diagonal seams. This style might be more likely to wrinkle. Make sure that the seam extends all the way to the corner of the envelope as shown in the following illustration.



1	Acceptable envelope construction
2	Unacceptable envelope construction

## Envelopes with adhesive strips or flaps

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

## Envelope storage

Proper storage of envelopes contributes to good print quality. You should store envelopes flat. If air is trapped in an envelope, creating an air bubble, the envelope might wrinkle during printing.



## Card stock and heavy media

You can print many types of card stock from the paper input tray, including index cards and postcards. Some card stock performs better than others because its construction is better suited for feeding through a laser printer.

For optimum printer performance, do not use paper heavier than 157 g/m<sup>2</sup> (42 lb). Paper that is too heavy might cause misfeeds, stacking problems, paper jams, poor toner fusing, poor print quality, or excessive mechanical wear.



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

### Card stock construction

- **Smoothness:** 135-157 g/m<sup>2</sup> (36-42 lb) card stock should have a smoothness rating of 100-180 Sheffield. 60-135 g/m<sup>2</sup> (16-36 lb) card stock should have a smoothness rating of 100-250 Sheffield.
- **Construction:** Card stock should lie flat with less than 5 mm (0.2 inch) of curl.
- **Condition:** Make sure that the card stock is not wrinkled, nicked, or otherwise damaged.
- **Sizes:** Only use card stock within the following size ranges:
  - **Minimum:** 76 x 127 mm (3 x 5 inches)
  - **Maximum:** 216 x 356 mm (8.5 x 14.0 inches)

### Card stock guidelines

Set margins at least 2 mm (0.08 inch) away from the edges.

## Letterhead and preprinted forms

Many manufacturers now offer premium paper advertised as laser-compatible or laser-guaranteed. Some of the rougher surface finishes, such as cockle, laid, or linen, might require the special fuser modes that are available on some printer models in order to achieve adequate toner adhesion.



**NOTE** Some page-to-page variation is normal when printing with laser printers. This variation cannot be observed when printing on plain paper. However, this variation is obvious when printing on preprinted forms because the lines and boxes are already placed on the page.

To avoid problems when using preprinted forms, embossed paper, and letterhead, observe the following guidelines:

- Avoid using low-temperature inks (the kind used with some types of thermography).
- Use preprinted forms and letterhead paper that have been printed by offset lithography or engraving.
- Use forms that have been created with heat-resistant inks that will not melt, vaporize, or release undesirable emissions when heated to 200°C (392°F) for 0.1 second. Typically, oxidation-set or oil-based inks meet this requirement.

- When the form is preprinted, be careful not to change the moisture content of the paper, and do not use materials that change the paper's electrical or handling properties. Seal the forms in moisture-proof wrap to prevent moisture changes during storage.
- Avoid processing preprinted forms that have a finish or coating.
- Avoid using heavily embossed or raised-letterhead papers.
- Avoid papers that have heavily textured surfaces.
- Avoid using offset powders or other materials that prevent printed forms from sticking together.

# Load media

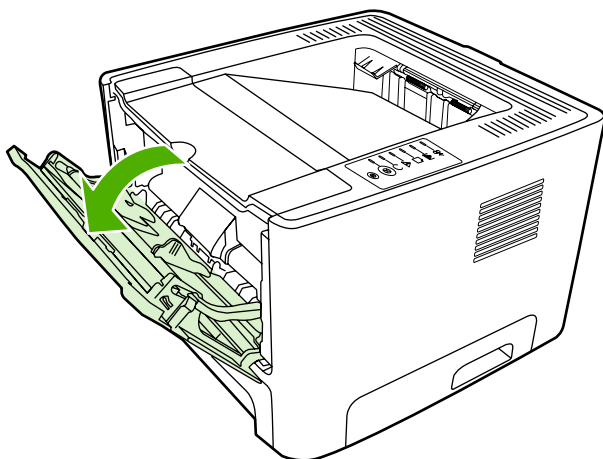
The following sections describe how to load media into the different input trays.



**CAUTION** If you try to print on media that is wrinkled, folded, or damaged in any way, a jam might occur.

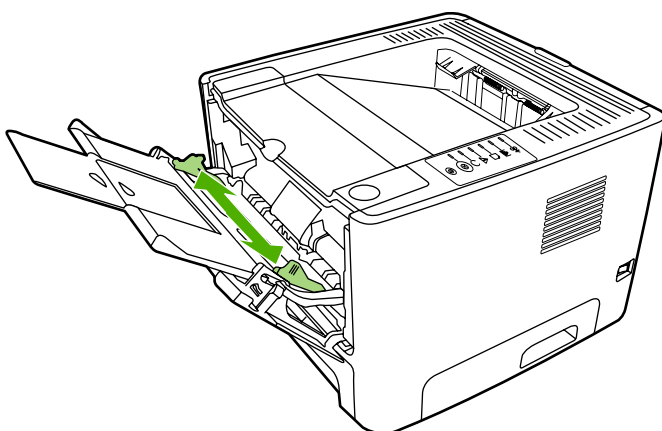
## Tray 1

Tray 1 is accessed from the front of the printer. The printer prints from tray 1 before attempting to print from other trays.



Tray 1 holds up to fifty sheets of 75 g/m<sup>2</sup> (20 lb) media or ten envelopes, ten transparencies, or ten cards. You can use tray 1 to print the first page on media different from the remainder of the document.

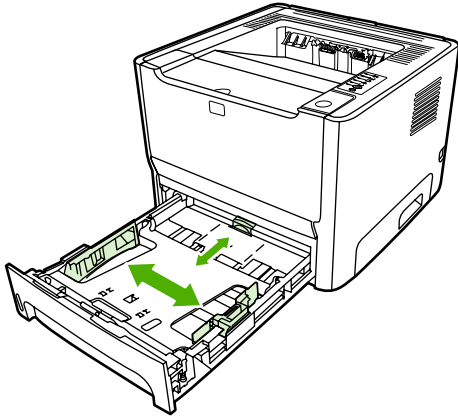
Media guides ensure that the media is correctly fed into the printer and that the print is not skewed (crooked on the media). When loading media, adjust the media guides to match the width of the media that you are using.



## Tray 2 and optional tray 3

Tray 2 and optional tray 3 hold up to 250 pages of 75 g/m<sup>2</sup> (20 lb) paper, or fewer pages of heavier media (25 mm (0.9 inch) or less stack height). Load media with the top forward and the side to be printed on facing down.

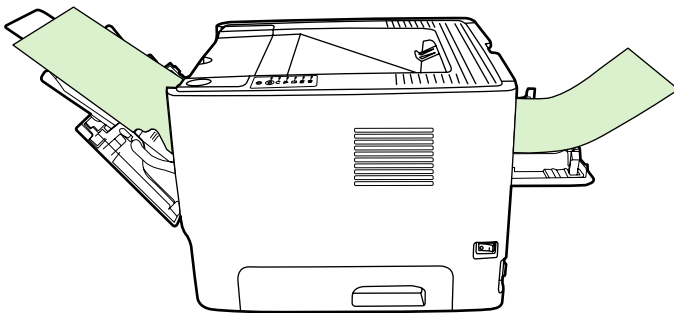
Media guides ensure that the media feeds correctly into the printer and that the print is not skewed. Tray 2 has side and rear media guides. When loading media, adjust the media guides to match the length and width of the media that you are using.



**NOTE** When you add new media, make sure that you remove all of the media from the input tray and straighten the stack of new media. This reduces jams by preventing multiple sheets of media from feeding through the printer at one time.

## Straight-through output path

Use the straight-through output path when printing envelopes, transparencies, heavy media, or any media that tends to curl when printed. If you open the straight-through output door before printing media from tray 1, tray 2, or optional tray 3, the media exits the printer through the straight-through output path.



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

## Manual feed

You can use manual feed when printing mixed media. For example, you can use manual feed to print an envelope, then a letter, then an envelope, and so on. Load envelopes in tray 1 and load letterhead into tray 2.

To print using manual feed, open the printer Properties or Printer Setup, and then select **Manual Feed (tray 1)** from the **Source Tray** drop-down list. After you have enabled manual feed, press the **Go** button to print.

## Media type and tray loading

The HP LaserJet P2015 Series has the following tray priority:

1. Tray 1 (if open)
2. Tray 3 (if attached)
3. Tray 2

Minimum media dimensions are 76 x 127 mm (3 x 5 inches).

Maximum media dimensions are 216 x 356 mm (8.5 x 11 inches).

**Table 1-2** Tray 1 media information

Media type	Media specifications	Media quantity	Driver settings	Paper orientation	Output
Normal	75 to 104 g/m <sup>2</sup> (20 to 27 lb)	Up to 50 sheets	Plain or unspecified	N/A	Output bin
Envelopes	Less than 90 g/m <sup>2</sup> (24 lb)	Up to 10 envelopes	Envelope	Short edge leading, flap on right side facing up	Straight-through output door
Labels	Standard	Up to 10 sheets	Labels	Side to be printed facing up	Straight-through output door
Shipping labels	Heavy	Up to 10 sheets	Cardstock	Side to be printed facing up	Straight-through output door
Transparencies	4-mil, 0.1 Monochrome Overhead	Up to 10 sheets	Transparencies	Side to be printed facing up	Straight-through output door
Heavy	90 to 105 g/m <sup>2</sup> (24 to 28 lb)	Up to 10 sheets	Light glossy, glossy, or heavy glossy	Side to be printed facing up	Straight-through output door
Glossy	75 to 105 g/m <sup>2</sup> (20 to 28 lb)	Up to 10 sheets	Light glossy, glossy, or heavy glossy	Side to be printed facing up	Straight-through output door
Letterhead	75 to 104 g/m <sup>2</sup> (20 to 27 lb)	Up to 10 sheets	Letterhead	Side to be printed facing up, top of page in first	Output bin
Cardstock	Up to 10	Up to 10	Cardstock	Side to be printed facing up	Straight-through output door

**Table 1-3** Tray 2 and optional tray 3 media information

Media type	Media specifications	Media quantity	Driver settings	Paper orientation	Output
Normal	75 to 104 g/m <sup>2</sup> (20 to 27 lb)	Up to 250 sheets	Plain or unspecified	N/A	Output bin
Heavy	90 to 105 g/m <sup>2</sup> (24 to 28 lb)	Up to 250 sheets	Cardstock	N/A	Straight-through output door
Transparencies	4-mil, 0.1 Monochrome Overhead	Up to 10 sheets	Transparencies	Side to be printed face down	Straight-through output door
Letterhead	75 to 104 g/m <sup>2</sup> (20 to 27 lb)	Up to 250 sheets	Letterhead	Side to be printed face down	Normal: output bin Heavy: straight-through output door

## 2 Installation

- [Site preparation](#)
- [Package contents](#)
- [Install tray 3](#)
- [Install printer software](#)
- [Printer information pages](#)

## Site preparation

Place the printer on a sturdy, level surface that meets the following environmental requirements:

- Temperature: 15°C to 32.5°C (59°F to 90.5°F)
- Humidity: 10% to 80% relative humidity (no condensation)
- Exposure: Place away from direct sunlight, open flames, ammonia fumes, and air vents.
- Clearance: Allow sufficient space around the printer for access.
- Ventilation: Ensure that the printer is located in a well-ventilated area.



# Package contents

Figure 2-1 Package contents on page 19 shows the package contents for the HP LaserJet P2015 Series printer.

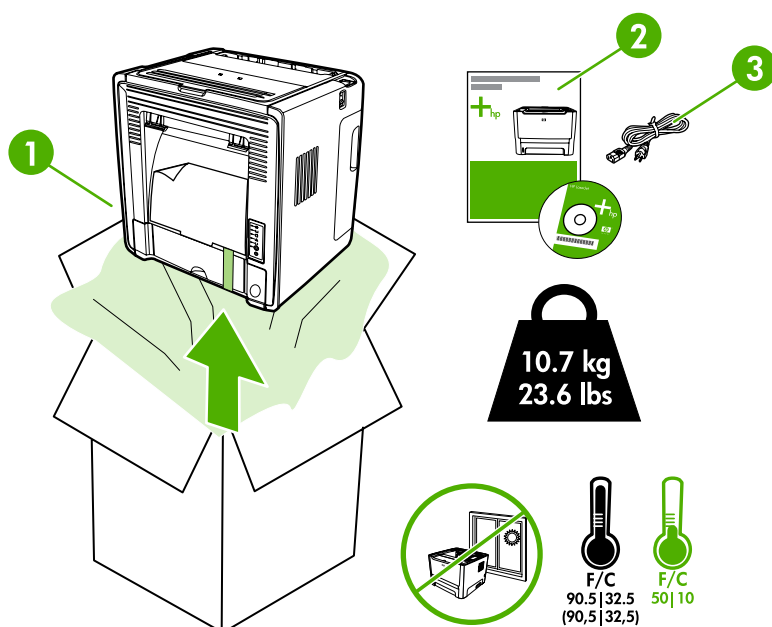
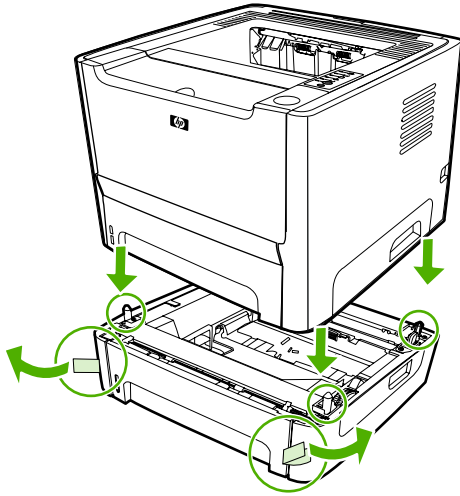


Figure 2-1 Package contents

1	HP LaserJet P2015 Series printer
2	Software and user documentation CD-ROM
3	Power cable

## Install tray 3

If you have tray 3, install tray 3 as shown.



**Figure 2-2** Installing tray 3

After installing tray 3, configure the printer driver to allow printing from tray 3.

1. On the Windows task bar, click **Start**, click **Settings**, and then click **Printers**.
2. Right-click the **HP LaserJet P2015** icon.
3. Click **Properties**.
4. Click the **Device Settings** tab.
5. Windows 2000/XP: Under **Installable Options**, change **Tray 3** to **Installed**.

Windows 98/Me: Click **Configure**, and then select **Tray 3** under **Optional Paper Sources**.

# Install printer software

## Supported operating systems

The printer software runs on the following operating systems:

- Windows 98 (printer driver only)
- Windows Me (printer driver only)
- Windows 2000
- Windows Server 2003 (printer driver only)
- Windows XP (32-bit)
- Windows XP (64-bit) (printer driver only)
- Macintosh OS X V10.2.8, V10.3.9, and V10.4.3

## Drivers

### Windows printer drivers

The software CD-ROM that came with the printer includes three Windows printer drivers: PCL 5e, PCL 6, and HP postscript level 3 emulation. Choose a printer driver based on the way you use the printer.

- Use the **PCL 5e** printer driver if you need print results to look consistent with those from older HP LaserJet printers. Certain features are not available in this printer driver.
- Use the **PCL 6** printer driver to take full advantage of all printer features. Unless complete backward compatibility with previous PCL drivers or older printers is necessary, the PCL 6 driver is recommended.
- Use the **HP postscript level 3 emulation** printer driver for HP postscript level 3 emulation. Certain printer features are not available in this printer driver.

### Macintosh printer driver

The software CD-ROM that came with the printer includes an HP LaserJet P2015 Series driver for Macintosh OS X V10.2.8, V10.3.9, and V10.4.3

### Driver downloads

The latest printer drivers and printing software for your HP LaserJet printer are available on the Web at <http://www.hp.com/support/ljp2015>.

## Installing software on Microsoft® Windows

Two methods are available for installing printer drivers and software components for the printer.

**Full (Recommended).** Installs everything that your device needs to work plus HP ToolboxFX:

- **HP LaserJet P2015 Series PCL 6 driver.**
- **HP ToolboxFX.** Allows you to change printer settings and contains documentation and self-help tools.
- **Screen Fonts.** Printer-matching TrueType fonts help ensure WYSIWYG printing.
- **HP LaserJet P2015 Series printer documentation.** A list of documentation, which includes information about product operation, troubleshooting, warranty and specifications, supplies, and support.
- **HP Software Update.** Use this software to check for software updates for your HP products.

**Minimum.** Installs only the software required to print. The following is a list of available components:

- **HP LaserJet P2015 Series PCL 6 driver**
- **Screen Fonts.** Printer-matching TrueType fonts help ensure WYSIWYG printing.
- **HP Software Update.** Use this software to check for software updates for your HP products.



**NOTE** To install additional printer drivers (PCL 5e or HP postscript level 3 emulation), utilize the Windows Add Printer utility.

**NOTE** Administrator privileges are required to install the printing system onto a Windows 2000 or Windows XP operating system.

### USB Connection

1. Insert the software installation CD into the computer CD-ROM drive.
2. If the installation program does not start automatically, browse the CD contents and run the SETUP.EXE file.
3. Follow the onscreen instructions.

### Network Connection

If a computer on the network already has the HP LaserJet P2015 software installed, no additional software installation is necessary when adding a new HP LaserJet P2015 printer to the network. Otherwise, install the printer software on one of the networked computers as directed below.

1. Insert the software installation CD into the computer CD-ROM drive.
2. If the installation program does not start automatically, browse the CD contents and run the SETUP.EXE file.
3. Follow the onscreen instructions.
4. At the printer control panel, print a Network Configuration page to verify the installation was successful.

# Installing software on Macintosh OS X V10.2.8, V10.3.9, and V10.4.3

## USB connection

1. Insert the CD-ROM.
2. Run the installation utility.
3. After the software installation is complete, attach the USB cable to the printer and the computer and then restart the computer.
4. After the computer has restarted, open the Print Center or Printer Setup Utility to see if the printer name appears in the Printer List.
5. If the printer name appears in the Printer List, the setup is complete. If the printer name does not appear in the Printer List, go to the next step.
6. Click the **Add** button, and then select **USB** from the drop-down list.
7. Select **HP LaserJet P2015 Series** and then click **Add**. The printer name appears in the Printer List. Setup is complete.

## Network connection

1. Connect the local area network (LAN) cable to the printer.
2. Print the Network configuration report from the printer control panel. Find the "mDNS printer name" located under the TCP/IP heading. The mDNS name will be needed in step 7.
3. Insert the CD-ROM.
4. Run the installation utility.
5. After the installation utility has completed, open the Print Center or Printer Setup Utility.
6. Click **Add**, and then select **Bonjour/Rendezvous** from the drop-down list.
7. Select the **HP LaserJet P2015 Series printer** name that matches the mDNS printer name found on the Network configuration report printed in step 2.
8. Click **Add**. The printer name appears in the Printer List. Setup is complete.
9. At the printer control panel, print a Network Configuration page to verify the installation was successful.

## Uninstaller

Use the Uninstall icon in the HP LaserJet P2015 Series printer program group to select and remove the HP printing system components from a Windows machine.

1. From the **Start** menu, in the **HP LaserJet P2015 Series** program group, click the **Uninstall** icon.
2. The printing system guides you through removing all of the printing system components.
3. If you have performed a **Full** install and you do not have any other HP devices installed, follow steps 4 and 5. Following these steps might disable the functionality of other HP devices that are installed because they share the software.

4. Open the Microsoft Windows Control Panel. Double-click **Add/Remove Programs**.
5. You will see entries for HP Extended Capabilities, HP Software Update, HP Imaging Device Functions, and HP Solution Center and Imaging Support Tools. For each item, click **Change/Remove** and follow the prompts.



**NOTE** For driver-only (Add Printer) installations, delete the printer icon from the Printers folder (Windows 98 Second Edition, Windows Me, Windows 2003 Server , and Windows XP 64-bit).

---

# Printer information pages

You can print the following information pages.

## Demo page

The Demo page contains examples of text and graphics. To print the Demo page, press the **Go** button when the printer **Ready** light is on and no other jobs are printing.

## Configuration page

The Configuration page lists current settings and properties of the printer. It also contains a status log report. You can print a Configuration page from the following locations:

- Printer control panel. Press the **Go** button until the **Ready** and **Error** lights start blinking, and then release the **Go** button.
- Embedded Web server
- HP ToolboxFX



**NOTE** You can also get the information contained in the Event log and the Configuration page through the HP ToolboxFX without printing the pages.

## Supplies Status page

The Supplies Status page automatically prints when you print a Configuration page from the control panel. The Supplies Status page provides the following information:

- The estimated percentage of toner remaining in the print cartridge
- The number of pages and print jobs that have been processed
- Ordering and recycling information

## Network Configuration page



**NOTE** The Network Configuration page is only available on printers with an HP internal network port.

The Network Configuration page automatically prints when you print a Configuration page from the control panel. The Network Configuration page provides the following information about the printer network configuration:

- IP address
- firmware version
- network statistics
- protocol information





# 3    Manage the printer

This chapter provides information on the following topics:

- [HP ToolboxFX](#)
- [Embedded Web server](#)

# HP ToolboxFX

HP ToolboxFX is software that you can use to complete the following tasks:

- Check the printer status.
- Configure the printer settings.
- View troubleshooting information.
- View online documentation.

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



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**NOTE** HP ToolboxFX is not supported for Windows 98 SE, Windows Me, Windows Server 2003, or Macintosh operating systems.

**NOTE** You do not need Internet access to open and use HP ToolboxFX.

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## To view HP ToolboxFX

Open HP ToolboxFX in one of these ways:

- In the Windows system tray or on your desktop, double-click the HP ToolboxFX icon.
- On the Windows **Start** menu, click **Programs** (or **All Programs** in Windows XP), click **HP**, click **HP LaserJet 2015 Series**, and then click **HP ToolboxFX**.

## Status

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

- **Device Status.** View printer status information. This page indicates printer conditions such as a jam or an empty tray. After you correct a problem with the printer, click **Refresh** to update the printer status.
- **Supplies Status.** View detailed supplies status such as the estimated percentage of toner remaining in the print cartridge and the number of pages that have been printed with the current print cartridge. This page also has links to order supplies and to find recycling information.
- **Device Configuration.** View a detailed description of the current printer configuration, including the amount of memory installed and whether optional trays are installed.
- **Network Configuration.** View a detailed description of the current network configuration, including the IP address and network status.
- **Print Info Pages.** Print the Configuration page and various other information pages that are available for the printer, such as the Supplies Status page and the Demo page.
- **Event Log.** View a four-column table where printer events and error codes are logged for your reference. The number in the Page Count column specifies the total number of pages that the printer had printed when the error occurred. The Event log also contains a brief description of the error.

## Alerts

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

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

### Set up status alerts

HP ToolboxFX can open pop-up alerts on your computer when certain events occur. Events that trigger alerts include jams, low levels of toner in HP print cartridges, non-HP print cartridge in use, empty input trays, and error messages.

Alerts only appear when the printer is printing from the computer on which you set up the alerts.



---

**NOTE** You must click **Apply** to save your changes.

---

### Set up e-mail alerts

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



---

**NOTE** You must click **Apply** to save your changes.

---

## Help

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

- **Troubleshooting.** Print troubleshooting pages and clean the printer.
- **How Do I?** View the How Do I? Help for help with specific tasks.
- **Animated demonstrations**
- **User Guide.** View information about the printer usage, warranty, specifications, and support. The user guide is available in both HTML and PDF formats.
- **Readme.** View important information about the printer that is not available in the user guide.

## Device settings

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

- **Device Information.** View information about the printer, such as the printer description and a contact person.
- **Paper Handling.** Change the printer paper-handling settings, such as default paper size and default paper type.
- **Print Quality.** Change the printer print-quality settings.
- **Paper Types.** Change the printer mode settings for a each media type, such as letterhead, prepunched, or glossy paper.
- **System Setup.** Change the printer system settings, such as printer language and jam recovery.
- **Service.** Gain access to various procedures required to maintain the printer.

### Device information

The information that you type in these fields appears on the Configuration page.



---

**NOTE** You must click **Apply** to save your changes.

---

## Paper handling

Use the HP ToolboxFX paper-handling options to configure your default settings.

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

- Select **Wait For Paper To Be Loaded**.
- Select **Cancel** from the **Paper out action** drop-down list to cancel the print job.
- Select **Override** from the **Paper out time** drop-down list to send the print job to another paper tray.

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



---

**NOTE** You must click **Apply** to save your changes.

---

## Print quality

Use the HP ToolboxFX print-quality options to improve the appearance of your print jobs.

- **Resolution.** Select 600 resolution for quality print jobs and Fast Res 1200 for higher-quality print jobs. Select ProRes 1200 for the highest-quality print job (printing time increases).
- **REt.** Activate REt to improve print quality.
- **Print density.** For increased print density, select a higher number. For decreased print density, select a lower number.
- **EconoMode.** EconoMode is a feature that allows the printer to use less toner per page. Selecting this option may extend the life of the print cartridge and reduce cost per page. However, it will also reduce print quality. The printed image is lighter, but it is adequate for printing drafts or proofs. HP does not recommend full-time use of EconoMode. If EconoMode is used full-time, it is possible that the toner supply will outlast the mechanical parts in the toner cartridge. If print quality begins to degrade under these circumstances, you will need to install a new toner cartridge, even if there is toner supply remaining in the cartridge.



---

**NOTE** You must click **Apply** to save your changes.

---

## Paper types

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



---

**NOTE** You must click **Apply** to save your changes.

---

## System setup

Use the HP ToolboxFX system settings options to configure miscellaneous print settings.



**NOTE** You must click **Apply** to save your changes.

## Service

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

## Print settings

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

- **Printing.** Change the default print settings, such as number of copies and paper orientation.
- **PCL 5e.** View and change the PCL 5e settings.
- **PCL 6.** View and change the PCL 6 settings.
- **Postscript.** View and change the HP postscript level 3 emulation settings.

## Printing

Use the HP ToolboxFX printing settings options to configure the settings for all print functions.



**NOTE** You must click **Apply** to save your changes.

## PCL 5e

Use the PCL 5e options to configure the settings when you are using the PCL 5e print personality.



**NOTE** Initial font support for PCL 5e is limited to the following fonts: Courier, Letter Gothic, Naskh, Koufi, and Lina Printer. Additional fonts can be used if you install a font DIMM.

**NOTE** You must click **Apply** to save your changes.

## PCL 6

Use the PCL 6 printer driver to take full advantage of all printer features. Unless complete backward compatibility with previous PCL drivers or older printers is necessary, the PCL 6 driver is recommended.



**NOTE** You must click **Apply** to save your changes.

## PostScript®

Use the PostScript option when you are using the HP postscript level 3 emulation print personality. When the **Print PostScript Errors** option is turned on, the HP postscript level 3 emulation error page automatically prints when HP postscript level 3 emulation errors occur.



---

**NOTE** You must click **Apply** to save your changes.

---

## Network settings

The network administrator can use the HP ToolboxFX **Network Settings** folder to control the network-related settings for the printer when it is connected to a TCP/IP-based network.

The following options are available:

- **IP Configuration**
- **Advanced**
- **SNMP**
- **Network Summary**



# Embedded Web server

The embedded Web server allows you to view printer and network status and to manage printing functions from your computer instead of from the printer control panel. Below are examples of what you can do using the embedded Web server:

- View printer status information
- View and print internal pages
- Determine the remaining life on all supplies and order new ones
- Set the size and type of media loaded in each tray
- View and change tray configurations
- View and change the printer default configuration settings
- View and change network configuration

The embedded Web server provides the same functions as the Advanced Printer Settings section of the HP ToolboxFX. The main differences between using the embedded Web server and using the HP ToolboxFX are the following:

- You do not need to install any software on the computer. You only need to use one of these supported Web browsers:
  - Internet Explorer 6.0 (and later)
  - Netscape Navigator 7.0 (and later)
  - Firefox 1.0 (and later)
  - Mozilla 1.6 (and later)
  - Opera 7.0 (and later)
  - Safari 1.2 (and later)
  - Konqueror 3.2 (and later)
- The embedded Web server is available in sixteen languages.
- The embedded Web server does not provide e-mail or status alerts.

The embedded Web server works when the printer is connected to an TCP/IP-based network. The embedded Web server does not support IPX-based printer connections.



**NOTE** You do not have to have Internet access to open and use the embedded Web server. However, if you click a link on any of the pages, you must have Internet access in order to go to the site associated with the link.

## Open the embedded Web server

To open the embedded Web server, type the IP address or hostname of the printer in the address field of a supported Web browser. To find the IP address, print a Configuration page at the printer by pressing and holding the **Go** button.



---

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

---

The embedded Web server has three tabs that contain settings and information about the printer: the **Status** tab, the **Settings** tab, and the **Networking** tab.

## Status tab

The Status pages group consists of the following pages.

- **Device Status.** This page displays the status of the printer and HP supplies.
- **Device Configuration.** This page shows the information found on the printer Configuration page.
- **Supplies Status.** This page shows the status of HP supplies and provides supplies part numbers. To order new supplies, click **Order Supplies** in the upper-right part of the window.
- **Event log.** This page shows a list of all printer events and errors.
- **Print Info Pages.** This page has links that allow you to print the various information pages that reside within the memory of the printer.
- **Network Summary.** This page shows the information found on the printer Network Summary page.

## Settings tab

This tab allows you to configure the printer from your computer. If this printer is networked, always consult with the printer administrator before changing settings on this tab.

The **Settings** tab contains the following pages:

- **Device Information.** View and change basic information about the printer.
- **Paper Handling.** View and change the settings for the printer's input tray.
- **Printing.** View and change the default printer job settings.
- **PCL 5e.** View and change the PCL font information.



---

**NOTE** Initial font support for PCL 5e is limited to the following fonts: Courier, Letter Gothic, Naskh, Koufi, and Lina Printer. Additional fonts can be used if you install a font DIMM.

---

- **Postscript.** View and change the settings for HP postscript level 3 emulation errors.
- **Print Quality.** View and change the print-quality settings.
- **Paper Types.** View and change the print modes for various media types.
- **System Setup.** View and change system information.
- **Service.** Initiate the cleaning mode.

## Networking tab

This tab allows the network administrator to control network-related settings for the printer when it is connected to an IP-based network.

## Links

Links are located in the upper-right part of the Status pages. You must have Internet access in order to use any of these links. If you use a dial-up connection and did not connect when you first opened the embedded Web server, you must connect before you can visit these Web sites. Connecting might require that you close the embedded Web server and reopen it.

- **Order Supplies.** Click this link to connect to the Sure Supply Web site and order genuine HP supplies from HP or a reseller of your choice.
- **Product Support.** Connects to the support site for the HP LaserJet P2015 Series printer. You can search for help regarding general topics.

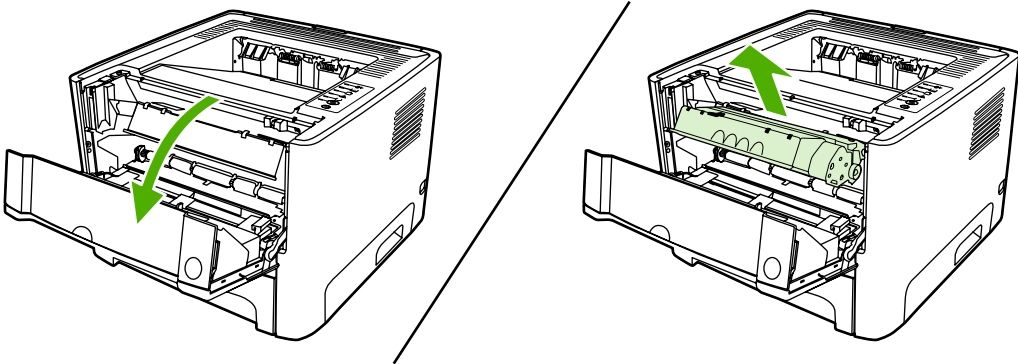


# 4 Maintenance

- [Replace the print cartridge](#)
- [Redistribute toner](#)
- [Clean the printer](#)
- [Clean the pickup roller \(tray 1\)](#)
- [Replace the pickup roller \(tray 1\)](#)
- [Clean the pickup roller \(tray 2\)](#)
- [Replace the pickup roller \(tray 2\)](#)

## Replace the print cartridge

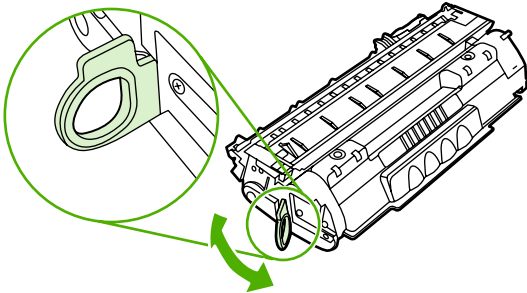
1. Press the print-cartridge-door button, and then remove the print cartridge from the printer. For recycling information, see the inside of the print-cartridge box.



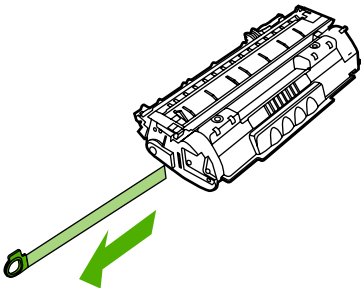
**CAUTION** To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

**CAUTION** After removing the print cartridge, only handle it on the ends.

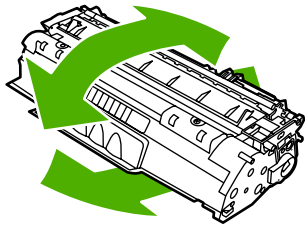
2. Remove the new print cartridge from the packaging.
3. Bend the tab on the left side of the cartridge to break it loose.



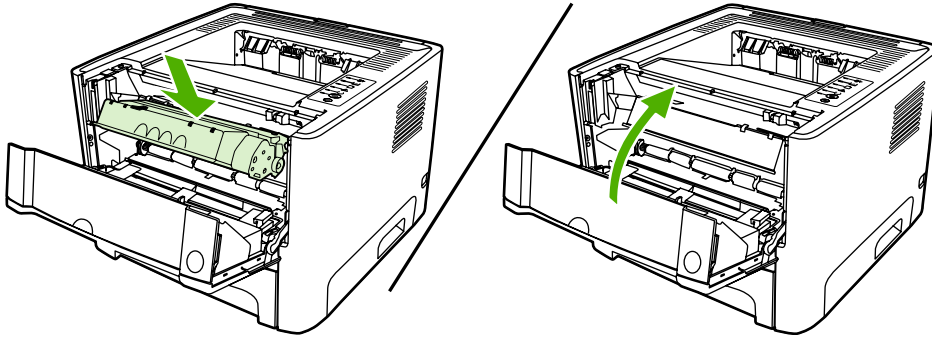
4. Pull the tab until all the tape is removed from the cartridge. Put the tab in the print-cartridge box to return for recycling.



5. Gently rock the toner cartridge from front to back to distribute the toner evenly inside the cartridge.



6. Insert the print cartridge in the printer and close the print-cartridge door.

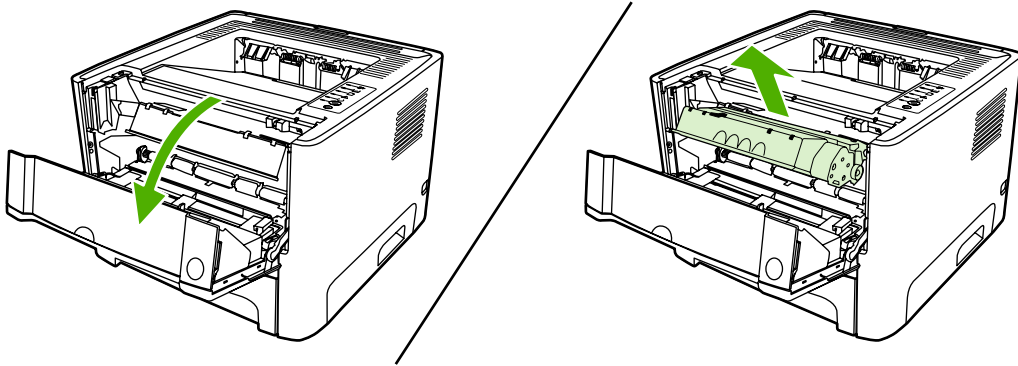


**CAUTION** If toner gets on your clothing, wipe it off with a dry cloth and wash the clothing in cold water. *Hot water sets toner into the fabric.*

## Redistribute toner

When toner is low, faded or light areas appear on the printed page. You might be able to temporarily improve print quality by redistributing the toner.

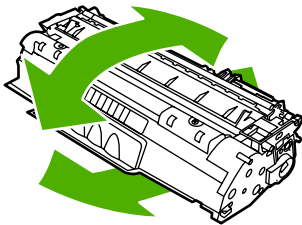
1. Open the print-cartridge-door button, and then remove the print cartridge from the printer.



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

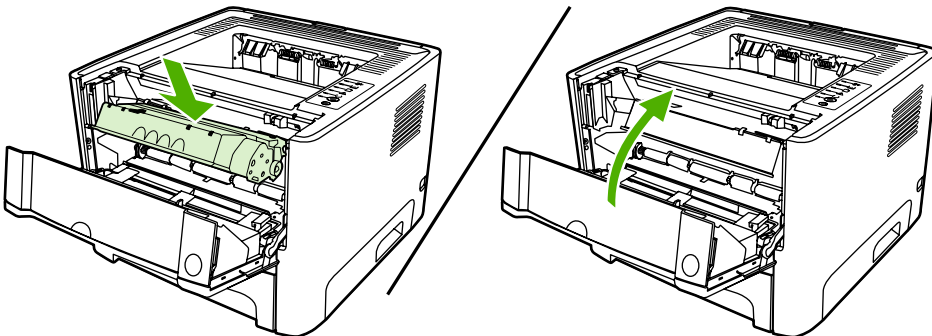
**CAUTION** After removing the print cartridge, only handle it on the ends.

2. To redistribute the toner, gently rock the print cartridge from front to back.



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

3. Reinsert the print cartridge into the printer, and close the print cartridge door.



If the print is still light, install a new print cartridge.



# Clean the printer

Clean the outside of the printer with a clean, damp cloth when necessary.



**CAUTION** Do not use ammonia-based cleaners on or around the printer.

During the printing process, paper, toner, and dust particles can accumulate inside the printer. Over time, this buildup can cause print quality problems, such as toner specks or smearing, and paper jams. To correct and prevent these types of problems, you can clean the print cartridge area and the printer media path.

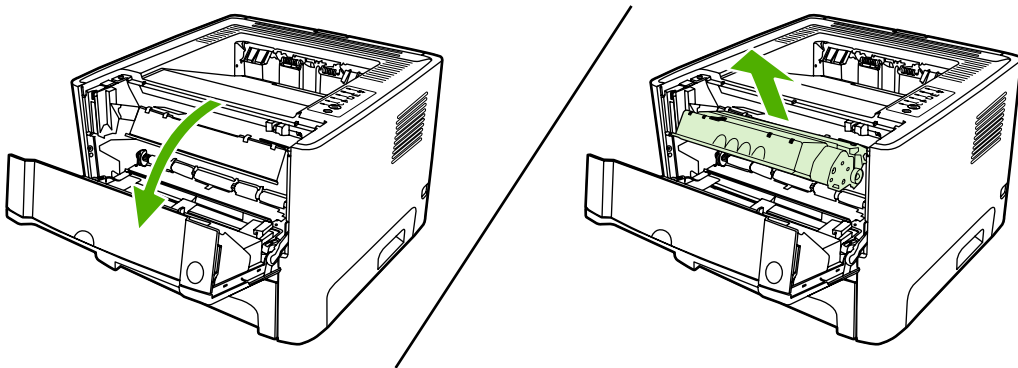
## Clean the print-cartridge area

You do not need to clean the print-cartridge area often. However, cleaning this area can improve the quality of your printed sheets.



**WARNING!** Before cleaning the printer, turn the printer off by unplugging the power cord, and wait for the printer to cool.

1. Press the print-cartridge-door button, and then remove the print cartridge from the printer.

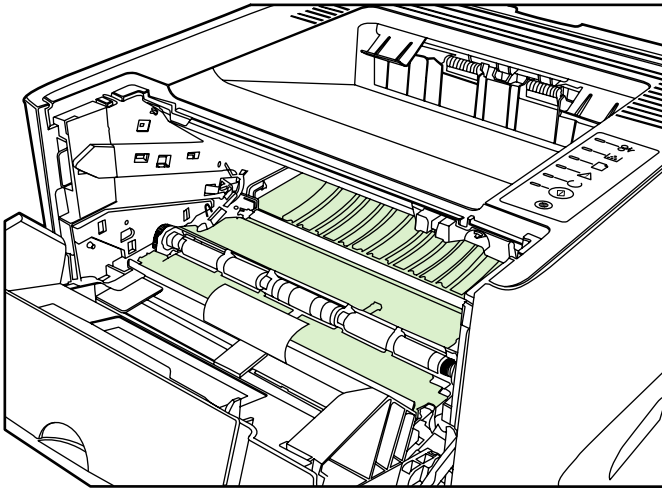


**CAUTION** Do not touch the black sponge-transfer roller inside the printer. Doing so can damage the printer.

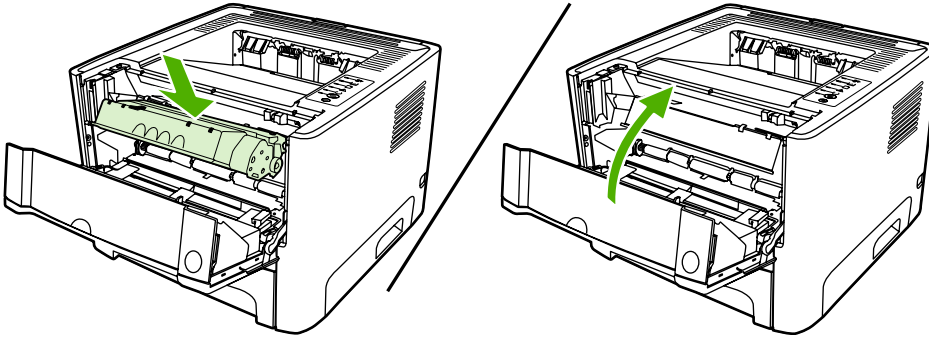
**CAUTION** To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

**CAUTION** After removing the print cartridge, only handle it on the ends.

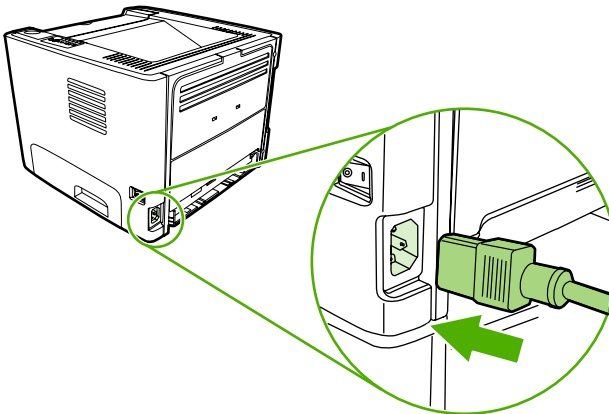
2. With a dry, lint-free cloth, wipe any residue from the media-path area and the print-cartridge cavity.



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

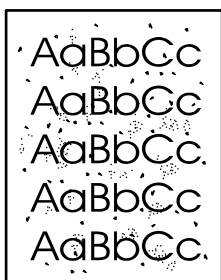


4. Plug the power cord into the printer.



## Clean the printer media path

If you are seeing toner specks or dots on the printouts, clean the printer media path. This process uses a transparency to remove dust and toner from the media path. Do not use bond or rough paper.



---

**NOTE** For best results use a sheet of transparency. If you do not have any transparencies, you can use copier-grade media (70 to 90 g/m<sup>2</sup> (18 to 24 lb.)) with a smooth surface.

---

1. Make sure that the printer is idle and the Ready light is on.
2. Load the transparency in tray 1.
3. Print a cleaning page using one of the following methods:
  - Open HP ToolboxFX. Click the **Troubleshooting** tab, and then click **Print Quality Tools**. Select the cleaning page.
  - On the printer control panel, press and hold the **Go** button until the **Attention**, **Ready**, and **Go** lights come on. When all three lights come on, release the **Go** button.
  - Press **Go** again. The printer picks up the transparency and begins the cleaning process.



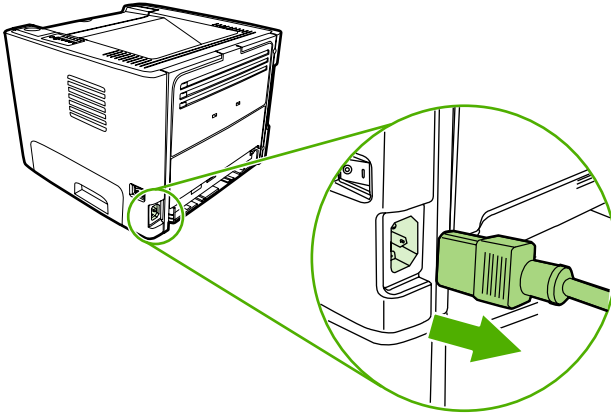
---

**NOTE** The cleaning process takes approximately 2 minutes. The cleaning page will stop periodically during the cleaning process. Do not turn the printer off until the cleaning process has finished. You might need to repeat the cleaning process several times to thoroughly clean the printer.

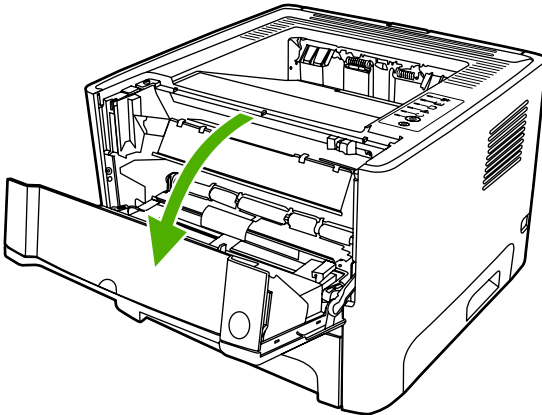
---

## Clean the pickup roller (tray 1)

1. Unplug the power cord from the printer, and allow the printer to cool.



2. Press the print-cartridge-door button to open the print-cartridge door.



3. Remove the print cartridge.

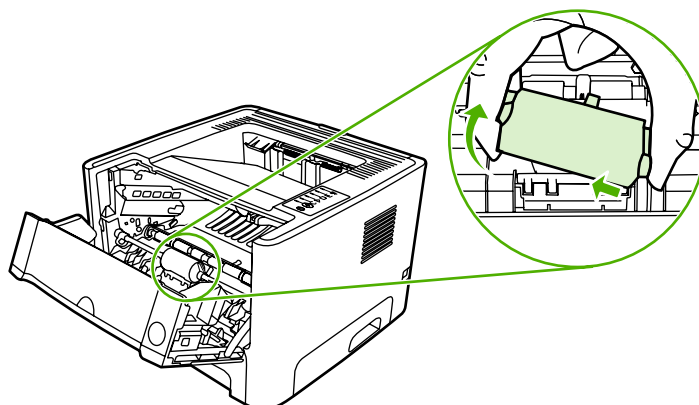
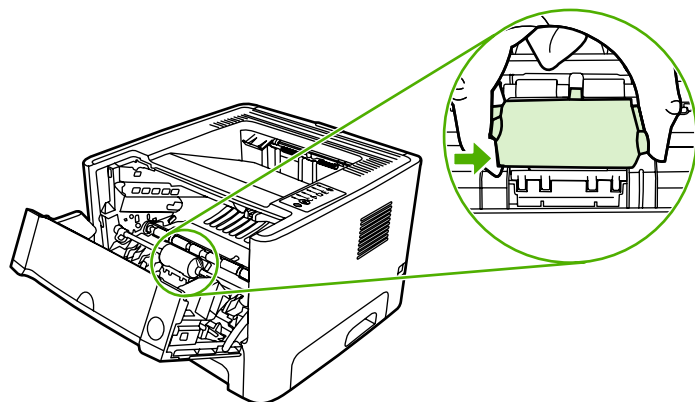


**CAUTION** After removing the print cartridge, only handle it on the ends.

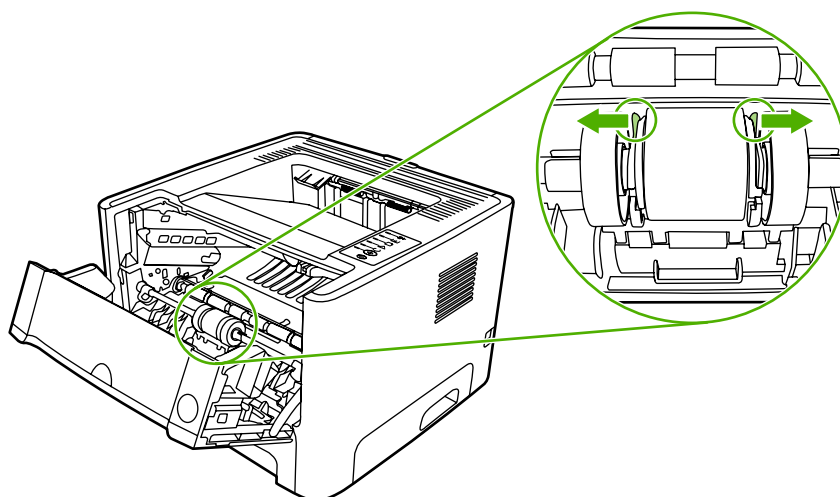
4. Grasping the pickup-roller cover with thumb and forefinger, squeeze the left side of the pickup-roller cover to release the left retaining tab, and then slide the cover to the left and up.



**CAUTION** Failure to slide the cover to the left when removing it can cause the right retaining tab to break.



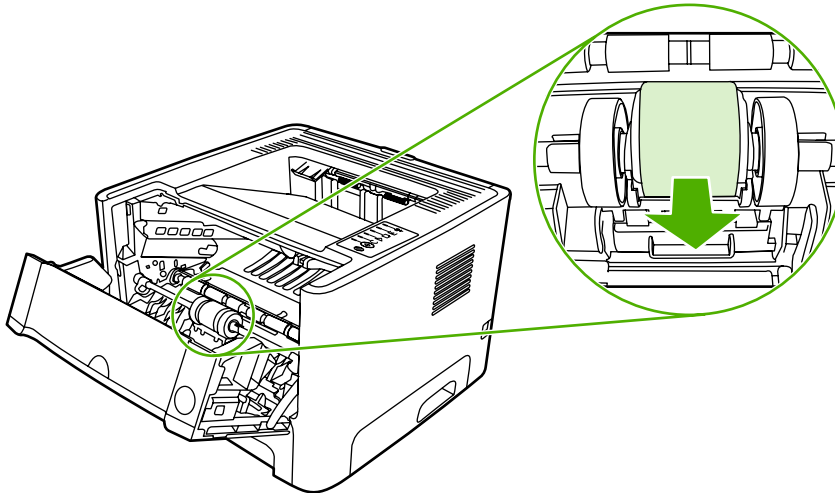
5. Press the two black retaining tabs outward until the pickup roller is released from its seat.



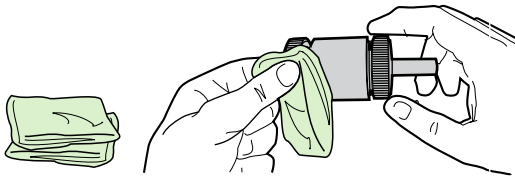
6. Remove the pickup roller from the printer.



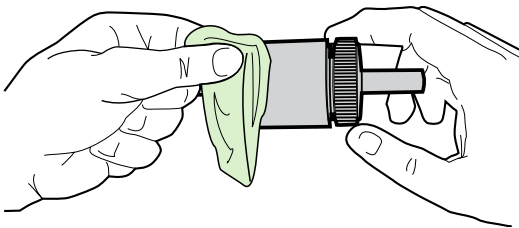
**CAUTION** Do not touch the pickup-roller pad.



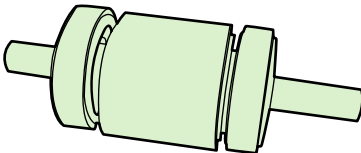
7. Dab a lint-free cloth in water, and scrub the roller.



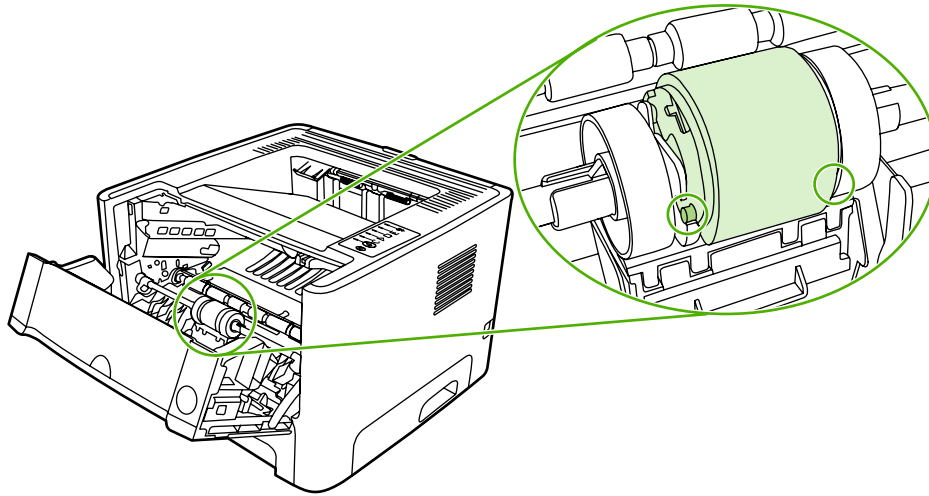
8. Using a dry, lint-free cloth, wipe the pickup roller to remove loosened dirt.



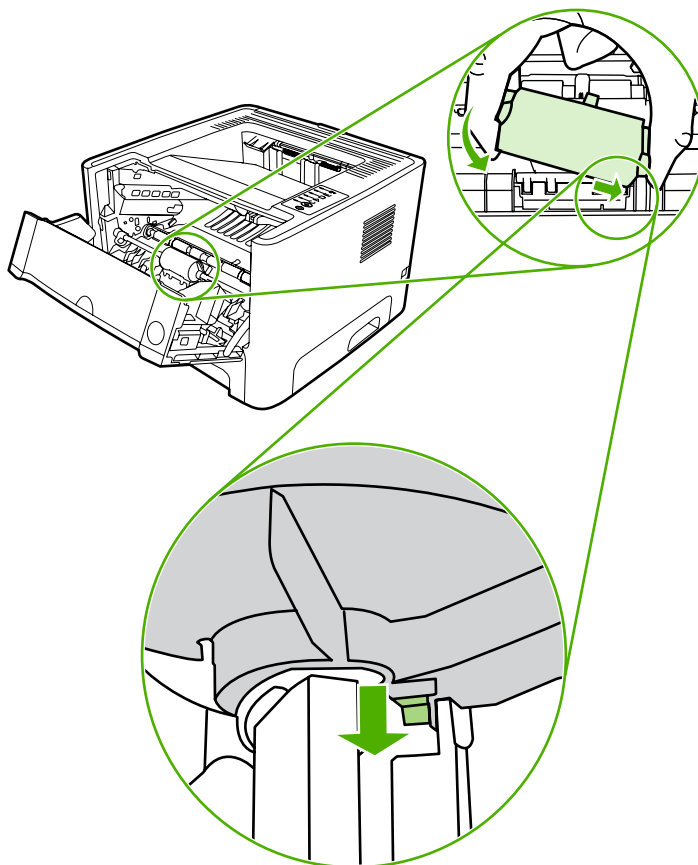
9. Allow the pickup roller to dry completely.



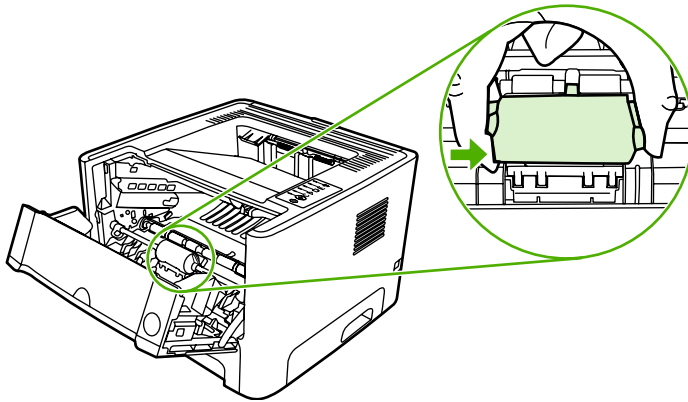
- 10.** Line up the black retaining tabs in the printer with the grooves in the pickup roller, and then press the pickup roller into the pickup-roller seat until the retaining tabs click.



- 11.** Grasping the pickup-roller cover with thumb and forefinger, insert the pickup-roller cover's right retaining tab into the retaining slot.



12. Squeeze the left side of the pickup-roller cover and insert the left retaining tab in the retaining slot.

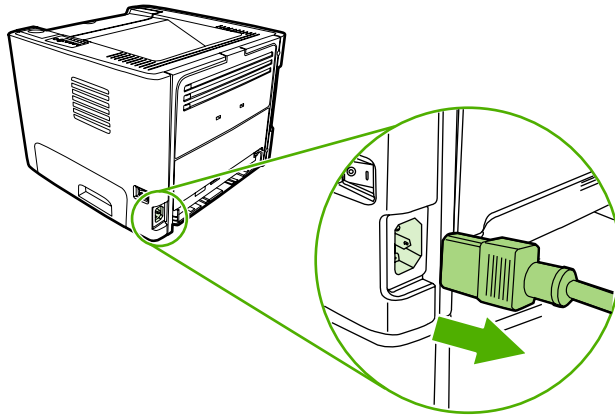


13. Close the print-cartridge door.
14. Plug the printer in.

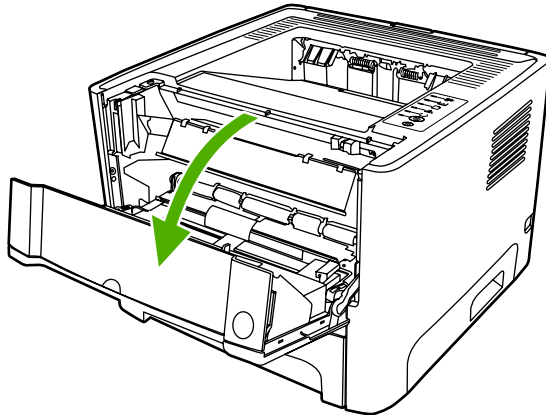


## Replace the pickup roller (tray 1)

1. Unplug the power cord from the printer, and allow the printer to cool.



2. Press the print-cartridge-door button to open the print-cartridge door.



3. Remove the print cartridge.

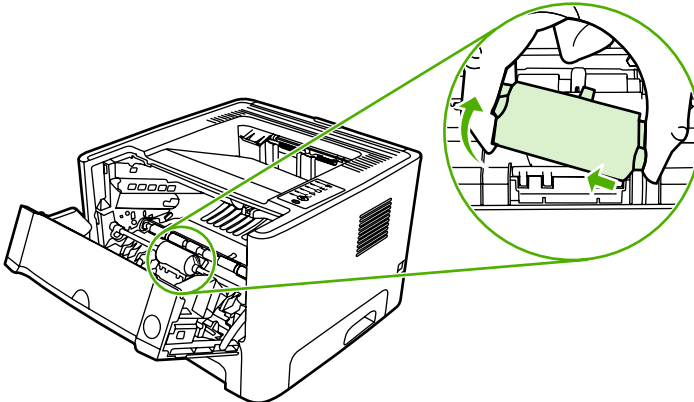
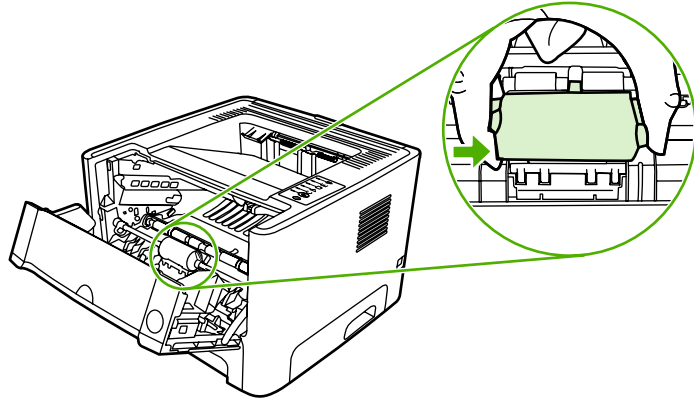


**CAUTION** After removing the print cartridge, only handle it on the ends.

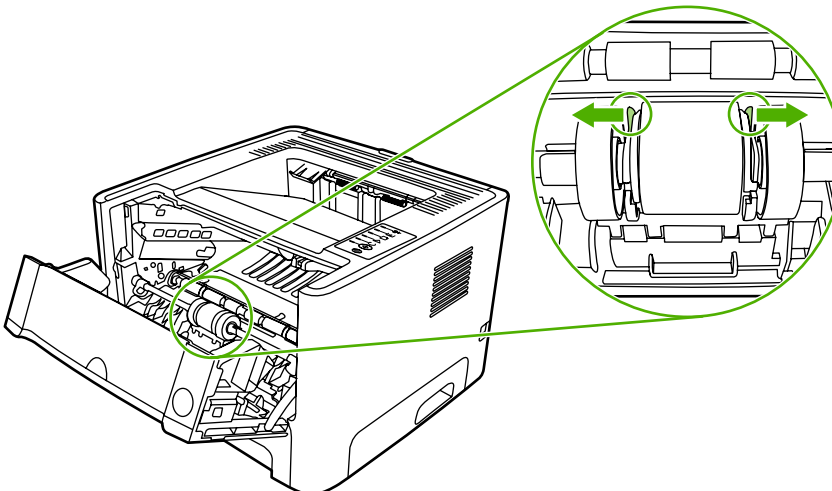
4. Grasping the pickup-roller cover with thumb and forefinger, squeeze the left side of the pickup-roller cover to release the left retaining tab, and then slide the cover to the left and up.



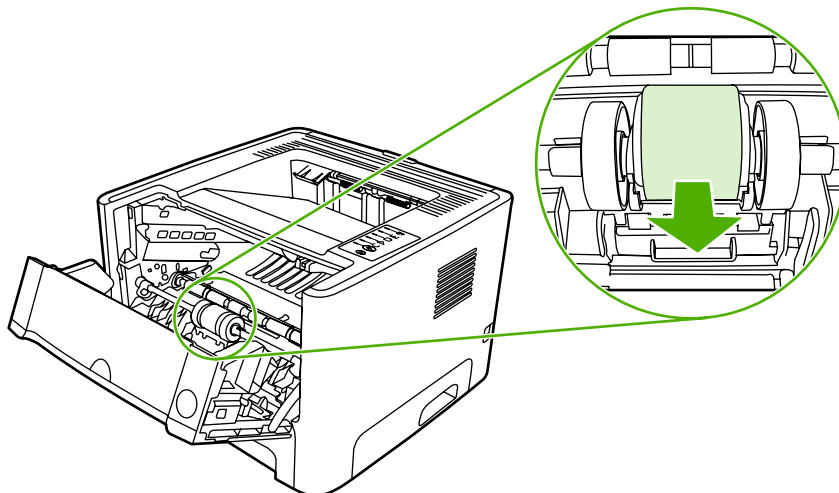
**CAUTION** Failure to slide the cover to the left when removing it can cause the right retaining tab to break.



5. Press the two black retaining tabs outward until the pickup roller is released from its seat.



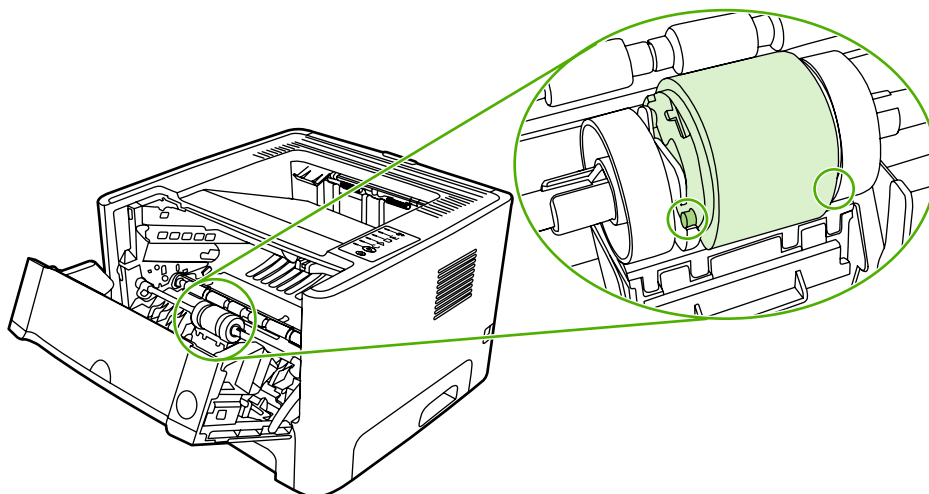
6. Remove the old pickup roller from the printer.



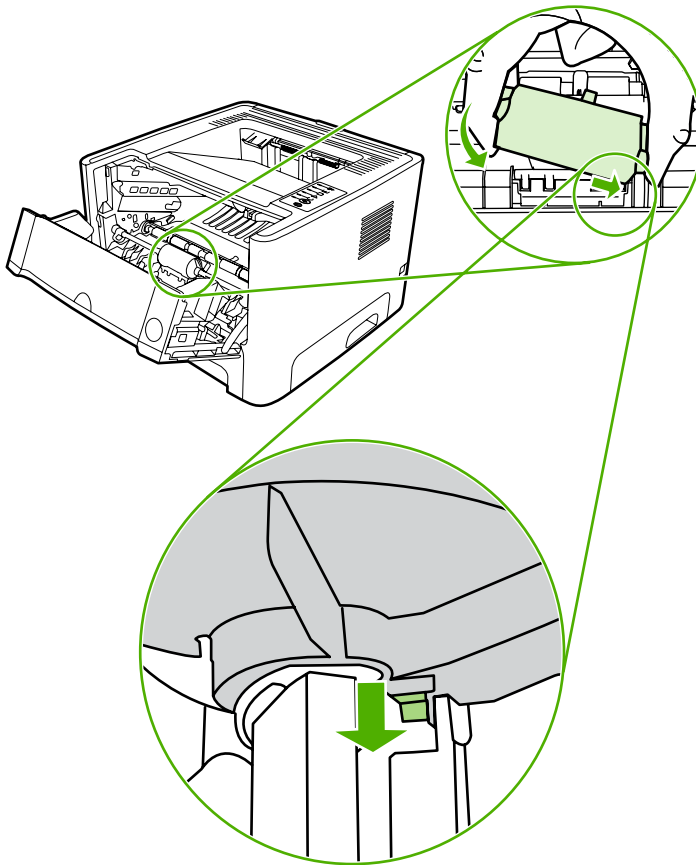
7. Line up the black retaining tabs in the printer with the grooves in the new pickup roller, and then press the pickup roller into the pickup-roller seat until the retaining tabs click.



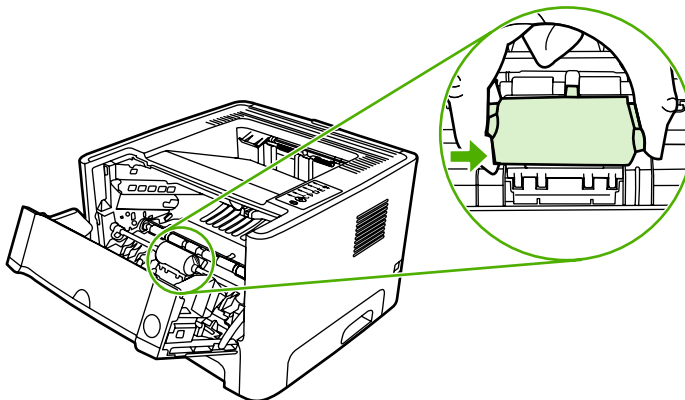
**CAUTION** Do not touch the pickup-roller pad.



8. Grasping the pickup-roller cover with thumb and forefinger, insert the pickup-roller cover's right retaining tab into the retaining slot.



9. Squeeze the left side of the pickup-roller cover and insert the left retaining tab in the retaining slot.

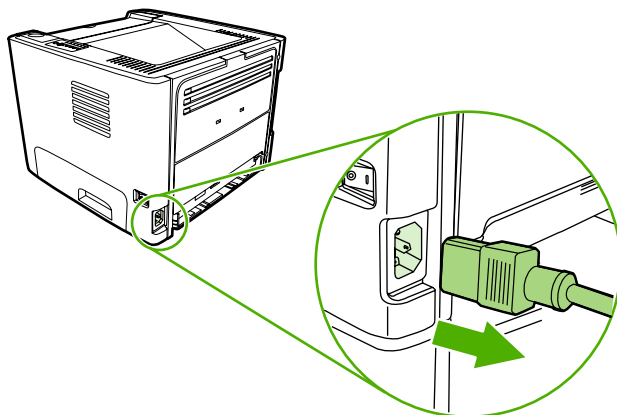


10. Close the print-cartridge door.

11. Plug the printer in.

## Clean the pickup roller (tray 2)

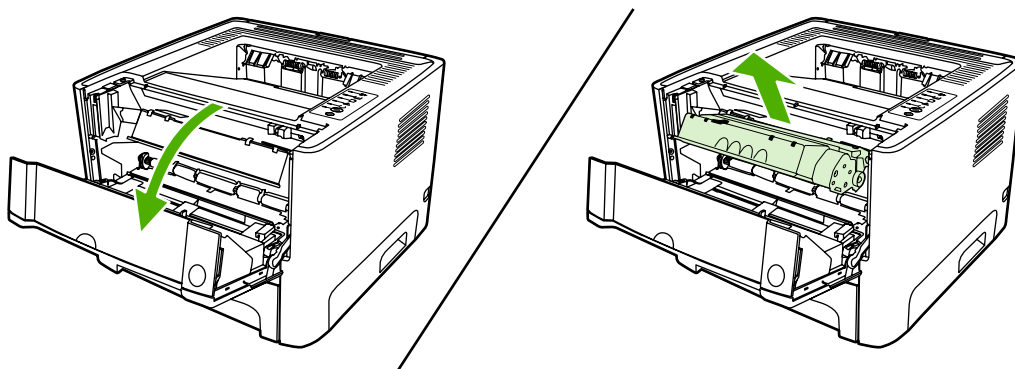
1. Unplug the power cord from the printer, and allow the printer to cool.



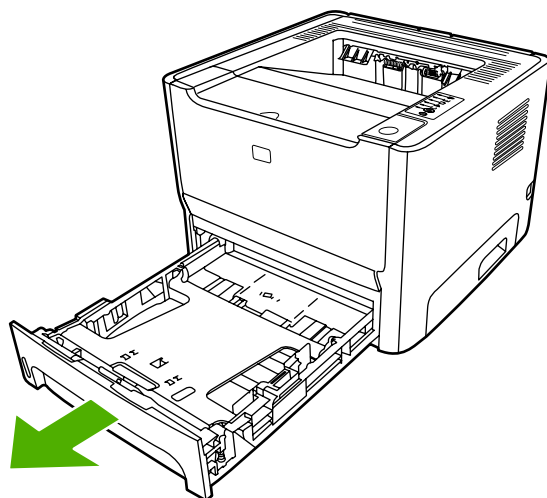
2. Press the print-cartridge-door button, and then remove the print cartridge from the printer.



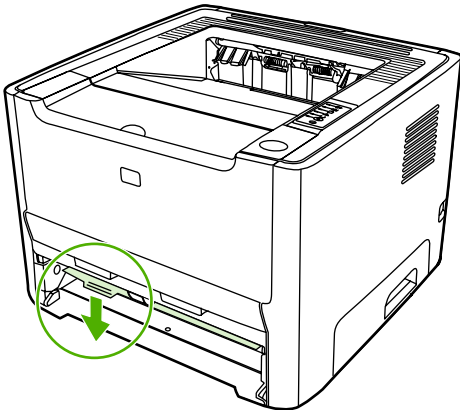
**CAUTION** After removing the print cartridge, only handle it on the ends.



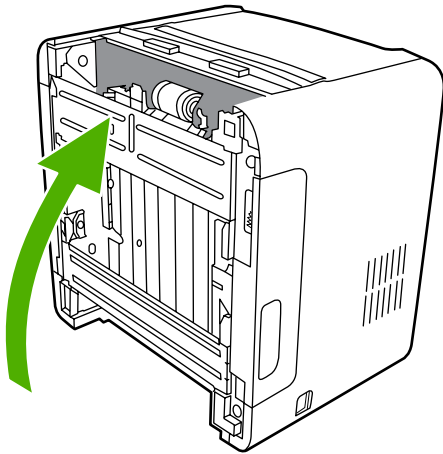
3. Remove tray 2.



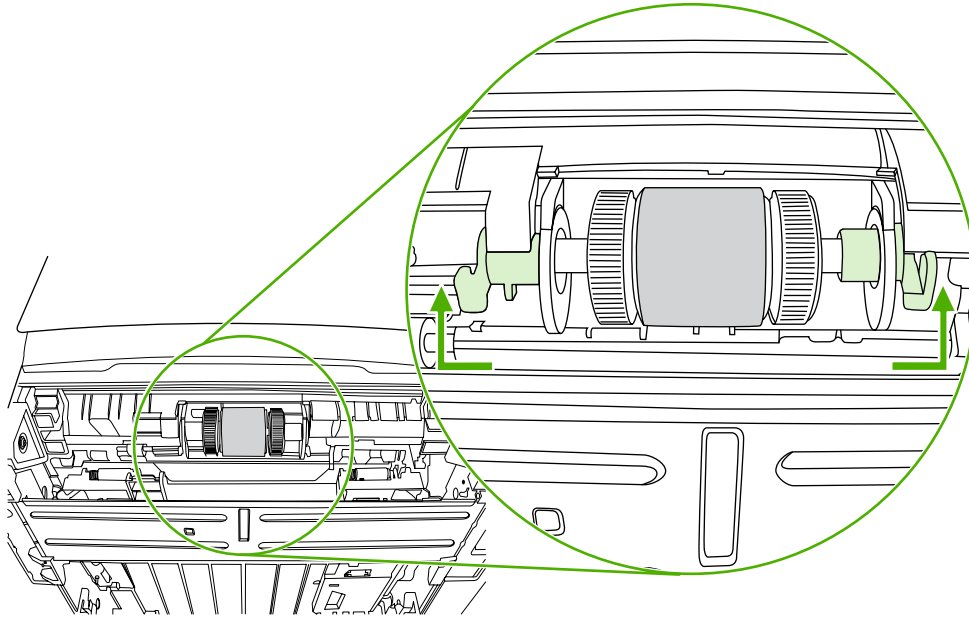
4. Open the automatic two-sided path door on the front of the printer (HP LaserJet P2015d, HP LaserJet P2015dn, and HP LaserJet P2015x printers only).



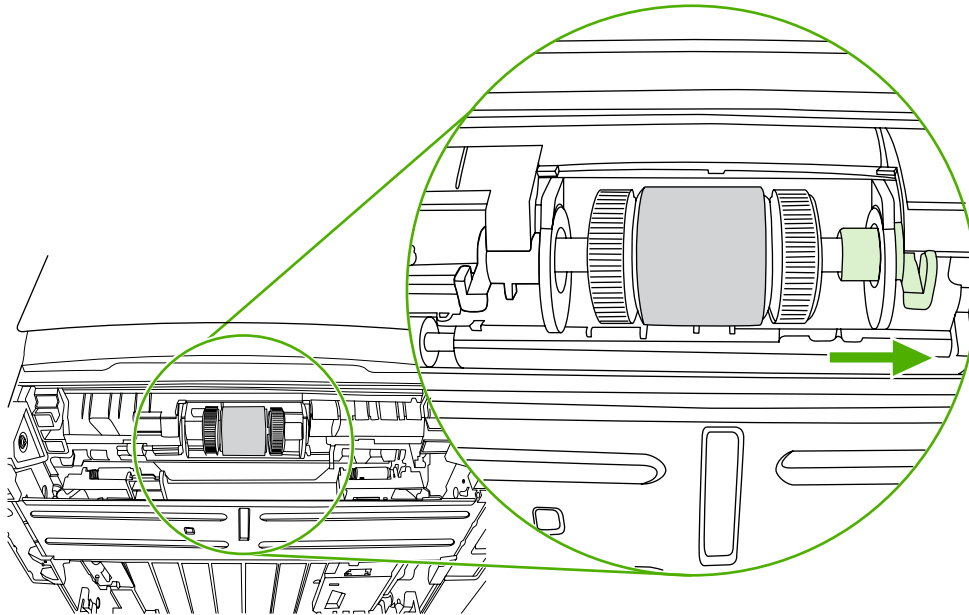
5. Place the printer on the work surface with the front of the printer facing up.



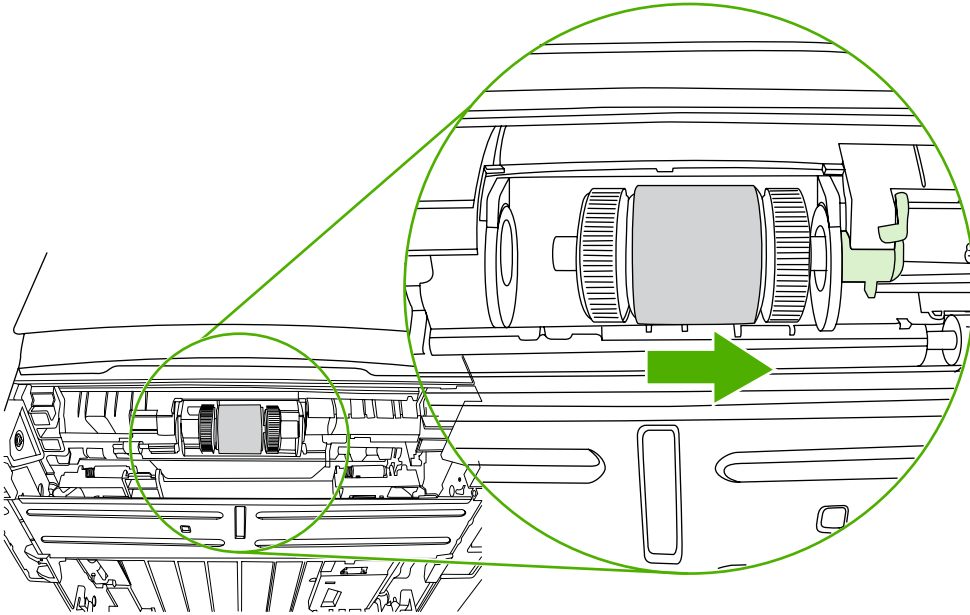
6. Pull the white tabs outward, and rotate the tabs up.



7. Slide the right tab to the right, and leave the tab in this position throughout the procedure.



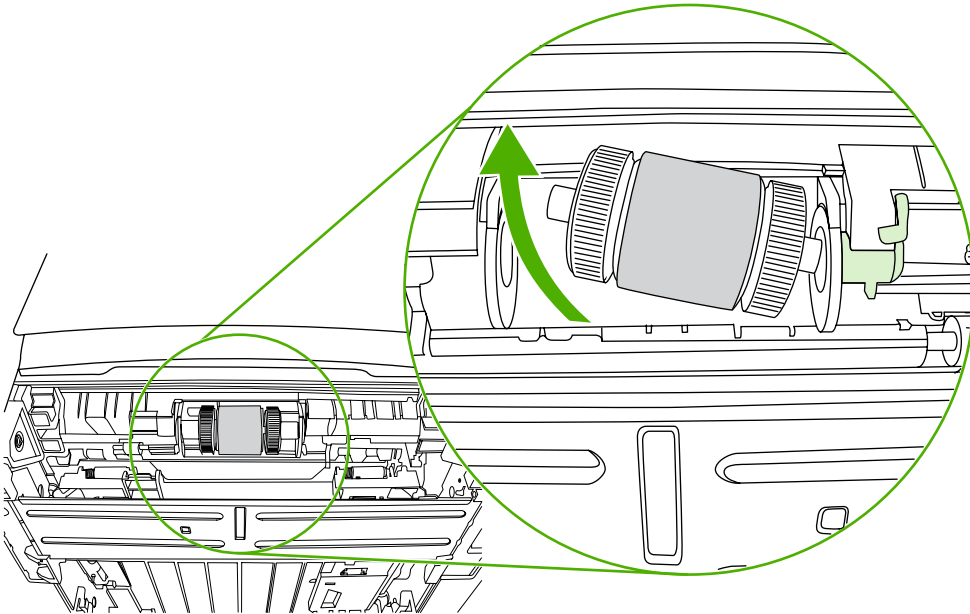
8. Slide the pickup roller assembly to the right, and remove the left end cap.



9. Remove the pickup roller.

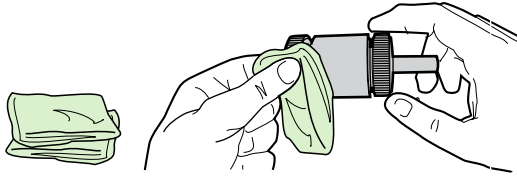


**CAUTION** Do not touch the pickup-roller pad.

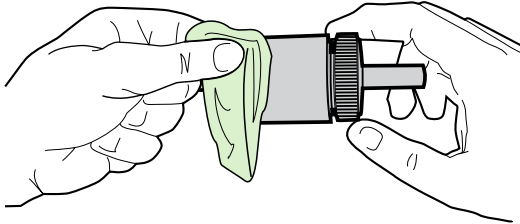




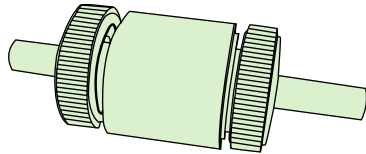
- 10.** Dab a lint-free cloth in water, and scrub the roller.



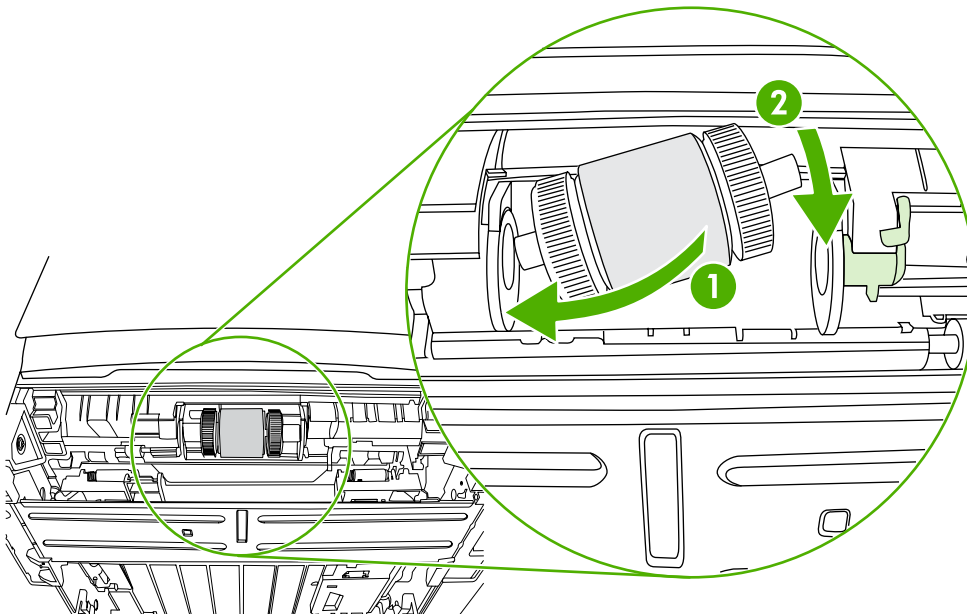
- 11.** Using a dry, lint-free cloth, wipe the pickup roller to remove loosened dirt.



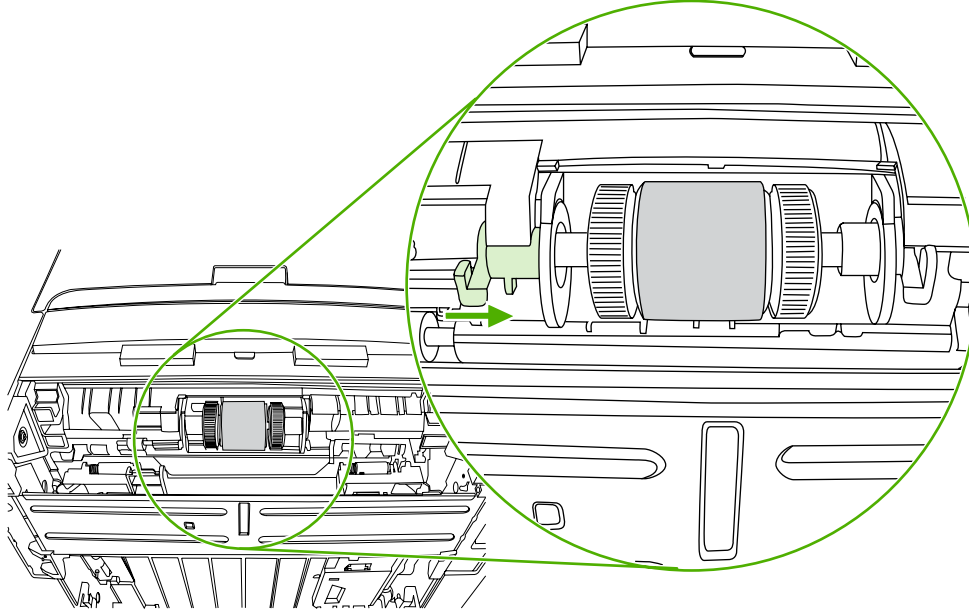
- 12.** Allow the pickup roller to dry completely.



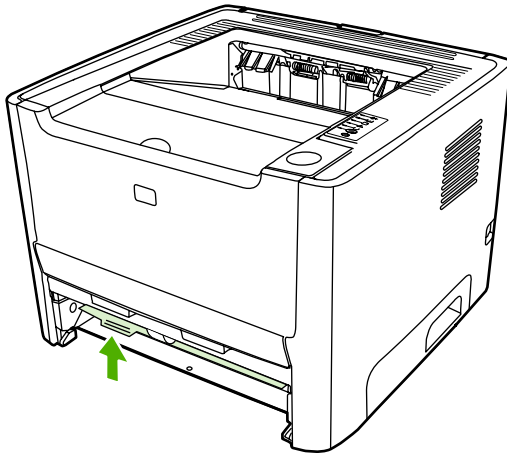
- 13.** Insert the left side of the pickup roller into the left slot (1), and insert the right side (the side that has the notches in the shaft) into the right slot (2).



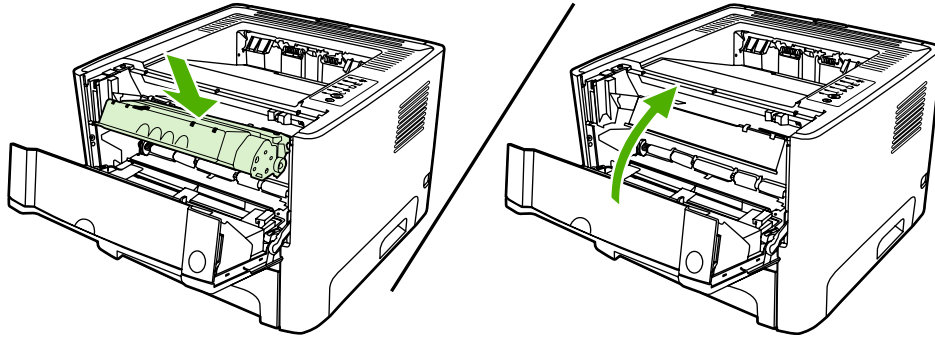
14. Place the end cap over the shaft on the left side, push the end cap to the right, and rotate the tab downward into position.



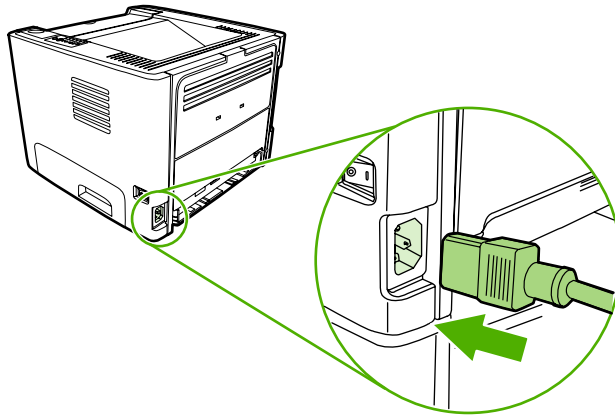
15. Rotate the shaft until the notches engage and the shaft clicks into place.
16. Push the right tab to the left, and rotate the tab downward into position.
17. Place the printer on the work surface with the top of the printer facing up.
18. Close the automatic two-sided path door.



19. Reinstall the print cartridge, and close the print-cartridge door.

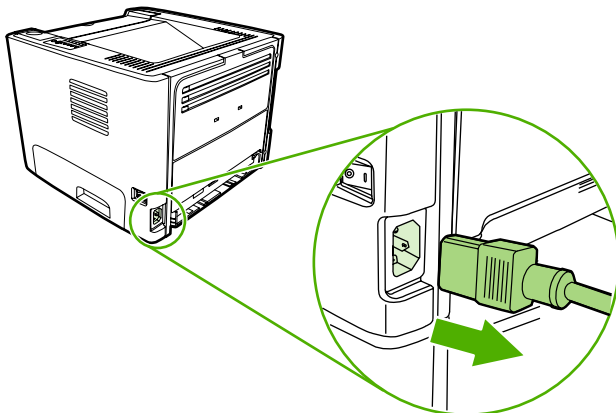


20. Plug the printer in.



## Replace the pickup roller (tray 2)

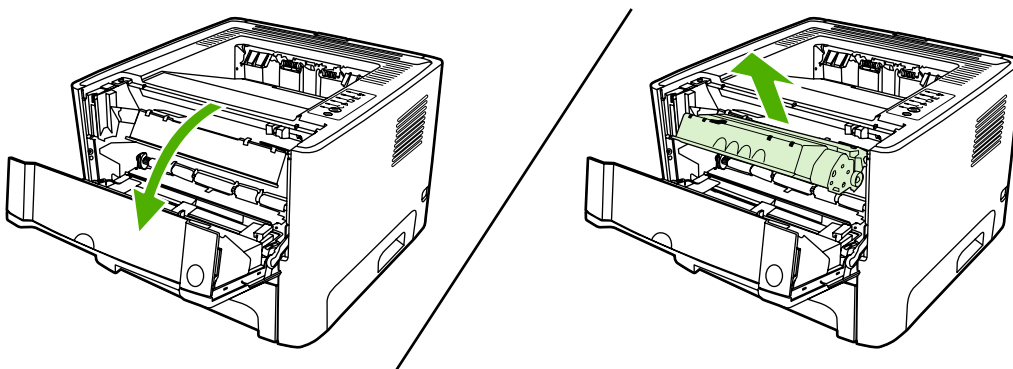
1. Unplug the power cord from the printer, and allow the printer to cool.



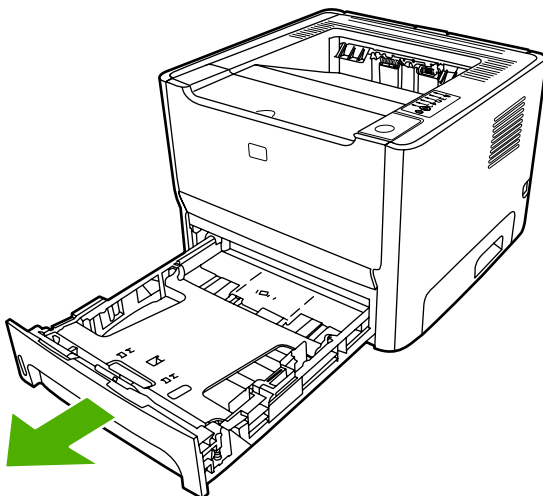
2. Press the print-cartridge-door button, and then remove the print cartridge from the printer.



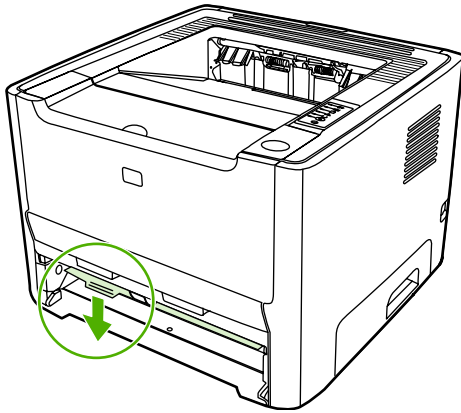
**CAUTION** After removing the print cartridge, only handle it on the ends.



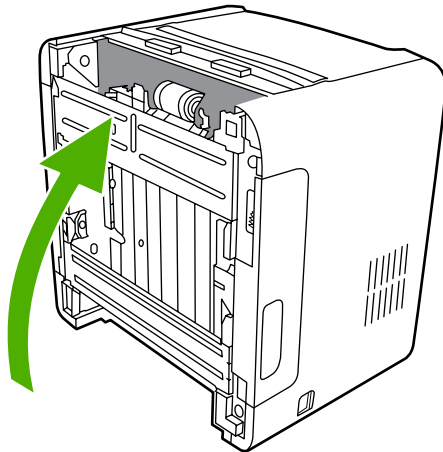
3. Remove tray 2.



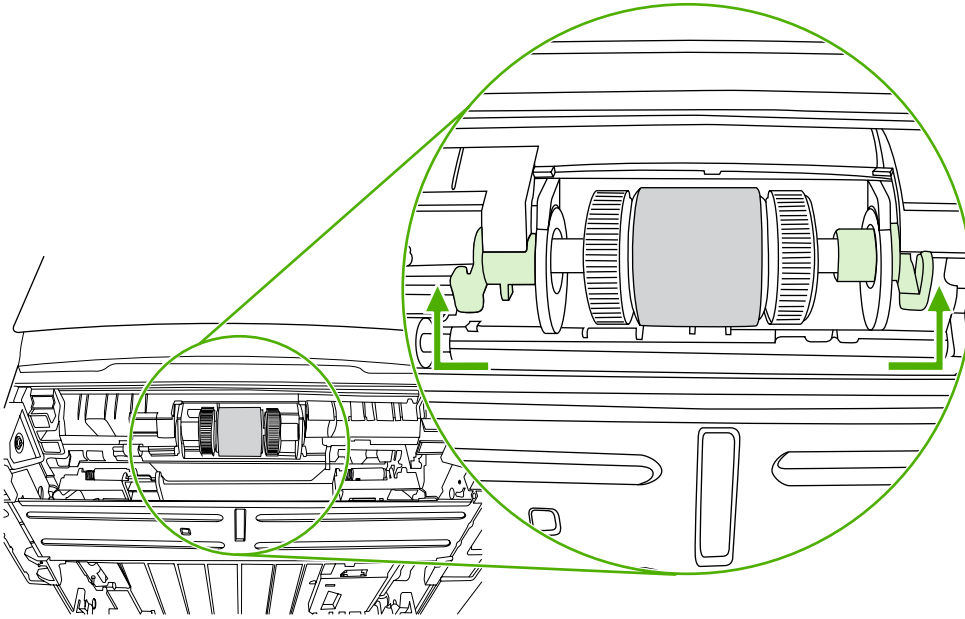
4. Open the automatic two-sided path door on the front of the printer (HP LaserJet P2015d, HP LaserJet P2015dn, and HP LaserJet P2015x printers only).



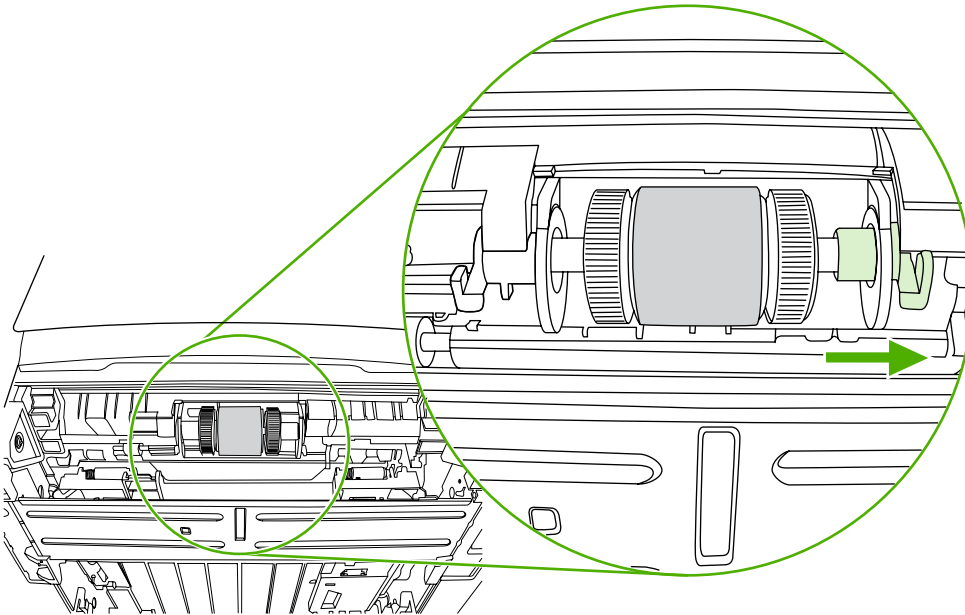
5. Place the printer on the work surface with the front of the printer facing up.



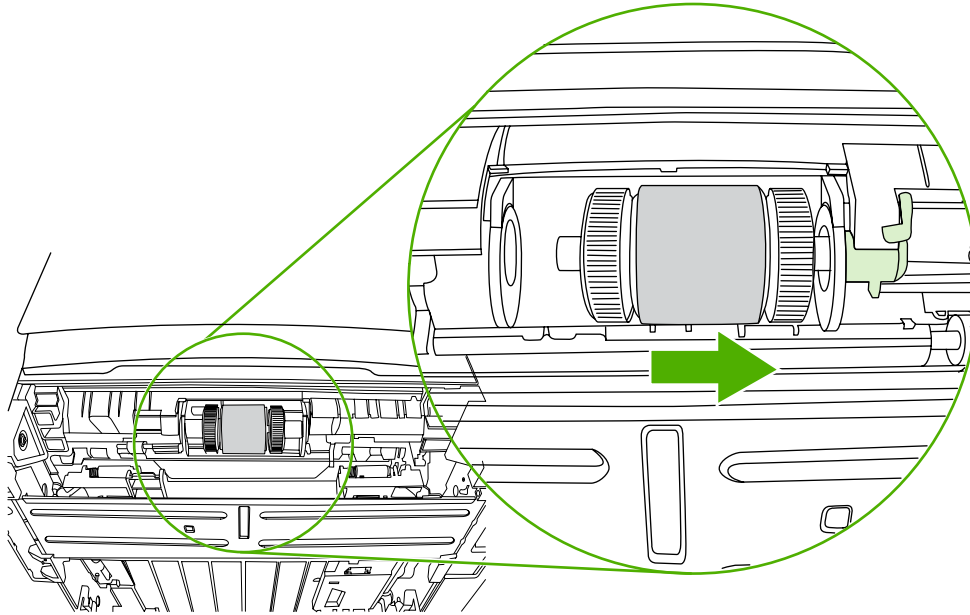
6. Pull the white tabs outward, and rotate the tabs up.



7. Slide the right tab to the right, and leave the tab in this position throughout the procedure.



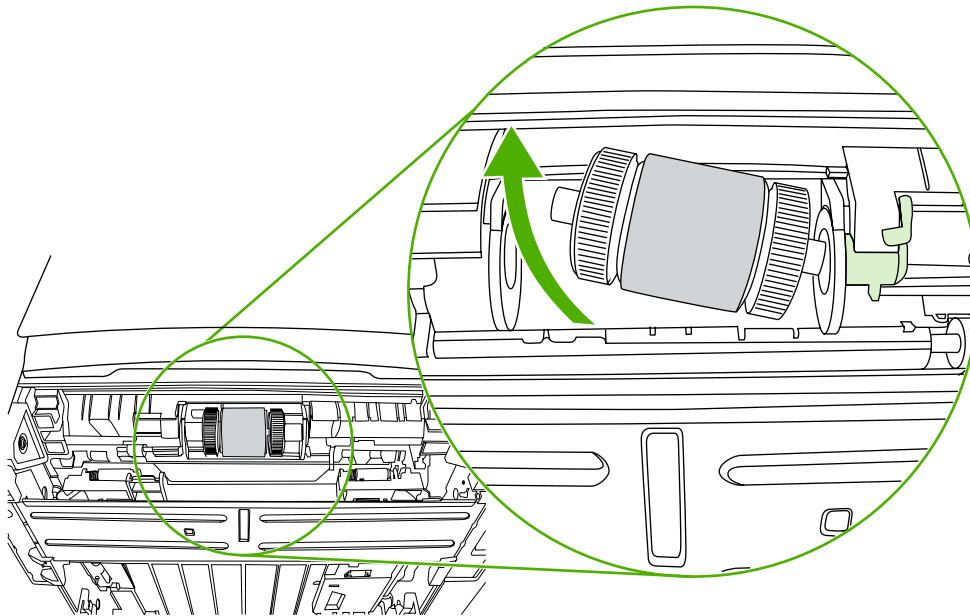
8. Slide the pickup roller assembly to the right, and remove the left end cap.



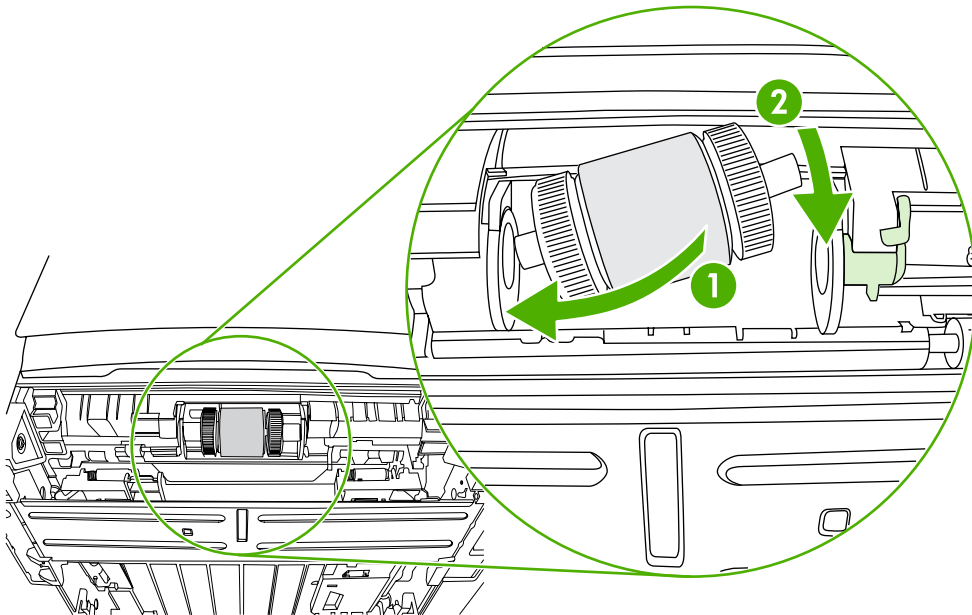
9. Remove the old pickup roller.



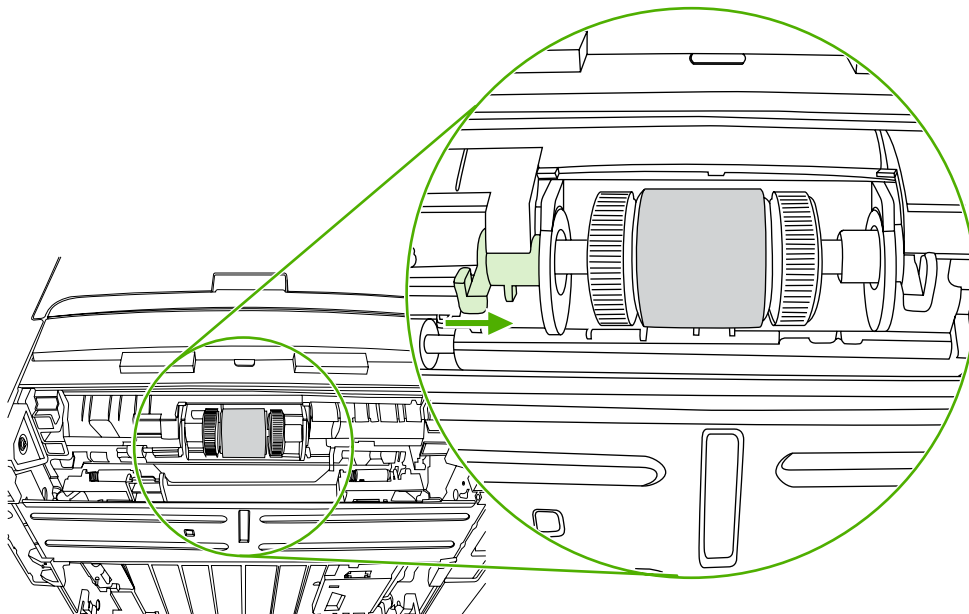
**CAUTION** Do not touch the pickup-roller pad.



- 10.** Insert the left side of the new pickup roller into the left slot (1), and insert the right side (the side that has the notches in the shaft) into the right slot (2).



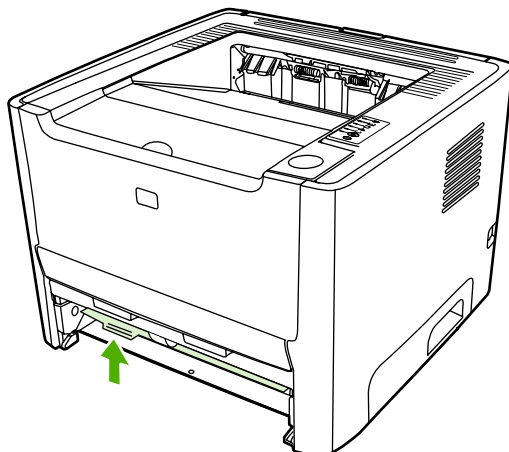
- 11.** Place the end cap over the shaft on the left side, push the end cap to the right, and rotate the tab downward into position.



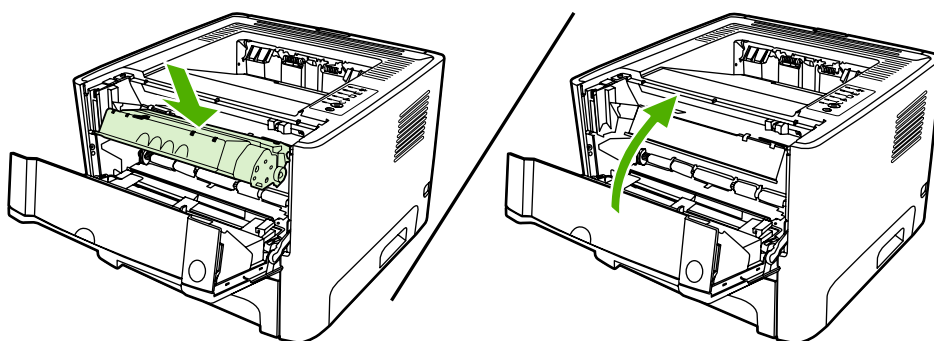
- 12.** Rotate the shaft until the notches engage and the shaft clicks into place.
- 13.** Push the right tab to the left, and rotate the tab downward into position.
- 14.** Place the printer on the work surface with the top of the printer facing up.



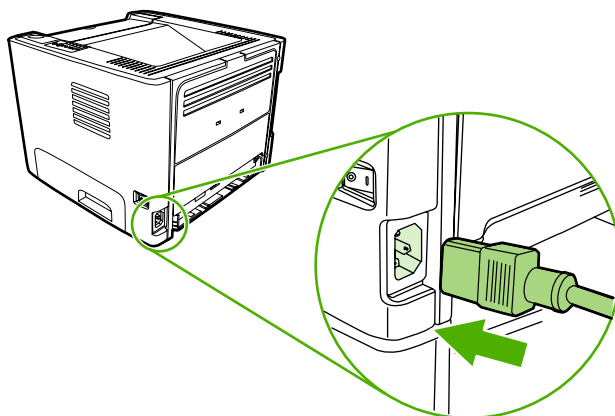
15. Close the automatic two-sided path door.



16. Reinstall the print cartridge, and close the print-cartridge door.



17. Plug the printer in to turn it back on.





# 5 Theory of operation

- [Introduction](#)
- [Internal components](#)
- [Timing](#)
- [Engine control system](#)
- [Laser/scanner system](#)
- [Pickup/feed/delivery system](#)
- [Image-formation system](#)

# Introduction

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

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

Figure 5-1 Block diagram on page 70 illustrates the relationships among the four systems.

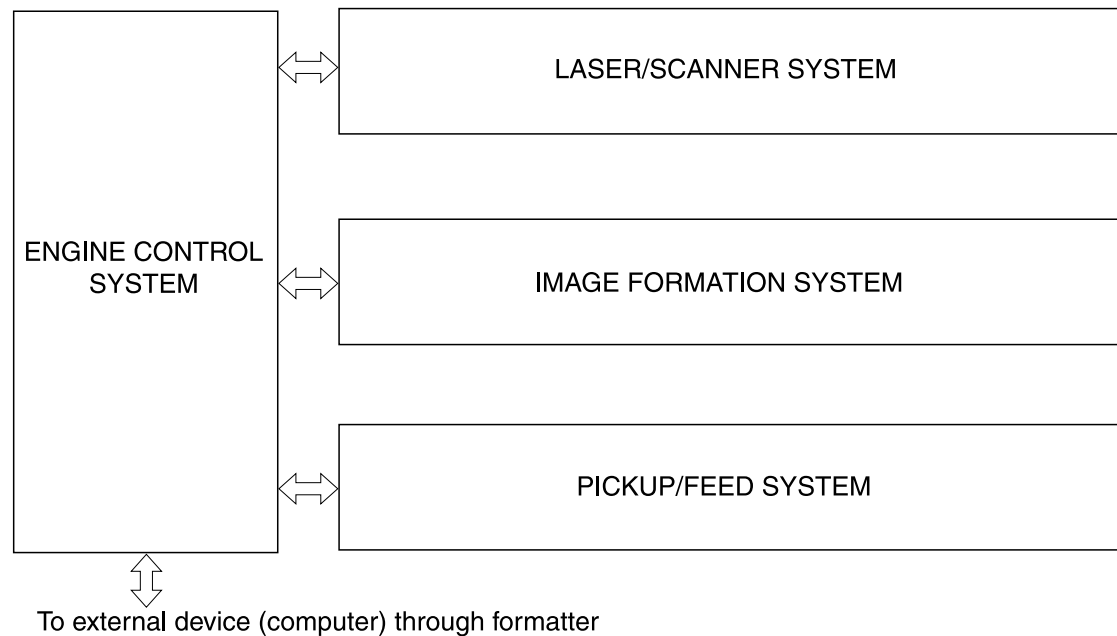
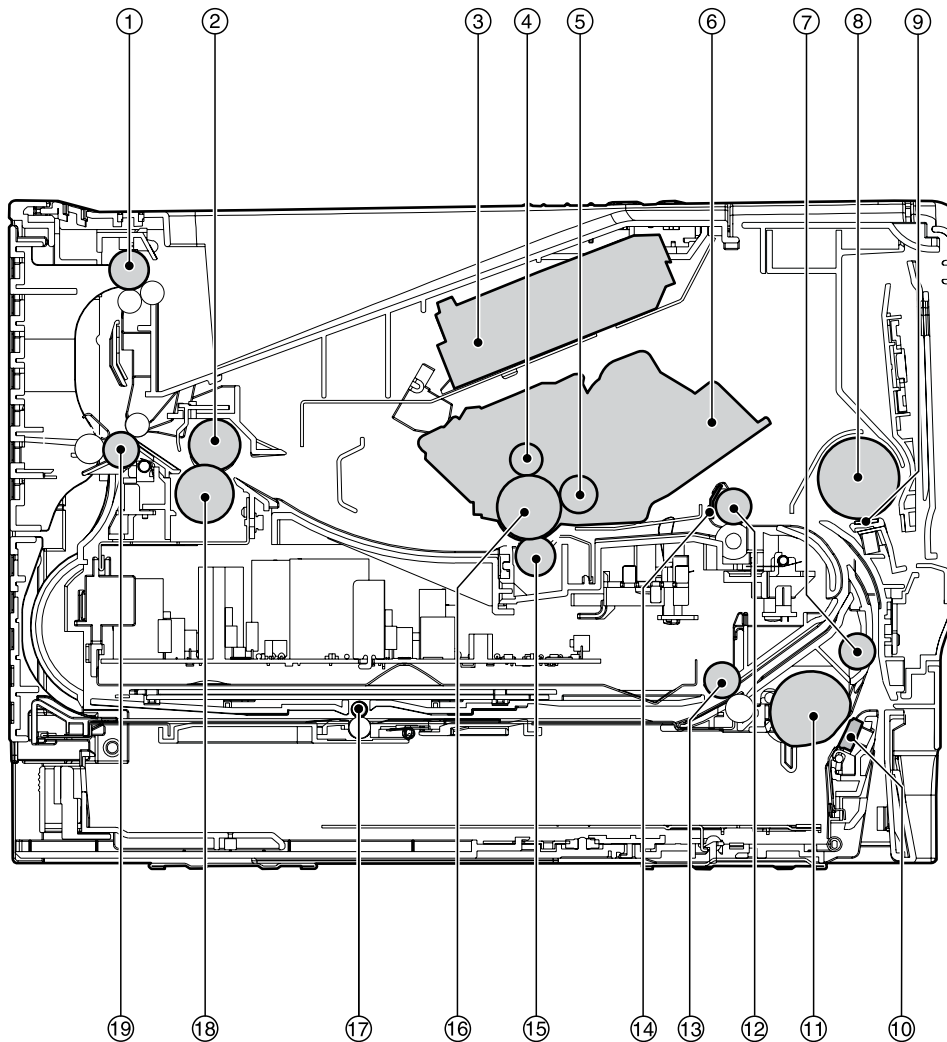


Figure 5-1 Block diagram

## Internal components

Figure 5-2 Cross-section of printer on page 71 highlights the major internal components.



**Figure 5-2** Cross-section of printer

1	Top output bin delivery roller
2	Fuser film
3	Laser/scanner
4	Primary charging roller
5	Developer roller
6	Print cartridge
7	Feed roller
8	Multipurpose pickup roller
9	Multipurpose separation pad
10	Separation pad

11	Pickup roller
12	Registration roller
13	Duplexer pickup roller
14	Registration shutter
15	Transfer roller
16	Photosensitive drum
17	Duplexer feed roller
18	Pressure roller
19	Rear output bin delivery roller

# Timing

## Sequence of operation

Operation sequences are controlled by the microprocessor on the DC controller. [Table 5-1 Sequence of operation on page 73](#) describes engine operations for each period of a print operation.

**Table 5-1** Sequence of operation

Name	Timing	Purpose
WAIT	From power-on until the end of the main motor initial drive	Detects presence of a print cartridge. Clears potential from the drum surface and cleans the transfer roller.
STBY (standby)	From the end of the WAIT or LSTR period until either a print command is sent from the formatter or the power is turned off.	Prepares the printer to receive print commands
INTR (initial rotation)	From the time of the print command until the pickup solenoid is turned on.	Prepares the photosensitive drum for printing.
PRINT	From the end of the INTR period until the primary high-voltage is turned off.	Forms the image on the photosensitive drum and transfers the toner image to the media.
LSTR (last rotation)	From the end of the PRINT period (when high-voltage is turned off) until the main motor stops rotating.	Delivers the last page of a print job.  After LSTR, the printer either returns to STBY or, if another print command was sent from the formatter, enters INTR.

## Power-on sequence

**Table 5-2** Power-on sequence

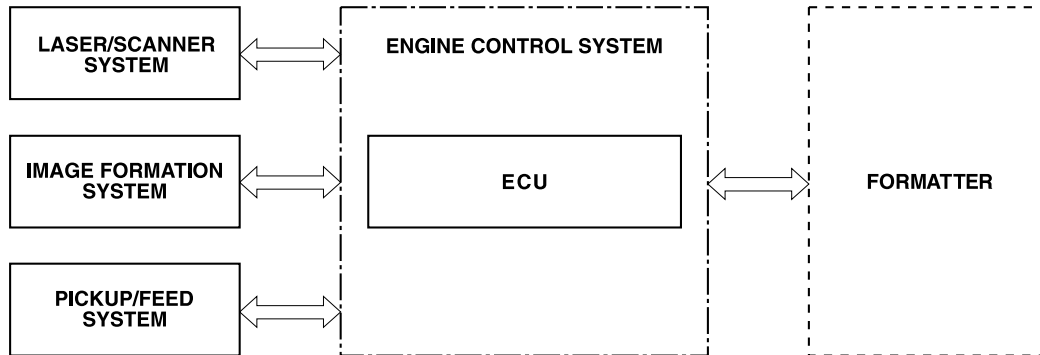
Step	Action
1	Power-on
2	CPU initialization
3	Video interface communication start
4	Check sensors for residual media
5	Main motor initial drive
6	Fuser heater initial drive. The fuser heater reaches a surface temperature of 100°C.
7	Laser/scanner motor initial drive
8	High-voltage control  Detect presence of a print cartridge  Clean the transfer roller after the primary charging ac bias is turned on
9	Failure/abnormality check: detect laser/scanner failure, fuser failure, and open covers
10	Communication with the memory tag

# Engine control system

The engine control system coordinates all printer functions, according to commands sent from the formatter. It drives the laser/scanner system, the image-formation system, and the pickup/feed/delivery system.

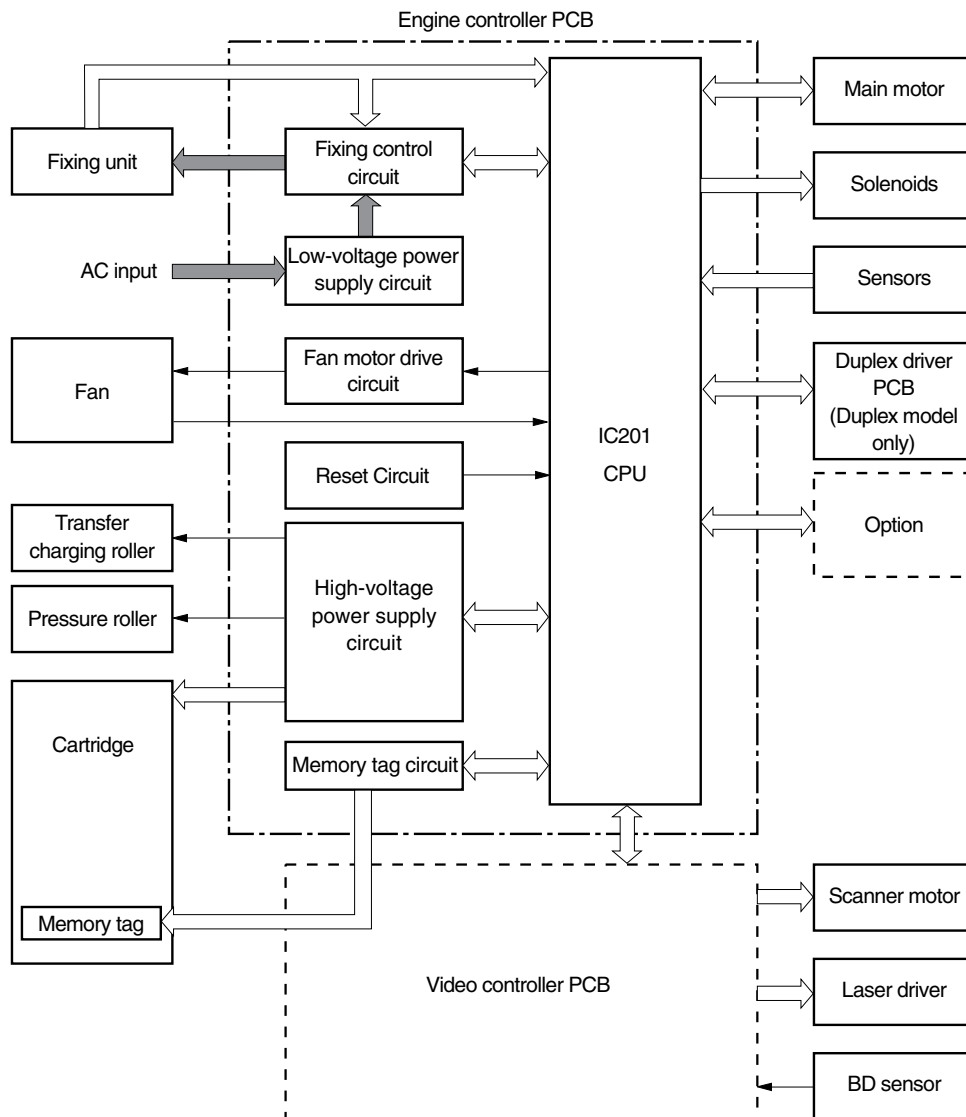
The engine control system contains the following components:

- DC controller
- High-voltage PCA



**Figure 5-3** Engine control system

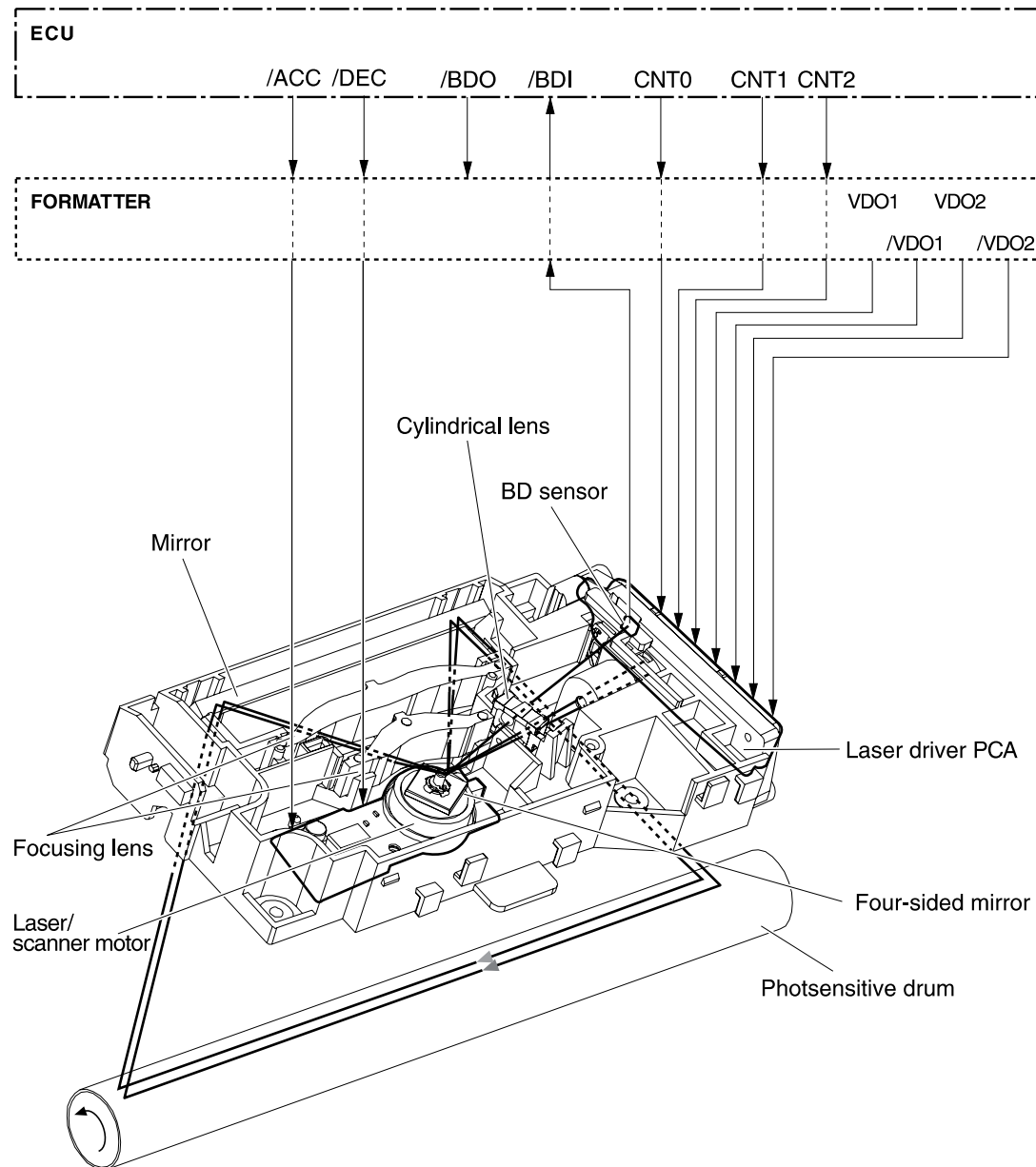




**Figure 5-4** Engine control system circuit diagram

## Laser/scanner system

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



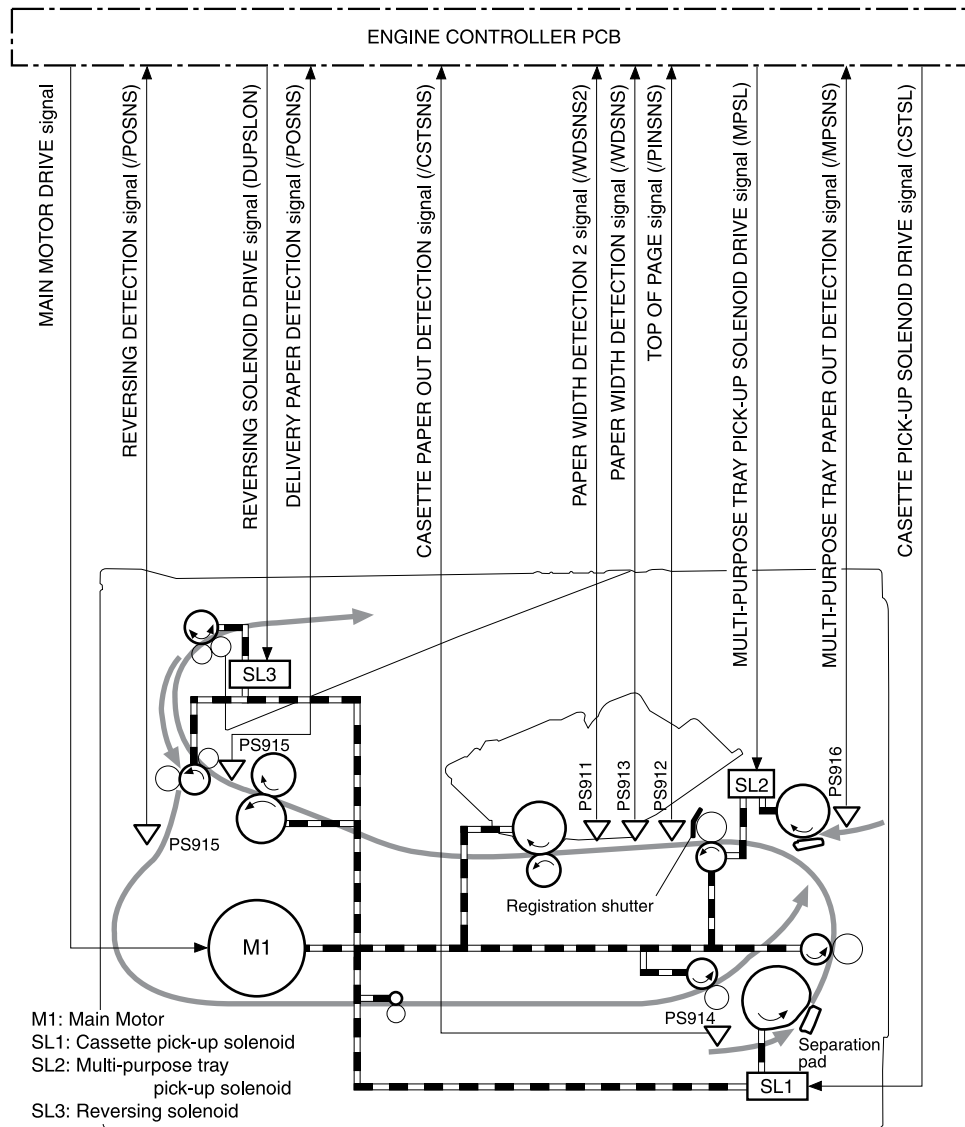
**Figure 5-5** Laser/scanner system

## Pickup/feed/delivery system

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

The following components are identified in [Figure 5-6 Pickup/feed/delivery system on page 78](#):

- M1, main motor
- SL1, tray 2 pickup solenoid
- SL2, tray 1 pickup solenoid
- SL3, duplex solenoid (HP LJ P2015d, P2015dn, and P2015x only)
- PS911, width-detection sensor
- PS912, top-of-page sensor
- PS913, width-detection sensor
- PS914, tray 2 media sensor
- PS915, fuser delivery sensor
- PS915, duplex sensor (HP LJ P2015d, P2015dn, and P2015x only)



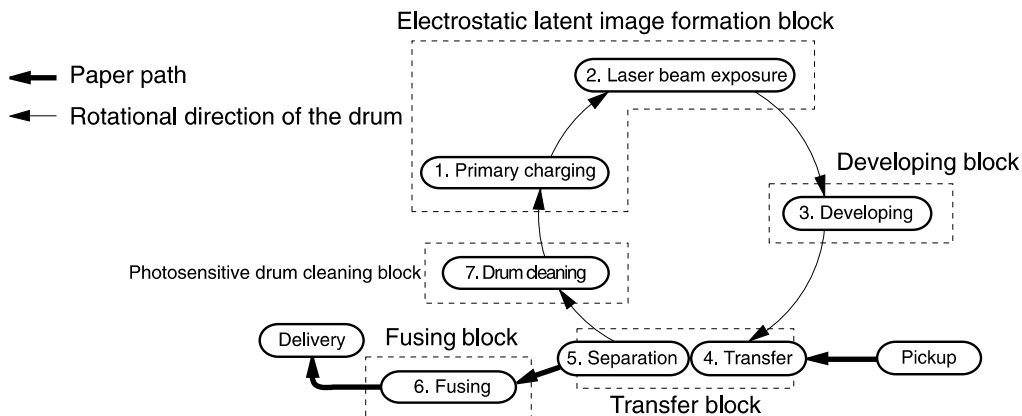
**Figure 5-6** Pickup/feed/delivery system

# Image-formation system

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

- electrostatic latent-image formation
- developing
- transfer
- fusing
- drum cleaning

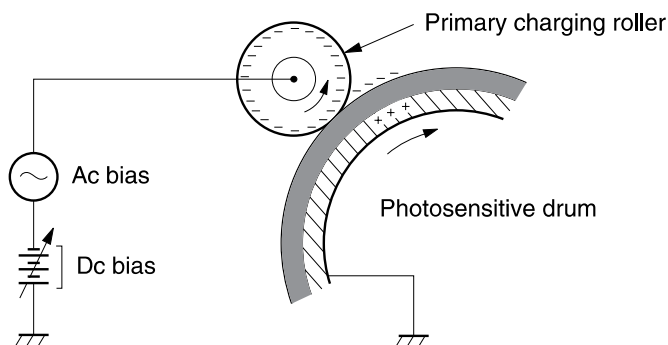
The five processes contain eight steps.



**Figure 5-7** Image-formation system

## Step 1: Primary charging

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



**Figure 5-8** Primary charging

## Step 2: Laser beam exposure

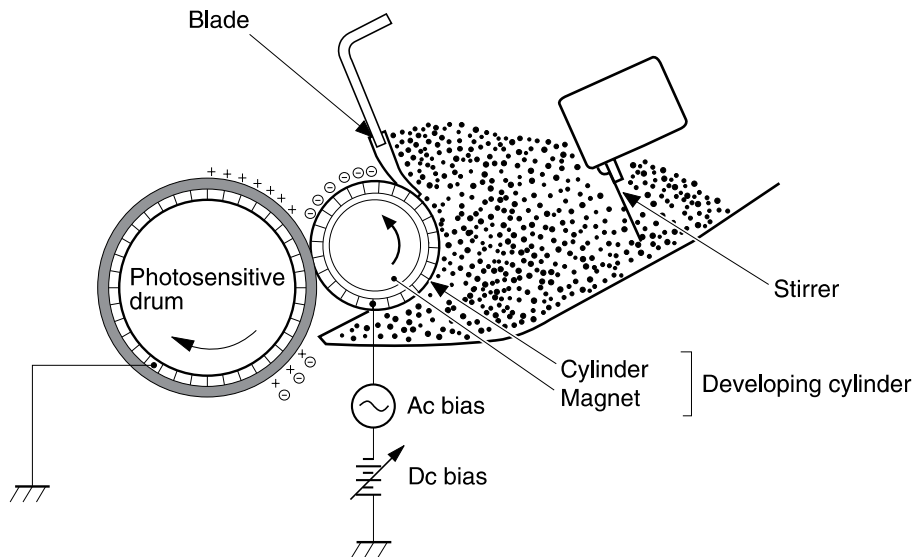
The laser beam scans the photosensitive drum to neutralize negative charges on parts of the drum. An electrostatic latent image is formed on the drum where negative charges were neutralized.

### Step 3: Developing

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



**NOTE** The charges on the exposed area of the drum are shown as positive in [Figure 5-9 Developing on page 80](#). The charges are actually negative, but they are more positive than the charges on the developing cylinder.

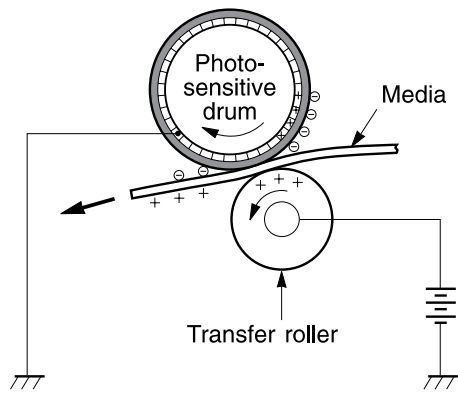


**Figure 5-9** Developing

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

### Step 4: Transfer

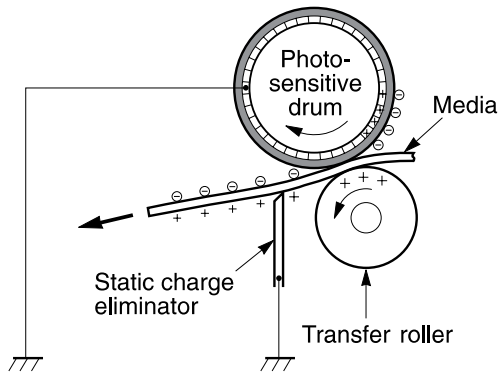
The transfer charging roller, to which a dc positive bias is applied, imparts a positive charge on the print media. When the print media comes in contact with the photosensitive drum, the toner is transferred to the print media.



**Figure 5-10** Transfer

### Step 5: Separation

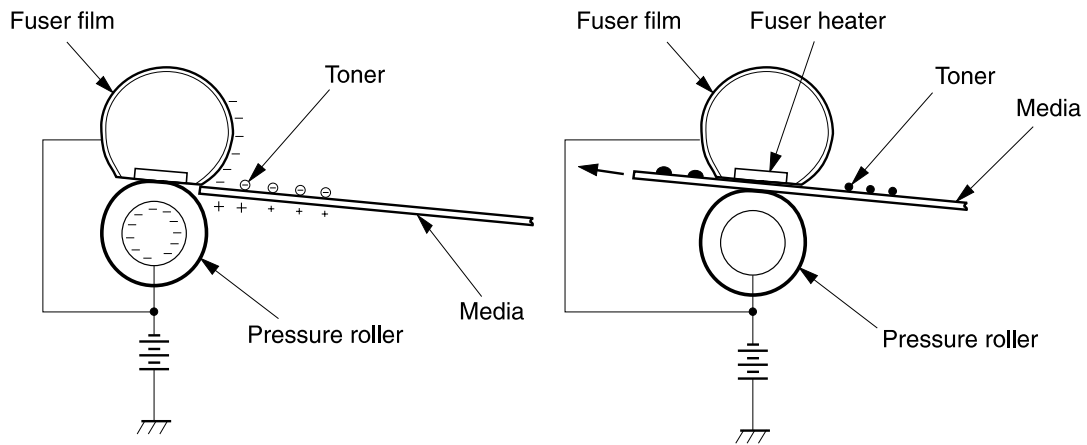
The elasticity of the print media causes its separation from the photosensitive drum. A static charge eliminator aids separation by weakening any electrostatic adhesion.



**Figure 5-11** Separation

### Step 6: Fusing

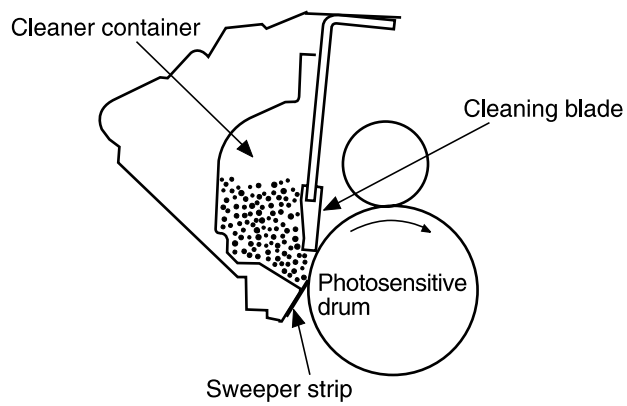
The dc negative bias applied to the fusing film strengthens the holding force of the toner on the print media and prevents the toner from scattering.



**Figure 5-12** Fusing

### Step 7: Drum cleaning

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



**Figure 5-13** Drum cleaning



# 6 Removal and replacement

- [Introduction](#)
- [Before performing service](#)
- [Covers](#)
- [Control panel](#)
- [Formatter](#)
- [Laser/scanner](#)
- [Memory-tag-reader assembly](#)
- [Duplex-drive PCA \(HP LaserJet P2015d, P2015dn, and P2015x printers only\)](#)
- [Fuser](#)
- [Interlock assembly](#)
- [ECU](#)
- [Main motor](#)
- [Pickup and feed assemblies](#)
- [Main gear assembly/tray 2 pickup solenoid](#)
- [Print-cartridge door](#)

# Introduction

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

## Removal and replacement strategy

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



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



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

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

## Electrostatic discharge



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

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



## Required tools

The following tools are needed to service this product:

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



**CAUTION** A pozidrive screwdriver can damage the screw heads on the product. Use a #2 Phillips screwdriver.

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

## Before performing service

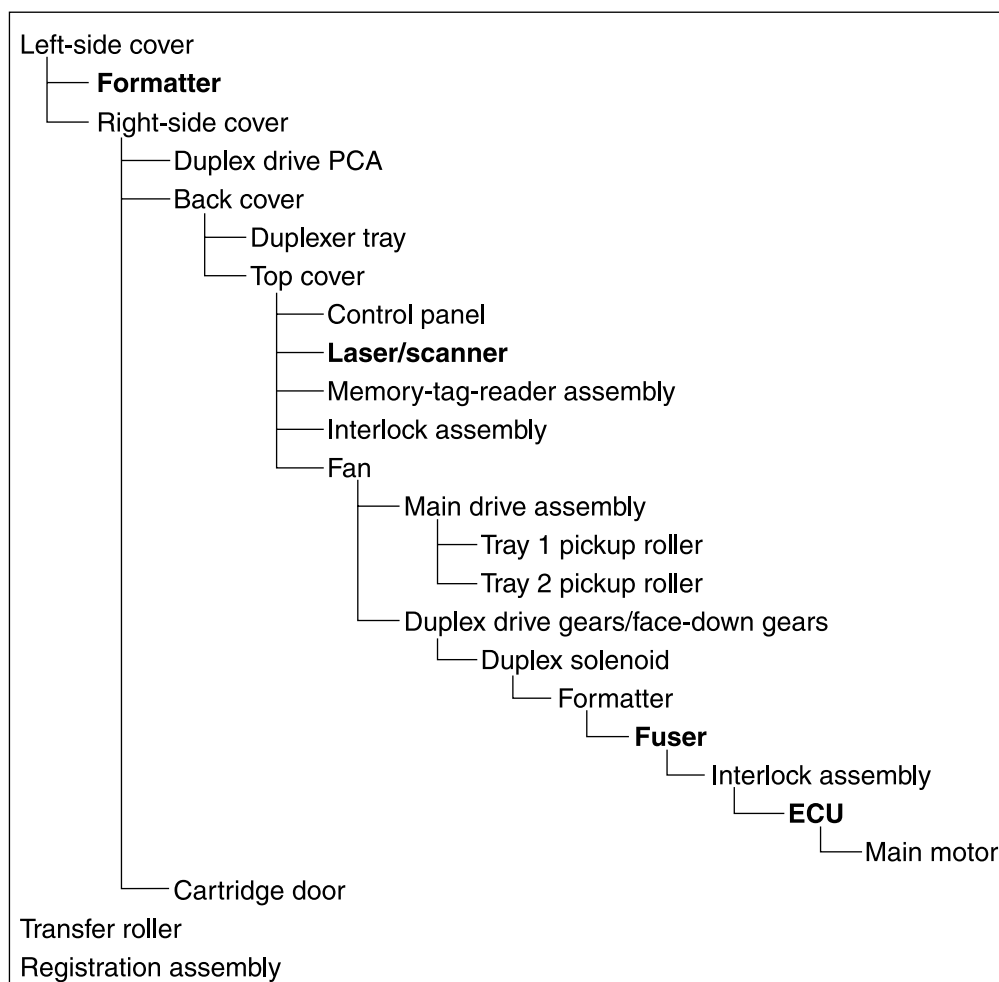
Follow the pre-service procedures before you perform service.

### Pre-service procedures

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

### Parts removal order

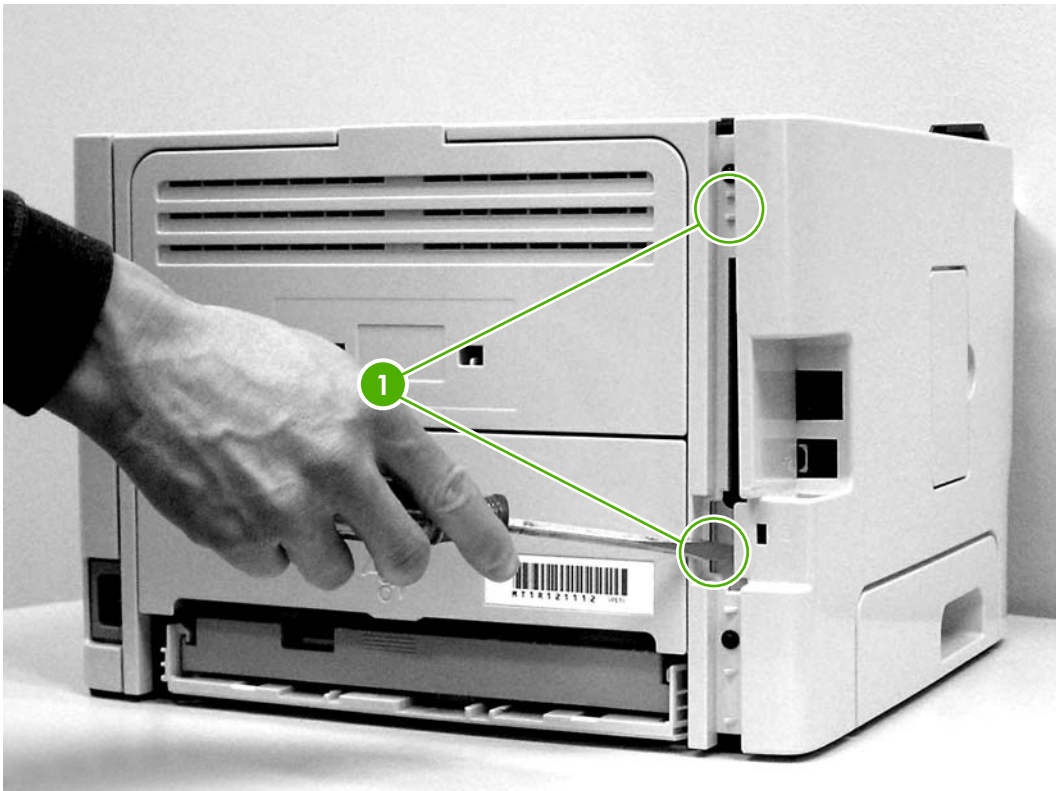
Use the following diagram to determine which parts must be removed before removing other parts.



## Covers

### Left-side cover

1. Open the print-cartridge door.
2. At the back of the printer, use a flat-blade screwdriver to release two tabs (1).



**Figure 6-1** Removing the left-side cover (1 of 2)

3. Lift the cover away from the printer.

### Right-side cover

1. Open the print-cartridge door.
2. Remove tray 2.

3. At the front of the printer, pop the front edge of the right-side cover over the two retaining tabs.



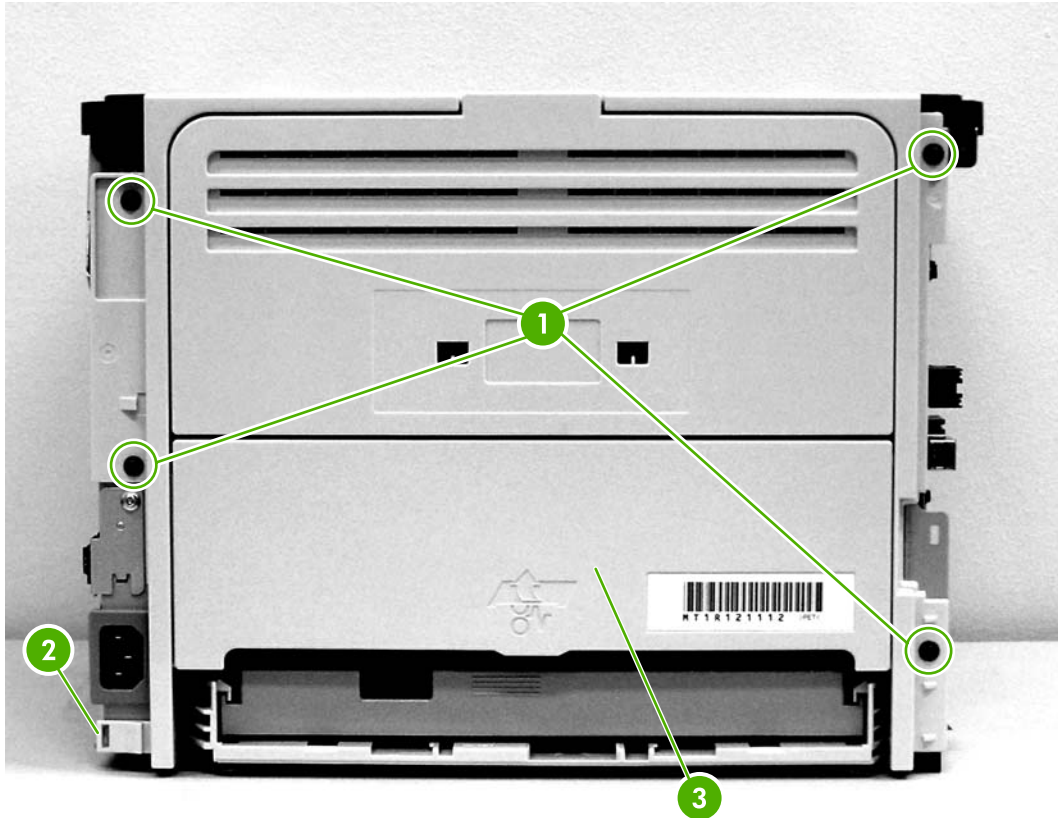
**Figure 6-2** Removing the right-side cover

4. Lift the cover away from the printer.

## **Back cover**

1. Remove tray 2.
2. Remove the left-side cover and the right-side cover.

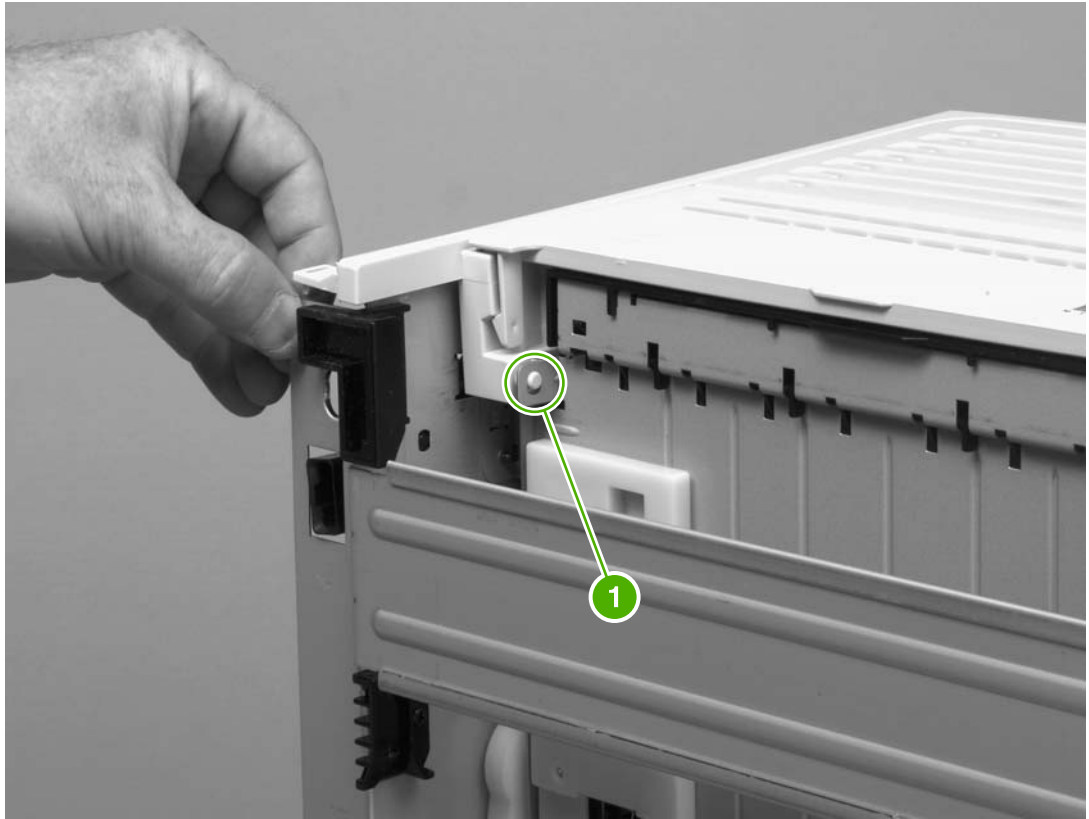
3. Remove four screws (1).



**Figure 6-3** Removing the back cover (1 of 2)

4. Tip the printer so that it rests on its front.
5. Release the tab (2) at the back of the printer on the right side.
6. Open the duplex access door (3).

7. Slide the cover toward the right side of the printer to clear the tab (1) on the duplexer tray (duplex models only).



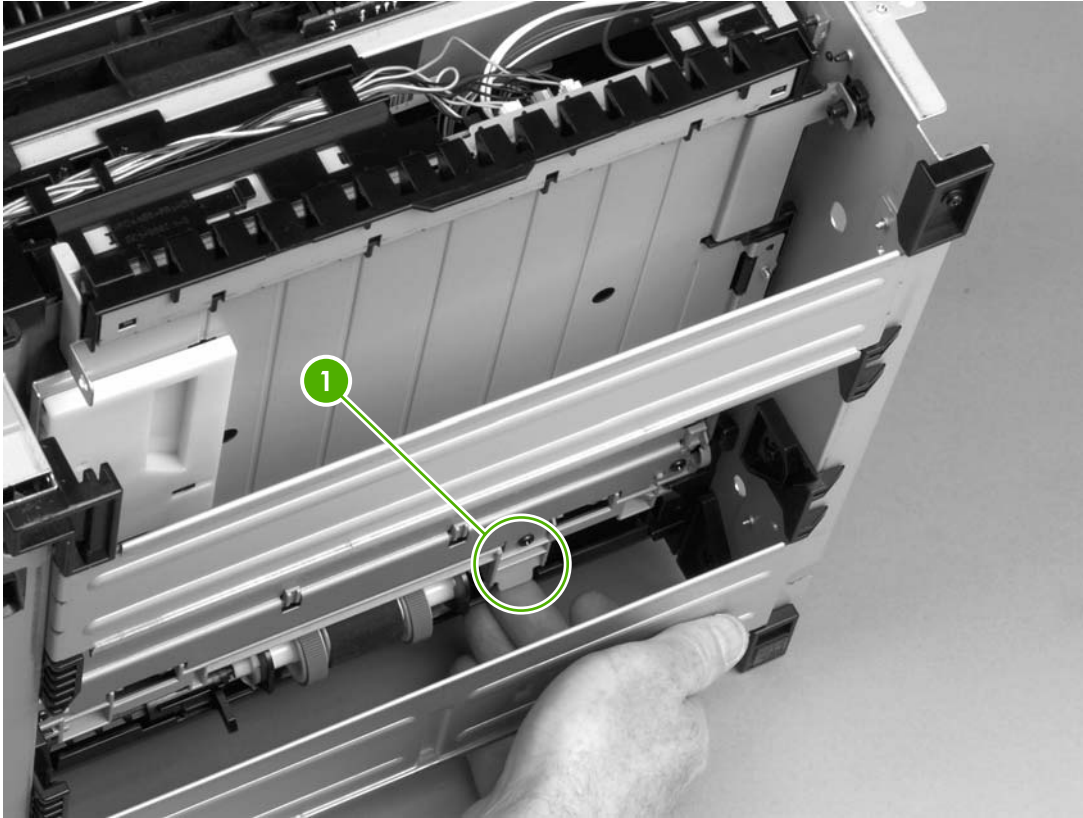
**Figure 6-4** Removing the back cover (2 of 2)

8. Lift the cover straight up and away from the printer.

### **Duplexer tray (HP LaserJet P2015d, P2015dn, and P2015x printers only)**

1. Remove the left-side cover, the right-side cover, and the back cover.

2. Pull the duplexer tray release-tab (1) to release the duplexer tray magnets.



**Figure 6-5** Removing the duplexer tray

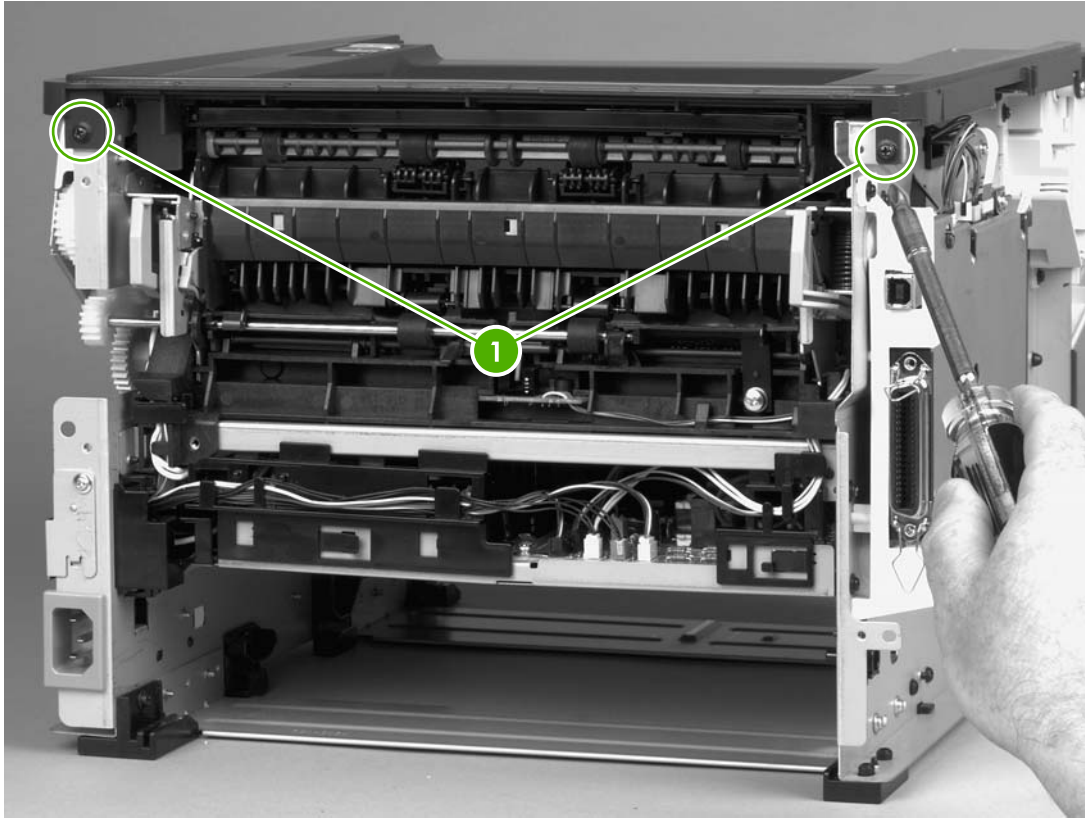
3. Pull out the duplexer tray.

## Top cover

1. Remove the left-side cover, the right-side cover, the back cover, and the duplexer tray.

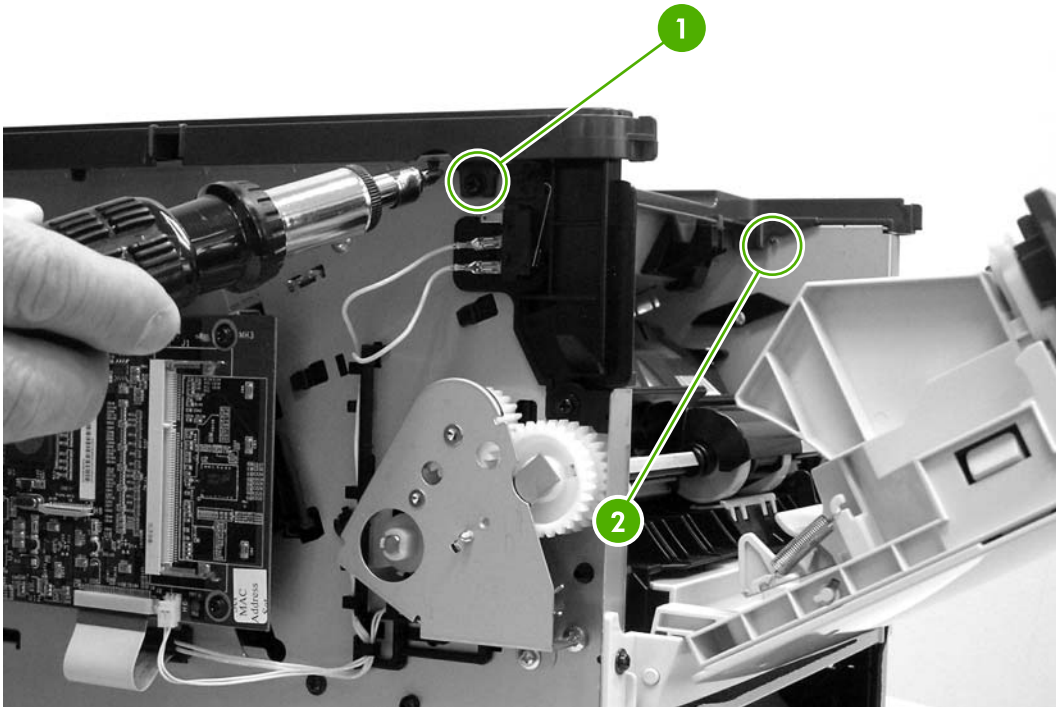


2. Remove two screws (1) at the back of the printer.



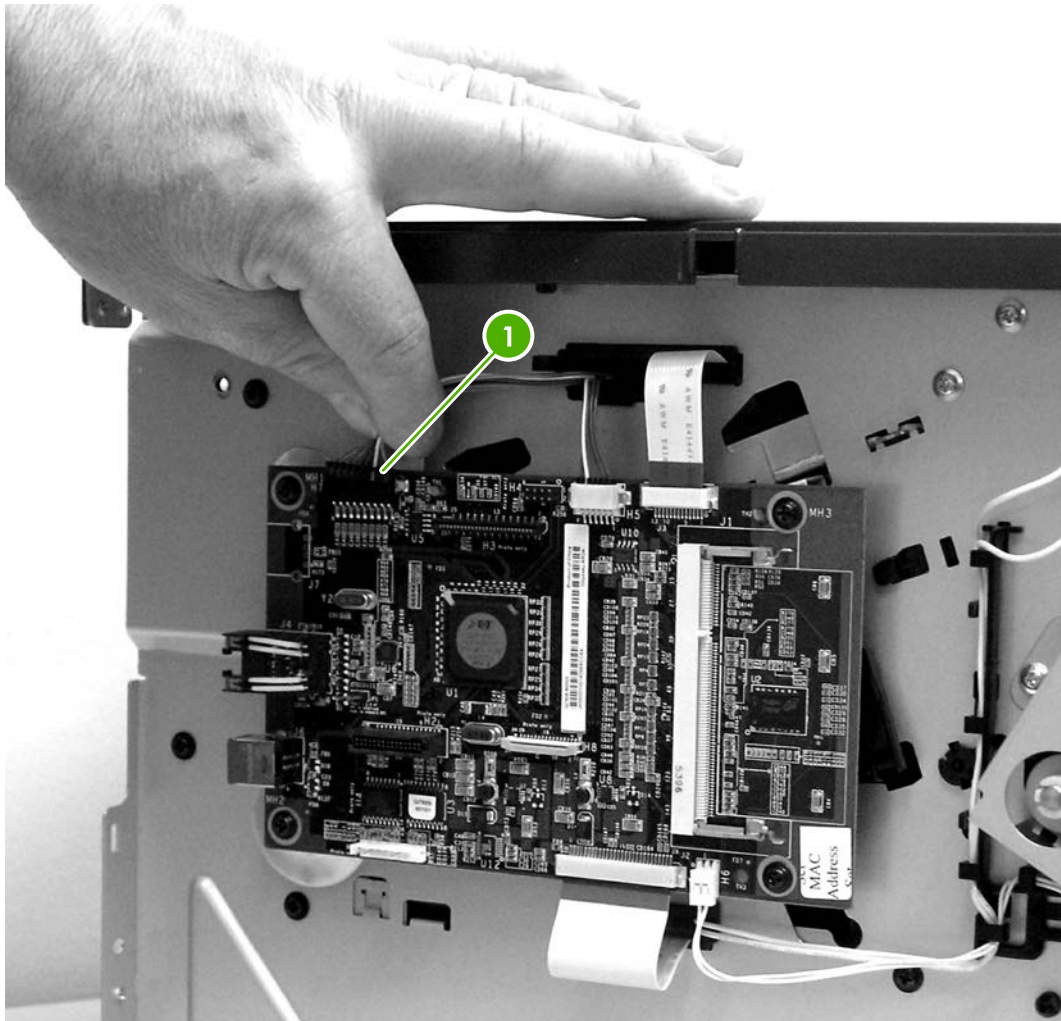
**Figure 6-6** Removing the top cover (1 of 4)

3. Remove one screw (1) on the left side of the printer, and remove one screw (2) on the right side of the printer.



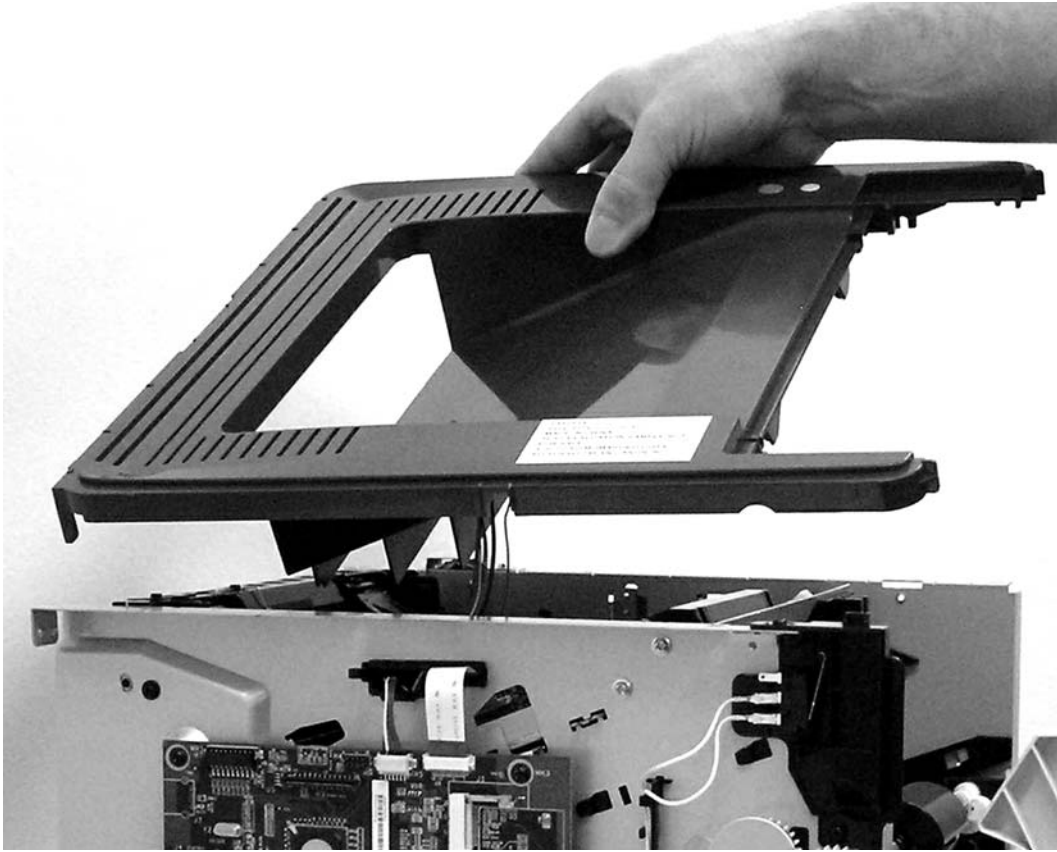
**Figure 6-7** Removing the top cover (2 of 4)

4. Release the control-panel cable (1) on the left side of the printer.



**Figure 6-8** Removing the top cover (3 of 4)

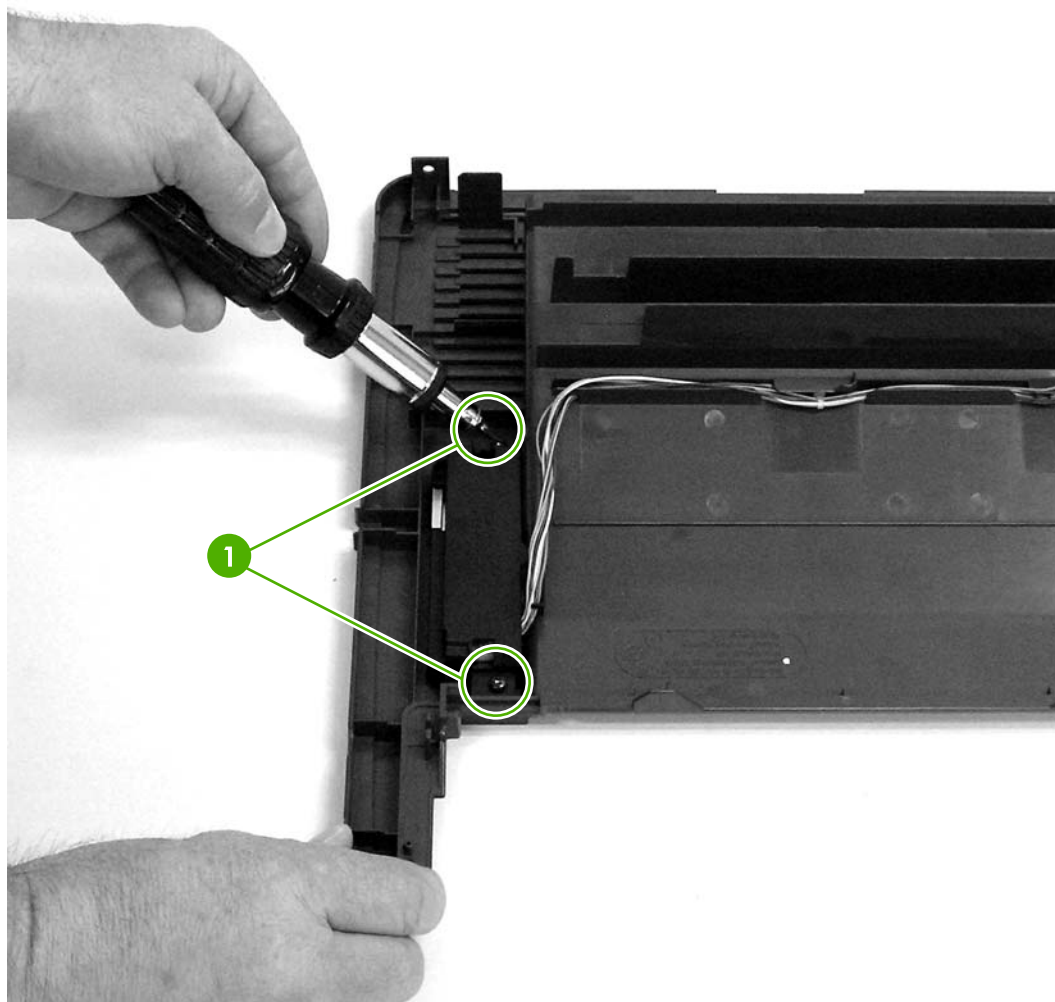
5. Lift the top cover off the printer.



**Figure 6-9** Removing the top cover (4 of 4)

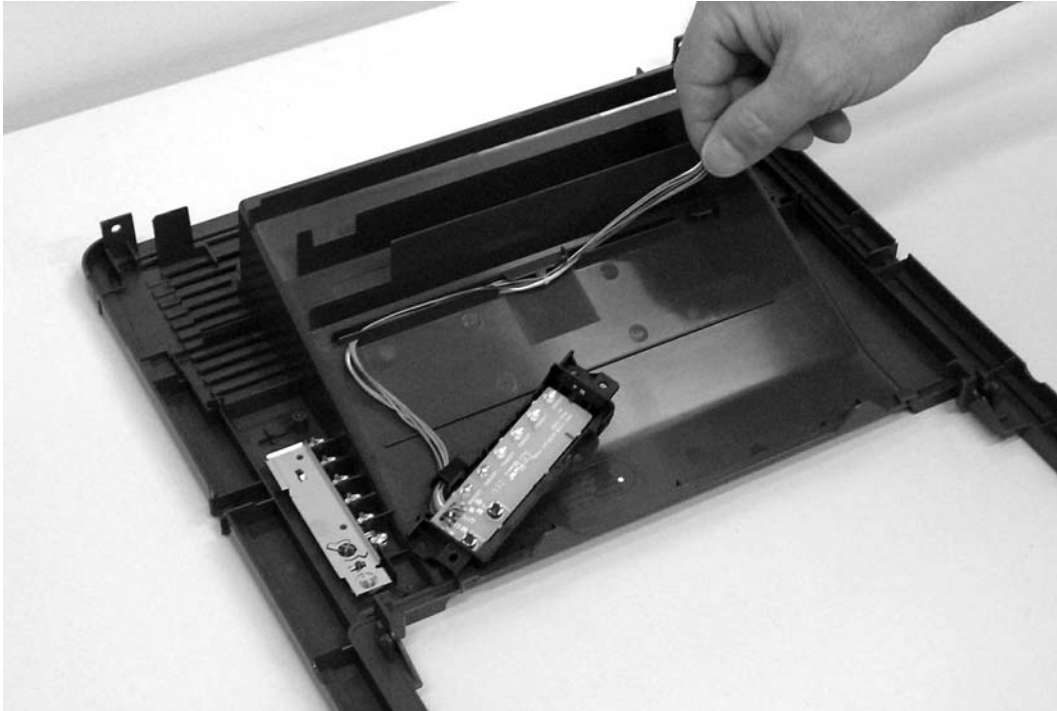
## Control panel

1. Remove all covers.
2. On the bottom of the top cover, remove two screws (1).



**Figure 6-10** Removing the control panel (1 of 2)

3. Remove the control-panel wires from the wire guides.



**Figure 6-11** Removing the control panel (2 of 2)



# Formatter

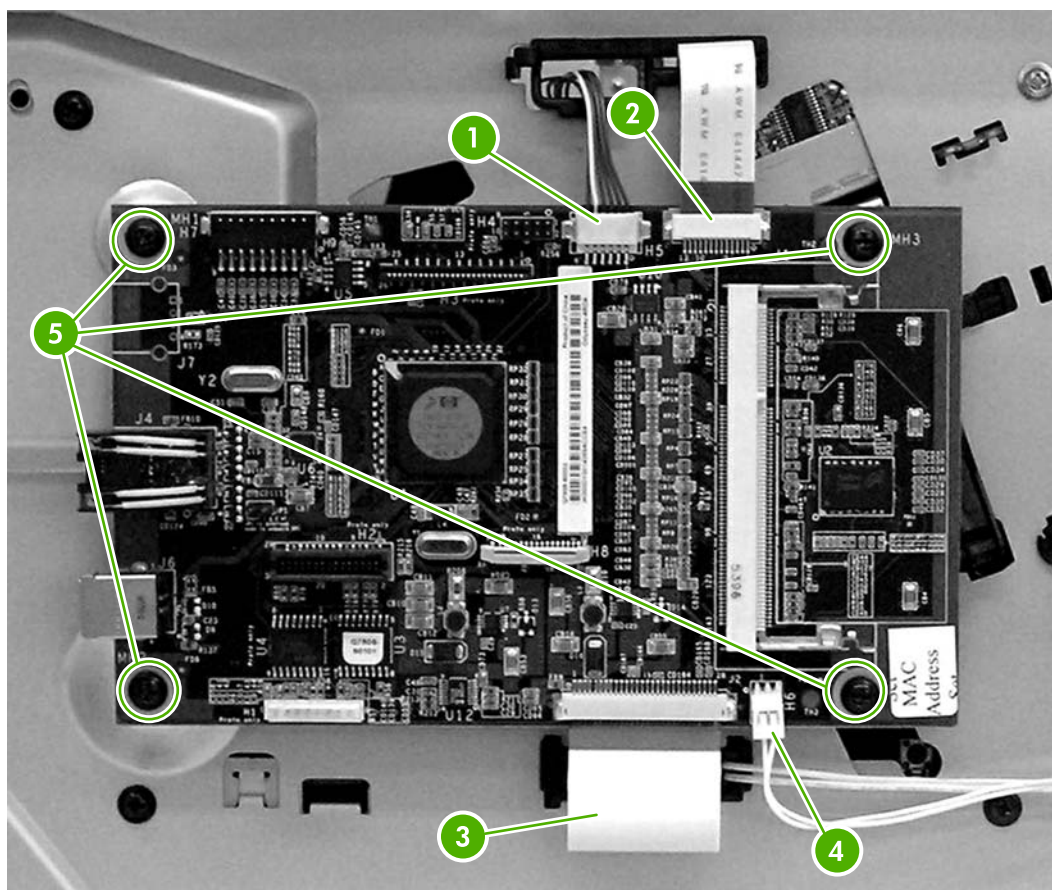


1. Remove the left-side cover.
2. Disconnect one cable (1) at the top of the formatter.
3. Disconnect one flat, flexible cable (2) at the top of the formatter.



**CAUTION** Do not fold flat, flexible cables. Also, do not straighten pre-folds in flat, flexible cables.

4. Disconnect one flat, flexible cable (3) at the bottom of the formatter.
5. Disconnect one cable (4) at the bottom of the formatter.
6. Remove four screws (5).



**Figure 6-12** Removing the formatter

7. Remove the formatter.

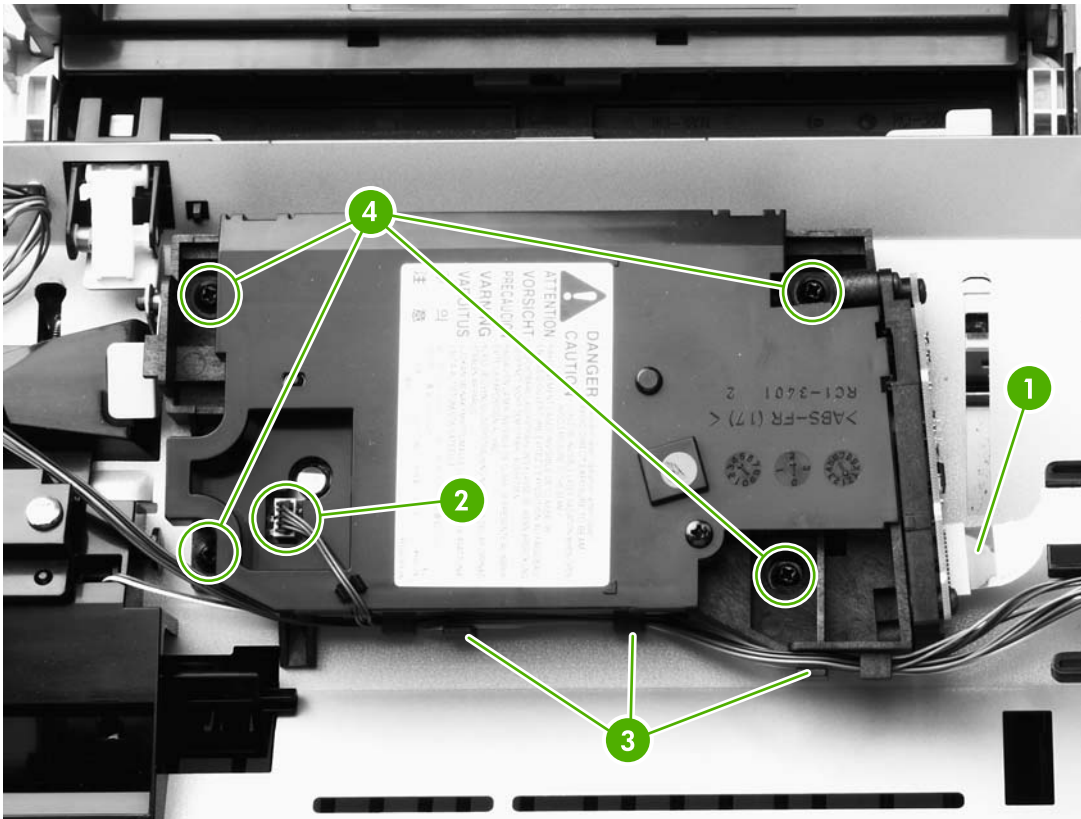
## Laser/scanner

1. Remove all covers.
2. Disconnect one flat, flexible cable (1) from the laser/scanner PCA.
3. Disconnect one cable (2) from the top of the laser/scanner.
4. Unthread all cables (3) from the laser/scanner cable guides.



**NOTE** Examine the cable routing as you unthread the cables.

5. Remove four screws (4).



**Figure 6-13** Removing the laser/scanner

6. Lift the laser/scanner out of the printer.

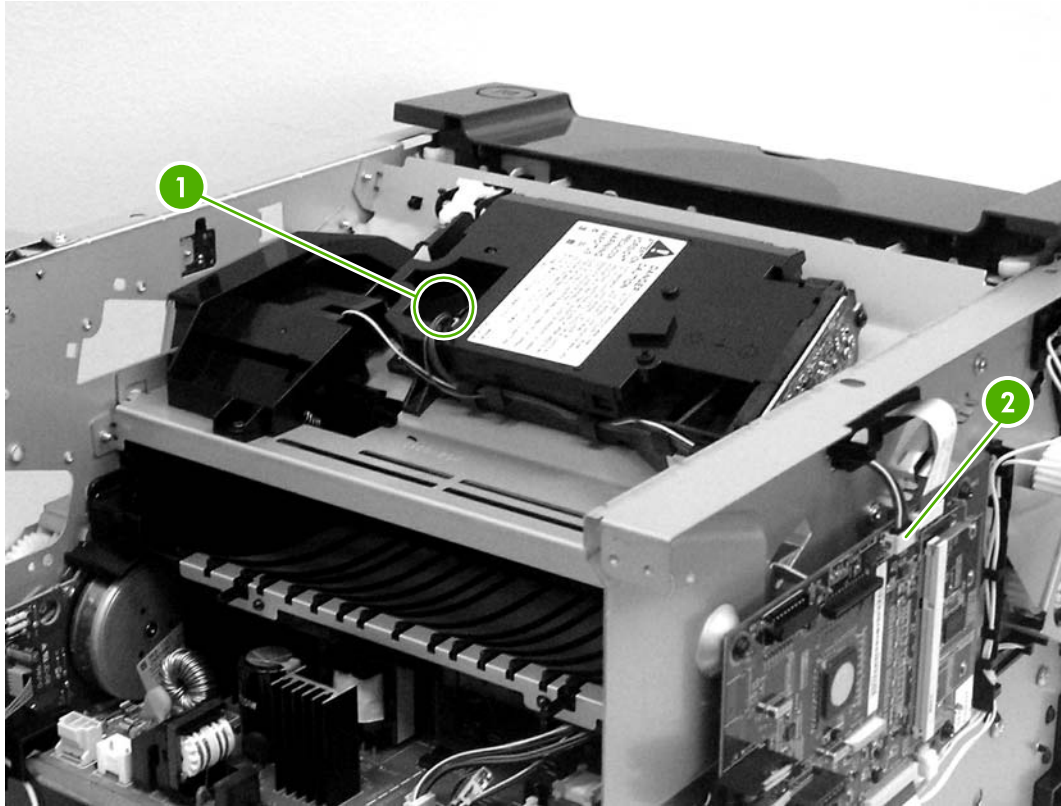


**NOTE** Examine the shutter switch as you lift the laser/scanner out of the printer.



## Memory-tag-reader assembly

1. Remove all covers.
2. Remove the fan from the printer chassis.
3. Remove one cable (1) from the top of the memory-tag-reader cover.
4. Disconnect one cable (2) from the formatter.



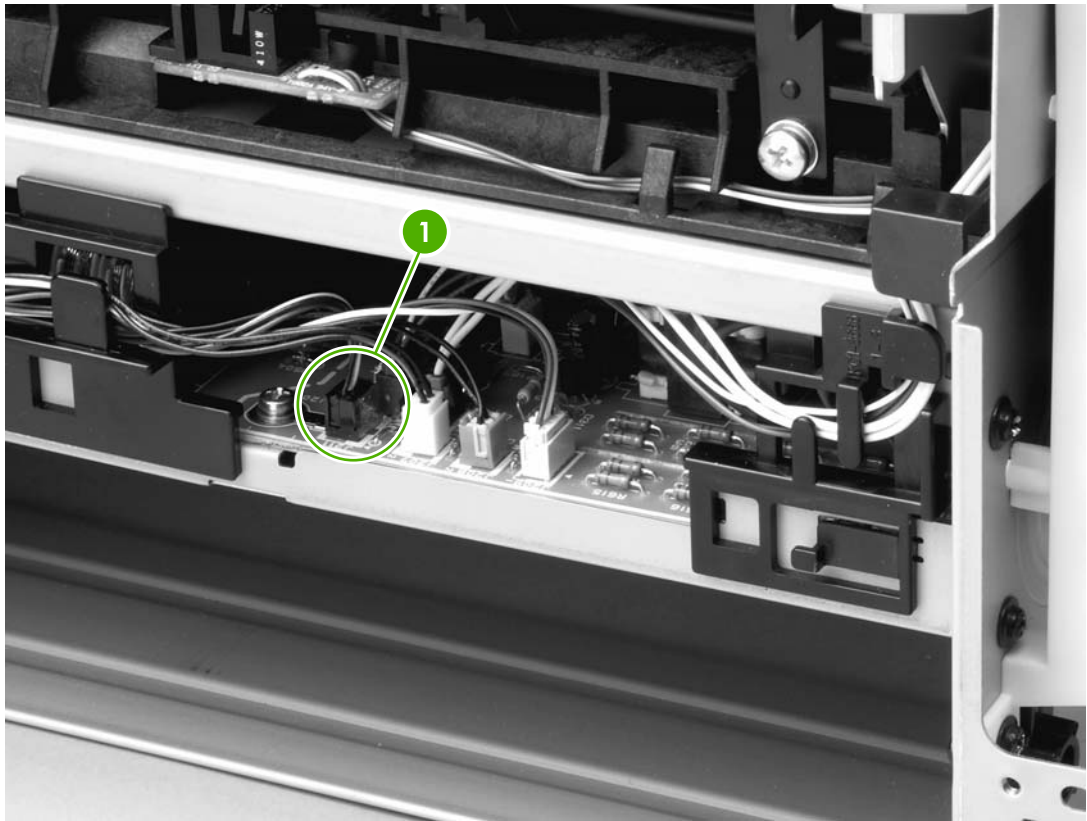
**Figure 6-14** Removing the memory-tag-reader assembly (1 of 2)



## Duplex-drive PCA (HP LaserJet P2015d, P2015dn, and P2015x printers only)



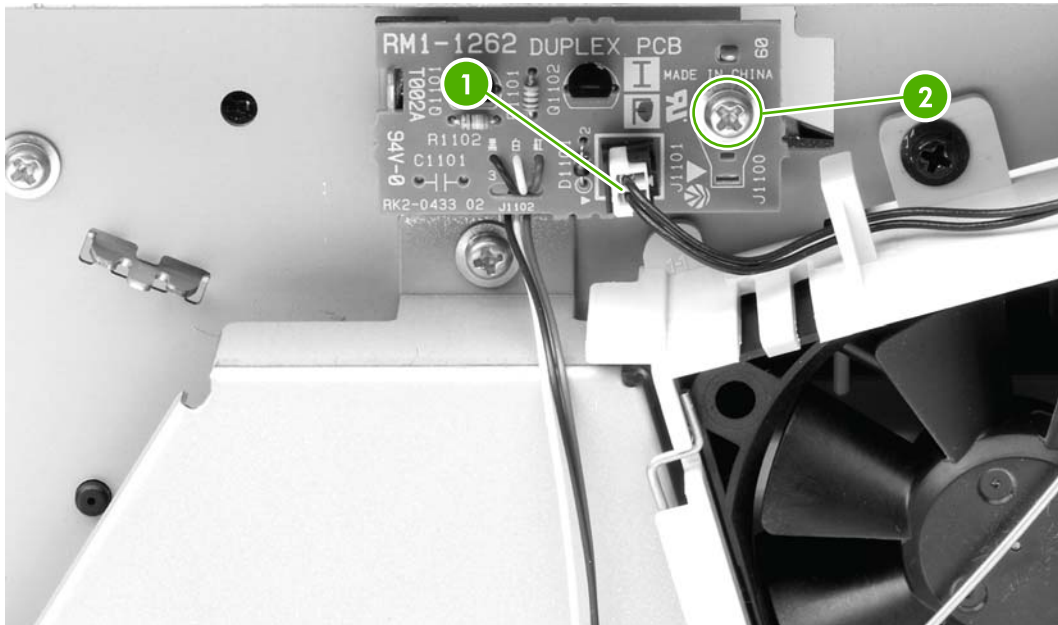
1. Remove all covers.
2. Disconnect the duplex-drive cable (1) at the ECU, and then route the cable through the hole in the chassis.



**Figure 6-16** Removing the duplex-drive PCA (1 of 2)

3. Disconnect one cable (1) from the duplex-drive PCA.

4. Remove one screw (2), and then lift the duplex-drive PCA off the printer.



**Figure 6-17** Removing the duplex-drive PCA (2 of 2)

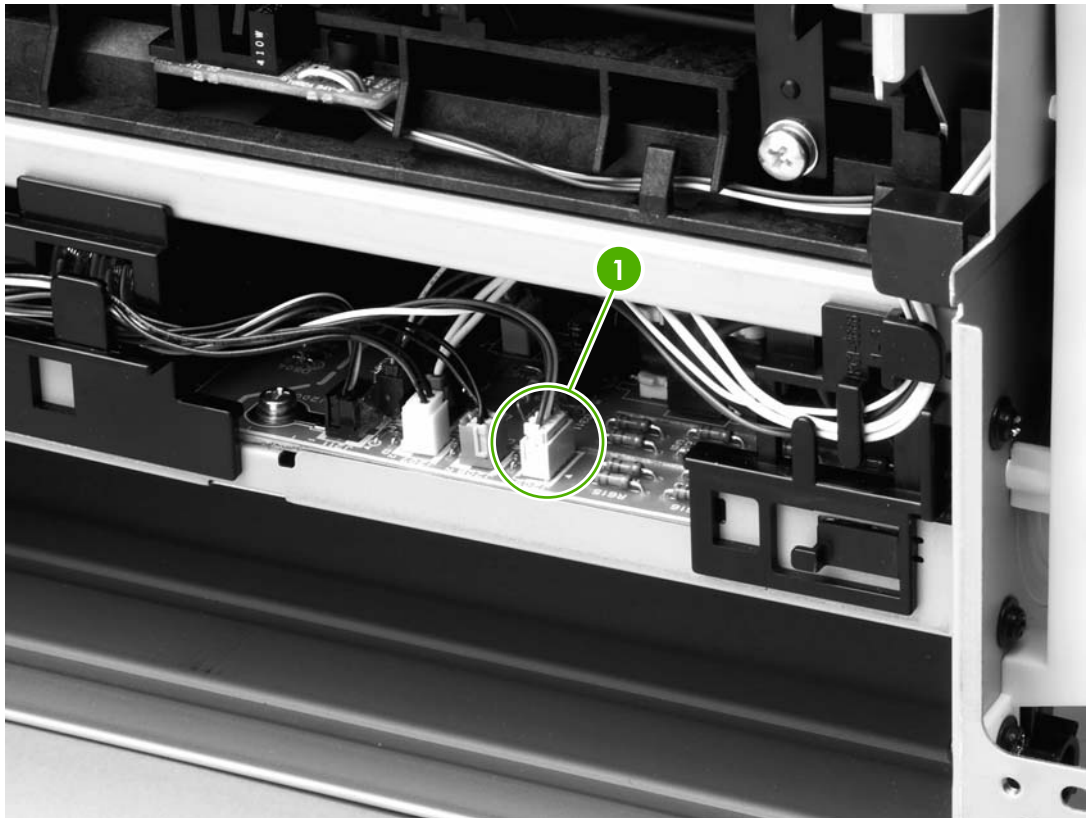
# Fuser

Several parts must be removed before you can remove the fuser. The following parts are included in this section about removing the fuser:

- Fan
- Duplex-drive gears/face-down gears
- Duplex solenoid
- Fuser

## Fan

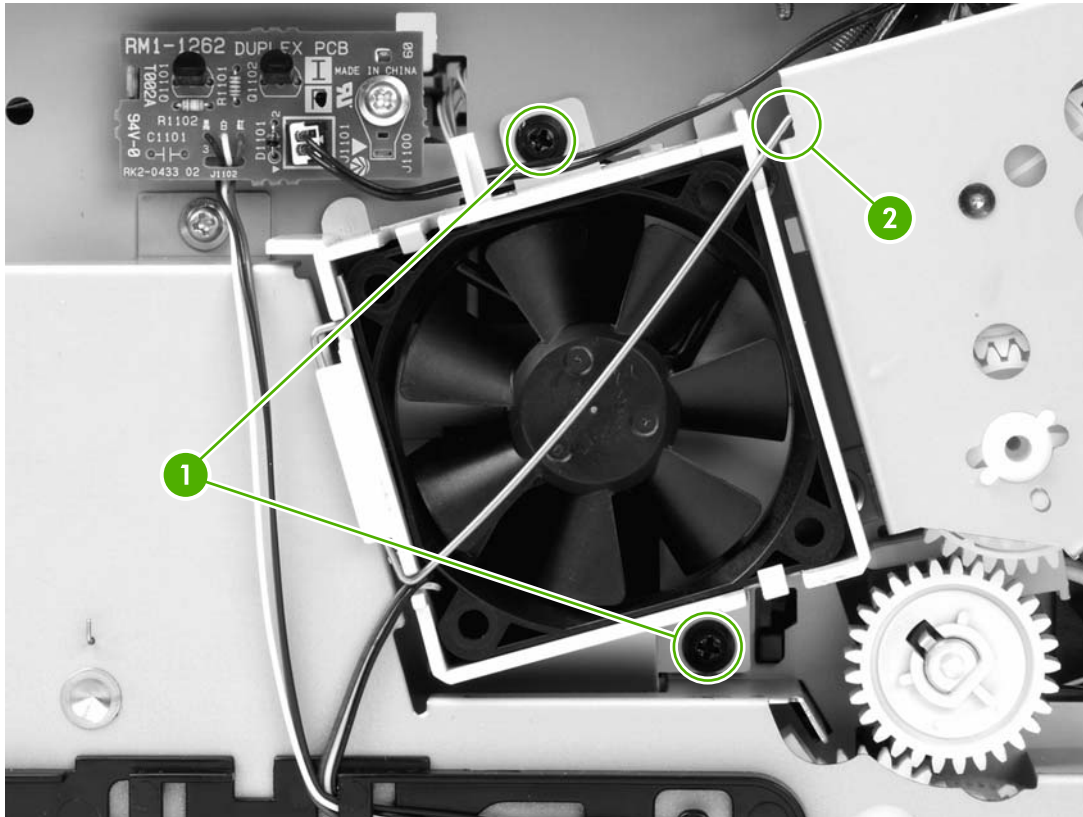
1. Remove all covers.
2. Disconnect the fan cable (1) at the ECU.



**Figure 6-18** Removing the fan (1 of 2)

3. Unthread the fan wires from the retaining clips.
4. Remove two screws (1).

5. Unhook the fan clip (2) and then lift the fan off the printer.



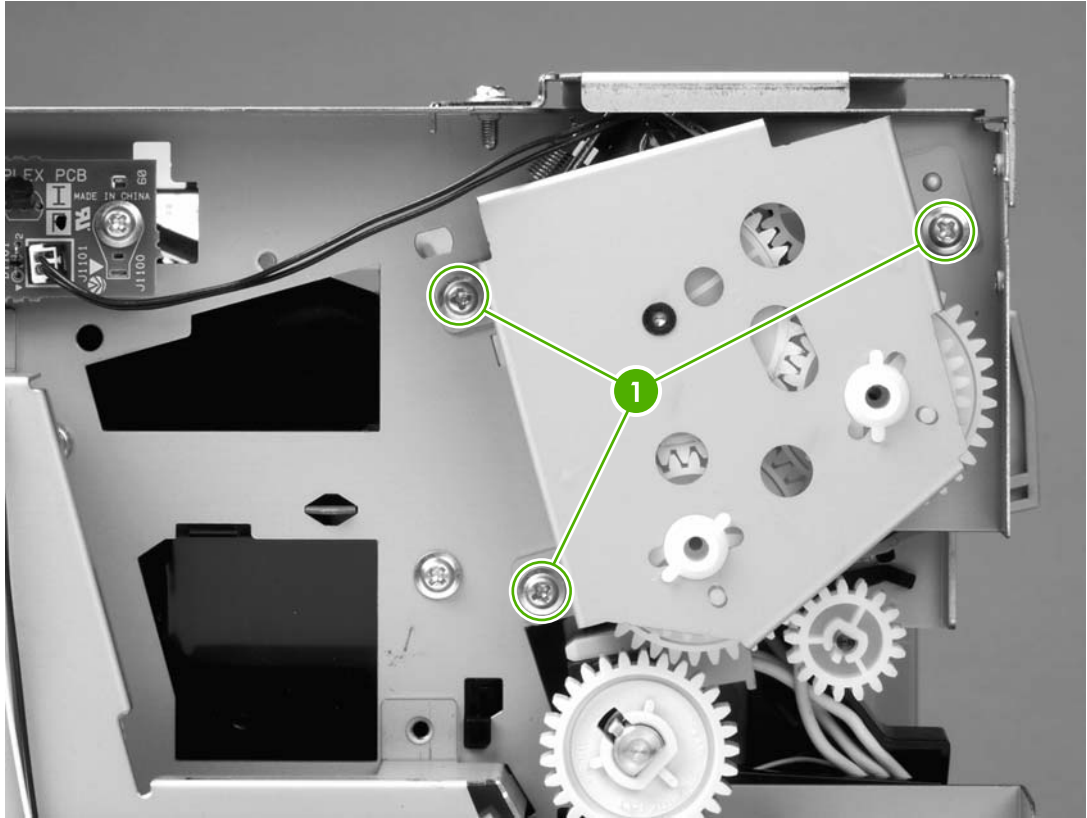
**Figure 6-19** Removing the fan (2 of 2)

### **Duplex-drive gears (HP LaserJet P2015d, P2015dn, and P2015x printers only)**

1. Remove all covers.
2. Remove the fan.

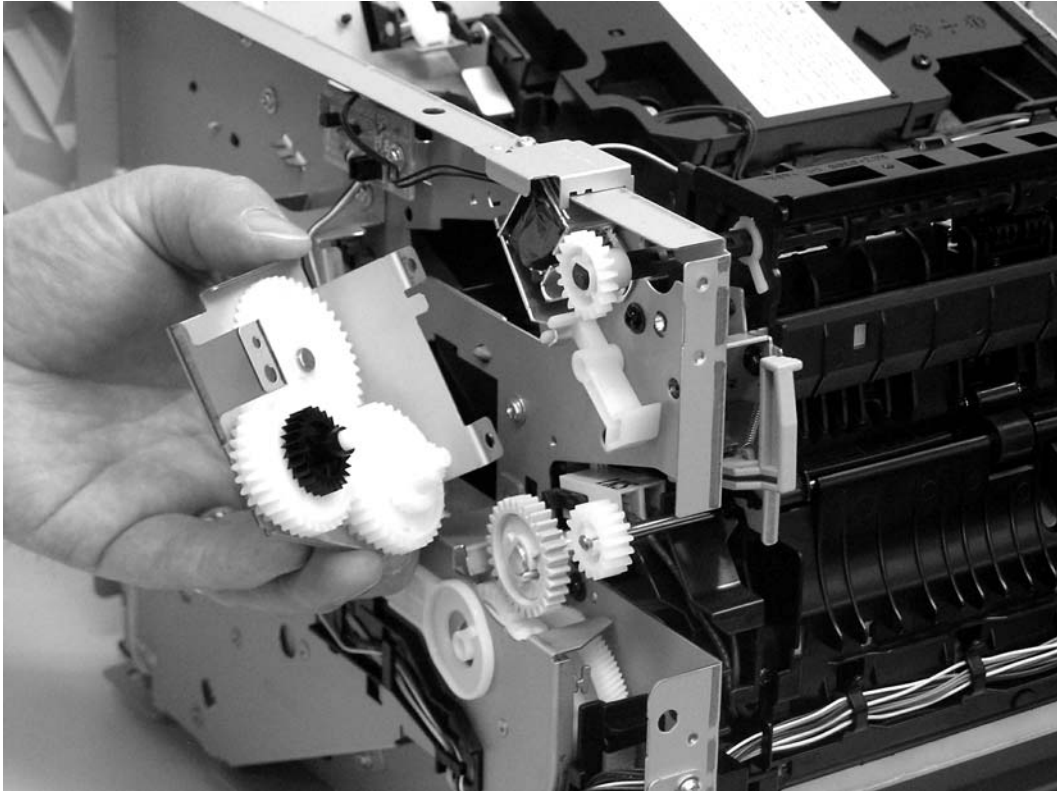


3. Remove three screws (1).



**Figure 6-20** Removing the duplex-drive gears (1 of 2)

4. Lift the assembly away from the printer.



**Figure 6-21** Removing the duplex-drive gears (2 of 2)



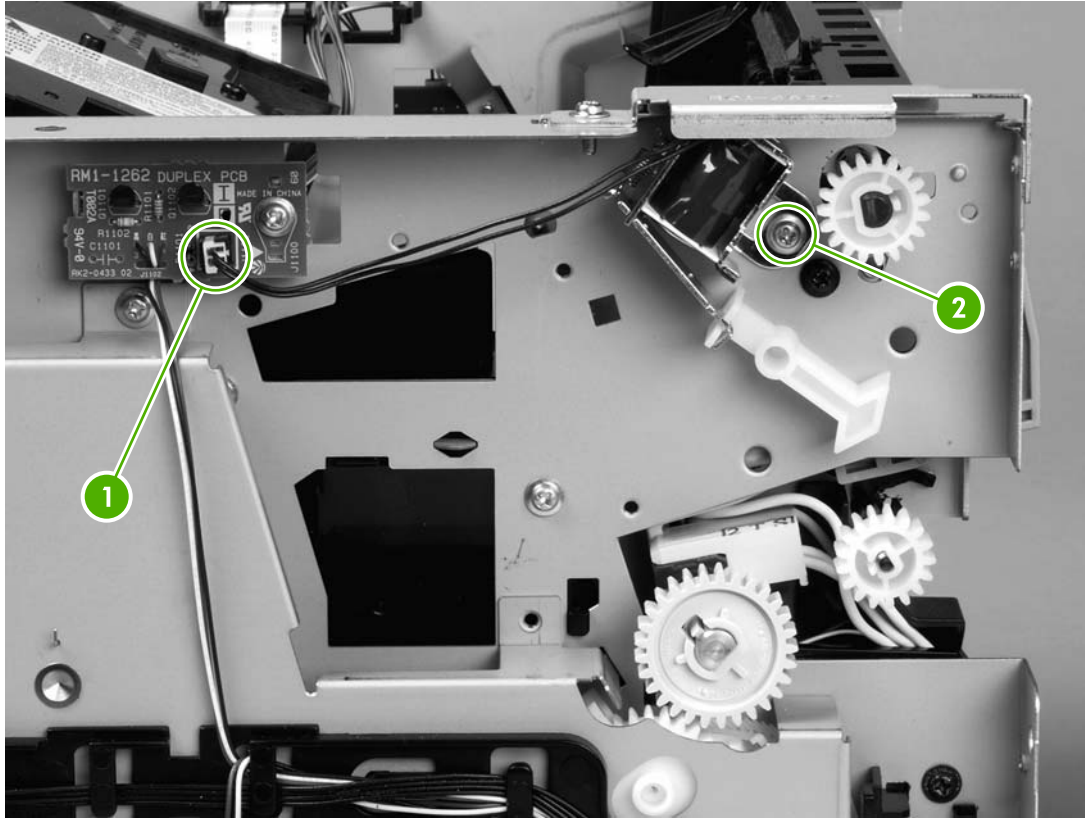
**NOTE** The gears are not attached to the gear plate. Carefully remove the gear plate and the gears together to prevent them from falling out of the assembly.

### **Duplex solenoid (HP LaserJet P2015d, P2015dn, and P2015x printers only)**

1. Remove all covers.
2. Remove the fan.
3. Remove the duplex-drive gears.
4. Disconnect one cable (1) at the duplex-drive PCA.



5. Remove one screw (2), and then lift the solenoid off the printer chassis.

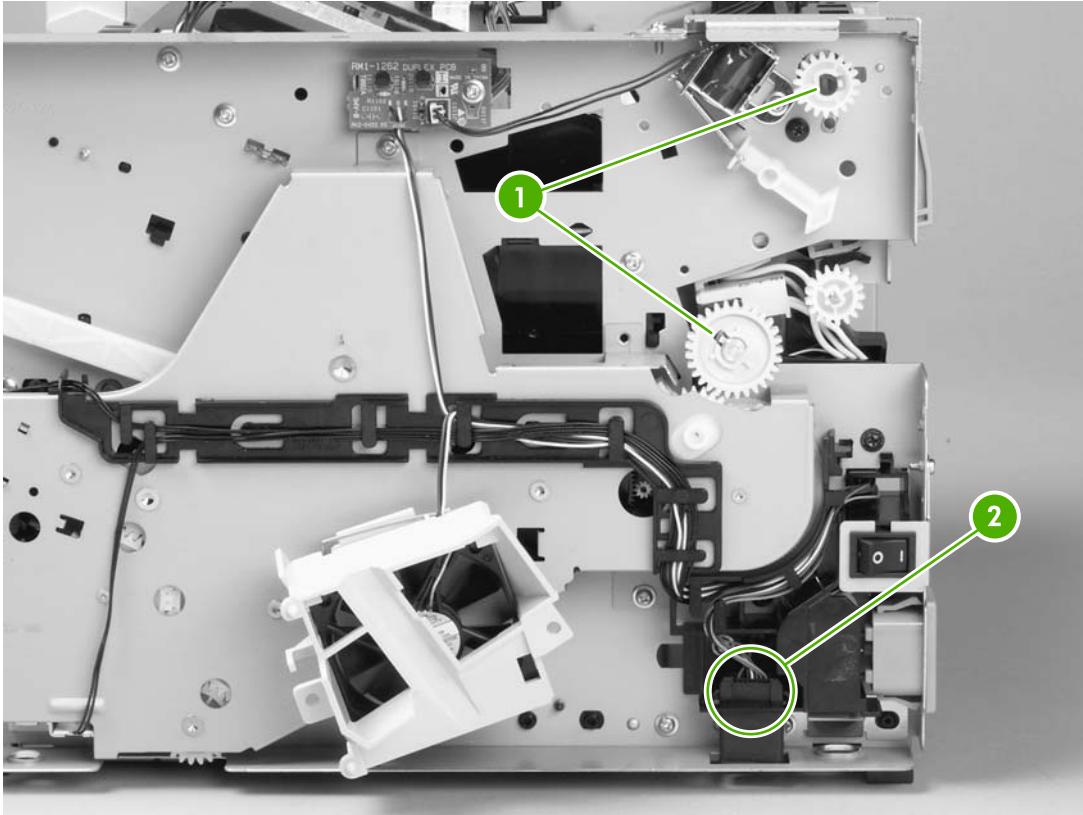


**Figure 6-22** Removing the duplex solenoid

## Fuser

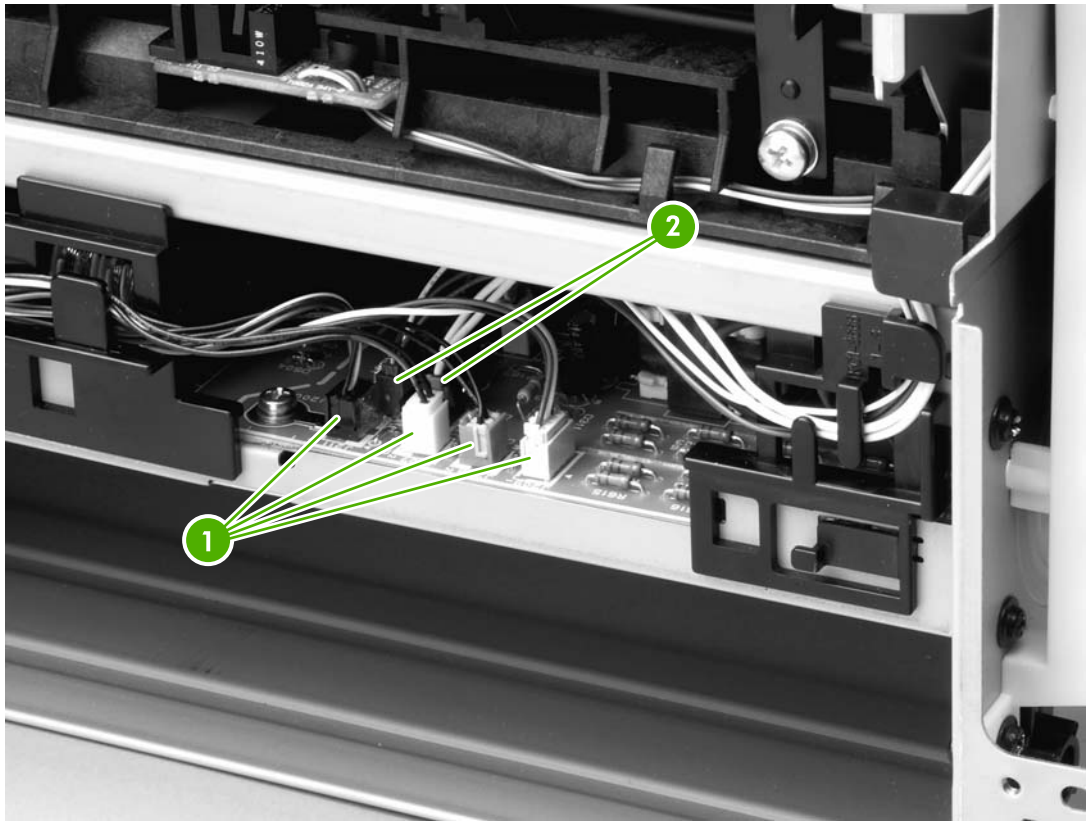
1. Remove all covers.
2. Remove the fan.
3. Remove the duplex-drive gears or face-down gears.
4. Remove the formatter.
5. On the right side of the printer, press the tabs on two gears (1) to release the gears, and then slide the gears off the shafts.

6. Disconnect one cable (2) on the right side of the printer.



**Figure 6-23** Removing the fuser (1 of 10)

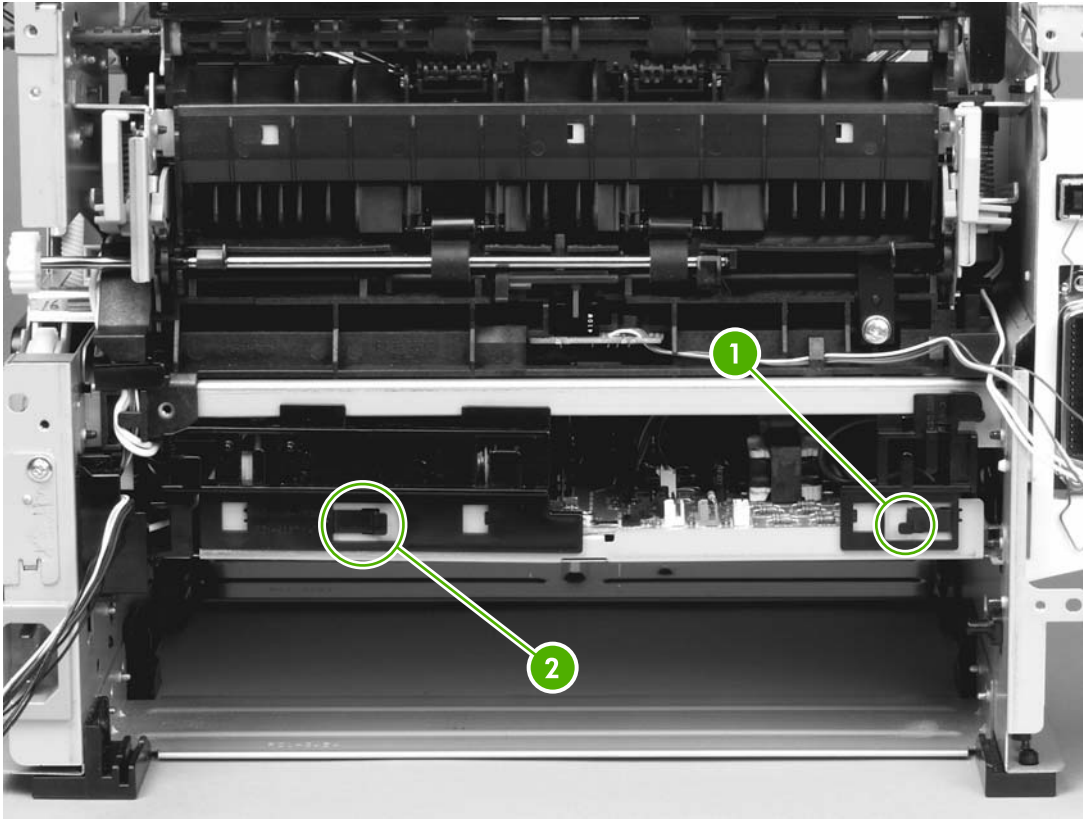
7. Disconnect four cables (1) from the ECU, and then disconnect two more cables (2) that were behind the first set.



**Figure 6-24** Removing the fuser (2 of 10)

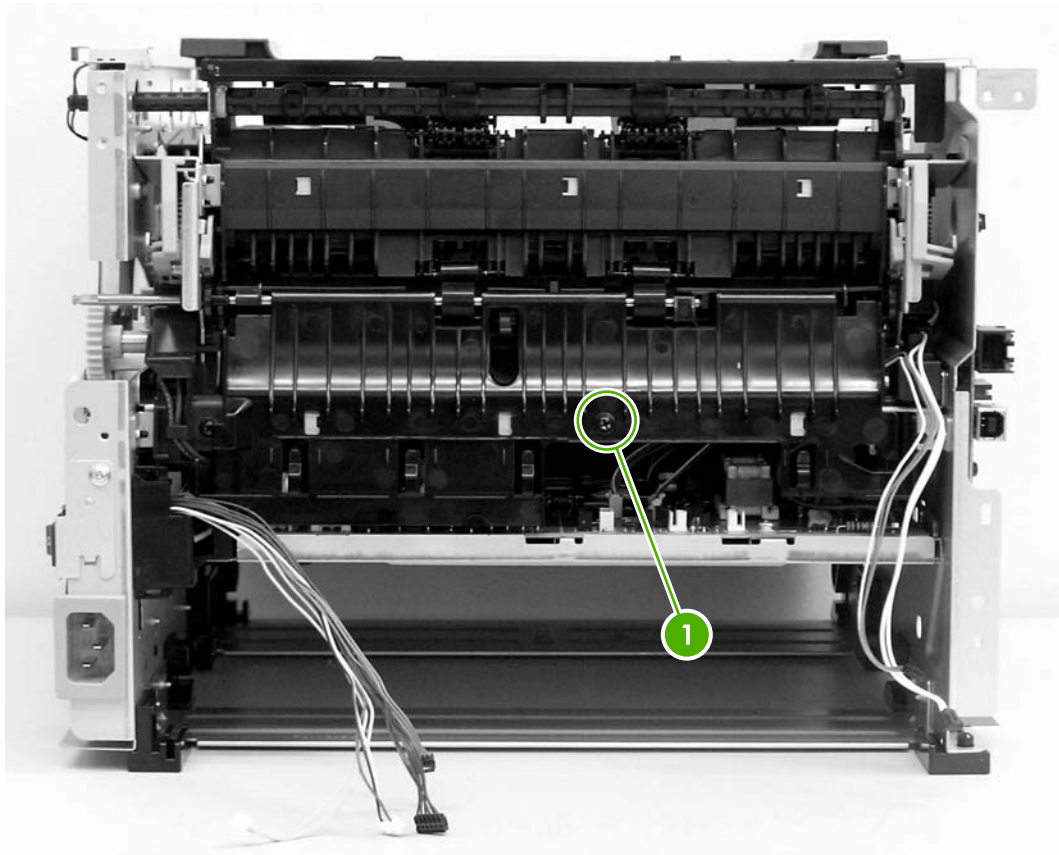
8. Pull the tab on the cable holder (1) at the left side of the printer and slide it toward the center to release it from the frame, and then unroute the cables.

9. Pull the tab on the cable holder (2) and slide it toward the center to release it from the frame, and then unroute the cables.



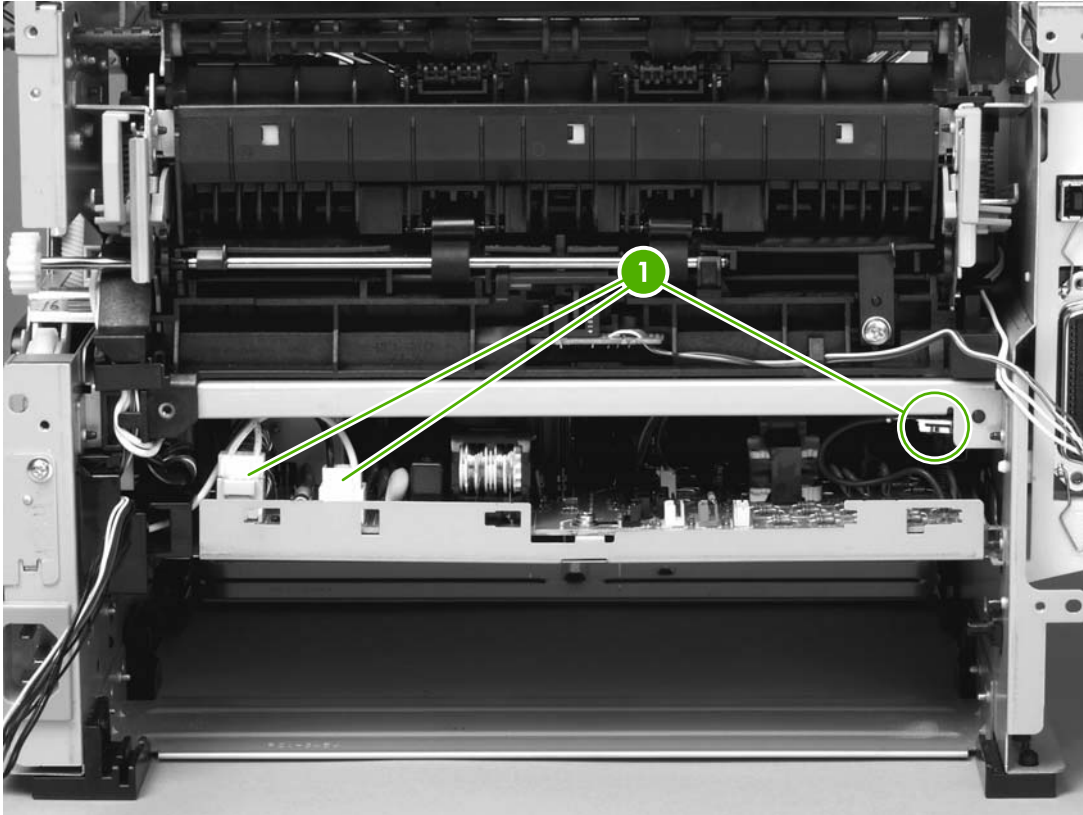
**Figure 6-25** Removing the fuser (3 of 10)

10. Remove one screw (1) from the fuser cover, and then slide the fuser cover to the right and remove it.



**Figure 6-26** Removing the fuser (4 of 10)

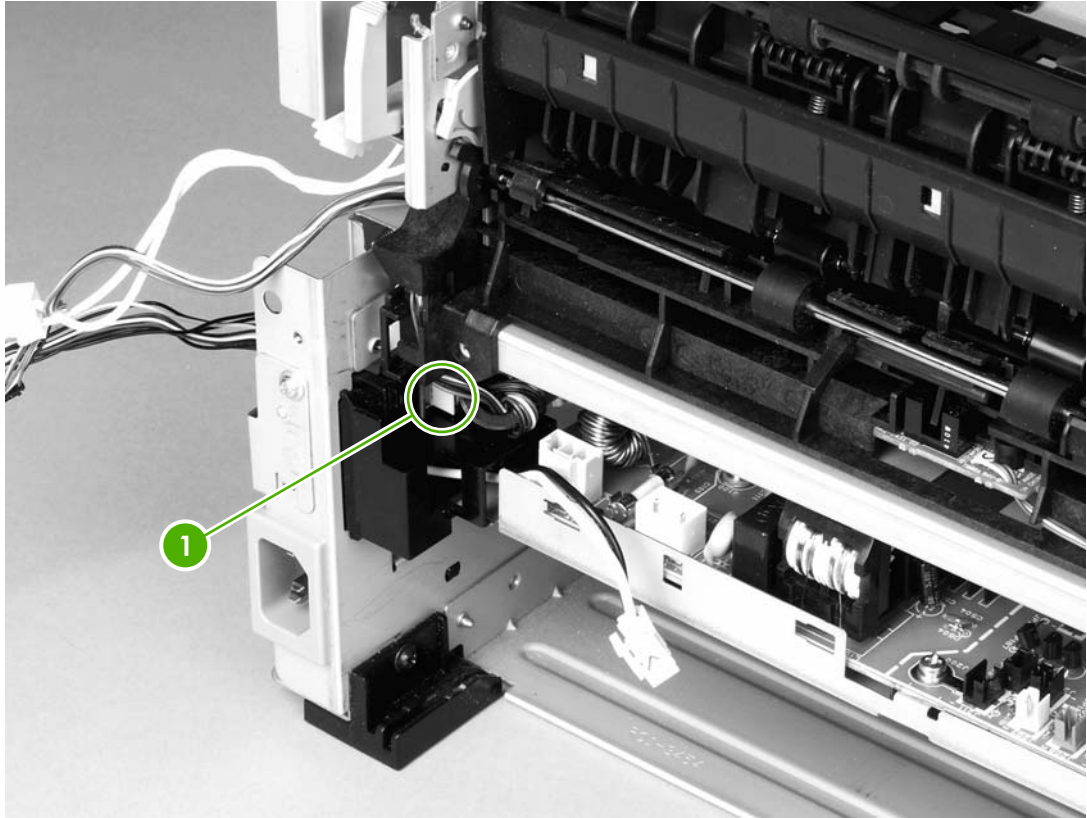
11. Disconnect three cables (1).



**Figure 6-27** Removing the fuser (5 of 10)



12. Disconnect one cable (1), and then unroute the cable from the cable guide.

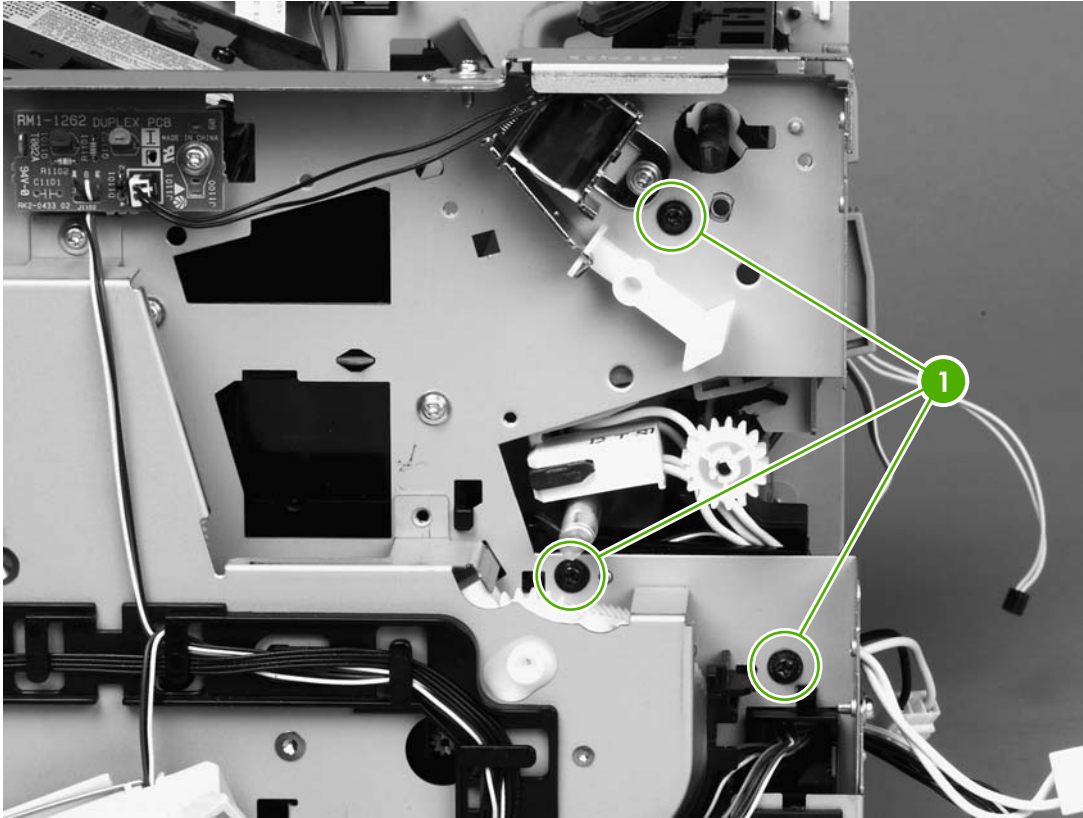


**Figure 6-28** Removing the fuser (6 of 10)



**NOTE** Before you proceed to step 13, make sure that all cables disconnected in previous steps are free from any cable guides and cable holders.

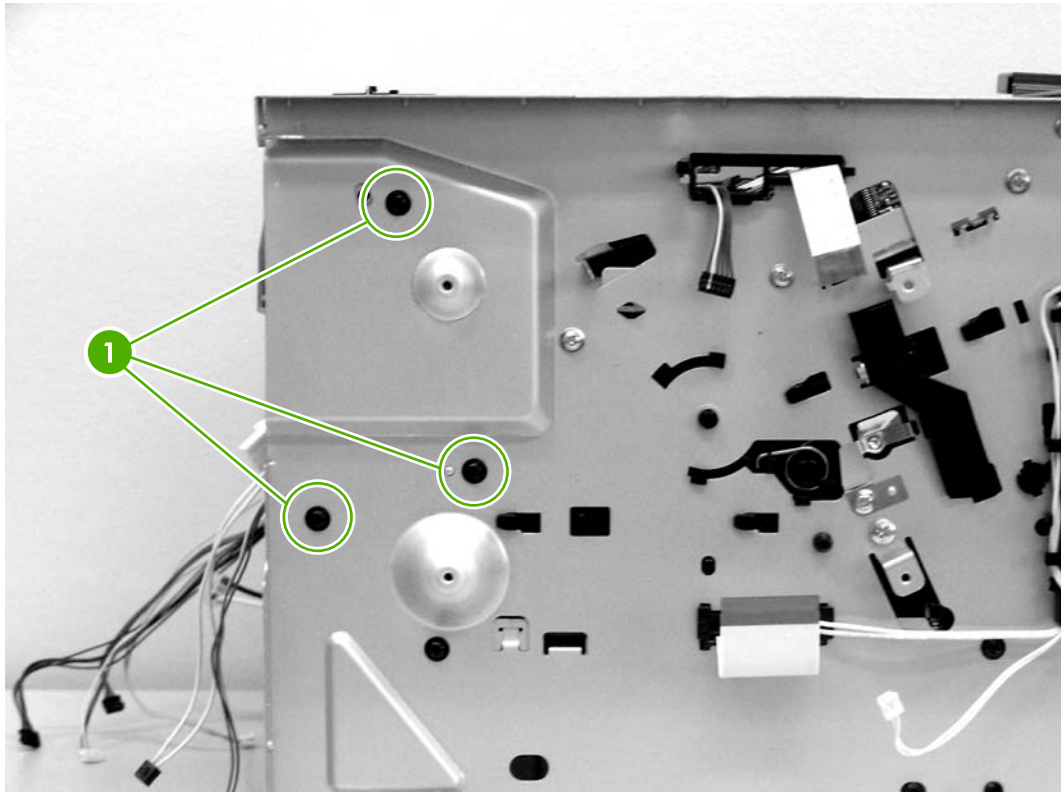
13. Remove three screws (1) on the right side of the printer.



**Figure 6-29** Removing the fuser (7 of 10)

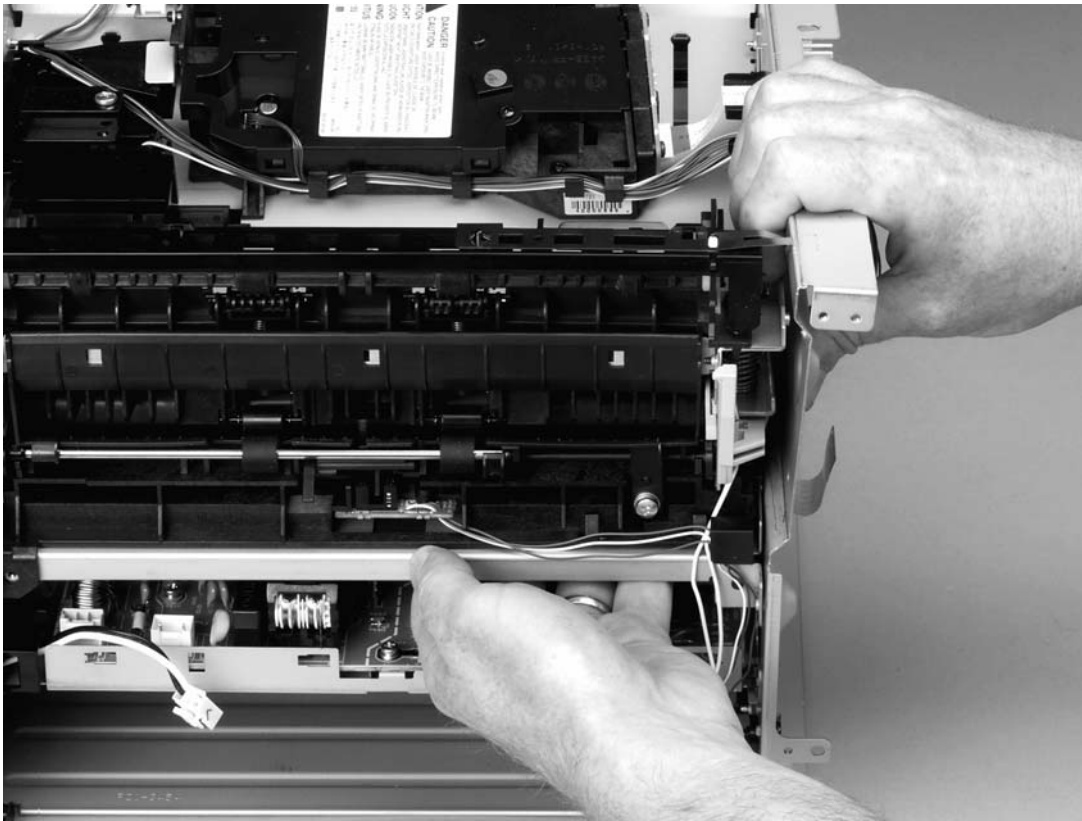


14. Remove three screws (1) from the left side of the printer.



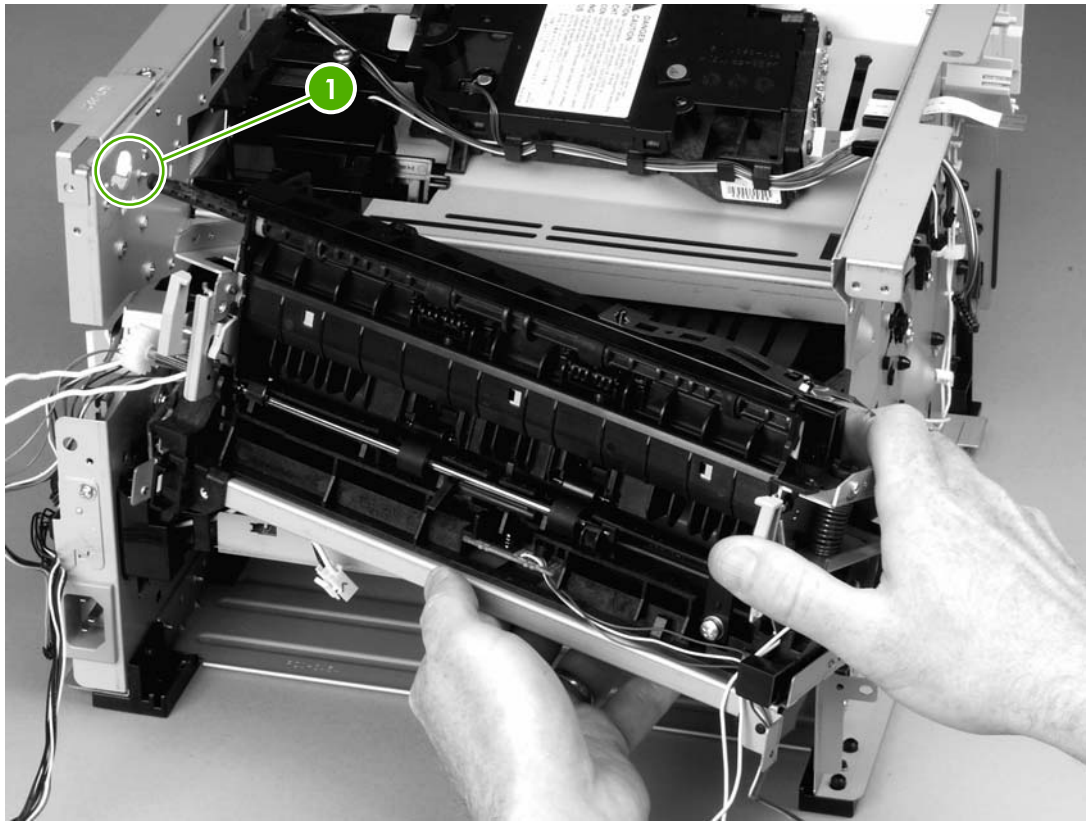
**Figure 6-30** Removing the fuser (8 of 10)

15. At the left side of the printer, pull the printer chassis from the top to spread the printer frame and release the fuser from the frame.



**Figure 6-31** Removing the fuser (9 of 10)

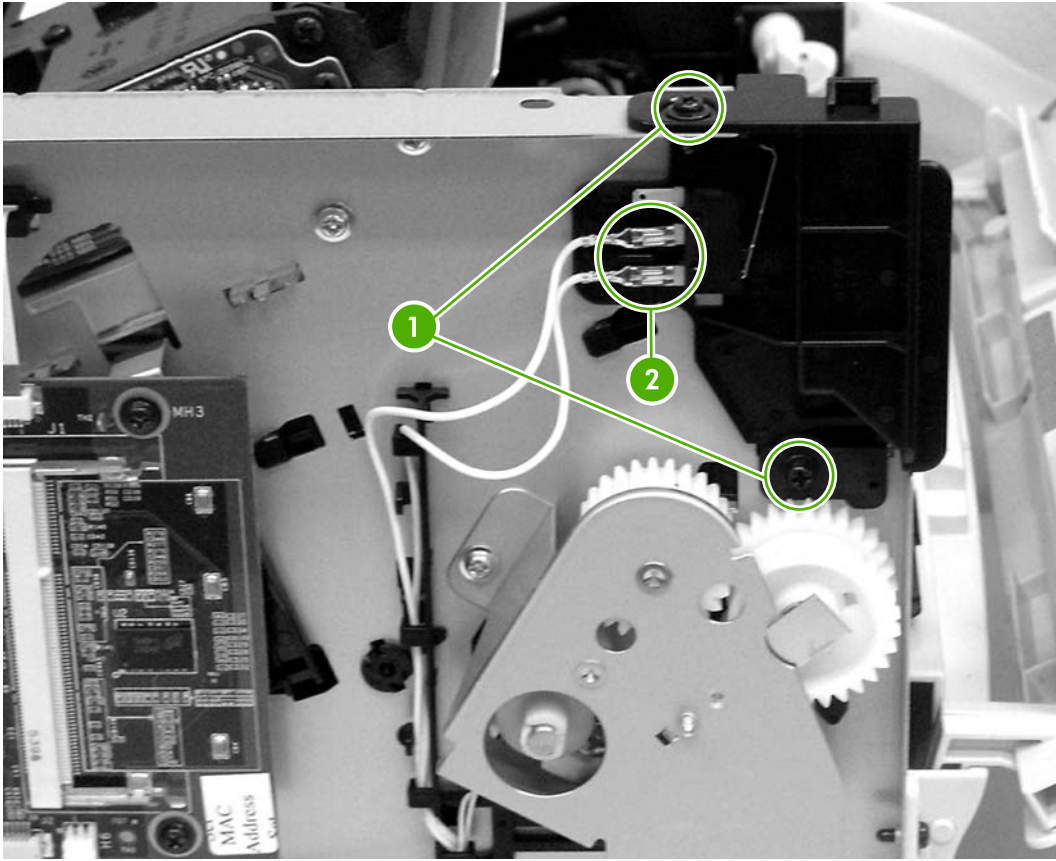
16. Pull the fuser out of the printer at an angle so that the delivery roller shaft clears the hole (1) in the chassis.



**Figure 6-32** Removing the fuser (10 of 10)

## Interlock assembly

1. Remove all covers.
2. Open the print-cartridge door.
3. Remove two screws (1) that secure the interlock assembly to the left side of the printer chassis.
4. Remove two cables (2).



**Figure 6-33** Removing the interlock assembly (1 of 2)

5. Lift the interlock assembly away from the printer.

## ECU

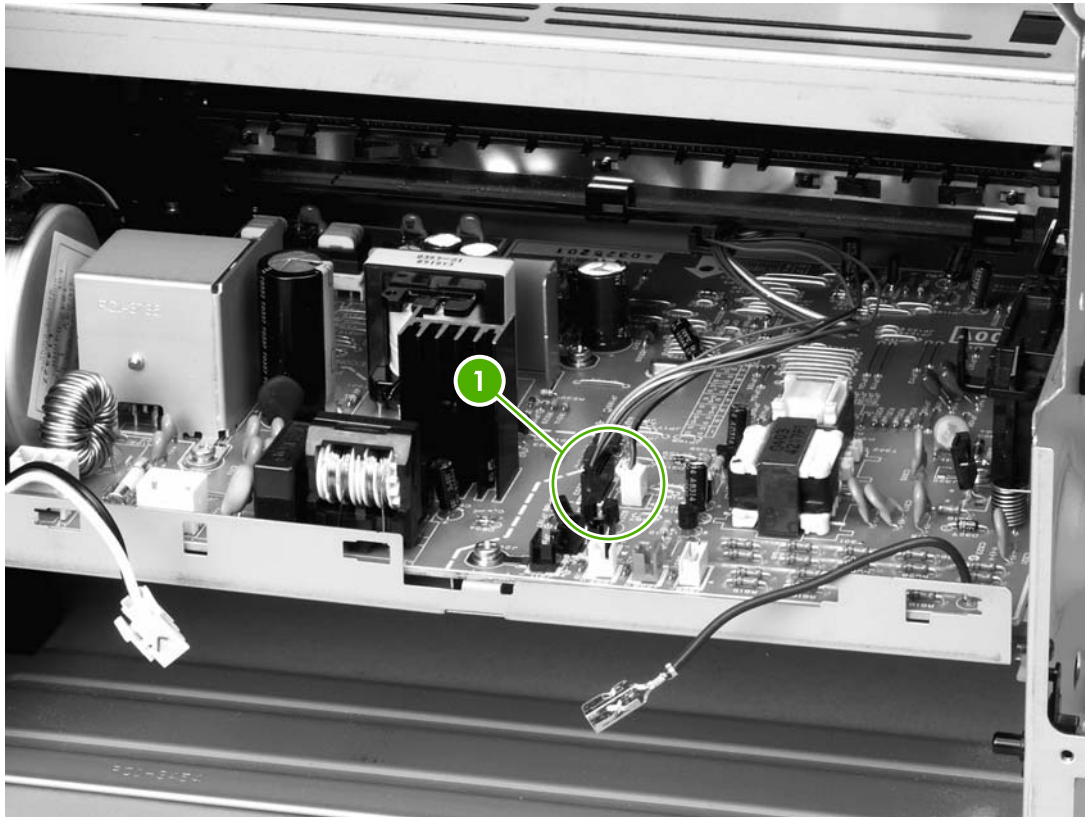


1. Remove all covers.
2. Remove the fan.
3. Remove the duplex-drive gears.
4. Remove the formatter.
5. Remove the fuser.
6. Remove the interlock assembly.
7. Remove cables from the cable clip under the feed plate (1), and then remove the feed plate by lifting it and pulling it straight back.



**Figure 6-34** Removing the ECU (1 of 7)

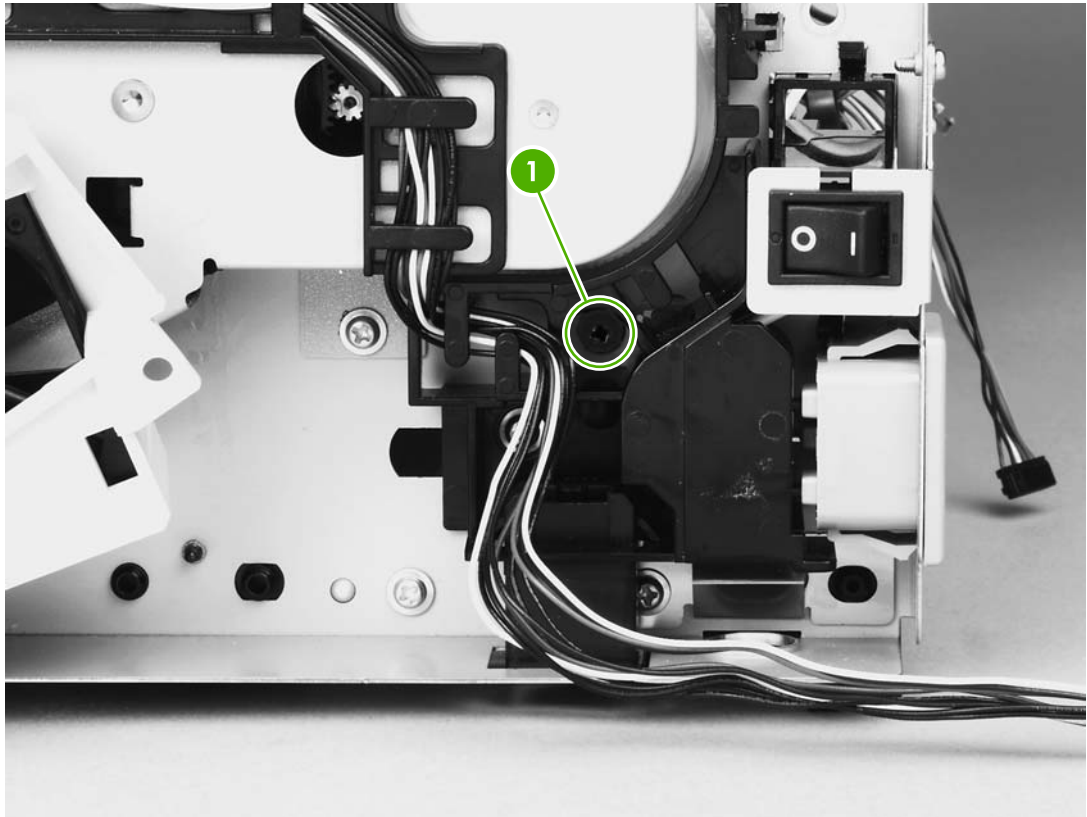
8. Disconnect three cables (1).



**Figure 6-35** Removing the ECU (2 of 7)

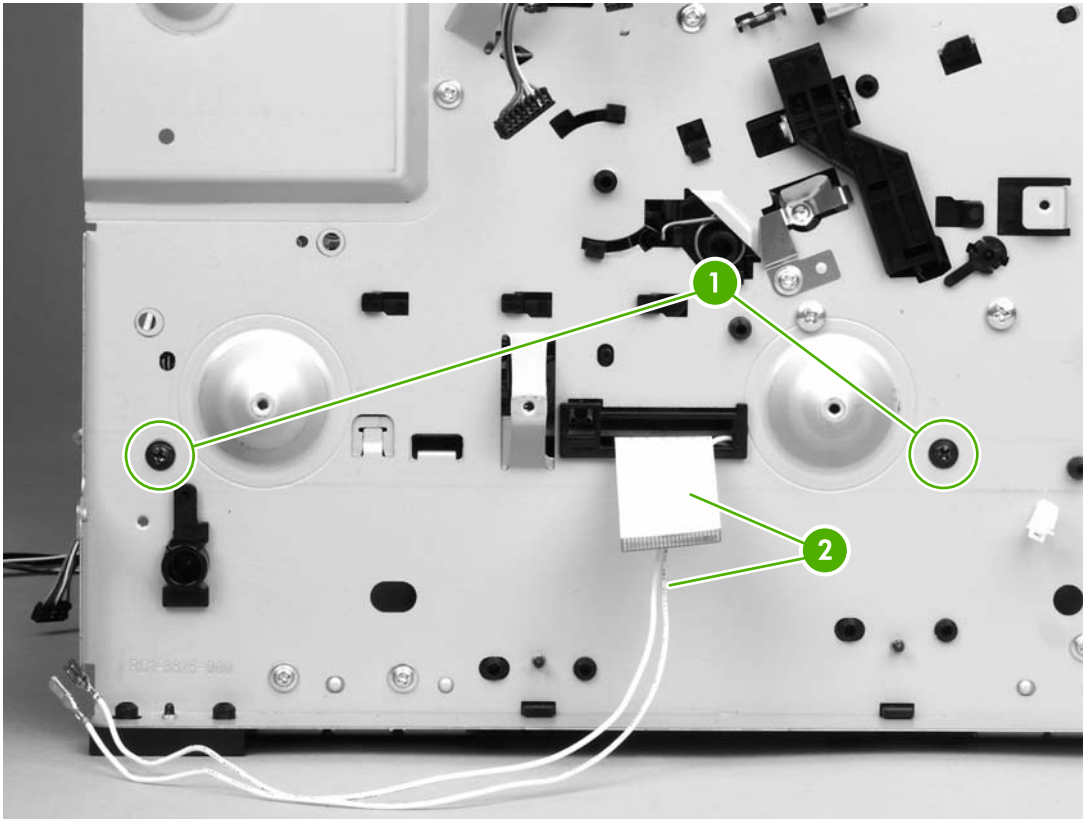


9. Remove one screw (4) from the right side of the printer.



**Figure 6-36** Removing the ECU (3 of 7)

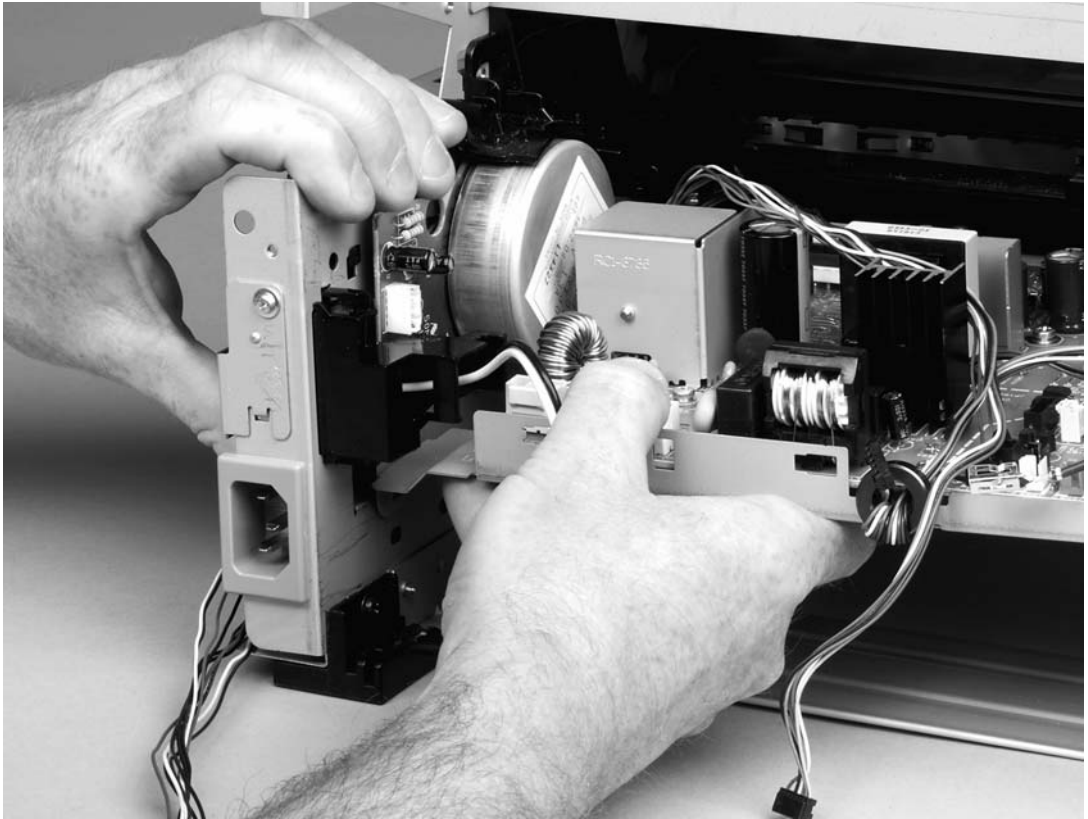
10. Remove two screws (1) from the left side of the printer, and then push the interlock cables and the formatter cable (2) through the hole in the chassis.



**Figure 6-37** Removing the ECU (4 of 7)



11. Spread the printer frame at the right side of the printer to release the internal tabs that secure the ECU to the chassis.

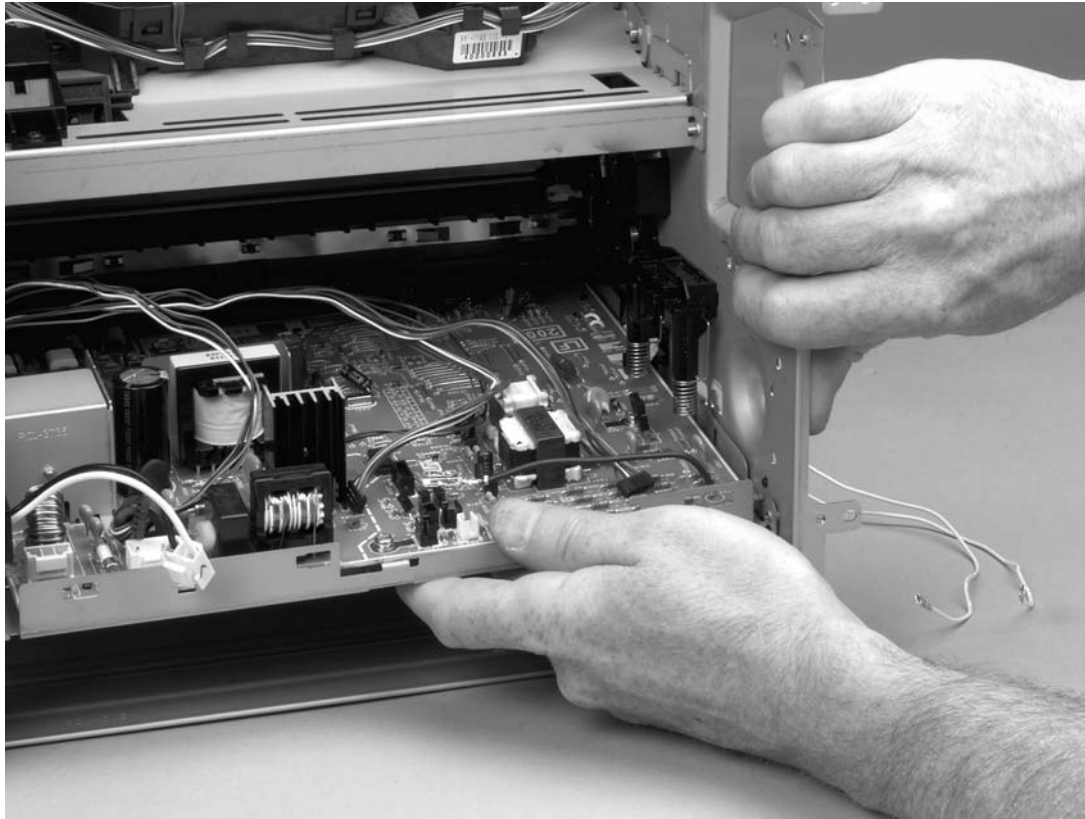


**Figure 6-38** Removing the ECU (5 of 7)

12. Spread the printer frame at the left side of the printer to release the internal tabs, and then lower the ECU slightly and pull it straight back to remove it.



**NOTE** Make sure that cables do not become caught on the contact springs as you remove the ECU.

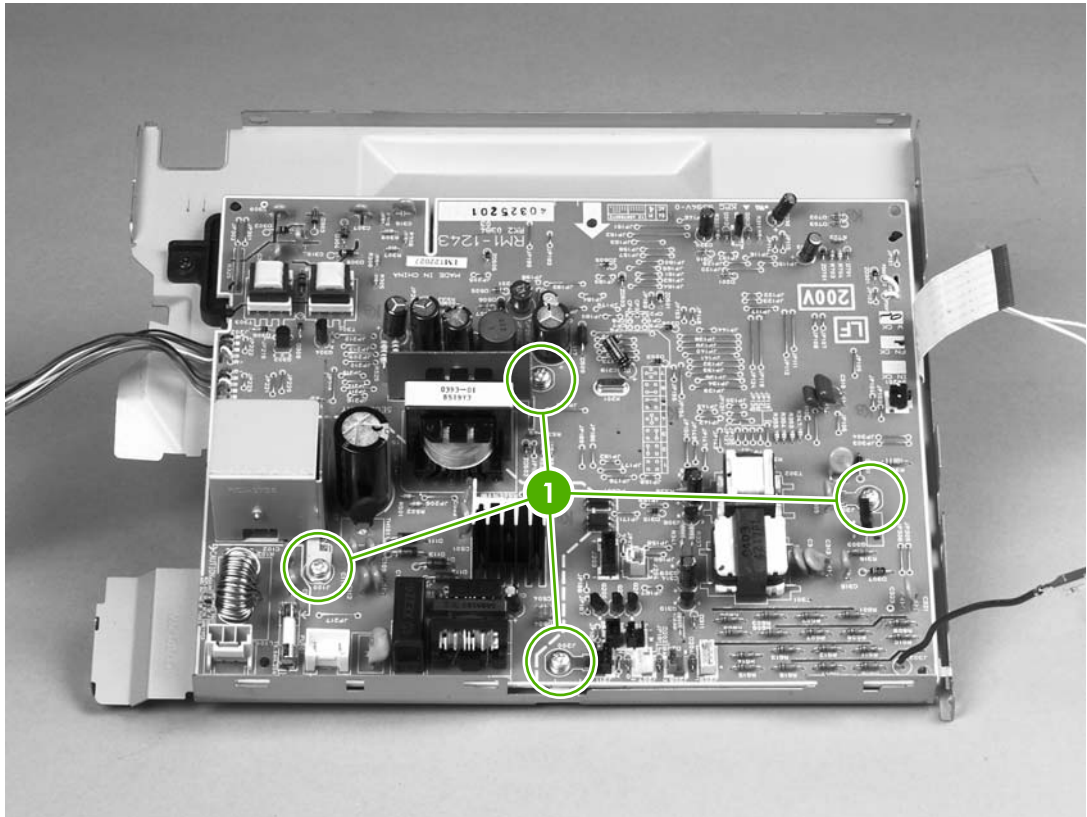


**Figure 6-39** Removing the ECU (6 of 7)



**Reinstallation tip** When replacing the ECU, you might find it easier to find the correct placement of the ECU pan in the printer if you tip the printer so that it rests on its front.

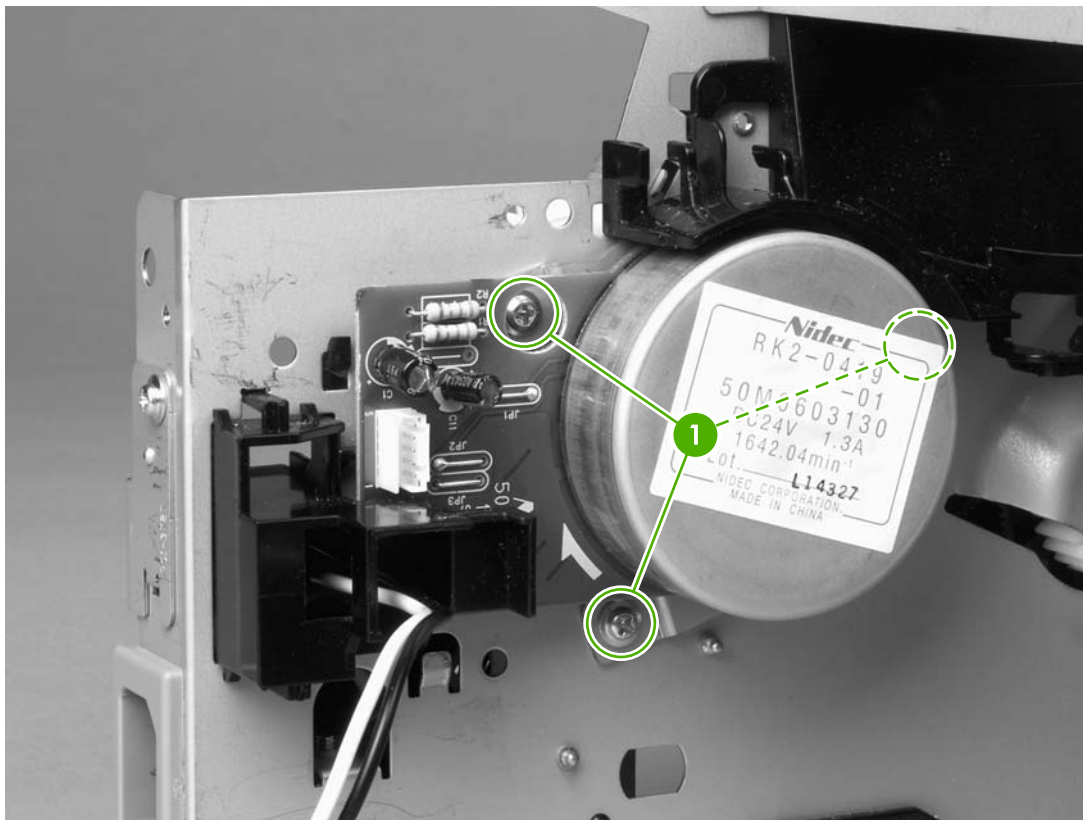
13. Remove four screws (1) and then lift the ECU off the ECU plate.



**Figure 6-40** Removing the ECU (7 of 7)

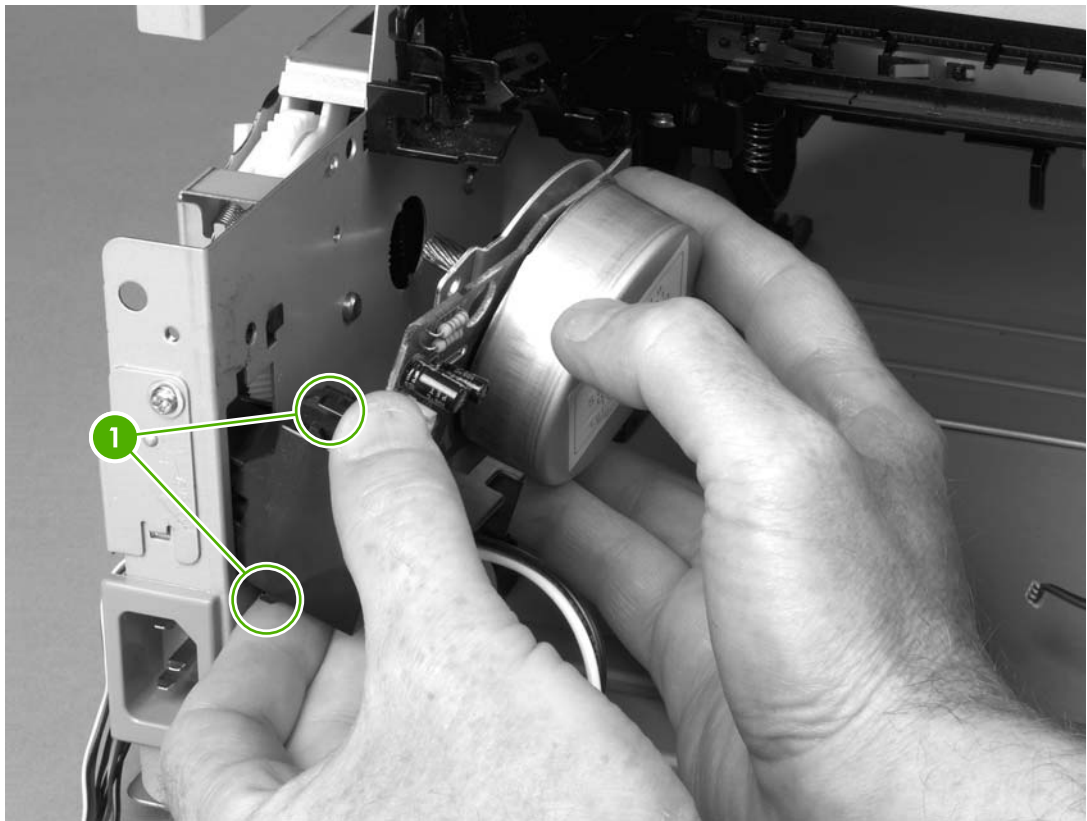
## Main motor

1. Remove all covers.
2. Remove the fan.
3. Remove the duplex-drive gears.
4. Remove the formatter.
5. Remove the fuser.
6. Remove the interlock assembly.
7. Remove the ECU.
8. Remove three screws (1).



**Figure 6-41** Removing the main motor (1 of 2)

9. Hold the motor while releasing the tabs (1) on the cable guide, and then lift the motor and the cable guide out of the printer together.



**Figure 6-42** Removing the main motor (2 of 2)

## Pickup and feed assemblies

This section covers the major assemblies of the pickup and feed system: the transfer roller and the registration assembly.

### Transfer roller

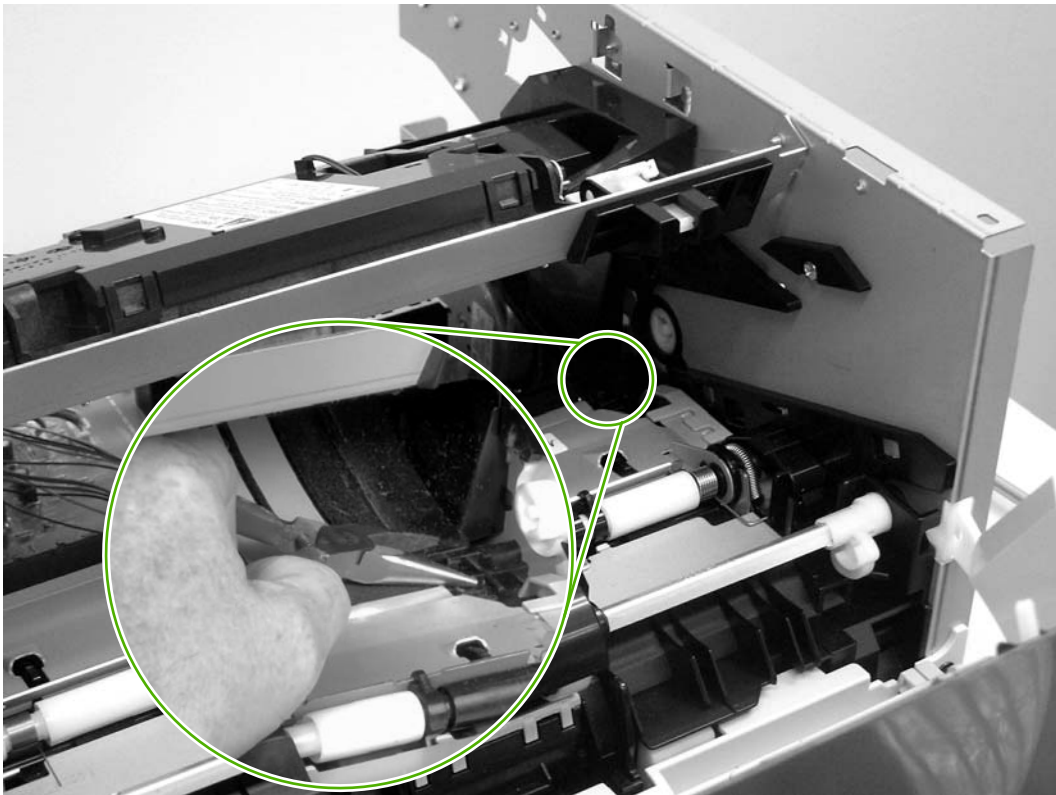


**NOTE** It is important to make sure that the transfer roller needs to be replaced before removing it. Excess handling can cause additional damage.

1. Open the print-cartridge door and remove the print cartridge.
2. Use needle-nose pliers to release the transfer roller tabs at the end of the roller, near the right side of the printer.



**CAUTION** Do not break the tabs, and do not touch the rollers.



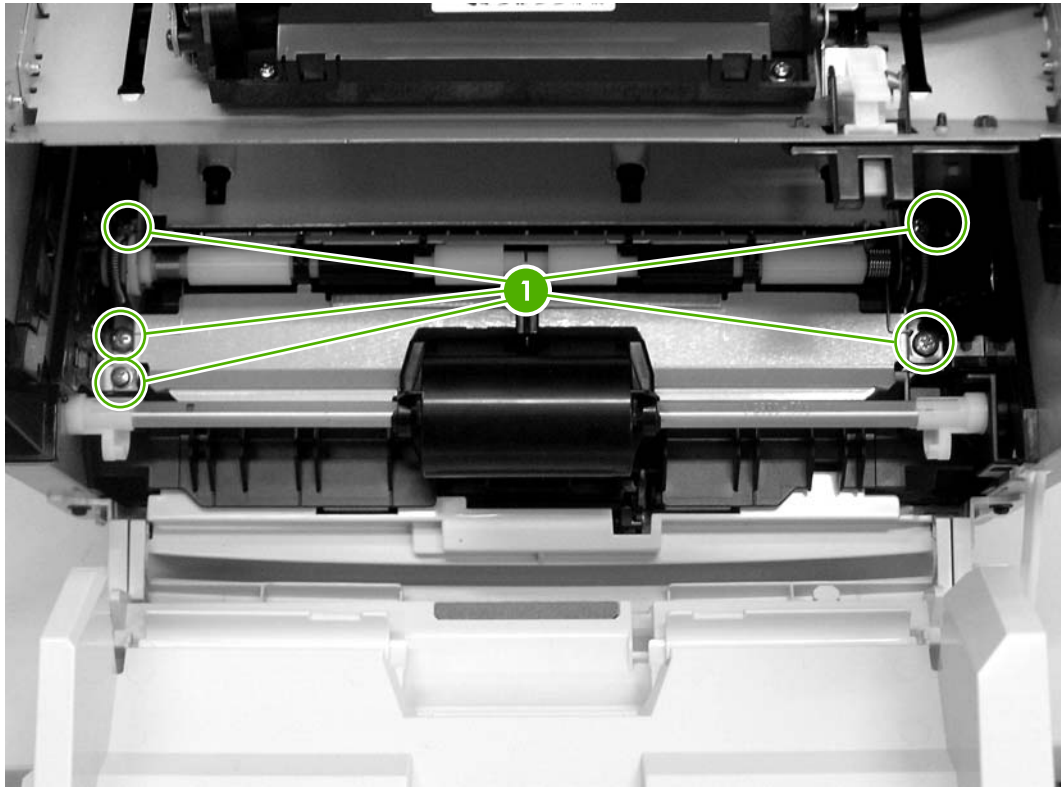
**Figure 6-43** Removing the transfer roller

3. Lift up the end of the roller near the right side of the printer, and then slide it toward the right side of the printer while pulling it out of the printer.



## Registration assembly

1. Remove five screws (1).

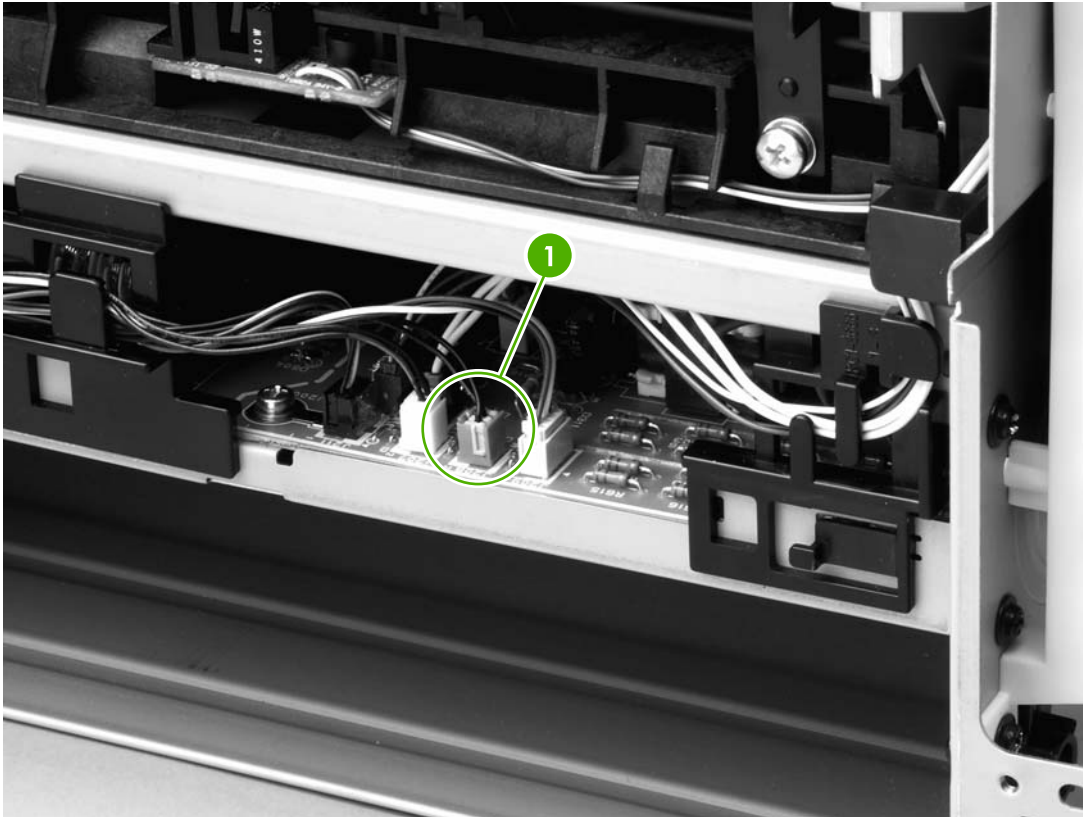


**Figure 6-44** Removing the registration assembly

2. Lift the entire assembly out of the printer.

## Main gear assembly/tray 2 pickup solenoid

1. Remove all covers.
2. Remove the fan from the printer chassis.
3. Disconnect one cable (1) at the ECU.

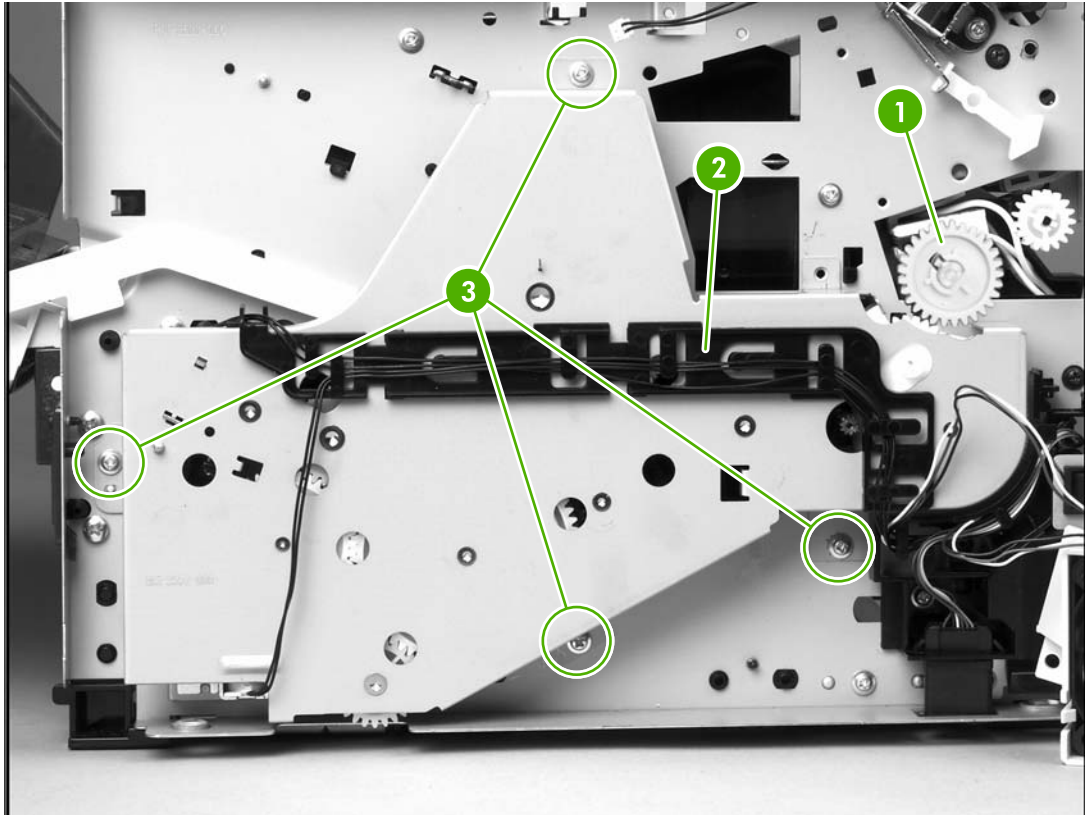


**Figure 6-45** Removing the main gear assembly (1 of 2)

4. Remove the duplex-drive PCA from the printer chassis.
5. Release the tab on the gear (1) and slide the gear off the shaft.
6. Remove the cables from the cable guide (2).



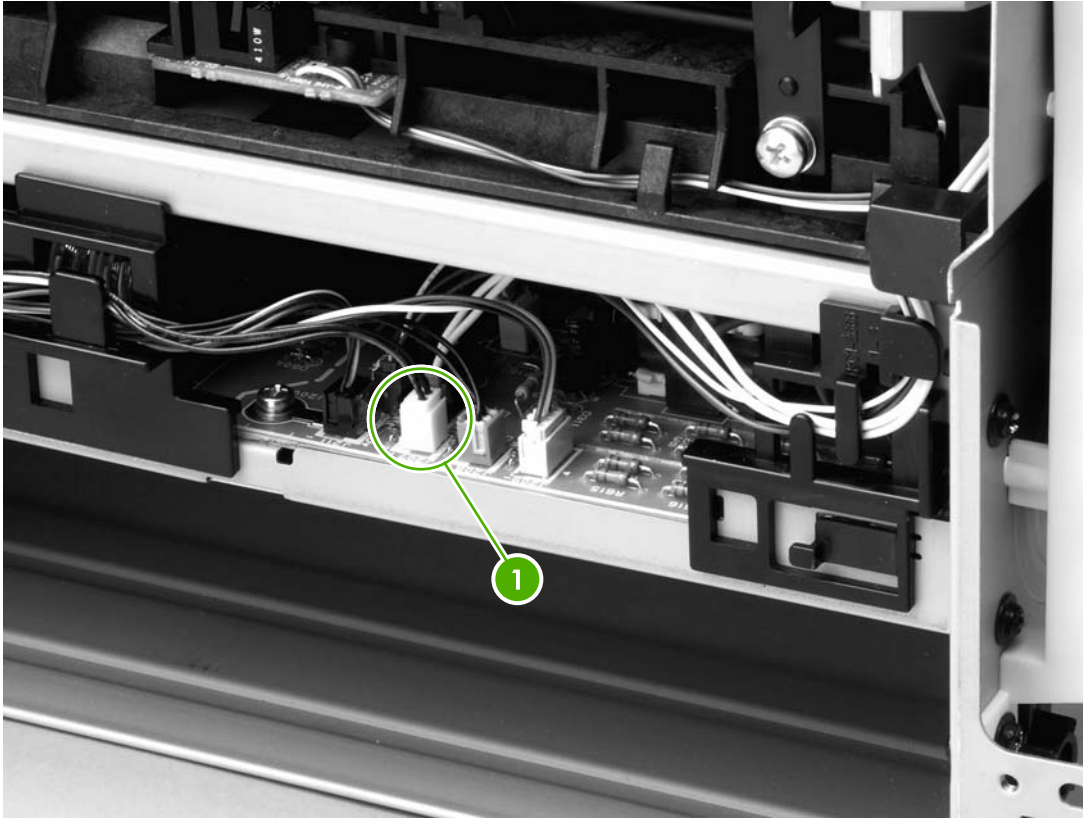
7. Remove four screws (3).



**Figure 6-46** Removing the main gear assembly (2 of 2)

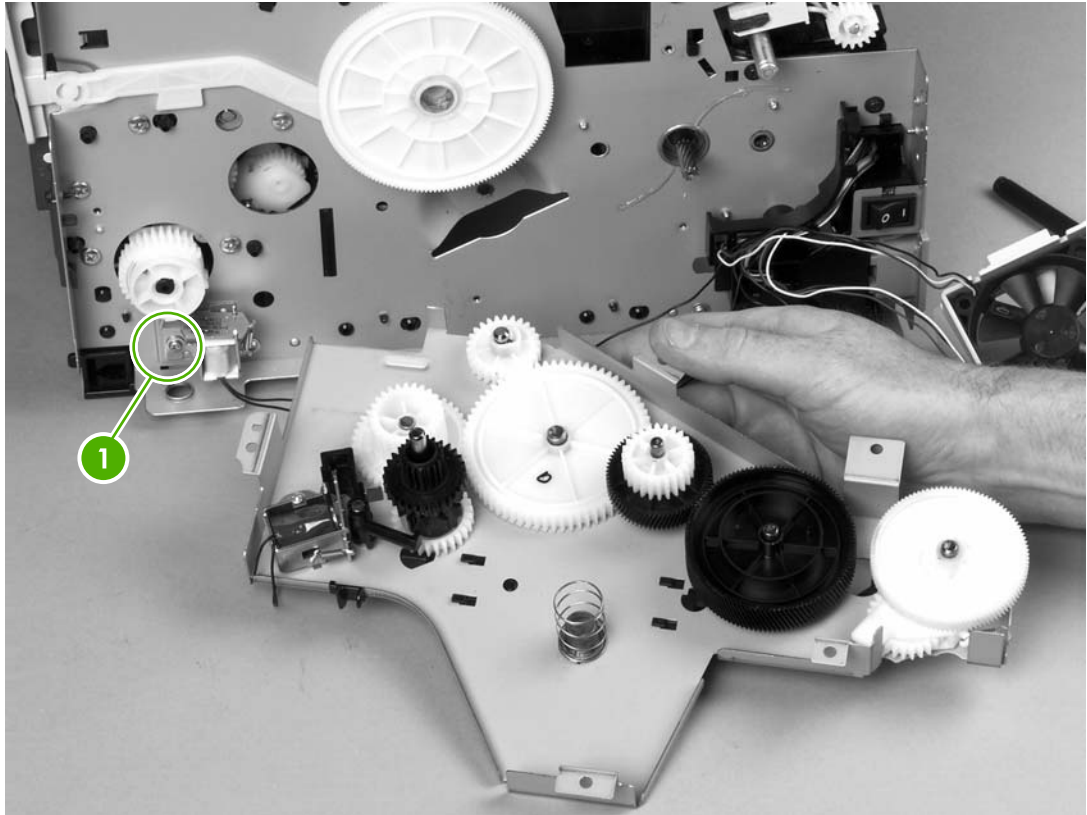
8. Pull the main gear assembly straight away from the printer.

9. To remove the tray 2 pickup solenoid, disconnect one cable (1).



**Figure 6-47** Removing the tray 2 pickup solenoid (1 of 2)

10. Remove one screw (1), and then lift the solenoid off the printer.



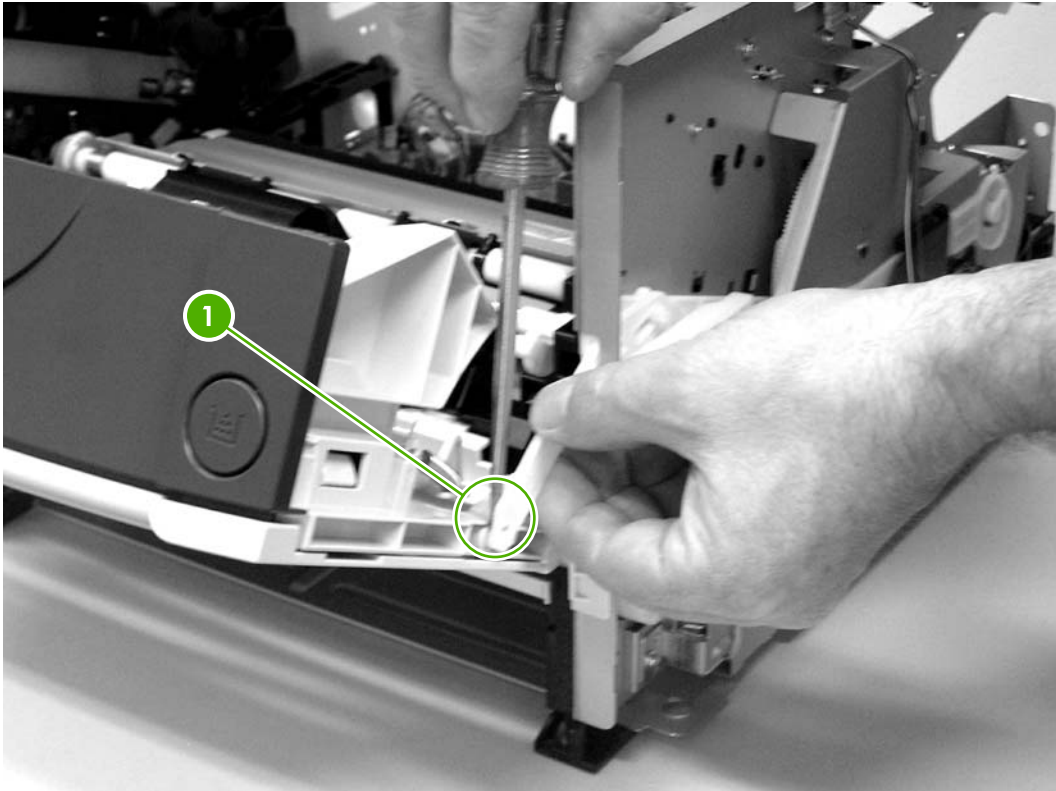
**Figure 6-48** Removing the tray 2 pickup solenoid (2 of 2)

## Print-cartridge door

1. Use a flat-blade screwdriver to gently pry the cartridge-door arm (1) off the print-cartridge door.

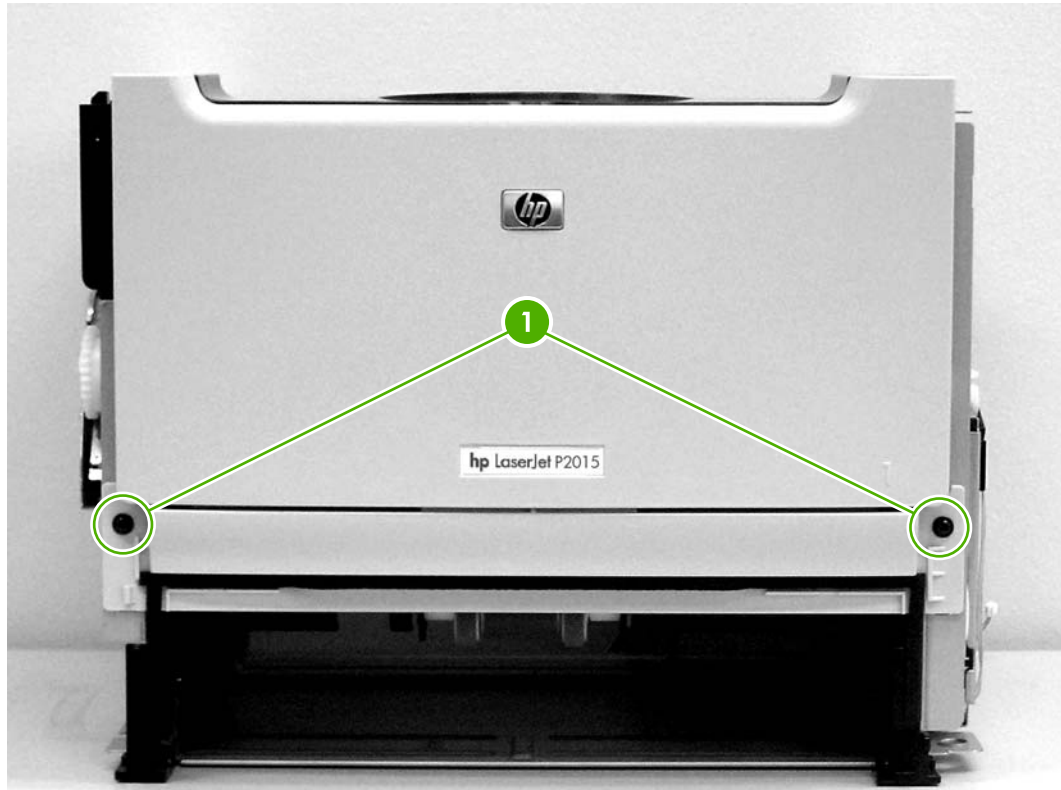


**CAUTION** Be careful not to break the tabs.



**Figure 6-49** Removing the print-cartridge door (1 of 2)

2. Remove two screws (2).



**Figure 6-50** Removing the print-cartridge door (2 of 2)

3. Lift the cartridge-door assembly straight away from the printer.



# 7 Problem solving

- [Basic problem solving](#)
- [Status-light patterns](#)
- [Fatal error secondary messages](#)
- [Accessory error secondary messages](#)
- [Media problemsolving](#)
- [Printed page is different from what appeared on screen](#)
- [Image problem solving](#)
- [Clear jams](#)
- [Diagnostic resources](#)
- [Network-setup problemsolving](#)
- [Reset the printer](#)
- [Troubleshooting tools and reference diagrams](#)

# Basic problem solving

**Table 7-1** Basic problem solving

**When the product is connected to a correctly grounded power source, the LEDs on the control panel do not illuminate and the main motor does not rotate.**

**The printer does not turn on.**

Cause	Solution
No power to the printer.	<ol style="list-style-type: none"><li>1. Verify that the power switch is turned on.</li><li>2. Verify that the power cable is correctly plugged into the outlet and the printer.</li><li>3. Verify that the power outlet has the correct voltage.</li></ol>
The power inlet/switch cable assembly is defective.	Replace the power inlet/switch cable assembly.
The ECU is defective.	Replace the ECU.

**When turned on, the LEDs on the control panel light up, but the main motor does not rotate.**

**The printer turns on, but the motor does not rotate.**

Cause	Solution
The print cartridge door is open.	Close the print cartridge door.
Media is jammed in the paper path.	Clear all media from the paper path and make sure that all sensors are working correctly.
The motor cable is not connected correctly.	Reconnect the motor cable.
The motor is not mounted correctly in the printer chassis.	Verify that the motor is connected correctly and that it rotates freely.
A gear is damaged or jammed.	Replace the gear assembly.
The ECU is defective.	Replace the ECU.
The main motor is defective.	Replace the motor.

**The printer turns on and the motor rotates, but none of the control panel lights turn on, and pressing the control panel buttons has no effect.**

**The printer is unresponsive.**

Cause	Solution
The control panel cable is not connected correctly.	Reconnect the control panel cable.
The control panel is defective.	Replace the control panel.
The formatter is defective.	Replace the formatter.



**Table 7-1** Basic problem solving (continued)

The printer is on, but the control panel lights indicate that the printer is not in the "ready" state.

The printer is not "ready."

Cause	Solution
The printer has an internal error that was detected during the power-on self-test sequence.	Consult the list of control panel light patterns to identify and correct the error.

The printer turns on, the motor rotates, and the control panel indicates the "ready" state, but the printer does not print.

The printer does not print.

Cause	Solution
A printer component is defective.	Perform an engine test to verify print-engine components.  <ol style="list-style-type: none"><li>1. Press the engine test switch to print an engine test.</li><li>2. If the engine test page does not print, check all of the connectors on the ECU and reconnect any cables that are connected incorrectly.</li><li>3. If, after checking the connectors, the error persists, replace the ECU.</li></ol>
The formatter is defective.	Press the Go button to print a Demo page. If the Demo page does not print, replace the formatter.

The printer prints the engine test and the Demo page, but does not print jobs sent from a computer.

The printer does not print from a computer.

Cause	Solution
The cable is not connected correctly.	Reconnect the cable.
An incorrect printer driver is selected.	Select the correct printer driver.
The printer driver is not installed correctly.	Uninstall and then reinstall the printer software. Make sure that you use the correct procedure and port setting.
Other devices are connected to the printer (for example, through a switch or hub) that are interfering with the computer-printer communications.	Disconnect the other devices, switches, or hubs.
There is a computer-port communications problem.	Reset the computer port settings (see the computer user guide for more information).
The formatter is defective.	Replace the formatter.

# Status-light patterns

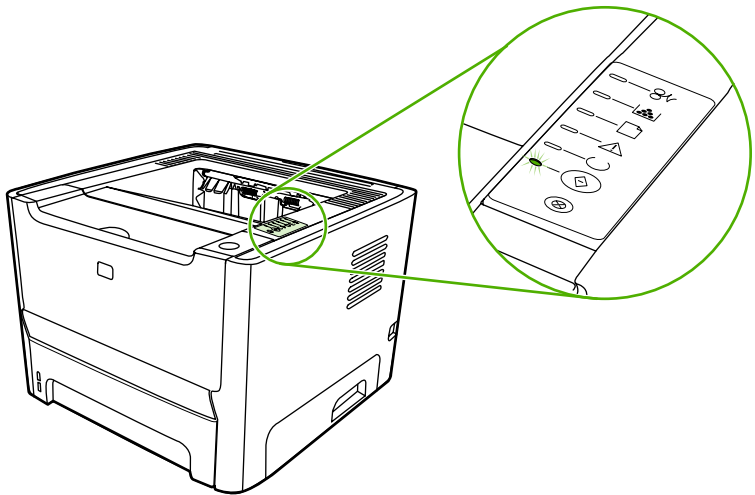


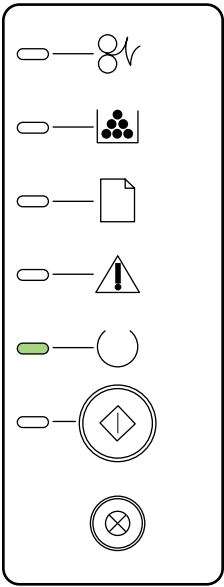
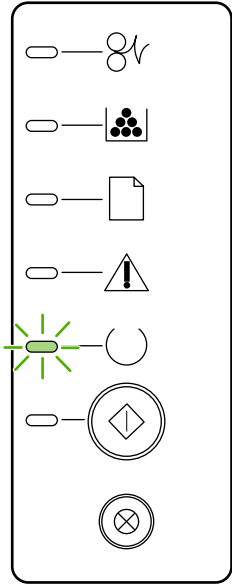
Table 7-2 Status-light legend

	Symbol for "light off"
	Symbol for "light on"
	Symbol for "light blinking"

Table 7-3 Control-panel status light patterns

Error code	Pattern	Description	Action
10007		<p><b>Initialization/Startup</b></p> <p>While in the Startup state, the Go, Ready, and Attention lights cycle (at the rate of 500 ms) one after another.</p> <p><b>Reconfiguration Initialization</b></p> <p>During the printer start up, you can request special initialization sequences that reconfigure the printer. When one of the sequences is requested, such as cold reset, the lights cycle as in the Initialization/Startup state.</p> <p><b>Job Cancel</b></p> <p>After the cancellation process has been completed, the printer returns to the Ready state.</p>	<p>During the Initialization, Reconfiguration, and Job Cancel processes, pressing buttons has no effect.</p>

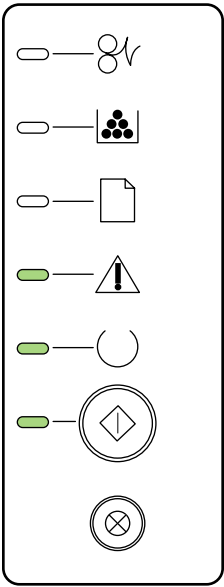
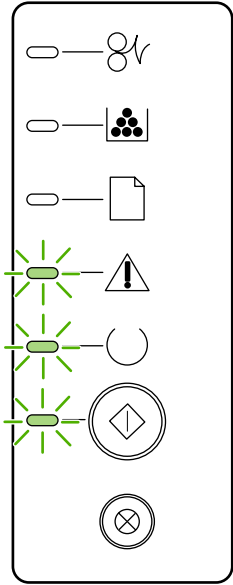
**Table 7-3** Control-panel status light patterns (continued)

Error code	Pattern	Description	Action
10001		<b>Ready</b> The printer is ready with no job activity.	To print a Configuration page, press and hold the <b>Go</b> button for 5 seconds.  To print a Demo page, press and release the <b>Go</b> button.
10023		<b>Processing Data</b> The printer is processing or receiving data.	To cancel the current job, press the <b>Cancel</b> button.

**Table 7-3** Control-panel status light patterns (continued)

Error code	Pattern	Description	Action
41000		<p><b>Manual Feed or Continuable Error</b></p> <p>This state can be reached in the following circumstances:</p> <ul style="list-style-type: none"><li>• Manual feed</li><li>• General continuable error</li><li>• Memory configuration error</li><li>• Personality/Job-related error</li></ul>	<p>To recover from the error and print whatever data is possible, press the <b>Go</b> button.</p> <p>If the recovery is successful, the printer goes to the Processing Data state and completes the job.</p> <p>If the recovery is unsuccessful, the printer returns to the Continuable Error state.</p>
40021		<p><b>Attention</b></p> <p>The print-cartridge door is open.</p>	<p>Close the print-cartridge door.</p>

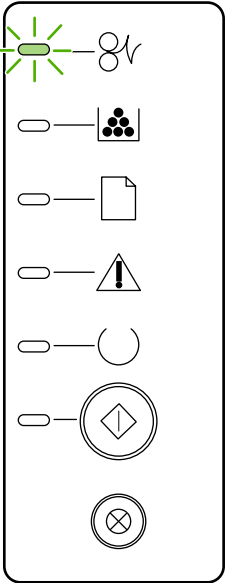
**Table 7-3** Control-panel status light patterns (continued)

Error code	Pattern	Description	Action
50003 50005 50006 50007 5000X		<b>Fatal Error</b>	<ul style="list-style-type: none"><li>• Turn off the printer, wait 10 seconds, and turn on the printer.</li><li>• Unplug the printer for five minutes. Then plug it back in and turn the power on.</li><li>• If you are unable to resolve the problem, contact HP.</li></ul>
		<b>Accessory Error</b>	To display additional error information, press the <b>Go</b> button. The light pattern changes. When you release the <b>Go</b> button, the printer returns to the initial Accessory Error state.

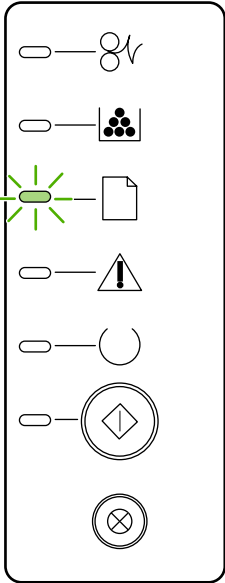
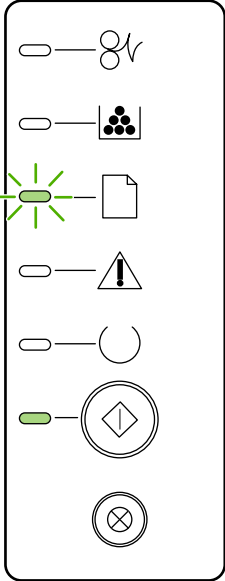
**Table 7-3** Control-panel status light patterns (continued)

Error code	Pattern	Description	Action
		<b>Toner Low</b>  The Go, Ready, and Attention lights act independently of the Toner Low state.	Order a new print cartridge and have it ready.
		<b>Toner Missing</b>  The print cartridge has been removed from the printer.	Reinsert the print cartridge in the printer.

**Table 7-3** Control-panel status light patterns (continued)

Error code	Pattern	Description	Action
40022		<b>Jam</b>	Clear the jam.

**Table 7-3** Control-panel status light patterns (continued)

Error code	Pattern	Description	Action
41900		<b>Paper Out</b>	Load paper or other media.
		<b>Paper Mount</b>  The loaded paper or other media is not supported.	Load acceptable paper or other media.  Press the <b>Go</b> button to override the condition.



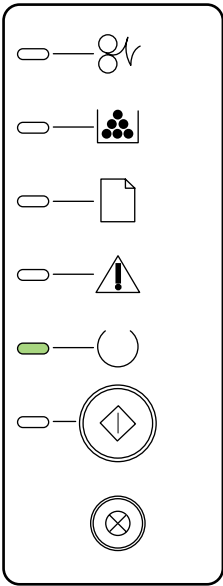
# Fatal error secondary messages

If the printer has a fatal error, press and hold the Go button to see a secondary error message.

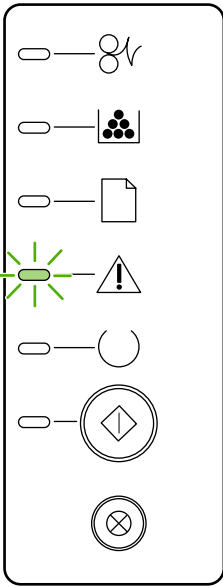
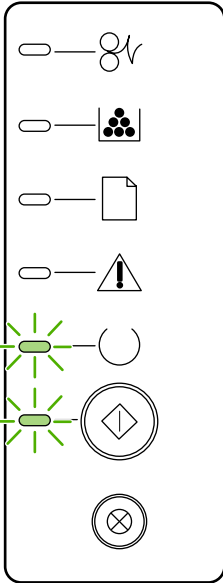
**Table 7-4** Fatal error secondary messages

Error code	Pattern	Description	Action
79XXX		<b>General fatal error</b>	<ol style="list-style-type: none"> <li>1. Turn the printer off, and then turn the printer on again.</li> <li>2. If the error persists, disconnect the I/O cable and print an engine test. If the self-test is successful, reconnect the I/O cable.</li> <li>3. If the error persists, replace the formatter.</li> </ol>
55 50007		<b>Engine error.</b> The formatter and engine are not communicating.	<ol style="list-style-type: none"> <li>1. Unplug the printer, and then plug it in again.</li> <li>2. Reseat the formatter cable in the ECU.</li> <li>3. If the error persists, replace the formatter.</li> <li>4. If, after replacing the formatter, the error persists, replace the ECU.</li> </ol>

**Table 7-4** Fatal error secondary messages (continued)

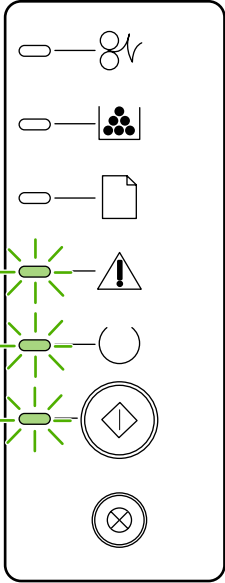
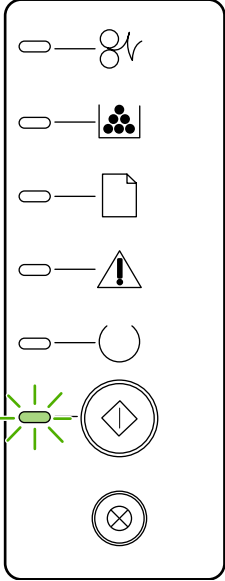
Error code	Pattern	Description	Action
52 50005		<b>Laser/scanner error.</b> The laser/scanner has a malfunction.	<ol style="list-style-type: none"><li>1. Check the laser/scanner cable connections.</li><li>2. If the error persists, replace the laser/scanner.</li></ol>

**Table 7-4** Fatal error secondary messages (continued)

Error code	Pattern	Description	Action
57		<b>Fan motor error</b>	<ol style="list-style-type: none"><li>1. Check the fan cable connections.</li><li>2. If the error persists, replace the fan.</li></ol>
50XXX		<b>Fuser error.</b> The fuser has a malfunction.	<ol style="list-style-type: none"><li>1. Unplug the printer for at least ten minutes, and then plug it in again.</li><li>2. Verify that the fuser connector and thermistor connector are both firmly seated in the ECU</li><li>3. Perform a heating element resistance check.</li><li>4. If the resistance readings are correct, but the error persists, replace the fuser.</li></ol>

# Accessory error secondary messages

Table 7-5 Accessory error secondary messages

Error code	Pattern	Description	Action
		Accessory error	If the printer has an accessory error, press and hold the Go button to see the secondary error message. Release the Go button to return to the initial accessory error state.
53XXXX 79XXX		DIMM slot error	<ol style="list-style-type: none"><li>1. Verify that the DIMM is correctly seated.</li><li>2. If the error persists, replace the DIMM.</li></ol>

## Media problemsolving

The following problems with media cause print-quality deviations, jamming, or damage to the printer.

Problem	Cause	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy or too smooth, or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, with 4 to 6% moisture content.
Dropouts, jamming, or curl	The paper has been stored incorrectly.	Store paper flat in its moisture-proof wrapping.
	The paper has variability from one side to the other.	Turn the paper over.
Excessive curl	The paper is too moist, has the wrong grain direction, or is of short-grain construction	Open the rear output bin, or use long-grain paper.
	The paper varies from side-to-side.	Turn the paper over.
Jamming, damage to printer	The paper has cutouts or perforations.	Use paper that is free of cutouts or perforations.
Problems with feeding	The paper has ragged edges.	Use high-quality paper that is made for laser printers.
	The paper varies from side-to-side.	Turn the paper over.
	The paper is too moist, too rough, too heavy or too smooth, has the wrong grain direction, or is of short-grain construction or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, 4 to 6% moisture content.
		Open the rear output bin, or use long-grain paper.
Print is skewed (crooked).	The media guides might be incorrectly adjusted.	Remove all media from the input tray, straighten the stack, and then load the media in the input tray again. Adjust the media guides to the width and length of the media that you are using and try printing again.
More than one sheet feeds at one time.	The media tray might be overloaded.	Remove some of the media from the tray.
	The media might be wrinkled, folded, or damaged.	Verify that the media is not wrinkled, folded, or damaged. Try printing on media from a new or different package.
The printer does not pull media from the media input tray.	The printer might be in manual-feed mode.	Verify that the printer is not in manual feed mode and print your job again.
	The pickup roller might be dirty or damaged.	Contact HP Customer Care.
	The paper-length adjustment control in tray 2 or optional tray 3 is set at a length that is greater than the media size.	Adjust the paper-length adjustment control to the correct length.
The printer does not pull media from media input tray when using the automatic two-sided printing feature.	The automatic two-sided printing media-size selector is not set to the correct page size.	Push in the media selector for letter/legal-size media. Pull out the media-size selector for A4-size media.

# Printed page is different from what appeared on screen

Choose the item that best describes the problem:

- [Garbled, incorrect, or incomplete text on page 153](#)
- [Missing graphics or text, or blank pages on page 153](#)
- [Page format is different from another HP LaserJet printer on page 154](#)
- [Graphics quality on page 154](#)

## Garbled, incorrect, or incomplete text

- The wrong printer driver might have been selected when the software was installed. Make sure that the HP LaserJet P2015 printer driver is selected in the printer Properties.
- If a specific file prints garbled text, there might be a problem with that specific file. If a specific application prints garbled text, there might be a problem with that application. Make sure that the appropriate printer driver is selected.
- There might be a problem with your software application. Try printing from another software application.
- The USB cable might be loose or defective. Try the following remedies:
  - Disconnect the cable and reconnect it at both ends.
  - Try printing a job that you know works.
  - If possible, attach the cable and printer to another computer, and try printing a job that you know works.
  - Try using a new USB 2.0 cable that is 3 m (10 ft) or less in length.
  - Turn off the printer and the computer. Remove the USB cable, and inspect both ends of the cable for damage. Reconnect the cable, making sure that the connections are tight. Make sure that the printer is directly connected to the computer. Remove any switchboxes, tape backup drives, security keys, or any other devices that are attached between the USB port on the computer and the printer. These devices can sometimes interfere with communication between the computer and the printer. Restart the printer and the computer.

## Missing graphics or text, or blank pages

- Make sure that your file does not contain blank pages.
- The sealing tape might still be in the print cartridge. Remove the print cartridge, and pull the tab on the end of the cartridge until the entire length of the tape is removed. Reinstall the print cartridge. To check the printer, print a Demo page by pressing the **Go** button.
- The graphic settings in the printer Properties might not be correct for the type of job that you are printing. Try a different graphic setting in the printer Properties.
- Clean the printer, particularly the contacts between the print cartridge and the power supply.

## Page format is different from another HP LaserJet printer

If you used an older or different HP LaserJet printer driver (printer software) to create the document, or if the printer Properties settings in the software are different, the page format might change when you try to print using your new printer driver or settings. To help eliminate this problem, try the following remedies:

- Create documents and print them using the same printer driver (printer software) and printer Properties settings regardless of which HP LaserJet printer you use to print them.
- Change the resolution, paper size, font settings, and other settings.

## Graphics quality

The graphics settings might be unsuitable for your print job. Check the graphic settings, such as resolution, in the printer Properties and adjust them as necessary.



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**NOTE** You might lose some resolution when converting from one graphics format to another.

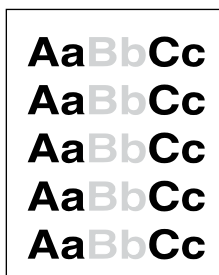
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# Image problem solving

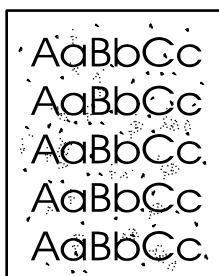
This section provides information about identifying and correcting print defects.

## Light print or faded



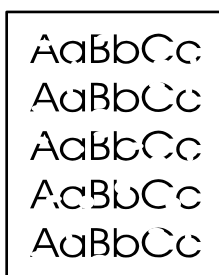
- The print cartridge is nearing end of life.
- The media might not meet Hewlett-Packard's media specifications (for example, the media is too moist or too rough).
- If the whole page is light, the print density adjustment is too light or EconoMode might be turned on. Adjust the print density, and disable EconoMode in the printer Properties.

## Toner specks



- The media might not meet Hewlett-Packard's media specifications (for example, the media is too moist or too rough).
- The printer might need to be cleaned.

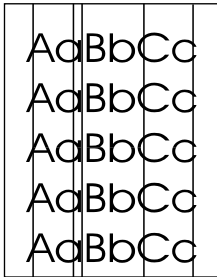
## Dropouts



- A single sheet of media might be defective. Try reprinting the job.
- The media's moisture content is uneven or the media has moist spots on its surface. Try printing with new media.
- The media lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different type or brand of media.
- The print cartridge might be defective.

## Vertical lines

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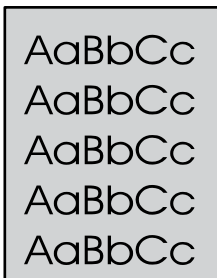


The photosensitive drum inside the print cartridge has probably been scratched. Install a new HP print cartridge.

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## Gray background

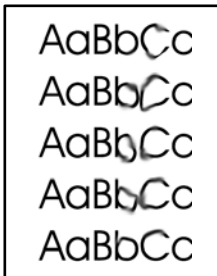
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- Make sure that tray 1 is in place.
  - Decrease the print density setting through HP ToolboxFX or the embedded Web server. This decreases the amount of background shading.
  - Change the media to a lighter basis weight.
  - Check the printer's environment. Very dry (low humidity) conditions can increase the amount of background shading.
  - Install a new HP print cartridge.
- 

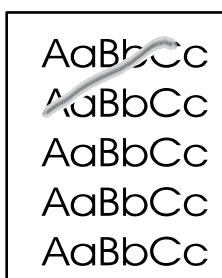
## Toner smear

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- If toner smears appear on the leading edge of the media, the media guides might be dirty. Wipe the media guides with a dry, lint-free cloth.
  - Check the media type and quality.
  - Try installing a new HP print cartridge.
  - The fuser temperature might be too low. In your printer driver, make sure the appropriate media type is selected.
-

## Loose toner



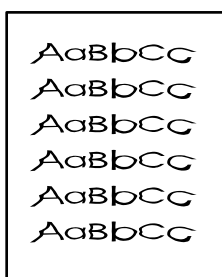
- Clean the inside of the printer.
- Check the media type and quality.
- Try installing a new HP print cartridge.
- In your printer driver, make sure the appropriate media type is selected.
- Plug the printer directly into an AC outlet instead of into a power strip.

## Vertical repetitive defects



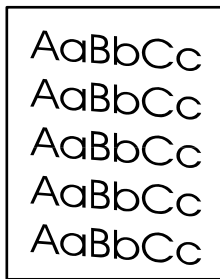
- The print cartridge might be damaged. If a repetitive mark occurs at the same spot on the page, install a new HP print cartridge.
- The internal parts might have toner on them. If the defects occur on the back of the page, the problem will probably correct itself after a few more printed pages.
- In your printer driver, make sure the appropriate media type is selected.

## Misformed characters



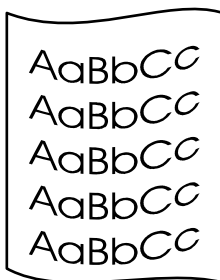
- If characters are improperly formed, producing hollow images, the media stock might be too slick. Try a different media.
- If characters are improperly formed, producing a wavy effect, the printer might need service. Print a configuration page. If the characters are improperly formed, contact an HP-authorized dealer or service representative.

## Page skew



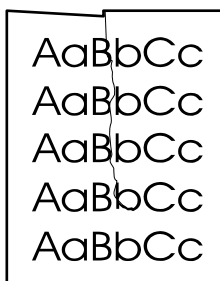
- Make sure that the media is loaded correctly and the media guides are not too tight or too loose against the media stack.
- The input bin might be too full.
- Check the media type and quality.

## Curl or wave



- Check the media type and quality. Both high temperature and humidity cause media to curl.
- The media might have been in the input tray too long. Turn over the stack of media in the tray. Also, try rotating the media 180° in the input tray.
- Open the straight-through output door and try printing straight through.
- The fuser temperature might be too high. In your printer driver, make sure the appropriate media type is selected. If the problem persists, select a media type that uses a lower fuser temperature, such as transparencies or light media.

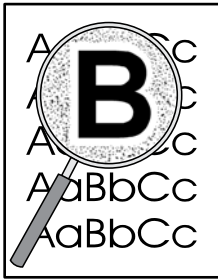
## Wrinkles or creases



- Make sure that media is loaded properly.
- Check the media type and quality.
- Open the straight-through output door and try printing straight through.
- Turn over the stack of media in the tray. Also, try rotating the media 180° in the input tray.
- For envelopes, this can be caused by air pockets inside the envelope. Remove the envelope, flatten the envelope, and try printing again.

## Toner scatter outline

---



- If large amounts of toner have scattered around the characters, the media might be resisting the toner. (A small amount of toner scatter is normal for laser printing.) Try a different media type.
- Turn over the stack of media in the tray.
- Use media designed for laser printers.

## Clear jams

Occasionally, media becomes jammed during a print job. You are notified of a media jam by an error in the software and the printer control-panel lights.

The following are some of the causes of media jams:

- The input trays are loaded improperly or too full.



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

- The media does not meet HP specifications.
- The printer might need to be cleaned to remove paper dust and other particles from the paper path.

There might be loose toner in the printer after a media jam. This toner clears up after a few sheets print.



**CAUTION** Media jams might result in loose toner on the page. If you get any toner on your clothes, wash them in cold water. *Hot water will permanently set the toner into the fabric.*

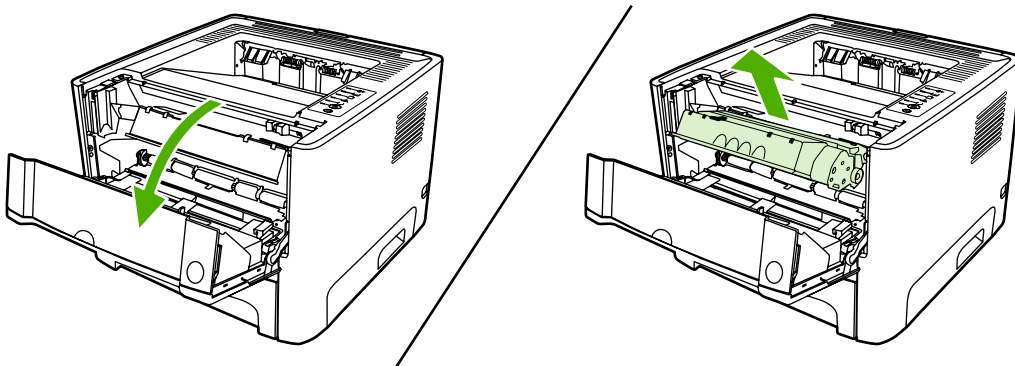
## Print-cartridge area

To clear a jam in the print-cartridge area, perform the following steps:



**CAUTION** Do not use sharp objects, such as tweezers or needle-nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

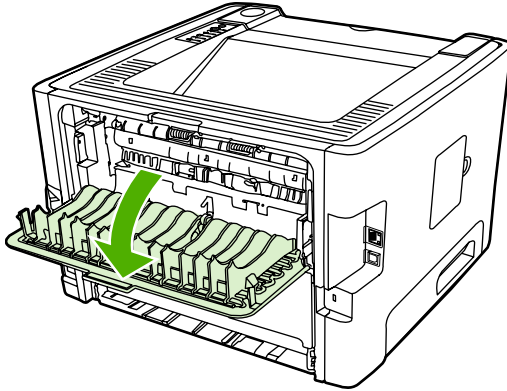
1. Press the print-cartridge-door button, and then remove the print cartridge from the printer.



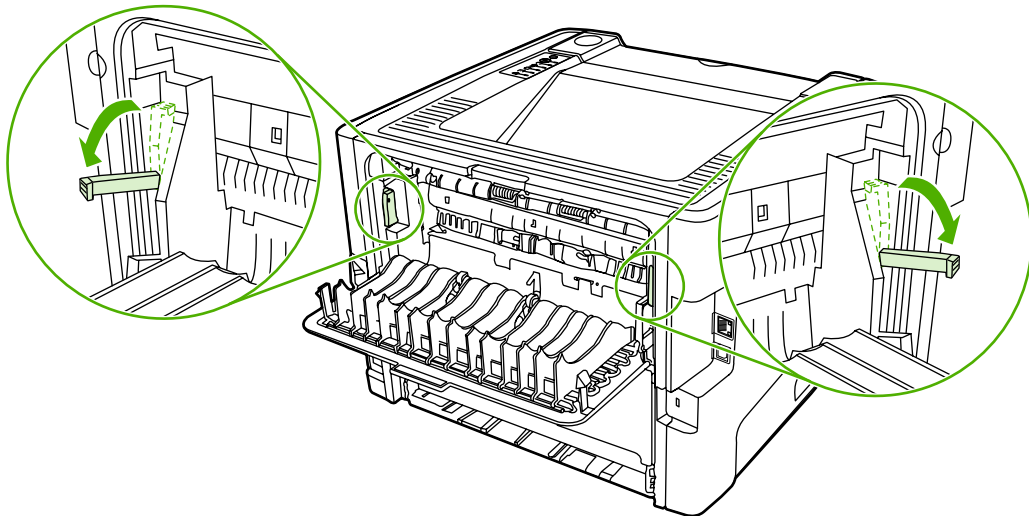
**CAUTION** To prevent damage to the print cartridge, minimize its exposure to direct light.

**CAUTION** After removing the print cartridge, handle it only on the ends.

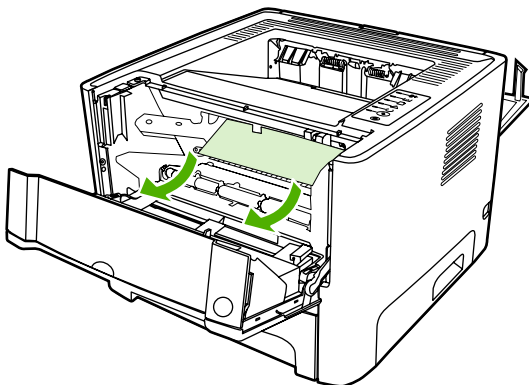
2. Open the straight-through output door.



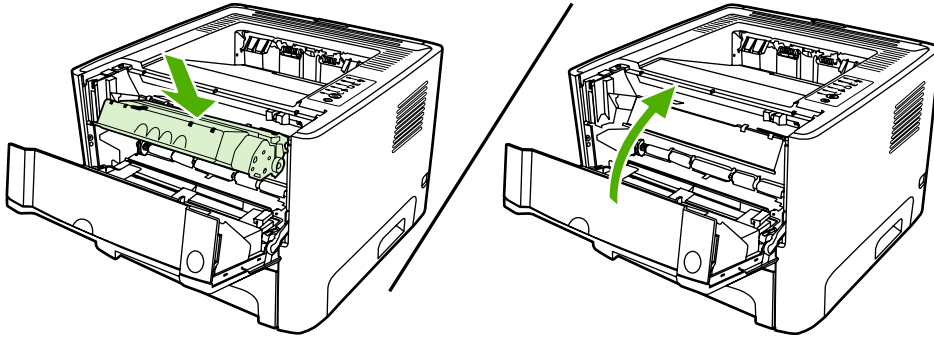
3. Pull down the green pressure-release levers.



4. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the printer.



5. Replace the print cartridge, and close the print-cartridge door.

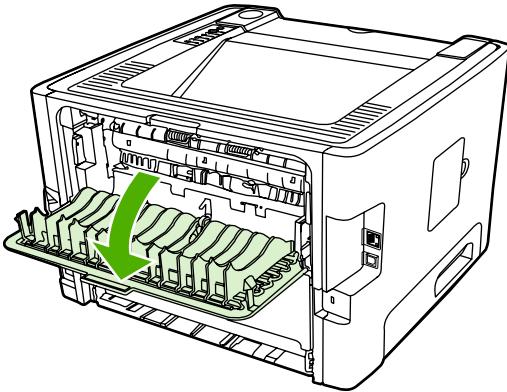


## Input trays

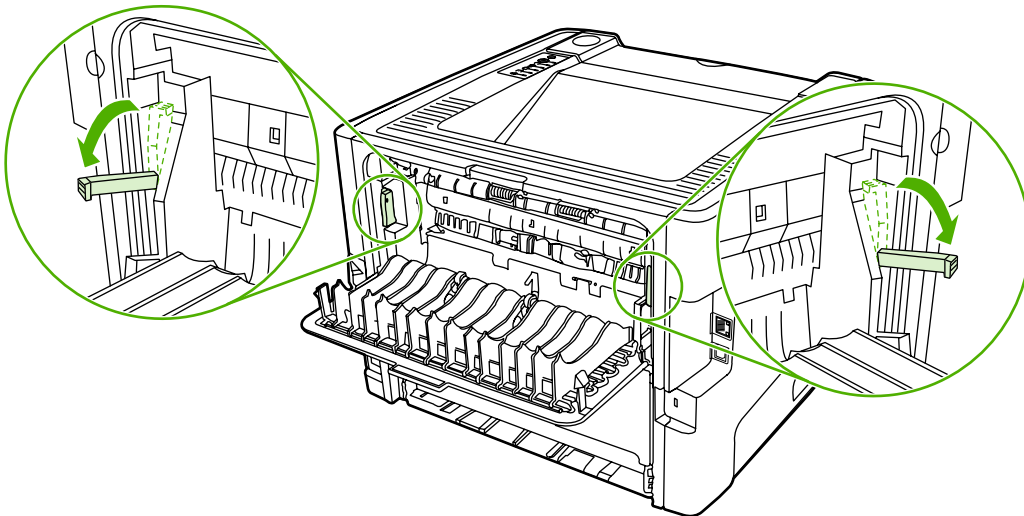
To clear a jam in the input trays, perform the following steps:

**CAUTION** Do not use sharp objects, such as tweezers or needle-nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

1. Open the straight-through output door.

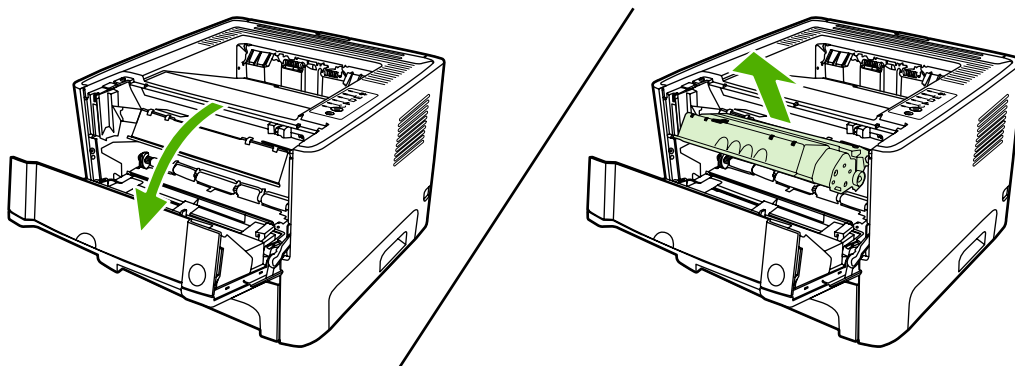


2. Pull down the green pressure-release levers.



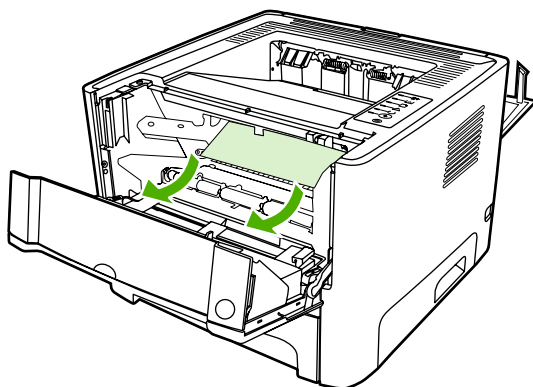


3. Press the print-cartridge-door button, and then remove the print cartridge from the printer.

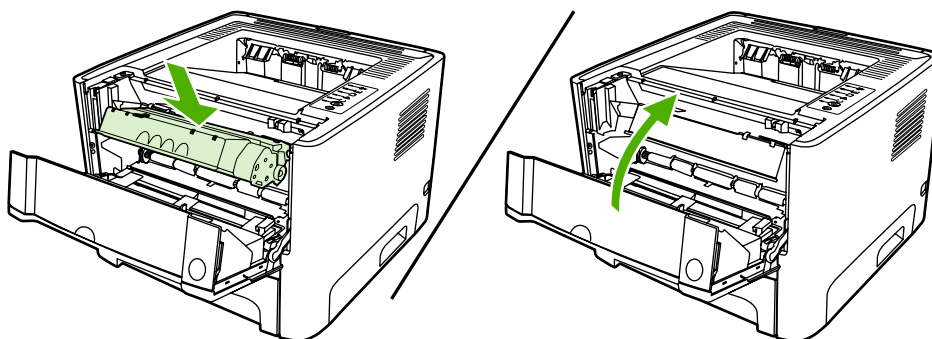


**CAUTION** After removing the print cartridge, handle it only on the ends.

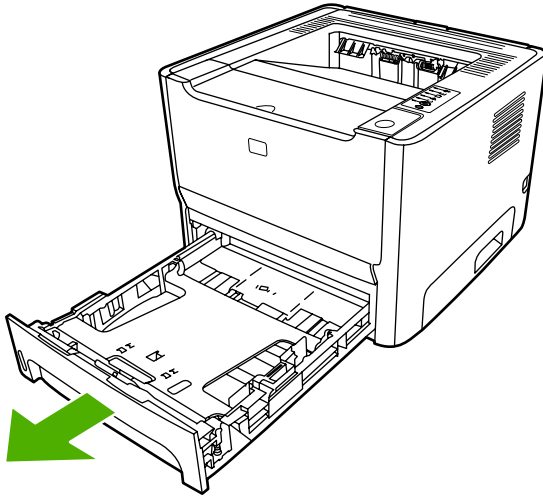
4. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the printer.



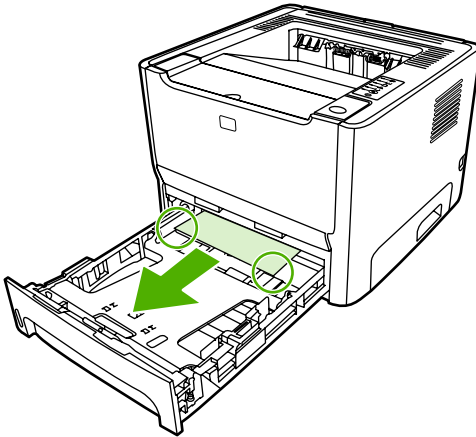
5. Insert the print cartridge in the printer and close the print-cartridge door.



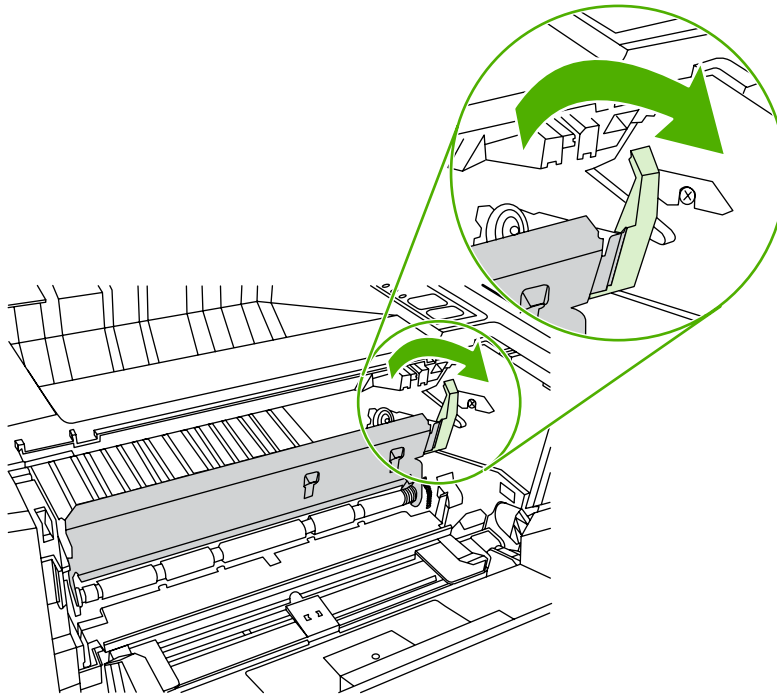
6. Open tray 2.



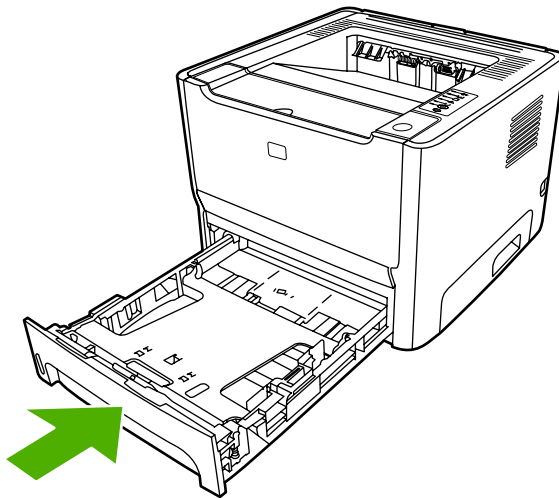
7. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the printer.



8. If no media is visible, open the print-cartridge door, remove the print cartridge, and pull down the upper media guide. Carefully pull the media up and out of the printer.



9. Close tray 2.

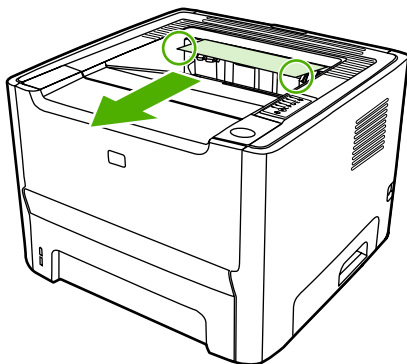


## Output bin



**CAUTION** Do not use sharp objects, such as tweezers or needle-nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the printer.

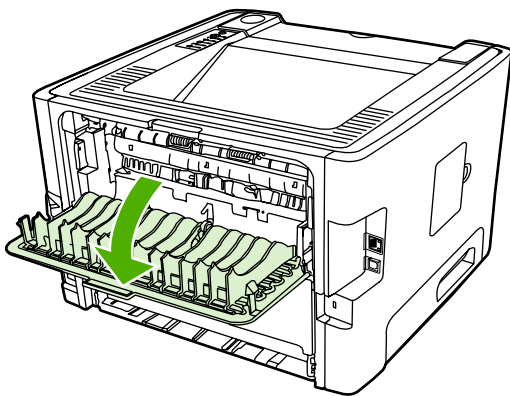


## Straight-through output path

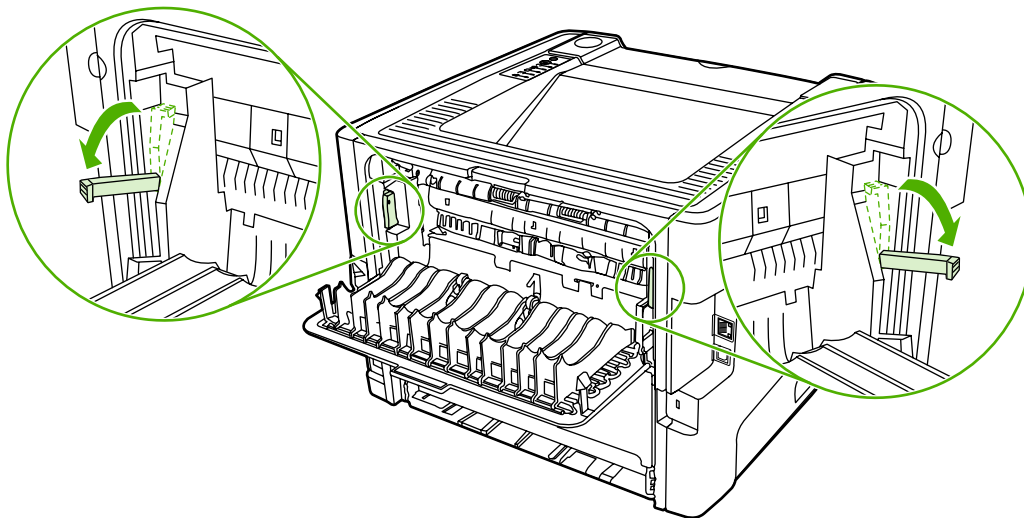
To clear a jam in the straight-through output path, perform the following steps:

**CAUTION** Do not use sharp objects, such as tweezers or needle-nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

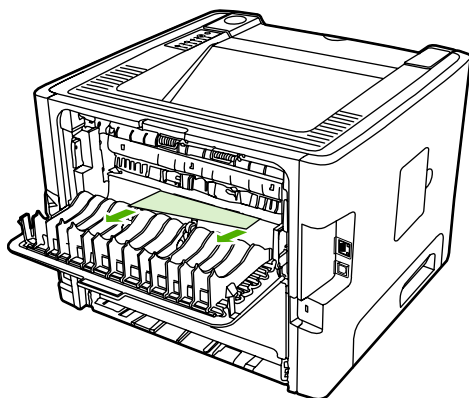
1. Open the straight-through output door.



2. Pull down the green pressure-release levers.

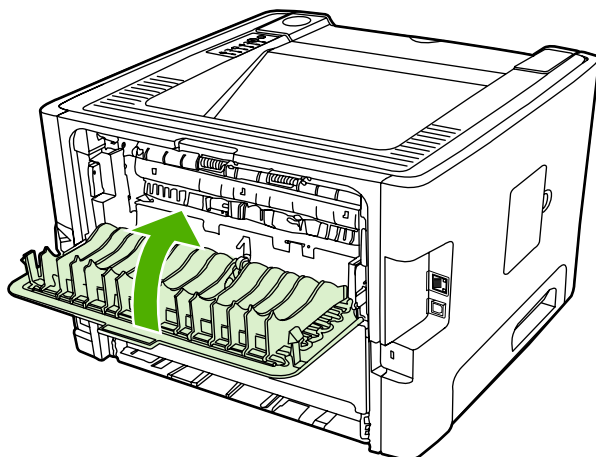


3. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the printer.



**NOTE** If you cannot grasp the media with your hands, perform the procedure in [Print-cartridge area on page 160](#).

4. Close the straight-through output door.



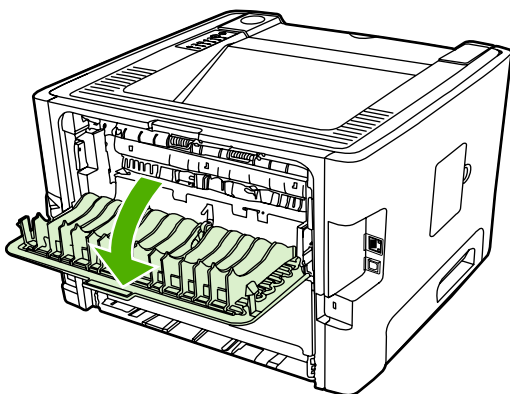
## Automatic two-sided printing path

To clear a jam in the automatic two-sided printing path, perform the following steps:

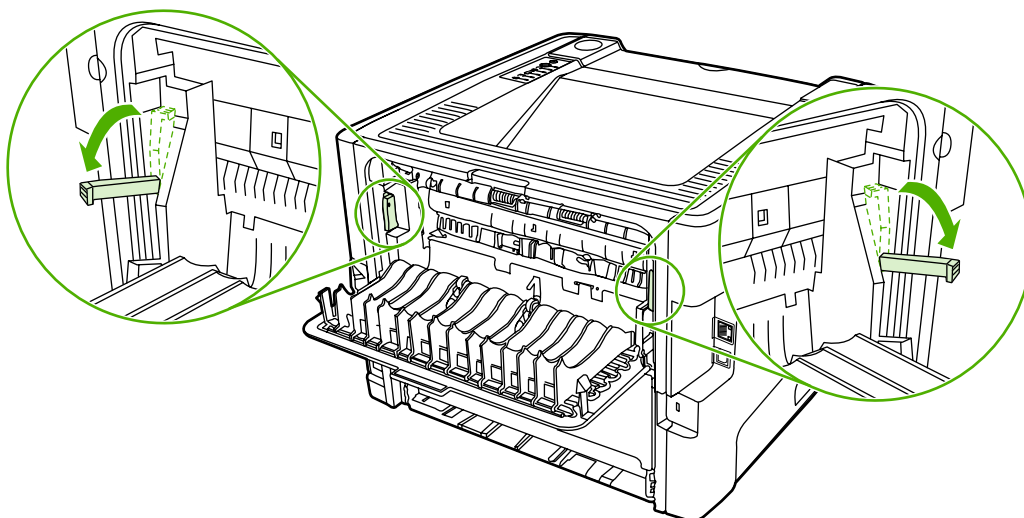


**CAUTION** Do not use sharp objects, such as tweezers or needlenose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

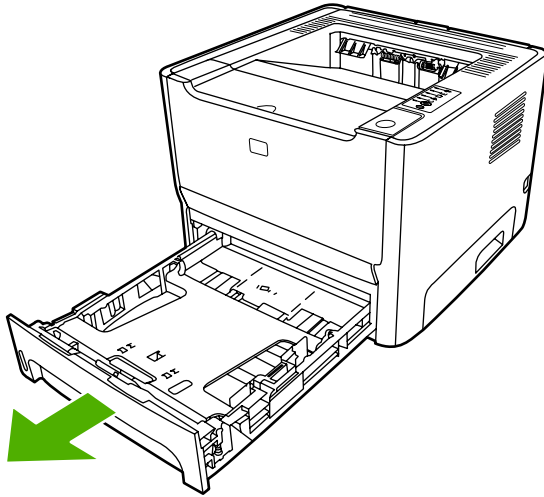
1. Open the straight-through output door.



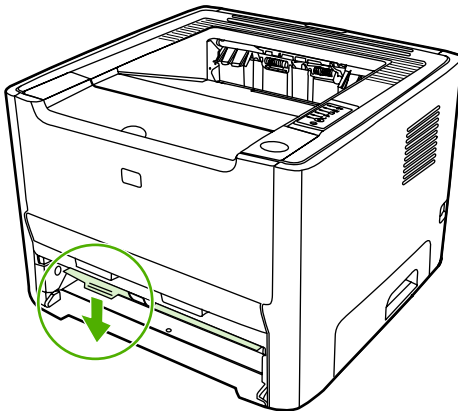
2. Pull down the green pressure-release levers.



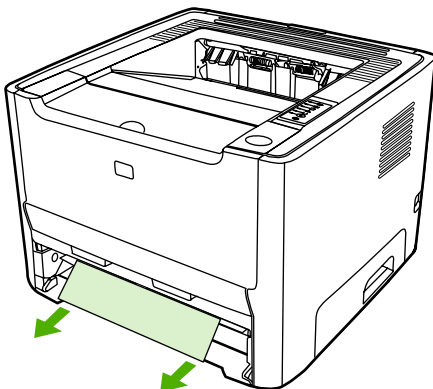
3. Remove tray 2.



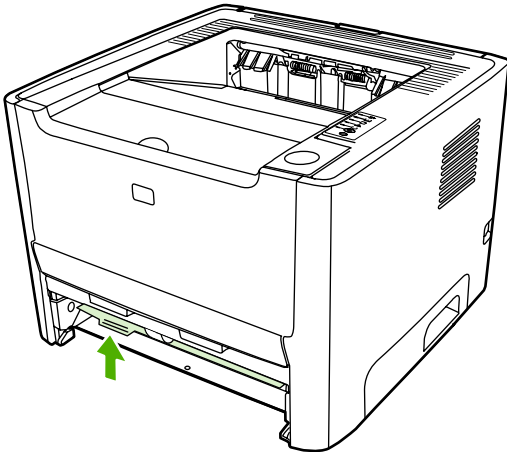
4. Push down on the green lever on the automatic two-sided printing path door on the front of the printer.



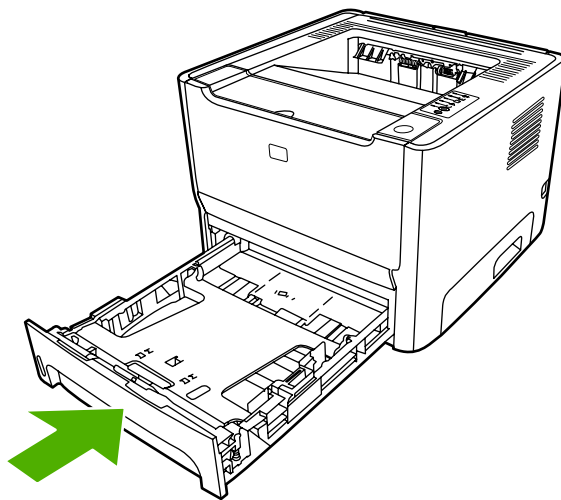
5. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the printer.



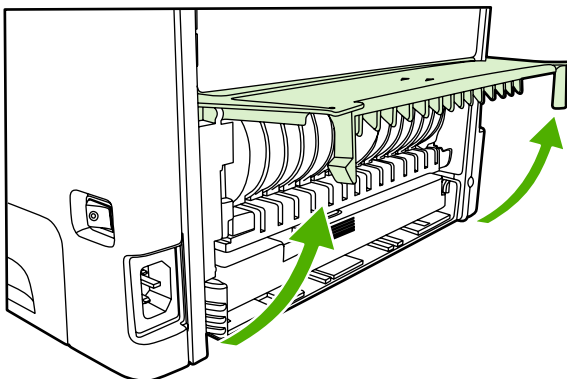
6. Close the automatic two-sided printing path door by firmly pushing it up.



7. Reinsert tray 2.

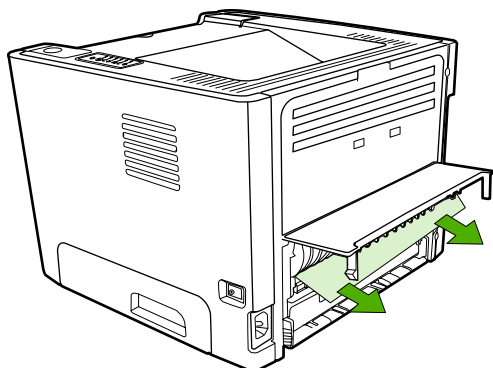


8. Open the automatic two-sided printing path door on the back of the printer.

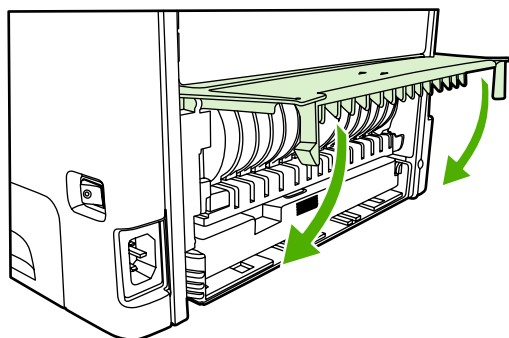




9. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the printer.



10. Close the automatic two-sided printing path door.



# Diagnostic resources

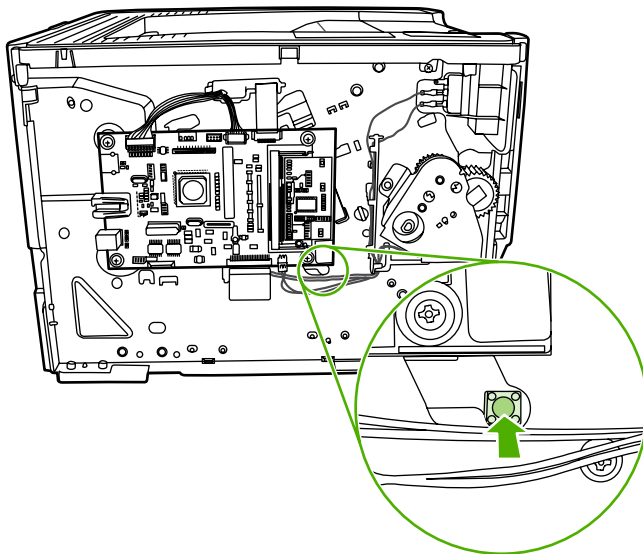
## Engine test

The engine test verifies that the print engine is functioning correctly. During the test, the printer prints horizontal lines down the entire printable area of a page. The formatter is bypassed during the engine test.



**NOTE** The formatter must be connected to the ECU to perform an engine test.

1. Remove the left side cover.
2. Press the engine-test switch. A single test page prints.



**Figure 7-1** Location of engine-test switch

## Continuous self-test

The continuous self-test puts the device into a continuous printing mode without having to send jobs to it.

1. Turn off the printer.
2. Press and hold the **Go** button.
3. Turn on the printer and continue to hold the **Go** button for approximately 20 seconds, but no longer than 30 seconds, until the **Attention** and **Ready** lights illuminate.
4. Release the **Go** button.



**NOTE** If the **Attention**, **Ready**, and **Go** lights illuminate before you release the **Go** button, start again at step 1.

5. The **Ready** light starts blinking, indicating that the device is performing a continuous self-test.

To terminate the continuous self-test, press the **Cancel** button.

## Half self-test functional check

The half self-test check determines which printing process is malfunctioning.

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

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

1. Make sure you removed the entire length of the sealing tape from the print cartridge before you installed the cartridge.
2. Perform a drum rotation functional check to ensure that the drum is rotating.
3. Perform a high-voltage contacts check.

## Drum rotation functional check

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



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

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

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

## Heating element check

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

1. Unplug the printer for at least ten minutes.
2. Verify that the thermistor connector is seated into both the printer chassis and the ECU.

3. Remove the heating element connector from the ECU. To measure the continuity of the heating element, measure the resistance between the two pins at the end of the cable.



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

If no resistance is measured, replace the fuser.

4. Remove the thermistor connector, and then measure the resistance between J206 pins one and two and between J206 pins three and four.



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

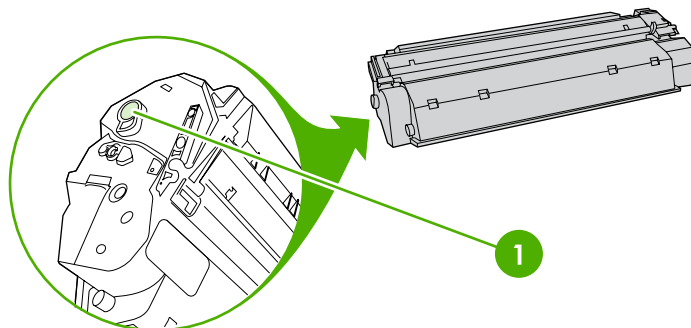
5. If no resistance is measured, replace the fuser.

## High-voltage contacts check

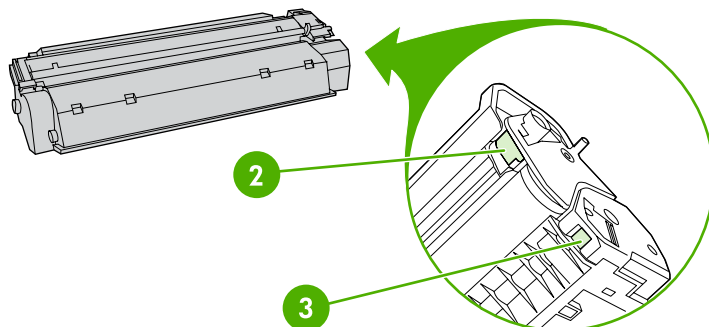
The high-voltage contacts in the printer must have a good connection with the contacts on the print cartridge to provide the necessary voltages for the electrophotographic processes.

### Checking the print cartridge contacts

Remove the print cartridge and visually inspect the three connection points on the ends of the print cartridge: drum ground (1), charging (2), and developing roller (3). If one is dirty or corroded, clean the connection with isopropyl alcohol. If one is damaged, replace the print cartridge.



**Figure 7-2** Print cartridge high-voltage connection points (right side)



**Figure 7-3** Print cartridge high-voltage connection points (left side)



**CAUTION** After removing the print cartridge, handle it only on the ends.

## **Checking the high-voltage connector assembly**

Visually inspect the cartridge connection points inside the printer to make sure that they are not dirty or corroded. If the pins are dirty, clean them with isopropyl alcohol.

# Network-setup problemsolving

If the computer cannot discover the networked HP LaserJet 2015 Series printer, perform the following steps:

1. Check the cables to ensure that they are properly connected. Check all of the following connections:
  - Power cables
  - Cables between the printer and the hub or switch
  - Cables between the hub or switch and the computer
  - Cables to and from the modem or Internet connection, if applicable
2. Verify that the computer network connections are working correctly (Windows only):
  - On the Windows desktop, double-click **My Network Places** or **Network Neighborhood**.
  - Click the **Entire Network** link.
  - Click the **Entire Contents** link.
  - Double-click one of the network icons, and make sure that some devices are listed.
3. Verify that the network connection is active:
  - Check the network light on the network (RJ-45) connector on the back of the printer.
  - If one of the lights is on solid, the printer is connected to the network.
  - If both network lights are off, check the cable connections from the printer to the gateway, switch, or hub to ensure that the connections are secure.
  - If the connections are secure, turn off the power to the printer for at least 10 seconds, and then turn on the power to the printer.
4. Print a Network Configuration page.
  - On the Network Configuration page, see if a non-zero IP address is assigned to the printer.
  - If the Network Configuration page does not have a valid, non-zero IP address, reset the HP internal network port to the factory defaults by pressing the **Go** and **Cancel** buttons at the same time.

After the Attention, Ready, and Go lights finish cycling, the printer returns to a Ready state and the reset is complete.
  - Two minutes after the printer reaches the Ready state, print another Network Configuration page, and check to see if a valid IP address is assigned to the printer.
  - If the IP address is still zeros, contact the network administrator.

# Reset the printer

## NVRAM initialization



**CAUTION** Only perform the following procedure if absolutely necessary. Performing an NVRAM initialization resets some parameters that cannot be restored later.

NVRAM initialization sets all default variables stored in NVRAM back to factory default values or to a default ROM value, depending on the variable. It also performs a system reset.

NVRAM initialization resets the following:

- All menu settings to factory default values
- Factory settings such as formatter number, page counts, and factory paper settings

Use the following procedure to perform an NVRAM initialization.

1. Turn the printer off.
2. Press and hold down the **Go** button.
3. Turn the printer on, and continue to hold the **Go** button for at least 20 seconds. During this process, the **Go** button, Attention, and Ready LEDs each turn on.
4. Release the **Go** button.

The printer lights begin cycling. After the NVRAM initialization is complete, the printer returns to the ready state.

## Super NVRAM initialization

This feature is similar to NVRAM initialization, except all of NVRAM is re-initialized (including the configuration parameters not reset by an NVRAM initialization).

Use the following procedure to perform an NVRAM initialization.

1. Turn off the printer.
2. Press and hold the **Go** button.
3. Turn on the printer and continue to hold the **Go** button for at least 50 seconds. During this process, the **Attention**, **Ready**, **Go** lights turn on. Then the **Attention** and **Ready** lights turn off, leaving only the **Go** light illuminated.
4. Release the **Go** button. The **Go**, **Ready** and **Attention** lights turn on.
5. Press and hold the **Go** button. All lights turn off. During the next three seconds, the **Go**, **Ready** and **Attention** lights turn on in that order, one per second.
6. Release the **Go** button to perform the initialization. The control panel lights begin cycling from front to back. After the Super NVRAM initialization process is complete, the printer returns to the ready state.

## Network reset

A network reset changes all network system parameters in NVRAM to the factory defaults. During the network-reset process, all button presses are ignored.

Use the following procedure to perform a network reset.

1. Turn off the printer.
2. Press and hold the **Job Cancel** button.
3. Turn on the printer and continue to hold the **Job Cancel** button for approximately 10 seconds, but no longer than 20 seconds. During this process, the **Attention** light turns on.
4. Release the **Job Cancel** button. The **Attention**, **Ready**, and **Go** lights begin cycling from front to back. After the network-reset process is complete, the device returns to the ready state.



---

**NOTE** If the **Attention** and **Ready** lights illuminate before you release the **Job Cancel** button, start again at step 1.

---

## Cold reset

A cold reset changes most system parameters in NVRAM to the factory defaults. However, unlike NVRAM initialization, a cold reset does not reset the page count, the paper tray sizes, language, or formatter number.



---

**NOTE** A cold reset also resets all the HP Jetdirect settings as well as the printer settings.

---

Use the following procedure to perform a cold reset.

1. Turn off the printer.
2. Press and hold the **Go** button.
3. Turn the printer on, and continue to hold the **Go** button for at least 5 seconds, but not longer than 15 seconds. During this process, the **Attention** LED turns on.
4. Release the **Go** button.



---

**NOTE** If both the **Attention** and the **Ready** LEDs turn on before you release the **Go** button, you must start the procedure again with step 1.

---

The printer's LEDs begin cycling. The cold-reset process runs until completion, and the printer returns to the ready state.



# Troubleshooting tools and reference diagrams

## Repetitive image defects

If the printer output has a consistent, repetitive defect, then use [Table 7-6 Repetitive image defects on page 179](#) to determine which part needs to be replaced based on the measured distance between the repetitions of the defect.

**Table 7-6** Repetitive image defects

Distance between identical defects	Dirty or damaged roller	Solution
37.7 mm (1.48 inches)	Primary charging roller	Replace the print cartridge.
43.0 mm (1.69 inches)	Registration roller	Replace the registration assembly.
44.0 mm (1.73 inches)	Developing cylinder	Replace the print cartridge.
46.2 mm (1.82 inches)	Transfer roller	Replace the transfer roller.
56.5 mm (2.22 inches)	Fuser film	Replace the fuser.
69.0 mm (2.72 inches)	Pressure roller	Replace the fuser.
75.4 mm (2.97 inches)	Photosensitive drum	Replace the print cartridge.

General timing chart

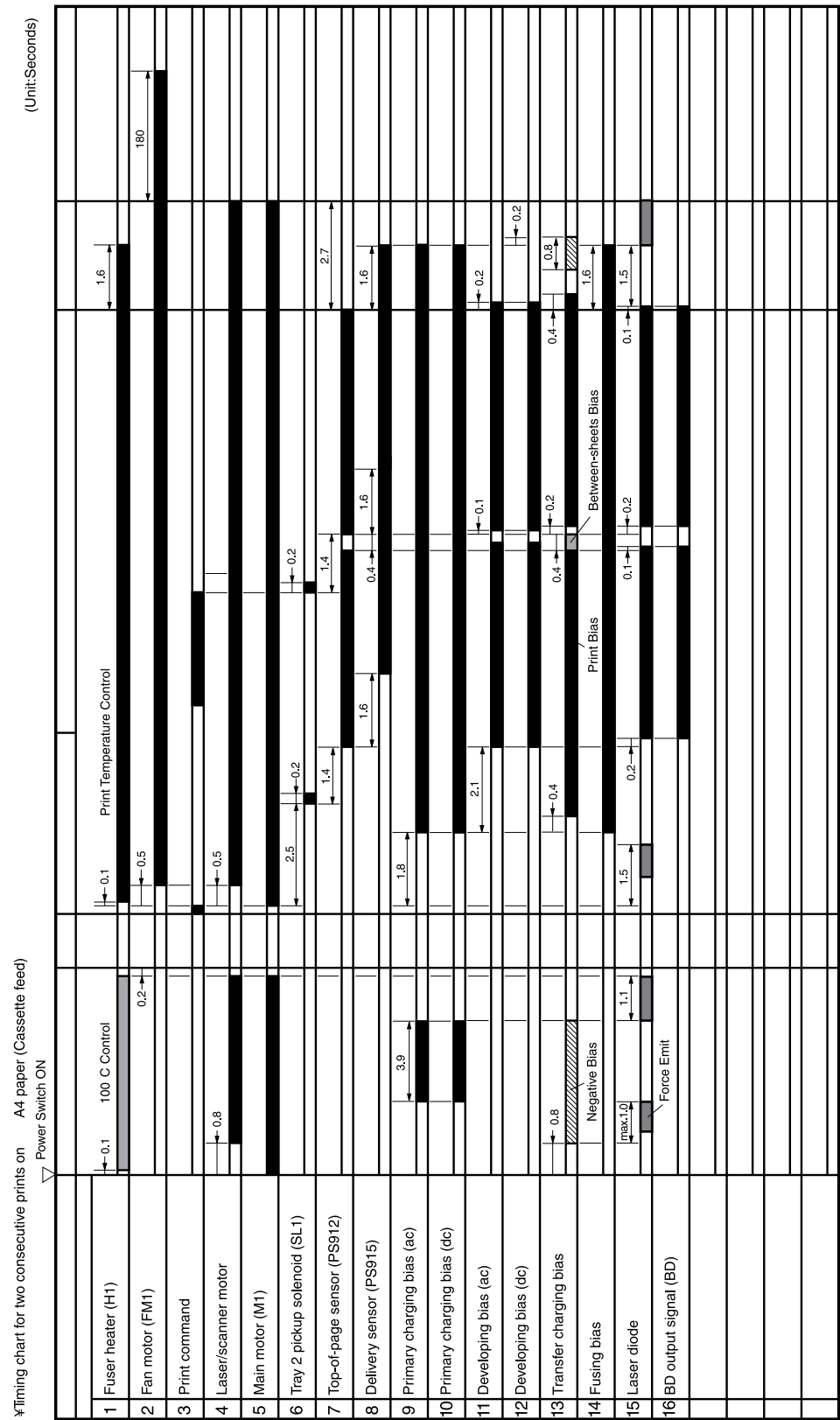
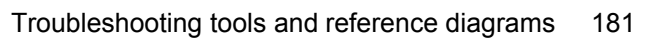


Figure 7-4 General timing chart

**Figure 7-5** Circuit diagram (1 of 2)



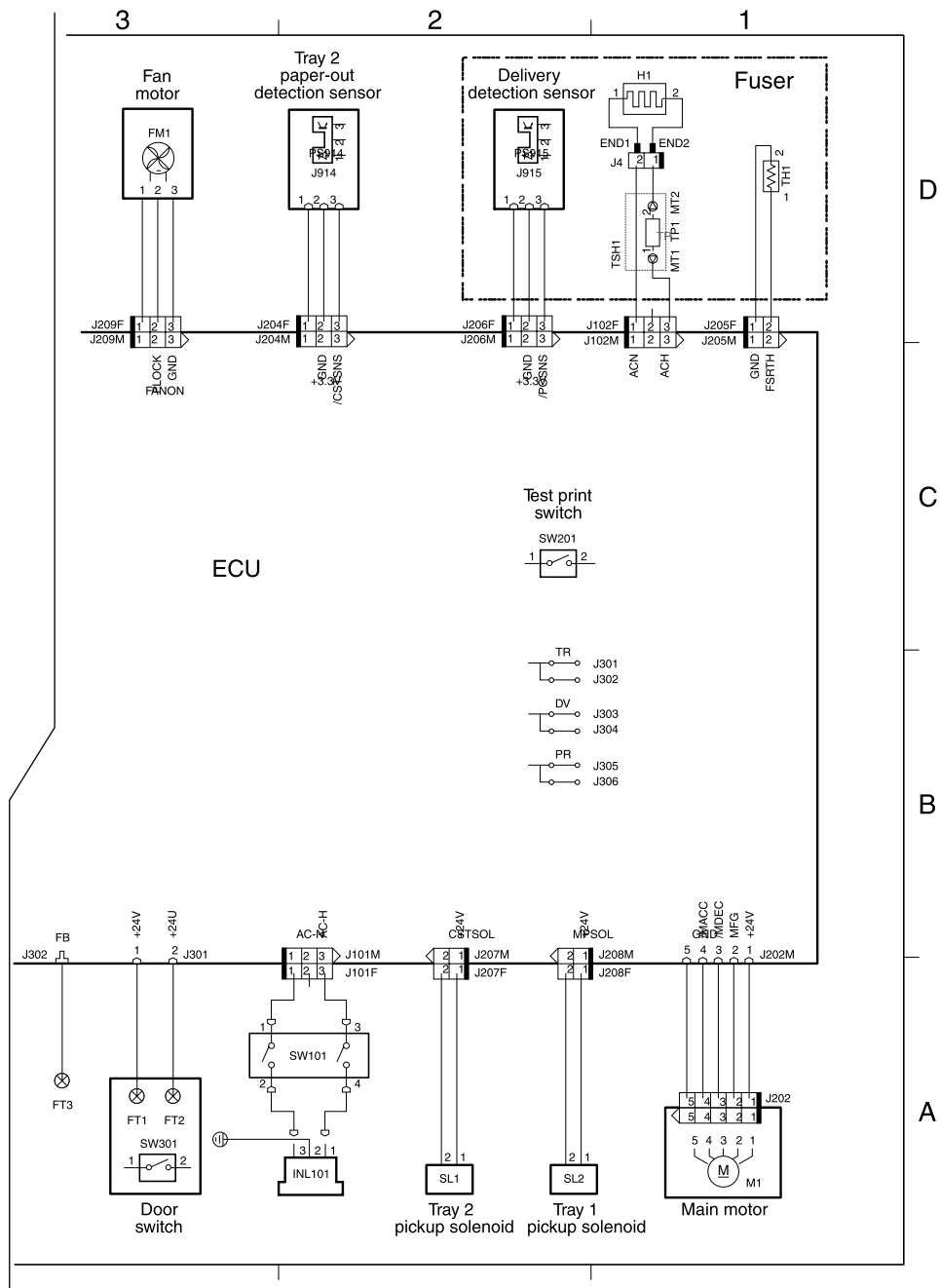
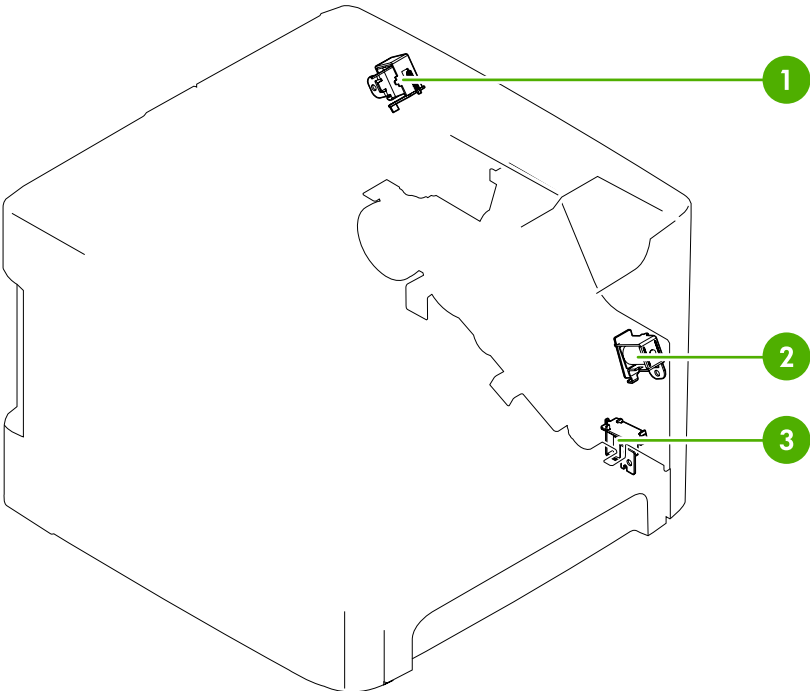


Figure 7-6 Circuit diagram (2 of 2)

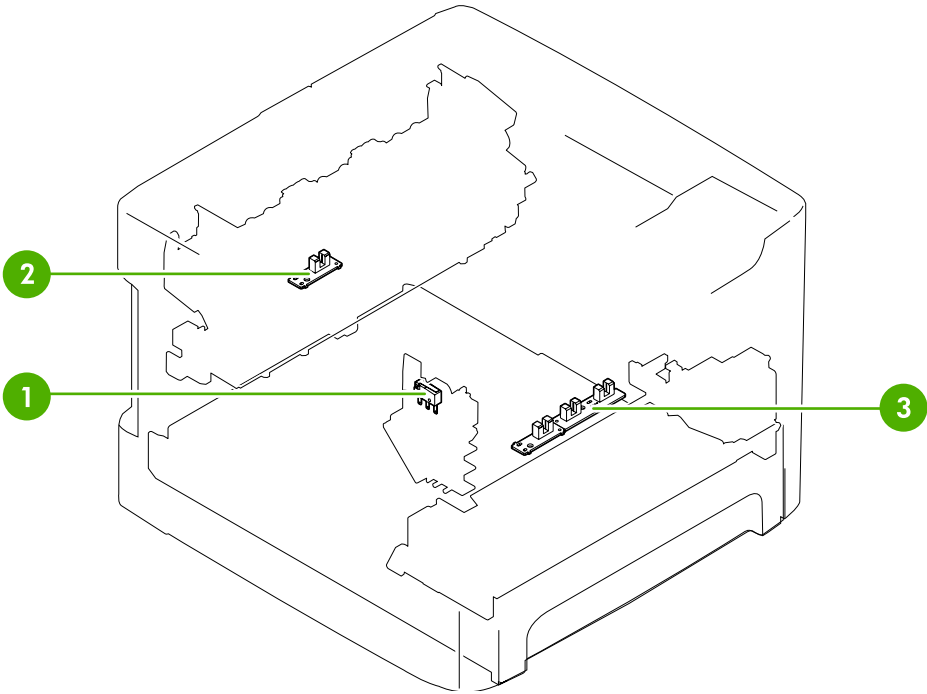
# Solenoids



**Figure 7-7** Solenoids

1	Duplex solenoid
2	Tray 1 pickup solenoid
3	Tray 2 pickup solenoid

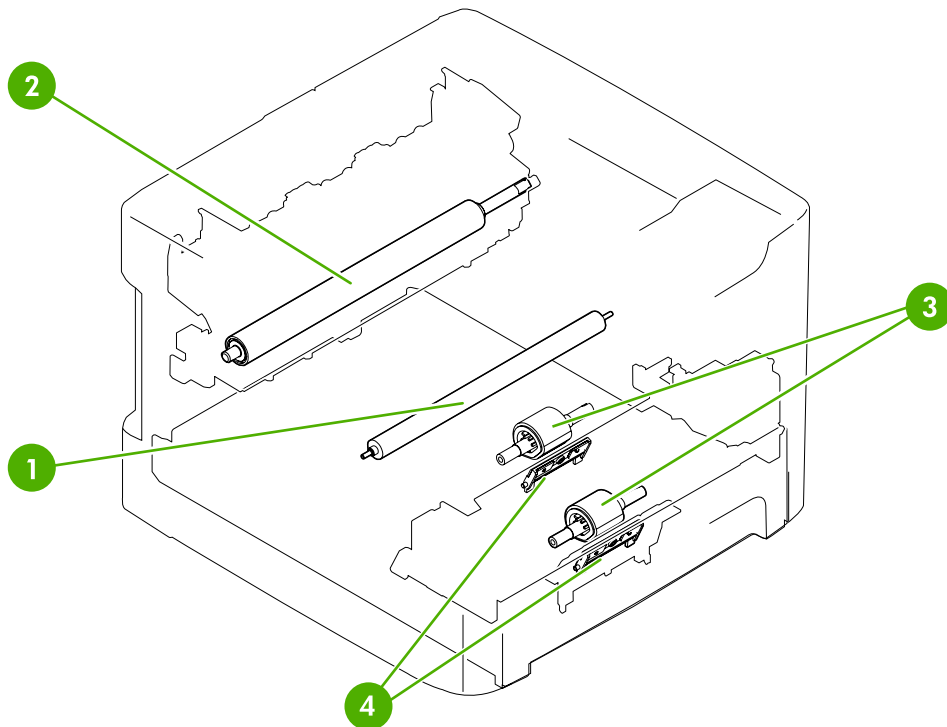
# Switches and sensors



**Figure 7-8** Switches and sensors

1	Interlock switch
2	Delivery sensor
3	Top-of-page sensor

## Rollers and pads



**Figure 7-9** Rollers and pads

1	Transfer roller
2	Pressure roller
3	Pickup roller
4	Separation pad





## 8 Parts and diagrams

- [Order parts and supplies](#)
- [Assembly locations](#)
- [Covers](#)
- [Internal assemblies](#)
- [Alphabetical parts list](#)
- [Numerical parts list](#)

# Order parts and supplies

## Parts

Order replacement parts from the following Web sites:

<http://h30074.www3.hp.com/csn-aux/srvcdlvry/epdo/default/ePDOLogin.asp> (technicians)

<http://h20141.www2.hp.com/hpparts> (customers)

## Related documentation and software

Order documentation and software from the companies listed in the following table; some documentation and software is available at the following Web sites.

**Table 8-1** Technical support Web sites

<b>HP Customer Care Online</b>	<a href="http://www.hp.com/support">http://www.hp.com/support</a>
Software drivers, support documentation, and answers to frequently asked questions	
<b>HP Technical Training</b>	<a href="http://education.itrc.hp.com/TrainerII/en-US/index.jsp">http://education.itrc.hp.com/TrainerII/en-US/index.jsp</a>
(North America)	
Classes and schedules	

## Supplies

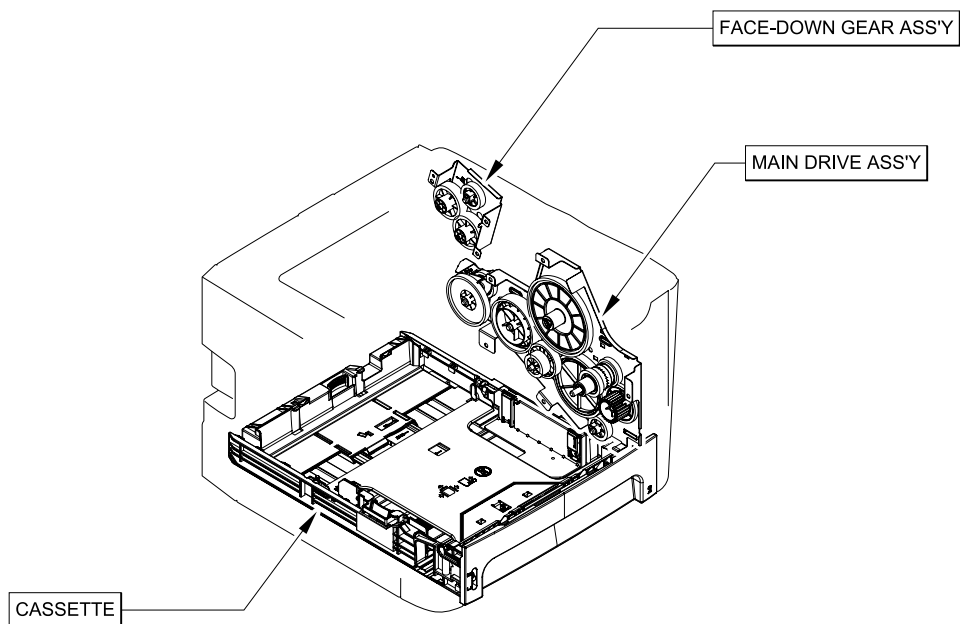
Printer supplies are listed in this chapter. Consumables are available directly from HP at the following numbers.

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

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



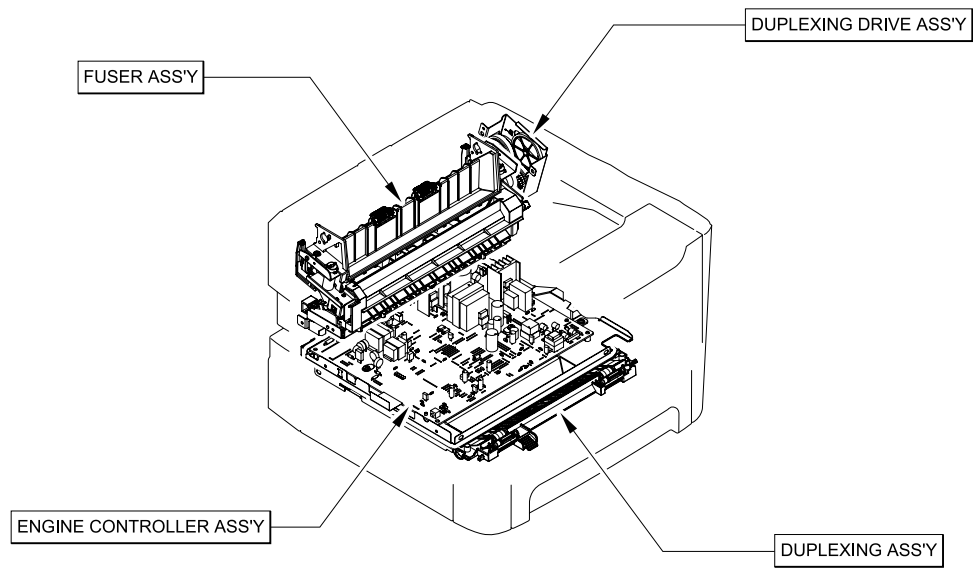
# Assembly locations



**Figure 8-1** Assembly locations (1 of 2)

**Table 8-2** Assembly locations (1 of 2)

Ref	Description	Part number	Qty
	Face-down gear assembly	RM1-1305-000	
	Main drive assembly	RM1-4253-000	
	Cassette	RM1-4251-000	
	Registration assembly	RM1-4244-000	1

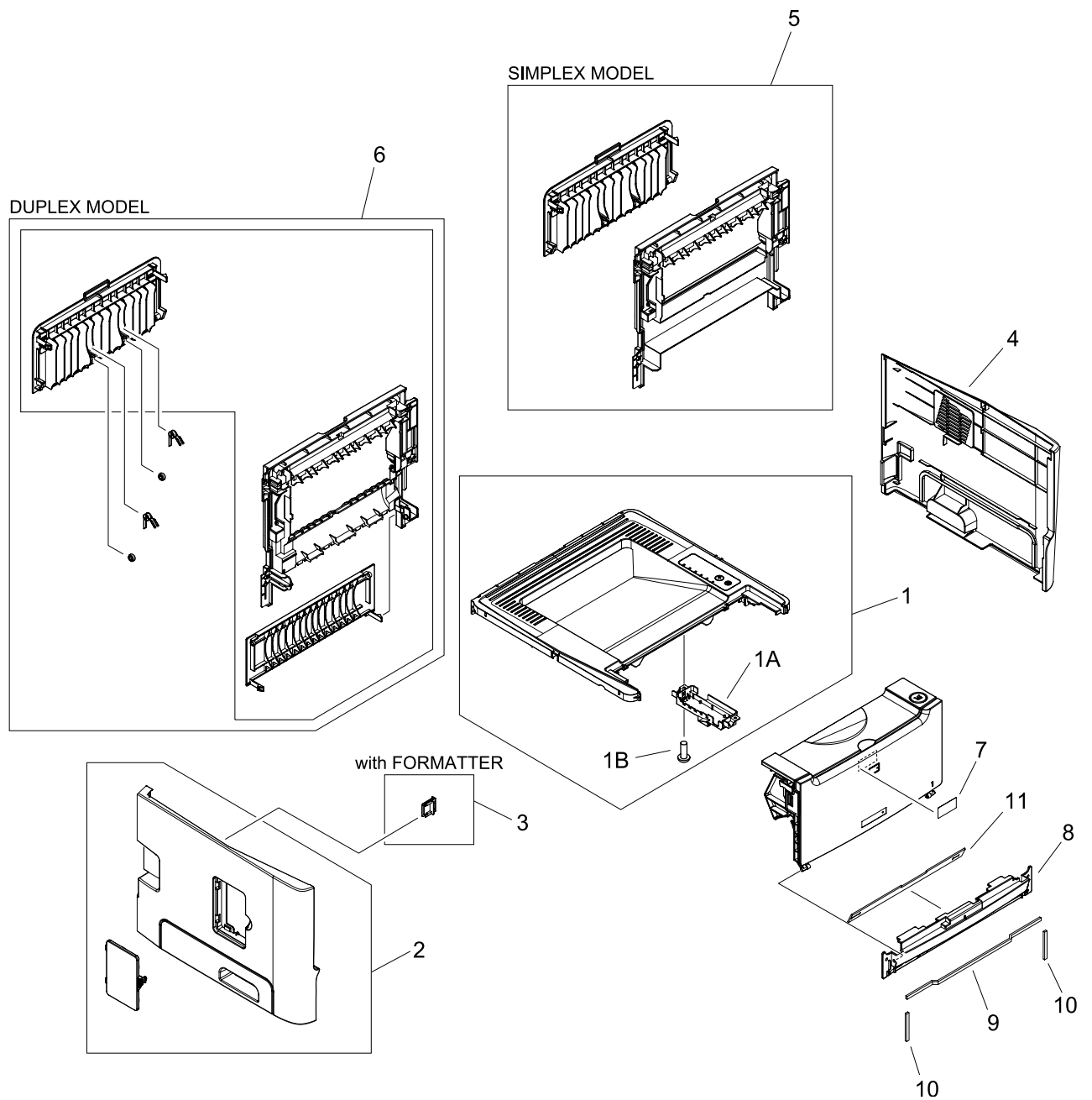


**Figure 8-2** Assembly locations (2 of 2)

**Table 8-3** Assembly locations (2 of 2)

Ref	Description	Part number	Qty
	Fuser assembly (110 V)	RM1-4247-000	1
	Fuser assembly (220 V)	RM1-4248-000	
	Duplex-drive assembly	RM1-4255-000	
	Duplexing assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4258-000	
	ECU assembly (110 V)	RM1-4273-000	
	ECU assembly (220 V)	RM1-4273-000	

## Covers

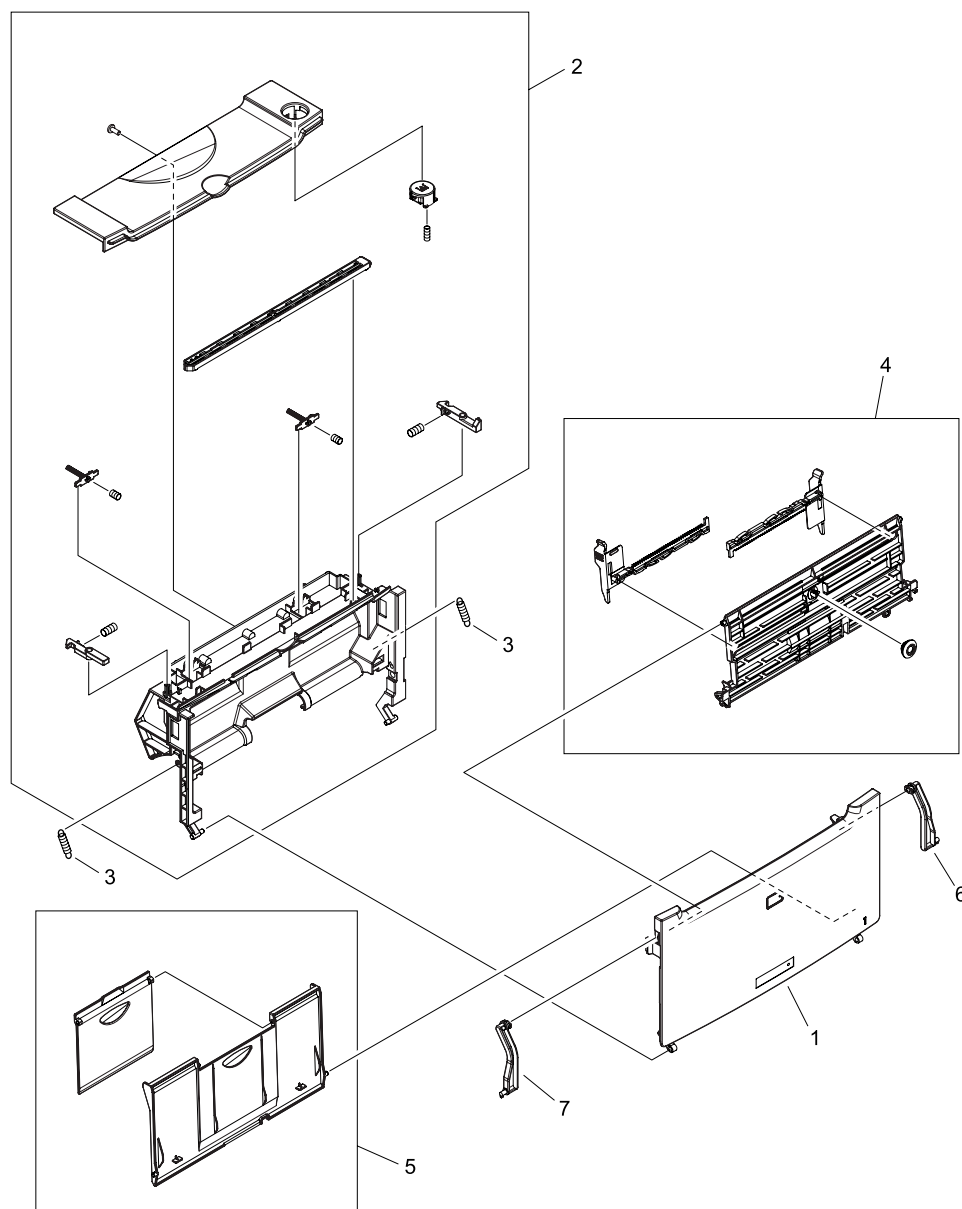


**Figure 8-3** Covers



**Table 8-4** Covers

Ref	Description	Part number	Qty
1	Top cover assembly	RM1-4272-000	1
1A	Holder, panel PCB	RC2-0316-000	1
1B	Screw, tap, binding head, M3x8	XB4-7300-809	2
2	Left cover assembly	RL1-1529-000	1
3	Cover, connector	RC2-0332-000	1
4	Right cover assembly	RL1-1530-000	1
5	Rear cover assembly (HP LJ P2015)	RM1-4277-000	1
6	Rear cover assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4270-000	1
7	Label, stapler prohibition	RC1-3794-000	1
8	Cover, front	RC2-0330-000	1
9	Sheet, noise absorb	RC2-0312-000	1
10	Sheet, noise absorb	RC2-0311-000	2
11	Sheet, insulator	RC2-0314-000	1

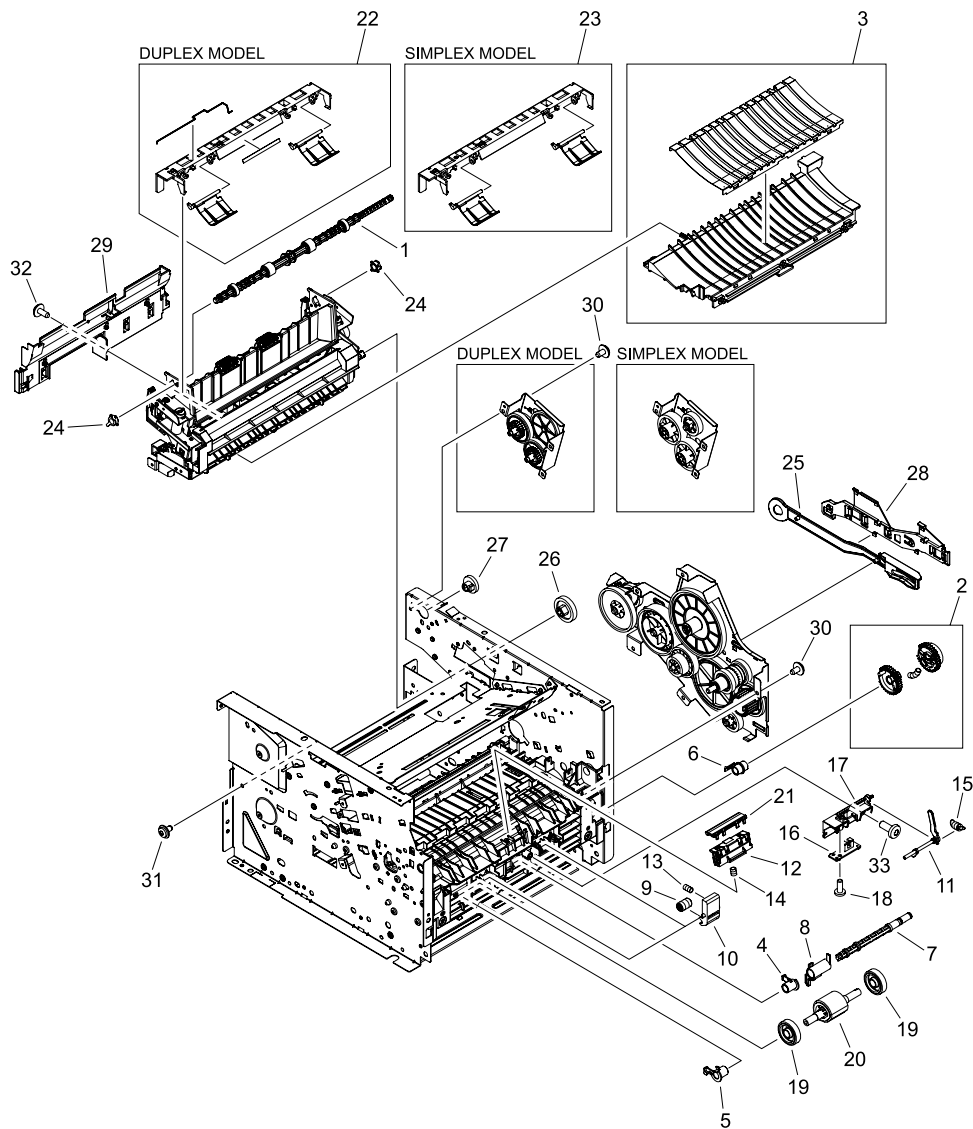


**Figure 8-4** Cartridge-door assembly

**Table 8-5** Cartridge-door assembly

Ref	Description	Part number	Qty
	Cartridge-door assembly	RM1-4266-000	1
1	Cover, multipurpose	RM2-0407-000	1
2	Inner cover assembly	RM1-4267-000	1
3	Spring, tension	RU5-2895-000	2
4	M.P. lifting-plate assembly	RM1-4268-000	1
5	Expansion-tray assembly	RM1-4269-000	1
6	Hinge, multipurpose, right	RC2-0422-000	1
7	Hinge, multipurpose, left	RC2-0421-000	1

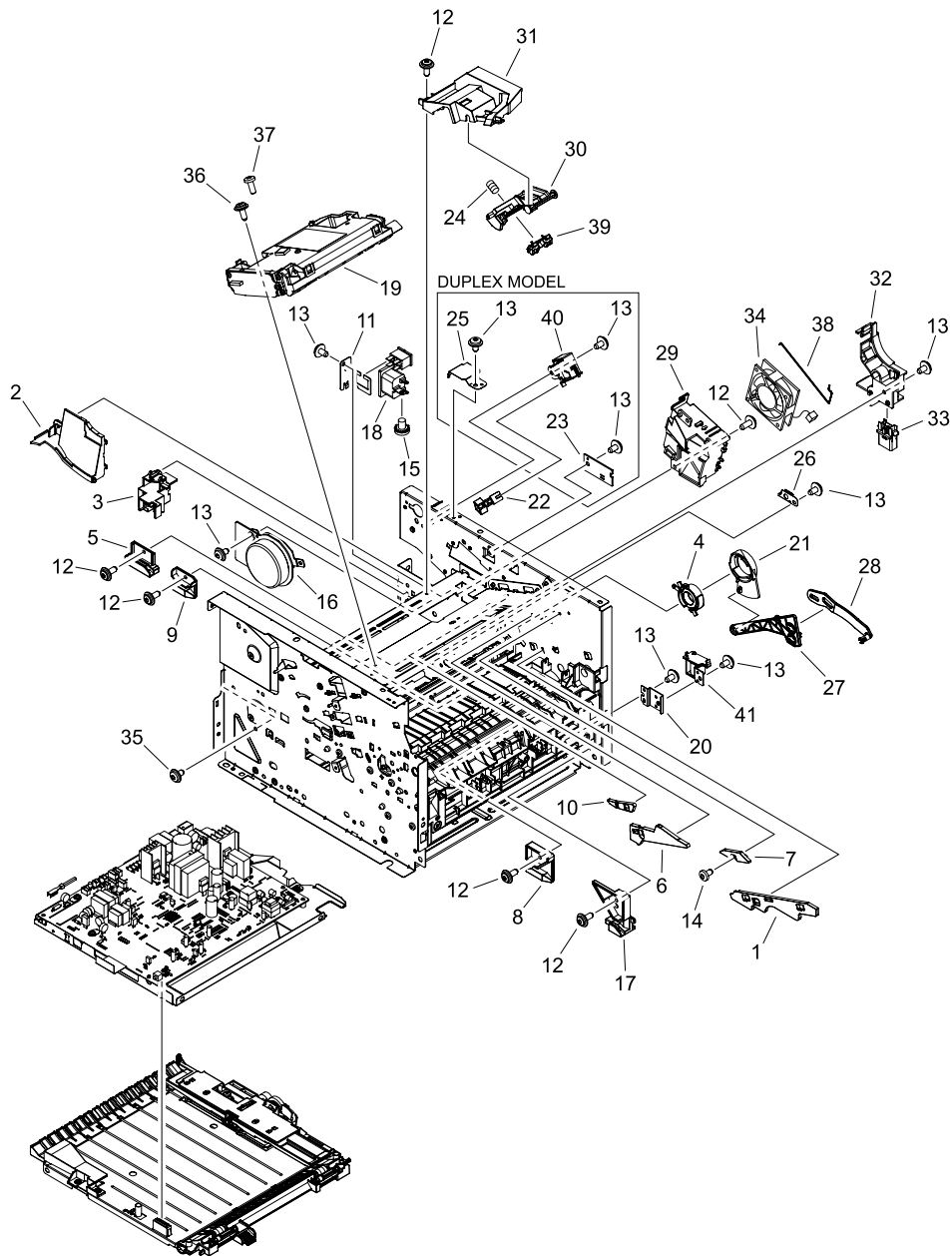
## Internal assemblies



**Figure 8-5** Internal components (1 of 4)

**Table 8-6** Internal components (1 of 4)

Ref	Description	Part number	Qty
1	Roller, face-down	RL1-0527-000	1
2	Paper pick-up gear assembly	RM1-1301-000	1
3	Paper-feed guide assembly	RM1-4263-000	1
4	Bushing, right	RB2-2895-000	1
5	Bushing, left	RB2-2896-000	1
6	Bushing	RB2-2897-000	1
7	Shaft, paper pick-up drive	RC1-3471-000	1
8	Flag, paper-sensing	RC1-3472-000	1
9	Roller, idler	RC1-3481-000	2
10	Arm, idler roller	RC1-3482-000	2
11	Flag, M.P. sensor	RC2-0415-000	1
12	Base, separation pad	RC2-0419-000	1
13	Spring, compression	RU5-2323-000	2
14	Spring compression	RU5-2894-000	1
15	Spring, tension	RU5-2898-000	1
16	M.P. sensor PCB assembly	RM1-4162-000	1
17	Holder, M.P. sensor	RC2-0414-000	1
18	Screw, tap, binding head, M3x8	XB4-7300-809	1
19	Roller, paper pickup idler	RC1-3470-000	2
20	Roller, paper pick-up	RL1-0540-000	1
21	Pad, M.P. separation	RL1-1524-000	1
22	Paper-retaining assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4265-000	1
23	Paper retaining assembly (HP LJ P2015)	RM1-4276-000	1
24	Bushing	RC1-3665-000	2
25	Link, gear release	RC1-3668-000	1
26	Gear, 29T	RU5-0331-000	1
27	Gear, 19T	RU5-0332-000	1
28	Guide, cable	RC2-1569-000	1
29	Guide, reverse	RC2-0323-000	1
30	Screw, RS, M3x6	XA9-1495-000	7
31	Screw, tap, M3x6	XA9-1503-000	6
32	Screw, RS, M3x8	XA9-1504-000	1
33	Screw, tapping, truss head, M4x10	XB4-7401-005	1



**Figure 8-6** Internal components (2 of 4)

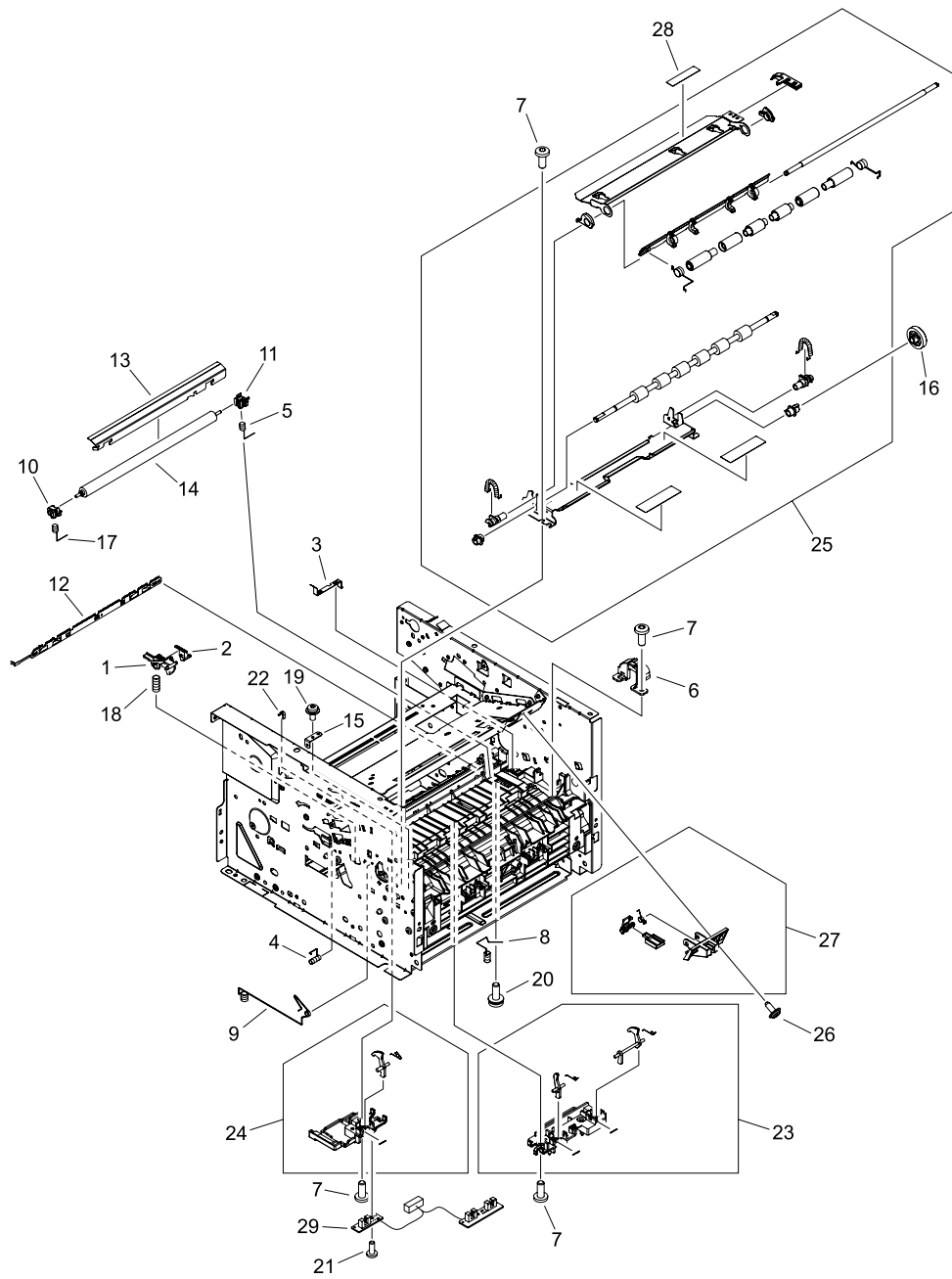
**Table 8-7** Internal components (2 of 4)

Ref	Description	Part number	Qty
1	Guide, cartridge, right lower	RC2-0346-000	1
2	Duct	RC2-0351-000	1
3	Guide, cable	RC2-0397-000	1
4	Cam	RC2-0410-000	1
5	Guide, cassette, right rear	RC2-0416-000	1
6	Guide, cartridge, right upper	RC2-0426-000	1
7	Guide, shutter, front	RC2-0428-000	1
8	Guide, cassette, right center 1	RC1-3456-000	1
9	Guide, cassette, right center 2	RC1-3457-000	1
10	Guide, shutter, rear	RC1-3535-000	1
11	Holder, switch	RC1-3727-000	1
12	Screw, RS, M3x8	XA9-1504-000	8
13	Screw, RS, M3x6 (HP LJ P2015d, P2015dn, and P2015x)	XA9-1495-000	10
13	Screw, RS, M3x6 (HP LJ P2015)	XA9-1495-000	7
14	Screw, RS, M3x6	XA9-1561-000	1
15	Screw, toothed washer, M4x6	XB2-7400-606	1
16	Motor, DC	RK2-1567-000	1
17	Guide, cassette, right front	RL1-0517-000	1
18	Inlet/switch cable assembly	RM1-4169-000	1
19	Scanner assembly	RM1-4262-000	1
20	Plate, solenoid holder	RC1-3459-000	1
21	Cam, right	RC1-3546-000	1
22	Stopper	RC1-3580-000	1
23	Duplex driver PCB assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-1262-000	1
24	Spring, compression	RU5-2335-000	1
25	Shield, duplexing solenoid (HP LJ P2015d, P2015dn, and P2015x)	RC2-0347-000	1
26	Plate, grounding	RC2-1568-000	1
27	Arm, cam	RC2-0405-000	1
28	Arm, link	RC2-0406-000	1
29	Holder, fan	RC2-0349-000	1
30	Arm, tag	RC2-0392-000	1
31	Duct	RC2-0354-000	1
32	Holder, drawer connector	RC2-0396-000	1

Ref	Description	Part number	Qty
33	Connector, drawer	VS1-7258-007	1
34	Fan	RK2-1589-000	1
35	Screw, tap, M3x6	XA9-1503-000	3
36	Screw, tap, M3x8	XA9-1648-000	4
37	Screw, tap, binding head, M3x8	XB4-7300-809	1
38	Rod, grounding	RC2-0350-000	1
39	Cable, memory tag	RM1-4163-000	1
40	Solenoid (HP LJ P2015d, P2015dn, and P2015x)	RK2-0420-000	1
41	Solenoid (HP LJ P2015)	RK2-0424-000	1



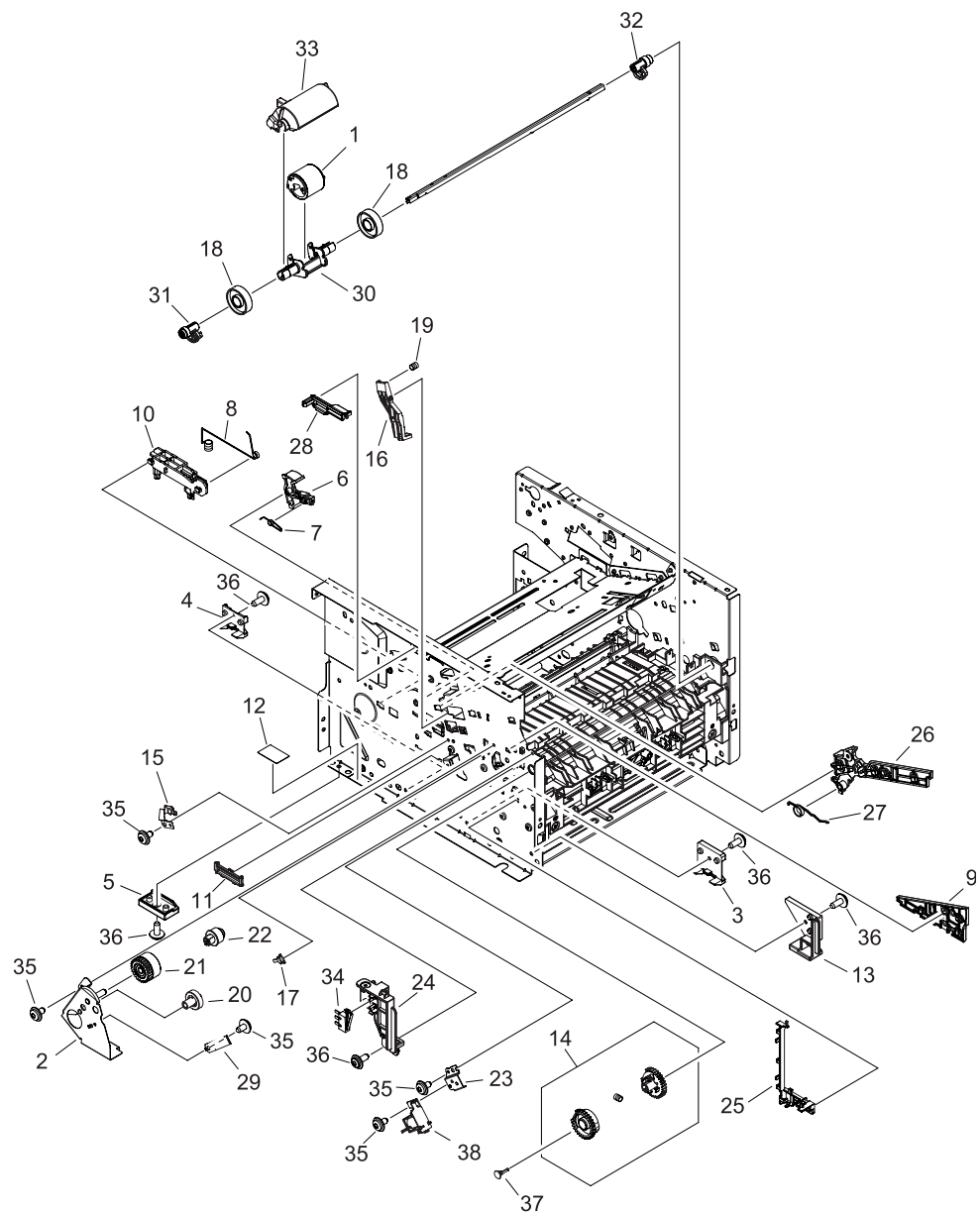




**Figure 8-7** Internal components (3 of 4)

**Table 8-8** Internal components (3 of 4)

Ref	Description	Part number	Qty
1	Cover, drum	RC1-3563-000	1
2	Plate, drum grounding	RC1-3565-000	1
3	Plate, transfer grounding	RC1-3698-000	1
4	Spring, grounding	RC1-3700-000	1
5	Spring, transfer, right	RC1-3702-000	1
6	Cover, registration gear	RC1-3708-000	1
7	Screw, tapping, truss head, M4x10	XB4-7401-005	7
8	Spring, compression	RC1-3736-000	1
9	Spring, contact	RC2-0344-000	1
10	Bushing	RC2-0356-000	1
11	Bushing	RC2-0357-000	1
12	Eliminator, static charge	RC2-0358-000	1
13	Guide, transfer front	RC2-0359-000	1
14	Roller, transfer	RM1-4279-000	1
15	Plate, registration grounding	RC2-0384-000	1
16	Gear, 33T	RU5-0320-000	1
17	Spring, compression	RU5-2144-000	1
18	Spring, compression	RU5-2338-000	1
19	Screw, with washer, M3x8	XA9-1420-000	1
20	Screw, with washer, M4x12	XA9-1422-000	1
21	Screw, tap, binding head, M3x8	XB4-7300-809	2
22	Sheet, registration damper	RC1-3695-000	1
23	Top sensor assembly	RM1-1283-000	1
24	Paper-width sensor assembly	RM1-4245-000	1
25	Registration assembly	RM1-4244-000	1
26	Screw, RS, M3x8	XA9-1504-000	1
27	Shutter link assembly	RM1-1321-000	1
28	Label, transfer guide open	RC1-3796-000	1
29	Paper-sensor PCB assembly	RM1-4159-000	1



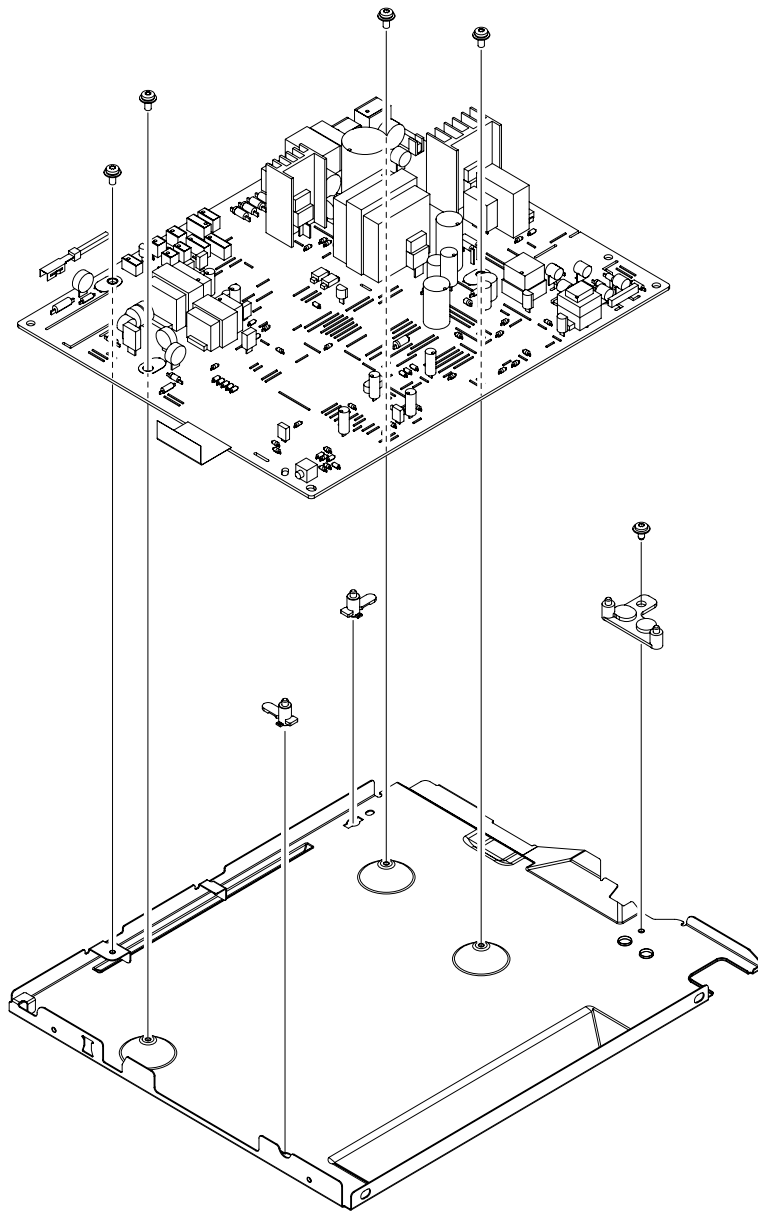
**Figure 8-8** Internal components (4 of 4)

**Table 8-9** Internal components (4 of 4)

Ref	Description	Part number	Qty
1	Roller, M.P. paper pick-up	RL1-1525-000	1
2	Side plate, M.P. drive	RL1-1531-000	1
3	Guide, cassette, left center 1	RC1-3461-000	1
4	Guide, cassette, left center 2	RC1-3462-000	1
5	Guide, cassette, left rear	RC1-3463-000	1
6	Lever, cartridge contact	RC1-3542-000	1
7	Spring, torsion	RC1-3543-000	1
8	Spring, contact	RC1-3719-000	1
9	Guide, cartridge, left lower	RC2-0339-000	1
10	Holder contact	RC2-0342-000	1
11	Guide, F.F.C	RC2-0423-000	1
12	Sheet, plate bottom	RC2-1578-000	1
13	Guide, cassette, left front	RL1-0518-000	1
14	Paper pick-up gear assembly	RM1-4275-000	1
15	Plate, drum grounding	RC1-3541-000	1
16	Arm lock	RC1-3561-000	1
17	Bushing	RC1-3562-000	1
18	Roller	RC1-0950-000	2
19	Spring, compression	RU5-2337-000	1
20	Gear, 19T	RU5-0927-000	1
21	Gear, 26T	RU5-0928-000	1
22	Gear, 14T	RU5-0929-000	1
23	Holder, M.P. solenoid	RC2-0334-000	1
24	Guide, cartridge font	RC2-0340-000	1
25	Guide, M.P. cable	RC2-0335-000	1
26	Guide, cartridge, left upper	RC2-0425-000	1
27	Spring, torsion	RC2-0427-000	1
28	Guide, F.F.C	RC2-0424-000	1
29	Spring, grounding	RC1-0944-000	1
30	Holder, paper pick-up roller	RC2-0386-000	1
31	Cam, M.P., left	RC2-0387-000	1
32	Cam, M.P., right	RC2-0388-000	1
33	Cover, paper pick-up roller	RC2-0420-000	1
34	Microswitch	RK2-0534-000	1

Ref	Description	Part number	Qty
35	Screw, RS, M3x6	XA9-1495-000	6
36	Screw, RS, M3x8	XA9-1504-000	6
37	Cap, continuity	RA0-1068-000	1
38	Solenoid	RK2-1587-000	1



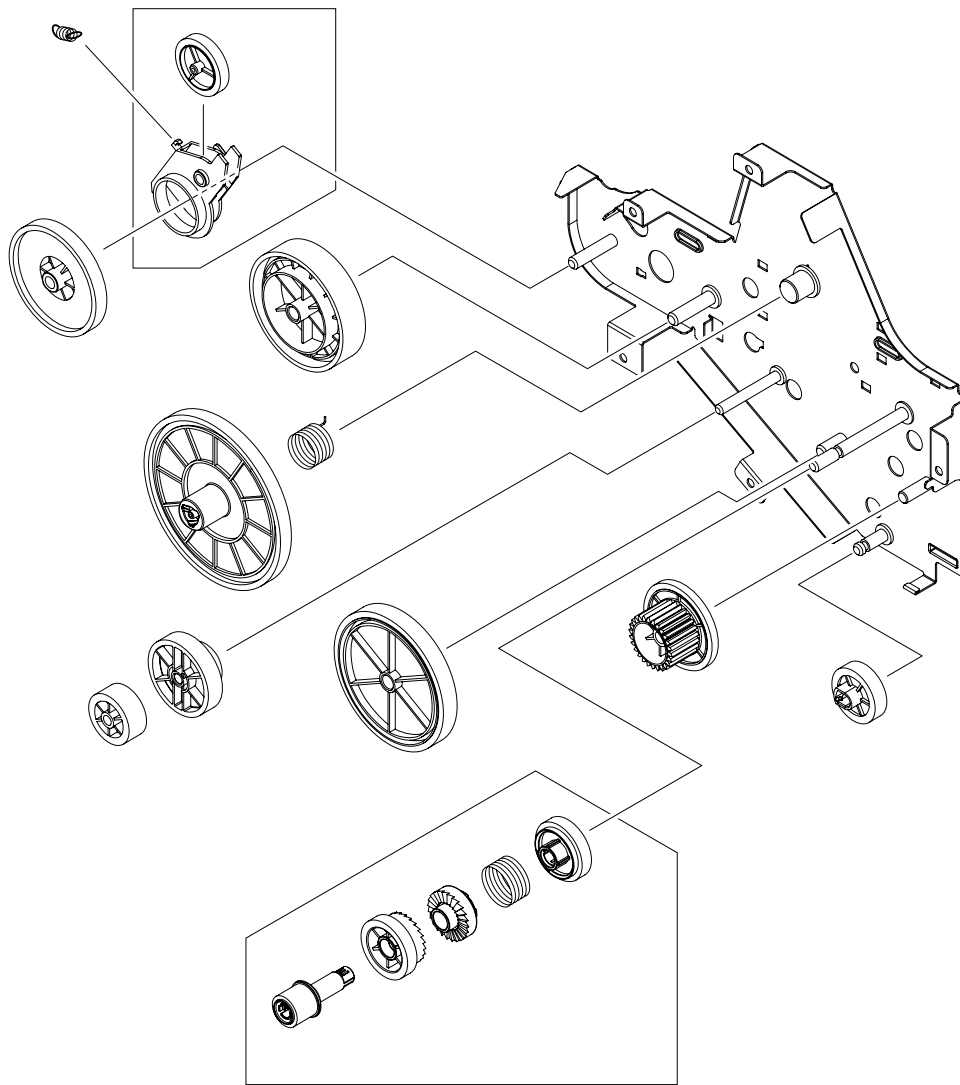


**Figure 8-9** ECU assembly



**Table 8-10** ECU assembly

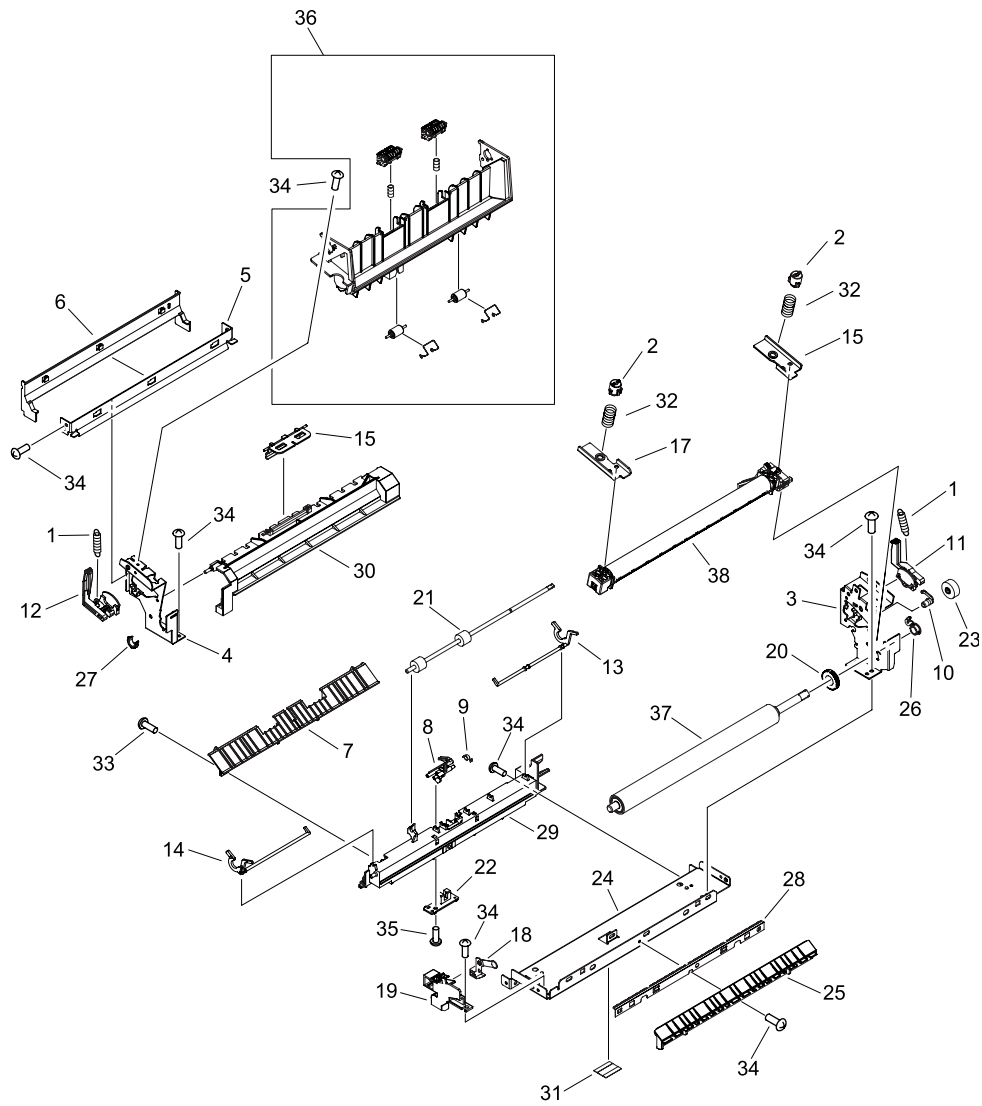
Ref	Description	Part number	Qty
	ECU assembly (110 V)	RM1-4273-000	1
	ECU assembly (220 V)	RM1-4274-000	1



**Figure 8-10** Main drive assembly

**Table 8-11** Main drive assembly

Ref	Description	Part number	Qty
	Main drive assembly	RM1-4253-000	1



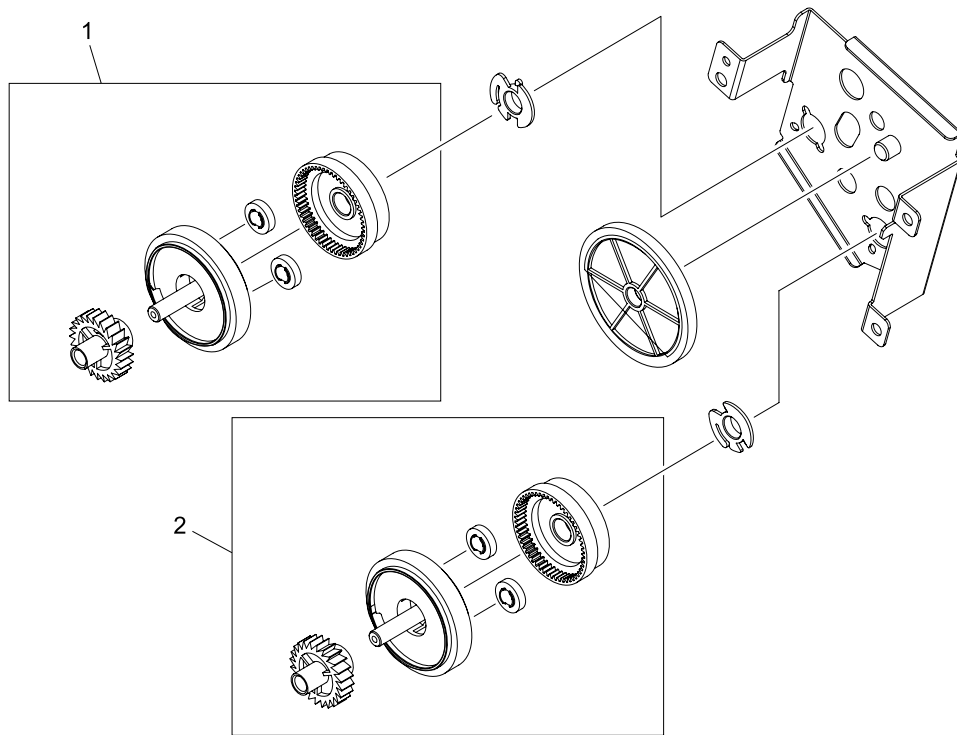
**Figure 8-11** Fuser assembly

**Table 8-12** Fuser assembly

Ref	Description	Part number	Qty
	Fuser assembly (110 V)	RM1-4247-000	1
	Fuser assembly (220 V)	RM1-4248-000	1
1	Spring, tension	RA0-1090-000	2
2	Retainer, spring	RA0-1189-000	1
3	Side plate, fixing, right	RC1-3604-000	1
4	Side plate, fixing, left	RC1-3605-000	1
5	Plate, fixing reinforcement	RC1-3606-000	1
6	Guide, fixing, upper	RC1-3607-000	1
7	Guide, paper separate, lower	RC1-3611-000	1
8	Flag, paper delivery sensor	RC1-3613-000	1
9	Spring, torsion	RC1-3614-000	1
10	Bushing	RC1-3615-000	1
11	Lever, pressure release, right	RC1-3616-000	1
12	Lever, pressure release, left	RC1-3617-000	1
13	Lever, pressure-release sensor, right	RC1-3618-000	1
14	Lever, pressure release sensor, left	RC1-3619-000	1
15	Flag, intertwine prevention	RC1-3622-000	1
16	Plate, pressure, right	RC1-3623-000	1
17	Plate, pressure, left	RC1-3624-000	1
18	Spring, compression	RC1-3625-000	1
19	Holder, leaf spring	RC1-3627-000	1
20	Ring, conductive rubber	RC1-3628-000	1
21	Roller, face-up	RC1-3633-000	1
22	Delivery sensor PCB assembly	RM1-1251-000	1
23	Gear, 17T	RU5-0330-000	1
24	Frame, fixing	RC2-0295-000	1
25	Guide, fixing entrance	RC2-0296-000	1
26	Bushing	RC2-0297-000	1
27	Bushing	RC2-0298-000	1
28	Needle, fixing static charge	RC2-0299-000	1
29	Holder, separate lower guide	RC2-0429-000	1
30	Cover, fixing	RC2-0300-000	1
31	Sheet, fixing bottom	RC2-0431-000	1
32	Spring, compression	RU5-2901-000	2

Ref	Description	Part number	Qty
33	Screw, with washer, M4x12	XA9-1422-000	1
34	Screw, tap, M3x6	XA9-1503-000	10
35	Screw, tap, binding head, M3x8	XB4-7300-809	1
36	Delivery frame assembly	RM1-1291-000	1
37	Roller, pressure	RC2-0303-000	1
38	Film guide assembly (110 V)	RM1-4249-000	1
39	Film guide assembly (220 V)	RM1-4250-000	1



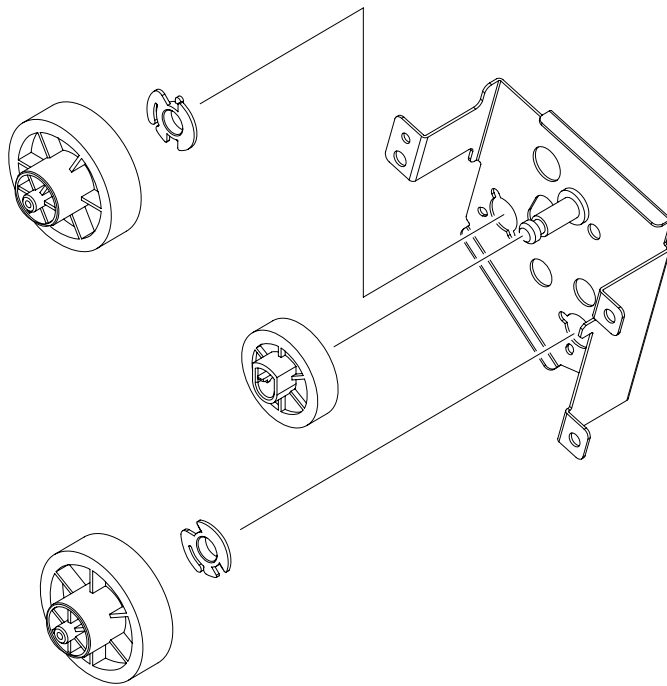


**Figure 8-12** Duplexing drive assembly



**Table 8-13** Duplexing drive assembly

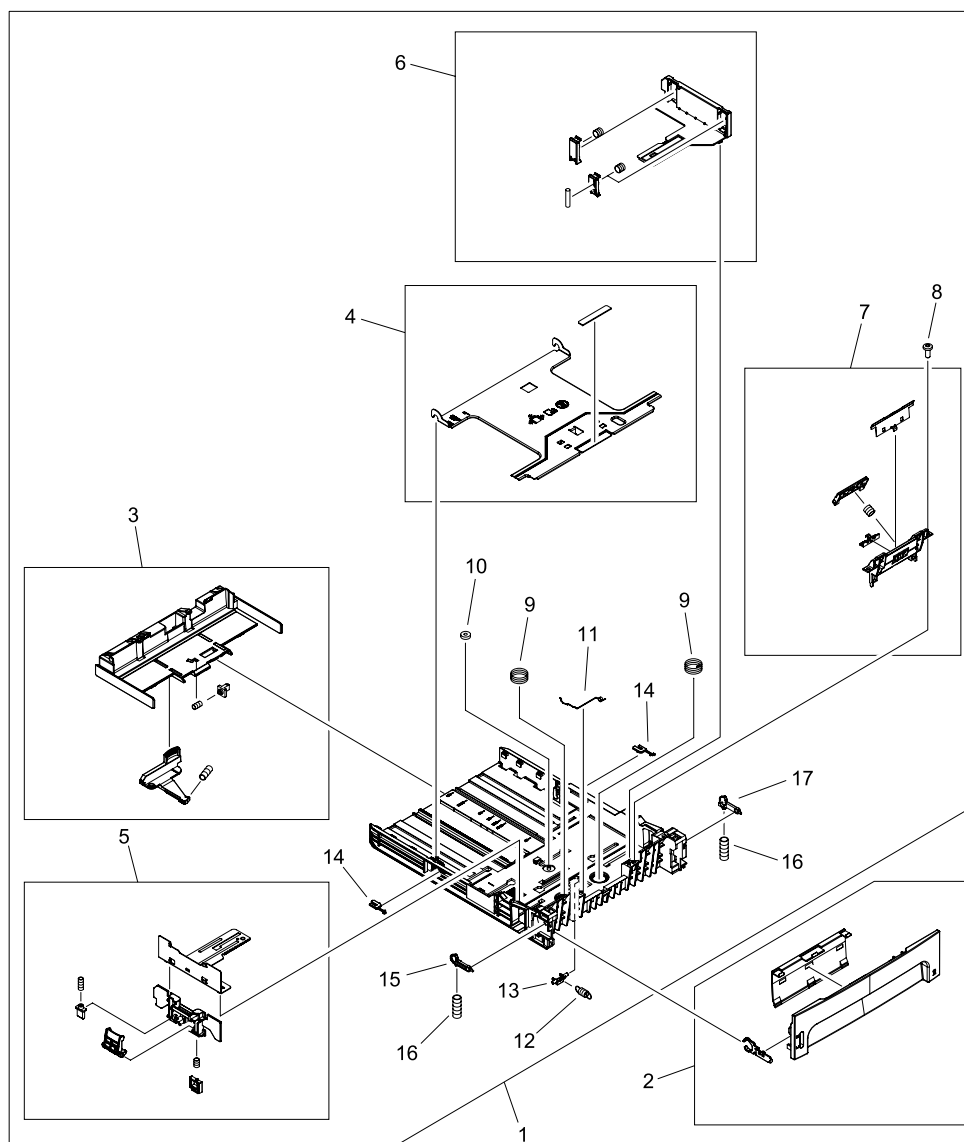
Ref	Description	Part number	Qty
	Duplexing drive assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4255-000	1
1	Normal-rotation drive assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4256-000	1
2	Reverse-rotation drive assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4257-000	1



**Figure 8-13** Face-down gear assembly

**Table 8-14** Face-down gear assembly

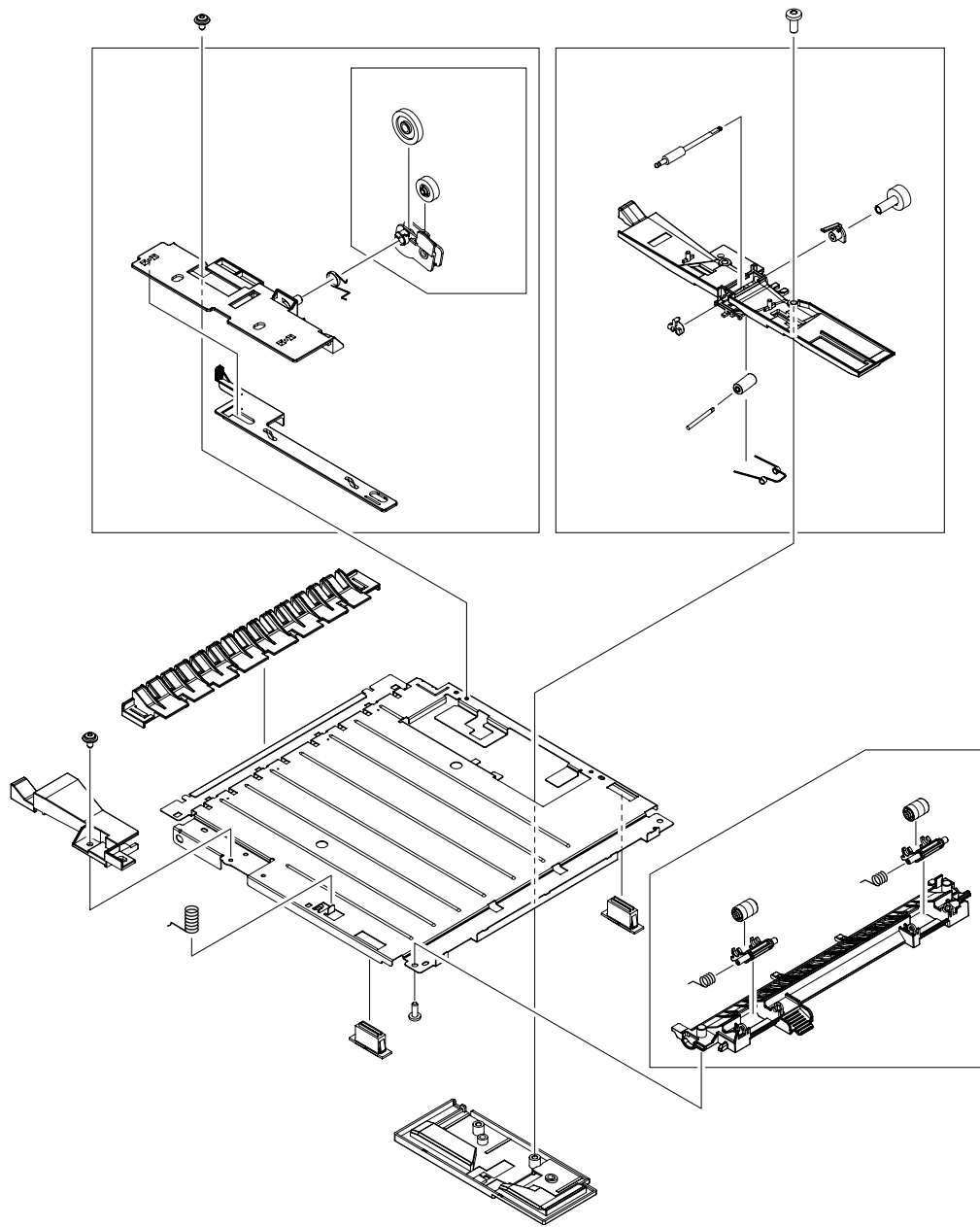
Ref	Description	Part number	Qty
	Face-down gear assembly	RM1-1305-000	1



**Figure 8-14** Cassette assembly

**Table 8-15** Cassette assembly

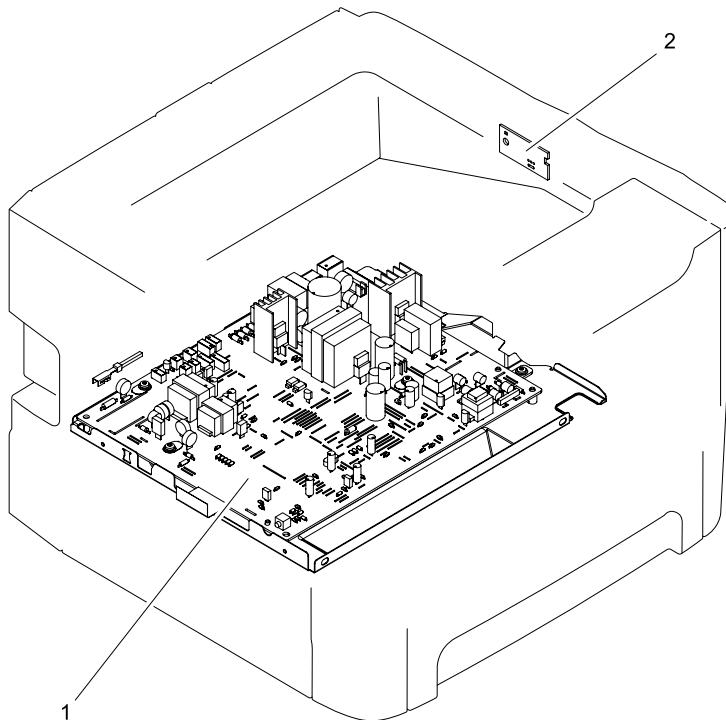
Ref	Description	Part number	Qty
	Cassette	RM1-4251-000	1
1	Cassette body assembly	RC1-3483-000	1
2	Cassette cover assembly	RM1-4252-000	1
3	Back end limit assembly	RM1-1295-000	1
4	Plate, lifter	RL1-0522-000	1
5	Left paper side-end assembly	RM1-1296-000	1
6	Right paper side-end assembly	RM1-1297-020	1
7	Separation pad assembly	RM1-1298-000	1
8	Screw, M4x10	XB4-7401-005	2
9	Spring, compression	RC1-3489-000	2
10	Gear, 10T	RU5-0328-000	1
11	Spring, grounding	RC1-3492-000	1
12	Spring, tension	RU5-2324-000	1
13	Lock, lifter plate	RC1-3490-000	1
14	Stopper, claw	RC1-4198-000	2
15	Stopper, cassette left	RC1-3508-000	1
16	Spring, compression	RU5-2327-000	2
17	Stopper, cassette right	RC1-3507-000	1



**Figure 8-15** Duplexing assembly

**Table 8-16** Duplexing assembly

Ref	Description	Part number	Qty
	Duplexing assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4258-000	1



**Figure 8-16** PCB assembly locations



**Table 8-17** PCB assembly locations

Ref	Description	Part number	Qty
1	ECU assembly (110 V)	RM1-4273-000	1
1	ECU assembly (220 V)	RM1-4274-000	1
2	Duplex driver PCB assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-1262-000	1

# Alphabetical parts list

**Table 8-18** Alphabetical parts list

Description	Part number	Table and page
Arm lock	RC1-3561-000	<a href="#">Internal components (4 of 4) on page 207</a>
Arm, cam	RC2-0405-000	<a href="#">Internal components (2 of 4) on page 201</a>
Arm, idler roller	RC1-3482-000	<a href="#">Internal components (1 of 4) on page 199</a>
Arm, link	RC2-0406-000	<a href="#">Internal components (2 of 4) on page 201</a>
Arm, tag	RC2-0392-000	<a href="#">Internal components (2 of 4) on page 201</a>
Back end limit assembly	RM1-1295-000	<a href="#">Cassette assembly on page 223</a>
Base, separation pad	RC2-0419-000	<a href="#">Internal components (1 of 4) on page 199</a>
Bushing	RB2-2897-000	<a href="#">Internal components (1 of 4) on page 199</a>
Bushing	RC1-3665-000	<a href="#">Internal components (1 of 4) on page 199</a>
Bushing	RC2-0356-000	<a href="#">Internal components (3 of 4) on page 205</a>
Bushing	RC2-0357-000	<a href="#">Internal components (3 of 4) on page 205</a>
Bushing	RC1-3562-000	<a href="#">Internal components (4 of 4) on page 207</a>
Bushing	RC1-3615-000	<a href="#">Fuser assembly on page 215</a>
Bushing	RC2-0297-000	<a href="#">Fuser assembly on page 215</a>
Bushing	RC2-0298-000	<a href="#">Fuser assembly on page 215</a>
Bushing, left	RB2-2896-000	<a href="#">Internal components (1 of 4) on page 199</a>
Bushing, right	RB2-2895-000	<a href="#">Internal components (1 of 4) on page 199</a>
Cable, memory tag	RM1-4163-000	<a href="#">Internal components (2 of 4) on page 201</a>
Cam	RC2-0410-000	<a href="#">Internal components (2 of 4) on page 201</a>
Cam, M.P., left	RC2-0387-000	<a href="#">Internal components (4 of 4) on page 207</a>
Cam, M.P., right	RC2-0388-000	<a href="#">Internal components (4 of 4) on page 207</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Cam, right	RC1-3546-000	<a href="#">Internal components (2 of 4) on page 201</a>
Cap, continuity	RA0-1068-000	<a href="#">Internal components (4 of 4) on page 207</a>
Cartridge-door assembly	RM1-4266-000	<a href="#">Cartridge-door assembly on page 197</a>
Cassette	RM1-4251-000	<a href="#">Assembly locations (1 of 2) on page 191</a>
Cassette	RM1-4251-000	<a href="#">Cassette assembly on page 223</a>
Cassette body assembly	RC1-3483-000	<a href="#">Cassette assembly on page 223</a>
Cassette cover assembly	RM1-4252-000	<a href="#">Cassette assembly on page 223</a>
Connector, drawer	VS1-7258-007	<a href="#">Internal components (2 of 4) on page 201</a>
Cover, connector	RC2-0332-000	<a href="#">Covers on page 195</a>
Cover, drum	RC1-3563-000	<a href="#">Internal components (3 of 4) on page 205</a>
Cover, fixing	RC2-0300-000	<a href="#">Fuser assembly on page 215</a>
Cover, front	RC2-0330-000	<a href="#">Covers on page 195</a>
Cover, multipurpose	RM2-0407-000	<a href="#">Cartridge-door assembly on page 197</a>
Cover, paper pick-up roller	RC2-0420-000	<a href="#">Internal components (4 of 4) on page 207</a>
Cover, registration gear	RC1-3708-000	<a href="#">Internal components (3 of 4) on page 205</a>
Delivery frame assembly	RM1-1291-000	<a href="#">Fuser assembly on page 215</a>
Delivery sensor PCB assembly	RM1-1251-000	<a href="#">Fuser assembly on page 215</a>
Duct	RC2-0351-000	<a href="#">Internal components (2 of 4) on page 201</a>
Duct	RC2-0354-000	<a href="#">Internal components (2 of 4) on page 201</a>
Duplex driver PCB assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-1262-000	<a href="#">Internal components (2 of 4) on page 201</a>
Duplex driver PCB assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-1262-000	<a href="#">PCB assembly locations on page 227</a>
Duplex-drive assembly	RM1-4255-000	<a href="#">Assembly locations (2 of 2) on page 193</a>
Duplexing assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4258-000	<a href="#">Duplexing assembly on page 225</a>
Duplexing assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4258-000	<a href="#">Assembly locations (2 of 2) on page 193</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Duplexing drive assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4255-000	<a href="#">Duplexing drive assembly on page 219</a>
ECU assembly (110 V)	RM1-4273-000	<a href="#">Assembly locations (2 of 2) on page 193</a>
ECU assembly (110 V)	RM1-4273-000	<a href="#">ECU assembly on page 211</a>
ECU assembly (110 V)	RM1-4273-000	<a href="#">PCB assembly locations on page 227</a>
ECU assembly (220 V)	RM1-4273-000	<a href="#">Assembly locations (2 of 2) on page 193</a>
ECU assembly (220 V)	RM1-4274-000	<a href="#">ECU assembly on page 211</a>
ECU assembly (220 V)	RM1-4274-000	<a href="#">PCB assembly locations on page 227</a>
Eliminator, static charge	RC2-0358-000	<a href="#">Internal components (3 of 4) on page 205</a>
Expansion-tray assembly	RM1-4269-000	<a href="#">Cartridge-door assembly on page 197</a>
Face-down gear assembly	RM1-1305-000	<a href="#">Assembly locations (1 of 2) on page 191</a>
Face-down gear assembly	RM1-1305-000	<a href="#">Face-down gear assembly on page 221</a>
Fan	RK2-1589-000	<a href="#">Internal components (2 of 4) on page 201</a>
Film guide assembly (110 V)	RM1-4249-000	<a href="#">Fuser assembly on page 215</a>
Film guide assembly (220 V)	RM1-4250-000	<a href="#">Fuser assembly on page 215</a>
Flag, intertwine prevention	RC1-3622-000	<a href="#">Fuser assembly on page 215</a>
Flag, M.P. sensor	RC2-0415-000	<a href="#">Internal components (1 of 4) on page 199</a>
Flag, paper delivery sensor	RC1-3613-000	<a href="#">Fuser assembly on page 215</a>
Flag, paper-sensing	RC1-3472-000	<a href="#">Internal components (1 of 4) on page 199</a>
Frame, fixing	RC2-0295-000	<a href="#">Fuser assembly on page 215</a>
Fuser assembly (110 V)	RM1-4247-000	<a href="#">Assembly locations (2 of 2) on page 193</a>
Fuser assembly (110 V)	RM1-4247-000	<a href="#">Fuser assembly on page 215</a>
Fuser assembly (220 V)	RM1-4248-000	<a href="#">Assembly locations (2 of 2) on page 193</a>
Fuser assembly (220 V)	RM1-4248-000	<a href="#">Fuser assembly on page 215</a>
Gear, 10T	RU5-0328-000	<a href="#">Cassette assembly on page 223</a>
Gear, 14T	RU5-0929-000	<a href="#">Internal components (4 of 4) on page 207</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Gear, 17T	RU5-0330-000	<a href="#">Fuser assembly on page 215</a>
Gear, 19T	RU5-0332-000	<a href="#">Internal components (1 of 4) on page 199</a>
Gear, 19T	RU5-0927-000	<a href="#">Internal components (4 of 4) on page 207</a>
Gear, 26T	RU5-0928-000	<a href="#">Internal components (4 of 4) on page 207</a>
Gear, 29T	RU5-0331-000	<a href="#">Internal components (1 of 4) on page 199</a>
Gear, 33T	RU5-0320-000	<a href="#">Internal components (3 of 4) on page 205</a>
Guide, cable	RC2-1569-000	<a href="#">Internal components (1 of 4) on page 199</a>
Guide, cable	RC2-0397-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, cartridge font	RC2-0340-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, cartridge, left lower	RC2-0339-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, cartridge, left upper	RC2-0425-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, cartridge, right lower	RC2-0346-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, cartridge, right upper	RC2-0426-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, cassette, left center 1	RC1-3461-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, cassette, left center 2	RC1-3462-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, cassette, left front	RL1-0518-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, cassette, left rear	RC1-3463-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, cassette, right center 1	RC1-3456-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, cassette, right center 2	RC1-3457-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, cassette, right front	RL1-0517-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, cassette, right rear	RC2-0416-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, F.F.C	RC2-0423-000	<a href="#">Internal components (4 of 4) on page 207</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Guide, F.F.C	RC2-0424-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, fixing entrance	RC2-0296-000	<a href="#">Fuser assembly on page 215</a>
Guide, fixing, upper	RC1-3607-000	<a href="#">Fuser assembly on page 215</a>
Guide, M.P. cable	RC2-0335-000	<a href="#">Internal components (4 of 4) on page 207</a>
Guide, paper separate, lower	RC1-3611-000	<a href="#">Fuser assembly on page 215</a>
Guide, reverse	RC2-0323-000	<a href="#">Internal components (1 of 4) on page 199</a>
Guide, shutter, front	RC2-0428-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, shutter, rear	RC1-3535-000	<a href="#">Internal components (2 of 4) on page 201</a>
Guide, transfer front	RC2-0359-000	<a href="#">Internal components (3 of 4) on page 205</a>
Hinge, multipurpose, left	RC2-0421-000	<a href="#">Cartridge-door assembly on page 197</a>
Hinge, multipurpose, right	RC2-0422-000	<a href="#">Cartridge-door assembly on page 197</a>
Holder contact	RC2-0342-000	<a href="#">Internal components (4 of 4) on page 207</a>
Holder, drawer connector	RC2-0396-000	<a href="#">Internal components (2 of 4) on page 201</a>
Holder, fan	RC2-0349-000	<a href="#">Internal components (2 of 4) on page 201</a>
Holder, leaf spring	RC1-3627-000	<a href="#">Fuser assembly on page 215</a>
Holder, M.P. sensor	RC2-0414-000	<a href="#">Internal components (1 of 4) on page 199</a>
Holder, M.P. solenoid	RC2-0334-000	<a href="#">Internal components (4 of 4) on page 207</a>
Holder, panel PCB	RC2-0316-000	<a href="#">Covers on page 195</a>
Holder, paper pick-up roller	RC2-0386-000	<a href="#">Internal components (4 of 4) on page 207</a>
Holder, separate lower guide	RC2-0429-000	<a href="#">Fuser assembly on page 215</a>
Holder, switch	RC1-3727-000	<a href="#">Internal components (2 of 4) on page 201</a>
Inlet/switch cable assembly	RM1-4169-000	<a href="#">Internal components (2 of 4) on page 201</a>
Inner cover assembly	RM1-4267-000	<a href="#">Cartridge-door assembly on page 197</a>
Label, stapler prohibition	RC1-3794-000	<a href="#">Covers on page 195</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Label, transfer guide open	RC1-3796-000	<a href="#">Internal components (3 of 4) on page 205</a>
Left cover assembly	RL1-1529-000	<a href="#">Covers on page 195</a>
Left paper side-end assembly	RM1-1296-000	<a href="#">Cassette assembly on page 223</a>
Lever, cartridge contact	RC1-3542-000	<a href="#">Internal components (4 of 4) on page 207</a>
Lever, pressure release sensor, left	RC1-3619-000	<a href="#">Fuser assembly on page 215</a>
Lever, pressure release, left	RC1-3617-000	<a href="#">Fuser assembly on page 215</a>
Lever, pressure release, right	RC1-3616-000	<a href="#">Fuser assembly on page 215</a>
Lever, pressure-release sensor, right	RC1-3618-000	<a href="#">Fuser assembly on page 215</a>
Link, gear release	RC1-3668-000	<a href="#">Internal components (1 of 4) on page 199</a>
Lock, lifter plate	RC1-3490-000	<a href="#">Cassette assembly on page 223</a>
M.P. lifting-plate assembly	RM1-4268-000	<a href="#">Cartridge-door assembly on page 197</a>
M.P. sensor PCB assembly	RM1-4162-000	<a href="#">Internal components (1 of 4) on page 199</a>
Main drive assembly	RM1-4253-000	<a href="#">Assembly locations (1 of 2) on page 191</a>
Main drive assembly	RM1-4253-000	<a href="#">Main drive assembly on page 213</a>
Microswitch	RK2-0534-000	<a href="#">Internal components (4 of 4) on page 207</a>
Motor, DC	RK2-1567-000	<a href="#">Internal components (2 of 4) on page 201</a>
Needle, fixing static charge	RC2-0299-000	<a href="#">Fuser assembly on page 215</a>
Normal-rotation drive assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4256-000	<a href="#">Duplexing drive assembly on page 219</a>
Pad, M.P. separation	RL1-1524-000	<a href="#">Internal components (1 of 4) on page 199</a>
Paper pick-up gear assembly	RM1-1301-000	<a href="#">Internal components (1 of 4) on page 199</a>
Paper pick-up gear assembly	RM1-4275-000	<a href="#">Internal components (4 of 4) on page 207</a>
Paper retaining assembly (HP LJ P2015)	RM1-4276-000	<a href="#">Internal components (1 of 4) on page 199</a>
Paper-feed guide assembly	RM1-4263-000	<a href="#">Internal components (1 of 4) on page 199</a>
Paper-retaining assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4265-000	<a href="#">Internal components (1 of 4) on page 199</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Paper-sensor PCB assembly	RM1-4159-000	<a href="#">Internal components (3 of 4) on page 205</a>
Paper-width sensor assembly	RM1-4245-000	<a href="#">Internal components (3 of 4) on page 205</a>
Plate, drum grounding	RC1-3565-000	<a href="#">Internal components (3 of 4) on page 205</a>
Plate, drum grounding	RC1-3541-000	<a href="#">Internal components (4 of 4) on page 207</a>
Plate, fixing reinforcement	RC1-3606-000	<a href="#">Fuser assembly on page 215</a>
Plate, grounding	RC2-1568-000	<a href="#">Internal components (2 of 4) on page 201</a>
Plate, lifter	RL1-0522-000	<a href="#">Cassette assembly on page 223</a>
Plate, pressure, left	RC1-3624-000	<a href="#">Fuser assembly on page 215</a>
Plate, pressure, right	RC1-3623-000	<a href="#">Fuser assembly on page 215</a>
Plate, registration grounding	RC2-0384-000	<a href="#">Internal components (3 of 4) on page 205</a>
Plate, solenoid holder	RC1-3459-000	<a href="#">Internal components (2 of 4) on page 201</a>
Plate, transfer grounding	RC1-3698-000	<a href="#">Internal components (3 of 4) on page 205</a>
Rear cover assembly (HP LJ P2015)	RM1-4277-000	<a href="#">Covers on page 195</a>
Rear cover assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4270-000	<a href="#">Covers on page 195</a>
Registration assembly	RM1-4244-000	<a href="#">Assembly locations (1 of 2) on page 191</a>
Registration assembly	RM1-4244-000	<a href="#">Internal components (3 of 4) on page 205</a>
Retainer, spring	RA0-1189-000	<a href="#">Fuser assembly on page 215</a>
Reverse-rotation drive assembly (HP LJ P2015d, P2015dn, and P2015x)	RM1-4257-000	<a href="#">Duplexing drive assembly on page 219</a>
Right cover assembly	RL1-1530-000	<a href="#">Covers on page 195</a>
Right paper side-end assembly	RM1-1297-020	<a href="#">Cassette assembly on page 223</a>
Ring, conductive rubber	RC1-3628-000	<a href="#">Fuser assembly on page 215</a>
Rod, grounding	RC2-0350-000	<a href="#">Internal components (2 of 4) on page 201</a>
Roller	RC1-0950-000	<a href="#">Internal components (4 of 4) on page 207</a>
Roller, face-down	RL1-0527-000	<a href="#">Internal components (1 of 4) on page 199</a>
Roller, face-up	RC1-3633-000	<a href="#">Fuser assembly on page 215</a>



**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Roller, idler	RC1-3481-000	<a href="#">Internal components (1 of 4) on page 199</a>
Roller, M.P. paper pick-up	RL1-1525-000	<a href="#">Internal components (4 of 4) on page 207</a>
Roller, paper pick-up	RL1-0540-000	<a href="#">Internal components (1 of 4) on page 199</a>
Roller, paper pickup idler	RC1-3470-000	<a href="#">Internal components (1 of 4) on page 199</a>
Roller, pressure	RC2-0303-000	<a href="#">Fuser assembly on page 215</a>
Roller, transfer	RM1-4279-000	<a href="#">Internal components (3 of 4) on page 205</a>
Scanner assembly	RM1-4262-000	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, M4x10	XB4-7401-005	<a href="#">Cassette assembly on page 223</a>
Screw, RS, M3x6	XA9-1495-000	<a href="#">Internal components (1 of 4) on page 199</a>
Screw, RS, M3x6	XA9-1561-000	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, RS, M3x6	XA9-1495-000	<a href="#">Internal components (4 of 4) on page 207</a>
Screw, RS, M3x6 (HP LJ P2015)	XA9-1495-000	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, RS, M3x6 (HP LJ P2015d, P2015dn, and P2015x)	XA9-1495-000	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, RS, M3x8	XA9-1504-000	<a href="#">Internal components (1 of 4) on page 199</a>
Screw, RS, M3x8	XA9-1504-000	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, RS, M3x8	XA9-1504-000	<a href="#">Internal components (3 of 4) on page 205</a>
Screw, RS, M3x8	XA9-1504-000	<a href="#">Internal components (4 of 4) on page 207</a>
Screw, tap, binding head, M3x8	XB4-7300-809	<a href="#">Covers on page 195</a>
Screw, tap, binding head, M3x8	XB4-7300-809	<a href="#">Internal components (1 of 4) on page 199</a>
Screw, tap, binding head, M3x8	XB4-7300-809	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, tap, binding head, M3x8	XB4-7300-809	<a href="#">Internal components (3 of 4) on page 205</a>
Screw, tap, binding head, M3x8	XB4-7300-809	<a href="#">Fuser assembly on page 215</a>
Screw, tap, M3x6	XA9-1503-000	<a href="#">Internal components (1 of 4) on page 199</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Screw, tap, M3x6	XA9-1503-000	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, tap, M3x6	XA9-1503-000	<a href="#">Fuser assembly on page 215</a>
Screw, tap, M3x8	XA9-1648-000	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, tapping, truss head, M4x10	XB4-7401-005	<a href="#">Internal components (1 of 4) on page 199</a>
Screw, tapping, truss head, M4x10	XB4-7401-005	<a href="#">Internal components (3 of 4) on page 205</a>
Screw, toothed washer, M4x6	XB2-7400-606	<a href="#">Internal components (2 of 4) on page 201</a>
Screw, with washer, M3x8	XA9-1420-000	<a href="#">Internal components (3 of 4) on page 205</a>
Screw, with washer, M4x12	XA9-1422-000	<a href="#">Internal components (3 of 4) on page 205</a>
Screw, with washer, M4x12	XA9-1422-000	<a href="#">Fuser assembly on page 215</a>
Separation pad assembly	RM1-1298-000	<a href="#">Cassette assembly on page 223</a>
Shaft, paper pick-up drive	RC1-3471-000	<a href="#">Internal components (1 of 4) on page 199</a>
Sheet, fixing bottom	RC2-0431-000	<a href="#">Fuser assembly on page 215</a>
Sheet, insulator	RC2-0314-000	<a href="#">Covers on page 195</a>
Sheet, noise absorb	RC2-0312-000	<a href="#">Covers on page 195</a>
Sheet, noise absorb	RC2-0311-000	<a href="#">Covers on page 195</a>
Sheet, plate bottom	RC2-1578-000	<a href="#">Internal components (4 of 4) on page 207</a>
Sheet, registration damper	RC1-3695-000	<a href="#">Internal components (3 of 4) on page 205</a>
Shield, duplexing solenoid (HP LJ P2015d, P2015dn, and P2015x)	RC2-0347-000	<a href="#">Internal components (2 of 4) on page 201</a>
Shutter link assembly	RM1-1321-000	<a href="#">Internal components (3 of 4) on page 205</a>
Side plate, fixing, left	RC1-3605-000	<a href="#">Fuser assembly on page 215</a>
Side plate, fixing, right	RC1-3604-000	<a href="#">Fuser assembly on page 215</a>
Side plate, M.P. drive	RL1-1531-000	<a href="#">Internal components (4 of 4) on page 207</a>
Solenoid	RK2-1587-000	<a href="#">Internal components (4 of 4) on page 207</a>
Solenoid (HP LJ P2015)	RK2-0424-000	<a href="#">Internal components (2 of 4) on page 201</a>
Solenoid (HP LJ P2015d, P2015dn, and P2015x)	RK2-0420-000	<a href="#">Internal components (2 of 4) on page 201</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Spring compression	RU5-2894-000	<a href="#">Internal components (1 of 4) on page 199</a>
Spring, compression	RU5-2323-000	<a href="#">Internal components (1 of 4) on page 199</a>
Spring, compression	RU5-2335-000	<a href="#">Internal components (2 of 4) on page 201</a>
Spring, compression	RC1-3736-000	<a href="#">Internal components (3 of 4) on page 205</a>
Spring, compression	RU5-2144-000	<a href="#">Internal components (3 of 4) on page 205</a>
Spring, compression	RU5-2338-000	<a href="#">Internal components (3 of 4) on page 205</a>
Spring, compression	RU5-2337-000	<a href="#">Internal components (4 of 4) on page 207</a>
Spring, compression	RC1-3625-000	<a href="#">Fuser assembly on page 215</a>
Spring, compression	RU5-2901-000	<a href="#">Fuser assembly on page 215</a>
Spring, compression	RC1-3489-000	<a href="#">Cassette assembly on page 223</a>
Spring, compression	RU5-2327-000	<a href="#">Cassette assembly on page 223</a>
Spring, contact	RC2-0344-000	<a href="#">Internal components (3 of 4) on page 205</a>
Spring, contact	RC1-3719-000	<a href="#">Internal components (4 of 4) on page 207</a>
Spring, grounding	RC1-3700-000	<a href="#">Internal components (3 of 4) on page 205</a>
Spring, grounding	RC1-0944-000	<a href="#">Internal components (4 of 4) on page 207</a>
Spring, grounding	RC1-3492-000	<a href="#">Cassette assembly on page 223</a>
Spring, tension	RU5-2895-000	<a href="#">Cartridge-door assembly on page 197</a>
Spring, tension	RU5-2898-000	<a href="#">Internal components (1 of 4) on page 199</a>
Spring, tension	RA0-1090-000	<a href="#">Fuser assembly on page 215</a>
Spring, tension	RU5-2324-000	<a href="#">Cassette assembly on page 223</a>
Spring, torsion	RC1-3543-000	<a href="#">Internal components (4 of 4) on page 207</a>
Spring, torsion	RC2-0427-000	<a href="#">Internal components (4 of 4) on page 207</a>
Spring, torsion	RC1-3614-000	<a href="#">Fuser assembly on page 215</a>

**Table 8-18** Alphabetical parts list (continued)

Description	Part number	Table and page
Spring, transfer, right	RC1-3702-000	<a href="#">Internal components (3 of 4) on page 205</a>
Stopper	RC1-3580-000	<a href="#">Internal components (2 of 4) on page 201</a>
Stopper, cassette left	RC1-3508-000	<a href="#">Cassette assembly on page 223</a>
Stopper, cassette right	RC1-3507-000	<a href="#">Cassette assembly on page 223</a>
Stopper, claw	RC1-4198-000	<a href="#">Cassette assembly on page 223</a>
Top cover assembly	RM1-4272-000	<a href="#">Covers on page 195</a>
Top sensor assembly	RM1-1283-000	<a href="#">Internal components (3 of 4) on page 205</a>

# Numerical parts list

**Table 8-19** Numerical parts list

Part number	Description	Table and page
RA0-1068-000	Cap, continuity	<a href="#">Internal components (4 of 4) on page 207</a>
RA0-1090-000	Spring, tension	<a href="#">Fuser assembly on page 215</a>
RA0-1189-000	Retainer, spring	<a href="#">Fuser assembly on page 215</a>
RB2-2895-000	Bushing, right	<a href="#">Internal components (1 of 4) on page 199</a>
RB2-2896-000	Bushing, left	<a href="#">Internal components (1 of 4) on page 199</a>
RB2-2897-000	Bushing	<a href="#">Internal components (1 of 4) on page 199</a>
RC1-0944-000	Spring, grounding	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-0950-000	Roller	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3456-000	Guide, cassette, right center 1	<a href="#">Internal components (2 of 4) on page 201</a>
RC1-3457-000	Guide, cassette, right center 2	<a href="#">Internal components (2 of 4) on page 201</a>
RC1-3459-000	Plate, solenoid holder	<a href="#">Internal components (2 of 4) on page 201</a>
RC1-3461-000	Guide, cassette, left center 1	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3462-000	Guide, cassette, left center 2	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3463-000	Guide, cassette, left rear	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3470-000	Roller, paper pickup idler	<a href="#">Internal components (1 of 4) on page 199</a>
RC1-3471-000	Shaft, paper pick-up drive	<a href="#">Internal components (1 of 4) on page 199</a>
RC1-3472-000	Flag, paper-sensing	<a href="#">Internal components (1 of 4) on page 199</a>
RC1-3481-000	Roller, idler	<a href="#">Internal components (1 of 4) on page 199</a>
RC1-3482-000	Arm, idler roller	<a href="#">Internal components (1 of 4) on page 199</a>
RC1-3483-000	Cassette body assembly	<a href="#">Cassette assembly on page 223</a>
RC1-3489-000	Spring, compression	<a href="#">Cassette assembly on page 223</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RC1-3490-000	Lock, lifter plate	<a href="#">Cassette assembly on page 223</a>
RC1-3492-000	Spring, grounding	<a href="#">Cassette assembly on page 223</a>
RC1-3507-000	Stopper, cassette right	<a href="#">Cassette assembly on page 223</a>
RC1-3508-000	Stopper, cassette left	<a href="#">Cassette assembly on page 223</a>
RC1-3535-000	Guide, shutter, rear	<a href="#">Internal components (2 of 4) on page 201</a>
RC1-3541-000	Plate, drum grounding	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3542-000	Lever, cartridge contact	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3543-000	Spring, torsion	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3546-000	Cam, right	<a href="#">Internal components (2 of 4) on page 201</a>
RC1-3561-000	Arm lock	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3562-000	Bushing	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3563-000	Cover, drum	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-3565-000	Plate, drum grounding	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-3580-000	Stopper	<a href="#">Internal components (2 of 4) on page 201</a>
RC1-3604-000	Side plate, fixing, right	<a href="#">Fuser assembly on page 215</a>
RC1-3605-000	Side plate, fixing, left	<a href="#">Fuser assembly on page 215</a>
RC1-3606-000	Plate, fixing reinforcement	<a href="#">Fuser assembly on page 215</a>
RC1-3607-000	Guide, fixing, upper	<a href="#">Fuser assembly on page 215</a>
RC1-3611-000	Guide, paper separate, lower	<a href="#">Fuser assembly on page 215</a>
RC1-3613-000	Flag, paper delivery sensor	<a href="#">Fuser assembly on page 215</a>
RC1-3614-000	Spring, torsion	<a href="#">Fuser assembly on page 215</a>
RC1-3615-000	Bushing	<a href="#">Fuser assembly on page 215</a>
RC1-3616-000	Lever, pressure release, right	<a href="#">Fuser assembly on page 215</a>
RC1-3617-000	Lever, pressure release, left	<a href="#">Fuser assembly on page 215</a>
RC1-3618-000	Lever, pressure-release sensor, right	<a href="#">Fuser assembly on page 215</a>
RC1-3619-000	Lever, pressure release sensor, left	<a href="#">Fuser assembly on page 215</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RC1-3622-000	Flag, intertwine prevention	<a href="#">Fuser assembly on page 215</a>
RC1-3623-000	Plate, pressure, right	<a href="#">Fuser assembly on page 215</a>
RC1-3624-000	Plate, pressure, left	<a href="#">Fuser assembly on page 215</a>
RC1-3625-000	Spring, compression	<a href="#">Fuser assembly on page 215</a>
RC1-3627-000	Holder, leaf spring	<a href="#">Fuser assembly on page 215</a>
RC1-3628-000	Ring, conductive rubber	<a href="#">Fuser assembly on page 215</a>
RC1-3633-000	Roller, face-up	<a href="#">Fuser assembly on page 215</a>
RC1-3665-000	Bushing	<a href="#">Internal components (1 of 4) on page 199</a>
RC1-3668-000	Link, gear release	<a href="#">Internal components (1 of 4) on page 199</a>
RC1-3695-000	Sheet, registration damper	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-3698-000	Plate, transfer grounding	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-3700-000	Spring, grounding	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-3702-000	Spring, transfer, right	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-3708-000	Cover, registration gear	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-3719-000	Spring, contact	<a href="#">Internal components (4 of 4) on page 207</a>
RC1-3727-000	Holder, switch	<a href="#">Internal components (2 of 4) on page 201</a>
RC1-3736-000	Spring, compression	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-3794-000	Label, stapler prohibition	<a href="#">Covers on page 195</a>
RC1-3796-000	Label, transfer guide open	<a href="#">Internal components (3 of 4) on page 205</a>
RC1-4198-000	Stopper, claw	<a href="#">Cassette assembly on page 223</a>
RC2-0295-000	Frame, fixing	<a href="#">Fuser assembly on page 215</a>
RC2-0296-000	Guide, fixing entrance	<a href="#">Fuser assembly on page 215</a>
RC2-0297-000	Bushing	<a href="#">Fuser assembly on page 215</a>
RC2-0298-000	Bushing	<a href="#">Fuser assembly on page 215</a>
RC2-0299-000	Needle, fixing static charge	<a href="#">Fuser assembly on page 215</a>
RC2-0300-000	Cover, fixing	<a href="#">Fuser assembly on page 215</a>
RC2-0303-000	Roller, pressure	<a href="#">Fuser assembly on page 215</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RC2-0311-000	Sheet, noise absorb	<a href="#">Covers on page 195</a>
RC2-0312-000	Sheet, noise absorb	<a href="#">Covers on page 195</a>
RC2-0314-000	Sheet, insulator	<a href="#">Covers on page 195</a>
RC2-0316-000	Holder, panel PCB	<a href="#">Covers on page 195</a>
RC2-0323-000	Guide, reverse	<a href="#">Internal components (1 of 4) on page 199</a>
RC2-0330-000	Cover, front	<a href="#">Covers on page 195</a>
RC2-0332-000	Cover, connector	<a href="#">Covers on page 195</a>
RC2-0334-000	Holder, M.P. solenoid	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0335-000	Guide, M.P. cable	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0339-000	Guide, cartridge, left lower	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0340-000	Guide, cartridge font	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0342-000	Holder contact	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0344-000	Spring, contact	<a href="#">Internal components (3 of 4) on page 205</a>
RC2-0346-000	Guide, cartridge, right lower	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0347-000	Shield, duplexing solenoid (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0349-000	Holder, fan	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0350-000	Rod, grounding	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0351-000	Duct	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0354-000	Duct	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0356-000	Bushing	<a href="#">Internal components (3 of 4) on page 205</a>
RC2-0357-000	Bushing	<a href="#">Internal components (3 of 4) on page 205</a>
RC2-0358-000	Eliminator, static charge	<a href="#">Internal components (3 of 4) on page 205</a>
RC2-0359-000	Guide, transfer front	<a href="#">Internal components (3 of 4) on page 205</a>
RC2-0384-000	Plate, registration grounding	<a href="#">Internal components (3 of 4) on page 205</a>



**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RC2-0386-000	Holder, paper pick-up roller	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0387-000	Cam, M.P., left	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0388-000	Cam, M.P., right	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0392-000	Arm, tag	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0396-000	Holder, drawer connector	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0397-000	Guide, cable	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0405-000	Arm, cam	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0406-000	Arm, link	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0410-000	Cam	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0414-000	Holder, M.P. sensor	<a href="#">Internal components (1 of 4) on page 199</a>
RC2-0415-000	Flag, M.P. sensor	<a href="#">Internal components (1 of 4) on page 199</a>
RC2-0416-000	Guide, cassette, right rear	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0419-000	Base, separation pad	<a href="#">Internal components (1 of 4) on page 199</a>
RC2-0420-000	Cover, paper pick-up roller	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0421-000	Hinge, multipurpose, left	<a href="#">Cartridge-door assembly on page 197</a>
RC2-0422-000	Hinge, multipurpose, right	<a href="#">Cartridge-door assembly on page 197</a>
RC2-0423-000	Guide, F.F.C	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0424-000	Guide, F.F.C	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0425-000	Guide, cartridge, left upper	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0426-000	Guide, cartridge, right upper	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-0427-000	Spring, torsion	<a href="#">Internal components (4 of 4) on page 207</a>
RC2-0428-000	Guide, shutter, front	<a href="#">Internal components (2 of 4) on page 201</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RC2-0429-000	Holder, separate lower guide	<a href="#">Fuser assembly on page 215</a>
RC2-0431-000	Sheet, fixing bottom	<a href="#">Fuser assembly on page 215</a>
RC2-1568-000	Plate, grounding	<a href="#">Internal components (2 of 4) on page 201</a>
RC2-1569-000	Guide, cable	<a href="#">Internal components (1 of 4) on page 199</a>
RC2-1578-000	Sheet, plate bottom	<a href="#">Internal components (4 of 4) on page 207</a>
RK2-0420-000	Solenoid (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Internal components (2 of 4) on page 201</a>
RK2-0424-000	Solenoid (HP LJ P2015)	<a href="#">Internal components (2 of 4) on page 201</a>
RK2-0534-000	Microswitch	<a href="#">Internal components (4 of 4) on page 207</a>
RK2-1567-000	Motor, DC	<a href="#">Internal components (2 of 4) on page 201</a>
RK2-1587-000	Solenoid	<a href="#">Internal components (4 of 4) on page 207</a>
RK2-1589-000	Fan	<a href="#">Internal components (2 of 4) on page 201</a>
RL1-0517-000	Guide, cassette, right front	<a href="#">Internal components (2 of 4) on page 201</a>
RL1-0518-000	Guide, cassette, left front	<a href="#">Internal components (4 of 4) on page 207</a>
RL1-0522-000	Plate, lifter	<a href="#">Cassette assembly on page 223</a>
RL1-0527-000	Roller, face-down	<a href="#">Internal components (1 of 4) on page 199</a>
RL1-0540-000	Roller, paper pick-up	<a href="#">Internal components (1 of 4) on page 199</a>
RL1-1524-000	Pad, M.P. separation	<a href="#">Internal components (1 of 4) on page 199</a>
RL1-1525-000	Roller, M.P. paper pick-up	<a href="#">Internal components (4 of 4) on page 207</a>
RL1-1529-000	Left cover assembly	<a href="#">Covers on page 195</a>
RL1-1530-000	Right cover assembly	<a href="#">Covers on page 195</a>
RL1-1531-000	Side plate, M.P. drive	<a href="#">Internal components (4 of 4) on page 207</a>
RM1-1251-000	Delivery sensor PCB assembly	<a href="#">Fuser assembly on page 215</a>
RM1-1262-000	Duplex driver PCB assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Internal components (2 of 4) on page 201</a>
RM1-1262-000	Duplex driver PCB assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">PCB assembly locations on page 227</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RM1-1283-000	Top sensor assembly	<a href="#">Internal components (3 of 4) on page 205</a>
RM1-1291-000	Delivery frame assembly	<a href="#">Fuser assembly on page 215</a>
RM1-1295-000	Back end limit assembly	<a href="#">Cassette assembly on page 223</a>
RM1-1296-000	Left paper side-end assembly	<a href="#">Cassette assembly on page 223</a>
RM1-1297-020	Right paper side-end assembly	<a href="#">Cassette assembly on page 223</a>
RM1-1298-000	Separation pad assembly	<a href="#">Cassette assembly on page 223</a>
RM1-1301-000	Paper pick-up gear assembly	<a href="#">Internal components (1 of 4) on page 199</a>
RM1-1305-000	Face-down gear assembly	<a href="#">Assembly locations (1 of 2) on page 191</a>
RM1-1305-000	Face-down gear assembly	<a href="#">Face-down gear assembly on page 221</a>
RM1-1321-000	Shutter link assembly	<a href="#">Internal components (3 of 4) on page 205</a>
RM1-4159-000	Paper-sensor PCB assembly	<a href="#">Internal components (3 of 4) on page 205</a>
RM1-4162-000	M.P. sensor PCB assembly	<a href="#">Internal components (1 of 4) on page 199</a>
RM1-4163-000	Cable, memory tag	<a href="#">Internal components (2 of 4) on page 201</a>
RM1-4169-000	Inlet/switch cable assembly	<a href="#">Internal components (2 of 4) on page 201</a>
RM1-4244-000	Registration assembly	<a href="#">Assembly locations (1 of 2) on page 191</a>
RM1-4244-000	Registration assembly	<a href="#">Internal components (3 of 4) on page 205</a>
RM1-4245-000	Paper-width sensor assembly	<a href="#">Internal components (3 of 4) on page 205</a>
RM1-4247-000	Fuser assembly (110 V)	<a href="#">Assembly locations (2 of 2) on page 193</a>
RM1-4247-000	Fuser assembly (110 V)	<a href="#">Fuser assembly on page 215</a>
RM1-4248-000	Fuser assembly (220 V)	<a href="#">Assembly locations (2 of 2) on page 193</a>
RM1-4248-000	Fuser assembly (220 V)	<a href="#">Fuser assembly on page 215</a>
RM1-4249-000	Film guide assembly (110 V)	<a href="#">Fuser assembly on page 215</a>
RM1-4250-000	Film guide assembly (220 V)	<a href="#">Fuser assembly on page 215</a>
RM1-4251-000	Cassette	<a href="#">Assembly locations (1 of 2) on page 191</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RM1-4251-000	Cassette	<a href="#">Cassette assembly on page 223</a>
RM1-4252-000	Cassette cover assembly	<a href="#">Cassette assembly on page 223</a>
RM1-4253-000	Main drive assembly	<a href="#">Assembly locations (1 of 2) on page 191</a>
RM1-4253-000	Main drive assembly	<a href="#">Main drive assembly on page 213</a>
RM1-4255-000	Duplex-drive assembly	<a href="#">Assembly locations (2 of 2) on page 193</a>
RM1-4255-000	Duplexing drive assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Duplexing drive assembly on page 219</a>
RM1-4256-000	Normal-rotation drive assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Duplexing drive assembly on page 219</a>
RM1-4257-000	Reverse-rotation drive assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Duplexing drive assembly on page 219</a>
RM1-4258-000	Duplexing assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Assembly locations (2 of 2) on page 193</a>
RM1-4258-000	Duplexing assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Duplexing assembly on page 225</a>
RM1-4262-000	Scanner assembly	<a href="#">Internal components (2 of 4) on page 201</a>
RM1-4263-000	Paper-feed guide assembly	<a href="#">Internal components (1 of 4) on page 199</a>
RM1-4265-000	Paper-retaining assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Internal components (1 of 4) on page 199</a>
RM1-4266-000	Cartridge-door assembly	<a href="#">Cartridge-door assembly on page 197</a>
RM1-4267-000	Inner cover assembly	<a href="#">Cartridge-door assembly on page 197</a>
RM1-4268-000	M.P. lifting-plate assembly	<a href="#">Cartridge-door assembly on page 197</a>
RM1-4269-000	Expansion-tray assembly	<a href="#">Cartridge-door assembly on page 197</a>
RM1-4270-000	Rear cover assembly (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Covers on page 195</a>
RM1-4272-000	Top cover assembly	<a href="#">Covers on page 195</a>
RM1-4273-000	ECU assembly (110 V)	<a href="#">Assembly locations (2 of 2) on page 193</a>
RM1-4273-000	ECU assembly (220 V)	<a href="#">Assembly locations (2 of 2) on page 193</a>
RM1-4273-000	ECU assembly (110 V)	<a href="#">ECU assembly on page 211</a>
RM1-4273-000	ECU assembly (110 V)	<a href="#">PCB assembly locations on page 227</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RM1-4274-000	ECU assembly (220 V)	<a href="#">ECU assembly on page 211</a>
RM1-4274-000	ECU assembly (220 V)	<a href="#">PCB assembly locations on page 227</a>
RM1-4275-000	Paper pick-up gear assembly	<a href="#">Internal components (4 of 4) on page 207</a>
RM1-4276-000	Paper retaining assembly (HP LJ P2015)	<a href="#">Internal components (1 of 4) on page 199</a>
RM1-4277-000	Rear cover assembly (HP LJ P2015)	<a href="#">Covers on page 195</a>
RM1-4279-000	Roller, transfer	<a href="#">Internal components (3 of 4) on page 205</a>
RM2-0407-000	Cover, multipurpose	<a href="#">Cartridge-door assembly on page 197</a>
RU5-0320-000	Gear, 33T	<a href="#">Internal components (3 of 4) on page 205</a>
RU5-0328-000	Gear, 10T	<a href="#">Cassette assembly on page 223</a>
RU5-0330-000	Gear, 17T	<a href="#">Fuser assembly on page 215</a>
RU5-0331-000	Gear, 29T	<a href="#">Internal components (1 of 4) on page 199</a>
RU5-0332-000	Gear, 19T	<a href="#">Internal components (1 of 4) on page 199</a>
RU5-0927-000	Gear, 19T	<a href="#">Internal components (4 of 4) on page 207</a>
RU5-0928-000	Gear, 26T	<a href="#">Internal components (4 of 4) on page 207</a>
RU5-0929-000	Gear, 14T	<a href="#">Internal components (4 of 4) on page 207</a>
RU5-2144-000	Spring, compression	<a href="#">Internal components (3 of 4) on page 205</a>
RU5-2323-000	Spring, compression	<a href="#">Internal components (1 of 4) on page 199</a>
RU5-2324-000	Spring, tension	<a href="#">Cassette assembly on page 223</a>
RU5-2327-000	Spring, compression	<a href="#">Cassette assembly on page 223</a>
RU5-2335-000	Spring, compression	<a href="#">Internal components (2 of 4) on page 201</a>
RU5-2337-000	Spring, compression	<a href="#">Internal components (4 of 4) on page 207</a>
RU5-2338-000	Spring, compression	<a href="#">Internal components (3 of 4) on page 205</a>
RU5-2894-000	Spring compression	<a href="#">Internal components (1 of 4) on page 199</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
RU5-2895-000	Spring, tension	<a href="#">Cartridge-door assembly on page 197</a>
RU5-2898-000	Spring, tension	<a href="#">Internal components (1 of 4) on page 199</a>
RU5-2901-000	Spring, compression	<a href="#">Fuser assembly on page 215</a>
VS1-7258-007	Connector, drawer	<a href="#">Internal components (2 of 4) on page 201</a>
XA9-1420-000	Screw, with washer, M3x8	<a href="#">Internal components (3 of 4) on page 205</a>
XA9-1422-000	Screw, with washer, M4x12	<a href="#">Internal components (3 of 4) on page 205</a>
XA9-1422-000	Screw, with washer, M4x12	<a href="#">Fuser assembly on page 215</a>
XA9-1495-000	Screw, RS, M3x6	<a href="#">Internal components (1 of 4) on page 199</a>
XA9-1495-000	Screw, RS, M3x6 (HP LJ P2015d, P2015dn, and P2015x)	<a href="#">Internal components (2 of 4) on page 201</a>
XA9-1495-000	Screw, RS, M3x6 (HP LJ P2015)	<a href="#">Internal components (2 of 4) on page 201</a>
XA9-1495-000	Screw, RS, M3x6	<a href="#">Internal components (4 of 4) on page 207</a>
XA9-1503-000	Screw, tap, M3x6	<a href="#">Internal components (1 of 4) on page 199</a>
XA9-1503-000	Screw, tap, M3x6	<a href="#">Internal components (2 of 4) on page 201</a>
XA9-1503-000	Screw, tap, M3x6	<a href="#">Fuser assembly on page 215</a>
XA9-1504-000	Screw, RS, M3x8	<a href="#">Internal components (1 of 4) on page 199</a>
XA9-1504-000	Screw, RS, M3x8	<a href="#">Internal components (2 of 4) on page 201</a>
XA9-1504-000	Screw, RS, M3x8	<a href="#">Internal components (3 of 4) on page 205</a>
XA9-1504-000	Screw, RS, M3x8	<a href="#">Internal components (4 of 4) on page 207</a>
XA9-1561-000	Screw, RS, M3x6	<a href="#">Internal components (2 of 4) on page 201</a>
XA9-1648-000	Screw, tap, M3x8	<a href="#">Internal components (2 of 4) on page 201</a>
XB2-7400-606	Screw, toothed washer, M4x6	<a href="#">Internal components (2 of 4) on page 201</a>
XB4-7300-809	Screw, tap, binding head, M3x8	<a href="#">Covers on page 195</a>
XB4-7300-809	Screw, tap, binding head, M3x8	<a href="#">Internal components (1 of 4) on page 199</a>

**Table 8-19** Numerical parts list (continued)

Part number	Description	Table and page
XB4-7300-809	Screw, tap, binding head, M3x8	<a href="#">Internal components (2 of 4) on page 201</a>
XB4-7300-809	Screw, tap, binding head, M3x8	<a href="#">Internal components (3 of 4) on page 205</a>
XB4-7300-809	Screw, tap, binding head, M3x8	<a href="#">Fuser assembly on page 215</a>
XB4-7401-005	Screw, tapping, truss head, M4x10	<a href="#">Internal components (1 of 4) on page 199</a>
XB4-7401-005	Screw, tapping, truss head, M4x10	<a href="#">Internal components (3 of 4) on page 205</a>
XB4-7401-005	Screw, M4x10	<a href="#">Cassette assembly on page 223</a>





# A    **Accessory/Consumable addendum**

This appendix provides information on the following topics:

- [Consumables and accessories](#)
- [10/100 networking print servers](#)
- [HP print cartridges](#)
- [DIMMs \(memory or font\)](#)

## Consumables and accessories

Product name	Description	Part number
Print cartridge	3,000-page print cartridge	Q7553A
Print cartridge	7,000-page print cartridge	Q7553X
Pickup roller	Tray 1 pickup roller	CB366-67901
Pickup roller	Tray 2 pickup roller	CB366-67902
Separation pad	Separation pad for 250-sheet feeder	RM1-1298-000CN
250-sheet paper tray	Optional tray 3	Q5931A
<i>HP LaserJet Family Print Media Guide</i>		<a href="http://www.hp.com/support/ljpaperguide">http://www.hp.com/support/ljpaperguide</a>

## 10/100 networking print servers

**Table A-1** HP LaserJet P2015 Series printer

Item and description	Order number
HP Jetdirect en3700 fast Ethernet print server	J7942A
HP Jetdirect en2400 802.11g wireless external print server (full featured, USB port)	J7951A

# HP print cartridges

## HP policy on non-HP print cartridges

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



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**NOTE** The warranty does not apply to defects resulting from software, interfacing, or parts not supplied by Hewlett-Packard.

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## Storing print cartridges

Do not remove the print cartridge from its package until you are ready to use it, and minimize exposure to light.

## Print cartridge life expectancy

The average cartridge yield is 3000 pages in accordance with ISO/IEC 19752. A replacement cartridge that has an average yield of 7000 pages in accordance with ISO/IEC 19752 is also available. Actual cartridge yield depends on specific use.

## Saving toner

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

## DIMMs (memory or font)

The following sections provide instructions for installing, testing, and removing DIMMs.

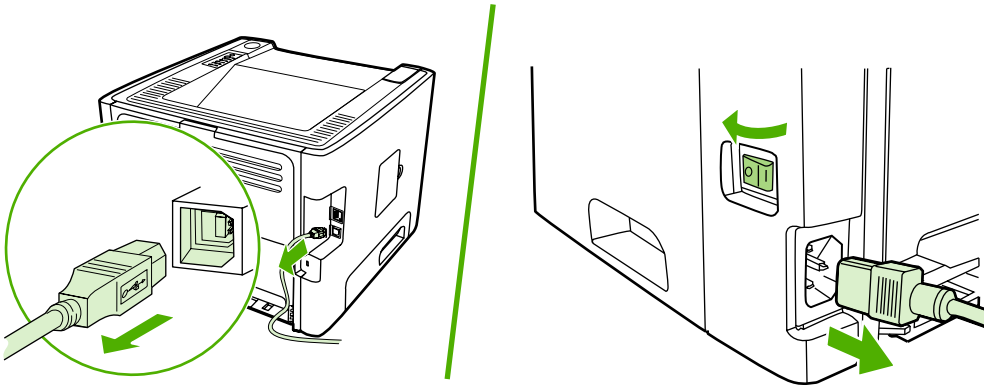
### Install a DIMM

To install a DIMM, follow the instructions below:

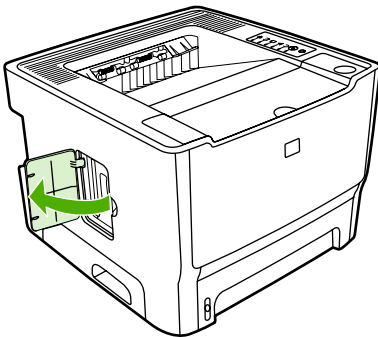


**CAUTION** Handling a DIMM (memory) without wearing a grounded, antistatic device might damage the DIMM. Touch any metal part of the printer or other grounded metal before touching the DIMM.

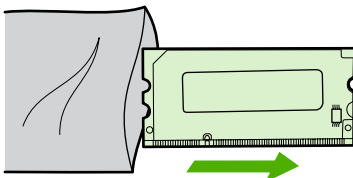
1. Use the power switch to turn off the printer, and then unplug all of the cables and cords connected to the printer.



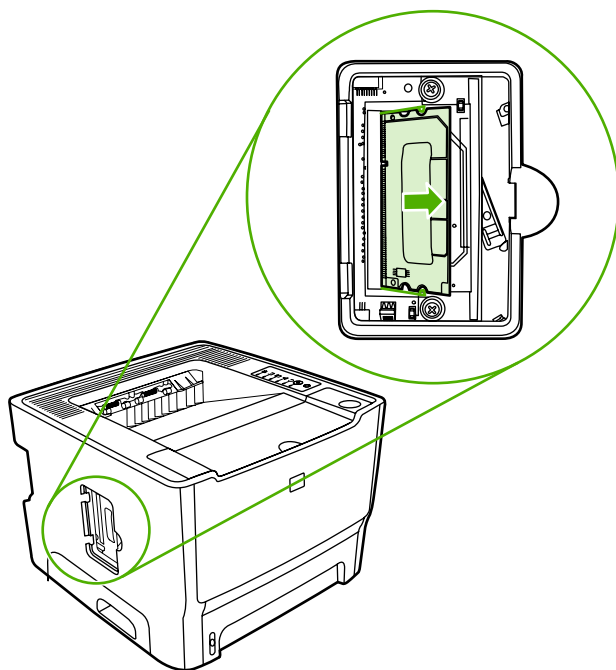
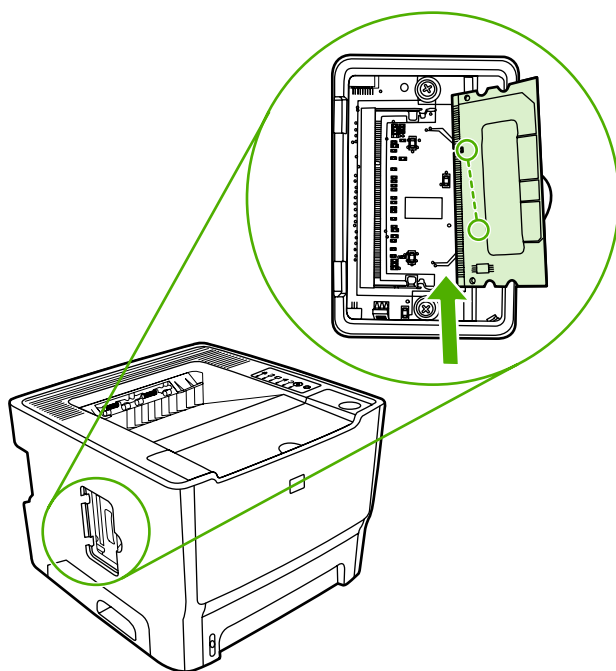
2. Open the DIMM door.



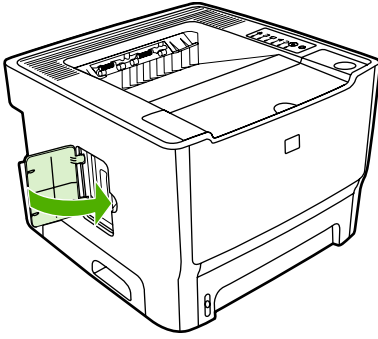
3. Remove the DIMM from the antistatic bag it came in, grasping the DIMM on the top edge.



4. With the gold contacts facing upward, insert the DIMM in the DIMM seat and press the DIMM body in until the metal retaining pins click.



5. Close the DIMM door.



6. Reconnect all printer cables and cords, and then use the power switch to turn on the printer.

## Test the DIMM installation

To test the DIMM installation, print a configuration page, and check the Total Memory specified on the page.

If all lights on the control panel are blinking, the DIMM installation was unsuccessful. Remove the DIMM and reinstall it.

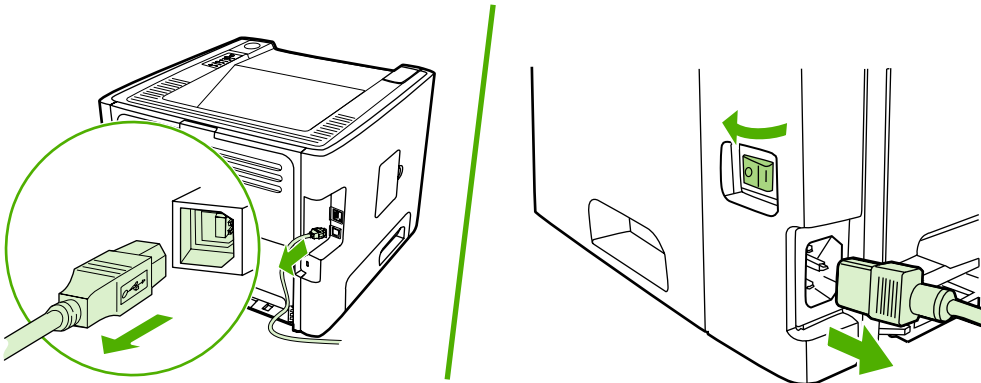
## Remove a DIMM

To remove a DIMM, follow the instructions below:

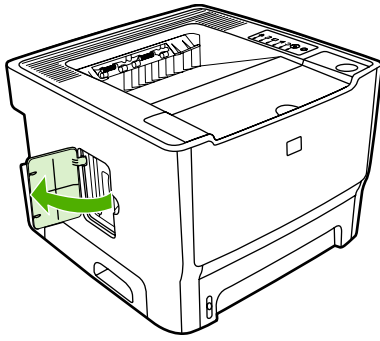


**CAUTION** Handling a DIMM (memory) without wearing a grounded, antistatic device might damage the DIMM. Touch any metal part of the printer or other grounded metal before touching the DIMM.

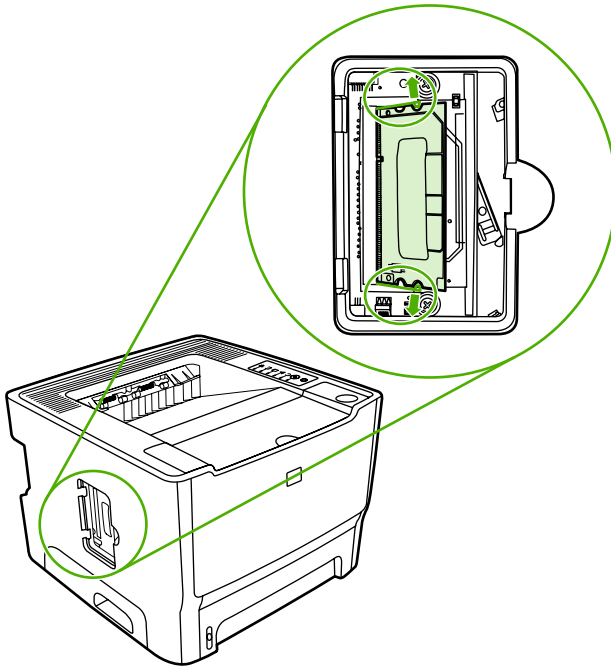
1. Use the power switch to turn off the printer, and then unplug all of the cables and cords connected to the printer.



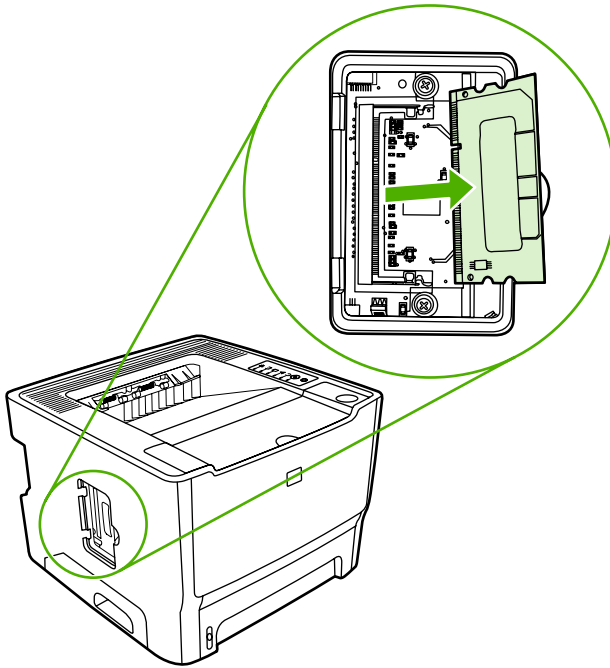
2. Open the DIMM door.



3. Unlock the DIMM retaining pins by pressing them outward.

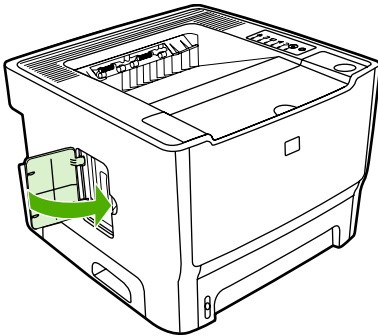


4. Grasp the DIMM on the bottom edge, and then remove the DIMM from the printer.



**NOTE** Store the DIMM in an antistatic bag.

5. Close the DIMM door.



6. Reconnect all printer cables and cords, and then use the power switch to turn on the printer.



## B Service and support

This appendix provides information on the following topics:

- [Hardware service](#)
- [Extended warranty](#)
- [Guidelines for repacking the printer](#)
- [How to contact HP](#)

## Hardware service

If your hardware fails during the warranty period, Hewlett-Packard offers the following support options:

- **Hewlett-Packard repair services:** Hewlett-Packard will arrange to pick up the unit, repair it, and return it to you within 5 to 10 business days, depending on your location.
- **Hewlett-Packard authorized service provider:** You can return the unit to a local authorized service dealer.

## Extended warranty

HP Care Pack provides coverage for the HP product and all HP-supplied internal components. The hardware maintenance covers a three-year period from the date of the HP product purchase. The customer may purchase an HP Care Pack up to one year from the date of purchase of the HP product. For more information, contact the HP Customer Care Service and Support group.

HP Care Pack options might be available after the standard warranty period has expired. Go to <http://www.hpexpress-services.com/10467a/> and enter the product number to identify the HP Care Pack options that are available for your product.

## Guidelines for repacking the printer

Use the following guidelines when repacking the printer:

- If possible, include print samples and 5 to 10 sheets of paper or other media that did not print correctly.
- Remove and keep any DIMMs (memory) installed in the printer.



---

**CAUTION** Static electricity can damage DIMMs. When handling DIMMs, wear a grounded, antistatic wrist strap.

---

- Remove and keep any cables, trays, and optional accessories installed in the printer.
- Remove and keep the print cartridge.



---

**CAUTION** To prevent damage to the print cartridge, store the print cartridge in its original packing material, or store it so that it is not exposed to light.

---

- If possible, use the original shipping container and packing material. *Shipping damage as a result of inadequate packing is your responsibility.* If you have already disposed of the printer's packing material, contact a local mailing service for information on repacking the printer.
- Hewlett-Packard recommends that you insure the equipment for shipment.

## How to contact HP

If you need to contact HP for service or support, use one of the following links:

- In the United States, go to <http://www.hp.com/support/ljP2015/>.
- Worldwide, go to <http://www.hp.com/>.



# C Printer specifications

This appendix provides information on the following topics:

- [Environmental specifications](#)
- [Acoustic emissions](#)
- [Electrical specifications](#)
- [Physical specifications](#)
- [Printer capacities and ratings](#)
- [Memory specifications](#)
- [Port availability](#)

## Environmental specifications

Operating environment	Printer plugged into an AC outlet: <ul style="list-style-type: none"><li>• Temperature: 10° C to 32.5° C (50° F to 90.5° F)</li><li>• Humidity: 20 to 80 percent (no condensation)</li></ul>
Storage environment	Printer unplugged from an AC outlet: <ul style="list-style-type: none"><li>• Temperature: 0° C to 40° C (32° F to 104° F)</li><li>• Humidity: 10 to 80 percent (no condensation)</li></ul>



**NOTE** Values are based on preliminary data. See <http://www.hp.com/support/ljP2015> for current information.

## Acoustic emissions

Declared per ISO 9296

**Table C-1** HP LaserJet P2015 printer

Sound power level	Printing (27 ppm): $L_{WA,d} = 6.4$ Bels A and 62 dB (A) Ready (Sleep): Inaudible
Sound pressure level bystander position	Printing (27 ppm): $L_{pA,m} = 50$ dB (A) Ready (Sleep): Inaudible



**NOTE** Values are based on preliminary data. See <http://www.hp.com/support/ljP2015> for current information.

**NOTE** Configuration tested: HP LaserJet P2015 base base unit, 26 ppm, standard tray, A4 paper, and simplex continuous print.

# Electrical specifications



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

**Table C-2** HP LaserJet P2015 printer

Power requirements (110)	110-127 V (+/-10%), 50/60 Hz (+/-2)
Power requirements (220)	220 V - 240 V (+/-10%), 50/60 Hz (+/-2 Hz)
Power consumption	<ul style="list-style-type: none"><li>• During printing (27 ppm): 350 watts (average)</li><li>• During Ready (Standby) and Sleep*: 7 Watts</li><li>• * Instant-on fuser technology</li><li>• Off: &lt;0.1 watts</li></ul>
Rated current	<ul style="list-style-type: none"><li>• 4.9 amps at 115 volts</li><li>• 2.9 amps at 230 volts</li></ul>

**Table C-3** HP LaserJet P2015d printer, HP LaserJet P2015n printer, HP LaserJet P2015x printer

Power requirements (110)	110-127 V (+/-10%), 50/60 Hz (+/-2)
Power requirements (220)	220 V - 240 V (+/-10%), 50/60 Hz (+/-2 Hz)
Power consumption	<ul style="list-style-type: none"><li>• During printing (27 ppm): 350 watts (average)</li><li>• During Ready (Standby) and Sleep*: 7 Watts</li><li>• * Instant-on fuser technology</li><li>• Off: &lt;0.1 watts</li></ul>
Rated current	<ul style="list-style-type: none"><li>• 4.9 amps at 115 volts</li><li>• 2.9 amps at 230 volts</li></ul>

**Table C-4** HP LaserJet P2015dn printer

Power requirements (110)	110-127 V (+/-10%), 50/60 Hz (+/-2)
Power requirements (220)	220 V - 240 V (+/-10%), 50/60 Hz (+/-2 Hz)
Power consumption	<ul style="list-style-type: none"><li>• During printing (27 ppm): 350 watts (average)</li><li>• During Ready (Standby) and Sleep*: 7 Watts</li></ul> * Instant-on fuser technology <ul style="list-style-type: none"><li>• Off: &lt;0.1 watts</li></ul>
Rated current	<ul style="list-style-type: none"><li>• 4.9 amps at 115 volts</li><li>• 2.9 amps at 230 volts</li></ul>



**NOTE** Values are based on preliminary data. See <http://www.hp.com/support/ljP2015> for current information.

**NOTE** The power reported is the highest value measured for monochrome printing using all standard voltages.

**NOTE** The default time from Ready mode to Sleep mode and the recovery time from Sleep mode to the start of printing is less than 10 seconds because of the instant-on fusing.

**NOTE** The heat dissipation in Ready mode is 25 BTU/hour.



## Physical specifications

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### Dimensions

- Width: 350 mm (16.8 inches)
- Depth: 361 mm (14.2 inches)
- Height: 256 mm (10.0 inches)

---

### Weight (3,000-page cartridge installed)

HP LaserJet P2015 printer: 10.7 kg (23.6 lb)

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**NOTE** Values are based on preliminary data. See <http://www.hp.com/support/ljP2015> for current information.

---

## Printer capacities and ratings

Print speed	HP LaserJet P2015 printer: <ul style="list-style-type: none"><li>• 27 ppm (letter), 26 ppm (A4)</li><li>• First page out in as few as 8.5 seconds</li></ul>
Tray 2 capacity	250 sheets of regular weight 75 g/m <sup>2</sup> (20 lb) paper
Tray 1 capacity	50 sheets of regular weight 75 g/m <sup>2</sup> ((20 lb)) paper
Optional input tray (tray 3) capacity	250 sheets of regular weight 75 g/m <sup>2</sup> (20 lb) paper
Top (face down) output bin capacity	125 sheets of regular weight 75 g/m <sup>2</sup> (20 lb) paper
Minimum paper size	76 by 127 mm (3 by 5 inches)
Maximum paper size	216 by 356 mm (8.5 by 14 inches)
Media weight	Output bin: 60 to 105 g/m <sup>2</sup> (16 to 28 lbs)  Straight through media path: 60 to 163 g/m <sup>2</sup> (16 to 43 lbs)
Base memory	32 MB RAM
Upgrade memory expansion	One DIMM slot available for a 32, 64, 128, or 256 MB RAM DIMM
Print resolution	<ul style="list-style-type: none"><li>• <b>1200 dpi:</b> This setting uses ProRes 1200 to provide fine-line detail at 1200 x 1200 dpi.</li><li>• <b>1200 effective dpi:</b> This setting provides 1200 dpi effective output quality using FastRes 1200.</li><li>• <b>600 dpi:</b> This setting provides 600 x 600 dpi output with Resolution Enhancement technology (RET) for improved text.</li></ul>
Duty cycle	<ul style="list-style-type: none"><li>• 10,000 single-sided pages per month (maximum)</li><li>• 1,000 single-sided pages per month (average)</li></ul>
PCL	PCL 5e, PCL 6
Postscript emulation	HP postscript level 3 emulation

## Memory specifications

Base memory	32 MB RAM
Upgrade memory expansion	100-pin, 66 MHz minimum speed

## Port availability

USB	Compatible with High-speed USB 2.0 specifications
Network	RJ-45, Ethernet 10/100
(networking-equipped models only)	

## D Regulatory information

## FCC compliance

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 it 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 Hewlett-Packard 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 statements

## Declaration of Conformity

according to ISO/IEC Guide 22 and EN 45014

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

### declares that the product

**Product Name:** HP LaserJet P2015 Series  
**Regulatory Model <sup>3)</sup>:** BOISB-0602-00

**Product Options:** Including: Q5931A — Optional 250-Sheet Input Tray  
ALL

Toner Cartridges: Q7553A / Q7553X

### conforms to the following Product Specifications:

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

**EMC:** CISPR 22:1993 +A1 +A2/ EN 55022:1994 Class B<sup>1)</sup>  
EN 61000-3-2:2000  
EN 61000-3-3:1995 / A1  
EN 55024:1998 +A1 +A2  
FCC Title 47 CFR, Part 15 Class B<sup>2)</sup> / ICES-003, Issue 4  
GB9254-1998, GB17625.1-2003

### Supplementary Information:

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

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

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

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

Boise, Idaho 83714, USA

**September 1, 2006**

### For Regulatory Topics ONLY, contact:

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

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

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

## Regulatory statements

### Laser safety statement

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration has implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States. The printer is certified as a "Class 1" laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968.

Since radiation emitted inside the printer is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.



**WARNING!** Using controls, making adjustments, or performing procedures other than those specified in this user guide could 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). »

### Korean EMI statement

사용자 안내문 (A급 기기)

이 기기는 업무용으로 전자파장애감정을 받은  
기기이오니, 만약 잘못된 구입하셨을 때에는 구입  
한 곳에서 비업무용으로 교환하시기 바랍니다.

# Laser statement for Finland

## LASERTURVALLISUUS

### LUOKAN 1 LASERLAITE

#### KLASS 1 LASER APPARAT

HP LaserJet P2015, HP LaserJet P2015d, HP LaserJet P2015n, HP LaserJet P2015x, HP LaserJet P2015dn -laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisessa käytössä kirjoittimen suojakoteloitinta estää lasersäteiden pääsyn laitteen ulkopuolelle.

Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

#### VAROITUS!

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

#### VARNING!

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

#### HUOLTO

HP LaserJet P2015, HP LaserJet P2015d, HP LaserJet P2015n, HP LaserJet P2015x, HP LaserJet P2015dn -kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

#### VARO!

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

#### VARNING!

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsätts användaren för osynlig laserstrålning. Betrakta ej strålen.

Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista:

Aallonpituus 785-800 nm

Teho 5 mW

Luokan 3B laser





## **E    Warranty and licensing**

# Hewlett-Packard limited warranty statement

## HP PRODUCT

HP LaserJet P2015 Series printers

## DURATION OF LIMITED WARRANTY

One year from date of purchase

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.

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## Limited warranty for print cartridge



**NOTE** The following warranty applies to the print cartridge that came with this printer.

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 the 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.

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