LASERJET PROFESSIONAL P1560 and P1600

SERIES PRINTER

Service Manual

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HP LaserJet Professional P1560 and P1600 Series Printer

Service Manual

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Conventions used in this guide

TIP: Tips provide helpful hints or shortcuts.

NOTE: Notes provide important information to explain a concept or to complete a task.

CAUTION: Cautions indicate procedures that you should follow to avoid losing data or damaging the product.

WARNING! Warnings alert you to specific procedures that you should follow to avoid personal injury, catastrophic loss of data, or extensive damage to the product.

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1 Theory of operation

Basic operation

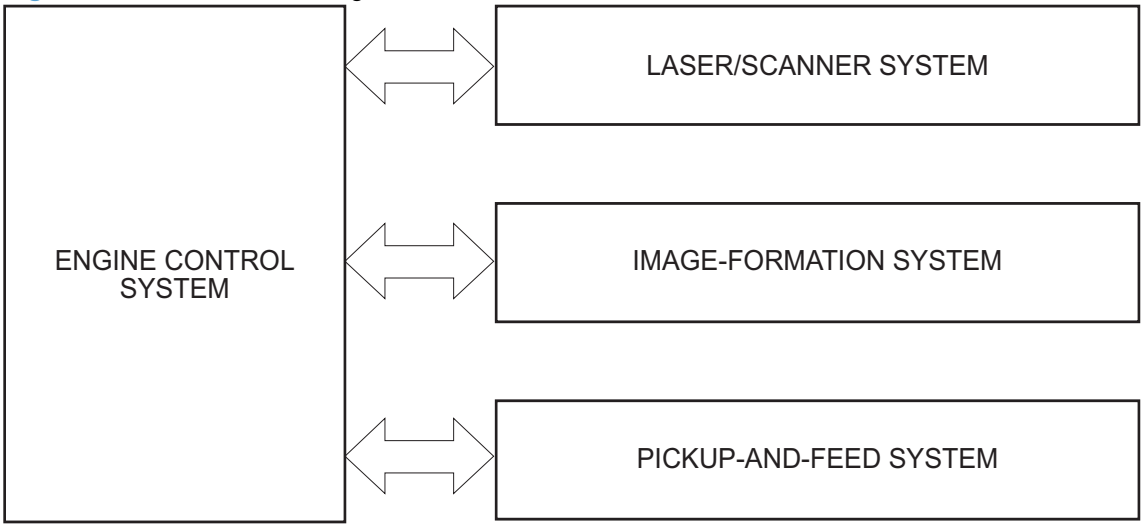
Major product systems

The product contains the following major systems:

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

Product block diagram

Figure 1-1 Product block diagram



Sequence of operation

The DC controller in the engine-control system controls the operational sequences of the product. The table below describes durations and operations for each period of a print operation from when the product is turned on until the motor stops rotating.

Normal sequence of operation

Table 1-1 Sequence of operation

Name	Timing	Purpose
WAIT	From the time the power switch is turned on, the door is closed or the product exits Sleep mode until the product gets ready for a print operation.	Brings the product to ready state. The product performs the following during the operations: • Detects the print cartridge • Heats the fuser film in the fuser • Rotates, and the stops, the main motor
STBY (standby)	From the end of the WAIT or LSTR period until either a print command is sent or the power switch is turned off.	Maintains the product in printable condition. The product performs the following during the operation: • Enters Auto-Off mode if Auto-Off command is received
INTR (initial rotation)	From the time a print command is received until the paper is picked up.	The product performs the following during the operations: • Drives the main motor • Activates the high-voltage power supply • Activates the laser/scanner • Warms the fuser heater
PRINT	From the end of the INTR period until the last sheet completes the fuser operation.	Forms the image on the photosensitive drum based on the VIDEO signals from the formatter. Transfers and fuses the toner image to the paper.
LSTR (last rotation)	From the end of the PRINT period until the main motor stops rotating.	Moves the last printed sheet out of the product. The product performs the following during the operations: • Stops the main motor • Deactivates the high-voltage power supply • Deactivates the laser/scanner • Deactivates the fuser heater The product enters the INTR period as the LSTR period is completed, if the formatter sends another print command.

Formatter-control system

The formatter is responsible for the following procedures:

- Controlling sleep mode
- Receiving and processing print data from the various product interfaces
- Monitoring control-panel functions and relaying product-status information (through the control panel and the network or bidirectional interface)
- Developing and coordinating data placement and timing with the DC controller PCA
- Storing font information
- Communicating with the host computer through the network or the bidirectional interface

The formatter receives a print job from the network or bidirectional interface and separates it into image information and instructions that control the printing process. The DC controller PCA synchronizes the image-formation system with the paper-input and -output systems, and then signals the formatter to send the print-image data.

Sleep mode

NOTE: This product uses an Auto-Off feature for sleep mode.

After a user-specified time, the Auto-Off feature automatically conserves electricity by substantially reducing power consumption when the product is not printing. After a user-specified time, the product automatically reduces its power consumption (Auto-Off). The product returns to the ready state when a button is pressed, a print job is received, or a door is opened. When the product is in Auto-Off mode, all of the control-panel LEDs and the power button backlight LED are off.

NOTE: Although the product lights are off in Auto-Off mode, the product functions normally when it receives a print job.

Input/output

The product receives print data primarily from the following:

- Hi-Speed USB 2.0 port
- 802.11b/g wireless networking (wireless models only)

CPU

The formatter incorporates a 400 MHz Helium processor.

Memory

The random access memory (RAM) on the formatter PCA contains the page, I/O buffers, and the font storage area. RAM stores printing and font information received from the host system, and can also serve to temporarily store a full page of print-image data before the data is sent to the print engine.

Firmware

- HP LaserJet Professional P1560 Printer series
  - The product has 8 MB of Synchronous DRAM, which is used for run-time firmware imaging and specific print job information for the print job.
- HP LaserJet Professional P1600 Printer series
  - The product has 32 MB of Synchronous DRAM, which is used for run-time firmware imaging and specific print job information for the print job.

Memory use

- HP LaserJet Professional P1560 Printer series
  - The product has a 2 KB EEPROM and 64 MB of NAND Flash Memory, which is used for product configuration information and printer driver firmware.
- HP LaserJet Professional P1600 Printer series
  - The product has a 8 KB EEPROM and 64 MB of NAND Flash Memory, which is used for product configuration information and printer driver firmware.

PJL overview

The printer job language (PJL) is an integral part of configuration, in addition to the standard printer command language (PCL). With standard cabling, the product can use PJL to perform a variety of functions such as these:

- Two-way communication with the host computer through a network connection or a USB connection. The product can inform the host about such things as the control-panel settings, and the control-panel settings can be changed from the host.
- Dynamic I/O switching. The product uses this switching to be configured with a host on each I/O. The product can receive data from more than one I/O simultaneously, until the I/O buffer is full. This can occur even when the product is offline.
- Context-sensitive switching. The product can automatically recognize the personality (PS or PCL) of each job and configure itself to serve that personality.
- Isolation of print environment settings from one print job to the next. For example, if a print job is sent to the product in landscape mode, the subsequent print jobs print in landscape mode only if they are formatted for landscape printing.

LEDM overview

NOTE: HP LaserJet Professional P1600 Printer series

The low-end data model (LEDM) provides one consistent data representation method and defines the dynamic and capabilities tickets shared between clients and devices, as well as the access protocol, event, security, and discovery methods.

ACL overview

The advanced control language (ACL) is a language that supports product control and firmware downloads in printers that support both PJL/PCL and host-based printing. Each sequence of ACL

commands must be preceded by a unified exit command (UEL) and an @PJL ENTER LANGUAGE=ACL command. The ACL sequence is always followed by a UEL. Any number of commands can be placed between the UELs. The only exception to these rules is the download command. If a firmware download is done, the download command must be the last command in the sequence. It will not be followed by a UEL.

The firmware searches for the UEL sequence when parsing commands. However, while downloading binary data such as host-based code or NVRAM data the firmware suspends UEL parsing. To handle hosts that “disappear” during binary sequences, the firmware times out all ACL command sessions. If a timeout occurs during a non-download command sequence, it is treated as the receipt of a UEL. If a timeout occurs during firmware download the product resets.

Control panel

The formatter sends and receives product status and command data to and from the control-panel PCA.

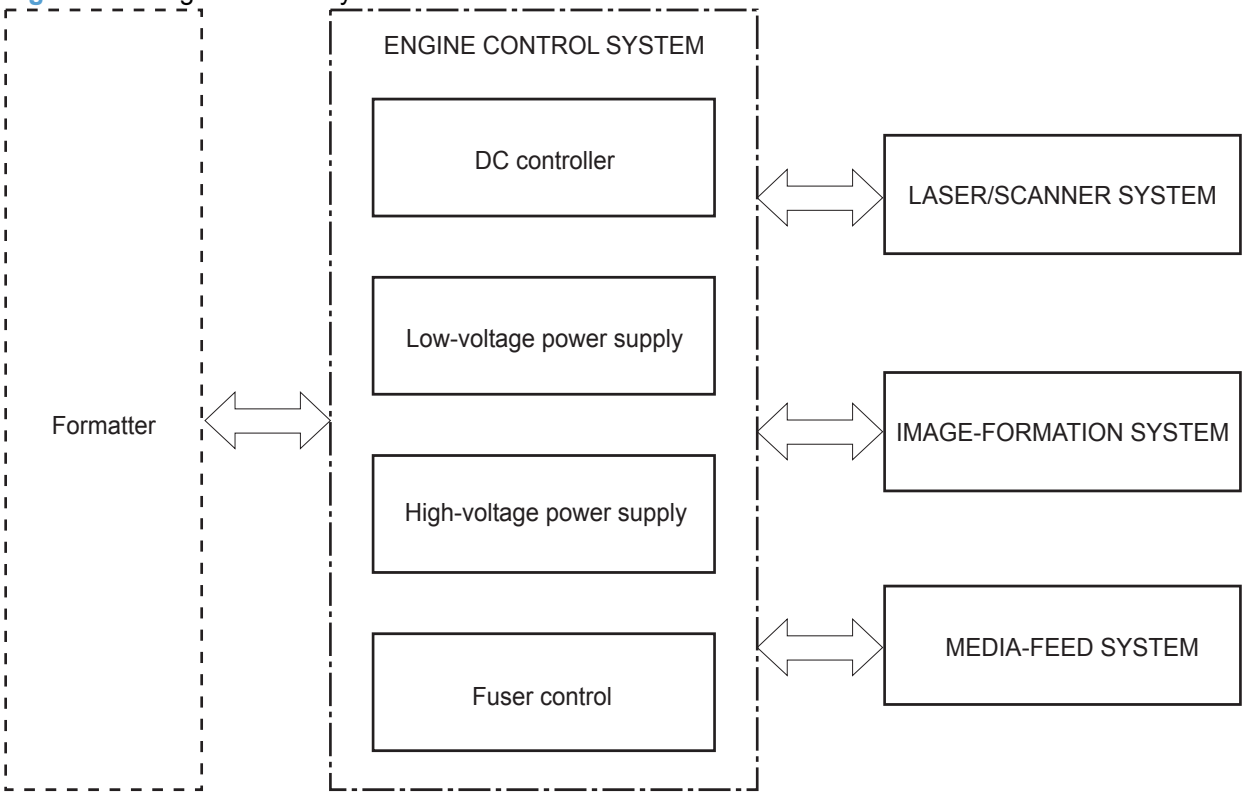
Engine-control system

The engine-control system coordinates all product functions, according to commands that the formatter sends. The engine-control system drives the laser/scanner system, the image-formation system, and the pickup/feed/delivery system.

The engine control system contains the following major components:

- Engine-control unit (ECU)
  - DC controller
  - Low-voltage power supply
- High-voltage power supply
- Fuser control

Figure 1-2 Engine-control system



Motors, fans, clutches, solenoids, switches, and sensors

Figure 1-3 Motors

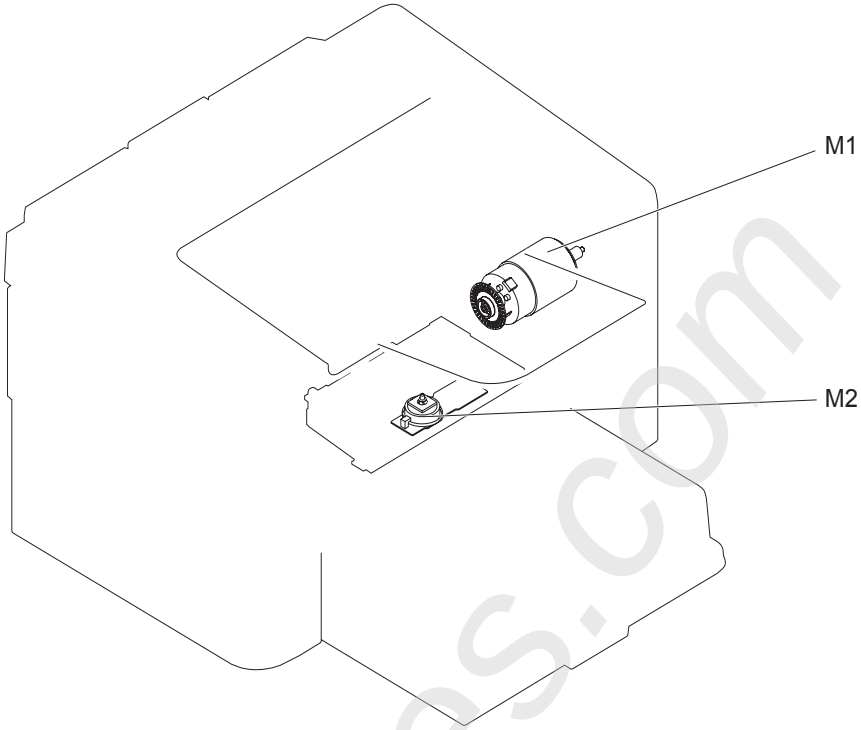


Table 1-2 Motors

Item	Description	Components driven
M1	Main motor	• Pickup roller • Feed roller • Photosensitive drum • Developing roller • Pressure roller • Delivery roller • Duplex feed roller
M2	Scanner motor	• Scanner mirror

Figure 1-4 Fans

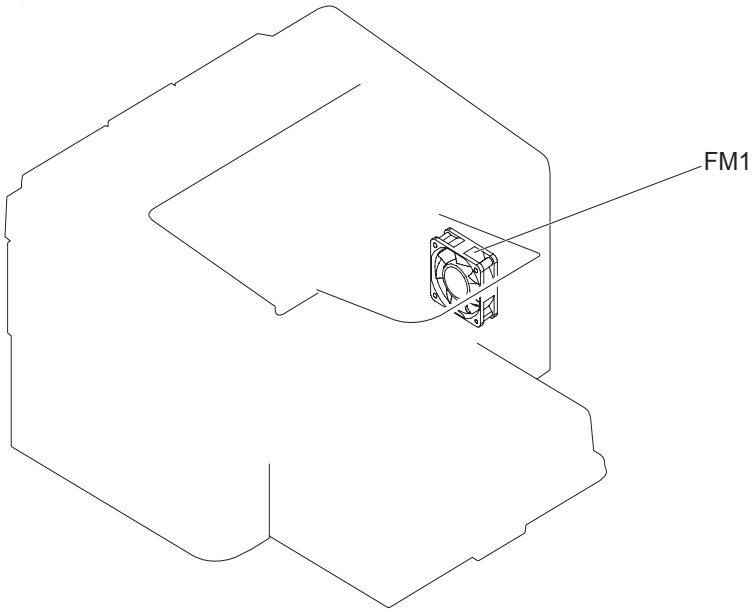


Table 1-3 Fans

Item	Description
FM1	Main fan

Figure 1-5 Solenoids and clutches

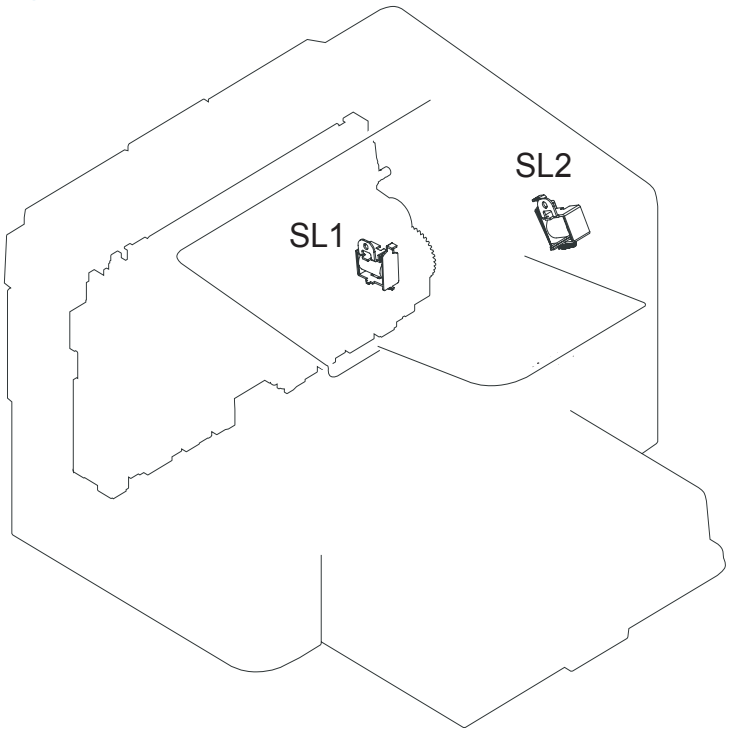


Table 1-4 **Solenoids and clutches**

Item	Description
SL1	Pickup solenoid
SL2	Duplex reverse solenoid **NOTE:** Duplex models only.

Figure 1-6 Switches

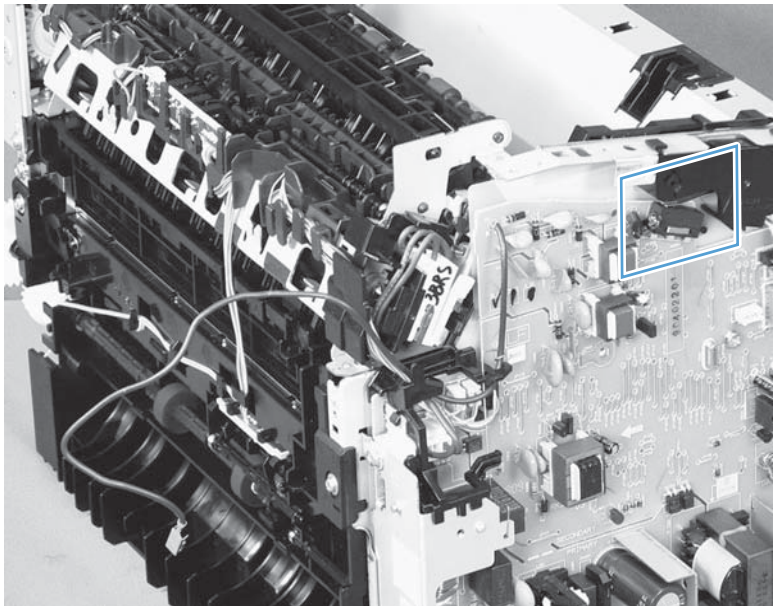


Table 1-5 **Switches**

Item	Description
SW501	Cartridge-door switch
SW502	Power switch; not shown

Figure 1-7 Sensors

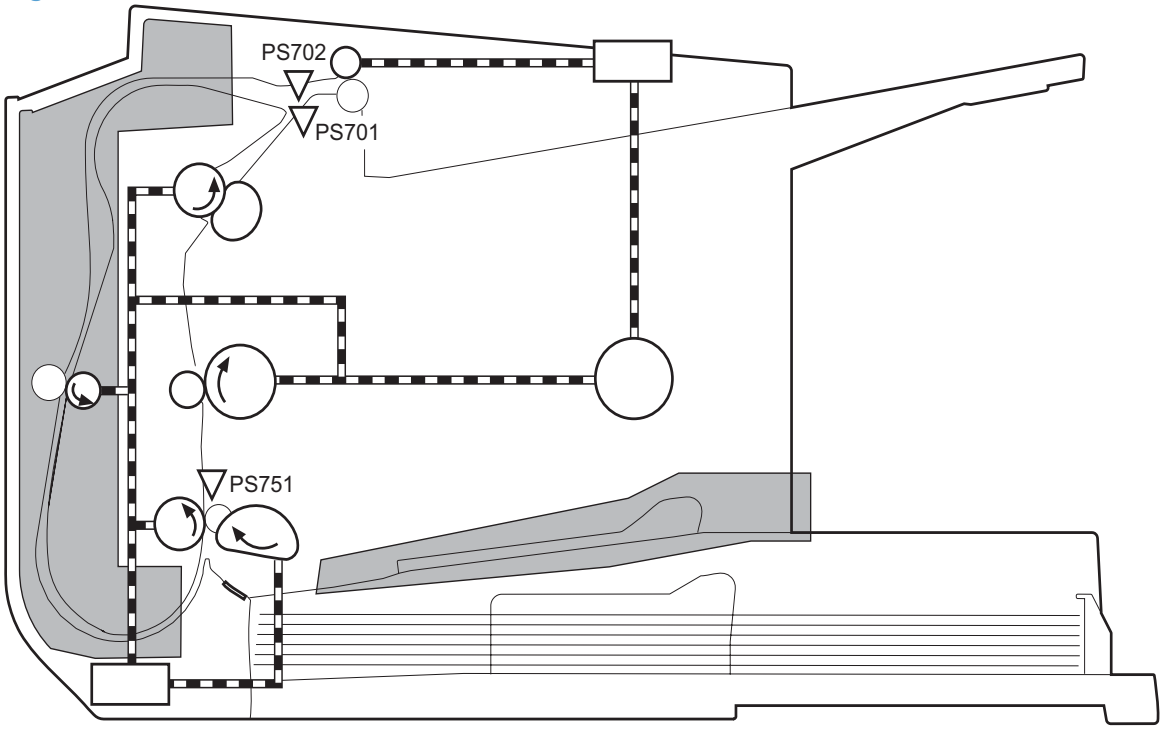


Table 1-6 **Sensors**

Item	Description
PS701	Fuser delivery sensor

Table 1-6 Sensors (continued)

Item	Description
PS702	Media-width sensor
PS751	Top-of-Page (TOP) sensor
PS901	Main-motor rotation-number sensor; not shown

DC controller operations

The DC controller controls the operational sequences of the product systems.

Figure 1-8 DC controller block diagram

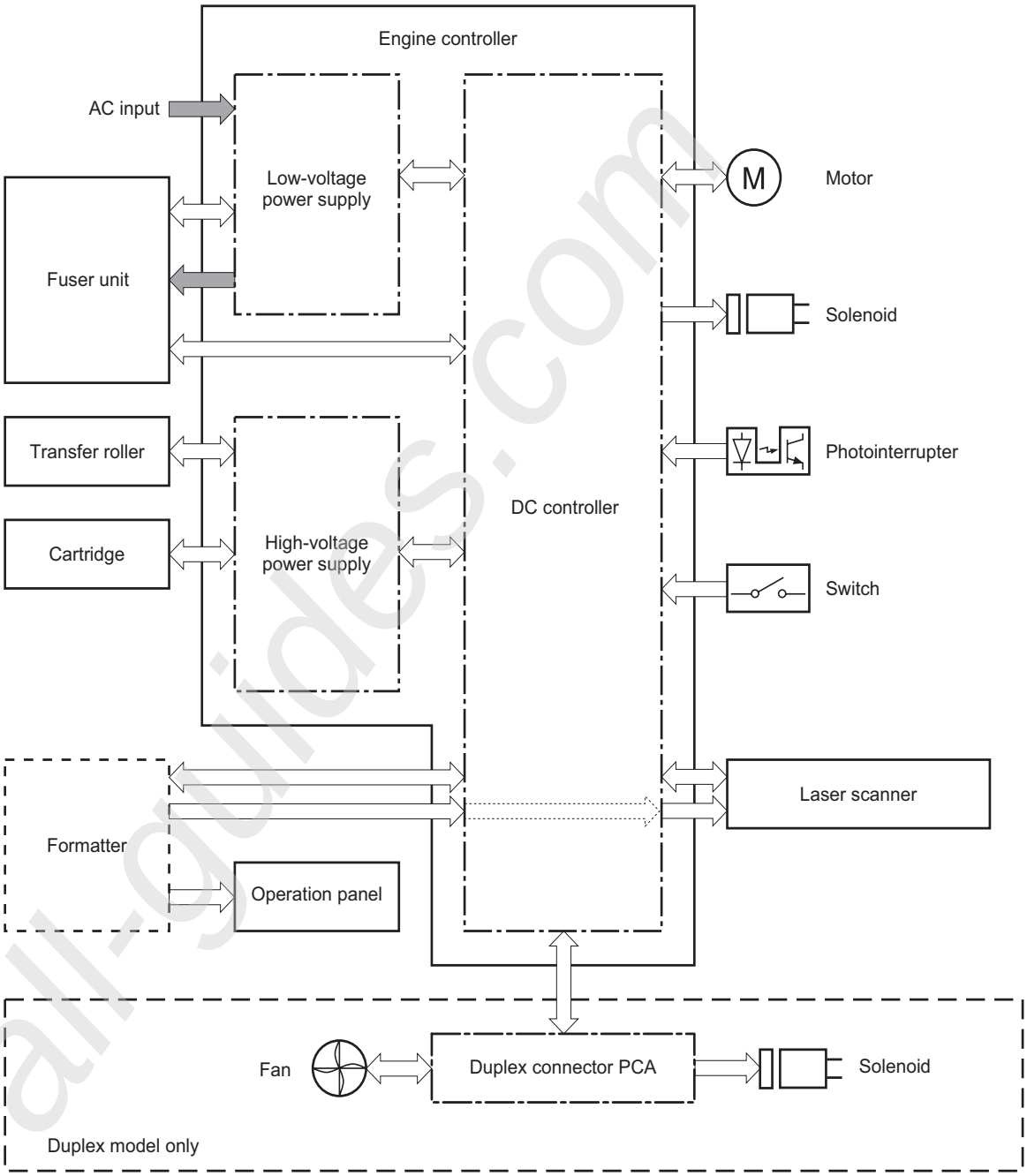


Table 1-7 DC controller controlled components

Component	Designator	Description
Motor	M1	Main motor
	M2	Scanner motor

Table 1-7 DC controller controlled components (continued)

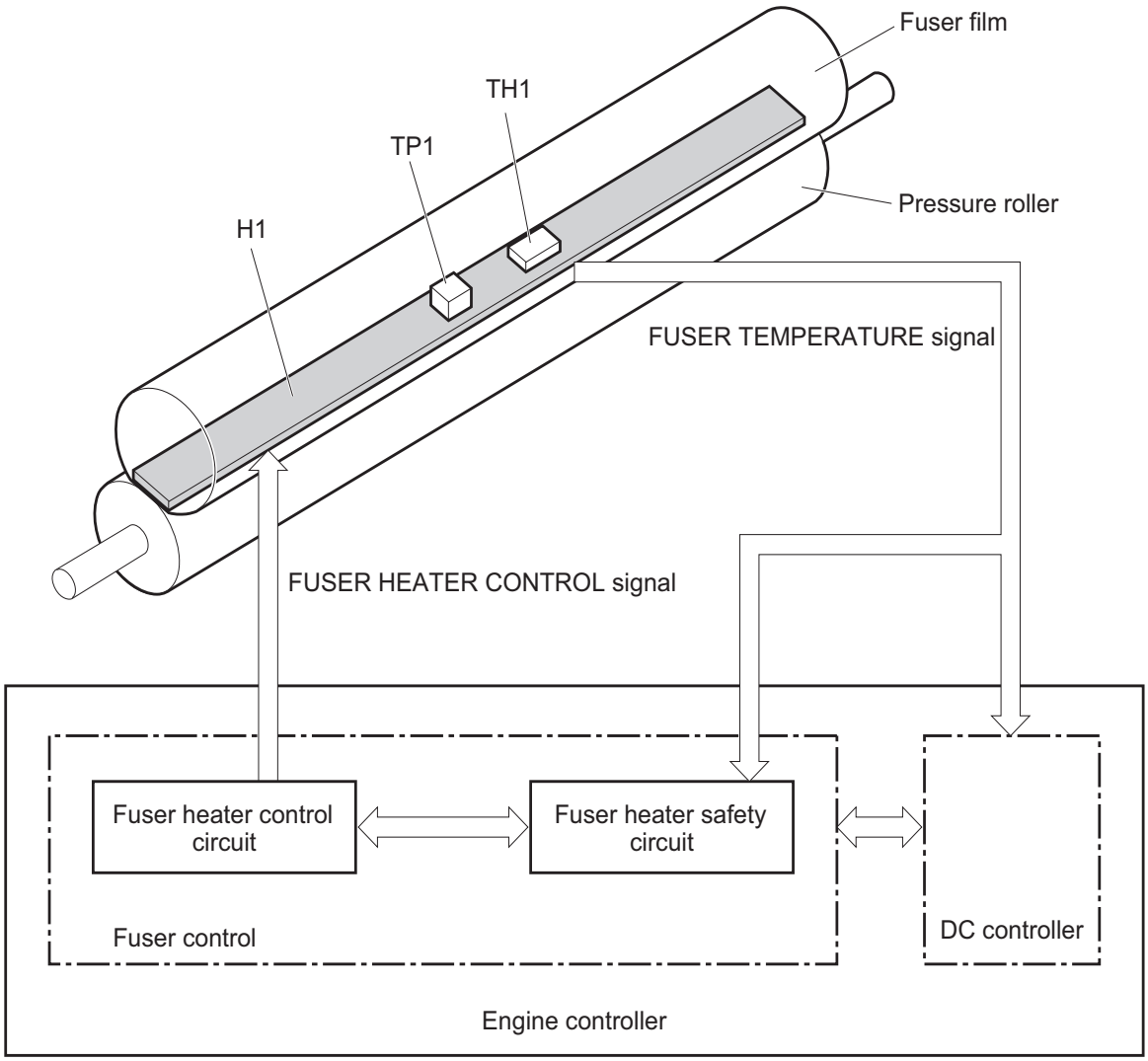
Component	Designator	Description
Solenoid	SL1	Pickup solenoid
	SL2	Duplex reverse solenoid **NOTE:** Duplex models only.
Photointerrupter	PS701	Fuser delivery sensor
	PS702	Media-width sensor
	PS751	Top-of-Page (TOP) sensor
	PS901	Main-motor rotation-number sensor
Switch	SW501	Cartridge-door switch
	SW502	Power switch
Fan	FM1	Main Fan

Fuser-control circuit

The fuser-control circuit monitors and controls the temperature in the fuser. The product uses on-demand fusing. The fuser-control circuit consists of the following major components:

- Fuser heater (H1); heats the fusing film
- Thermistor (TH1); detects the fuser temperature (contact type)
- Thermoswitch (TP1); prevents abnormal temperature rise in the fuser (contact type)

Figure 1-9 Fuser control circuit



Fuser failure detection

The DC controller determines a fuser unit failure, releases the relay to interrupt power supply to the fuser heater, and notifies the formatter of a failure state when it encounters the following conditions:

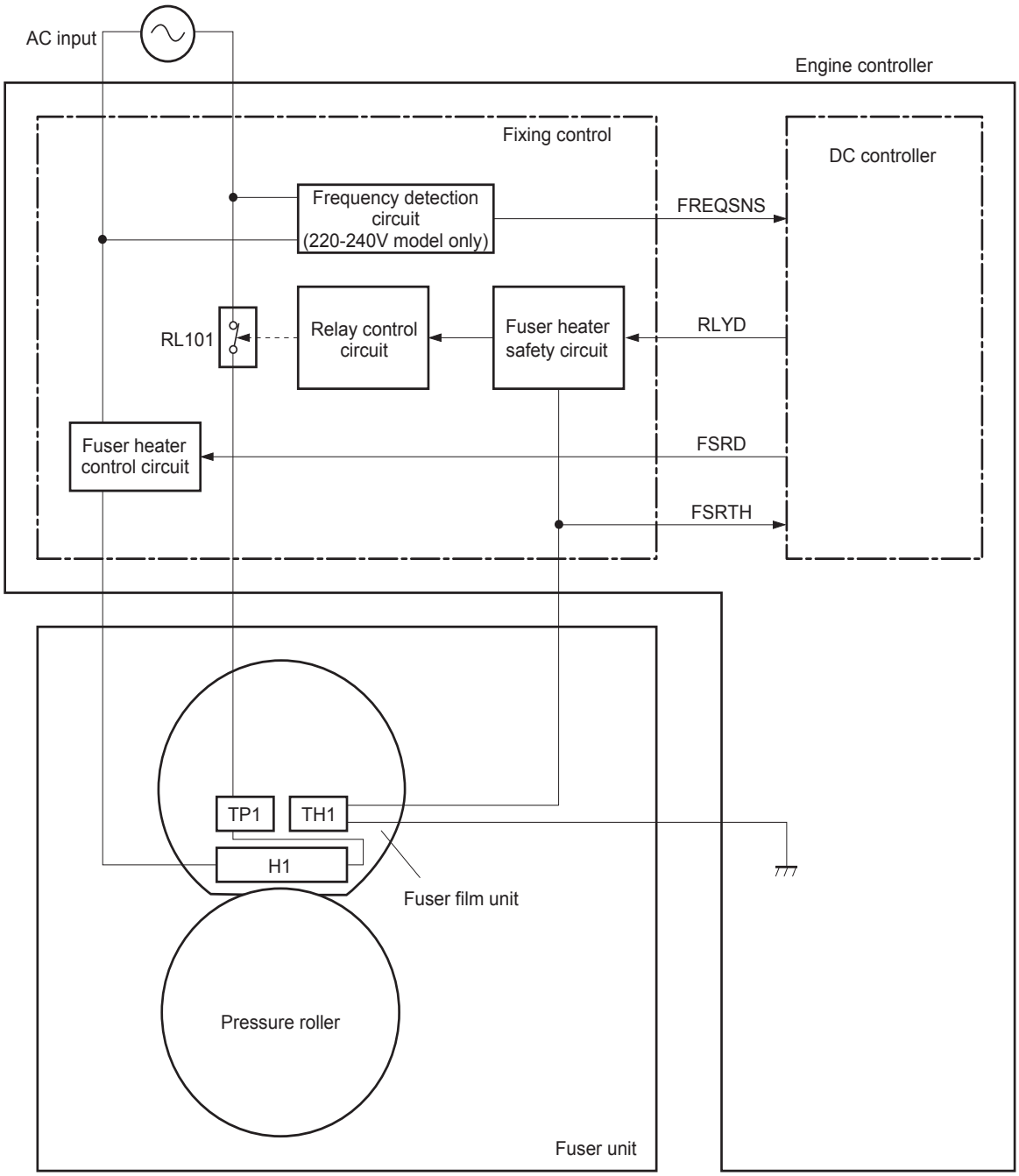
- Start up failure
  - If the main thermistor does not detect a specified temperature during the start up process of the heater in the wait period.
  - If the main thermistor does not detect a specified temperature during the heater temperature control in the initial rotation period.
- Abnormal low temperature
  - If the main thermistor detects an abnormal low temperature of the fuser unit during the printing operation.
- Abnormal high temperature
  - If the main thermistor detects an abnormal high temperature of the fuser unit.
- Frequency detection circuit failure
  - If a specified frequency of the FREQUENCY signal is not detected within a specified period after the product is turned on.

Fuser temperature control

The fuser temperature control maintains the temperature of the fuser heater at its targeted temperature.

The DC controller monitors the FIXING TEMPERATURE (FSRTH) signals and sends the FIXING HEATER CONTROL (FSRD) signal according to the detected temperature. The fuser heater control circuit controls the fuser heater depending on the signal so that the heater remains at the targeted temperature.

Figure 1-10 Fuser-heater control circuit



Fuser protective function

The protective function detects an abnormal temperature rise of the fuser unit and interrupts power supply to the fuser heater.

The following three protective components prevent an abnormal temperature rise of the fuser heater:

- DC controller
  - The DC controller interrupts power supply to the fuser heater when it detects an abnormal temperature of the fuser heater.
- Fuser heater safety circuit
  - The fuser heater safety circuit interrupts power supply to the fuser heater when the detected temperature of the main thermistor is abnormal.
- Thermoswitch
  - The contact of the thermal fuse is broken to interrupt power supply to the fuser heater when the thermal fuse detects an abnormal temperature of the fuser heater.

Pressure roller cleaning

The pressure roller cleaning process is initiated by the formatter. The process removes toner that has accumulated on the pressure roller by transferring it to a sheet of paper.

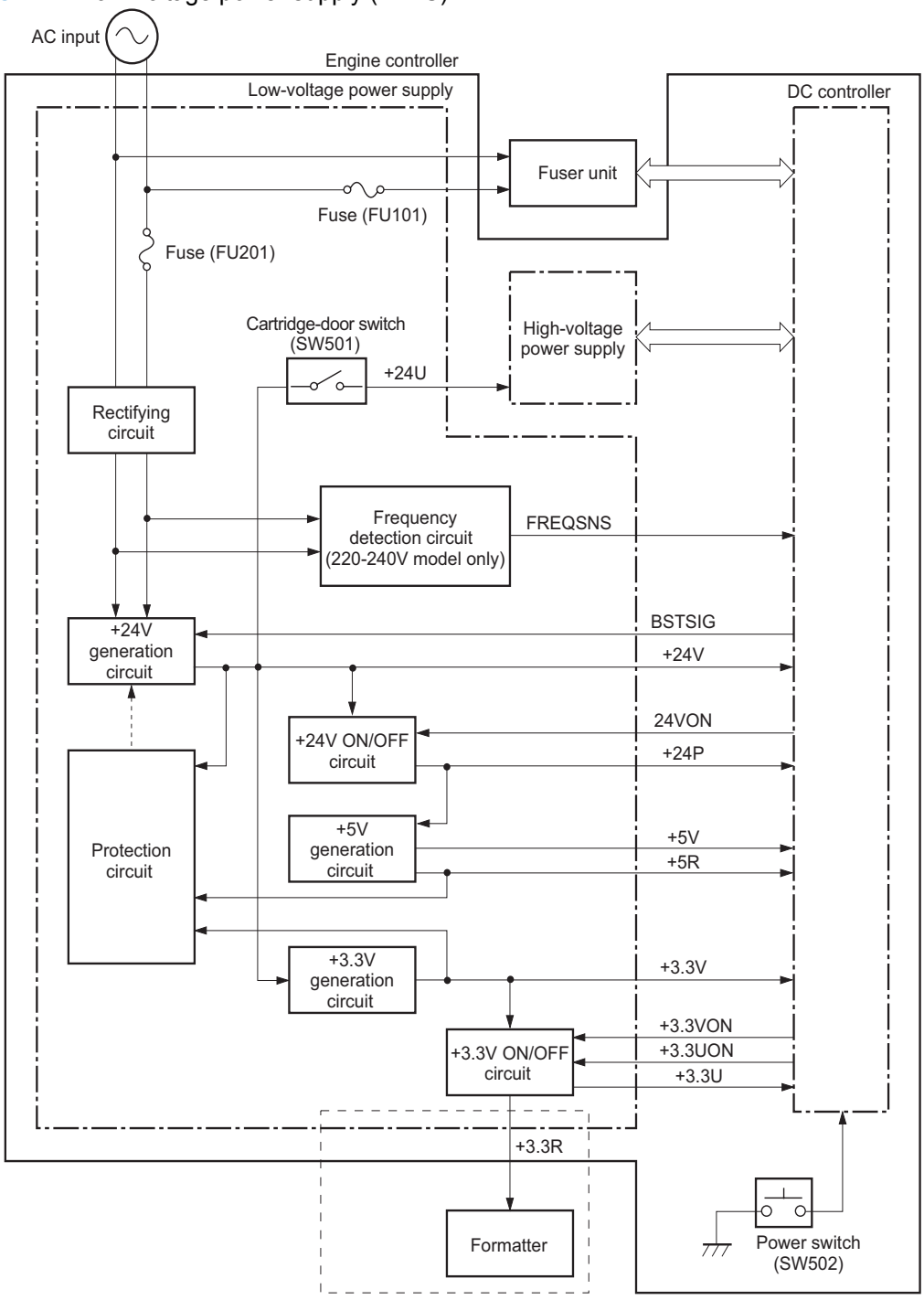
- The product feeds a sheet of paper after receiving the cleaning command from the formatter.
- Main motor rotation is stopped when the trailing edge of the paper passes through the transfer roller.
- The main motor rotation is repeatedly started and then stopped. The fuser heater is turned on and then off at the same interval as main motor rotation.
- Toner adhered to the pressure roller is fused to the paper.
- The paper is ejected from the product.

Low-voltage power supply

The low-voltage power supply (LVPS) converts ac input voltage to dc voltage. The LVPS has two fuses on the PCA. The LVPS 24 V output is interrupted to the fuser and the high-voltage power supply if the cartridge-door interlock switch (SW501) is in the off position (cover open).

⚠ **WARNING!** The product power switch only interrupts dc voltage from the LVPS. The ac voltage is present in the product when the power cord is plugged into a power receptacle and the power switch is in the off position. You must unplug the product power cord before servicing the product.

Figure 1-11 Low-voltage power supply (LVPS)



Overcurrent/overvoltage protection

The low-voltage power supply has a protective function against overcurrent and overvoltage to prevent failures in the power supply circuit. If an overcurrent or overvoltage condition occurs, the system automatically cuts off the output voltage.

If the dc power is not being supplied from the low-voltage power supply, the protective function might be running. In such case, turn off the power switch and unplug the power cord. Do not plug in the power cord or turn on the power switch again until the cause is found.

⚠ **WARNING!** If you believe the overcurrent or overvoltage protection circuits have been activated, do not plug in the product power cord or turn on the product power until the cause of the failure is found and corrected.

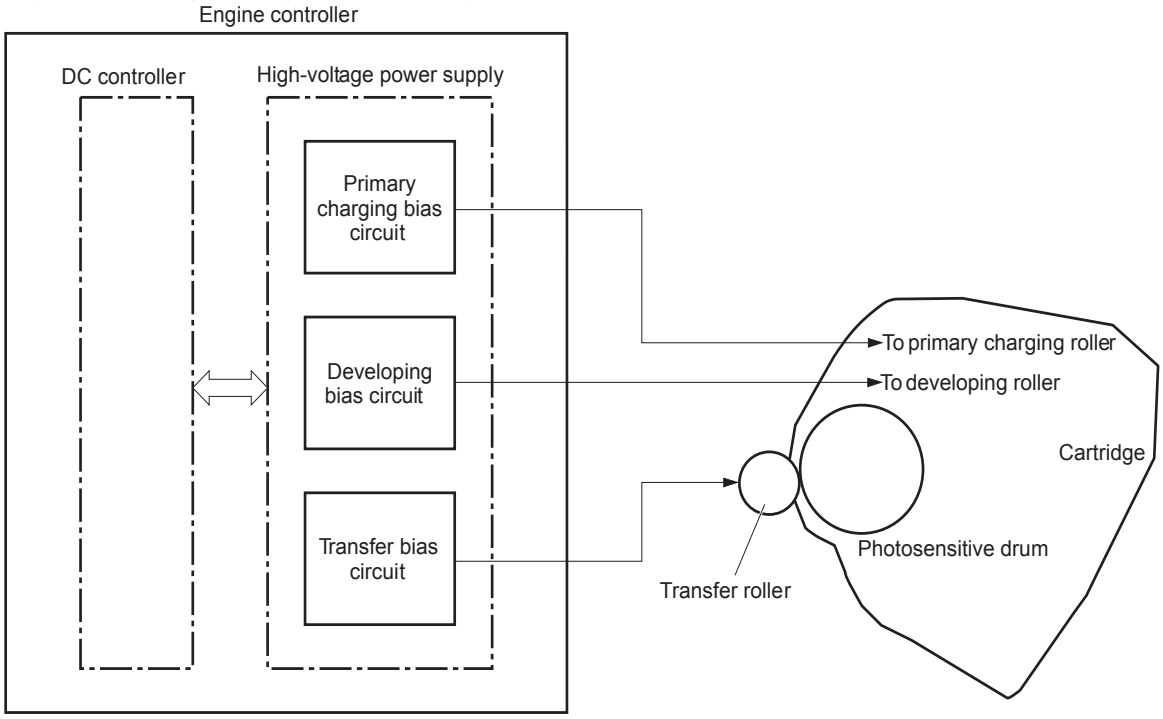
In addition, two fuses in the low-voltage power supply protect against overcurrent. If overcurrent flows into the ac line, the fuses melt and cut off the power distribution.

High-voltage power supply

The high-voltage power supply (HVPS) applies biases to the following components:

- Primary charging roller
- Developing roller
- Transfer roller

Figure 1-12 High-voltage power supply

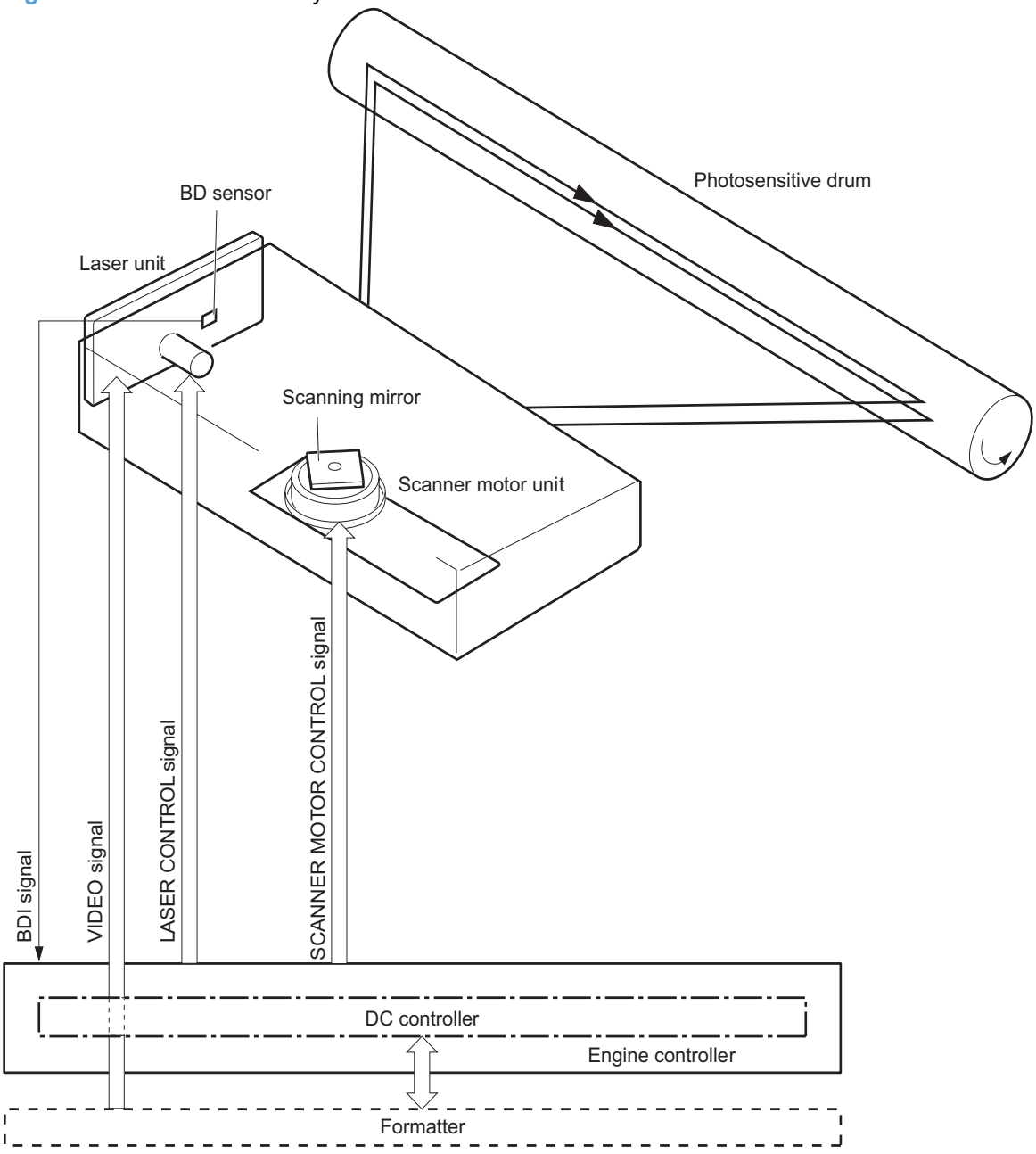


Laser/scanner system

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

The main components of the laser/scanner are the laser unit and the scanner motor unit. The DC controller sends signals to the laser/scanner to control the functions of these components.

Figure 1-13 Laser/scanner system



Laser failure detection

The DC controller determines an optical unit failure and notifies the formatter, if the laser/scanner encounters the following conditions:

- The scanner motor does not reach a specified rotation within a specified period of the scanner motor start up.
- The rotation of the scanner motor is out of specified range for a specified period during the scanner motor drive.
- The BD interval is out of a specified value during a print operation.

Image-formation system

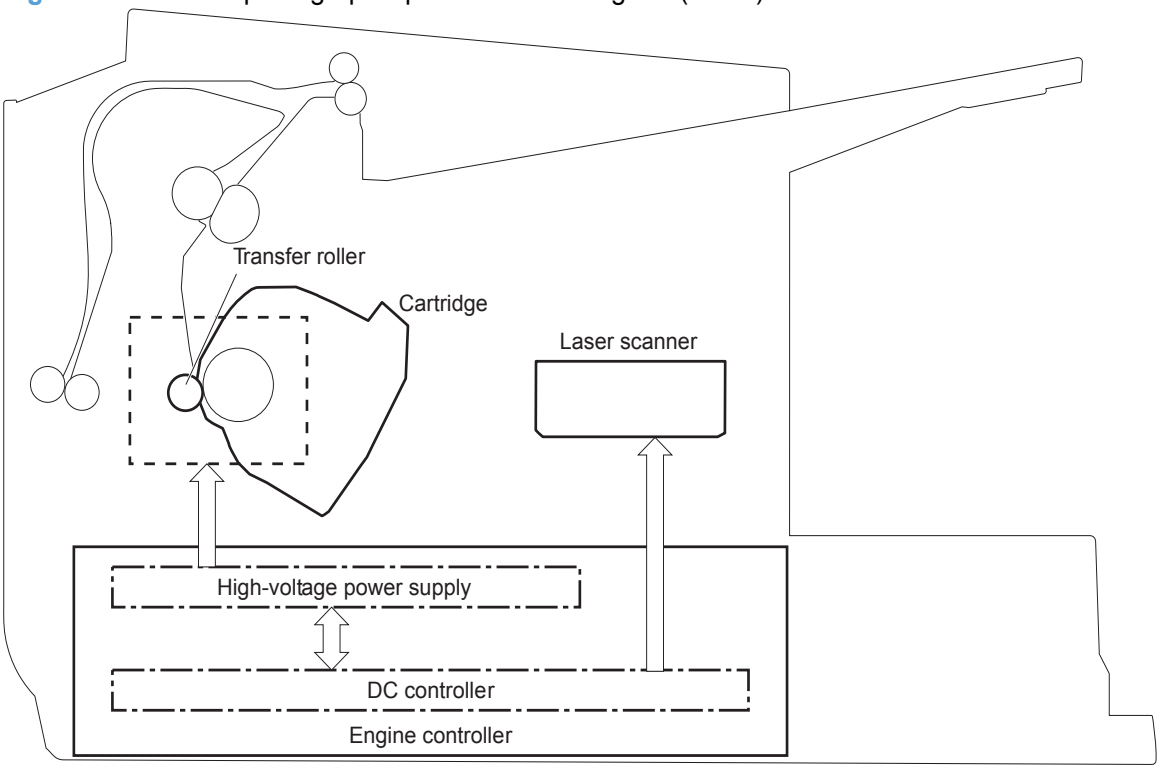
Electrophotographic process

The electrophotographic process forms an image on the paper. Following are the major components used in the process:

- Print cartridge
- Transfer roller
- Fuser
- Laser/scanner
- High-voltage power supply

The DC controller uses the laser/scanner and HVPS to form the toner image on the photosensitive drum. The image is transferred to the paper and then fused onto the paper.

Figure 1-14 Electrophotographic process block diagram (1 of 2)



The DC controller rotates the main motor to drive the following components:

- Photosensitive drum
- Developing drum
- Primary charging roller (follows the rotation of the photosensitive drum)
- Transfer roller (follows the rotation of the photosensitive drum)

Figure 1-15 Electrophotographic process block diagram (2 of 2)

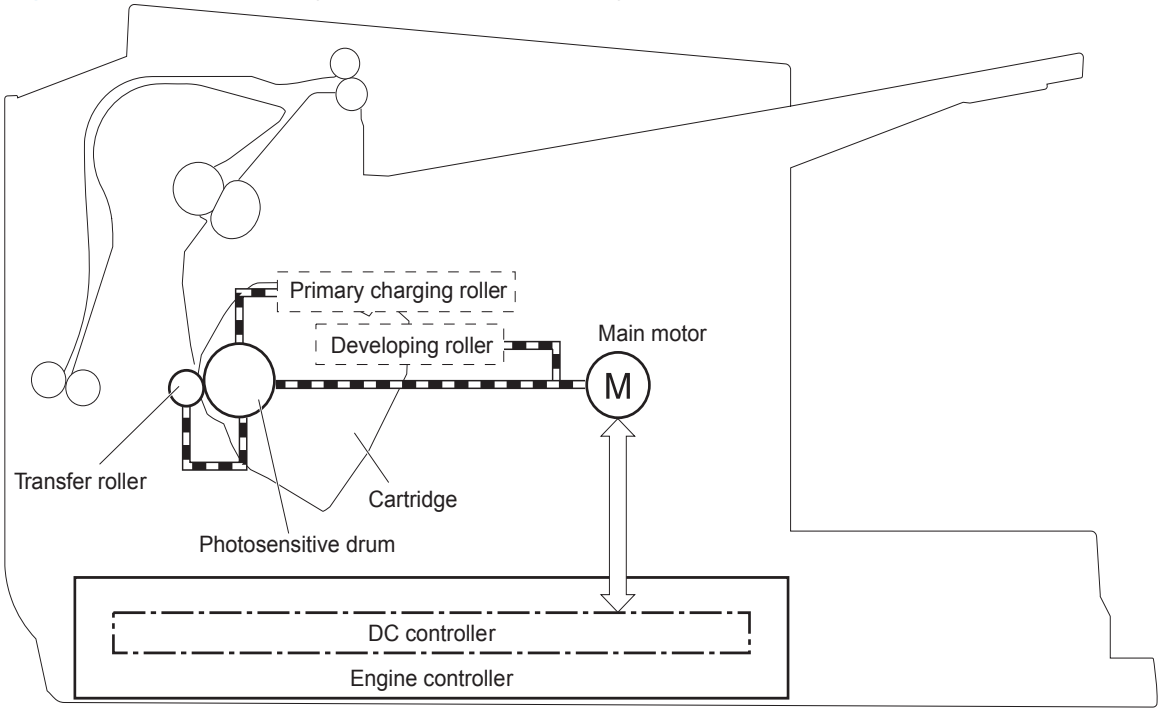
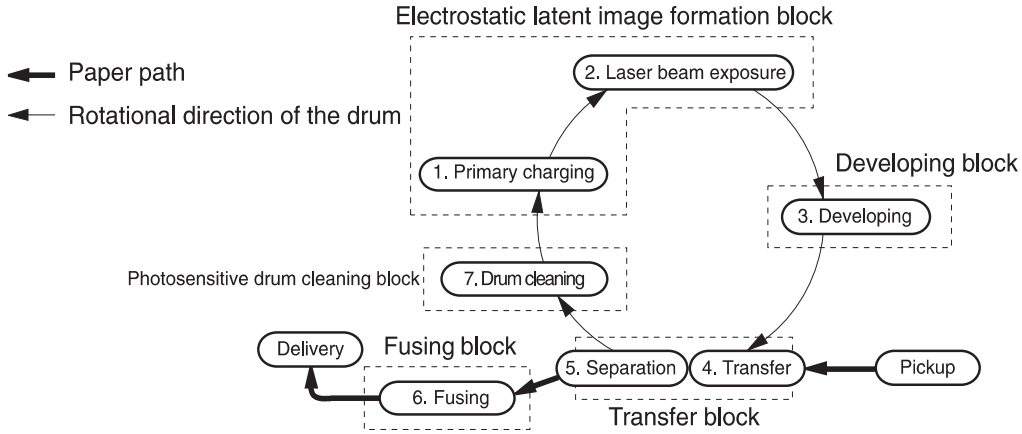


Image formation process

Each of the following process function independently and must be coordinated with the other product processes. Image formation consists of the following processes:

- Latent-image formation block
  - Step 1: primary charging
  - Step 2: laser-beam exposure
- Developing block
  - Step 3: developing
- Transfer block
  - Step 4: transfer
  - Step 5: separation
- Fusing block
  - Step 6: fusing
- Drum cleaning block
  - Step 7: drum cleaning

Figure 1-16 Image formation process



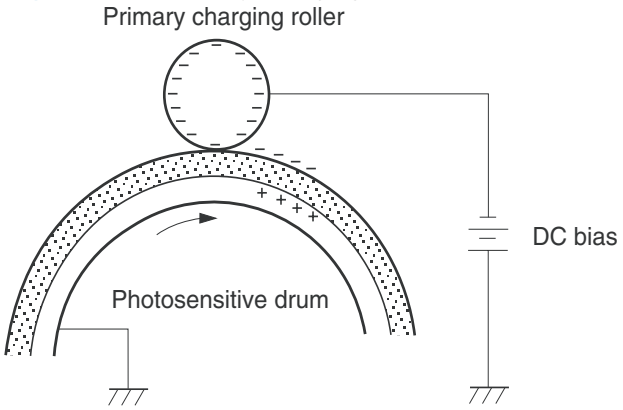
Latent-image formation stage

During the latent-image formation stage, the laser/scanner forms an invisible image on the photosensitive drum in the print cartridge.

Primary charging

Step 1: DC and AC biases are applied to the primary charging roller, which transfers a uniform negative potential to the photosensitive drum.

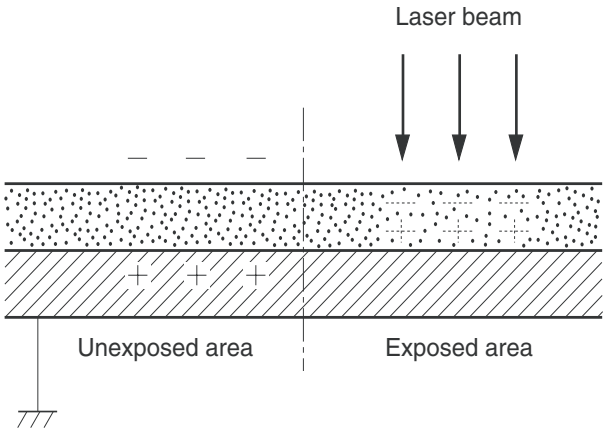
Figure 1-17 Primary charging



Laser beam exposure

Step 2: The laser beam scans the photosensitive drum to neutralize negative charges on parts of the drum surface. An electrostatic latent image is formed on the drum where negative charges were neutralized.

Figure 1-18 Laser beam exposure

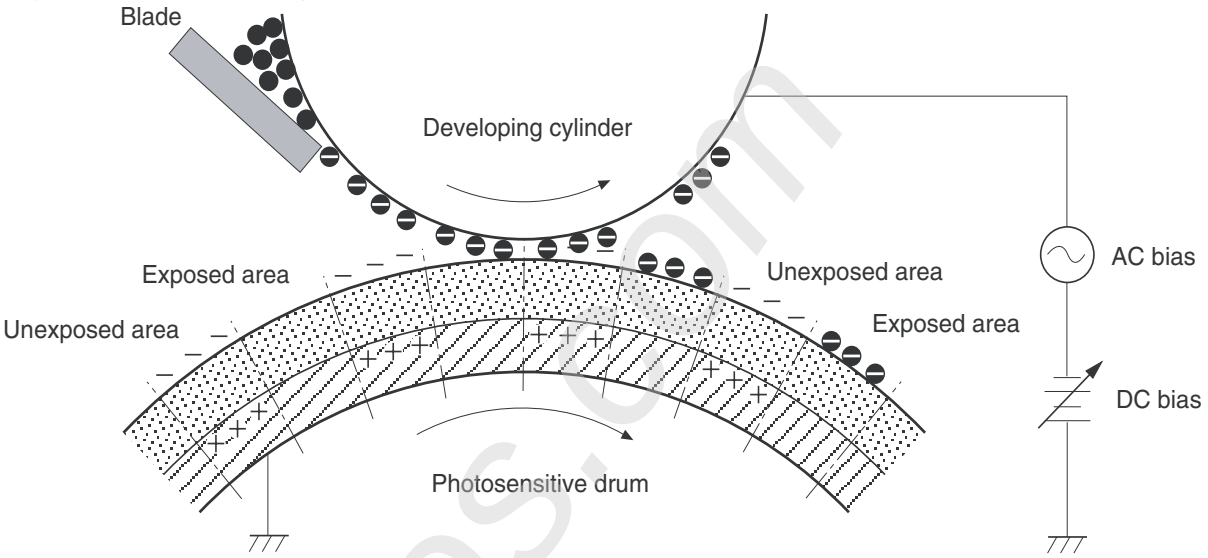


Developing stage

Print cartridge

Step 3: In the print cartridge, the developing cylinder transfers toner onto the electrostatic latent image on the photosensitive drum.

Figure 1-19 Print cartridge

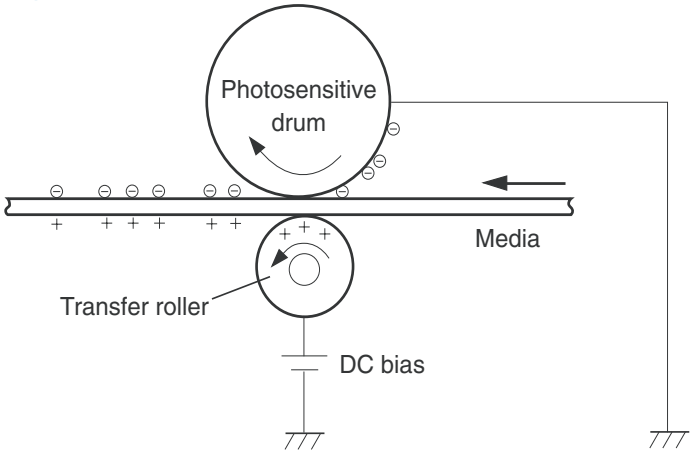


Toner acquires a negative charge from the friction that occurs when the developing roller rotates against the developing blade. The developing bias is applied to the developing roller to make a potential difference between the developing roller and the photosensitive drum. The negatively charged toner is attracted to the latent image on the photosensitive drum because the drum surface has a higher potential.

Transfer stage

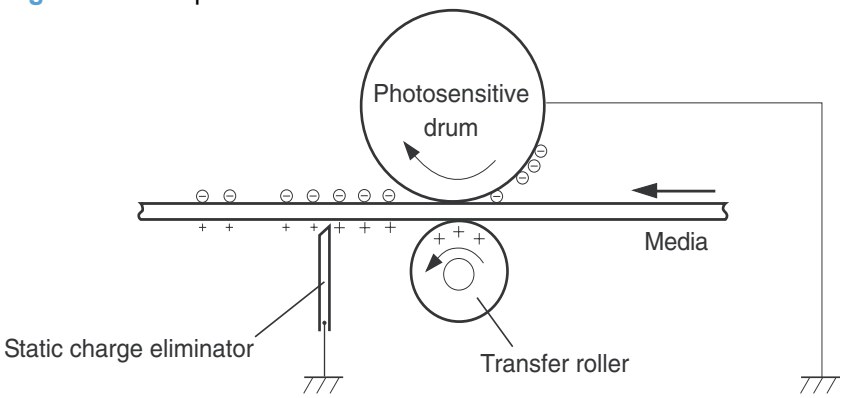
Step 4: The transfer charging roller, to which a DC positive bias is applied, imparts a positive charge on the paper. When the page comes in contact with the photosensitive drum, the toner is transferred to the paper.

Figure 1-20 Transfer



Step 5: The elasticity of the paper causes its separation from the photosensitive drum. A static charge eliminator aids separation by weakening any electrostatic adhesion.

Figure 1-21 Separation

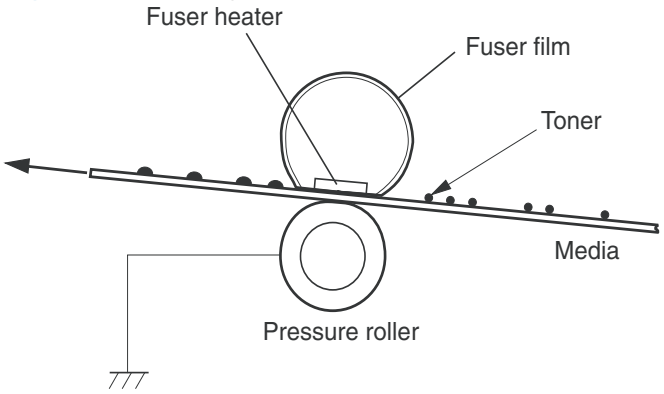


Fusing stage

Step 6: The DC negative bias applied to the fusing film strengthens the holding force of the toner on the paper and prevents the toner from scattering.

The product uses an on-demand fuser method. The toner image is permanently affixed to the paper by heat and pressure.

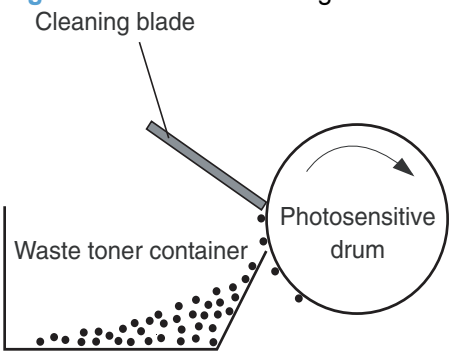
Figure 1-22 Fusing



Cleaning stage

Step 7: The cleaning blade scrapes the residual toner off of the photosensitive drum and deposits it into the waste toner case.

Figure 1-23 Drum cleaning



Pickup, feed, and delivery system

The media feed system picks up, feeds, and delivers the page.

Figure 1-24 Pickup, feed, and delivery system block diagram

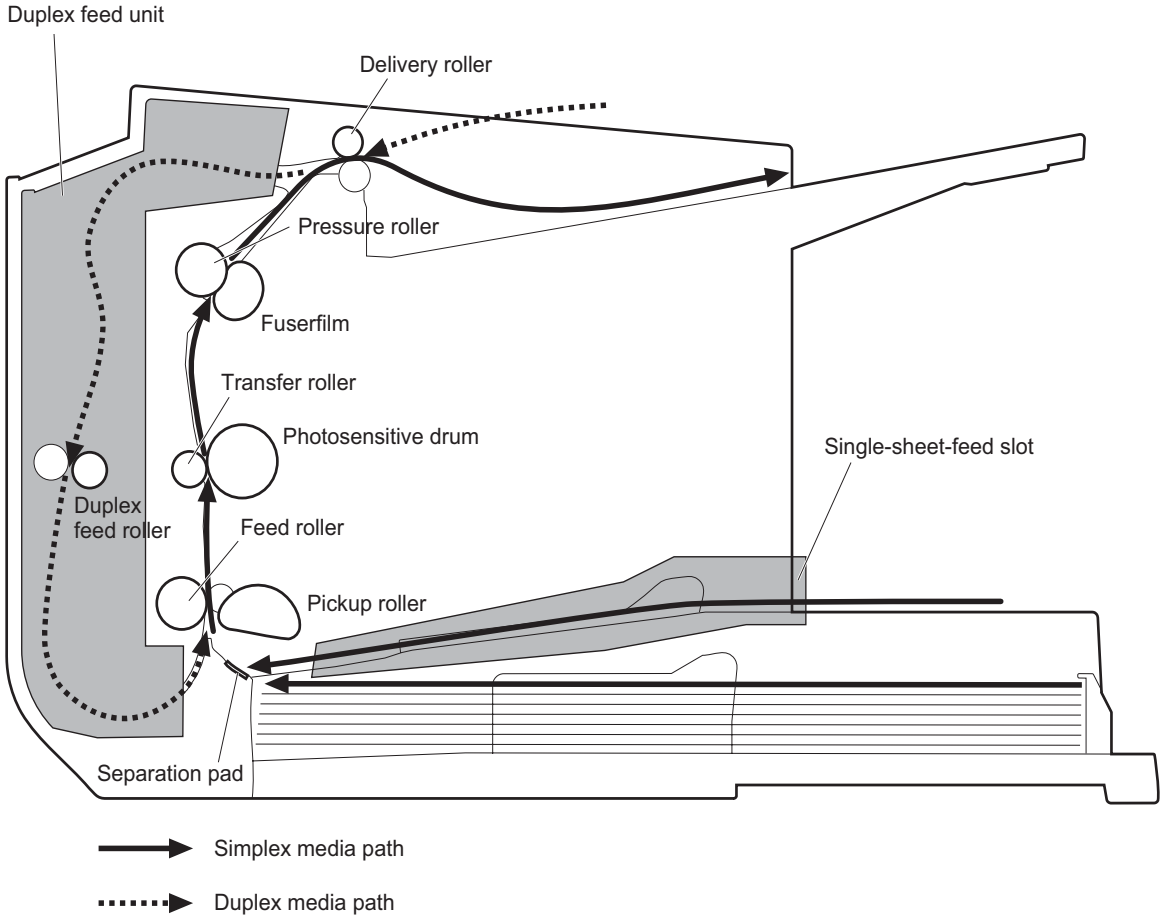


Photo sensors and switches

NOTE: The illustration in this section also shows the product motor, photo sensors, and solenoid. The power switch is not shown.

Figure 1-25 Photo sensors, motor, and solenoid

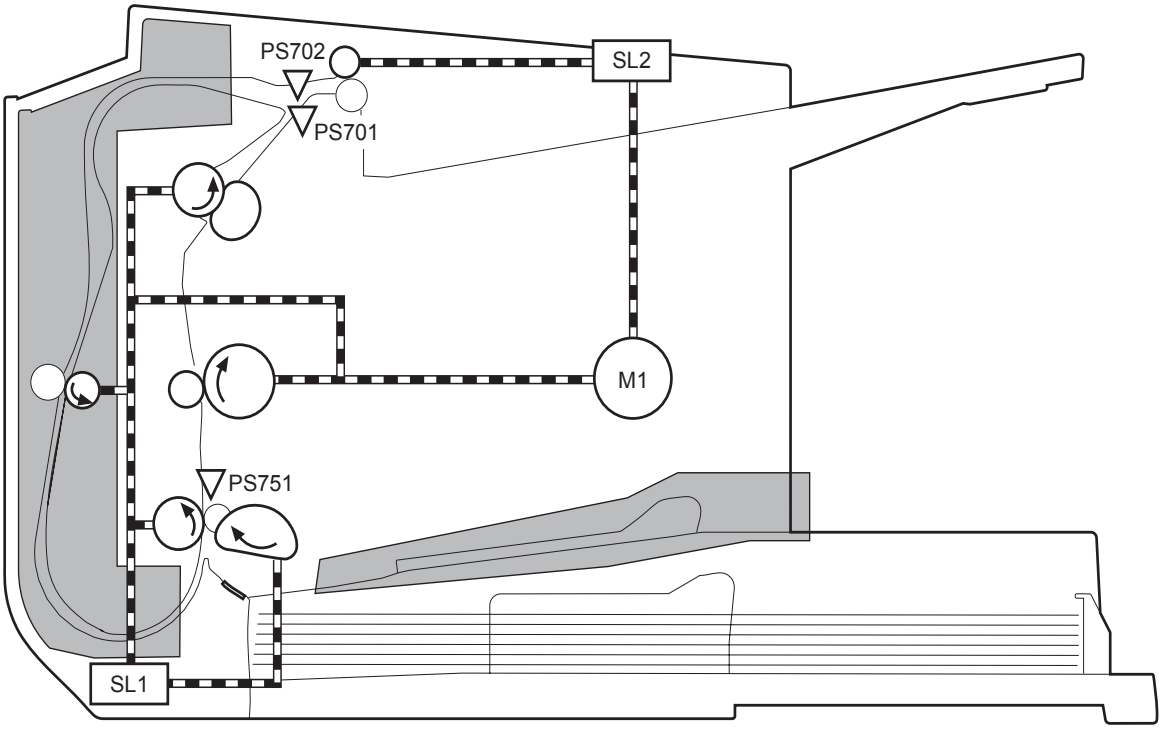


Table 1-8 Photo sensors, motor, and solenoid

Item	Description
M1	Main motor
SL1	Pickup solenoid

Table 1-8 Photo sensors, motor, and solenoid (continued)

Item	Description
SL2	Duplex feed solenoid **NOTE:** Duplex models only.
PS701	Fuser delivery sensor
PS702	Media-width sensor
PS751	TOP sensor

Main-input tray or priority input slot

Jam detection

The product uses the following sensors to detect the presence of paper and to check for jams. The page must pass each sensor within a specified time.

NOTE: To find the following components, see Photo sensors and switches on page 32.

- PS701; fuser delivery sensor
- PS702; TOP sensor

NOTE: The product automatically ejects paper if the TOP sensor detects residual paper within the product when the power is turned on or the door is closed.

The product detects the following jams:

- Pickup stationary jam
- Delivery delay jam
- Delivery stationary jam
- Fuser wrapping jam
- Door open jam
- Residual media jam
- Duplex reverse delay jam (duplex models only)
- Duplex reverse stationary jam (duplex models only)
- Duplex re-pickup delay jam (duplex models only)

2 Removal and replacement

Introduction

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

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

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

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

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

Removal and replacement strategy

⚠ **WARNING!** Turn the product off, wait 5 seconds, and then remove the power cord before attempting to service the product. If this warning is not followed, severe injury can result, in addition to damage to the product. The power must be on for certain functional checks during troubleshooting. However, disconnect the power supply during parts removal.

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

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

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

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

TIP: For clarity, some photos in this chapter show components removed that would not be removed to service the product. If necessary, remove the components listed at the beginning of a procedure before proceeding to service the product.

Electrostatic discharge

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

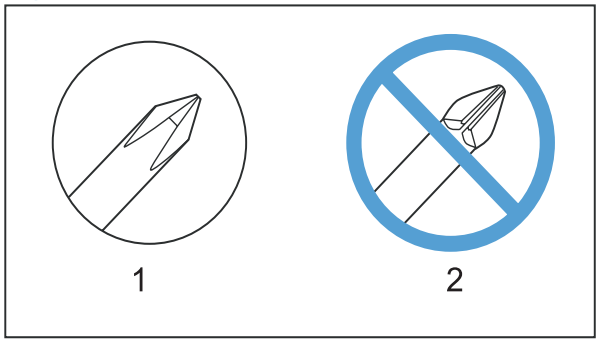
Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the product.

Required tools

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

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

Figure 2-1 Phillips and pozidrive screwdriver comparison



Before performing service

- Remove all paper from the product.
- Turn off the power using the power switch.
- Unplug the power cable and interface cable or cables.
- Place the product on an ESD workstation or mat, or use an ESD strap (if one is available). If an ESD workstation, mat, or strap is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.
- Remove the print cartridge.

After performing service

- Plug in the power cable.
- Reinstall the print cartridge.
- Load paper in the product.

Post-service test

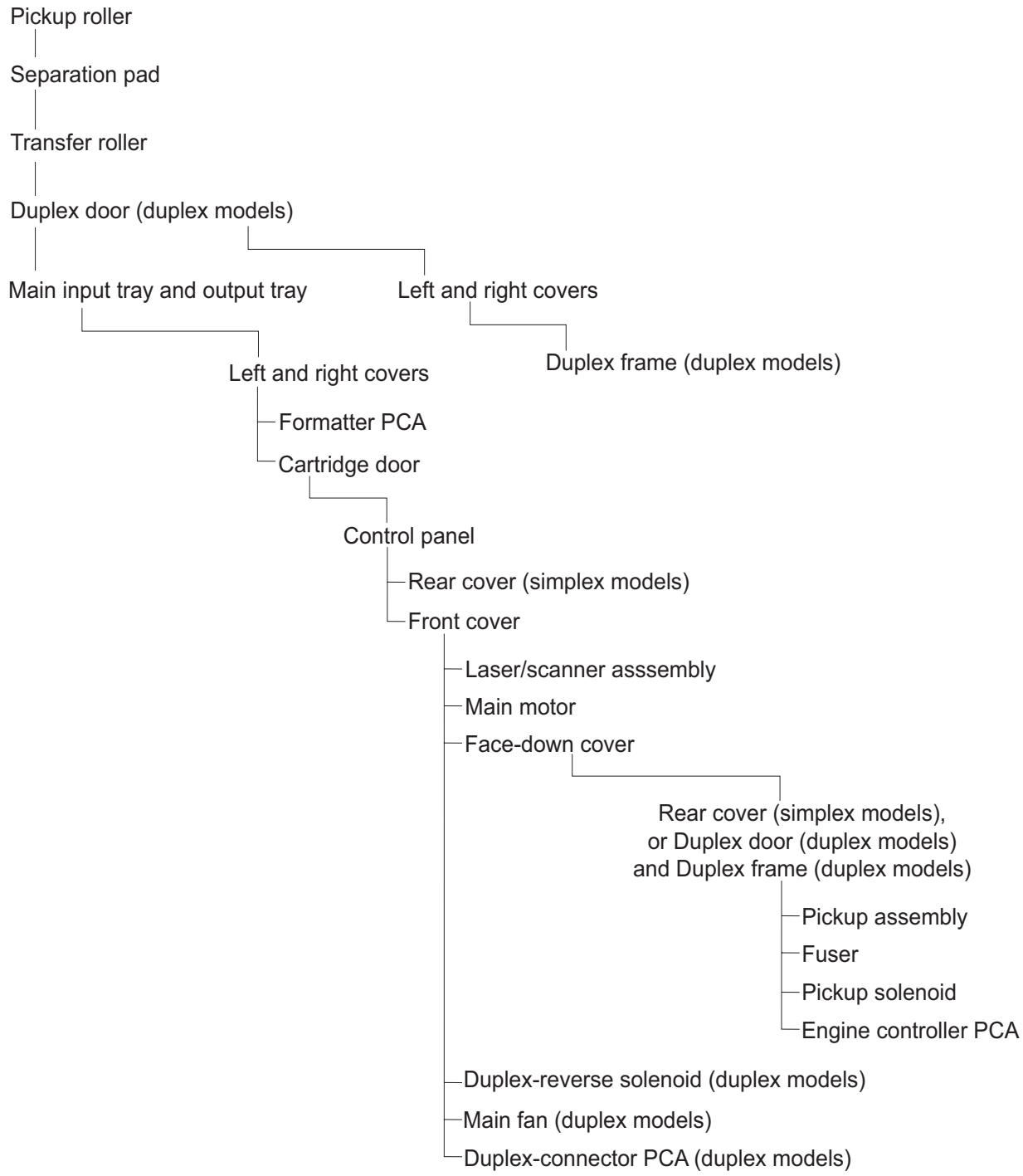
Perform the following test to verify that the repair or replacement was successful.

Print-quality test

1. Verify that you have completed the necessary reassembly steps.
2. Make sure that the tray contains clean, unmarked paper.
3. Attach the power cord and interface cable or interface cables, and then turn on the product.
4. Verify that the expected startup sounds occur.
5. Print a configuration page, and then verify that the expected printing sounds occur.
6. Print a demo page, and then verify that the print quality is as expected.
7. Send a print job from the host computer, and then verify that the output meets expectations.
8. Clean the outside of the product with a damp cloth.

Parts removal order

Figure 2-2 Parts removal order

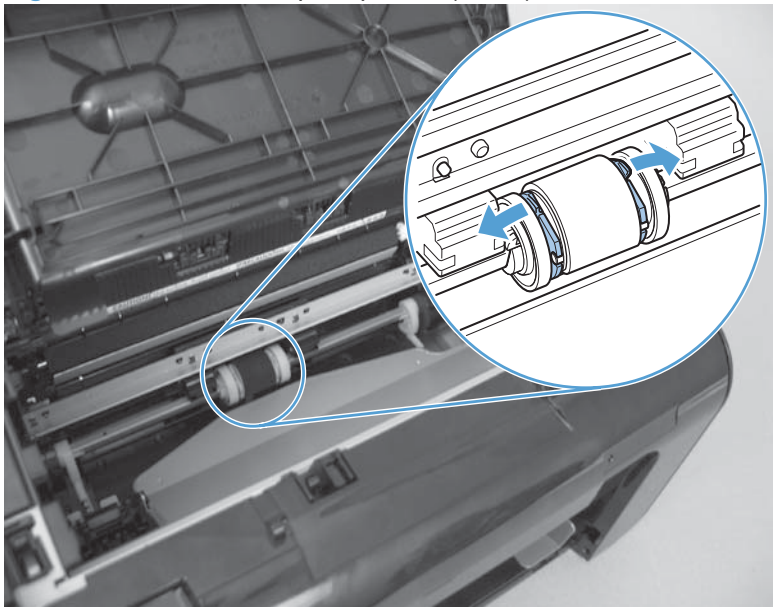


Pickup roller

△ **CAUTION:** Do not touch the sponge portion of the roller. Skin oils can cause paper handling problems.

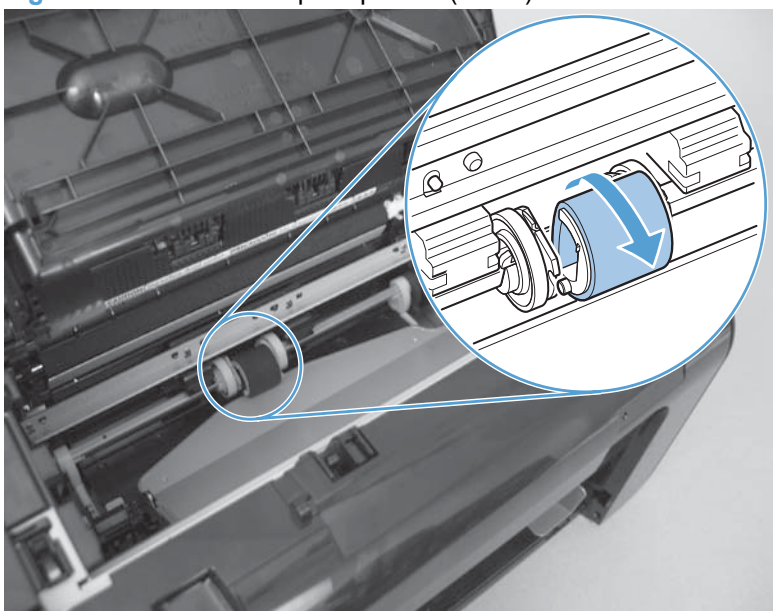
1. Release two tabs.

Figure 2-3 Remove the pickup roller (1 of 2)



2. Rotate the roller away from the product to remove it.

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



Separation pad

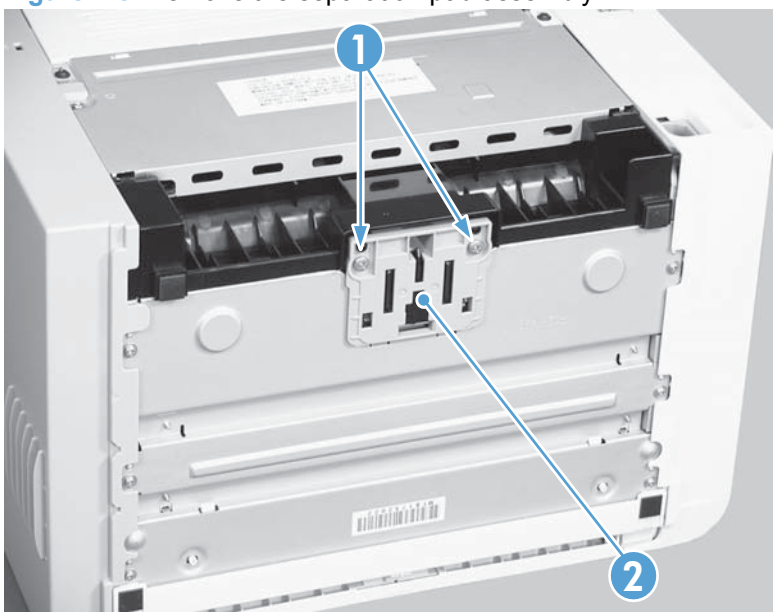
△ **CAUTION:** Do not touch the sponge portion of the pad. Skin oils can cause paper handling problems.

1. Place the product rear-side up to access the separation pad assembly.

   △ **CAUTION:** Dirt and debris can scratch the product covers. Place the product on a cloth or other clean surface.

2. Remove two screws (callout 1) and then remove the separation pad assembly (callout 2).

Figure 2-5 Remove the separation pad assembly

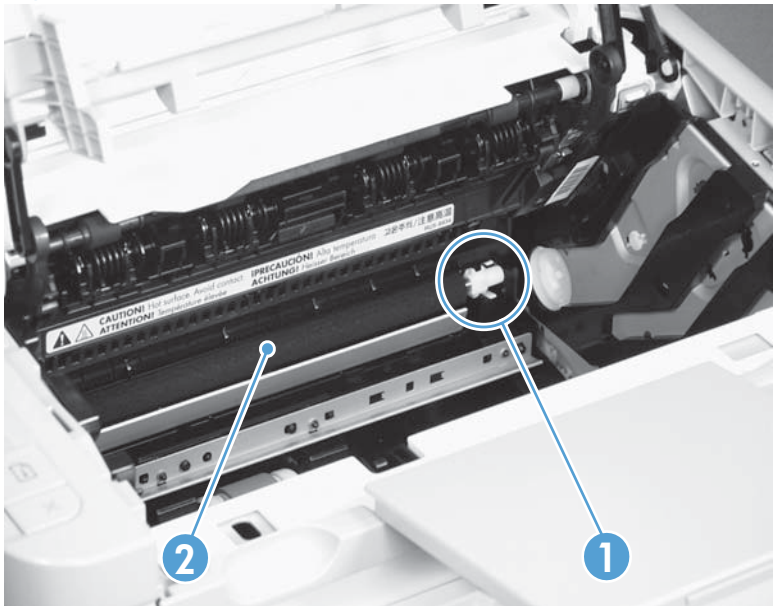


Transfer roller

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

1. Open the print-cartridge door.
2. Release two tabs (callout 1), and then remove the transfer roller (callout 2).

Figure 2-6 Remove the transfer roller

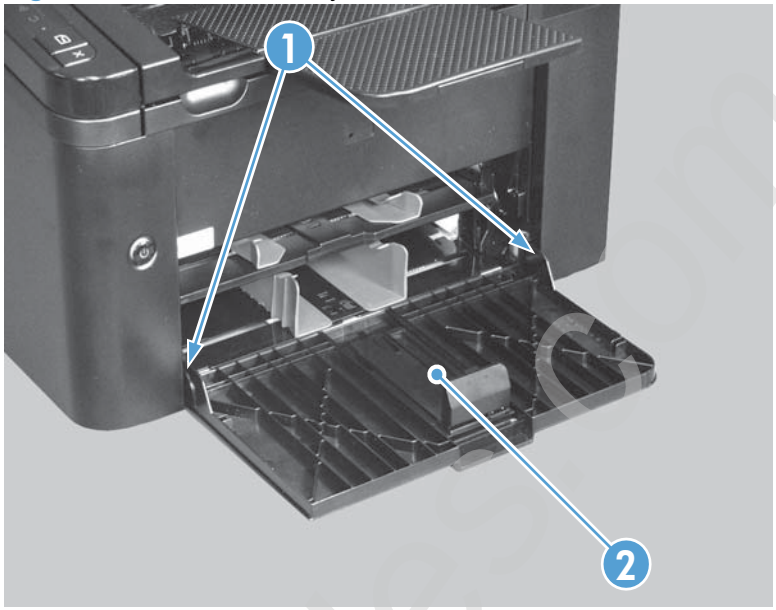


Covers

Main-input tray

Open the tray (callout 1), release two tabs (callout 2), and then remove the tray.

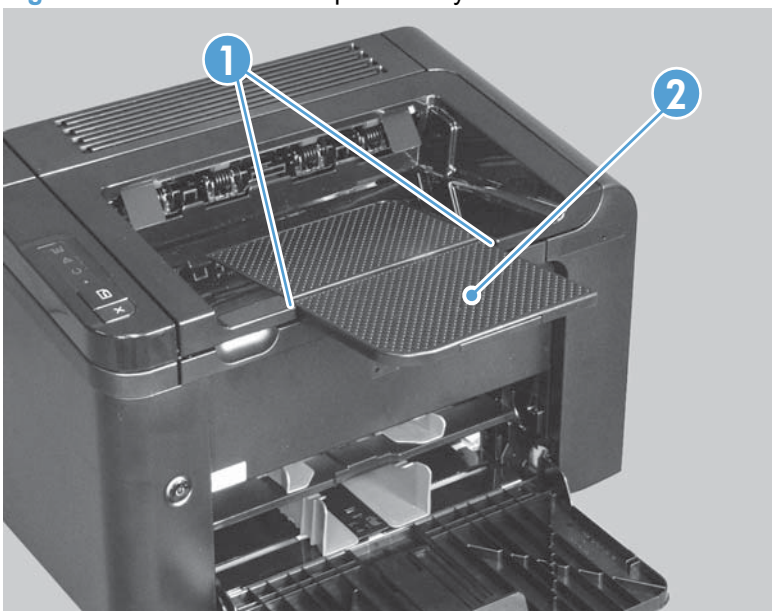
Figure 2-7 Remove the tray



Output bin tray extension

Release two pins (callout 1), and then remove the tray extension (callout 2)

Figure 2-8 Remove the output bin tray extension



Left cover, simplex product

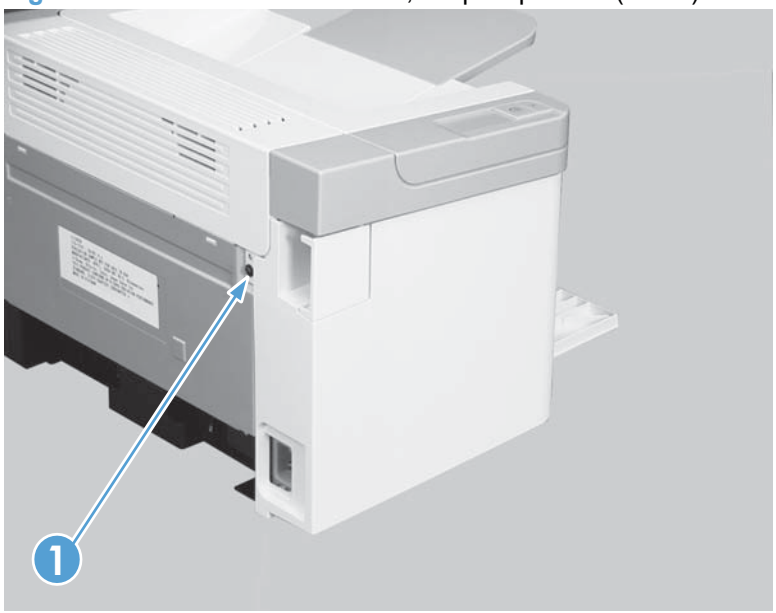
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.

Remove the left cover, simplex product

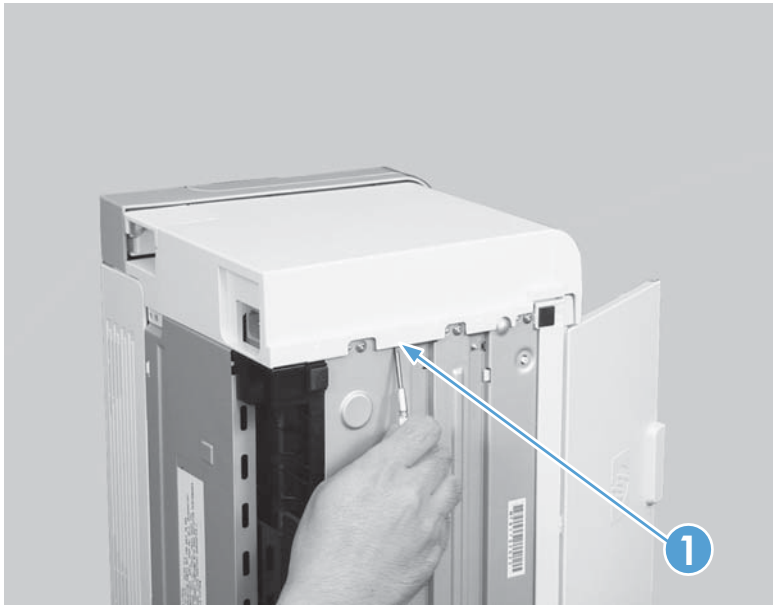
1. Remove one screw (callout 1).

Figure 2-9 Remove the left cover, simplex product (1 of 4)



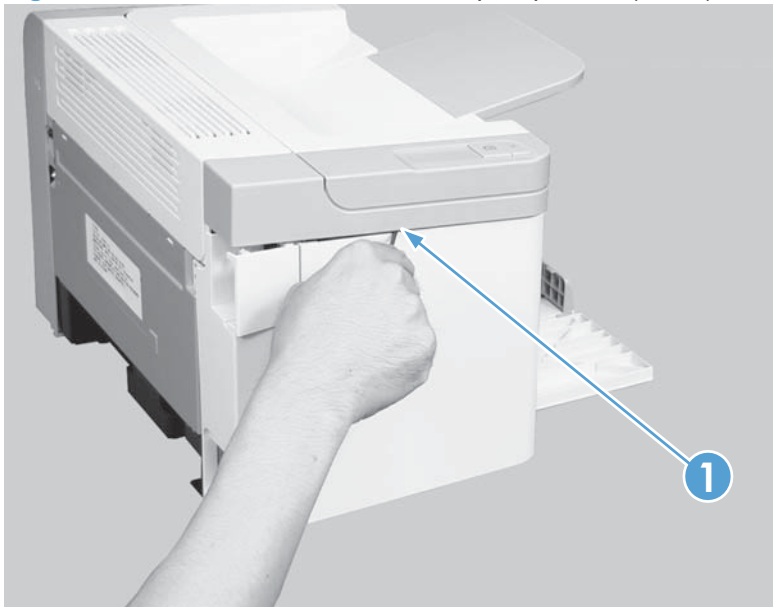
2. Release one tab (callout 1) at the bottom edge of the cover.

Figure 2-10 Remove the left cover, simplex product (2 of 4)



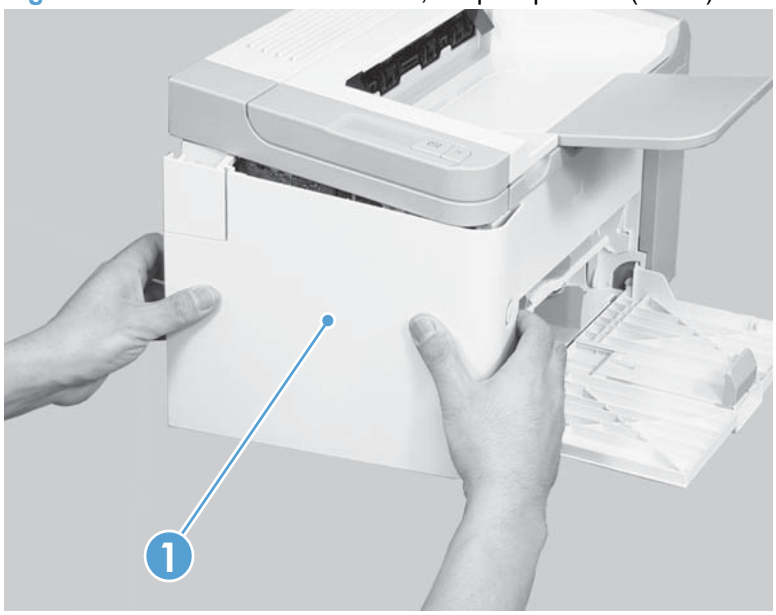
3. Release one tab (callout 1) at the top edge of the cover.

Figure 2-11 Remove the left cover, simplex product (3 of 4)



4. Rotate the back edge of the cover away from the product, and then remove the cover (callout 1).

Figure 2-12 Remove the left cover, simplex product (4 of 4)



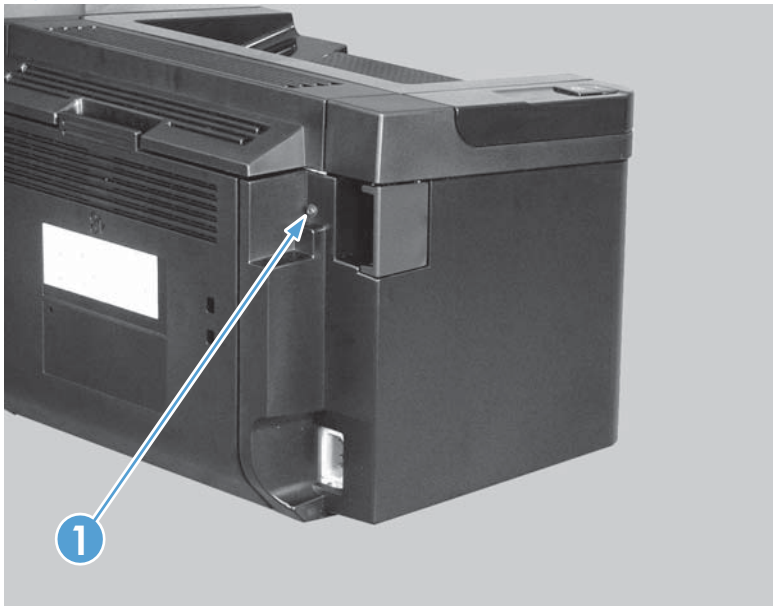
Left cover, duplex product

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.

Remove the left cover, duplex product

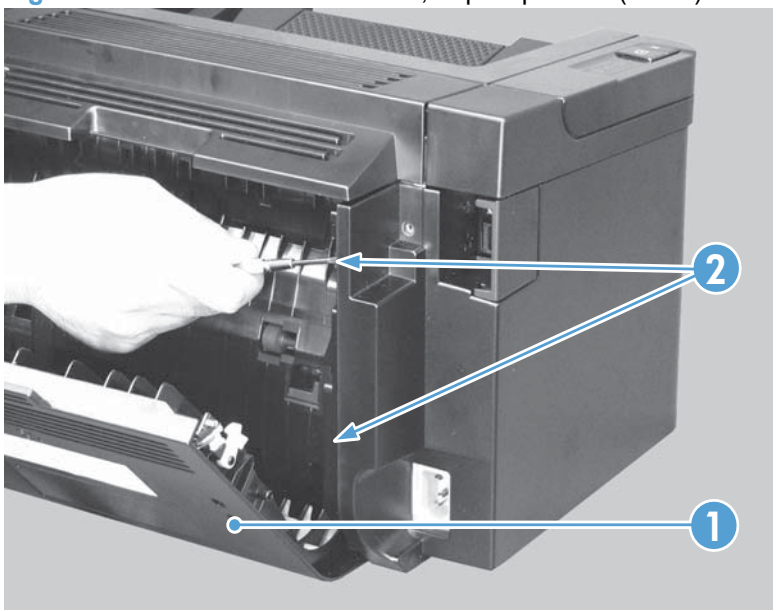
1. Remove one screw (callout 1).

Figure 2-13 Remove the left cover, duplex product (1 of 5)



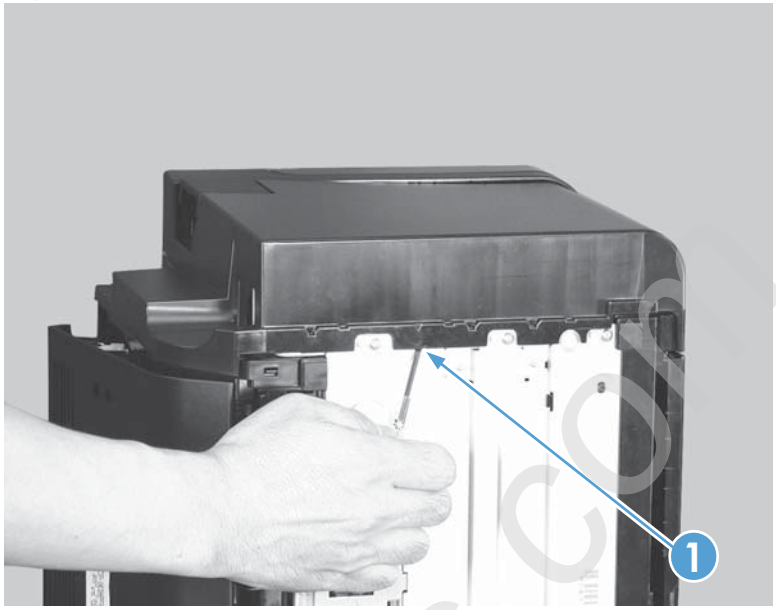
2. Open the duplex door (callout 1), and then release two tabs (callout 2).

Figure 2-14 Remove the left cover, duplex product (2 of 5)



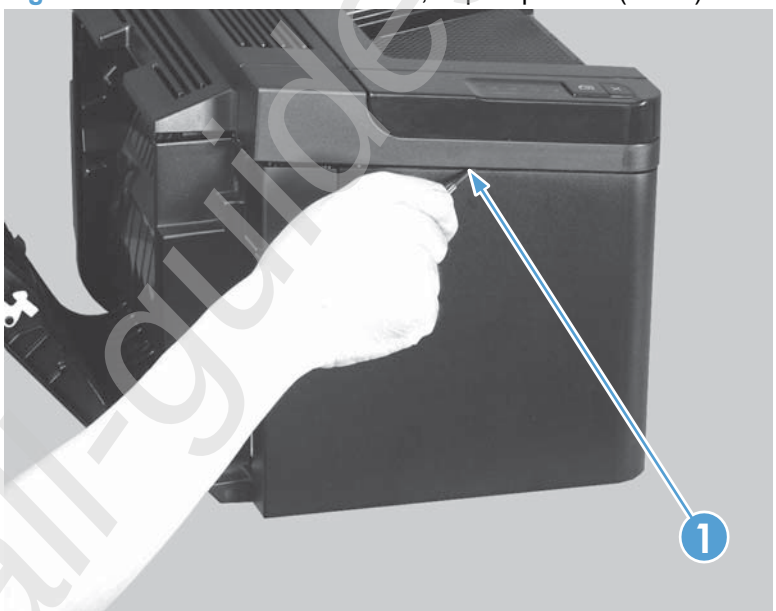
3. Release one tab (callout 1) at the bottom edge of the cover.

Figure 2-15 Remove the left cover, duplex product (3 of 5)



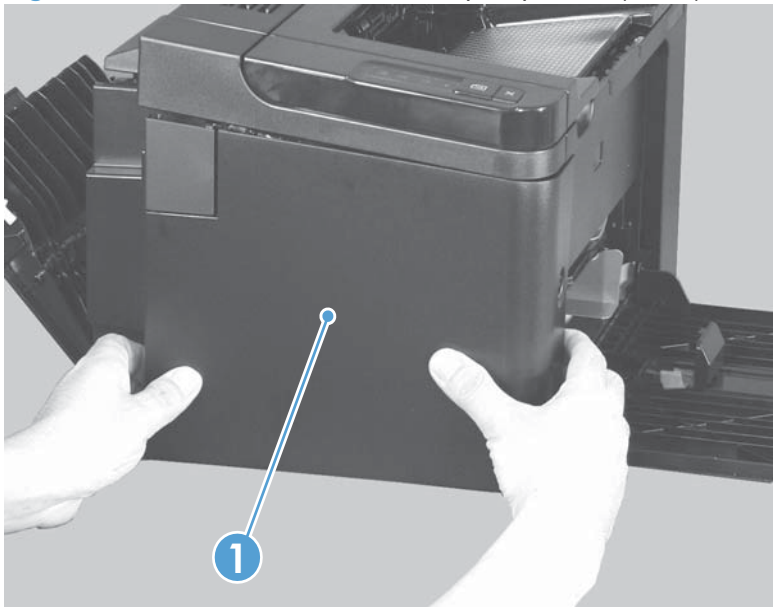
4. Release one tab (callout 1) at the top edge of the cover.

Figure 2-16 Remove the left cover, duplex product (4 of 5)



5. Rotate the back edge of the cover away from the product, and then remove the cover (callout 1).

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



Right cover, simplex product

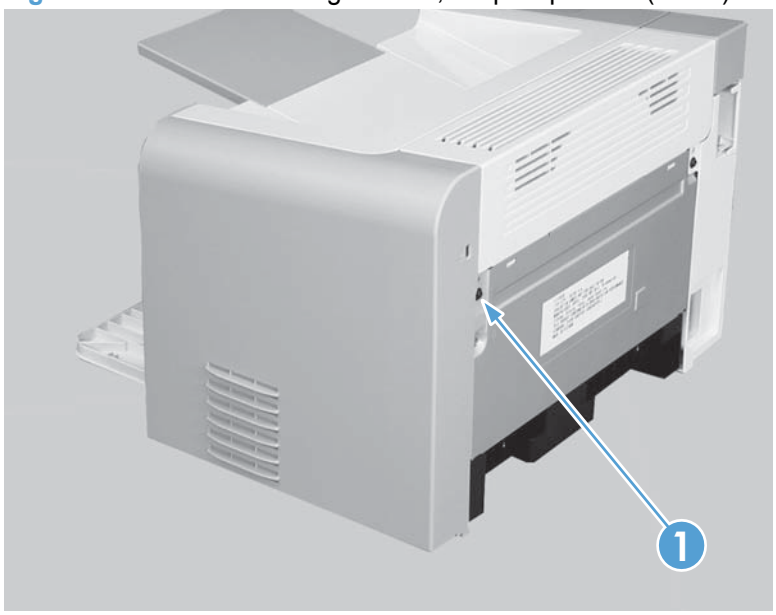
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.

Remove the right cover, simplex product

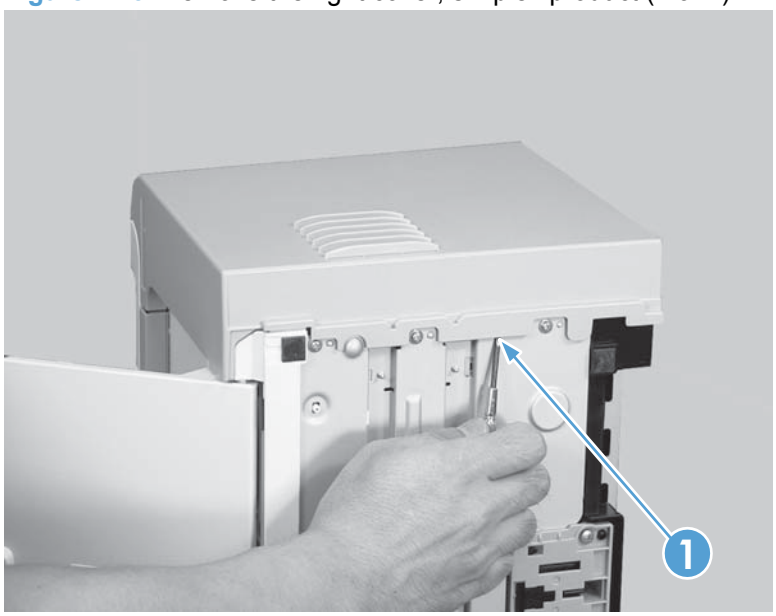
1. Remove one screw (callout 1).

Figure 2-18 Remove the right cover, simplex product (1 of 4)



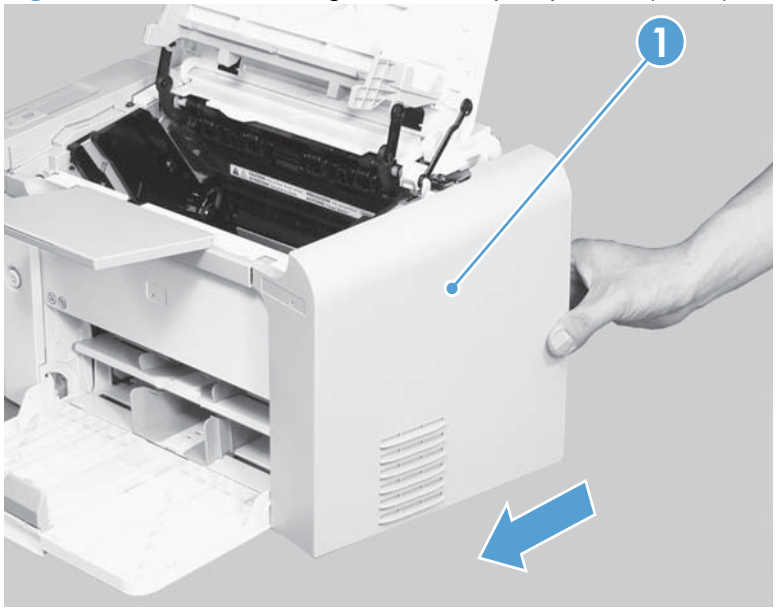
2. Release one tab (callout 1) at the bottom edge of the cover.

Figure 2-19 Remove the right cover, simplex product (2 of 4)



3. Slide the cover toward the front of the product to release it, and then remove the cover (callout 1).

Figure 2-20 Remove the right cover, simplex product (4 of 4)



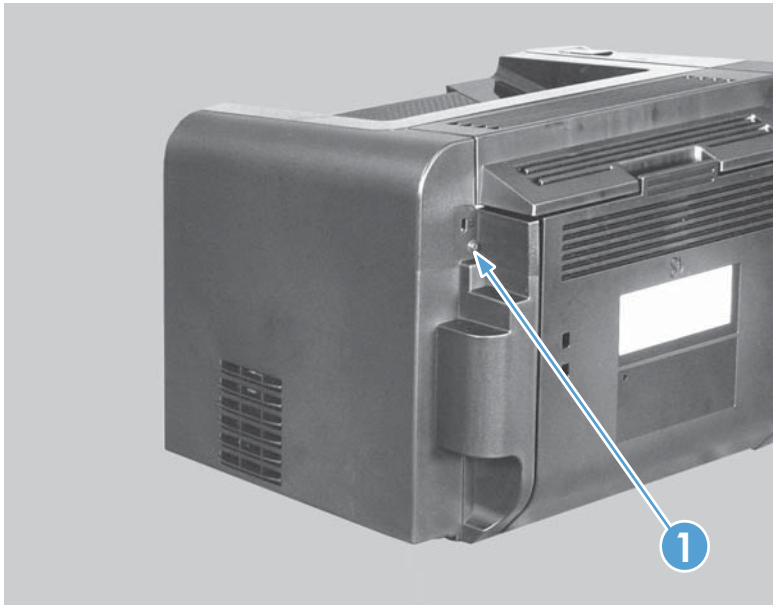
Right cover, duplex product

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.

Remove the right cover, duplex product

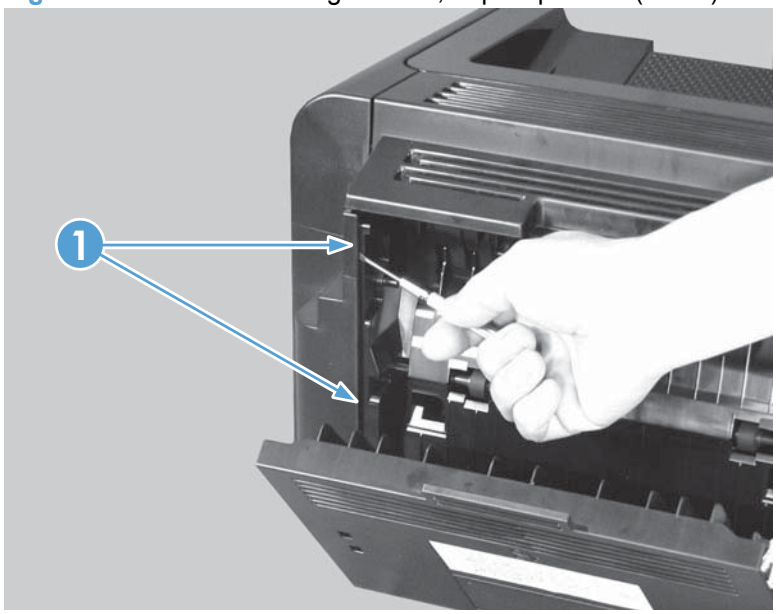
1. Remove one screw (callout 1).

Figure 2-21 Remove the right cover, duplex product (1 of 5)



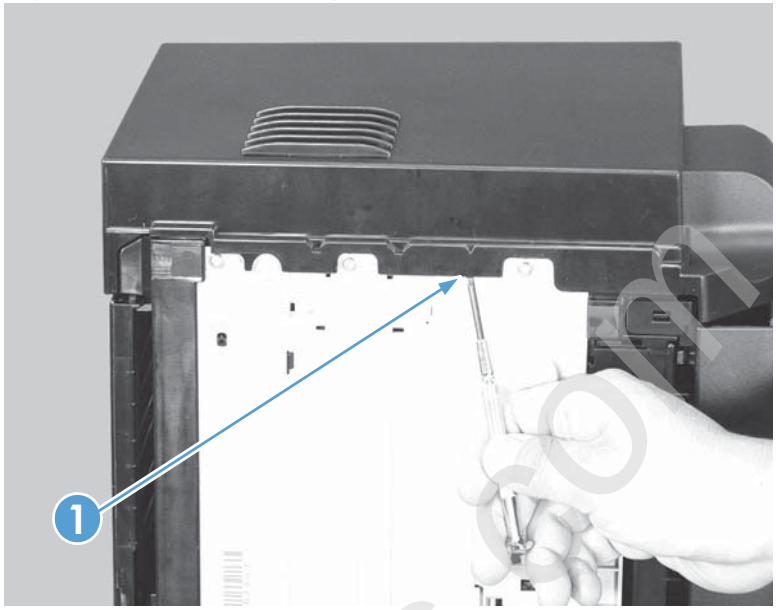
2. Open the duplex door (callout 1), and then release two tabs (callout 2).

Figure 2-22 Remove the right cover, duplex product (2 of 5)



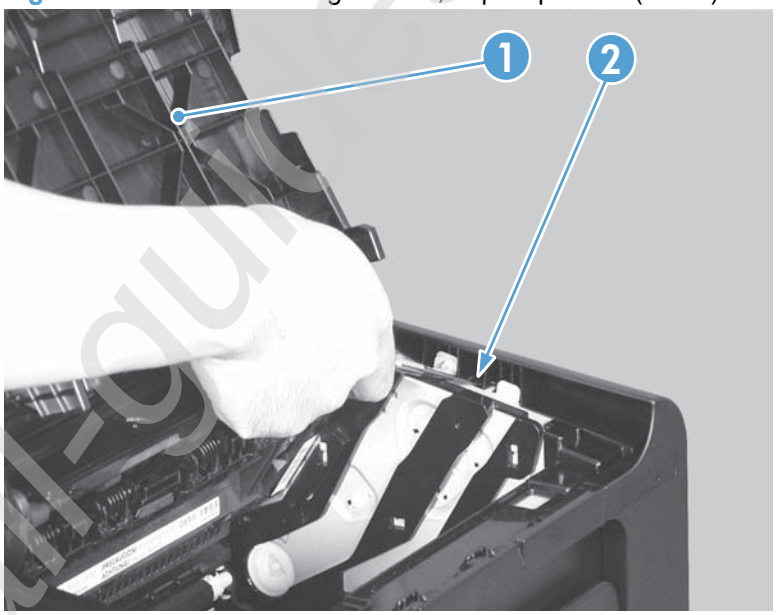
3. Release one tab (callout 1) at the bottom edge of the cover.

Figure 2-23 Remove the right cover, duplex product (3 of 5)



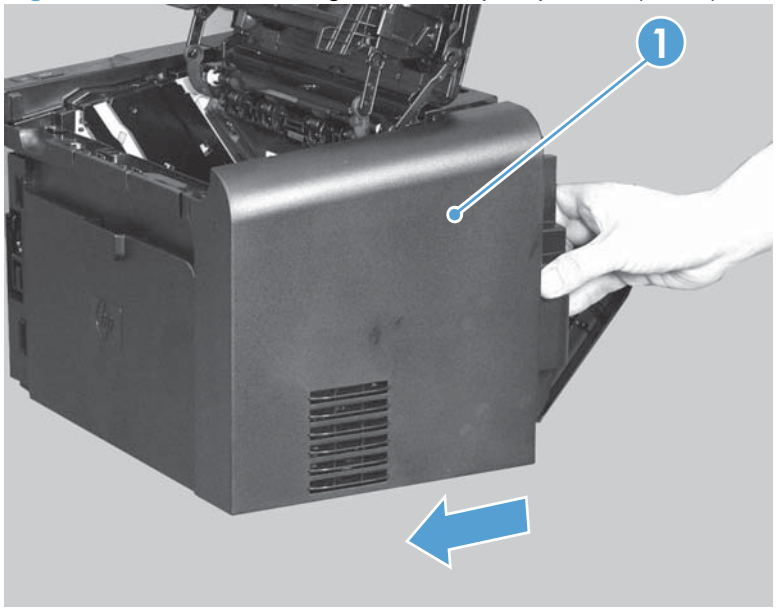
4. Open the cartridge door (callout 1), and then release one tab (callout 2) at the top edge of the cover.

Figure 2-24 Remove the right cover, duplex product (4 of 5)



5. Slide the cover toward the front of the product to release it, and then remove the cover (callout 1).

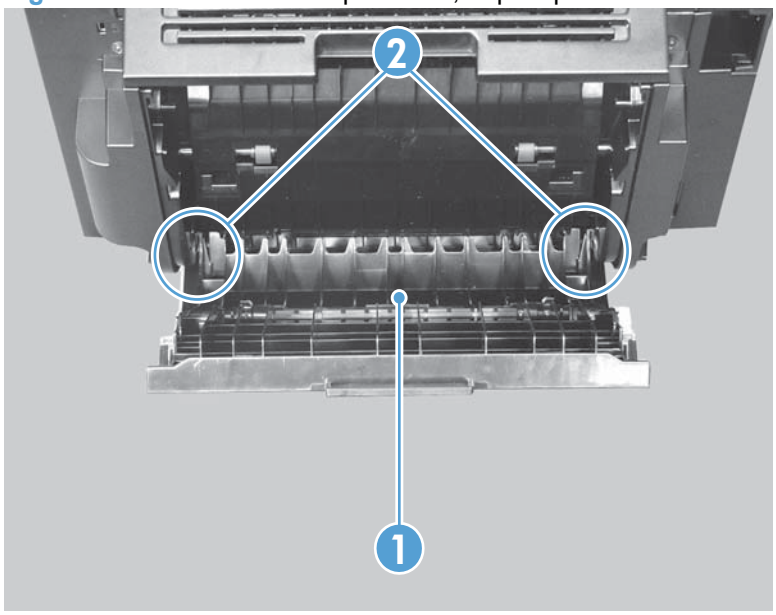
Figure 2-25 Remove the right cover, duplex product (5 of 5)



Duplex door, duplex product

Open the duplex door (callout 1), release two tabs (callout 2), and then remove the door.

Figure 2-26 Remove the duplex door, duplex product



Duplex frame, duplex product

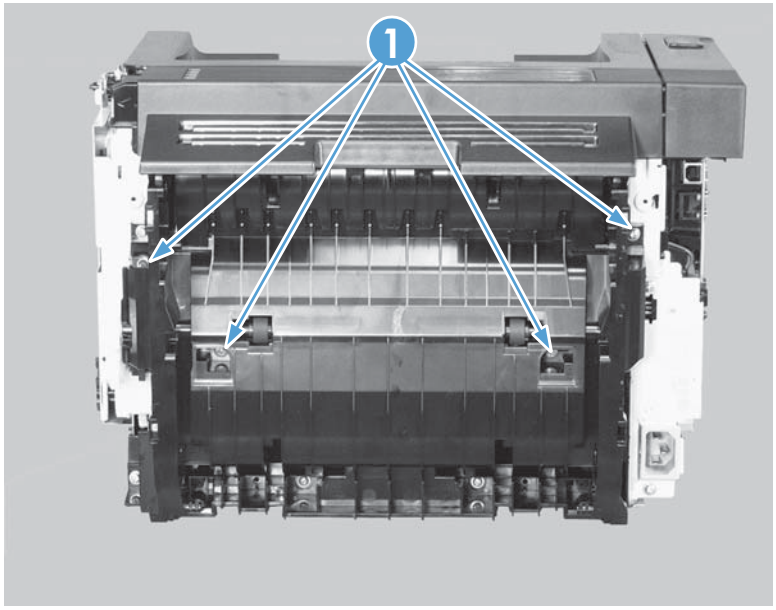
Before proceeding, remove the following components:

- Left cover. See Left cover, duplex product on page 47.
- Right cover. See Right cover, duplex product on page 52.
- Duplex door. See Duplex door, duplex product on page 55

Remove the duplex frame

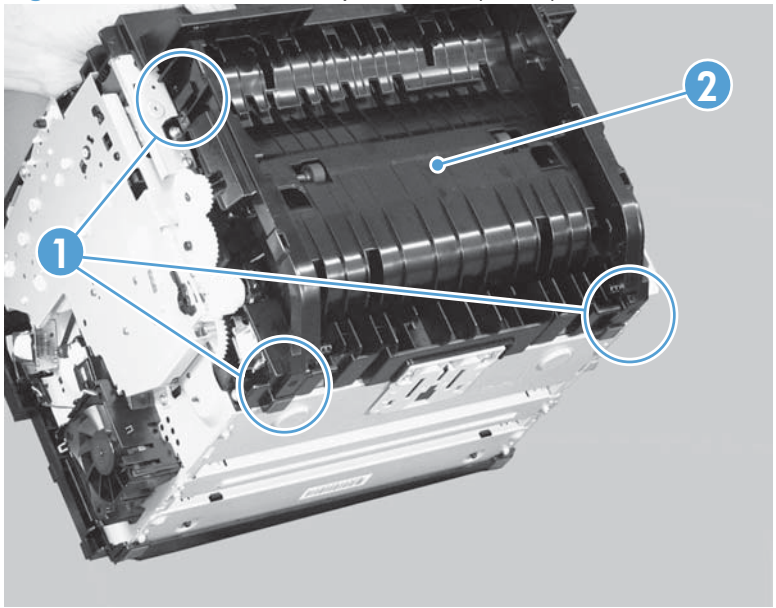
1. Remove four screws (callout 1).

Figure 2-27 Remove the duplex frame (1 of 2)



2. Release three tabs (callout 1), and then remove the duplex frame (callout 2).

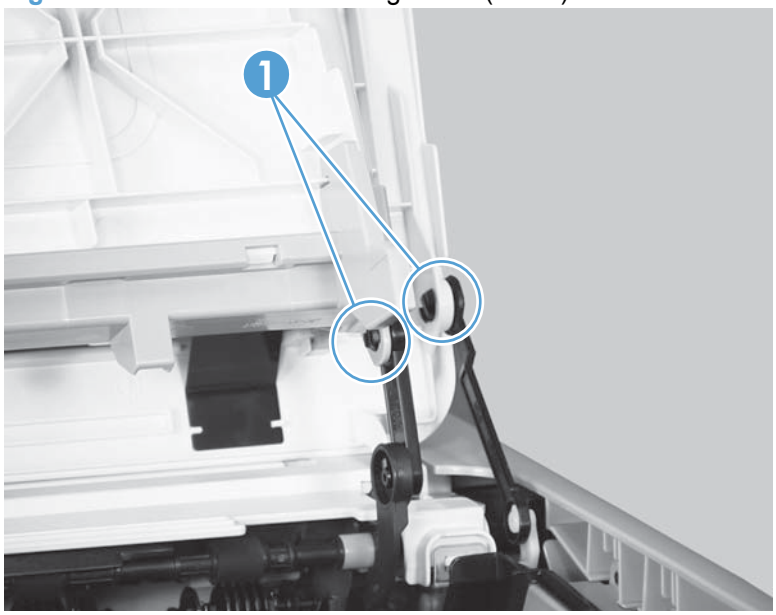
Figure 2-28 Remove the duplex frame (2 of 2)



Cartridge door

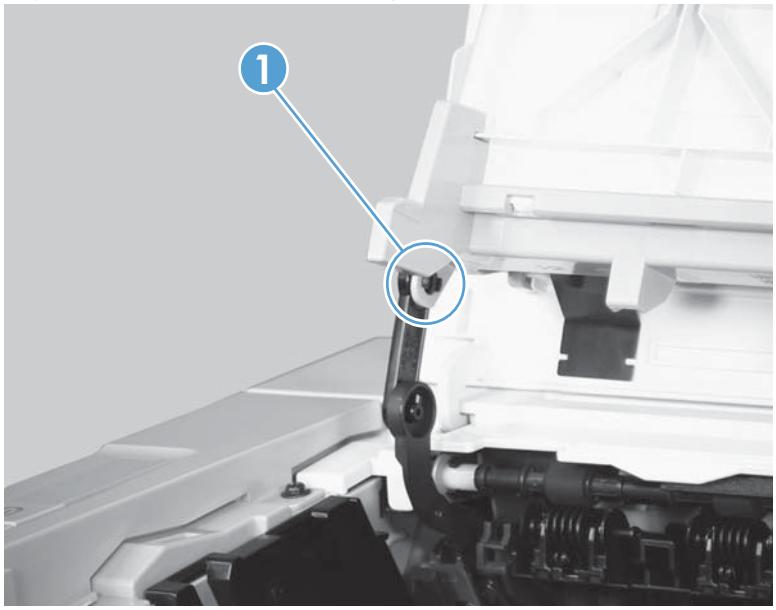
1. Open the cartridge door, and then release two tabs (callout 1) on the right-side link arms.

Figure 2-29 Remove the cartridge door (1 of 3)



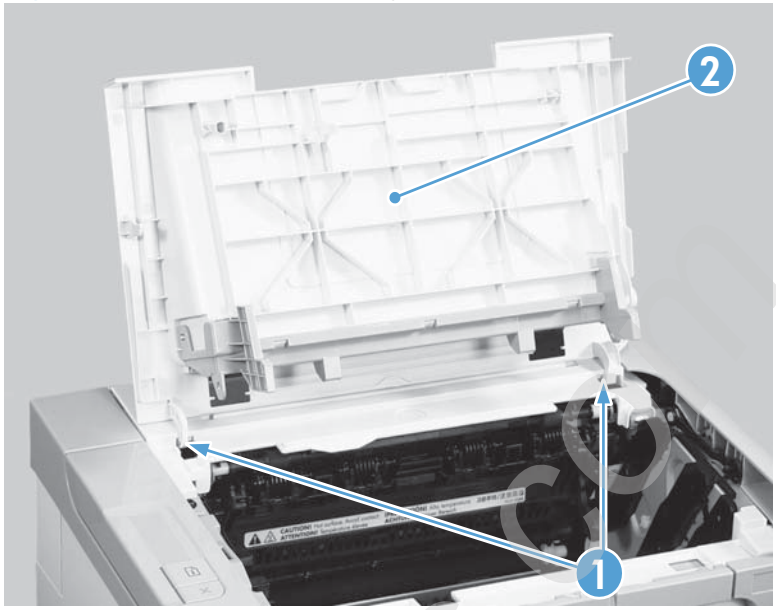
2. Release one tab (callout 1) on the left-side link arm.

Figure 2-30 Remove the cartridge door (2 of 3)



3. Release two pins (callout 1), and then remove the cartridge door (callout 2).

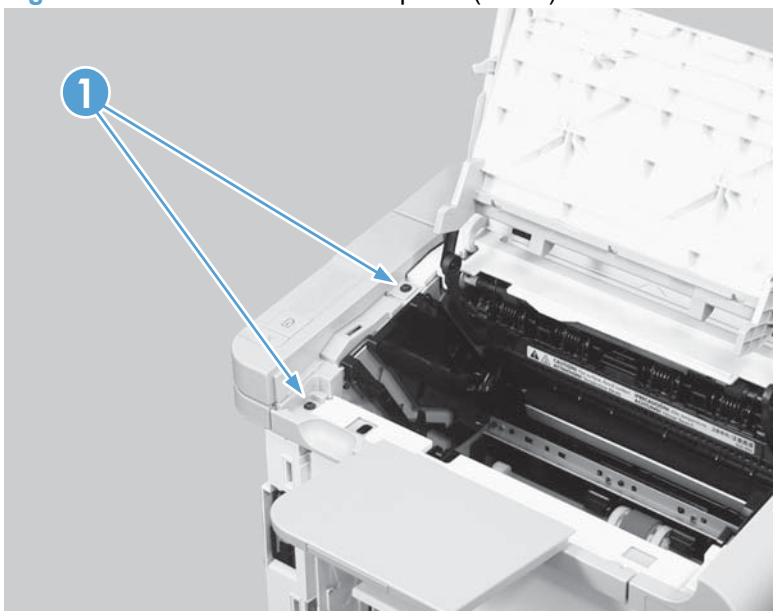
Figure 2-31 Remove the cartridge door (3 of 3)



Control panel

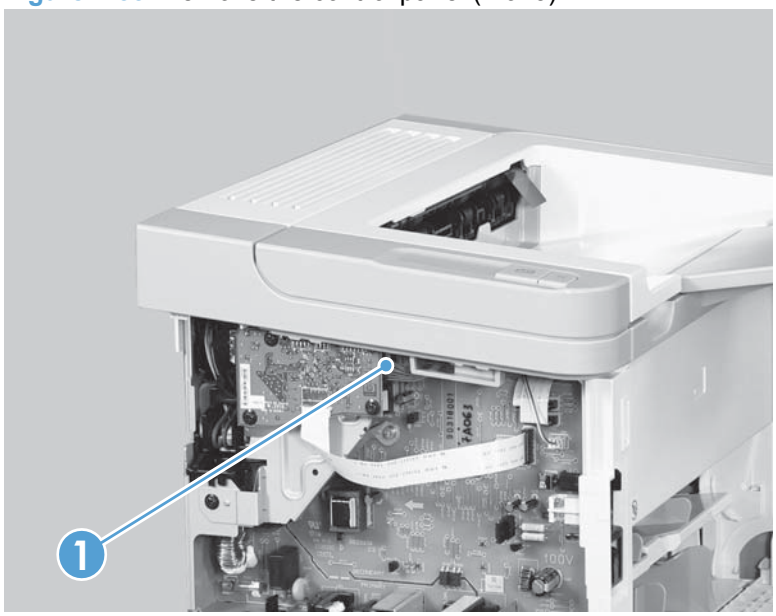
1. Remove the left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
2. Open the cartridge door, and then remove two screws (callout 1).

Figure 2-32 Remove the control panel (1 of 3)



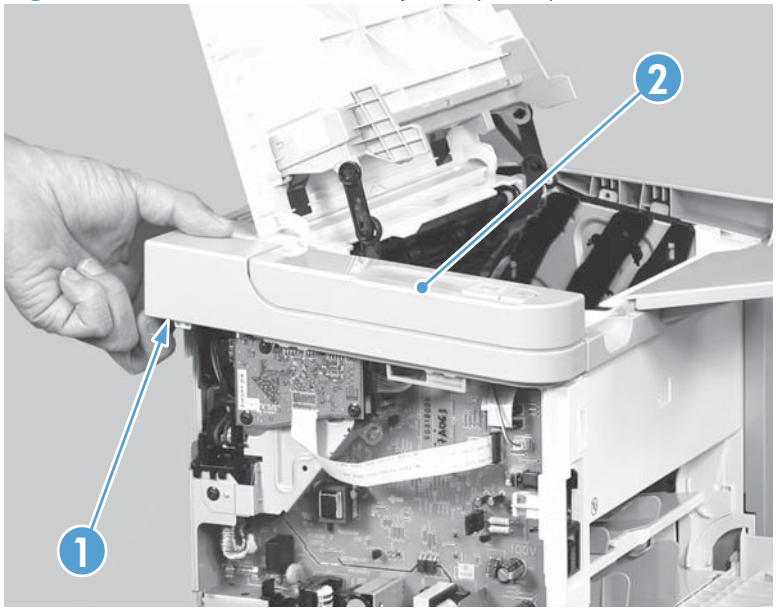
3. Disconnect one connector (callout 1).

Figure 2-33 Remove the control panel (2 of 3)



4. Release one tab (callout 1), and then remove the control panel (callout 2).

Figure 2-34 Remove the control panel (3 of 3)



Front cover

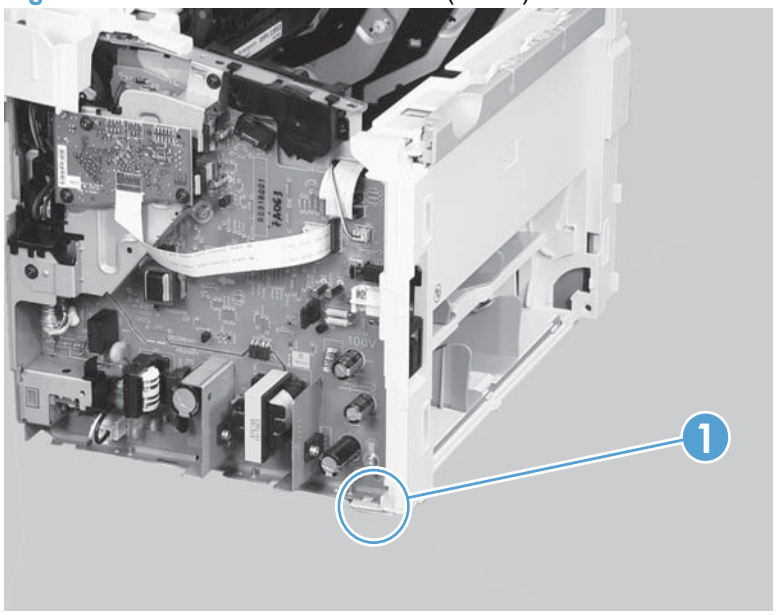
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
- Right cover. See Right cover, simplex product on page 50 or Right cover, duplex product on page 52.
- Control panel. See Control panel on page 59.

Remove the front cover

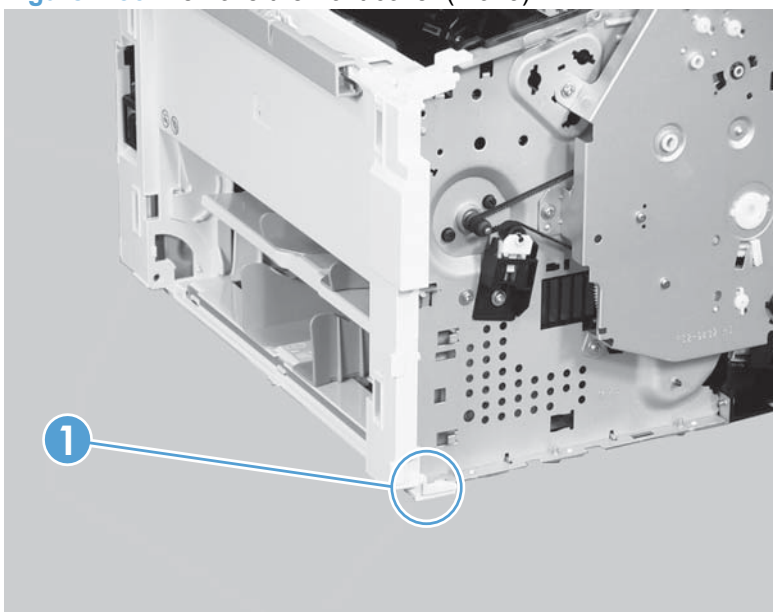
1. Release one tab (callout 1).

Figure 2-35 Remove the front cover (1 of 3)



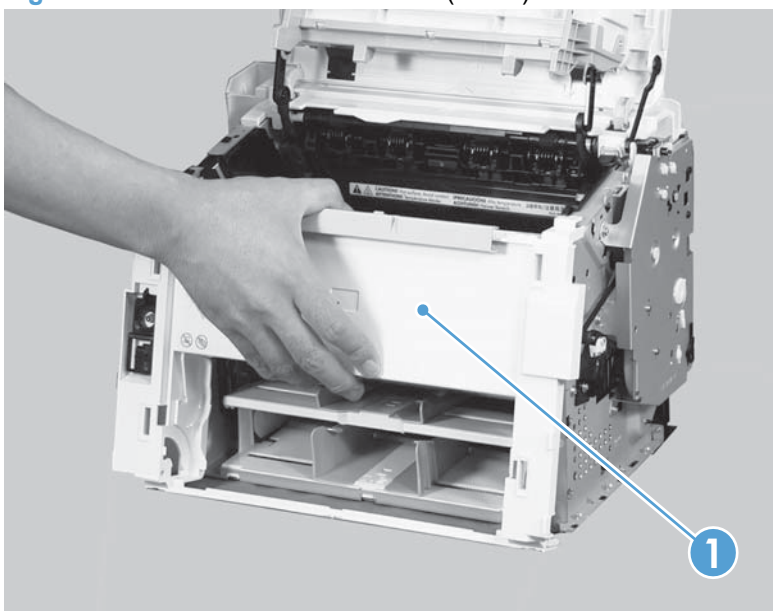
2. Release one tab (callout 1).

Figure 2-36 Remove the front cover (2 of 3)



3. Remove the front cover (callout 1).

Figure 2-37 Remove the front cover (3 of 3)



Rear cover, simplex product

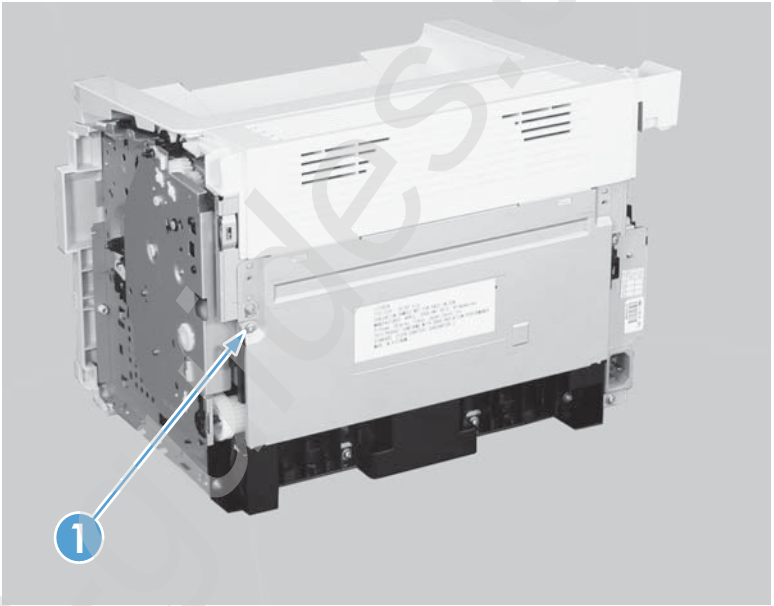
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, simplex product on page 45.
- Right cover. See Right cover, simplex product on page 50.
- Cartridge door. See Cartridge door on page 57.
- Control panel. See Control panel on page 59.

Remove the rear cover, simplex product

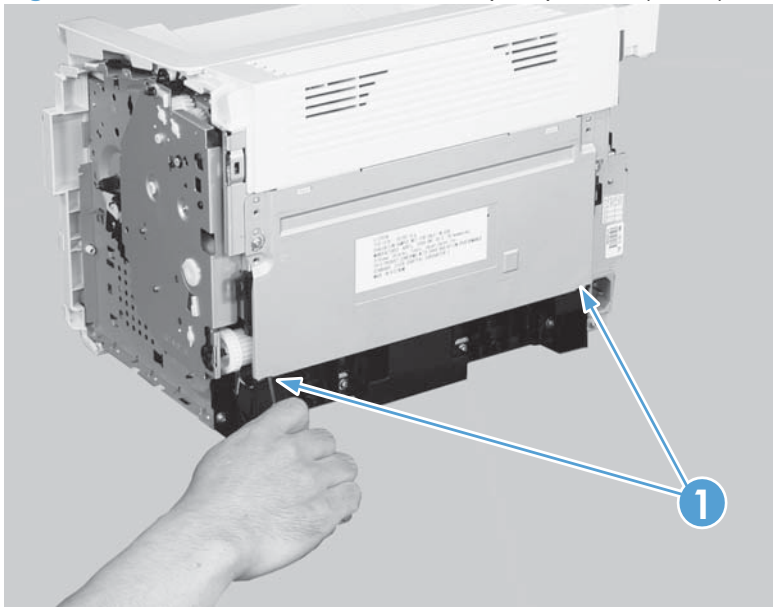
1. Remove one screw (callout 1).

Figure 2-38 Remove the rear cover, simplex product (1 of 3)



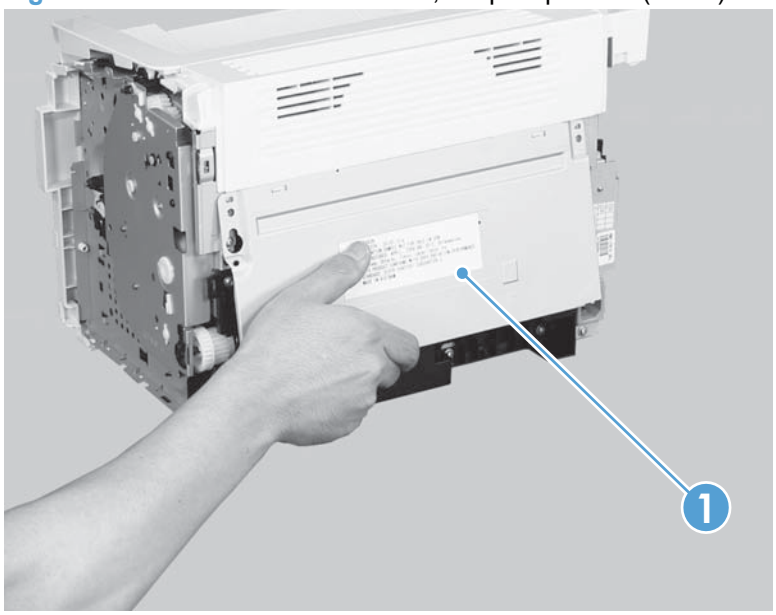
2. Release two tabs (callout 1).

Figure 2-39 Remove the rear cover, simplex product (2 of 3)



3. Rotate the bottom of the rear cover (callout 1) away from the product to remove it.

Figure 2-40 Remove the rear cover, simplex product (2 of 3)



Face-down cover

Before proceeding, remove the following components:

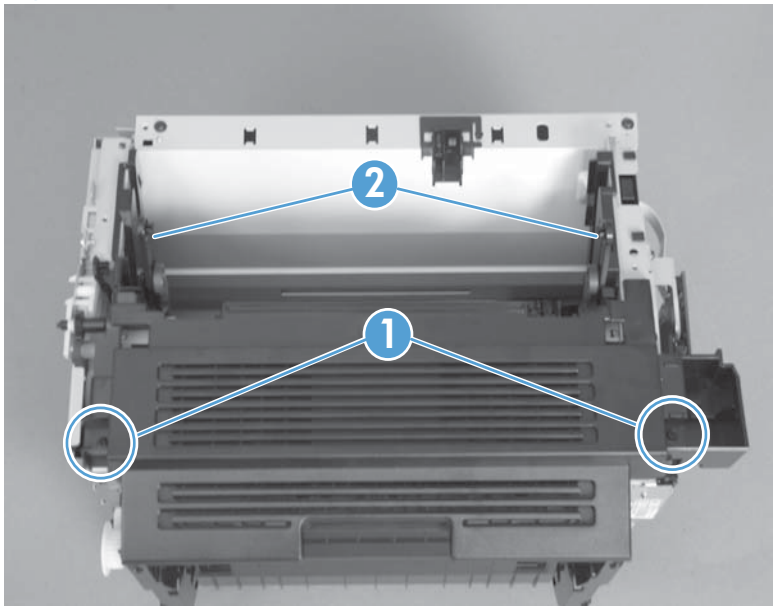
- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
- Right cover. See Right cover, simplex product on page 50 or Right cover, duplex product on page 52.
- Cartridge door. See Cartridge door on page 57.
- Control panel. See Control panel on page 59.
- Front cover. See Front cover on page 61.

Remove the face-down cover

1. Remove two screws (callout 1).

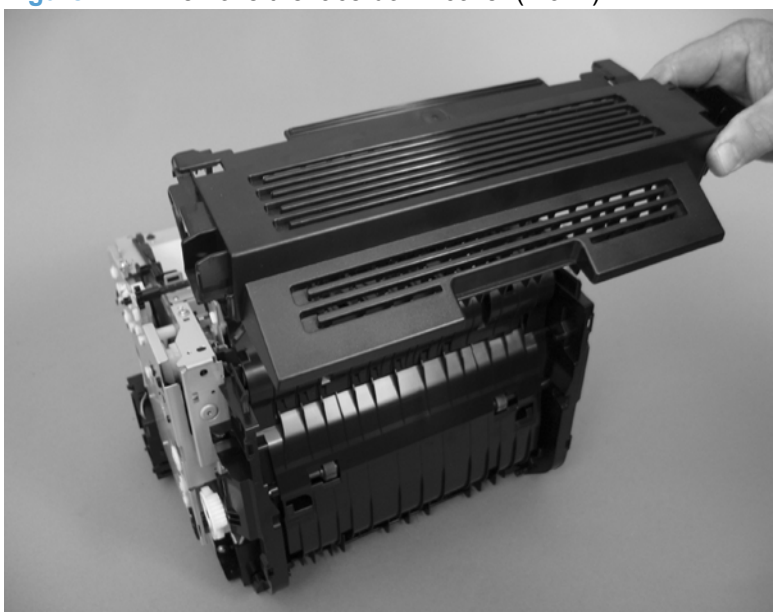
△ **CAUTION:** The upper-cartridge door arms (callout 2) can become easily be dislodged from the lower arms. Do not lose the upper-cartridge door arms while servicing the product.

Figure 2-41 Remove the face-down cover (1 of 2)



2. Lift the cover up and off the product to remove it.

Figure 2-42 Remove the face-down cover (2 of 2)



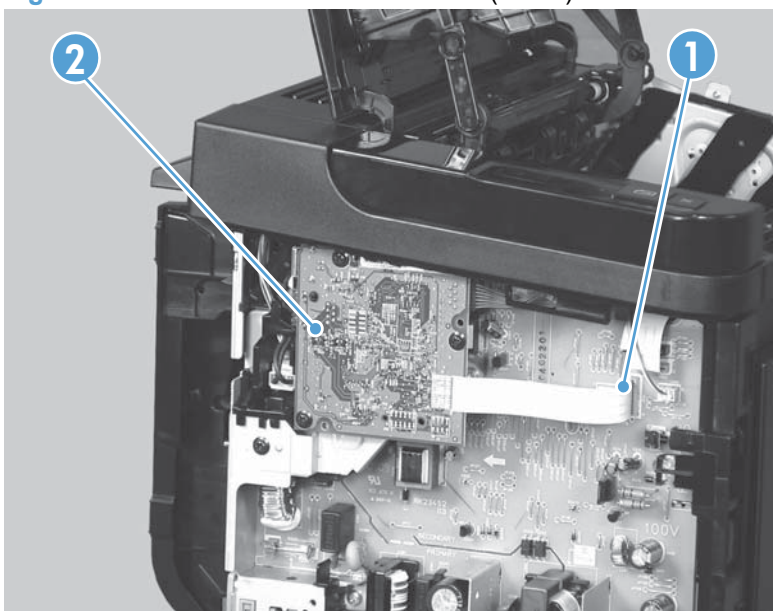
Main assemblies

NOTE: Some photos in this section show components that might not be installed or removed from your product; however, the procedures for replacement and repair in this chapter are correct for your product.

Formatter PCA

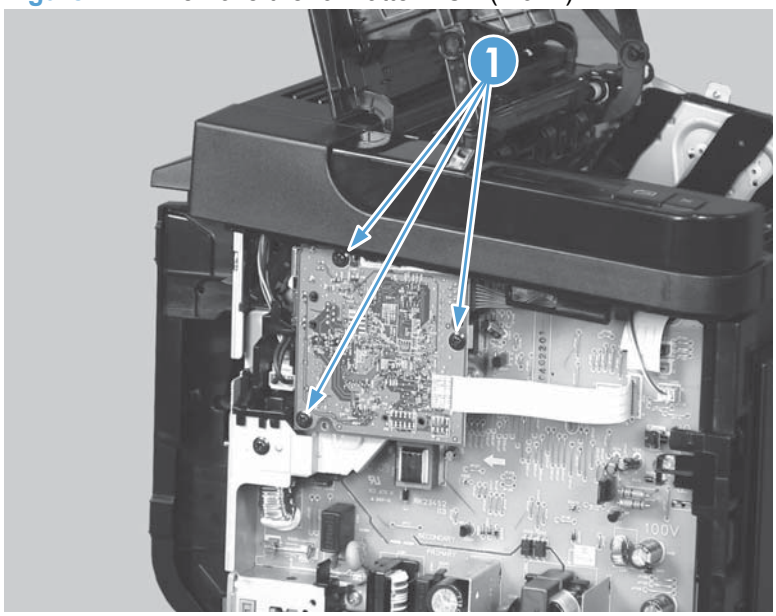
1. Remove the left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
2. Disconnect one FFC (callout 1) and one connector (callout 2).

Figure 2-43 Remove the formatter PCA (1 of 2)



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

Figure 2-44 Remove the formatter PCA (2 of 2)



Laser/scanner assembly

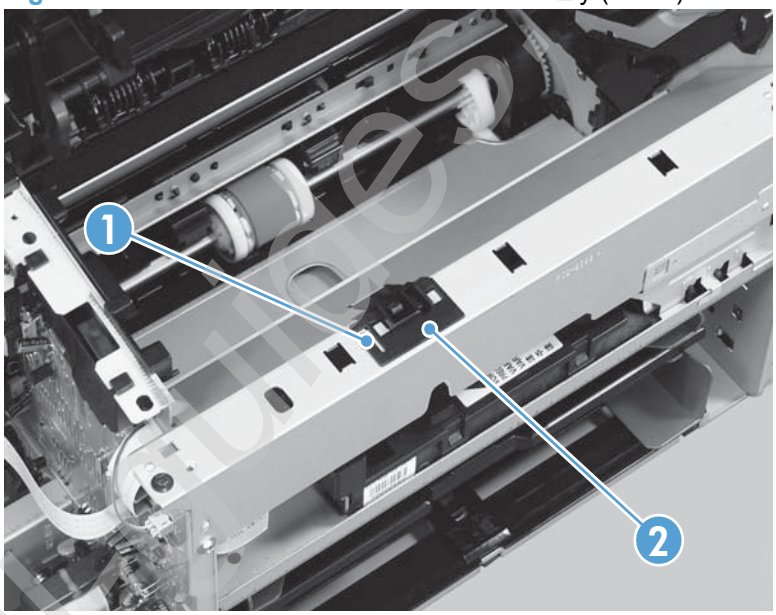
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
- Right cover. See Right cover, simplex product on page 50 or Right cover, duplex product on page 52.
- Control panel. See Control panel on page 59.
- Front cover. See Front cover on page 61.

Remove the laser/scanner assembly

1. Release one tab (callout 1), and then remove the holder (callout 2).

Figure 2-45 Remove the laser/scanner assembly (1 of 5)

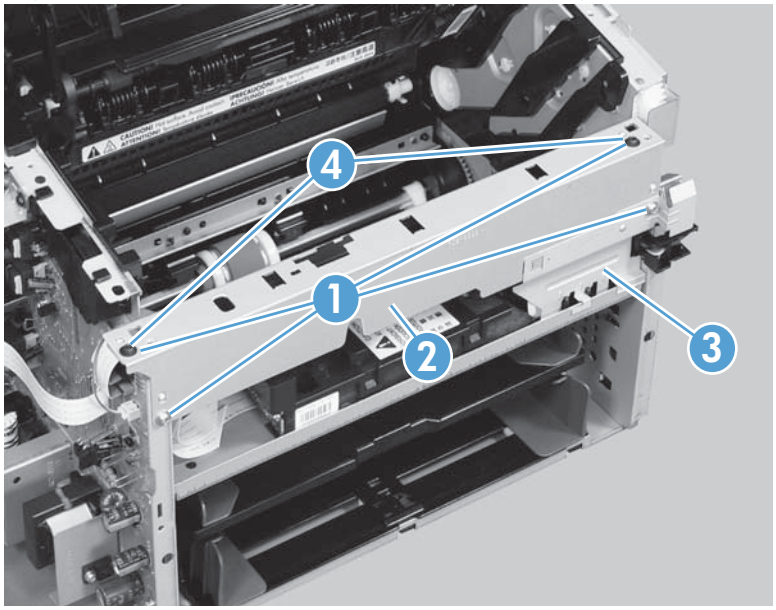


2. Remove four screws (callout 1), and then remove the scanner cover (callout 2) and the sheet-metal plate (callout 3) together.

△ **CAUTION:** The scanner cover (callout 2) and sheet-metal plate (callout 3) can be easily separated. Do not lose the plate while servicing the product.

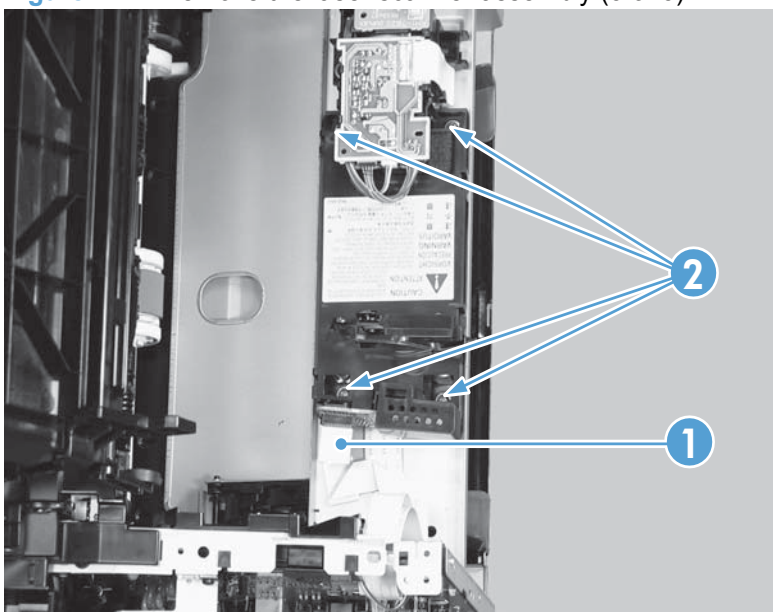
TIP: When the cover is reinstalled, make sure that the black screws (callout 4) are installed in the correct screw holes.

Figure 2-46 Remove the laser/scanner assembly (2 of 5)



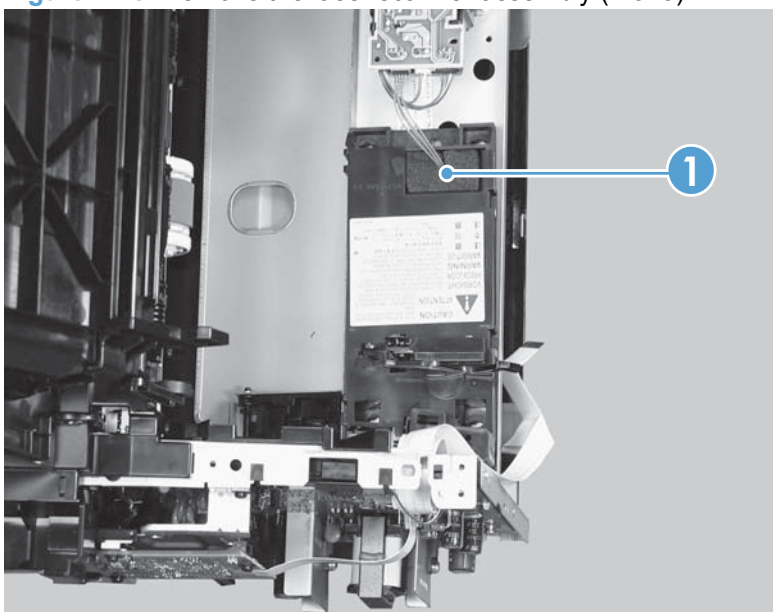
3. Disconnect one FFC (callout 1), and then remove four screws (callout 2).

Figure 2-47 Remove the laser/scanner assembly (3 of 5)



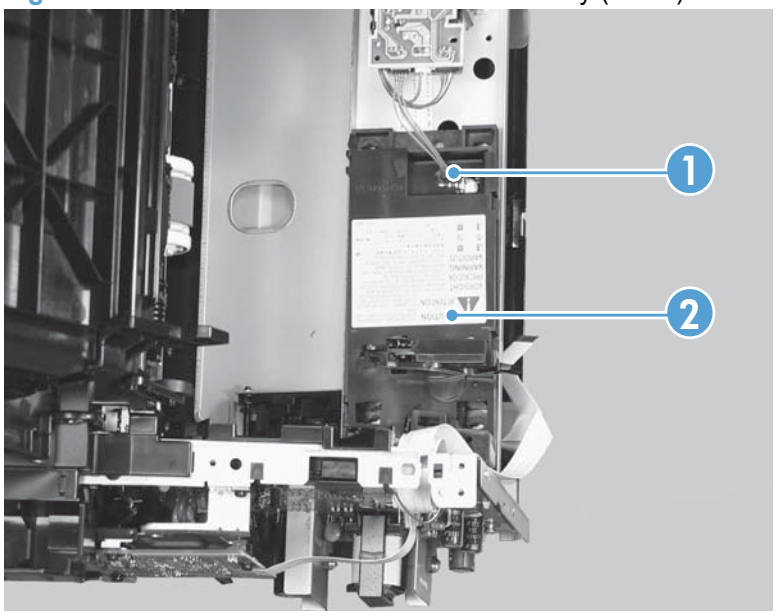
4. Remove the dust-proof sponge (callout 1).

Figure 2-48 Remove the laser/scanner assembly (4 of 5)



5. Disconnect one connector (callout 1), and then remove the laser/scanner assembly (callout 2).

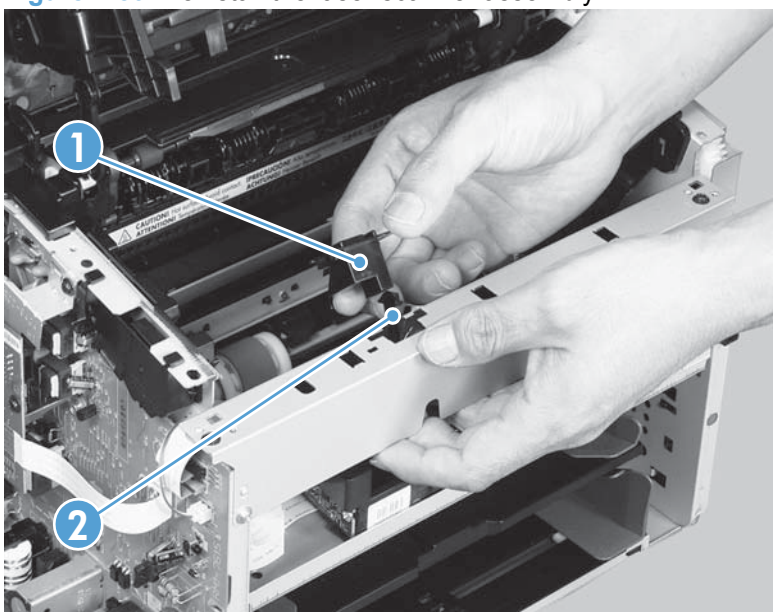
Figure 2-49 Remove the laser/scanner assembly (5 of 5)



Reinstall the laser/scanner assembly

▲ When the holder is reinstalled (callout 1), make sure that the lever arm (callout 2) is correctly positioned in the slot in the holder.

Figure 2-50 Reinstall the laser/scanner assembly



Pickup assembly

Before proceeding, remove the following components:

- Separation pad. See Separation pad on page 41.
- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
- Right cover. See Right cover, simplex product on page 50 or Right cover, duplex product on page 52.
- Duplex frame. See Duplex frame, duplex product on page 56.

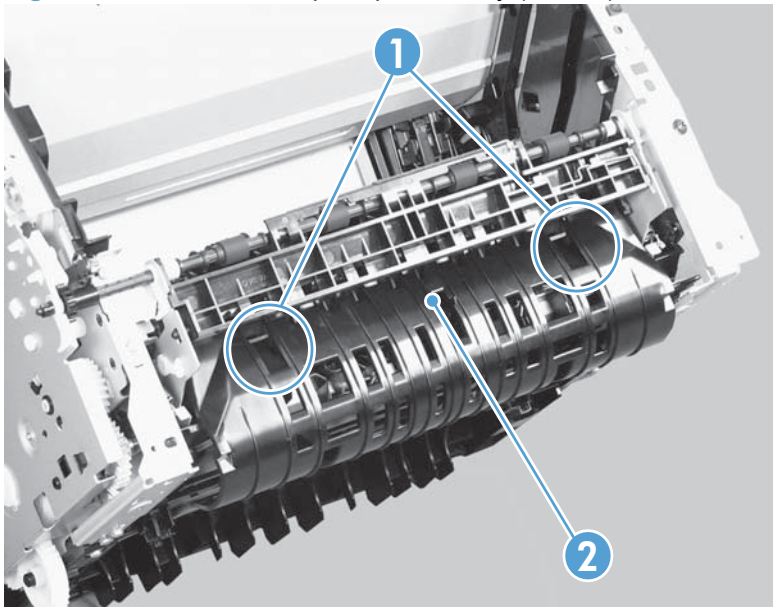
NOTE: Duplex models only.

- Cartridge door. See Cartridge door on page 57
- Rear cover or duplex door. See Rear cover, simplex product on page 63 or Duplex door, duplex product on page 55.
- Face-down cover. See Face-down cover on page 65.

Remove the pickup assembly

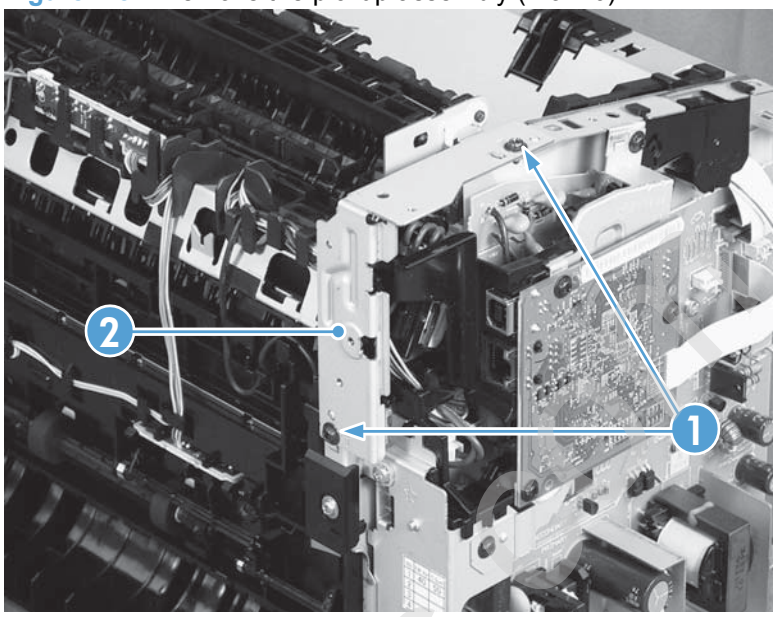
1. **Duplex models only**: Release two tabs (callout 1), and then remove the duplex reverse guide (callout 2).

Figure 2-51 Remove the pickup assembly (1 of 10)



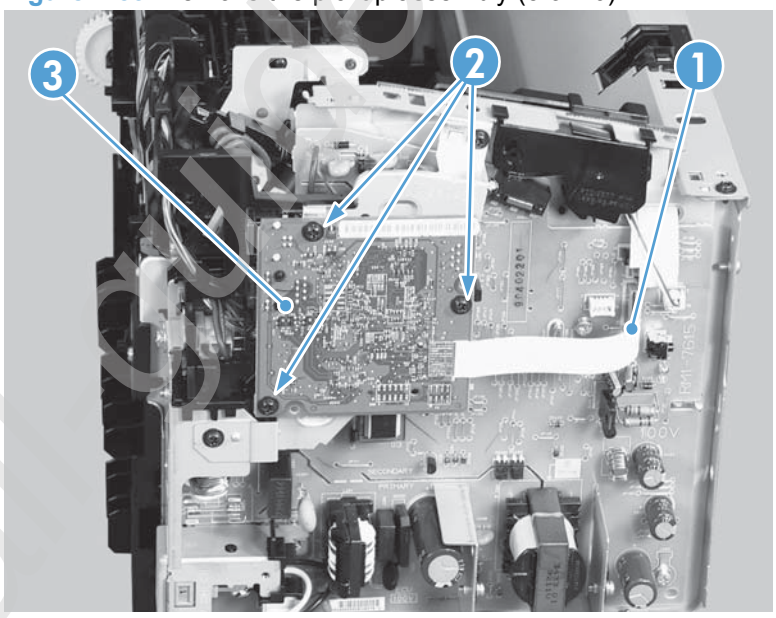
2. Remove two screws (callout 1), and then remove the sheet-metal corner brace (callout 2).

Figure 2-52 Remove the pickup assembly (2 of 10)



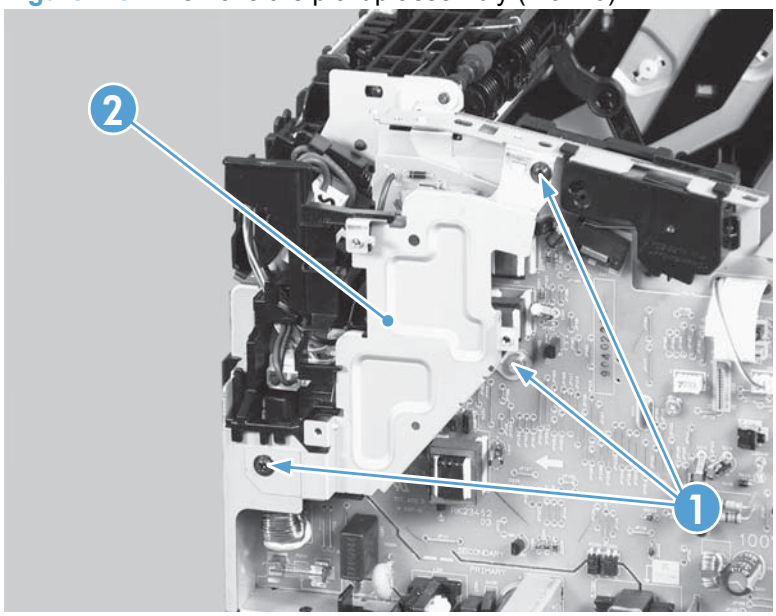
3. Remove one FFC (callout 1), remove three screws (callout 2), and then remove the formatter (callout 3).

Figure 2-53 Remove the pickup assembly (3 of 10)



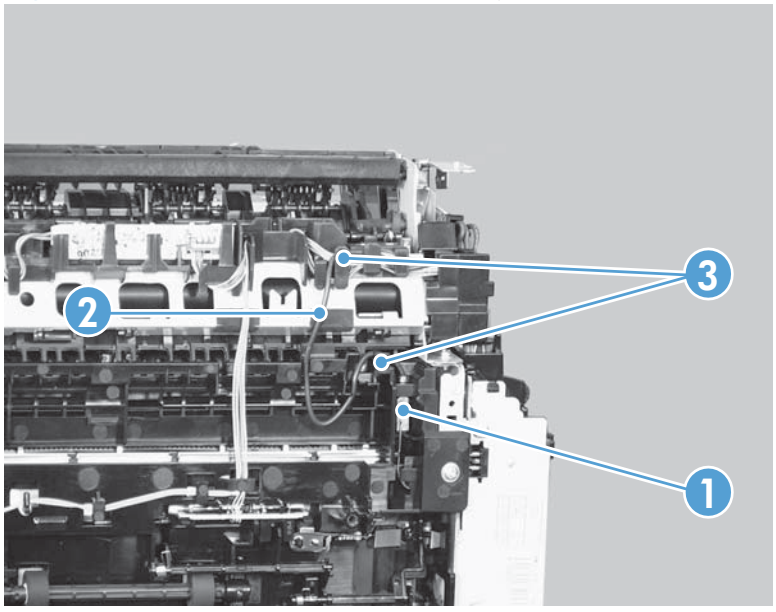
4. Remove three screws (callout 1), and then remove the sheet-metal plate (callout 2).

Figure 2-54 Remove the pickup assembly (4 of 10)



5. Disconnect one connector (callout 1), and then release the wire harness (callout 2) from the guide (callout 3).

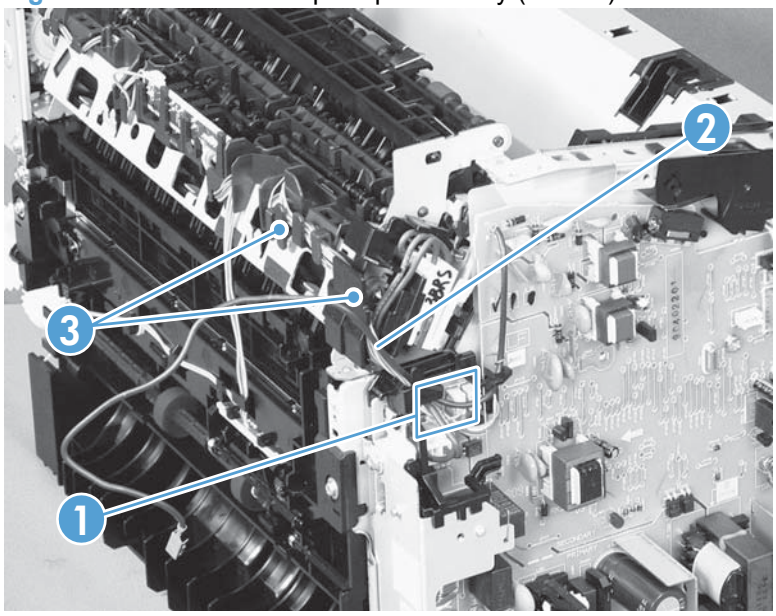
Figure 2-55 Remove the pickup assembly (5 of 10)



6. Disconnect three connectors (callout 1), and then remove the wire harness (callout 2) from the guide (callout 3).

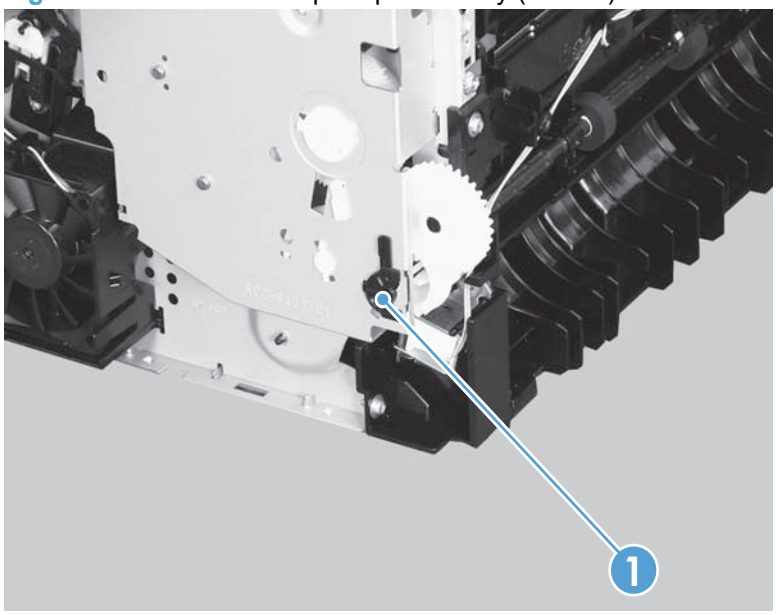
Reinstallation tip When the pickup assembly is reinstalled, place these wire harnesses in the guide first, and then the wire harness from the ground connector in the previous step. This ensures that the harnesses are long enough for the connectors to reach the engine controller PCA.

Figure 2-56 Remove the pickup assembly (6 of 10)



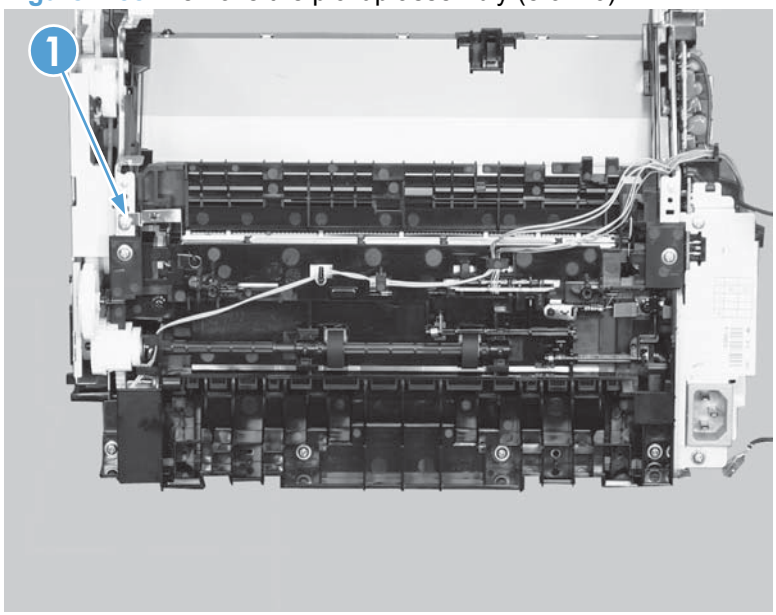
7. Remove one bushing (callout 1).

Figure 2-57 Remove the pickup assembly (7 of 10)



8. Remove one screw with washer (callout 1).

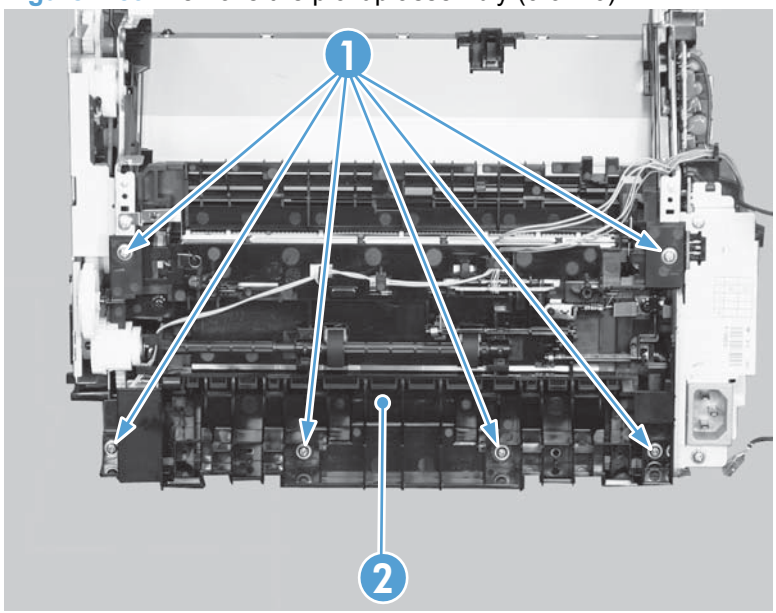
Figure 2-58 Remove the pickup assembly (8 of 10)



9. Remove six screws (callout 1), and then remove the pickup assembly (callout 2).

△ **CAUTION:** The ground spring on the assembly is not captive. Do not lose the spring when the assembly is removed. See Reinstall the pickup assembly on page 78.

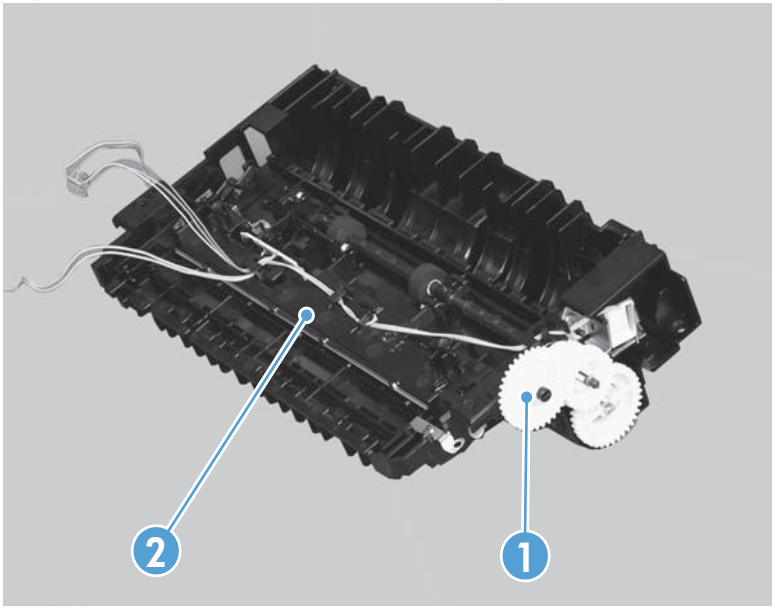
Figure 2-59 Remove the pickup assembly (9 of 10)



10. **Duplex models only**: Remove one gear (callout 1) from the pickup assembly (callout 2).

△ **CAUTION:** The gear is not captive. Do not lose the gear while servicing the product.

Figure 2-60 Remove the pickup assembly (10 of 10)



Reinstall the pickup assembly

1. Make sure that the pickup assembly ground spring is correctly positioned when the assembly is reinstalled.

Figure 2-61 Reinstall the pickup assembly (1 of 4; correct ground spring position)

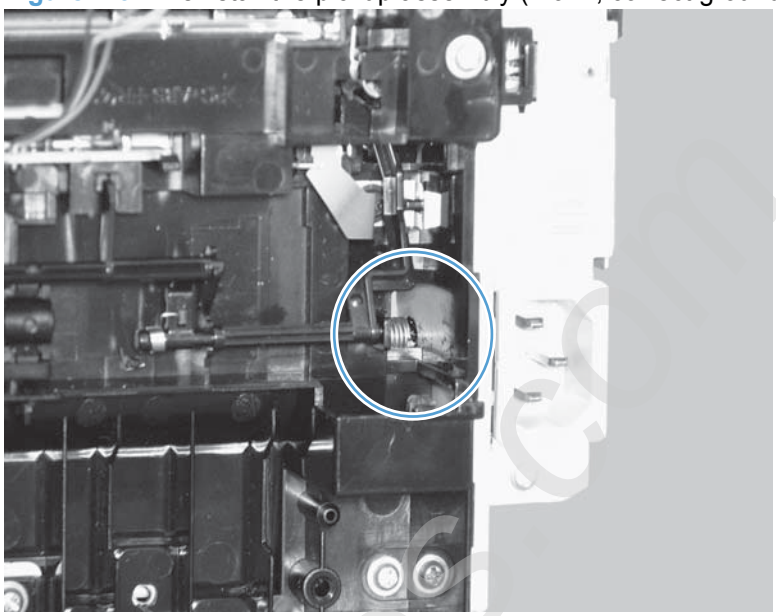
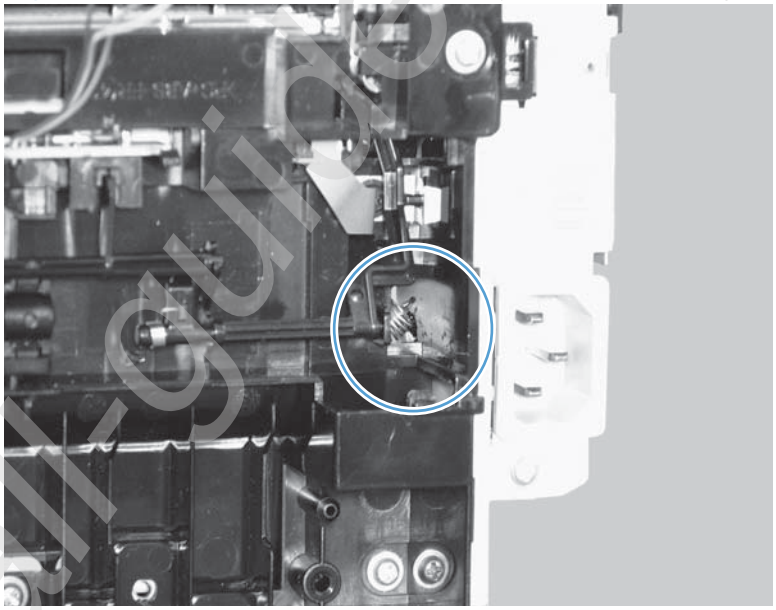


Figure 2-62 Reinstall the pickup assembly (2 of 4; incorrect ground spring position)



2. Push down the lift plate before installing the pickup assembly.

TIP: Reach in from the front of the product to push and hold the plate down as the pickup unit is installed.

Figure 2-63 Reinstall the pickup assembly (3 of 4; lift plate in raised position)

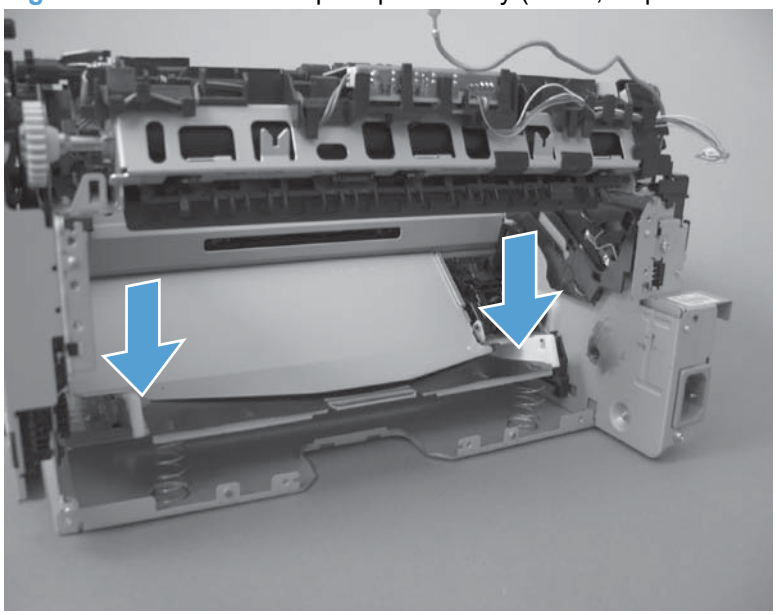
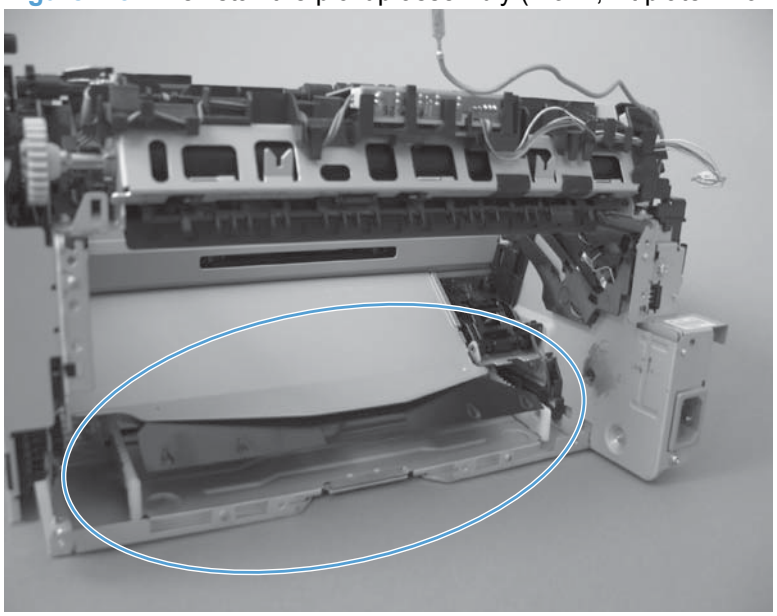


Figure 2-64 Reinstall the pickup assembly (4 of 4; lift plate in lowered position)



Fuser

Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
- Right cover. See Right cover, simplex product on page 50 or Right cover, duplex product on page 52.
- Duplex frame. See Duplex frame, duplex product on page 56.

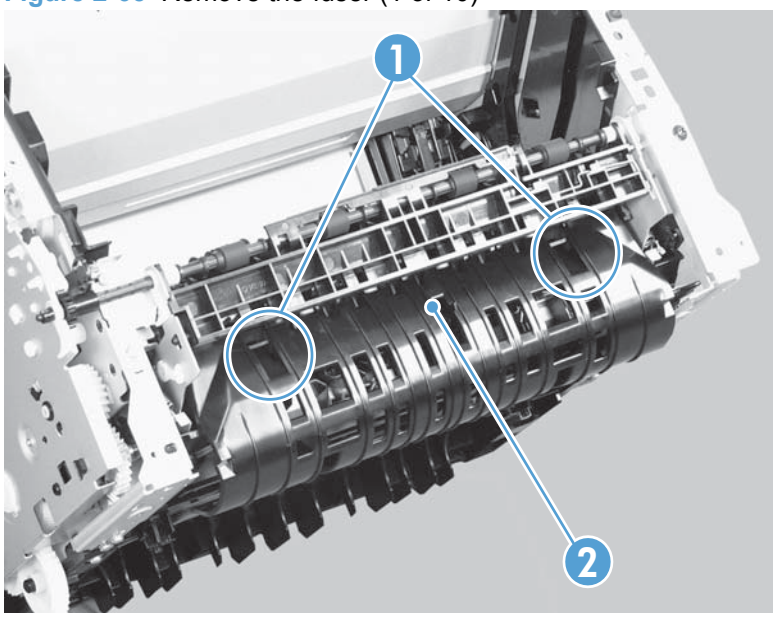
NOTE: Duplex models only.

- Cartridge door. See Cartridge door on page 57
- Control panel. See Control panel on page 59.
- Rear cover or duplex door. See Rear cover, simplex product on page 63 or Duplex door, duplex product on page 55.
- Face-down cover. See Face-down cover on page 65.

Remove the fuser

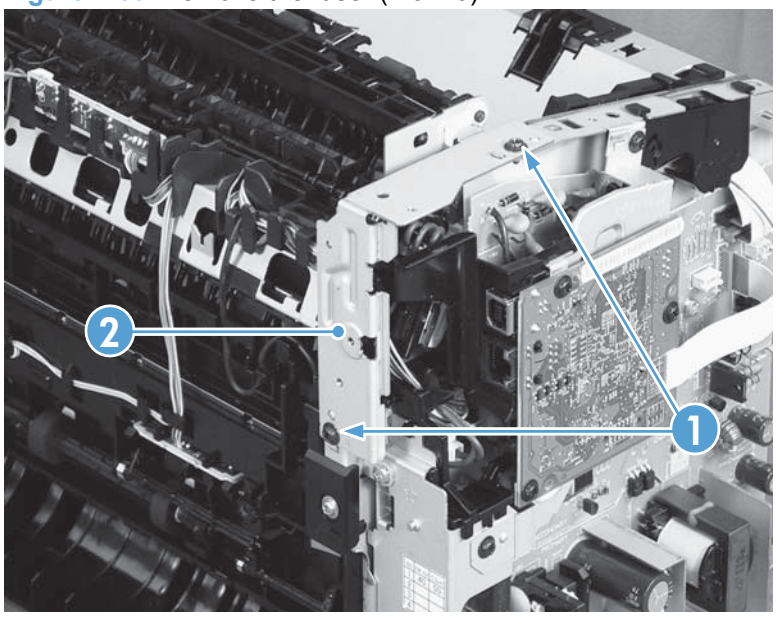
1. **Duplex models only**: Release two tabs (callout 1), and then remove the duplex reverse guide (callout 2).

Figure 2-65 Remove the fuser (1 of 10)



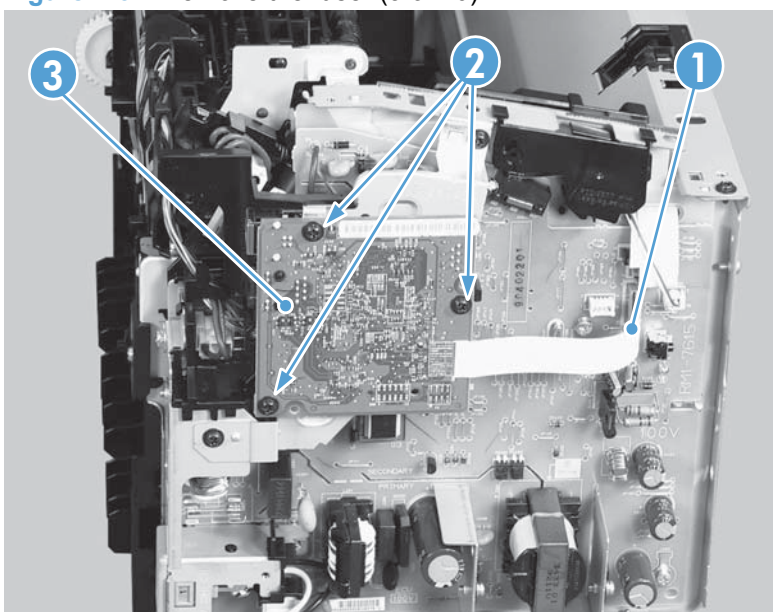
2. Remove two screws (callout 1), and then remove the sheet-metal corner brace (callout 2).

Figure 2-66 Remove the fuser (2 of 10)



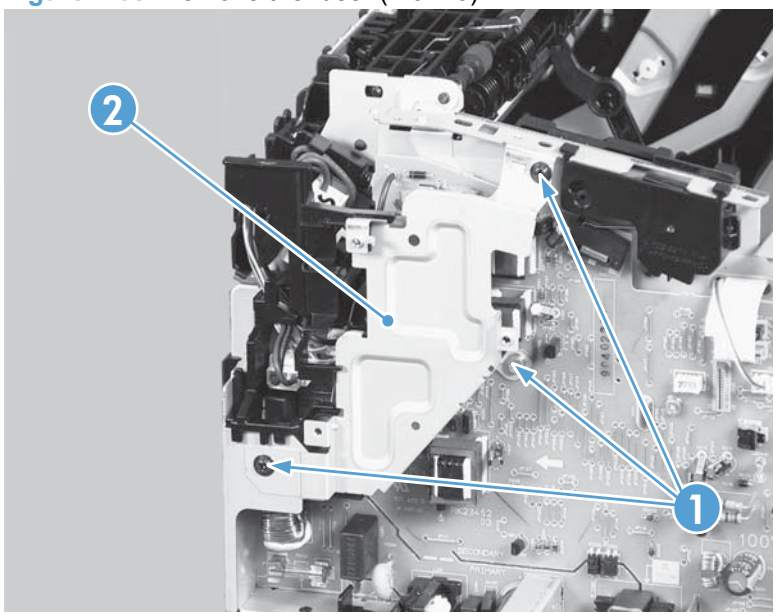
3. Remove one FFC (callout 1), remove three screws (callout 2), and then remove the formatter (callout 3).

Figure 2-67 Remove the fuser (3 of 10)



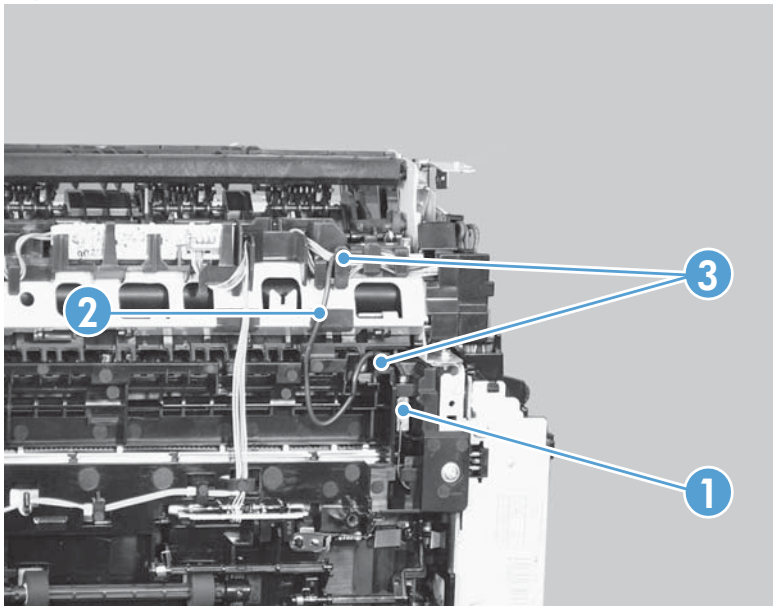
4. Remove three screws (callout 1), and then remove the sheet-metal plate (callout 2).

Figure 2-68 Remove the fuser (4 of 10)



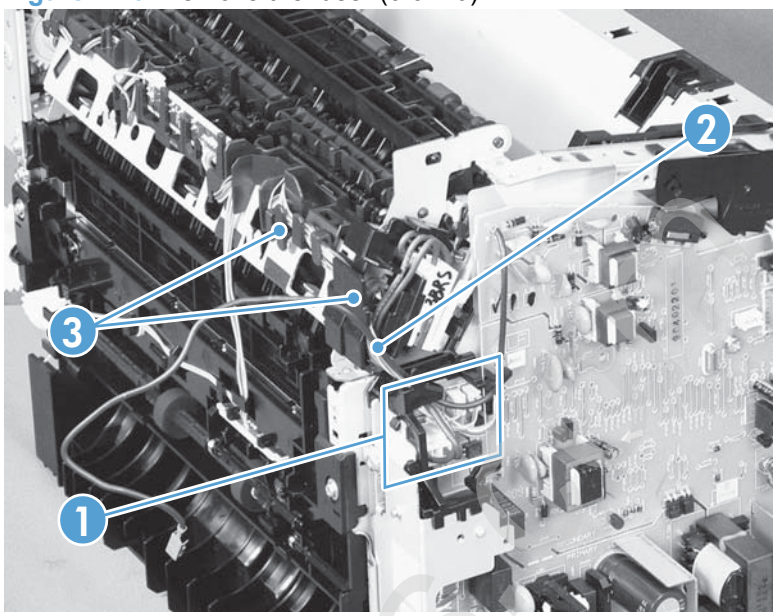
5. Disconnect one connector (callout 1), and then release the wire harness (callout 2) from the guides (callout 3).

Figure 2-69 Remove the fuser (5 of 10)



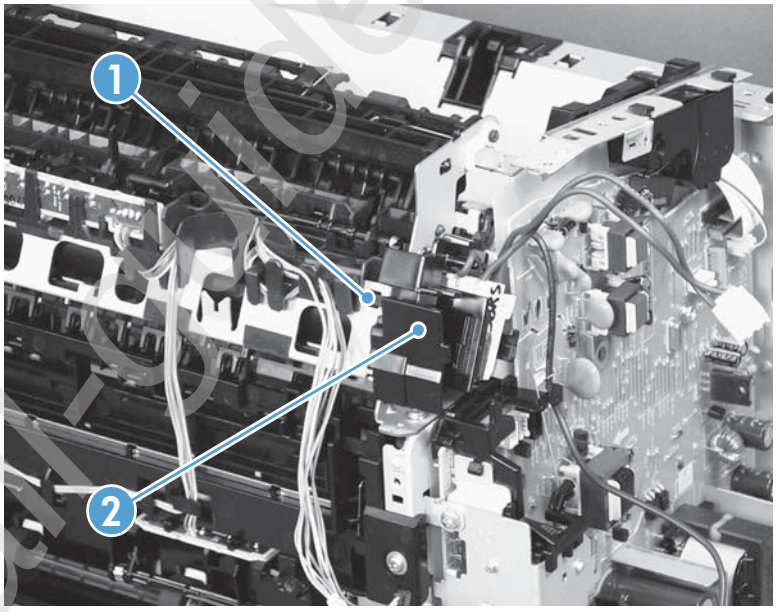
6. Disconnect four connectors (callout 1), and then release the wire harnesses (callout 2) from the guide (callout 3).

Figure 2-70 Remove the fuser (6 of 10)



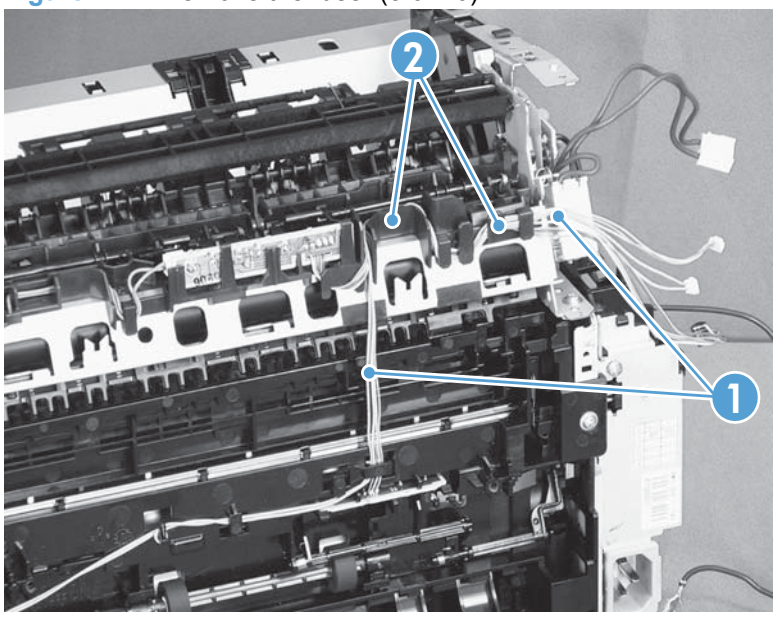
7. Disconnect one tab (callout 1), and then remove the guide (callout 2).

Figure 2-71 Remove the fuser (7 of 10)



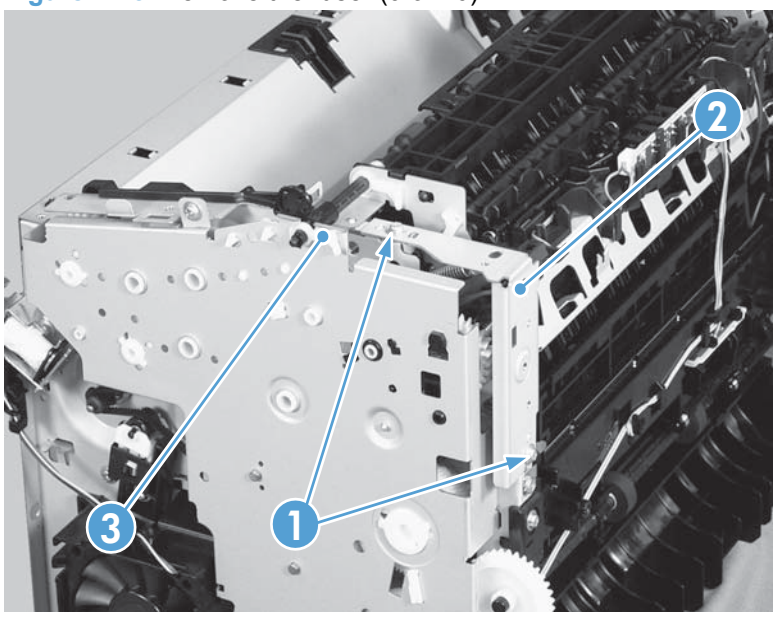
8. Release the wire harnesses (callout 1) from the guide (callout 2).

Figure 2-72 Remove the fuser (8 of 10)



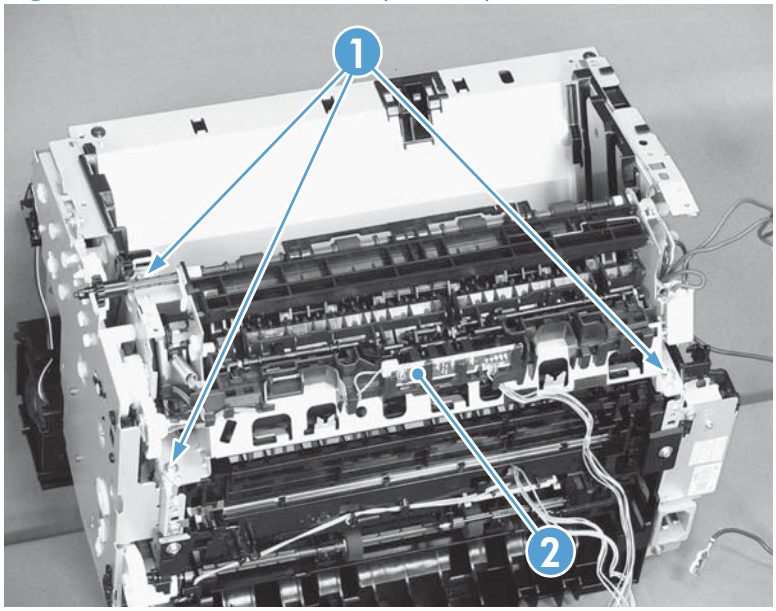
9. Remove two screws (callout 1) and the sheet-metal brace (callout 2), and then remove one bushing (callout 3).

Figure 2-73 Remove the fuser (9 of 10)



10. Remove three screws (callout 1) and then remove the fuser (callout 2).

Figure 2-74 Remove the fuser (10 of 10)



Reinstall the fuser

▲ To avoid damage to the wire harnesses, make sure that they are correctly installed in the guides when the fuser is reinstalled.

Figure 2-75 Reinstall the fuser; correct wire harness installation

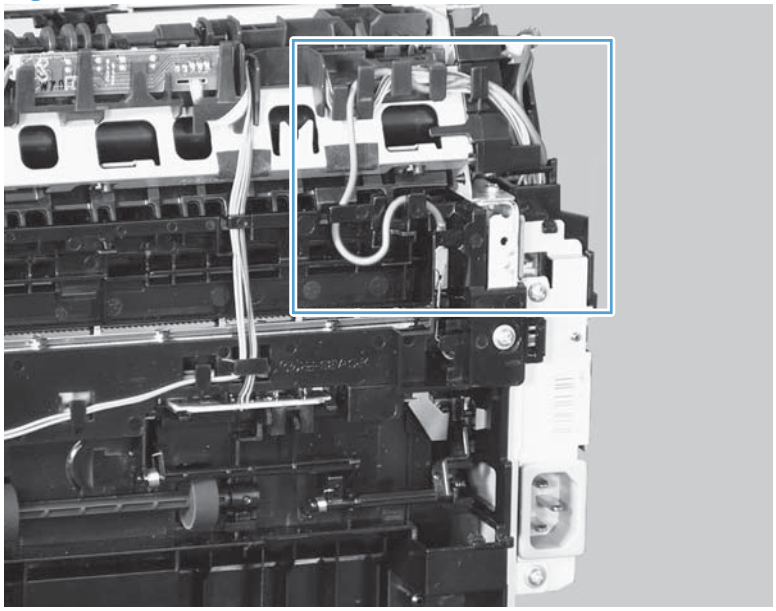
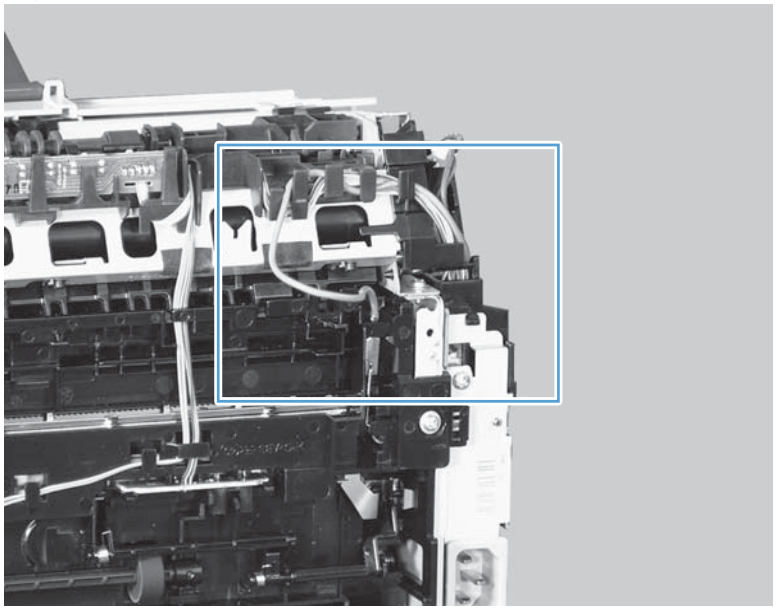


Figure 2-76 Reinstall the fuser; incorrect wire harness installation



Main motor

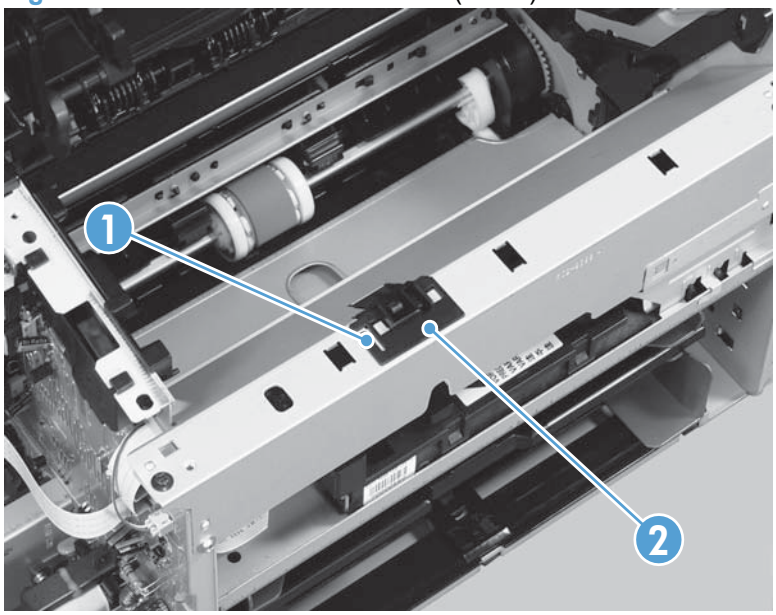
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Front cover. See Front cover on page 61.
- Left cover. See Left cover, simplex product on page 45 or Left cover, simplex product on page 45.
- Right cover. See Right cover, simplex product on page 50 or Right cover, duplex product on page 52.
- Control panel. See Control panel on page 59.

Remove the main motor

1. Release one tab (callout 1), and then remove the holder (callout 2).

Figure 2-77 Remove the main motor (1 of 9)

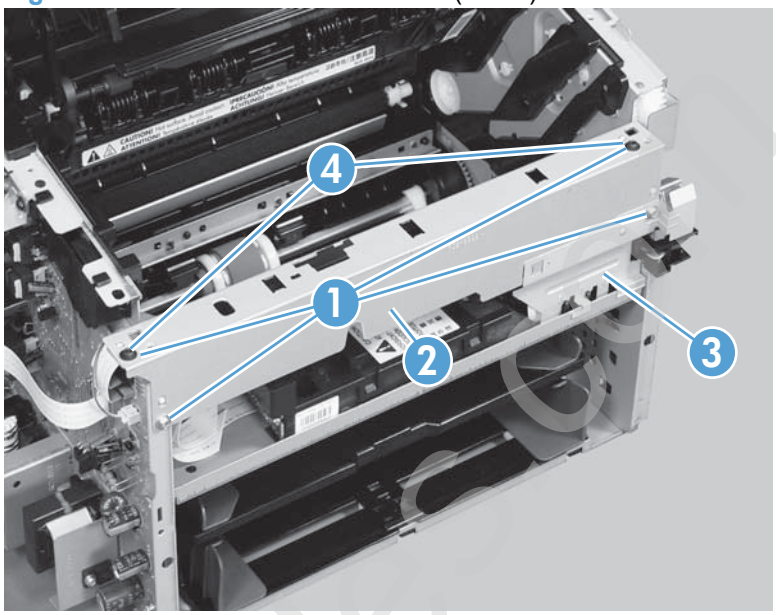


2. Remove four screws (callout 1), the scanner cover (callout 2) and the sheet-metal plate (callout 3).

NOTE: The scanner cover and plate are removed as one assembly.

TIP: When the cover is reinstalled, make sure that the black screws (callout 4) are installed in the correct screw holes.

Figure 2-78 Remove the main motor (2 of 9)

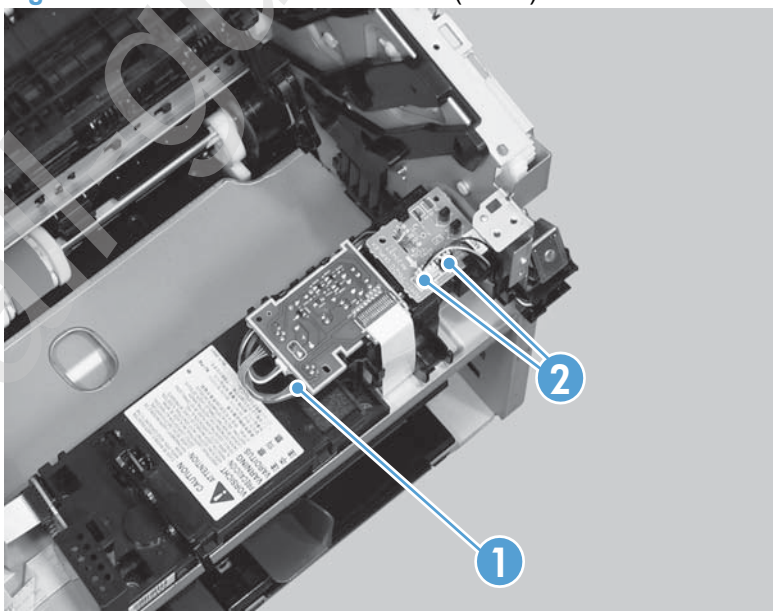


3. **Simplex models only**: Disconnect one connector (callout 1).

   Duplex models only: Disconnect three connectors (callout 1 and callout 2).

NOTE: Simplex models do not have the duplex-connector PCA installed.

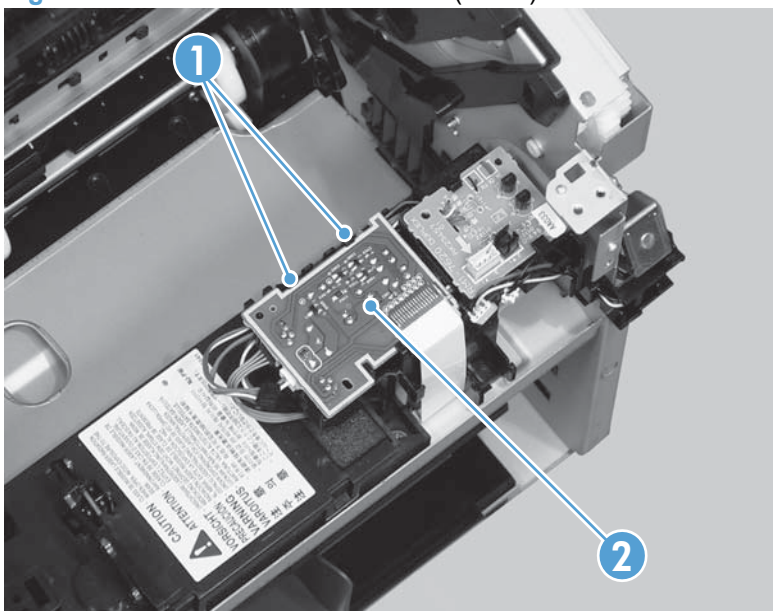
Figure 2-79 Remove the main motor (3 of 9)



4. Release two tabs (callout 1), and then slightly separate the motor driver PCA (callout 2) from the product.

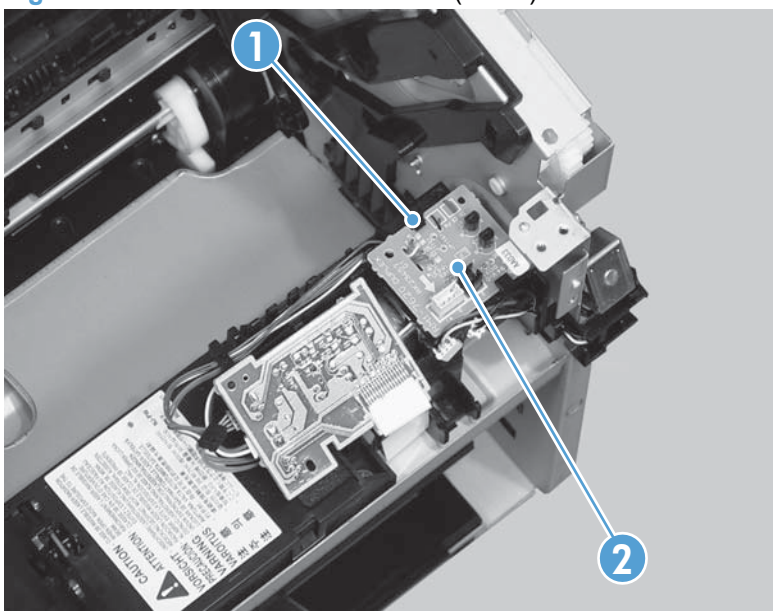
△ **CAUTION:** The motor driver PCA is still connected to the product by the wire harnesses and a FFC.

Figure 2-80 Remove the main motor (4 of 9)



5. **Duplex models only**: Release one tab (callout 1), and then remove the duplex-connector PCA (callout 2).

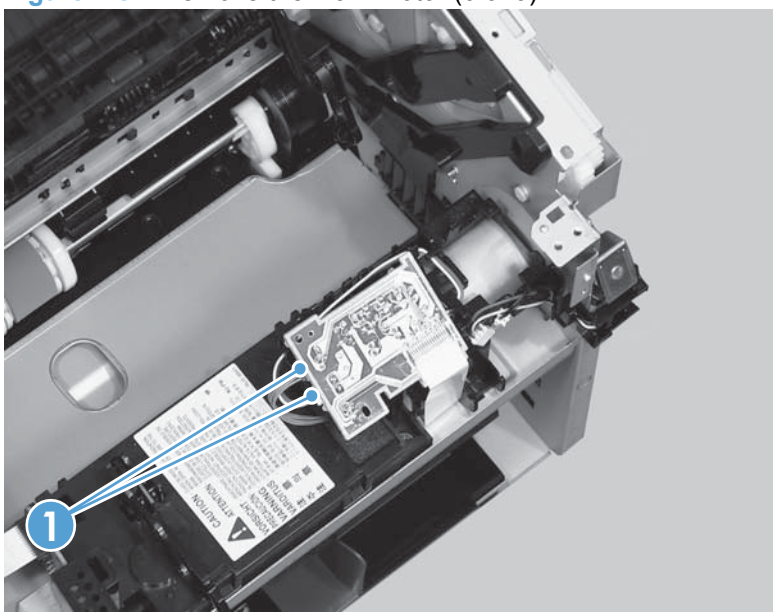
Figure 2-81 Remove the main motor (5 of 9)



6. Disconnect two connectors (callout 1) and carefully set the PCA out of the way.

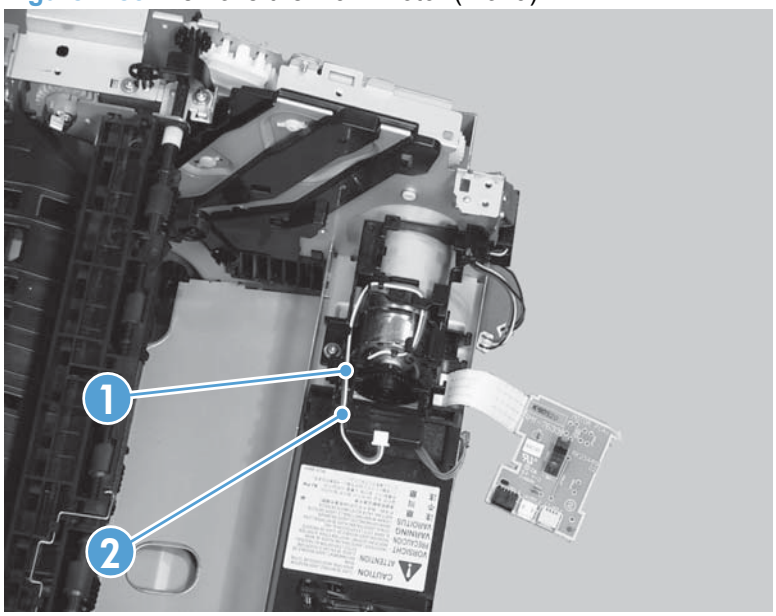
△ **CAUTION:** The motor driver PCA is still connected to the product by the FFC.

Figure 2-82 Remove the main motor (6 of 9)



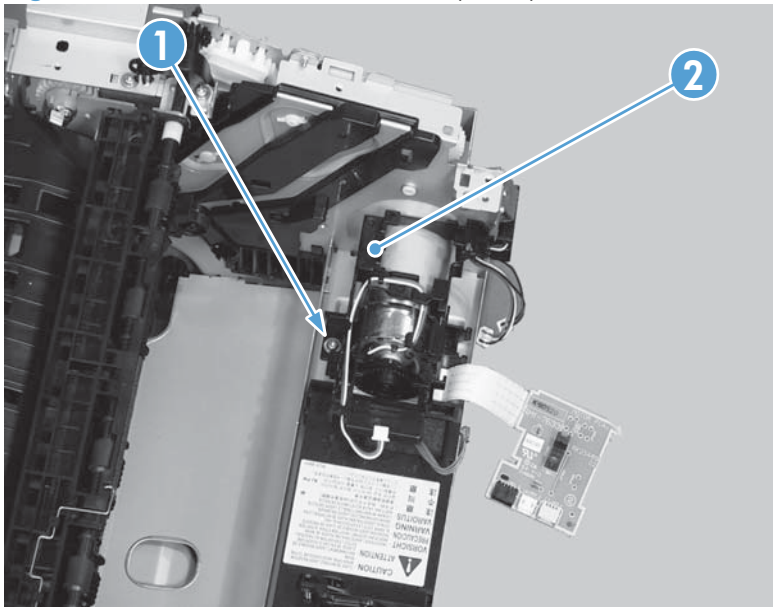
7. Release the wire harness (callout 1) from the guide (callout 2).

Figure 2-83 Remove the main motor (7 of 9)



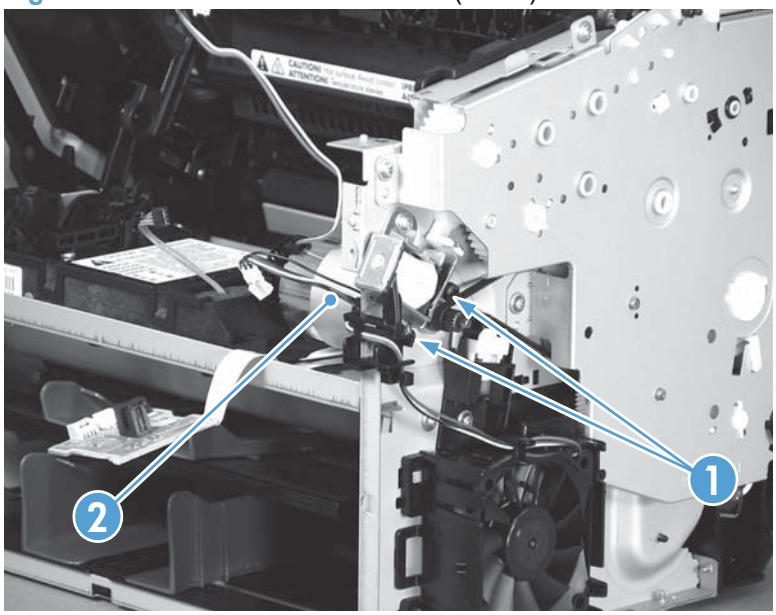
8. Remove one screw (callout 1), and then remove the motor cover (callout 2).

Figure 2-84 Remove the main motor (8 of 9)



9. Remove two screws (callout 1), and then remove the motor (callout 2).

Figure 2-85 Remove the main motor (9 of 9)



Reinstall the main-motor drive belt

- When the main motor is reinstalled, make sure that the drive belt (callout 1) is correctly positioned over the roller (callout 2).

Figure 2-86 Main-motor drive belt: correctly installed

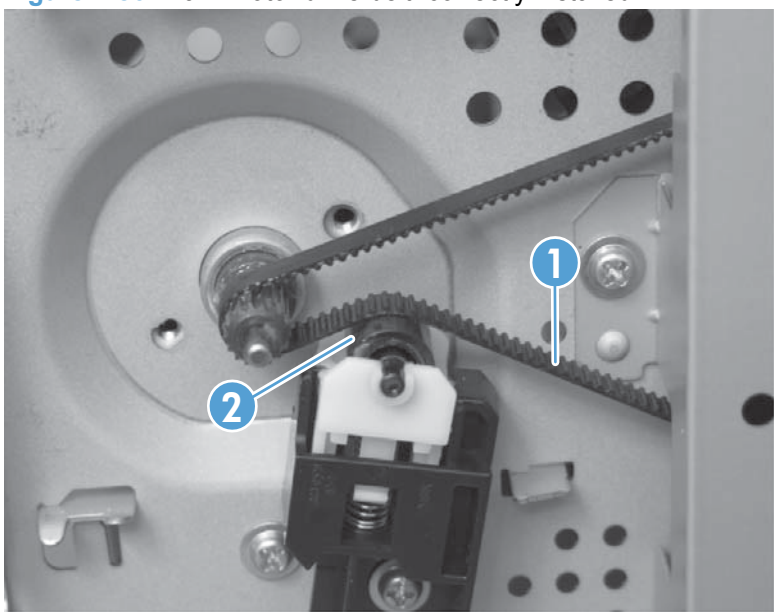
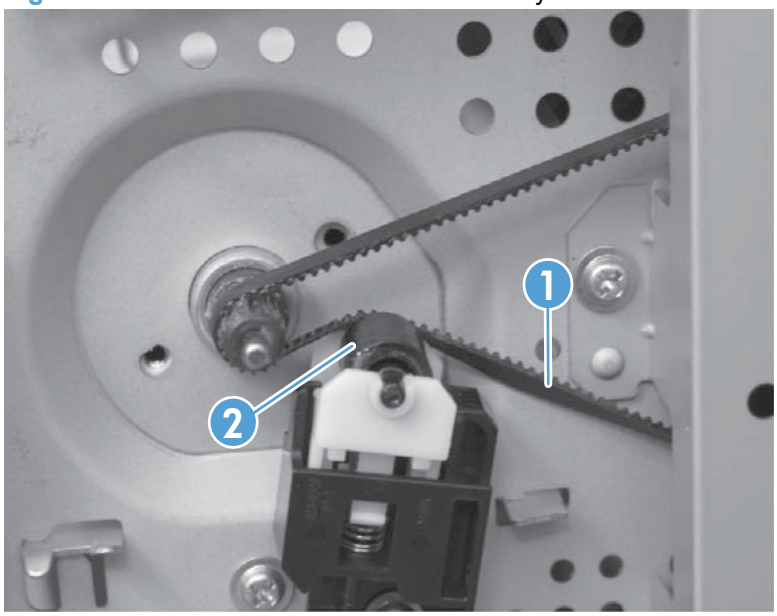


Figure 2-87 Main-motor drive belt: incorrectly installed



Pickup solenoid

Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
- Right cover. See Right cover, simplex product on page 50 or Right cover, duplex product on page 52.
- Duplex frame. See Duplex frame, duplex product on page 56.

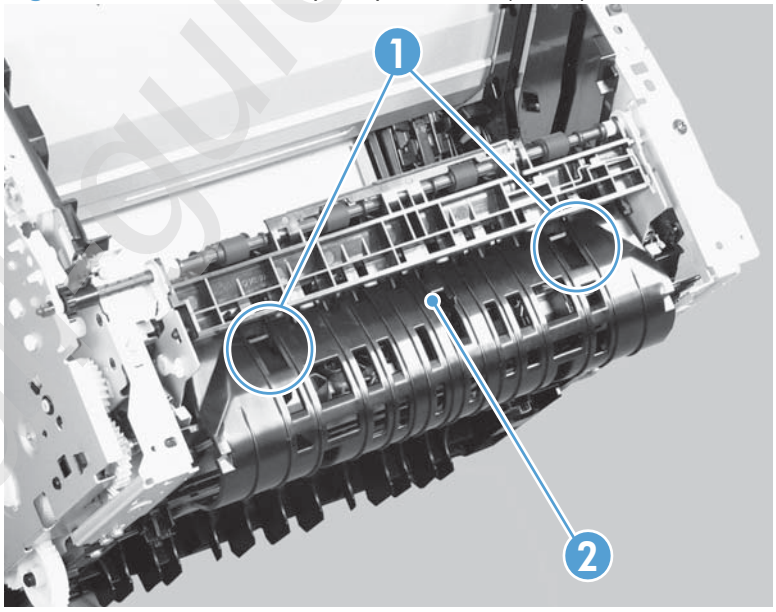
NOTE: Duplex models only.

- Cartridge door. See Cartridge door on page 57
- Control panel. See Control panel on page 59.
- Rear cover or duplex door. See Rear cover, simplex product on page 63 or Duplex door, duplex product on page 55.
- Face-down cover. See Face-down cover on page 65.

Remove the pickup solenoid

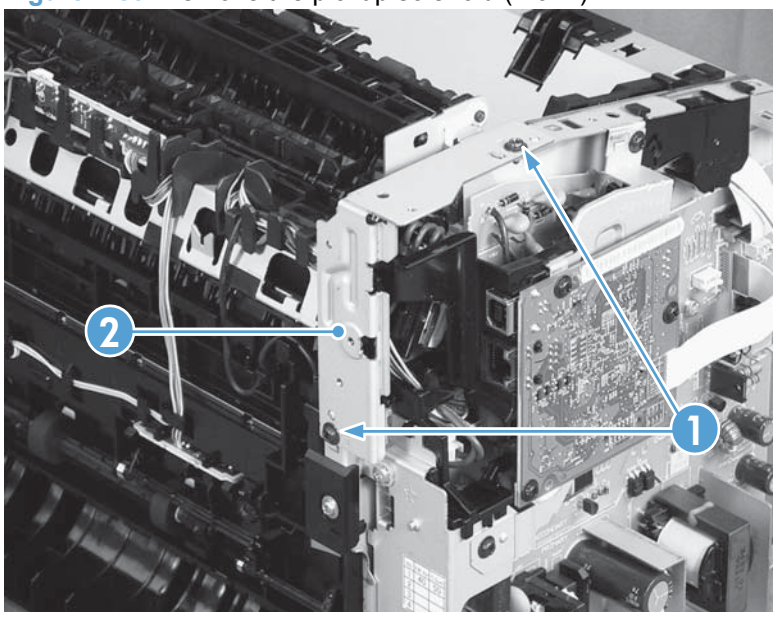
1. **Duplex models only**: Release two tabs (callout 1), and then remove the duplex reverse guide (callout 2).

Figure 2-88 Remove the pickup solenoid (1 of 7)



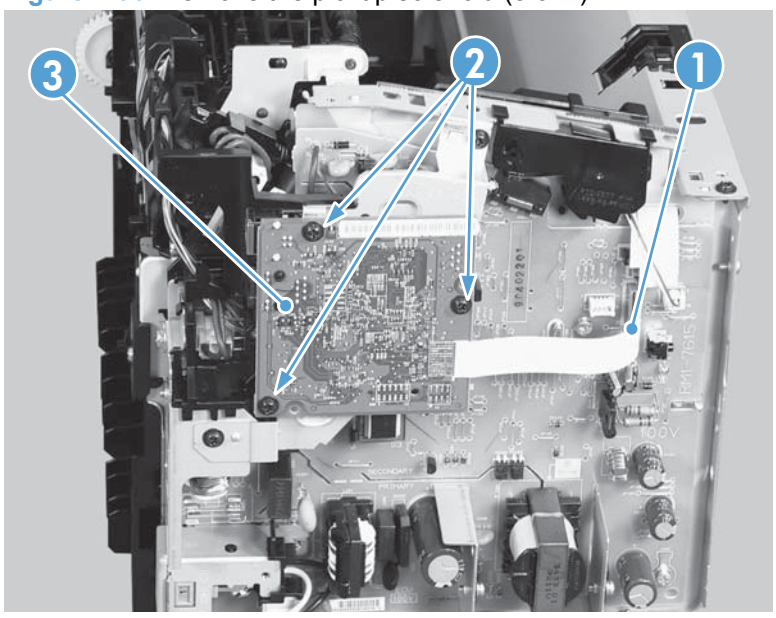
2. Remove two screws (callout 1), and then remove the sheet-metal corner brace (callout 2).

Figure 2-89 Remove the pickup solenoid (2 of 7)



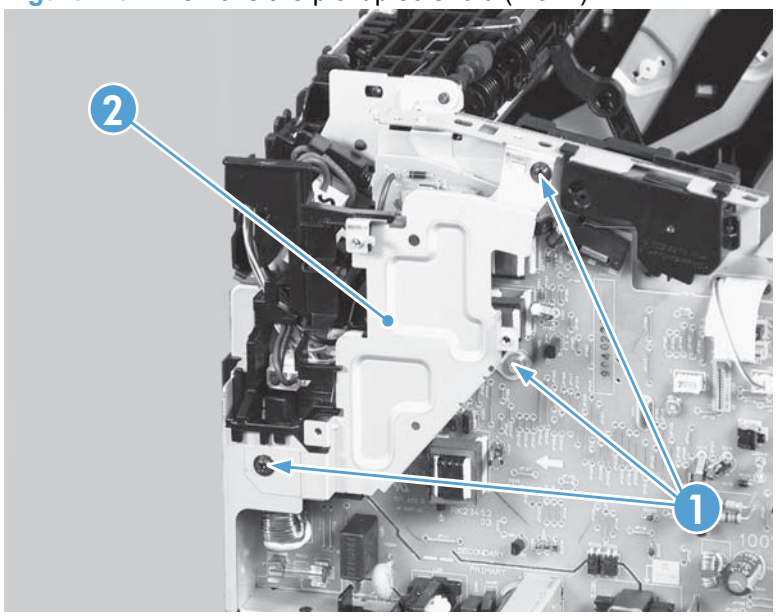
3. Remove one FFC (callout 1), remove three screws (callout 2), and then remove the formatter (callout 3).

Figure 2-90 Remove the pickup solenoid (3 of 7)



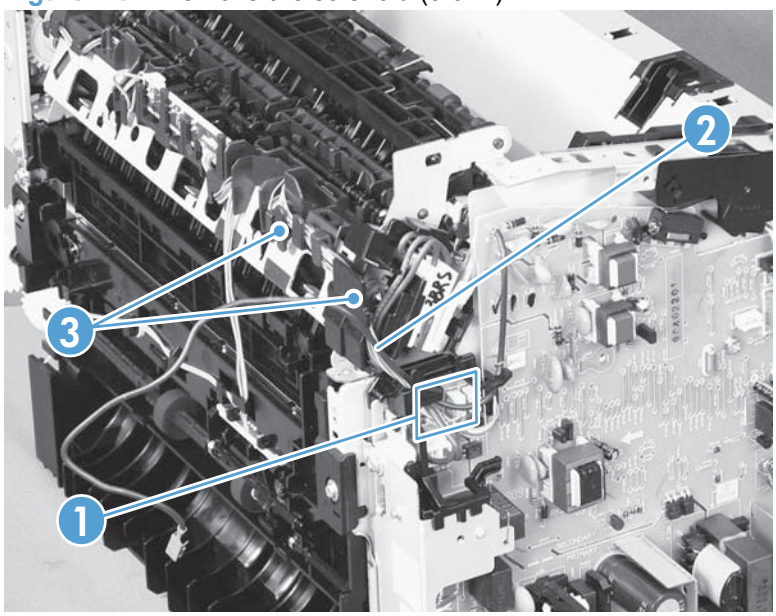
4. Remove three screws (callout 1), and then remove the sheet-metal plate (callout 2).

Figure 2-91 Remove the pickup solenoid (4 of 7)



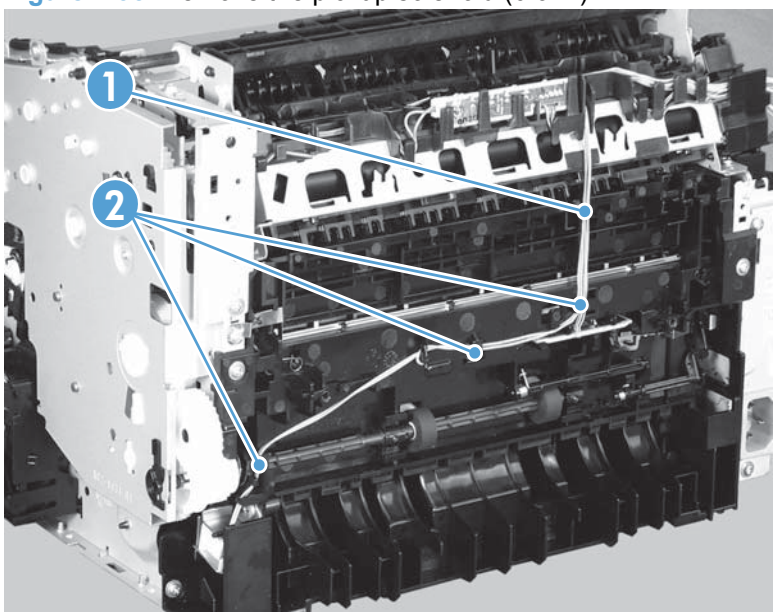
5. Disconnect one connector (callout 1), and then remove the wire harness (callout 2) from the guide (callout 3).

Figure 2-92 Remove the solenoid (5 of 7)



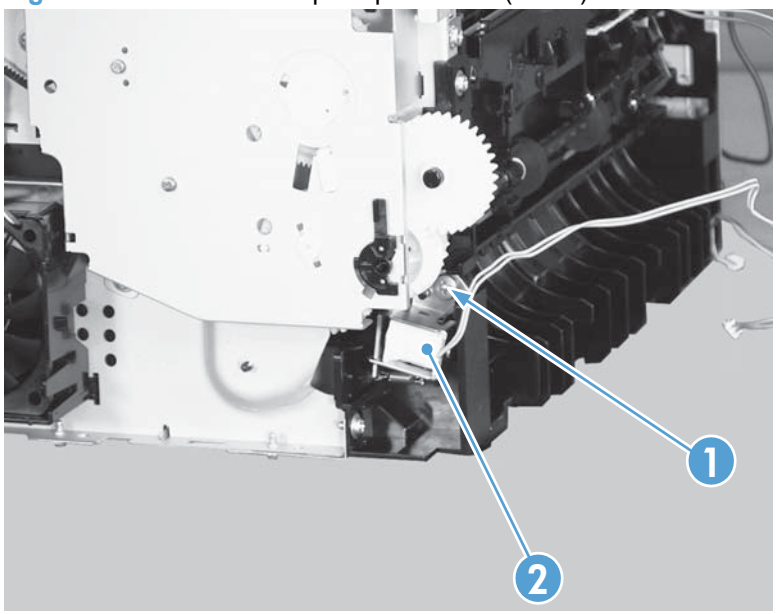
6. Release the wire harness (callout 1) from the guide (callout 2).

Figure 2-93 Remove the pickup solenoid (6 of 7)



7. Remove one screw (callout 1), and then remove the pickup solenoid (callout 2).

Figure 2-94 Remove the pickup solenoid (7 of 7)



Engine controller PCA

Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, simplex product on page 45 or Left cover, duplex product on page 47.
- Right cover. See Right cover, simplex product on page 50 or Right cover, duplex product on page 52.
- Duplex frame. See Duplex frame, duplex product on page 56.

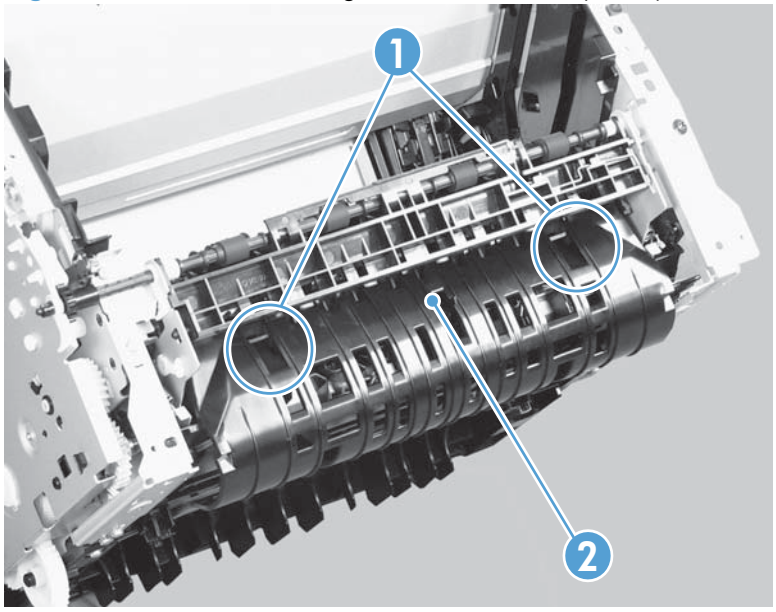
NOTE: Duplex models only.

- Cartridge door. See Cartridge door on page 57
- Rear cover or duplex door. See Rear cover, simplex product on page 63 or Duplex door, duplex product on page 55.
- Control panel. See Control panel on page 59.
- Face-down cover. See Face-down cover on page 65.

Remove the engine controller PCA

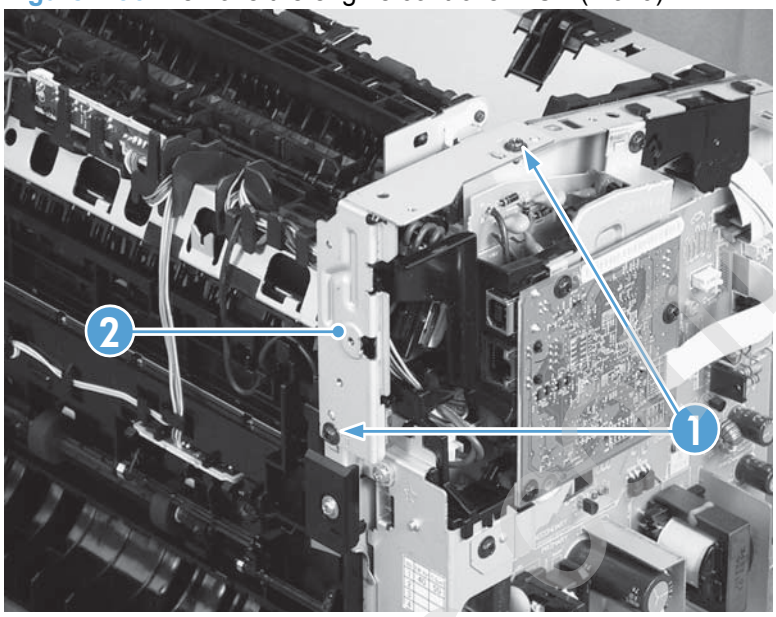
1. **Duplex models only**: Release two tabs (callout 1), and then remove the duplex reverse guide (callout 2).

Figure 2-95 Remove the engine controller PCA (1 of 9)



2. Remove two screws (callout 1), and then remove the sheet-metal corner brace (callout 2).

Figure 2-96 Remove the engine controller PCA (2 of 9)

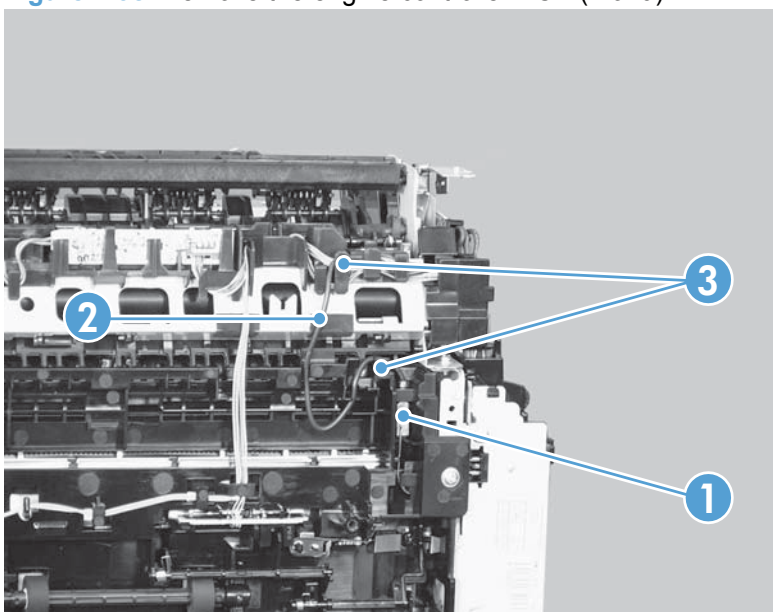


3. Remove three screws (callout 1), and then remove the sheet-metal plate (callout 2).

Figure 2-97 Remove the engine controller PCA (3 of 9)

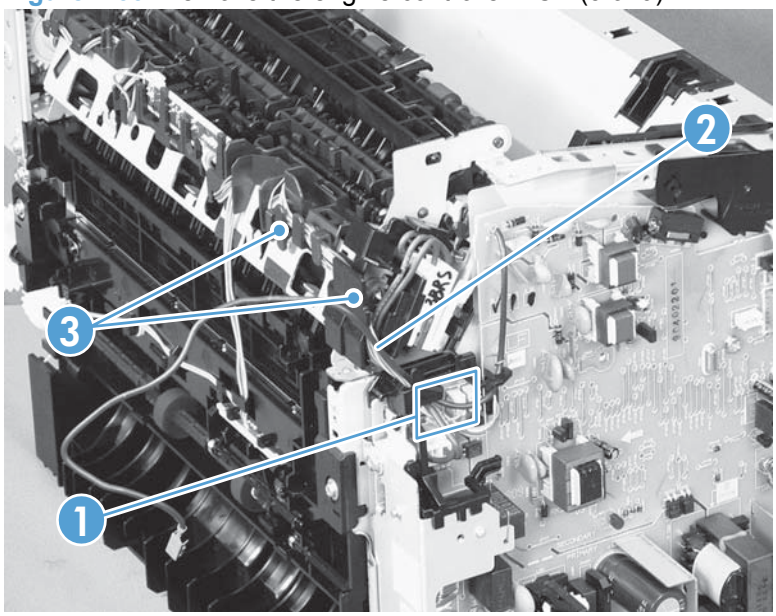
4. Disconnect one connector (callout 1), and then release the wire harness (callout 2) from the guides (callout 3).

Figure 2-98 Remove the engine controller PCA (4 of 9)



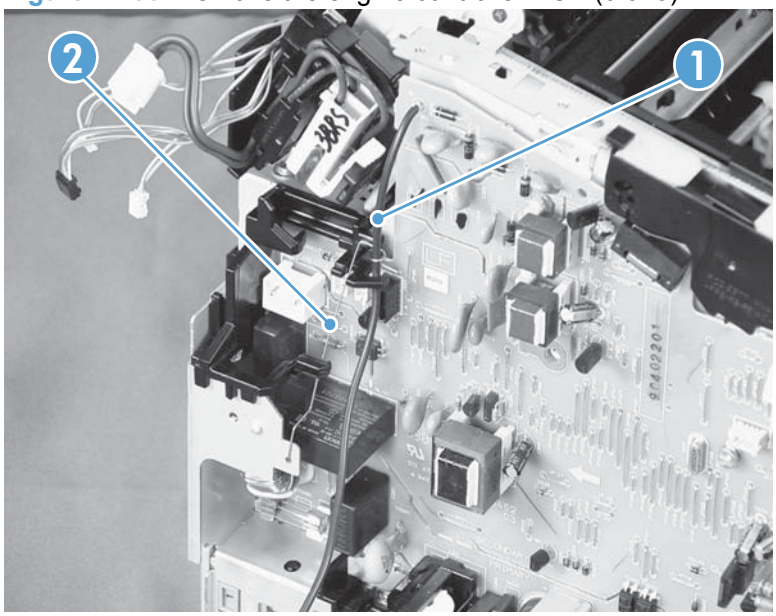
5. Disconnect four connectors (callout 1), and then remove the wire harnesses (callout 2) from the guide (callout 3).

Figure 2-99 Remove the engine controller PCA (5 of 9)



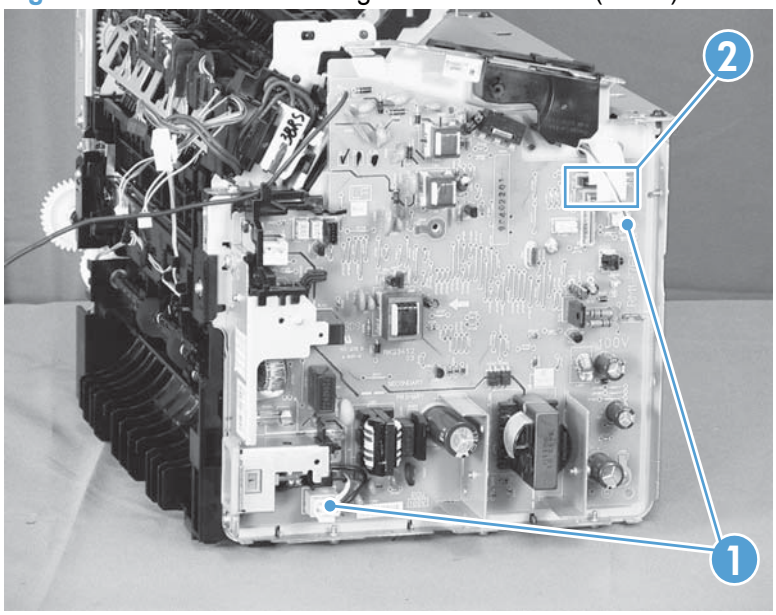
6. Release the wire harness (callout 1) from the ground spring (callout 2).

Figure 2-100 Remove the engine controller PCA (6 of 9)



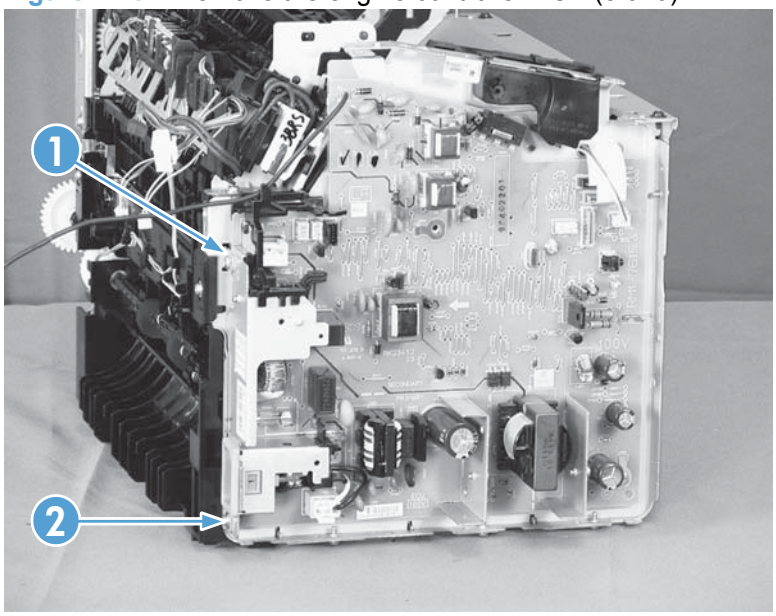
7. Disconnect two connectors (callout 1) and two FFCs (callout 2).

Figure 2-101 Remove the engine controller PCA (7 of 9)



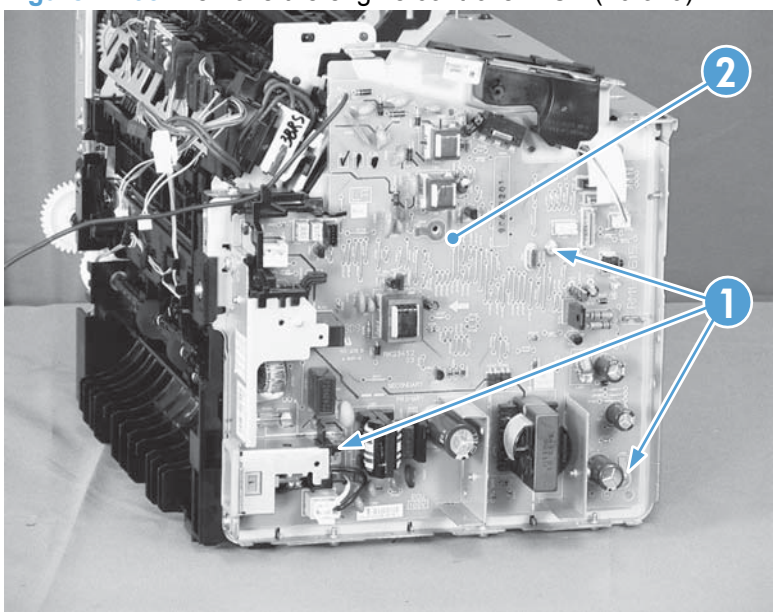
8. Remove one screw with washer (callout 1), and then remove one more screw (callout 2).

Figure 2-102 Remove the engine controller PCA (8 of 9)



9. Remove three screws with washers (callout 1), and then remove the engine controller PCA (callout 2).

Figure 2-103 Remove the engine controller PCA (10 of 9)

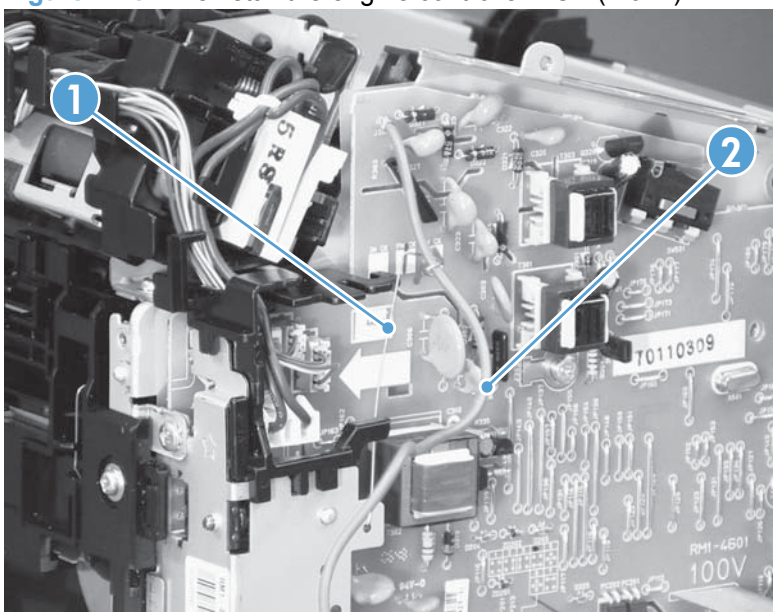


Reinstall the engine controller PCA

NOTE: In addition to following the reverse order of removal, make sure that you complete these steps to correctly install the transfer-wire harness.

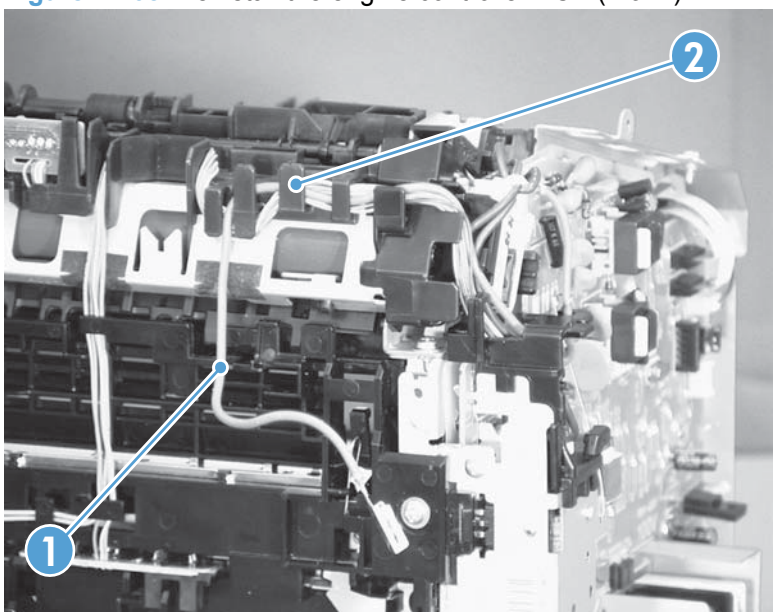
1. Set the ground spring (callout 1) on the transfer-wire harness (callout 2).

Figure 2-104 Reinstall the engine controller PCA (1 of 4)



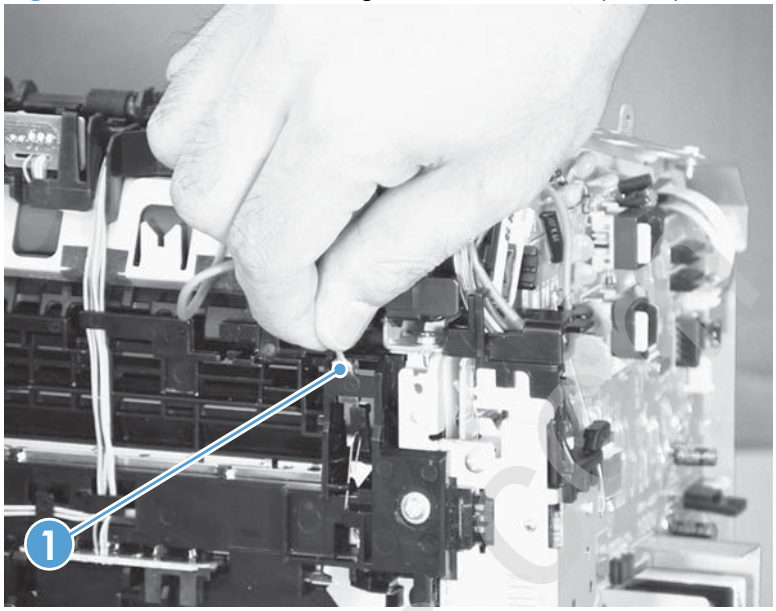
2. Position the transfer-wire harness (callout 1) in the guide (callout 2).

Figure 2-105 Reinstall the engine controller PCA (2 of 4)



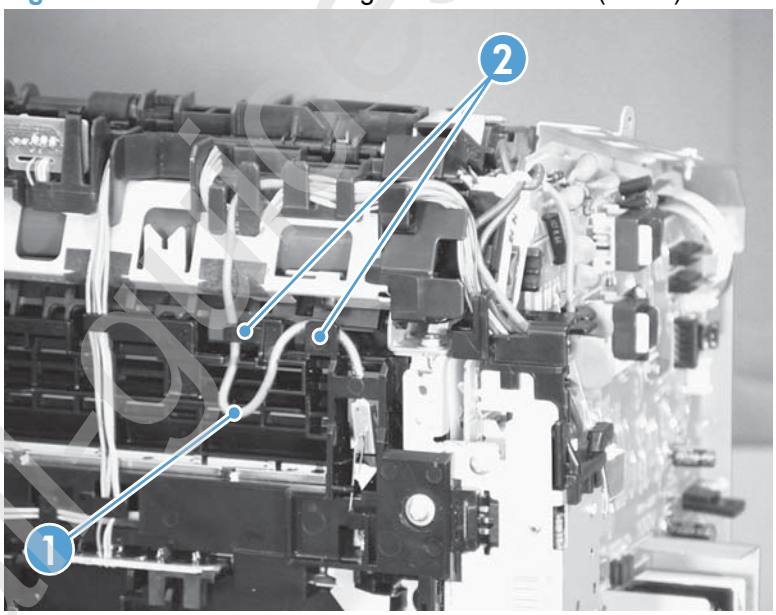
3. Connect one connector (callout 1).

Figure 2-106 Reinstall the engine controller PCA (3 of 4)



4. Position the transfer-wire harness (callout 1) in the guides (callout 2).

Figure 2-107 Reinstall the engine controller PCA (4 of 4)



Duplex-reverse solenoid, duplex product

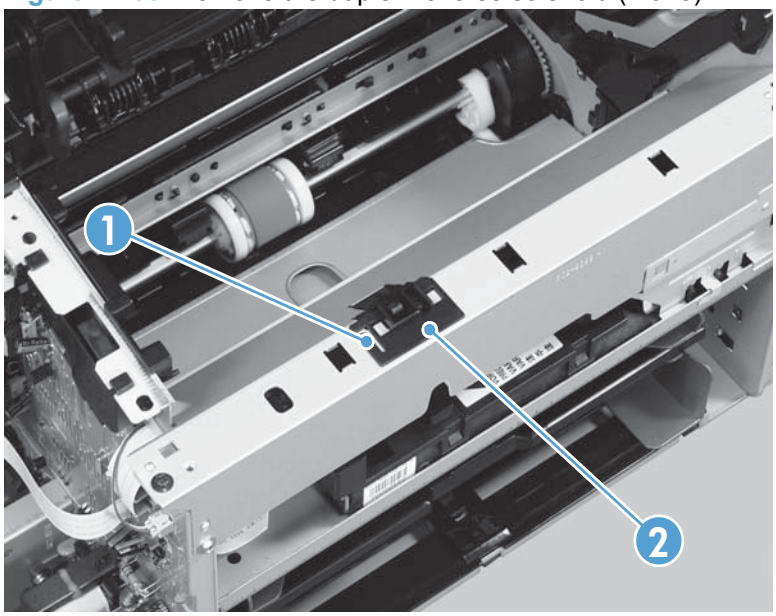
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, duplex product on page 47.
- Right cover. See Right cover, duplex product on page 52.
- Control panel. See Control panel on page 59.
- Front cover. See Front cover on page 61.

Remove the duplex-reverse solenoid

1. Release one tab (callout 1), and then remove the holder (callout 2).

Figure 2-108 Remove the duplex-reverse solenoid (1 of 5)

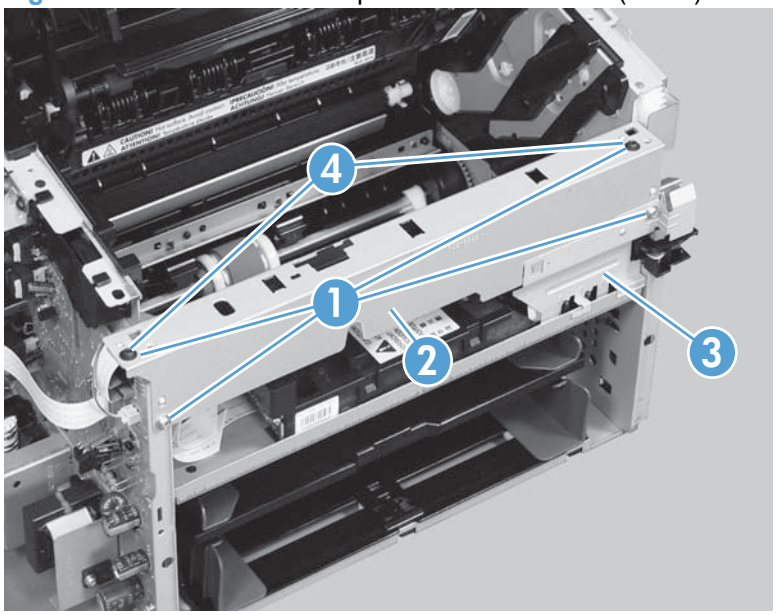


2. Remove four screws (callout 1), the scanner cover (callout 2) and the sheet-metal plate (callout 3).

NOTE: The scanner cover and plate are removed as one assembly.

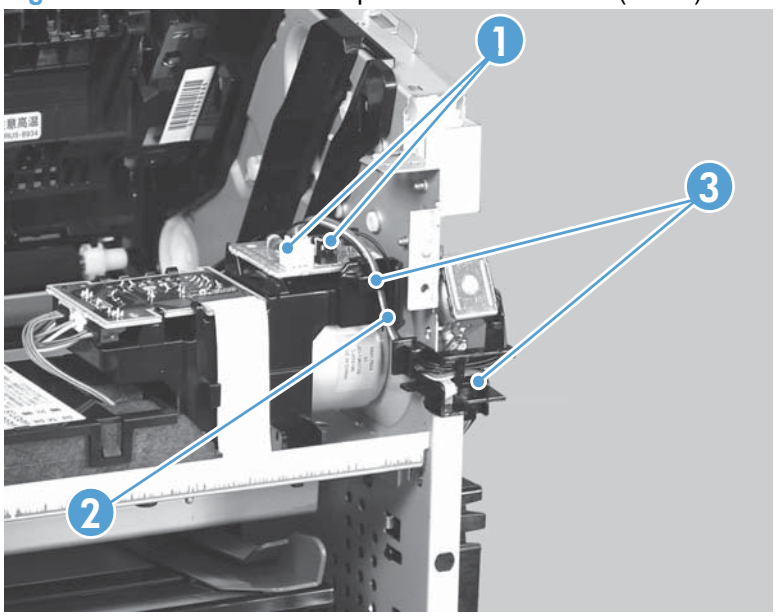
TIP: When the cover is reinstalled, make sure that the black screws (callout 4) are installed in the correct screw holes.

Figure 2-109 Remove the duplex-reverse solenoid (2 of 5)



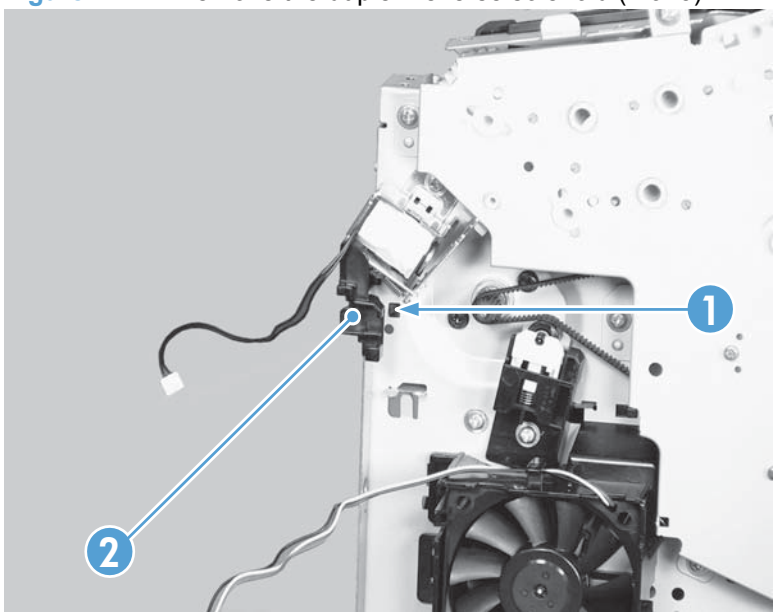
3. Disconnect two connectors (callout 1), and then release the wire harness (callout 2) from the guides (callout 3).

Figure 2-110 Remove the duplex-reverse solenoid (3 of 5)



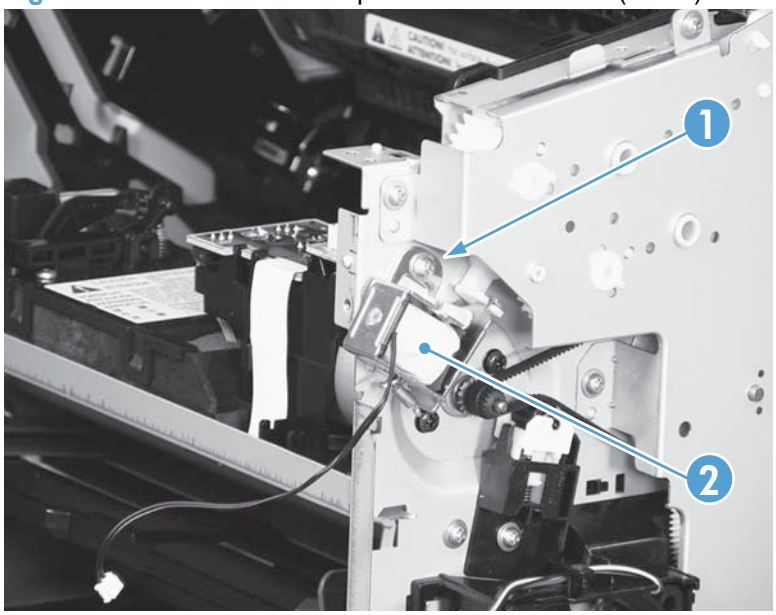
4. Release one tab (callout 1), and then remove the guides (callout 2).

Figure 2-111 Remove the duplex-reverse solenoid (4 of 5)



5. Remove one screw (callout 1), and then remove the duplex-reverse solenoid (callout 2).

Figure 2-112 Remove the duplex-reverse solenoid (5 of 5)



Main fan, duplex product

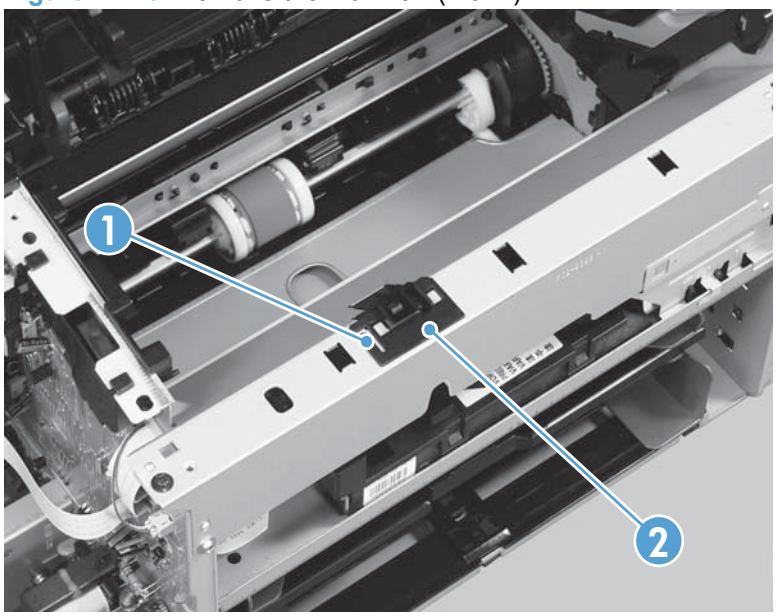
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, duplex product on page 47.
- Right cover. See Right cover, duplex product on page 52.
- Control panel. See Control panel on page 59.
- Front cover. See Front cover on page 61.

Remove the main fan

1. Release one tab (callout 1), and then remove the holder (callout 2).

Figure 2-113 Remove the main fan (1 of 4)

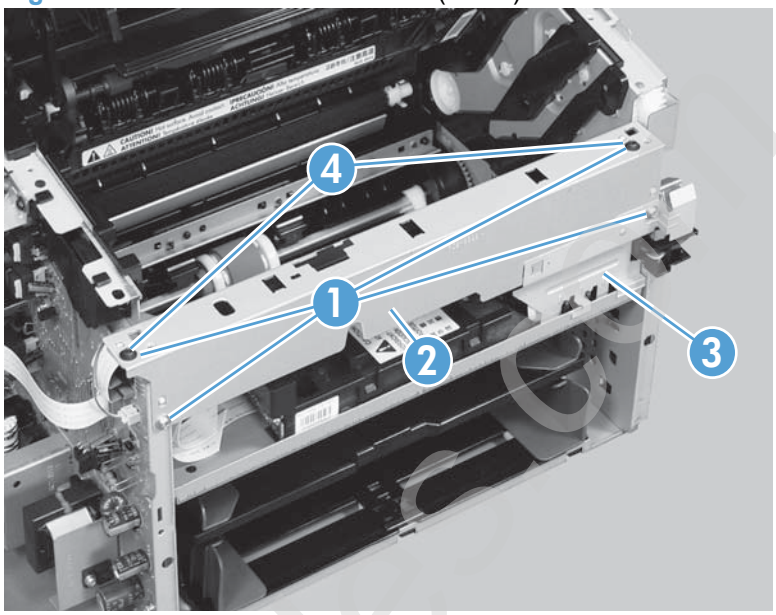


2. Remove four screws (callout 1), the scanner cover (callout 2) and the sheet-metal plate (callout 3).

NOTE: The scanner cover and plate are removed as one assembly.

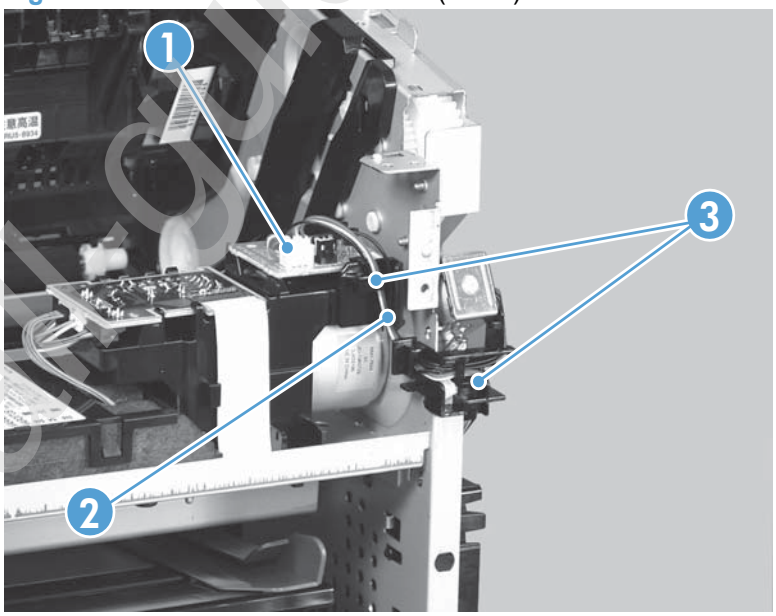
TIP: When the cover is reinstalled, make sure that the black screws (callout 4) are installed in the correct screw holes.

Figure 2-114 Remove the main fan (2 of 4)



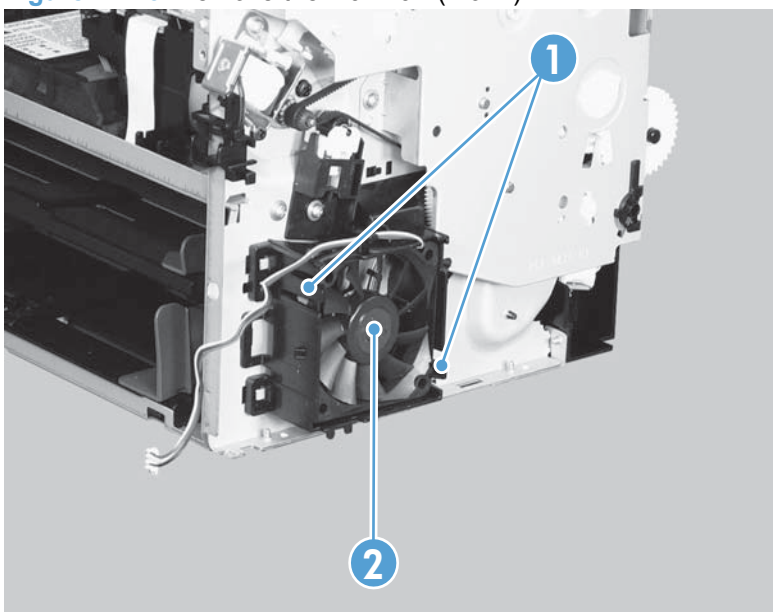
3. Disconnect one connector (callout 1), and then release the wire harness (callout 2) from the guides (callout 3).

Figure 2-115 Remove the main fan (3 of 4)



4. Release two tabs (callout 1), and then remove the main fan (callout 2).

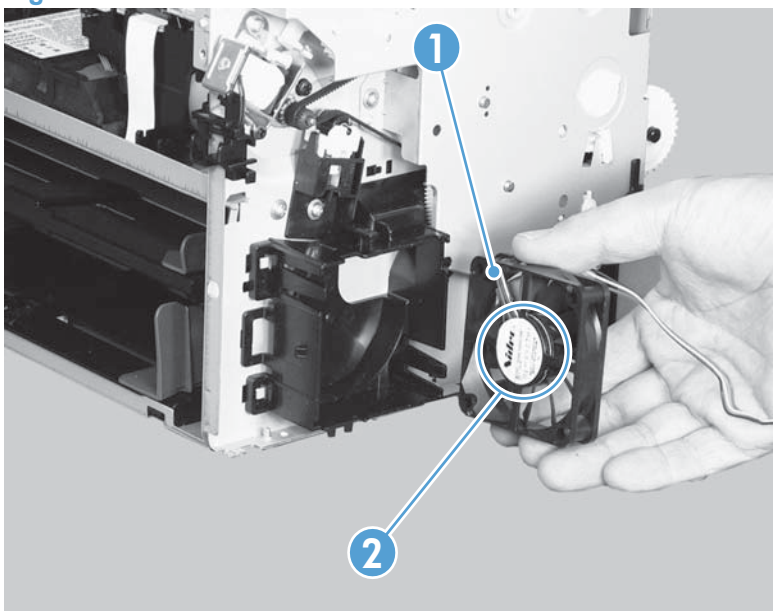
Figure 2-116 Remove the main fan (4 of 4)



Reinstall the main fan

When the main fan is reinstalled, make sure that the wire harness (callout 1) is correctly positioned, and that the label (callout 2) on the fan faces the inside of the product.

Figure 2-117 Reinstall the main fan



Duplex-connector PCA, duplex product

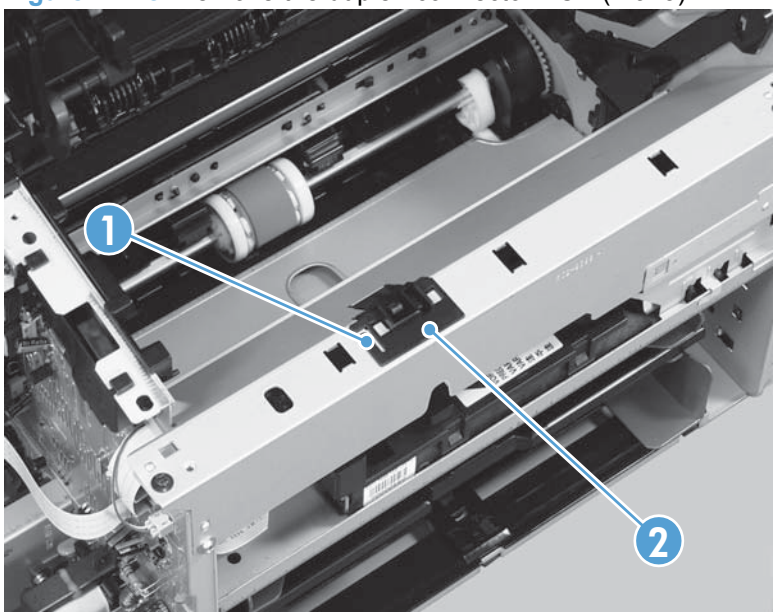
Before proceeding, remove the following components:

- Main-input tray. See Main-input tray on page 43.
- Output bin tray extension. See Output bin tray extension on page 44.
- Left cover. See Left cover, duplex product on page 47.
- Right cover. See Right cover, duplex product on page 52.
- Control panel. See Control panel on page 59.
- Front cover. See Front cover on page 61.

Remove the duplex-connector PCA

1. Release one tab (callout 1), and then remove the holder (callout 2).

Figure 2-118 Remove the duplex-connector PCA (1 of 5)

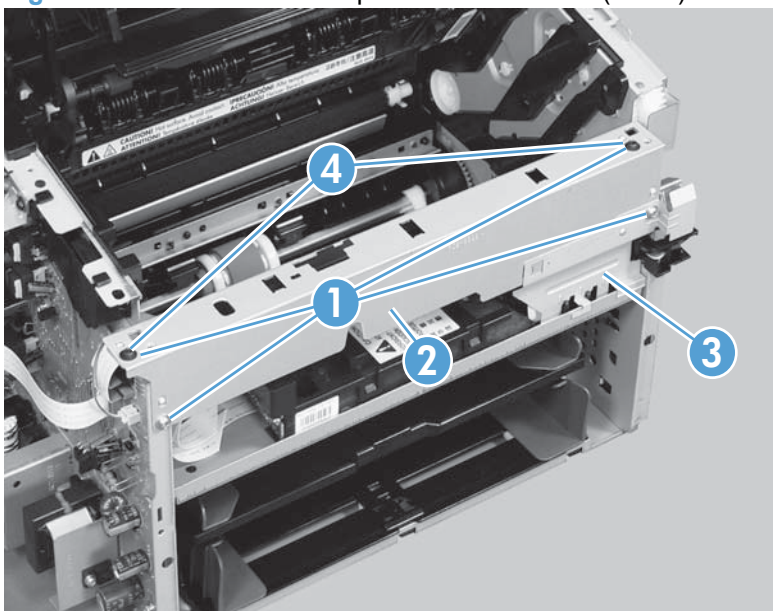


2. Remove four screws (callout 1), the scanner cover (callout 2) and the sheet-metal plate (callout 3).

NOTE: The scanner cover and plate are removed as one assembly.

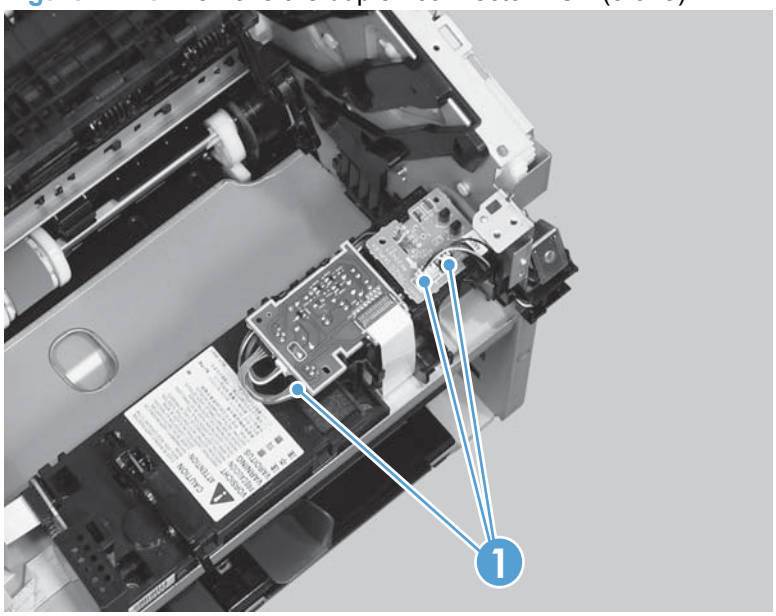
TIP: When the cover is reinstalled, make sure that the black screws (callout 4) are installed in the correct screw holes.

Figure 2-119 Remove the duplex-connector PCA (2 of 5)



3. Disconnect three connectors (callout 1)

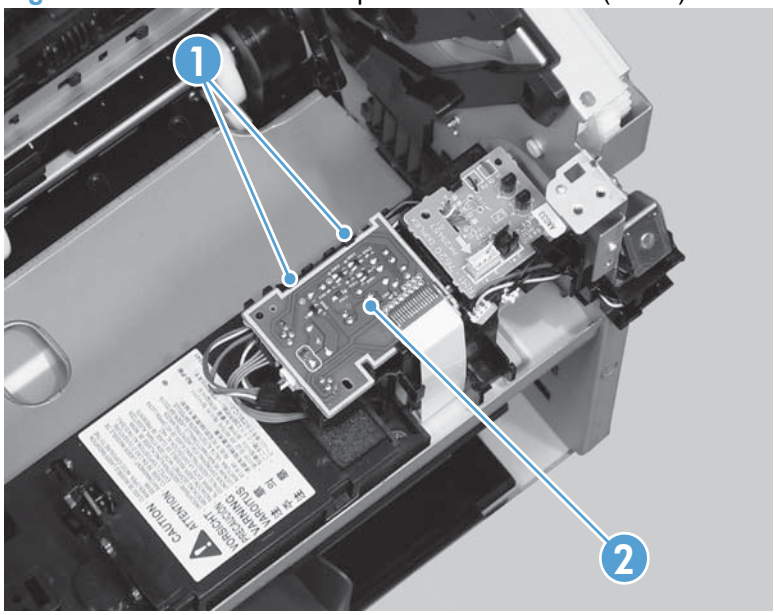
Figure 2-120 Remove the duplex-connector PCA (3 of 5)



4. Release two tabs (callout 1), and then slightly separate the motor driver PCA (callout 2) from the product.

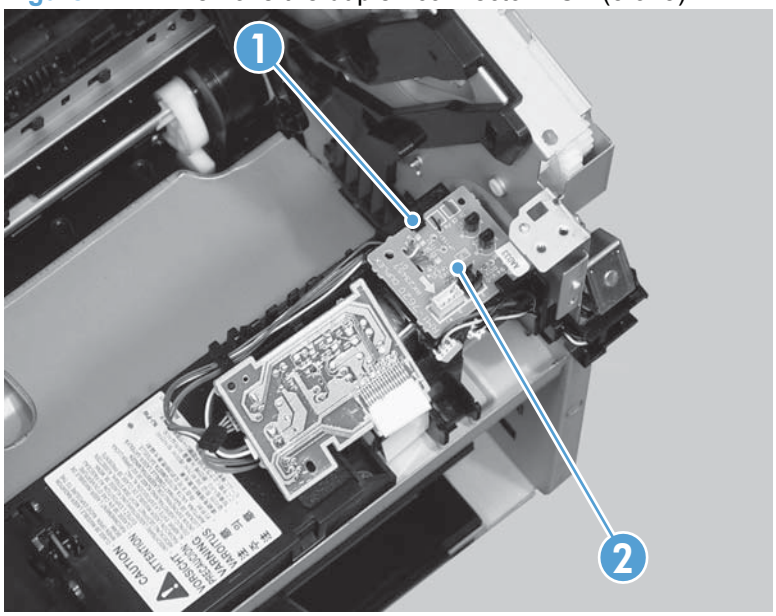
△ **CAUTION:** The motor driver PCA is still connected to the product by the wire harnesses and a FFC.

Figure 2-121 Remove the duplex-connector PCA (4 of 5)



5. Release one tab (callout 1), and then remove the duplex-connector PCA (callout 2).

Figure 2-122 Remove the duplex-connector PCA (5 of 5)



3 Solve problems

Solve problems checklist

Table 3-1 Basic problem solving

Problem	Cause	Solution
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 product does not turn on.	No power to the product.	1. Verify that the power switch is turned on. 2. Verify that the power cable is correctly plugged into the outlet and the product. 3. Verify that the power outlet has the correct voltage.
	The formatter is defective.	Replace the formatter. See Formatter PCA on page 67.
	The engine controller PCA is defective.	Replace the engine controller PCA. See Engine controller PCA on page 97.
When turned on, the LEDs on the control panel light up, but the main motor does not rotate. The product turns on, but the motor does not rotate.	The print-cartridge door is open.	Close the print-cartridge door.
	A page is jammed in the paper path.	Clear all paper from the paper path, and make sure that all sensors are working correctly.
	The cable is not connected correctly.	Reconnect the motor cable.
	The motor is not mounted correctly in the product chassis.	Verify that the motor is connected correctly and that it rotates freely.
	The engine controller is defective.	Replace the engine controller PCA. See Engine controller PCA on page 97.
	The main motor is defective.	Replace the motor. See Main motor on page 87.
The product turns on and the motor rotates, but none of the control-panel lights turn on and the control-panel buttons are unresponsive. The product is unresponsive.	The formatter is defective.	Replace the formatter. See Formatter PCA on page 67 .
The product is on, but the control-panel lights indicate that the product is not in the "ready" state. The product is not "ready."	The product 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.

Table 3-1 Basic problem solving (continued)

Problem	Cause	Solution
The product turns on, the motor rotates, and the control panel indicates the "ready" state, but the product does not print. The product does not print.	A component is defective.	**Perform an engine test to verify print-engine components.** 1. Print an engine test page. See Engine-test button on page 118. 2. If the engine test page does not print, check all the connectors on the engine controller PCA, and reconnect any cables that are connected incorrectly. 3. If, after checking the connectors, the error persists, replace the engine controller PCA. See Engine controller PCA on page 97.
	The formatter is defective.	Print a demo page. Select **Demo Page** from the **Print Information Pages** drop-down on the **Services** tab in the printer driver. If the Demo page does not print, replace the formatter. See Formatter PCA on page 67.
The product prints the engine test or a configuration page, but does not print jobs from a computer. The product does not print from a computer.	The cable is not connected correctly.	Reconnect the cable. Try using a new USB cable that is 3 m (10 ft) or less in length.
	An incorrect driver is selected.	Select the correct printer driver.
	The printer driver is not installed correctly.	Remove and then reinstall the product software. Make sure that you use the correct procedure and port setting.
	Other devices are connected to the product (for example, through a switch or hub) that are interfering with the computer-product 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. See Formatter PCA on page 67 .

Troubleshooting process

Determine the problem source

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

General topic	Questions
Environment	• Is the product installed on a solid, level surface (± 1°)? • Is the power-supply voltage within ± 10 volts of the specified power source? • Is the power-supply plug inserted in the product and the outlet? • Is the operating environment within the specified parameters? • Is the product exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials? **NOTE:** Diazo copiers produce ammonia gas as part of the coping processes. Ammonia gas (from cleaning supplies or a diazo copier) can have an adverse affect on some product components (for example, the print-cartridge OPC). • Is the product exposed to direct sunlight?
Paper	• Does the customer use only supported paper? • Is the paper in good condition (no curls, folds, or distortion)? • Is the paper stored correctly and within environmental limits?
Input trays	• Is the amount of paper in the tray within specifications? • Is the paper correctly placed in the tray? • Are the paper guides aligned with the stack?
Print cartridge	• Is the print cartridge installed correctly?
Transfer roller and fuser	• Are the transfer roller and fuser installed correctly?
Print-cartridge door and duplex door (duplex models only)	• Is the print-cartridge or duplex door closed?
Condensation	• Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe affected parts dry or leave the product on for 10 to 20 minutes. • Was a print cartridge opened soon after being moved from a cold to a warm room? If so, allow the print cartridge to sit at room temperature for 1 to 2 hours.
Miscellaneous	• Check for and remove any non-HP components (for example, a print cartridge) from the product. • Remove the product from the network and make sure that the failure is with the product before beginning troubleshooting.

Power subsystem

Power-on checks

Turn on the power. If the control-panel LEDs do not illuminate, perform the power-on checks to find the cause of the problem.

1. Verify that the product is plugged into an active electrical outlet that delivers the correct voltage.
2. Verify that the power switch is in the on position.
3. Make sure that the product makes the expected start-up sounds.

NOTE: The overcurrent/overvoltage protection circuit in the low-voltage power supply unit might be functioning. Turn the product off, unplug the power cord, and turn the product on. If the product does not function, the fuse melts, or the power supply is malfunctioning, replace the engine controller unit. See Engine controller PCA on page 97.

Tools for troubleshooting

Individual component diagnostics

Engine diagnostics

Printing test pages helps you determine whether or not the product engine and the formatter are functioning. If the formatter is damaged, it might interfere with the engine test. If the engine-test page does not print, try removing the formatter and then performing the engine test again. If the engine test is then successful, the problem is almost certainly with the formatter.

NOTE: Information pages also can be used to solve product issues. For information about printing information pages, see the product user guide.

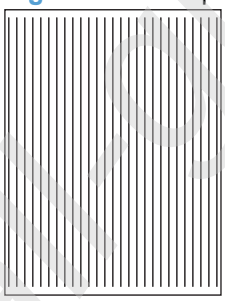
Engine-test button

NOTE: The product has a firmware engine-test button that is activated by opening and closing the print-cartridge door in a specific pattern.

HP LaserJet Professional P1560 Printer series

1. Make sure that paper is correctly loaded in the tray.
2. Make sure that the output bin tray extension is in the open position.
3. Turn the product on. Wait for the product to reach the ready state.
4. Open, and then close the print-cartridge door six times at an interval of about two seconds to start the engine-test.
5. If the engine test is successful, an engine-test page prints with a series of vertical lines across the page.

Figure 3-1 Sample engine test page



HP LaserJet Professional P1600 Printer series

1. Make sure that paper is correctly loaded in the tray.
2. Make sure that the output bin tray extension is in the open position.
3. Turn the product on. Wait for the product to reach the ready state.
4. Open, and then close the print-cartridge door five times at an interval of about two seconds to activate the internal engine-test button.
5. If the engine test is successful, an engine-test page prints with a series of vertical lines across the page.

Components tests

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. Replace 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.

Half self-test functional check

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

1. Print a Configuration page.
2. Open the print-cartridge-door after the paper advances halfway through the product (about 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.

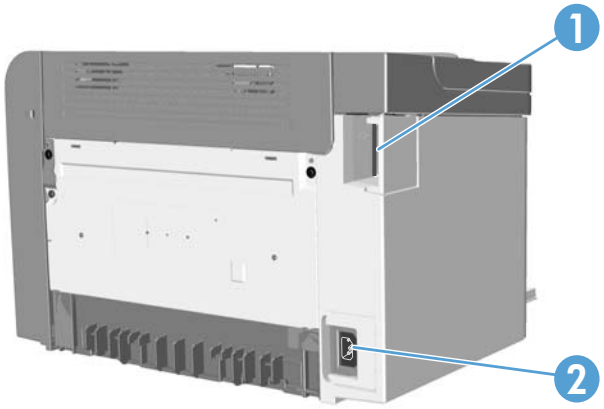
If there is no image on the photosensitive drum, perform these checks:

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 make sure that the drum is rotating.
3. Make sure that the high-voltage contacts are clean and not damaged.

Diagrams

Plug/jack locations

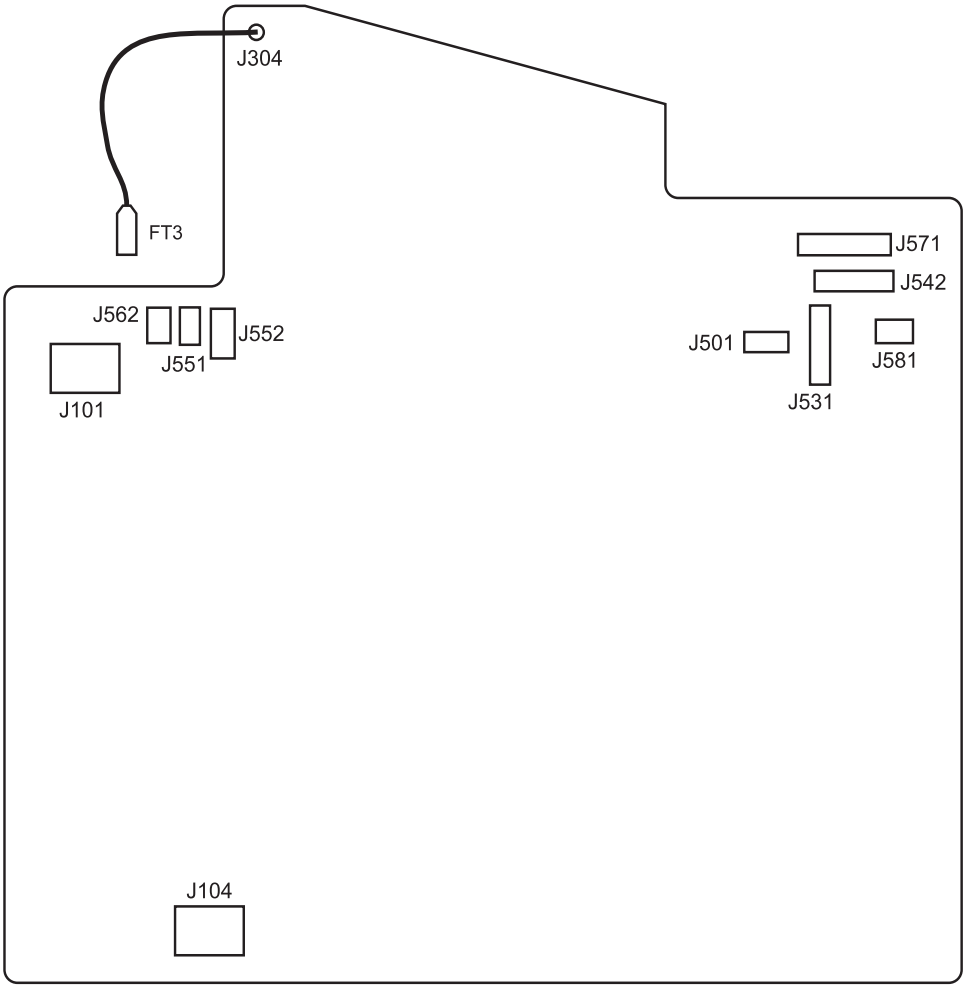
Figure 3-2 Plug/jack locations



Item	Description
1	USB port HP internal network port (HP LaserJet Professional P1600 Printer series)
2	Power connector

Location of connectors

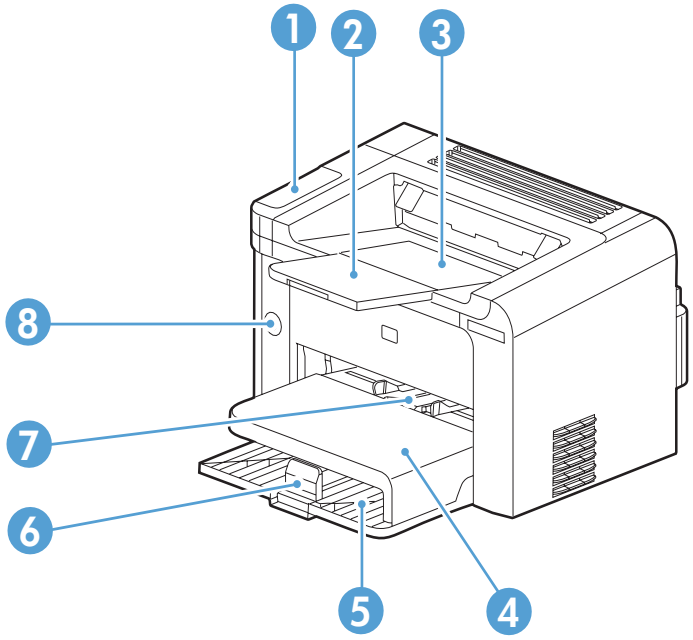
Figure 3-3 Engine controller PCA connectors



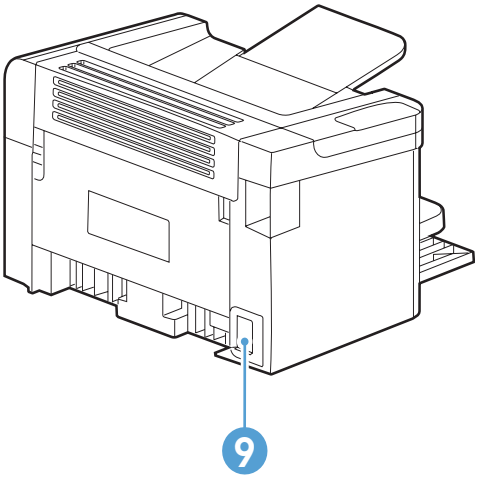
Item	Description	Item	Description
J101	Fuser	J551	Top sensor PCA
J104	Power inlet	J552	Paper-pickup PCA
J304	High voltage	J562	Pickup solenoid
J501	Test point	J571	Motor drive PCA
J531	Formatter	J581	Cartridge memory tag
J542	Laser/scanner		

Locations of major components

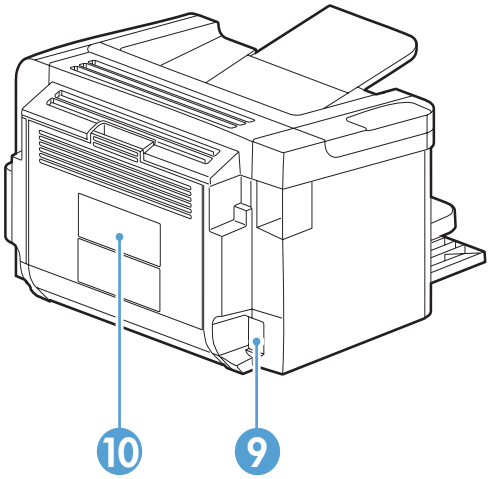
Figure 3-4 External view



Simplex model



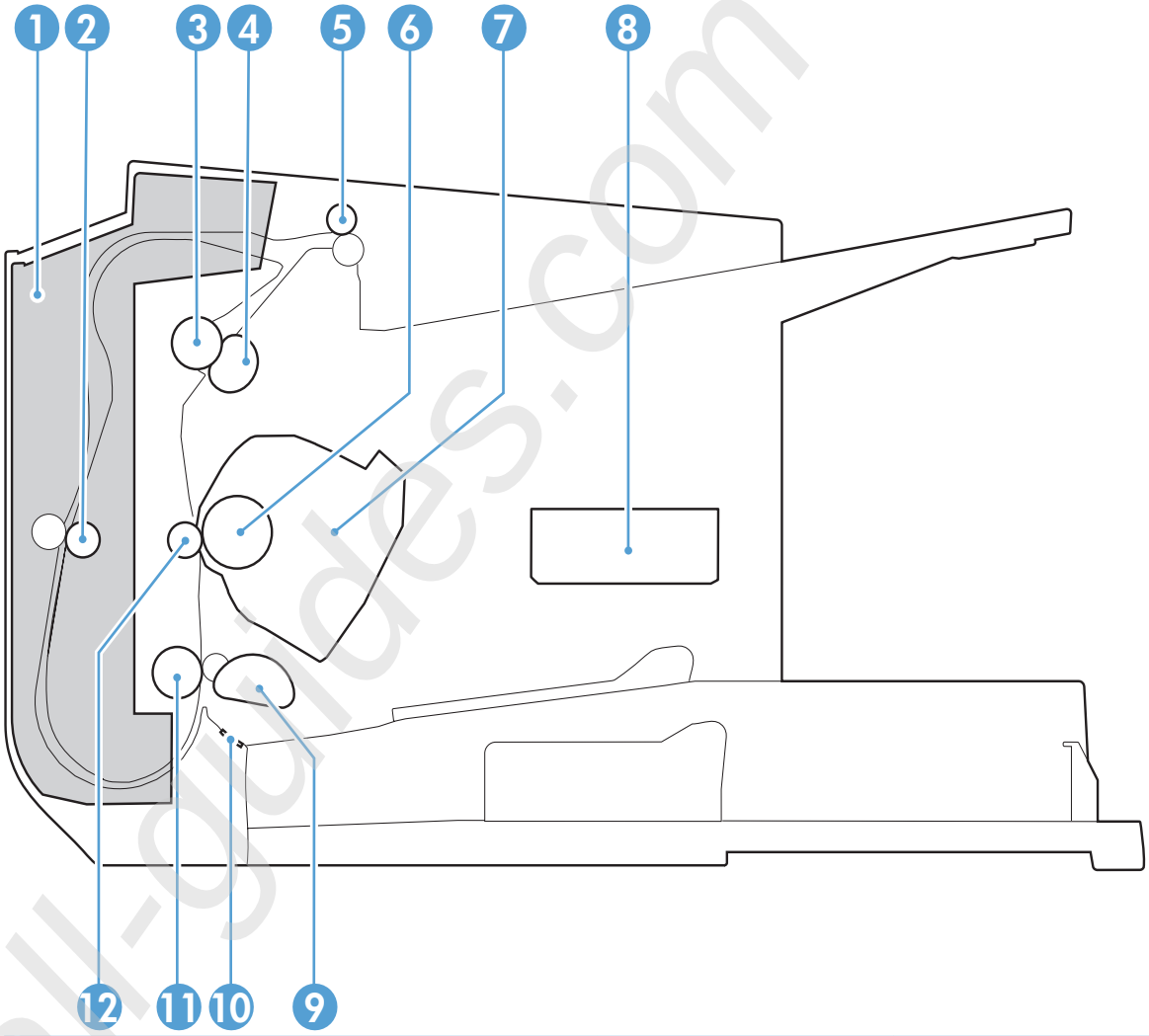
Duplex model



Item	Description	Item	Description
1	Control panel	6	Media-end plate
2	Output bin tray extension	7	Priority input slot
3	Output bin tray (face-down tray)	8	Power switch

Item	Description	Item	Description
4	Dust cover	9	Power receptacle
5	Main-input tray	10	Duplex door **NOTE:** Duplex models only.

Figure 3-5 Cross section view

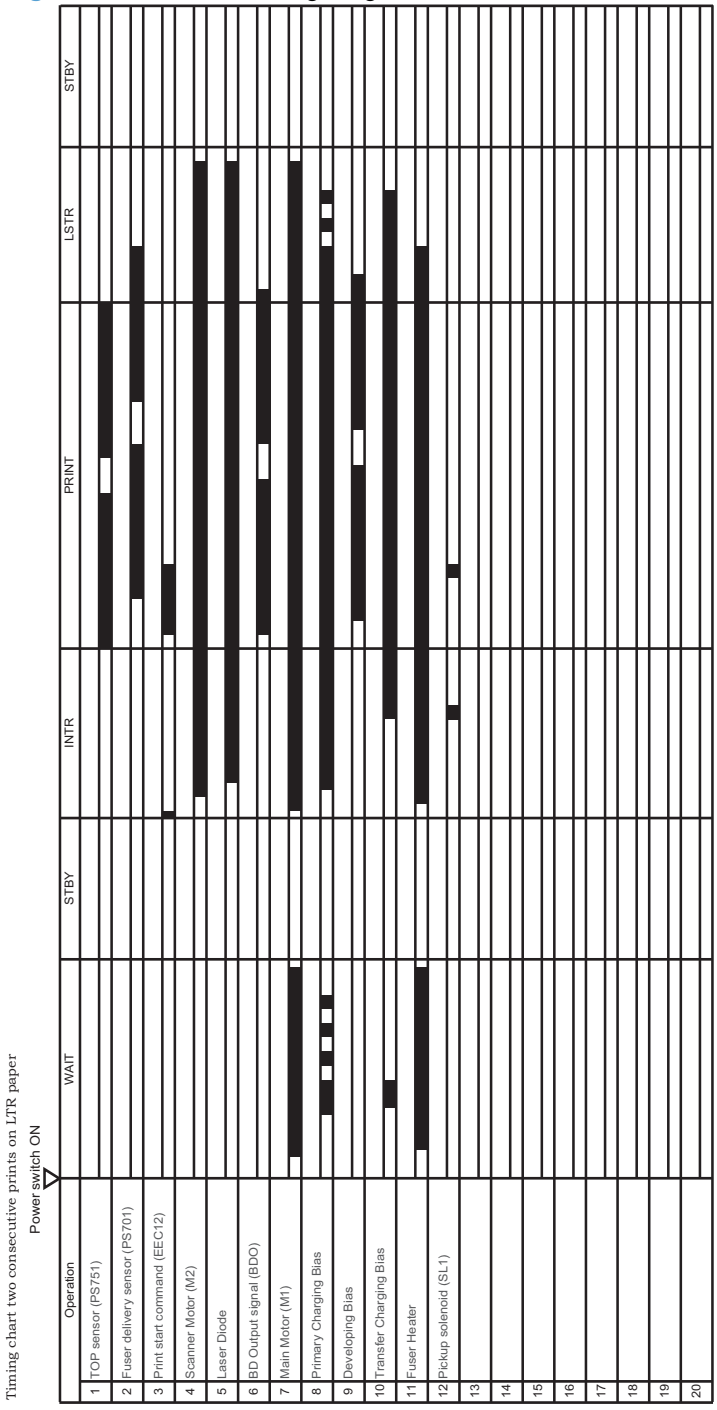


Item	Description	Item	Description
1	Duplex feed assembly **NOTE:** Duplex models only.	7	Print cartridge
2	Duplex feed roller **NOTE:** Duplex models only.	8	Laser/scanner
3	Pressure roller	9	Pickup roller
4	Fuser film assembly	10	Separation pad

Item	Description	Item	Description
5	Delivery roller	11	Feed roller
6	Photo sensitive drum	12	Transfer roller

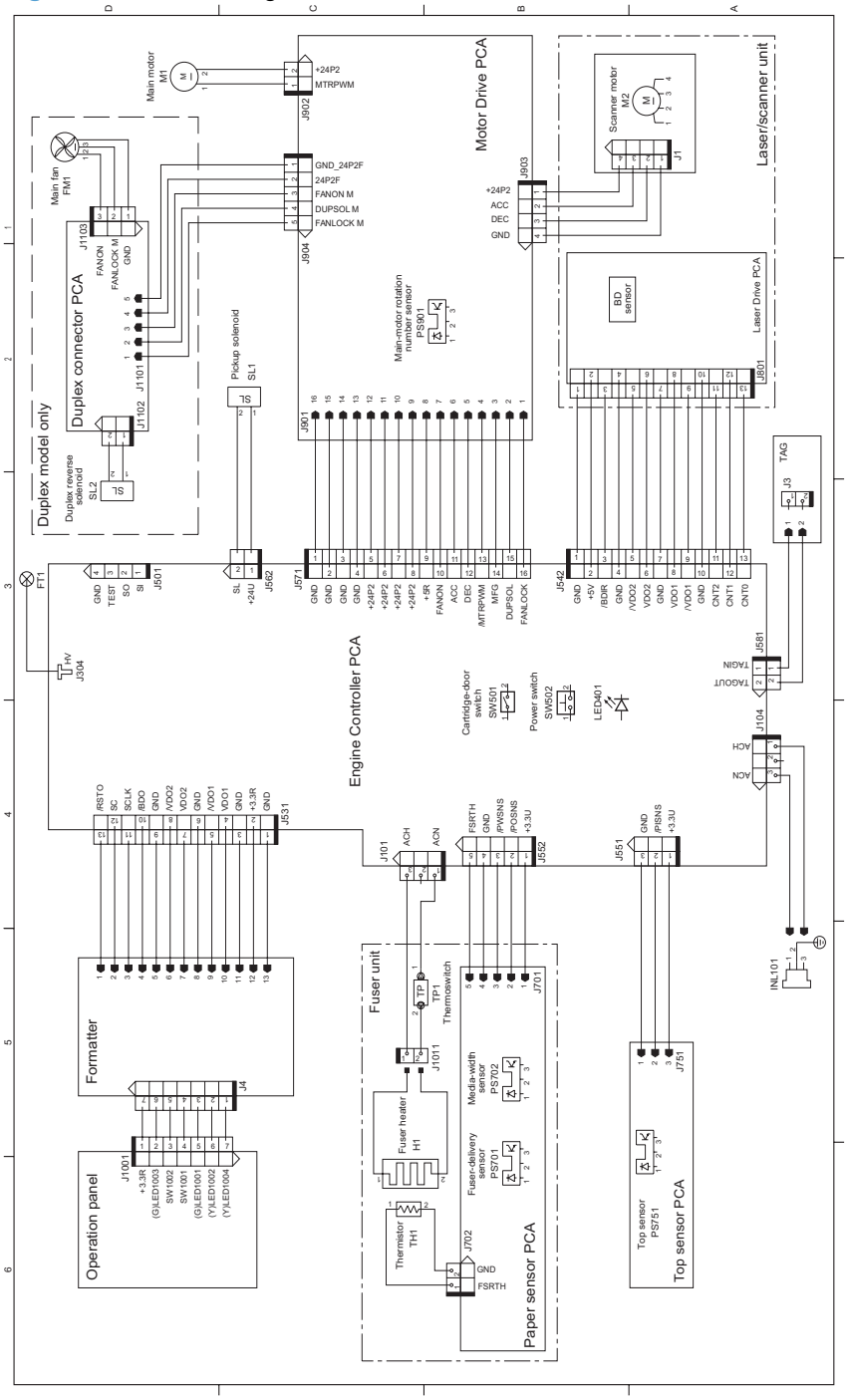
General timing charts

Figure 3-6 General timing diagram



General circuit diagram

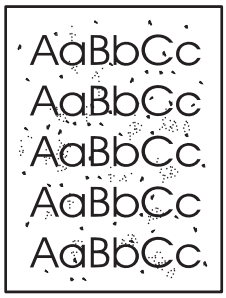
Figure 3-7 Circuit diagram



Internal print-quality test pages

Cleaning page

If you are experiencing toner specks or dots on the printouts, clean the paper path. This process uses a transparency to remove dust and toner from the paper 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 paper (60 to 163 g/m^2 (16 to 43 lb)) that has a smooth surface.

1. Make sure that the product is idle and the ready light is on.

   NOTE: If the product is in the auto-off state, the ready light is off.

2. Load paper in the input tray.
3. Open the product **Properties**.
4. Click the **Device Settings** tab.
5. In the **Cleaning Page** area, click the **Start** button to process the cleaning page.

NOTE: The cleaning process takes about 2 minutes. The cleaning page stops periodically during the cleaning process. Do not turn the product off until the cleaning process has finished. You might need to repeat the cleaning process several times to thoroughly clean the product.

Configuration page

The configuration page lists current product settings and properties. This page also contains a status log report. To print a configuration page, do one of the following:

- Press and hold the go button when the ready light is on and no other jobs are printing. Release the go button when the ready light begins blinking. The configuration page prints.
- Select **Config Page** from the **Print Information Pages** drop-down on the **Services** tab in the product Preferences.
- **HP LaserJet Professional P1600 Printer series series only**: Open the embedded Web server, click the **Information** tab, and then select **Print Info Pages**. Click the **Print** button next to **Print Configuration Page**.

Print-quality troubleshooting tools

Repetitive defect ruler

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

Component	Distance between defects (mm)	Type of defects
Primary charging roller	About 27	Dirt on page Dropouts
Photosensitive drum	About 75	Dirt on page Dropouts
Developing roller	About 34	Dirt on page Dropouts
Transfer roller	About 39	Dropouts Dirt on the back of page
Fuser film	About 57	Dirt on page Dropouts Loose toner
Pressure roller	About 56	Dirt on the back of page Loose toner

Interpret control-panel light patterns

Table 3-2 Status-light legend

	Symbol for “light off”
	Symbol for “light on”
	Symbol for “light blinking”

Table 3-3 Control-panel lights

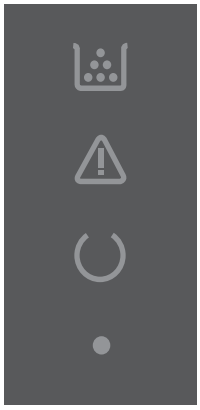
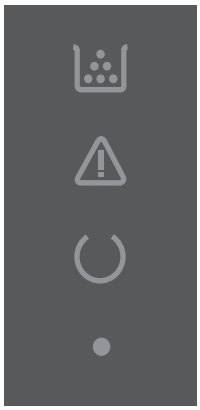
Light status	Light pattern	State of the product	Action
All lights are off **NOTE:** The power button backlight is off.		The product is in Auto-Off mode or is turned off.	Press the power button to deactivate the Auto-Off mode or turn on the product
All lights are off **NOTE:** The power button backlight is on.		The formatter is not connected to the product correctly.	1. Turn off the product. 2. Wait 30 seconds, and then turn on the product. 3. Wait for the product to initialize. 4. Make sure that the formatter connectors are fully seated. If the error persists, replace the formatter. See Formatter PCA on page 67.
Attention ⚠, ready ◯, and go ● lights cycle. Toner light is off. **NOTE:** The power button backlight is on.		The formatter is initializing.	No action required. Wait for the initialization period to end. The product enters the Ready state when the initialization period is finished.

Table 3-3 Control-panel lights (continued)

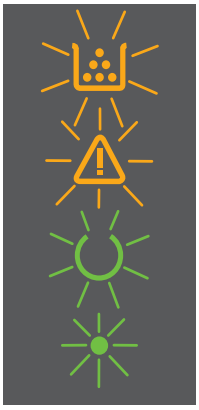
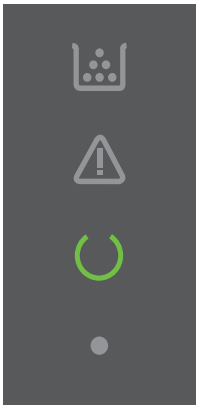
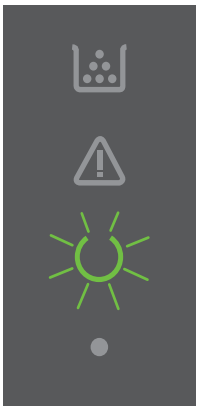
Light status	Light pattern	State of the product	Action
All lights cycle. **NOTE:** The power button backlight is on.		The product is processing a cleaning page.	No action required. Wait for the cleaning process to end. The product enters the Ready state when the cleaning process is finished.
Ready light is on, and all other lights are off. **NOTE:** The power button backlight is on.		The product is in the Ready state.	No action required. The product is ready to receive a print job.
Ready light is blinking, and all other lights are off. **NOTE:** The power button backlight is on.		The product is receiving or processing data.	No action required. The product is receiving or processing a print job. To cancel the current job, press the cancel button .
Attention light is blinking, and all other lights are off. **NOTE:** The power button backlight is on.		The product has experienced an error that can be corrected at the product, such as a jam, an open door, or the absence of paper in the proper tray.	Inspect the product, determine the error, and then correct the error. If the error is the absence of paper in the proper tray or the product is in a manual feed mode, put the proper paper in the tray and follow the on-screen instructions, or open and close the print-cartridge door to resume printing.

Table 3-3 Control-panel lights (continued)

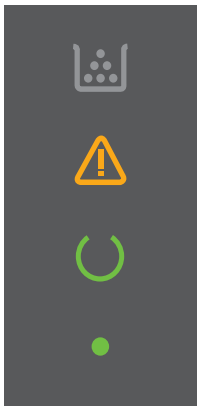
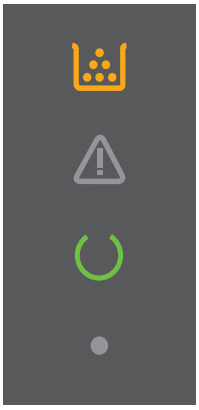
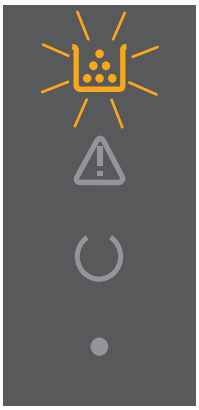
Light status	Light pattern	State of the product	Action
Attention light is blinking, ready light is on, and other lights are off. **NOTE:** The power button backlight is on.		The product has experienced a continual error from which it can recover on its own.	To recover from the error and print the available data, press the go button. If the recovery is successful, the product continues to the processing data state and completes the job. If the recovery is unsuccessful, the product continues to the continuable error state. Try removing any paper from the paper path and turning the product power off, and then on again.
The attention, ready, and go lights are on. Toner light is off. **NOTE:** The power button backlight is on.		The product has experienced a fatal error from which it cannot recover.	1. Turn off the product. 2. Wait 30 seconds, and then turn on the product. 3. Wait for the product to initialize. 4. If the error persists, contact customer support for more information. See Customer support on page 188.

Table 3-3 Control-panel lights (continued)

Light status	Light pattern	State of the product	Action
The ready and toner lights are on. **NOTE:** The power button backlight is on.		The print cartridge is near the estimated end of life.	Order a new print cartridge and have it ready.
Toner light is blinking. **NOTE:** The power button backlight is on.		The print cartridge has been removed from the product.	Reinsert the print cartridge in the product.

Clear jams

When clearing jams, be careful not to tear jammed paper. If a small piece of paper remains in the product, it could cause more jams.

△ **CAUTION:** Before clearing jams, turn the product off and disconnect the power cord.

Common causes of jams

- The input trays are loaded incorrectly or are too full.

  NOTE: When you add new paper, always remove the paper from the tray and straighten the entire stack. This helps prevent multiple feeds and reduces jams.

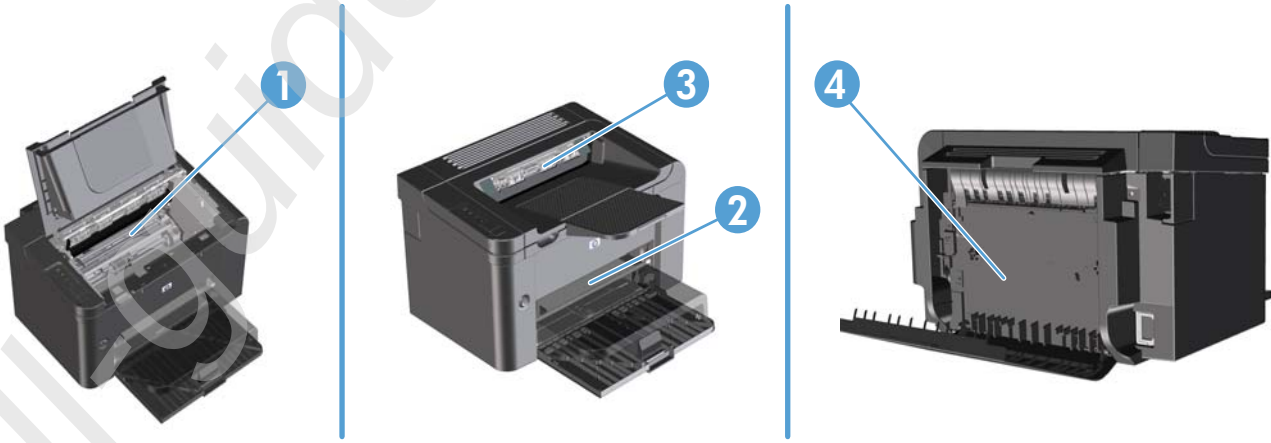
- The paper does not meet HP-recommended specifications.
- The product needs to be cleaned to remove paper dust and other particles from the paper path.

Loose toner might remain in the product after a jam. This toner clears up after a few sheets print.

△ **CAUTION:** If you get any toner on your clothes or hands, wash them in cold water. *Hot water sets toner into the fabric*.

Jam locations

Jams can occur at the following locations in the product.



1	Internal areas
2	Input trays
3	Output bins
4	Rear door and duplexer (duplex models only)

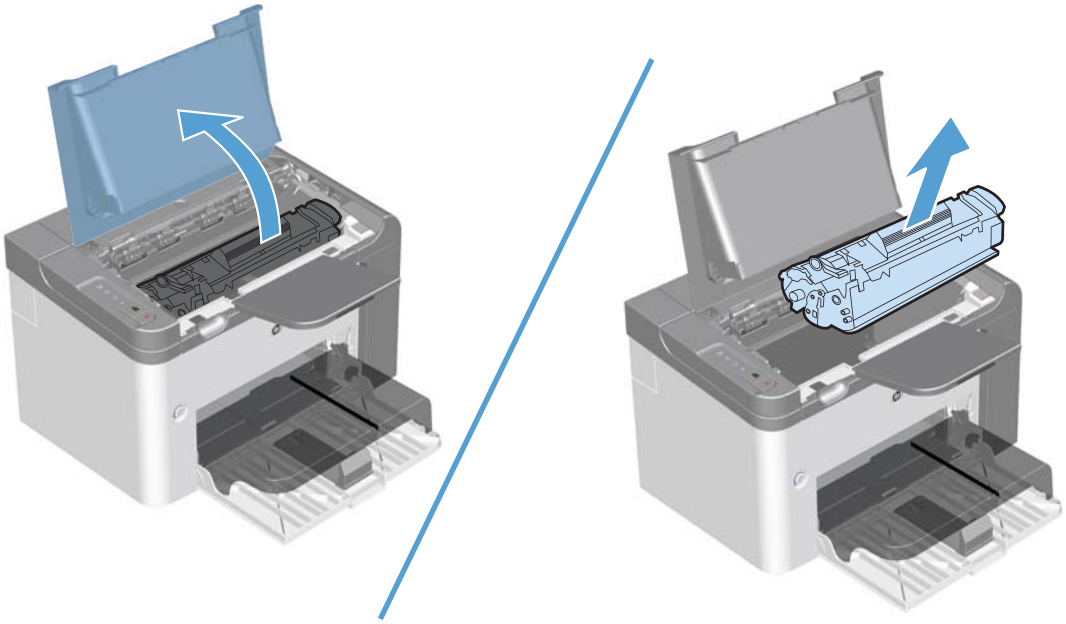
Clear jams from the input trays

△ **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.

When removing jammed paper, pull the jammed paper straight away from the product. Pulling jammed paper out of the product at an angle can damage the product.

NOTE: Depending on where the jam is located, some of the following steps might not be necessary.

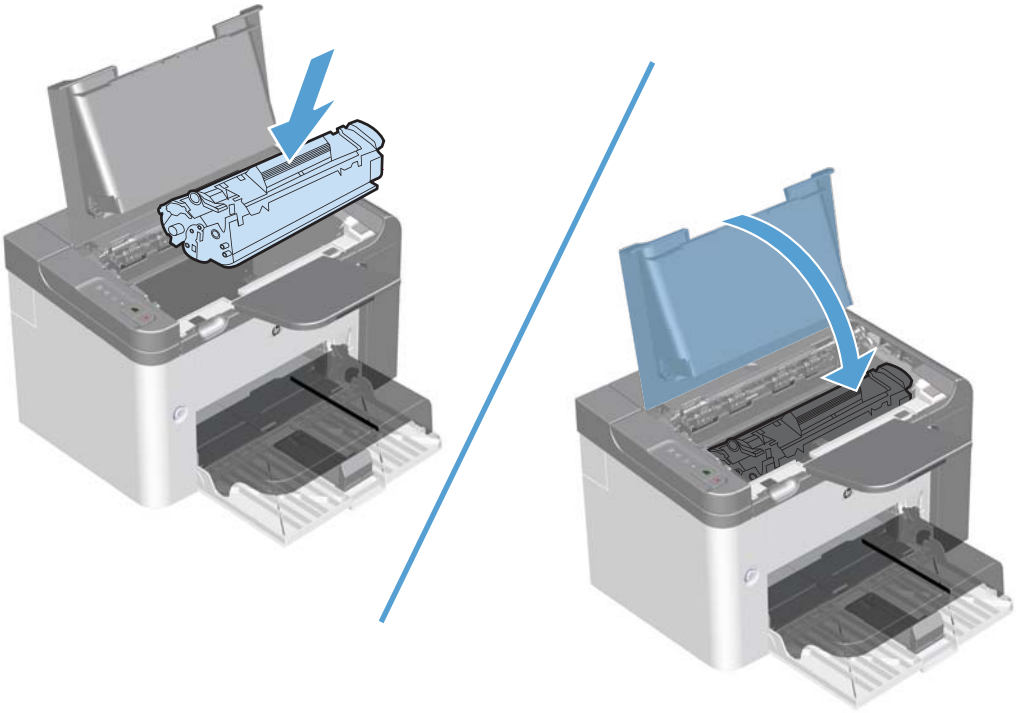
1. Open the print-cartridge door, and then remove the print cartridge.



2. In the main-input tray or the priority input slot, remove the paper stack.

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

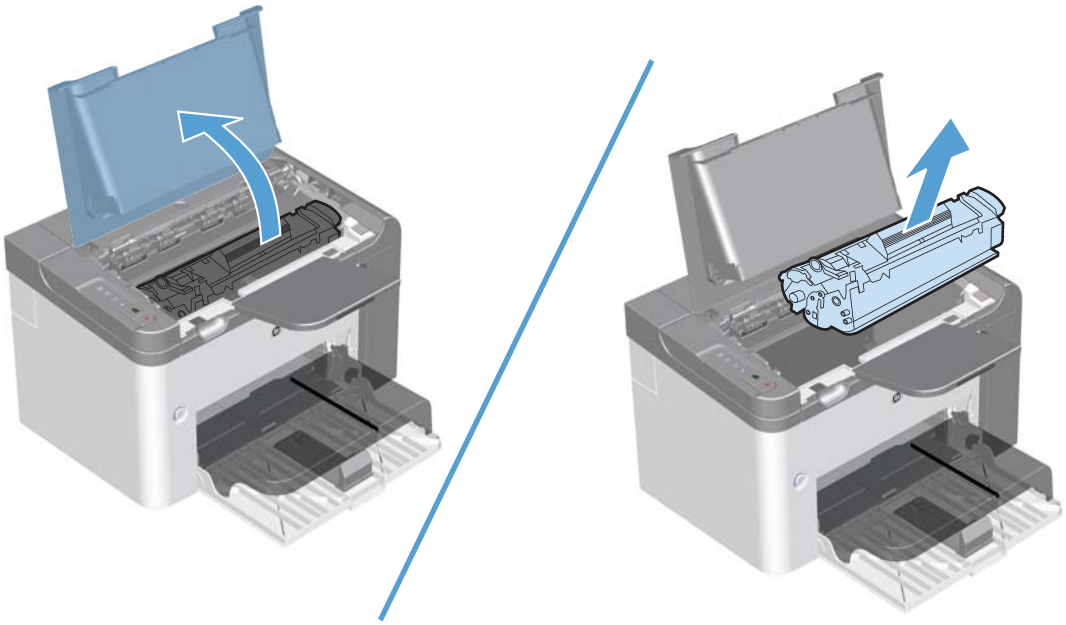
4. Reinstall the print cartridge and close the print-cartridge door.



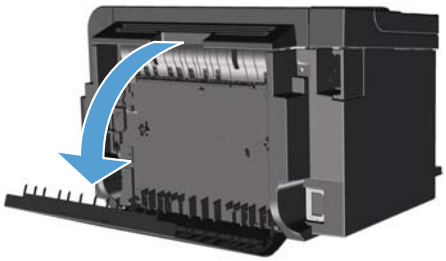
Clear jams from the duplexer

NOTE: Duplex models only.

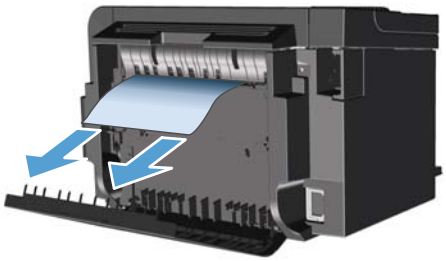
1. Open the print-cartridge door, and then remove the print cartridge.



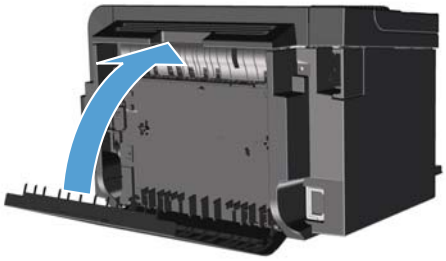
2. Open the rear door.



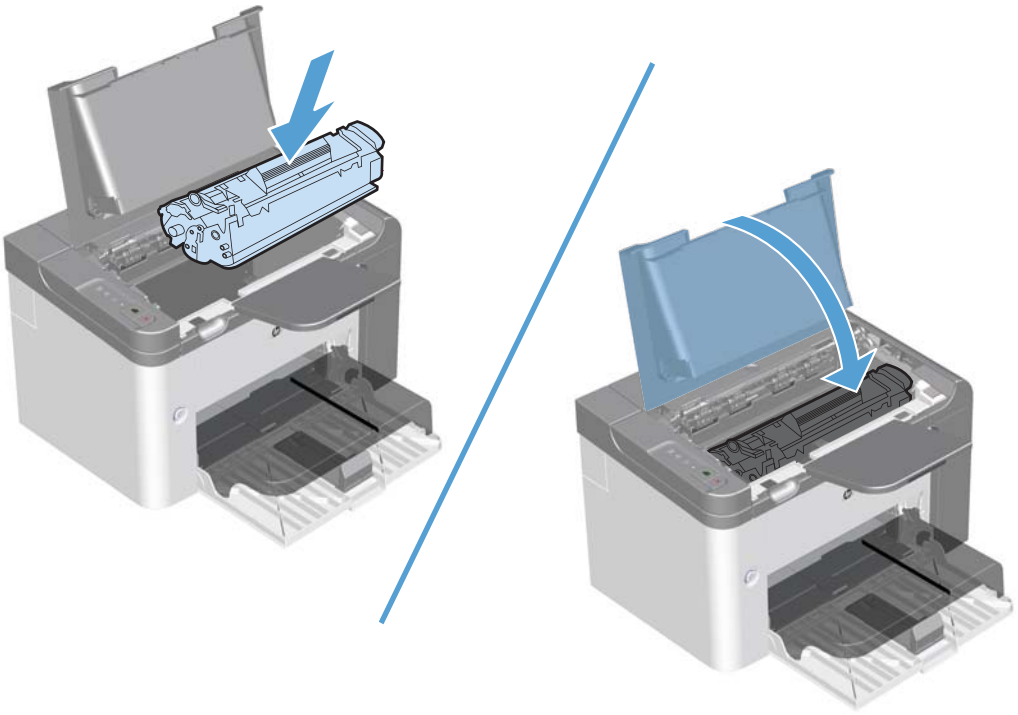
3. Carefully grasp the jammed paper, and slowly pull it out of the product



4. Close the rear door.



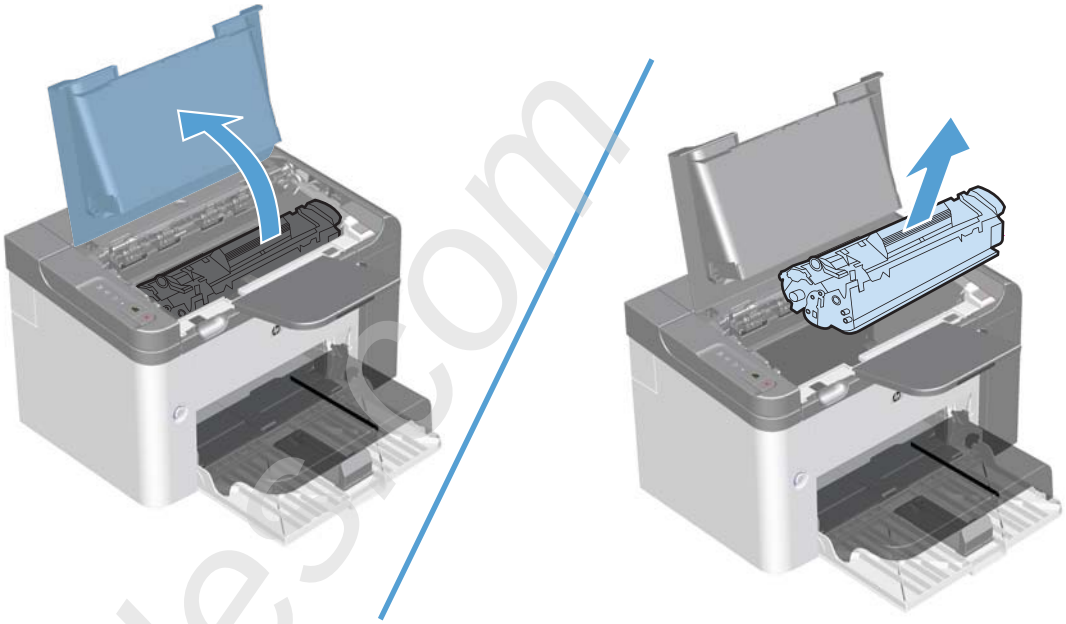
5. Reinstall the print cartridge and close the print-cartridge door.



Clear jams from the output areas

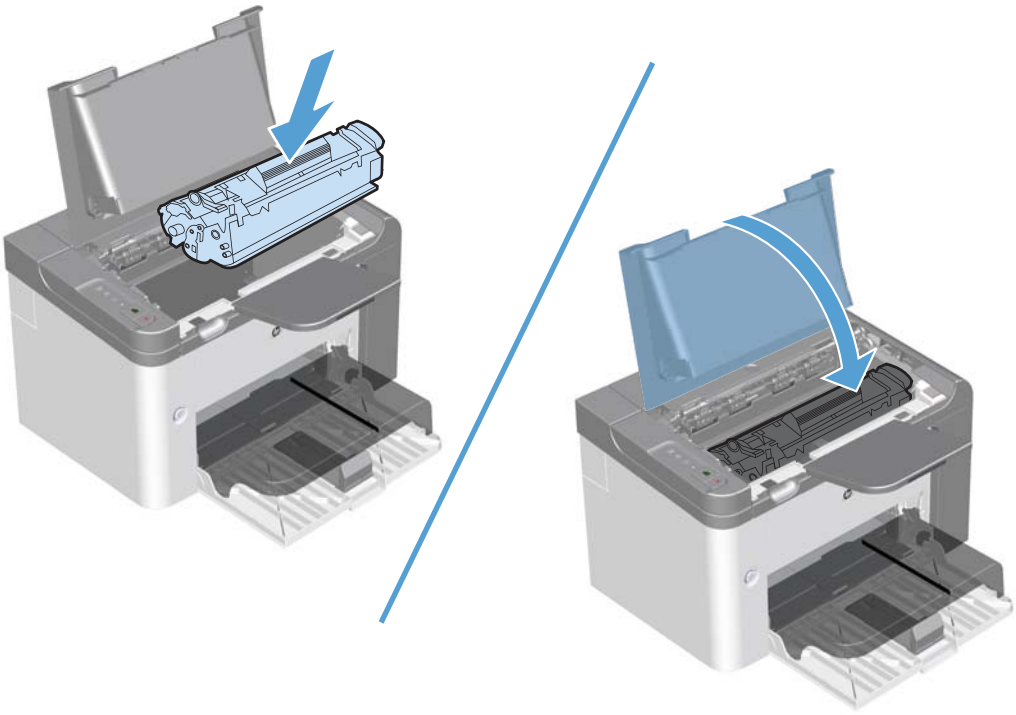
△ **CAUTION:** Do not use sharp objects, such as tweezers or needle-nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

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



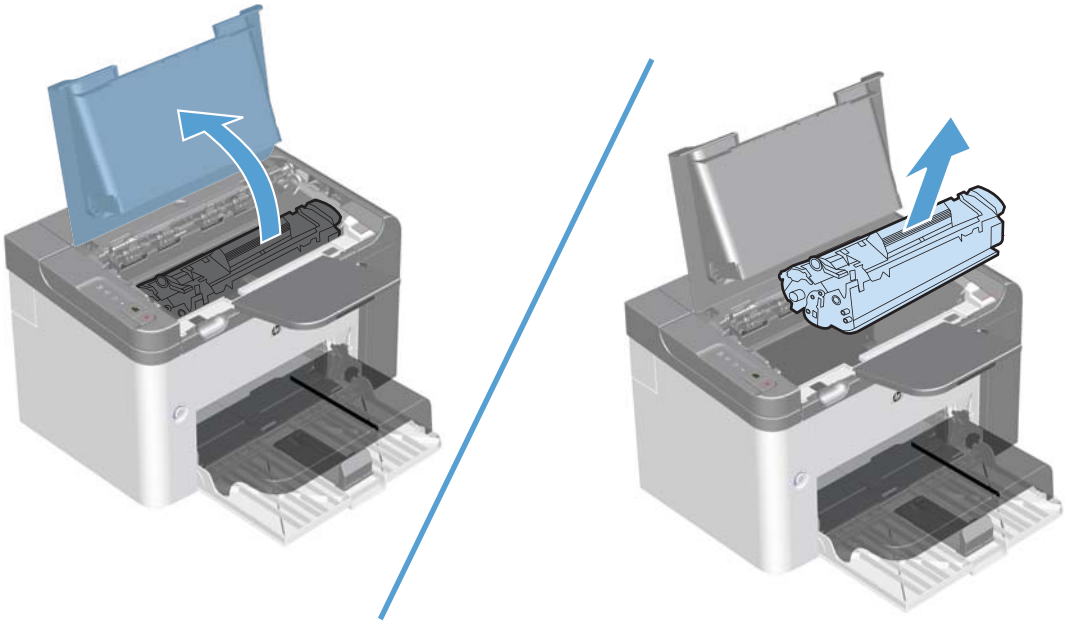
2. Keep the print cartridge door open, and then with both hands, grasp the side of the jammed paper that is most visible (this includes the middle), and carefully pull it free from the product.

3. Reinstall the print cartridge, and then close the print-cartridge door.



Clear jams from inside the product

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



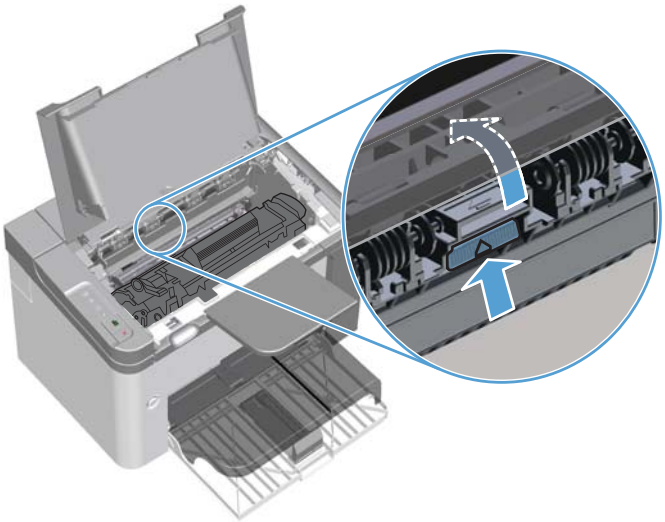
△ **CAUTION:** To prevent damage, do not expose the print cartridge to light. Cover it with a piece of paper.

2. If you can see the jammed paper, carefully grasp the jammed paper, and slowly pull it out of the product.

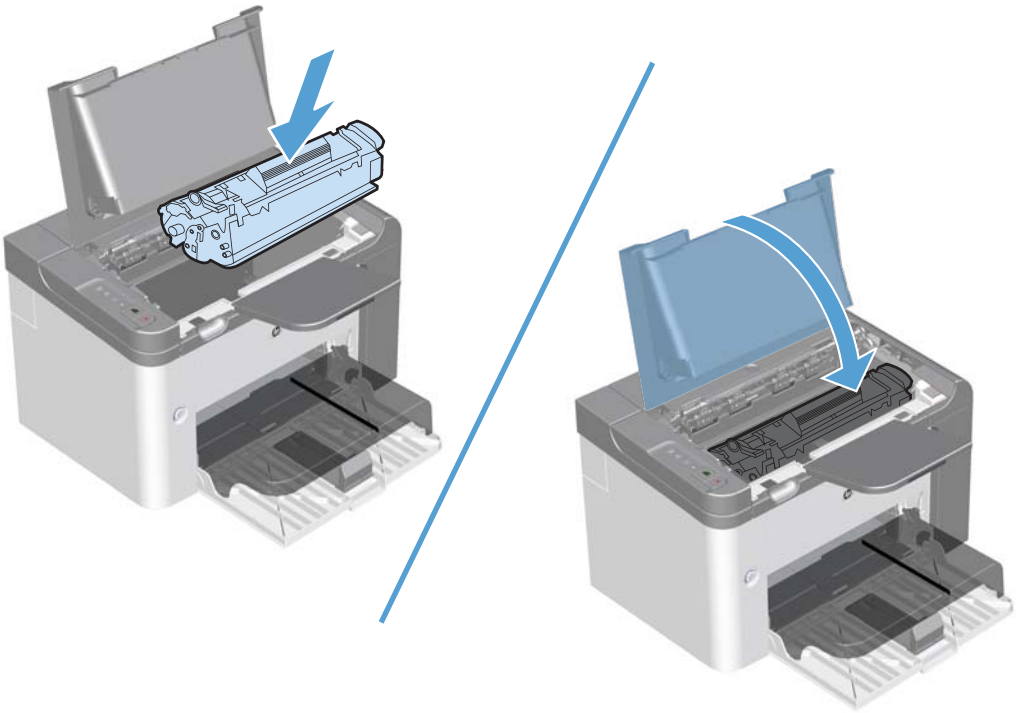
NOTE: If you can not see the jammed paper, go to the next step.

If you successfully removed the jammed paper, skip the next step.

3. Press the green tab and then open the jam-access door, carefully grasp the jammed paper and slowly pull it out of the product.



4. Reinstall the print cartridge, and then close the print-cartridge door.



Solve repeated jams

- Verify that the input tray is not overfilled. The input tray capacity varies depending on the type of print paper that you are using.
- Verify that the paper guides are properly adjusted.
- Check that the input tray is securely in place.
- Do not add paper into the input tray while the product is printing.
- Use only HP-recommended paper types and sizes.
- Do not fan paper prior to loading it in a tray. To loosen the ream, hold it firmly in both hands and twist the paper by rotating your hands in the opposite direction.
- Do not let print paper stack up in the output bin. The print paper type and the amount of toner used affect the output bin capacity.
- Check the power connection. Make sure that the power cord is firmly connected to both the product and the power supply box. Plug the power cord into a grounded power outlet.

Change jam recovery

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

1. Use the printer driver to change the default settings. Follow the appropriate procedure, depending on the operating system you are using.

   Windows XP, Windows Server 2003, and Windows Server 2008 (using the default Start menu view)

   a. Click **Start**, and then click **Printers and Faxes**.

   b. Right-click the driver icon, and then select **Properties**.

   c. Click the **Device Settings** tab.

   Windows XP, Windows Server 2003, and Windows Server 2008 (using the Classic Start menu view)

   a. Click **Start**, click **Settings**, and then click **Printers**.

   b. Right-click the driver icon, and then select **Properties**.

   c. Click the **Device Settings** tab.

   Windows Vista and Windows 7

   a. Click **Start**, click **Control Panel**, and then in the category for **Hardware and Sound** click **Printer**.

   b. Right-click the driver icon, and then select **Properties**.

   c. Click the **Device Settings** tab.

   Mac OS X 10.4

   a. From the Apple menu , click the **System Preferences** menu and then click the **Print & Fax** icon.

   b. Click the **Printer Setup** button.

   Mac OS X 10.5 and 10.6

   a. From the Apple menu , click the **System Preferences** menu and then click the **Print & Fax** icon.

   b. Select the product in the left side of the window.

   c. Click the **Options & Supplies** button.

   d. Click the **Driver** tab.

2. Click the **Auto** option or the **Off** option under **Jam Recovery**.

Solve paper-handling problems

The following problems with paer cause print-quality deviations, jams, or damage to the product.

Problem	Cause	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy, 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.	Use long-grain paper.
	The paper varies from side to side.	Turn the paper over.
Jams, damage to product	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.
		Use long-grain paper.
Print is skewed (crooked).	The paper guides might be incorrectly adjusted.	Remove all paper from the tray, straighten the stack, and then load the paper in the tray again. Adjust the paper guides to the width and length of the paper that you are using and try printing again.
More than one sheet feeds at one time.	The tray might be overloaded.	Remove some of the paper from the tray.
	The paper might be wrinkled, folded, or damaged.	Verify that the paper is not wrinkled, folded, or damaged. Try printing on paper from a new or different package.
The product does not pull paper from the tray.	The product might be in manual-feed mode.	Verify that the product is not in manual feed mode, and then print the job again.
	The pickup roller might be dirty or damaged.	Clean the roller if it is dirty. Replace the roller if it is damaged. See Pickup roller on page 40.
	The paper-length adjustment control in the main-input tray is set at a length that is greater than the paper size.	Set the paper-length adjustment control to the correct length.

Solve image-quality problems

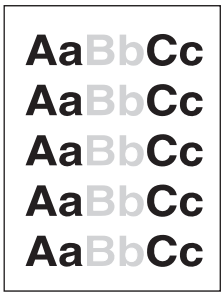
You can prevent most print-quality problems by following these guidelines.

- Use paper that meets HP specifications.
- Clean the product as necessary. See Clean the paper path on page 151.

Image defect table

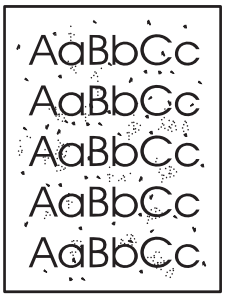
This section provides information about identifying and correcting print defects.

Light print or faded



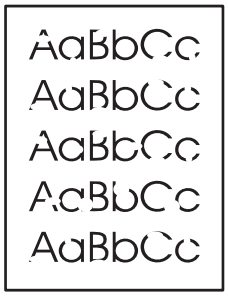
- The print cartridge is nearing end of life.
- Redistribute the toner to extend the life. Remove the print cartridge, and tip it from side to side lengthwise.
- The paper might not meet Hewlett-Packard's paper specifications (for example, the paper is too moist or too rough).
- If the whole page is light, the print density adjustment is too light or EconoMode might be turned on. Adjust the print density, and disable EconoMode in the product Properties.

Toner specks



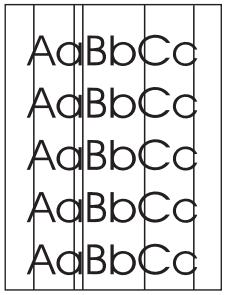
- The paper might not meet Hewlett-Packard's paper specifications (for example, the paper is too moist or too rough).
- The product might need to be cleaned. See Clean the product on page 150.
- The print cartridge might be defective. Install a new genuine HP print cartridge.

Dropouts



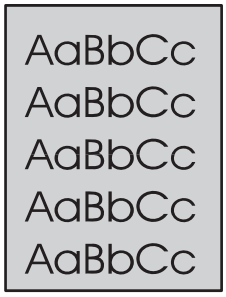
- A single sheet of paper might be defective. Try reprinting the job.
- The paper moisture content is uneven or the paper has moist spots on its surface. Try printing with new paper.
- The paper lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different type or brand of paper.
- Place the product in quiet mode, and send the print job again.
- The print cartridge might be defective. Install a new genuine HP print cartridge.

Vertical lines



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

Gray background



- Change the paper to a lighter basis weight.
- Check the product's environment. Very dry (low humidity) conditions can increase the amount of background shading.
- The density setting might be too high. Adjust the density setting.
- Install a new genuine HP print cartridge.

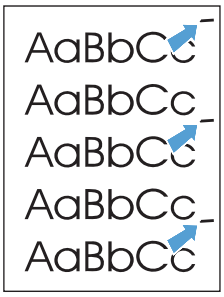
Toner smear

- If toner smears appear on the leading edge of the paper, the media guides might be dirty. Wipe the paper guides with a dry, lint-free cloth.
- Check the paper type and quality.
- The fuser temperature might be too low. In your printer driver, make sure the appropriate paper type is selected.
- Place the product in quiet mode, and send the print job again. See the product user guide.
- Install a new genuine HP print cartridge.

Loose toner

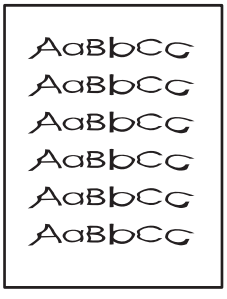
- The fuser temperature might be too low. In your printer driver, make sure the appropriate paper type is selected.
- Clean the inside of the product.
- Check the paper type and quality.
- Place the product in quiet mode, and send the print job again. See the product user guide.
- Plug the product directly into an AC outlet instead of into a power strip.

Vertical repetitive defects



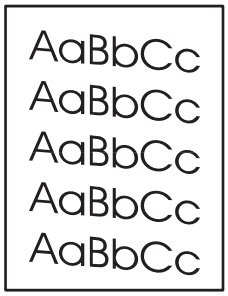
- The internal parts might have toner on them. If the defects occur on the back of the page, the problem will probably correct itself after a few more printed pages.
- In your printer driver, make sure the appropriate paper type is selected.
- A component might be damaged. If a repetitive mark occurs at the same spot on the page, use the repetitive defect ruler table to find the problem. See Repetitive defect ruler on page 128.

Misformed characters



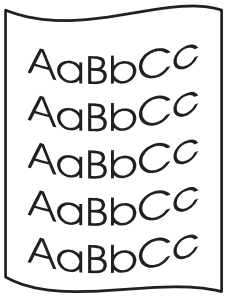
- If characters are improperly formed, producing hollow images, the paper stock might be too slick. Try a different paper.

Page skew



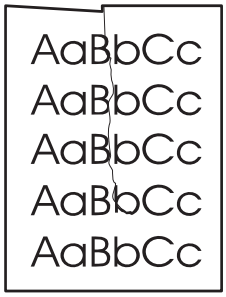
- Make sure that the paper is loaded correctly and the paper guides are not too tight or too loose against the paper stack.
- The input bin might be too full.
- Check the paper type and quality.

Curl or wave



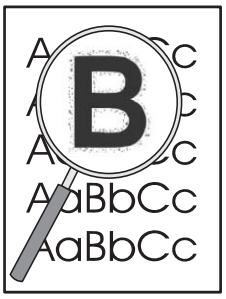
- Check the paper type and quality. Both high temperature and high humidity cause paper to curl.
- The paper might have been in the input tray too long. Turn over the stack of paper in the tray. Also, try rotating the paper 180° in the input tray.
- Place the product in quiet mode, and send the print job again. See the product user guide.
- The fuser temperature might be too high. In your printer driver, make sure the appropriate paper type is selected. If the problem persists, select a paper type that uses a lower fuser temperature, such as transparencies or light paper.

Wrinkles or creases



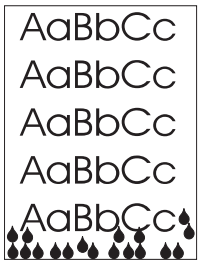
- Make sure that paper is loaded properly.
- Check the paper type and quality.
- Turn over the stack of paper in the tray. Also, try rotating the paper 180° in the input tray.
- Place the product in quiet mode, and send the print job again. See the product user guide.
- For envelopes, this can be caused 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 transfer of toner to the paper is not optimal (a small amount of toner scatter is normal for laser printing). Try a different paper type setting in the printer driver, or use a different paper type.
- Turn over the paper of media in the tray.
- Use paper that is designed for laser printers.
- Place the product in quiet mode, and send the print job again. See the product user guide.

Moisture



NOTE: This product dissipates heat by using convective cooling. The heat and moisture generated by the printing process escape through vents in the product exterior or through the output bin area.

Water droplets from the convective cooling process will not damage the product.

Verify normal product operation

The release of moisture is a result of normal product operation. However, HP recommends using the following steps to verify that the product is releasing steam and does not have a functional problem.

1. Turn the product off, and then on.
2. Send a print job to the product, and then verify that the product is operating correctly.
3. When printing a job and vapor is visible, immediately reprint the job using the same sheet of paper. There should be either no visible vapor, or much less vapor during the printing process.

Limit or reduce steam or vapor

- Make sure that the product is placed in a well-ventilated area that meets the environmental specifications.
- Do not place the product, or store paper, near an outside entrance where temperature changes can increase humidity.
- Use an unopened ream of paper that has not been exposed to high humidity.
- Store paper in an airtight container, where it will be less likely to absorb moisture.
- Place the product in quiet mode, and send the print job again. See the product user guide.

Change print density

You can change the print density setting by from the product properties dialog box.

1. **Windows XP, Windows Server 2008, and Windows Server 2003 (using the default Start menu view):** Click **Start**, and then click **Printers and Faxes**.

   -or-

   Windows XP, Windows Server 2008, and Windows Server 2003 (using the Classic Start menu view): Click **Start**, and then click **Printers**.

   -or-

   Windows Vista: Click **Start**, click **Control Panel**, and then in the category for **Hardware and Sound** click **Printer**.

   -or-

   Windows 7: Click **Start**, and then click **Devices and Printers**.

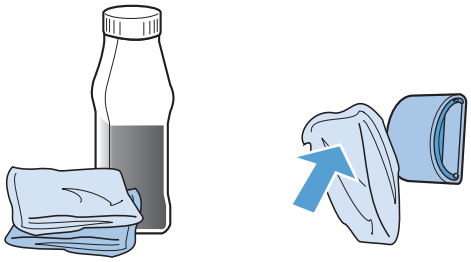
2. In the list of printers, right-click the name of this product, and then click the **Properties** menu item to open the printer properties dialog box.
3. Click the **Device settings** tab, and then move the **Print Density** slider to the desired setting.
4. Click the **Apply** button to accept the setting, and then click the **OK** button to close the dialog box.

Clean the product

Clean the pickup roller

If you want to clean the pickup roller before deciding to replace it, follow these instructions:

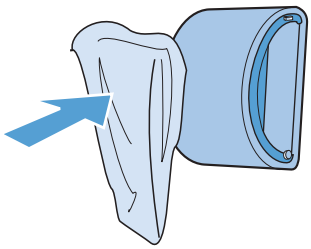
1. Unplug the power cord from the product, and then remove the pickup roller. See Pickup roller on page 40.
2. Dab a lint-free cloth in isopropyl alcohol, and then scrub the roller.



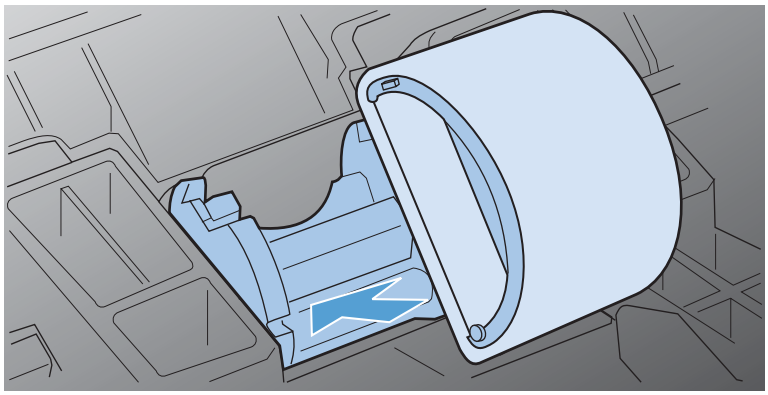
WARNING! Alcohol is flammable. Keep the alcohol and cloth away from an open flame. Before you close the product and plug in the power cord, allow the alcohol to dry completely.

NOTE: In certain areas of California, air pollution control regulations restrict the use of liquid isopropyl alcohol (IPA) as a cleaning agent. In those areas of California, disregard the previous recommendations and use a dry, lint-free cloth, moistened with water, to clean the pickup roller.

3. Use a dry, lint-free cloth, to wipe the pickup roller to remove loose dirt.



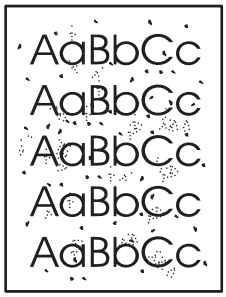
4. Allow the pickup roller to dry completely before you reinstall it in the product.



5. Plug the power cord into the product.

Clean the paper path

If you are experiencing toner specks or dots on the printouts, clean the paper path. This process uses a transparency to remove dust and toner from the paper 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 paper (60 to 163 g/m^2 (16 to 43 lb)) that has a smooth surface.

1. Make sure that the product is idle and the Ready light is on.
2. Load paper in the input tray.
3. Use the printer driver to process the cleaning page. Follow the appropriate procedure, depending on the operating system you are using.

   Windows XP, Windows Server 2003, and Windows Server 2008 (using the default Start menu view)

   a. Click **Start**, and then click **Printers and Faxes**.

   b. Right-click the driver icon, and then select **Properties**.

   c. Click the **Device Settings** tab.

   Windows XP, Windows Server 2003, and Windows Server 2008 (using the Classic Start menu view)

   a. Click **Start**, click **Settings**, and then click **Printers**.

   b. Right-click the driver icon, and then select **Properties**.

   c. Click the **Device Settings** tab.

   Windows Vista and Windows 7

   a. Click **Start**, click **Control Panel**, and then in the category for **Hardware and Sound** click **Printer**.

   b. Right-click the driver icon, and then select **Properties**.

   c. Click the **Device Settings** tab.

   Mac OS X 10.4

   a. From the Apple menu, click the **System Preferences** menu and then click the **Print & Fax** icon.

   b. Click the **Printer Setup** button.

Mac OS X 10.5 and 10.6

a. From the Apple menu , click the **System Preferences** menu and then click the **Print & Fax** icon.

b. Select the product in the left side of the window.

c. Click the **Options & Supplies** button.

d. Click the **Driver** tab.

4. In the **Cleaning Page** area, click the **Start** button to process the cleaning page.

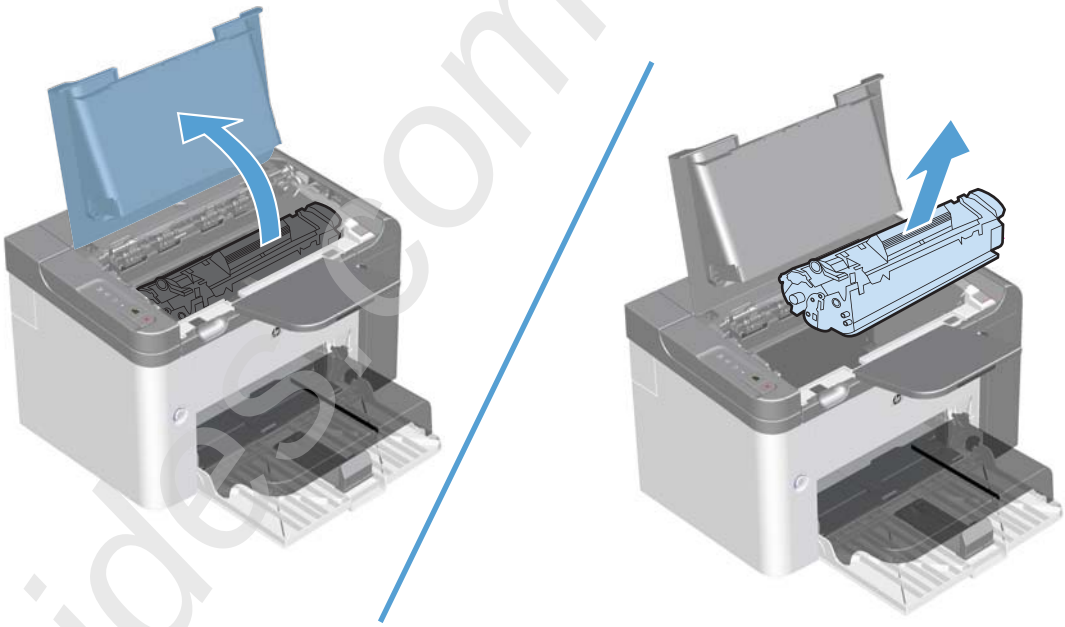
NOTE: The cleaning process takes about 2 minutes. The cleaning page stops periodically during the cleaning process. Do not turn the product off until the cleaning process has finished. You might need to repeat the cleaning process several times to thoroughly clean the product.

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 the printed sheets.

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

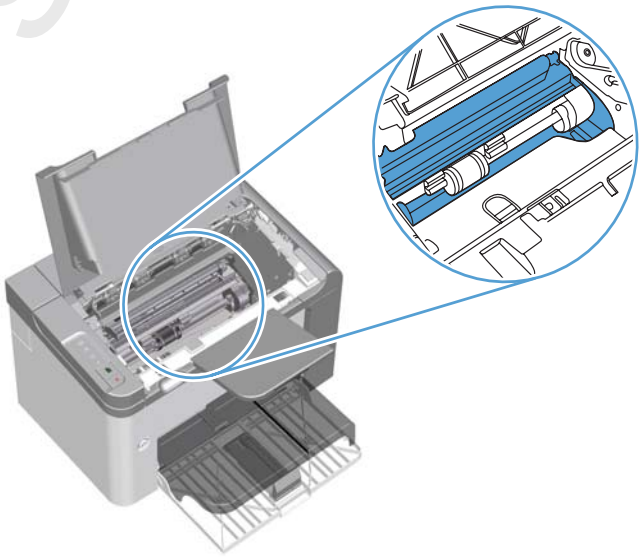
1. Unplug the power cord from the product. Open the print-cartridge door, and remove the print cartridge.



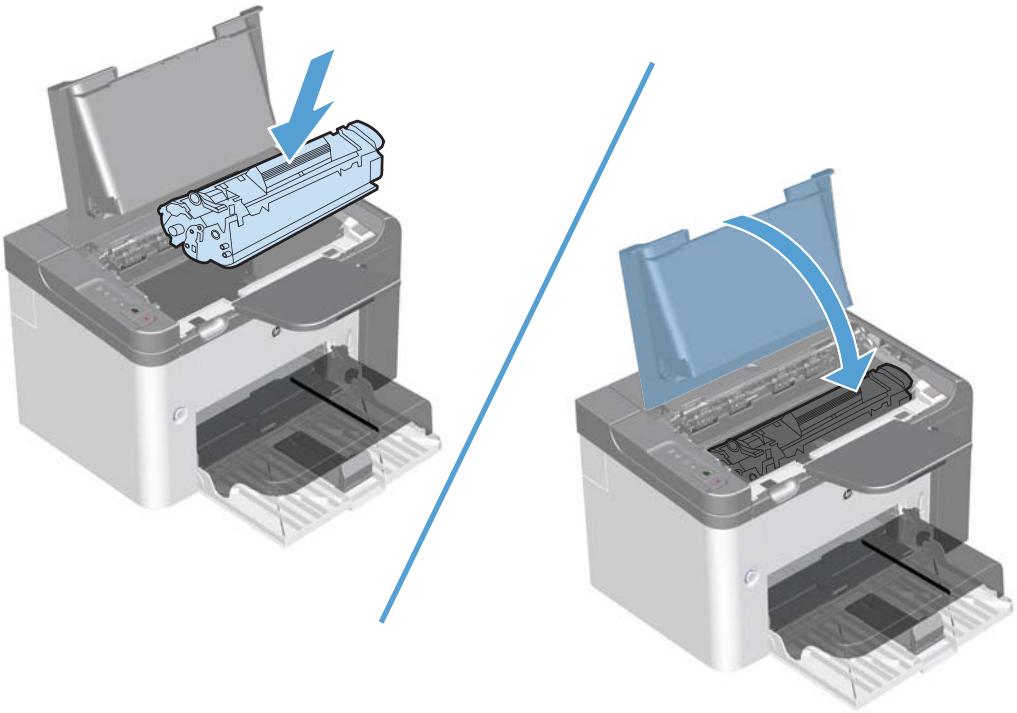
△ **CAUTION:** Do not touch the black-sponge transfer roller inside the product. Doing so can damage the product.

CAUTION: To prevent damage, do not expose the print cartridge to light for an extended time. Cover it with a piece of paper.

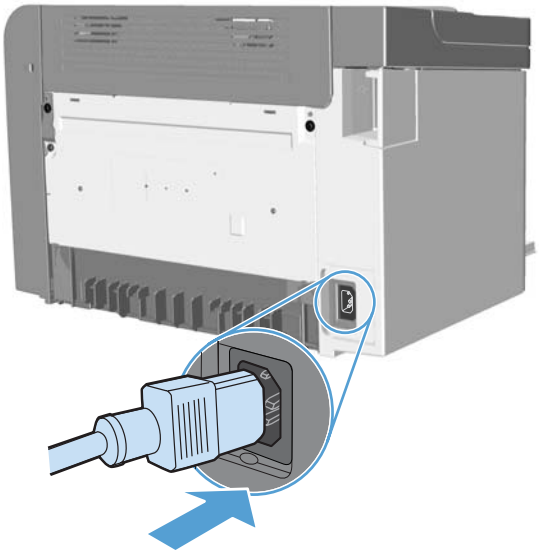
2. Use a dry, lint-free cloth, to wipe any residue from the paper-path area and the print-cartridge cavity.



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



4. Plug the power cord into the product.



Clean the exterior

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

Solve performance problems

Problem	Cause	Solution
Pages print, but are totally blank.	The sealing tape might still be in the print cartridges.	Verify that the sealing tape has been completely removed from the print cartridges.
	The document might contain blank pages.	Check the document that you are printing to see if content appears on all of the pages.
	The product might be malfunctioning.	To check the product, print a Configuration page.
Pages print very slowly.	Heavier paper types can slow the print job.	Print on a different type of paper.
	Complex pages can print slowly. Narrow or small paper can print slowly.	Proper fusing might require a slower print speed to make sure that the best print quality is achieved.
Pages did not print.	The product might not be pulling paper correctly.	Make sure paper is loaded in the tray correctly.
	The paper is jamming in the product.	Clear the jam. See Clear jams on page 133.
	The USB cable might be defective or incorrectly connected.	• Disconnect the USB cable at both ends and reconnect it. • Try printing a job that has printed in the past. • Try using a different USB cable.
	Other devices are running on your computer.	The product might not share a USB port. If you have an external hard drive or network switchbox that is connected to the same port as the product, the other device might be interfering. To connect and use the product, you must disconnect the other device or you must use two USB ports on the computer.

Solve connectivity problems

NOTE: Restore the factory default settings for the product. See Product resets on page 158. If the problem persists, try the solutions in this section.

Solve direct-connect problems

If you have connected the product directly to a computer, check the cable.

- Verify that the cable is connected to the computer and to the product.
- Verify that the cable is not longer than 2 meters (6 feet). Replace the cable if necessary.
- Verify that the cable is working correctly by connecting it to another product. Replace the cable if necessary.

Solve network problems

NOTE: Before performing the procedures in this section, restore the product factory-default settings. See Product resets on page 158.

Check the following items to verify that the product is communicating with the network. Before beginning, print a configuration page.

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

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

2. Are your network cables connected properly?

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

3. Are the link speed and duplex settings set correctly?

   Hewlett-Packard recommends leaving this setting in automatic mode (the default setting).

4. Can you "ping" the product?

   Use the command prompt to ping the product from your computer. For example:

   ```
   ping 192.168.45.39
   ```

   Ensure that the ping displays round-trip times.

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

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

   Verify that the ping command is successful for other devices on the network (if not, a firewall might be blocking the ping command).

   Try opening the embedded Web server to verify that the computer is communicating with the product.

5. Have any software applications been added to the network?

   Make sure they are compatible and that they are installed correctly with the correct printer drivers.

6. Are other users able to print?

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

7. If other users are able to print, are they using the same network operating system?

   Check your system for proper network operating system setup.

8. Is your protocol enabled?

   Check the status of your protocol on the configuration page. You can also use the embedded Web server to check the status of other protocols. See the product user guide.

9. Does the product appear in HP Web Jetadmin or other management application?

   - Verify network settings on the configuration page.
   - Confirm the network settings for the product using the product control panel (for products with control panels).

Service mode functions

Product resets

To restore the product to the factory-default settings, follow these steps.

1. Turn the product off.
2. Turn the product on, and while it is initializing press and hold both control-panel buttons at the same time until all lights blink in unison.

Product updates

Firmware updates

Firmware and software updates and installation instructions for this product are available at www.hp.com/support/ljp1560series or www.hp.com/support/ljp1600series. Click **Downloads and drivers**, click the operating system, and then select the download for the product.

4 Parts and diagrams

Order parts by authorized service providers

Order replacement parts

Table 4-1 Order parts, accessories, and supplies

Order supplies and paper	www.hp.com/go/suresupply
Order genuine HP parts or accessories	www.hp.com/buy/parts
Order through service or support providers	Contact an HP-authorized service or support provider.

Related documentation and software

Table 4-2 Related documentation and software

Item	Description	Part number
HP LaserJet P1560 and P1600 Printer series User Guide	Product user guide.	CE663-90901
HP LaserJet P1560 and P1600 Printer series Service Manual	English service manual (this manual)	CE663-90939

Supplies part numbers

Table 4-3 Supplies part numbers

Item	Description	Part number
HP LaserJet print cartridge	Print cartridge	CE278A (new) CE278-67901 (service)

Customer self repair parts

Table 4-4 Customer replaceable units (CRU) kit part numbers

Item	Description	Part number
Kit, separation pad	Separation pad Installation instructions	CE663-67901
Kit, pickup roller	Pickup roller Installation instructions	CE663-67902

Service parts

NOTE: The parts in the following table are not shown in the assembly illustrations in this chapter.

Item	Description	Part number
HP jewel	HP logo	7121-8266
Regulatory label	Blank label	5969-9497

Whole-unit replacement part numbers

NOTE: Whole-unit replacement products include the formatter PCA.

Table 4-5 Whole-unit replacement part numbers

Item	Description	Part number
HP LaserJet Professional P1560 Printer series	220 V	CE663-67002 (new) CE663-69002 (exchange)
HP LaserJet Professional P1600 Printer series	110 V	CE749-67001(new) CE749-69001(exchange)
	220 V	CE749-67002 (new) CE749-69002 (exchange)

How to use the parts lists and diagrams

△ **CAUTION:** Be sure to order the correct part. When looking for part numbers for electrical components, pay careful attention to the voltage that is listed. Doing so will make sure that the part number selected is for the correct model.

NOTE: In this manual, the abbreviation “PCA” stands for “printed circuit-board assembly.” Components described as a PCA might consist of a single circuit board or a circuit board plus other parts, such as cables and sensors.

The figures in this chapter show the major subassemblies in the product and their component parts. A parts list table follows each exploded view assembly diagram. Each table lists the item number, the associated part number, and the description of each part. If a part is not listed in the table, then it is not a field replacement unit (FRU).

Assembly locations

Base product (no optional trays or accessories)

Figure 4-1 Base product (no optional trays or accessories)

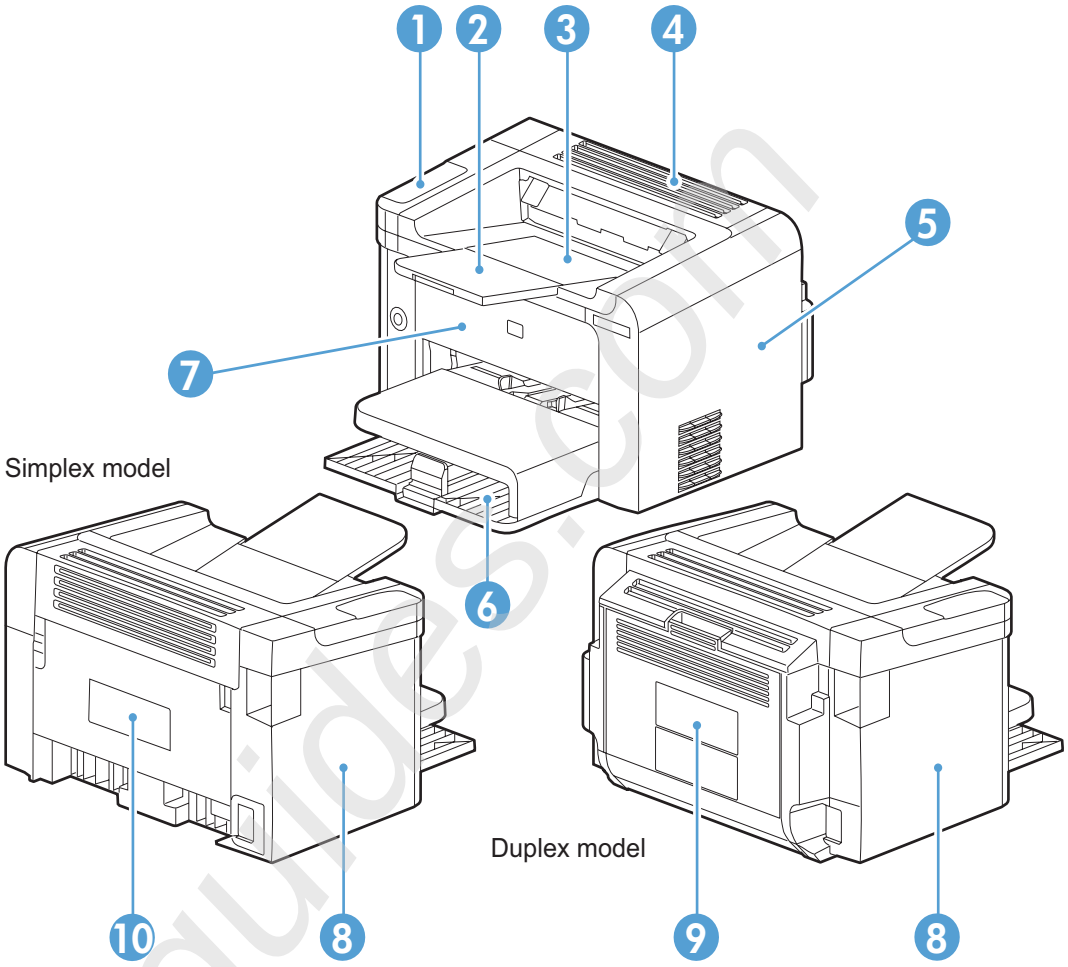


Table 4-6 **Base product**

Item	Description	Item	Description
1	Control panel	6	Main-input tray
2	Output bin tray extension	7	Front cover
3	Print-cartridge door	8	Left cover
4	Face-down cover	9	Duplex door (duplex models only)
5	Right cover	10	Rear cover (simplex models only)

Covers

Simplex model

Figure 4-2 Simplex model

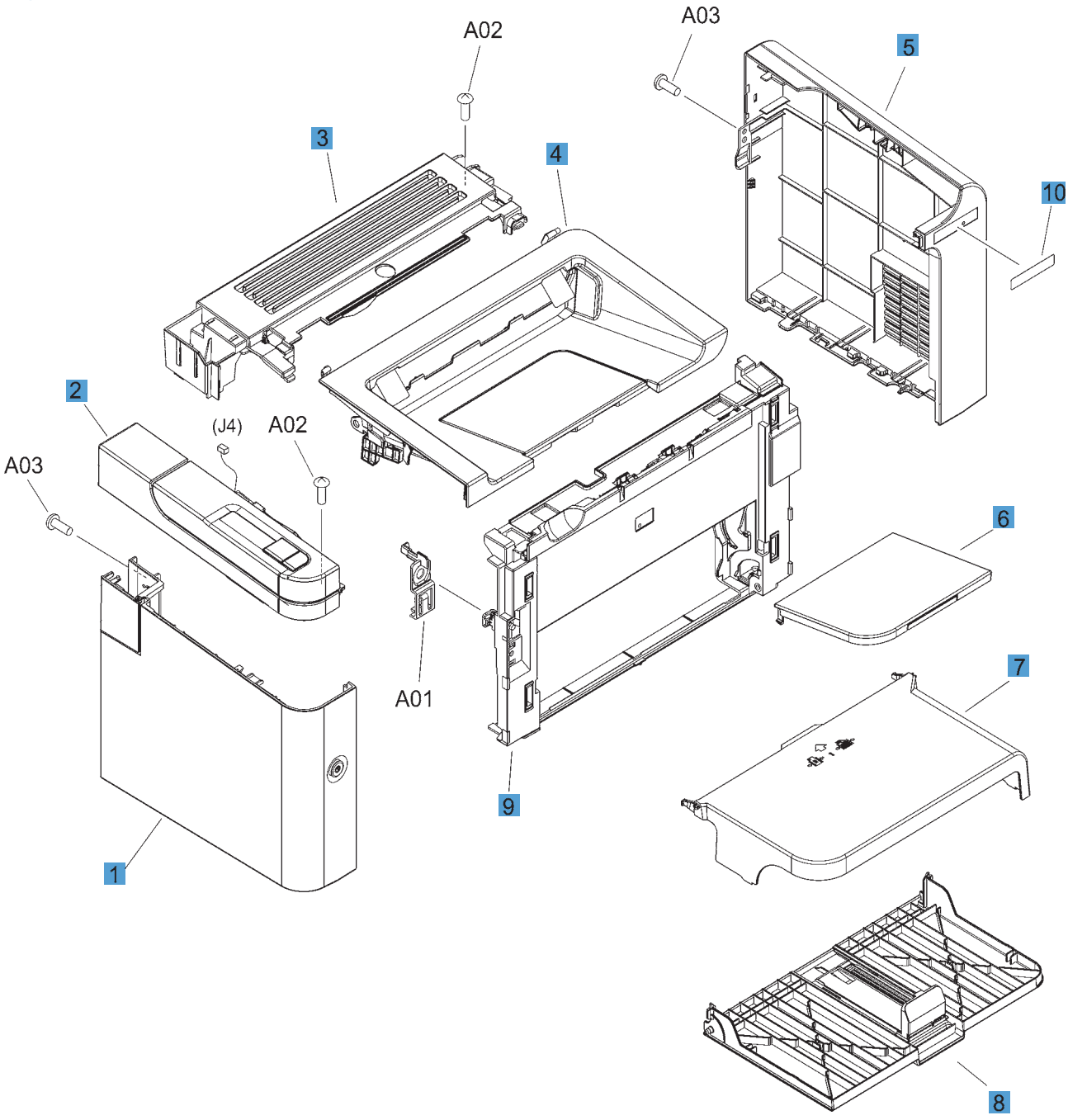


Table 4-7 Simplex model

Ref	Description	Part number	Qty
1	Left cover	RM1-7533-000CN	1
2	Control-panel assembly	RM1-7530-000CN	1
3	Cover, face-down	RC2-9464-000CN	1
4	Cartridge door	RM1-7528-000CN	1
5	Cover, right	RC2-9462-000CN	1
6	Paper delivery tray	RM1-7499-000CN	1
7	Cover, dust	RC2-9582-000CN	1
8	Paper pickup tray	RM1-7535-000CN	1
9	Cover, front	RL1-2871-000CN	1
10	Plate, name	RC3-0623-000CN	1

Duplex model

Figure 4-3 Duplex model

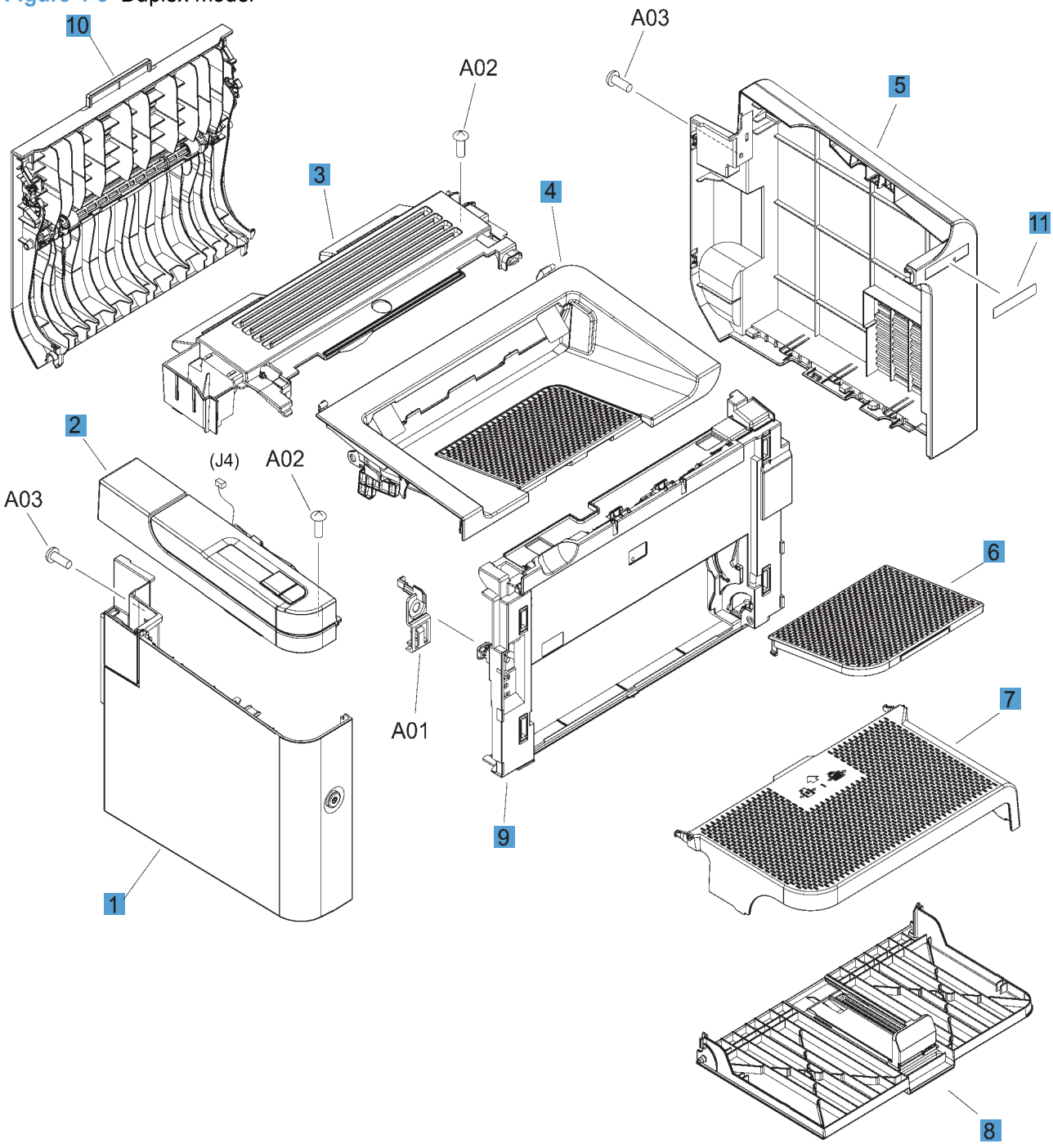


Table 4-8 Duplex model

Ref	Description	Part number	Qty
1	Left cover	RM1-7532-000CN	1
2	Control-panel assembly	RM1-7529-000CN	1
3	Cover, face-down	RC2-9436-000CN	1
4	Cartridge door	RM1-7527-000CN	1
5	Cover, right	RC2-9458-000CN	1
6	Paper delivery tray	RM1-7498-000CN	1
7	Cover, dust	RC2-9578-000CN	1
8	Paper pickup tray	RM1-7534-000CN	1
9	Cover, front	RL1-2870-000CN	1
10	Duplexing door assembly	RM1-7526-000CN	1
11	Plate, name	RC3-0622-000CN	1

Internal assemblies

Internal assemblies (1 of 3)

Figure 4-4 Internal assemblies (1 of 3)

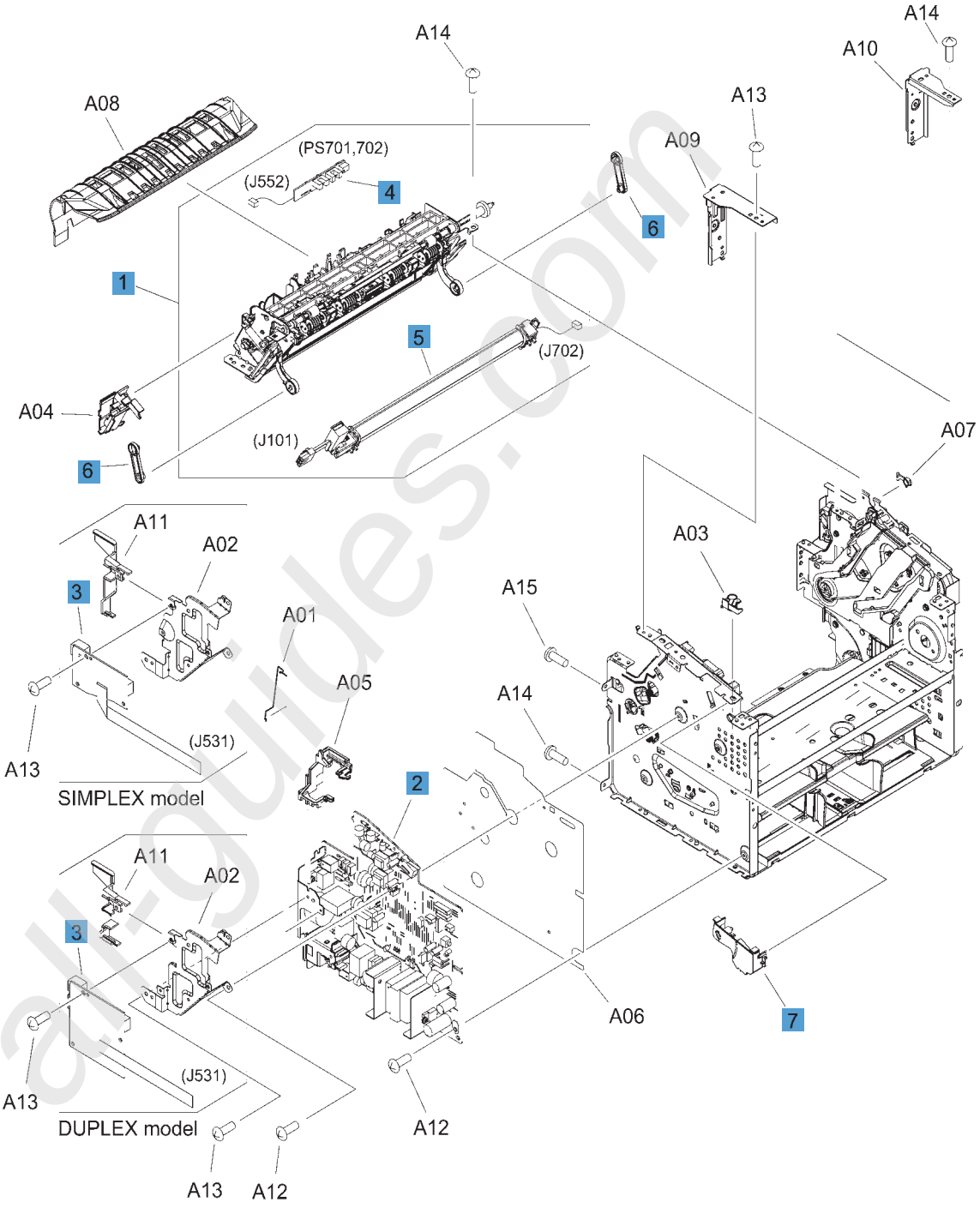


Table 4-9 Internal assemblies (1 of 3)

Ref	Description	Part number	Qty
1	Fuser assembly (110 V)	RM1-7546-000CN	1
1	Fuser assembly (220 V)	RM1-7547-000CN	1
2	Engine controller PCA (110 V)	RM1-7615-000CN	1
2	Engine controller PCA (220 V)	RM1-7616-000CN	1
3	Formatter PCA, simplex model	RM1-7622-000CN	1
3	Formatter PCA, duplex model	RM1-7623-000CN	1
4	Delivery sensor PCA assembly	RM1-7440-000CN	1
5	Fuser film assembly (110 V)	RM1-7541-000CN	1
5	Fuser film assembly (220 V)	RM1-7542-000CN	1
6	Link, pressure release	RC2-9512-000CN	2
7	Switch lever assembly	RM1-7531-000CN	1

Internal assemblies (2 of 3)

Figure 4-5 Internal assemblies (2 of 3)

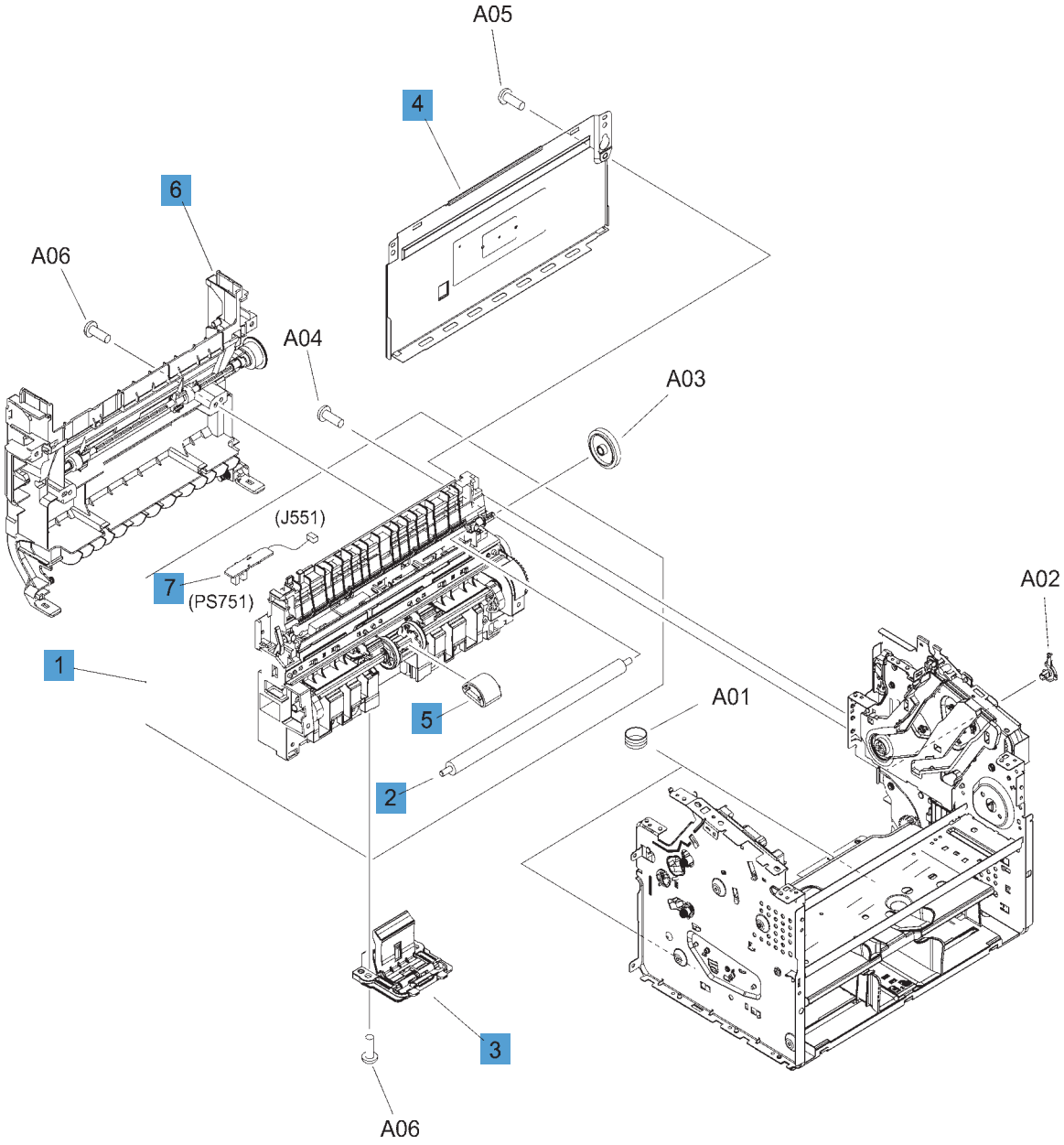


Table 4-10 Internal assemblies (2 of 3)

Ref	Description	Part number	Qty
1	Paper pickup assembly, simplex model	RM1-7517-000CN	1
1	Paper pickup assembly, duplex model	RM1-7516-000CN	1
2	Transfer roller	RM1-4023-000CN	1
3	Separation pad	RM1-4227-000CN	1
4	Panel, rear, simplex model	RC2-9583-000CN	1
5	Roller, pickup	RL1-1497-000CN	1
6	Duplex frame assembly, duplex model	RM1-7525-000CN	1
7	Paper pickup sensor PCA assembly	RM1-7618-000CN	1

Internal assemblies (3 of 3)

Figure 4-6 Internal assemblies (3 of 3)

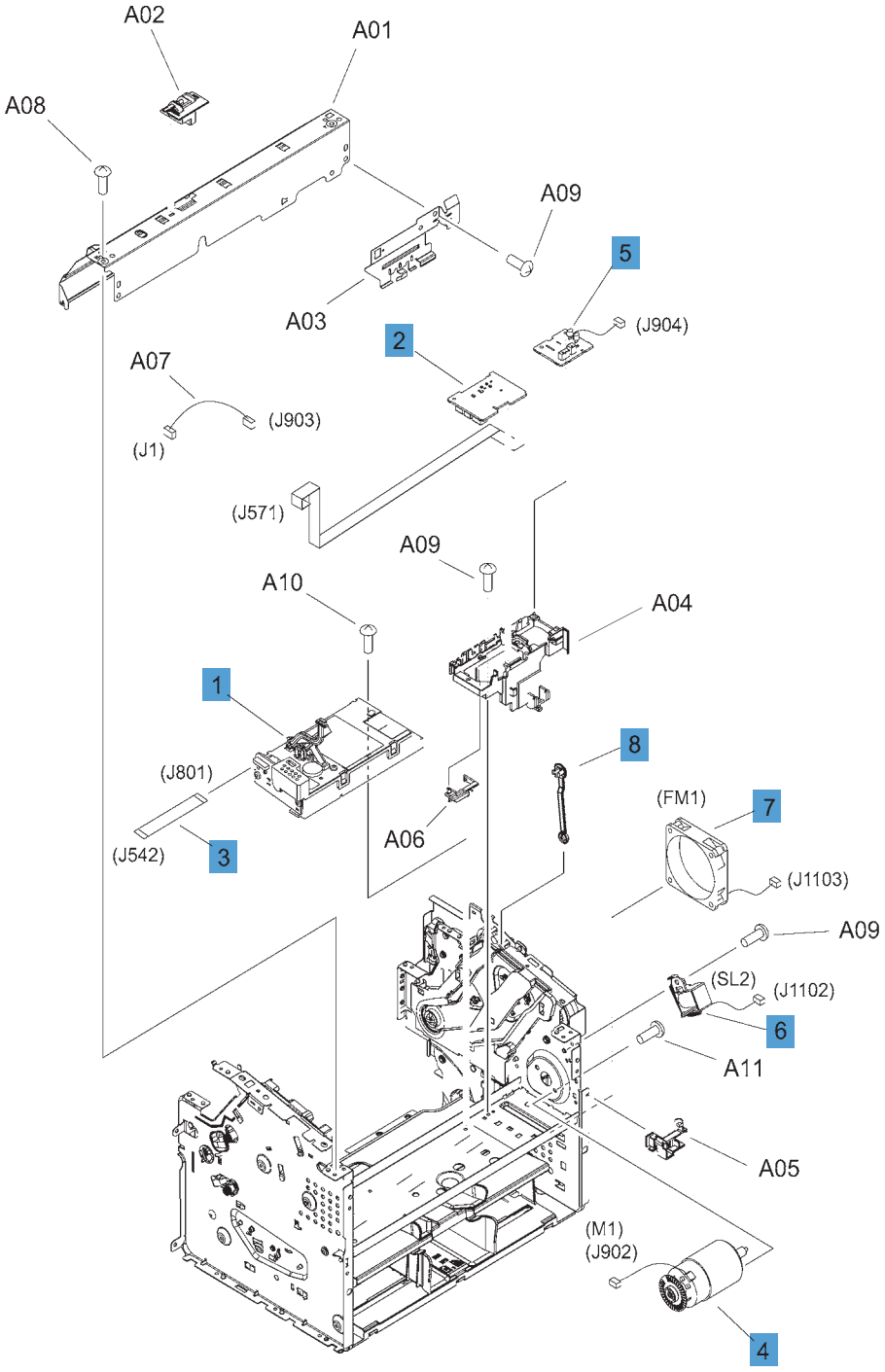


Table 4-11 Internal assemblies (3 of 3)

Ref	Description	Part number	Qty
1	Laser/scanner assembly, simplex model	RM1-7561-000CN	1
1	Laser/scanner assembly, duplex model	RM1-7560-000CN	1
2	Motor PCA	RM1-7619-000CN	1
3	Cable, flat	RM1-7739-000CN	1
4	Motor, DC24V	RM1-7544-000CN	1
5	Duplex PCA, duplex model	RM1-7620-000CN	1
6	Solenoid, duplex model	RK2-0420-000CN	1
7	Fan, duplex model	RK2-3238-000CN	1
8	Link, cartridge door	RC2-9425-000CN	1

PCAs

Figure 4-7 PCAs

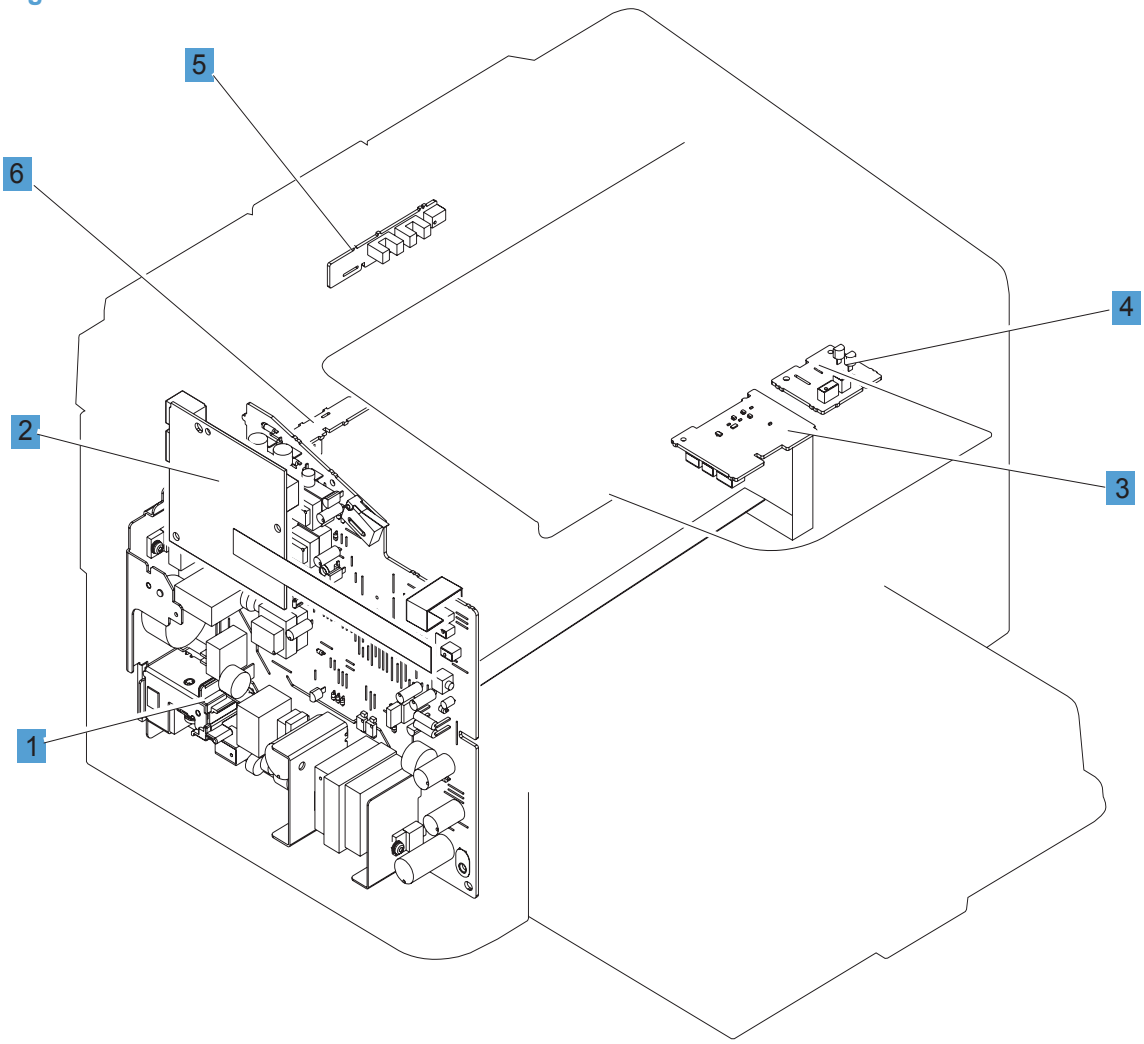


Table 4-12 PCAs

Ref	Description	Part number	Qty
1	Engine controller PCA (110 V)	RM1-7615-000CN	1
1	Engine controller PCA (220 V)	RM1-7616-000CN	1
2	Formatter PCA, simplex model	RM1-7622-000CN	1
2	Formatter PCA, duplex model	RM1-7623-000CN	1
3	Motor, DC24V	RM1-7502-000CN	1
4	Duplex PCA, duplex model	RM1-7620-000CN	1
5	Delivery sensor PCA assembly	RM1-7440-000CN	1
6	Paper pickup sensor PCA assembly	RM1-7618-000CN	1

Alphabetical parts list

Table 4-13 Alphabetical parts list

Description	Part number	Table and page
Cable, flat	RM1-7739-000CN	Internal assemblies (3 of 3) on page 173
Cartridge door	RM1-7528-000CN	Simplex model on page 165
Cartridge door	RM1-7527-000CN	Duplex model on page 167
Control-panel assembly	RM1-7530-000CN	Simplex model on page 165
Control-panel assembly	RM1-7529-000CN	Duplex model on page 167
Cover, dust	RC2-9582-000CN	Simplex model on page 165
Cover, dust	RC2-9578-000CN	Duplex model on page 167
Cover, face-down	RC2-9464-000CN	Simplex model on page 165
Cover, face-down	RC2-9436-000CN	Duplex model on page 167
Cover, front	RL1-2871-000CN	Simplex model on page 165
Cover, front	RL1-2870-000CN	Duplex model on page 167
Cover, right	RC2-9462-000CN	Simplex model on page 165
Cover, right	RC2-9458-000CN	Duplex model on page 167
Delivery sensor PCA assembly	RM1-7440-000CN	Internal assemblies (1 of 3) on page 169
Delivery sensor PCA assembly	RM1-7440-000CN	PCAs on page 175
Duplex frame assembly, duplex model	RM1-7525-000CN	Internal assemblies (2 of 3) on page 171
Duplex PCA, duplex model	RM1-7620-000CN	Internal assemblies (3 of 3) on page 173
Duplex PCA, duplex model	RM1-7620-000CN	PCAs on page 175
Duplexing door assembly	RM1-7526-000CN	Duplex model on page 167
Engine controller PCA (110 V)	RM1-7615-000CN	Internal assemblies (1 of 3) on page 169
Engine controller PCA (110 V)	RM1-7615-000CN	PCAs on page 175
Engine controller PCA (220 V)	RM1-7616-000CN	Internal assemblies (1 of 3) on page 169
Engine controller PCA (220 V)	RM1-7616-000CN	PCAs on page 175
Fan, duplex model	RK2-3238-000CN	Internal assemblies (3 of 3) on page 173
Formatter PCA, duplex model	RM1-7623-000CN	Internal assemblies (1 of 3) on page 169
Formatter PCA, duplex model	RM1-7623-000CN	PCAs on page 175
Formatter PCA, simplex model	RM1-7622-000CN	Internal assemblies (1 of 3) on page 169

Table 4-13 Alphabetical parts list (continued)

Description	Part number	Table and page
Formatter PCA, simplex model	RM1-7622-000CN	PCAs on page 175
Fuser assembly (110 V)	RM1-7546-000CN	Internal assemblies (1 of 3) on page 169
Fuser assembly (220 V)	RM1-7547-000CN	Internal assemblies (1 of 3) on page 169
Fuser film assembly (110 V)	RM1-7541-000CN	Internal assemblies (1 of 3) on page 169
Fuser film assembly (220 V)	RM1-7542-000CN	Internal assemblies (1 of 3) on page 169
Laser/scanner assembly, duplex model	RM1-7560-000CN	Internal assemblies (3 of 3) on page 173
Laser/scanner assembly, simplex model	RM1-7561-000CN	Internal assemblies (3 of 3) on page 173
Left cover	RM1-7533-000CN	Simplex model on page 165
Left cover	RM1-7532-000CN	Duplex model on page 167
Link, cartridge door	RC2-9425-000CN	Internal assemblies (3 of 3) on page 173
Link, pressure release	RC2-9512-000CN	Internal assemblies (1 of 3) on page 169
Motor PCA	RM1-7619-000CN	Internal assemblies (3 of 3) on page 173
Motor, DC24V	RM1-7544-000CN	Internal assemblies (3 of 3) on page 173
Motor, DC24V	RM1-7502-000CN	PCAs on page 175
Panel, rear, simplex model	RC2-9583-000CN	Internal assemblies (2 of 3) on page 171
Paper delivery tray	RM1-7499-000CN	Simplex model on page 165
Paper delivery tray	RM1-7498-000CN	Duplex model on page 167
Paper pickup assembly, duplex model	RM1-7516-000CN	Internal assemblies (2 of 3) on page 171
Paper pickup assembly, simplex model	RM1-7517-000CN	Internal assemblies (2 of 3) on page 171
Paper pickup sensor PCA assembly	RM1-7618-000CN	Internal assemblies (2 of 3) on page 171
Paper pickup sensor PCA assembly	RM1-7618-000CN	PCAs on page 175
Paper pickup tray	RM1-7535-000CN	Simplex model on page 165
Paper pickup tray	RM1-7534-000CN	Duplex model on page 167
Plate, name	RC3-0623-000CN	Simplex model on page 165
Plate, name	RC3-0622-000CN	Duplex model on page 167
Roller, pickup	RL1-1497-000CN	Internal assemblies (2 of 3) on page 171

Table 4-13 Alphabetical parts list (continued)

Description	Part number	Table and page
Separation pad	RM1-4227-000CN	Internal assemblies (2 of 3) on page 171
Solenoid, duplex model	RK2-0420-000CN	Internal assemblies (3 of 3) on page 173
Switch lever assembly	RM1-7531-000CN	Internal assemblies (1 of 3) on page 169
Transfer roller	RM1-4023-000CN	Internal assemblies (2 of 3) on page 171

Numerical parts list

Table 4-14 Numerical parts list

Part number	Description	Table and page
RC2-9425-000CN	Link, cartridge door	Internal assemblies (3 of 3) on page 173
RC2-9436-000CN	Cover, face-down	Duplex model on page 167
RC2-9458-000CN	Cover, right	Duplex model on page 167
RC2-9462-000CN	Cover, right	Simplex model on page 165
RC2-9464-000CN	Cover, face-down	Simplex model on page 165
RC2-9512-000CN	Link, pressure release	Internal assemblies (1 of 3) on page 169
RC2-9578-000CN	Cover, dust	Duplex model on page 167
RC2-9582-000CN	Cover, dust	Simplex model on page 165
RC2-9583-000CN	Panel, rear, simplex model	Internal assemblies (2 of 3) on page 171
RC3-0622-000CN	Plate, name	Duplex model on page 167
RC3-0623-000CN	Plate, name	Simplex model on page 165
RK2-0420-000CN	Solenoid, duplex model	Internal assemblies (3 of 3) on page 173
RK2-3238-000CN	Fan, duplex model	Internal assemblies (3 of 3) on page 173
RL1-1497-000CN	Roller, pickup	Internal assemblies (2 of 3) on page 171
RL1-2870-000CN	Cover, front	Duplex model on page 167
RL1-2871-000CN	Cover, front	Simplex model on page 165
RM1-4023-000CN	Transfer roller	Internal assemblies (2 of 3) on page 171
RM1-4227-000CN	Separation pad	Internal assemblies (2 of 3) on page 171
RM1-7440-000CN	Delivery sensor PCA assembly	Internal assemblies (1 of 3) on page 169
RM1-7440-000CN	Delivery sensor PCA assembly	PCAs on page 175
RM1-7498-000CN	Paper delivery tray	Duplex model on page 167
RM1-7499-000CN	Paper delivery tray	Simplex model on page 165
RM1-7502-000CN	Motor, DC24V	PCAs on page 175
RM1-7516-000CN	Paper pickup assembly, duplex model	Internal assemblies (2 of 3) on page 171
RM1-7517-000CN	Paper pickup assembly, simplex model	Internal assemblies (2 of 3) on page 171

Table 4-14 Numerical parts list (continued)

Part number	Description	Table and page
RM1-7525-000CN	Duplex frame assembly, duplex model	Internal assemblies (2 of 3) on page 171
RM1-7526-000CN	Duplexing door assembly	Duplex model on page 167
RM1-7527-000CN	Cartridge door	Duplex model on page 167
RM1-7528-000CN	Cartridge door	Simplex model on page 165
RM1-7529-000CN	Control-panel assembly	Duplex model on page 167
RM1-7530-000CN	Control-panel assembly	Simplex model on page 165
RM1-7531-000CN	Switch lever assembly	Internal assemblies (1 of 3) on page 169
RM1-7532-000CN	Left cover	Duplex model on page 167
RM1-7533-000CN	Left cover	Simplex model on page 165
RM1-7534-000CN	Paper pickup tray	Duplex model on page 167
RM1-7535-000CN	Paper pickup tray	Simplex model on page 165
RM1-7541-000CN	Fuser film assembly (110 V)	Internal assemblies (1 of 3) on page 169
RM1-7542-000CN	Fuser film assembly (220 V)	Internal assemblies (1 of 3) on page 169
RM1-7544-000CN	Motor, DC24V	Internal assemblies (3 of 3) on page 173
RM1-7546-000CN	Fuser assembly (110 V)	Internal assemblies (1 of 3) on page 169
RM1-7547-000CN	Fuser assembly (220 V)	Internal assemblies (1 of 3) on page 169
RM1-7560-000CN	Laser/scanner assembly, duplex model	Internal assemblies (3 of 3) on page 173
RM1-7561-000CN	Laser/scanner assembly, simplex model	Internal assemblies (3 of 3) on page 173
RM1-7615-000CN	Engine controller PCA (110 V)	Internal assemblies (1 of 3) on page 169
RM1-7615-000CN	Engine controller PCA (110 V)	PCAs on page 175
RM1-7616-000CN	Engine controller PCA (220 V)	Internal assemblies (1 of 3) on page 169
RM1-7616-000CN	Engine controller PCA (220 V)	PCAs on page 175
RM1-7618-000CN	Paper pickup sensor PCA assembly	Internal assemblies (2 of 3) on page 171
RM1-7618-000CN	Paper pickup sensor PCA assembly	PCAs on page 175
RM1-7619-000CN	Motor PCA	Internal assemblies (3 of 3) on page 173
RM1-7620-000CN	Duplex PCA, duplex model	Internal assemblies (3 of 3) on page 173

Table 4-14 Numerical parts list (continued)

Part number	Description	Table and page
RM1-7620-000CN	Duplex PCA, duplex model	PCAs on page 175
RM1-7622-000CN	Formatter PCA, simplex model	Internal assemblies (1 of 3) on page 169
RM1-7622-000CN	Formatter PCA, simplex model	PCAs on page 175
RM1-7623-000CN	Formatter PCA, duplex model	Internal assemblies (1 of 3) on page 169
RM1-7623-000CN	Formatter PCA, duplex model	PCAs on page 175
RM1-7739-000CN	Cable, flat	Internal assemblies (3 of 3) on page 173

A Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet Professional P1566, P1606dn	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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HP's limited warranty is valid in any country/region or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country/region for which it was never intended to function for legal or regulatory reasons.

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HP's Premium Protection Warranty: LaserJet print cartridge limited warranty statement

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

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

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

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10. COMPLIANCE WITH EXPORT LAWS. You will comply with all laws, rules, and regulations (i) applicable to the export or import of the Software, or (ii) restricting the Use of the Software, including any restrictions on nuclear, chemical, or biological weapons proliferation.

11. RESERVATION OF RIGHTS. HP and its suppliers reserve all rights not expressly granted to you in this EULA.

Rev. 11/06

Customer self-repair warranty service

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

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

Customer support

Get telephone support for your country/region Have the product name, serial number, date of purchase, and problem description ready.	Country/region phone numbers are on the flyer that was in the box with your product or at www.hp.com/support/.
Get 24-hour Internet support	www.hp.com/support/ljp1560series or www.hp.com/support/ljp1600series
Get support for products used with a Macintosh computer	www.hp.com/go/macosx
Download software utilities, drivers, and electronic information	www.hp.com/go/ljp1560series or www.hp.com/go/ljp1600series
Order additional HP service or maintenance agreements	www.hp.com/go/carepack

Repack the product

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

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

1. Remove and retain the print cartridge.

   △ **CAUTION:** It is *extremely important* to remove the print cartridge before shipping the product. A print cartridge that remains in the product during shipping can leak and cover the product engine and other parts with toner.

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

2. Remove and retain the power cable, interface cable, and optional accessories, such as an EIO card.
3. If possible, include print samples and 50 to 100 sheets of paper or other print media that did not print correctly.
4. In the U.S., call HP Customer Care to request new packing material. In other areas, use the original packing material, if possible. Hewlett-Packard recommends insuring the equipment for shipment.

Service information form

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

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

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

B Specifications

Physical specifications

Table B-1 Physical specifications[1]

Specification	HP LaserJet Professional P1560 Printer series series	HP LaserJet Professional P1600 Printer series series
Product weight	5.9 kg (13.0 lb)	6.5 kg (14.3 lb)
Product height	245 mm (9.65 in)	245 mm (9.65 in)
Product depth minimum	239 mm (9.41 in)	280 mm (11.02 in)
Product depth maximum	369 mm (14.53 in)	410 mm (16.14 in)
Product width	382 mm (15.04 in)	382 mm (15.04 in)

1 Values are based on preliminary data. See www.hp.com/support/ljp1560series or www.hp.com/support/ljp1600series.

Power consumption

Table B-2 HP LaserJet Professional P1560 and P1600 Printer series (average in watts)[123]

Product	Printing	Ready	HP Auto Off	Manual Off
HP LaserJet Professional P1560 Printer series[45]	420	1.2	0.9	0.5
HP LaserJet Professional P1600 Printer series[45]	440	2.2	1.6	0.4

1 Values are based on preliminary data. See www.hp.com/go/ljp1560_regulatory or www.hp.com/go/ljp1600_regulatory for current information.

2 Power reported is highest values measured for all product models using all standard voltages.

3 Default time from Ready Mode to HP Auto Off = 5 minutes

4 Typical Electricity Consumption (TEC) = 0.668 kWh/week (HP LaserJet Professional P1560 Printer series); 0.895 kWh/week (HP LaserJet Professional P1600 Printer series)

5 Maximum heat dissipation for all models in Ready Mode = 5 BTU/Hour (HP LaserJet Professional P1560 Printer series); 8 BTU/Hour (HP LaserJet Professional P1600 Printer series)

Acoustic specifications

Table B-3 HP LaserJet Professional P1560 and P1600 Printer series[12]

Sound power level	Declared per ISO 9296
Printing	• HP LaserJet Professional P1560 Printer series ◦ L_{WAd}= 6.4 Bels (A) [64 dB(A)] • HP LaserJet Professional P1600 Printer series ◦ L_{WAd}= 6.6 Bels (A) [66 dB(A)]
Ready	• HP LaserJet Professional P1560 Printer series ◦ Inaudible • HP LaserJet Professional P1600 Printer series ◦ Inaudible

Table B-3 HP LaserJet Professional P1560 and P1600 Printer series[12] (continued)

Sound power level	Declared per ISO 9296
Sound pressure level - bystander position	**Declared per ISO 9296**
Printing	• HP LaserJet Professional P1560 Printer series ◦ L_{pAm}=53 dB (A) • HP LaserJet Professional P1600 Printer series ◦ L_{pAm}=53 dB (A)
Ready	• HP LaserJet Professional P1560 Printer series ◦ Inaudible • HP LaserJet Professional P1600 Printer series ◦ Inaudible

1 Values are based on preliminary data. See www.hp.com/go/ljp1560_regulatory or www.hp.com/go/ljp1600_regulatory for current information.

2 Configuration tested: HP LaserJet P1566 product printing on A4-size paper in simplex mode; HP LaserJet P1606dn product printing on A4-size paper in simplex mode

Environmental specifications

Table B-4 Environmental specifications

	Operating[1]	Storage[1]
Temperature	10° to 32.5°C (50° to 91°F)	0° to 35°C (32° to 95°F)
Relative Humidity	10% to 80%	10% to 80%

1 Values are based on preliminary data. See www.hp.com/support/ljp1560series or www.hp.com/support/ljp1600series.

C Regulatory information

FCC regulations

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

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

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

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

Declaration of conformity

according to ISO/IEC 17050-1 and EN 17050-1; DoC#: BOISB-0902-00-rel. 1.0

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

declares, that the product

Product Name:	HP LaserJet Professional P1566/P1606 Printer series
Regulatory Model:[2)]	BOISB-0902-00
Product Options:	All
Toner Cartridges:	CE278A

conforms to the following Product Specifications:

SAFETY:	IEC 60950-1:2001 / EN60950-1: 2001 +A11 IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A1 +A2 (Class 1 Laser/LED Product) GB4943-2001
EMC:	CISPR22:2005 +A1:2005 / EN55022:2006 +A1:2007 - Class B[1)] EN 61000-3-2:2006 EN 61000-3-3:1995 +A1 +A2 EN 55024:1998 +A1 +A2 FCC Title 47 CFR, Part 15 Class B / ICES-003, Issue 4 GB9254-1998, GB17625.1-2003

Supplementary Information:

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

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

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

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

Boise, Idaho 83713, USA

March 2010

For Regulatory Topics Only:

European Contact	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard Gmbh, Department HQ-TRE / Standards Europe, Herrenberger Straße 140, D-71034 Böblingen, Germany, (FAX: +49-7031-14-3143), http://www.hp.com/go/certificates
USA Contact	Product Regulations Manager, Hewlett-Packard Company, PO Box 15, Mail Stop 160, Boise, ID 83707-0015, USA, (Phone: 208-396-6000)

Certificate of Volatility

Hewlett-Packard Certificate of Volatility			
Model: LJ P1566	Part Number: CE663A	Address: 11311 Chinden Blvd. Boise, ID. 83714	
Volatile Memory			
Does the device contain volatile memory (Memory whose contents are lost when power is removed)? ☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below			
Type (SRAM, DRAM, etc): Synchronous DRAM	Size: 8MB	Function: Run-time firmware image, print job info during printing	Steps to clear memory: Power off printer
Type (SRAM, DRAM, etc):	Size:	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	Function:	Steps to clear memory:
Non-Volatile Memory			
Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)? ☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below			
Type (Flash, EEPROM, etc): EEPROM	Size: 2KB	Function: Printer Specific Data	Steps to clear memory: User cannot, service tools can.
Type (Flash, EEPROM, etc): NAND Flash	Size: 64MB	Function: Printer Driver and Firmware	Steps to clear memory: User cannot, service tools can.
Type (Flash, EEPROM, etc):	Size:	Function:	Steps to clear memory:
Mass Storage			
Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)? ☐ Yes ☒ No If Yes please describe the type, size, function, and steps to clear the memory below			
Type (HDD, Tape, etc):	Size:	Function:	Steps to clear memory:
Type (HDD, Tape, etc):	Size:	Function:	Steps to clear memory:
Author Information			
Name:	Title: Technical Marketing Engineer	Email:	Business Unit: LaserJet Business
			Date Prepared: 08/28/2009

Hewlett-Packard Certificate of Volatility			
Model: LJ P1606	Part Number: CE749A	Address: 11311 Chinden Blvd. Boise, ID. 83714	
Volatile Memory			
Does the device contain volatile memory (Memory whose contents are lost when power is removed)? ☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below			
Type (SRAM, DRAM, etc): Synchronous DRAM	Size: 32MB	Function: Run-time firmware image, print job info during printing	Steps to clear memory: Power off printer
Type (SRAM, DRAM, etc):	Size:	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	Function:	Steps to clear memory:
Non-Volatile Memory			
Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)? ☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below			
Type (Flash, EEPROM, etc): EEPROM	Size: 8KB	Function: Printer Specific Data	Steps to clear memory: User cannot, service tools can.
Type (Flash, EEPROM, etc): NAND Flash	Size: 64MB	Function: Printer Driver and Firmware	Steps to clear memory: User cannot, service tools can.
Type (Flash, EEPROM, etc):	Size:	Function:	Steps to clear memory:
Mass Storage			
Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)? ☐ Yes ☒ No If Yes please describe the type, size, function, and steps to clear the memory below			
Type (HDD, Tape, etc):	Size:	Function:	Steps to clear memory:
Type (HDD, Tape, etc):	Size:	Function:	Steps to clear memory:
Author Information			
Name:	Title: Technical Marketing Engineer	Email:	Business Unit: LaserJet Business
			Date Prepared: 08/28/2009

Safety statements

Laser safety

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

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

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

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

VCCI statement (Japan)

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取扱説明書に従って正しい取り扱いをして下さい。

Power cord instructions

Make sure your power source is adequate for the product voltage rating. The voltage rating is on the product label. The product uses either 110-127 Vac or 220-240 Vac and 50/60 Hz.

Connect the power cord between the product and a grounded AC outlet.

△ **CAUTION:** To prevent damage to the product, use only the power cord that is provided with the product.

Power cord statement (Japan)

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

EMC statement (Korea)

B급 기기 (가정용 방송통신기기)	이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP LaserJet Professional P1566, P1606dn, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

VAROITUS !

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

VARNING !

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

HUOLTO

HP LaserJet Professional P1566, P1606dn - kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

VARO !

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

VARNING !

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

GS statement (Germany)

Das Gerät ist nicht für die Benutzung im unmittelbaren Gesichtsfeld am Bildschirmarbeitsplatz vorgesehen. Um störende Reflexionen am Bildschirmarbeitsplatz zu vermeiden, darf dieses Produkt nicht im unmittelbaren Gesichtsfeld platziert werden.

Substances Table (China)

有毒有害物质表

根据中国电子信息产品污染控制管理办法的要求而出台

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

3685

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

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

Restriction on Hazardous Substances statement (Turkey)

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

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