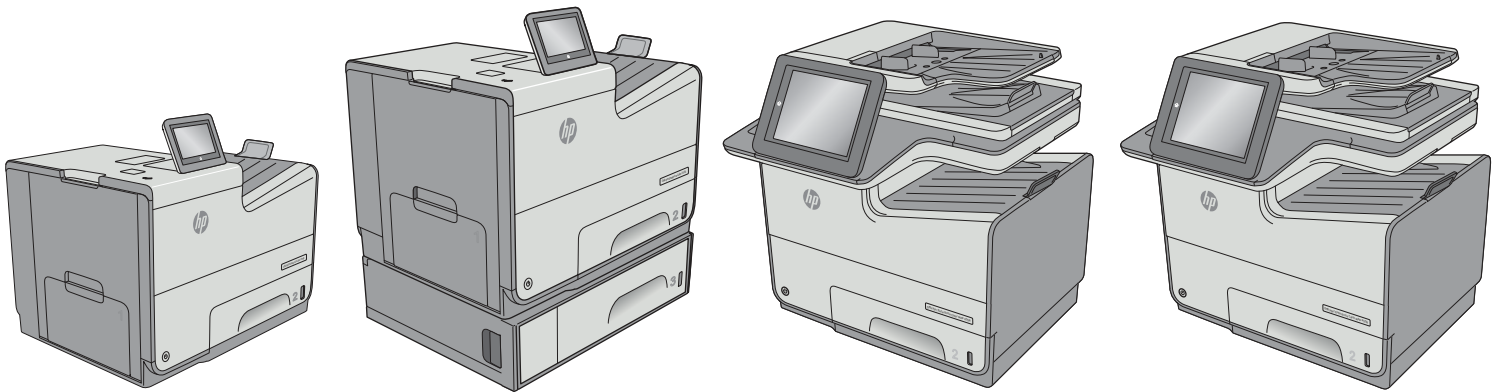




HP PageWide Enterprise Color 556
HP PageWide Enterprise Color MFP 586
HP PageWide Managed Color E55650
HP PageWide Managed Color MFP E58650

Service manual



www.hp.com/support/pagewidecolor556
www.hp.com/support/pagewidecolor586MFP



HP PageWide Enterprise 556, MFP 586, Managed E55650, and Managed MFP E58650 - Service Manual

SUMMARY

Learn about printer theory of operation, how to diagnose and solve printer problems, and how to remove and replace supported printer service parts.

Legal information

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Edition 5, 1/2022

Revision history

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Table Revision history


Revision number	Revision date	Revision notes
5	1/28/2022	Added Removal and replacement: Engine controller board (ECB) on page 657 .
4	10/2021	Migration into SDL Tridion Docs. RRP/TTS structure changed to combined service manual (CSRM) format. Updated the CPMD topic to the WISE link (pdf_3366566_en-US-6) format. See Control panel messages document (CPMD) on page 105 .
3	06/2021	<ul style="list-style-type: none">Corrected part name and part number for tray 3 interconnect UPDATE part name to: Tray 3 Interconnect PCA PageWide A4 UPDATE part number to: D3Q19-67003


Conventions used in this guide

Learn about the conventions used in this publication.

 **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.

HP service and support

Learn about HP access to additional service and support information.

Additional service and support for channel partners

Channel partners go to partner.hp.com, and then use the steps below to access the HP Web-based Interactive Search Engine (WISE).

[View a video of how to use the HP Partner First Portal to access WISE.](#)

Access WISE for Channel partners

1. Select [Services & Support](#) (near the top of the screen).
2. Under [Services Delivery](#), select [Technical Support](#).
3. Select [Technical Documentation](#).

Find information about the following topics

- Service manuals
- Service advisories
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Install and configure
- Printer specifications
- Warranty and regulatory information

Additional service and support for HP internal personnel

HP internal personnel, go to one of the following Web-based Interactive Search Engine (WISE) sites:

[View a video of how to access WISE for internal HP users.](#)

Americas (AMS)

- [WISE - English](#)

- [WISE - Spanish](#)
- [WISE - Portuguese](#)
- [WISE - French](#)

Asia Pacific / Japan (APJ)

- [WISE - English](#)
- [WISE - Japanese](#)
- [WISE - Korean](#)
- [WISE - Chinese \(simplified\)](#)
- [WISE - Chinese \(traditional\)](#)
- [WISE - Thai](#)

Europe / Middle East / Africa (EMEA)

- [WISE - English](#)

Additional technical support WISE videos

The videos below provide additional ways to access printer information using WISE.

[View a video of how to use WISE to find technical support videos \(model number search\).](#)

[View a video of ow to use WISE to find technical support videos \(Product detail page \[PDP\] search\).](#)

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1 Printer information, configurations, and specifications

Learn about printer configuration and specifications.

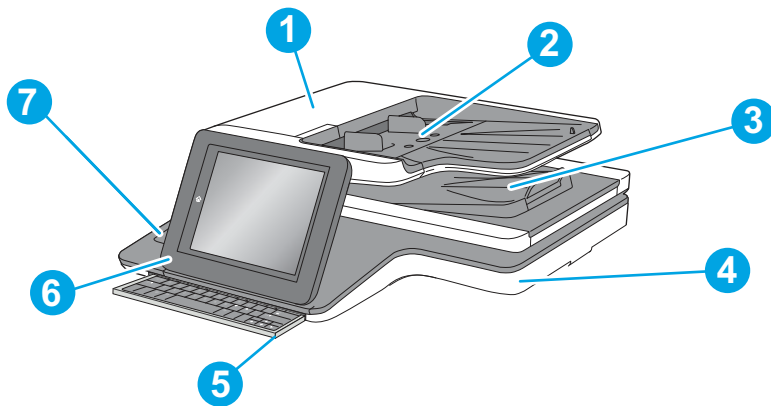
Information (document feeder and scanner)

Learn about the document feeder and scanner.

Document feeder and scanner front view

Learn about the document feeder and scanner components.

Figure 1-1 Document feeder and scanner front view



Item	Description
1	Document-feeder cover (access for clearing jams)
2	Document-feeder input tray
3	Document-feeder output bin
4	Image scanner
5	Physical keyboard (z model only)
6	Control panel with color touchscreen display

Item	Description
7	Hardware integration pocket (for connecting accessory and third-party devices)

Specifications (document feeder and scanner)

Learn about the document feeder and scanner specifications.

Technical specifications

Learn about the document feeder and scanner specifications.

Review the technical specifications for the document feeder and scanner.

See www.hp.com/support/pagewidecolor586MFP for current information.

Table 1-1 Copy and scan specifications (586)

Copy and scan features	586dn	586f	M586z
	G1W39A	G1W40A	G1W41A
Copies 45 pages per minute (ppm) on A4 and letter-size paper	Yes	Yes	Yes
100-page document feeder with dual-head scanning for single-pass duplex copying and scanning	Yes	Yes	Yes
HP EveryPage Technologies including ultrasonic multi-feed detection	No	No	Yes
Embedded optical character recognition (OCR) provides the ability to convert printed pages into text that can be edited or searched using a computer	No	No	Yes
SMART Label feature provides paper-edge detection for automatic page cropping	No	No	Yes
Automatic page orientation for pages that have at least 100 characters of text	No	No	Yes
Automatic tone adjustment sets contrast, brightness, and background removal for each page	No	No	Yes
Send documents to E-mail, USB, and shared folders on a network	Yes	Yes	Yes
Send documents to SharePoint®	No	No	Yes

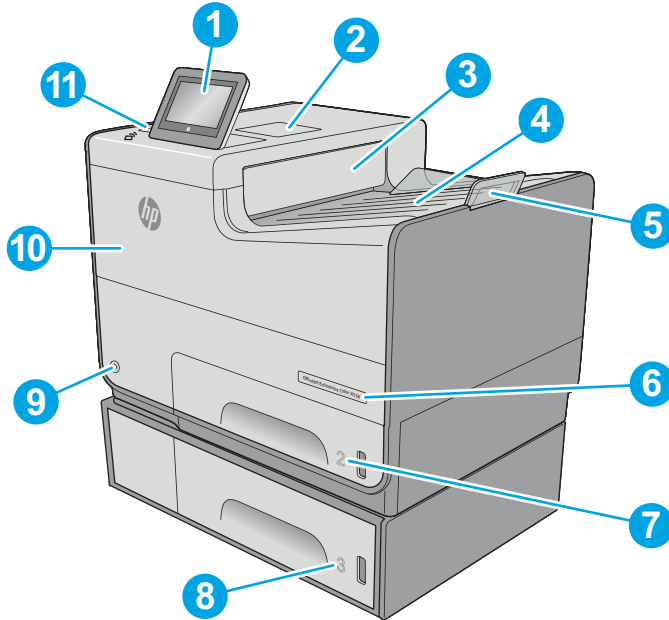
Information (base printer)

Learn about the base printer.

Printer front view (556)

Identify the parts on the front of the printer (SFP).

Figure 1-2 Printer front view (SFP)



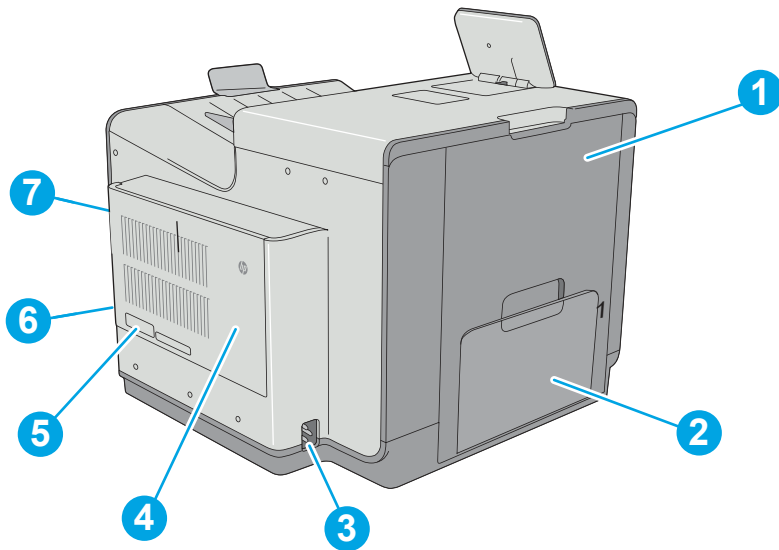
Number	Description
1	Control panel with color touchscreen display (tilts up for easier viewing)
2	Hardware integration pocket (for connecting accessory and third-party devices)
3	Output ejector flap
4	Output bin
5	Output bin extension
6	Model name
7	Tray 2
8	Tray 3 (included with the xh model, optional for the dn model)
9	On/off button
10	Cartridge door
11	Easy-access USB port (on the side of the control panel) Insert a USB flash drive for printing or scanning without a computer or to update the printer firmware.

NOTE: An administrator must enable this port before use.

Printer back view (556)

Identify the parts on the back of the printer (SFP).

Figure 1-3 Printer rear view (SFP)

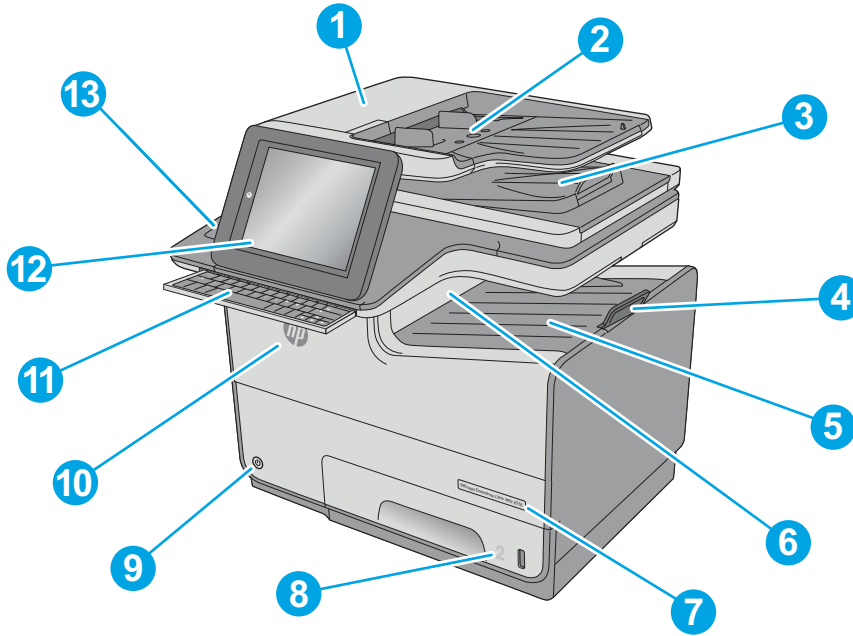


Number	Description
1	Left door (access to the ink-collection unit and for clearing jams)
2	Tray 1
3	Power connection
4	Formatter cover
5	Serial number and product number label
6	Formatter (contains the interface ports)
7	Slot for a cable-type security lock (on the rear cover of the printer)

Printer front view (586)

Identify the parts on the front of the printer (MFP).

Figure 1-4 Printer front view (MFP)

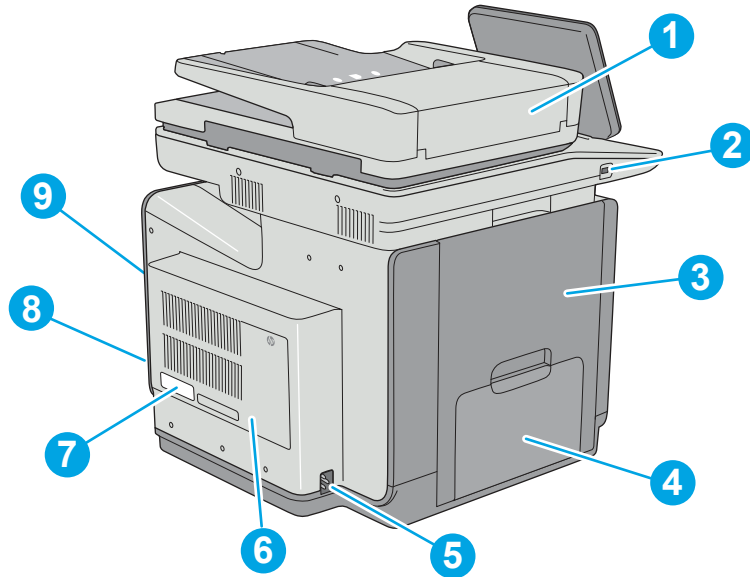


Number	Description
1	Document-feeder cover (access for clearing jams)
2	Document-feeder input tray
3	Document-feeder output bin
	NOTE: When feeding long paper through the document feeder, extend the paper stop at the right side of the output bin.
4	Output bin extension
5	Standard output bin
6	Output ejector flap
7	Model name
8	Tray 2
9	On/off button
10	Cartridge door
11	Physical keyboard (z model only). Pull the keyboard straight out to use it.
12	Control panel with color touchscreen display (tilts up for easier viewing)
13	Hardware integration pocket (for connecting accessory and third-party devices)

Printer back view (586)

Identify the parts on the back of the printer (MFP).

Figure 1-5 Printer rear view (MFP)



Number	Description
1	Document-feeder cover (access for clearing jams or cleaning rollers)
2	Easy-access USB port Insert a USB flash drive for printing or scanning without a computer or to update the printer firmware. NOTE: An administrator must enable this port before use.
3	Left door (access to the ink-collection unit and for clearing jams)
4	Tray 1
5	Power connection
6	Formatter cover
7	Serial number and product number label
8	Formatter (contains the interface ports)
9	Slot for a cable-type security lock (on the rear cover of the printer)

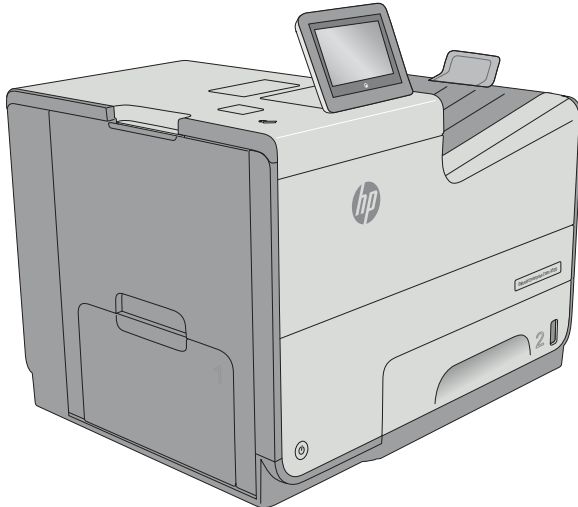
Configuration (base printer)

Learn about the base printer configurations.

Configuration (556)


Learn about the base printer SFP configurations.

Figure 1-6 PageWide Enterprise Color 556



PageWide Enterprise Color 556

- Prints 50 pages per minute (A4/letter) (Professional mode)
Prints 75 pages per minute (A4/letter) (General Office mode)
- FutureSmart 3 firmware, FutureSmart 4 firmware, or FutureSmart 5 firmware
- Automatic duplex printing
- Tray 1 (50-sheet capacity)
- Tray 2 (500-sheet capacity)
- Tray 3 (500-sheet capacity)

 **NOTE:** Optional for the 556dn. Standard for the 556xh.

- 3 x 500-sheet paper feeder and stand (combined 1,500-sheet capacity)

 **NOTE:** Optional accessory.

- Color touchscreen display
- 1.28 GB base memory

 **NOTE:** Expandable to 2 GB by adding a DIMM memory module.

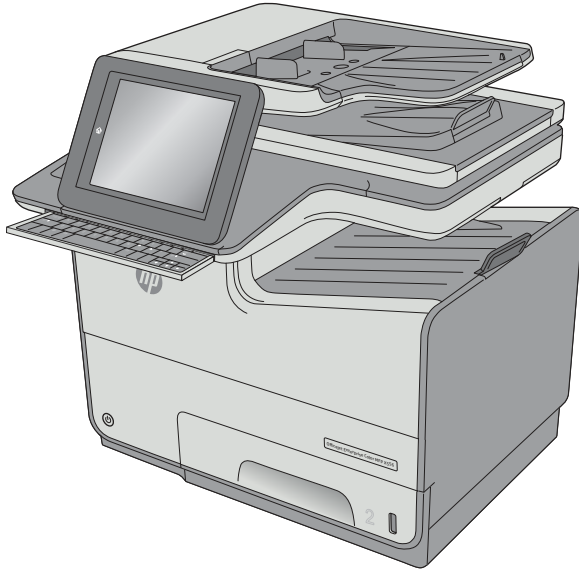
- 320 GB HP Secure High-Performance Hard Disk (556xh only)
- 4GB eMMC mass storage (556dn only)
- HP Trusted Platform Module (TPM) for encrypting all data that passes through the printer.

 **NOTE:** Optional accessory.

Configuration (586)

Learn about the base printer MFP configurations.

Figure 1-7 PageWide Enterprise Color MFP 586




PageWide Enterprise Color MFP 586


- Prints 50 pages per minute (A4/letter) (Professional mode)
Prints 75 pages per minute (A4/letter) (General Office mode)
- Copy and scans 45 pages per minute (A4/letter)
- 100-page document feeder with dual-head scanning for single-pass duplex copying and scanning.
- FutureSmart 3 firmware, FutureSmart 4 firmware, or FutureSmart 5 firmware
- Automatic duplex printing
- Tray 1 (50-sheet capacity)
- Tray 2 (500-sheet capacity)
- Tray 3 (500-sheet capacity)

 **NOTE:** Optional accessory.

- 3 x 500-sheet paper feeder and stand (combined 1,500-sheet capacity)

 **NOTE:** Optional accessory.

- Color touchscreen display


 **NOTE:** The 586z supports a physical keyboard (located under the control panel).

- 2 GB base memory

 **NOTE:** Expandable to 2.8 GB by adding a DIMM memory module.

- 320 GB HP Secure High-Performance Hard Disk

- HP Trusted Platform Module (TPM) for encrypting all data that passes through the printer.

 **NOTE:** Optional accessory.

Specifications (base printer)

Learn about the base printer specifications.

Technical specifications (556)

Review the technical specifications for the SFP printer.

See www.hp.com/support/pagewidecolor556 for current information.

Product numbers for each model

- 556dn - G1W46A
- 556xh - G1W47A

Table 1-2 Paper handling specifications

Paper handling features	556dn	556xh
Tray 1 (50-sheet capacity)	✓	✓
Tray 2 (500-sheet capacity)	✓	✓
Tray 3 (500-sheet paper feeder)	Optional	✓
3 x 500-sheet paper feeder and stand (combined 1,500-sheet capacity)	Optional	Optional
Printer stand	Optional	Optional
Automatic duplex printing	✓	✓

Table 1-3 Connectivity specifications

Connectivity features	556dn	556xh
10/100/1000 Ethernet LAN connection with IPv4 and IPv6	✓	✓
Hi-speed USB 2.0	✓	✓
Walk-up USB port for printing without a computer and upgrading the firmware	✓	✓
Hardware Integration Pocket (HIP) for connecting accessory and third-party devices	✓	✓
HP Internal USB Ports	Optional	Optional
Integrated HP near-field communication (NFC) and Wireless Direct Print	Optional	✓
HP Jetdirect 3000w NFC/Wireless Accessory for printing from mobile devices	Optional	Optional
HP Jetdirect 2900nw Print Server accessory for wireless connectivity	Optional	Optional

Table 1-4 Print specifications

Print features	556dn	556xh
Prints 50 pages per minute (ppm) on A4 and letter-size paper (Professional mode)	✓	✓
Prints 75 pages per minute (ppm) on A4 and letter-size paper (General Office mode)	✓	✓
Easy-access USB printing (no computer required)	✓	✓
Store jobs in the printer memory to print later or print privately	✓	✓

Table 1-5 Other specifications

Other features	556dn	556xh
1.28 GB base memory	✓	✓
NOTE: Expandable to 2 GB.		
320 GB HP Secure High Performance Hard Disk Drive	Not supported	✓
4 GB embedded Multi-Media Controller (eMMC)	✓	Not supported
Color touchscreen control panel	✓	✓
HP Trusted Platform Module (TPM) for encrypting all data that passes through the printer	Optional	Optional

Technical specifications (586)

Review the technical specifications for the MFP printer.

See www.hp.com/support/pagewidecolor586MFP for current information.

Product numbers for each model

- 586dn - G1W39A
- 586f - G1W40A
- 586z - G1W41A

Table 1-6 Paper handling specifications

Paper handling features	586dn	586f	586z
Tray 1 (50-sheet capacity)	✓	✓	✓
Tray 2 (500-sheet capacity)	✓	✓	✓
Tray 3 (500-sheet paper feeder)	Optional	Optional	Optional
3 x 500-sheet paper feeder and stand (combined 1,500-sheet capacity)	Optional	Optional	Optional
Printer stand	Optional	Optional	Optional
Automatic duplex printing	✓	✓	✓

Table 1-7 Connectivity specifications

Connectivity features	586dn	586f	586z
10/100/1000 Ethernet LAN connection with IPv4 and IPv6	✓	✓	✓
Hi-speed USB 2.0	✓	✓	✓
Walk-up USB port for printing without a computer and upgrading the firmware	✓	✓	✓
Hardware Integration Pocket (HIP) for connecting accessory and third-party devices	✓	✓	✓
HP Jetdirect 3000w NFC/Wireless Accessory for printing from mobile devices	Optional	Optional	Optional
HP Jetdirect 2900nw Print Server accessory for wireless connectivity	Optional	Optional	Optional

Table 1-8 Print specifications

Print features	586dn	586f	586z
Prints 50 pages per minute (ppm) on A4 and letter-size paper (Professional mode)	✓	✓	✓
Prints 75 pages per minute (ppm) on A4 and letter-size paper (General Office mode)	✓	✓	✓
Easy-access USB printing (no computer required)	✓	✓	✓
Store jobs in the printer memory to print later or print privately	✓	✓	✓

Table 1-9 Copy, scan, and fax specifications

Print features	586dn	586f	586z
Copies 450 pages per minute (ppm) on A4 and letter-size paper (Professional mode)	✓	✓	✓
100-page document feeder with dual-head scanning for single-pass duplex copying and scanning	✓	✓	✓
HP EveryPage Technologies including ultrasonic multi-feed detection	Not supported	Not supported	✓
Embedded optical character recognition (OCR) provides the ability to convert printed pages into text that can be edited or searched using a computer	Not supported	Not supported	✓
SMART Label feature provides paper-edge detection for automatic page cropping	Not supported	Not supported	✓
Automatic page orientation for pages that have at least 100 characters of text	Not supported	Not supported	✓
Automatic tone adjustment sets contrast, brightness, and background removal for each page	Not supported	Not supported	✓
Send documents to E-mail, USB, and shared folders on a network	✓	✓	✓

Table 1-9 Copy, scan, and fax specifications (continued)

Print features	586dn	586f	586z
Send documents to SharePoint®	Not supported	Not supported	✓
Fax	Optional	✓	✓

Table 1-10 Other specifications

Other features	586dn	586f	586z
2 GB base memory	✓	✓	✓
NOTE: Expandable to 2.8 GB.			
320 GBHP Secure High Performance Hard Disk Drive	✓	✓	✓
HP Trusted Platform Module (TPM) for encrypting all data that passes through the printer	Optional	Optional	Optional
Color touchscreen control panel	✓	✓	✓
Physical keyboard	Not supported	Not supported	✓

Information (input devices)

Learn about the printer input devices.

Supported input devices

Review the supported input devices.

See www.hp.com/support/pagewidecolor556 or www.hp.com/support/pagewidecolor586MFP for current information.

Product numbers for each model

- 556dn - G1W46A
- 556xh - G1W47A
- 586dn - G1W39A
- 586f - G1W40A
- 586z - G1W41A

Table 1-11 Paper handling specifications

Paper handling features	556dn	556xh	586dn	586f	586z
Tray 3 (500-sheet paper feeder)	Optional	✓	Optional	Optional	Optional
3 x 500-sheet paper feeder and stand (combined 1,500-sheet capacity)	Optional	Optional	Optional	Optional	Optional

Table 1-11 Paper handling specifications (continued)

Paper handling features	556dn	556xh	586dn	586f	586z
Printer stand	Optional	Optional	Optional	Optional	Optional

2 Printer installation and maintenance

Learn about printer installation and maintenance.

Document feeder / scanner

Learn about the printer document feeder and scanner installation and maintenance.

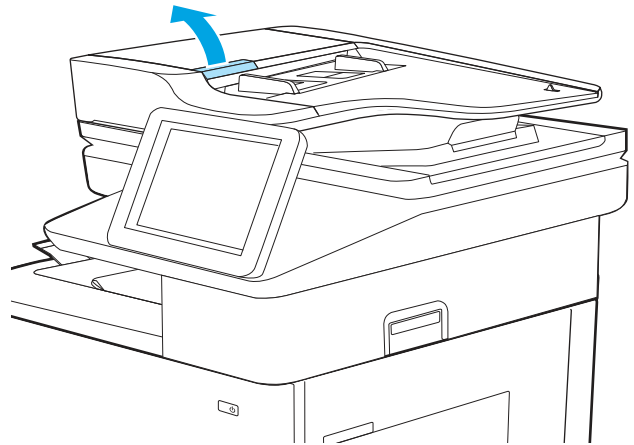
Clean the pickup rollers and separation pad in the document feeder (MFP)

Learn about cleaning the document feeder rollers and pads.

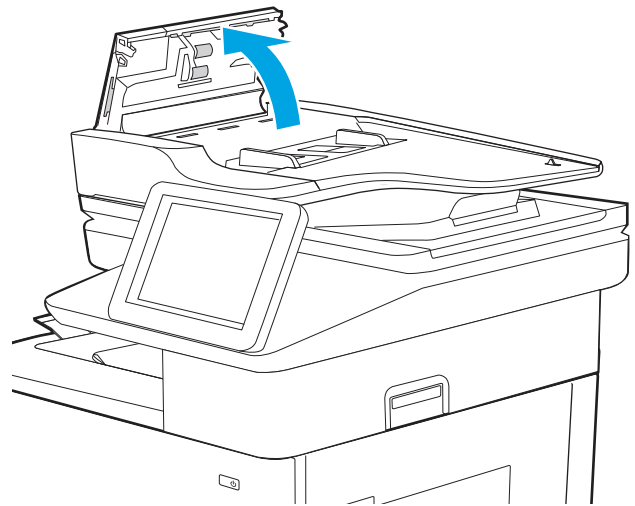
Over time, specks of debris might collect on the document feeder rollers and pads which can affect performance.

 **NOTE:** The figures in this topic show a typical MFP printer. However, the procedure is correct for all MFP printers.

1. Lift the document-feeder latch.

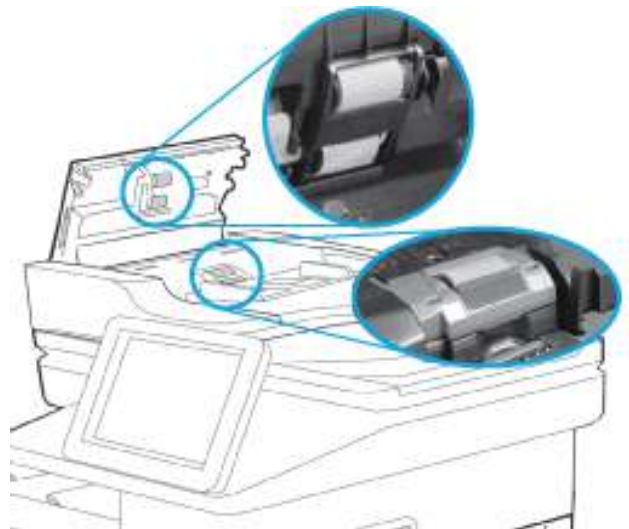


2. Open the document-feeder cover.



3. Remove any visible lint or dust from each of the feed rollers and the separation pad using compressed air or a clean lint-free cloth moistened with warm water.

 **NOTE:** Lift up the roller assembly to access and clean the second roller.



4. Close the document-feeder cover.

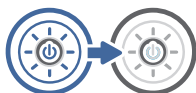
Check the scanner glass for dirt and smudges

Learn about solving copy-quality debris problems.

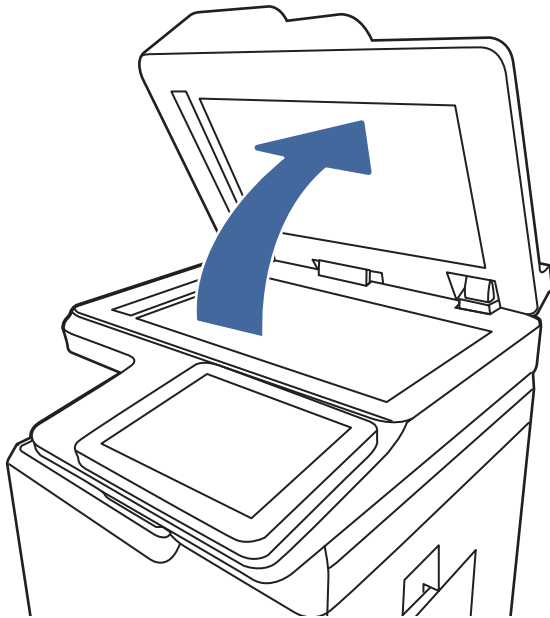
Over time, specks of debris might collect on the scanner glass and document feeder white plastic backing, which might cause print defects. Use the following procedure to clean the scanner if the printed pages have streaks, unwanted lines, black dots, poor print quality, or unclear text.

[View a video of cleaning the document feeder glass and flatbed glass.](#)

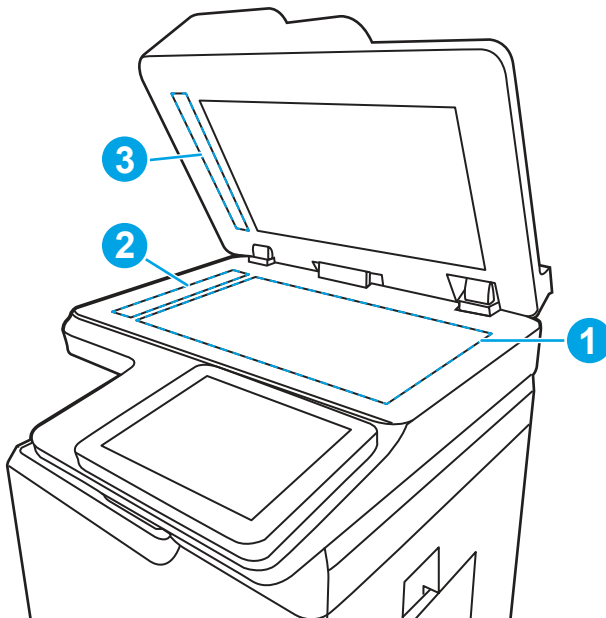
1. Press the power button to turn the printer off, and then disconnect the power cable from the electrical outlet.



2. Open the scanner lid.



3. Clean the scanner glass (callout 1) and the document feeder strips (callout 2, callout 3) with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.



⚠ CAUTION: Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the printer; these can damage the printer. Do not place liquids directly on the glass or platen. They might seep and damage the printer.

📝 NOTE: If you are having trouble with streaks on copies when you are using the document feeder, be sure to clean the small strips of glass on the left side of the scanner (callout 2, callout 3).

4. Dry the glass and white plastic parts with a chamois or a cellulose sponge to prevent spotting.

5. Connect the power cable to an outlet, and then press the power button to turn the printer on.



Base printer

Learn about the base printer installation and maintenance.

Removal and replacement: Ink cartridges

Learn how to remove and replace the ink cartridges.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cord before attempting to service the printer.

⚠ CAUTION: Do not remove the cartridge from its package until it is time to replace it.

Locate the metal connector at one end of the cartridge. **Do not touch this connector.** Fingerprints can cause supply error messages. Dust might also cause supply error messages; do not leave cartridges outside the printer for prolonged periods of time.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 2-1 Part information

Part number (service)	Part number (new)	Description
J3M68-67901	J3M68A	HP 981A Cyan Original Ink Cartridge
J3M69-67901	J3M69A	HP 981A Magenta Original Ink Cartridge
J3M70-67901	J3M70A	HP 981A Yellow Original Ink Cartridge
J3M71-67901	J3M71A	HP 981A Black Original Ink Cartridge
L0R09-67901	L0R09A	HP 981X High Yield Cyan Original Ink Cartridge
L0R10-67901	L0R10A	HP 981X High Yield Magenta Original Ink Cartridge
L0R011-67901	L0R11A	HP 981X High Yield Yellow Original Ink Cartridge
L0R12-67901	L0R12A	HP 981X High Yield Black Original Ink Cartridge
L0R13-67901	L0R13A	HP 981Y Extra High Yield Cyan Original Ink Cartridge
L0R14-67901	L0R14A	HP 981Y Extra High Yield Magenta Original Ink Cartridge
L0R15-67901	L0R15A	HP 981Y Extra High Yield Yellow Original Ink Cartridge
L0R16-67901	L0R16A	HP 981Y Extra High Yield Black Original Ink Cartridge

Table 2-1 Part information (continued)

Part number (service)	Part number (new)	Description
LOR17-67901	LOR17A	HP 981YC Extra High Yield Cyan Original Ink Cartridge
LOR18-67901	LOR18A	HP 981YC Extra High Yield Magenta Original Ink Cartridge
LOR19-67901	LOR19A	HP 981YC Extra High Yield Yellow Original Ink Cartridge
LOR20-67901	LOR20A	HP 981YC Extra High Yield Black Original Ink Cartridge

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

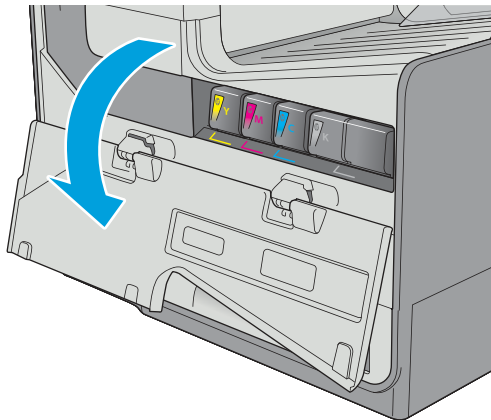
Print any pages necessary to make sure the printer is functioning correctly.

Remove the ink cartridges

Follow these steps to remove the ink cartridges.

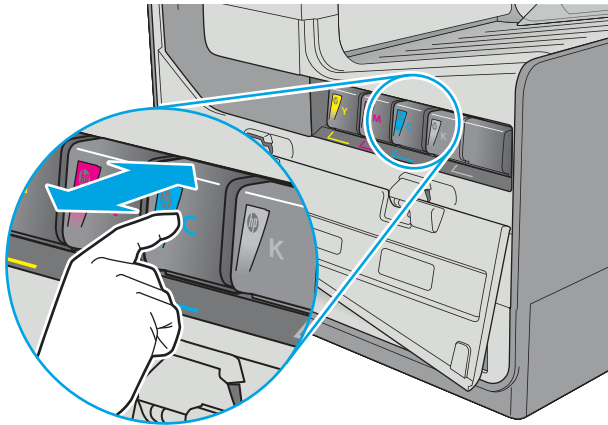
1. Open the cartridge door.

Figure 2-1 Open the cartridge door



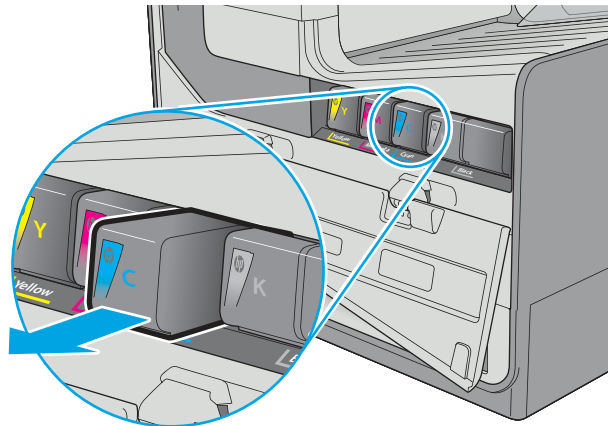
2. Push the old cartridge inward to unlock it.

Figure 2-2 Release the cartridge



3. Grasp the edge of the old cartridge and then pull the cartridge straight out to remove it.

Figure 2-3 Remove the ink cartridge



Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.


 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

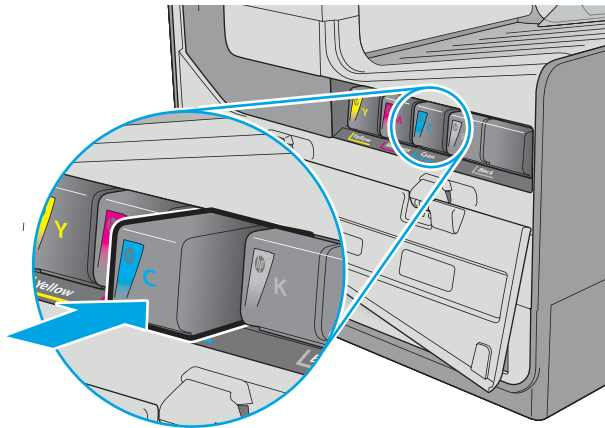
Install the ink cartridges

Follow these steps to install the ink cartridges.

 **CAUTION:** Locate the metal connector at one end of the cartridge. **Do not touch this connector.** Fingerprints can cause supply error messages. Dust might also cause supply error messages; do not leave cartridges outside the printer for prolonged periods of time.

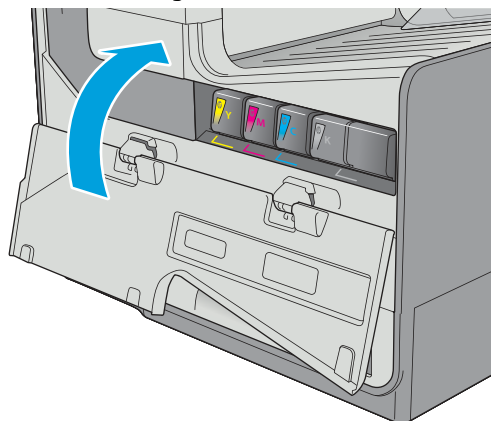
1. Insert the new cartridge into the printer. Make sure the cartridge is firmly in place.

Figure 2-4 Install the cartridge




2. Close the cartridge door.

Figure 2-5 Close the cartridge door



Print a cleaning page


Learn how to print a cleaning page.

 **IMPORTANT:** The procedures in this section are for printers with FutureSmart 4 (FS4) or later firmware installed. For printers with FS3 firmware installed, go to the HP WISE web site and search for *HP PageWide Enterprise Color 556, MFP 586 - Control-panel menus (c05087782)* for more information.

Print a cleaning page


1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Support Tools](#) button.
2. Open the following menus:
 - [Maintenance](#)
 - [Calibration/Cleaning](#)
3. Touch [Cleaning Page](#), and then touch the [Print](#) button to print the cleaning page.

 **NOTE:** A **Cleaning...** message displays on the control-panel display. Do not turn the printer off until the cleaning process has finished. When it is finished, discard the printed page.

 **TIP:** Use this screen to set up automatic cleaning page intervals if desired.

Automatic cleaning page

Learn how to set up automatic cleaning page intervals.

 **IMPORTANT:** The procedures in this section are for printers with FutureSmart 4 (FS4) or later firmware installed. For printers with FS3 firmware installed, go to the HP WISE web site and search for *HP PageWide Enterprise Color 556, MFP 586 - Control-panel menus (c05087782)* for more information.

Enable and configure auto cleaning

1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Support Tools](#) button.
2. Open the following menus:
 - [Maintenance](#)
 - [Calibration/Cleaning](#)
 - [Cleaning Page](#)
3. Touch the desired automatic cleaning page interval, and then touch the [Done](#) button.

Clean the Tray 2-x rollers

Learn how to clean the Tray 2-x rollers.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cord before attempting to service the printer.

📄 IMPORTANT: The separation roller assemblies look similar but are not interchangeable. If more than one assembly must be replaced, HP recommends that only one assembly be removed and replaced at a time.

📄 NOTE: The Tray 2 roller and separation roller assembly are shown in this guide. However, these instructions are correct for replacing these parts in Tray 3/4/5.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 2-2 Part information

Part number	Description
CN598-67018	Tray 2 separation and pick rollers with instruction guide ¹
D3Q21-67002	Tray 3 separation and pick rollers with instruction guide ¹
D3Q21-67003	Tray 4/5 separation and pick rollers with instruction guide ¹

¹A roller removal tool is included in this kit.

Required tools

- #10 Torx driver
- Roller removal tool (included in the kit)

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Print any pages necessary to make sure the printer is functioning correctly.

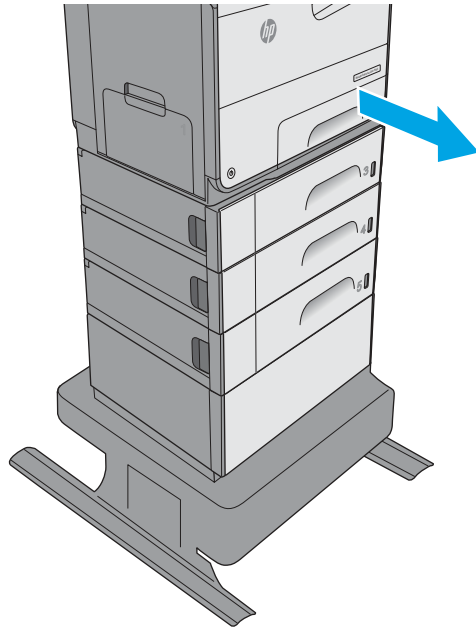
Remove the Tray 2-x rollers

Learn about removing the Tray 2-x rollers.

📄 NOTE: The figures in this section show Tray 2. However, this procedure is also correct for Tray 3, Tray 4, or Tray 5. Always carefully read the instructions that accompany the figures.

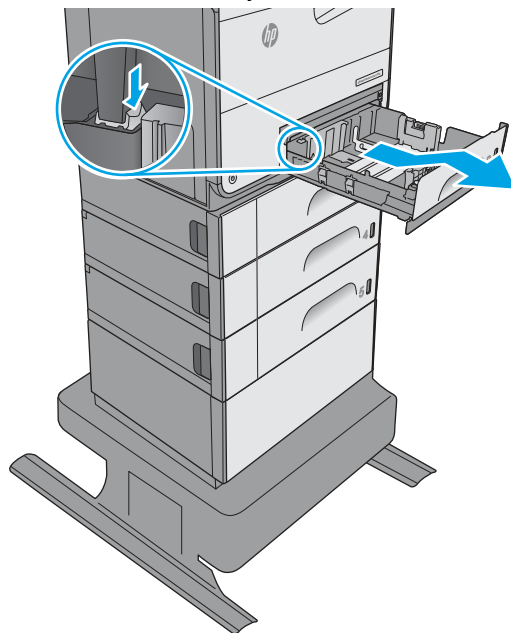
1. Pull the tray out until it stops.

Figure 2-6 Pull the tray out



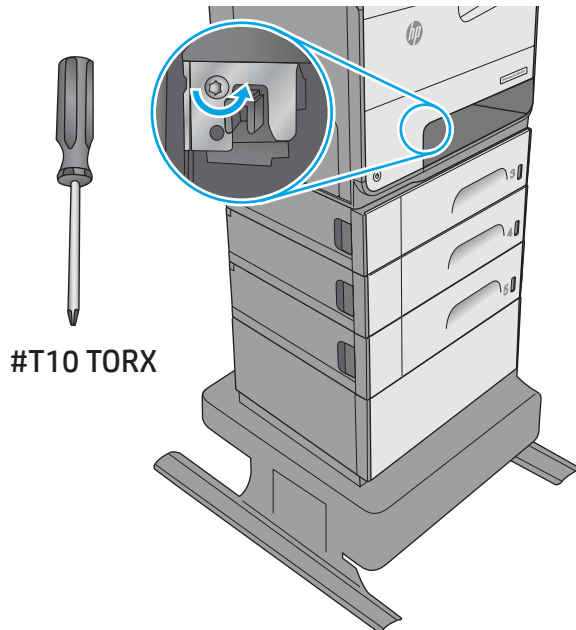
2. Press the latch in left-rear corner of the tray to remove it from the printer.

Figure 2-7 Remove the tray



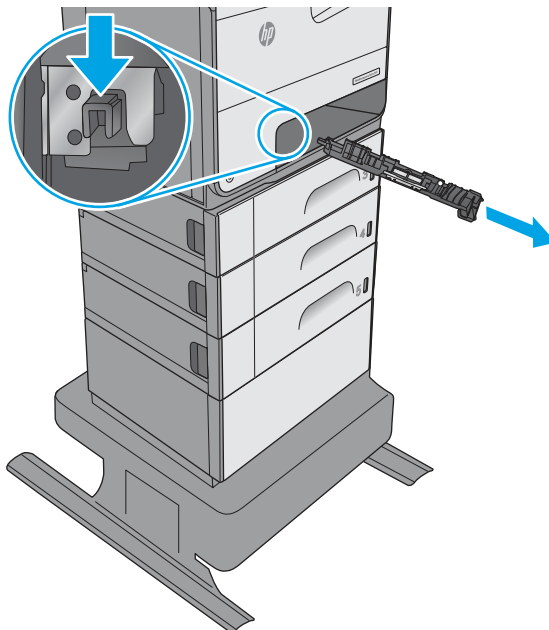
3. Remove one screw.

Figure 2-8 Remove one screw



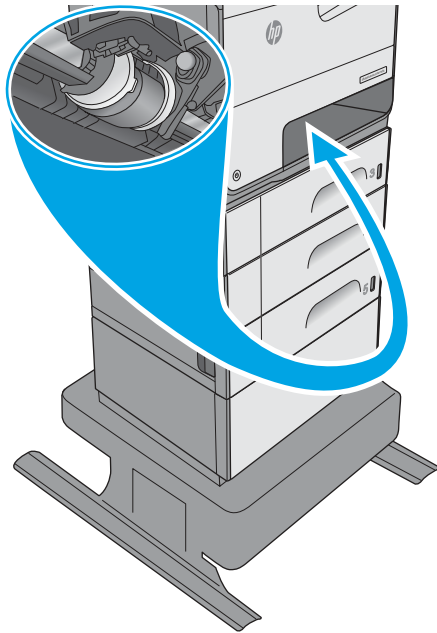
4. Push down on the separation roller assembly to release it, and then pull it straight out of the printer to remove it.

Figure 2-9 Remove the separation roller assembly



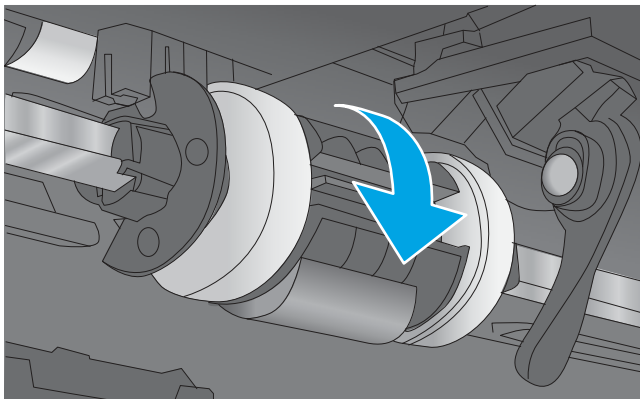
5. Look into the tray cavity and locate the pick roller assembly.

Figure 2-10 Locate the pick roller



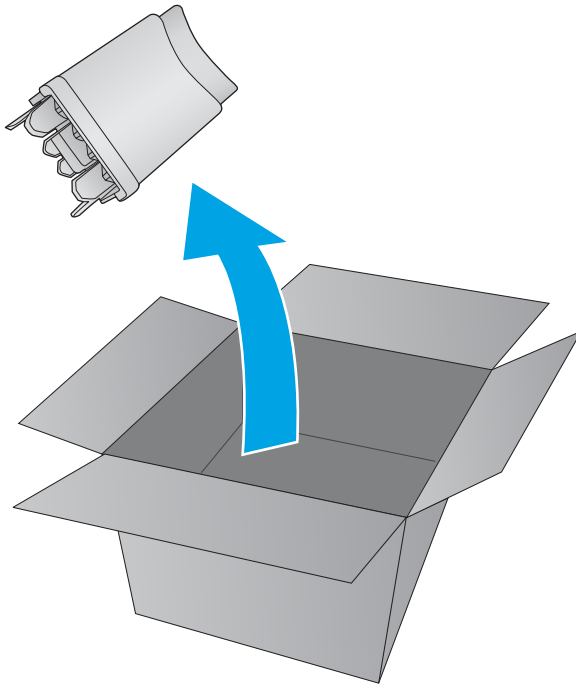
6. Rotate the pick roller and holder assembly until the back of the holder faces outward.

Figure 2-11 Rotate the roller



7. Locate the roller removal tool that is included in the kit.

Figure 2-12 Locate the roller removal tool



8. With the back side of the roller holder facing outward, firmly place the roller removal tool against the roller holder.


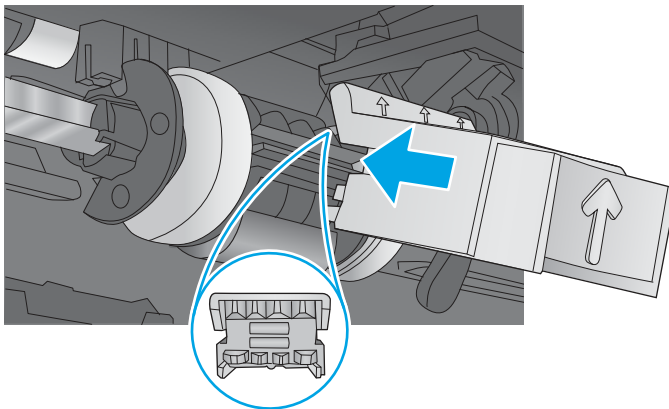
 **NOTE:** The arrow on the end of the tool must point upward.

Figure 2-13 Place the roller removal tool on the holder



9. With the roller removal tool placed firmly against the roller holder, press in on the tool to release the roller locking tabs.


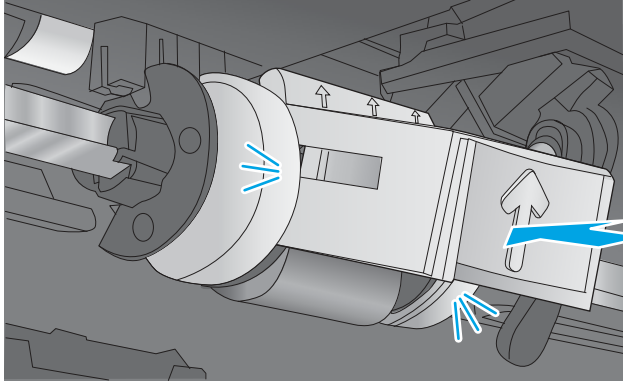
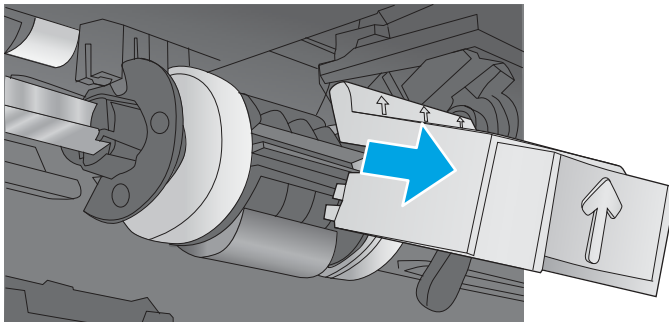
 **NOTE:** An audible click can be heard when the tabs release.

Figure 2-14 Release the roller tabs



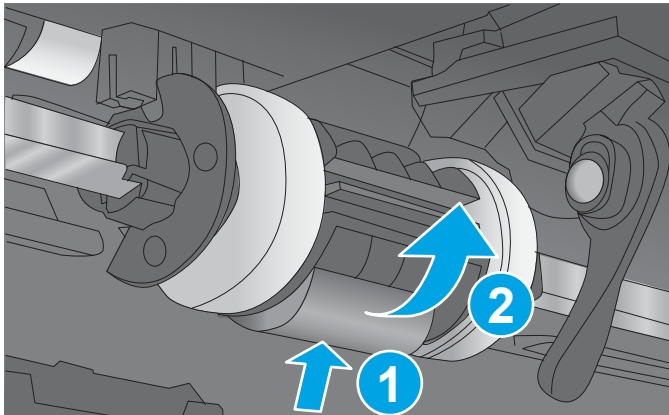
10. Remove the tool.

Figure 2-15 Remove the tool



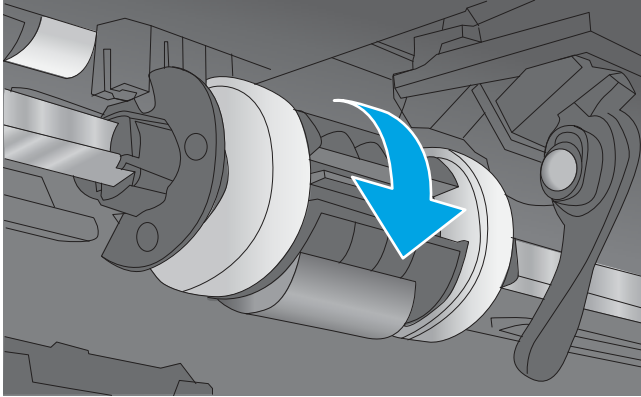
11. Use a finger to hold the roller in place (callout 1), and then rotate the roller and holder up (callout 2) to expose the roller.

Figure 2-16 Release the roller



12. Remove the roller.

Figure 2-17 Remove the roller



Clean the rollers

Learn about cleaning the rollers.

- ▲ Clean the rollers.
 - ▲ Use a damp, lint-free cloth to gently clean the rollers.

⚠ **CAUTION:** Do not touch the spongy portion of the roller. Skin oils on the roller can cause paper handling problems. HP recommends washing your hands before handling the assembly.

Install the Tray 2-x rollers

Learn about installing the Tray 2-x rollers.

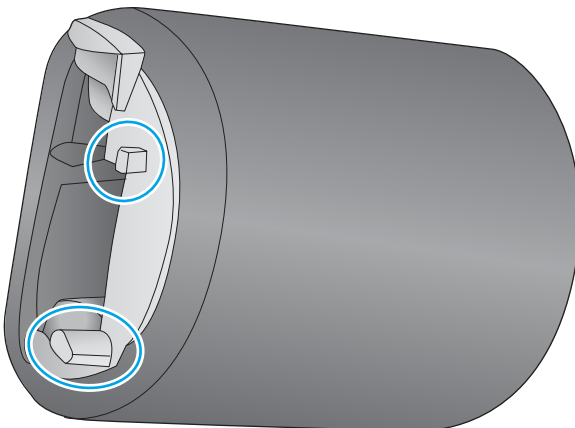
📖 **NOTE:** The figures in this section show Tray 2. However, this procedure is also correct for Tray 3, Tray 4, or Tray 5. Always carefully read the instructions that accompany the figures.

1. Locate the tabs and pins on the roller.

⚠ **CAUTION:** When handling the roller and pad, avoid touching the spongy surfaces. Skin oils and fingerprints on a roller surface can cause print-quality problems.

📖 **NOTE:** There is one pin and one tab one each side of the roller.

Figure 2-18 Locate the tabs and pins on the roller



2. Install the tabs on either side of the roller into the notches on the holder.


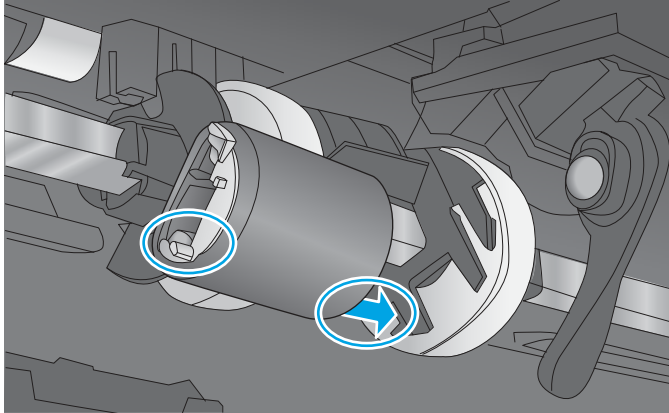
 **TIP:** The holder might need to be repositioned if it rotated while removing the roller.

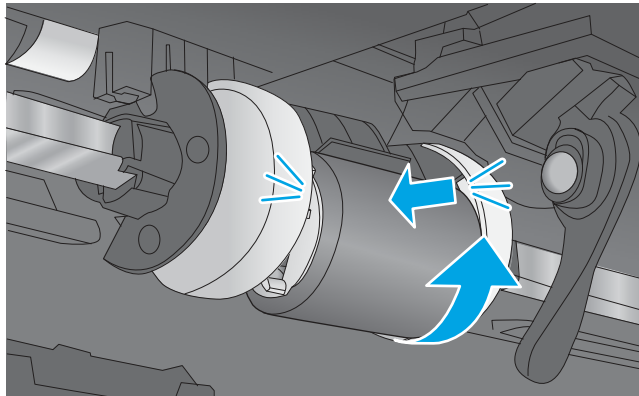
Figure 2-19 Install the tabs



3. Rotate the roller up until the pins snap into the slots on the holder.

 **TIP:** An audible click can be heard when the pins snap into the slots on the roller holder. Make sure that the roller is securely fastened in the holder.

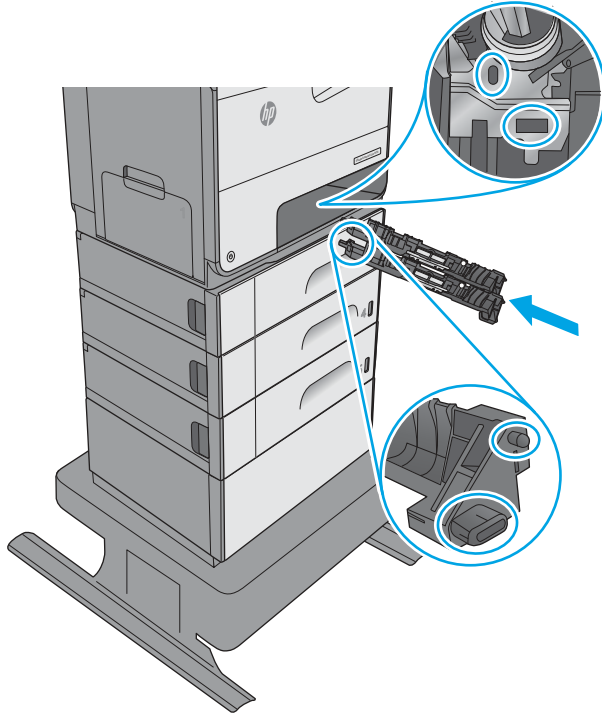
Figure 2-20 Install the pins



4. Install the back end of the separation roller assembly into the printer.

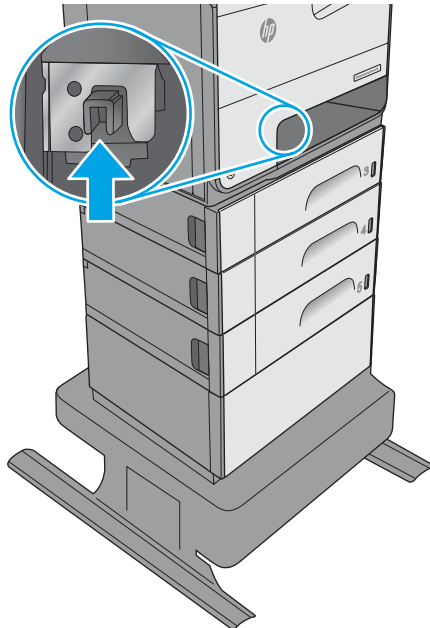
 **TIP:** There is a pin and a tab on the assembly that correspond to a hole and a slot in the sheet-metal rear wall of the tray cavity.

Figure 2-21 Install the back end of the assembly



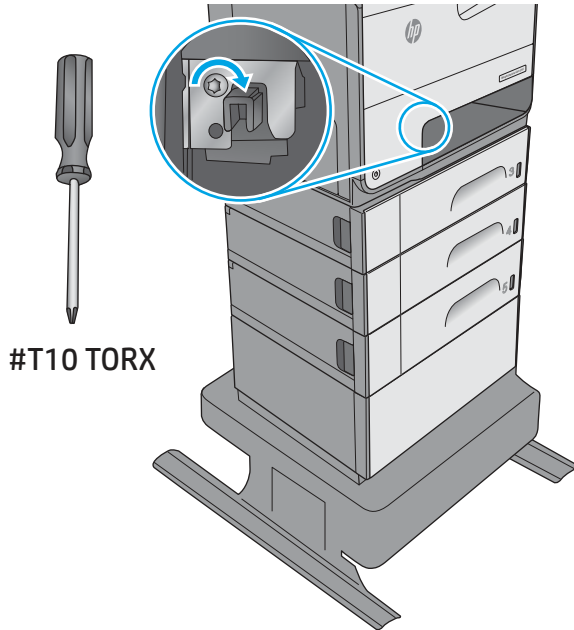
5. Push up on the front end of the separation roller assembly to install it in the holder.

Figure 2-22 Install the front end of the assembly



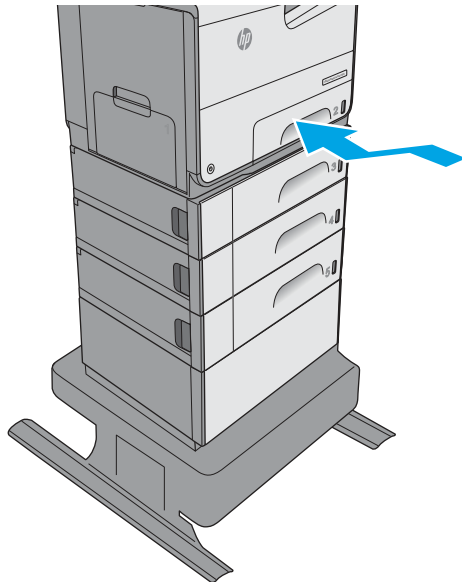
6. Install one screw.

Figure 2-23 Install one screw



7. Install the tray. With the tray at a slight angle, align the sides of the tray with the rails in the accessory, and then slide the tray straight into the printer to install it.

Figure 2-24 Install the tray



Input devices

Learn about input device installation and maintenance.


Clean the Tray 2-x rollers


Learn how to clean the Tray 2-x rollers.


Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cord before attempting to service the printer.

 **IMPORTANT:** The separation roller assemblies look similar but are not interchangeable. If more than one assembly must be replaced, HP recommends that only one assembly be removed and replaced at a time.

 **NOTE:** The Tray 2 roller and separation roller assembly are shown in this guide. However, these instructions are correct for replacing these parts in Tray 3/4/5.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 2-3 Part information

Part number	Description
CN598-67018	Tray 2 separation and pick rollers with instruction guide ¹
D3Q21-67002	Tray 3 separation and pick rollers with instruction guide ¹
D3Q21-67003	Tray 4/5 separation and pick rollers with instruction guide ¹

¹A roller removal tool is included in this kit.

Required tools

- #10 Torx driver
- Roller removal tool (included in the kit)

After performing service

Turn the printer power on


- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Print any pages necessary to make sure the printer is functioning correctly.

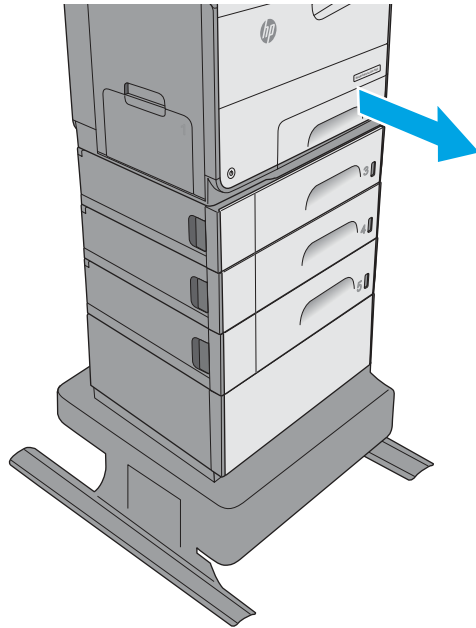
Remove the Tray 2-x rollers

Learn about removing the Tray 2-x rollers.

 **NOTE:** The figures in this section show Tray 2. However, this procedure is also correct for Tray 3, Tray 4, or Tray 5. Always carefully read the instructions that accompany the figures.

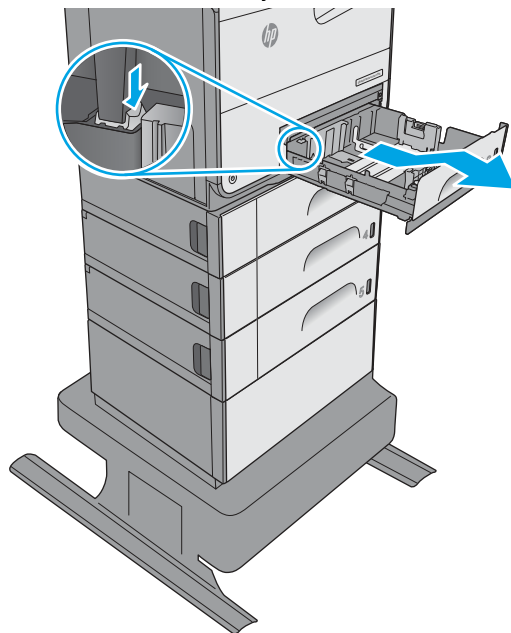
1. Pull the tray out until it stops.

Figure 2-25 Pull the tray out



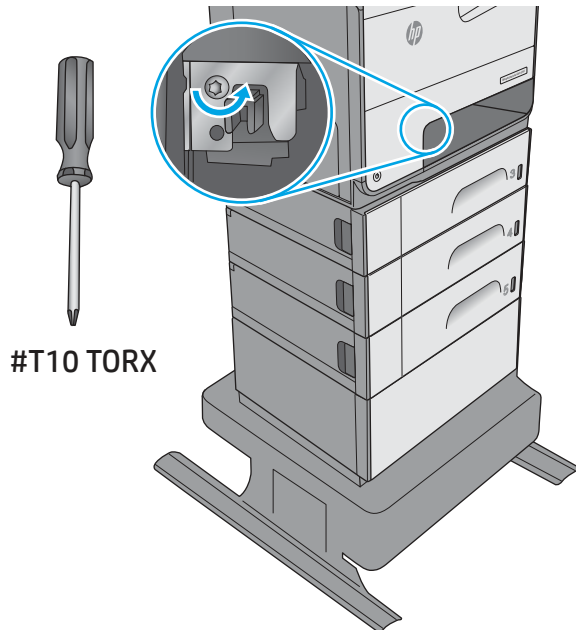
2. Press the latch in left-rear corner of the tray to remove it from the printer.

Figure 2-26 Remove the tray



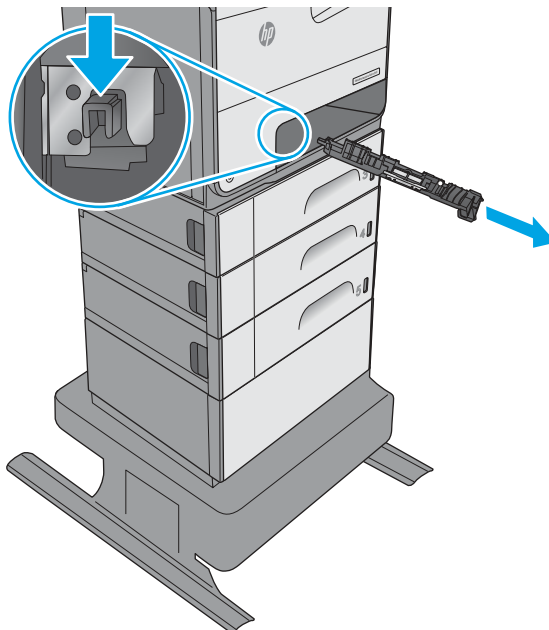
3. Remove one screw.

Figure 2-27 Remove one screw



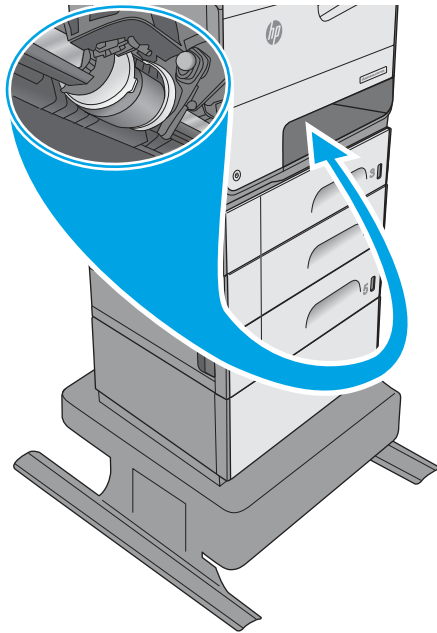
4. Push down on the separation roller assembly to release it, and then pull it straight out of the printer to remove it.

Figure 2-28 Remove the separation roller assembly



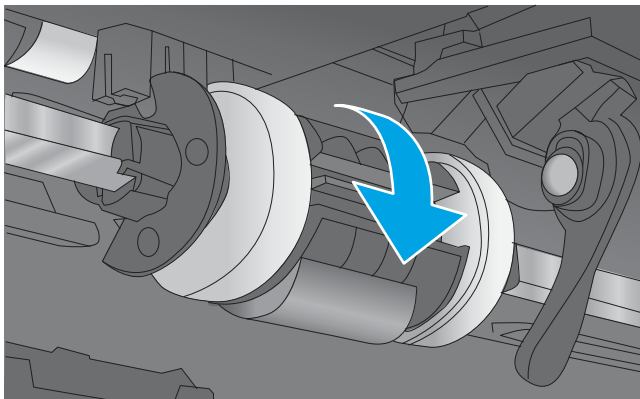
5. Look into the tray cavity and locate the pick roller assembly.

Figure 2-29 Locate the pick roller



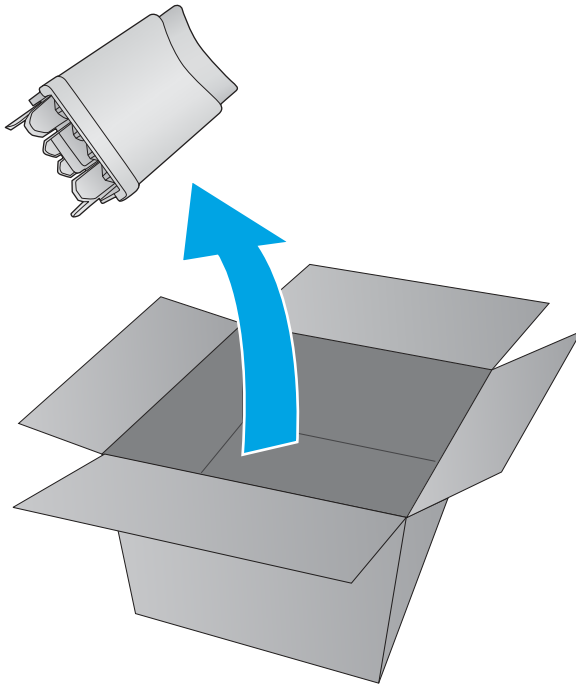
6. Rotate the pick roller and holder assembly until the back of the holder faces outward.

Figure 2-30 Rotate the roller



7. Locate the roller removal tool that is included in the kit.

Figure 2-31 Locate the roller removal tool



8. With the back side of the roller holder facing outward, firmly place the roller removal tool against the roller holder.


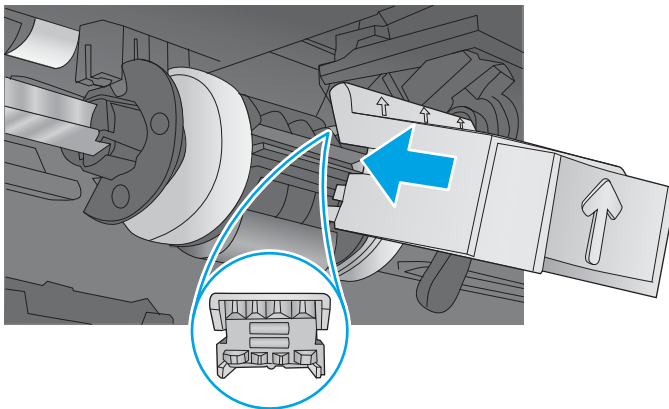
 **NOTE:** The arrow on the end of the tool must point upward.

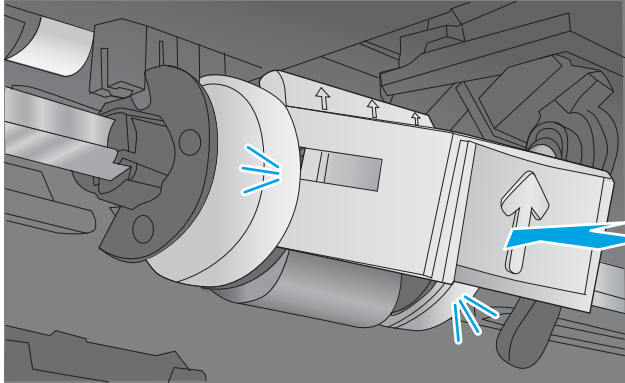
Figure 2-32 Place the roller removal tool on the holder



9. With the roller removal tool placed firmly against the roller holder, press in on the tool to release the roller locking tabs.

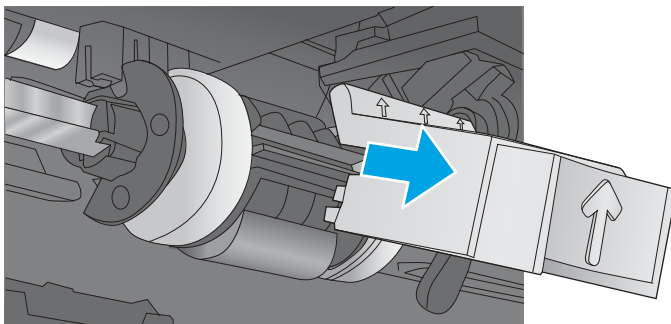
 **NOTE:** An audible click can be heard when the tabs release.

Figure 2-33 Release the roller tabs



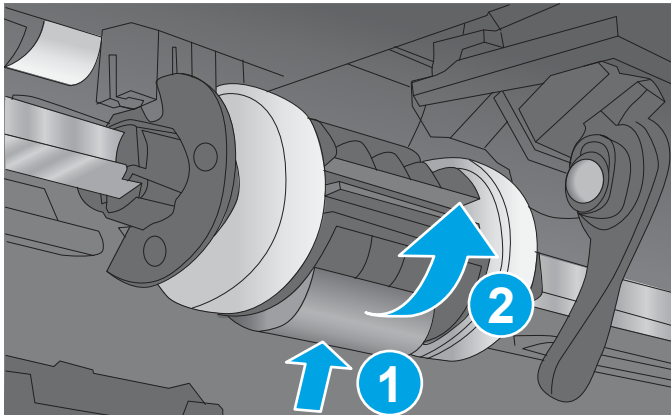
10. Remove the tool.

Figure 2-34 Remove the tool



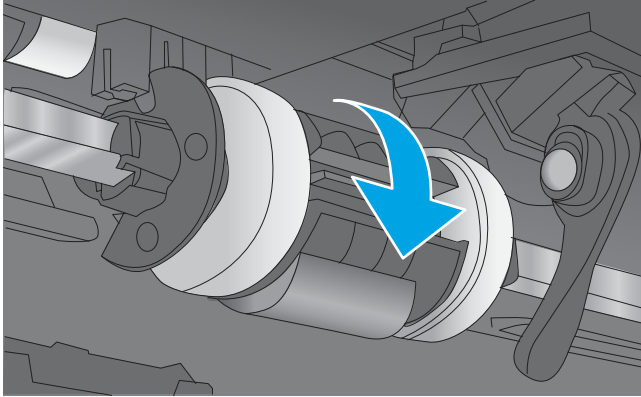
11. Use a finger to hold the roller in place (callout 1), and then rotate the roller and holder up (callout 2) to expose the roller.

Figure 2-35 Release the roller



12. Remove the roller.

Figure 2-36 Remove the roller



Clean the rollers

Learn about cleaning the rollers.

- ▲ Clean the rollers.
 - ▲ Use a damp, lint-free cloth to gently clean the rollers.

⚠ **CAUTION:** Do not touch the spongy portion of the roller. Skin oils on the roller can cause paper handling problems. HP recommends washing your hands before handling the assembly.

Install the Tray 2-x rollers

Learn about installing the Tray 2-x rollers.

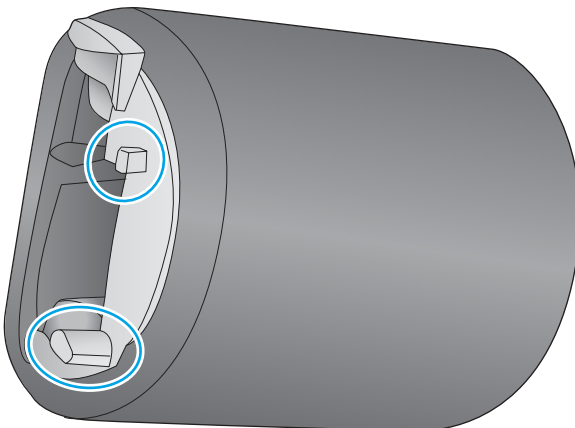
📖 **NOTE:** The figures in this section show Tray 2. However, this procedure is also correct for Tray 3, Tray 4, or Tray 5. Always carefully read the instructions that accompany the figures.

1. Locate the tabs and pins on the roller.

⚠ **CAUTION:** When handling the roller and pad, avoid touching the spongy surfaces. Skin oils and fingerprints on a roller surface can cause print-quality problems.

📖 **NOTE:** There is one pin and one tab one each side of the roller.

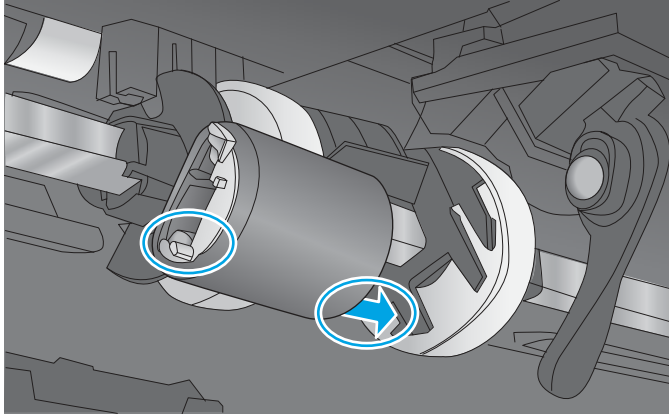
Figure 2-37 Locate the tabs and pins on the roller



2. Install the tabs on either side of the roller into the notches on the holder.

 **TIP:** The holder might need to be repositioned if it rotated while removing the roller.

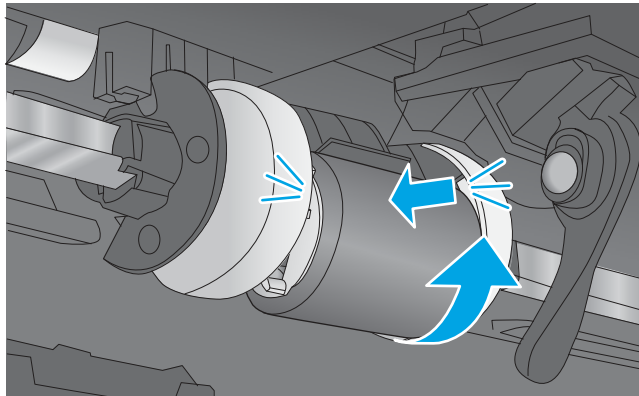
Figure 2-38 Install the tabs



3. Rotate the roller up until the pins snap into the slots on the holder.

 **TIP:** An audible click can be heard when the pins snap into the slots on the roller holder. Make sure that the roller is securely fastened in the holder.

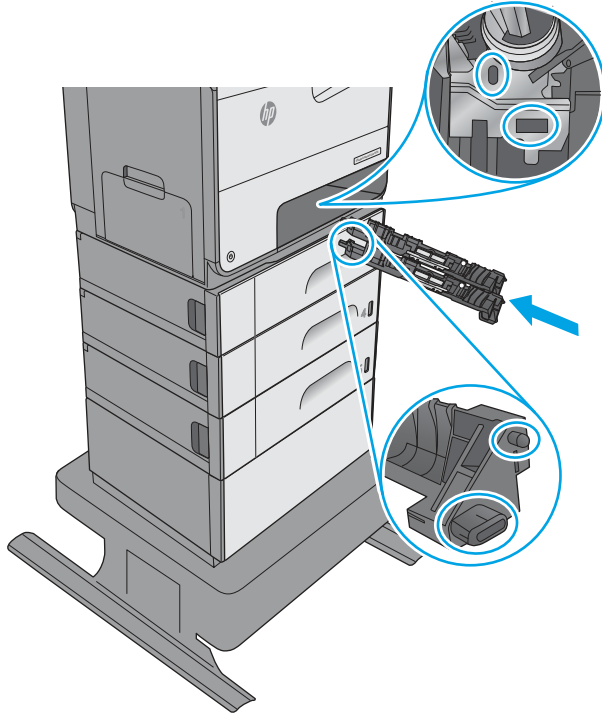
Figure 2-39 Install the pins



4. Install the back end of the separation roller assembly into the printer.

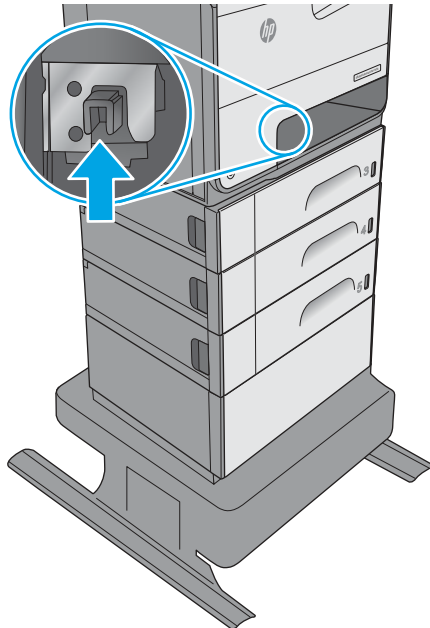
 **TIP:** There is a pin and a tab on the assembly that correspond to a hole and a slot in the sheet-metal rear wall of the tray cavity.

Figure 2-40 Install the back end of the assembly



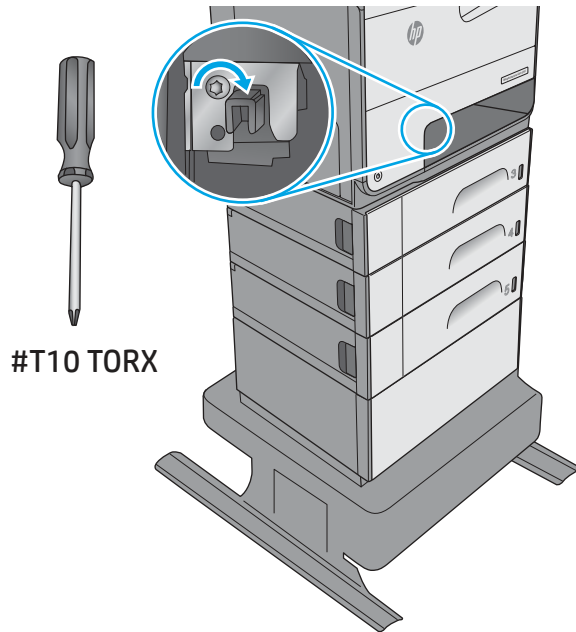
5. Push up on the front end of the separation roller assembly to install it in the holder.

Figure 2-41 Install the front end of the assembly



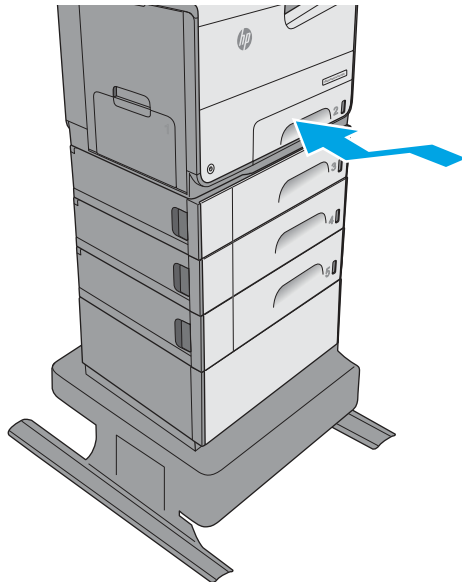
6. Install one screw.

Figure 2-42 Install one screw



7. Install the tray. With the tray at a slight angle, align the sides of the tray with the rails in the accessory, and then slide the tray straight into the printer to install it.

Figure 2-43 Install the tray



3 Theory of operation

Learn about the printer theory of operation.

Document feeder / scanner

Learn about the printer document feeder and scanner components.



NOTE: This section is for MFP printers only.

Document feed system

Learn about the various components of the document feed system.

This section describes the following:

- Sensors in the document feeder
- Document feeder paper path
- Simplex single-pass scanning
- Electronic duplexing (e-duplex) single-pass scanning
- Deskew operation
- Document feeder hinges

The printer supports single-pass electronic duplexing (e-duplex) copy jobs. Two separate scan modules scan the front-side and back-side of an e-duplex copy job page in a single pass through the document feeder.

For some printer bundles, this ADF supports a smart background feature which auto-crops and adjusts the image extents (see printer specifications for more information).

Sensors in the document feeder

Learn about the document feeder sensor locations and functions.

The document feeder contains the following sensors:

- **ADF paper present sensor:** Detects whether a document is present in the document feeder. If paper is present in the document feeder when copies are made, the printer scans the document using the document feeder. If no paper is present when copies are made, the printer scans the document using the scanner glass.

- **ADF Y (length) sensor:** Detects whether a legal-size original is present in the document feeder.
- **ADF jam cover sensor:** Detects whether the document feeder cover is open or closed.
- **ADF paper path deskew sensor:** Detects the top of the page as it enters the deskew rollers.
- **ADF paper path pick success sensor:** Detects a successful one page feed from the document feeder tray.

 **NOTE:** This sensor uses ultrasonic sound to detect a multi-page paper feed.

- **Paper path sensor 1:** Detects the top of the page as it approaches the front-side scan module (document feeder glass).

Figure 3-1 Document feeder sensors

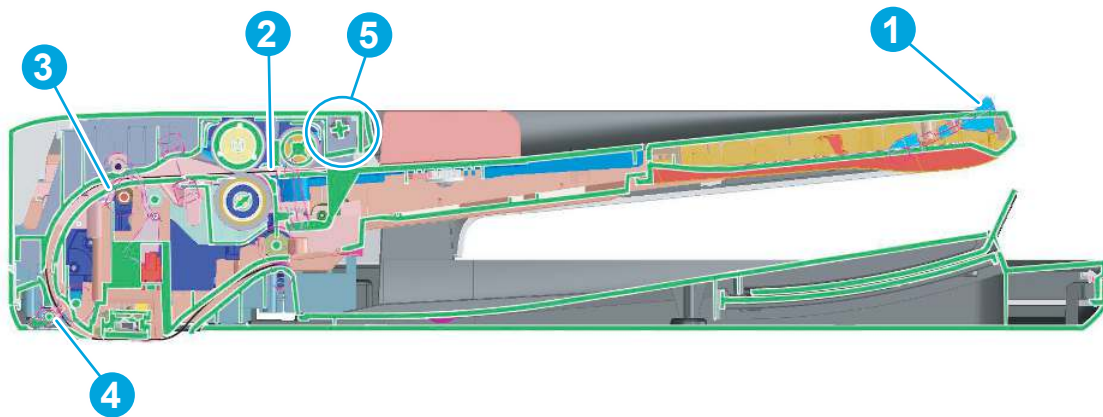


Table 3-1 Document feeder sensors

Item	Description
1	ADF Y (length) sensor
2	ADF paper present sensor
3	ADF deskew sensor
4	Paper path sensor 1 NOTE: For an e-duplex copy job, this sensor is used to activate the front-side scan module (in the scanner base) and the front-side background selector (in the document feeder), if needed.
5	ADF jam cover sensor (open the jam access cover and insert a folded piece of paper to activate the flag)

Document feeder paper path

Review the following information about the document feeder paper path.

Figure 3-2 Document feeder paper path

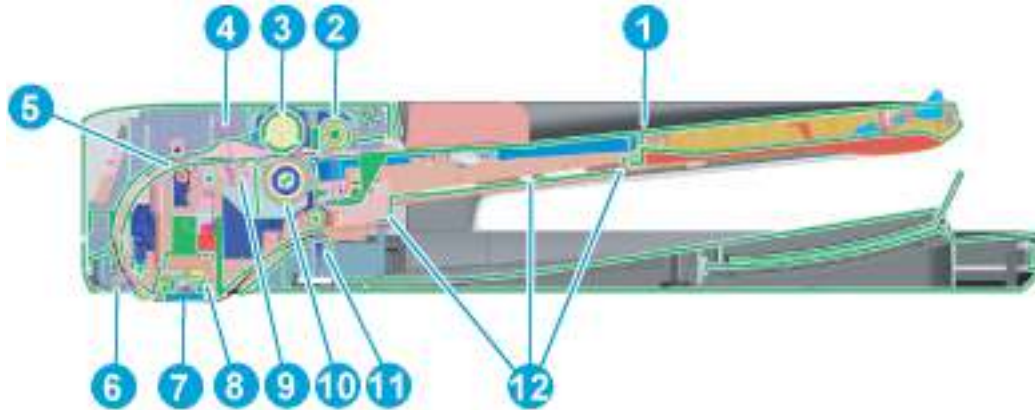


Table 3-2 Document feeder paper path

Item	Description	Item	Description
1	Input tray	7	Front-side scan module location NOTE: This scan module (document feeder glass) is located in the scanner base and is not pictured.
2	Pre-pick roller	8	Back-side scan module
3	Pick roller	9	ADF pick success transmitter
4	ADF pick success receiver	10	Separator roller
5	Deskew drive roller	11	Exit drive roller
6	Prescan drive roller	12	Lift plate

Document feeder simplex operation

Following is the basic sequence of operation for a document feeder simplex job.

1. The ADF jam cover sensor detects when the cover door is in the closed position.
2. The ADF paper present sensor activates when paper is loaded onto the input tray.
3. The feed motor rotates to raise the lift plate and starts to pick the loaded paper.
4. The ADF multi-pick (ultrasonic) sensor activates when the leading edge of the media is driven past the sensor. The printer firmware registers a successful pick operation.
5. The ADF paper path deskew activates when the leading edge of the paper passes it. The printer firmware registers the leading edge of the paper position.
6. The leading edge of the paper drives into the nip point of the deskew drive roller and the deskew pinch rollers. This creates a buckle of paper by the nip point for pick-skew correction.
7. The deskew motor rotates the deskew drive roller to pull the paper into the prescan drive roller.
8. The pick motor stops turning and allows both the pick and feed roller to turn freely while the paper is pulled in by the deskew drive roller.

9. The feed motor rotates to drive the paper into the prescan front-side sensor. The firmware registers the leading edge position of the paper as the multi-pick sensor activates.
10. The feed motor continues to rotate and drive the leading edge of the paper through the preset distance from the multi-pick sensor to the front-side scan zone. The scanner begins the scanning and data retrieval process.
11. The ADF multi-pick (ultrasonic) sensor deactivates when the trailing edge of the paper passes the sensor. The firmware registers the trailing edge of the paper position.
12. The feed motor continues to rotate and drive the trailing edge of the paper through the preset distance from the ADF multi-pick (ultrasonic) sensor to the front-side scan zone. The scanner ends the scanning and data retrieval process.
13. The feed motor continues to rotate and ejects the trailing edge of the paper into the output bin.
14. One of the following occurs:
 - If the copy job is complete, the ADF paper present sensor deactivates. The feed motor reverses rotation to raise the pick roller.
 - If the copy job is not complete, the ADF paper present sensor is active. The printer firmware detects additional pages in the input tray and the process repeats.

Document feeder e-duplex operation

Following is the basic sequence of operation for a document feeder simplex job.

 **NOTE:** For an e-duplex copy job, the background scan operation begins immediately after the simplex sequence of operation ends.

1. The feed motor continues to drive the paper until the leading edge activates the prescan back-side sensor. The printer firmware registers the position of the leading edge of the paper.
2. The feed motor continues to rotate to drive the leading edge of the paper through the preset distance from prescan back-side sensor to the back-side background selector scan zone. The back-side background scan module begins scanning and retrieval of the data.
3. The prescan back-side sensor deactivates when the trailing edge of the paper passes it. The printer firmware registers the trailing edge of the paper position.
4. The feed motor continues to rotate to drive the trailing edge of the paper edge past the back-side background selector scan zone.
5. The feed motor continues to rotate and ejects the trailing edge of the paper into the output bin.
6. One of the following occurs:
 - If the copy job is complete, the ADF paper present sensor deactivates. The feed motor reverses rotation to raise the pick roller.
 - If the copy job is not complete, the ADF paper present sensor is active. The printer firmware detects additional pages in the input tray and the process repeats.

Deskew operation

Learn about the document feeder deskew features.

 **NOTE:** For printer deskew specifications, go the HP Web-based interactive Search Engine (WISE) and search for [HP LaserJet Enterprise, Managed, HP PageWide Pro, Enterprise, Managed - Skew Guide \(C06363769\)](#).

Sliding side guides on the input tray make sure that the paper stack is correctly aligned at the center of the input tray when paper is loaded in the tray. The correct position of the loaded paper is parallel with the direction of travel into the document feeder paper path.

The document feeder further reduces paper skew due to improper loading of paper in the input tray by buckling the paper to create a paper buffer.

The document feeder aligns the leading edge of the paper parallel with the deskew drive rollers before the paper is driven further into the document feeder paper path.


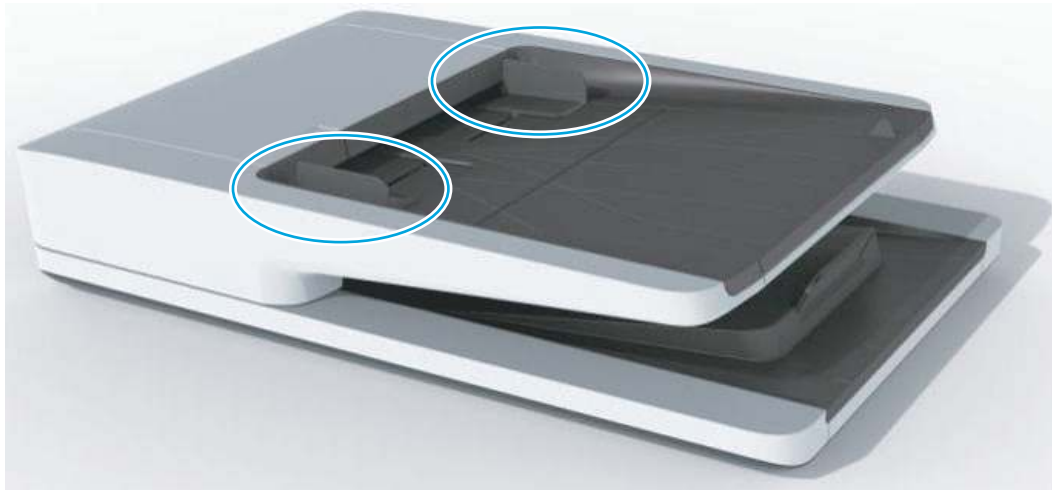
 **NOTE:** If the page to be copied is smaller than the minimal sliding guide setting, do not use the document feeder for the copy job. Attempting to copy too small of a page using the document feeder might result in document feeder jams and/or damage to the original page. Instead, use the flatbed glass to copy the page.

Figure 3-3 Document feeder side guides



Document feeder hinges

Review the following information about the document feeder hinges.

The document feeder hinges allow positioning the assembly vertically above the scanner glass to accommodate the placement of books and other objects up to 25 mm (1.0 in) in height on the scanner glass. The document feeder still closes (the bottom of the ADF is kept parallel to the scanner glass) and allows the printer to operate.

The document feeder will withstand a downward force of about 4.5 kg (10 lb) applied at the front edge center of the assembly—when the fulcrum (such as the spine of a book) is located anywhere on the scanner glass and parallel to its long axis—without breaking, deforming, detaching or experiencing performance degradation.

The document feeder hinges support the assembly in the open position and prevent the document feeder from suddenly closing and causing damage or a loud noise.

The hinges can hold the document feeder static in all positions higher than 100 mm (3.93 in); measured at the front of the assembly. Less than 2.3 kg (5 lb) of force is required to open or close the document feeder.

The hinges allow the document feeder to open to an angle of between 60° and 80° from the horizontal position (this angle will not allow the printer to tip over).

Figure 3-4 Document feeder open (book mode)



Figure 3-5 Document feeder open (60° to 80°)



Scanning and image capture system

Learn about the scanning and image capture system.

The scanner is a carriage-type platen scanner which includes the frame, glass, scan module, and a scan control board (SCB). The scanner has a sensor to detect legal-sized media and a switch to indicate when the document feeder is opened.

The document feeder and control panel are attached to the scanner. If the scanner fails, it can be replaced as a whole unit. The scanner replacement part does not include the document feeder, control panel, or SCB.

Base printer

Learn about the base printer components.

Basic operation

Learn about the basic operation of the printer.

Function structure

The figure below shows printer components.

Figure 3-6 Main components (SFP)

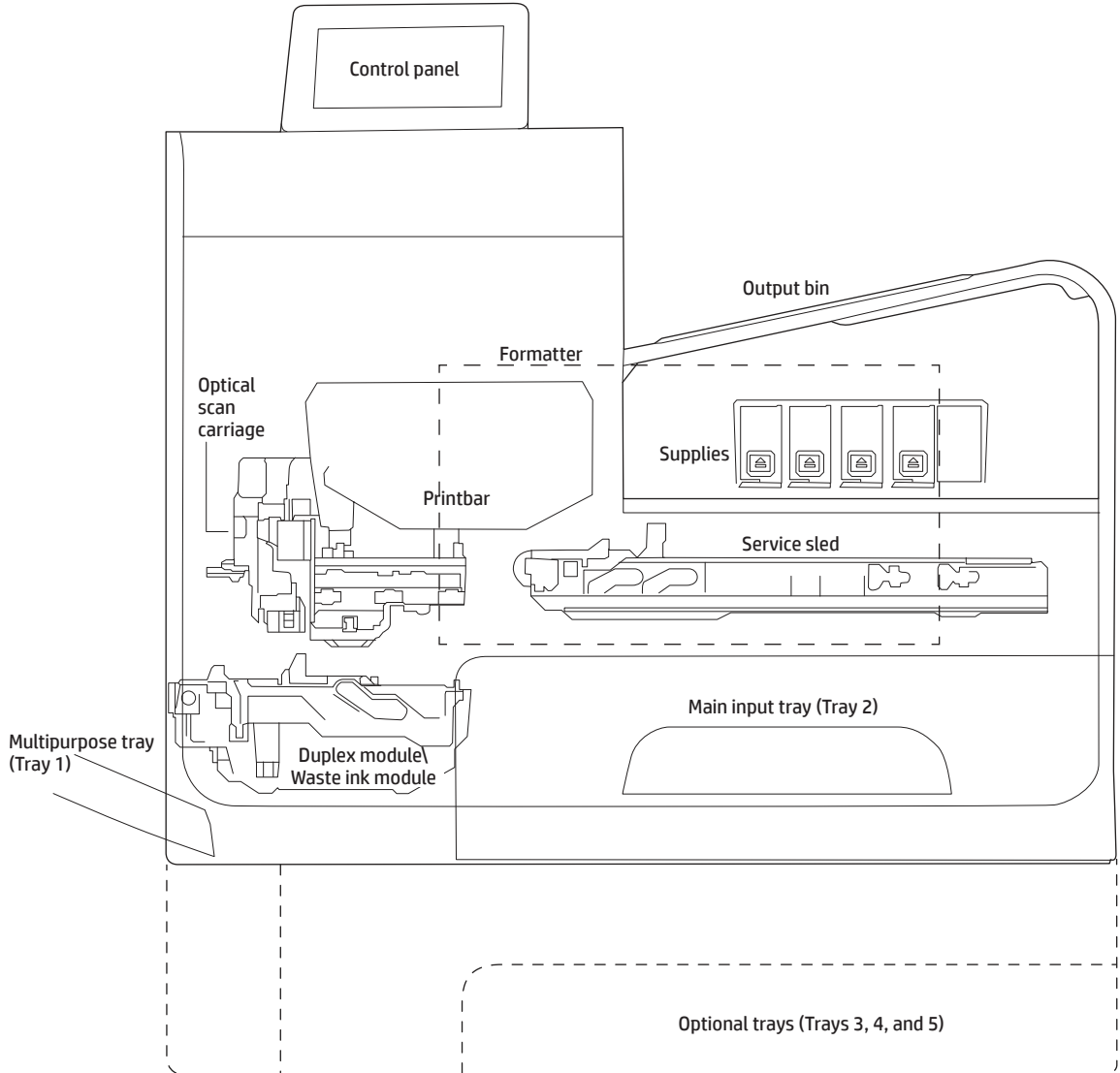
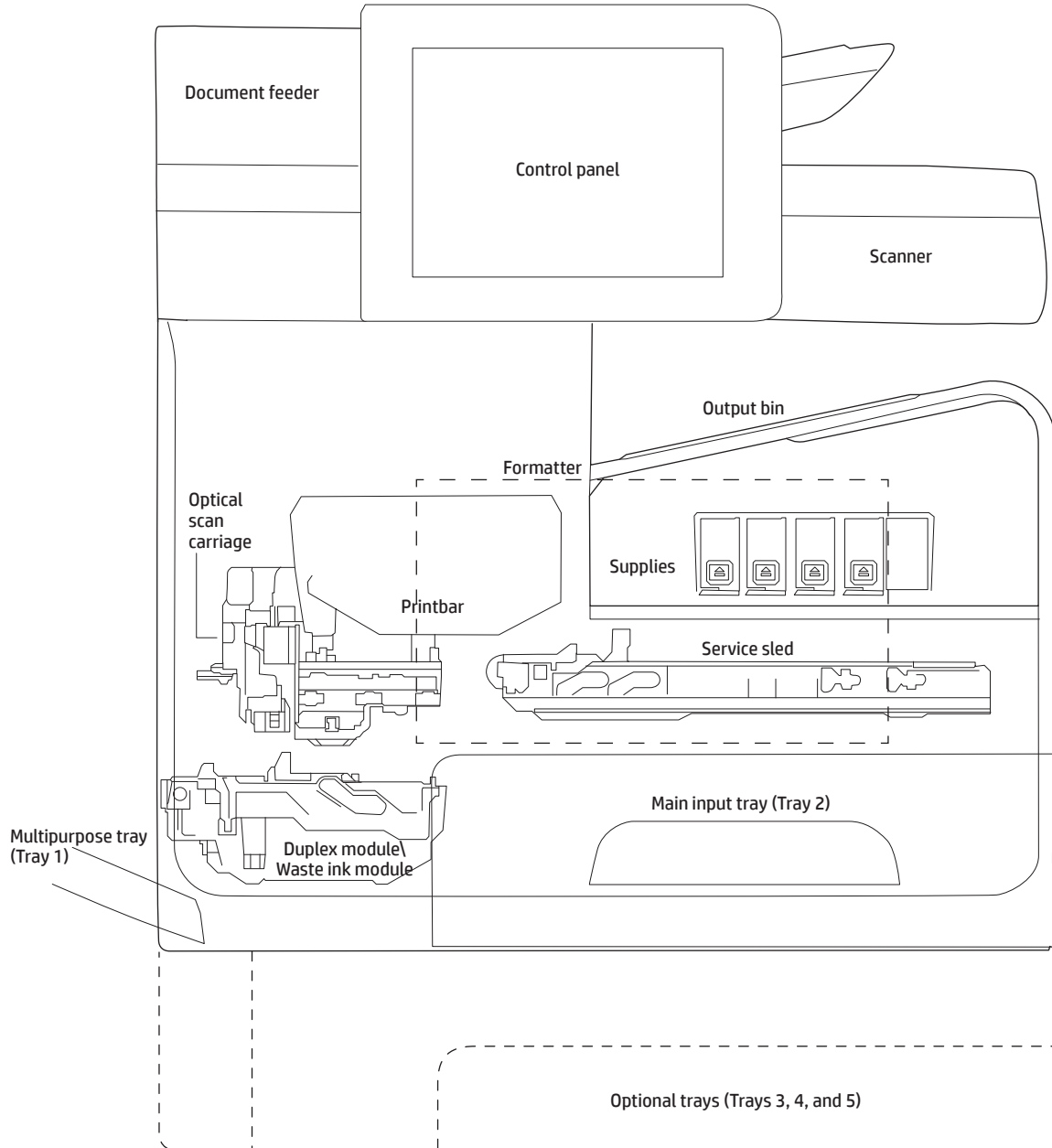


Figure 3-7 Main components (MFP)



The printer contains the following systems

- Engine control system
- Print subsystem
- Paper-handling system
- Servicing system
- Aerosol management system
- Scanner and document feeder system (MFP)

Two elements influence the printer architecture

- The first is the need to orient the printbar with its active face downwards and statically located above the print paper. This requires the printbar to move vertically to access its active face.
- The second is producing face-down output. Rather than ejecting the page face-up immediately after the ink is applied, as many inkjet printers do, the printed page is routed up and back over the printbar to eject face-down.

Sequence of operation

Learn how the engine-control system controls the printer operating sequence.

The engine-control system on the formatter PCA controls the operational sequences. The following table describes the durations and the operations for each period of a print operation from when the printer is turned on to when the motors stop rotating.

Table 3-3 Sequence of operation

Period	Duration	Description
Initial startup and calibrations	When the printer is set up for the first time from the factory.	<p>This period gets the printer ready to print for the first time.</p> <ul style="list-style-type: none"> • The printer flushes the shipping and handling fluid out of the printbar and replaces it with ink. • Die alignment—The printer aligns the 10 die on the printbar active face. • Die density leveling—The printer measures and compensates for the drop variation.
Servicing operations	When the printbar enters the capping state after printing, when the printbar leaves capping state after a print job is initiated, or during extended print jobs.	<p>Servicing maintains the print quality by ensuring debris and excess ink are removed and missing nozzles are replaced.</p> <ul style="list-style-type: none"> • Nozzle presence detection—The optical scan carriage detects and disables inoperable nozzles and replaces them with operable nozzles. • Printbar servicing—The web wipe on the service sled moves under the printbar to clean the active face and then fires the nozzles into the waste ink module to clear clogs.
Print preparation	From the time the printer receives a print command until paper enters the print zone.	<p>Prepares the printer for a print job.</p> <ul style="list-style-type: none"> • The printbar leaves the capping state as the service sled moves away from the printbar. • If needed, some servicing occurs. • The printbar lowers to the printing position. The media type and printing mode determine the print zone height. • The printer picks paper from one of the input trays. • Every page from Tray 1 is scanned. After paper is loaded in Tray 2 and optional Trays 3, 4, and 5, the printer performs media-edge detection after printing the first sheet. If at least five sheets have been printed, the last sheet of each job is also scanned.

Table 3-3 Sequence of operation (continued)

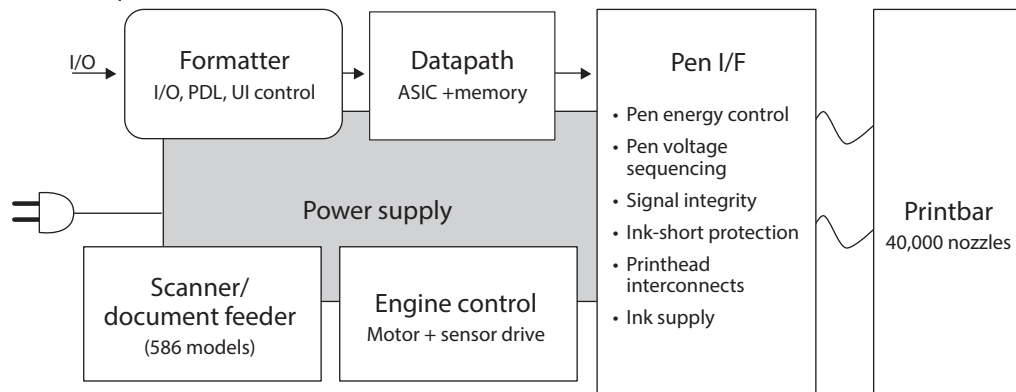
Period	Duration	Description
		<ul style="list-style-type: none"> • The printer monitors environmental conditions. The printer can decrease the print speed if conditions are significantly different from a normal office environment of 23° C (73o F), 50% relative humidity. • The formatter PCA processes print data and transmits the data to the printbar.
Printing	From the end of the preparation period until the last sheet is delivered.	<p>Processes the print job.</p> <ul style="list-style-type: none"> • As the page travels through the print zone, the printbar applies ink to the page. • Simplex print job: the page moves up, over the printbar, and out to the output bin (face-down). • Duplex print job: the page moves up until the trailing edge is 40 mm past the star-wheel jam reflective sensor, then reverses direction down through the duplex path underneath the waste ink module, and then reenters the print zone where the printbar applies ink to the second side. • The process continues until all the pages of the print job are completed. Occasional nozzle presence detection and servicing events might occur if the job includes many pages.
End of print job	Performed after the print job is completed and continues until the next job is initiated.	<p>Puts the printer in a state where it's ready for the next print job.</p> <ul style="list-style-type: none"> • If needed, some servicing occurs. • The printbar moves to the capping position after a short dwell interval. • The service sled moves to cap the printbar.
Standby	The printer is sitting idle, waiting for the next print job to be initiated.	<p>Conserve's energy while the printer is sitting idle. Certain functions might be disabled to save power, then are restarted when needed. The printer has three sleep modes:</p> <ul style="list-style-type: none"> • Idle mode—The printbar is capped and the printer is ready to immediately start a new job. • Sleep1 mode—After the printer is inactive for about 10 minutes, the control panel dims, and the power LED blinks to indicate the unit is in Sleep1. All printer functions are available. This setting can be adjusted from the control panel. • Sleep2 mode—After the printer is inactive for a longer period of time (typically 2 hours), the engine controller powers down to minimize power consumption. This setting can be adjusted from the control panel.

System control

Learn about how the printer systems operate.

The system control coordinates all the other systems, according to commands from the formatter.

Figure 3-8 Main components (MFP)



System control major sections

- Formatter
- Data path
- Engine control
- Pen interface
- Scanner/document feeder (586 printers)
- Power supply

The engine control electronics are located on the engine control board (ECB). The formatter PCA is a separate assembly. The fax module (586f and 586z models) is attached to the formatter PCA.

Formatter and data path

Learn about formatter and data path functionality.

The formatter controller ASIC controls the input/output (I/O) control, the user interface, and the rendering of page description language files into printer-specific commands.

Input/output (I/O) control

Learn about input/output (I/O) control functionality.

The printers support 10/100/1000 Ethernet, 802.11 wireless and NFC (some 556 models), a rear USB host port, a rear USB device port, a walk-up USB host port, and analog fax port (some 586 models). For Ethernet networks, the formatter ASIC uses a separate integrated circuit (Marvell device) to provide the physical network layer.

The formatter PCA controls the USB device and USB host. The optional dual USB host port accessory is also connected to the formatter after user installation.

Wireless and NFC I/O are provided via a separate radio module.

User interface

Learn about user interface functionality.

The printers contain either a small touchscreen (SFP) or a large touchscreen (MFP) color graphics display. For wireless models, there is an icon on the control panel to denote that the wireless feature is enabled. The printers include a walk-up USB host port for connection to thumb drives.

Formatter digital ASIC

Learn about formatter digital ASIC functionality.

The formatter digital ASIC has dual ARM CPUs (1.2 GHz) that execute firmware code that provides high-level device control. The digital ASIC uses a standard PCIe interface to pass data to the engine control ASIC. The formatter firmware is located on either a hard-disk drive (HDD) or, on some 556 models, an embedded MultiMedia Card (eMMC).

Additionally, the formatter digital ASIC manages the real-time clock, interfaces to the mass storage controller ASIC, provides control of USB ports, and interfaces with the Ethernet LAN ASIC and fax module.

Formatter Ethernet ASIC

Learn about formatter Ethernet ASIC functionality.

The formatter Ethernet ASIC connects to the formatter digital ASIC with a PCIe interface to transmit and receive network packets.

Formatter mass storage ASIC

Learn about formatter mass storage ASIC functionality.

The formatter mass storage ASIC bridges between the formatter digital ASIC (via PCIe interface) and the mass storage device (via SATA interface). Both HDD and eMMC mass-storage media are supported. The 586 models use a rotating media HDD, while the 556 models use either HDD or eMMC depending upon the bundle option.

Formatter memory

Learn about formatter memory functionality.

Formatter memory is installed on-board and there is support for additional DIMM memory installation. The size of the memory on the formatter is 1 GB for 556 models and 1.256 GB for 586 models. An optional 1GB DIMM is available as a customer accessory.

Real-time clock

Learn about real-time clock functionality.

The real-time clock (RTC) allows the fax module to time-stamp outgoing faxes. It also determines the elapsed time between printhead and ISS calibration events. The RTC uses a separate device connected to the formatter digital ASIC, along with a crystal and a battery.

Engine control

Learn about engine control functionality.

The engine controller digital ASIC receives high-level commands from the formatter, and it then provides low-level control to the print mechanism. In particular, the engine controller digital ASIC and its firmware control motors, system sensors, and the printbar. The engine controller analog ASIC integrates motor drivers, voltage regulators, sensor interfaces, and supervisory circuits.

Engine controller digital ASIC

The engine controller digital ASIC has a high-performance 480 MHz ARM CPU and DSP co-processors that execute firmware code to provide low-level engine control. It also drives the printbar via 15 high-speed LVDS transmission lines, which are routed from the engine PCA to the printbar via two large flat cables. The engine controller digital ASIC receives pre-rendered data from the formatter digital ASIC over a standard PCIe interface.

In some printer sleep modes, the digital ASIC reduces the clock frequencies. If a print job is received while the printer is in this mode, the clocks are restored to the digital ASIC, which then must restore the engine. This can take approximately 15 seconds, which will delay the first page out (FPO) time accordingly. This sleep mode typically begins after two hours of printer inactivity.

Engine controller analog ASIC

The engine uses three analog ASICs to generate the system voltages for the engine, drive the engine motors, control various engine sensors, and monitor printbar power delivery for correct operation.

The engine has seven motors, some of which are shared with other subsystems.

Printer motors

- Pick motor
- Feed motor
- Duplex motor
- Lift motor
- Eject motor
- Sensor carriage motor
- Aerosol fan motor

Each one is a DC motor with encoder feedback to provide precision servo control. These motors are driven directly by one of the engine analog ASICs. Small DC motors also are used to drive the ISS pump and the aerosol fan. Solenoids actuate the ejection flap and the ISS priming system.

The printer uses many sensors to track the paper as it travels through the paper path. Most of these are optical REDI sensors, which are used in conjunction with mirrors to sense the presence or absence of paper in a particular location. These are carefully aligned and calibrated at the factory, so care must be taken when servicing these sensors. See the “Remove and Replace” chapter in the Repair manual for more details.

Other printed circuit-board assemblies (PCAs)

Learn about other printed circuit-board assemblies (PCAs) functionality.

In addition to hosting the system ASICs, the engine PCA is home to many circuits needed to interface with sensors and other sub-system components. In some cases, this circuitry is located on a smaller remote PCA (SLB) to optimize cable interconnections.

- Humidity sensor—The humidity sensor causes the printer to adjust printing speed if ambient conditions are outside the optimal humidity range. This sensor is calibrated at the factory to ensure maximum accuracy.
- Temperature sensor—The temperature sensor causes the printer to adjust printing speed if ambient conditions are outside the optimal temperature range. In some printers, this sensor resides on a separate, remote PCA.

- Main tray presence sensor—The hall-effect sensor that detects if the main tray is properly engaged resides on the back of the engine PCA. A small magnet on the back of the main tray actuates the sensor. If the tray is fully engaged, the magnetic field strength is sufficient to trigger the sensor.

Additionally, the printer includes the following PCAs:

- Front USB PCA—This PCA governs the walk-up USB port.
- Fax PCA—This PCA governs the printer fax module.
- Duplex module presence sensor—A hall-effect sensor that detects that the duplex module is properly seated.
- Power button PCA—This PCA includes the power button and power LED, as well as interface cables to the duplex module presence sensor and the MP tray empty REDI sensor.
- Accessory tray interconnect PCA—This PCA provides communication to optional Tray 3.
- Pick encoder distribution PCA—This PCA includes the pick motor encoder and the pick motor interconnect cable.
- Eject encoder distribution PCA—This PCA includes the eject motor encoder, plus the interconnect cables to the eject motor and the aerosol fan.
- Print zone distribution PCA—This PCA joins interconnect cables to the following sensors: separator REDI, feed motion encoder, main tray empty sensor, feed roller OOPs REDI sensor, and the starwheel jam REDI sensor.
- REDI distribution PCA—This PCA includes hall-effect sensors that detect ink cartridge door and left door positions. It also combines the interconnect cables for the Eject jam REDI sensor, the upper paper path REDI sensor, the lower paper path REDI sensor, and the eject flap opto flag sensor.
- Sensor carriage PCA—This PCA includes a carriage motion encoder, a ZIM sensor, and the BDD sensor.
- Printbar lift encoder distribution PCA—This PCA includes the printbar lift motion encoder, and combines interconnect cables to the printbar lift motor, carriage motor, and eject flap solenoid.
- Duplex encoder PCA—This PCA contains the motion encoder for the duplex motor.
- SHAID PCA —This PCA contains interfaces to the out-of-ink sensors for the ink cartridges, and combines the interface cables to the acumen PCA, the ISS pump, and the ISS solenoids.
- Acumen PCA—This PCA contains interfaces to the acumen memory devices for the ink cartridges.

Pen interface (I/F)

Learn about pen interface (I/F) functionality.

The printbar is the key component that differentiates this printer from other inkjet printers. The conventional approach is to print a page in horizontal swaths by moving a “scanning” printhead horizontally over a fixed sheet of paper, advancing the paper a fixed amount, and then printing the next swath. With this printer, the paper moves underneath a fixed page-wide printhead in a single, smooth motion.

Single pass page-wide printing requires that data and power be delivered to the printbar at a very high rate, while also maintaining good control of paper position as it moves past the printhead nozzles.

The engine PCA sends power and data to the printbar via two large flat flexible cables (36 and 38 pins). The printbar PCA routes power and data to 10 printhead die, which are attached to the PCA using a flexible tab circuit and wire-bonding process.

There are also electronics to control the ink supply station (ISS). The SHAID PCA detects low-ink conditions. It gauges ink levels by electronically sensing the presence of ink and/or ink foam in the X-chamber. The SHAID PCA also collects and distributes electronic signals that drive the push-prime pump(s), engage the solenoids, and read the ink supply acumen data. All are routed through a single 17-pin FFC from the SHAID PCA to the engine PCA.

Each ink supply has a memory tag that stores information about its ink type, ink remaining, and other critical data. It uses a special authentication scheme to ensure that only genuine HP supplies are used, and the printer is not damaged by using invalid supplies. Acumen uses a two-line serial bus, which, along with 3.3 V and ground, is cabled via the SHAID PCA to the engine PCA and the engine control digital ASIC.

Power supply

Learn about power supply functionality.

The power supply module converts 100-240 VAC to 33 VDC and 5.1 VDC to power the system. The 33 V rail goes to the engine and the scanner/document feeder, and the 5.1 V rail supplies power to the formatter. The power supply module has a sleep mode that reduces power consumption in low-power system modes.

The power supply module has four operating modes, depending on certain control signals, as outlined in the table below. The power supply has a power factor correction (PFC) circuit to improve efficiency when the system is in the active mode.

Table 3-4 Power supply module operating modes

Mode	n33V_OFF input signal	nPFC_OFF input signal	PFC Status	33 V rail status	33 V rail status
OFF	Low	Low	Off	Off	On
Sleep 2	High	Low	Off	On	On
Sleep 1	High	Low	Off	On	On
Active	High	High	On	On	On

The power supply is a self-contained module that can be replaced if it is defective (see the *Remove and Replace* chapter of the service manual).

To ensure safe operation, the power supply will “latch off” if a persistent overcurrent fault condition exists. This is typically caused by a short-circuit from 33 V or 5.1 V to ground in the printer. Less severe faults can cause the power supply to latch off if the fault is present for an extended period of time, or if the printer is operated above the recommended operating range.

Print subsystem

Learn about how the print subsystems function.

The print subsystem includes the following components:

- Printbar
- Printbar lift
- Ink cartridges
- Optical scan carriage

Figure 3-9 Print subsystem components (556 models)

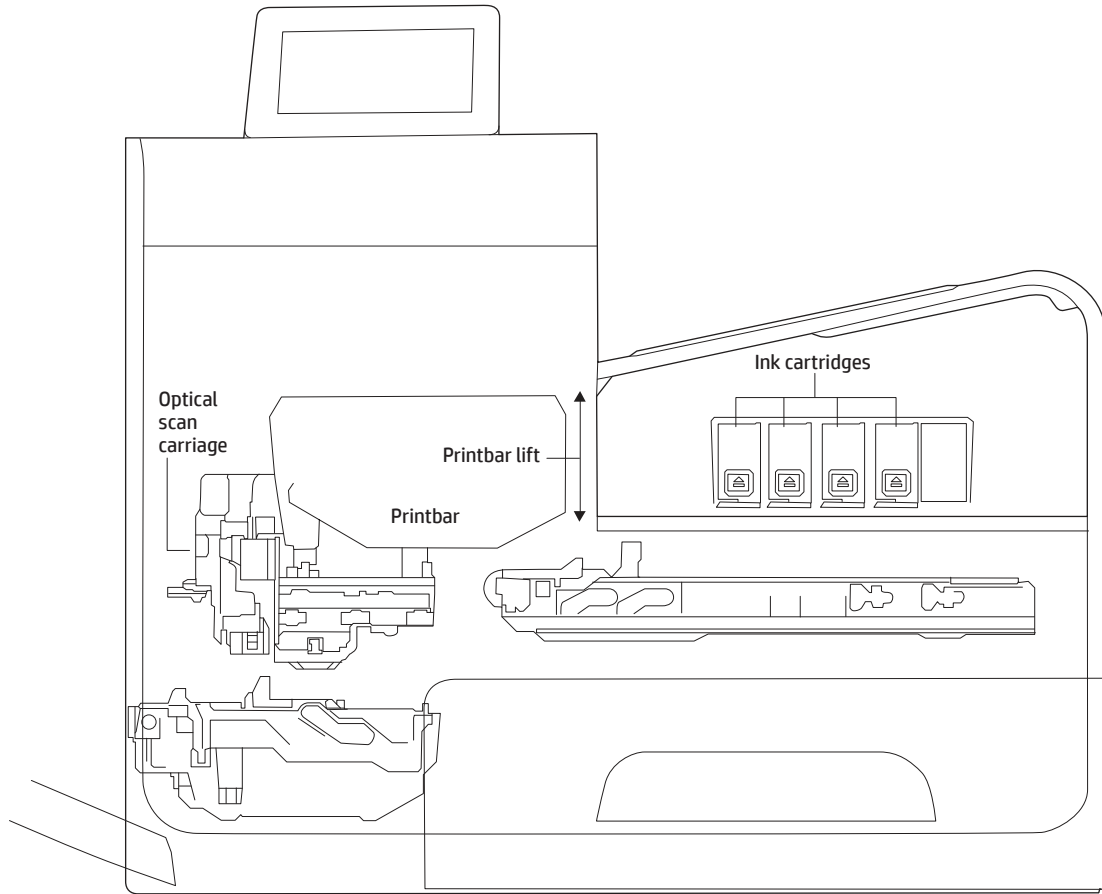
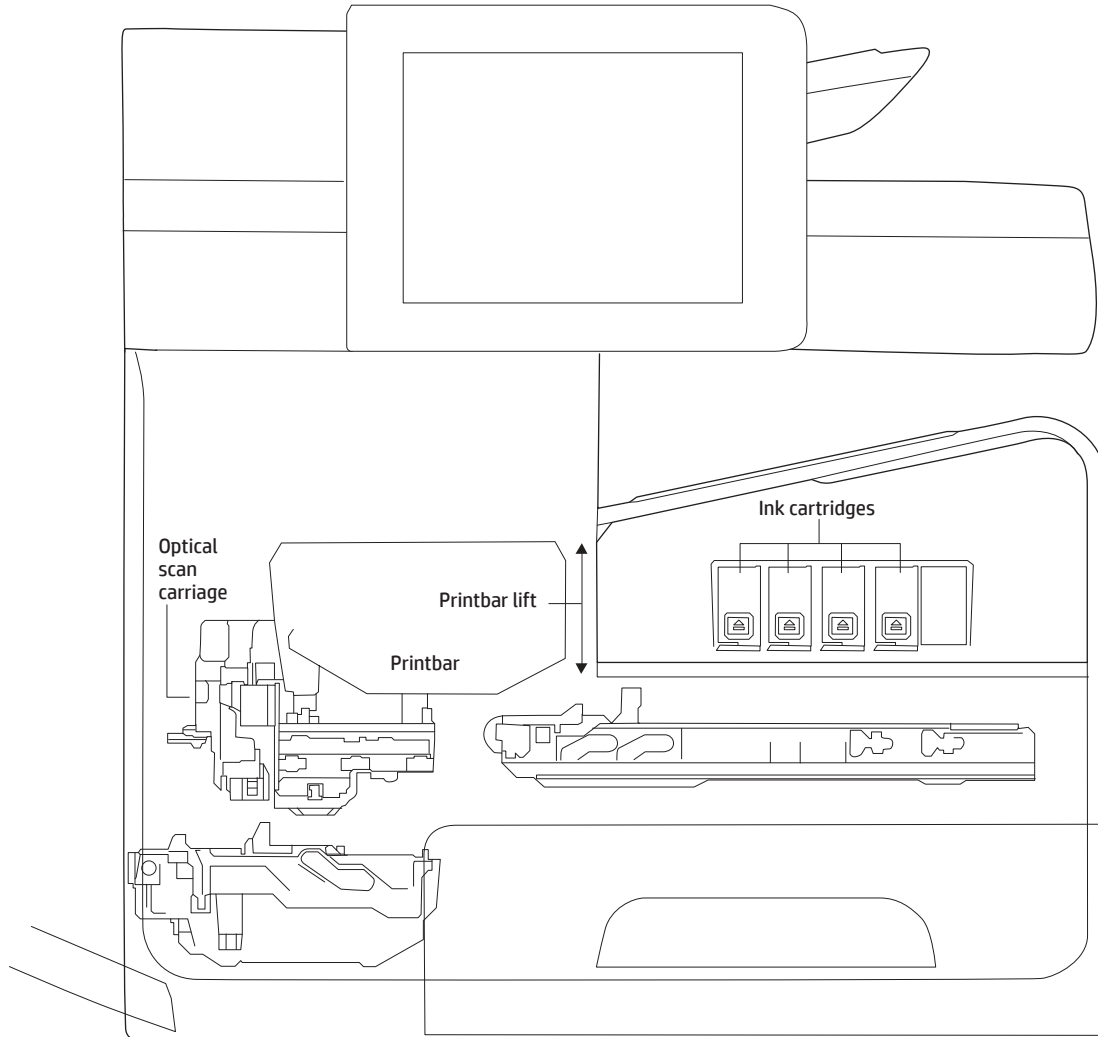


Figure 3-10 Print subsystem components (586 models)



Printbar

Learn about printbar functionality.

The printbar's fundamental purpose is to convert the digital firing instructions from the printer electronics into properly formed and timed microscopic drops of the four ink colors. The printbar spans the full width of a letter/A4-size sheet 216 mm (8.5 in) and is statically positioned within the printer so that the paper moves underneath it, printing the entire page in a single motion.

Figure 3-11 Printbar components

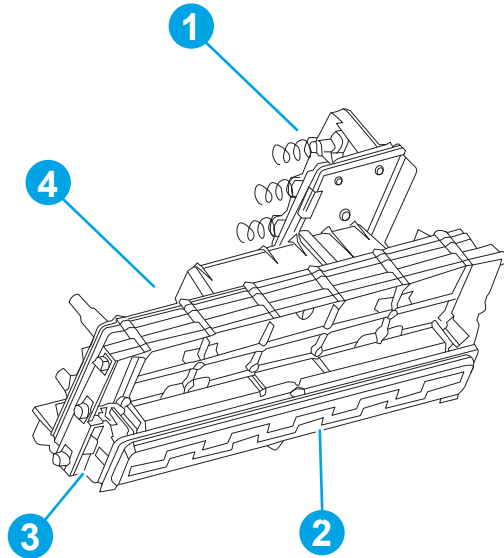


Table 3-5 Printbar components

Item	Description
1	Ink cartridge connections
2	Thermal inkjet (TIJ) die array
3	Data/power flow and regulation
4	Inkflow channels and pressure regulation

The printbar has a fixed array of 10 thermal inkjet (TIJ) die oriented in two staggered rows. Each die contains more than 1,000 nozzles for each of the four ink colors (black (K), cyan (C), magenta (M) and yellow (Y)). Behind the die array are the ink flow channels and pressure regulation mechanisms that supply the die array with ink at the proper pressure and flow. Onboard electronic circuitry feeds power and data to the die at the appropriate levels and rates. Four ink cartridge receptacles, one for each color, are located at the top of the printbar. Flow connections link these cartridges to the rest of the printbar to supply the ink necessary for its operation.

A sensor technology called back-scatter drop detect (BDD) monitors the printbar health and calibrations. This system looks at the reflection of the miniscule drops in-flight and passes these signals through high-speed, high-gain, bandpass filters. An artificial intelligence (AI) system decides which drop ejectors are currently in or out of specifications.

After the AI system determines which drop ejectors are out of specification, the printer compensates for them. Some ejectors use neighboring nozzles and, at times, even tiny amounts of other inks – whichever combination of methods are necessary to deliver the best print quality possible at that moment. Up to half of the nozzles can be “out” without a noticeable degradation in quality. The compensation is done in real time with a dedicated high-speed DSP. The system can scan portions of the system after print jobs, but it is fully interruptible by new incoming print jobs

Printbar lift

Learn about the printbar lift function.

The printbar lift is responsible for positioning the printbar within the printer and moving it up and down as required. This vertical motion is both to establish proper spacing to the paper during printing, and to raise it to either access the active face or perform necessary calibrations.

During printing, the lift mechanism sets the printbar height and paper height depending on the type of paper.

Ink cartridges

Learn about the Ink cartridges.

This printer uses state-of-the-art pigmented inks. They are filtered using proprietary processes to prevent printhead contamination. These inks are designed to produce optimal print quality on ColorLok office papers, but also produce very good print quality on regular office papers and specialty paper.

Optical scan carriage

Learn about the optical scan carriage.

The optical scan carriage has optical sensors used for calibration. Its motion is along the long axis of the printbar. These sensors are used by a number of printer calibration features that are important for proper subsystem function. The BDD sensor is located on the optical scan carriage.

Print subsystem operational states

Learn about how the print subsystem operational states.

The print subsystem has a number of distinct operational states besides active printing.

Startup

Learn about the startup print subsystem operational state.

As it comes from the factory, the printbar is initially filled with an inert ink-substitute called Shipping and Handling Fluid (SHF). This fluid, essential for the manufacture and transportation of the printbar, must be flushed and replaced with actual ink. This is accomplished during the Startup phase. The flushing process automatically commences when ink supplies are inserted, and the unit is powered up for the first time. The SHF is removed by sustained printbar operation and replaced by ink from the supplies. The process terminates once all the SHF has been flushed from the printbar.

Special host supplies are supplied with the printer prior to its first use. These supplies contain additional ink so that there will be 100 percent ink level after the SHF is replaced with ink. These supplies can be used only to initialize the printer. You cannot use them in another printer that has been initialized.



NOTE: The initial startup time is noticeably longer than the following regular startup times.

Die alignment

Learn about the die alignment print subsystem operational state.

Since there are 10 die comprising the printbar active face, each with associated positional tolerances, an active calibration must be performed to prevent errors and allow a uniform ink application to the paper (without any gaps or overlaps between adjacent die). This die alignment is done by printing a special diagnostic image on a sheet of paper and then scanning it with the optical scan carriage. Die alignment is performed as part of initial unit startup and can be performed manually as part of the print quality recovery tool.

Die density leveling

Learn about the die density leveling print subsystem operational state.

There are also tolerances associated with the drops fired by the individual printbar die. Another active calibration measures and compensates for these variations to produce a visually uniform ink application to the paper. Another set of diagnostic images is printed and scanned by the optical scan carriage to achieve this die density leveling. Die alignment and die density leveling are usually paired together.

Nozzle presence detection

Learn about the nozzle presence detection print subsystem operational state.

In printing, since all the ink is applied in a single smooth motion of the paper past the printbar, any inoperable nozzle can show up as a noticeable streak. The operational state of each of the thousands of nozzles on the printbar is periodically measured. The printbar is raised by the printbar lift, and the BDD assembly on the optical scan carriage watches for drop presence as each nozzle is fired. Inoperable nozzles are turned off and other operable nozzles used on subsequent printed pages to apply the missing ink. Nozzle presence detection is fully interruptible by new incoming print jobs.

Media edge position detection

Learn about the media edge position detection print subsystem operational state.

The printer uses a learning algorithm to define media center as a function of input source—Tray 1, Tray 2, or optional Trays 3–5. The edge scan is located downstream of the print zone. As paper is scanned, the media center database is updated. The image is registered to the page using the media center database.

Servicing and capping

Learn about the servicing and capping print subsystem operational state.

When in the capped state, the printbar is fully raised, the service sled is positioned underneath, and the printbar cap is engaged against the printbar active face. Servicing—the cleaning of the active face and the firing of the nozzles—can occur either during Sleep2 mode or after extended time in storage. It can also occur during extended print jobs.

Printing

Learn about the printing print subsystem operational state.

The printing state begins by the printbar leaving the capping state and being lowered to the printing position after the service sled moves out of the way. At the same time, a sheet of paper is picked from one of the three trays and the leading edge staged at the entrance to the print zone. Once the print data has been sent, the sheet of paper is fed at a constant velocity through the print zone and the ink applied by the printbar.

In the case of one-sided printing, the inked sheet is moved up, over and out to the output tray. For two-sided printing, the sheet is moved until its trailing edge is past the merge to the vertical path, and then it is reversed down through the duplex path underneath the maintenance ink module and reintroduced into the print zone for inking of the second side.

This process continues until all the pages of the print job are completed. If the print job is large enough, it can be interrupted by servicing processes.

Paper-handling system

Learn about how the paper-handling system functions.

The paper-handling system moves paper through the printer according to commands from the formatter.

The following figure shows the printer paper path.

Figure 3-12 Paper-handling system paper path (556 models)

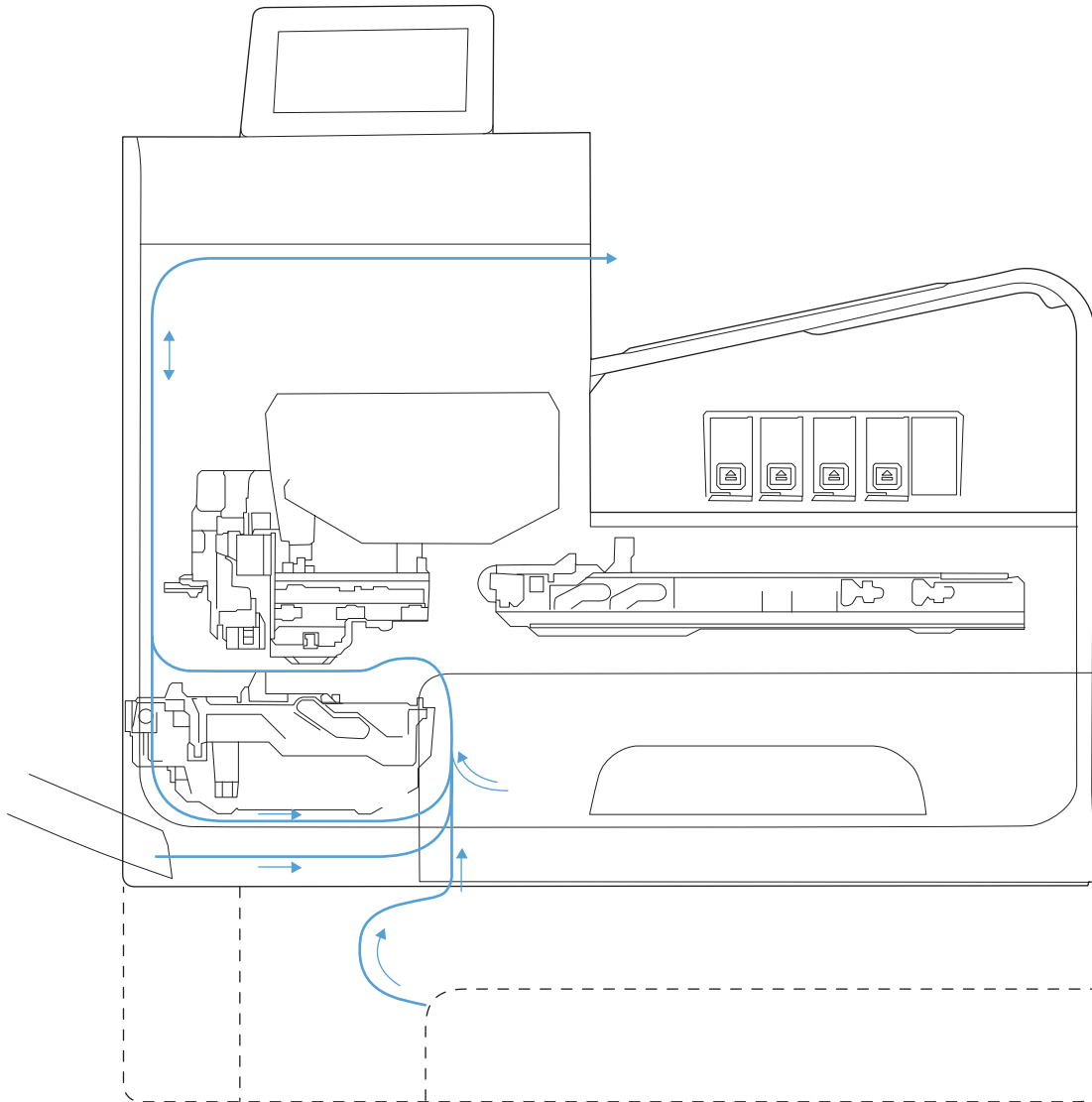
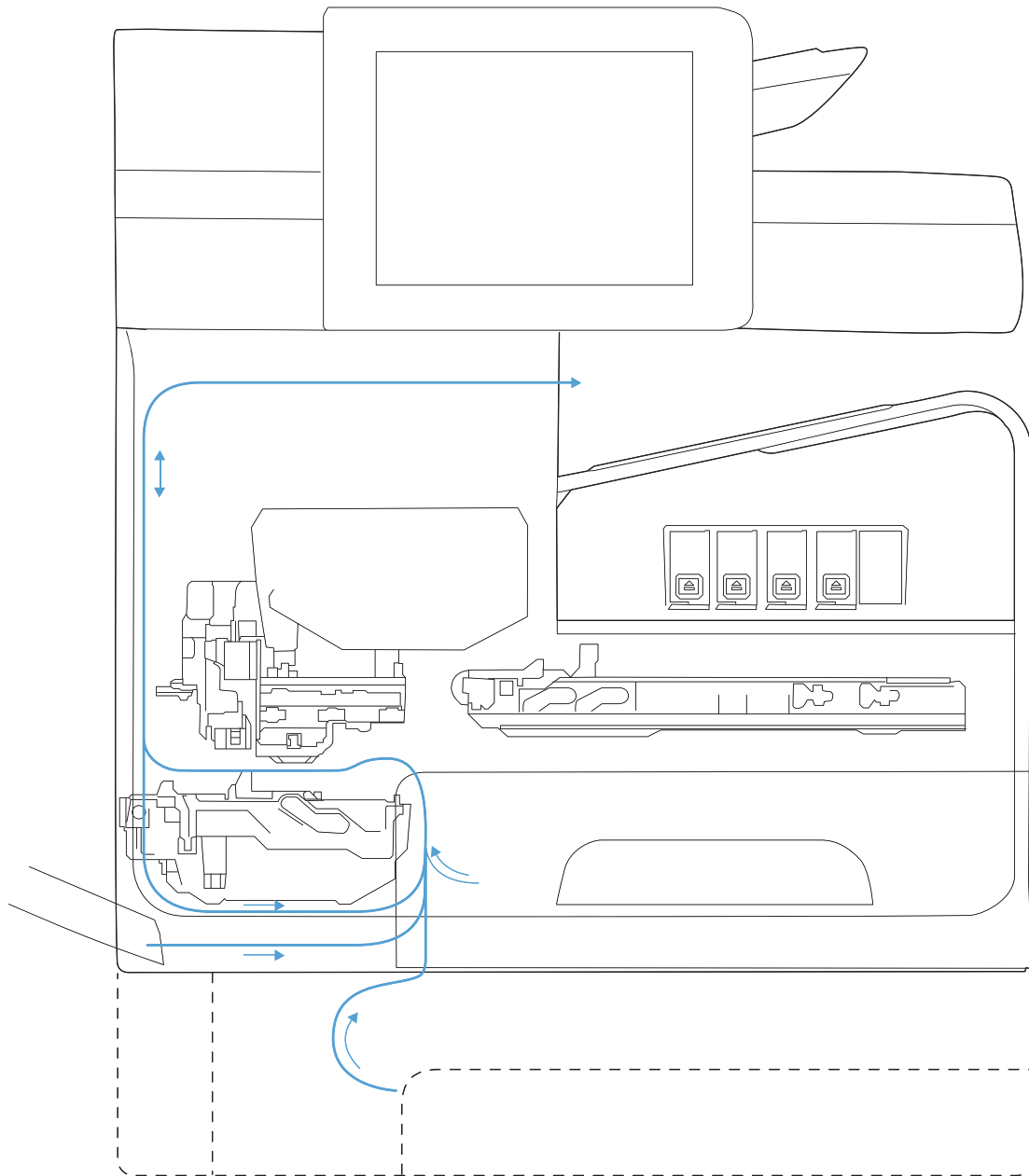


Figure 3-13 Paper-handling system paper path (586 models)



The paper path consists of the following major components:

- Two integrated input trays plus one optional accessory tray
- Four motors and a solenoid plus two more motors in the accessory tray
- Duplex module
- Sensors placed throughout the device, including the paper trays
- Feed rollers, pinch rollers, star wheels, and media guides

- Transmission components (gears, shafts, levers, swing arms) that interface with other subsystems such as the printbar and service sled.

Components of the paper path move the paper from the input tray to a position 1 to 2 mm (.04 to .08 in) underneath the printbar, and then deliver the printed result to the output tray. The combined orientations and actions of the printbar, the printbar lift, and the paper path establish the print-zone, where the ink drops move from the active face of the printbar to the paper.

The following figures show the printer sensors.

Figure 3-14 Printer sensors (556 models)

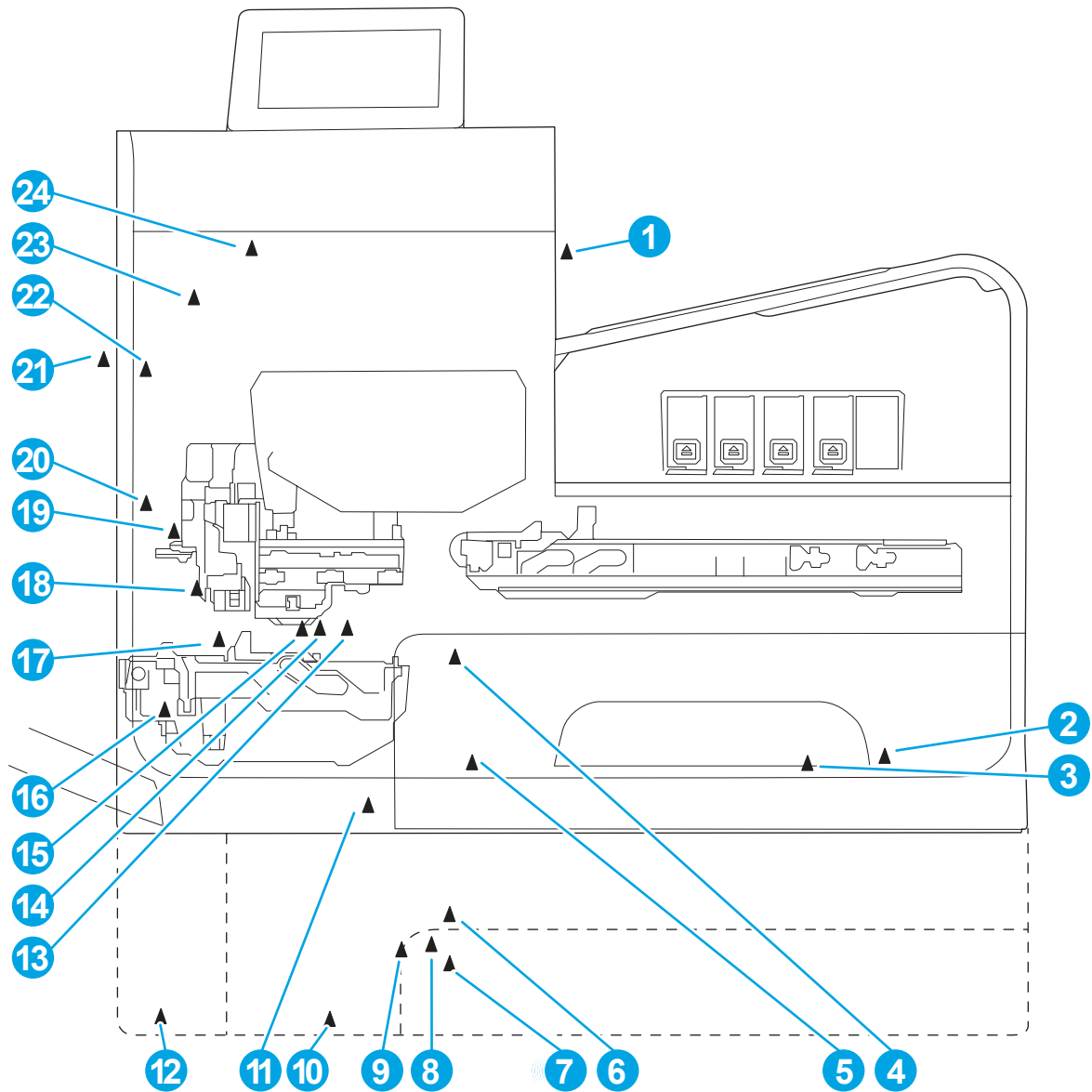


Figure 3-15 Printer sensors (586 models)

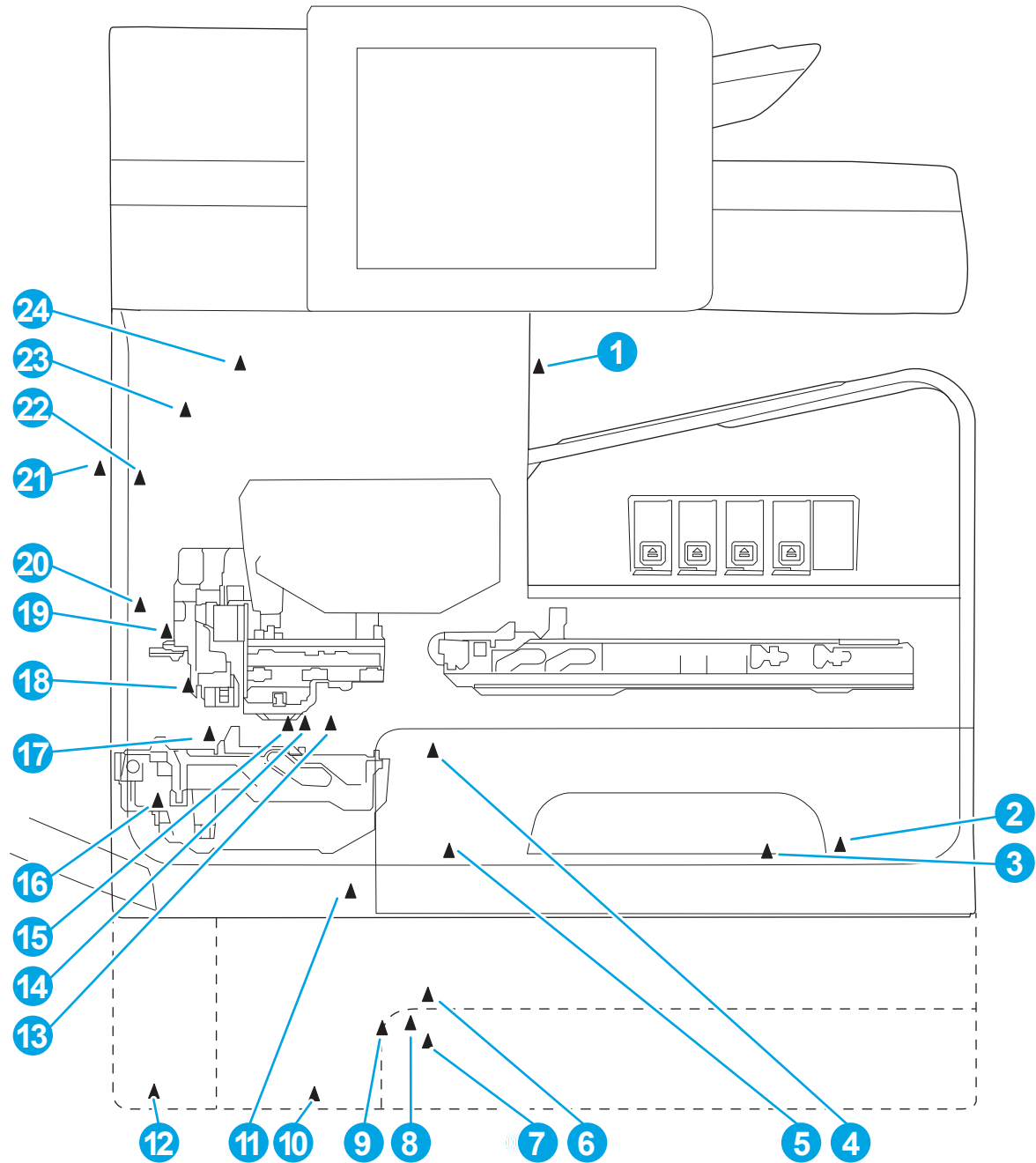


Table 3-6 Printer sensors

Item	Description	Item	Description
1	Output flap jam sensor	13	Feed roller jam sensor
2	Ambient temperature sensor	14	Feed roller encoder
3	Ambient humidity sensor	15	Feed roller home sensor
4	Tray 2 pickup tire home sensor	16	Duplex module presence sensor
5	Tray 2 tray presence sensor	17	Star-wheel jam sensor
6	Tray 3 pickup tire home sensor	18	Back-scatter drop detect sensor

Table 3-6 Printer sensors (continued)

Item	Description	Item	Description
7	Tray 3 paper presence sensor	19	Print calibration/Media edge detect sensor
8	Tray 3 separation sensor	20	Lower left door jam sensor
9	Tray 2 paper presence sensor	21	Left door open sensor
10	Tray 3 tray presence sensor	22	Upper left door jam sensor
11	Tray 1 paper presence sensor	23	Ink supply door open sensor
12	Tray 3 cleanout presence sensor	24	Eject jam sensor

There are several motors in the printer for pick, feed, duplexing, printbar lift, delivery, and the scanning sensor carriage.

Figure 3-16 Paper-handling-system motors (556 models)

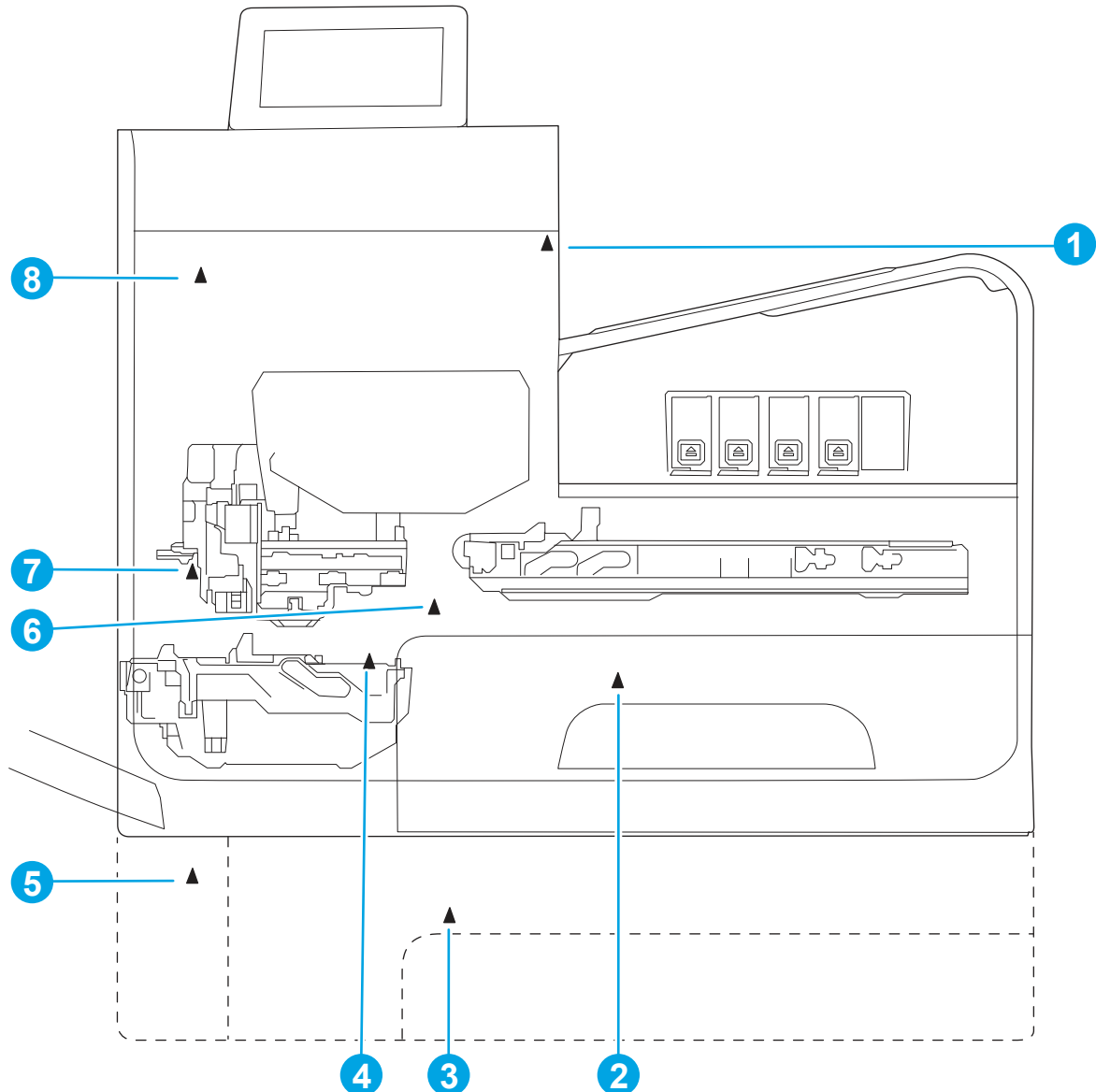


Figure 3-17 Paper-handling-system motors (586 models)

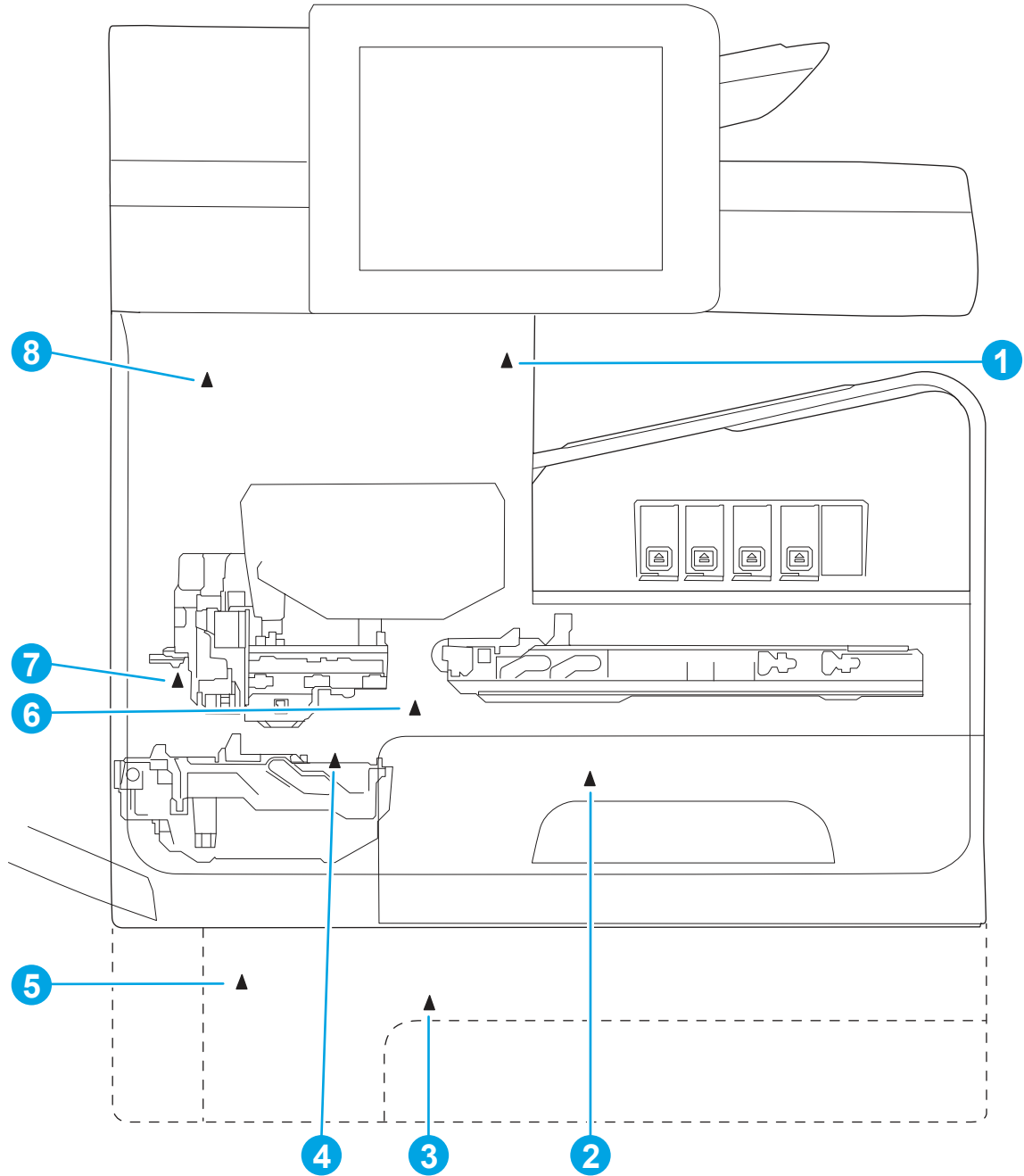


Table 3-7 Paper-handling system motors

Item	Description
1	Eject (or output drive) motor
2	Tray 2 pickup motor
3	Tray 3 pickup motor
4	Duplex Tray 1 motor
5	Tray 3 feed motor
6	Feed motor

Table 3-7 Paper-handling system motors (continued)

Item	Description
7	Optical carriage motor
8	Printbar lift motor

Input trays

Learn about the printer input trays.

The printer comes standard with two input trays and supports up to three optional accessory trays.

- **50-page multipurpose (MP) tray—Tray 1:** The tray shares a motor with the duplex module and has one sensor. This reflective (REDI) sensor determines if paper is present in the tray. The feed roller REDI sensor determines if a sheet of paper is successfully picked from the tray.
- **500-sheet letter/A4 size main tray—Tray 2:** The tray has a pick motor, which also moves the service sled. Both the main tray motor and the duplex MP tray motor operate at the same time when picking paper from the main tray. The main tray has three sensors:
 - A hall-effect sensor determines if the tray is closed.
 - A flag/opto sensor determines if there is paper in the tray.
 - A flag/opto sensor determines if the pick roller is in home position.

The feed roller jam sensor determines if a sheet of paper is successfully picked from the main tray.

- **Optional 500-sheet legal size accessory trays—Trays 3-5:** The optional trays have two motors, one for picking paper and one for the turn roller. The turn roller receives paper from the pickup roller and transfers it to the multipurpose tray ITR that is driven by the duplex module/MP tray motor. Both the accessory tray motor and the duplex module/MP tray motor operate at the same time when picking paper out of the accessory trays.

The accessory trays have the following sensors:

- A hall-effect sensor detects if the tray is closed.
- A flag/opto sensor detects if there is paper in the tray.
- A flag/opto sensor detects if the pickup roller is in home position.
- A hall-effect sensor detects if the left door is closed.
- A separation sensor detects if the printer successfully picked paper.

Paper path zones

Learn about the printer paper path zones.

The printer paper path includes the following elements:

- Deskew buckle
- Print zone
- Duplex

- Output
- Eject

Figure 3-18 Paper path zones (556 models)

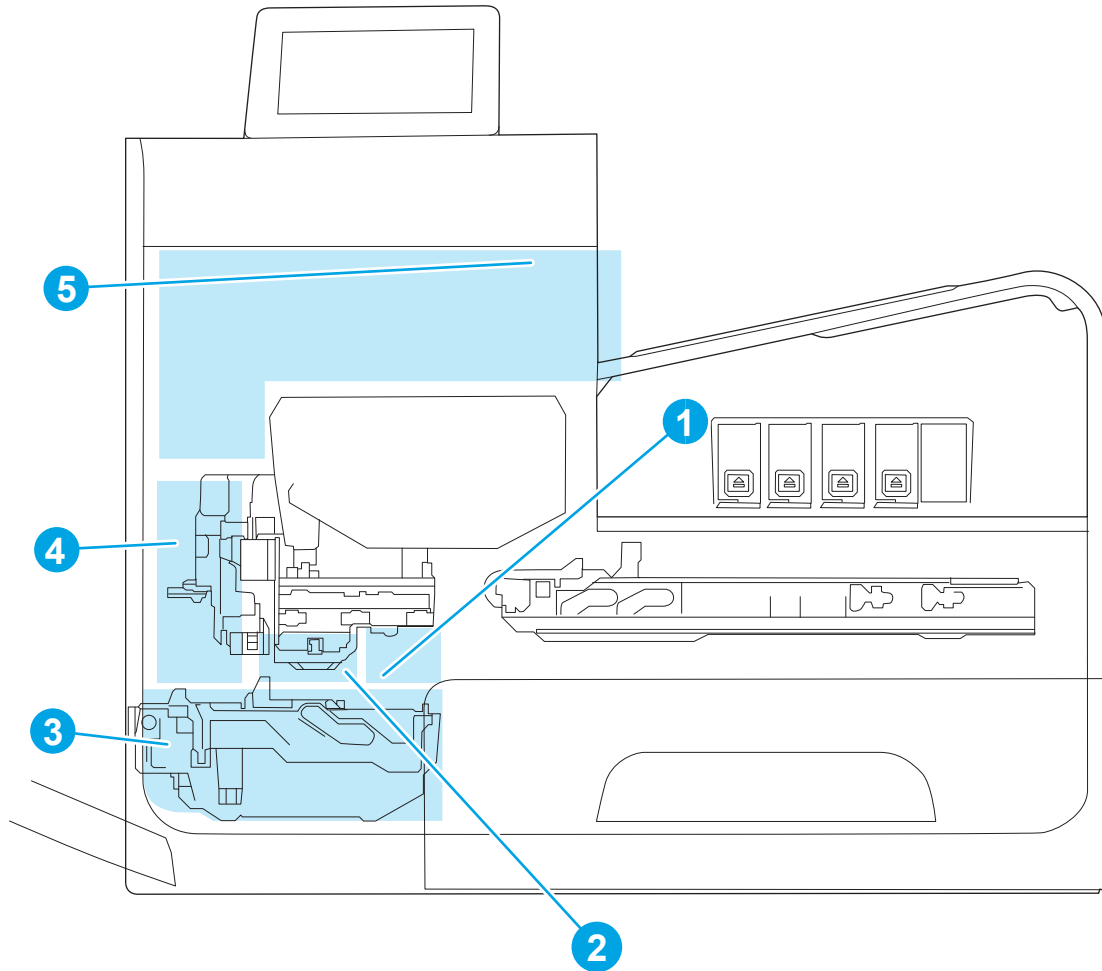


Figure 3-19 Paper path zones (586 models)

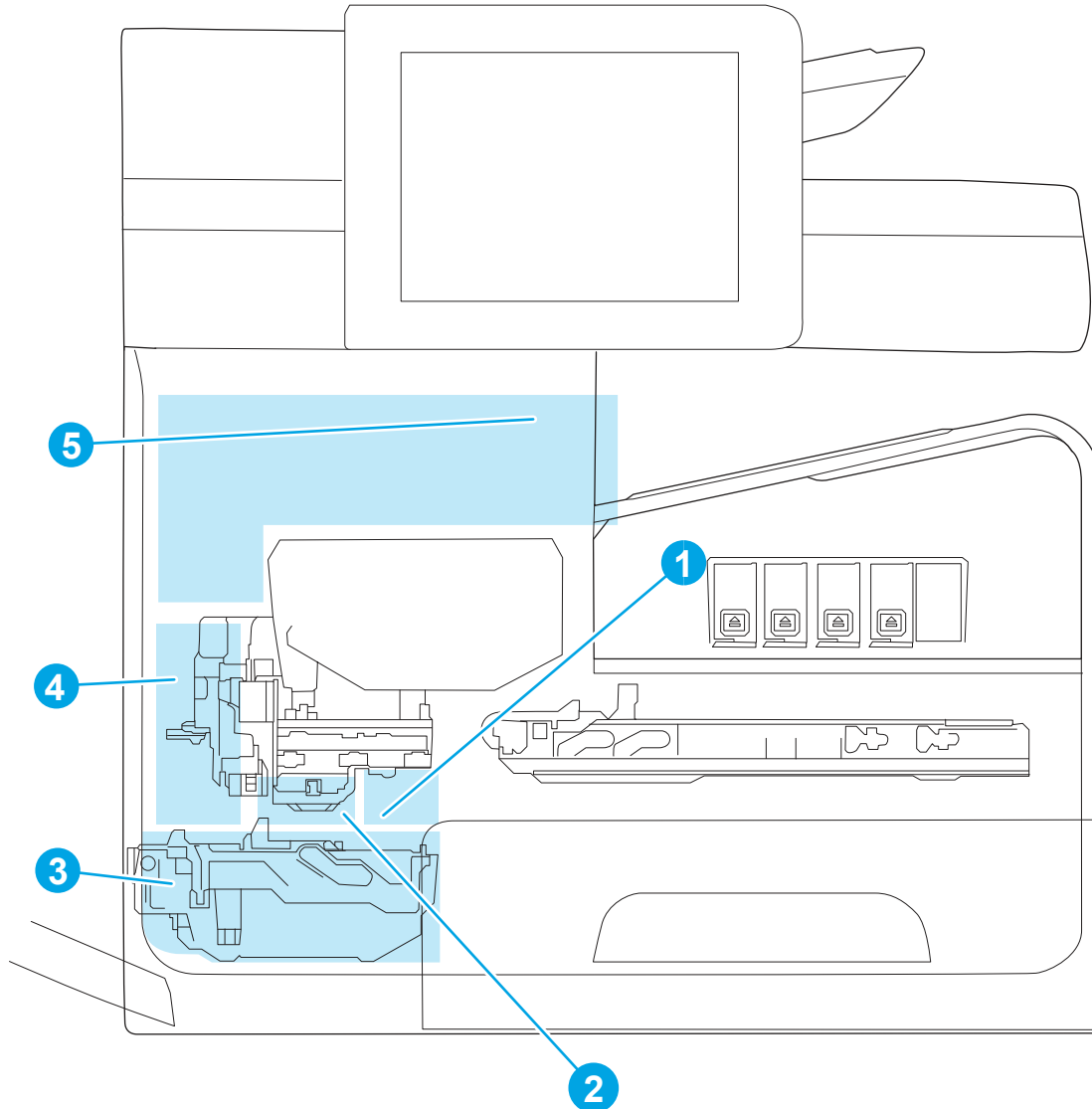


Table 3-8 Paper path zones

Item	Zone	Description
1	Deskew buckle	This is the area between the turn roller and feed roller. All print job paper passes through this zone. During the deskew operation, the duplex module/MP tray motor rotates forward, driving the paper into the feed roller nip while the feed roller is not moving. The feed roller REDI sensor determines the leading edge for accurate deskew buckle size, jam detection, and if the tray successfully picked paper.
2	Print zone	<p>This is the path between the feed roller and output pinch 1 roller. The feed roller, which has an analog quadrature encoder, precisely controls the paper in the paper feed direction. In the vertical direction, a combination of the platen, feed roller, and output pinch roller 1 controls the paper. The user can rotate the platen down for jam access after removing the duplex module.</p> <p>There are no paper path sensors in the print zone. If a jam occurs in the print zone, it is not detected until the leading edge of the paper is determined to be "late" in reaching the jam sensor in the output path.</p> <p>When a user pulls on jammed paper in the print zone that is still partially in the feed roller nip, the servo control will detect a slight movement of the feed roller and assist the user by applying a forward torque to the roller. Also, the motion control system will disengage the duplex module rectifier (swing arm) so that the turn roller can spin freely. This feature reduces the pulling force needed by the user</p>

Table 3-8 Paper path zones (continued)

Item	Zone	Description
		and therefore, reduces the chance of leaving torn pieces of paper in the path—especially in the deskew buckle zone.
3	Duplex	<p>By opening the left door, the duplex module can be removed to clear jams. The duplex module also serves as a waste-collection unit for the printbar and will expose the user to waste ink when it is removed. Therefore, there are warnings on the module to not touch certain areas.</p> <p>When the user pulls on jammed paper from the duplex module (or any of the trays) that is partially in the feed roller nip, the servo control detects a slight movement of the feed roller and assists the user by applying a reverse torque to the feed roller and disengages. Also, the motion control system disengages the duplex module rectifier so the turn roller can spin freely. This feature reduces the pulling force needed by the user and therefore reduces the chance of leaving torn pieces of paper in the path—especially in the deskew buckle zone.</p> <p>In order for the printer to determine the duplex module's presence, the duplex module has a magnet that triggers a hall-effect sensor mounted to the structure.</p>
4	Output	<p>The output path begins at output pinch roller 1 and continues to output pinch roller 5. There are four reflective edge detection interrupter (REDI) sensors in this path that detect leading and trailing edges and jams.</p> <p>The feed motor drives the rollers in the output path, except output pinch roller 5. All the pinch rollers in the output and exit path are star wheels to prevent roller tracking on wet/damp ink. However, the turn roller pinch is solid and has a high amount of force for deskew buckle formation. Also, the feed motor drives all output shafts except shafts 5 and 6.</p> <p>The REDI dry path lower, REDI dry path upper, and eject jam REDI sensor in the output path all track the leading and trailing edges of paper.</p> <p>The outer and top portions of the vertical path are formed by paper guides molded in and attached to the left door. The left door can be opened for jam clearance and has a hall-effect sensor to determine if it is closed. Also, when the left door is opened, drive rollers that form pinches 3 and 4 disengage from the feed motor for safety purposes.</p>
5		<p>The eject portion of the paper path includes the zone from output pinch roller 5 to the eject flap.</p> <p>The eject motor powers output pinch roller 5 and eject pinch roller 6.</p> <p>The eject flap has 3 positions:</p> <ul style="list-style-type: none"> • Closed when not printing. • Partially open for heavy ink printing in dry environments to limit severe curl. • Open for all other printing. This position controls moderately curled paper. <p>The flap is opened and closed by a torque clutch on the eject roller shaft. The flap also has a locking feature that is controlled by a solenoid. In order for the door to open all the way, or move between positions, the solenoid must be actuated.</p>

Servicing system

Learn about how the servicing system functions.

The servicing system comprises the service sled, which maintains print quality by wiping debris and ink off the print nozzles, and the service ink module, where waste ink is deposited.

Figure 3-20 Servicing system components (556 models)

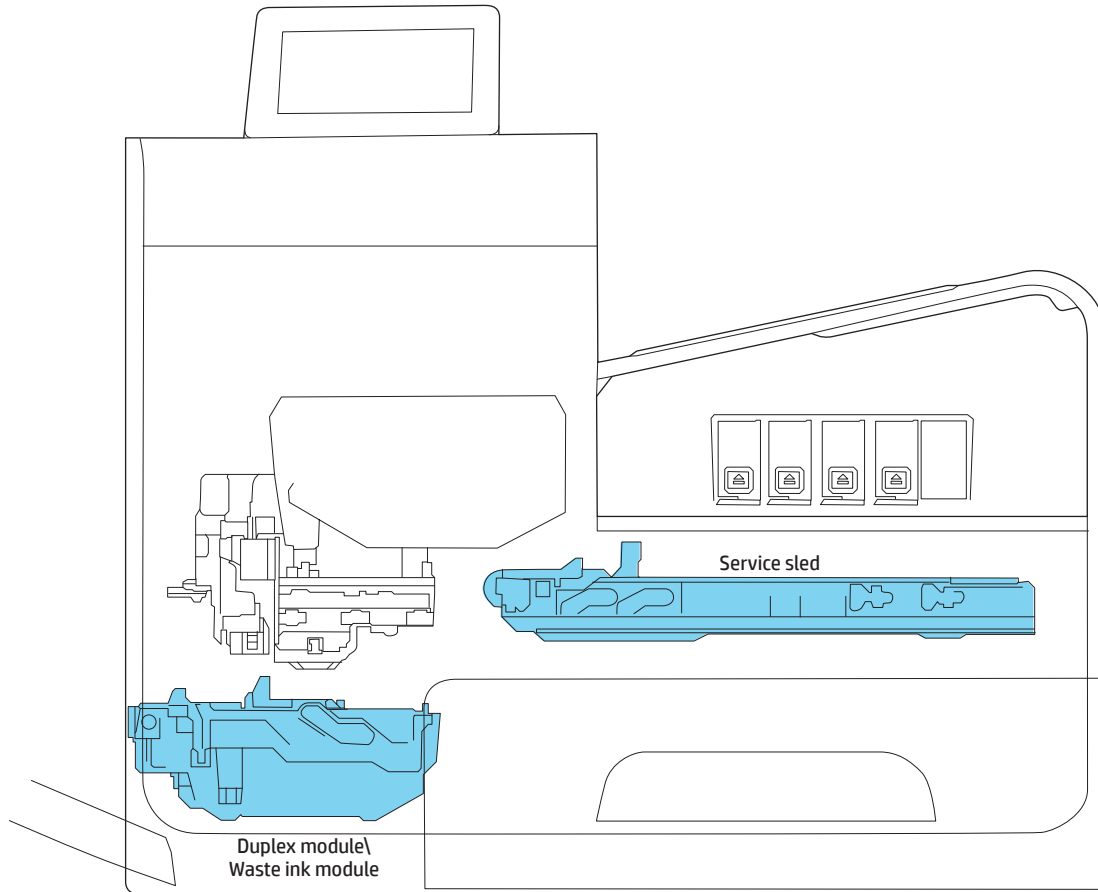
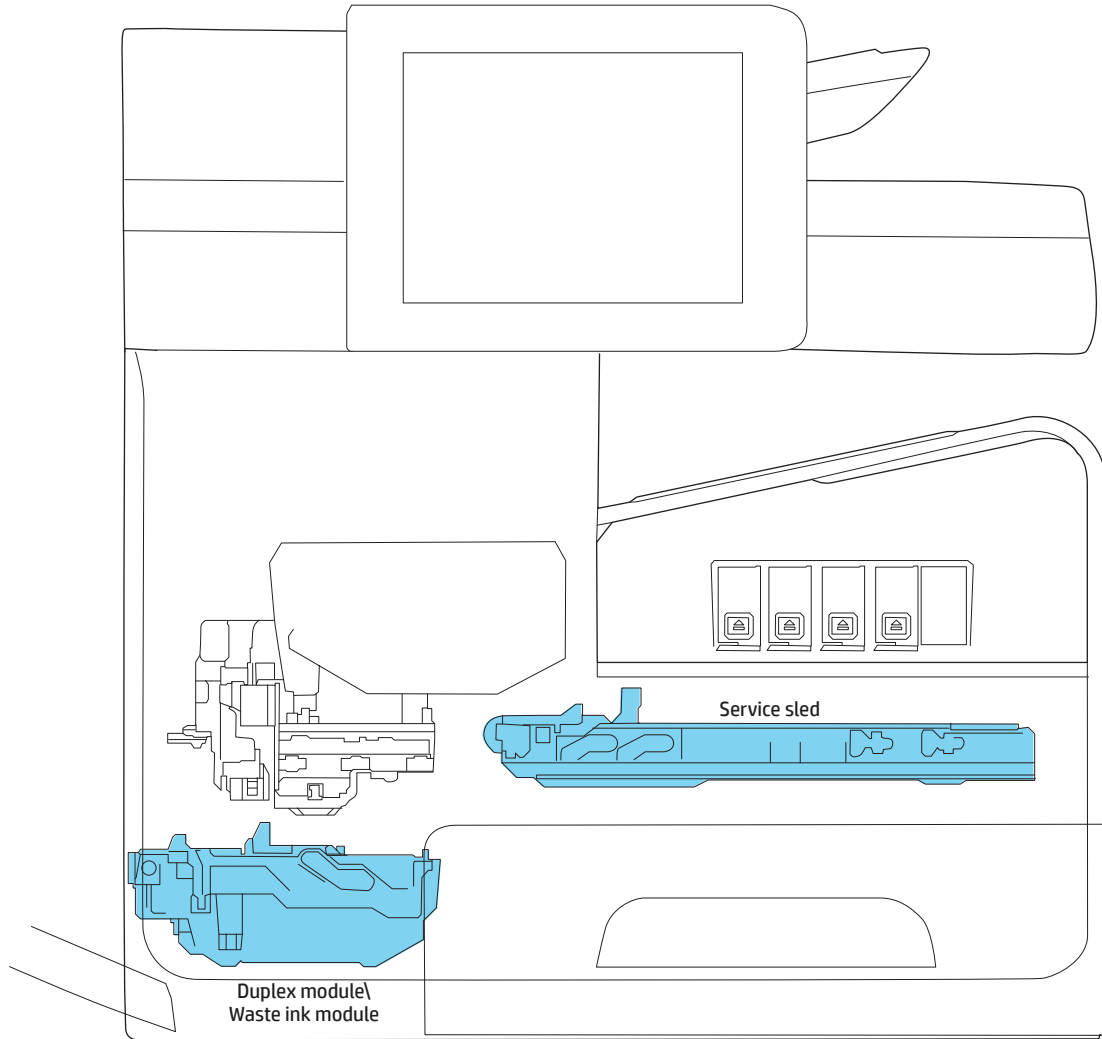


Figure 3-21 Servicing system components (586 models)



Service sled

Learn about the printer service sled.

Figure 3-22 Service sled components

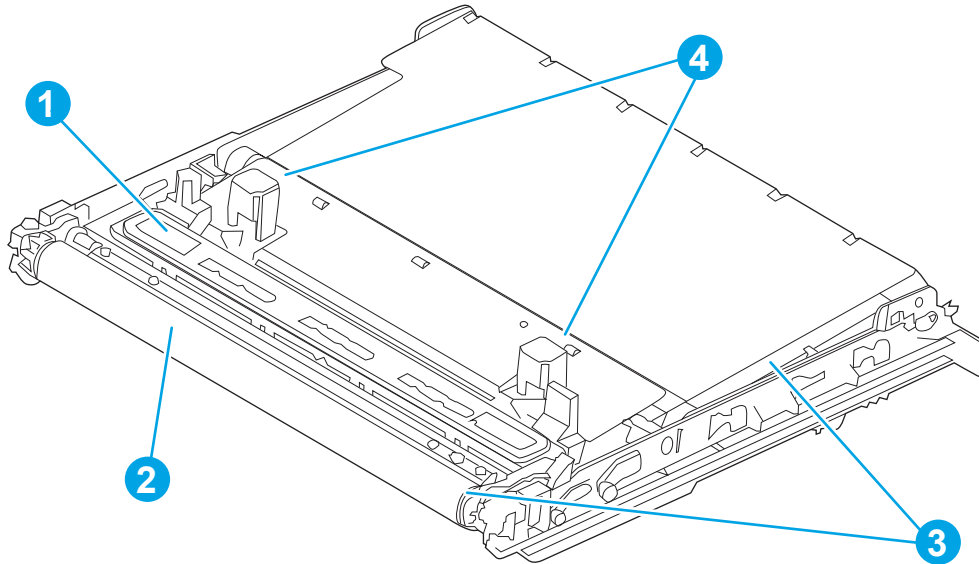


Table 3-9 Service sled components

Item	Description
1	Service sled cap
2	Service sled wiping surface
3	Service sled web fabric loop
4	Printbar support posts

The service sled system keeps the printbar nozzles firing correctly throughout the life of the printer as it performs the wiping and capping functions.

- The wiping function cleans the nozzles of ink residue and particulates.
- The capping function keeps the nozzles moist during storage when the printer is idle.

The service sled system uses the pick drive system (a component of the paper path) for horizontal motion to perform its functions.

To perform the wiping function, the printer moves the service sled underneath the printbar (which is elevated from the print position) so that the web fabric contacts the ink nozzles. The web fabric is a looped belt that advances after every wipe. Since the belt is a finite loop, it will eventually reuse previously used material. The web advances when the web wipe module moves to the right and out of the print zone. The advance mechanism is triggered by a mechanism located on the rear wall of the unit.

To perform the capping function, the service sled moves underneath the printbar (which is elevated from the print position), allowing the rubber cap to seal the print nozzles from the environment.

Transmission system

Learn about how the transmission system functions.

The pick/service motor uses a multi-state transmission to power the following three functions:

- Move the service sled

- Pick paper from the main tray
- Lift the main tray paper stack

The transmission has the following states:

- Service sled (forward/reverse)
- Pick (forward direction)/Tray Lift (reverse direction)

Printbar movement to a specific location releases the transmission lock and enables the pick/service motor to select the transmission state. The general location of the transmission parts is shown below.


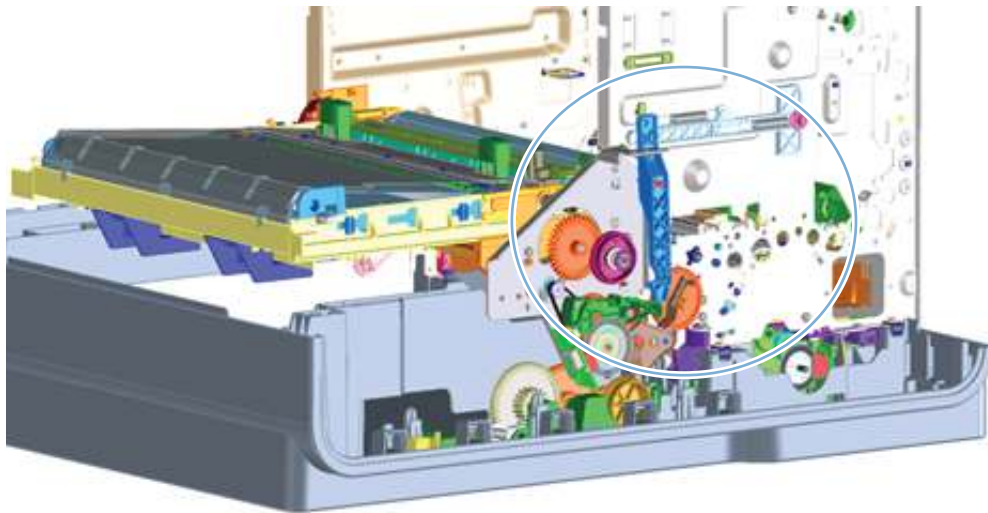
 **NOTE:** The transmission components are behind the main PCA electronics and are difficult to access.

Figure 3-23 Rear view of transmission components



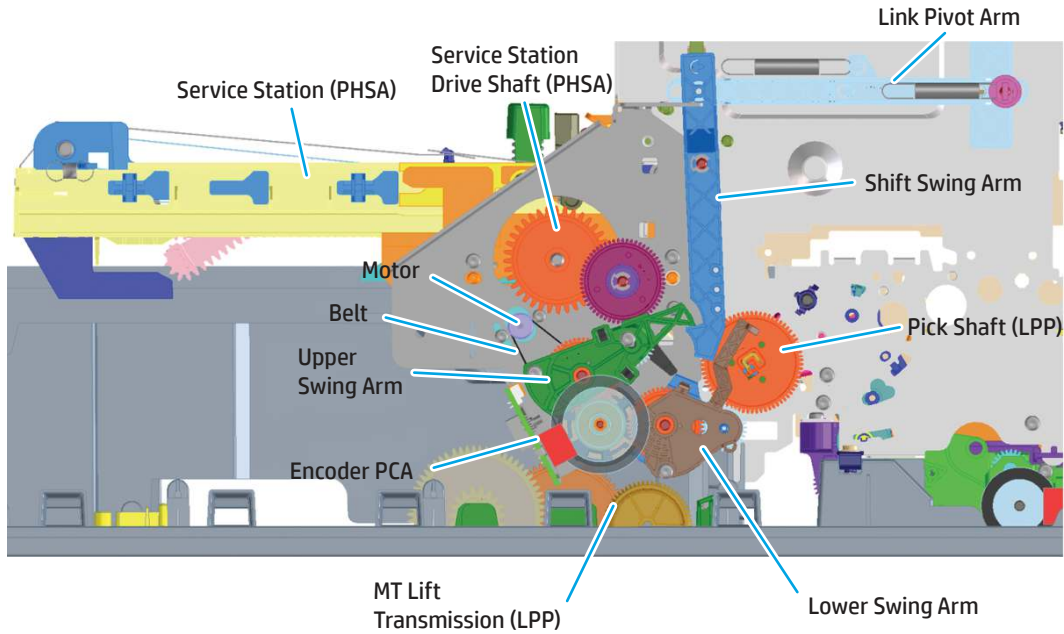
The printer will not function with the transmission in the main tray pick/main tray lift state if the service station has been manually capped.

Reusing caps or pushing the caps too far onto the printbar lift guide rods while servicing the printer can result in the transmission not shifting reliably.

Components

Learn about the transmission system components.

Figure 3-24 Transmission main components



States

Learn about the transmission system states of operation.

1) State 1: Main tray lift

- Link pivot arm and shift swing arm in locked position.
- Upper swing arm down, engaged with lower swing arm.
- Lower swing arm down, engaged with main tray lift transmission.
- Printbar either up or down.

Figure 3-25 State 1: Main tray lift



2) State 1: Main tray pick

- Link pivot arm and shift swing arm in locked position.
- Upper swing arm down, engaged with lower swing arm.
- Lower Swing arm up, engaged with pick shaft.

- Printbar either up or down.

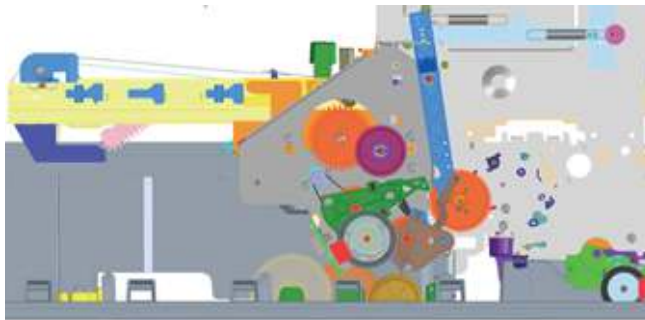
Figure 3-26 State 1: Main tray pick



3) State 1: Mid-switch

- Link pivot arm and shift swing arm in un-locked position.
- Upper swing arm in mid-switch position.
- Printbar in middle position.

Figure 3-27 State 1: Mid-switch



4) State 2: Service station

- Link pivot arm and shift swing arm in locked position.
- Upper swing arm up, engaged with service sled drive shaft.
- Printbar either up or down.

Figure 3-28 State 2: Service station

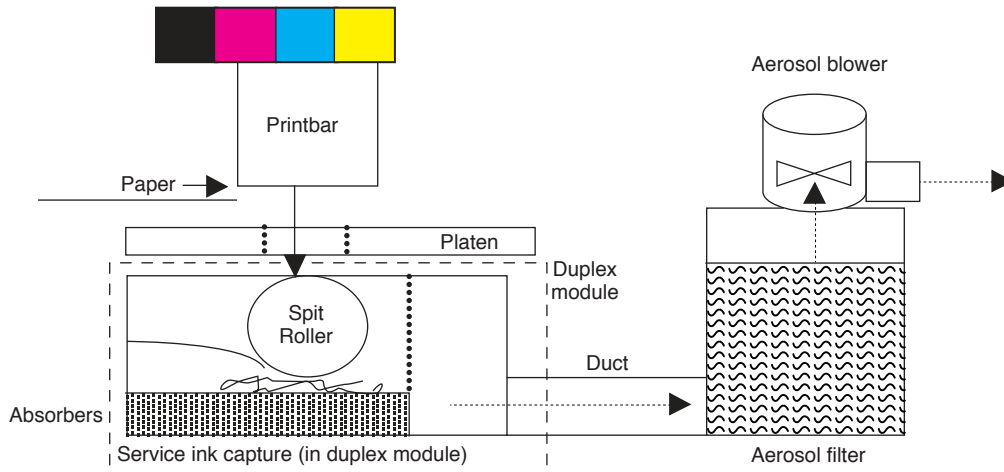


Aerosol management system

Learn about the aerosol management system.

The aerosol management system consists of a fan module and filter box to keep ink aerosol from building up inside the printer. The following figure shows the service ink and aerosol capture system components.

Figure 3-29 Aerosol management process



Between pages, printed aerosol is drawn through the platen openings. Service ink travels directly through the platen, impacting and collecting on the spit roller. Aerosol from the service spitting is also collected. Service ink collects in the duplex module, and a porous filter element captures the aerosol as aerosol-laden air passes through it. The aerosol blower mounted to the filter housing creates the air motion (suction—lower pressure—in the print zone).

Most of the printbar servicing ink (spit ink) is captured by the spit roller and scraped into the bottom of the bucket on the duplex module. The service ink spit roller is indexed slowly by the motion of paper through the printer, driven by the swing-arm and turn roller gear train, with power provided by the duplex motor.

The printer purges the printbar of its shipping fluid at initial startup, and then absorbers in the base of the duplex module collect the fluid. These absorbers allow much of the initial water to evaporate from the shipping fluid over time. Also, they allow service ink coming into contact with the absorbers to leach some of their fluids into them, which assists in the drying and thickening of the sludge.

The blower remains active as long as the printbar is uncapped, and it continues to operate for a few seconds after capping is complete.

Figure 3-30 Aerosol management system components

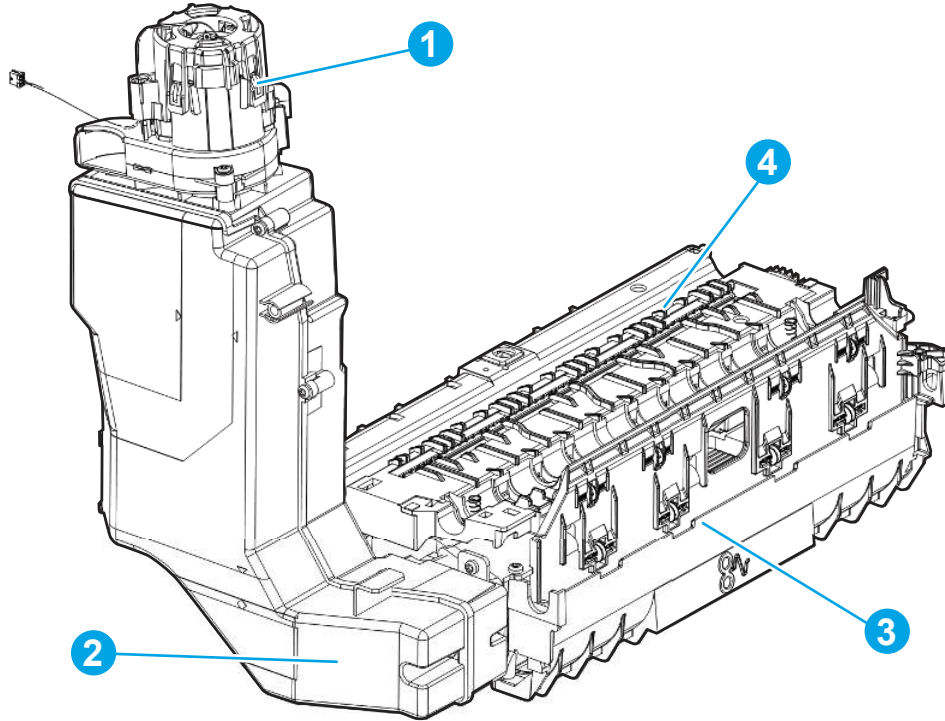


Table 3-10 Aerosol management system components

Item	Description
1	Blower
2	Aerosol filter housing
3	Duplex module/maintenance ink module
4	Platen

Fax functions and operation (fax models only)

Learn about the fax functions and operation.

The following sections describe the printer fax capabilities.

Computer and network security features

Learn about the computer and network security features.

The printer can send and receive fax data over telephone lines that conform to public switch telephone network (PSTN) standards. The secure fax protocols make it impossible for computer viruses to be transferred from the telephone line to a computer or network.

The following printer features prevent virus transmission:

- No direct connection exists between the fax line and any devices that are connected to the USB or Ethernet ports.
- The internal firmware cannot be modified through the fax connection.

- All fax communications go through the fax subsystem, which does not use Internet data-exchange protocols.

PSTN operation

Learn about the PSTN operation.

The PSTN operates through a central office (CO) that generates a constant voltage on the TIP and RING wires, usually 48 V. A device goes off-hook by connecting impedance, such as 600 Ω for the USA, across the TIP and RING so that a line current can flow. The CO can detect this current and send impulses like dial tones. The printer generates more signaling tones, such as dialing digits, to tell the CO how to connect the call. The printer can also detect tones, such as a busy tone from the CO, which tells it how to behave.

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

On most phone systems, the TIP and RING signals appear on pins three and four of the RJ-11 modular jack (the one on the fax card, as defined in the common 6-wire RJ standard). These two signals do not have to be polarized because all the equipment works with TIP on one pin and RING on the other pin. This means that cables of either polarity can interconnect and still work.

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

The fax subsystem

Learn about the fax subsystem.

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

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

Fax card in the fax subsystem

Learn about the fax card in the fax subsystem.

The fax card contains the modem chipset (DSP and CODEC) that controls the basic fax functions of tone generation and detection, along with channel control for fax transmissions. The CODEC and its associated circuitry act as the third-generation silicon data access arrangement (DAA) to comply with worldwide regulatory requirements.

Safety isolation

Learn about safety isolation.

The fax card provides safety isolation between the high-voltage, transient-prone environment of the telephone network (telephone network voltage—TNV) and the low-voltage analog and digital circuitry of the formatter (secondary extra-low voltage—SELV). This safety isolation provides both customer safety and printer reliability in the telecom environment.

Any signals that cross the isolation barrier do so magnetically. The breakdown voltage rating of barrier-critical components is greater than 5 kV.

Safety-protection circuitry

Learn about safety-protection circuitry.

In addition to the safety barrier, the fax card protects against overvoltage and overcurrent events.

Telephone overvoltage events can be either differential mode or common mode. The event can be transient in nature (a lightning-induced surge or ESD) or continuous (a power line crossed with a phone line). The fax card protection circuitry provides a margin of safety against combinations of overvoltage and overcurrent events.

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

A voltage suppressor (a crowbar-type thyristor) provides differential protection. This device becomes low impedance at approximately 300 V differential, and crowbars to a low voltage.

Data path

Learn about data path.

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

The telephone network uses DC current to determine the hook state of the telephone, so the line current must be present during a call. The silicon DAA provides a DC holding circuit to keep the line current constant during a fax call.

The silicon DAA converts the analog signal to a digital signal for DSP processing, and also converts the digital signal to an analog signal for transmitting data through a telephone line.

The magnetically coupled signals that cross the isolation barrier go through a transformer.

The DSP in the fax card communicates with the ASIC on the formatter using the high-speed serial interface.

Ring detect

Learn about ring detect.

Ring detect is performed by the line voltage monitoring module of the silicon DAA, and is a combination of voltage levels and cadence (time on and time off). Both must be present to detect a valid ring. The CODEC works with DSP and the firmware to determine if an incoming signal is an answerable ring.

Line current control

Learn about line current control.

The DC current from the CO needs to have a path to flow from TIP to RING. The DC impedance emulation line modulator and DC termination modules in the silicon DAA act as a DC holding circuit, and work with the firmware to achieve the voltage-current characteristic between TIP and RING. The impedance (the current-voltage characteristic) changes in correspondence to certain special events (for example, pulse dialing or when the printer goes on-hook).

Fax page storage in flash memory

Learn about fax page storage in flash memory.

Fax pages are the electronic images of the document page. They can be created in one of three ways:

- Scanned, to be sent to another fax machine.

- Generated, to be sent by the computer.
- Received from a fax machine, to be printed.

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

These pages are stored in flash memory, which is the nonvolatile memory that can be repeatedly read from, written to, and erased. The printer can have different amounts of flash memory, shared between firmware, customer settings, job storage and fax storage.



NOTE: The exact amount of flash memory depends upon the model and options of the printer.

Advantages of flash memory storage

Learn about advantages of flash memory storage.

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

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

Because fax pages are stored in flash memory rather than RAM, more RAM is available to handle larger and more complicated copy and print jobs.

4 Solve problems

Learn about solving printer problems.

HP service and support

Learn about HP access to additional service and support information.

Additional service and support for channel partners

Channel partners go to partner.hp.com, and then use the steps below to access the HP Web-based Interactive Search Engine (WISE).

[View a video of how to use the HP Partner First Portal to access WISE.](#)

Access WISE for Channel partners

1. Select [Services & Support](#) (near the top of the screen).
2. Under [Services Delivery](#), select [Technical Support](#).
3. Select [Technical Documentation](#).

Find information about the following topics

- Service manuals
- Service advisories
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Install and configure
- Printer specifications
- Warranty and regulatory information

Additional service and support for HP internal personnel

HP internal personnel, go to one of the following Web-based Interactive Search Engine (WISE) sites:

[View a video of how to access WISE for internal HP users.](#)

Americas (AMS)

- [WISE - English](#)
- [WISE - Spanish](#)
- [WISE - Portuguese](#)
- [WISE - French](#)

Asia Pacific / Japan (APJ)

- [WISE - English](#)
- [WISE - Japanese](#)
- [WISE - Korean](#)
- [WISE - Chinese \(simplified\)](#)
- [WISE - Chinese \(traditional\)](#)
- [WISE - Thai](#)

Europe / Middle East / Africa (EMEA)

- [WISE - English](#)

Additional technical support WISE videos

The videos below provide additional ways to access printer information using WISE.

[View a video of how to use WISE to find technical support videos \(model number search\).](#)

[View a video of how to use WISE to find technical support videos \(Product detail page \[PDP\] search\).](#)

Problem-solving checklist

Learn about the problem-solving checklist.

Follow these steps when trying to solve a problem with the printer.

Step 1: Check that the printer power is on

Learn about how to solve printer power problems.

1. Make sure that the printer is plugged in and turned on. The power button should be lit with a green light. If it is not, press the power button. It should first glow with an amber color, and then quickly switch to green as the printer initializes. If the power button does not light up, check the following conditions.
 - Make sure that the power cable is connected to the printer and the outlet.
 - Check the power source by connecting the power cable to a different outlet.
2. If the printer motors do not rotate, make sure that the ink cartridges are installed and that the doors are all closed. The control panel displays messages to indicate these problems.

3. **586 only:** If the document feeder motor does not rotate, open the document feeder cover and remove any packing material or shipping tape.
4. **586 only:** If the scanner bulb does not light during copying, scanning, or faxing, see the Power subsystems topi in this manual.


Step 2: Check the control panel for error messages

Learn how to check control panel error messages.

The control panel should indicate ready status. If an error message appears, resolve the error.

Print a supplies status page to ensure that the supplies are not at or over end of life.


- Ink collection unit (B5L09A): estimated life is 115,000 pages.
- **586 only:** Document feeder (ADF) roller kit (W5U23-67901): estimated life is 75,000 pages.

 **NOTE:** HP long-life consumable and maintenance kit life specifications are estimations. Actual individual life or yield during normal use will vary depending on usage, environment, media, and other factors. Estimated life is not an implied warranty.

Step 3: Test print functionality

Learn about how to test print functionality.

1. From the control panel Home screen, touch the [Administration](#) button.
2. Open the [Reports](#) menu, touch the [Configuration/Status Pages](#) menu, select the [Configuration Page](#) item, and then touch the [Print](#) button to print the report.
3. If the report does not print, make sure that paper is loaded in the tray, and check the control panel to see if paper is jammed inside the printer.

 **NOTE:** Make sure that the paper in the tray meets specifications for this printer.

Step 3: Test copy functionality

Learn about how to test copy functionality.

1. Place the configuration page into the document feeder and make a copy. If paper does not feed smoothly through the document feeder, you might need to clean the document feeder rollers and separation pad. Make sure that the paper meets specifications for this printer.
2. Place the configuration page onto the scanner glass and make a copy.
3. If the print quality on the copied pages is not acceptable, clean the scanner glass and the small glass strip.

Step 5: Test the fax sending functionality (586 fax models only)

Learn about how to test fax send functionality.

1. From the control panel Home screen, touch the [Administration](#) button.
2. Open the [Fax Setup](#) menu, and then open the [Fax Tools](#) menu. Touch the [Run Fax Test](#) button to test the fax functionality.
3. Touch the [Fax](#) on the printer control panel, and then touch the [Start Fax](#) button.

Step 6: Test the fax receiving functionality (586 fax models only)

Learn about how to test fax receiving functionality.

1. From the control panel Home screen, touch the [Administration](#) button.
2. Open the [Fax Setup](#) menu, and then open the [Fax Tools](#) menu. Touch the [Run Fax Test](#) button to test the fax functionality.
3. Use another fax machine to send a fax to the printer.
4. Review and reset the printer fax settings.

Step 7: Try sending a print job from a computer

Learn about how to test print job functionality.

1. Use a word-processing program to send a print job to the printer.
2. If the job does not print, make sure that you selected the correct printer driver.
3. Uninstall and then reinstall the printer software.

Step 8: Test the Plug and Print USB Drive printing functionality

Learn about how to test print USB drive functionality.

1. Load a .PDF document or .JPEG photo onto a USB flash drive and insert it in the USB port near the control panel.
2. The [USB Flash Drive](#) menu opens. Try printing the document or photo.
3. If no documents are listed, try a different type of USB flash drive.

Factors that affect printer performance

Learn about factors that affect printer performance.

Several factors affect the time it takes to print a job:

- The software program that you are using and its settings.
- The use of special paper (such as heavy paper or custom-size paper).
- Printer processing and download time.
- The complexity and size of graphics.
- The speed of the computer you are using.
- The USB or network connection.
- Whether the printer is printing in color or in monochrome.
- The type of USB drive, if you are using one.
- Environmental factors, such as low temperature or high humidity.

Troubleshooting process

Learn about the troubleshooting process.

Determine the problem source


When the printer malfunctions or encounters an unexpected situation, the printer control panel alerts the user to the situation.


This section contains a pre-troubleshooting checklist and a troubleshooting flow chart to filter out many possible causes of the problem.

- Use the pre-troubleshooting check list to gather information about the problem from the customer.
- Use the troubleshooting flowchart to pinpoint the root cause of hardware malfunctions. The flowchart guides you to the section of this chapter that contains steps for correcting the malfunction.

Before beginning any troubleshooting procedure, check the following issues:

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

 **NOTE:** To print a configuration page using an HP Plus printer, the printer must have genuine original HP toner cartridges installed, must have an ongoing internet connection and an active HP Plus account (for more information, go to hp.com/plus).

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

Troubleshooting flowchart

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

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

 **NOTE:** For solutions that require printing a page, see the following.

To print using an HP Plus printer, the printer must have genuine original HP toner cartridges installed, must have an ongoing internet connection and an active HP Plus account (for more information, go to hp.com/plus).

Table 4-1 Troubleshooting flowchart

Step	Question	Action
1 Power on	Is the printer on and does a readable message display?	Basic printer functions should start up when the printer is connected into an electrical outlet and the power switch is pushed to the on position. During normal operation cooling fans and/or motors should be operating. Place a hand over fan intake or exhaust vents to determine if the fan or fans are spinning. Lean close to the printer to hear motors rotating.
	Yes ↓ No →	

Table 4-1 Troubleshooting flowchart (continued)

Step	Question	Action
		<p>If fans and/or motors are operating, the dc side of the power supply is functioning.</p> <p>Always make sure that the printer is plugged into a known-functioning wall receptacle. Remove power strips and plug the printer directly into a wall receptacle.</p> <p>After the control panel display is functional, see step 2.</p>
2 Control panel messages	Does the message Ready display on the control panel?	
	Yes ↓ No →	<p>After the errors have been corrected, go to step 3.</p> <p>Use the control panel message document (CPMD) section in this manual to correct any displayed error messages.</p>
3 Event log	<p>Open the Troubleshooting menu and print an event log to see the history of errors with this printer.</p> <p>Does the event log print?</p>	
	Yes ↓ No →	<p>If the event log does not print, check for error messages.</p> <p>If paper jams inside the printer, see the jams section of the printer service manual.</p> <p>If error messages display on the control panel when trying to print an event log, see the control panel message document (CPMD) section of this manual.</p> <p>After successfully printing and evaluating the event log, see step 4.</p>
4 Information pages	<p>Open the Reports menu and print the configuration pages to verify that all the accessories are installed.</p> <p>Are all the accessories installed?</p>	
	Yes ↓ No →	<p>If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it.</p> <p>Make sure that the most recent firmware is installed. See the firmware upgrade section of this manual for more information.</p> <p>After evaluating the configuration pages, see step 5.</p>
5 Print quality	Does the print quality meet the customer's requirements?	
	Yes ↓ No →	<p>Compare the images with the sample defects in the Image-quality troubleshooting section of this manual.</p> <p>Solve print-quality and copy-quality issues as needed.</p> <p>After the print quality is acceptable, see step 6.</p>

Table 4-1 Troubleshooting flowchart (continued)

Step	Question	Action
6 Interface	Can the customer print successfully from the host computer?	<p>Verify that all I/O cables are connected correctly and that a valid IP address is listed on the HP Jetdirect configuration page.</p> <p>If error messages display on the control panel or appear in the event log, see the control-panel message document (CPMD) section of this manual.</p> <p>When the customer can print from the host computer, this is the end of the troubleshooting process.</p>
	<p>Yes. This is the end of the troubleshooting process.</p> <p>No →</p>	

Power on troubleshooting

Learn about power on troubleshooting.

Power-on checks

Learn about power-on checks.

The basic printer functions should start up when the printer is connected into an electrical outlet and the power switch is pushed to the on position. If the printer does not start, use the information in this section to isolate and solve the problem.

If the control panel display remains blank, random patterns display, or asterisks remain on the control panel display, perform power-on checks to find the cause of the problem.

Power-on troubleshooting overview

Learn about power-on troubleshooting.

During normal operation, a cooling fan begins to spin briefly after the printer power is turned on. Place your hand over the vents at the rear of the printer, next to the formatter, or on the rear of the scanner (MFPs only). If the fan is operating, you will feel air passing out of the printer. You can lean close to the printer and hear the fan operating.

After the fan is operating, the main motor turns on (unless the left door or cartridge access door is open, a jam condition is sensed, or the paper-path sensors are damaged). You might be able to visually and audibly determine if the main motor is turned on.

If the fan and main motor are operating correctly, the next troubleshooting step is to isolate print engine, formatter, and control panel problems.

If the control panel is blank when you turn on the printer, check the following items:

1. Make sure that the printer is connected directly into an active electrical outlet (not a power strip) that delivers the correct voltage.
2. Make sure that the power switch is in the on position.
3. Make sure that the fan runs briefly, which indicates that the power supply is operational.

4. Make sure that the control panel display wire harness is connected.
5. Make sure the power switch is in the on position, and then verify that the heartbeat LED is blinking.
6. Remove any external solutions, and then try to turn the printer on again.

Troubleshooting a blank display, black display, no display, or no power situation

Learn about troubleshooting a blank display, black display, no display, or no power situation.

Customers usually report that the control panel display is not showing anything. It is very important to collect as much information as possible from the customer about the issue to help resolve it.

Following are some printer behaviors the customer might encounter:

- The control panel is completely blank (no LEDs or back light).
- The control panel is blank, but there might be LEDs illuminated.
- The control panel is blank (LEDs are on or flashing) and the back light is on (but no text is visible).

Following are some possible causes of a blank control panel display:

- No power to the printer.
- The control panel contrast setting is not correctly adjusted.
- The formatter connector(s) are not fully seated into the connector(s) on the DC controller.
- The memory DIMM is missing, faulty, incorrectly installed, or is not fully seated.
- A faulty component is installed on the formatter (for example a memory DIMM, fax PCA, network PCA, USB device, or another component).
- The formatter is defective.
- The control panel connector is not fully seated, or the control panel is defective.
- The DC controller is defective.

Following are some questions to ask the customer:

- Was the printer newly installed or has the printer been properly functioning?
 - For a new install, investigate to see if there was any shipping damage to the printer.
 - Did the customer notice any damage to the shipping box or any visible damage to the printer?
- What happened just prior to the control panel going blank?
 - Was the printer serviced recently?
 - Has a power outage recently occurred?
 - Has a lightning storm recently occurred?
 - Did the customer recently add a memory DIMM or install a third-party component?
- Make sure to get a complete description of the failure.
 - Is the control panel display completely blank (might be faint text and no back light)?

- Is the control panel display back light on?
- Are any of the LEDs (Ready, Data, or Attention) illuminated?
- Has a print job been sent to the printer? The customer might report that their print jobs seemed to print, but when they go to the printer the control panel display is blank.

Recommended actions

If the control panel display is completely blank (no LEDs illuminated or no back light) check to see if the printer is getting power. Listen for fans or any printer initialization sounds when the power is turned on.

If there are no signs of power, then perform the following:


1. Make sure that the printer is plugged directly into an active electrical outlet (not a power strip or interruptible power supply) that delivers the correct voltage.

 **TIP:** Try using a different power cable if possible.

2. Turn the printer power on, and make sure that the fan(s) run briefly (this indicates that the power supply is operational).
3. Turn the printer power off.
4. Make sure that the control panel display wire harness (and/or flat cable) is properly connected (and fully seated), and then turn the printer power on again.
5. Verify the status LEDs are illuminated, but the control panel display is blank. If applicable: Check if the contrast setting is adjusted to very low. If so, try turning the contrast knob to see if the control panel display becomes visible.
6. From a host computer, send a print job to the printer.


 **NOTE:** If the print job correctly prints, then the problem is most likely to a defective control panel.

7. Turn the printer power off, and then make sure that the memory DIMM is installed in the correct slot and is fully seated.

 **NOTE:** For some printers, there may be more than one memory DIMM installed. Some printers have third-party solutions/applications or fonts that use memory.

8. Remove all of the components/accessories installed on the formatter (for example, hard drive, solid-state drive, memory DIMM(s), fax PCA, network PCA, USB devices, or other devices).

- **For printers with an interconnect board (ICB):** Make sure that the formatter is fully seated.
- Take out or disconnect all removable components on the formatter (SSD, HDD, or other devices).


 **IMPORTANT:** This is important because the formatter or a component on the formatter might be defective or shorted which causes the printer to lose power.

9. **For printers with an interconnect board (ICB):** Reinstall the formatter.

Make sure that all of the connectors on the formatter are correctly connected and fully seated.

10. Turn the printer power on, and then check the control panel display.

11. If the printer control panel is properly working, replace each removed component (one at a time) to determine which one is causing the problem.

 **CAUTION:** Turn the printer power off, and then on again, after replacing a component on the formatter.

12. If the control panel display is still blank after performing the above troubleshooting steps, replace the formatter.

Scanning subsystem (586)

Learn about the scanning subsystem.

Use this procedure to properly position the copied image on the page.

 **TIP:** This adjustment might be required after the scanner or document feeder is replaced.

1. From the Home screen on the printer control panel, scroll to and touch the [Device Maintenance](#) button.
2. Touch the [Calibration/Cleaning](#) button.
3. Touch the [Calibrate Scanner](#) button, and then follow the instructions provided on the screen.

Control panel checks

Learn about control panel troubleshooting.

The printer includes a diagnostic test mode for the touchscreen control panels.

Control panel diagnostic flowcharts

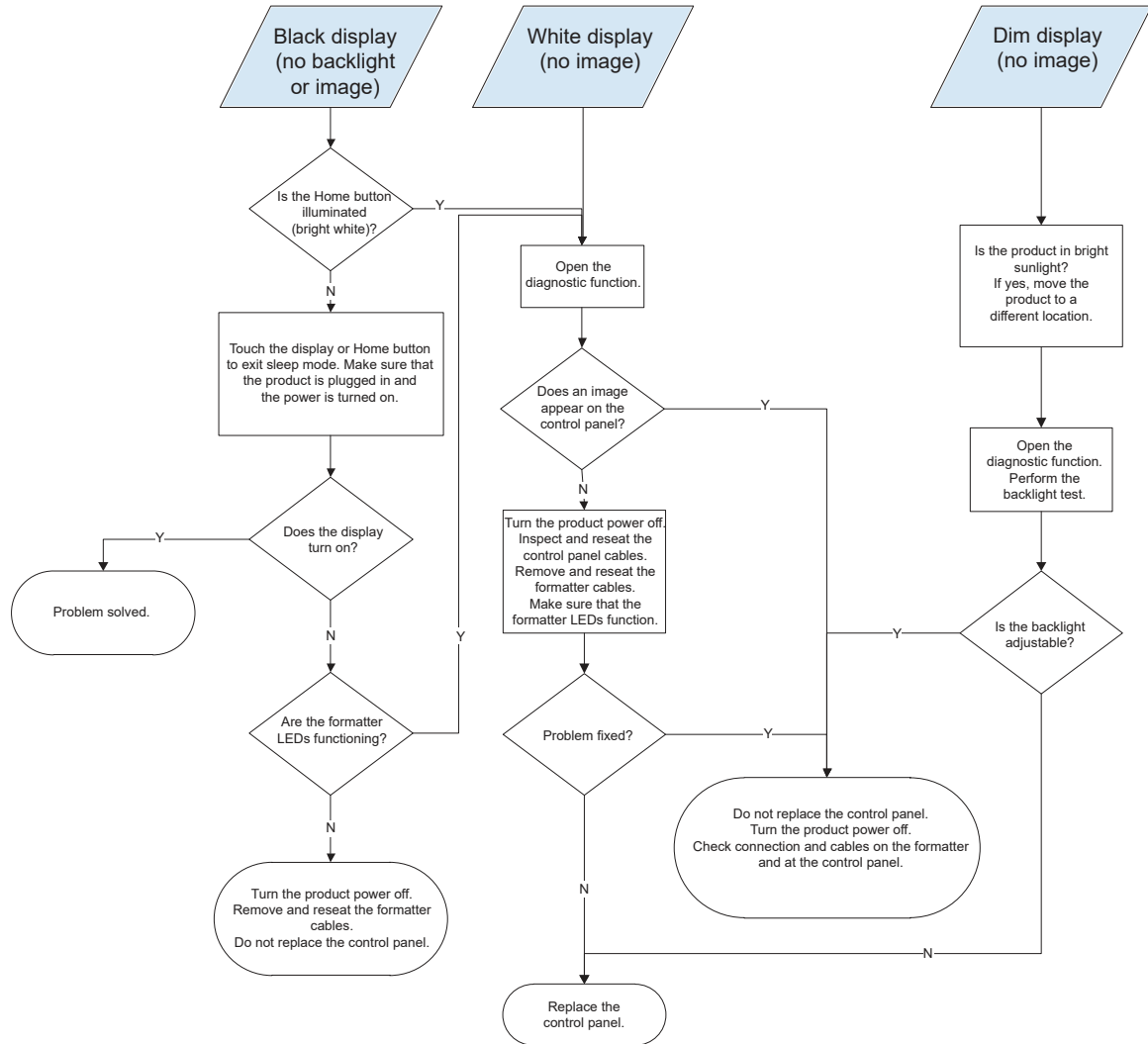
Use the flowcharts in this section to troubleshoot the following control panel problems.

- Touchscreen is blank, white, or dim (no image).
- Touchscreen is slow to respond or requires multiple presses to respond.
- Touchscreen has an unresponsive zone.
- No control panel sound.
- Home button is unresponsive.
- Hardware integration pocket (HIP) is not functioning (control panel functional).

Touchscreen black, white, or dim (no image)

To open the diagnostic function, press the button on the back of the control panel.

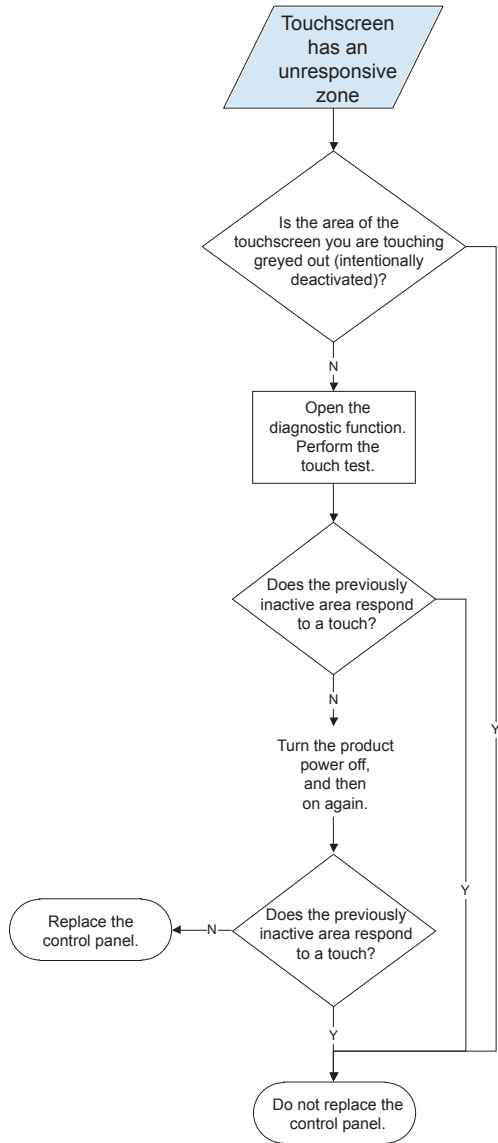
Figure 4-1 Touchscreen blank, white, or dim (no image)



Touchscreen has an unresponsive zone

To open the diagnostic function, press the button on the back of the control panel.

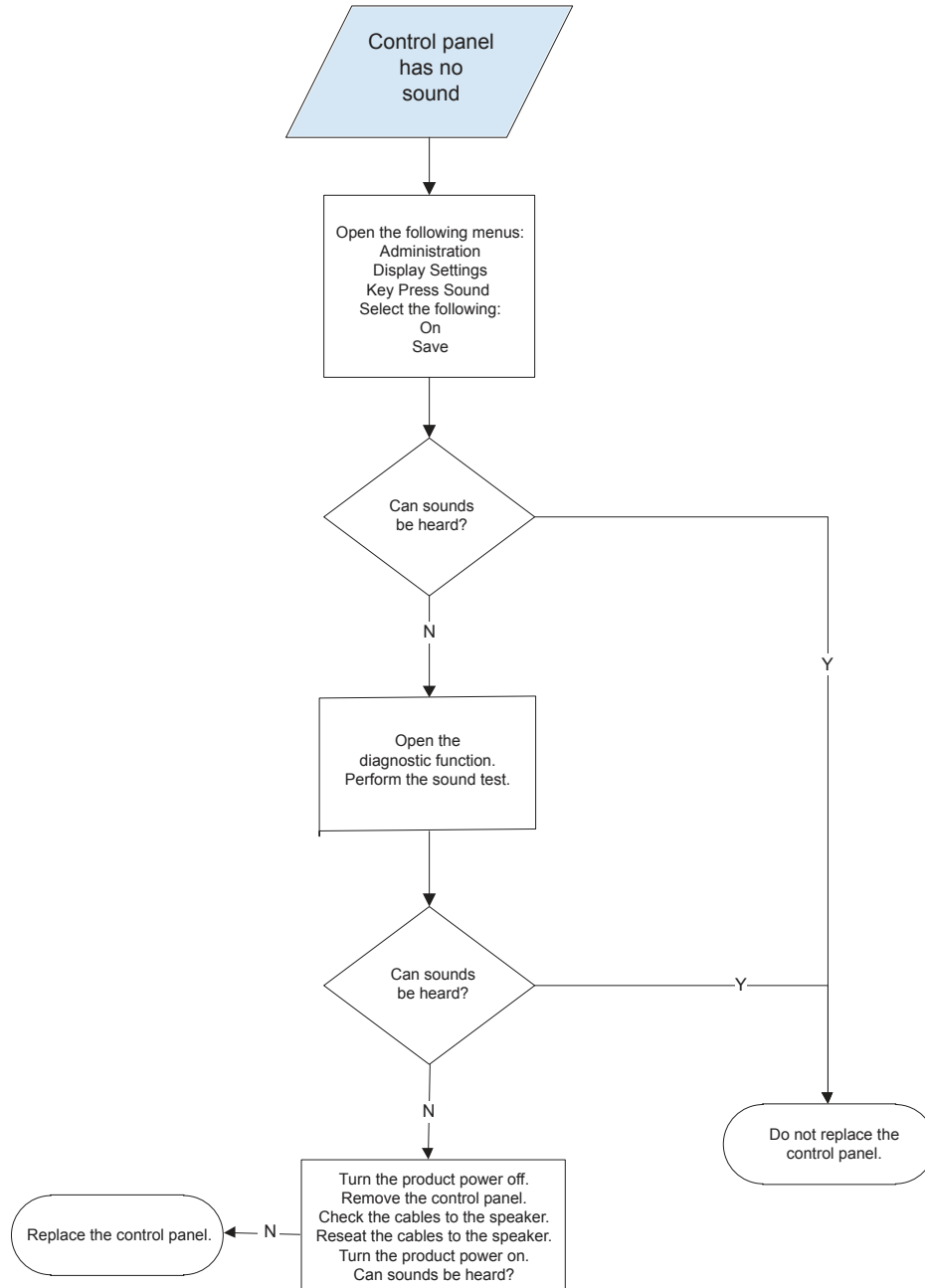
Figure 4-2 Touchscreen has an unresponsive zone



No control panel sound

To open the diagnostic function, press the button on the back of the control panel.

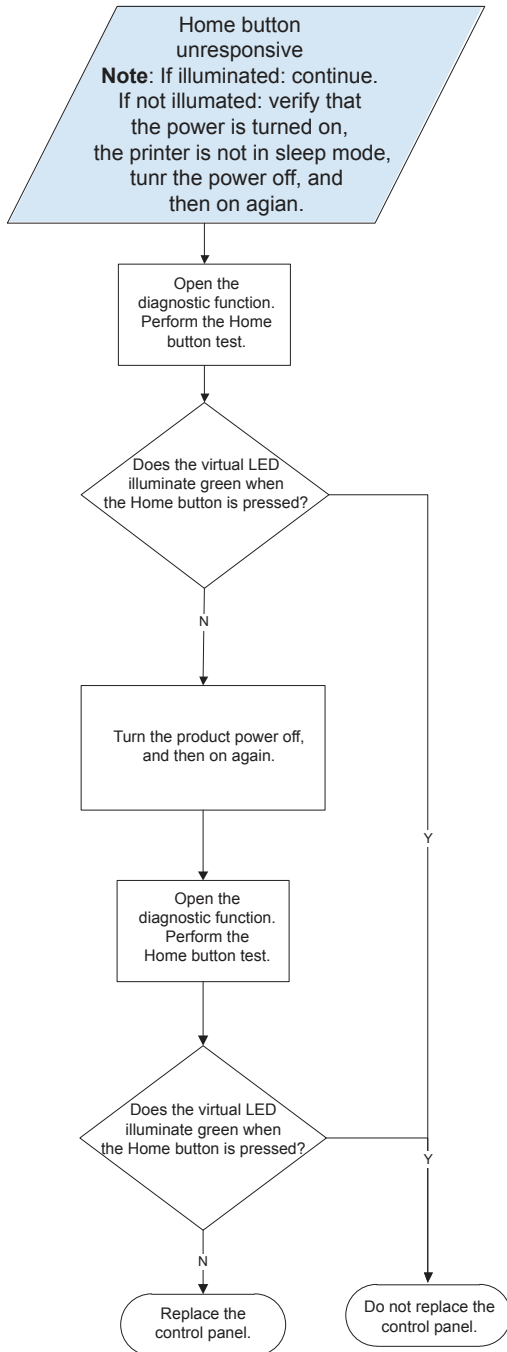
Figure 4-3 No control panel sound



Home button is unresponsive

To open the diagnostic function, press the button on the back of the control panel.

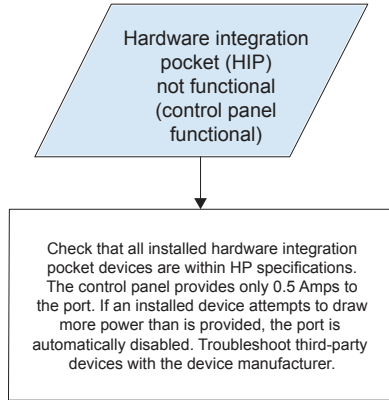
Figure 4-4 Home button is unresponsive



Hardware integration pocket (HIP) is not functioning (control panel functional)

Review the following information when the HIP is not functioning, but the control panel is functional.

Figure 4-5 Hardware integration pocket (HIP) is not functioning (control panel functional)



Tools for troubleshooting

Learn about the printer troubleshooting tools.

Print the configuration page

Learn about the printer information pages.

Print a configuration page

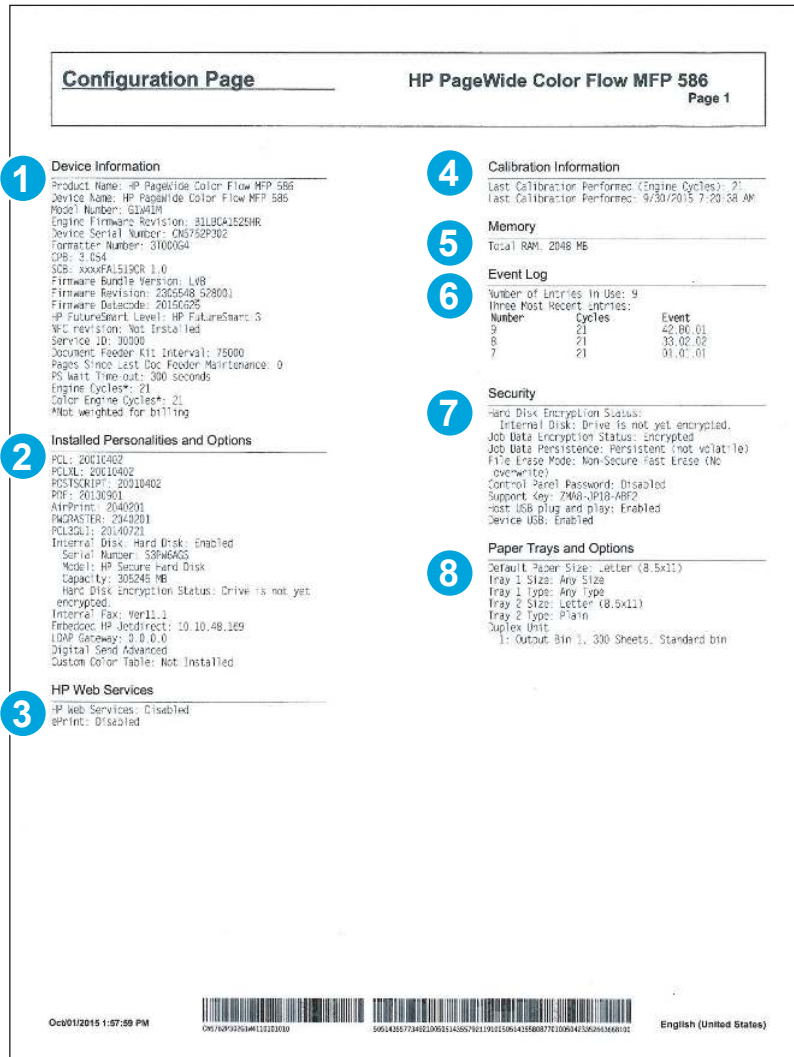
Learn how to print the configuration page.

Use the configuration page to view current printer settings, to help troubleshoot printer problems, or to verify installation of optional accessories, such as memory (DIMMs), paper trays, and printer languages.

1. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Reports](#)
 - [Configuration/Status Pages](#)
3. Touch [Configuration Page](#) to select it.

- Touch the **View** button (586 only) to view the information on the control panel or touch the **Print** button to print the pages.

Figure 4-6 Configuration page



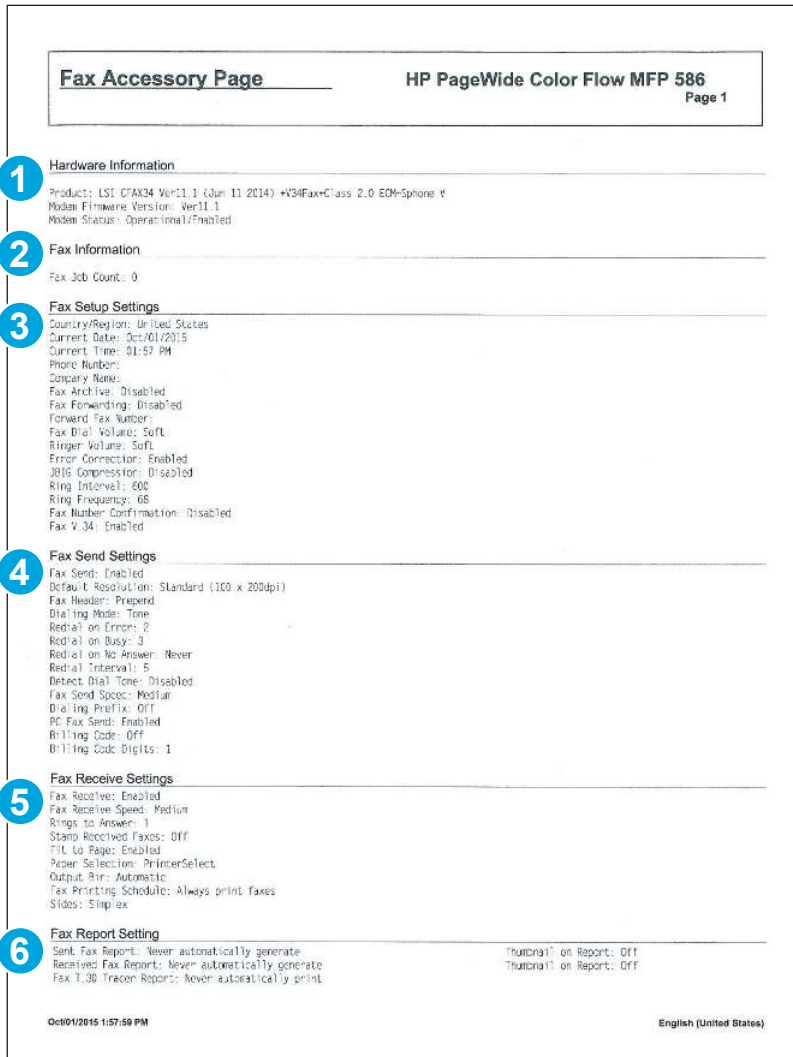
Item	Description	Item	Description
1	Device Information: Includes the firmware version, usage statistics, and the service ID.	5	Memory: Information about installed memory.
2	Installed Personalities and Options: Includes installed printer languages and hard disk information.	6	Event Log: Shows the most recent entries in the log.
3	HP Web Services: Status information.	7	Security: Includes encryption information and current security settings.
4	Calibration Information: Shows when the printer performed the most recent calibration.	8	Paper Trays and Options: Shows installed trays and current paper size/type settings.

Fax accessory page (586 fax models only)

Learn about the information available on the fax accessory page.

The second configuration page is the fax accessory page, which contains the following information.

Figure 4-7 Fax accessory page (586 fax models only)



Item	Description	Item	Description
1	Hardware Information: Shows printer and modem firmware versions and shows the modem status.	4	Fax Send Settings: Shows the fax send configuration.
2	Fax Information: Shows the fax job count.	5	Fax Receive Settings: Shows the fax receive configuration.
3	Fax Setup Settings: Shows the fax configuration.	6	Fax Report Setting: shows the fax report configuration.

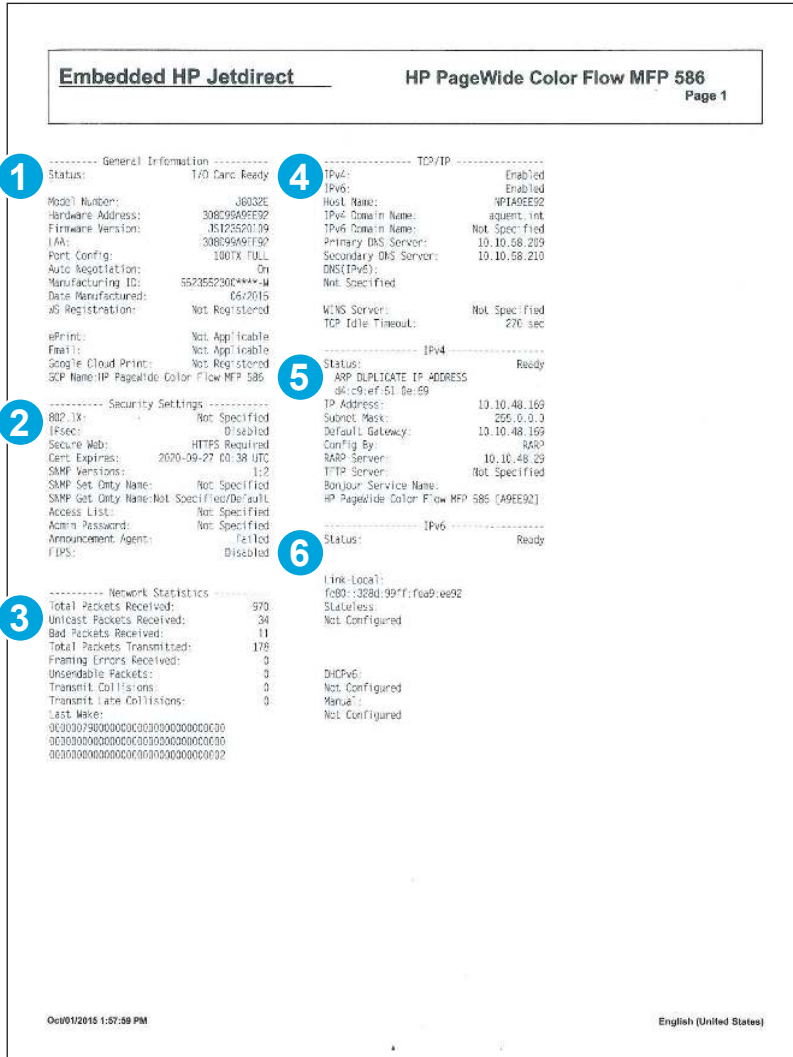
HP embedded Jetdirect page

Learn about the information available on the HP embedded Jetdirect page.

The third configuration page—this is the second page for non-fax models—is the HP embedded Jetdirect page, which contains the following information.

Always make sure the status line under the general information line indicates **I/O Card Ready**.

Figure 4-8 HP embedded Jetdirect page



Item	Description	Item	Description
1	General Information: Indicates the printer status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.	4	TCP/IP: Includes the IP address.
2	Security Settings: Information about printer security configuration.	5	IPv4: Information about IPv4 settings.
3	Network Statistics: Indicates the total packets received, uni-cast packets received, bad packets received, framing errors received, total packets transmitted, un-sendable packets, transmit collisions, and transmit late collisions.	6	IPv6: Information about IPv6 settings.

Finding important information on the configuration pages

Learn about important information on the configuration pages.

Certain information, such as the firmware date codes, the IP address, and the email gateways, is especially helpful while servicing the printer. This information is on the various configuration pages.

Table 4-2 Important information on the configuration pages

Type of information	Specific information and configuration page location
<p>Firmware date codes</p> <p>When you use the remote firmware upgrade procedure, all of these firmware components are upgraded.</p>	<ul style="list-style-type: none"> • Engine firmware revision Look on the main configuration page, under “Device Information.” • Firmware datecode Look on the main configuration page, under “Device Information.” • HP embedded Jetdirect firmware version Look on the HP embedded Jetdirect page, under “General Information.”
<p>Accessories and internal storage</p> <p>All optional devices that are installed on the printer should be listed on the main configuration page.</p> <p>In addition, separate pages print for the optional paper handling devices and the fax accessory. These pages list more detailed information for those devices.</p>	<ul style="list-style-type: none"> • Embedded HP Jetdirect Look on the main configuration page, under “Installed Personalities and Options.” Shows model and ID. • Total RAM Look on the main configuration page, under “Memory.” • Duplex unit Look on the main configuration page, under “Paper Trays and Options.”
Finishing accessories	<ul style="list-style-type: none"> • Installed finishing accessory type Look on the main configuration page, under “Paper Trays and Options.”
<p>Engine cycles and event logs</p> <p>Total page counts and maintenance kit counts are important for ongoing printer maintenance.</p> <p>The configuration page lists only the three most recent errors. To see a list of the 50 most recent errors, print an event log from the Troubleshooting menu.</p>	<ul style="list-style-type: none"> • Engine cycles Look on the main configuration page, under “Device Information.”
Event log information	<ul style="list-style-type: none"> • Event log information Look on the main configuration page, under “Event Log.”

Event log messages

Learn about the event log.

See the control-panel message and event-log entries section of the product troubleshooting manual for event-log entry descriptions and solutions. The event log shows the last 50 events in descending order.

Figure 4-9 Sample event log

Event Log 1 HP PageWide Color 556 Page 1

Device Information

2	3	4	5	6	7	8
Number	Date and Time	Cycles	Event	Firmware	Description or Personality	Consecutive Repeats
50	1/2/2014 8:28:12 AM	62	40.08.00	2302176_420411	Secure file erase is disabled	0
49	1/2/2014 8:27:41 AM	61	10.99.34	2302176_420411	Used supply in use	0
48	1/2/2014 8:25:09 AM	0	32.08.A3	2302176_420411	Normal boot up	0
47	1/2/2014 8:25:06 AM	0	33.02.02	2302176_420411	Save/Recover disabled	0
46	1/2/2014 8:24:53 AM	0	99.06.01	2302176_420411	Finisher installation successful	0
45	1/2/2014 8:21:43 AM	61	32.08.A2	2302176_420411	Normal shutdown	0
44	12/19/2013 3:05:54 PM	61	10.99.34	2302176_420411	Used supply in use	0
43	12/19/2013 2:59:26 PM	0	32.08.A3	2302176_420411	Normal boot up	0
42	12/19/2013 2:59:24 PM	0	33.02.02	2302176_420411	Save/Recover disabled	0
41	12/19/2013 2:59:11 PM	0	99.06.01	2302176_420411	Finisher installation successful	0
40	12/19/2013 2:57:38 PM	61	32.08.A2	2302176_420411	Normal shutdown	0
39	12/19/2013 2:53:14 PM	61	10.99.34	2302176_420411	Used supply in use	0
38	12/19/2013 2:45:54 PM	0	32.08.A3	2302176_420411	Normal boot up	0
37	12/19/2013 2:45:52 PM	0	33.02.02	2302176_420411	Save/Recover disabled	0
36	12/19/2013 2:45:39 PM	0	99.06.01	2302176_420411	Finisher installation successful	0
35	12/19/2013 2:44:05 PM	61	32.08.A2	2302176_420411	Normal shutdown	0
34	12/19/2013 8:30:32 AM	60	40.08.00	2302176_420411	Secure file erase is disabled	0
33	12/18/2013 2:05:44 PM	59	10.99.34	2302176_420411	Used supply in use	0
32	12/18/2013 2:03:21 PM	0	32.08.A3	2302176_420411	Normal boot up	0
31	12/18/2013 2:03:18 PM	0	33.02.02	2302176_420411	Save/Recover disabled	0
30	12/18/2013 2:03:06 PM	0	99.06.01	2302176_420411	Finisher installation successful	0
29	12/18/2013 2:01:32 PM	59	32.08.A2	2302176_420411	Normal shutdown	0
28	12/18/2013 1:54:54 PM	59	10.99.34	2302176_420411	Used supply in use	0
27	12/18/2013 1:47:09 PM	0	32.08.A3	2302176_420411	Normal boot up	0
26	12/18/2013 1:47:07 PM	0	33.02.02	2302176_420411	Save/Recover disabled	0
25	12/18/2013 1:46:54 PM	0	99.06.01	2302176_420411	Finisher installation successful	0
24	12/18/2013 1:45:19 PM	59	32.08.A2	2302176_420411	Normal shutdown	0

Jan/6/2014 2:10:37 PM English (United States)

Item	Description	Item	Description	Item	Description	Item	Description
1	Printer information	3	Date and time	5	Event log code	7	Description of personality
2	Event number	4	Engine cycles	6	Firmware version number	8	Consecutive Repeats

Print or view an event log

Learn about event log printing or viewing.



NOTE: The event log in using the [Administration](#) menu shows only a subset of events. For a complete event log, use the [Service](#) menu.

Print the event log from the Administration menu (touchscreen control panel)

1. From the Home screen on the product control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Event Log](#)
3. The event log displays on the screen. To print it, touch the [Print](#) button.

Print the event log from the Administration menu (LCD control panel)

1. From the Home screen on the product control panel, use the down arrow button to scroll to [Administration](#), and then press the [OK](#) button.
2. Use the down arrow button to scroll to [Troubleshooting](#), and then press the [OK](#) button to select it.
3. With [Print Event Log](#) highlighted, press the [OK](#) button to print the page.

Print the event log from the Service menu (touchscreen control panel)

1. From the Home screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the [Service](#) menu.
3. On the sign-in screen, select the [Service Access Code](#) option from the drop-down list.
4. Enter the following service access code for the product:
 - [05055616 \(556\)](#)
 - [05058616 \(586\)](#)
5. The event log displays on the screen. To print it, touch the [Print](#) button.

Print the event log from the Service menu (LCD control panel)

1. From the Home screen on the product control panel, use the down arrow button to scroll to [Device Maintenance](#), and then press the [OK](#) button.
2. Use the down arrow button to scroll to [Service](#), and then press the [OK](#) button to select it.
3. Use the down arrow button to scroll to [Service Access Code](#), and then press the [OK](#) button to select it.
4. Enter the following service access code for the product:



NOTE: After entering the PIN, press the [OK](#) button.

- [05055616 \(556\)](#)
 - [05058616 \(586\)](#)
5. With [Print Event Log](#) highlighted, press the [OK](#) button to print the page.

Clear the event log


Learn about event log clearing.

Clear the event log from the Service menu (touchscreen control panel)

1. From the Home screen on the product control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the [Service](#) menu.
3. On the sign-in screen, select the [Service Access Code](#) option from the drop-down list.
4. Enter the following service access code for the product:
 - 05055616 (556)
 - 05058616 (586)
5. Select the [Clear Event Log](#) item, and then touch the [OK](#) button.

Clear the event log from the Service menu (LCD control panel)


1. From the Home screen on the product control panel, use the down arrow button to scroll to [Device Maintenance](#), and then press the [OK](#) button.
2. Use the down arrow button to scroll to [Service](#), and then press the [OK](#) button to select it.
3. Use the down arrow button to scroll to [Service Access Code](#), and then press the [OK](#) button to select it.
4. Enter the following service access code for the product:

 **NOTE:** After entering the PIN, press the [OK](#) button.

- 05055616 (556)
 - 05058616 (586)
5. Use the down arrow button to scroll to [Clear Event Log](#) , and then press the [OK](#) button.

Control panel messages document (CPMD)

Learn about the printer control panel messages document (CPMD).

 **NOTE:** A complete CPMD is not included in this service manual.

[Click here to access the current CPMD for this printer.](#)

How to search for printer documentation

The CPMD, error codes, and other support documentation for each printer is found on the internal HP portals.

These portals are on WISE for Channel (please see [\[Xref Error! Target does not exist.\]](#) below for instructions on how to navigate to the site) and [WISE](#) . WISE for Channel is available to HP channel partners and WISE is available to call agents, service technicians, and other HP internal users. The level of detail available will depend on your access credentials. To learn how to find support content in WISE, [watch the video here](#).

How to search WISE for printer documentation

These instructions are for HP internal use by call agents, service technicians, and other internal users.

To learn how to find support content in WISE, watch the video here: [Finding Error Code and Control Panel Message Document in WISE](#).

To view a list of control panel message documents per printer in **WISE**, go to [HP LaserJet, OfficeJet, PageWide, ScanJet Enterprise - Control panel message document \(CPMD\) list](#) (HP internal only).

How to search for specific error codes

Use WISE to quickly find error code troubleshooting procedures using the following steps.

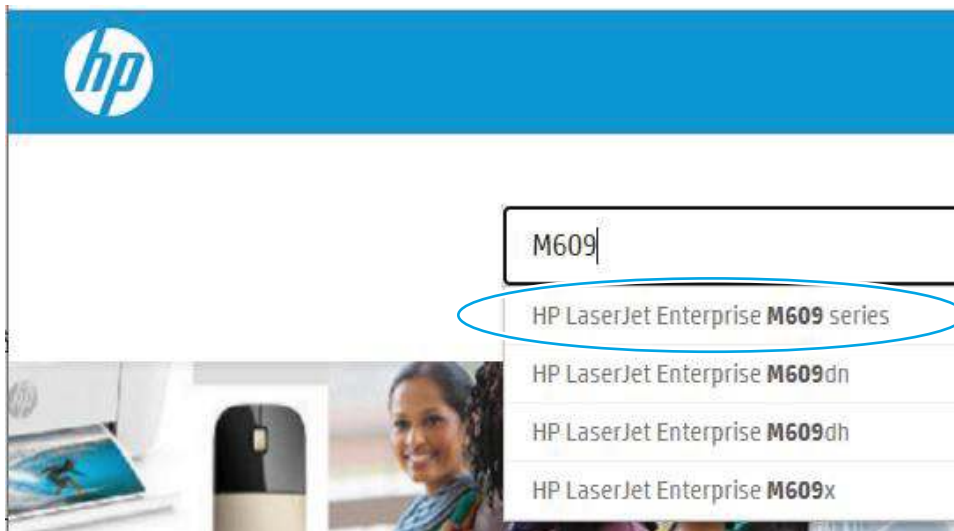
1. Type the printer model number (for example, M609) in the dialog box search field.

Figure 4-10 WISE search box



2. A drop-down list appears. Click on the full printer series name (for example, HP LaserJet Enterprise M609 series) in the list.

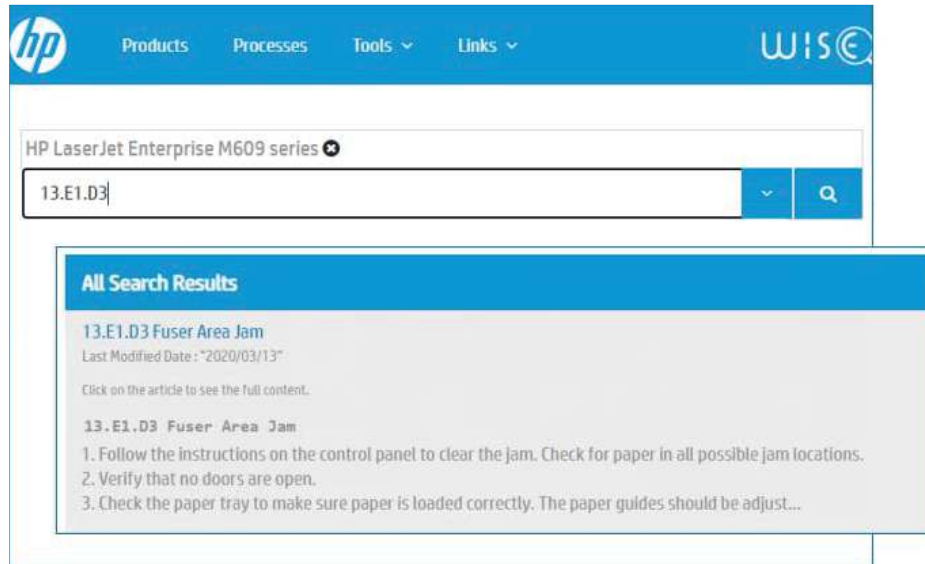
Figure 4-11 WISE drop-down list



3. Type the error code (for example, 13.E1.D3) in the keyword field. The error code troubleshooting content displays in the **All Search Results** area.

 **TIP:** Another method to find error code information is to use WISE to navigate to the printer detail page (PDP), and then search **Troubleshooting > Error Code Search**.

Figure 4-12 WISE search results

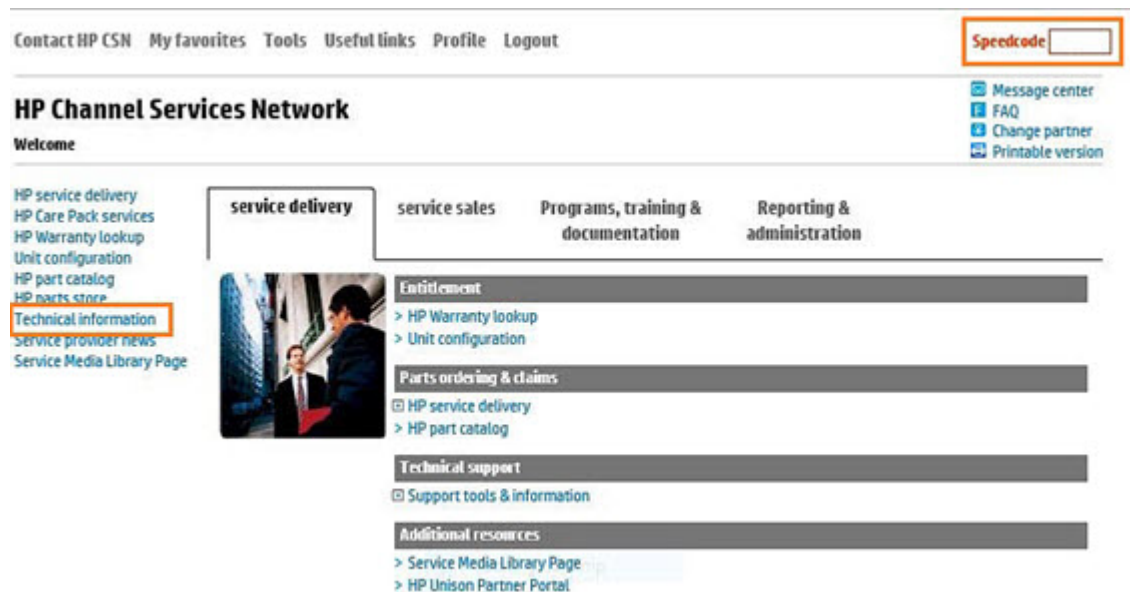


How to search GCSN for printer documentation

These instructions are for internal use by HP Channel Partners.

To learn how to find support content in GCSN, [watch the video here: Finding Error Code and Control Panel Message Documents in GCSN](#) or follow these steps:

1. On the Home screen in GCSN, open **Technical information** using one of the following two methods:
 - Type `TINF` in the **Speedcode** field found in the upper right corner and press **Enter**.
 - On the Home page, click **Technical information** in the left pane.



- Under **Product Search**, select the **Type**, **Category**, **Family**, and **Series** that match your product model (leave the **Model** field as blank or the default).


 **NOTE:** Make sure to log in to GCSN using your service-qualified credentials to access the most comprehensive content list available. To find out how to become service-qualified, contact your HP representative.

Figure 4-13 Sample product search criteria

Product Search **Add Favorites**

Type
Printers and Multifunction

Category
Multifunction and All-in-One

Family
HP LaserJet MFP and All-in-One Products

Series
HP Color LaserJet Enterprise MFP M682 series

Model
Select a Model

- Click **Add Favorites** and then click **Add** to add the printer to your Favorites list and allow you to bypass the **Product Search** fields next time for that particular model (optional).

Product Search **Add Favorites**

Type
Printers and Multifunction

Category
Multifunction and All-in-One


Family
HP LaserJet MFP and All-in-One Products

- Clear all of the high-level check boxes.

Select the appropriate check boxes for the document types you wish to review.

<input type="checkbox"/> Support Communications	<input type="checkbox"/> Manuals and Guides	<input type="checkbox"/> Support Information
<input type="checkbox"/> Customer Advisory	<input type="checkbox"/> Illustrated Parts Map	<input type="checkbox"/> ActionProcedureMap
<input type="checkbox"/> Customer Bulletin	<input type="checkbox"/> Install Guide	<input type="checkbox"/> CPMMap
<input type="checkbox"/> Customer Notice	<input type="checkbox"/> Maintenance/Service Guide	<input type="checkbox"/> Support Information
<input type="checkbox"/> Customer Work Instruction (CSR)	<input type="checkbox"/> Parts Guide	<input type="checkbox"/> Top Issue (Note: If you are selecting top issue it will return only top issue documents)
<input type="checkbox"/> Product Change Notification	<input type="checkbox"/> QuickSpec	<input type="checkbox"/> Software Support & Drivers Information
<input type="checkbox"/> Security Bulletin	<input type="checkbox"/> Reference Manual	<input type="checkbox"/> Product Bulletin/QuickSpec
<input type="checkbox"/> Service Action Advisory	<input type="checkbox"/> Service Guide/Manual	<input type="checkbox"/> Buy Care Packs
<input type="checkbox"/> Service Advisory	<input type="checkbox"/> Technical Reference Guide	
<input type="checkbox"/> Service Bulletin	<input type="checkbox"/> Training Material	


- Select the check boxes for the document types for which you want to search.

 **NOTE:** Select only the high-level **Manuals and Guides** search option if you are not sure in which type of manual or guide the content might be listed.

Select the appropriate check boxes for the document types you wish to review.

<input type="checkbox"/> Support Communications	<input type="checkbox"/> Manuals and Guides	<input type="checkbox"/> Support Information
<input type="checkbox"/> Customer Advisory	<input type="checkbox"/> Illustrated Parts Map	<input type="checkbox"/> ActionProcedureMap
<input type="checkbox"/> Customer Bulletin	<input type="checkbox"/> Install Guide	<input checked="" type="checkbox"/> CPMDMap
<input type="checkbox"/> Customer Notice	<input checked="" type="checkbox"/> Maintenance/Service Guide	<input checked="" type="checkbox"/> Support Information
<input type="checkbox"/> Customer Work Instruction (CSR)	<input type="checkbox"/> Parts Guide	<input type="checkbox"/> Top Issue (Note: If you are selecting top issue it will return only top issue documents)
<input type="checkbox"/> Product Change Notification	<input type="checkbox"/> QuickSpec	<input type="checkbox"/> Software Support & Drivers Information
<input type="checkbox"/> Security Bulletin	<input type="checkbox"/> Reference Manual	<input type="checkbox"/> Product Bulletin/QuickSpec
<input type="checkbox"/> Service Action Advisory	<input checked="" type="checkbox"/> Service Guide/Manual	<input type="checkbox"/> Buy Care Packs
<input type="checkbox"/> Service Advisory	<input type="checkbox"/> Technical Reference Guide	
<input type="checkbox"/> Service Bulletin	<input type="checkbox"/> Training Material	
<input type="checkbox"/> Service Notice	<input type="checkbox"/> Troubleshooting Guide	
<input type="checkbox"/> Service Product Announcement	<input type="checkbox"/> Upgrade Manual	
<input type="checkbox"/> Service Program Announcement	<input checked="" type="checkbox"/> User Guide	
<input type="checkbox"/> Technical Work Instruction (TWI)	<input type="checkbox"/> Warranty Statement	
	<input type="checkbox"/> White Papers	

- Select **Submit**.
- If needed, click **Back To selection Criteria** and narrow your search (the maximum allowed search result is 100 documents).

 **NOTE:** Do not select the **Top Issue** option unless you only want to view top issues for that model. All other available content will be filtered out.

Technical information type	Select this checkbox
CPMD	CPMD-Map
List of all CPMDs per product	Support Information
Installation Guide or Hardware Install Guide	Maintenance/Service Guide or Install Guide
Service cost document	Install Guide or Service Guide/Manual
Service guide or Service manual	Service Guide/Manual
Self-solve or troubleshooting document	Support Information
User manual or User guide	User Guide
Warranty and Legal Guide	Warranty Statement

Error-code and control-panel-message troubleshooting overview

This section provides information on error codes and searching for information.

Error codes (types and structure)

Error codes and control-panel messages display on the printer control panel to indicate the current printer status or situations that might require action. Error codes are numerical, or alphanumeric, and have a set structure with six characters (example: 13.WX.YZ).

- The first two characters are numeric and represent the system component that is causing the error. For example, in error code 10 . 22 . 15, **10 = Supplies** for HP LaserJets.
- The remaining four characters (W, X, Y, and Z values) further define the error.

HP LaserJet and HP PageWide Enterprise error codes are documented in the control panel message document (CPMD) for each printer.

The CPMD is a comprehensive list of error codes, diagnostic and troubleshooting steps to clear or resolve the error, and other helpful information such as service mode pins and part numbers.

The CPMD is continually updated and republished with the latest information for the following error codes.

Table 4-3 ERROR CODES: The first two characters

Error code	System Component	System Error Description
10.WX.YZ	Supplies (LaserJet)	Supply error or supply memory error.
11.WX.YZ	Real-time clock	Internal error with the clock on the formatter.
13.WX.YZ	Jam (LaserJet)	Paper jam or open door jam error.
15.WX.YZ	Jam (PageWide)	Paper jam or open door jam error.
17.WX.YZ	Supplies (PageWide)	Supply error or supply memory error.
20.WX.YZ	Printer memory	Insufficient memory or buffering error.
21.WX.YZ	Page	Page complexity causing a decompression error when trying to process job.
30.WX.YZ	Scanner	Flatbed scanner error occurring inside the unit.
31.WX.YZ	Document feeder	Document feeder, scanner, or jam error.
32.WX.YZ	Backup, restore, or reset	Backup, restore, or reset notification or error.
33.WX.YZ	Security	Backup, Disk, EFI BIOS, Firmware integrity (SureStart), or Trusted Platform Module (TPM) notification or error.
40.WX.YZ	Input/Output (I/O)	Partition manager, secure erase, or USB accessory error.
41.WX.YZ	Fuser, Laser scanner, or Paper path	Miscellaneous error including general and misprint or mismatch errors typically involving (but not limited to) the fuser, the laser scanner, or the paper path.
42.WX.YZ	Firmware	Firmware failure involving the Event Log, Shell, System Manager, or other component.
44.WX.YZ	Firmware	Firmware failure involving a digital sending component.
45.WX.YZ	OXPd/Web Kit (PageWide)	Informational notifications involving the OXPd Web Kit (communications log).
46.WX.YZ	Engine (LaserJet)	Engine communication error.
47.WX.YZ	Firmware	Job parser or printer calibration error.
48.WX.YZ	Firmware	PJA job accounting, job management, or job pipeline error.

Table 4-3 ERROR CODES: The first two characters (continued)

Error code	System Component	System Error Description
49.WX.YZ	Firmware	Firmware communication error.
50.WX.YZ	Fuser (LaserJet)	Fuser error.
51.WX.YZ	Laser scanner (LaserJet)	Laser scanner beam error.
52.WX.YZ	Laser scanner (LaserJet)	Laser scanner startup error.
54.WX.YZ	Sensor	Sensor error (not jam related).
55.WX.YZ	DC controller (LaserJet)	DC controller communication error.
56.WX.YZ	Paper handling (LaserJet)	Paper input/output or accessory error.
57.WX.YZ	Fan	Fan error.
58.WX.YZ	Sensor	Engine sensor failure.
59.WX.YZ	Motor (LaserJet)	Motor error.
60.WX.YZ	Tray motor error (LaserJet)	Tray lifting or pick up error.
61.WX.YZ	Engine (PageWide)	Print engine error with the 8-bit data package.
62.WX.YZ	System (LaserJet)	LaserJet internal system error.
	Print bar (PageWide)	PageWide print system error.
63.WX.YZ	Engine (LaserJet)	General engine error (electrical, communication, etc.).
65.WX.YZ	Connector	Output accessory connection error.
66.WX.YZ	Output accessory	Output accessory error.
67.WX.YZ	Input accessory	Input accessory connection error
69.WX.YZ	Duplexer	Duplexer error.
70.WX.YZ	DC controller (LaserJet)	DC controller firmware error.
80.WX.YZ	Managed device	Embedded Jetdirect error.
81.WX.YZ	Near Field Communication (NFC)	Wireless, Bluetooth or internal EIO error.
82.WX.YZ	Memory (hard disk, EMMC, etc.)	Disk hardware error.
90.WX.YZ	Internal diagnostics	Internal test of systems (i.e. disk, CPB, display) or interconnection error.
98.WX.YZ	Hard disk	Hard disk partition error.
99.WX.YZ	Firmware installer	Remote Firmware Upgrade (RFU), firmware install (engine or accessory), or disk error.

Individual component diagnostics

Learn about printer individual component diagnostics.

LED diagnostics

Learn about troubleshooting the printer using formatter LEDs.

Understand lights on the formatter

Three LEDs on the formatter indicate that the printer is functioning correctly.

Figure 4-14 LEDs (formatter)

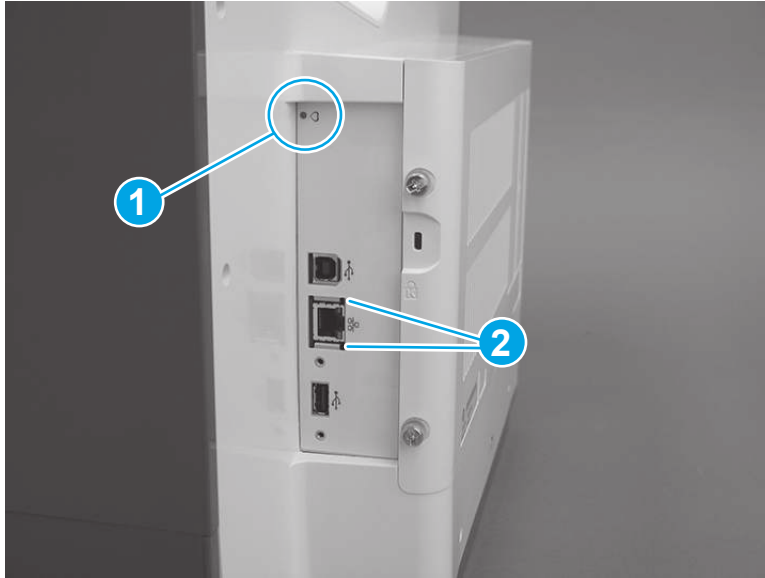


Table 4-4 LEDs (formatter)

Item	Item
1	Heartbeat LED
2	HP Jetdirect LEDs

⚠ CAUTION: Under **NO** circumstances should a formatter from a different printer be installed during the repair or troubleshooting processes. The formatter stores important data specific to the model of printer it is installed in and is not designed to be swapped or repurposed in any way. Return a used formatter to HP.

Issues that can occur from swapping a formatter include:

- Serial number, product number, product name, page count, and supported cartridges information change and might make a product unusable
- 33.02.01 Used board/Disk installed errors

If a used formatter is installed and causes this issue, the **partner** must cover the costs of the repair in the form of a product replacement. **There is no method in the field to recover a printer where a used formatter is installed.**

For more information, see [HP LaserJet Enterprise, HP LaserJet Managed, HP PageWide Enterprise, HP PageWide Managed - 33.02.01 error or printer name and/or product number changes after replacing the formatter.](#)



This part contains components that are electrostatic discharge (ESD) sensitive. To reduce the possibility of ESD damage, always touch the sheet-metal chassis to ground yourself before touching an ESD sensitive part.

Heartbeat LED

The heartbeat LED provides information about printer operation. If a printer error occurs, the formatter displays a message on the control-panel display. However, error situations can occur causing the formatter to control panel communication to be interrupted.



NOTE: HP recommends fully troubleshooting the formatter and control panel before replacing either assembly. Use the heartbeat LED to troubleshoot formatter and control panel errors to avoid unnecessarily replacing these assemblies.

The heartbeat LED operates according to the printer state.

Table 4-5 Heartbeat LED status

LED color	Description
Green	<ul style="list-style-type: none"> • Solid—During part of boot up initialization and Pre-boot menu • Slow blinking—During normal operation/sleep mode <ul style="list-style-type: none"> – Formatter is operating normally – Firmware is operating normally – Control panel is connected
Yellow	<ul style="list-style-type: none"> • Fast blinking—Formatter cannot connect to the control panel <ul style="list-style-type: none"> – Check control panel connections – Verify control panel functionality
Red	<ul style="list-style-type: none"> • Solid—Formatter error or failure (initially red for one second during power on) <ul style="list-style-type: none"> – Serial peripheral interface (SPI) flash memory boot error – Power on self-test (formatter) failed – Diagnostic (formatter) failed
Off	<p>The power cable is disconnected, or the printer power switch is in the off position.</p> <p>TIP: The heartbeat LED is off if the power cable is disconnected, the printer power switch is in the off position, or the printer is in Sleep Mode.</p> <ul style="list-style-type: none"> • Firmware or system freeze. Reboot the printer, or reload or upgrade the firmware <ul style="list-style-type: none"> – Check control panel for an error message – Control panel failure or the printer power switch is in the off position <p>NOTE: This condition is not usually caused by a formatter failure. Turn the power off, and then on again. If the error persists, perform a firmware upgrade.</p>

HP Jetdirect LEDs

The embedded HP Jetdirect print server has two LEDs. The yellow LED indicates network activity, and the green LED indicates the link status. A blinking yellow LED indicates network traffic. If the green LED is off, a link has failed.

For link failures, check all the network cable connections. In addition, try to manually configure the link settings on the embedded print server by using the printer control-panel menus.

1. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Network Settings](#)
 - [Ethernet](#)
 - [Link Speed](#)
3. Select the appropriate link speed, and then touch the [OK](#) button.

Paper path test

Learn about the paper path test troubleshooting diagnostic.

This diagnostic test generates one or more test pages. Use these pages to isolate the cause of jams.

To isolate a problem, specify which input tray to use, and specify the number of copies to print. Print multiple copies to help isolate intermittent problems. The following options become available after beginning the diagnostic feature:

- [Print Test Page](#): Run the paper-path test from the default settings: Tray 2, no duplex, and one copy. To specify other settings, scroll down the menu, and select the setting, and then scroll back up and select [Print Test Page](#) to start the test.
 - [Source Tray](#): Select Tray 1, Tray 2, or the optional tray (only variable available if an input accessory is installed).
 - [Test Duplex Path](#): Enable or disable two-sided printing.
 - [Number of Copies](#): Set the numbers of copies to be printed; the range is 1-500.
1. From the [Home](#) screen on the printer control panel, scroll to and touch the [Administration](#) button.
 2. Open the following menus:
 - [Troubleshooting](#)
 - [Diagnostic Tests](#)
 - [Paper Path Test](#)
 3. Select the paper path test options for the test.

Scanner tests (586 only)

Learn about troubleshooting the MFP scanner tests.

Scanner tests

This section lists the sensors available in the [Scanner Tests](#).

Use the scanner tests

The [Scanner Tests](#) screen shows the sensor name, sensor state (active or inactive), and the number of times the sensor has been toggled (activated).

1. From the Home screen on the product control panel, scroll to and select the [Administration](#) button.
2. Open the following menus:
 - [Troubleshooting](#)
 - [Diagnostic Tests](#)
 - [Scanner Tests](#)
 - – [Sensors](#)
3. Touch the sensor name on the [Scanner Tests](#) screen to display a sensor location graphic on the control panel display.
4. Activate the desired sensor, and then check the control-panel display to verify the sensor state (active or inactive).
 - The [State](#) virtual LED next to the sensor number and sensor name illuminates green when the sensor is active.
 - The [Toggle](#) virtual LED next to the sensor number and sensor name illuminates green after the sensor is activated and increments by one each time the sensor is interrupted (activated or deactivated).

For example, opening the flatbed cover increments the [Flatbed cover Toggle](#) item count two times—once when the door is opened, and once when the door is closed.

5. Select the [Reset sensors](#) item to reset the [Toggle](#) count item.

-or-

Touch the [Cancel](#) button to exit the [Scanner Tests](#) screen, and then touch the [Cancel](#) button again to return the [Diagnostic Tests](#) menu.

Scanner test sensors

- [ADF paper present](#)
- [ADF Y \(length\)](#)
- [ADF jam cover](#)
- [ADF paper path deskew](#)
- [ADF paper path pick success](#)
- [Paper path sensor 1 \(unreachable\)](#)
- [Flatbed Y \(length\)](#)
- [Flatbed cover](#)

Diagrams

View diagrams for the printer.

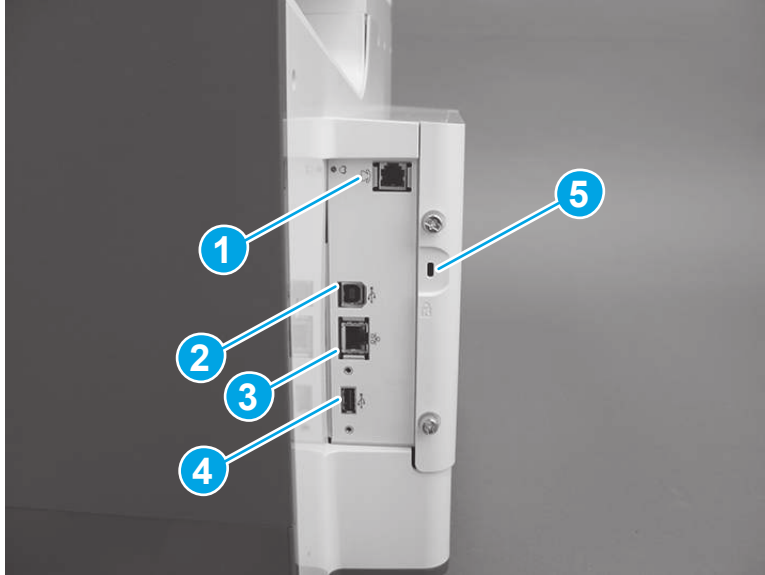
For diagrams showing sensors and other components, see the Theory of Operations chapter.

Plug/jack locations

View printer external plugs and ports diagrams.

Use the figure below to identify the printer's plugs and ports.

Figure 4-15 Plug/jack locations



Item	Description
1	Fax port (586 fax models only)
2	Hi-Speed USB 2.0 printing port
3	Local area network (LAN) Ethernet (RJ-45) network port
4	USB port for connecting external USB devices
5	Kensington security slot

Print-quality troubleshooting tools

Learn about print-quality troubleshooting tools


Use the topics in this section to resolve print-quality issues.

Internal print-quality test pages

Learn about internal print-quality test pages.

Use the print-quality troubleshooting pages to help diagnose and solve print-quality problems.

Print-quality troubleshooting pages

 **NOTE:** To get further assistance in print-quality troubleshooting, go to [HP PageWide 556, 586, 765, 774, 776, 779, 780, 785, E55650, E58650, E75160, P75250, P77440, E77650, E77660, P77940, P77950, P77960 - Print Quality Troubleshooting Guide](#) (ish_4885409-4869728-16)

1. From the Home screen on the printer control panel, scroll to and touch the **Administration** button.

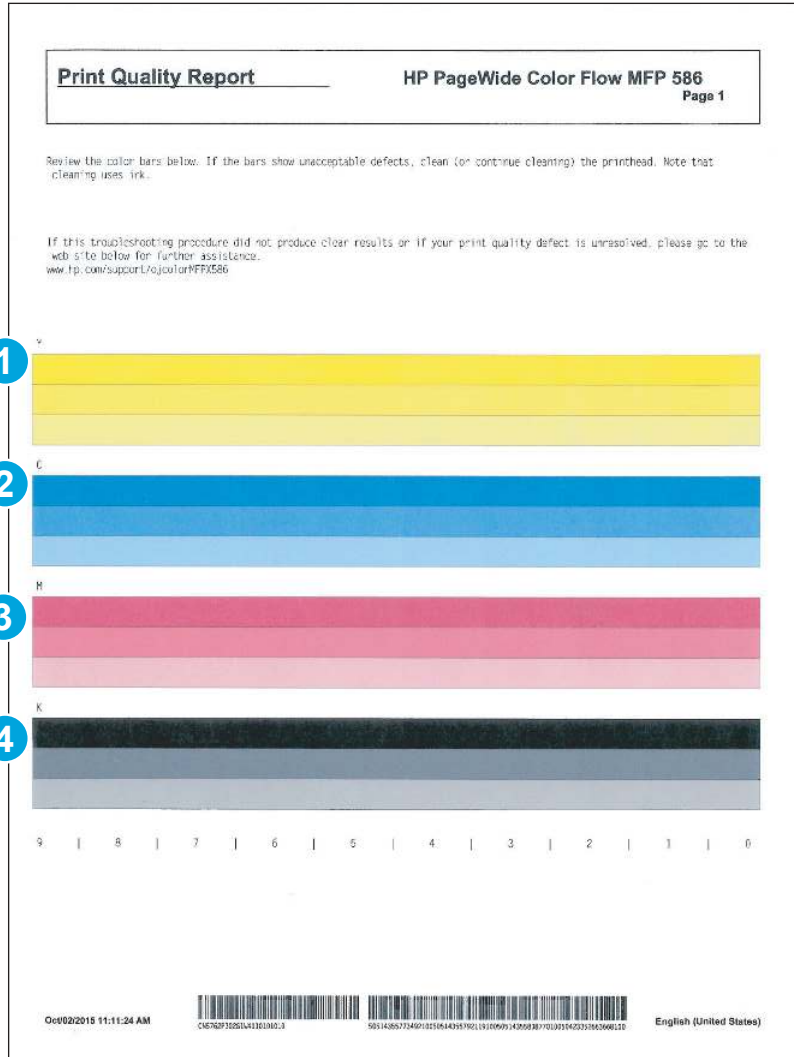
2. Open the following menus:
 - [Troubleshooting](#)
 - [Print Quality Pages](#)
3. Select one of the following documents to print:
 - [Troubleshooting Guide](#)
 - [Diagnostic Page](#)
 - [Print Quality Report](#)
 - [Print Quality Service Pages](#)
 - [Printhead Diagnostic Pages](#)

Interpret the print quality report

1. Load the printer with regular, unused white paper.
2. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
3. Open the following menus:
 - [Troubleshooting](#)
 - [Print Quality Pages](#)
4. Select the [Print Quality Report](#) item to print it.

This page contains four bands of color, which are divided into the groups as indicated in the following illustration. By examining each group, you can isolate the problem to a particular ink cartridge.

Figure 4-16 Print quality report



Section	Description
1	Yellow
2	Cyan
3	Magenta
4	Black

TIP: Mark this page with a “1” in a corner. If you clean the printhead later, you will want to keep track of which page was printed first, in order to note any progress.

In general, if the ink system is working correctly, all the color bars are present and not streaked. Each bar has three distinct shades, but otherwise the color should not vary across the bar. The bars should also be evenly lined up. The black text on the page should not show ink streaks.

The following table shows some representative examples of defects on the print quality report.

NOTE: Mark this page with a “1” in a corner. If you clean the printhead later, you will want to keep track of which page was printed first, in order to note any progress.

Table 4-6 Defect examples






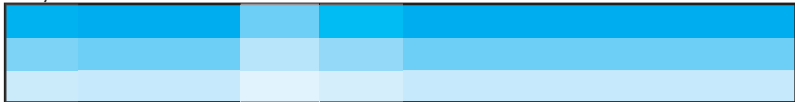

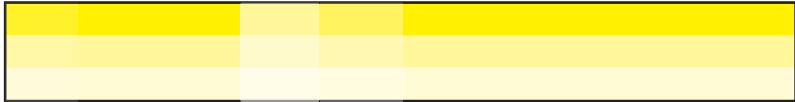
Defect	Example
Color variation across bar	<p>Figure 4-17 Variations</p> <p>Black</p>  <p>Cyan</p>  <p>Magenta</p>  <p>Yellow</p> 
Color intensity variation across bars	<p>Figure 4-18 Intensity</p> <p>Black</p>  <p>Cyan</p>  <p>Magenta</p>  <p>Yellow</p> 

Table 4-6 Defect examples (continued)

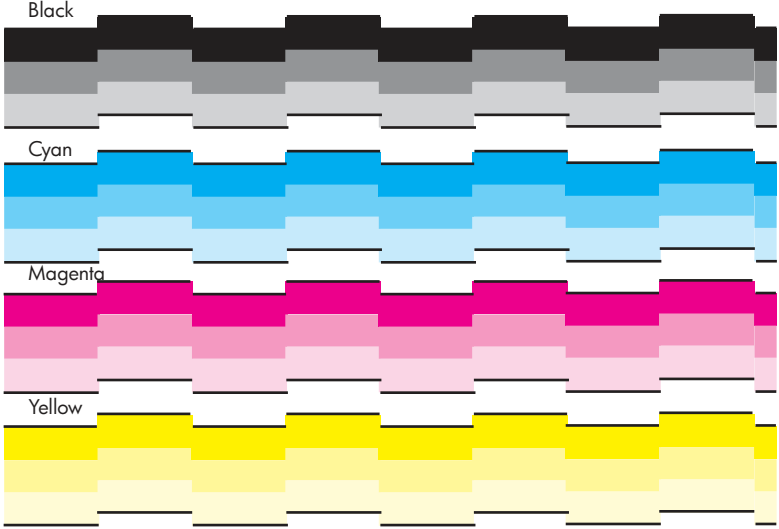
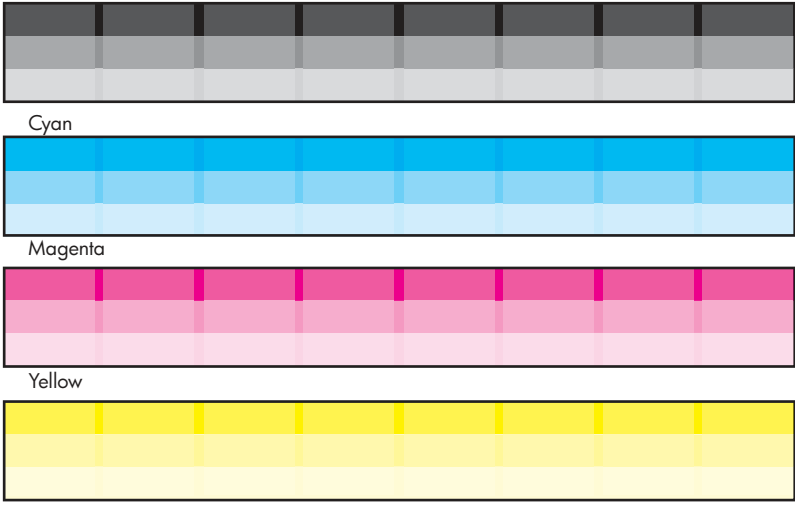
Defect	Example
Uneven bars	<p>Figure 4-19 Bars</p>  <p>The image shows four rows of color bars. Each row consists of a top bar of a specific color (Black, Cyan, Magenta, or Yellow) and a bottom bar of a lighter shade of the same color. The edges of all bars are irregular and jagged, with some bars appearing thicker or more saturated than others, illustrating the 'uneven bars' defect.</p>
Vertical dark lines	<p>Figure 4-20 Dark lines</p>  <p>The image shows four rows of color bars. Each row consists of a top bar of a specific color (Black, Cyan, Magenta, or Yellow) and a bottom bar of a lighter shade of the same color. Vertical dark lines are visible through all bars, indicating a printing defect.</p>

Table 4-6 Defect examples (continued)



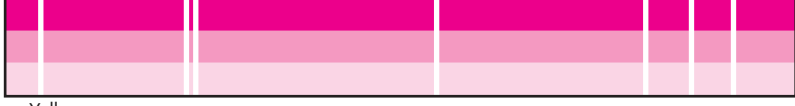
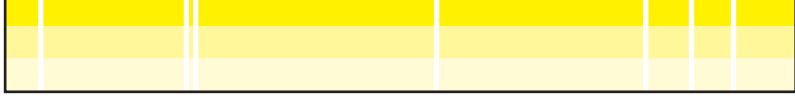




Defect	Example
Vertical white lines on all bars	<p>Figure 4-21 White lines (1 of 2)</p> <p>Black</p>  <p>Cyan</p>  <p>Magenta</p>  <p>Yellow</p> 
Vertical white lines on select bars	<p>Figure 4-22 White lines (2 of 2)</p> <p>Black</p>  <p>Cyan</p>  <p>Magenta</p>  <p>Yellow</p> 

Table 4-6 Defect examples (continued)

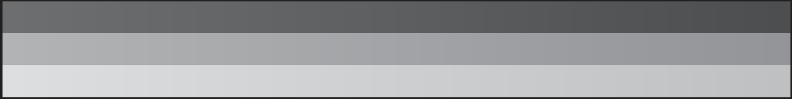


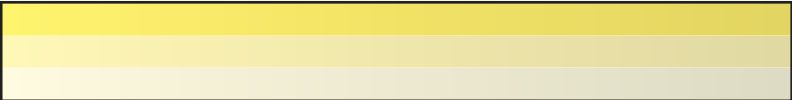
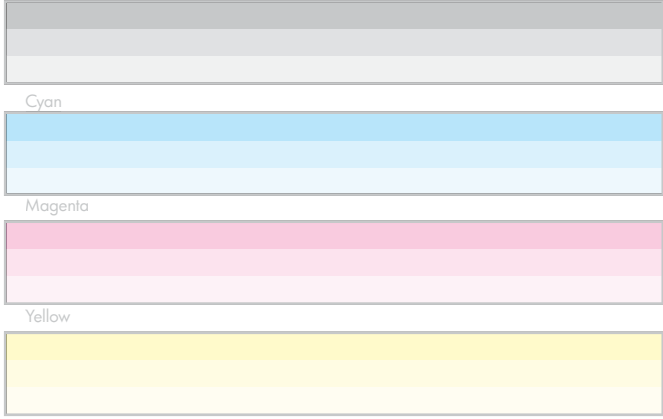
Defect	Example
Shade gradations not sharp	<p>Figure 4-23 Gradations</p> <p>Black</p>  <p>Cyan</p>  <p>Magenta</p>  <p>Yellow</p> 

Table 4-6 Defect examples (continued)

Defect	Example
Page is blank or only partially printed	<p>Figure 4-24 Blank or partial print</p> <p>Print Quality Printhead Cleaning Diagnostic</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</p> <p>XX</p> <p>XX</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</p> <p>1 2 3 4 5 6 7 8 9 10</p> <p>Black</p>  <p>Cyan</p> <p>Magenta</p> <p>Yellow</p> <p>1 2 3 4 5 6 7 8 9 10</p>

If the print quality report shows defects like the ones above, clean the printhead as follows:

1. Load the printer with regular, unused white paper.
2. On the control panel, touch the [Device Maintenance](#) button.
3. Open the [Calibration/Cleaning](#) menu.
4. Select the [Printhead Cleaning](#) item.

The cleaning process has several steps. After each of them, the printer prints the print quality report again. Evaluate each of these pages to determine if the original defect has been fixed – if it has, there is no reason to go on to the next cleaning stage.

 **TIP:** Number each of the print quality pages so you don't lose track of the prints later.

5. If you finish the cleaning process and still see defects on the print quality report, retry cleaning, especially if you have seen improvement in the print quality reports.
6. If the print quality report still shows defects after a second cleaning, go to the next section to service the printer.

If the defect on the print quality report is color variation across the bars (see the table of defects above), and if the problem seems to go away after a cleaning, but then reoccurs in the same location on the color bar the next day, complete the following procedure:

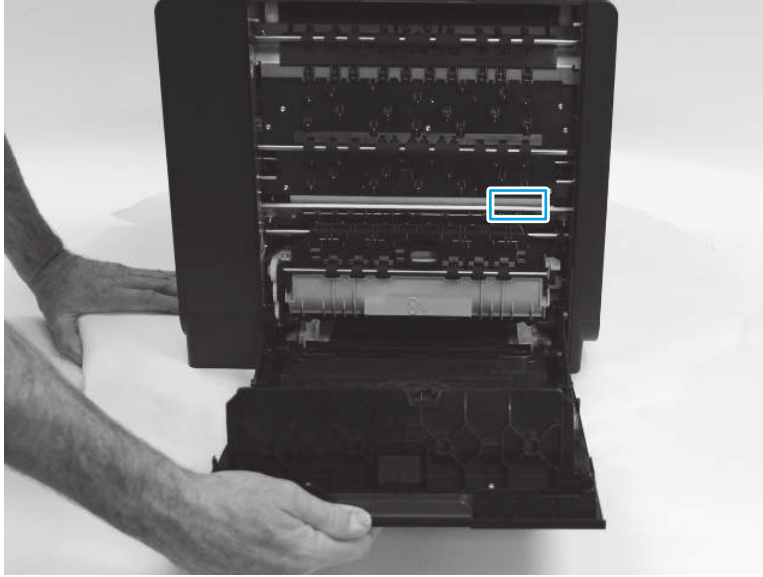
1. Check to see if any of the following conditions are true:
 - Prior to the print quality problem, the printer was unused for more than three weeks.
 - The printer was recently moved or experienced a large temperature shift.
 - There was a recent paper jam.
 - The print quality problem seems to be getting better as the printer is used (especially if print jobs with dense backgrounds are printed).
2. If none of the conditions above are true, the color problem is likely to reoccur, even if a cleaning fixes it temporarily. Go to the final section of this document to service the printer.

If the print quality report has no defects, then the ink system is working correctly. There is no reason to clean the printhead, which unnecessarily wastes ink and paper. Complete the following steps:

1. Retry the original print job. Just printing the print quality report can solve some problems. If the print job meets print quality standards, stop troubleshooting here.
2. If problems still exist on print jobs, review the earlier steps in this document: make sure the ink and paper are appropriate, and that the print settings are correct. In addition, these suggestions may help with some problems:
 - If you are printing an image, make sure it has sufficient resolution. Images that have been enlarged too much might appear fuzzy or blurry.
 - If the problem is confined to a band near the edge of a printout, use the software you installed with the printer or another software program to rotate the image 180°. The problem might not appear on the other end of the printout.
 - Always use the power button to turn the printer off. This protects the printhead from exposure to air.
 - If yellow is missing from color jobs, there might be an ink sludge buildup on the orifice plate. Clean the printhead several times and then see if print quality has improved.
 - If all colors are experiencing poor print quality, there might be an issue with the web wipe not advancing. Open the left door, and then mark the edge of the web wipe above the duplex module.

Run the printer so that it performs a wipe, and then see if the web has advanced. If it has not, replace the print mechanism.

Figure 4-25 Mark the web wipe



3. If the problem persists, install a replacement print mechanism kit.

Cleaning page

The cleaning process can take several minutes.

1. From the Home screen on the printer control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibration/Cleaning](#)
 - [Resolve Ink Smear](#)
3. Touch the [Start](#) button to begin the procedure.

Calibrate the printer to align the colors

Learn how to calibrate the printer.

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

1. From the Home screen on the printer control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibration/Cleaning](#)
 - [Advanced Calibration Support](#) (and then touch [Continue](#))
 - [Color Density Calibration](#)
3. Touch the [Continue](#) button to start the calibration process.
4. Wait while the printer calibrates, and then try printing again.

Pre-boot menu options

The *Pre-boot* menus are available prior to the printer initializing.

⚠ CAUTION: The *Format Disk* option performs a disk initialization for the entire disk. The operating system, firmware files, and third party files (among other files) will be completely lost. HP does not recommend this action unless it is specified as a solution in the CPMD.

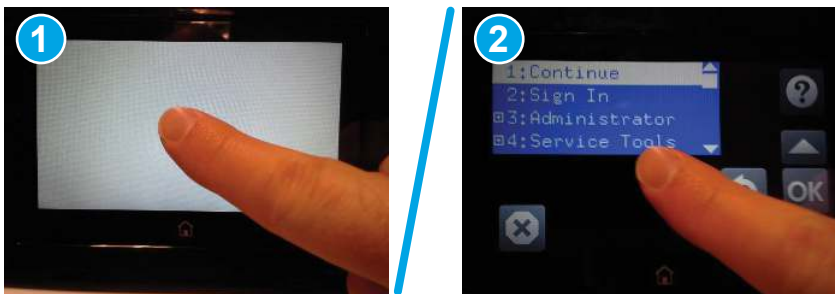
💡 TIP: The *Pre-boot* menu is also remotely accessible by using a telnet network protocol (Remote Admin) to establish an administration connection to the printer.

Open the Pre-boot menu from a touchscreen control panel

Use the following procedure to open the *Pre-boot* menu from a touchscreen control panel.

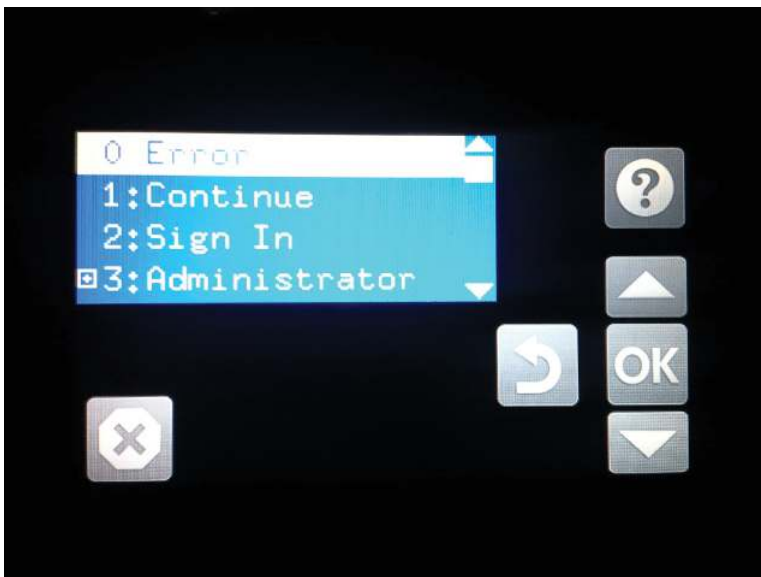
1. Turn the printer on.
2. Touch the middle of the control-panel display when you see the 1/8 under the logo.








Figure 4-26 Open the *Pre-boot* menu



3. On the *Pre-boot* menu screen, use the following buttons to navigate the tests.

Figure 4-27 *Pre-boot* menu




Button	Description
	Use this button to see more information about a selected item.
	Use this button to scroll up through menu items.
	Use this button to select a highlighted menu item.
	Use this button to scroll down through menu items.
	Use this button to go back to the previous menu.
	Not used.
	Use this button to exit a diagnostic test.

4. Use the arrow buttons on the touchscreen to navigate the [Pre-boot](#) menu.
5. Touch the [OK](#) button to select a menu item.

Open the Pre-Boot menu from an LCD control panel

Use the following procedure to open the [Pre-Boot](#) menu from an LCD control panel.

1. Turn the printer on.
2. Press the [Cancel](#)  button when you see the [1/8](#) under the logo.
3. Use the arrow buttons on the control panel to navigate the [Pre-Boot](#) menu.
4. Press the [OK](#) button to select a menu item.

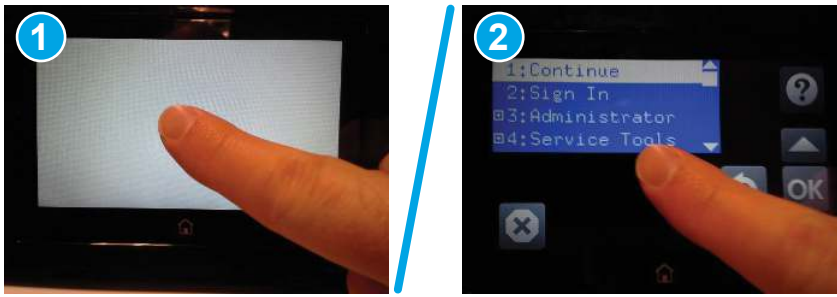
Cold reset using the Pre-boot menu from a touchscreen control panel

Use the following procedure to perform a cold reset using the [Pre-boot](#) menu from a touchscreen control panel.

⚠ CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 4-28 Open the Pre-boot menu




2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the down arrow ▼ button to highlight the +8:Startup Options item, and then touch the OK button.
4. Use the down arrow ▼ button to highlight the 2 Cold Reset item, and then touch the OK button to select it.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1:Continue item, and then touch the OK button.

 **NOTE:** The printer will initialize.

Cold reset using the Pre-boot menu from an LCD control panel

Use the following procedure to perform a cold reset using the Pre-boot menu from an LCD control panel.

 **CAUTION:** This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Press the Cancel  button when you see the 1/8 under the logo.
2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then press the OK button.
3. Use the down arrow ▼ button to highlight the +8:Startup Options item, and then press the OK button.
4. Use the down arrow ▼ button to highlight the 2 Cold Reset item, and then press the OK button to select it.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1:Continue item, and then touch the OK button.

 **NOTE:** The printer will initialize.


 **NOTE:** Some of the pre-boot options in the following tables are not supported by the current version of the printer firmware and are included for information only. Future versions of firmware will support these options.

Table 4-7 Pre-boot menu options (1 of 7)

Menu option	First level	Second level	Third level	Description
Continue				Selecting the Continue item exits the Pre-boot menu and continues the normal boot process. If a selection is not made in the initial menu within 30 seconds, the printer returns to a normal boot (the same as selecting Continue).

Table 4-7 Pre-boot menu options (1 of 7) (continued)

Menu option	First level	Second level	Third level	Description
				If the user navigates to another menu, the timeout does not apply.
Sign In				Enter the administrator PIN or service PIN if one is required to open the <i>Pre-boot</i> menu.
Administrator				This item navigates to the <i>Administrator</i> submenus. If authentication is required (and the user is not already signed in) the <i>Sign In</i> prompt displays. The user is required to sign in.
Administrator	Download	Network USB USB Thumbdrive		This item initiates a Pre-boot firmware download process. A USB Thumbdrive option will work on all FutureSmart printers. USB or Network connections are not currently supported.
Administrator	Format Disk			This item reinitializes the disk and cleans all disk partitions. CAUTION: Selecting the <i>Format Disk</i> item removes all data. A delete confirmation prompt is not provided. The system is not bootable after this action and a 99.09.67 error displays on the control panel. A firmware download must be performed to return the system to a bootable state.
Administrator	Partial Clean			This item reinitializes the disk (removing all data except the firmware repository where the master firmware bundle is downloaded and saved). CAUTION: Selecting the <i>Partial Clean</i> item removes all data except the firmware repository. A delete confirmation prompt is not provided. CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost). This allows a user to reformat the disk by removing the firmware image from the active directory without having to download new firmware code (printer remains bootable).
Administrator	Change Password			Select this item to set or change the administrator password.
Administrator	Clear Password			Select the <i>Clear Password</i> item to remove a password from the <i>Administrator</i> menu. Before the password is actually cleared, a message will be shown asking to confirm that the password should be cleared. Press the <i>OK</i> button to confirm the action. When the confirmation prompt displays, press the <i>OK</i> button to clear the password.

Table 4-8 Pre-boot menu options (2 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Manage Disk	Clear disk		Select the Clear disk item to enable using an external device for job storage. Job storage is normally enabled only for the Boot device. This will be grayed out unless the 99.09.68 error is displayed.
Administrator	Manage Disk	Lock Disk		Select the Lock Disk item to lock (mate) a new secure disk to this printer. The secure disk already locked to this printer will remain accessible to this printer. Use this function to have more than one encrypted disk accessible by the printer when using them interchangeably. The data stored on the secure disk locked to this printer always remains accessible to this printer.
Administrator	Manage Disk	Leave Unlocked		Select the Leave Unlocked item to use a new secure disk in an unlocked mode for a single service event. The secure disk that is already locked to this printer will remain accessible to this printer and uses the old disk's encryption password with the new disk. The secure disk that is already locked to this printer remains accessible to this printer.
Administrator	Manage Disk	Clear Disk Pwd		Select the Clear Disk Pwd item to continue using the non-secure disk and clear the password associated with the yet-to-be installed secure disk. CAUTION: Data on the missing secure disk will be permanently inaccessible.
Administrator	Manage Disk	Retain Password		Select the Retain Password item to use the non-secure disk for this session only, and then search for the missing secure disk in future sessions.
Administrator	Manage Disk	Boot Device	Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command is a one-pass overwrite, which erases the entire disk including firmware. The disk remains an encrypted disk.
Administrator	Manage Disk	Boot Device	Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all data on the disk and unlock the disk to allow a user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. It erases the encryption key. The encryption key is erased, so the disk becomes a non-encrypted disk.
Administrator	Manage Disk	Boot Device	Get Status	This item provides disk status information if any is available.

Table 4-9 Pre-boot menu options (3 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Manage Disk (continued)	Internal Device		Select the Internal Device item to erase the internal device or get a status about the internal device.
Administrator	Manage Disk	Internal Device	Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command erases the entire disk, including firmware. The disk remains an encrypted disk.
Administrator	Manage Disk	Internal Device	Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all of the data on disk and unlock the disk to allow the user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. The HP High Performance Secure Hard Disk is erased.
Administrator	Manage Disk	Internal Device	Get Status	This item provides disk status information if any is available.
Administrator	Manage Disk	External Device		Select the External Device item to erase the external device or get status about the external device.
Administrator	Manage Disk	External Device	Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command erases the entire disk, including firmware. The disk remains an encrypted disk.
Administrator	Manage Disk	External Device	Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all of the data on disk and unlock the disk to allow a user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. The encryption key is erased, so the disk becomes a non-encrypted disk.
Administrator	Manage Disk	External Device	Get Status	This item provides disk status information if any is available.

Table 4-10 Pre-boot menu options (4 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Configure LAN NOTE: This configuration is only active when the Pre-boot menu is open.	IP Mode [DHCP]		The network can be configured to obtain the network settings from a DHCP server or as static. Use this item for automatic IP address acquisition from the DHCP server.

Table 4-10 Pre-boot menu options (4 of 7) (continued)

Menu option	First level	Second level	Third level	Description
Administrator	Configure LAN NOTE: This configuration is only active when the Pre-boot menu is open.	IP Mode [STATIC]		Use this item to manually assign the network addresses.
Administrator	Configure LAN NOTE: This configuration is only active when the Pre-boot menu is open.	IP Mode [STATIC]	IP Address	Use this item to manually enter the IP addresses.
Administrator	Configure LAN NOTE: This configuration is only active when the Pre-boot menu is open.	IP Mode [STATIC]	Subnet Mask	Use this item to manually enter the subnet mask.
Administrator	Configure LAN NOTE: This configuration is only active when the Pre-boot menu is open.	IP Mode [STATIC]	Default Gateway	Use this item to manually enter the default gateway.
Administrator	Configure LAN NOTE: This configuration is only active when the Pre-boot menu is open.	IP Mode [STATIC]	Save	Select the <i>Save</i> item to save the manual settings.

Table 4-11 Pre-boot menu options (5 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Startup Options			Select the <i>Startup Options</i> item to specify options that can be set for the next time the printer is turned on and initializes to the Ready state.
Administrator	Startup Options	Show Revision		Not currently functional: Select the <i>Show Revision</i> item to allow the printer to initialize and show the firmware version when the printer reaches the Ready state. Once the printer power is turned on the next time, the <i>Show Revision</i> item is unchecked so that the firmware revision is not shown.
Administrator	Startup Options	Cold Reset		Select the <i>Cold Reset</i> item to clear the IP address and all customer settings. (This item also returns all settings to factory defaults.) NOTE: Items in the <i>Service</i> menu are not reset.

Table 4-11 Pre-boot menu options (5 of 7) (continued)

Menu option	First level	Second level	Third level	Description
Administrator	Startup Options	Skip Disk Load		Select the Skip Disk Load item to disable installed third-party applications.
Administrator	Startup Options	Skip Cal		Select the Skip Cal item to skip the printer calibration for the very next power-initialization cycle only.
Administrator	Startup Options	Lock Service		CAUTION: Select the Lock Service item to lock the Service menu access (both in the Pre-boot menu and the Device Maintenance menu). Service personnel must have the administrator remove the Lock Service setting before they can open the Service menu.
Administrator	Startup Options	Skip FSCK		Select the Skip FSCK item to disable Chkdisk/ScanVolume during startup.
Administrator	Startup Options	First Power		Not currently functional: This item allows the printer to initialize as if it is the first time it has been turned on. For example, the user is prompted to configure first-time settings like date/time, language, and other settings. Select this item so that it is enabled for the next time the printer power is turned on. When the printer power is turned on the next time, this item is unchecked so that the pre-configured settings are used during configuration, and the first-time setting prompt is not used.
Administrator	Startup Options	Embedded Jetdirect Off		Select the Embedded Jetdirect Off item to disable the embedded HP Jetdirect. By default this item is unchecked so that HP Jetdirect is always enabled.
Administrator	Startup Options	WiFi Accessory		Select the WiFi Accessory item to enable the wireless accessory.

Table 4-12 Pre-boot menu options (6 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Diagnostics			Diagnostic items are useful to diagnose hardware components and their interface connections. Use these items to troubleshoot specific hardware components, and the interface between them and other components.
Administrator	Diagnostics	Memory	Do Not Run	Use the Do Not Run item to exclude the Memory diagnostic when executing multiple diagnostics.
Administrator	Diagnostics		Short	Use the Short item to select a brief memory test. NOTE: This test requires about four minutes to execute.
Administrator	Diagnostics		Long	Use the Long item to select an extended memory test. NOTE: This test requires about twenty minutes to execute.

Table 4-12 Pre-boot menu options (6 of 7) (continued)

Menu option	First level	Second level	Third level	Description
Administrator	Diagnostics	Disk	Do Not Run	Use the Do Not Run item to exclude the Disk diagnostic when executing multiple diagnostics.
Administrator	Diagnostics		Short	Use the Short item to select a brief firmware self-test. NOTE: This test requires about two or three minutes to execute.
Administrator	Diagnostics		Long	Use the Long item to select an extended firmware self-test. NOTE: This test requires about sixty minutes to execute.
Administrator	Diagnostics		Optimized	Use the Optimized item to select a test that checks the active sectors on the disk. NOTE: This test requires about thirty minutes to execute.
Administrator	Diagnostics		Raw	Use the Raw item to select a test that checks every sector on the disk. NOTE: This test requires about fifty minutes to execute.
Administrator	Diagnostics		Smart	Use the Smart item to select a very brief test that checks the drive self-monitoring analysis and reporting technology (SMART) status—the drive detects and reports reliability indicators to help anticipate disk failures (SMART status).
Administrator	Diagnostics	CPB		Use the CPB item to verify the integrity of the copy processor board (CPB) and the formatter PCA connections.
Administrator	Diagnostics	Interconnect		Use the Interconnect item to verify the integrity of the interconnect PCA (ICB) and its connections.
Administrator	Diagnostics	Run Selected		Select the Run Selected item to execute a selected test. NOTE: If more than one test is selected, they are executed in sequence.

Table 4-13 Pre-boot menu options (7 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Remote Admin	Start Telnet		The Remote Admin item allows a service technician to access to the printer Pre-boot menu remotely, and to navigate the menu selections from a remote location. IMPORTANT: A Remote Admin connection must be initiated by a person that is physically present at the printer. This person will also need to provide a randomly generated PIN to the remote service technician. NOTE: For more information about using the Remote Admin function, see "Remote Admin (M506/M507/E50145, M527/M528/E52645)" in the Troubleshooting Manual.

Table 4-13 Pre-boot menu options (7 of 7) (continued)

Menu option	First level	Second level	Third level	Description
Administrator	Remote Admin	Stop Telnet		
Administrator	Remote Admin	Refresh IP		
Administrator	System Triage	Copy Logs		<p>If the device will not boot to the Ready state, or the diagnostic log feature found in the Troubleshooting menu is not accessible, then use the System Triage item to copy the diagnostic logs to a USB flash drive at the next printer start up.</p> <p>The files can then be sent to HP to help diagnose the problem.</p>
Administrator	Change Svc PWD			Use this item to change the Service menu personal identification number (PIN).
Administrator	Reset Svc PWD			If the Service menu personal identification number (PIN) has been changed. Use this item to reset it to the original PIN.
Service Tools	Reset Password			Use this item to reset the Pre-boot administrator password.
Service Tools	Subsystems			For manufacturing use only. Do not change these values.
Developer Tools	Netexec			

Pre-boot menu options

Learn about the Pre-boot menu options.



NOTE: Some of the pre-boot options in the following tables are not supported by the current version of the printer firmware and are included for information only. Future versions of firmware will support these options.

Table 4-14 Pre-boot menu options

Menu option	First level	Second level	Third level	Description
Continue				<p>Selecting the Continue item exits the Pre-boot menu and continues the normal boot process.</p> <p>If a selection is not made in the initial menu within 30 seconds, the printer returns to a normal boot (the same as selecting Continue).</p> <p>If the user navigates to another menu, the timeout does not apply.</p>
Sign In				Enter the administrator PIN or service PIN if one is required to open the Pre-boot menu.
Administrator				<p>This item navigates to the Administrator submenus</p> <p>If authentication is required (and the user is not already signed in) the Sign In prompt displays. The user is required to sign in.</p>
Administrator	Download	Network USB USB Thumb-drive		This item initiates a Pre-boot firmware download process. A USB Thumb-drive option will work on all FutureSmart printers. USB or Network connections are not currently supported.

Table 4-14 Pre-boot menu options (continued)

Menu option	First level	Second level	Third level	Description
Administrator	Format Disk			<p>This item re-initializes the disk and cleans all disk partitions.</p> <p>CAUTION: Selecting the Format Disk item removes all data.</p> <p>A delete confirmation prompt is not provided</p> <p>The system is not bootable after this action and a 99.09.67 error displays on the control panel. A firmware download must be performed to return the system to a bootable state.</p>
Administrator	Partial Clean			<p>This item reinitializes the disk (removing all data except the firmware repository where the master firmware bundle is downloaded and saved).</p> <p>CAUTION: Selecting the Partial Clean item removes all data except the firmware repository. A delete confirmation prompt is not provided.</p> <p>CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).</p> <p>This allows a user to reformat the disk by removing the firmware image from the active directory without having to download new firmware code (printer remains bootable).</p>
Administrator	Change Password			<p>Select this item to set or change the administrator password.</p>
Administrator	Clear Password			<p>Select the Clear Password item to remove a password from the control panel menus. Before the password is actually cleared, a message will be shown asking to confirm that the password should be cleared. Select OK to confirm the action.</p> <p>When the confirmation prompt displays, select OK to clear the password.</p>
Administrator	Manage Disk	Clear disk		<p>Select the Clear disk item to enable using an external device for job storage. Job storage is normally enabled only for the Boot device. This will be grayed out unless the 99.09.68 error is displayed.</p>
Administrator	Manage Disk	Lock Disk		<p>Select the Lock Disk item to lock (mate) a new secure disk to this printer.</p> <p>The secure disk already locked to this printer will remain accessible to this printer. Use this function to have more than one encrypted disk accessible by the printer when using them interchangeably.</p> <p>The data stored on the secure disk locked to this printer always remains accessible to this printer.</p>
Administrator	Manage Disk	Leave Unlocked		<p>Select the Leave Unlocked item to use a new secure disk in an unlocked mode for a single service event. The secure disk that is already locked to this printer will remain accessible to this printer and uses the old disk's encryption password with the new disk.</p> <p>The secure disk that is already locked to this printer remains accessible to this printer.</p>
Administrator	Manage Disk	Clear Disk Pwd		<p>Select the Clear Disk Pwd item to continue using the non-secure disk and clear the password associated with the yet-to-be installed secure disk.</p> <p>CAUTION: Data on the missing secure disk will be permanently inaccessible.</p>

Table 4-14 Pre-boot menu options (continued)

Menu option	First level	Second level	Third level	Description
Administrator	Manage Disk	Retain Password		Select the Retain Password item to use the non-secure disk for this session only, and then search for the missing secure disk in future sessions.
Administrator	Manage Disk	Boot Device	Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command is a one-pass overwrite, which erases the entire disk including firmware. The disk remains an encrypted disk.
Administrator	Manage Disk	Boot Device	Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all data on the disk and unlock the disk to allow a user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. It erases the encryption key. The encryption key is erased, so the disk becomes a non-encrypted disk.
Administrator	Manage Disk	Boot Device	Get Status	This item provides disk status information if any is available.
Administrator	Manage Disk	Internal Device		Select the Internal Device item to erase the internal device or get a status about the internal device.
Administrator	Manage Disk	Internal Device	Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command is a one-pass overwrite, which erases the entire disk including firmware. The disk remains an encrypted disk.
Administrator	Manage Disk	Internal Device	Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all data on the disk and unlock the disk to allow a user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. It erases the encryption key. The HP High Performance Secure Hard Disk is erased.
Administrator	Manage Disk	Internal Device	Get Status	This item provides disk status information if any is available.
Administrator	Manage Disk	External Device		Select the External Device item to erase the external device or get status about the external device.
Administrator	Manage Disk	External Device	Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command erases the entire disk, including firmware. The disk remains an encrypted disk.

Table 4-14 Pre-boot menu options (continued)

Menu option	First level	Second level	Third level	Description
Administrator	Manage Disk	External Device	Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all of the data on disk and unlock the disk to allow a user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. The encryption key is erased, so the disk becomes a non-encrypted disk.
Administrator	Manage Disk	External Device	Get Status	This item provides disk status information if any is available.
Administrator	Configure LAN	IP Mode [DHCP]		The network can be configured to obtain the network settings from a DHCP server or as static. Use this item for automatic IP address acquisition from the DHCP server.
Administrator	Configure LAN	IP Mode [STATIC]	IP Address Subnet Mask Default Gateway Save	Use this item to manually assign the network addresses. Use this item to manually enter the IP addresses. Use this item to manually enter the subnet mask. Use this item to manually enter the default gateway. Select the Save item to save the manual settings.
Administrator	Startup Options			Select the Startup Options item to specify options that can be set for the next time the printer is turned on and initializes to the Ready state.
Administrator	Startup Options	Show Revision		Not currently functional: Select the Show Revision item to allow the printer to initialize and show the firmware version when the printer reaches the Ready state.
Administrator	Startup Options	Cold Reset		Select the Cold Reset item to clear the IP address and all customer settings. (This item also returns all settings to factory defaults.) NOTE: Items in the Service menu are not reset.
Administrator	Startup Options	Skip Disk Load		Select the Skip Disk Load item to disable installed third-party applications.
Administrator	Startup Options	Skip Cal		Select the Skip Cal item to skip the printer calibration for the very next power-initialization cycle only.
Administrator	Startup Options	Lock Service		CAUTION: Select the Lock Service item to lock the Service menu access (both in the Pre-boot menu and the Device Maintenance menu). Service personnel must have the administrator remove the Lock Service setting before they can open the Service menu.
Administrator	Startup Options	Skip FSCK		Select the Skip FSCK item to disable Chkdisk/ScanVolume during startup.
Administrator	Startup Options	First Power		Not currently functional: This item allows the printer to initialize as if it is the first time it has been turned on. For example, the user is prompted to configure first-time time settings like date/time, language, and other settings. Select this item so that it is enabled for the next time the printer power is turned on.

Table 4-14 Pre-boot menu options (continued)

Menu option	First level	Second level	Third level	Description
				When the printer power is turned on the next time, this item is unchecked so that the pre-configured settings are used during configuration, and the first-time setting prompt is not used.
Administrator	Startup Options	Embedded Jetdirect Off		Select the Embedded Jetdirect Off item to disable the embedded HP Jetdirect. By default this item is unchecked so that HP Jetdirect is always enabled.
Administrator	Startup Options	WiFi Accessory		Select the WiFi Accessory item to enable the wireless accessory.
Administrator	Diagnostics			Diagnostics items are useful to diagnose hardware components and their interface connections. Use these items to troubleshoot specific hardware components, and the interface between them and other components.
Administrator	Diagnostics	Memory	Do Not Run	Use the Do Not Run item to exclude the Memory diagnostic when executing multiple diagnostics.
Administrator	Diagnostics	Memory	Short	Use the Short item to select a brief memory test. NOTE: This test requires about four minutes to execute.
Administrator	Diagnostics	Memory	Long	Use the Long item to select an extended memory test. NOTE: This test requires about twenty minutes to execute.
Administrator	Diagnostics	Disk	Do Not Run	Use the Do Not Run item to exclude the Disk diagnostic when executing multiple diagnostics.
Administrator	Diagnostics	Disk	Short	Use the Short item to select a brief firmware self-test. NOTE: This test requires about two or three minutes to execute.
Administrator	Diagnostics	Disk	Long	Use the Long item to select an extended firmware self-test. NOTE: This test requires about sixty minutes to execute.
Administrator	Diagnostics	Disk	Optimized	Use the Optimized item to select a test that checks the active sectors on the disk. NOTE: This test requires about thirty minutes to execute.
Administrator	Diagnostics	Disk	Raw	Use the Raw item to select a test that checks every sector on the disk. NOTE: This test requires about fifty minutes to execute.
Administrator	Diagnostics	Disk	Smart	Use the Smart item to select a very brief test that checks the drive self-monitoring analysis and reporting technology (SMART) status—the drive detects and reports reliability indicators to help anticipate disk failures (SMART status).
Administrator	Diagnostics	CPB		Use the CPB item to verify the integrity of the copy processor board (CPB) and the formatter PCA connections.
Administrator	Diagnostics	Run Selected		Select the Run Selected item to execute a selected test. NOTE: If more than one test is selected, they are executed in sequence.


Table 4-14 Pre-boot menu options (continued)

Menu option	First level	Second level	Third level	Description
Administrator	Remote Admin	Start Telnet		The Remote Admin item allows a service technician to access to the printer Pre-boot menu remotely, and to navigate the menu selections from a remote location. IMPORTANT: A Remote Admin connection must be initiated by a person that is physically present at the printer. This person will also need to provide a randomly generated PIN to the remote service technician.
Administrator	Remote Admin	Stop Telnet		
Administrator	Remote Admin	Refresh IP		
Administrator	System Triage	Copy Logs		If the printer will not boot to the Ready state, or the diagnostic log feature found in the Troubleshooting menu is not accessible, then use the System Triage item to copy the diagnostic logs to a USB flash drive at the next printer start up. The files can then be sent to HP to help diagnose the problem.
Administrator	Change Svc PWD			Use this item to change the Service menu personal identification number (PIN).
Administrator	Reset Svc PWD			If the Service menu personal identification number (PIN) has been changed, use this item to reset it to the original PIN.
Service Tools	Reset Password			Use this item to reset the Pre-boot administrator password.
Service Tools	Subsystems			For manufacturing use only. Do not change these values.
Developer Tools	Netexec			For development use only. Do not change these values.

Remote Admin


Learn about the printer Remote Admin function.

The Remote Admin feature allows remote access the printer **Pre-boot** menu (BIOS environment). The printer functions as a telnet server which uses the telnet networking protocol to transmit text data. Any computer (with telnet installed and enabled) can function as the telnet client to remotely display and interact with the **Pre-boot** menu.

 **IMPORTANT:** While the Remote Admin function allows remote access the **Pre-boot** menu, for security reasons the Remote Admin connection must be initiated by a person that is physically present at the printer.

Required software and network connection


Before using the Remote Admin feature, make sure that the telnet network protocol is installed and enabled on the remote telnet client computer.

 **NOTE:** This section describes enabling and configuring the telnet feature for computers using a Windows® operating system.

HP recommends that the telnet client computer be a Windows-based system; however, there are other operating systems that support the telnet network protocol. For information about enabling and configuring the telnet network protocol for other operating systems, see the owner's manual for that operating system.

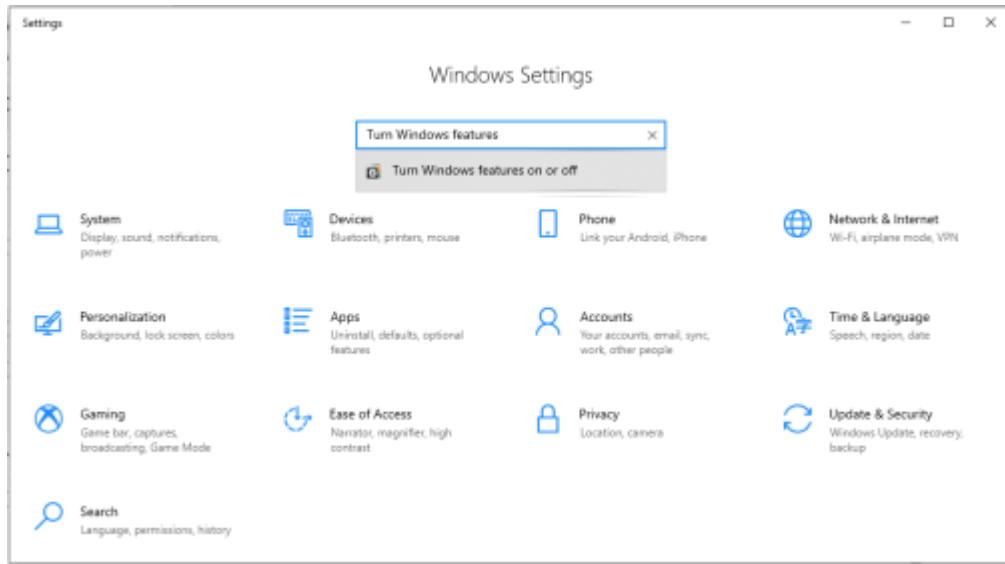
Enable the Windows telnet client

All computers using the Windows operating system have the telnet client installed, however, the telnet client function might not be enabled by default.

 **NOTE:** The figures and menus in this section are for the Windows 10® operating system. Screens and menu selections might vary slightly for other operating systems.

1. Use the **Start** menu to open the **Windows Settings** dialog box, and then search for **Turn Windows features on or off**. Click the **Turn Windows features on or off** item.

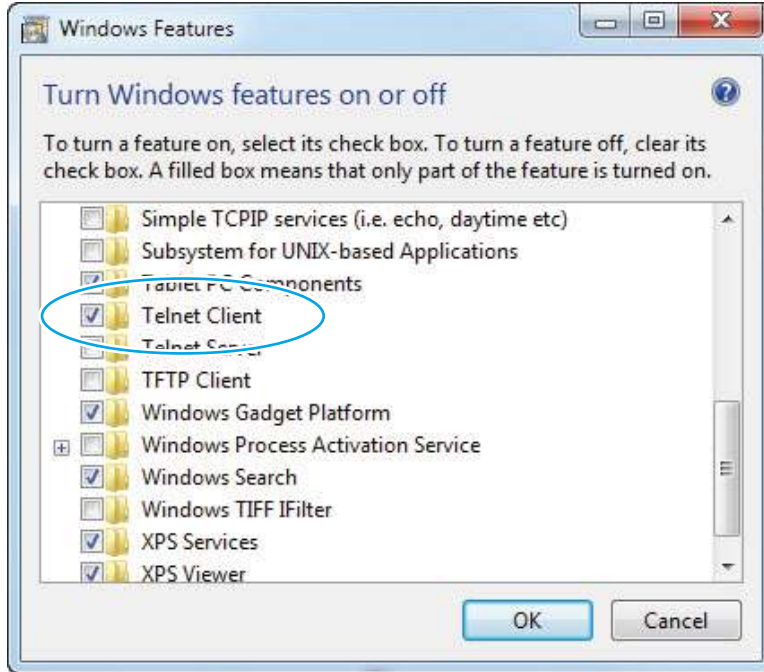
Figure 4-29 Open Windows Settings



2. In the **Windows Features** box, scroll down to **Telnet Client**. If the check box is not checked, click the box to select it, and then click the **OK** button.

 **TIP:** If the check box is already checked then the telnet client function is already enabled. Click the **Cancel** button.

Figure 4-30 Enable the telnet client feature



Network connection

The remote telnet client computer must have direct network access to the printer for the Remote Admin function to operate. This means that the telnet client computer must be on the same network as the printer.

The Remote Admin function cannot be accessed through a network firewall or other remote access network security programs.


If a private network is not accessible, ask the network administrator to set up a virtual private network (VPN) connection to the network.

Connect a remote connection

Use the following procedures to connect a remote connection.

Start the telnet server function at the printer

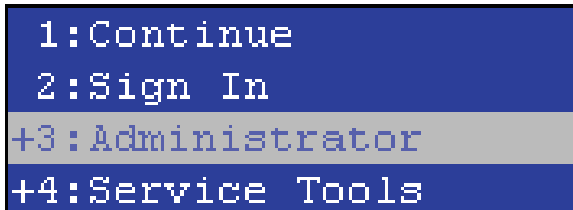
For security reasons the Remote Admin feature must be initiated by a person that is physically present at the printer. The following steps must be performed by a person that is physically present at the printer.

 **NOTE:** This person might need to sign in with an administrator or service password depending on how the printer is configured.

1. Turn the printer on.
2. The HP logo displays on the printer control panel. When a 1/8 with an underscore displays, touch the middle of the screen to open the [Pre-boot](#) menu.

- Use the arrow buttons on the touchscreen to scroll down and highlight the **+3:Administrator** item, and then touch the **OK** button to select it.

Figure 4-31 Select the **+3:Administrator** item



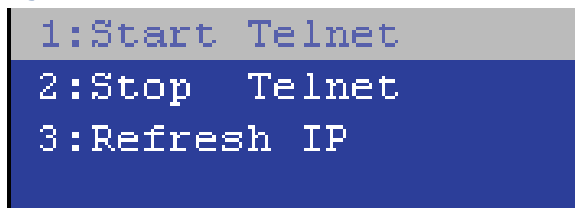
- Use the arrow buttons on the touchscreen to scroll down and highlight the **+A:Remote Admin** item, and then touch the **OK** button to select it.

Figure 4-32 Select the **+A:Remote Admin** item



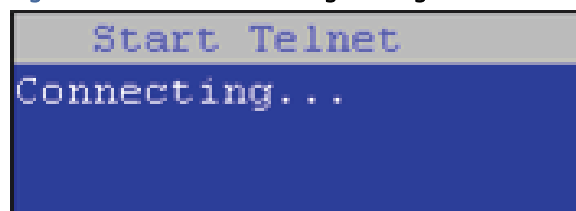
- Use the arrow buttons on the touchscreen to scroll down and highlight the **1:Start Telnet** item, and then touch the **OK** button to select it.

Figure 4-33 Select the **1:Start Telnet** item



- Do one of the following
 - If a connecting message displays briefly, go to 7..

Figure 4-34 Telnet connecting message




- If an error message displays, use the steps below to identify the problem.

Figure 4-35 Telnet error message

```
Start Telnet
Unable to connect
Contact network
administrator.
```

- a. The printer network cable is not correctly connected.
 - b. The BIOS LAN settings are incorrect.
 - The printer should be configured to use a static IP address, but is configured to use DHCP instead.
 - The printer is configured to use a static IP address, but the IP address is incorrect.
 - c. The printer is correctly configured to use DHCP, but the DHCP server is not turned on or is malfunctioning.
7. When the printer telnet server function is initialized, the following screen appears. Use the information on this screen to connect the remote telnet client computer to the printer.

 **NOTE:** The printer is now ready to receive remote telnet client commands.

- **IP:** The static or dynamically allocated IP address for the printer.
- **Port:** The standard telnet port (23).
- **Pin:** A randomly generated 4-digit personal identification number (PIN).


Figure 4-36 Telnet server function initialized

```
Start Telnet
IP: 16.88.109.66
Port: 23
Pin : 4031
```

Start the telnet client function at the remote computer

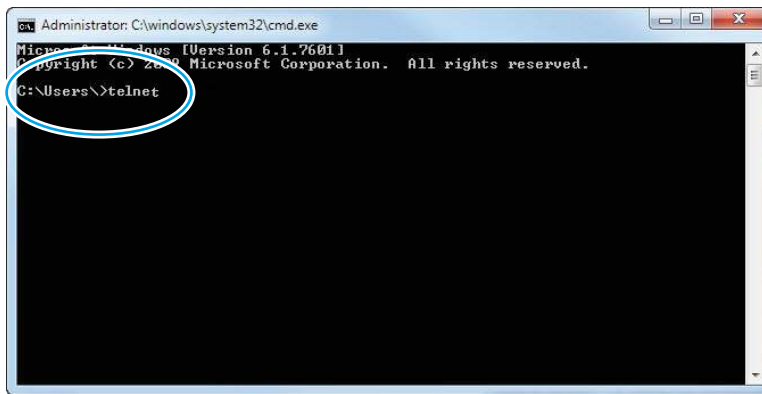
The following steps establish a Remote Admin connection from a remote computer to the printer.

1. From the **Start** menu open the **Command Prompt** desktop application.

 **TIP:** Type `cmd` in the application search dialogue box to find the application.

- From any displayed directory, type `telnet` at the prompt, and then press the **Enter** key.

Figure 4-37 Start a telnet session

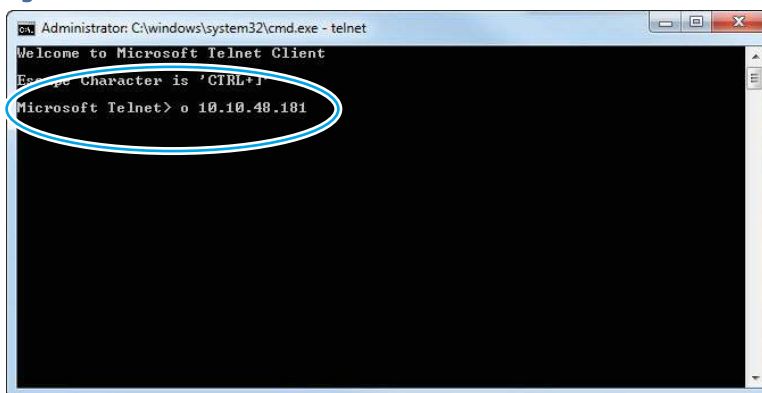


- Type `<IP ADDRESS>` at the telnet prompt, and then press the **Enter** key.

NOTE: For `<IP ADDRESS>`, substitute the IP address that was displayed in step 7 of the "Start the telnet server function at the printer" topic.

TIP: If the telnet connection fails to establish a connection, the printer is probably behind a firewall or on a different network than the remote telnet client computer.

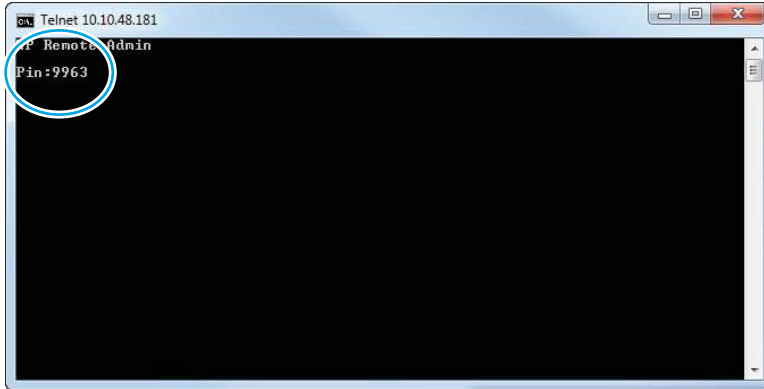
Figure 4-38 Establish a telnet connection




- Type the PIN that was displayed in step 7 of then "Start the telnet server function at the printer" topic at the prompt, and then press the **Enter** key.

IMPORTANT: Make sure to type the PIN correctly. After five incorrect PIN entries, the printer terminates the Remote Admin connection. The Remote Admin feature must be re-initiated at the printer. See the "Start the telnet server function at the printer" topic.

Figure 4-39 Enter the PIN

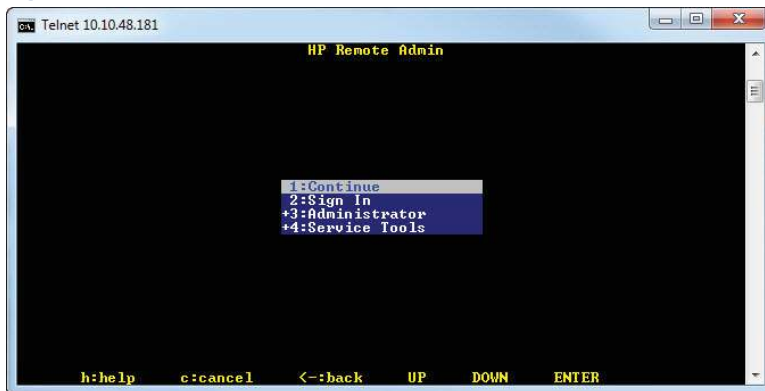


5. The following screen displays when the correct PIN is entered, and the Remote Admin connection is successful. For information about the Pre-boot menu and options, see "Pre-boot menu options" in the printer *Service Manual*.

 **NOTE:** Because a Remote Admin connection is an unsecured telnet network protocol connection, the following Pre-boot menu items are disabled for the remote telnet client computer.

- The +3:Administrator menu 4:Change Password item.
- The +3:Administrator menu 5:Clear Password item.
- The +3:Administrator menu 6:Disk Manage item.

Figure 4-40 Remote Admin window



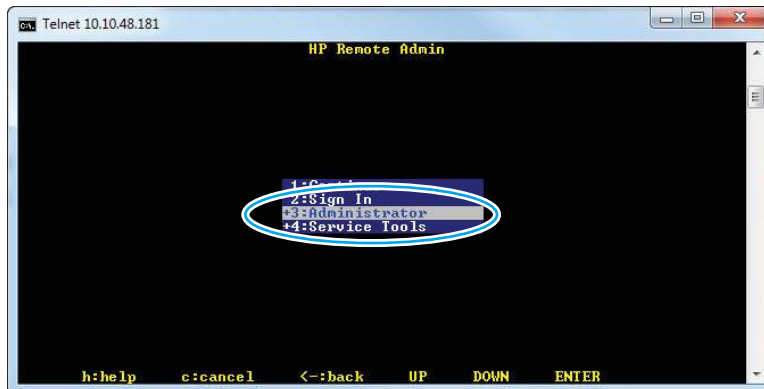
Disconnect a remote connection

The Remote Admin connection can be terminated from the printer control panel or the remote telnet client computer.

 **NOTE:** The following procedure describes terminating a Remote Admin connection from the remote telnet client computer.

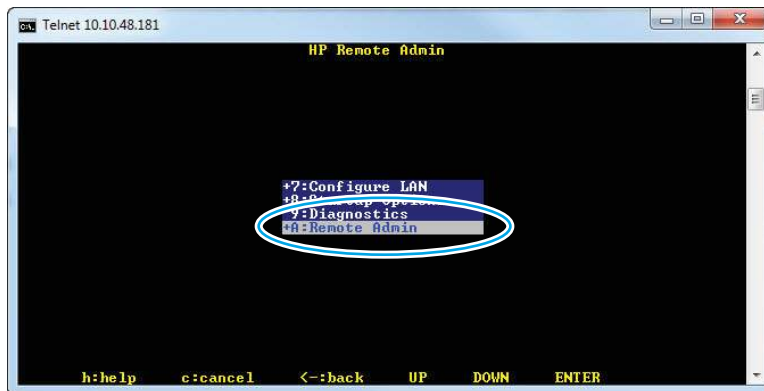
1. From the Pre-boot main menu, use the arrow buttons on the keyboard to scroll down to the **+3:Administrator** item, and then press the **Enter** key.

Figure 4-41 Access the administrator menu



2. Use the arrow buttons on the keyboard to scroll down to the **+A:Remote Admin** item, and then press the **Enter** key.

Figure 4-42 Access the remote admin menu

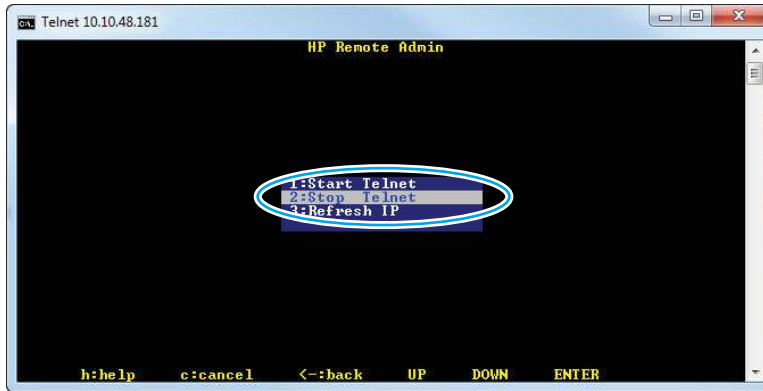


3. Use the arrow buttons on the keyboard to scroll down to the **2:Stop Telnet** item, and then press the **Enter** key. The Remote Admin connection between the printer and the remote telnet client computer terminates.

 **IMPORTANT:** The printer remains in the Pre-boot menu. Have the person that is physically present at the printer do the following:

- Touch the **Home** button to return to the main Pre-boot menu and highlight the **1:Continue** item, and then touch the **OK** button. The printer will continue to initialize.

Figure 4-43 Terminate the telnet connection



Control panel checks

Learn about control panel troubleshooting.

The printer includes a diagnostic test mode for the touchscreen control panels.

Control panel diagnostics

Review the following information about the control panel diagnostics.

Touchscreen diagnostic mode (M856/E85055 and M776)

Use the diagnostics in this section to test the control panel hardware and embedded firmware.

Use the diagnostics in this section to test the control-panel hardware and embedded firmware. These tests are useful for checking control-panel functionality independent of the printer control-panel system diagnostics. To test the control panel using the system diagnostics, see [Open the control panel system diagnostic tests on page 152](#).

1. **556 only:** Locate the diagnostic-tests access button on the back of the control panel.

Figure 4-44 Diagnostic-tests access button (556)



2. **556 only:** Press the diagnostics-access button. Repeatedly pressing the button cycles through the available diagnostics.

 **NOTE:** A pen, pencil, or other small blunt object is needed to press the button.


 **TIP:** When pressed, the button illuminates green.

Figure 4-45 Press the diagnostics-access button (556)



3. **586 only:** Locate the diagnostic-tests access button on the back of the control panel.

Figure 4-46 Diagnostic-tests access button (586)



4. **586 only:** Press the diagnostics-access button. Repeatedly pressing the button cycles through the available diagnostics.

Figure 4-47 Press the diagnostics-access button (586)

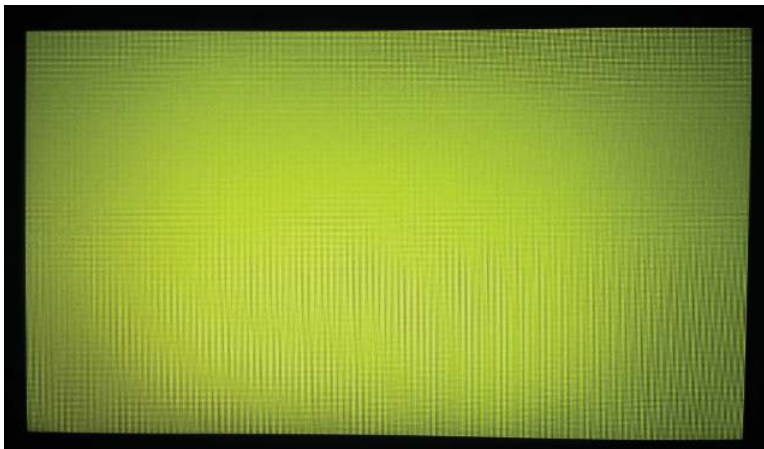


5. A yellow screen appears (after the first press of the button) indicating that the control panel firmware is version A (a magenta screen indicates version B firmware).

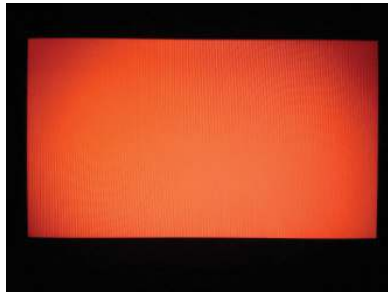
 **NOTE:** If a different color appears on the screen, contact your global business unit (GBU) to determine the firmware version.

 **TIP:** After 4 seconds of inactivity, the diagnostic mode times out and is exited.

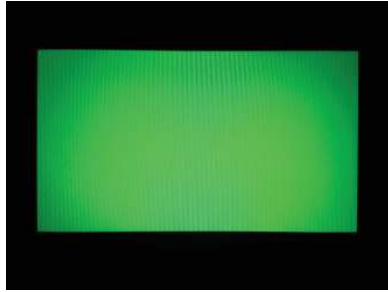
Figure 4-48 Control panel version A yellow screen



6. Touch the screen to cycle the screen through the following:
 - A red screen.



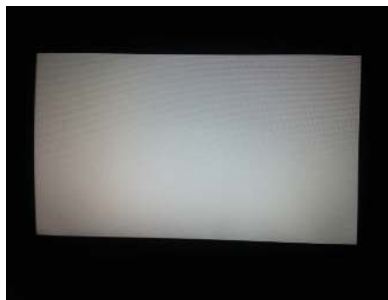
- A green screen.



- A blue screen.



- Five brightness levels of a white screen.



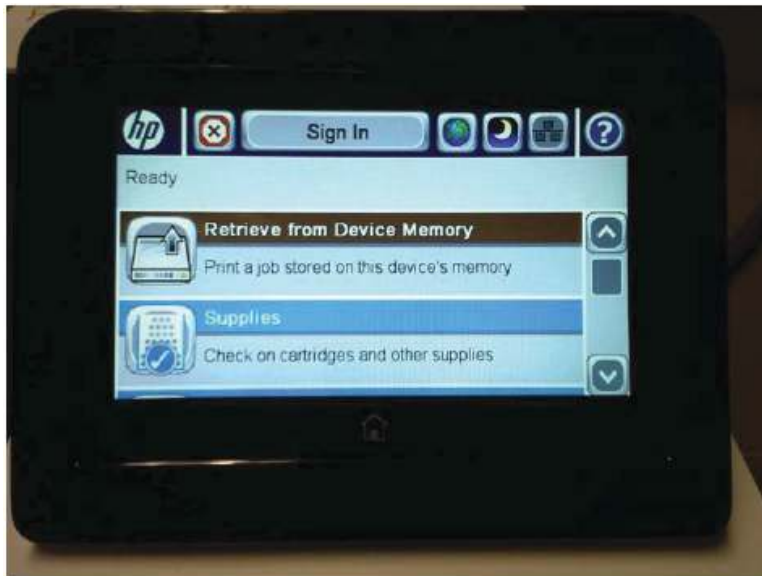
- A final black screen.

💡 **TIP:** When the final black screen displays, press the [Home](#) button to cycle through the diagnostic screens and test its functionality.



7. Pressing the diagnostic-tests button with the black screen displayed exits the diagnostic mode.

Figure 4-49 Exit the diagnostic mode



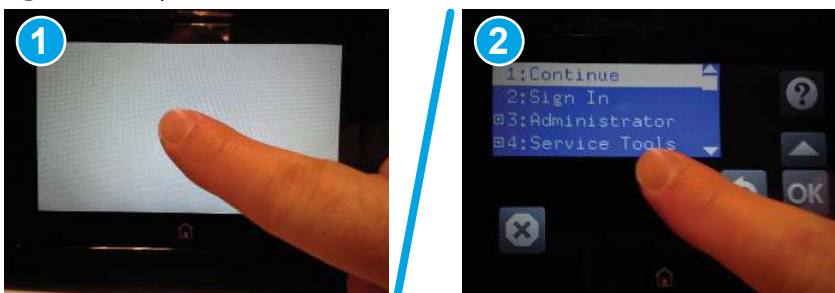
Open the control panel system diagnostic tests

Learn about accessing the control panel system diagnostics tests from a touchscreen control panel.

Use the following procedure to open the control panel system diagnostics tests (MFP).

1. Turn the printer power off, and then on again.
2. Touch the middle of the control panel display when you see the 1/8 under the logo.

Figure 4-50 Open the Pre-boot menu



- On the Pre-boot menu screen, use the following buttons to navigate the tests.

Figure 4-51 Pre-boot menu

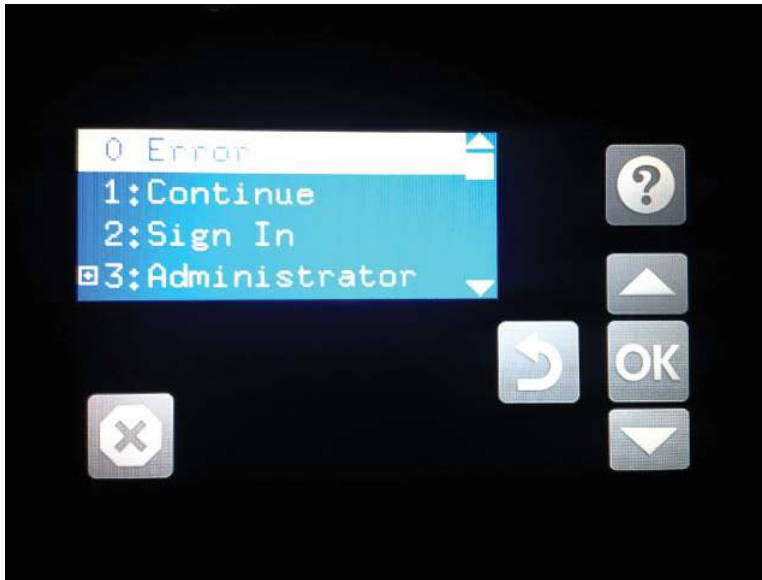







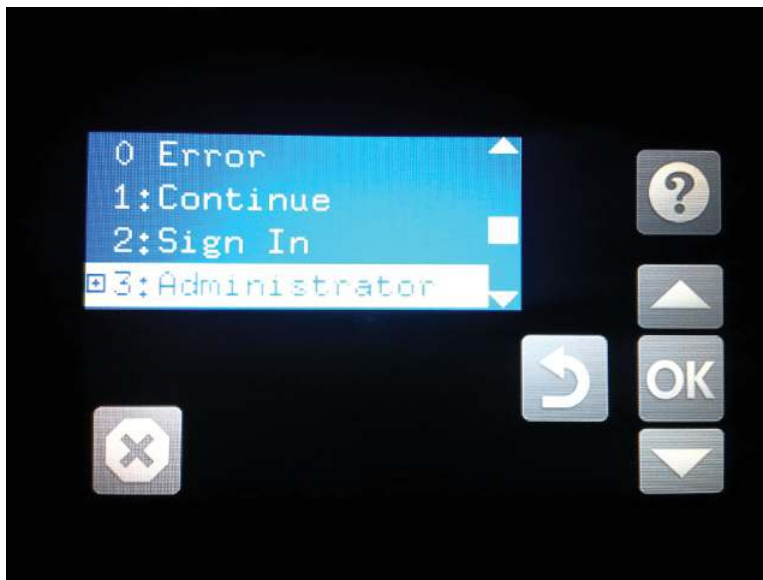


Table 4-15 Pre-boot menu button descriptions

Button	Description
	Use this button to see more information about a selected item.
	Use this button to scroll up through menu items.
	Use this button to select a highlighted menu item.
	Use this button to scroll down through menu items.
	Use this button to go back to the previous menu.
	Not used.
	Use this button to exit a diagnostic test.

4. Use the down arrow ▼ button to scroll to +3 Administration, and then press the OK button to select it.

Figure 4-52 Access the administration menu



5. Use the down arrow ▼ button to scroll to +E CP Diagnostics, and then press the OK button to select it.

 **NOTE:** An administrator password might be required to continue.

Figure 4-53 Access the diagnostics menu



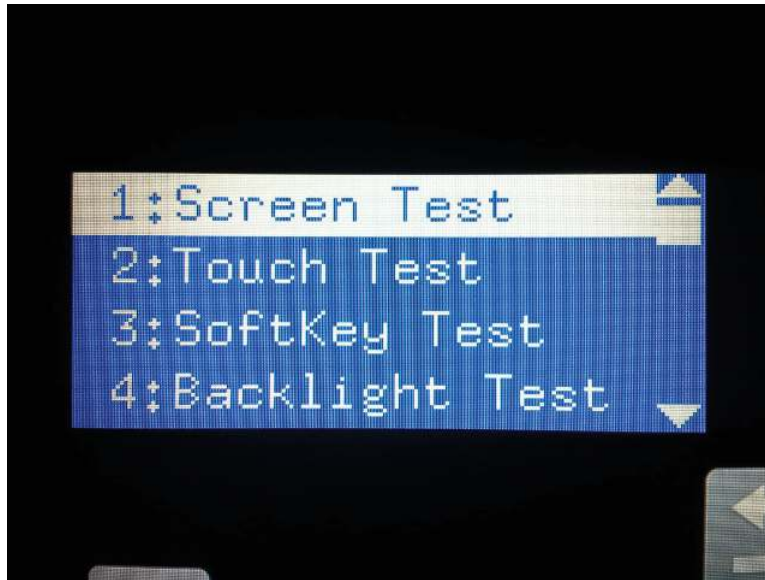
Screen test

Learn about the control panel system diagnostic screen test.

1. Open the control panel system diagnostic tests.

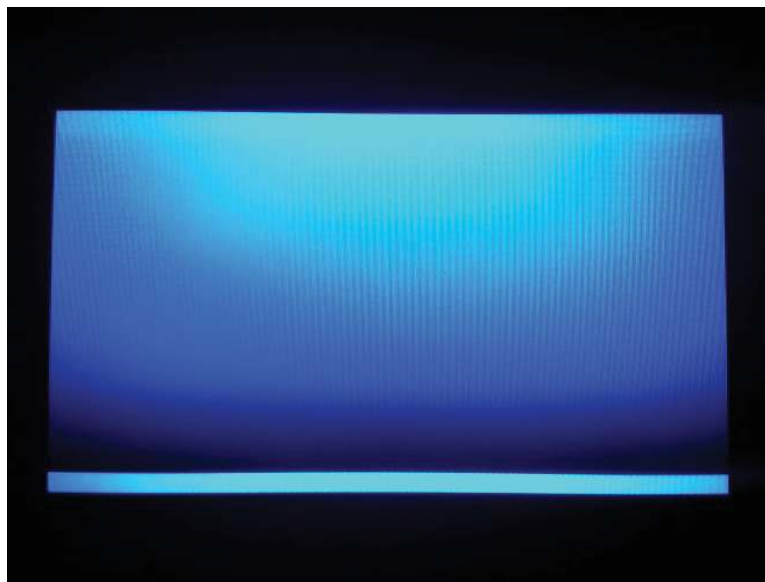
2. With 1 Screen Test highlighted, press the OK button to select it.

Figure 4-54 Open the screen test



The blue vertical gradient screen appears.

Figure 4-55 Blue vertical gradient screen



3. Touch the touchscreen to scroll through the remaining touchscreen test screens.

 **NOTE:** Touch the Home button to exit the test.

Table 4-16 Touchscreen test screens



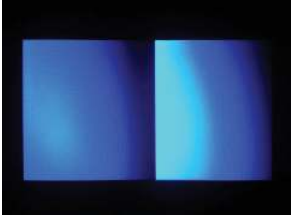
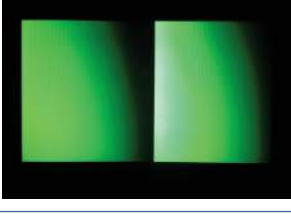






Screen	Description
	Green vertical gradient
	Red vertical gradient
	Blue horizontal gradient
	Green horizontal gradient
	Red horizontal gradient
	Blue with black horizontal interlaced

Table 4-16 Touchscreen test screens (continued)

Screen	Description
	Green with black horizontal interlaced
	Red with black horizontal interlaced
	Blue with black vertical interlaced
	Green with black vertical interlaced
	Red with black vertical interlaced
	Black with white center

Table 4-16 Touchscreen test screens (continued)

Screen	Description
	White with black center
	Checkerboard
	Multicolor stripes
	Blue green grid meshing

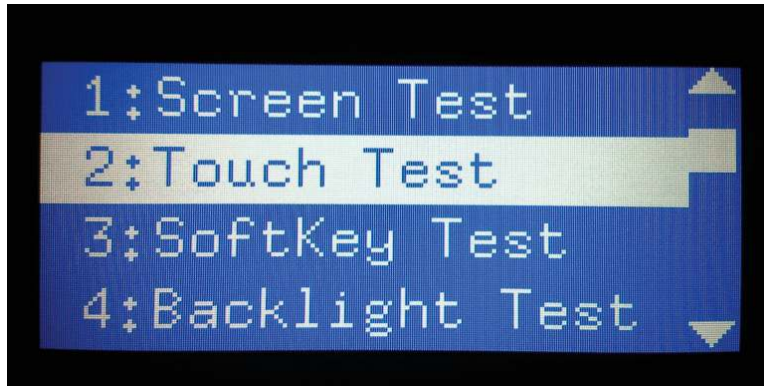
Touch test

Learn about the control panel system diagnostic touch test.

1. Open the control panel system diagnostic tests.

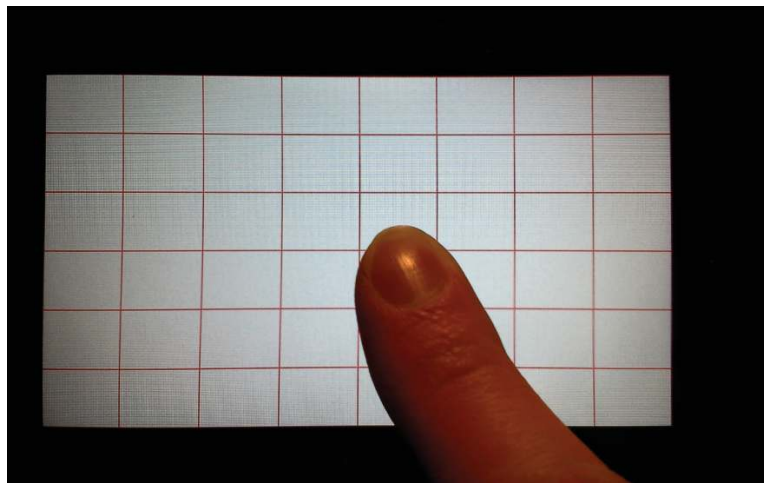
2. Use the [down arrow ▼](#) button to scroll to [2 Touch Test](#), and then press the [OK](#) button to select it.

Figure 4-56 Open the touch test



3. Use your finger to touch the white grid on the display.

Figure 4-57 Touch the white grid

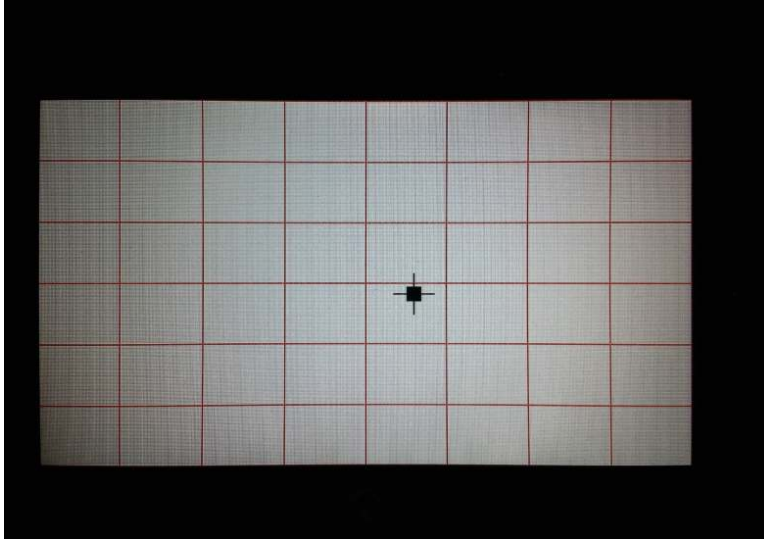


A mark appears on the grid where it was touched.



NOTE: Touch the [Home](#) button to exit the test.

Figure 4-58 Verify the mark



SoftKey test

Learn about the control panel system diagnostic SoftKey test.

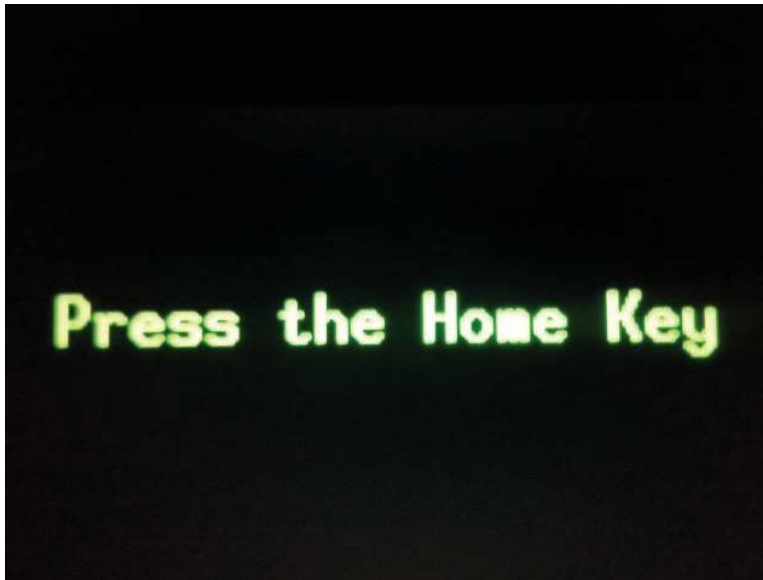
1. Open the control panel system diagnostic tests.
2. Use the down arrow ▼ button to scroll to 3 SoftKey Test, and then press the OK button to select it.

Figure 4-59 Open the softkey test



3. When prompted, touch the [Home](#) button.

Figure 4-60 Touch the [Home](#) button



If the test is successful, the following screen appears on the display.

 **NOTE:** Touch the screen to exit the test.

Figure 4-61 Successful test



Backlight test

Learn about the control panel system diagnostic backlight test.

1. Open the control panel system diagnostic tests.

2. Use the **down arrow ▼** button to scroll to **4 Backlight Test**, and then press the **OK** button to select it.
After selecting the **4 Backlight Test**, the screen automatically dims, and then returns to full brightness.


 **NOTE:** Touch any key to exit the test.

Figure 4-62 Open the backlight test



Sound test

Learn about the control panel system diagnostic sound test.

1. Open the control panel system diagnostic tests.
2. Use the **down arrow ▼** button to scroll to **5 Sound Test**, and then press the **OK** button to select it.
After selecting the **5 Sound Test**, the printer emits a series of audible tones.


 **NOTE:** Touch any key to exit the test.

Figure 4-63 Open the sound test



Keyboard test (flow models only)

Learn about the control panel system diagnostic keyboard test.

 **IMPORTANT:** The control-panel system diagnostic tests include a [6 Keyboard Test](#) item. This test is not valid for printers that do **not** have a pull out keyboard installed, even though this option is present in the control-panel system diagnostic tests menu.

If the [6 Keyboard Test](#) is opened on a non-flow printer, the printer power must be turned off to exit the test.

HP **does not recommend** turning the printer power off during the control-panel system diagnostic tests.

1. Open the control panel system diagnostic tests. See [Open the control panel system diagnostic tests on page 152](#).

2. Use the **down arrow ▼** button to scroll to **6 Keyboard Test**, and then press the **OK** button to select it.

Figure 4-64 Open the keyboard test




3. When prompted, touch the H key on the keyboard or the Home button to exit the test.


Version

Learn about the control panel system diagnostic version information.

1. Open the control panel system diagnostic tests.
2. Use the **down arrow ▼** button to scroll to **7 Version**, and then press the **OK** button to select it.

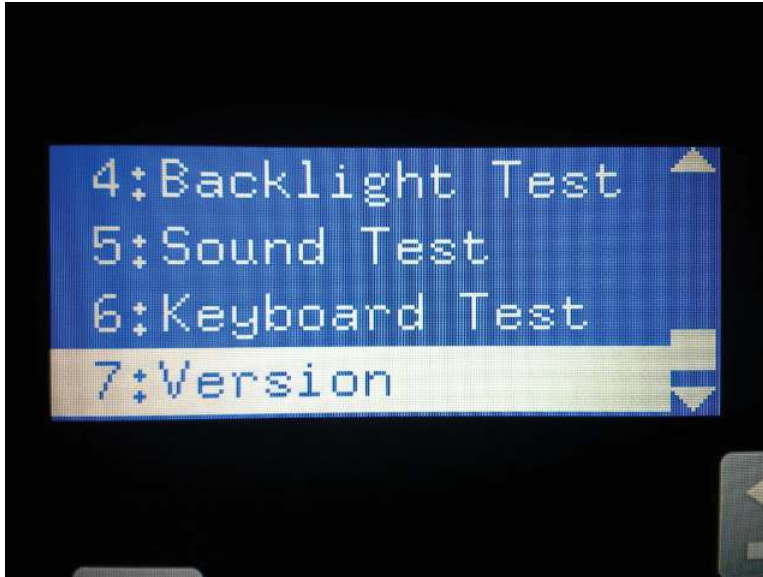
 **NOTE:** Touch any key to exit the test.

Select **7 Version** to view the following types of information:

 **NOTE:** The following types of information are for the control panel only, not the printer.

- Panel ID
- Hardware (version)
- Firmware (version)
- KB Hw (version)
- KB Firm (version)
- LCD Vendor
- Touch Controller Version

Figure 4-65 Open the version information



Control panel diagnostic flowcharts

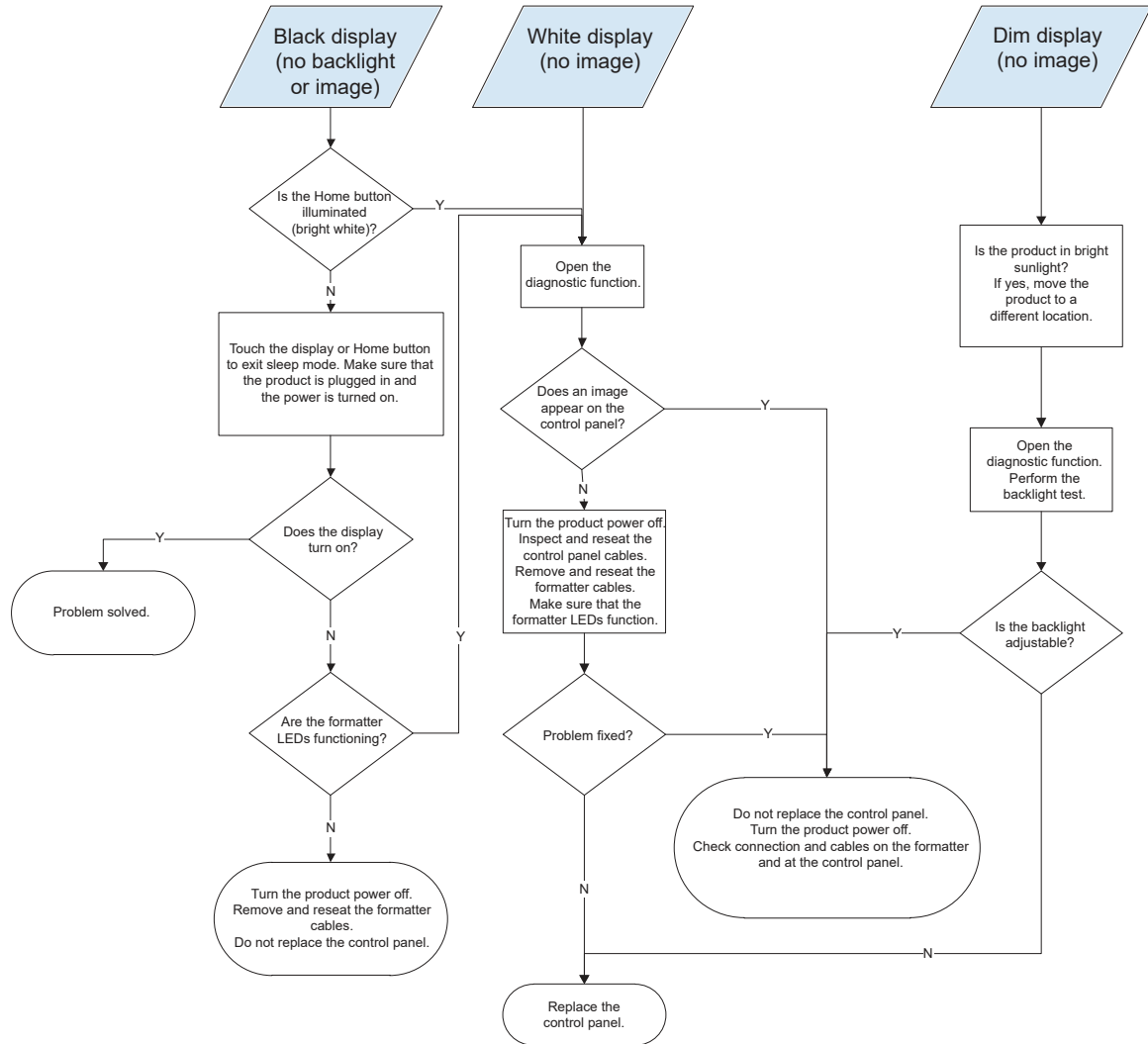
Use the flowcharts in this section to troubleshoot the following control panel problems.

- Touchscreen is blank, white, or dim (no image).
- Touchscreen is slow to respond or requires multiple presses to respond.
- Touchscreen has an unresponsive zone.
- No control panel sound.
- Home button is unresponsive.
- Hardware integration pocket (HIP) is not functioning (control panel functional).

Touchscreen black, white, or dim (no image)

To open the diagnostic function, press the button on the back of the control panel.

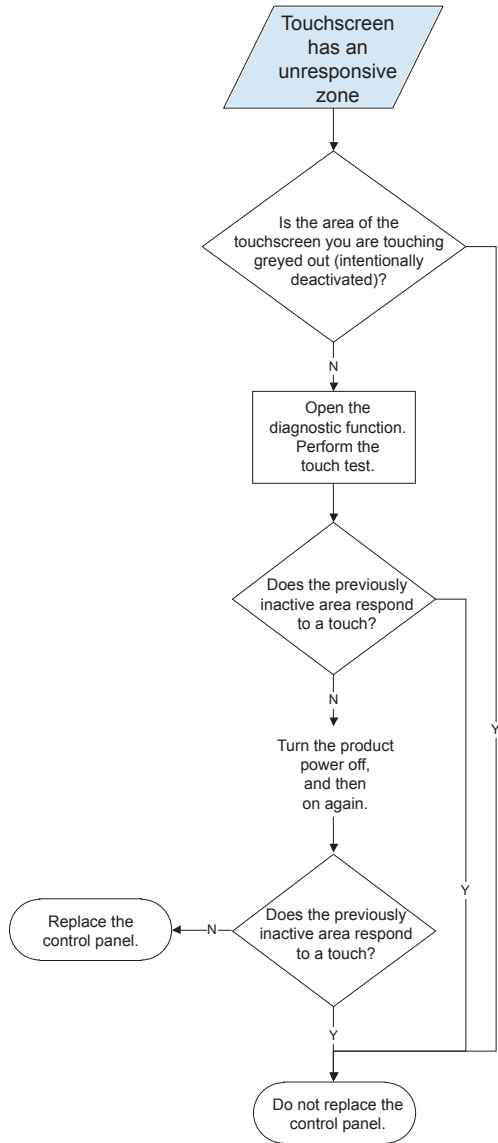
Figure 4-66 Touchscreen blank, white, or dim (no image)



Touchscreen has an unresponsive zone

To open the diagnostic function, press the button on the back of the control panel.

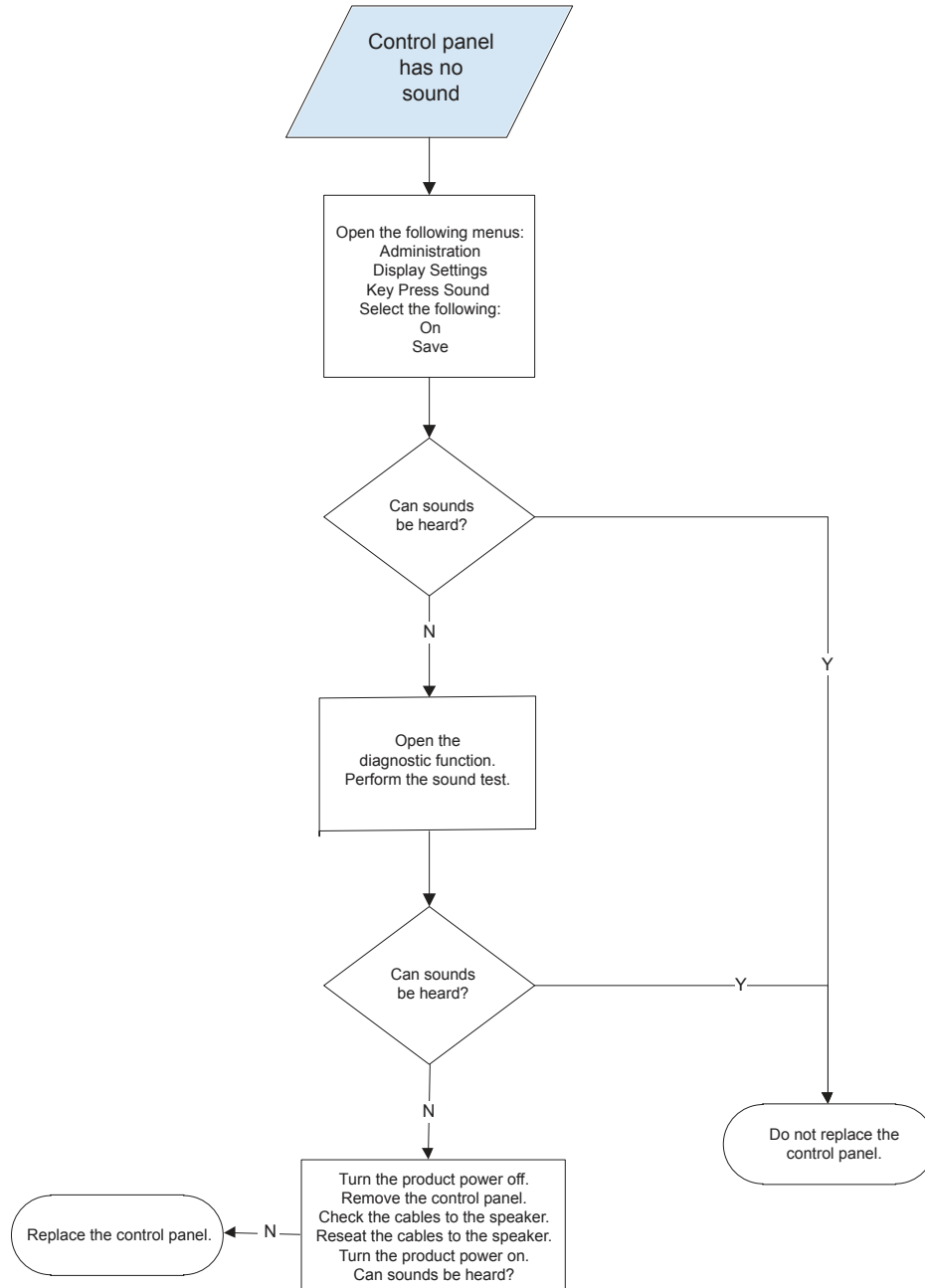
Figure 4-67 Touchscreen has an unresponsive zone



No control panel sound

To open the diagnostic function, press the button on the back of the control panel.

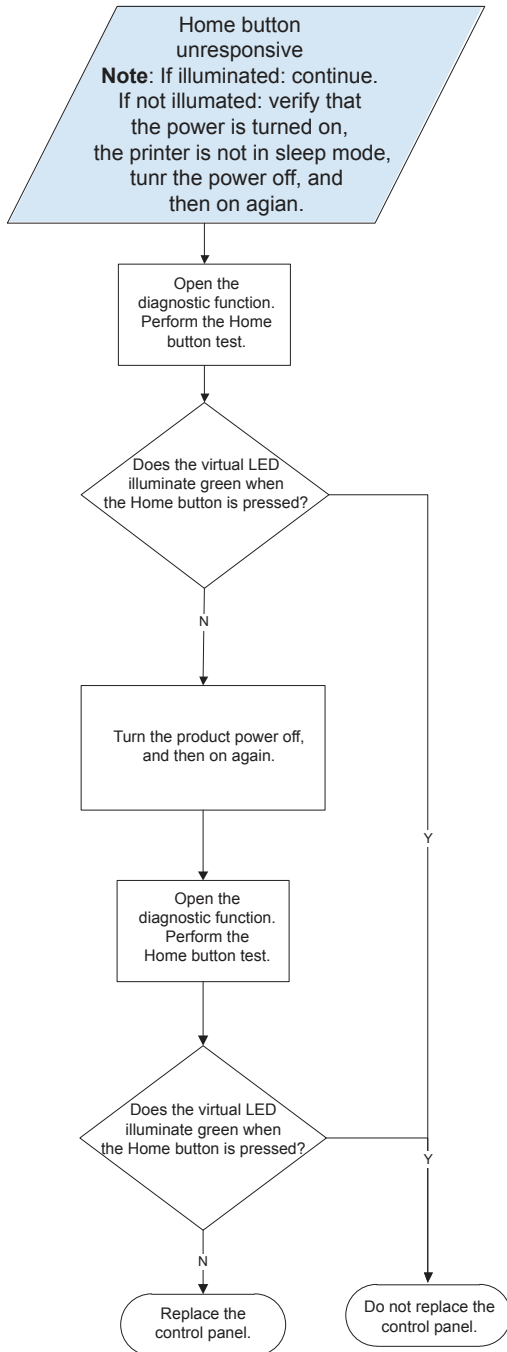
Figure 4-68 No control panel sound



Home button is unresponsive

To open the diagnostic function, press the button on the back of the control panel.

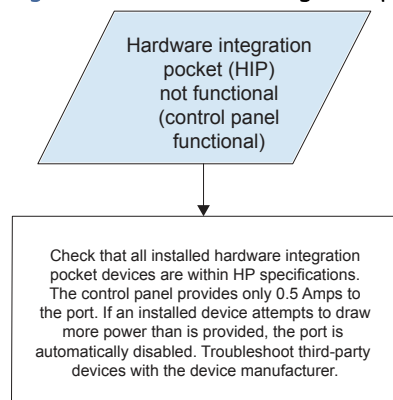
Figure 4-69 Home button is unresponsive



Hardware integration pocket (HIP) is not functioning (control panel functional)

Review the following information when the HIP is not functioning, but the control panel is functional.

Figure 4-70 Hardware integration pocket (HIP) is not functioning (control panel functional)




Control panel menus

Learn about control panel menus.

Administration menus

Learn about administration menus.

You can perform basic printer setup by using the control panel menus. Use the HP Embedded Web Server for more advanced printer setup. To open the HP Embedded Web Server, enter the printer IP address or host name in the address bar of a web browser.

 **NOTE:** Where applicable, the 586 printer displays a [View](#) button.

Reports menu

Learn about the control-panel [Reports](#) menu.

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Reports](#) menu.

Table 4-17 Reports menu

First level	Second level	Values	Description
Configuration/Status Pages	Administration Menu Map	View Print	Shows a map of the entire Administration menu and the selected values for each setting.
Configuration/Status Pages	Current Settings Page	View Print	Shows a summary of the current settings for the printer. This might be helpful if you plan to make changes and need a record of the present configuration.
Configuration/Status Pages	Configuration Page	View Print	Shows the printer settings and installed accessories.
Configuration/Status Pages	How to Connect Page	View Print	Shows the network information typically needed to connect the printer to a network.
Configuration/Status Pages	Supplies Status Page	View	Shows the approximate remaining life for the supplies;

Table 4-17 Reports menu (continued)

First level	Second level	Values	Description
		Print	reports statistics on total number of pages and jobs processed, serial number, page counts, and maintenance information. HP provides approximations of the remaining life for the supplies as a customer convenience. The actual remaining supply levels might be different than the approximations provided.
Configuration/Status Pages	Usage Page	View Print	Shows a count of all paper sizes that have passed through the printer; lists whether they were simplex or duplex and reports the page count.
Configuration/Status Pages	File Directory Page	View Print	Shows the file name and folder name for files that are stored in the printer memory.
Configuration/Status Pages	Web Services Status Page	View Print	Shows the detected Web Services for the printer.
Configuration/Status Pages	Color Usage Job Log	View Print	Shows color jobs completed by the printer
Fax Reports Fax models only	Fax Activity Log	View Print	Contains a list of the faxes that have been sent from or received by this printer.
Fax Reports Fax models only	Billing Codes Report	View Print	Provides a list of billing codes that have been used for outgoing faxes. This report shows how many sent faxes were billed to each code.
Fax Reports Fax models only	Blocked Fax List	View Print	A list of phone numbers that are blocked from sending faxes to this printer.
Fax Reports Fax models only	Speed Dial List	View Print	Shows the speed dials that have been set up for this printer.
Fax Reports Fax models only	Fax Call Report	View Print	A detailed report of the last fax operation, either sent or received.
Other Pages	Demonstration Page	Print	Prints a demonstration page.
Other Pages	RGB samples	Print	Prints color samples for different RGB values. Use the samples as a guide for matching printed colors.
Other Pages	CMYK samples	Print	Prints color samples for different CMYK values. Use the samples as a guide for matching printed colors.

Table 4-17 Reports menu (continued)

First level	Second level	Values	Description
Other Pages	PCL Font List	Print	Prints the available PCL fonts.
Other Pages	PS Font List	Print	Prints the available PS fonts.

General Settings menu

Learn about the control-panel [General Settings](#) menu.

To display: At the printer control panel, select the [Administration](#) menu, and then select the [General Settings](#) menu.

Table 4-18 Settings menu

First level	Second level	Third level	Fourth level	Values	Description
Date/Time Settings	Date/Time Format	Date Format		DD/MMM/YYYY MMM/DD/YYYY YYYY/MMM/DD	Use the Date/Time Settings menu to specify the date and time and to configure date/time settings.
Date/Time Settings	Date/Time Format	Time Format		12 hours (AM/PM) 24 hours	Select the format that the printer uses to show the date and time, for example 12-hour format or 24-hour format.
Date/Time Settings	Date/Time	Time Zone		Select the time zone from a list.	Select the time zone, date, and time that the printer uses.
Date/Time Settings	Date/Time	Date		Select the date from a pop-up calendar.	
Date/Time Settings	Date/Time	Time		Select the time from a pop-up keypad.	
Energy Settings	Sleep Schedule	A list of scheduled events displays.		+ (Add) Edit Delete	Use to configure the printer to automatically wake up or go to sleep at specific times on specific days. Using this feature saves energy. NOTE: You must configure the date and time settings before you can use this feature.
Energy Settings	Sleep Schedule		Event Type		Create a printer Wake Event and/or Sleep Event schedule.
Energy Settings	Sleep Schedule		Time		Set the wake or sleep event time parameters.
Energy Settings	Sleep Schedule		Event Days	Select days of the week from a list.	Set the wake or sleep event day parameters.
Energy Settings	Sleep Timer Settings	Sleep/Auto Off After		Range: 1 to 110 minutes Default = 0 minutes	Set the number of minutes after which the printer enters Sleep or Auto Off mode. Touch the existing number to open the virtual keypad,

Table 4-18 Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
					and then increase or decrease the number of minutes.
Energy Settings	Sleep Timer Settings	Wake/Auto On to These Events		All Events* Network port Power button only	
Print Quality	Image Registration	Adjust Tray <X>	X1 Shift Y1 Shift X2 Shift Y2 Shift	-5.00 mm to 5.00 mm	<p>Shift the margin alignment to center the image on the page from top to bottom and from left to right. You can also align the image on the front with the image printed on the back.</p> <p>The direction that is perpendicular to the way the paper passes through the printer is referred to as X. This is also known as the scan direction. X1 is the scan direction for a single-sided page or for the second side of a two-sided page. X2 is the scan direction for the first side of a two-sided page.</p> <p>The direction that the paper feeds through the printer is referred to as Y. Y1 is the feed direction for a single-sided page or for the second side of a two-sided page. Y2 is the feed direction for the first side of a two-sided page.</p> <p>Use the Adjust Tray <X> menu to adjust the registration settings for each tray. Before adjusting these values, print a registration test page. It provides alignment guides in the X and Y directions so you can determine which adjustments are necessary. You can adjust values for X1 Shift, X2 Shift, Y1 Shift, and Y2 Shift.</p>
Print Quality	Image Registration	Adjust Tray <X>	Print Test Page		Use the Print Test Page option to print a page to test the image registration. It provides alignment guides in the X and Y directions so you can determine which adjustments are necessary.
Quiet Mode				Off* On	<p>Off: Normal printing.</p> <p>On: Produces less noise but prints at half-speed.</p>
Jam Recovery				Auto Off On	<p>This printer provides a jam recovery feature that reprints jammed pages. Select one of the following options:</p> <p>Auto: The printer attempts to reprint jammed pages when sufficient memory is available. This is the default setting.</p>

Table 4-18 Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
					<p>Off: The printer does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.</p> <p>NOTE: When using this option, if the printer runs out of paper and the job is being printed on both sides, some pages can be lost.</p> <p>On: The printer always reprints jammed pages. Additional memory is allocated to store the last few pages printed. This might cause a decrease in overall performance.</p>
Auto Recovery				<p>Enabled</p> <p>Disabled</p>	The printer attempts to reprint jammed pages when sufficient memory is available. This is the default setting.
Enable AutoSend				<p>Enabled</p> <p>Disabled</p>	<p>Browse to the HP Embedded Web Server AutoSend configuration page for advanced set up and the HP online Privacy Statement Information.</p> <p>Use the Enable AutoSend menu to enable or disable the AutoSend feature. The AutoSend feature enables your product to periodically send product configuration information including serial number, event logs, page usage counts and supplies status information to HP web addresses (URLs), or email addresses. Information sent to HP is used to improve products and services, and to monitor the product if you have a relationship with HP that provides you services such as proactive cartridge replacement, pay-per-page contracts, support agreements, or usage tracking.</p>
Manage Stored Jobs	General Stored Jobs Settings	Sort Stored Jobs By		<p>Job Name</p> <p>Date</p>	This option allows you list the jobs either alphabetically or chronologically.
Manage Stored Jobs	General Stored Jobs Settings	Default Folder Name			Type the name for the stored jobs folder that is accessible to all users.
Manage Stored Jobs	Temporary Stored Job Settings	Retain Temporary Jobs After Reboot		<p>Do not retain</p> <p>Personal jobs only</p> <p>All temporary jobs</p>	Sets which temporary jobs will be retained in the event of a printer reboot.
Manage Stored Jobs	Temporary Stored Job Settings	Retain Temporary Jobs After		<p>Off*</p> <p>1 Hour</p>	Sets a maximum storage-time limit for stored Quick Copy and Proof and Hold jobs. If a stored job is not printed during this period, it is deleted.

Table 4-18 Settings menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
				4 Hours 1 Day 1 Week	
Manage Stored Jobs	Temporary Stored Job Settings	Temporary Job Storage Limit		1-300 Default = 32	Configure global settings for jobs that are stored in the printer memory. The <i>Temporary Job Storage Limit</i> feature specifies the number of temporary jobs that can be stored on the printer. The maximum allowed value is 300.
Manage Stored Jobs	Temporary Stored Job Retention			30 minutes 1 hour 4 hours 1 day 1 week 4 weeks	Configure global settings for jobs that are stored in the printer memory. The <i>Temporary Stored Job Retention</i> feature specifies the number of temporary jobs that can be stored on the printer. The maximum allowed value is 300.
Enable Retrieve from USB				Enable Disable	Enables the printer to open a file from a USB drive.
Hold Off Print Job				Enable Disable	Enable this feature if you want to prevent print jobs from starting while a user is initiating a copy job from the control panel. Held print jobs start printing after the copy job is finished, provided that no other copy job is in the print queue.
Restore Factory Settings				Restore Cancel	Use to restore all printer settings to their factory defaults.

Copy menu (MFP only)

Learn about the control-panel [Copy](#) menu (MFP).

To display: At the printer control panel, select the [Administration](#) menu, and then select [Copy Settings](#).

In the following table, asterisks (*) indicate the factory default setting.

Table 4-19 Copy menu (MFP)

First level	Second level	Third level	Values	Description
Copies			1-9999 Default = 1	Configure the default options for copy jobs. If the user does not specify the job options when creating the job, the default options are used.
Sides			1-sided original, 1-sided output*	Use to indicate whether the original document is printed on one or both sides,

Table 4-19 Copy menu (MFP) (continued)

First level	Second level	Third level	Values	Description
			2-sided original, 2-sided output output 1-sided original, 2-sided output 2-sided original, 1-sided output	and whether the copies should be printed on one or both sides. For example, select 1-sided original, 2-sided output when the original is printed on one side, but you want to make two-sided copies.
Sides	Orientation	Portrait*	*	Specify portrait or landscape orientation and select the way the second sides are printed. Portrait orientation means the short edge of the page is along the top.
Sides	Orientation	Landscape		Landscape orientation means the long edge of the page is along the top.
Sides		2-Sided Format	Book-style Flip-style Book-style original; Flip-style copy Flip-style original; Book-style copy	If you are making two-sided copies, select a 2-sided format option. Book-style: The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge. Flip-style: The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge. Book-style original; Flip-style copy: The back side of the original is printed right-side-up, but the back side of the copy is printed upside-down. Use this option when the original is bound along the left edge, but you want the copies to be bound along the top edge. Flip-style original; Book-style copy: The back side of the original is printed upside-down, but the back side of the copy is printed right-side-up. Use this option when the original is bound along the top edge, but you want the copies to be bound along the left edge.
Color/Black			Automatically detect* Color Black	Select how the copy should be printed. Automatically detect: Prints color documents in color, and black and white documents in black and white. For mixed documents, the printer will determine whether to print in color or black and white. Color: Prints documents in color. Black/Gray: Prints documents in black and white.
Collate			Collate on* (Sets in page order)	If you are making more than one copy, select the Collate on option to assemble the

Table 4-19 Copy menu (MFP) (continued)

First level	Second level	Third level	Values	Description
			Collate off (Pages grouped)	pages in the correct order in each set of copies. Select the Collate off option to group the same pages together. For example, if you are making five copies of an original document that has two pages, all five first pages would be grouped together and all five second pages would be grouped together.
Reduce/Enlarge	Scaling		Auto* 100% 75% 50% 125% 150% 200%	Use to scale the size of the document up or down. Select one of the predefined percentages or select the Scaling field and type a percentage between 25 and 400. The Auto option automatically scales the image to fit the paper size in the tray. NOTE: To reduce the image, select a scaling percentage that is less than 100. To enlarge the image, select a scaling percentage that is greater than 100.
Reduce/Enlarge	Auto Include Margins			The printer reduces the image slightly to fit the entire scanned image within the printable area on the page.
Paper Selection			Manually feed Automatically select Tray 1: [Type], [Size] Tray <X>: [Type], [Size]	For the best color and image quality, select the appropriate paper type from the control panel menu or from the print driver.
Image Adjustment	Darkness		Select a value using the slide bar or touch Automatic .	Use to improve the overall quality of the copy. Adjust the Darkness setting to increase or decrease the amount of white and black in the colors.
Image Adjustment	Contrast		Select a value using the slide bar or touch Automatic .	Adjust the Contrast setting to increase or decrease the difference between the lightest and darkest color on the page.
Image Adjustment	Background Cleanup		Select a value using the slide bar or touch Automatic .	Adjust the Background Cleanup setting if you are having trouble copying a faint image.
Image Adjustment	Sharpness		Select a value using the slide bar or touch Automatic .	Adjust the Sharpness setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photographs appear smoother.
Image Adjustment	Default			Select this to make the selected Image Adjustment setting the default value.
Content Orientation	Orientation		Portrait* Landscape	For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait orientation means the short edge

Table 4-19 Copy menu (MFP) (continued)

First level	Second level	Third level	Values	Description
				of the page is along the top. Landscape orientation means the long edge of the page is along the top.
Optimize Text/ Picture	Manually Adjust*		Optimize For slider Text Printed picture Photograph	Use this setting to optimize the output for a particular type of content. Text: Use to manually optimize the setting for each document. Printed picture: Use for line drawings and preprinted images, such as magazine clippings or pages from books. If you see bands of irregular color or intensity on copies, try selecting the Printed picture setting to improve the quality. Photograph: Use for photographic prints.
Pages per Sheet			One (1) Two (2) Four (4)	Copies multiple pages onto one sheet of paper. NOTE: Before using this screen, use the Content Orientation screen to describe the original document orientation.
Pages per Sheet	Page Order		Right, then down Down, then right	If you are printing four pages per sheet, select the page order. To print the pages in rows, select the Right, then down option. To print the pages in columns, select the Down, then right option.
Pages per Sheet	Add Page Borders			If you are printing two or more pages per sheet and you want to print a border around each page, select the Add Page Borders option.
Original Size			Select from a list of sizes that the printer supports.	Describes the page size of the original document.
Booklet	Booklet Format		(Checkbox)	Use to copy two or more pages onto one sheet of paper so you can fold the sheets in the center to form a booklet. The printer arranges the pages in the correct order. For example, if the original document has eight pages, the printer prints pages 1 and 8 on the same sheet.
Booklet	Booklet Format	Borders on Each Page	(Checkbox)	To print a border around each page, select the Borders on Each Page option.
Booklet	Original Size		1-sided 2-sided	Select the 1-sided option if the original document is printed on only one side. Select the 2-sided option if the original document is printed on two sides.
Booklet	Paper Selection		Manually feed Automatic feed Automatic Tray 1: [Type], [Size]	For the best color and image quality, select the appropriate paper type from the control panel menu or from the print driver.

Table 4-19 Copy menu (MFP) (continued)

First level	Second level	Third level	Values	Description
			Tray <X>: [Type], [Size]	
Edge-to-Edge			Normal * (recommended) Edge-to-Edge output	Use to avoid shadows that can appear along the edges of copies when the original document is printed close to the edges. Combine with the Reduce/Enlarge feature to ensure that the entire page is printed on the copies. When the Edge-to-Edge feature is turned on, the printer minimizes margins and prints as close to the edge of the paper as possible.
Job Build			Job Build off* Job Build on	Use to combine several original documents into one job. Also use this feature to scan an original document that has more pages than the document feeder can accommodate at one time. The printer temporarily saves all the scanned images. After you have scanned all the pages for the job, touch the Finish option to finish the job.
Multi-feed Detection			Enabled* Disabled	This setting stops the scanning process if it detects multiple-page feeds through the document feeder.
2-sided ID Scan			ID Scan on ID Scan off*	ID Scan mode allows the user to scan both sides of an identification card onto one sheet.
			Book Mode on Book Mode off	This setting allows the user to scan pages from a book.

Scan/Digital Send Settings menu (MFP only)

Learn about the control-panel [Scan/Digital Send](#) menu (MFP).

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Scan/Digital Send Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-20 Scan menu (MFP only)

First level	Second level	Third level	Fourth level	Values	Description
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	E-mail Setup Wizard NOTE: Email Settings only				Use to configure settings that apply to sending documents through email or saving documents to a folder on the network or on a USB multi-drive. The E-mail Setup Wizard feature configures the printer to send scanned images as email attachments. To open the printer HP Embedded Web Server and set up the email notification server, enter the

Table 4-20 Scan menu (MFP only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					printer IP address into a Web browser.
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Image Preview		<p>Make optional*</p> <p>Require preview</p> <p>Disable preview</p>	<p>Defines the default job options for each function. If you do not specify the job options when creating the job, the default options are used. For complete setup, go to the HP Embedded Web Server by typing the IP address of the printer into a Web browser.</p> <p>Use the Image Preview feature to scan a document and display a preview before completing the job. Select whether this feature is available on the printer.</p> <p>Make optional: The feature is optional, depending on the user who is signed in.</p> <p>Require preview: Previews are required for all users.</p> <p>Disable preview: Previews are disabled for all users.</p>
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Default File Name			<p>The printer is shipped with a factory default file name of [Untitled] for any scanned files that are sent or saved. Use this feature to specify a different default file name. If you are saving a file to a network folder or USB storage printer and a file with the default file name already exists, a number is appended to the file name, for example, [Untitled]001.</p>
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Document File Type		<p>Select from a list of file types.</p>	<p>PDF provides the best overall image and text quality.</p> <p>JPEG is a good choice for most graphics. Most computers have a browser that can view .JPEG files. This file type produces one file per page.</p> <p>TIFF is a standard file format that many graphics programs support. This file type produces one file per page.</p> <p>MTIFF stands for multi-page TIFF. This file type saves multiple scanned pages in a single file.</p> <p>XPS (XML Paper Specification) creates an XML file that preserves the original formatting of the document</p>

Table 4-20 Scan menu (MFP only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					and supports color graphics and embedded fonts. NOTE: OCR file types are not supported on this printer unless attached to DSS.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Optimize Text/ Picture		Manually Adjust* Text Printed picture Photograph	Use to optimize the output for a particular type of content. You can optimize the output for text, printed pictures, or a mixture. Manually Adjust: Use to manually optimize the setting for text or for pictures. Text: Use to optimize the text portion of the copy when text and/or pictures are on the original. Printed picture: Use for line drawings and preprinted images, such as magazine clippings or pages from books. Photograph: Best suited for making copies of printed pictures.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Output Quality		High (large file) Medium* Low (small file)	Use to select the quality for the output. Higher-quality images require a larger file size than lower-quality images. Larger files take more time to send, and some recipients might have trouble receiving larger files.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Original Sides		1-sided 2-sided	Use to describe the layout for each side of the original document. First select whether the original document is printed on one side or both sides. Then touch the Orientation setting to indicate whether the original has portrait or landscape orientation. If it is printed on both sides, also select the 2-sided format that matches the original document.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Original Sides	Orientation	Automatically detect Portrait* Landscape	For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait orientation means the short edge of the page is along the top. Landscape orientation means the long edge of the page is along the top. In the Orientation area, select whether the original document

Table 4-20 Scan menu (MFP only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					has a portrait or landscape orientation.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Original Sides	2-Sided Format	Book-style Flip-style	Book-style: The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge. Flip-style: The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Resolution		400 dpi 300 dpi 200 dpi 150 dpi* 75 dpi	Sets the resolution for sent documents. Higher resolution images have more dots per inch (dpi), so they show more detail. Lower resolution images have fewer dots per inch and show less detail, but the file size is smaller. Some file types, for example a file that will be processed with OCR, require a specific resolution. When these file types are selected, the Resolution setting might automatically change to a valid value.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Content Orientation	Orientation	Auto Detect Portrait* Landscape	For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait orientation means the short edge of the page is along the top. Landscape orientation means the long edge of the page is along the top. In the Orientation area, select whether the original document has a portrait or landscape orientation.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Content Orientation	2-Sided Format	Book-style Flip-style	Book-style: The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge. Flip-style: The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.

Table 4-20 Scan menu (MFP only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Color/Black		Automatically detect* Color Black/Gray Black	Use to enable or disable color scanning. Automatically detect: Automatically scans documents in color if at least one page has color. Color: Scans documents in color. Black/Gray: Scans documents in grayscale. Black: Scans documents in black and white with a compressed file size.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Original Size		Select from a list of supported sizes.	Use to describe the page size of the original document.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Notification		Do not notify* Notify when job completes Notify only if job fails Print E-mail	Configure to receive notification about the status of a sent document. Do not notify: Turns off this feature. Notify when job completes: Select to receive notification for this job only. Notify only if job fails: Select to receive notification only if the job is not sent successfully. Print: Select to print the notification at this printer. E-mail: Select to receive the notification to an email account.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Notification	Include Thumbnail		NOTE: When sending an analog fax, select Include Thumbnail to receive a thumbnail image of the first page of the fax in your notification.
E-mail Settings Save to Network Folder Options	Default Job Options	Notification	Notification E-mail address		E-mail: Select to receive the notification in an email. Touch the text box following Email Address , and then type the email address for the notification.

Table 4-20 Scan menu (MFP only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
<p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>					
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Image Adjustment	Darkness		<p>Use to improve the overall quality of the copy.</p> <p>Adjust the Darkness setting to increase or decrease the amount of white and black in the colors.</p>
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Image Adjustment	Contrast		Adjust the Contrast setting to increase or decrease the difference between the lightest and darkest color on the page.
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Image Adjustment	Background Cleanup		Adjust the Background Cleanup setting if you are having trouble copying a faint image.
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Image Adjustment	Sharpness		Adjust the Sharpness setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper but decreasing it could make photographs appear smoother.
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Image Adjustment	Automatic Tone		The printer automatically adjusts the Darkness , Contrast , and Background Cleanup settings to the most appropriate for the scanned document.
<p>E-mail Settings</p> <p>Save to Network Folder Options</p> <p>Save to USB Options</p> <p>NOTE: The same options are available for each of these features, except where noted.</p>	Default Job Options	Image Adjustment	Default		Select this to make the selected Image Adjustment setting the default value.

Table 4-20 Scan menu (MFP only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Job build		Job Build off* Job Build on	Use to combine several original documents into one job. Also use to scan an original document that has more pages than the document feeder can accommodate at one time. The printer temporarily saves all the scanned images. After you have scanned all the pages for the job, touch Finish to finish the job.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Cropping Options		Do not crop* Crop to content Crop to paper	Use this menu item to automatically crop the scan for digital sending. Use the Crop to content option to scan the smallest possible area that has detectable content.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Erase Edges		Use inches Back side erase Front side erase	Use this menu item to remove blemishes, such as dark borders or staple marks, by cleaning the specified edges of the scanned image. In each of the text boxes enter the measurements, in millimeters or inches, for how much of the top edge, bottom edge, left edge, and right edge to clean.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Multi-feed Detection		Disabled Enabled*	This setting stops the scanning process if it detects multiple-page feeds through the document feeder.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Blank Page Suppression		Disabled Enabled*	Use to prevent blank pages in the original document from being included in the output document.
E-mail Settings Save to Network Folder Options Save to USB Options NOTE: The same options are available for each of these features, except where noted.	Default Job Options	Create Multiple Files		Disabled Enabled*	Enable this item to scan pages into separate files based on a specified page limit. A page is one side of an original document. JPEG and TIFF have a limit of one page per file.
Digital Send Service Setup	Allow Usage of Digital Sending			Disabled Enabled*	Configure how the printer interacts with the HP Digital Sending Software (DSS) server. HP DSS handles digital

Table 4-20 Scan menu (MFP only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
	Software (DSS) Server				<p>sending tasks, such as faxing, emailing, and sending scanned documents to a network folder or USB storage device.</p> <p>Use the Allow Usage of Digital Sending Software (DSS) Server option to configure the printer to use HP DSS.</p>
Digital Send Service Setup	Allow Transfer to New Digital Sending Software (DSS) Server			<p>Disabled</p> <p>Enabled*</p>	Use the Allow Transfer to New Digital Sending Software (DSS) Server option to specify whether DSS management of a printer is transferable to a different DSS.

Fax Settings menu (586 fax models only)

Learn about the control-panel [Fax Settings](#) menu (MFP).

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Fax Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-21 Fax Settings menu (586 fax models only)

First level	Second level	Third level	Fourth level	Values	Description
Fax Send Settings	Fax Send Setup	Fax Setup Wizard			<p>Configure settings for sending faxes from the printer.</p> <p>Use the Fax Setup Wizard feature to set up options for faxing.</p> <p>NOTE: To set up LAN fax or Internet fax, use the HP Embedded Web Server. To open the HP Embedded Web Server, type the printer network address into a Web browser. To configure the fax features, select the Fax tab.</p>
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Fax Dial Volume	<p>Off</p> <p>Low*</p> <p>High</p>	These settings control how the fax modem dials the outgoing fax number when faxes are sent.
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Dialing Mode	<p>Tone*</p> <p>Pulse</p>	
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Redial Interval	<p>1-5 Minutes</p> <p>Default = 5 minutes</p>	

Table 4-21 Fax Settings menu (586 fax models only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Fax Send Speed	Fast* Medium Slow	
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Dialing Prefix		
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Detect Dial Tone		
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Redial on Error	Range: 0-9 Default = 2	
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Redial on No Answer	Range: 0-2 Default = 0	
Fax Send Settings	Fax Send Setup	Fax Dialing Settings	Redial on Busy	Range: 0-9 Default = 3	
Fax Send Settings	Fax Send Setup	General Fax Send Settings	Fax Number Confirmation	Enabled Disabled*	If this feature is enabled, you must enter the fax number twice.
Fax Send Settings	Fax Send Setup	General Fax Send Settings	PC Fax Send	Enabled* Disabled	Enables users who have the correct driver installed to send faxes through the printer from their computers.
Fax Send Settings	Fax Send Setup	General Fax Send Settings	JBIG Compression	Enabled* Disabled	The JBIG compression reduces fax-transmission time, which can result in lower phone charges. However, using JBIG compression sometimes causes compatibility problems with older fax machines. If this occurs, turn off the JBIG compression.
Fax Send Settings	Fax Send Setup	General Fax Send Settings	Error Correction Mode	Enabled* Disabled	When error-correction mode is enabled and an error occurs during fax transmission, the printer sends or receives the error portion again.
Fax Send Settings	Fax Send Setup	General Fax Send Settings	Fax Header	Prepend* Overlay	Use to prepend or overlay the fax header page.
Fax Send Settings	Fax Send Setup	General Fax Send Settings	Fax Number Speed Dial Matching	Enabled Disabled*	Use this item to match the fax number that you type to numbers that are saved as a speed dial.
Fax Send Settings	Fax Send Setup	Billing Codes	Enable Billing Codes	Off* On	When billing codes are enabled, a prompt displays that asks the user to enter the billing code for an outgoing fax. This prompt does not appear if the Allow users to edit billing codes check box is not checked.

Table 4-21 Fax Settings menu (586 fax models only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					You can also use the billing codes report in the Reports menu to view the list of the billing codes that have been used for faxes that have been sent from the printer. The list is grouped by billing code and also shows fax details. This feature can be used for billing or usage tracking.
Fax Send Settings	Fax Send Setup	Billing Codes	Default Billing Code		Specify a default billing code for faxing. If you specify a default billing code, this code displays in the Billing Code field when the user sends an outgoing fax. If this field is blank, no default billing code is provided for the user.
Fax Send Settings	Fax Send Setup	Billing Codes	Minimum Length	Range: 1-16 Default = 1	Specify the required length of the billing code. Billing codes can be between 1 and 16 characters long.
Fax Send Settings	Fax Send Setup	Billing Codes	Allow users to edit billing codes	Off On*	
Fax Send Settings	Default Job Options	Image Preview		Make optional* Require preview Disable preview	<p>Defines the default job options for each function. If you do not specify the job options when creating the job, the default options are used. For complete setup, go to the HP Embedded Web Server by typing the IP address of the printer into a Web browser.</p> <p>Use the Image Preview feature to scan a document and display a preview before completing the job. Select whether this feature is available on the printer.</p> <p>Make optional: The feature is optional, depending on the user who is signed in.</p> <p>Require preview: Previews are required for all users.</p> <p>Disable preview: Previews are disabled for all users.</p>
Fax Send Settings	Default Job Options	Resolution	Standard (100 x 200dpi)* Fine (200 x 200dpi) Superfine (300 x 300dpi)		Select the resolution for outgoing faxes. If you increase the resolution, faxes might be clearer, but they could transmit more slowly. Some file types, for example a file that will be processed with OCR, require a specific resolution. When these file types are selected, the Resolution setting might be

Table 4-21 Fax Settings menu (586 fax models only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					automatically changed to a valid value.
Fax Send Settings	Default Job Options	Original Sides		1-sided* 2-sided	Use to describe the layout for each side of the original document. First select whether the original document is printed on one side or both sides. Then touch the Orientation setting to indicate whether the original has portrait or landscape orientation. If it is printed on both sides, also select the 2-sided format that matches the original document.
Fax Send Settings	Default Job Options	Original Sides	Orientation	Portrait* Landscape	For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait orientation means the short edge of the page is along the top. Landscape orientation means the long edge of the page is along the top.
Fax Send Settings	Default Job Options	Original Sides	2-Sided Format	Book-style Flip-style	Book-style : The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge. Flip-style : The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.
Fax Send Settings	Default Job Options	Notification		Do not notify* Notify when job completes Notify only if job fails Print E-mail	Configure to receive notification about the status of a sent document. Do not notify : Turns off this feature. Notify when job completes : Select to receive notification for this job only. Notify only if job fails : Select to receive notification only if the job is not sent successfully. Print : Select to print the notification at this printer. E-mail : Select to receive the notification to an email account.

Table 4-21 Fax Settings menu (586 fax models only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
Fax Send Settings	Default Job Options	Notification	Include Thumbnail		NOTE: When sending an analog fax, select Include Thumbnail to receive a thumbnail image of the first page of the fax in your notification.
Fax Send Settings	Default Job Options	Notification	Notification E-mail address		E-mail: Select to receive the notification in an email. Touch the text box following Email Address , and then type the email address for the notification.
Fax Send Settings	Default Job Options	Content Orientation	Orientation	Portrait* Landscape	For some features to work correctly, you must specify the way the content of the original document is placed on the page. Portrait: This setting means the short edge of the page is along the top. Landscape: This setting means the long edge of the page is along the top.
Fax Send Settings	Default Job Options	Content Orientation	2-Sided Format	Book-style Flip-style	Book-style: The back side of the original is printed right-side-up, and the back side of the copy is printed the same way. Use this option for originals and copies that are bound along the left edge. Flip-style: The back side of the original is printed upside-down, and the back side of the copy is printed the same way. Use this option for originals and copies that are to be bound along the top edge.
Fax Send Settings	Default Job Options	Image Adjustment	Darkness		Use to improve the overall quality of the copy. Adjust the Darkness setting to increase or decrease the amount of white and black in the colors.
Fax Send Settings	Default Job Options	Image Adjustment	Contrast		Adjust the Contrast setting to increase or decrease the difference between the lightest and darkest color on the page.
Fax Send Settings	Default Job Options	Image Adjustment	Background Cleanup		Adjust the Background Cleanup setting if you are having trouble copying a faint image.
Fax Send Settings	Default Job Options	Image Adjustment	Sharpness		Adjust the Sharpness setting to clarify or soften the image. For example, increasing the sharpness could make text appear crisper but decreasing it

Table 4-21 Fax Settings menu (586 fax models only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					could make photographs appear smoother.
Fax Send Settings	Default Job Options	Image Adjustment	Automatic Tone		The printer automatically adjusts the Darkness , Contrast , and Background Cleanup settings to the most appropriate for the scanned document.
Fax Send Settings	Default Job Options	Image Adjustment	Default		Select this to make the selected Image Adjustment setting the default value.
Fax Send Settings	Default Job Options	Optimize Text/ Picture	Manually Adjust*	Optimize For: Text Printed picture Photograph	Optimizes the output for a particular type of content. You can optimize the output for text, printed pictures, or a mixture. Manually Adjust: Use to manually optimize the setting for text or for pictures. Text: Use to optimize the text portion of the copy where text and/or pictures are on the original. Printed picture: Use for line drawings and preprinted images, such as magazine clippings or pages from books. Photograph: Best suited for making copies of printed pictures.
Fax Send Settings	Default Job Options	Job build		Job Build off* Job Build on	Use to combine several original documents into one job. Also use to scan an original document that has more pages than the document feeder can accommodate at one time. The printer temporarily saves all the scanned images. After you have scanned all the pages for the job, touch Finish to finish the job.
Fax Send Settings	Default Job Options	Multi-feed Detection		Disabled Enabled*	This setting stops the scanning process if it detects multiple-page feeds through the document feeder.
Fax Send Settings	Default Job Options	Blank Page Suppression		Disabled* Enabled	Use to prevent blank pages in the original document from being included in the output document.
Fax Receive Settings	Fax Setup Wizard				Configure settings for receiving faxes to the printer. Use the Fax Setup Wizard feature to set up options for faxing. NOTE: To set up LAN fax or Internet fax, use the HP

Table 4-21 Fax Settings menu (586 fax models only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					Embedded Web Server. To open the HP Embedded Web Server, type the printer network address into a Web browser. To configure the fax features, select the Fax tab.
Fax Receive Settings	Fax Receive Setup	Ringer Volume		Off Low* High	Use to configure settings for receiving faxes.
Fax Receive Settings	Fax Receive Setup	Rings to Answer		Range: 1-6 Default = 1	
Fax Receive Settings	Fax Receive Setup	Fax Receive Speed		Fast* Medium Slow	
Fax Receive Settings	Fax Receive Setup	Ring Interval		Range: 220-600 ms Default = 600 ms	
Fax Receive Settings	Fax Receive Setup	Ring Frequency		Range: 1-200 Default = 68hz	
Fax Receive Settings	Fax Printing Schedule			Always store faxes Always print faxes* Use Fax Printing Schedule	If you have concerns about the security of private faxes, use this feature to store faxes rather than having them automatically print. Open the Fax Printing Schedule sub-menu, and then you can choose to always store faxes, always print them, or you can set up a schedule for each day of the week.
Fax Receive Settings	Fax Printing Schedule	Schedule	+ (Add) Edit Delete (trash can)	Print incoming faxes Store incoming faxes Time Event Days	If you are using a fax printing schedule, use this menu to configure when to print faxes.
Fax Receive Settings	Blocked Fax Numbers	Fax Number to Block			The blocked fax list can contain up to 30 numbers. When the printer receives a call from one of the blocked fax numbers, it deletes the incoming fax. It also logs the blocked fax in the activity log along with job-accounting information. Add blocked numbers: Enter a fax number into the Fax Number to Block field, and then touch

Table 4-21 Fax Settings menu (586 fax models only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					<p>the arrow button to add a new number to the blocked fax list.</p> <p>To remove blocked numbers: Select a number and touch the Delete button to delete it from the blocked fax list.</p> <p>To clear all blocked numbers: Touch the Delete All button to clear all of the numbers from the blocked fax list.</p> <p>You also can use the Blocked Fax List report in the Information menu to view the list of the fax numbers that have been blocked on this printer.</p>
Fax Receive Settings	Default Job Options	Notification		<p>Do not notify*</p> <p>Notify when job completes</p> <p>Notify only if job fails</p> <p>Print</p> <p>E-mail*</p>	<p>Configure to receive notification about the status of a sent document.</p> <p>Do not notify: Turns off this feature.</p> <p>Notify when job completes: Select to receive notification for this job only.</p> <p>Notify only if job fails: Select to receive notification only if the job is not sent successfully.</p> <p>Print: Select to print the notification at this printer.</p> <p>E-mail: Select to receive the notification to an email account.</p>
Fax Receive Settings	Default Job Options	Notification	Include Thumbnail		<p>NOTE: When sending an analog fax, select Include Thumbnail to receive a thumbnail image of the first page of the fax in your notification.</p>
Fax Receive Settings	Default Job Options	Notification	Notification E-mail address		<p>E-mail: Select to receive the notification in an email. Touch the text box following Email Address, and then type the email address for the notification.</p>
Fax Receive Settings	Default Job Options	Stamp Received Faxes		<p>Enabled</p> <p>Disabled*</p>	<p>Use this option to add the date, time, sender's phone number, and page number to each page of the faxes that this printer receives.</p>
Fax Receive Settings	Default Job Options	Fit to Page		<p>Enabled*</p> <p>Disabled</p>	<p>Use to shrink faxes that are larger than Letter-size or A4-size so that they can fit onto a Letter-size or A4-size page. If this feature set to Disabled,</p>

Table 4-21 Fax Settings menu (586 fax models only) (continued)

First level	Second level	Third level	Fourth level	Values	Description
					faxes larger than Letter or A4 will flow across multiple pages.
Fax Receive Settings	Default Job Options	Paper Selection		Automatic* Select from a list of the trays.	
Fax Receive Settings	Default Job Options	Sides		1-sided* 2-sided	Use to describe the layout for each side of the original document. First select whether the original document is printed on one side or both sides.
Fax Forwarding	Enable Fax Forwarding			Disabled* Enabled	Use to forward received faxes to another fax machine.
Fax Forwarding	Enable Fax Forwarding	Type of Fax Job to Forward		All faxes Sent faxes Received faxes	Use to select the type of fax jobs that you want forwarded.
Fax Forwarding	Enable Fax Forwarding	Fax Forwarding Number			Provide the forwarding phone number, and then touch the OK button.
Clear Fax Activity Log					Clears all events from the fax activity log.

General Print Settings menu

Learn about the control-panel [General Print Settings](#) menu.

To display: At the printer control panel, select the [Administration](#) menu, and then select the [General Print Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-22 General Print Settings menu

First level	Second level	Values	Description
Manual Feed		Enabled Disabled*	Use to enable or disable the manual-feed feature, which allows the user to feed paper into the printer by hand. When this feature is enabled, the user can select manual feed from the control panel as the paper source for a job. If a tray is not specified as part of a job, manual feed is selected.
Courier Font		Regular* Dark	Select which version of the Courier font you want to use. The factory default setting is <i>Regular</i> , which uses an average stroke width. The <i>Dark</i> setting can be used if a heavier Courier font is needed.
Wide A4		Enabled Disabled*	Changes the printable area of A4-size paper. If you enable this option, eighty 10-pitch characters can be printed on a single line of A4 paper.
Print PS Errors		Enabled	Use this feature to select whether a PostScript (PS) error page is printed when the printer encounters a PS error.

Table 4-22 General Print Settings menu (continued)

First level	Second level	Values	Description
		Disabled*	
Print PDF Errors		Enabled Disabled*	Selects whether a PDF error page is printed when the printer encounters a PDF error.
Personality		Auto* PCL PS PDF	Configures the default print language or personality for the printer. Normally you should not change the printer language. If you change the setting to a specific printer language, the printer does not automatically switch from one language to another unless specific software commands are sent to it.
PCL	Form Length	Range: 5-128 Default = 60	Controls the PCL print-command options. PCL is a set of printer commands that HP developed to provide access to printer features. Use the Form Length feature to select the user-soft default vertical form length.
PCL	Orientation	Portrait* Landscape	Select the orientation that is most often used for copy or scan originals. Portrait orientation means the short edge of the page is along the top. Landscape orientation means the long edge of the page is along the top.
PCL	Font Source	Internal	Selects the font source for the user-soft default font. The list of available options varies depending on the installed printer options.
PCL	Font Number	Range: 0-110 Default = 0	Specifies the font number for the user-soft default font using the source that is specified in the Font Source menu. The printer assigns a number to each font and lists it on the PCL font list. The font number displays in the Font # column of the printout.
PCL	Font Pitch	Range: 0.44-99.99 Default = 10	If the Font Source option and the Font Number setting indicate a contour font, then use this feature to select a default pitch (for a fixed-spaced font).
PCL	Font Point Size	Range: 4.00-999.75 Default = 12.00	If the Font Source option and the Font Number setting indicate a contour font, then use this feature to select a default point size (for a proportional-spaced font).
PCL	Symbol Set	Select from a list of symbol sets.	Select any one of several available symbol sets from the control panel. A symbol set is a unique grouping of all the characters in a font. The factory default value for this option is PC-8. Either PC-8 or PC-850 are recommended for line-draw characters.
PCL	Append CR to LF	No* Yes	Configure whether a carriage return (CR) is appended to each line feed (LF) encountered in backwards-compatible PCL jobs (pure text, no job control). Select Yes to append the carriage return. The default setting is No . Some environments, such as UNIX, indicate a new line by using only the line-feed control code. This option allows the user to append the required carriage return to each line feed.
PCL	Suppress Blank Pages	No* Yes	This option is for users who are generating their own PCL, which could include extra form feeds that would cause blank pages to be printed. When the Yes option is selected, form feeds are ignored if the page is blank.
PCL	Media Source Mapping	Standard* Classic	Use to select and maintain input trays by number when you are not using the printer driver, or when the software program has no option for tray selection. The following options are available:

Table 4-22 General Print Settings menu (continued)

First level	Second level	Values	Description
			<p>Standard: Tray numbering is based on newer HP LaserJet models.</p> <p>Classic: Tray numbering is based on HP LaserJet 4 and older models.</p>

Default Print Options menu

Learn about the control-panel [Default Print Options](#) menu.

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Print Options](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-23 Default Print Options menu

First level	Second level	Values	Description
Number of Copies		Range: 1-32000 Default = 1	Sets the default number of copies for a copy job. This default applies when the Copy function or the Quick Copy function is initiated from the printer Home screen.
Default Paper Size		Select from a list of sizes that the printer supports.	Configures the default paper size used for print jobs.
Default Custom Paper Size	X Dimension	Range: 3-8.5 inches Default = 8.5 inches	Configures the default paper size that is used when the user selects Custom as the paper size for a print job.
Default Custom Paper Size	Y Dimension	Range: 5-14 inches Default = 14 inches	
Default Custom Paper Size	Use Inches	Enabled* Disabled	
Sides		1-sided* 2-sided	Use to indicate whether the original document is printed on one or both sides, and whether the copies should be printed on one or both sides. For example, select the 1-sided original, 2-sided output option when the original is printed on one side, but you want to make two-sided copies.
2-Sided Format		Book-style* Flip-style	Configures the default style for 2-sided print jobs. If the Book-style option is selected, the back side of the page is printed the right way up. This option is for print jobs that are bound along the left edge. If the Flip-style option is selected, the back side of the page is printed upside-down. This option is for print jobs that are bound along the top edge.
Edge-to-Edge		Normal (recommended)* Edge-to-Edge output	Use to avoid shadows that can appear along the edges of copies when the original document is printed close to the edges.
Quality Level		General Office Professional* Presentation	Set the default print quality setting.

Display Settings menu

Learn about the control-panel [Display Settings](#) menu.

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Display Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-24 Display Settings menu

First level	Second level	Values	Description
Display Brightness	Automatic* Manual	The Manual setting uses a slider to manually control the display brightness.	Use to specify the intensity of the LCD control-panel display.
System Sound		On* Off	Use to specify whether you hear a sound when you touch the screen or press buttons on the control panel.
Language Settings	Language	Select from a list of languages that the printer supports.	Use to select a different language for control-panel messages and specify the default keyboard layout. When you select a new language, the keyboard layout automatically changes to match the factory default for the selected language.
Language Settings	Keyboard Layout 586z only	Each language has a default keyboard layout. To change it, select from a list of layouts.	Select the default keyboard layout that matches the language you want to use.
How to Connect Button		Display* Hide	Use this menu item to display or hide the How to Connect Button on the Home screen.
Date and Time 586z only		Show Date and Time* Hide Date and Time	Select whether to display or hide the date and time on the control panel Home screen.
Inactivity Timeout		Range: 10-300 seconds Default = 60 seconds	Specifies the amount of time that elapses between any activity on the control panel and when the printer resets to the default settings. When the timeout expires, the control-panel display returns to the Home menu, and any user signed into the printer is signed out.
Clearable Warnings		On Off*	Use this feature to set the period that a clearable warning displays on the control panel. If the On setting is selected, clearable warnings appear until the Clearable Warnings button is pressed. If the Job setting is selected, clearable warnings stay on the display during the job that generated the warning and disappear from the display when the next job starts.
Continuable Events		Auto-continue (10 seconds)* Touch OK to continue	Use this option to configure the printer behavior when the printer encounters certain errors. If the Auto-continue (10 seconds) option is selected, the job will continue after 10 seconds. If the Touch OK to continue option is selected, the job will stop and require the user to touch the OK button before continuing.

Manage Supplies menu

Learn about the control-panel [Manage Supplies](#) menu (MFP).

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Manage Supplies](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-25 Manage Supplies menu

First level	Second level	Third level	Fourth level	Values	Description
Supplies Status				Print View	
Supply Settings	Black Cartridge	Low Threshold Settings		1-100% Default = 10%	Set the estimated percentage at which the printer notifies you when an ink cartridge is very low.
Supply Settings	Black Cartridge	Very Low Settings		Stop Prompt to Continue* Continue	Specifies how the printer notifies you when an ink cartridge is very low. Stop: The printer stops until you replace the cartridge. Prompt to Continue: The printer stops and prompts you to replace the cartridge. You can acknowledge the prompt and continue printing. Continue: The printer alerts you that a cartridge is very low, but it continues printing.
Supply Settings	Color Cartridges	Low Threshold Settings	Cyan Magenta Yellow	1-100% Default = 10%	Set the estimated percentage at which the printer notifies you when an ink cartridge is very low. You can specify a different percentage for each color.
Supply Settings	Color Cartridges	Very Low Settings		Stop Prompt to Continue* Continue	Specifies how the printer notifies you when an ink cartridge is very low. Stop: The printer stops until you replace the cartridge. Prompt to Continue: The printer stops and prompts you to replace the cartridge. You can acknowledge the prompt and continue printing. Continue: The printer alerts you that a cartridge is very low, but it continues printing.
Supply Settings	Ink Collection Unit	Low Threshold Settings		1-100% Default = 10%	Set the estimated percentage at which the printer notifies you when the ink collection unit is very low.
Supply Settings	Ink Collection Unit	Very Low Settings		Stop Prompt to Continue*	Specifies how the printer notifies you when an ink cartridge is very low. Stop: The printer stops until you replace the cartridge.

Table 4-25 Manage Supplies menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
				Continue	<p>Prompt to Continue: The printer stops and prompts you to replace the cartridge. You can acknowledge the prompt and continue printing.</p> <p>Continue: The printer alerts you that a cartridge is very low, but it continues printing.</p>
Supply Settings	Document Feeder Kit 586 only	Low Threshold Settings		1-100% Default = 10%	Set the estimated percentage at which the printer notifies you when the document feeder kit is very low.
Supply Settings	Document Feeder Kit 586 only	Very Low Settings		Stop Prompt to Continue* Continue	<p>Specifies how the printer notifies you when an ink cartridge is very low.</p> <p>Stop: The printer stops until you replace the cartridge.</p> <p>Prompt to Continue: The printer stops and prompts you to replace the cartridge. You can acknowledge the prompt and continue printing.</p> <p>Continue: The printer alerts you that a cartridge is very low, but it continues printing.</p>
Supply Settings	Restrict Color Use			Enable Color Disable Color Color if Allowed*	Use this feature to enable, restrict, or disable color printing or copying.
Supply Settings	Store Usage Data			On Supplies Not on Supplies	The Store Usage Data menu provides a way to suppress the cartridges from storing most of the information gathered exclusively for the purpose of understanding the usage of the printer. Select the On Supplies setting to store the data on the ink cartridge memory chip. Select the Not on Supplies setting to suppress the information from being stored on the memory chip.
Supply Settings	HP Cartridge Protection			Off* Protect Cartridges	Enable or disable the HP Cartridge Protection feature.
Supply Messages	Low Message			On* Off	Use to configure whether a message displays on the control panel when supplies are getting low but have not yet reached the low threshold.

Table 4-25 Manage Supplies menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Reset Supplies	New Ink Collection Unit			No Yes	Select the Yes option, and then touch the Save button if you have installed a new ink collection unit.
Reset Supplies	New Document Feeder Kit 586 only			Reset Cancel	Touch the Reset button if you have installed a new document feeder kit.

Manage Trays menu

Learn about the control-panel [Manage Trays](#) menu.

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Manage Trays](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-26 Manage Trays menu

First level	Values	Description
Use Requested Tray	Exclusively* First	Controls how the printer handles jobs that have specified a specific input tray. Two options are available: Exclusively : The printer never selects a different tray when the user has indicated that a specific tray should be used, even if that tray is empty. First : The printer pulls from another tray if the specified tray is empty, even though the user specifically indicated a tray for the job.
Manually Feed Prompt	Always* Unless loaded	Indicate whether a prompt should appear when the type or size for a job does not match the specified tray and the printer pulls from the multipurpose tray instead. Two options are available: Always : A prompt always displays before using the multipurpose tray. Unless loaded : A message displays only if the multipurpose tray is empty
Size/Type Prompt	Display* Do not display	Controls whether the tray configuration message displays whenever a tray is closed. Two options are available: Display : Shows the tray configuration message when a tray is closed. The user is able to configure the tray settings directly from this message. Do not display : Prevents the tray configuration message from automatically appearing.
Use Another Tray	Enabled* Disabled	Use to turn on or off the control panel prompt to select another tray when the specified tray is empty. Two options are available: Enabled : When this option is selected, the user is prompted either to add paper to the selected tray or to choose a different tray. Disabled : When this option is selected, the user is not given the option of selecting a different tray. The printer prompts the user to add paper to the tray that was initially selected.
Alternative Letterhead Mode	Disabled* Enable	Use to load letterhead or preprinted paper into the tray the same way for all print jobs, whether you are printing to one side of the sheet or to both sides of the sheet. When this option is selected, load the paper as you would for printing on both sides. See the

Table 4-26 Manage Trays menu (continued)

First level	Values	Description
		user documentation that came with the printer for instructions about loading letterhead for printing on both sides. When this option is selected, the printer speed slows to the speed required for printing on both sides.
Duplex Blank Pages	Auto* Yes	Controls how the printer handles two-sided jobs (duplexing). Two options are available: Auto: Enables Smart Duplexing, which instructs the printer not to process blank pages. Yes: Disables Smart Duplexing and forces the duplexer to flip the sheet of paper even if it is printed on only one side. This might be preferable for certain jobs that use paper types such as letterhead or prepunched paper.
Override A4/Letter	Yes* No	Prints on letter-size paper when an A4 job is sent but no A4-size paper is loaded in the printer (or to print on A4 paper when a letter-size job is sent but no letter-size paper is loaded). This option will also override A3 with ledger-size paper and ledger with A3-size paper.

Network Settings menu

Learn about the control-panel [Network Settings](#) menu.

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Network Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-27 Network Settings menu

First level	Values	Description
I/O Timeout	Range: 5 – 300 sec Default = 15	Use to set the I/O timeout period in seconds. I/O timeout refers to the elapsed time before a print job fails. If the stream of data that the printer receives for a print job is interrupted, this setting indicates how long the printer waits before it reports that the job has failed.
Ethernet menu	These menus have the same structure. If an additional HP Jetdirect network card is installed in the EIO slot, then both menus are available.	See the table below in this topic.

Table 4-28 Ethernet menu

First level	Second level	Third level	Fourth level	Values	Description
Information	Print Sec Report			Yes* No	Yes: Prints a page that contains the current security settings on the HP Jetdirect print server. No: A security settings page is not printed.
TCP/IP	Enable			On* Off	On: Enable the TCP/IP protocol. Off: Disable the TCP/IP protocol.

Table 4-28 Ethernet menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
TCP/IP	Host Name			Use the arrow buttons to edit the host name. NPIXXXXXX*	An alphanumeric string, up to 32 characters, used to identify the printer. This name is listed on the HP Jetdirect configuration page. The default host name is NPIxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.
TCP/IP	IPv4 Settings	Config Method		Bootp DHCP* Auto IP Manual	Specifies the method that TCP/IPv4 parameters will be configured on the HP Jetdirect print server. Bootp: (Bootstrap Protocol): Use for automatic configuration from a BootP server. DHCP: (Dynamic Host Configuration Protocol): Use for automatic configuration from a DHCPv4 server. If selected and a DHCP lease exists, the DHCP Release menu and the DHCP Renew menu are available to set DHCP lease options. Auto IP: Use for automatic link-local IPv4 addressing. An address in the form 169.254.x.x is assigned automatically. Manual: If you set this option to the Manual setting, use the Manual Settings menu to configure TCP/IPv4 parameters.
TCP/IP	IPv4 Settings	Manual Settings	IP Address	Enter the address.	(Available only if the Config Method option is set to the Manual option.) Configure parameters directly from the printer control panel.
TCP/IP	IPv4 Settings	Manual Settings	Subnet Mask	Enter the address.	
TCP/IP	IPv4 Settings	Manual Settings	Default Gateway	Enter the address.	
TCP/IP	IPv4 Settings	Default IP		Auto IP* Legacy	Specify the IP address to default to when the print server is unable to obtain an IP address from the network during a forced TCP/IP reconfiguration (for example, when manually configured to use BootP or DHCP). NOTE: This feature assigns a static IP address that might interfere with a managed network. Auto IP: A link-local IP address 169.254.x.x is set.

Table 4-28 Ethernet menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
					Legacy: The address 192.0.0.192 is set, consistent with older HP Jetdirect printers.
TCP/IP	IPv4 Settings	Primary DNS		Range: 0-255 Default = xxx.xxx.xx.xx	Specify the IP address (n.n.n.n) of a Primary Domain Name System (DNS) Server.
TCP/IP	IPv4 Settings	Secondary DNS		Range: 0-255 Default = 0.0.0.0	Specify the IP address (n.n.n.n) of a Secondary DNS Server.
TCP/IP	IPv6 Settings	Enable		Off On*	On: Enable the TCP/IP protocol. Off: Disable the TCP/IP protocol.
TCP/IP	IPv6 Settings	Address	Manual Settings	Enable Address	Use this item to enable and manually configure a TCP/IPv6 address.
TCP/IP	IPv6 Settings	DHCPv6 Policy		Router Specified Router Unavailable Always	Router Specified: The stateful auto-configuration method to be used by the print server is determined by a router. The router specifies whether the print server obtains its address, its configuration information, or both from a DHCPv6 server. Router Unavailable: If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server. Always: Whether a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.
TCP/IP	IPv6 Settings		Primary DNS	Range: 0-255 Default = xxx.xxx.xx.xx	Specify the IP address (n.n.n.n) of a Primary Domain Name System (DNS) Server.
TCP/IP	IPv6 Settings	Secondary DNS		Range: 0-255 Default = 0.0.0.0	Specify the IP address (n.n.n.n) of a Secondary DNS Server.
TCP/IP	Proxy Server			Select from a provided list.	Specifies the proxy server to be used by embedded applications in the printer. A proxy server is typically used by network clients for Internet access. It caches Web pages and provides a degree of Internet security for those clients. To specify a proxy server, enter its IPv4 address or fully-qualified domain name. The name can be up to 255 octets.

Table 4-28 Ethernet menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
					For some networks, you might need to contact your Internet Service Provider (ISP) for the proxy server address.
TCP/IP	Proxy Port			Default = 00080	Enter the port number used by the proxy server for client support. The port number identifies the port reserved for proxy activity on your network and can be a value from 0 to 65535.
TCP/IP	Idle Timeout			Default = 0270	The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds, 0 disables the timeout).
Security	Secure Web			HTTPS Required* HTTPS Optional	For configuration management, specify whether the HP Embedded Web Server will accept communications using HTTPS (Secure HTTP) only, or both HTTP and HTTPS. HTTPS Required: For secure, encrypted communications, only HTTPS access is accepted. The print server will appear as a secure site.
Security	IPSEC			Keep Disabled*	Specify the IPSec status on the print server. Keep: IPSec status remains the same as currently configured. Disabled: IPSec operation on the print server is disabled.
Security	802.1X			Reset Keep*	Specify whether the 802.1X settings on the print server are reset to the factory defaults. Reset: The 802.1X settings are reset to the factory defaults. Keep: The current 802.1X settings are maintained.
Security	Announce Agent			Enable Disable*	Enable remote configuration using a configuration server such as an HP Imaging and Printing Security Center.
Security	Reset Security			Yes No*	Specify whether the current security settings on the print server will be saved or reset to factory defaults. Yes: Security settings are reset to factory defaults.

Table 4-28 Ethernet menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
					No: The current security settings are maintained.
Diagnostics	Embedded Tests	LAN HW Test		Yes No*	<p>Provides tests to help diagnose network hardware or TCP/IP network connection problems.</p> <p>Embedded tests help to identify whether a network fault is internal or external to the printer. Use an embedded test to check hardware and communication paths on the print server. After you select and enable a test and set the execution time, you must select the Execute option to initiate the test.</p> <p>Depending on the execution time, a selected test runs continuously until either the printer is turned off, or an error occurs, and a diagnostic page is printed.</p> <p>CAUTION: Running this embedded test will erase your TCP/IP configuration.</p> <p>This test performs an internal loop-back test. An internal loop-back test will send and receive packets only on the internal network hardware. There are no external transmissions on your network.</p>
Diagnostics	Embedded Tests	HTTP Test		Yes No*	<p>This test checks operation of HTTP by retrieving predefined pages from the printer and tests the HP Embedded Web Server.</p> <p>Select the Yes option to choose this test, or the No option to not choose it.</p>
Diagnostics	Embedded Tests	SNMP Test		Yes No*	<p>This test checks operation of SNMP communications by accessing predefined SNMP objects on the printer.</p> <p>Select the Yes option to choose this test, or the No option to not choose it.</p>
Diagnostics	Embedded Tests	Data Path Test		Yes No*	<p>This test helps to identify data path and corruption problems on an HP postscript level 3 emulation printer. It sends a predefined PS file to the printer. However, the test is paperless; the file will not print.</p>

Table 4-28 Ethernet menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
					Select the Yes option to choose this test, or the No option to not choose it.
Diagnostics	Embedded Tests	Select All Test		Yes No*	Use this item to select all available embedded tests. Select the Yes option to choose all tests, or the No option to select individual tests.
Diagnostics	Embedded Tests	Execution Time [H]		Range: 1 – 24 hours Default = 1 hour	Specify the length of time (in hours) that an embedded test will be run. If you select zero (0), the test runs indefinitely until an error occurs or the printer is turned off. Data gathered from the HTTP, SNMP, and Data Path tests is printed after the tests have completed.
Diagnostics	Embedded Tests	Execute		No* Yes	No: Do not initiate the selected test. Yes: Initiate the selected test.
Diagnostics	Ping	Dest Type		IPv4 IPv6	This test is used to check network communications. It sends link-level packets to a remote network host, then waits for an appropriate response. Specify whether the target printer is an IPv4 or IPv6 node.
Diagnostics	Ping	Dest IPv4		Range: 0-255 Default = 127.0.0.1	Enter the IPv4 address.
Diagnostics	Ping	Dest IPv6		Select from a provided list. Default = :: 1	Enter the IPv6 address.
Diagnostics	Ping	Packet Size		Default = 64	Specify the size of each packet, in bytes, to be sent to the remote host. The minimum is 64 (default) and the maximum is 2048.
Diagnostics	Ping	Timeout		Default = 001	Specify the length of time, in seconds, to wait for a response from the remote host. The maximum is 100.
Diagnostics	Ping	Count		Default = 004	Specify the number of ping test packets to send for this test. Select a value from 0 to 100. To configure the test to run continuously, select 0.
Diagnostics	Ping	Print Results		Yes	

Table 4-28 Ethernet menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
				No*	
Diagnostics	Ping	Execute		Yes No*	No: Do not initiate the selected test. Yes: Initiate the selected test.
Diagnostics	Ping Results	Packet Sent		Default = 00000	Shows the number of packets (0-65535) sent to the remote host since the most recent test was initiated or completed.
Diagnostics	Ping Results	Packet Received		Default = 00000	Shows the number of packets (0 - 65535) received from the remote host since the most recent test was initiated or completed. The default is 0.
Diagnostics	Ping Results	Percent Lost		Default = 00000	Shows the percent (0 to 100) of ping test packets that were sent with no response from the remote host since the most recent test was initiated or completed.
Diagnostics	Ping Results	RTT Min		Default = 00000	Shows the minimum detected roundtrip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.
Diagnostics	Ping Results	RTT Max		Default = 00000	Shows the maximum detected roundtrip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.
Diagnostics	Ping Results	RTT Average		Default = 00000	Shows the average round-trip-time (RTT), from 0 to 4096 milliseconds, for packet transmission and response.
Diagnostics	Ping Results	Ping in Progress		Yes No*	Shows whether a ping test is in progress. Yes: Indicates a test in progress. No: Indicates that a test completed or was not run.
Diagnostics	Ping Results	Refresh		Yes No*	When viewing the ping test results, this item upgrades the ping test data with current results. Select the Yes option to upgrade the data, or the No option to maintain the existing data. However, a refresh automatically occurs when the menu times out or you manually return to the main menu.
Link Speed				Auto*	The link speed and communication mode of the print server must match the network. The available settings depend on the printer and installed print server. Select

Table 4-28 Ethernet menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
					<p>one of the following link configuration settings:</p> <p>CAUTION: If you change the link setting, network communications with the print server and network printer might be lost.</p> <p>The print server uses auto-negotiation to configure itself with the highest link speed and communication mode allowed. If auto-negotiation fails, either the 100TX Half feature or the 100T Half feature is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.)</p>
Link Speed				10T Half 10T Full 10T Auto 100TX Half 100TX Full 100TX Auto	<p>10T Half: 10 Mbps, half-duplex operation.</p> <p>10T Full: 10 Mbps, half-duplex operation.</p> <p>10T Auto: 100 Mbps, half-duplex operation.</p> <p>100TX Half: 100 Mbps, full-duplex operation.</p> <p>100TX Full: Limits auto-negotiation to a maximum link speed of 100 Mbps.</p> <p>100TX Auto: 1000 Mbps, full-duplex operation.</p>

Troubleshooting menu

Learn about the control-panel [Troubleshooting](#) menu.

To display: At the printer control panel, select the [Administration](#) menu, and then select the [Troubleshooting](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-29 Troubleshooting menu

First level	Second level	Third level	Fourth level	Values	Description
Event Log	Print Sec Report			Print	Use to print a list of the 50 most recent events in the event log. For each event, the printed log shows the error number, page count, error code, and description or personality.
Paper Path Page				Print	Shows how many pages were printed from each tray.

Table 4-29 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Fax 586 fax models only	Fax T.30 Trace	Print T.30 Report		Print	Use to print or configure the fax T.30 trace report. T.30 is the standard that specifies handshaking, protocols, and error correction between fax machines.
Fax 586 fax models only	Fax T.30 Trace	When to Print Report		Never automatically print* Print after every fax Print only after fax send jobs Print after any fax error Print only after fax send errors Print only after fax receive errors	Configure the T.30 report to print after certain events. You can choose to print the report after every fax job, every fax job sent, every fax job received, every send error, or every receive error.
Fax 586 fax models only	Fax V.34			Normal* Off	Use to disable V.34 modulations if several fax failures have occurred or if phone line conditions require it.
Fax 586 fax models only	Fax Speaker Mode			Normal* Off	Used by a technician to evaluate and diagnose fax issues by listening to the sounds of fax modulations.
Fax 586 fax models only	Fax Log Entries			Standard* Detailed	The standard fax log includes basic information such as the time and whether the fax was successful. The detailed fax log shows the intermediate results of the redial process not shown in the standard fax log.
Print Quality Pages	Troubleshooting Guide			Print	Use to print a guide that can help you resolve problems with print quality.
Print Quality Pages	Diagnostic Page			Print	Use to print a diagnostics page. The page includes color swatches, diagnostic information, and calibration information.
Print Quality Pages	Print Quality Report			Print	Use to print a page that helps you resolve problems with print quality.
Print Quality Pages	Print Quality Service Pages			Print	Use to print more detailed, service-oriented pages that can help you resolve problems with print quality.
Print Quality Pages	Printhead Diagnostic Page			Print	Use to print a page that includes printhead statistics.
Diagnostic Tests	Paper Path Test	Print Test page		Router Specified Router Unavailable	Router Specified: The stateful auto-configuration method to be used by the print server is determined by a router. The router specifies whether the print server obtains its address,

Table 4-29 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
				Always	its configuration information, or both from a DHCPv6 server. Router Unavailable: If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server. Always: Whether a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.
Diagnostic Tests	Paper Path Test	Source Tray		Select from a list of the available trays.	Generates a test page for testing paper handling features. You can define the path that is used for the test in order to test specific paper paths.
Diagnostic Tests	Paper Path Test	Test Duplex Path		Off *On	
Diagnostic Tests	Paper Path Test	Number of Copies		Range: 1-500 Default = 1	Sets the default number of copies for a copy job. This default applies when the Copy or Quick Copy function is initiated from the printer Home screen. The factory default setting is 1.
Diagnostic Tests	Scanner Test 586 only			Sensors	
Diagnostic Tests	Continuous Scan 586 only			2-sided	
Advanced Diagnostic Pages				Engine Diagnostics Page Servo Calibration Page Technical Information Page Motor Status Page Data Path Page Pen Status Page Ink Delivery System Page Writing System Page Ink Supply Report Counters Report	These pages provide more detailed information about certain components of the printer. Select the reports you want to print, and then touch the Print button.

Table 4-29 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
				Hardware Status Page PWM Page	
Cartridge Prime				Continue Exit	<p>HP authorized service providers know best how to interpret this information. HP recommends continuing only if you are working with a service provider.</p> <p>For more information about troubleshooting, go to www.hp.com/support/pagewidecolor556, www.hp.com/support/pagewidecolor586MFP.</p>
Advanced Jam Recover				Start Disable*	<p>In some instances, paper jams can occur in an inaccessible part of the printer.</p> <p>First, clear any jams using the instructions on the control panel.</p> <p>If the jam reappears load Tray 1 with cardstock (letter size), and then select Start to begin Advanced Jam Recover.</p>
Retrieve Diagnostic Data				Create device data file Create zipping debug information file* Include crash dump files Clean up debug information Send to E-mail Export to USB	<p>Create files that contain information about the printer that can help identify the cause of problems.</p> <p>NOTE: Send to E-mail is only available if Create device data file is selected.</p>
Generate Debug Data				Start	
Retrieve Fax Diagnostic Data 586 fax models only	User Access Code Administrator Access Code Service Access Code NOTE: Use the printer personal identification number (PIN; 05058616) to log in to the printer.			Save to USB Cancel	<p>Select Save to USB to create a zipped Fax Debug Information file</p> <p>NOTE: Make sure that a USB flash drive is installed in the USB port near the control panel.</p> <p>TIP: After servicing the printer, make sure to log off the printer from the Home screen.</p>

Table 4-29 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values	Description
Startup Cartridge Substitute				Disabled* Enabled	

Device Maintenance menus

Learn about device maintenance menus.

 **NOTE:** Where applicable, the 586 printer displays a [View](#) button.

Backup/Restore menu

Learn about the control-panel [Backup/Restore](#) menu.

To display: At the printer control panel, select the [Device Maintenance](#) menu, and then select the [Backup/Restore](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-30 Backup/Restore menu

First level	Second level	Values	Description
Back up Data		Back up Now Cancel	Initiate a backup.
Restore Data		Insert a USB flash drive that contains the backup file into the USB port near the control panel.	Restore data from an external source.

Calibrate/Cleaning menu

Learn about the control-panel [Calibrate/Cleaning](#) menu.

To display: At the printer control panel, select the [Device Maintenance](#) menu, and then select the [Calibrate/Cleaning](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 4-31 Calibrate/Cleaning menu

First level	Second level	Values	Description
Printhead Cleaning		Continue Exit	Run this process to clean the printhead.
Resolve Ink Smear		Start Cancel	Run this process to send a cleaning page through the paper path.

Table 4-31 Calibrate/Cleaning menu (continued)

First level	Second level	Values	Description
Advanced Calibration Support HP authorized service providers know best how to interpret this information. HP recommends continuing only if you are working with a service provider. For more information about troubleshooting, go to www.hp.com/support/pagewidecolor556 , www.hp.com/support/pagewidecolor586MFP .			Use this submenu to use more advanced cleaning and calibration processes.
Advanced Calibration Support	Printhead Cleaning Level 1 Printhead Cleaning Level 2	Continue Exit	These two items perform a more thorough, detailed cleaning of the printhead. Each one runs for approximately 15 minutes.
Advanced Calibration Support	Pen Align	Continue Exit	This process calibrates the pen unit.
Advanced Calibration Support	Color Density Calibration	Continue Exit	Adjusts the print nozzles to have a uniform level of ink delivery and color intensity.
Advanced Calibration Support	Print Quality Report	Print Exit	Produce a print quality report.
Calibrate Scanner 586 only			Touch Next to calibrate the printer scanner. Messages on the control-panel display will lead you through the calibration process.
Clean Rollers		Reset Cancel	The Maintenance History screen is view only. There are two options: The Reset option to reset the page count, or the Cancel option to go back to the previous screen.
Clean Document Feeder Settings 586 only	Low Threshold Settings	Range: 0-100% Default = 10%	Configure cleaning settings for the document feeder.
Clean Document Feeder Settings 586 only	Very Low Settings	Stop Prompt to Continue* Continue	Configure the printer action if the document feeder requires cleaning.

USB Firmware Upgrade menu

Learn about the control-panel [USB Firmware Upgrade](#) menu.

To display: At the printer control panel, select the [Device Maintenance](#) menu, and then select the [USB Firmware Upgrade](#) menu.

Insert a USB storage device with a firmware upgrade bundle into the USB port, and follow the on-screen instructions.

HP FutureSmart Level menu

Learn about the control-panel [HP FutureSmart Level](#) menu.

To display: At the printer control panel, select the [Device Maintenance](#) menu, and then select the [HP FutureSmart Level](#) menu.

Select an HP FutureSmart level that is available in the currently installed firmware, and then select [Change](#).

Service menu

Learn about the control-panel [Service](#) menu.

To display: At the printer control panel, select the [Device Maintenance](#) menu, and then select the [Service](#) menu.

The [Service](#) menu is locked and requires a personal identification number (PIN) for access. This menu is intended for use by authorized service personnel. See the *Service mode function* section in the printer service manual.

Print-quality troubleshooting guide

Learn about the image-quality troubleshooting.



NOTE: Use the procedures in this section to resolve most print-quality issues (for example, streaks or fading, missing black or other colors, blurred or fuzzy text, and ink streaks or smears). Try the following solutions in the order presented. When one of the solutions resolves the issue, there is no need to continue with the other procedures. If the issue only occurs on copy print jobs (586 only), go to [Copy-quality troubleshooting \(586\) on page 220](#).

Print-quality (PQ) problems are associated with the print engine (printer base) of an MFP printer (single function non MFP image-quality problems are always PQ defects). PQ defects appear on pages that are **printed** by the print engine and not feed through an integrated scanner assembly (ISA).

Copy-quality (CQ) problems are associated with the integrated-scanner assembly (ISA) portion of an MFP printer. CQ defects appear on pages that are **copied** using the document feeder or flatbed glass.

Printer pre-checks

Learn about image-quality troubleshooting printer pre-checks.

Check the control-panel display

Learn about the control-panel printer pre-check.

Check the control panel to see if it displays any messages that indicate that a supply needs to be replaced or that a supply is in the very low condition. If it does, replace the supply item.

Inspect the ink cartridge for damage

Learn about the ink cartridge printer pre-check.

1. Remove the ink cartridge from the product and verify that there is no debris in the cartridge path.
2. Examine the metal connector of the ink cartridge.

⚠ CAUTION: Do not touch the metal connector that is on the edge of the cartridge. Fingerprints on the metal connector can cause print-quality problems.

📝 NOTE: If there are scratches or other damage on the metal connector, replace the ink cartridge.

If an ink cartridge must be replaced, look on the cartridge or print the Supplies Status Page to find the part number for the correct original HP ink cartridge.

Figure 4-71 Examine the ink cartridge



3. If the metal connector does not appear to be damaged, push the cartridge gently back into its slot until it locks in place. Print a few pages to see if the problem has resolved.

Refilled or remanufactured ink cartridges

HP does not recommend using non-HP supplies, either new or re-manufactured. Because they are not HP products, HP cannot control the design or quality of non-HP supplies. If you are using a refilled or re-manufactured ink cartridge and are not satisfied with the print quality, replace the cartridge with an original HP cartridge.

📝 NOTE: If you replace a non-HP ink cartridge with an original HP ink cartridge, the printhead will still contain non-HP ink. Until the printhead is depleted of that ink and is supplied with ink from the newly installed original HP ink cartridge, the print defect might remain. Depleting the ink may require printing as many as several thousand pages of normal text.

Verify type of paper in use

The type of paper used can contribute to print-quality problems, such as those listed below:

- The printing is too light or seems faded in areas.
- Specks of ink are on the printed pages.
- Ink is smearing on the printed pages.

- Printed characters seem malformed.
- Printed pages are curled.

Check the type of paper used. Always use a paper type and weight that this printer supports. In addition, follow these guidelines when selecting paper:

- Use paper that is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.
- Use paper that has not been previously printed on.
- Use paper that is designed for use in inkjet printers.
- Use paper that is not too rough. Using smoother paper generally results in better print quality.
- Check that the paper type is correctly set for the trays in use and that the paper type for the trays matches the paper type selected in the driver.



NOTE: Based on HP internal testing using a range of plain papers, HP highly recommends using papers with the ColorLok logo for this product. For more information, go to <http://www.hp.com/go/printpermanence>.



Check the print settings

Learn about the print settings printer pre-check.

Print quality settings

1. Open the print dialog box in the software program being used to send the print job.
2. Select your printer, and then click **Properties**. The printer properties dialog box opens.
3. Choose the correct tab to find the settings.
4. Review the following options, and then make changes if necessary.
 - Paper size: Make sure that the selected option matches the selected paper size.
 - Paper type: If one of the options matches required paper type exactly, select that option.
 - Print quality: If the print-quality of the print job is unacceptable, increase the print quality. To print more quickly, decrease the print quality.
5. Click **OK**, and then click **OK** again to start the print job.

Print in grayscale setting

1. Open the print dialog box in the software program being used to send the print job.
2. Select your printer, and then click **Properties**. The printer properties dialog box opens.
3. Choose the correct tab to find the color settings either under **Features** or **Color**.
4. Under **Color Options**, make sure that Print in grayscale is *not* selected.

5. Click **OK**, and then click **OK** again to start the print job.



NOTE: If these steps resolved the issue, further troubleshooting is not required. If the issue persists, continue to [Printer driver considerations on page 217](#).

Printer driver considerations

Learn about the printer driver printer pre-check.

Use the printer driver that best meets the print job. Use a different printer driver if the printed page has unexpected lines in graphics, missing text, missing graphics, incorrect formatting, or substituted fonts. The available print drivers are listed in this section.

HP PCL 6 driver

- This driver is provided as the default driver. This driver is automatically installed when using the printer CD.
- This driver is recommended for all Windows environments.
- This driver provides the overall best speed, print quality, and product-feature support for most users, and was developed to align with the Windows Graphic Device Interface (GDI) for the best speed in Windows environments.
- This driver might not be fully compatible with third-party and custom software programs that are based on PCL 5.
- Download this driver at <http://www.hp.com/go/upd>.

HP UPD PS driver

- This driver is recommended for printing with Adobe software programs or with other highly graphics-intensive software programs.
- This drive provides support for printing from postscript emulation needs, or for postscript flash font support.
- Download this driver at <http://www.hp.com/go/upd>.

HP UPD PCL5

- This driver is recommended for general office printing in Windows environments.
- This driver is compatible with previous PCL versions and older HP Inkjet printers.
- This driver is the best choice for printing from third-party or custom software programs.
- This drive is the best choice when operating with mixed environments that require the product to be set to PCL 5 (UNIX, Linux, mainframe).
- This driver is designed for use in corporate Windows environments to provide a single driver for use with multiple printer models. This driver is preferred when printing to multiple printer models from a mobile Windows computer.
- Download this driver at <http://www.hp.com/go/upd>.

HP UPD PCL6

- This driver is recommended for printing in all Windows environments.

- This driver provides the overall best speed, print quality, and product-feature support for most users, and was developed to align with the Windows Graphic Device Interface (GDI) for the best speed in Windows environments.
- This driver might not be fully compatible with third-party and custom software programs that are based on PCL 5.
- Download this driver at <http://www.hp.com/go/upd>.

Cleaning procedures

Learn about the cleaning procedures printer pre-check.

Print-quality report

These steps involve printing a page with color bars to identify print-quality issues.

1. At the printer control panel, open the following menus:
 - Administration
 - Troubleshooting
 - Print Quality Pages
2. Select **Print Quality Report**, and then select **Print** to print the report.

This page contains four bands of color, which are divided into the groups as indicated in the figure below. By examining each group, you can determine if the problem is due to a particular ink cartridge.


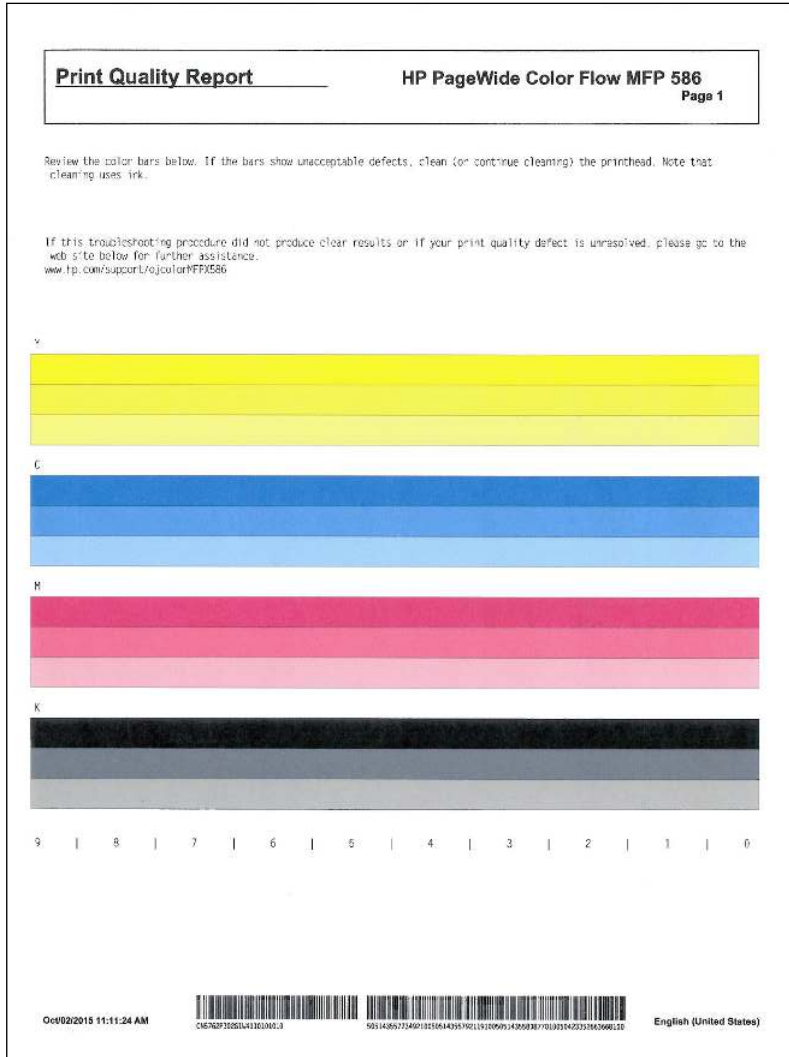
 **NOTE:** Each bar has three distinct shades, but otherwise the color should vary minimally across the bar. If any major defects appear in one or more color bars, clean the printhead as explained below. If all the color bars show little or no streaking, go to [Resolve Ink Smears on page 220](#).

Figure 4-72 Print-quality report



Printhead cleaning

Use this procedure to clean the printhead.

1. Load plain letter-size or A4-size paper in the tray.
2. At the printer control panel, open the following menus:
 - Device Maintenance
 - Calibration/Cleaning
3. Select **Printhead Cleaning**, and then select **Continue** to begin the cleaning process.

There are three levels of cleaning in sequence. At end of each level, the printer will produce a print quality report. If streaks appear in any of the color bars, continue with next level of cleaning.


 **TIP:** Number each of the print quality report pages in order to track print-quality improvement.

Resolve Ink Smears

Learn about the resolve ink smears printer pre-check.

Use the following procedure to clean ink smears.

1. When prompted, load plain letter-size or A4-size paper.
2. At the printer control panel, open the following menus:
 - [Device Maintenance](#)
 - [Calibration/Cleaning](#)
3. Select [Resolve Ink Smear](#), and then select [Start](#) to begin the cleaning process.
A page feeds through the product slowly. Retain this page for further print-quality evaluation.

 **NOTE:** If the error persists, contact your Global Business Unit (GBU).

Copy-quality troubleshooting (586)

Learn about copy-quality troubleshooting.

Use the following procedures to resolve quality defects that occur only on copies.

 **NOTE:** Copy-quality (CQ) problems are associated with the integrated-scanner assembly (ISA) portion of an MFP printer. CQ defects appear on pages that are **copied** using the document feeder or flatbed glass.

Speckles on copies from the scan bed

Learn about copy-quality troubleshooting speckles on copies from the scan bed.

Create a color copy, then rotate the original 180 degrees (do not turn the paper over) and make a second copy. Compare the location of the defect on the two copies.

- If the defect appears in a different position, clean the scanner glass using a soft, lint-free cloth that has been moistened with warm water. Dry the glass with a dry, soft, lint-free cloth.
- If the defect appears in the same location on both copies, contact your Global Business Unit (GBU).

Lines on copies from the automatic document feeder

Learn about copy-quality troubleshooting lines on copies from the automatic document feeder.


Mark the corner of a blank sheet of paper and create a copy from the automatic document feeder.

Place the copy on the glass with the mark in the same orientation as the original. Make sure the page is even with the upper-left corner of the scan area.

The defect lines on the page should indicate the location of debris on the thin strip of glass to the left of the scan area. Use a fingernail or blunt object to loosen debris, and then clean the glass using a soft, lint-free cloth that has been moistened with warm water. Dry the glass with a dry, soft, lint-free cloth.

Printer-specific image defects

Learn about printer-specific image defects.

 **NOTE:** The image defects described in this section are printer-specific image defects.


Major functionalities for PQ troubleshooting

Learn about major printer specific image defects.

Print-quality report

Learn about the printer-specific print-quality report.

Print quality report is a useful page which shows different density fill bar chart with four colors. There are numbers below the bar to indicate the printhead numbering, and the line in between indicates the printhead boundary.

 **NOTE:** Depending on the FW revision, the line to indicate the printhead boundary might not be accurate, it could be off as much as 5 mm (0.19 in) for printhead zero. There is a CR 119406 to fix this issue, and the fix has been implemented into version 2307823 for 23r and has been merged into version 2454949 for 24s.

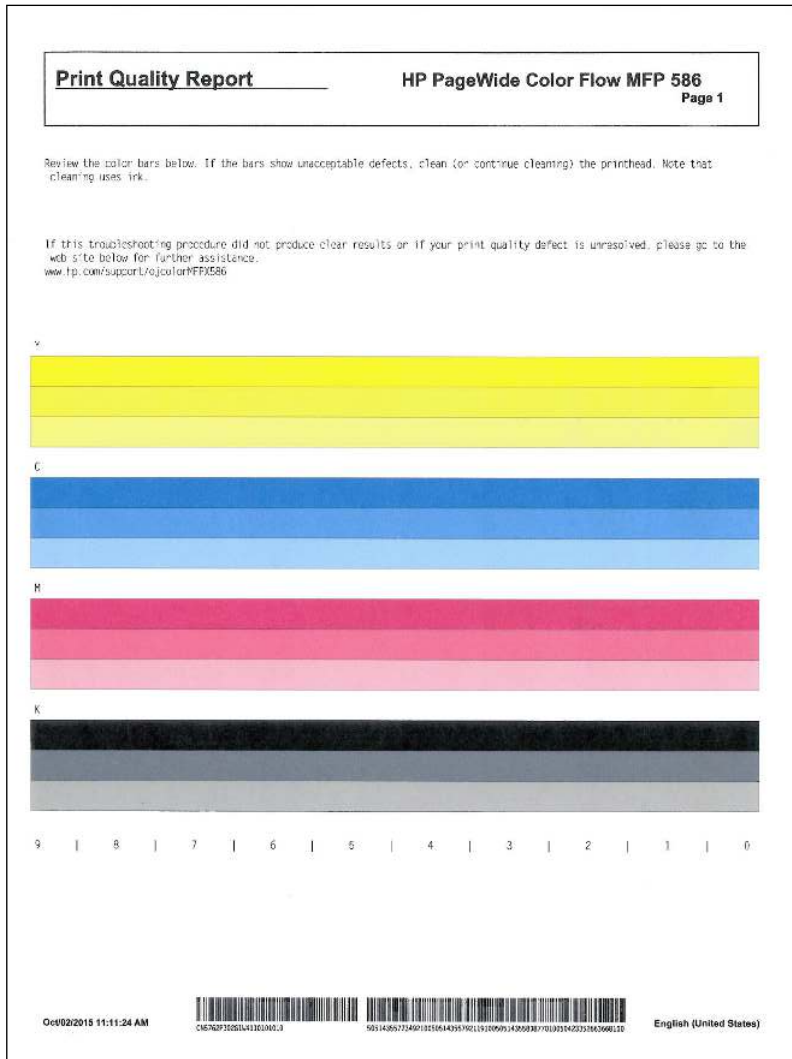
Print-quality report (v01)

These steps involve printing a page with color bars to identify print-quality issues.

1. At the printer control panel, open the following menus:
 - Administration
 - Troubleshooting
 - Print Quality Pages
2. Select [Print Quality Report](#), and then select [Print](#) to print the report.

This page contains four bands of color, which are divided into the groups as indicated in the figure below. By examining each group, you can determine if the problem is due to a particular ink cartridge.

Figure 4-73 Print-quality report v01)



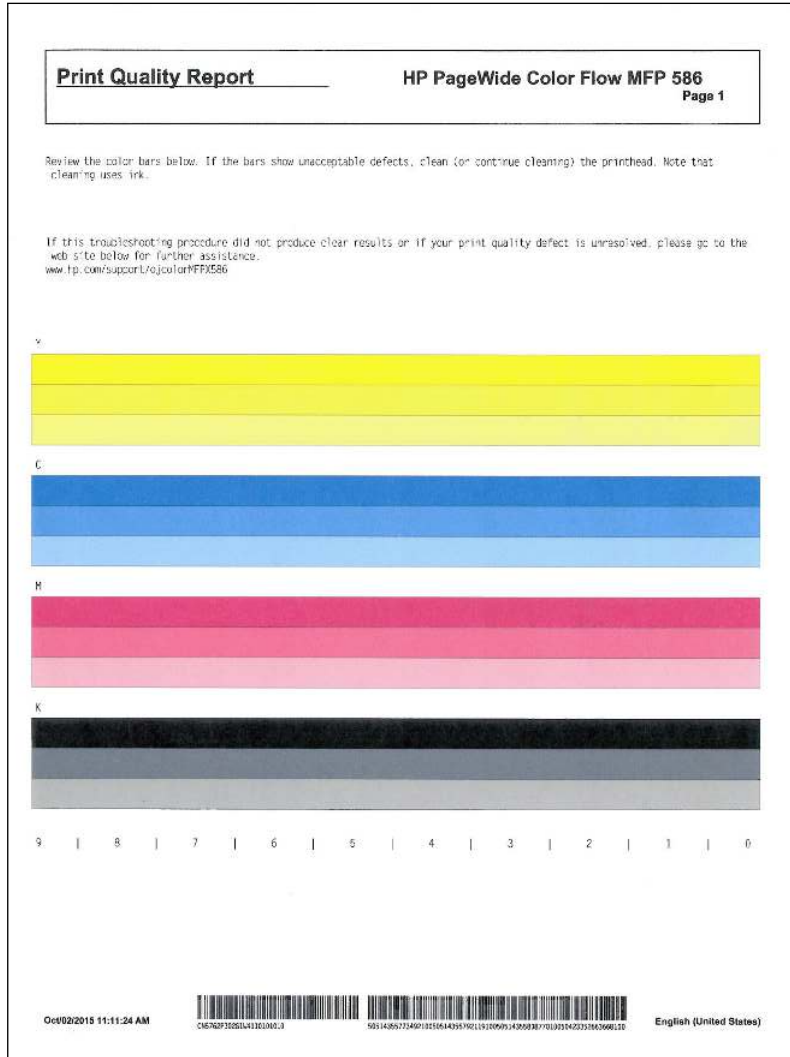
Print-quality report (v02)

These steps involve printing a page with color bars to identify print-quality issues.

1. At the printer control panel, open the following menus:
 - Device maintenance
 - Calibration/Cleaning
 - Advanced Calibration Support
2. Select **Print Quality Report**, and then select **Print** to print the report.

This page contains four bands of color, which are divided into the groups as indicated in the figure below. By examining each group, you can determine if the problem is due to a particular ink cartridge.


Figure 4-74 Print-quality report (v02)



Printhead diagnostic page

Learn about the printhead diagnostic page.

The printhead diagnostic page is a useful page to determine the health of the print bar. There are ten blocks of lines, and each block represents a printhead, and each line corresponds to a nozzle. Check whether the line is missing or being misdirected, to evaluate the health of the print bar.

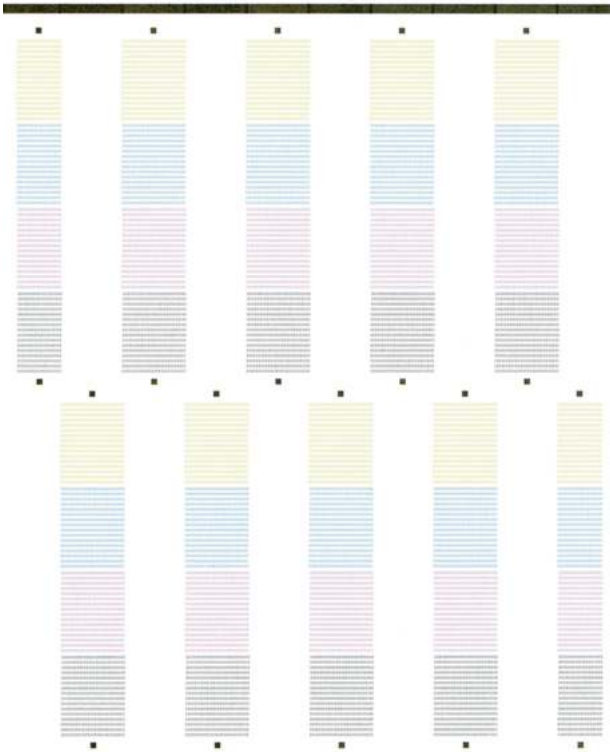
 **NOTE:** Depending on the FW revision, the line to indicate the printhead boundary might not be accurate, it could be off as much as 5 mm (0.19 in) for printhead zero. There is a CR 119406 to fix this issue, and the fix has been implemented into version 2307823 for 23r and has been merged into version 2454949 for 24s.

Print the printhead diagnostic page

1. At the printer control panel, open the following menus:
 - Administration
 - Troubleshooting
 - Print Quality Pages

- [Advanced Print Quality Pages](#)
2. Select [Continue](#), and then select [Printhead Diagnostic Page](#) to print the page.

Figure 4-75 Printhead diagnostic page



Engine diagnostic page

Learn about the engine diagnostic page.

The engine diagnostic page is a useful page to get engine related information. It has information from various portions of the other advanced diagnostic pages.

 **NOTE:** Some information on this page is encrypted.

Print the engine diagnostic page

1. At the printer control panel, open the following menus:
 - [Administration](#)
 - [Troubleshooting](#)
 - [Print Quality Pages](#)
 - [Advanced Print Quality Pages](#)
2. Select [Continue](#), and then select [Engine Diagnostic Page](#) to print the page.


 **NOTE:** Depending on the engine status, a blank page might print with a **The product is not able to communicate with all components and cannot retrieve the data for the requested report. Close all doors and trays and try to print the report again** message on it. Follow instructions and attempt to print the page again.

Figure 4-78 Identify non-HP ink

<u>Rxxxxx Sxxxxx Ixxxxxxxxxxx</u>				
43. Cxxxxxxx:	Yellow	Magenta	Cyan	Black
44. Exxxxxxx Cxxxxxxx Lxxxx:				
45. Cxxxxxxx Sxxxxx:	Ready	Ready	Ready	Ready
46. Cxxxxxxx Sxxxxx Sxxxxx:				
47. Sxxxxxxxxxxx Nxxxxx: Hx 981A	Hx 981A	Hx 981A	Hx 981A	Hx 981A
48. Sxxxxx Sxxxxx Oxx:	0	0	0	0
49. Sxxxxx Sxxxxx Txx:	0	0	0	0
50. Hxxx/xxxxx Axxxxx Bxx:	0	0	0	0
51. Sxxxx Ux Cxxxxxxx:	0	0	0	0
52. Sxxxxx Nxxxxx:	374666925	374673999	374670584	377129891
54. Mxx. Dxxx:	09/17/2015	09/17/2015	09/17/2015	10/01/2015
55. Cxxxxxxx Ixxxxxxx:	--	--	--	--
56. Wxxxxxxx Bxxx:	09/17/2018	09/17/2018	09/17/2018	10/01/2018
57. Cx:	3	3	3	3
58. Nxxx:	0	0	0	0
59. Dxx:	0	0	0	0
60. RY: 03,050,0000 RC: 20521				

- Look at engine diagnostic page (page 2; Rxxxxxxx section). Refer to the number in the blue box in the figure below.

If the first digit of this value contains any value larger than 7 (such as 8, 9, a, b, c, etc.), then non-HP ink or a non-HP supply was used (at some time) in this printer.

Figure 4-79 Identify non-HP supplies

<u>Rxxxxxxx</u>										
1	63	66	62	63	5f	5f	5b	61	5e	69
2	2a	29	2b	2a	2b	2c	2d	2b	2c	29
3	d7	db	c6	d5	cd	d3	c3	c9	c6	dc
4	24	4	4	14	14	14	14	4	4	14
5	45	46	46	45	44	45	44	46	44	46
6	1e	1e	1e	1e	1e	1e	1e	1e	1e	1e
7	c8	c8	c8	c8	c8	c8	c8	c8	c8	c8
8	0	3	0	0	3	0	3	0	2	3

Printhead cleaning

Learn about the printhead cleaning.

Printhead Cleaning

The printhead cleaning function includes several levels. This function can be automatic, or the user can choose a specific level.

There are three automatic printhead cleaning levels (starting with level 1). When a cleaning level is completed a print quality report prints, and then the user can choose to continue to next level or not (depending on what print-quality report shows).

Automatic printhead cleaning levels

- Level 1 and level 2 service the printhead to clear clogged nozzles (for example, by wiping the print bar and spitting ink). Level 2 utilizes more wipes to service the print bar than level 1 (and more spitting of ink, especially with colors).

- Level 3 is calibration (including pen alignment calibration and color density calibration).

Automatic printhead cleaning

Use this procedure to clean the printhead.

- ▲ At the printer control panel, open the following menus:
 - [Device Maintenance](#)
 - [Calibration/Cleaning](#)
 - [Printhead cleaning](#)

Manually choose a printhead cleaning level

1. At the printer control panel, open the following menus:
 - [Device Maintenance](#)
 - [Calibration/Cleaning](#)
 - [Advanced Calibration Support](#)
2. Select [Continue](#), and then select from a list of printhead cleaning options.
 - [Printhead Cleaning Level 1](#)
 - [Printhead Cleaning Level 2](#)
 - [Pen Align](#)
 - [Color Density Calibration](#)
 - [Print Quality Report](#)

Ink slider

Learn about the ink slider.

The Ink slider is a printer driver feature. The following drivers support the ink slider feature:

- UPD 6.0.1 (not a public release, special request needed) and 6.1.0 and later
- 586 and 556 discrete drivers
- 586 and 556 UPD driver

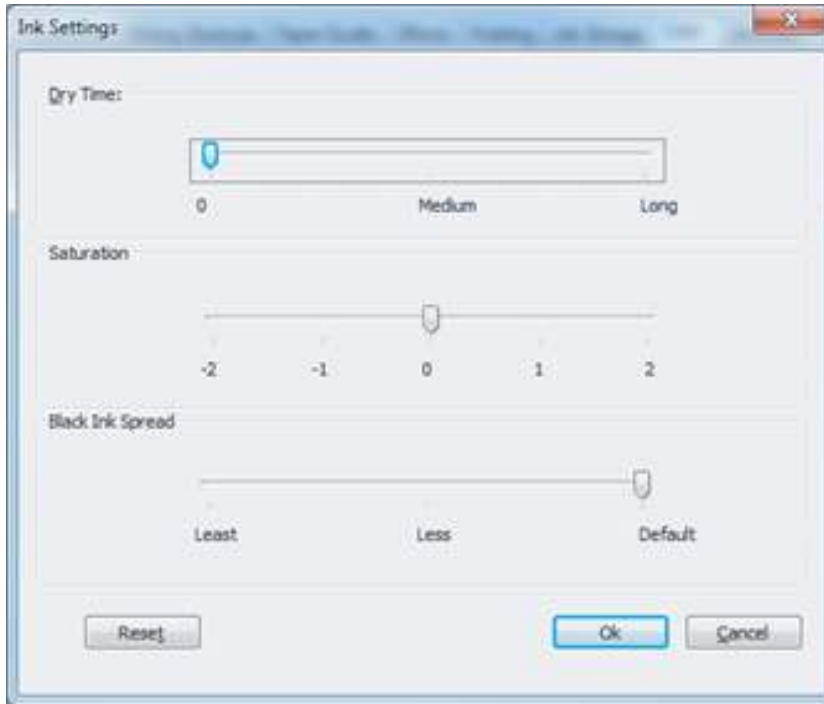


NOTE: The X585 and X555 discrete driver does not support the ink slider feature.

Open the print driver ink slider

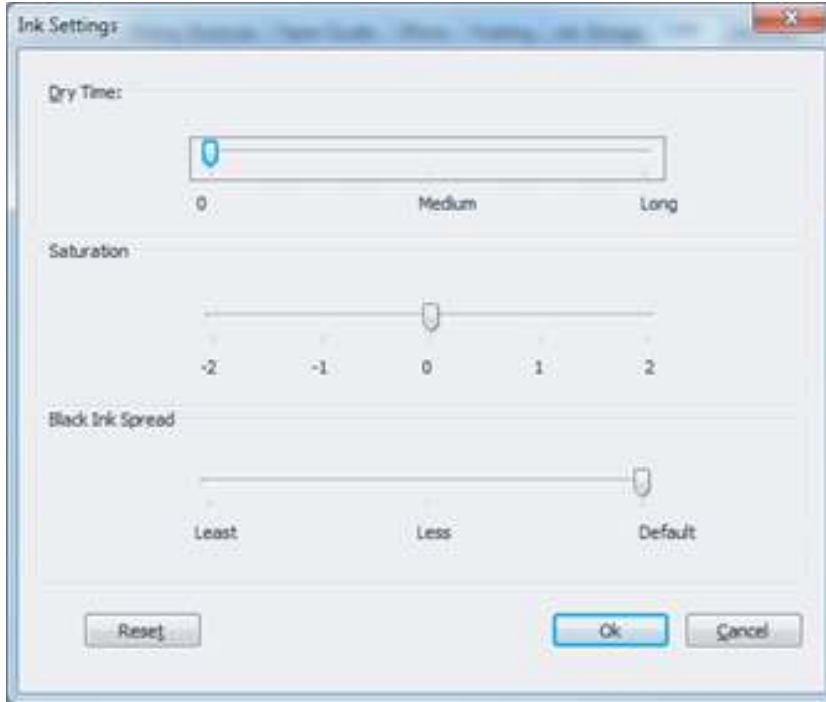
1. Open the printer driver dialog box, select the color tab, and then do the following:
 - a. Uncheck the **HP EasyColor** check box.
 - b. Click the **Ink Settings** button.

Figure 4-80 Access the ink slider




2. The following settings can be configured using the ink slider:
 - **Dry Time:** Use this item to adjust the print speed (default is 0). Move the slider to the right to slow down the print speed.
 - **Saturation:** Use this item to adjust the amount of ink used (default is 0). Move the slider to the right (1 and 2) to increase the amount of ink used. Move the slider to the left (-1 and -2) to decrease the amount of ink used.
 - Click the **Black Ink Spread:** Use this item to improve bleed through when black and other colors are printing in certain patterns.

Figure 4-81 Ink slider



Advanced cleaning

Learn about advanced cleaning.

 **NOTE:** To use the advanced cleaning feature, order the advanced cleaning kit (part number CN459–67006)


Open the advanced cleaning feature

1. At the printer control panel, open the following menus:
 - [Device maintenance](#)
 - [Calibration/Cleaning](#)
 - [Advanced Cleaning](#)
2. Follow the instruction provided in the advanced cleaning kit (CN459–67006) to install the kit in the tray, and to perform the advanced cleaning procedure.

Image-quality defects

Learn about image-quality troubleshooting.

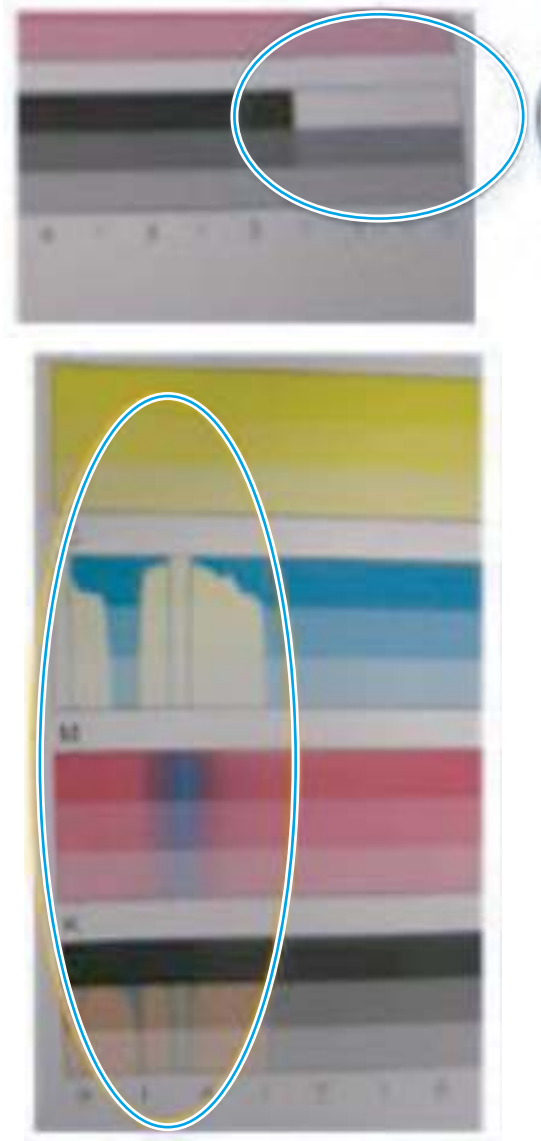
Use the following procedures to resolve quality defects that occur only on copies.

 **NOTE:** Print-quality (PQ) problems are associated with the print engine (printer base) of an MFP printer (single function non MFP image-quality problems are always PQ defects). PQ defects appear on pages that are **printed** by the print engine and not feed through an integrated scanner assembly (ISA).

Large sections of wrong or missing color

Learn about color plane print-quality troubleshooting.

Figure 4-82 Wrong or missing color (large)



Description

Large area(s) the wrong or missing color(s) on the page.



NOTE: Colors might be present at top of page but go away by bottom of page.

Cause

Most likely caused by air inside the printhead.

Solution

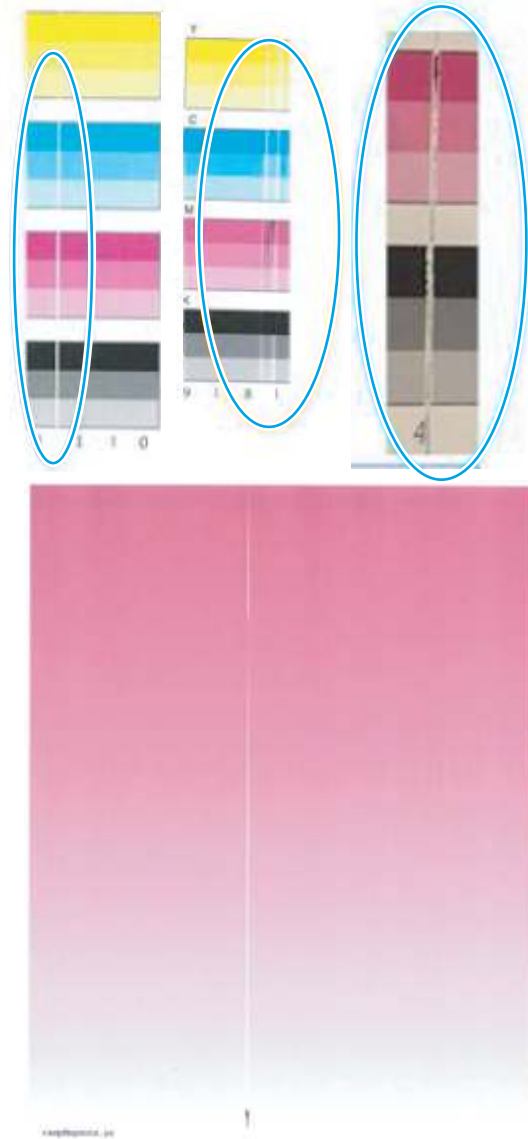
1. Make sure genuine HP ink is installed.
2. Print a print-quality report.
3. Perform a printhead cleaning level 2 procedure.
4. Print a print-quality report, and then compare it to the first report printed.

5. If the error persists, install a print mechanism (PM) kit.

Small sections of wrong or missing color

Learn about color plane print-quality troubleshooting.

Figure 4-83 Wrong or missing color (small) (1 of 2)



Description

Shim whisker (fibers stuck onto the shim under the printbar).

Figure 4-84 Wrong or missing color (small) (2 of 2)




Cause

Most likely caused by air inside the printhead.

Solution

1. Make sure genuine HP ink is installed.
2. Print a print-quality report.
3. Perform a printhead cleaning level 2 procedure.
4. Print a print-quality report, and then compare it to the first report printed.

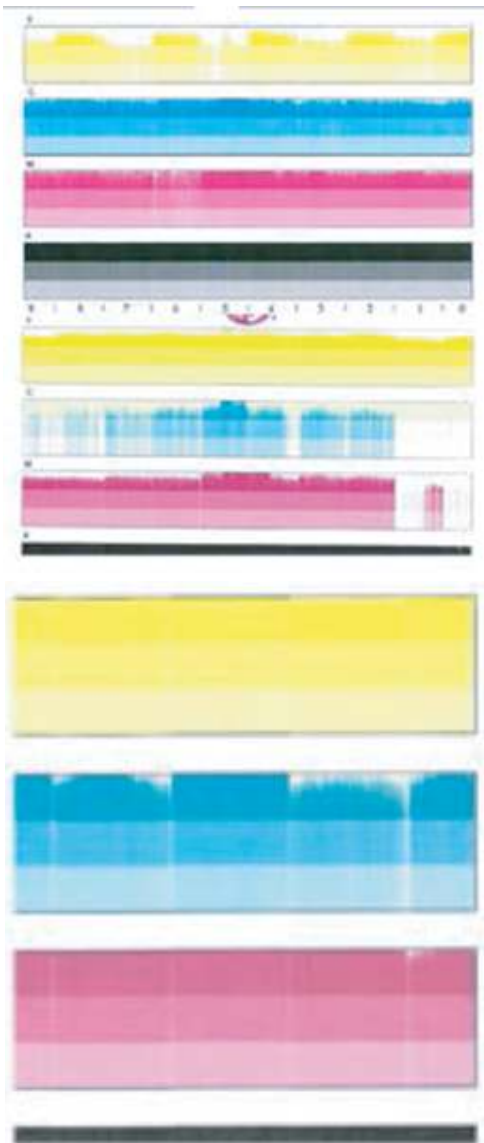
 **NOTE:** If the report shows improved print quality, perform the cleaning level 2 procedure again (do not exceed three times).

5. If print quality did not improve, order the advanced cleaning kit (CN459-67006). Follow the instructions provided in the kit.
6. If the error persists, install a print mechanism (PM) kit.

Streaks (1)

Learn about streak print-quality troubleshooting.

Figure 4-85 Streaks (1)



Description

Streaks across entire page (multiple colors improving down the page).



NOTE: The defect appears worse in colors (black being fairly robust).


Cause

Most likely caused by the print bar being left uncapped for an extended time.

Solution

1. Make sure genuine HP ink is installed.
2. Print a print-quality report.
3. Perform a printhead cleaning level 2 procedure.

4. Print a print-quality report, and then compare it to the first report printed.

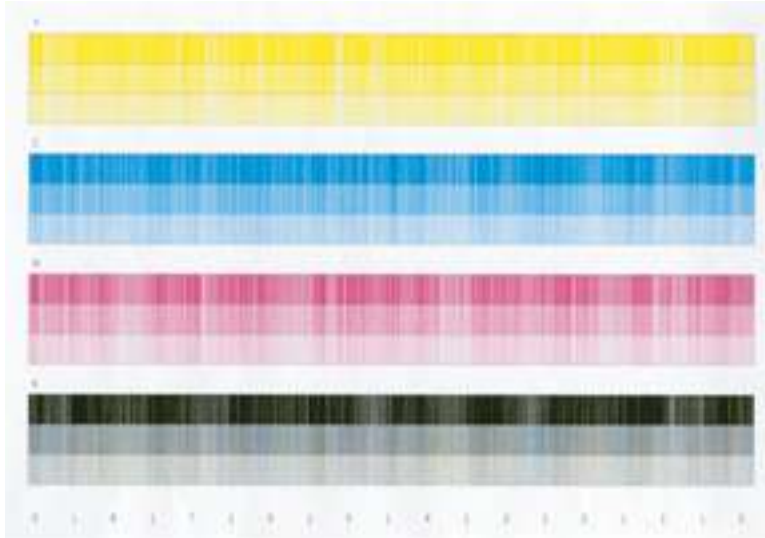
 **NOTE:** If the report shows improved print quality, perform the cleaning level 2 procedure again (do not exceed three times).

5. If the error persists, install a print mechanism (PM) kit.

Streaks (2)

Learn about streak print-quality troubleshooting.

Figure 4–86 Streaks (2)



Description

Streaks across entire page (multiple colors consistent down the page).


Cause

If the printer recovers after sitting for 20 minutes, the web wipe used to clean the nozzles might have reached its end of life.

If the issue persists (after the printer has sat for 20 minutes), the defect is most likely caused by a mechanical failure (for example, the service sled is not rotating).

Solution

1. Make sure genuine HP ink is installed.
2. Print a print-quality report.
3. Perform a printhead cleaning level 2 procedure.
4. Print a print-quality report, and then compare it to the first report printed.

 **NOTE:** If the report does not show improved print quality, wait 20 minutes and then print another print-quality report.

5. If the report shows improved print quality (after waiting the prescribed 20 minutes), check the engine page count.

If the page count is seventy-five thousand or greater, the error might return. Replace the service sled

6. If the error persists and the page count is seventy-five thousand or less, install a print mechanism (PM) kit.

Streaks (yellow only)

Learn about streak print-quality troubleshooting.

Figure 4-87 Streaks (yellow only)



Description

Streaks appear in the yellow color plane only.


Cause

TWINE: build up around the endcap region on print bar.

Solution

1. Make sure genuine HP ink is installed.
2. Print a print-quality report.

3. Perform a printhead cleaning level 2 procedure.
4. Print a print-quality report, and then compare it to the first report printed.

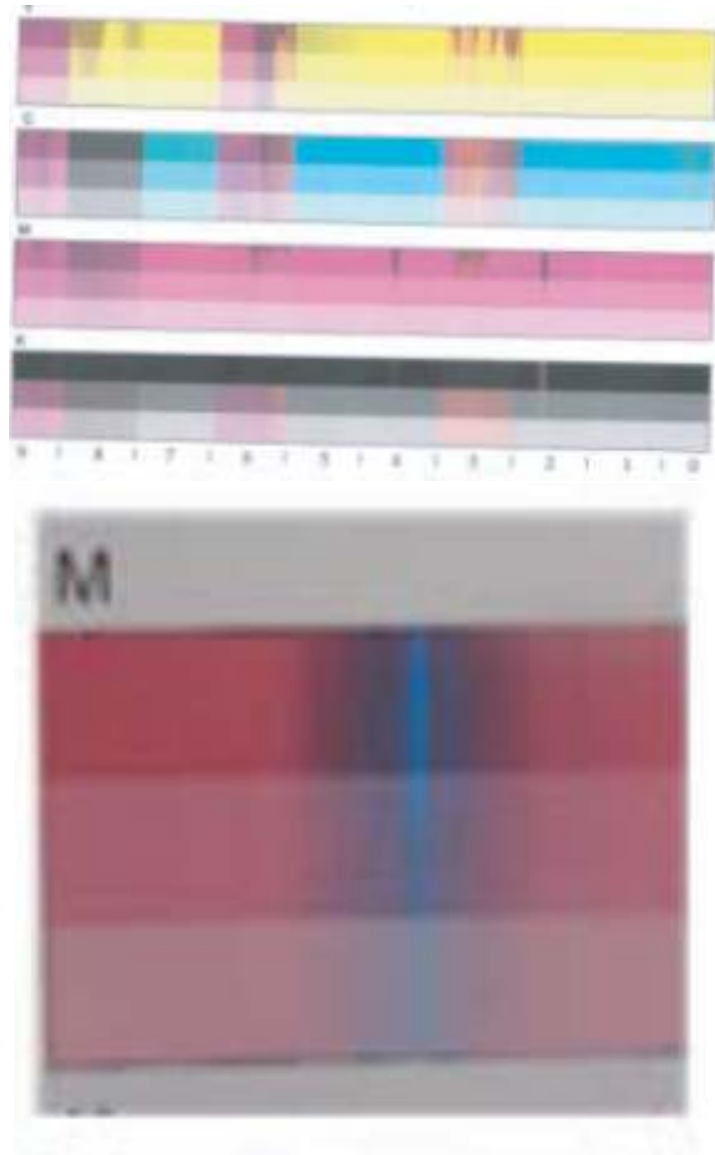
 **NOTE:** If the report shows improved print quality, perform the cleaning level 2 procedure again (do not exceed three times).

5. Print a print-quality report.
6. If the error persists, install a print mechanism (PM) kit.

Color mix

Learn about color mix print-quality troubleshooting.

Figure 4-88 Color mix



Description

Color bleeds on the page.


 **NOTE:** This defect can be a small portion of or the entire printhead.

Cause

Color mixing might be caused by either an internal or external contamination source. External contamination clear-up with continued printing, or printhead cleaning. Internal contamination might require replacing the print bar.

Solution

1. Make sure genuine HP ink is installed.
2. Print a print-quality report.
3. Perform a printhead cleaning level 2 procedure.
4. Print a print-quality report, and then compare it to the first report printed.

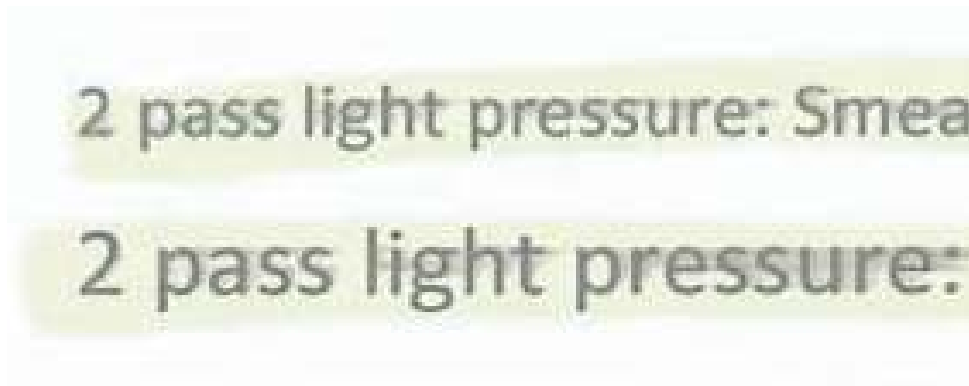
 **NOTE:** If the report shows improved print quality, perform the cleaning level 2 procedure again (do not exceed three times).

5. If the error persists, install a print mechanism (PM) kit.

Highlighter smear

Learn about highlighter smear print-quality troubleshooting.

Figure 4-89 Highlighter smear



Description

This defect appears as smeared text.

Cause

When using a highlighter pen on printed pages, a smear might be seen (this defect is caused by both the media type and the highlighter pen).

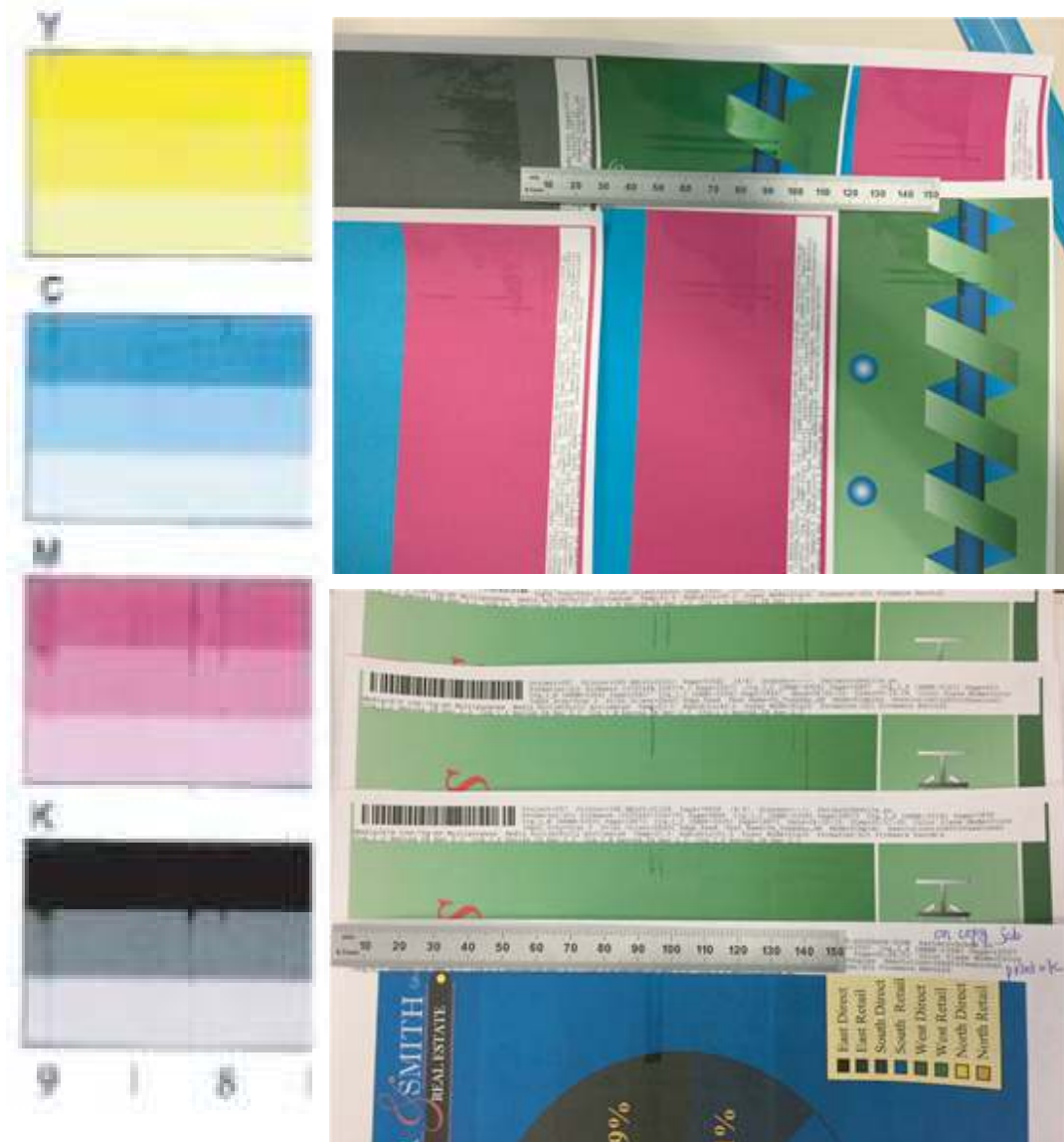
Solution

- Try different brand of highlighter.
- When using a highlight pen, use a single pass without too much pressure.
- Try using a different media type.

Ink smear

Learn about ink smear print-quality troubleshooting.

Figure 4-90 Ink smear



Description

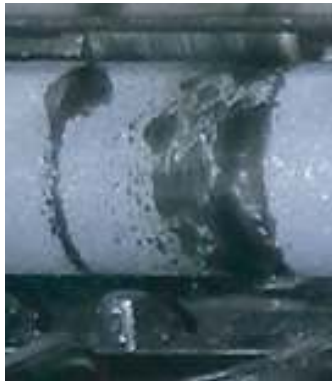
This defect appears as smeared ink.

Cause

Potential causes:

- Decreased distance between the paper and the printhead nozzles due to contamination.
- Build up along paper path.

Figure 4-91 Paper—path buildup



Solution

1. Make sure genuine HP ink is installed.
2. Print a print-quality report.
3. Open the left door, remove the duplexer (ICU), and then lower the flap (push the green tab).
4. Check the shaft. If ink buildup is present, try using the grit roller cleaning kit.

Other buildup mitigation methods:

- Open the ink slider and reduce the print speed (**Dry Time**) setting.
 - Open the ink slider and reduce the ink saturation (**Saturation**) setting.
 - Open the ink slider, try different combinations of print speed and saturation (**Dry Time** and **Saturation**) settings.
 - Try using a different paper type.
5. If no ink buildup is present, see [Resolve Ink Smears on page 220](#).
 6. If the error persists, install a print mechanism (PM) kit.

Image stretch

Learn about image stretch print-quality troubleshooting.

Figure 4-92 Image stretch



Description

The image is stretched vertically or skewed (or both).

Cause

Grit roller contamination causes image stretch or skew issue.

If the ink contamination on the grit roller is evenly distributed, only a stretched image is created.

If ink contamination on grit roller is unevenly distributed across the width, then image skew and stretch is created.

Solution

1. Make sure genuine HP ink is installed.
2. Print a print-quality report.
3. Open the left door, remove the duplexer (ICU), and then lower the flap (push the green tab).
4. Check the shaft. If ink buildup is present, try using the grit roller cleaning kit.

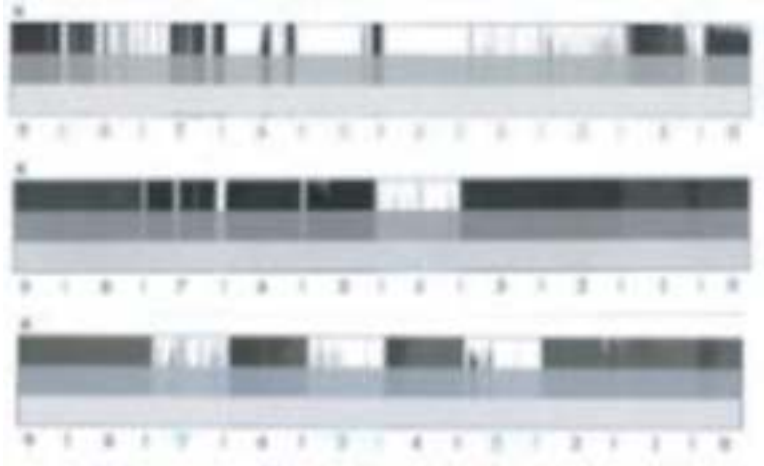
Other buildup mitigation methods:

- Open the ink slider and reduce the print speed (**Dry Time**) setting.
 - Open the ink slider and reduce the ink saturation (**Saturation**) setting.
 - Open the ink slider, try different combinations of print speed and saturation (**Dry Time** and **Saturation**) settings.
 - Try using a different paper type.
5. If no ink buildup is present, see [Resolve Ink Smears on page 220](#).
 6. If the error persists, install a print mechanism (PM) kit.

Vertical bands

Learn about vertical bands print-quality troubleshooting.

Figure 4-93 Vertical bands



Description

Vertical white bands appear on one color.

Cause

Non-HP ink installed.

Solution

Make sure genuine HP ink is installed.

Waterfall

Learn about waterfall print-quality troubleshooting.

Figure 4-94 Waterfall



Description

Streaks and bands appear on the first few pages.

Cause

If printer has been idle for an extended time, the first couple pages might have a defect that resembles a waterfall down the page.

Solution

This error self recovers after several pages print.

If not recoverable, perform the cleaning level 1 procedure (do not exceed four times).

Washout

Learn about washout print-quality troubleshooting.

Figure 4-95 Washout



Description

Colors appear washed out (not vivid).

Cause

Expected performance between Colorlok paper versus non ColorLok paper.

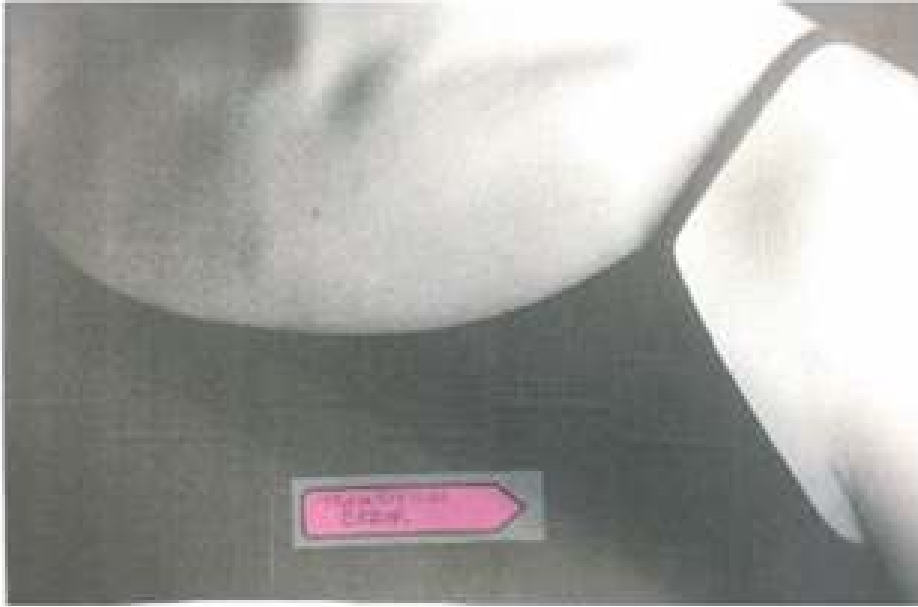
Solution

Use ColorLok paper to for best color performance.

Transition error

Learn about transition error print-quality troubleshooting.

Figure 4-96 Transition error



Description

Image transition defect.

Cause

This defect might appear at the top of the page, at the middle of the page, or at the bottom of the page.

The main cause is page vibration when paper contacts, enters, or leaves a specific roller.

Solution

Open the ink slider and reduce the print speed (**Dry Time**) setting.

Starwheel tracking

Learn about starwheel tracking print-quality troubleshooting.

Figure 4-97 Starwheel tracking



Description

Image starwheel tracking defect.

Cause

Ink is being picked up by the star wheels and redeposited on the page.

Solution

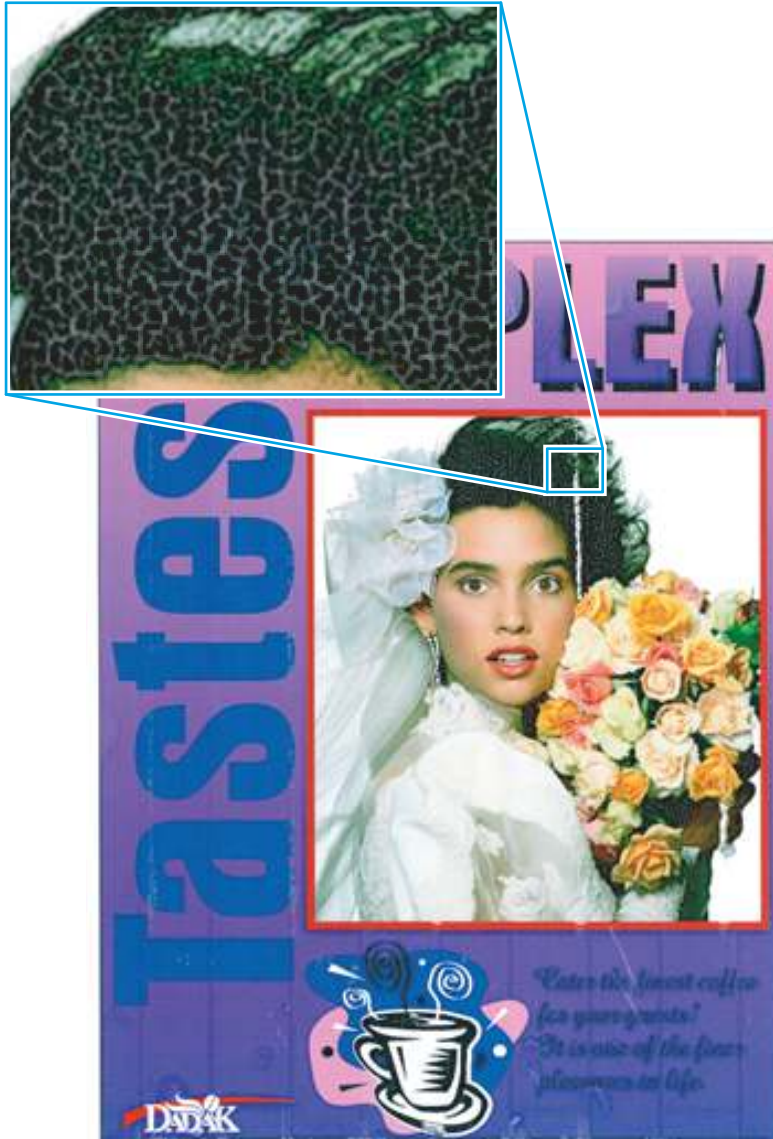
Open the ink slider, try increasing the print speed and decreasing the saturation (**Dry Time** and **Saturation**) settings.

Try using a different paper type.

Ink not drying

Learn about ink not drying print-quality troubleshooting.

Figure 4-98 Ink not drying



Description

All sorts of exaggerated issues or ink not drying at all.

Cause

Dark lines, missing ink, and other defects are much more visible when using non-inkjet compatible paper.

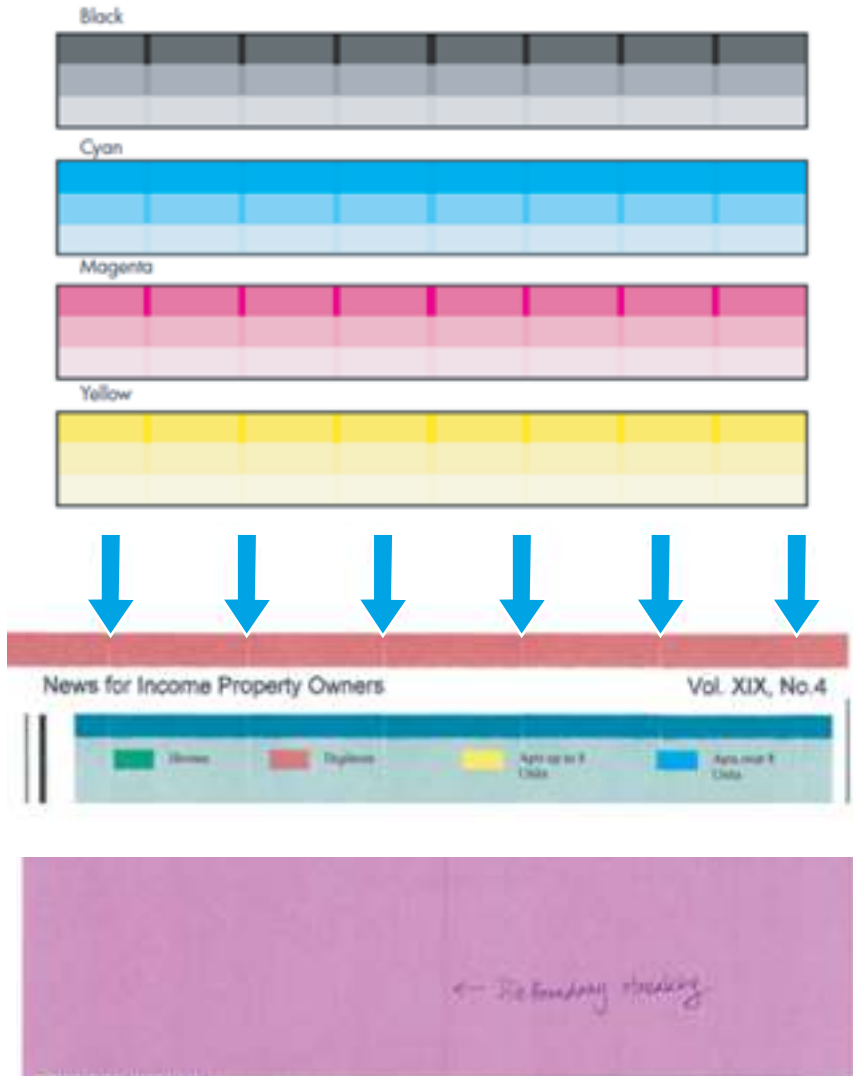
Solution

Make sure to use an inkjet compatible paper type.

Pen alignment calibration

Learn about pen alignment calibration print-quality troubleshooting.

Figure 4-99 Pen alignment calibration



Description

This defect appears as lines aligned with printhead boundaries.

Cause

Streaks align with die boundary because the printhead is not aligned.

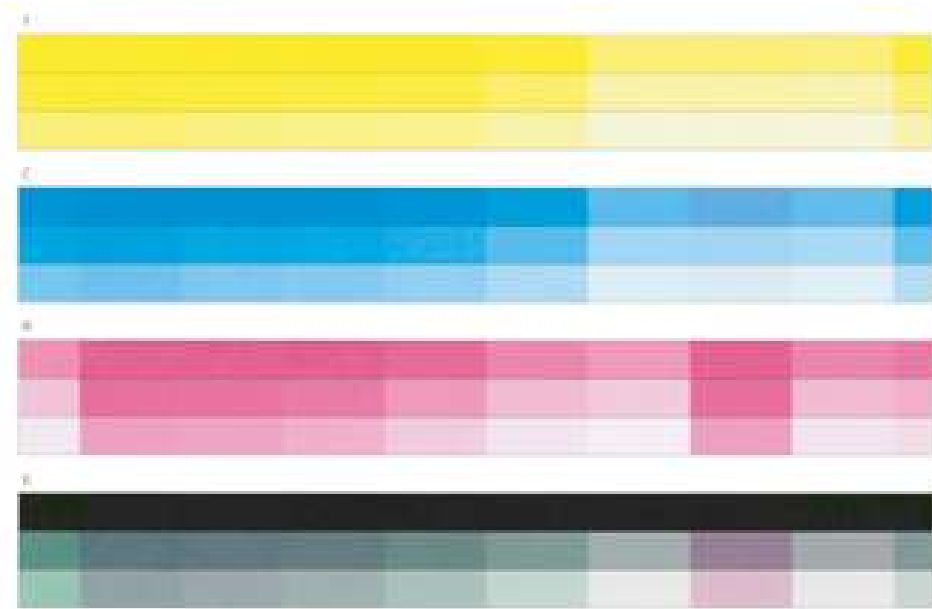
Solution

1. From the printer control panel, open the following menus:
 - Device Maintenance
 - Calibration/Cleaning
 - Advance Calibration Support
2. Select **Continue**, and then select **Pen Align** to align the printhead.

Color difference

Learn about color difference calibration print-quality troubleshooting.

Figure 4-100 Color difference



Description

This defect appears as a color difference between printhead nozzles.

Cause

Density calibration error.

Solution

1. From the printer control panel, open the following menus:
 - [Device Maintenance](#)
 - [Calibration/Cleaning](#)
 - [Advance Calibration Support](#)
2. Select [Continue](#), and then select [Color Density Calibration](#) to calibrate the printhead.

Paper curl

Learn about paper curl print-quality troubleshooting.

Figure 4-101 Paper curl



Description

This defect appears as paper with a wet feel or curl.

Cause

Curl can be seen when printing with high ink coverage, and there are variations between paper.

Solution

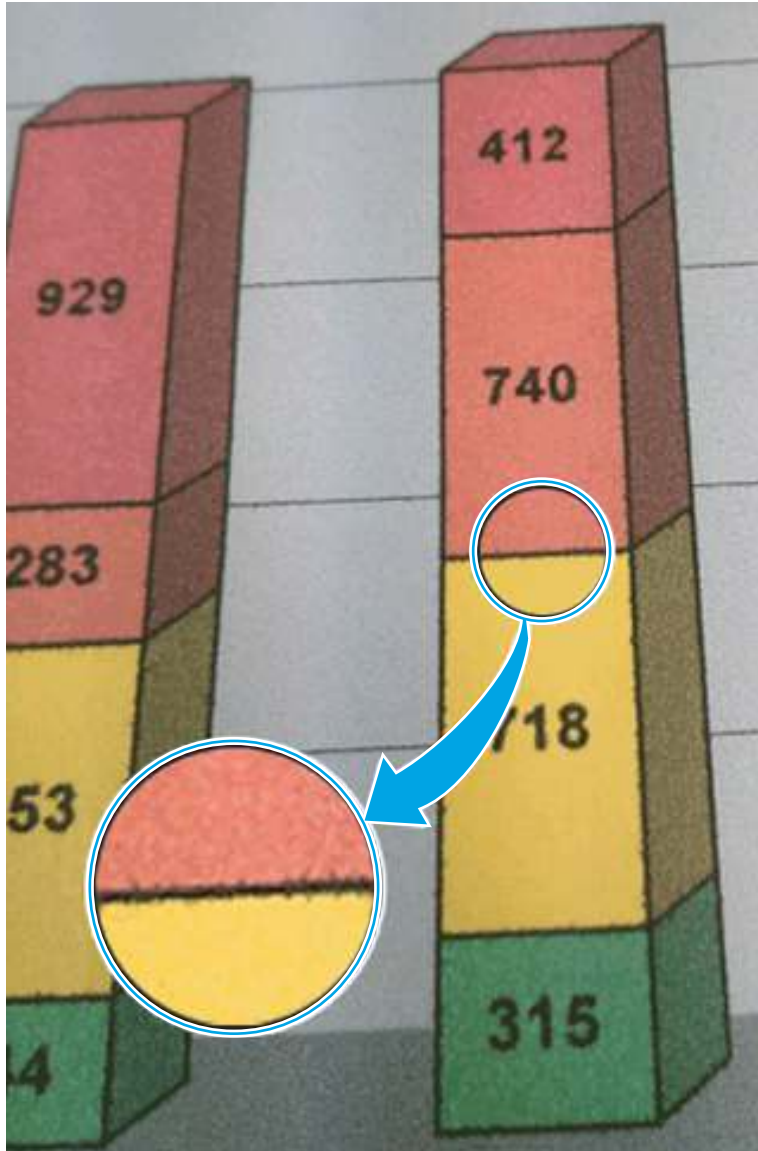
Potential mitigation methods:

- Open the ink slider and reduce the ink saturation (**Saturation**) setting.
- Try printing with bigger page margins.
- Try using a heavier weight paper.
- Store pages with the printed side down.

Blurred boundaries

Learn about blurred boundaries print-quality troubleshooting.

Figure 4-102 Blurred boundaries



Description

This defect appears as a blurry or fuzzy boundary between black and color images.

Cause

Ink saturation or paper type error.

Solution

Potential mitigation methods:

- Make sure that HP Colorlok paper is used in the printer.
- Open the ink slider and reduce the ink saturation (**Saturation**) setting.
- Open the ink slider, and reduce the ink spread (**Black Ink Spread**) setting.

Solve image quality problems (print)

Learn about solving print defects.

Clean ink smears

Learn about solving ink smear image-quality problems.

Print a cleaning page to remove dust and excess ink from the printhead and paper path if you are having any of the following problems:

- Specks of ink are on the printed pages.
- Ink is smearing on the printed pages.
- Repeated marks occur on the printed pages.

Use the following procedure to clean ink smears.

1. Load the printer with regular, unused white paper.
2. From the control panel, touch the [Device Maintenance](#) button.
3. Open the [Calibration/Cleaning](#) menu.
4. Select the [Resolve Ink Smear](#) item.
5. Touch the [Start](#) button to begin the cleaning process.

A page feeds through the printer slowly. Retain this page for further print quality evaluation.

If the print jobs are showing ink smears on the back of the page, try the following solutions:

- Remove the ink collection unit and then reinstall it. Black ink can build up on the ink collection unit after several thousand pages.
- The platen might have an ink buildup. Run a few sheets of blank (no text / graphics) thick paper through the printer to clean the platen.
- If the error persists, send the printer in for service.

Clean ink smears

Learn about solving ink smear image-quality problems.

If the printer is producing pages with faded or fuzzy black ink at the top of the page, try recovering the printhead.

1. From the control panel, touch the [Device Maintenance](#) button.
2. Touch the [Service](#) menu.
3. Touch the [Service Access Code](#) item in the drop-down list, use the touchscreen keypad to enter the code, and then touch the [OK](#) button.
 - **556:** 05055616
 - **586:** 05058616
4. Touch the [Printhead Recovery](#) item, and then touch the [Start](#) button.

5. Follow the onscreen instructions to complete the process.

Solve copy/scan problems (586)

Learn about solving copy and scan problems.

Solve copy problems (586)

Learn about solving copy problems.

If the printer is having copy quality problems, try the solutions in this section in the order presented to resolve the issue.

Try these few simple steps first:

- Use the flatbed scanner rather than the document feeder.
- Use high-quality originals.
- When using the document feeder, load the original document into the feeder correctly, using the paper guides, to avoid unclear or skewed images.

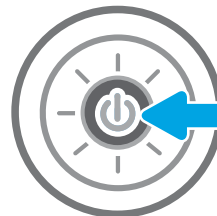
If the problem still exists, try these additional solutions. If they do not fix the problem, see “Improve print quality” for further solutions.

Check the scanner glass for dirt and smudges

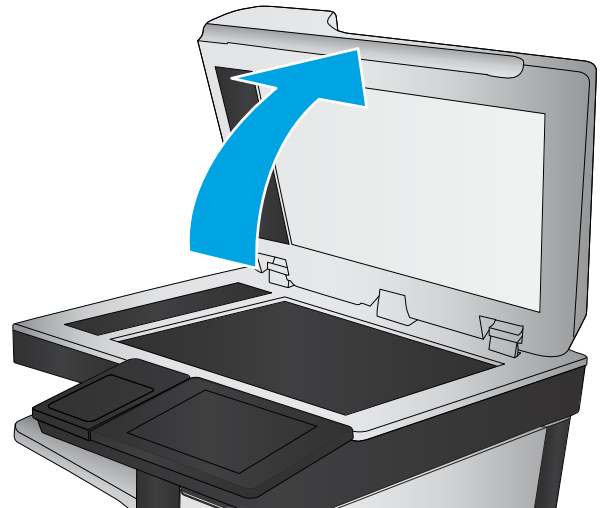
Learn about solving copy-quality debris problems.

Over time, specks of debris might collect on the scanner glass and white plastic backing, which can affect performance. Use the following procedure to clean the scanner if the printed pages have streaks, unwanted lines, black dots, poor print quality, or unclear text.

1. Press the power button to turn the printer off, and then disconnect the power cable from the electrical outlet.



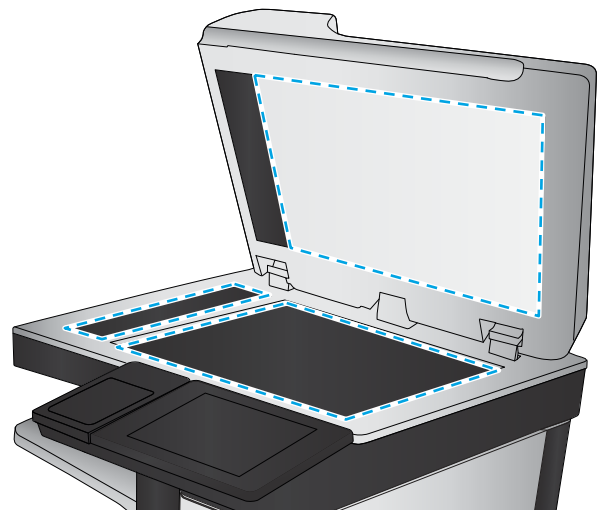
2. Open the scanner lid.



3. Clean the scanner glass and the document feeder strips with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

CAUTION: Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the printer; these can damage the printer. Do not place liquids directly on the glass or platen. They might seep and damage the printer.

NOTE: If you are having trouble with streaks on copies when you are using the document feeder, be sure to clean the small strip of glass on the left side of the scanner.



4. Dry the glass and white plastic parts with a chamois or a cellulose sponge to prevent spotting.
5. Connect the power cable to an outlet, and then press the power button to turn the printer on.

Calibrate the scanner

Learn about calibrating the scanner.

If the copied image is not positioned correctly on the page, follow these steps to calibrate the scanner.

NOTE: When using the document feeder, make sure to adjust the guides in the input tray so they are against the original document.

1. From the control panel, touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibration/Cleaning](#)

- [Calibrate Scanner](#)
3. Touch the [Next](#) button to start the calibration process. Follow the on-screen prompts.
 4. Wait while the printer calibrates, and then try copying again.

Check the paper settings

Learn about paper settings to solve copy problems.

Follow these steps if copied pages have smears, fuzzy or dark print, curled paper, or areas where pigment has dropped out.

Check the paper size and type configuration

1. From the Home screen on the printer control panel, select [Trays](#).
2. Select the line for the tray, and then select [Modify](#).
3. Select the paper size and paper type from the lists of options.
4. Touch the [OK](#) button to save the selection.

Select the tray to use for the copy

1. From the Home screen on the printer control panel, select [Copy](#).
2. Select [Paper Selection](#).
3. Select [Paper Tray](#), and then select one of the paper trays.
4. Select the tray with to use, and then select [OK](#).



NOTE: These settings are temporary. After you have finished the job, the printer returns to the default settings.


Check the image-adjustment settings

Learn about image-adjustment to solve copy problems.

Adjust these additional settings to improve copy quality:

- **Sharpness:** Clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photos appear smoother.
 - **Darkness:** Increase or decrease the amount of white and black used in colors in scanned images.
 - **Contrast:** Increase or decrease the difference between the lightest and the darkest color on the page.
 - **Background Cleanup:** Remove faint colors from the background of scanned images. For example, if the original document is printed on colored paper, use this feature to lighten the background without affecting the darkness of the image.
 - **Automatic Tone:** Available for Flow printers only. For original documents that have at least 100 characters of text on the page, the printer can detect which edge is the top of the page, and it orients the scanned images appropriately. If some of the pages are upside-down in relation to the other pages, the resulting scanned image has all pages right-side-up. If some of the pages have a landscape orientation, the printer rotates the image so that the top of the page is at the top of the image.
1. From the Home screen on the printer control panel, select [Copy](#).

2. Touch the [Image Adjustment](#) button.
3. Adjust the sliders to set the levels, and then touch the [OK](#) button.
4. Touch the [Start](#) button.


 **NOTE:** These settings are temporary. After you have finished the job, the printer returns to the default settings.

Optimize copy quality for text or pictures

Learn about optimizing copy quality for text or pictures to solve copy problems.

Optimize the copy job for the type of image being copied: text, graphics, or photos.

1. From the Home screen on the printer control panel, select [Copy](#).
2. Touch the [More Options](#) button, and then touch the [Optimize Text/Picture](#) button.
3. Select one of the predefined options, or touch the [Manually adjust](#) button, and then adjust the slider in the [Optimize For](#) area. Touch the [OK](#) button.
4. Touch the [Start](#) button.

 **NOTE:** These settings are temporary. After you have finished the job, the printer returns to the default settings.

Edge-to-edge copying

Learn about edge-to-edge copying to solve copy problems.

Use this feature to avoid shadows that can appear along the edges of copies when the original document is printed close to the edges.

1. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Copy Settings](#)
 - [Edge-To-Edge](#)
3. Select the [Edge-To-Edge](#) option if the original document is printed close to the paper edges.
4. Touch the [Save](#) button.
5. Touch the [Start](#) button.

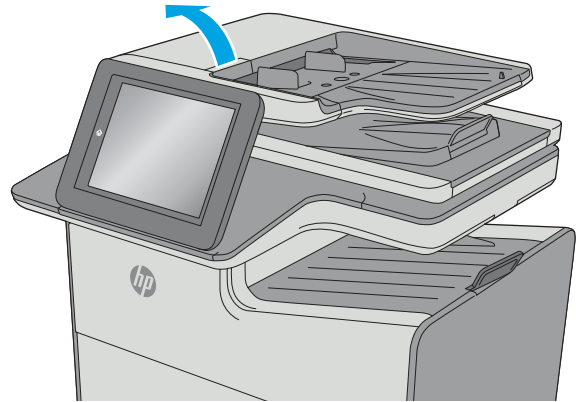
Clean the pickup rollers and separation pad in the document feeder (MFP)

Learn about cleaning the document feeder rollers and pads.

Follow these steps if the document feeder does not pick up pages correctly or produces skewed output.

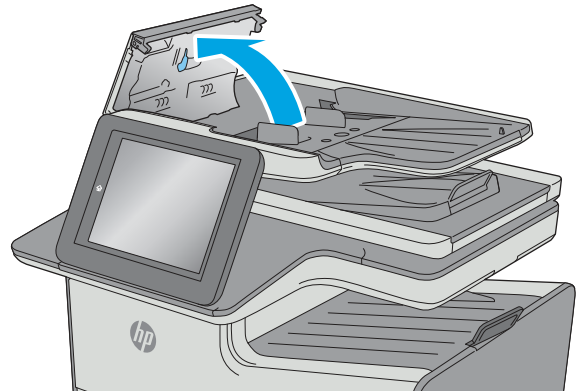
1. Lift the latch to release the document-feeder cover.

Figure 4-103 Lift the latch



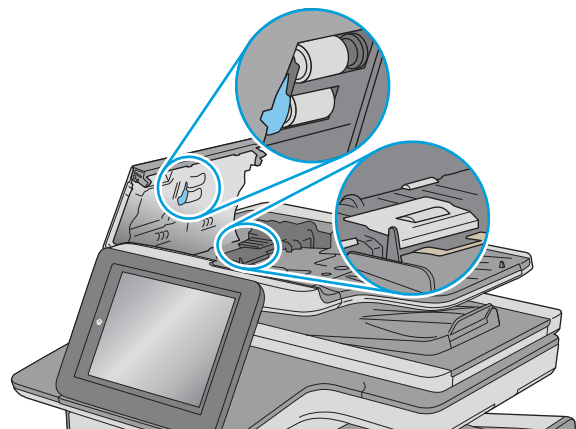
2. Open the document-feeder cover.

Figure 4-104 Open the document-feeder cover



3. Remove any visible lint or dust from each of the feed rollers and the separation pad using compressed air or a clean lint-free cloth moistened with warm water.

Figure 4-105 Clean the document feeder rollers



4. Close the document-feeder cover.

 **NOTE:** Verify that the latch on the top of the document-feeder cover is completely closed.

If the problem persists, check the document feeder separation pad and rollers for damage or wear, and replace them if necessary.


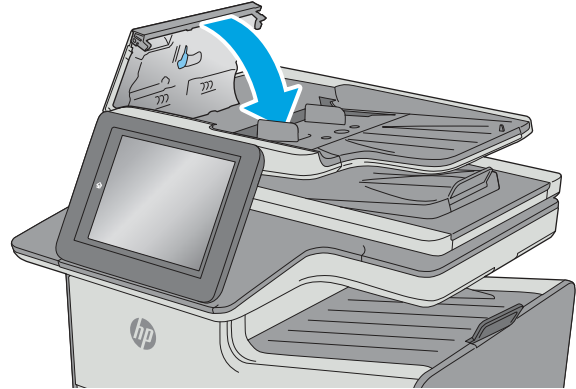
 **NOTE:** New rollers have a rough surface. As rollers wear, they become smooth.

Figure 4-106 Close the document-feeder cover



Solve scan problems (586)

Learn about solving scan problems.

If the printer is having scan quality problems, try the solutions in this section in the order presented to resolve the issue.

Try these few simple steps first:

- Use the flatbed scanner rather than the document feeder.
- Use high-quality originals.
- When using the document feeder, load the original document into the feeder correctly, using the paper guides, to avoid unclear or skewed images.

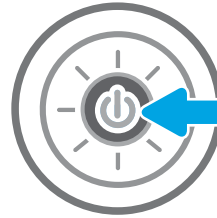
If the problem still exists, try these additional solutions. If they do not fix the problem, see “Improve print quality” for further solutions.

Check the scanner glass for dirt and smudges

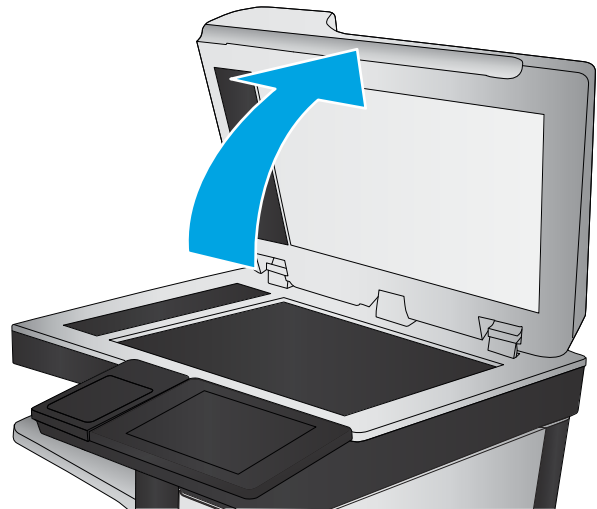
Learn about solving copy-quality debris problems.

Over time, specks of debris might collect on the scanner glass and white plastic backing, which can affect performance. Use the following procedure to clean the scanner if the printed pages have streaks, unwanted lines, black dots, poor print quality, or unclear text.

1. Press the power button to turn the printer off, and then disconnect the power cable from the electrical outlet.



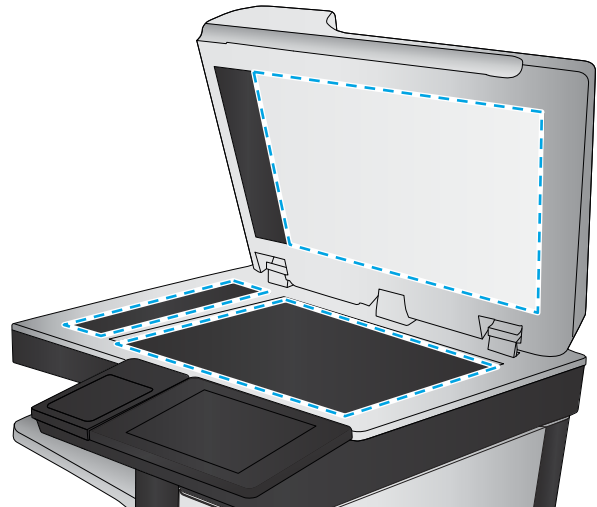
2. Open the scanner lid.



3. Clean the scanner glass and the document feeder strips with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

CAUTION: Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the printer; these can damage the printer. Do not place liquids directly on the glass or platen. They might seep and damage the printer.

NOTE: If you are having trouble with streaks on copies when you are using the document feeder, be sure to clean the small strip of glass on the left side of the scanner.



4. Dry the glass and white plastic parts with a chamois or a cellulose sponge to prevent spotting.

5. Connect the power cable to an outlet, and then press the power button to turn the printer on.

Check the resolution settings

Learn about checking the resolution settings to solve scan problems.



NOTE: Setting the resolution to a high value increases the file size and the scan time.

1. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the [Scan/Digital Send Settings](#) menu.
3. Select the category of scan and send settings that you want to configure.
4. Open the [Default Job Options](#) menu.
5. Touch the [Resolution](#) button.
6. Select one of the predefined options. Touch the [Save](#) button.
7. Touch the [Start](#) button.

Check the color settings

Learn about checking the color settings to solve scan problems.

Follow these steps to adjust the color setting:

1. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the [Scan/Digital Send Settings](#) menu.
3. Select the category of scan and send settings that you want to configure.
4. Open the [Default Job Options](#) menu.
5. Touch the [Color/Black](#) button.
6. Select one of the predefined options. Touch the [Save](#) button.
7. Touch the [Start](#) button.

Check the image-adjustment settings

Learn about image-adjustment to solve scan problems.

Adjust these additional settings to improve copy quality:

- **Sharpness:** Clarify or soften the image. For example, increasing the sharpness could make text appear crisper, but decreasing it could make photos appear smoother.
- **Darkness:** Increase or decrease the amount of white and black used in colors in scanned images.
- **Contrast:** Increase or decrease the difference between the lightest and the darkest color on the page.
- **Background Cleanup:** Remove faint colors from the background of scanned images. For example, if the original document is printed on colored paper, use this feature to lighten the background without affecting the darkness of the image.


- **Automatic Tone:** Available for Flow printers only. For original documents that have at least 100 characters of text on the page, the printer can detect which edge is the top of the page, and it orients the scanned images appropriately. If some of the pages are upside-down in relation to the other pages, the resulting scanned image has all pages right-side-up. If some of the pages have a landscape orientation, the printer rotates the image so that the top of the page is at the top of the image.
1. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
 2. Open the [Scan/Digital Send Settings](#) menu.
 3. Select the category of scan and send settings that you want to configure.
 4. Open the [Default Job Options](#) menu.
 5. Touch the [Image Adjustment](#) button.
 6. Adjust the sliders to set the levels, and then touch the [Save](#) button.
 7. Touch the [Start](#) button.

Optimize scan quality for text or pictures

Learn about optimizing scan quality for text or pictures to solve scan problems.

Optimize the scan job for the type of image being copied: text, graphics, or photos.

1. From the Home screen on the printer control panel, touch one of the buttons for the scan/send features:
 - [Save to Network Folder](#)
 - [Save to Device Memory](#)
 - [Save to USB](#)
 - [Scan to SharePoint®](#)
2. Touch the [More Options](#) button, and then touch the [Optimize Text/Picture](#) button.
3. Select one of the predefined options, or touch the [Manually adjust](#) button, and then adjust the slider in the [Optimize For](#) area. Touch the [OK](#) button.
4. Touch the [Start](#) button.

 **NOTE:** These settings are temporary. After you have finished the job, the printer returns to the default settings.

Check the output-quality settings

Learn about checking the output-quality settings to solve scan problems.

This setting adjusts the level of compression when saving the file. For the highest quality, select the highest setting.

1. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the [Scan/Digital Send Settings](#) menu.
3. Select the category of scan and send settings that you want to configure.
4. Open the [Default Job Options](#) menu.

5. Touch the [Output Quality](#) button.
6. Select one of the predefined options. Touch the [Save](#) button.
7. Touch the [Start](#) button.

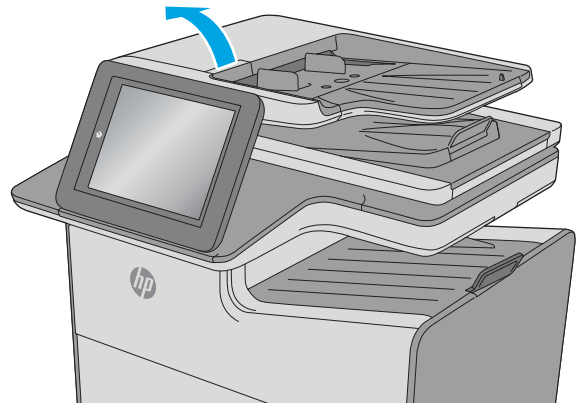
Clean the pickup rollers and separation pad in the document feeder (MFP)

Learn about cleaning the document feeder rollers and pads.

Follow these steps if the document feeder does not pick up pages correctly or produces skewed output.

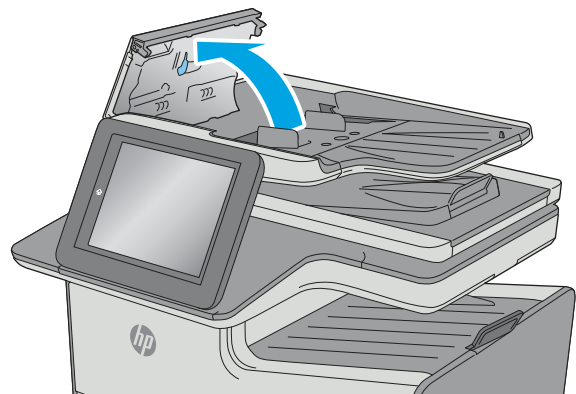
1. Lift the latch to release the document-feeder cover.

Figure 4-107 Lift the latch



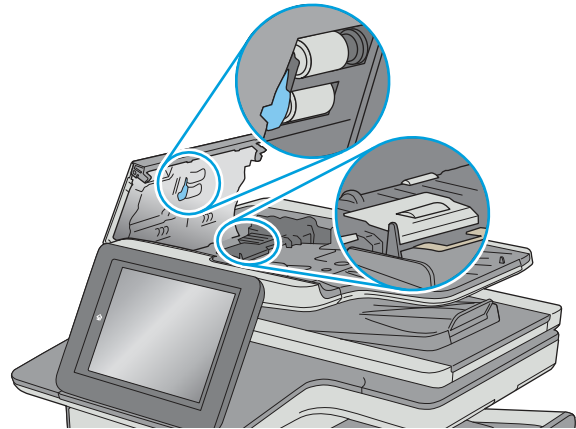
2. Open the document-feeder cover.

Figure 4-108 Open the document-feeder cover



3. Remove any visible lint or dust from each of the feed rollers and the separation pad using compressed air or a clean lint-free cloth moistened with warm water.

Figure 4-109 Clean the document feeder rollers



4. Close the document-feeder cover.

 **NOTE:** Verify that the latch on the top of the document-feeder cover is completely closed.

If the problem persists, check the document feeder separation pad and rollers for damage or wear, and replace them if necessary.


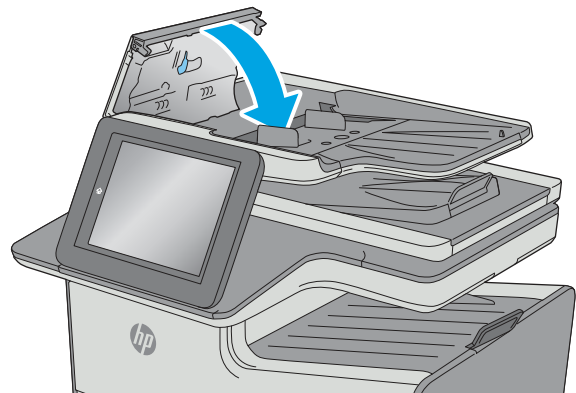
 **NOTE:** New rollers have a rough surface. As rollers wear, they become smooth.

Figure 4-110 Close the document-feeder cover



Clean the printer

Review the following information about cleaning the printer.

 **NOTE:** To clean the printer exterior, use a soft, water-moistened cloth.

Clean the paper path

Over time, particles of toner and paper accumulate inside the printer. This can cause print-quality problems during printing. Cleaning the paper path eliminates or reduces these problems.

Clean the paper path and toner-cartridge areas every time that a toner cartridge is changed or whenever print-quality problems occur. As much as possible, keep the printer free from dust and debris.

Print a cleaning page

Learn about cleaning the printer paper path.

Print the cleaning page from a touchscreen control panel

1. From the Home screen on the printer control panel, select the [Support Tools](#) menu.
2. Open the following menus:
 - [Maintenance](#)
 - [Calibration/Cleaning](#)
 - [Cleaning Page](#)
3. Select [Print](#) to print the page.

A **Cleaning...** message displays on the printer control panel. The cleaning process takes a few minutes to complete. Do not turn the printer off until the cleaning process has finished. When it is finished, discard the printed page.

Print the cleaning page from an LCD control panel

1. From the Home screen on the printer control panel, use the arrow buttons to scroll to [Device Maintenance](#), and then press the [OK](#) button.
2. Use the arrow buttons to scroll to [Calibration/Cleaning](#), and then press the [OK](#) button.
3. If necessary, use the arrow buttons to scroll to [Cleaning](#), and then press the [OK](#) button to print the page.
4. Follow the instruction on the printed cleaning page to finish the cleaning page process.

Enable and configure auto cleaning (touchscreen control panels only)

Learn about auto cleaning the printer paper path.

1. From the Home screen on the printer control panel, select the [Support Tools](#) menu.
2. Open the following menus:
 - [Maintenance](#)
 - [Calibration/Cleaning](#)
 - [Cleaning Page](#)
3. Select [Print](#) to print the page.

A **Cleaning...** message displays on the printer control panel. The cleaning process takes a few minutes to complete. Do not turn the printer off until the cleaning process has finished. When it is finished, discard the printed page.

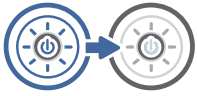
Check the scanner glass for dirt and smudges

Learn about solving copy-quality debris problems.

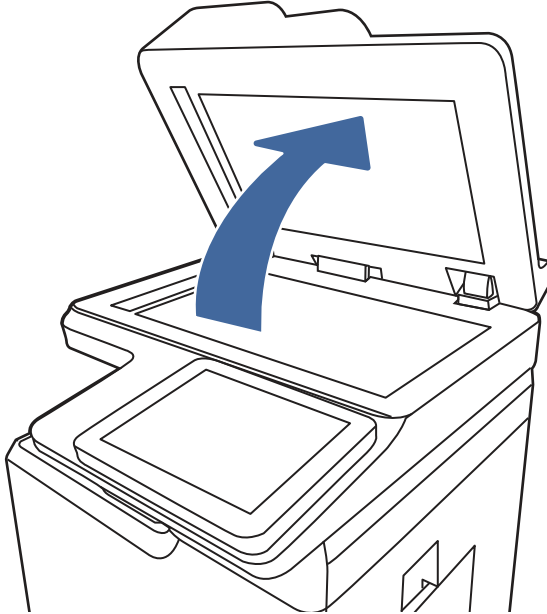
Over time, specks of debris might collect on the scanner glass and document feeder white plastic backing, which might cause print defects. Use the following procedure to clean the scanner if the printed pages have streaks, unwanted lines, black dots, poor print quality, or unclear text.

[View a video of cleaning the document feeder glass and flatbed glass.](#)

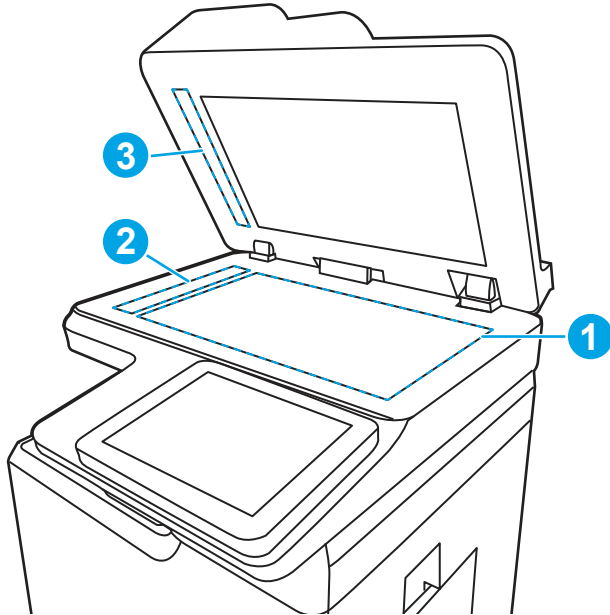
1. Press the power button to turn the printer off, and then disconnect the power cable from the electrical outlet.



2. Open the scanner lid.



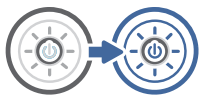
3. Clean the scanner glass (callout 1) and the document feeder strips (callout 2, callout 3) with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.



CAUTION: Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the printer; these can damage the printer. Do not place liquids directly on the glass or platen. They might seep and damage the printer.

NOTE: If you are having trouble with streaks on copies when you are using the document feeder, be sure to clean the small strips of glass on the left side of the scanner (callout 2, callout 3).

4. Dry the glass and white plastic parts with a chamois or a cellulose sponge to prevent spotting.
5. Connect the power cable to an outlet, and then press the power button to turn the printer on.



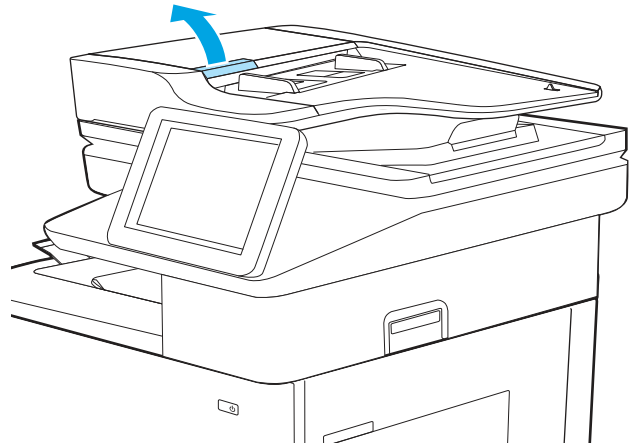
Clean the pickup rollers and separation pad in the document feeder (MFP)

Learn about cleaning the document feeder rollers and pads.

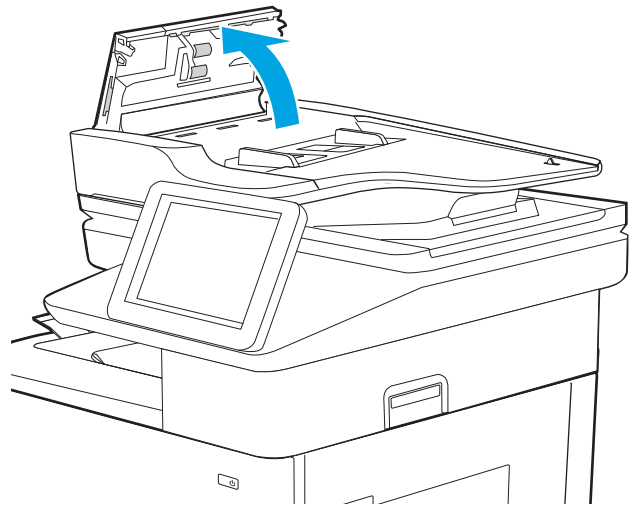
Over time, specks of debris might collect on the document feeder rollers and pads which can affect performance.

NOTE: The figures in this topic show a typical MFP printer. However, the procedure is correct for all MFP printers.

1. Lift the document-feeder latch.

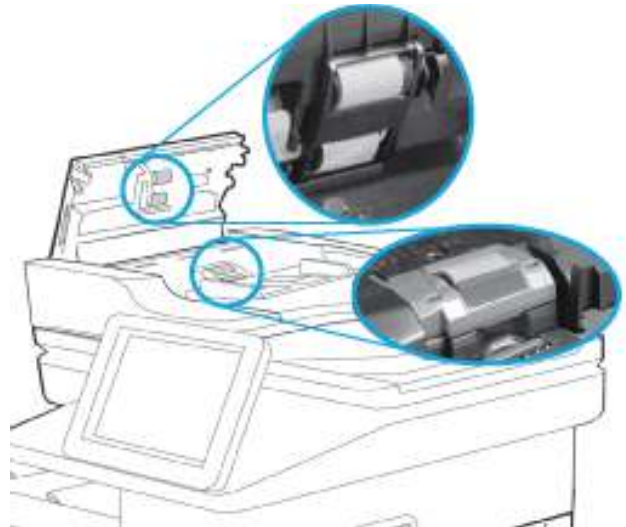


2. Open the document-feeder cover.



3. Remove any visible lint or dust from each of the feed rollers and the separation pad using compressed air or a clean lint-free cloth moistened with warm water.

 **NOTE:** Lift up the roller assembly to access and clean the second roller.




4. Close the document-feeder cover.

Solve paper jam or feed problems

Review the following information to solve paper handling problems.

The printer does not pick up paper

If the printer does not pick up paper from the tray, try these solutions.

 **NOTE:** Tray 1 and Tray 2 are optimal for paper pickup when using special paper or media other than 20lb plain paper. For Tray 1 and Tray 2 the printer increases the number of attempts to pick up a page, which increases the reliability of successfully picking the page from the tray and decreases the possibility of a mispick jam.

HP recommends using Tray 1 or Tray 2 if the printer is experiencing excessive or reoccurring jams from trays other than Tray 1 and Tray 2, or for print jobs that require media other than 20lb plain paper.

1. Open the printer and remove any jammed sheets of paper.
2. Load the tray with the correct size of paper for the job.
3. Make sure the paper size and type are set correctly on the printer control panel.
4. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides to the appropriate indentation in the tray.
5. Check the printer control panel to see if the printer is waiting for an acknowledgment to the feed the paper manually prompt. Load paper, and continue.
6. The rollers above the tray might be contaminated. Clean the rollers with a lint-free cloth dampened with warm water.

The printer picks up multiple sheets of paper

If the printer picks up multiple sheets of paper from the tray, try these solutions.

1. Remove the stack of paper from the tray and flex it, rotate it 180 degrees, and flip it over. *Do not fan the paper.* Return the stack of paper to the tray.
2. Use only paper that meets HP specifications for this printer.
3. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides to the appropriate indentation in the tray.
6. Make sure the printing environment is within recommended specifications.
7. The tray pick and/or feed rollers might be contaminated. Clean the rollers with a lint-free cloth dampened with warm water.

The document feeder jams, skews, or picks up multiple sheets of paper (MFP)

Learn about MFP document feeder paper handling problems.

Review the following information when the document feeder jams, skews, or picks up multiple sheets of paper.

- Check to see if there are areas on the page that might have had staples removed. This can cause jams and/or mispicks.
- The original might have something on it, such as staples or self-adhesive notes that must be removed.
- Check that all rollers are in place and correctly installed.
- Make sure that the top document-feeder cover is closed.
- The pages might not be placed correctly. Straighten the pages and adjust the paper guides to center the stack.
- The paper guides must be touching the sides of the paper stack to work correctly. Make sure that the paper stack is straight, and the guides are against the paper stack.
- The document feeder input tray or output bin might contain more than the maximum number of pages. Make sure the paper stack fits below the guides in the input tray and remove pages from the output bin.
- Verify that there are no pieces of paper, staples, paper clips, or other debris in the paper path.
- Clean the document-feeder rollers and the separation pad. Use compressed air or a clean, lint-free cloth moistened with warm water. If misfeeds still occur, replace the rollers.
- Use the control panel menus to check the status of the document-feeder kit and replace it if necessary.

Clear paper jams

Use the procedures in this section to clear jammed paper from the printer paper path.



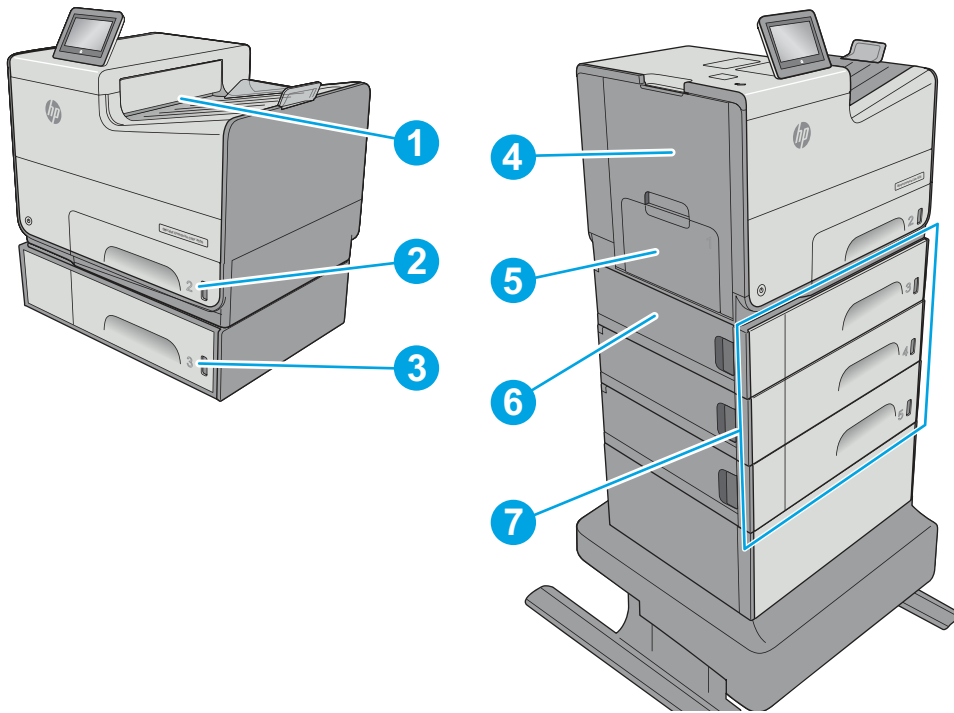
NOTE: To avoid tearing the paper, pull the jammed paper out slowly and gently.

Figures in this section are representational only. The actual printer being serviced might look slightly different depending on the model and installed accessories.

Jam locations (556)

Jams can occur in these locations (SFP).

Figure 4-111 Paper jam locations (SFP)

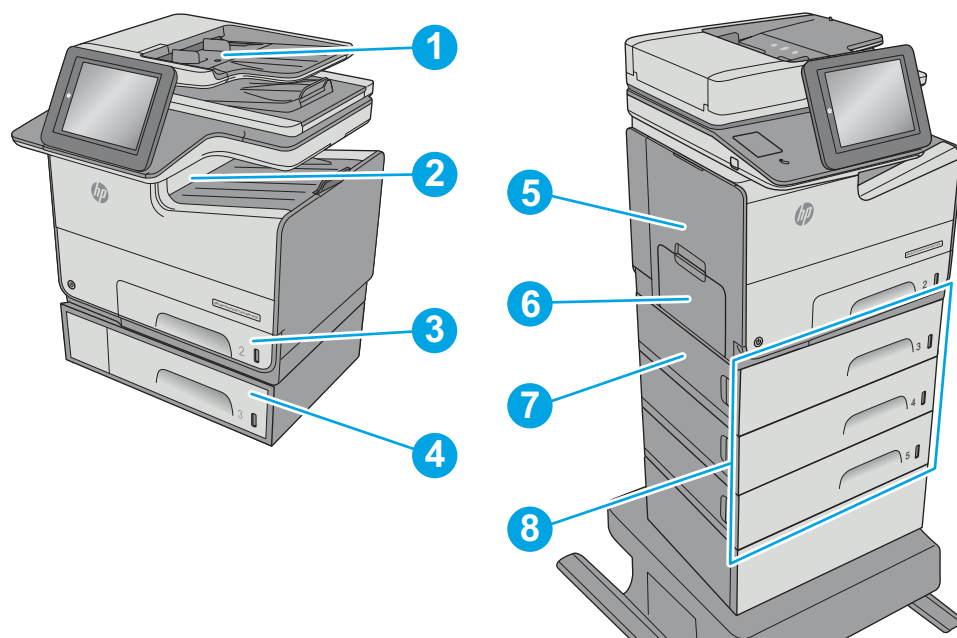


Item	Location
1	Output bin
2	Tray 2
3	Tray 3
4	Left door and ink-collection unit area
5	Tray 1
6	Lower-left door
7	Optional 3x500-sheet paper feeder

Jam locations (586)

Jams can occur in these locations (MFP).

Figure 4-112 Paper jam locations (MFP)



Item	Location
1	Document feeder
2	Output bin
3	Tray 2
4	Optional Tray 3
5	Left door and ink-collection unit area
6	Tray 1
7	Lower-left door
8	Optional 3x500-sheet paper feeder

Auto-navigation for clearing paper jams

Learn about printer jam clearing auto-navigation.

The auto-navigation feature assists in clearing jams by providing step-by-step instructions on the control panel.

When you complete a step, the printer displays instructions for the next step until you have completed all steps in the procedure.

Experiencing frequent or recurring paper jams?

To reduce the number of paper jams, try these solutions.

[View a video that demonstrates how to load paper in a way that reduces the number of paper jams](#)

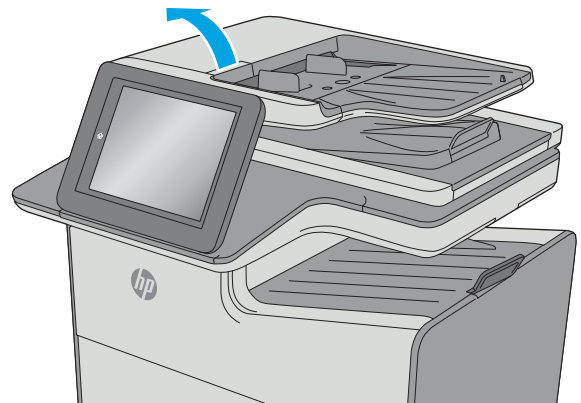
1. Use only paper that meets HP specifications for this printer.
2. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.

3. Use paper that has not previously been printed or copied on.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides so they are touching the paper stack without bending it.
6. Make sure that the tray is fully inserted in the printer.
7. If you are printing on heavy, embossed, or perforated paper, use the manual feed feature and feed sheets one at a time.
8. Open the [Trays](#) menu on the printer control panel. Verify that the tray is configured correctly for the paper type and size.
9. Make sure the printing environment is within recommended specifications.

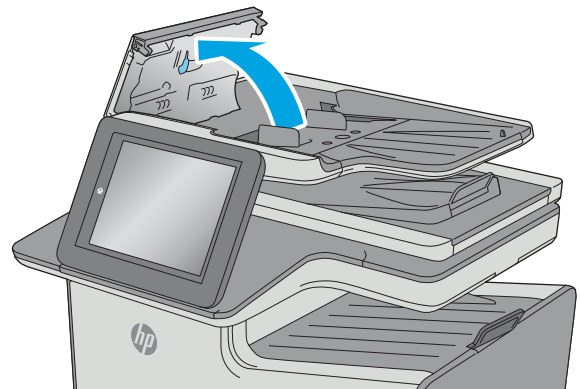
Clear jams in the document feeder

The following information describes how to clear paper jams in the document feeder. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

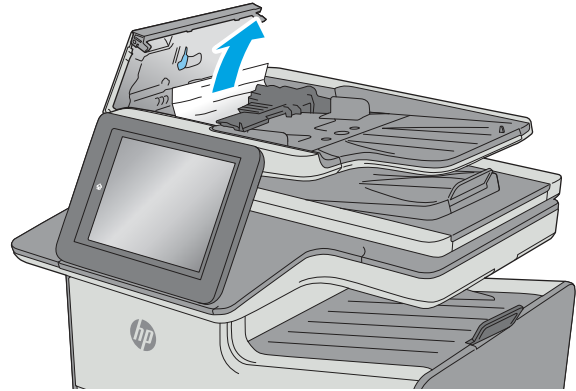
1. Lift the latch to release the document-feeder cover.



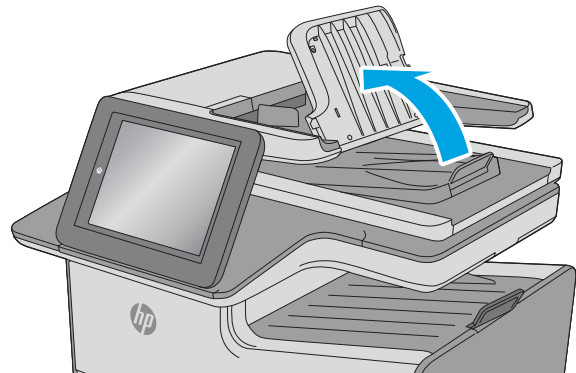
2. Open the document-feeder cover.



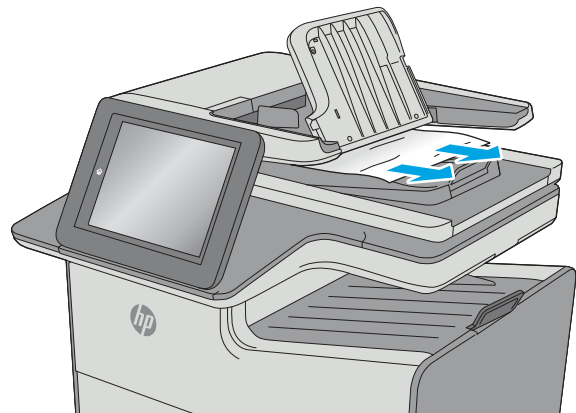
3. Remove any jammed paper.



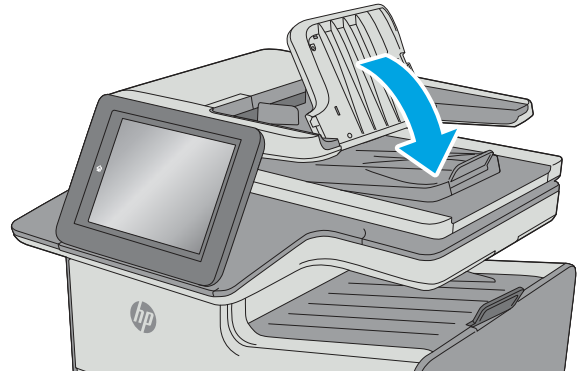
4. Lift the document feeder input tray.



5. Remove any jammed paper.

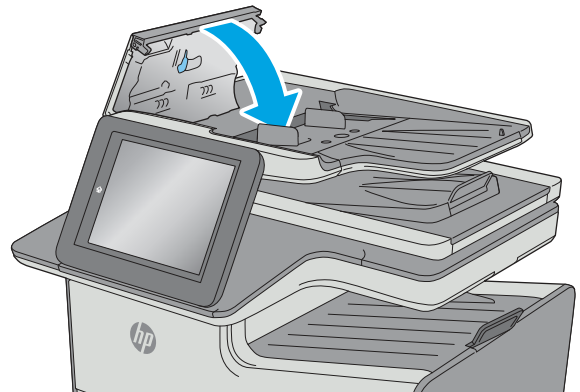



- Lower the document-feeder input tray.



- Close the document-feeder cover.

 **NOTE:** Verify that the latch on the top of the document feeder cover is completely closed.



 **NOTE:** To avoid jams, make sure the guides in the document-feeder input tray are adjusted against the document, without bending the document. To copy narrow documents, use the flatbed scanner. Remove all staples and paper clips from original documents.

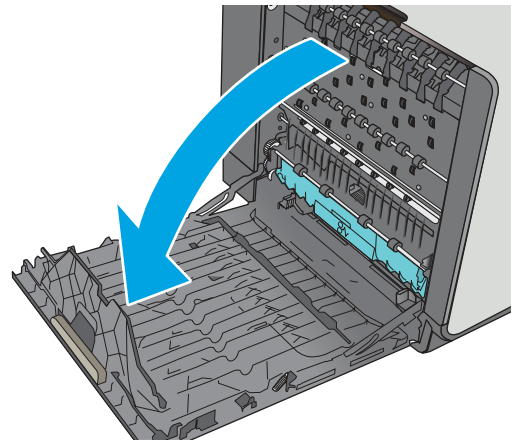
 **NOTE:** Original documents that are printed on heavy, glossy paper can jam more frequently than originals that are printed on plain paper.

Clear jams in the left door

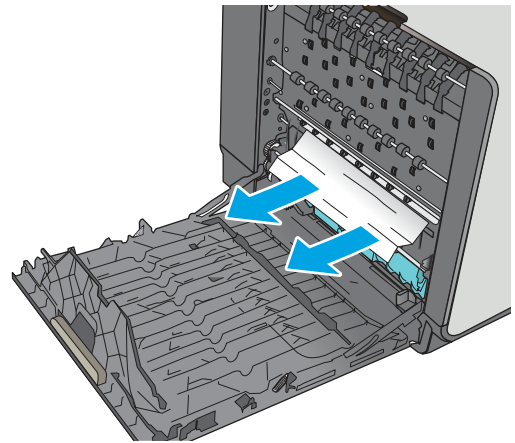
Learn how to clear jams in the left door.

The following information describes how to clear paper jams in the left door. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

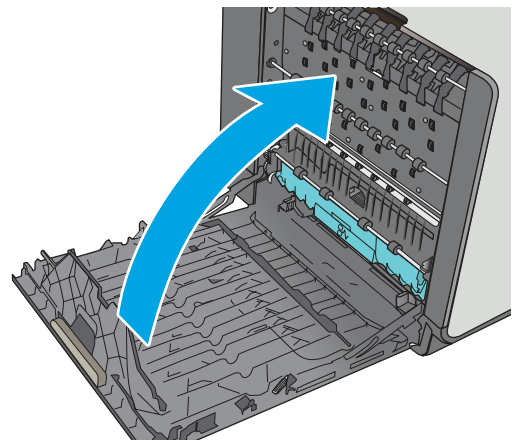
1. Open the left door.



2. Gently pull out any jammed paper from the rollers and delivery area. If the paper tears, make sure to remove all remnants.



3. Close the left door.



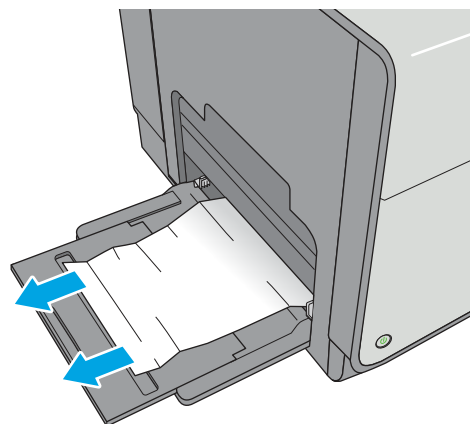
Clear jams in Tray 1 (multipurpose tray)

Use the following procedure to check for paper in all possible jam locations related to Tray 1.

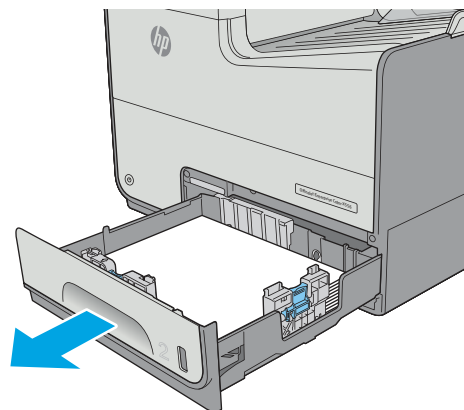
When a jam occurs, the control panel displays an animation that assists in clearing the jam.

1. If most of the sheet of paper is visible in the tray, slowly pull the jammed paper out of the printer. Make sure that the entire sheet is removed. If it tears, continue with the following steps to find the remnants.

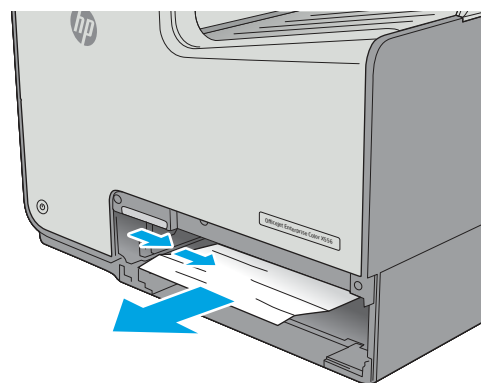
If most of the sheet of paper has been pulled inside the printer, continue with the following steps.



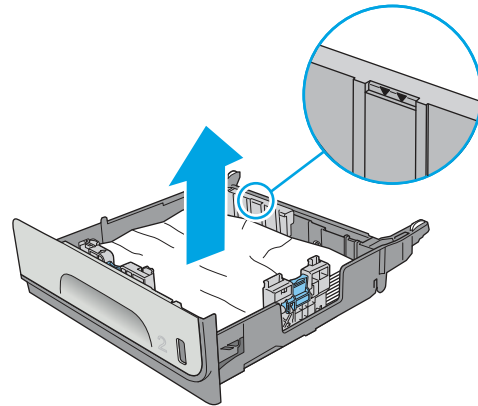
2. Pull Tray 2 completely out of the printer by pulling and lifting up slightly



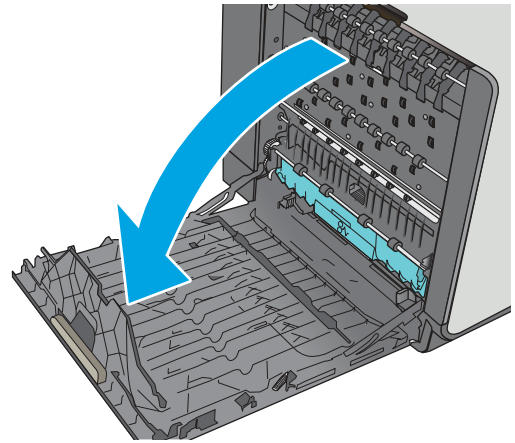
3. Remove the jammed paper from the feed rollers inside the printer. First pull the paper to the right, and then pull it forward to remove it.



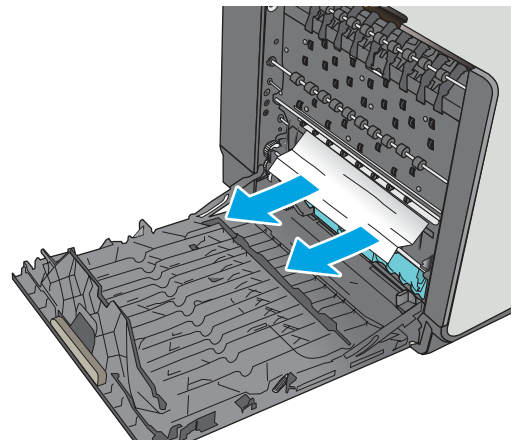
4. Remove any jammed or damaged sheets of paper. Verify that the tray is not overfilled and that the paper guides are adjusted correctly.



5. Open the left door.

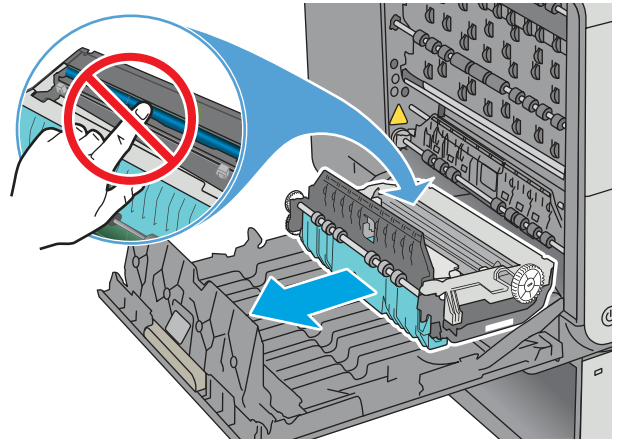


6. Gently pull out any jammed paper from the rollers and delivery area. If the paper tears, make sure to remove all remnants.

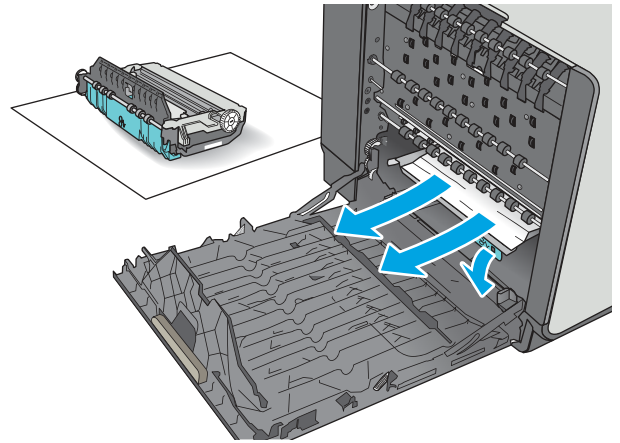


7. Remove the ink-collection unit by pulling it out with both hands. Set the unit aside, upright, on a piece of paper to prevent spills.

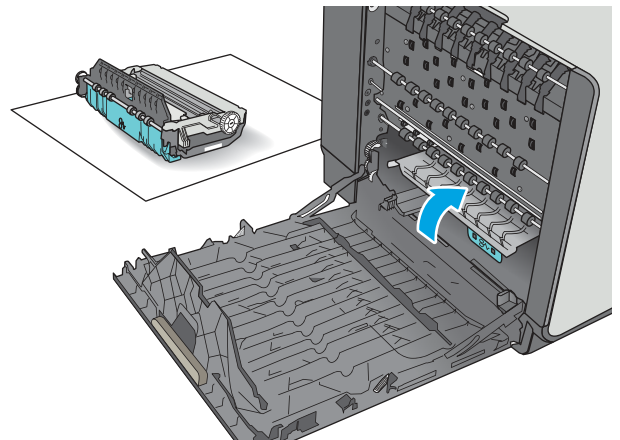
CAUTION: When removing the ink-collection unit, avoid making direct contact with the black cylinder to prevent pigment smear on skin or clothes.



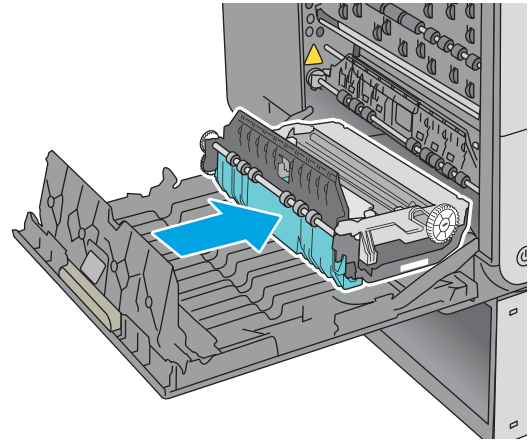
8. Lower the platen by pressing down on the green tab. This will cause the printer to try to feed the sheet through the print zone. You might need to gently pull on the sheet if it does not feed. Remove the sheet.



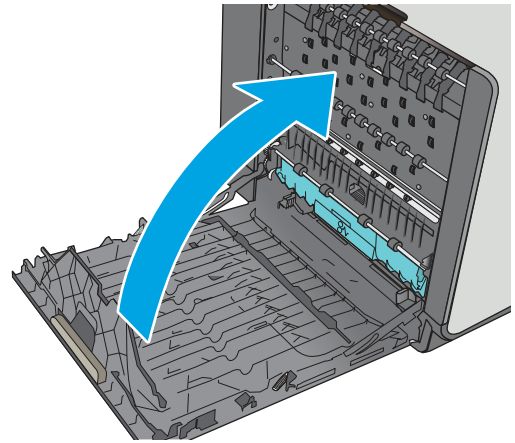
9. Lift the green tab to return the platen to the operating position.



10. Install the ink-collection unit.



11. Close the left door.

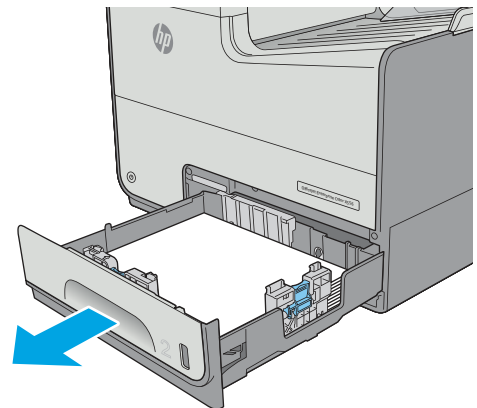


Clear jams in Tray 2

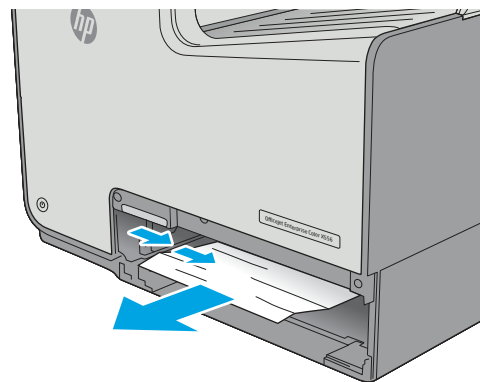
Use the following procedure to clear jams in Tray 2.

When a jam occurs, the control panel displays an animation that assists in clearing the jam.

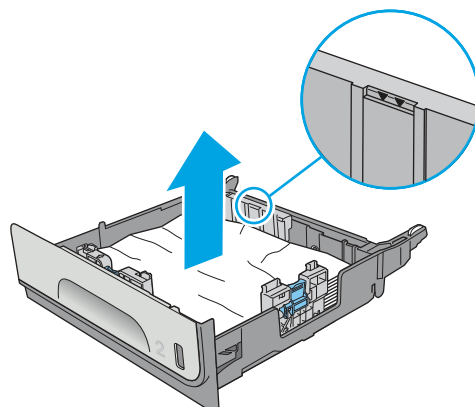
1. Pull the tray completely out of the printer by pulling and lifting up slightly



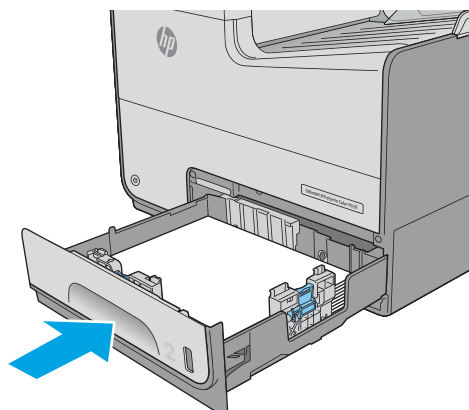
2. Remove the jammed paper from the feed rollers inside the printer. First pull the paper to the right, and then pull it forward to remove it.



3. Remove any jammed or damaged sheets of paper. Verify that the tray is not overfilled and that the paper guides are adjusted correctly.



4. Reinsert and close the tray.

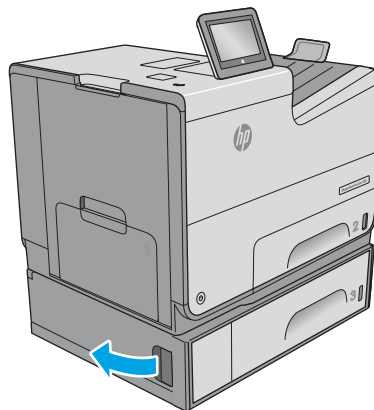


Clear jams in optional Tray 3

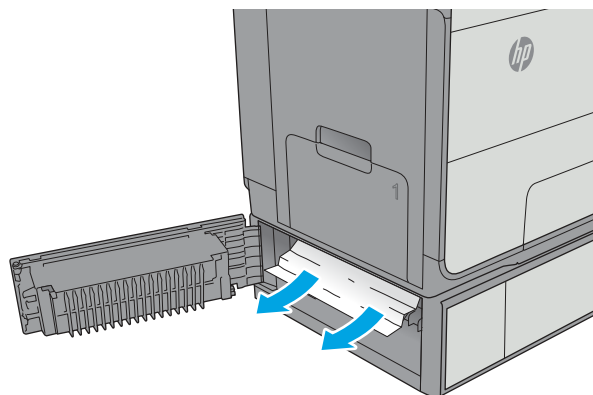
Use the following procedure to check for paper in all possible jam locations related to Tray 3.

Use the following procedure to check for paper in all possible jam locations related to Tray 3. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

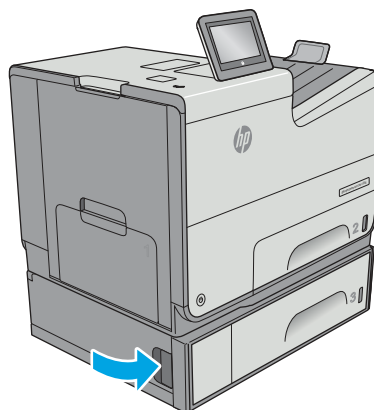
1. Open the lower-left door.



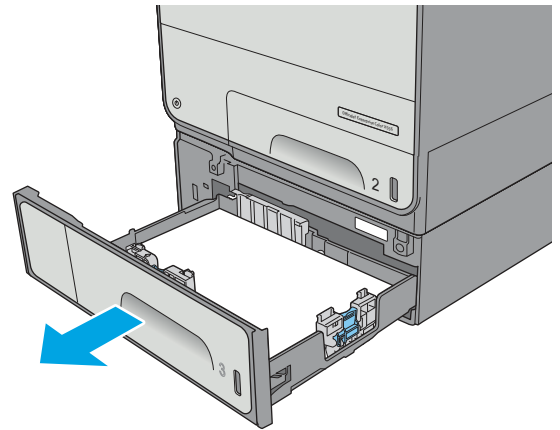
2. Gently pull out any jammed paper.



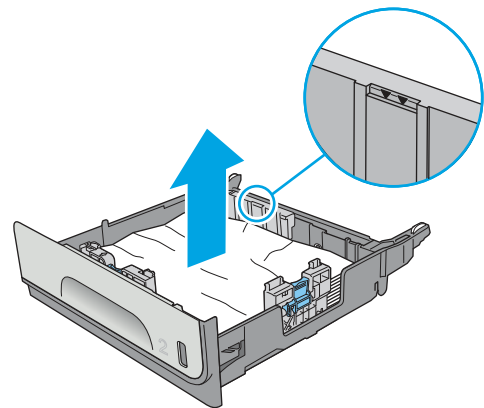
3. Close the lower-left door.



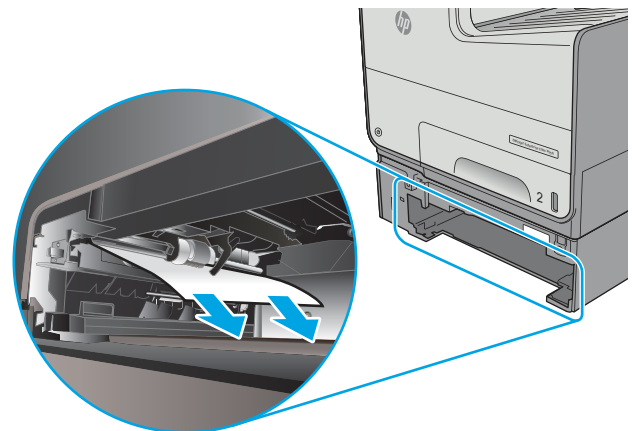
4. Pull the tray completely out of the printer by pulling and lifting it up slightly.



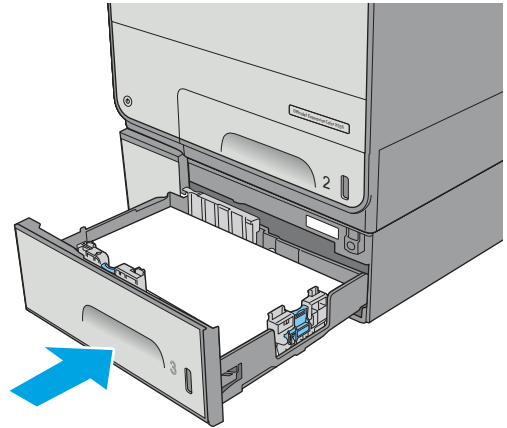
5. Remove any jammed or damaged sheets of paper. Verify that the tray is not overfilled and that the paper guides are adjusted correctly.



6. Remove any paper from the feed rollers inside the printer. First pull the paper to the right to release it, and then pull it forward to remove it.




7. Reinsert and close the tray.



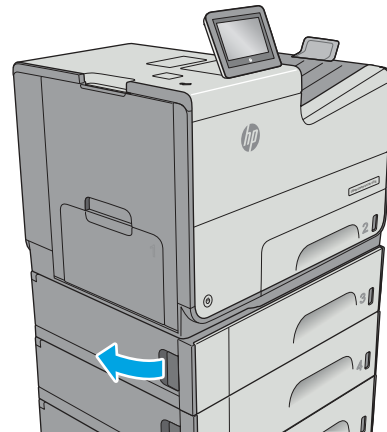
Clear jams in the optional 3x500-sheet feeder

Use the following procedure to check for paper in all possible jam locations related to the 3x500-sheet feeder.

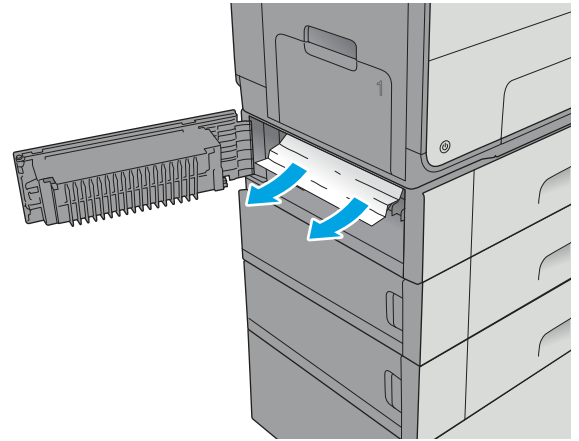
Use the following procedure to check for paper in all possible jam locations related to the 3x500-sheet feeder. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

 **NOTE:** The following procedure shows Tray 3. The method to clear jams in Trays 4 and 5 is the same.

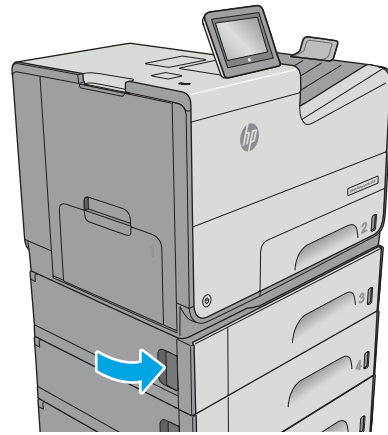
1. Open the lower-left door.



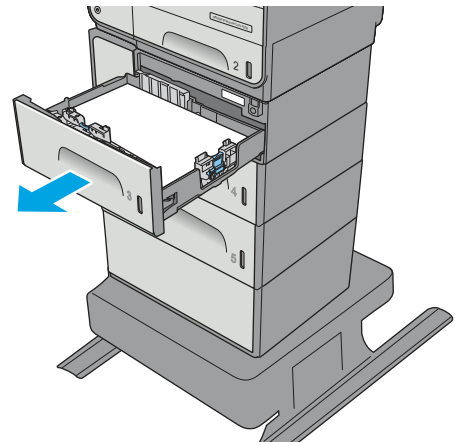
2. Gently pull out any jammed paper.



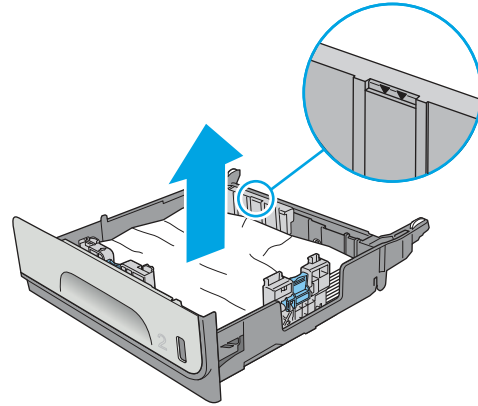
3. Close the lower-left door.



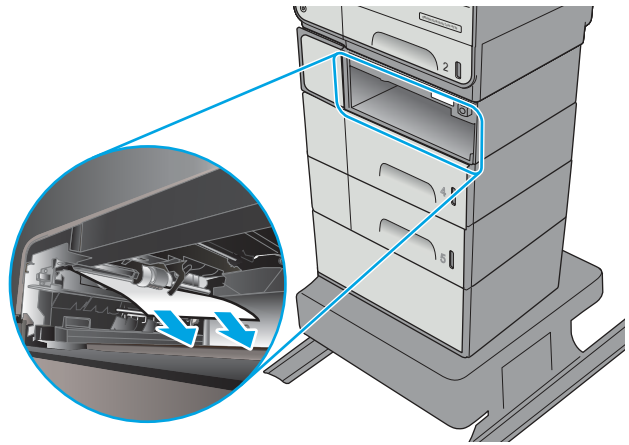
4. Pull the tray completely out of the printer by pulling and lifting it up slightly.



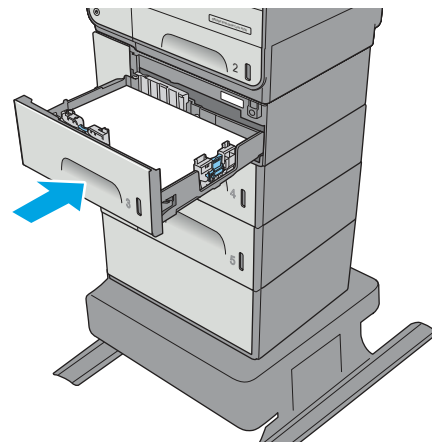
5. Remove any jammed or damaged sheets of paper. Verify that the tray is not overfilled and that the paper guides are adjusted correctly.



6. Remove any paper from the feed rollers inside the printer. First pull the paper to the right to release it, and then pull it forward to remove it.



7. Reinsert and close the tray.

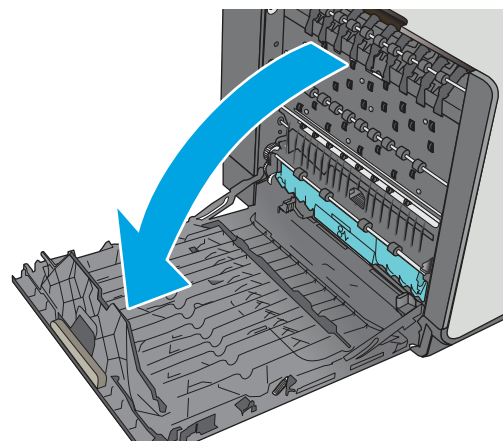


Clear jams in the ink-collection unit area

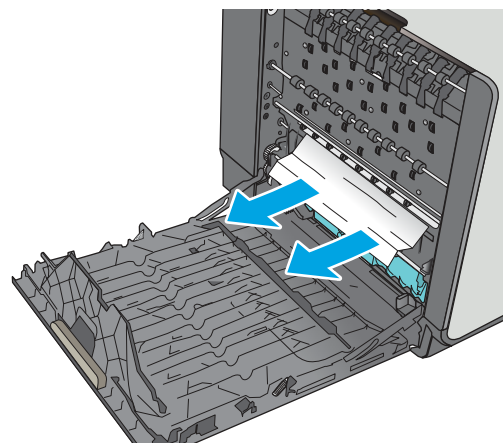
The following information describes how to clear paper jams in the ink-collection unit.

When a jam occurs, the control panel displays an animation that assists in clearing the jam.

1. Open the left door.

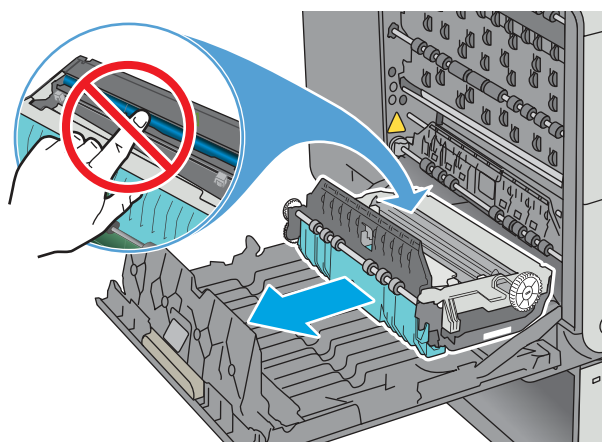


2. Gently pull out any jammed paper from the rollers and delivery area. If the paper tears, make sure to remove all remnants.

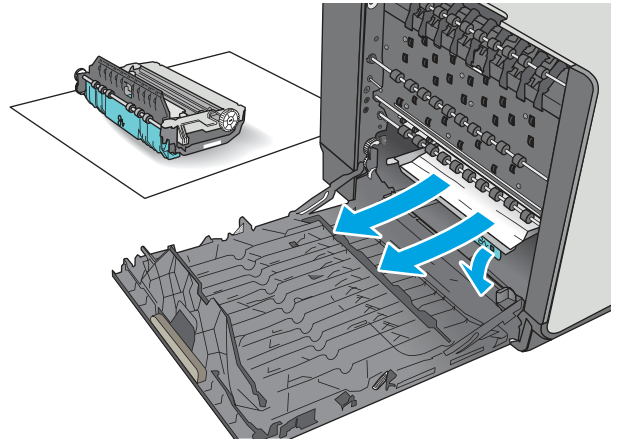


3. Remove the ink-collection unit by pulling it out with both hands. Set the unit aside, upright, on a piece of paper to prevent spills.

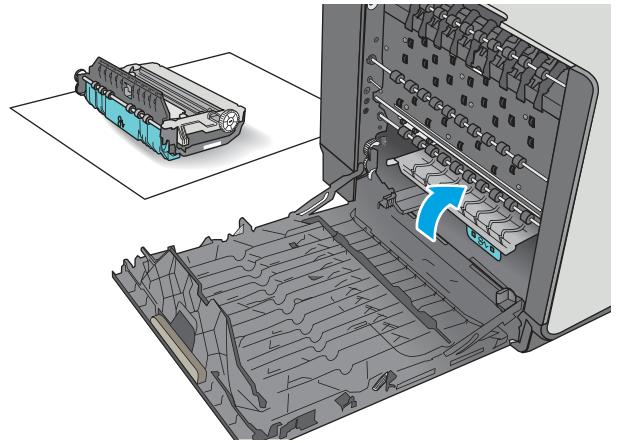
⚠ CAUTION: When pulling out the ink-collection unit, avoid making direct contact with the black cylinder to prevent pigment smear on skin or clothes.



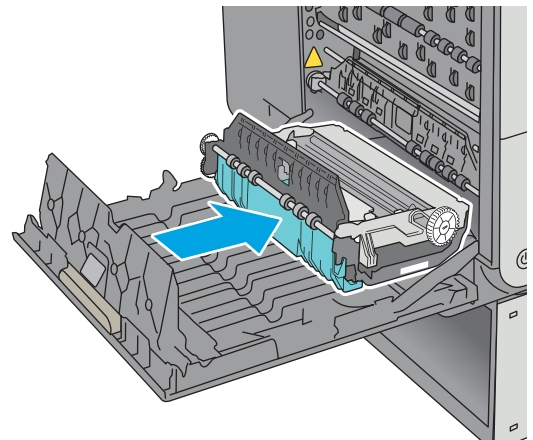
4. Lower the platen by pressing down on the green tab. This will cause the printer to try to feed the sheet through the print zone. You might need to gently pull on the sheet if it does not feed. Remove the sheet.



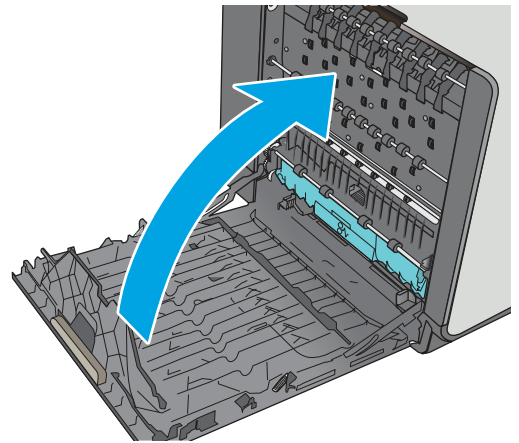
5. Lift the green tab to return the platen to the operating position.



6. Install the ink-collection unit.



7. Close the left door.

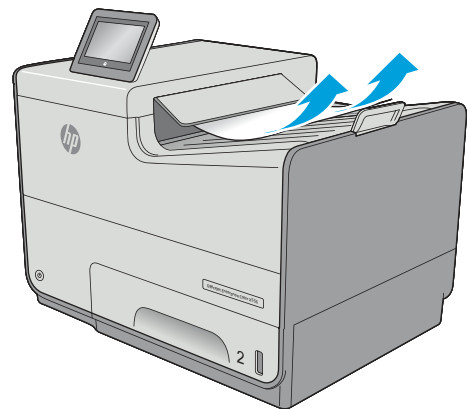


Clear jams in the output bin (556)

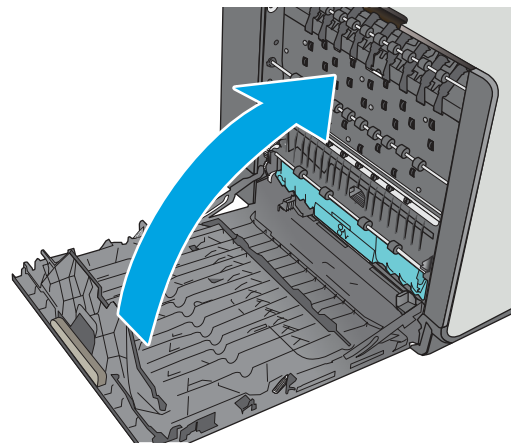
Use the following procedure to clear jams in the output bin.

When a jam occurs, the control panel displays an animation that assists in clearing the jam.

1. If paper is visible in the output bin, grasp the leading edge of the paper and remove it.



2. Open and then close the left door to clear the message.

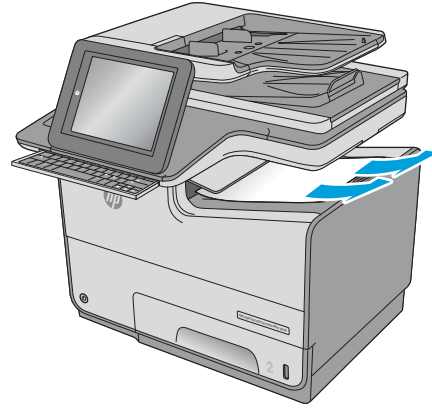


Clear jams in the output bin (586)

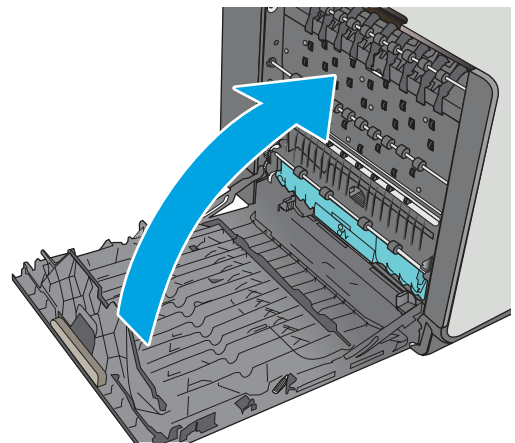
Use the following procedure to clear jams in the output bin.

Use the following procedure to clear jams in the output bin. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

1. If paper is visible in the output bin, grasp the leading edge of the paper and remove it.




2. Open and then close the left door to clear the message on the control panel.



Solve performance problems

Review the following information and procedures to solve performance problems.

 **NOTE:** Tray 1 and Tray 2 are optimal for paper pickup when using special paper or media other than 75-80gsm (20lb) plain paper. For Tray 1 and Tray 2 the printer increases the number of attempts to pick up a page, which increases the reliability of successfully picking the page from the tray and decreases the possibility of a mis-pick jam.

HP recommends using Tray 1 or Tray 2 if the printer is experiencing excessive or reoccurring jams from trays other than Tray 1 and Tray 2, or for print jobs that require media other than 75-80gsm (20lb) plain paper.

Factors affecting print performance

Review the following information about factors affecting print performance.

Table 4-32 Solve performance problems

Problem	Cause	Solution
Pages print but are totally blank.	The document might contain blank pages.	Check the original document to see if content is present on all of the pages.
Pages print but are totally blank.	The printer might be malfunctioning.	To check the printer, print a Configuration page.
Pages print but are totally blank.	Make sure that the printer is not feeding multiple pages (especially if very thin paper is used).	Make sure that the paper meets HP specifications for this printer. For a complete list of specific HP-brand paper that this printer supports, go to www.hp.com/support/pagewidecolor556 or www.hp.com/support/pagewidecolor586MFP .
Pages print very slowly. NOTE: Some software programs process print jobs slowly.	Heavier paper types can slow the print job.	Print on a different type of paper.
Pages print very slowly. NOTE: Some software programs process print jobs slowly.	Complex pages can print slowly.	Proper fusing might require a slower print speed to ensure the best print quality.
Pages print very slowly. NOTE: Some software programs process print jobs slowly.	Large batches, narrow paper, and special paper such as gloss, transparency, cardstock, and HP Tough Paper can slow the print job.	Print in smaller batches, on a different type of paper, or on a different size of paper.
Pages did not print.	The printer might not be pulling paper correctly.	Make sure paper is loaded in the tray correctly.
Pages did not print.	The paper is jamming in the printer.	Clear the jam.
Pages did not print.	The USB cable might be defective or incorrectly connected.	<ul style="list-style-type: none"> • 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.
Pages did not print.	Other devices are running on the host computer.	The printer might not share a USB port. If an external hard drive or network switchbox is connected to the same port as the printer, the other device might be interfering with the printer. To connect and use the printer, disconnect the other device or use two USB ports on the host computer.
Pages did not print.	The print job might not have arrived at the printer.	Check the printer status queue. Also, the Printing message should appear on the control panel display.

Print speeds

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

- Page formatting time

The printer must pause for each page to be formatted before it prints. Complex pages take more time to format, resulting in reduced print speed. However, most jobs print at full engine speed.

- Media size

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

- Media mode

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

- Printer temperature

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

- Other print speed reduction factors

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

- Density control sequence; occurs every 150 pages and takes about 120 seconds

The printer does not print

If the printer does not print at all, try the following solutions.

1. Make sure the printer is turned on and that the control panel indicates it is ready.
 - If the control panel does not indicate the printer is ready, turn the printer off and then on again.
 - If the control panel indicates the printer is ready, try sending the job again.
2. If the control panel indicates the printer has an error, resolve the error and then try sending the job again.
3. Make sure the cables are all connected correctly. If the printer is connected to a network, check the following items:
 - Check the bottom LED next to the network connection on the printer. If the network is active, the light is green.
 - Make sure that a network cable and not a phone cord is used to connect to the network.
 - Make sure the network router, hub, or switch is turned on and that it is working correctly.
4. Install the HP software for the printer. Using generic printer drivers can cause delays clearing jobs from the print queue.

5. From the list of printers on your computer, right-click the name of this product, click **Properties**, and open the **Ports** tab.
 - If a network cable is used to connect to the network, make sure the printer name listed on the **Ports** tab matches the one on the printer configuration page.
 - If a USB cable is used, and the printer is connected to a wireless network, make sure the box is checked next to **Virtual printer port for USB**.
6. If a personal firewall system on the computer is used, it might be blocking communication with the printer. Try temporarily disabling the firewall to see if it is the source of the problem.
7. If the host computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.

The printer prints slowly

If the printer prints, but it seems slow, try the following solutions.

1. Make sure the computer meets the minimum specifications for this printer. For a list of specifications, go to this Web site: www.hp.com/support/pagewidecolor556 or www.hp.com/support/pagewidecolor586MFP.
2. When the printer is configured to print on some paper types, such as heavy paper, the printer prints more slowly so it can correctly fuse the toner to the paper. If the paper type setting is not correct for the type of paper you are using, change the setting to the correct paper type.
3. If the host computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.

Solve wired network problems

Review the following information and procedures to solve wired network problems.

Solve USB connection problems

Learn about solving USB connection problems.

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

- Verify that the cable is connected to the computer and to the printer.
- Verify that the cable is no longer than 2 m (6.65 ft). Try using a shorter cable.
- Verify that the cable is working correctly by connecting it to another printer. Replace the cable if necessary.

Solve wired network problems

Review the following information and procedures to solve wired network problems.

Introduction

Learn about solving wired network problems.

Certain types of problems can indicate there is a network communication problem. These problems include the following issues:

- The periodic loss of ability to communicate with the printer
- The printer cannot be found during driver installation
- A periodic failure to print

Check the items in this topic to verify that the printer is communicating with the network. Before beginning, print a configuration page from the printer control panel and locate the printer IP address that is listed on this page.



NOTE: To print using an HP Plus printer, the printer must have genuine original HP toner cartridges installed, must have an ongoing internet connection and an active HP Plus account (for more information, go to hp.com/plus).

Poor physical connection

Use the following procedure when the printer has a poor physical connection.

1. Verify that the printer is attached to the correct network port using a cable of the correct length.
2. Verify that cable connections are secure.
3. Look at the network port connection on the back of the printer, and verify that the amber activity light and the green link-status light are lit.
4. If the problem continues, try a different cable or port on the hub.

The computer is using the incorrect IP address for the printer

Use the following procedure when the computer is using the incorrect IP address for the printer.

1. Open the printer properties and click the **Ports** tab. Verify that the current IP address for the printer is selected. The printer IP address is listed on the printer configuration page.
2. If you installed the printer using the HP standard TCP/IP port, select the box labeled **Always print to this printer, even if its IP address changes**.
3. If you installed the printer using a Microsoft standard TCP/IP port, use the hostname instead of the IP address.
4. If the IP address is correct, delete the printer and then add it again.

The computer is unable to communicate with the printer

Use the following procedure when the computer is unable to communicate with the printer.

1. Test network communication by pinging the network.
 - a. Open a command-line prompt on your computer.
 - For Windows, click **Start**, click **Run**, type `cmd`, and then press **Enter**.
 - For macOS, go to **Applications**, then **Utilities**, and open **Terminal**.
 - b. Type `ping` followed by the IP address for your printer.
 - c. If the window displays round-trip times, the network is working.
2. If the ping command failed, verify that the network hubs are on, and then verify that the network settings, the printer, and the computer are all configured for the same network.

The printer is using incorrect link and duplex settings for the network

HP recommends leaving these settings in automatic mode (the default setting). If you change these settings, you must also change them for your network.

New software programs might be causing compatibility problems

Verify that any new software programs are correctly installed and that they use the correct print driver.

The computer or workstation might be set up incorrectly

Use the following procedure when the computer or workstation might be set up incorrectly.

1. Check the network drivers, print drivers, and the network redirection settings.
2. Verify that the operating system is configured correctly.

The printer is disabled, or other network settings are incorrect

Use the following procedure when the printer is disabled, or other network settings are incorrect.

1. Review the configuration page to check the status of the network protocol. Enable it if necessary.
2. Reconfigure the network settings if necessary.

Service mode functions

Review the following information about service mode functions.

Service menu

Learn about the Service menu.

The [Service](#) menu is PIN-protected for added security. Only authorized service people have access to the Service menu. When selecting [Service](#) from the list of menus, the printer prompts the user to enter an eight-digit personal identification number (PIN).



NOTE: The printer automatically exits the [Service](#) menu after about one minute if no items are selected or changed.

Open the Service menu

1. From the Home screen on the printer control panel, scroll to and touch the [Device Maintenance](#) button.
2. Open the [Service](#) menu.
3. On the sign-in screen, select [Service Access Code](#) from the drop-down list.
4. Enter the following service access code for the printer:
 - 05055616 (556)
 - 05058616 (586)

Service menu

Table 4-33 Service menu

First level	Second level	Value	Description
Event Log	Print		Print the event log.
Clear Event Log	Clear		Use this item to clear the printer event log.
Cycle Counts	Total Engine Cycles		Set the page count that was stored in NVRAM prior to installing a new formatter.
Cycle Counts	Mono Cycle Count		Set the mono page printed count.
Cycle Counts	Color Cycle Count		Set the color page printed count.
Cycle Counts	Refurbish Cycle Count		Use this item to record the page count when the printer was refurbished.
Cycle Counts	Document Feeder Kit Count (586 only)		Total number of pages since the document feeder kit was replaced.
Cycle Counts	Document Feeder Kit Interval (586 only)		Use this item to set the interval that causes the printer to prompt the customer to replace document feeder maintenance kit.
Cycle Counts	Clean Rollers Count (586 only)		Total number of pages since the document feeder rollers were cleaned.
Cycle Counts	Clean Rollers Interval (586 only)		Use this item to set the interval that causes the printer to prompt the customer to clean the document feeder rollers and separation pad.
Cycle Counts	ADF Count (586 only)		Set the total pages fed through the document feeder.
Cycle Counts	Flatbed Count (586 only)		Set the total pages scanned from the flatbed.
Cycle Counts	ADF Simplex Count (586 only)		Set the total single-sided pages fed through the document feeder
Cycle Counts	ADF Duplex Count (586 only)		Set the total two-sided pages fed through the document feeder
Cycle Counts	Copy Scan Count (586 only)		Set the total copy pages that have been scanned.
Cycle Counts	Send Scan Count (586 only)		Set the number of scanned pages sent to email.
Cycle Counts	Fax Scan Count (586 only)		Set the number of scanned pages that have been faxed.
Cycle Counts	Copy Pages Count (586 only)		Set the number of scanned pages that have been printed.
Scanner settings (586 only)	ADF settings	Leading edge front Leading edge back Trailing edge front Trailing edge back Left side front Left side back	Set the calibration values. WARNING! Do not change these values unless instructed to do so.

Table 4-33 Service menu (continued)

First level	Second level	Value	Description
Scanner settings (586 only)	Glass settings	Leading edge glass	Set the calibration values.
		Left side glass	WARNING! Do not change these values unless instructed to do so.
Serial number			Set the serial number.
Service ID			Use this item to show the date that the printer was first used on the control panel. This eliminates the need for users to keep paper receipts for proof of warranty.
Cold Reset Paper			When you perform a cold reset, the paper size that is stored in NVRAM is reset to the default factory setting. If you replace a formatter board in a country/region that uses A4 as the standard paper size, use this menu to reset the default paper size to A4. LETTER and A4 are the only available values.
Low Alerts		Enable	Turn on (or off) low alerts (for supplies).
		Disable	
Reset Low Alerts	Reset Supplies Level	Reset to level 1	
		Reset to level 2	
		Reset to level 3	
		Set to non-HP managed mode Set to non-HP managed mode	
PTT Test Mode (586 fax models only)			Test the internal modem for the analog fax accessory.
PTT Test Mode (586 fax models only)	Hook Operations	Off Hook	
		On Hook	
PTT Test Mode (586 fax models only)	Generate Random Data	Select a value from the list.	
PTT Test Mode (586 fax models only)	Generate DTMF Tone Burst	Select a value from the list.	
PTT Test Mode (586 fax models only)	Generate DTMF Continuous Tone	Select a value from the list.	
PTT Test Mode (586 fax models only)	Generate Pulse Burst	Select a value from the list.	
PTT Test Mode (586 fax models only)	Generate Tone Dial Number	Enter dial number	
PTT Test Mode (586 fax models only)	Generate Pulse Dial Number	Enter dial number	
PTT Test Mode (586 fax models only)	Generate Single Modem Tone	Range: 1100–2100 Hz Default = 2100 Hz	
PTT Test Mode (586 fax models only)			Line Measurements
PTT Test Mode (586 fax models only)			Fax Transmit Signal Loss

Table 4-33 Service menu (continued)

First level	Second level	Value	Description
Test Support	Continuous Scan (586 only)	2-sided Save to Disk	
Test Support	Continuous Copy (586 only)	2-sided Save to Disk	
Test Support	Raw Copy (586 only)	2-sided Mechanical Calibration	
Test Support	Continuous Print from USB		
Test Support	Automatic Calibrations (586 only)	Enable* Disable	
Test Support	Runtime Configuration (586 only)	Standard StandardEIC Workflow WorkflowEIC Reconfigure	
Printhead Recovery	Low Alerts	Start Cancel	Use this item to recover the printhead. NOTE: This process takes about two minutes and uses a significant amount of ink. This process should not be performed more than one time in a 24-hour period to prevent the ink collection unit from overflowing.
Fax V29 Speed (586 fax models only)		V.29 7200 V.29 9600	Use this item to set the fax V.29 speed (baud rate).

Printer resets

Review the following information and procedures about printer resets.

Restore factory-set defaults

Learn about factory-set defaults.



NOTE: The printer restarts automatically after the reset operation completes.

1. From the Home screen on the printer control panel, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [General Settings](#)
 - [Reset Factory Settings](#)

3. A verification message advises that completing the reset function might result in loss of data. Touch the [Reset](#) button to complete the process.

Restore the service ID

Use the following procedure to restore the service ID.

Restore the service ID

When replacing the formatter, the service ID is lost. Use the [Service ID](#) menu item in the [Service](#) menu to reset the service ID to reflect the original date that the printer was first used. The date format is YYDDD. Use the following formula to calculate the dates:

1. To calculate YY, subtract 1990 from the calendar year. For instance, if the printer was first used in 2002, calculate YY as follows: $2002 - 1990 = 12$. $YY = 12$.
2. Subtract 1 from 10 (October is the tenth month of the year): $10 - 1 = 9$.
 - Multiply 9 by 30: $9 \times 30 = 270$ or add 17 to 270: $270 + 17 = 287$. Thus, $DDD = 287$.

Convert the service ID to an actual date


Use the printer Service ID number to determine whether the printer is still under warranty. Use the following formula to convert the Service ID into the installation date as follows:

1. Add 1990 to YY to get the actual year that the printer was installed.
2. Divide DDD by 30. If there is a remainder, add 1 to the result. This is the month.
3. The remainder from the calculation in step 2 is the date.

Using the Service ID 12287 as an example, the date conversion is as follows:


1. $12 + 1990 = 2002$, so the year is 2002.
2. 287 divided by $30 = 9$ with a remainder of 17 . Because there is a remainder, add 1 to 9 to get 10, which represents October.
3. The remainder in step 2 is 17, so that is the date.

The complete date is 17-October-2002.

 **NOTE:** A six-day grace period is built into the date system.

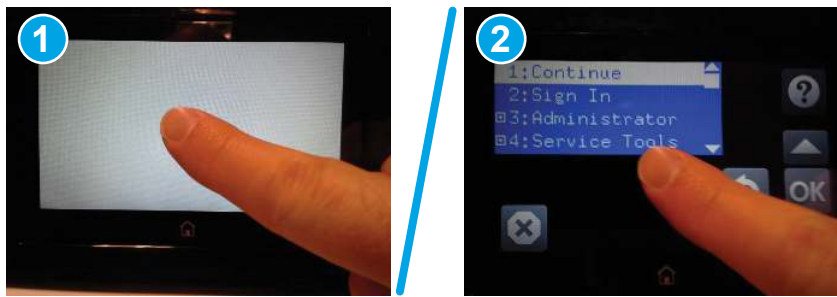
Cold reset using the Pre-boot menu from a touchscreen control panel (M856/E85055/M776)

Use the following procedure to perform a cold reset using the [Pre-boot](#) menu from a touchscreen control panel.

 **CAUTION:** This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 4-113 Open the Pre-boot menu




2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the down arrow ▼ button to highlight the +8:Startup Options item, and then touch the OK button.
4. Use the down arrow ▼ button to highlight the 2 Cold Reset item, and then touch the OK button to select it.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1:Continue item, and then touch the OK button.

 **NOTE:** The printer will initialize.

Format Disk and Partial Clean functions

Review the following information about the [Format Disk](#) and [Partial Clean](#) functions.

 **NOTE:** Only for printers with an optional hard-disk drive (HDD) installed).

Active and repository firmware locations


The firmware bundle consists of multiple parts. The main components are the Windows CE Operating System and the printer/peripheral firmware files.

There are two locations/partitions on the hard drive where the firmware components are stored:

- The Active, where the operating system and firmware currently are executing.
- The Repository, the recovery location.

If the Active location is damaged, or a [Partial Clean](#) was performed, the printer automatically copies over the OS and firmware files from the Repository location and the printer recovers.

If both the Active and Repository locations are damaged, or a [Format Disk](#) was performed, then both locations are gone and the error message **99.09.67** displays on the control-panel display. The user must upload the firmware to the printer in order for it to function again.

 **CAUTION:** HP recommends not using the [Format Disk](#) option unless an error occurs and the solution in the printer service manual recommends this solution. After executing the [Format Disk](#) function, the printer is unusable.

HP recommends backing-up printer configuration data before executing [Format Disk](#) to retain customer-defined settings (if needed). See the [Backup/Restore](#) item in the [Device Maintenance](#) menu.

Partial Clean

The [Partial Clean](#) option erases all partitions and data on the disk drive, except for the firmware repository where a backup copy of the firmware file is stored. This allows the disk drive to be reformatted without having to download a firmware upgrade file to return the printer to a bootable state.

Characteristics of a [Partial Clean](#)

- Customer-defined settings, third-party solutions, firmware files, and the operating system are deleted.
- Rebooting the printer restores the firmware files from the Repository location, but does not restore any customer-defined settings.
- For previous HP printers, a Hard Disk Initialization is similar to executing the [Partial Clean](#) function for this printer.

⚠ CAUTION: HP recommends backing-up printer configuration data before executing a [Partial Clean](#) to retain customer-defined settings (if needed). See the [Backup/Restore](#) item in the [Device Maintenance](#) menu.

Reasons for performing [Partial Clean](#)

- The printer continually boots up in an error state.

📝 NOTE: Try clearing the error prior to executing a [Partial Clean](#).

- The printer will not respond to commands from the control panel.
- Executing the [Partial Clean](#) function is helpful for troubleshooting hard disk problems.
- To reset the printer by deleting all solutions and customer-defined settings.
- The printer default settings are not properly working.

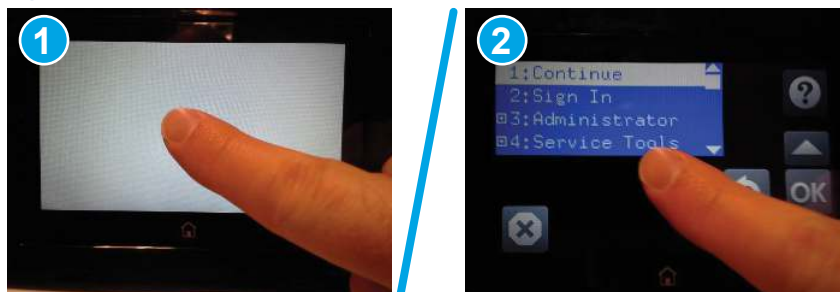
Execute a [Partial Clean](#) from a touchscreen control panel (M856/E85055/M776)

Use the following procedure to execute a [Partial Clean](#) from a touchscreen control panel.

⚠ CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).


1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 4-114 Open the Pre-boot menu



2. Use the down arrow ▼ button to highlight the [+3:Administrator](#) item, and then press the [OK](#) button.
3. Use the down arrow ▼ button to highlight [Partial Clean](#) and then press the [OK](#) button.
4. Press the [OK](#) button again.

5. Press the Home button to highlight [Continue](#), and then press the **OK** button.

 **NOTE:** The printer initializes.

Format Disk

The [Format Disk](#) option erases the entire disk drive.


 **CAUTION:** After executing a [Format Disk](#) option, the printer is *not* bootable.

Characteristics of a [Format Disk](#)

- Customer-defined settings, third-party solutions, firmware files, and the operating system are deleted.

 **NOTE:** Rebooting the printer *does not* restore the firmware files.

- Rebooting the printer restores the firmware files from the Repository location, but does not restore any customer-defined settings.
- After executing the [Format Disk](#) function, the message **99.09.67** displays on the control panel.
- After executing the [Format Disk](#) function, the printer firmware must be reloaded.

 **CAUTION:** HP recommends not using the [Format Disk](#) option unless an error occurs and the solution in the printer service manual recommends this solution. After executing the [Format Disk](#) function, the printer is unusable.

HP recommends backing-up printer configuration data before executing a [Format Disk](#) to retain customer-defined settings (if needed). See the [Backup/Restore](#) item in the [Device Maintenance](#) menu.

Reasons for performing [Format Disk](#)


- The printer continually boots up in an error state.

 **NOTE:** Try clearing the error prior to executing a [Format Disk](#).

- The printer will not respond to commands from the control panel.
- Executing the [Format Disk](#) function is helpful for troubleshooting hard disk problems.
- To reset the printer by deleting all solutions and customer-defined settings.

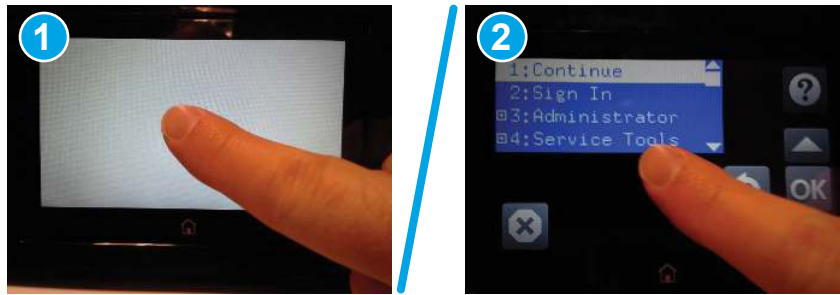
Execute a [Format Disk](#) from a touchscreen control panel (M856/E85055/M776)

Use the following procedure to execute a [Format Disk](#) from a touchscreen control panel.

 **CAUTION:** This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 4-115 Open the Pre-boot menu



2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then press the OK button.
3. Use the down arrow ▼ button to highlight Format Disk, and then press the OK button.
4. Press the OK button again.

 **NOTE:** When the **Format Disk** operation is complete, reload the printer firmware.

Firmware upgrades


Learn about printer firmware upgrades.

To download the most recent firmware upgrade for the printer, go to:

- In the US, go to www.hp.com/support/pagewidecolor556 or www.hp.com/support/pagewidecolor586MFP.
 - a. Select **Get drivers, Software, and Firmware**, and then select the appropriate product by name.

 **NOTE:** More than one printer model might be listed. Make sure to select the correct model so that the upgraded firmware supports all of the printer functions.

- b. Select the driver language and operating system.
 - c. Locate the firmware download, and then select **Download**.
- Outside the U.S., go to www.hp.com/support.
 - Select your country/region.
 - Select **Drivers & Downloads**.
 - Enter the product name in the **Find my product** dialogue box, and then select **Go**.

 **TIP:** Click on the **How do I find my product name/number?** link to see a short video on identifying the printer's name and number.

- Select the appropriate product by name.

 **NOTE:** More than one printer model might be listed. Make sure to select the correct model so that the upgraded firmware supports all of the printer functions.

- Select the driver language and operating system.
- Locate the firmware download, and then select **Download**.

Determine the installed revision of firmware

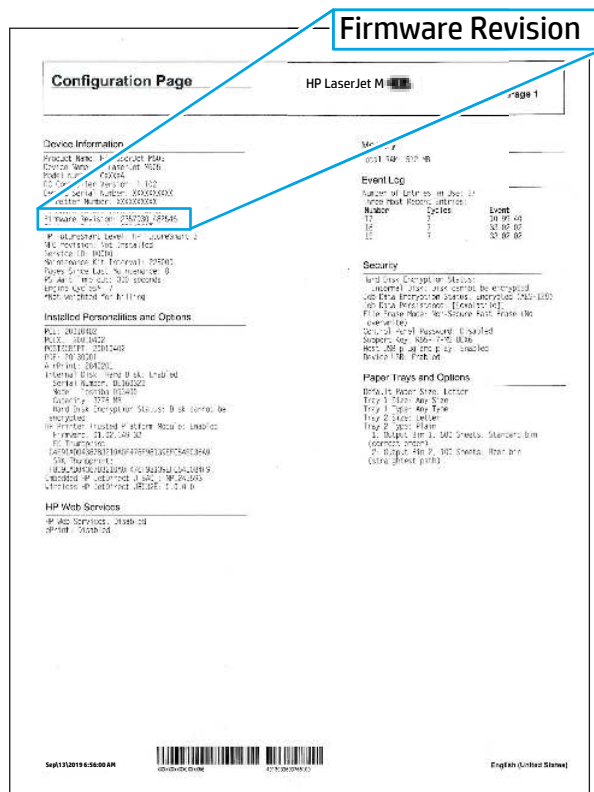
Learn about how to determine the version of installed printer firmware.



NOTE: Print a configuration page to determine the installed revision of firmware.

1. From the Home screen on the printer control panel, scroll to and touch the **Administration** button.
2. Open the following menus:
 - Reports
 - Configuration/Status pages
3. Touch **Configuration Page** to select it.
4. Touch the **Print** button to print the pages.

Figure 4-116 Configuration page firmware version



HP Embedded Web Server

Learn how to perform a firmware upgrade using the HP Embedded Web Server.



NOTE: The printer should be at the **Ready** state.

The firmware update might take 10 minutes or longer based on the input/output (I/O) transfer rates and the time it takes for the printer to reinitialize.

1. Open an Internet browser window.

2. Enter the printer IP address in the URL line.
3. Select the **Firmware Upgrade** link from the **General** tab or from the **Troubleshooting** tab.
4. Browse to the location that the firmware upgrade file was downloaded to, and then select the firmware file. The file has a .bdl file extension. Select the **Install** button to perform the upgrade.

 **NOTE:** Do not close the browser window OR interrupt communication until the HP Embedded Web Server (EWS) displays the confirmation page.

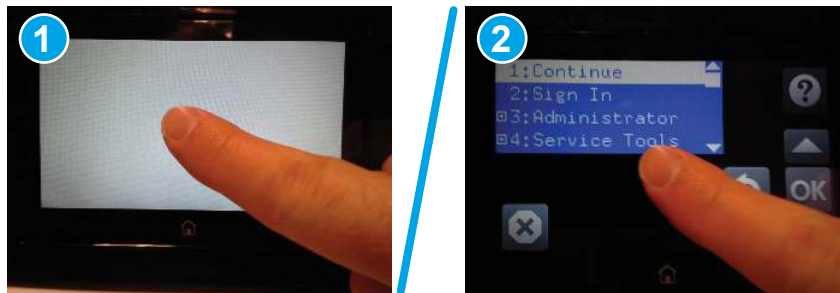
5. After the printer reinitializes, print a configuration page and verify that the latest firmware version has been installed.

USB flash drive firmware (Pre-boot menu) (MFP)

Learn how to perform a USB flash drive firmware (Pre-boot menu) update from an MFP control panel.

1. Copy the .bdl file to a portable USB flash drive.
2. Touch the middle of the control panel display when you see the 1/8 under the logo.

Figure 4-117 Open the Pre-boot menu




3. Use the arrow buttons to highlight +3 Administrator, and then touch the **OK** button.
4. Use the arrow buttons to highlight +1 Download, and then touch the **OK** button.
5. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.

 **NOTE:** If the error message **No USB Thumbdrive Files Found** displays on the control panel display, try using a different portable storage device.

6. Use the arrow buttons to highlight **USB Thumbdrive**, and then touch the **OK** button.
7. Use the arrow buttons to highlight the .bdl file, and then touch the **OK** button.

 **NOTE:** The upgrade process can take 10 minutes or longer to complete.


 **TIP:** If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.

8. When the message **Complete** displays on the control panel display, touch the down arrow ▼ button several times until the message **Continue** displays.
9. Touch the **OK** button to begin the upgrade. When the upgrade is complete, the printer will initialize to the **Ready** state.

10. When the upgrade process is complete, print a configuration page and verify that the upgrade firmware version was installed.

USB flash drive (control-panel menu)

Learn about firmware upgrades using a USB flash drive.

 **NOTE:** USB flash drives that are not using a FAT32 format, or do not have a CD formatted partition, might not be recognized by the printer. If the printer does not recognize a USB flash drive, try using a different USB flash drive.

1. Copy the .bdl file to a portable USB flash drive.
2. Turn the printer on, and then wait until it reaches the **Ready** state.
3. From the Home screen on the printer control panel, scroll to and touch the [Device Maintenance](#) button.
4. Touch the [USB Firmware Upgrade](#) button.
5. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.
6. Touch the .bdl file, and then touch the [Upgrade](#) button.

 **NOTE:** If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.

7. Select one of the following options:

- [Upgrade](#)

 **NOTE:** The upgrade process can take 10 minutes or longer to complete.

- [Re-install](#)
- [Downgrade](#)

8. When the upgrade is complete, the printer will initialize to the **Ready** state. Print a configuration page and verify that the upgrade firmware version was installed.

Solve fax or email problems

Fax or email troubleshooting information is not provided in this service manual. The most current information is available in WISE or HP Channel Services Network (CSN). Search using model number then use "fax troubleshooting" as the search term.

Additional service and support for HP internal personnel

HP internal personnel, go to one of the following Web-based Interactive Search Engine (WISE) sites:

Americas (AMS)

- [WISE - English](#)
- [WISE - Spanish](#)
- [WISE - Portuguese](#)
- [WISE - French](#)

Asia Pacific / Japan (APJ)

- [WISE - English](#)
- [WISE - Japanese](#)
- [WISE - Korean](#)
- [WISE - Chinese \(simplified\)](#)
- [WISE - Chinese \(traditional\)](#)
- [WISE - Thai](#)

Europe / Middle East / Africa (EMEA)

- [WISE - English](#)

5 Removal and replacement

When servicing the printer, several items must be considered to ensure a successful repair and to avoid damage to the printer or personal injury. Learn about these considerations and find detailed instructions for removing and replacing printer parts.

HP service and support

Learn about HP access to additional service and support information.

Additional service and support for channel partners

Channel partners go to partner.hp.com, and then use the steps below to access the HP Web-based Interactive Search Engine (WISE).

[View a video of how to use the HP Partner First Portal to access WISE.](#)

Access WISE for Channel partners

1. Select [Services & Support](#) (near the top of the screen).
2. Under [Services Delivery](#), select [Technical Support](#).
3. Select [Technical Documentation](#).

Find information about the following topics

- Service manuals
- Service advisories
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Install and configure
- Printer specifications
- Warranty and regulatory information

Additional service and support for HP internal personnel

HP internal personnel, go to one of the following Web-based Interactive Search Engine (WISE) sites:

[View a video of how to access WISE for internal HP users.](#)

Americas (AMS)

- [WISE - English](#)
- [WISE - Spanish](#)
- [WISE - Portuguese](#)
- [WISE - French](#)

Asia Pacific / Japan (APJ)

- [WISE - English](#)
- [WISE - Japanese](#)
- [WISE - Korean](#)
- [WISE - Chinese \(simplified\)](#)
- [WISE - Chinese \(traditional\)](#)
- [WISE - Thai](#)

Europe / Middle East / Africa (EMEA)

- [WISE - English](#)

Additional technical support WISE videos

The videos below provide additional ways to access printer information using WISE.

[View a video of how to use WISE to find technical support videos \(model number search\).](#)

[View a video of ow to use WISE to find technical support videos \(Product detail page \[PDP\] search\).](#)

Removal and replacement strategy

The printer uses a field repair strategy. Defective parts are diagnosed and replaced at the Field Replaceable Unit (FRU) assembly level. Follow basic safety precautions to avoid injury or printer damage. Learn about the tools required to service the printer and the types of fasteners used.


Introduction

Learn the overall process for troubleshooting failures and replacing parts, as well as items of note related to installing and tracking printer supplies

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

1. Isolate the problem to the major system (for example, the network, the server, or the printer).

2. Identify the cause of failures according to the troubleshooting section in the printer service manual, and follow the disassembly procedures to replace the defective parts or the consumable parts.

 **IMPORTANT:** See the separate control panel message document (CPMD) for this printer for control panel error message descriptions and solutions (also available online).

After locating a faulty part, the printer can usually be repaired at the assembly level by replacing the field replaceable unit (FRUs). HP does not support replacement of components on the printed circuit assemblies (PCAs).

The user replaces supplies (cartridges) as they are depleted. Additional instructions about other user-replaceable parts are provided in this section.

The printer tracks the amount of use on the customer-replaceable supplies by keeping a page count. The printer prompts the user to replace certain items when a supply is depleted or a specific number of pages have been printed.

Swapping supplies between products might be necessary in some test scenarios. However, this might cause a misrepresentation of supply life values, and is not recommended.


Considerations during removal and replacement

Understand the items to take into account when removing and replacing parts.

This chapter describes the FRUs.


Reinstalling FRUs is generally the reverse of removal. Notes are included to provide directions for difficult or critical replacement procedures.

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

 **WARNING!** Never operate or service the printer with the protective cover removed from the laser scanner assembly. The reflected beam, although invisible, can cause damage to the eyes.


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

Turn the printer off, wait five seconds, and then remove the power cord before attempting to service the printer. **If this warning is not followed, severe injury can result as well as damage to the printer.** The power must be on for certain functional checks during troubleshooting. However, the power cord must be disconnected during parts removal. AC voltage is still present inside the printer when the power switch is in the off position. The power cord must be disconnected before servicing the printer.

 **CAUTION:** Incorrectly routed or loose wire harnesses or flat flexible cables (FFCs) might interfere with other internal components or assemblies and can be damaged, pinched, or frayed. Make sure that wire harnesses are correctly routed and retained when installing assemblies.


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

Do not expose the toner cartridges or imaging drums to strong light even for a short time.


 **IMPORTANT:** When an assembly is removed that includes a rating plate, tag, or a printer code label, make sure to transfer the plate, tag, or code label to the replacement assembly.

Do not replace the formatter, DC controller, memory PCA (island of data), eMMC PCA, or hard-disk drive (HDD) simultaneously during a single printer servicing. Doing so might cause the printer to become unstable or inoperable.

When replacing the formatter, make sure that all accessories installed on the formatter, such as the fax PCA, hard disk drive, trusted platform module, and DIMM, are removed from the defective formatter and installed on the replacement formatter. Make sure that the formatter is a new service part that has not been installed in a different device.



 **NOTE:** During assembly removal and replacement, or if the printer is moved, remove the toner cartridges, the imaging drums, and the toner collection unit.

Toner is a non-poisonous substance composed of plastic and a small number of colored components. If toner gets on the skin or clothing, wipe it off with dry tissue paper and wash in cold water. Hot water sets toner and it might be difficult, or impossible, to remove. Toner easily breaks down vinyl materials, so avoid letting toner contact vinyl.

 **TIP:** Some figures might show assemblies removed or installed that have not yet been removed or installed at that specific step. However, the procedures are correct for this printer and the target assembly. Always thoroughly read the instructions that accompany each figure.

Electrostatic discharge

Learn how to protect sensitive parts against damage from electrostatic discharge.

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

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


Required tools


Find information about the tools required to remove and replace parts on the printer.

- #T10 TORX driver with a magnetic tip and a 152 mm (6 in) shaft length
- Small, flat-blade screwdriver
- Needle-nose pliers
- ESD mat (if one is available or ESD strap)
- Penlight (optional)

Fasteners types

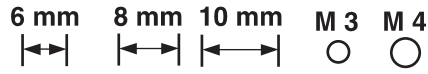
Learn about the different types of screws used in the printer and the importance of installing the correct type of screw in the correct location when replacing a part.

 **WARNING!** Make sure that assemblies are replaced with the correct screw type. Using the incorrect screw (for example, substituting a long screw for the correct shorter screw) can cause damage to the printer or interfere with printer operation. Do not intermix screws that are removed from one assembly with the screws that are removed from another assembly.

 **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.

Always take note of the length, diameter, color, type, and location of each removed screw. Make sure that screws are installed in their original location during reinstallation.

Figure 5-1 Screw size chart




Service approach

Follow these steps before and after performing service on the printer to prevent damage to the printer and ensure that the repair was successful.

Before performing service

Follow these steps before performing any type of service on the printer.

- Remove all paper from the printer.
- Turn off the power using the power button.
- 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 ink cartridges.
- Remove the Tray 2 cassette.
- Remove the ink collection unit (located inside the left door).

 **NOTE:** To prevent ink smear on skin or clothes, keep the ink collection unit level and avoid making direct contact with the black cylinder when removing the ink collection unit.

1. Remove all paper from the trays.
2. 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.
3. Remove the toner cartridge or toner cartridges and place a sheet of paper over the exposed drums to protect them from excessive light exposure.
4. Remove the trays.

After performing service

Follow these steps after performing service on the printer.

- Plug in the power cable.
- Reinstall the ink cartridges.
- Reinstall the Tray 2 cassette.
- Reinstall the ink collection unit.
- Load paper in the printer.

Post-service test

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

Print-quality test

Make sure that the print quality is acceptable after performing printer repairs.

1. Verify that you have completed the necessary reassembly steps.
2. Ensure that the input tray contains clean, unmarked paper.
3. Attach the power cord and interface cable or interface cables, and then turn on the product.
4. Print a configuration page.
5. Print a print quality page, and then verify that there are no lines, streaks, banding, or other print quality defects.
6. Send a print job from the host computer, and then verify that the output meets expectations.
7. Clean the outside of the product with a damp cloth.

Copy-quality test (M586)

Make sure that the copy quality is acceptable after performing printer repairs.

1. Verify that you have completed the necessary reassembly steps.
2. Ensure that the input tray contains clean, unmarked paper.
3. With the power cord attached to the printer, turn on the printer.
4. Verify that the expected start up sounds occur.
5. Print a configuration page, and then verify that the expected printing sounds occur.
6. Place the configuration page in the document feeder or on the flatbed glass.
7. Print a copy job, and then verify the results.
8. Clean the outside of the printer with a damp cloth.

Fax-quality test (M586f models)

Ensure that the fax quality is acceptable after performing printer repairs.

1. Place the configuration page (printed earlier) in the document feeder.
2. Type a valid fax number and send the fax job.
3. Verify that the send quality and the receive quality meet expectations.

Parts removal orientation

Learn about printer orientation for parts removal.

For procedures and/or steps that require identifying the right, left, or rear side of the printer, face the front of the printer for correct orientation.

Customer self-repair (CSR) A parts and accessories

Customer self-repair (CSR) A parts are parts that a customer replaces without assistance from a field technician. These parts can be replaced without the use of any tools.

Removal and replacement: Ink cartridges

Learn how to remove and replace the ink cartridges.

Before performing service


- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-1 Part number information

Part number	Description
J3M71A	HP 981A Black Original PageWide Cartridge
L0R12A	HP 981X High Yield Black Original PageWide Cartridge
L0R16A	HP 981Y Extra High Yield Black Original PageWide Cartridge
J3M68A	HP 981A Cyan Original PageWide Cartridge
L0R09A	HP 981X High Yield Cyan Original PageWide Cartridge
L0R13A	HP 981Y Extra High Yield Cyan Original PageWide Cartridge
J3M70A	HP 981A Yellow Original PageWide Cartridge
L0R11A	HP 981X High Yield Yellow Original PageWide Cartridge
L0R15A	HP 981Y Extra High Yield Yellow Original PageWide Cartridge
J3M69A	HP 981A Magenta Original PageWide Cartridge
L0R10A	HP 981X High Yield Magenta Original PageWide Cartridge
L0R14A	HP 981Y Extra High Yield Magenta Original PageWide Cartridge

 **NOTE:** For ink cartridge service part numbers, see the supplies and accessories table in the parts chapter.

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

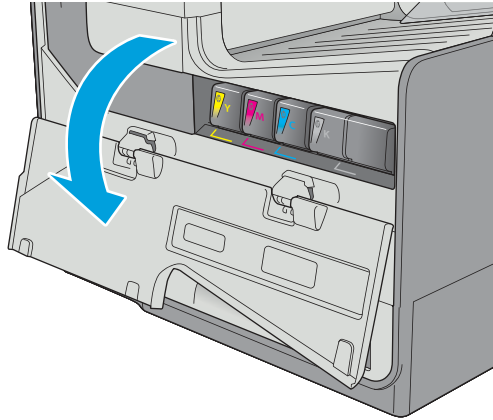
Send a color print job to the printer.

1. Remove the ink cartridges

Follow these steps to remove the ink cartridges

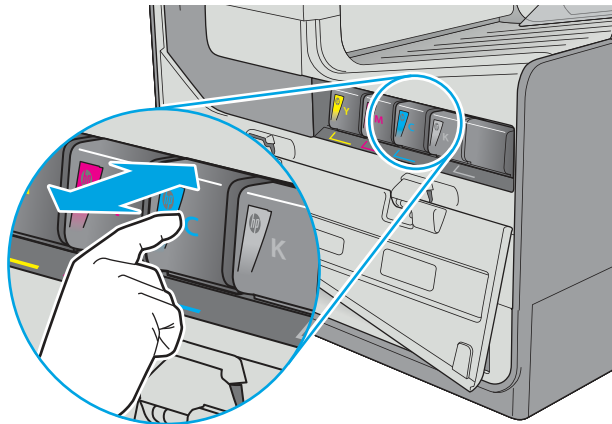
1. Open the cartridge door.

Figure 5-2 Open the door



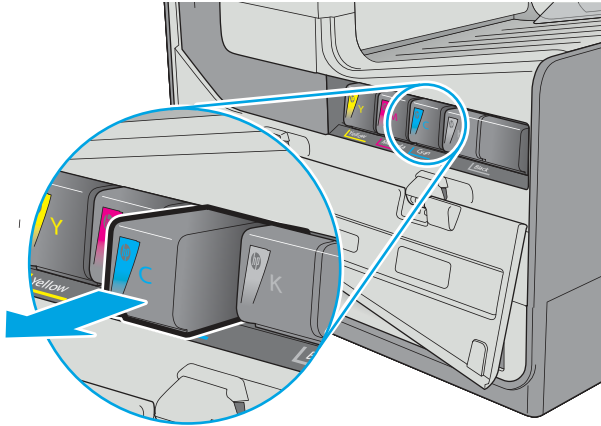
2. Push the old cartridge inward to unlock it.

Figure 5-3 Unlock the cartridge



3. Grasp the edge of the old cartridge and then pull the cartridge straight out to remove it.

Figure 5-4 Remove the cartridge



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

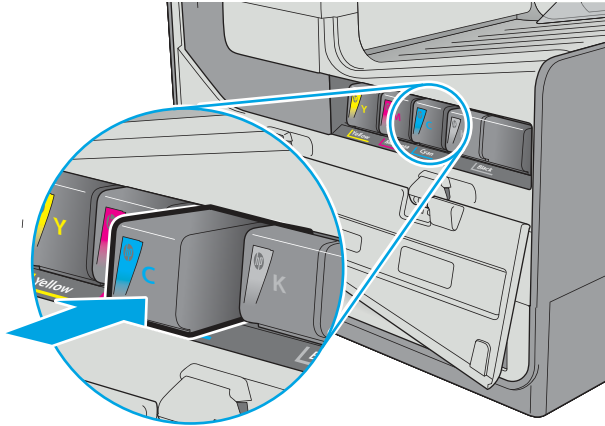
 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the ink cartridges

Follow these steps to remove the ink cartridges

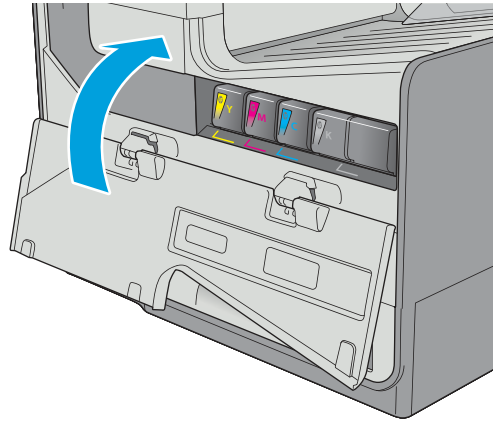
1. Insert the new cartridge into the printer. Make sure the cartridge is firmly in place.

Figure 5-5 Install the cartridge



2. Close the cartridge door.

Figure 5-6 Close the door



Removal and replacement: Output bin

This document provides the procedures to remove and replace the output bin.

[View a video for how to remove and replace the output bin.](#)

Mean time to repair: 3 minutes

Service level: Basic

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-2 Part information

Part number	Description
G1W39-67944	Output bin with instruction guide

Required tools

- No special tools are needed to remove or install these assemblies.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Send a color print job to the printer.

1. Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


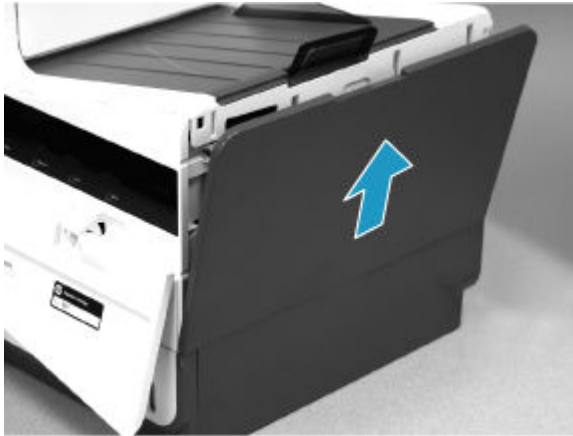
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-7 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-8 Remove the right cover (outer)

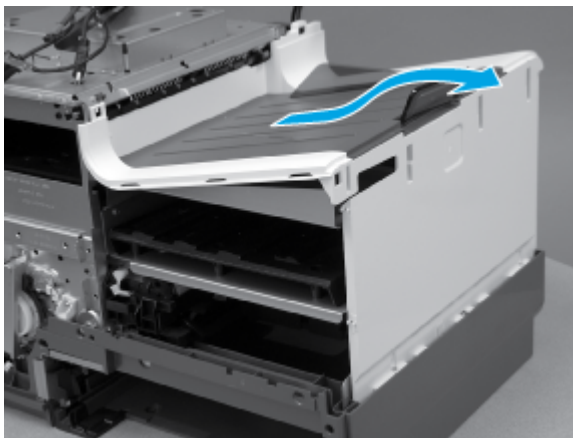


2. Remove the output bin

Follow these steps to remove the output bin.

- ▲ Slightly slide the output bin to the right, and then lift up on it to remove it.

Figure 5-9 Remove the output bin



3. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.




NOTE: HP recommends responsible disposal of the defective part.


<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>

2. Unpack the replacement part from the packaging.




CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

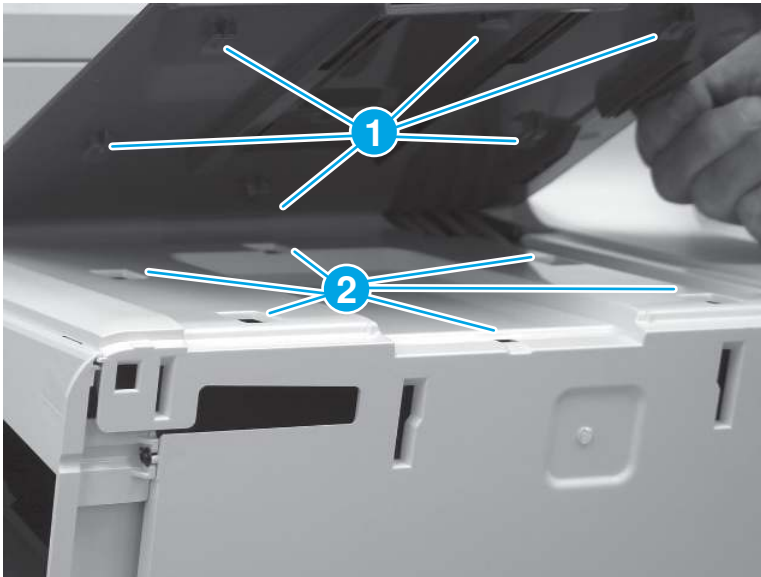
 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

4. Install the output bin

Follow these steps to install the output bin.

1. Position the replacement output bin on the printer. Align the tabs (callout 1) on the output bin with the slots (callout 2) in the top of the printer.

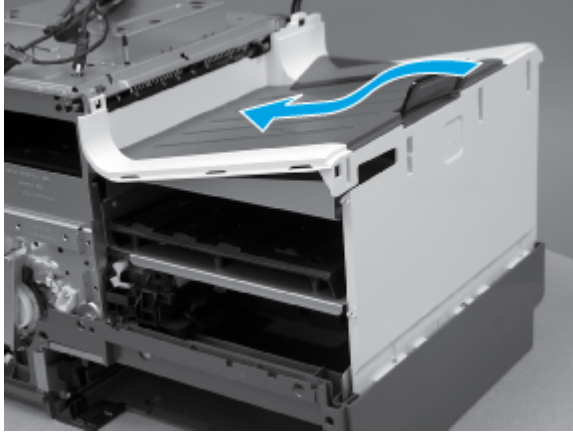
Figure 5-10 Align the tabs and slots



2. Slide the output bin toward the printer to install it.

 **NOTE:** Make sure that the output bin is completely installed against the printer with no gaps in between.

Figure 5-11 Install the output bin

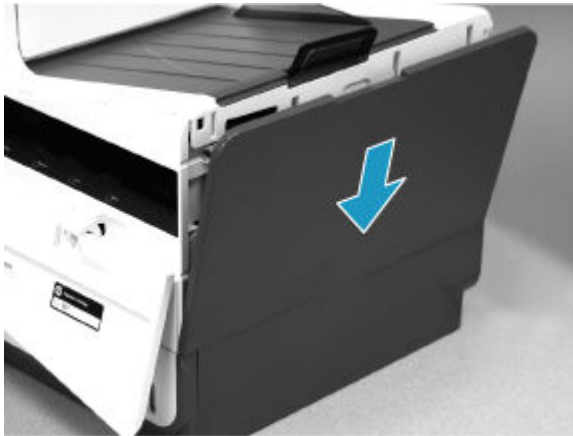


5. Install the right cover (outer)

Follow these steps to install the right cover (outer).

1. Position the bottom edge of the cover on the printer.

Figure 5-12 Position the right cover (outer) on the printer



2. Push in along the top edge of the right cover (outer) to install it.

Figure 5-13 Install the right cover (outer)



Removal and replacement: Document feeder retention clips (586)

Learn how to remove and replace the white backing retention clips.

 **NOTE:** This guide shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

Before performing service

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-3 Part number information

Part number	Description
G1W41-67904	Retention clips with instruction guide

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service tests are available for this assembly.

1. Remove the retention clips (MFP)

Follow these steps to remove the white backing retention clips.

1. Open the document feeder.

Figure 5-14 Open the document feeder



2. Remove the white backing.

Figure 5-15 Remove the white backing



3. If any of the retention clips (callout 1) remain attached to the white backing remove them. Check to see if any clips remain attached to the document feeder (callout 2).

 **NOTE:** If none of the retention clips remain attached to the white backing, proceed to the next step.

Figure 5-16 Check the retention clips



4. Remove any damaged retention clips from the document feeder.


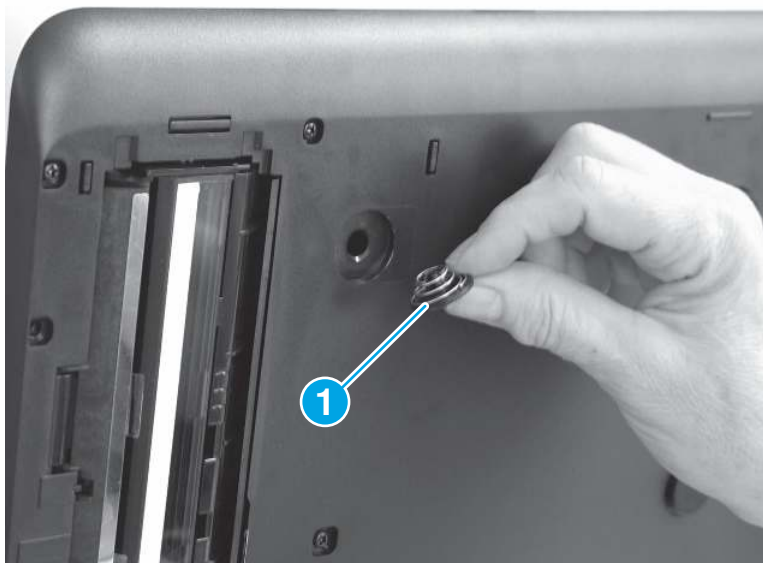
 **TIP:** Use the edge of a coin to loosen the clip.

Figure 5-17 Loosen damaged clips



5. Remove the retention clip (callout 1).

Figure 5-18 Remove the retention clip



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

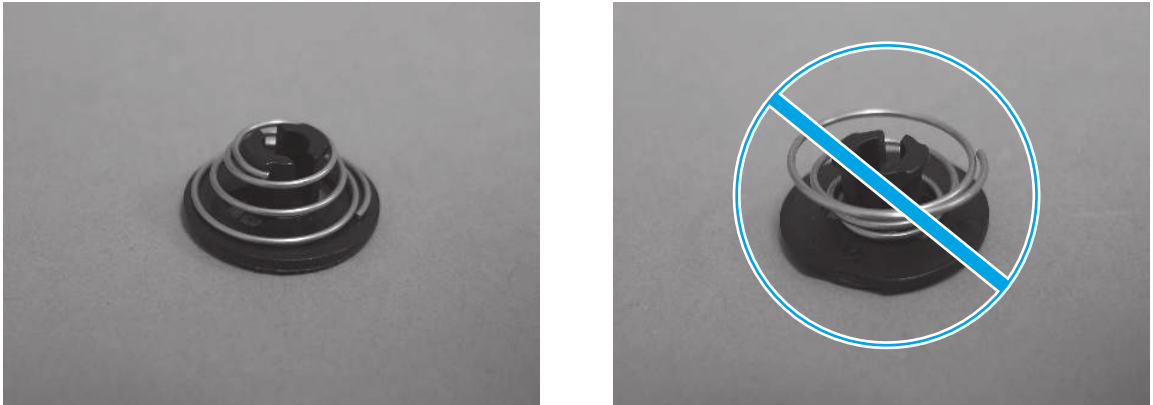
 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the retention clips (MFP)

Follow these steps to install the white backing retention clips.

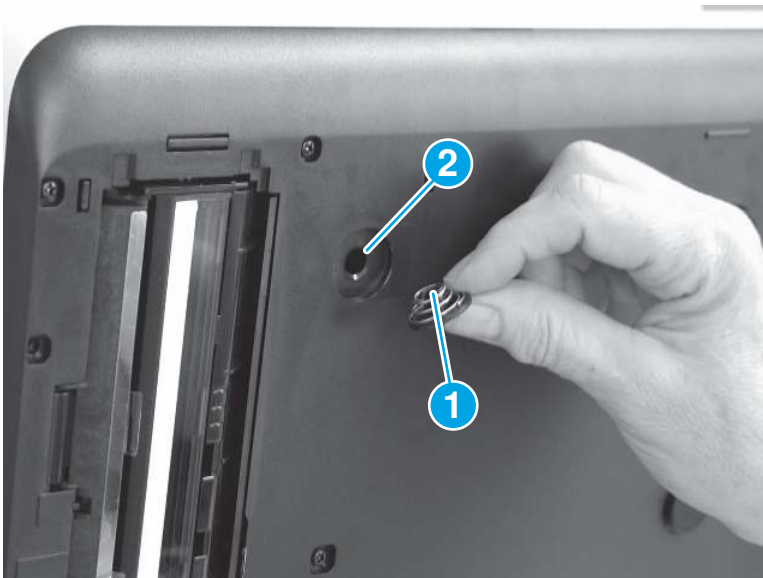
1. If a spring comes off of a retention clip, make sure that it is correctly repositioned on the clip.

Figure 5-19 Check the retention clip spring



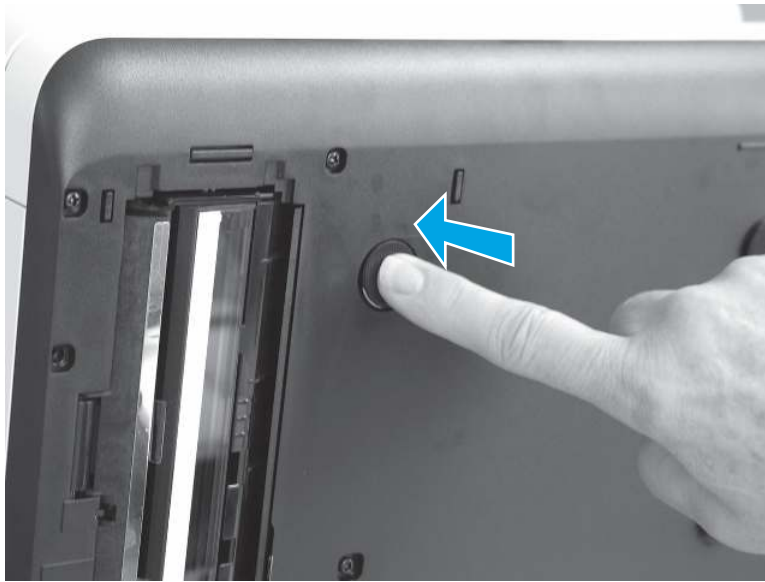
2. Install the clip (callout 1) in the opening (callout 2) in the document feeder. Repeat this step until all of the retention clips are installed.

Figure 5-20 Install the retention clip



3. Press the clip to make sure it is securely installed. Repeat this step until all of the retention clips are secure.

Figure 5-21 Press the retention clip



4. Place the white backing, on the flatbed scanner glass as shown.


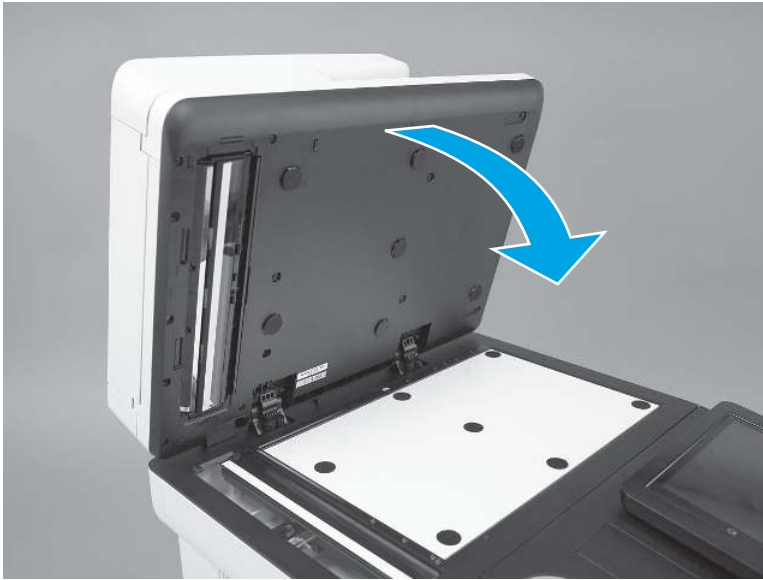
 **NOTE:** Place the corner of the backing that does not have a hook-and-loop fastener in the upper-left corner of the scanner glass.

Figure 5-22 Install the white backing



5. Close the document feeder.

Figure 5-23 Close the document feeder



6. Open the document feeder and make sure that the white backing is securely attached.

Figure 5-24 Check the white backing



7. Close the document feeder.

Figure 5-25 Close the document feeder



Removal and replacement: Document feeder white backing (586)

Learn how to remove and replace the white backing.

 **NOTE:** This guide shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

Before performing service

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-4 Part number information

Part number	Description
G1W41-67903	White backing with instruction guide ¹

 **NOTE:** This kit includes the retention clip kit and instruction guide.

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service tests are available for this assembly.

1. Remove the white backing (MFP)

Follow these steps to remove the white backing.

1. Open the document feeder.

Figure 5-26 Open the document feeder



2. Remove the white backing.

Figure 5-27 Remove the white backing



3. One or more of the retention clips (callout 1) that fit in the openings (callout 2) in the document feeder might remain attached to the white backing when it is removed. If this happens, remove the clip from the white backing.

 **NOTE:** If none of the retention clips remain attached to the white backing, skip the remaining sub-steps in this removal procedure.

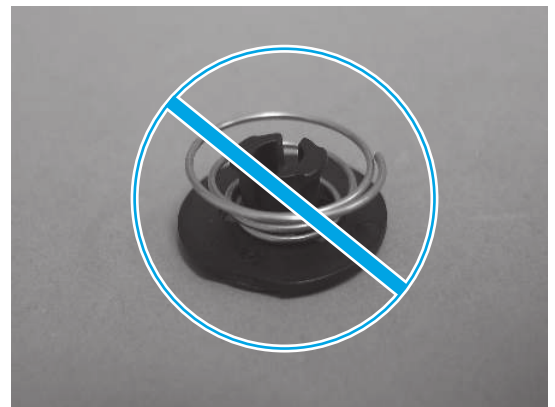
Figure 5-28 Check the retention clips



4. If a spring comes off of a retention clip, make sure that it is correctly repositioned on the clip.

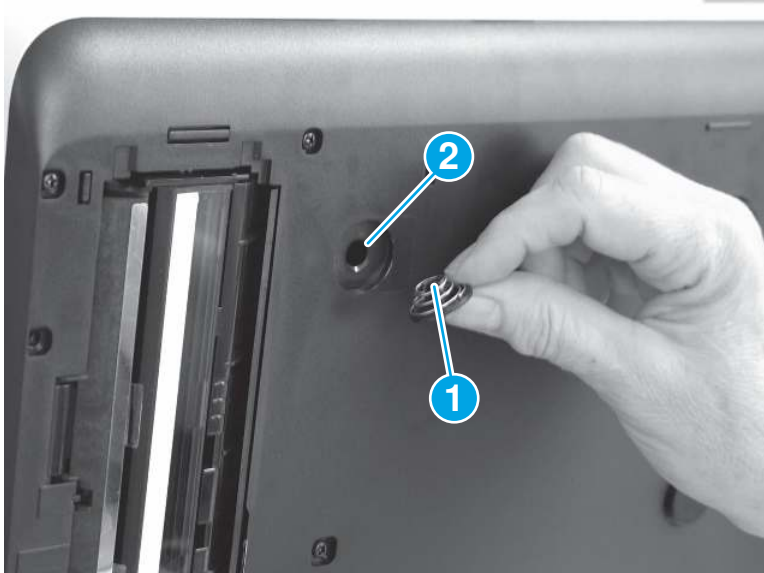
 **NOTE:** If any of the retention clips or springs are damaged, replace them with the clips supplied in the kit.

Figure 5-29 Check the retention clip spring



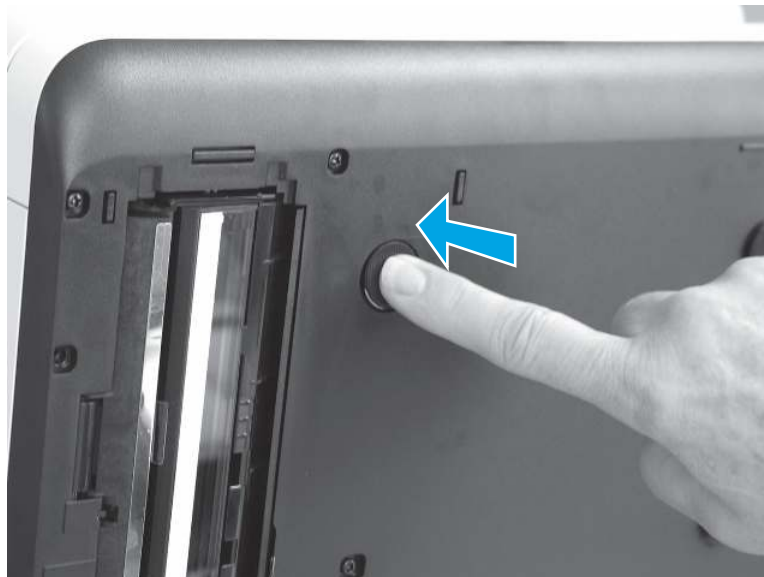
5. Install the clip (callout 1) in the opening (callout 2) in the document feeder.

Figure 5-30 Install the retention clip



6. Press the clip to make sure it is securely installed.

Figure 5-31 Press the retention clip



2. Unpack the replacement assembly


Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

IMPORTANT:  Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

NOTE:  If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

NOTE:  When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the white backing

Follow these steps to install the white backing.

1. Place the white backing on the scanner glass.


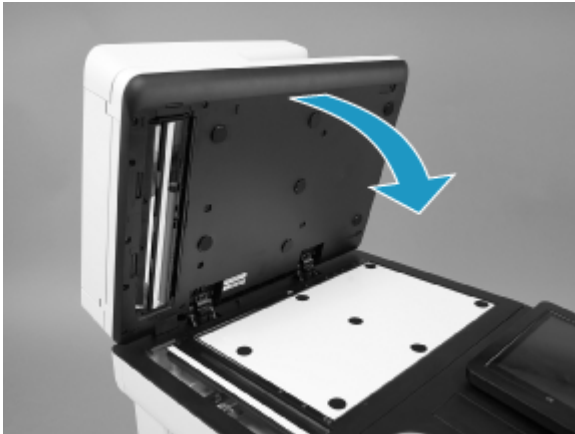
IMPORTANT:  Place the corner of the backing that does not have a hook-and-loop fastener in the upper-left corner of the scanner glass.

Figure 5-32 Place the white backing on the glass



2. Close the document feeder.

Figure 5-33 Close the document feeder



3. Open the document feeder and make sure that the white backing is securely attached.

Figure 5-34 Check the white backing



4. Close the document feeder.

Figure 5-35 Close the document feeder



Removal and replacement: Control panel (586)

This document provides the procedures to remove and replace the control panel assembly (586).

[View a video on how to replace the control panel](#)

Mean time to repair: 15 minutes

Service level: Basic

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-5 Part information

Part number	Description
G1W41-67905	Control panel (586) with instruction guide

Required tools

- Optional: Small flat-blade screwdriver.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Verify that the control panel is correctly functioning. See the control panel check section in the printer troubleshooting manual.

586z only: If the keyboard is unresponsive after turning the printer on, check the flat cable. Reinstall the cable if necessary.

1. Remove the control panel (586)

Follow these steps to remove the control panel (586).

1. Tilt the control panel to the fully raised position and open the document feeder.

Figure 5-36 Tilt the control panel up



2. Beginning at the left side of the control-panel cover, carefully release three bosses along the top edge of the cover.

 **NOTE:** The thin, black plastic cover will separate from the white plastic control-panel base.

Figure 5-37 Release three bosses



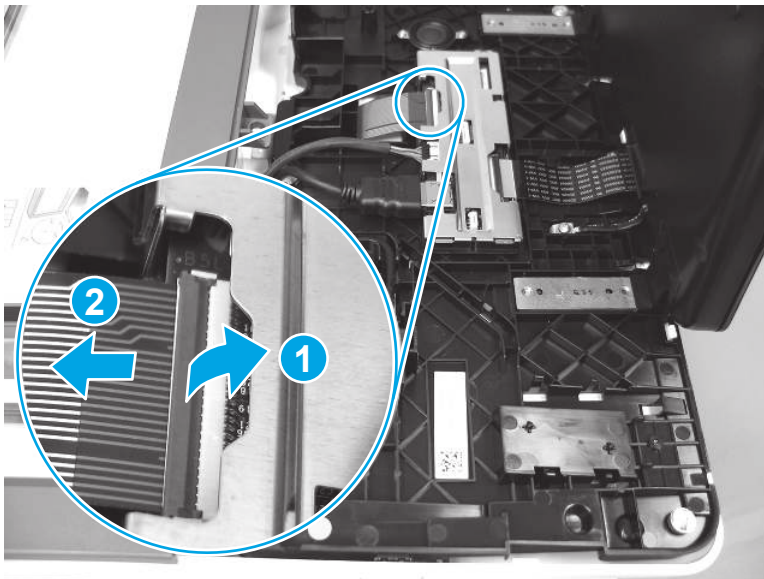
3. Lift up on the cover to release the right- and left-side bosses, and then remove the cover.

Figure 5-38 Remove the cover



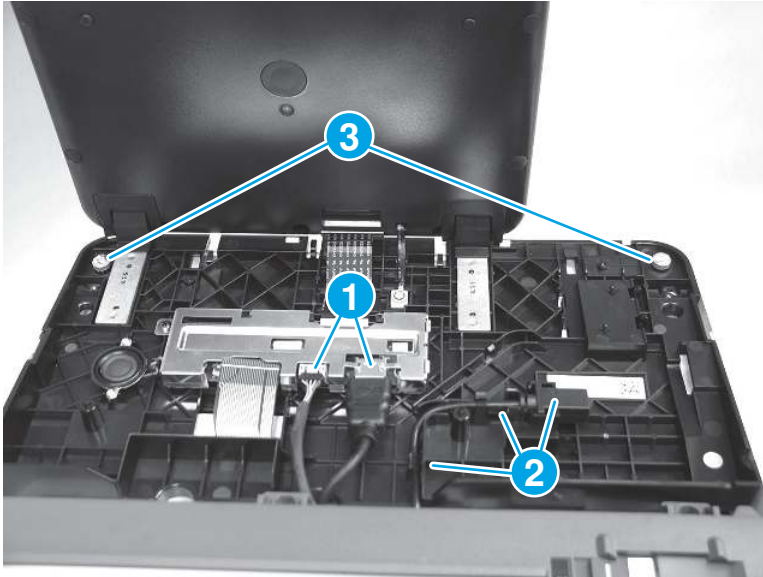
4. **586z only:** Open the connector latch to release the keyboard flat cable.

Figure 5-39 Release the keyboard cable (586z)



5. Disconnect one HDMI cable and one connector (callout 1), release the USB cable from the holder and retainers (callout 2), and then remove two thumbscrews (callout 3).

Figure 5-40 Disconnect connectors and remove thumbscrews



6. Lift the front of the control panel off of the printer (callout 1), and then slide it toward the front of the printer (callout 2) to remove it.

Figure 5-41 Remove the control panel



2. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.





NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

IMPORTANT:  Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

NOTE:  If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

NOTE:  When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the control panel (586)

Follow these steps to install the control panel (586).

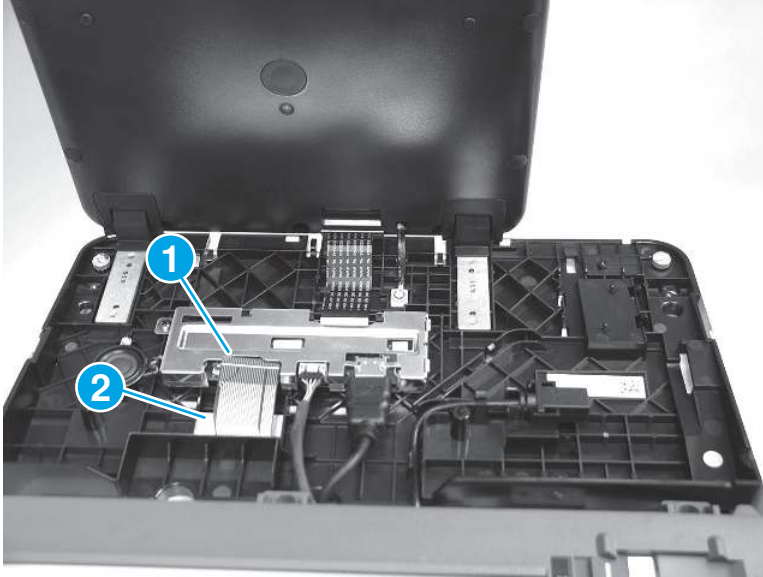
1. Tilt the replacement control panel away from the base plate.

Figure 5-42 Open the replacement control panel



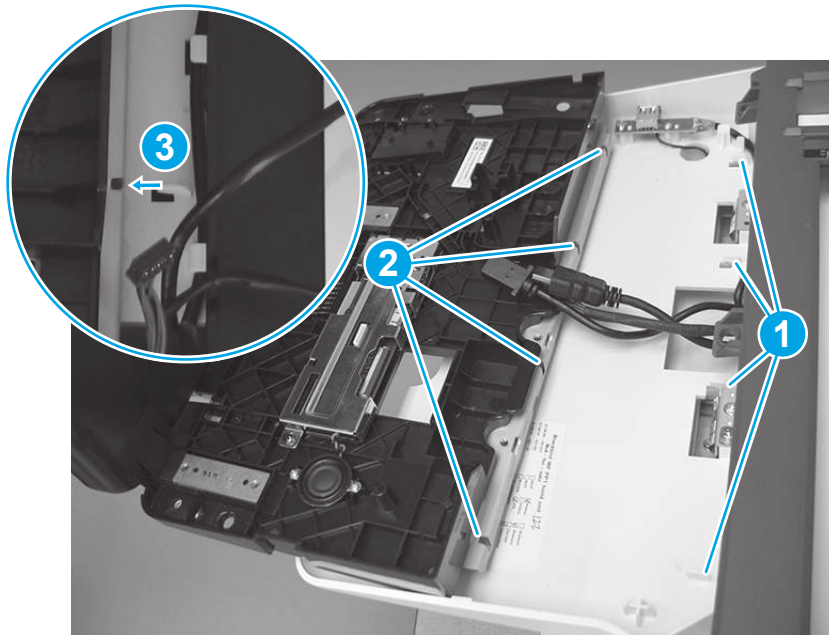
2. **586z only:** Make sure to feed the keyboard flat cable (callout 1) through the opening (callout 2) in the control-panel base when installing the control panel.

Figure 5-43 Pass the flat cable through the opening



3. Locate the four hooks on the ISA chassis (callout 1) and the matching slots in the control-panel base (callout 2). The hooks fit into the slots (callout 3) when the assembly is installed.

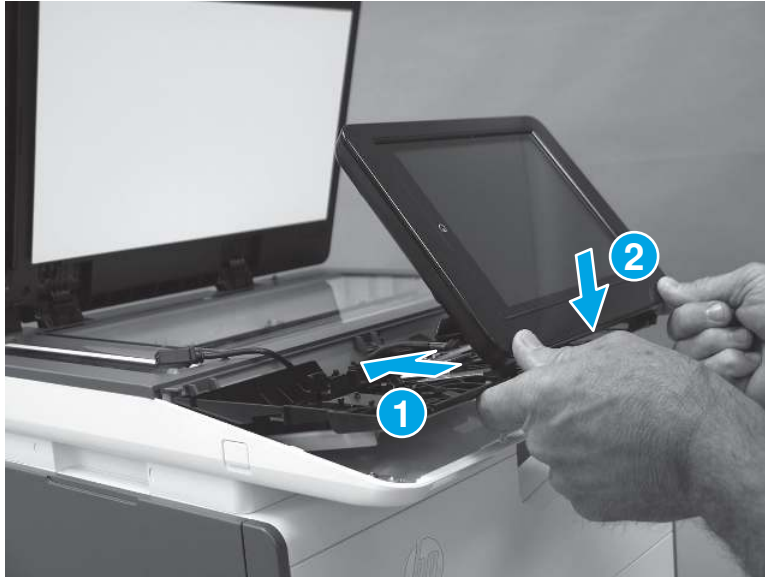
Figure 5-44 Locate the control-panel mounting hooks and slots



4. Position the rear edge of the control panel in the ISA chassis (callout 1), and then lower the front of the assembly down (callout 2).

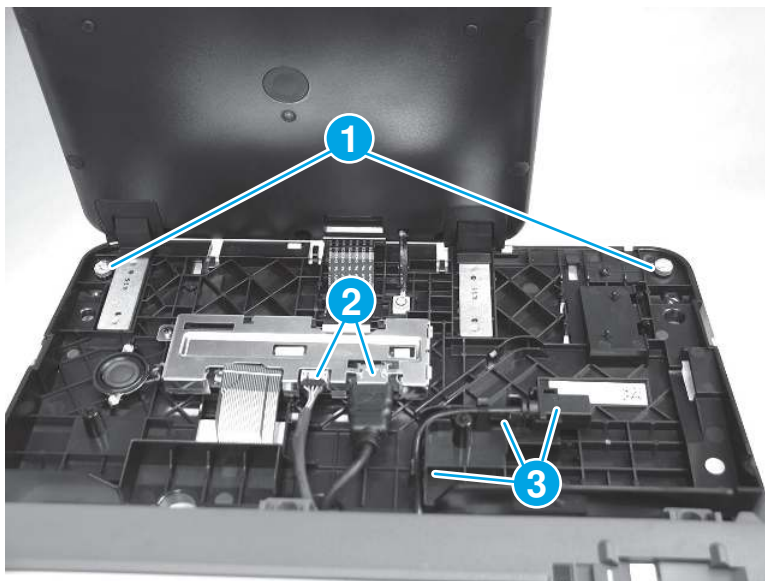
 **NOTE:** Make sure that the hooks on the ISA chassis are engaged in the slots of the control-panel base.

Figure 5-45 Install the control panel



5. Use the screwdriver provided in the kit to install two screws (callout 1). Connect one HDMI cable and one connector (callout 2), and then install the USB cable in the holder and retainers (callout 3).

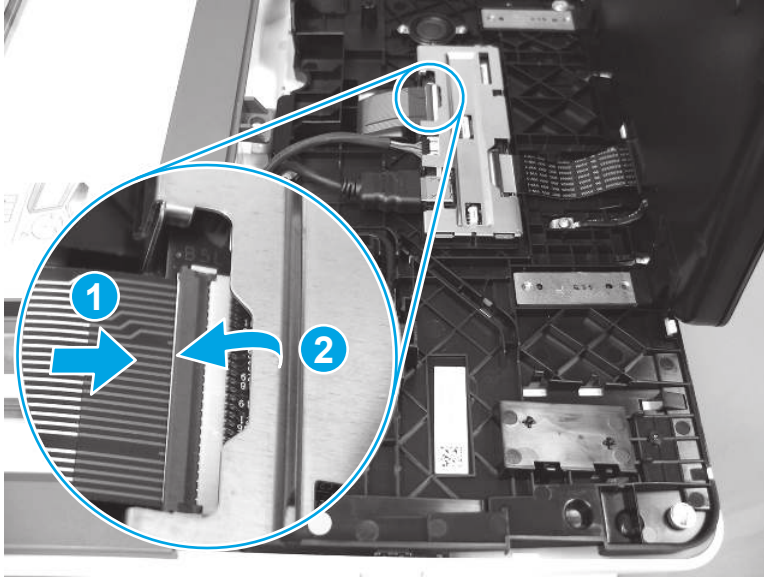
Figure 5-46 Install thumbscrews and connect connectors



6. **586z only:** Insert the flat cable in the connector, and then close the latch.

 **TIP:** When the flat cable is correctly inserted in the connector, the white line on the flat cable is parallel to the connector body.

Figure 5-47 Connect the keyboard cable (586z)



7. Position the control-panel cover on the control panel.

Figure 5-48 Install the cover



8. Beginning at the right side of the control-panel cover, carefully push down along the top edge of the cover to engage the bosses.


 **NOTE:** If the right- and left-side bosses are not fully engaged, push down along the edge of the cover to fully seat them.

Figure 5-49 Engage three bosses



Removal and replacement: Control panel keyboard (586z)

This document provides the procedures to remove and replace the control panel keyboard (586z).

Service level: Basic

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-6 Part information

Part number	Description
G1W41-67938	Control panel keyboard US (586z) with instruction guide
G1W41-67959	Control panel keyboard UK (586z) with instruction guide

Required tools

- Optional: Small flat-blade screwdriver.

After performing service

Turn the printer power on

- Connect the power cable.

- Use the power switch to turn the power on.

Post service test

If the keyboard is unresponsive after turning the printer on, check the flat cable. Reinstall the cable if necessary.

1. Remove the keyboard (586)

Follow these steps to remove the keyboard (586).

1. Tilt the control panel to the fully raised position and open the document feeder.

Figure 5-50 Tilt the control panel up



2. Pull out on the small gray plastic cover under the control panel to release it.

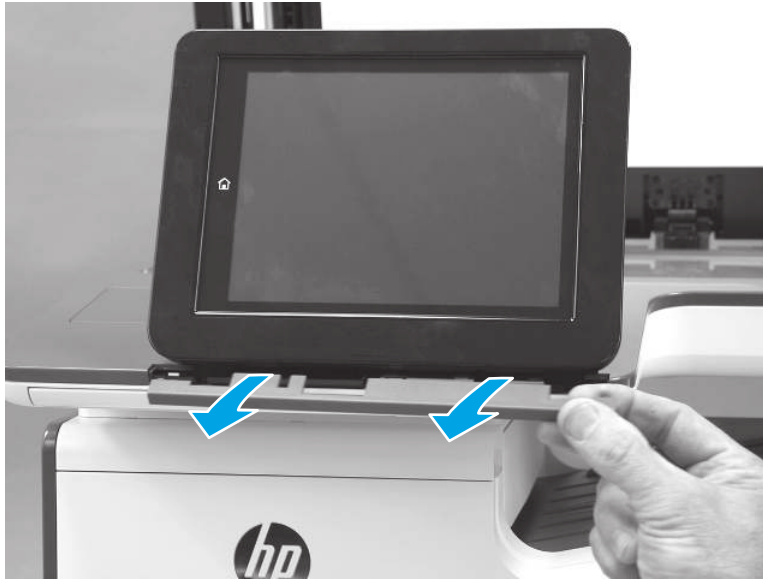
 **TIP:** It might be easier to release the cover by using a small flat-blade screwdriver.

Figure 5-51 Release the small gray plastic cover



3. Remove the cover.

Figure 5-52 Remove the cover



4. Beginning at the left side of the control-panel cover, carefully release three bosses along the top edge of the cover.

 **NOTE:** The thin, black plastic cover will separate from the white plastic control-panel base.

Figure 5-53 Release three bosses



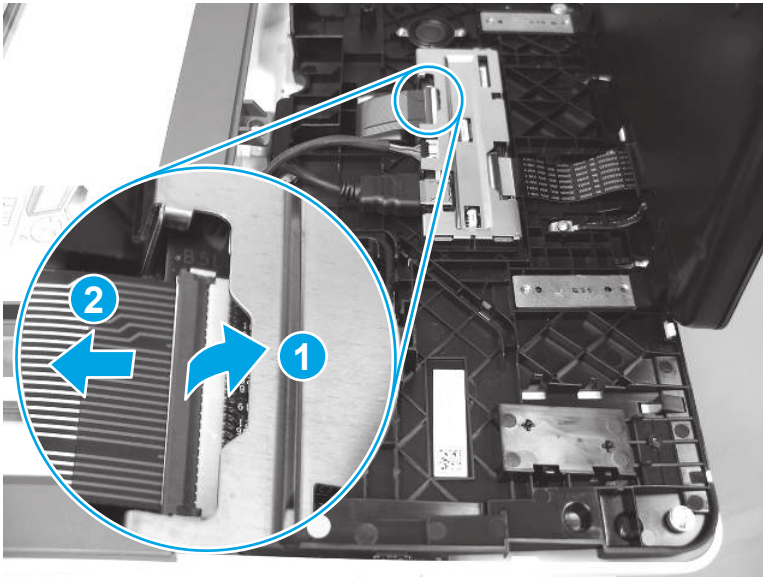
5. Lift up on the cover to release the right- and left-side bosses, and then remove the cover.

Figure 5-54 Remove the cover



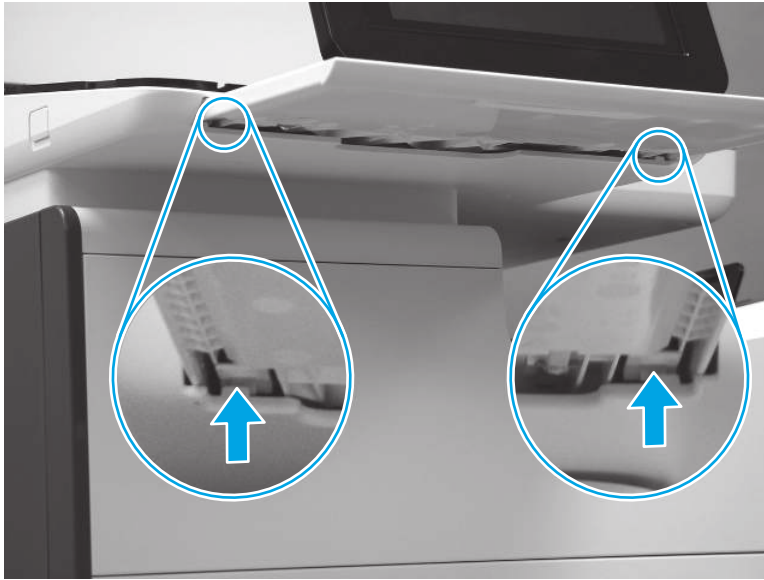
6. Open the connector latch to release the keyboard flat cable.

Figure 5-55 Release the keyboard cable



7. Slide the keyboard out until it stops, and then release two tabs on the keyboard.

Figure 5-56 Release the keyboard



8. Remove the keyboard.

Figure 5-57 Remove the keyboard



2. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.





NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

IMPORTANT:  Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

NOTE:  If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

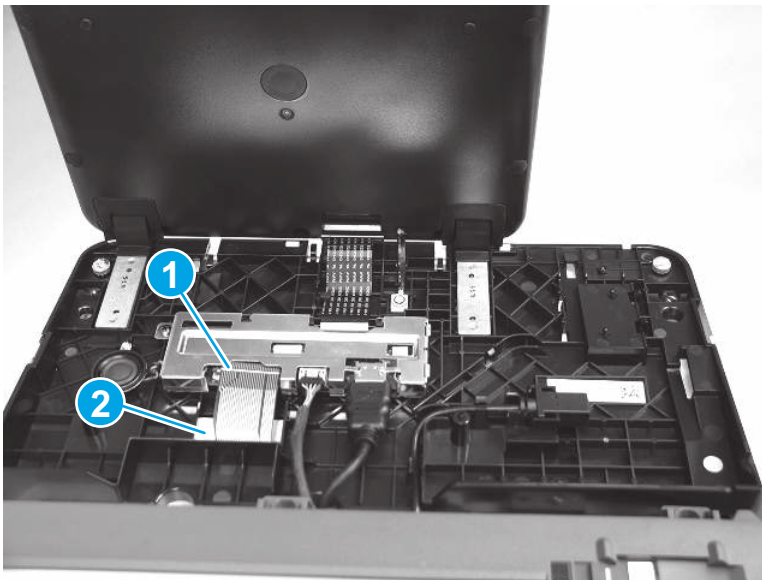
NOTE:  When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the keyboard (586)

Follow these steps to install the keyboard (586).

1. When installing the keyboard, make sure to feed the keyboard flat cable (callout 1) through the opening (callout 2) in the control-panel base.

Figure 5-58 Pass the flat cable through the opening



2. Install the keyboard, and then slide it in until it stops.

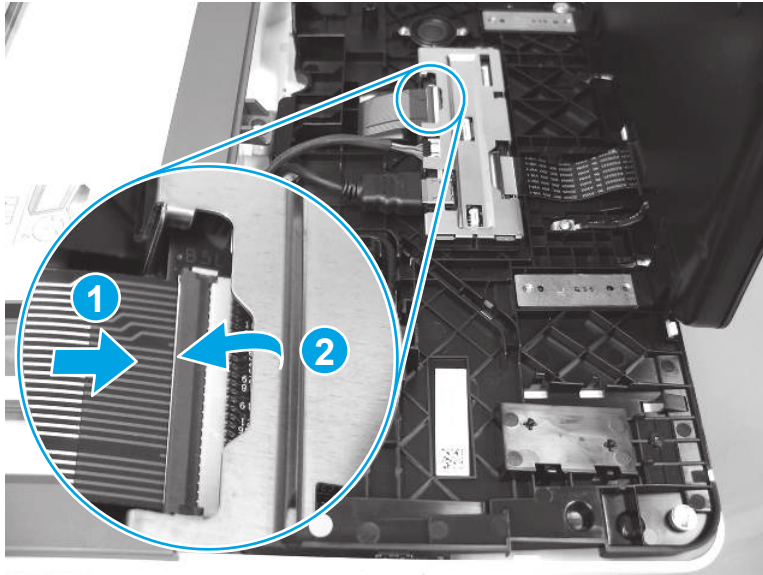
Figure 5-59 Install the keyboard



3. Insert the flat cable in the connector, and then close the latch.

 **TIP:** When the flat cable is correctly inserted in the connector, the white line on the flat cable is parallel to the connector body.

Figure 5-60 Connect the keyboard cable



4. Position the control-panel cover on the control panel.

Figure 5-61 Install the cover



5. Beginning at the right side of the control-panel cover, carefully push down along the top edge of the cover to engage the bosses.


 **NOTE:** If the right- and left-side bosses are not fully engaged, push down along the edge of the cover to fully seat them.

Figure 5-62 Engage three bosses



6. Position the small gray plastic cover in the slot under the control panel, and then push it straight in to install it.

Figure 5-63 Install the cover



Removal and replacement: embedded MultiMedia Card (eMMC) (556dn)

This document provides the procedures to remove and replace the eMMC.

Service level: Basic

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

⚠ CAUTION:  ESD sensitive part.

📌 IMPORTANT: Do not replace the formatter, DC controller, and eMMC PCA or hard-disk drive simultaneously during a single printer servicing. Doing so might cause the printer to become unstable or inoperable.

📌 NOTE: Data stored on the eMMC is not secure and cannot be encrypted.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-7 Part information

Part number	Description
G1W47-67902	embedded MultiMedia Card (eMMC) (556dn) with instruction guide

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the formatter cover is fully seated, and that the thumbscrews are finger tight after replacing it.

1. Remove the formatter cover

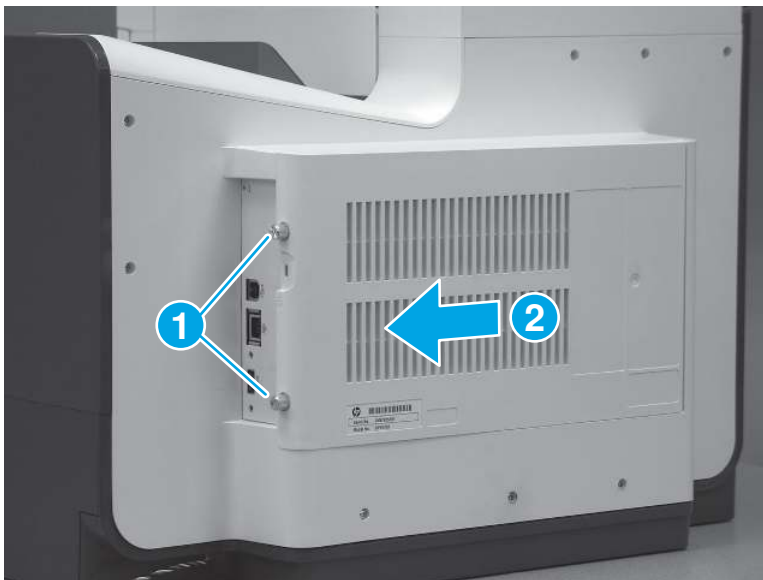
Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).



NOTE: The thumb screws are not captive and are easily lost.

Figure 5-64 Remove the formatter cover



2. Remove the embedded MultiMedia Card (eMMC)

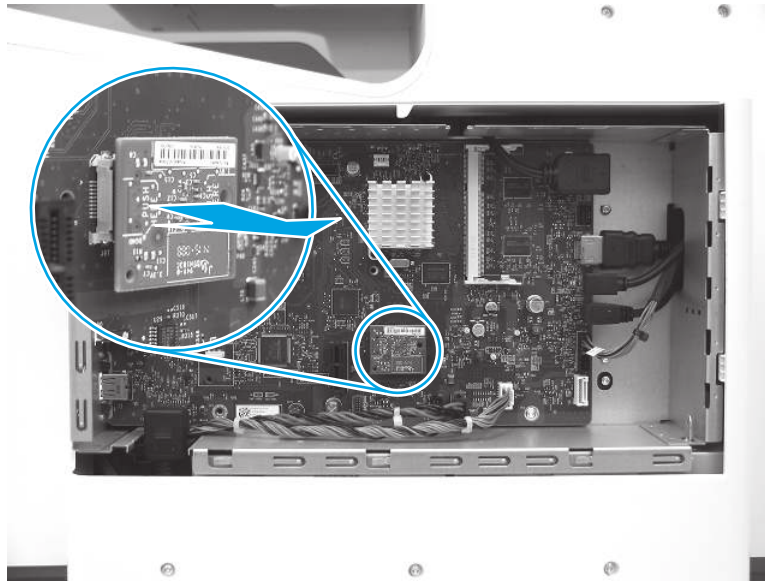
Follow these steps to remove the eMMC.



CAUTION:  ESD sensitive part.

- ▲ Locate the eMMC component on the formatter, and then pull it straight off of the formatter to remove it.

Figure 5-65 Remove the eMMC



3. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

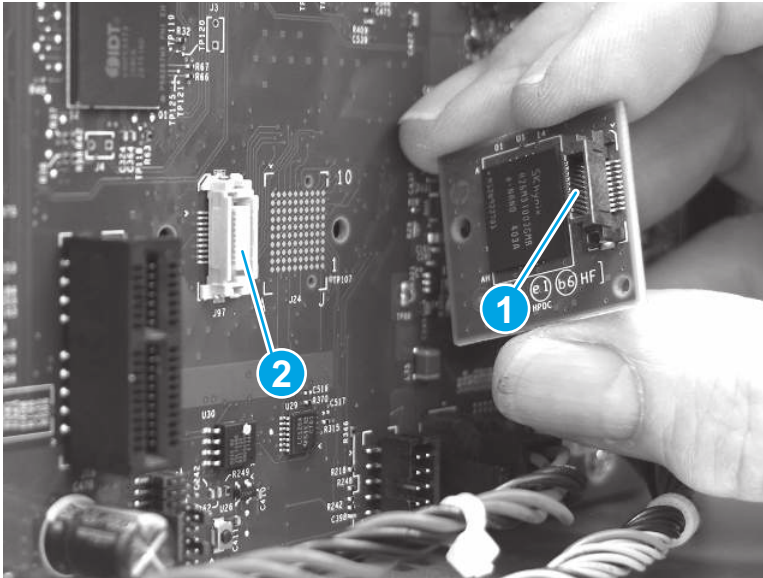
4. Install the embedded MultiMedia Card (eMMC)

Follow these steps to install the eMMC.


CAUTION:  ESD sensitive part.

1. Note the location of the connector (callout 1) on the eMMC and the connector (callout 2) on the formatter.

Figure 5-66 Locate the eMMC connectors

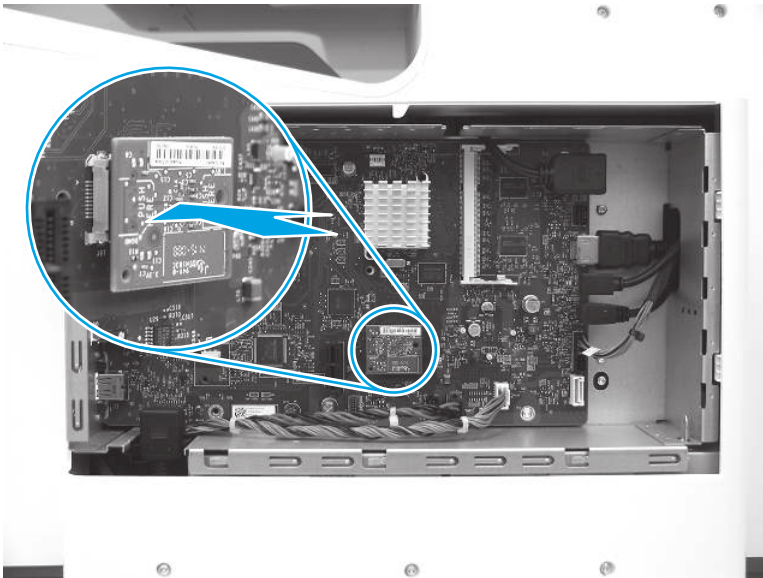


2. Align the connector on the replacement eMMC (callout 1) with the connector on the formatter, and then push the eMMC onto the formatter to install it.

 **IMPORTANT:** Push on the eMMC at the location shown by the arrow. Ignore any “Push here” label on the eMMC itself. Make sure that the eMMC is fully seated in the connector .

 **NOTE:** The eMMC can only be installed in one direction on the formatter.

Figure 5-67 Install the eMMC

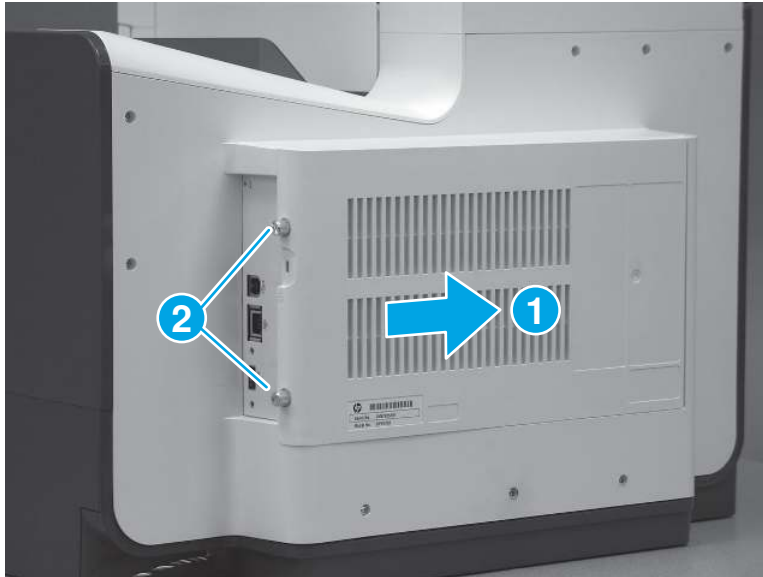


5. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-68 Install the formatter cover




6. Reinstall the product firmware

Follow these steps to reinstall the product firmware.

1. Go to www.hp.com/go/futuresmart.
2. Select **Upgrade now**.
3. Find your Enterprise printer model.
4. Select the link to open the firmware download page.
5. Select **OS Independent** from the list of operating systems.
6. Under the **Firmware** section, find the file for multiple operating systems.
7. Select **Download**.

Removal and replacement: Hard-disk drive (HDD)

This document provides the procedures to remove and replace the hard-disk drive (HDD).

 **NOTE:** M586 all; 556xh printers only.

[View a video on how to replace the hard-disk drive](#)

Mean time to repair: 10 minutes


Service Level: Basic

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

⚠ CAUTION:  This part contains components that are electrostatic discharge (ESD) sensitive. To reduce the possibility of ESD damage, always touch the sheet-metal chassis to ground yourself before touching an ESD sensitive part.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-8 Part information

Part numbers	Description
G1W41-67902	320 GB hard-disk drive (HDD) (586 all; 556xh) with instruction guide

Required tools

No special tools are required to install this part.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a Ready state.

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

1. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).


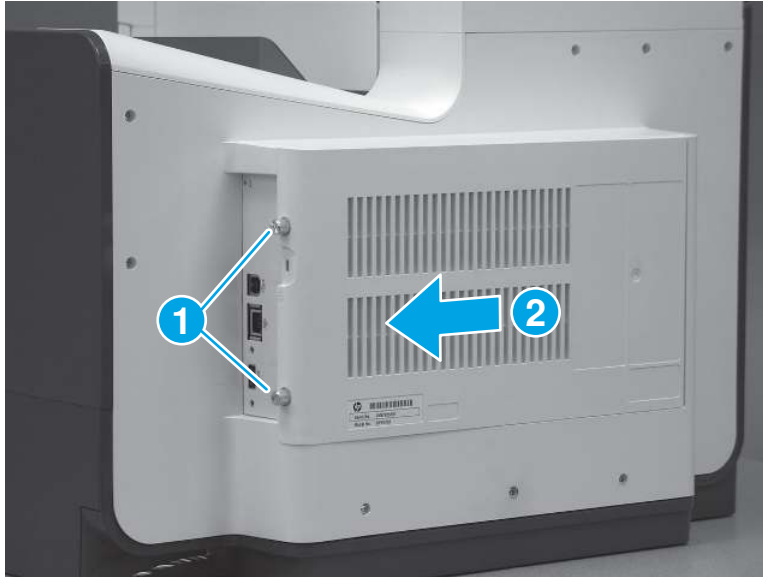
 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-69 Remove the formatter cover



2. Remove the hard-disk drive (HDD)

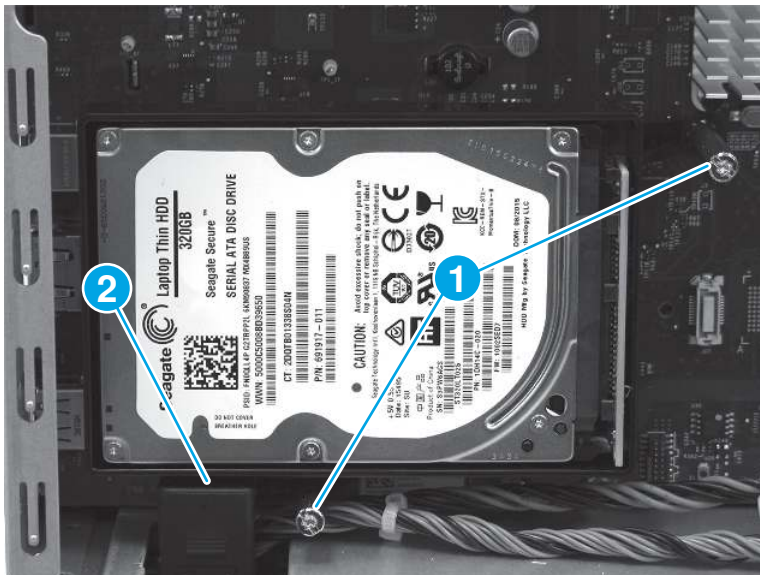
Follow these steps to remove the hard-disk drive (HDD).

CAUTION:  ESD-sensitive part.

1. Remove two thumbscrews (callout 1).

TIP: It might be easier to remove the lower thumbscrew if one connector (callout 2) is disconnected.

Figure 5-70 Release the HDD



2. Pull the HDD straight off of the formatter to remove it.


Figure 5-71 Remove the HDD



3. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

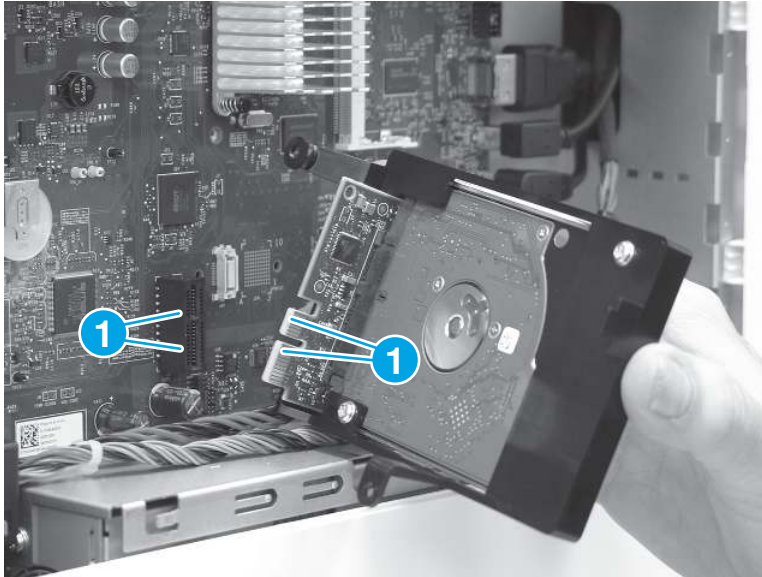
4. Install the HDD

Follow these steps to install the HDD.

CAUTION:  ESD-sensitive part.

1. Before proceeding, note the location of the connectors (callout 1) on the HDD and the connector slots (callout 2) on the formatter.

Figure 5-72 Locate the connectors



2. Align the connectors mentioned in the previous step, and then push the HDD onto the formatter to install it.

Figure 5-73 Install the HDD



3. Install two thumbscrews (callout 1).


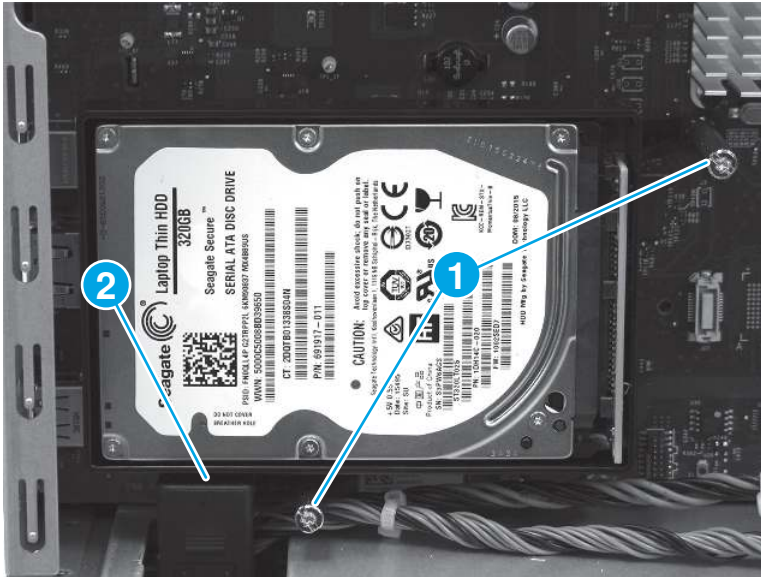
 **NOTE:** If the connector (callout 2) was disconnected to make it easier to install the lower thumbscrew, connect it now.

Figure 5-74 Install two thumb screws

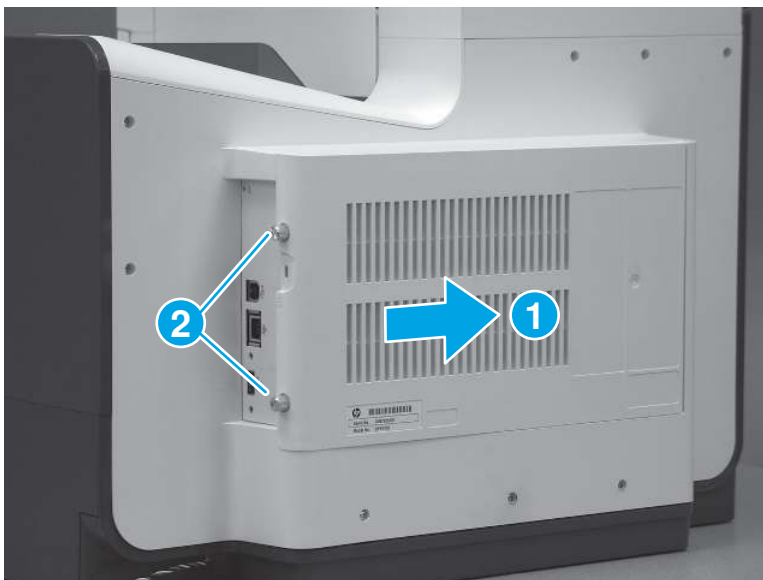


5. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-75 Install the formatter cover



6. Reinstall the product firmware

Follow these steps to reinstall the product firmware.

1. Go to www.hp.com/go/futuresmart.
2. Select **Upgrade now**.
3. Find your Enterprise printer model.

4. Select the link to open the firmware download page.
5. Select **OS Independent** from the list of operating systems.
6. Under the **Firmware** section, find the file for multiple operating systems.
7. Select **Download**.

Customer self-repair (CSR) B parts and accessories

Customer self-repair (CSR) B parts are parts that a customer replaces without assistance from a field technician. These parts might require the use of tools.

Removal and replacement: Control panel (556)

This document provides the procedures to remove and replace the control panel (556).

[View a video on how to replace the control panel](#)

Mean time to repair: 10 minutes

Service level: Basic

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-9 Part information

Control panel (M556) part number	
G1W41-67907	Control panel (M556) with instruction guide

Required tools

🔧 NOTE: A reversible-shaft screwdriver is supplied with this kit.

- Torx driver (#10 with magnetized tip).
- Small flat-blade screwdriver.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test


Make sure that the printer initializes to a Ready state.

Access the menus by using the printer control panel, and then print a configuration page to make sure that the printer is functioning correctly.

Verify that the control panel is correctly functioning. See the control panel check section in the printer troubleshooting manual.

1. Remove the control panel (556)

Follow these steps to remove the control panel (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

1. Tilt the control panel to the fully raised position.

Figure 5-76 Tilt the control panel up



2. Insert a small flat-blade screwdriver into the notch in the cover, and then carefully pry up the cover to release it. Remove the cover.

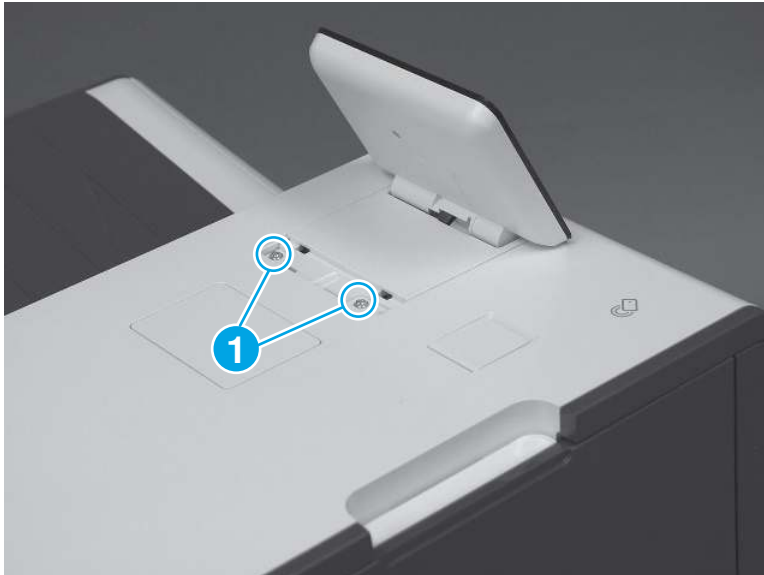
Figure 5-77 Release two tabs



3. Remove two # 10 torx screws (callout 1).

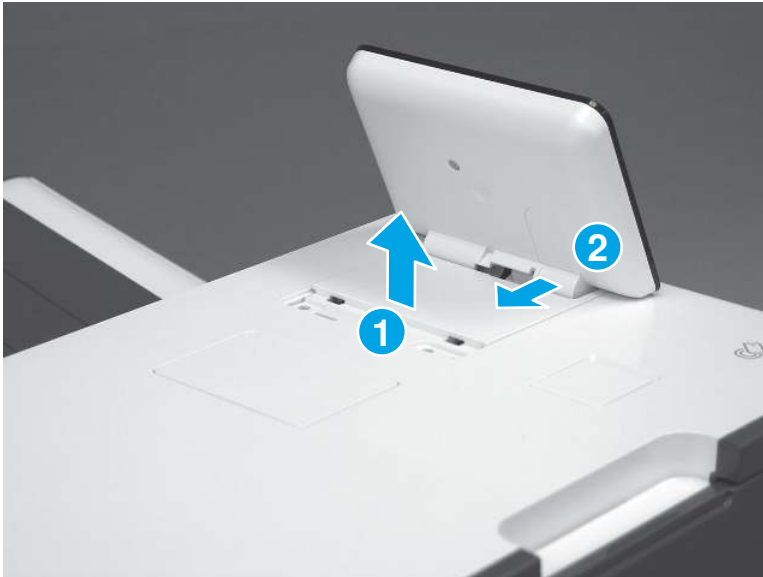
⚠ CAUTION: Store the screws in a secure place where they cannot fall down into the printer.

Figure 5-78 Remove two screws



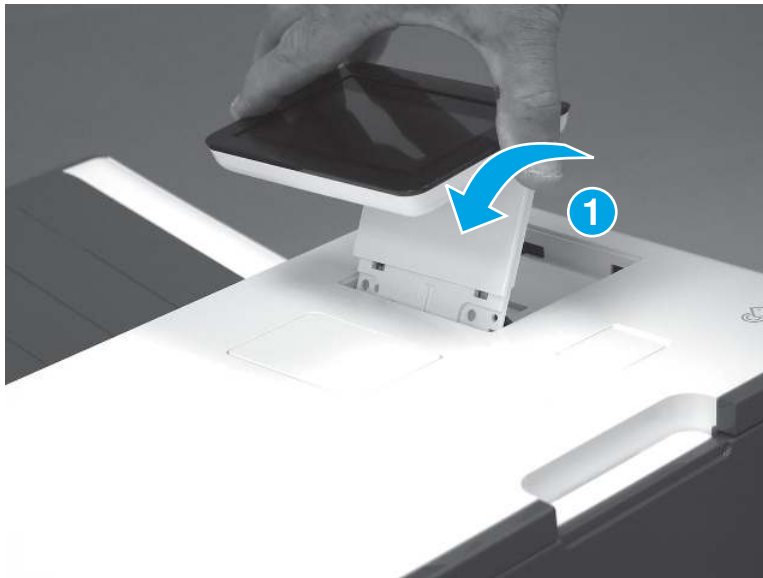
4. Lift up the rear edge of the control panel (callout 1), and then slightly slide it toward the rear of the printer (callout 2) to release the front tabs.

Figure 5-79 Release the control panel over



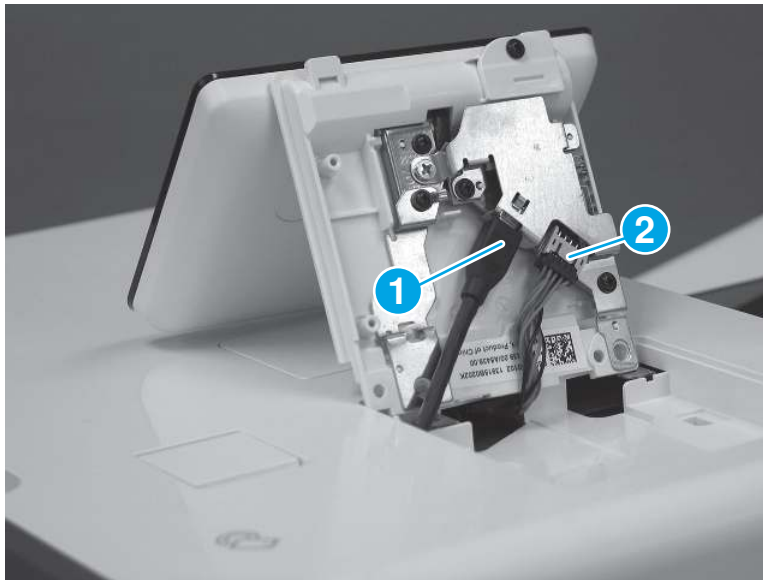
5. Turn the control panel over (callout 1), to gain access to the bottom side.

Figure 5-80 Turn the control panel over



6. Disconnect one HDMI cable (callout 1) and one connector (callout 2), and then remove the control panel.

Figure 5-81 Disconnect connectors and remove the control panel



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

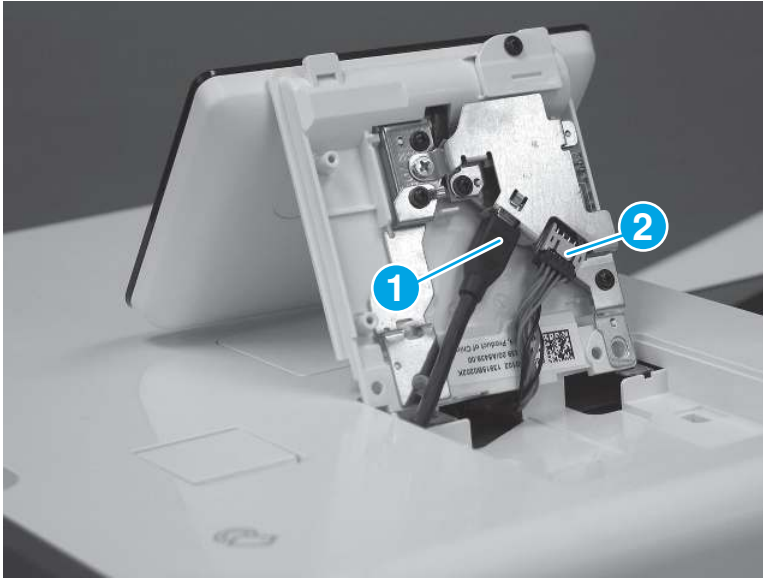
 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the control panel (556)

Follow these steps to install the control panel (556).

1. Connect one HDMI cable (callout 1) and one connector (callout 2).

Figure 5-82 Connect cables



2. Install the tabs (callout 1) on the front of the control panel in the slots (callout 2) on the printer top cover.

Figure 5-83 Install the control panel



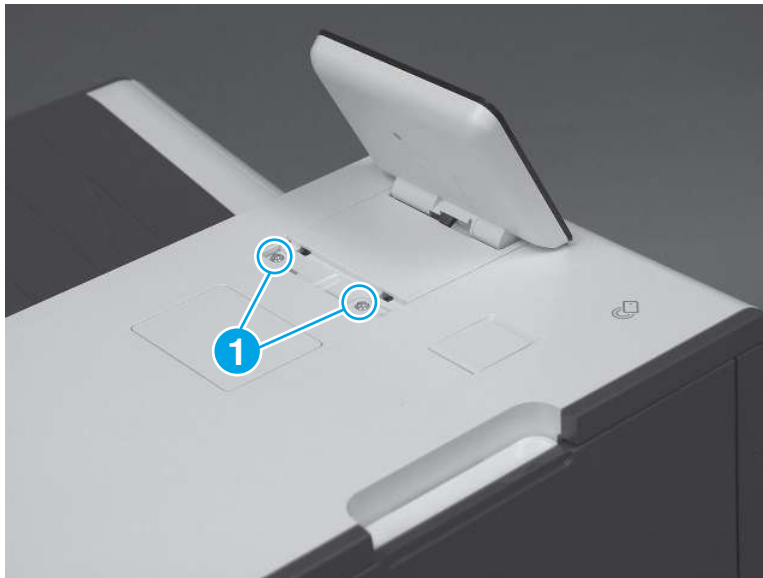
3. With the front tabs engaged in the slots (callout 1), rotate the control-panel base down onto the printer (callout 2).

Figure 5-84 Rotate the control-panel base down



4. Install two # 10 torx screws (callout 1).

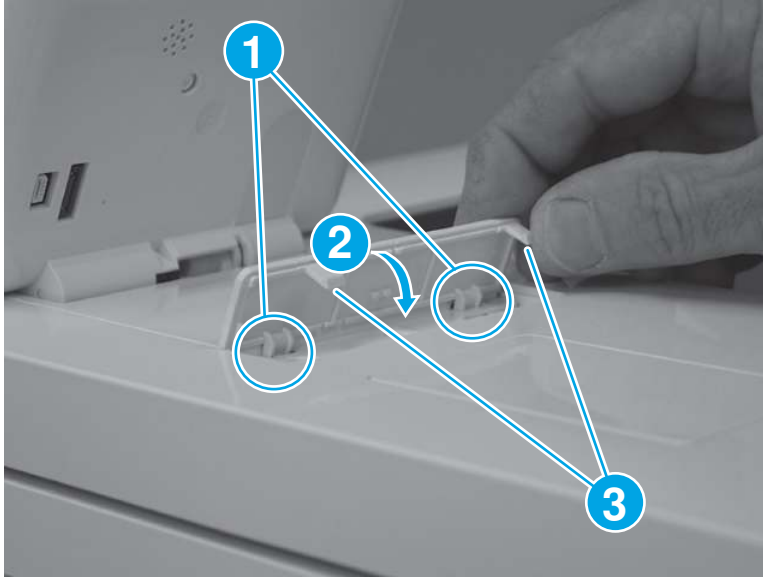
Figure 5-85 Install two screws



5. Position the access cover mounting feet into the slots in the top cover (callout 1), and then rotate the cover down (callout 2) to install it.

 **NOTE:** Press down on the cover firmly to make sure that the tabs (callout 3) snap into place.

Figure 5-86 Install the cover



Field-replaceable units (FRUs) / Bench repairable units (BRUs)

Learn about FRU/BRU parts removal and replacement.

Removal and replacement: External panels, covers, and doors (base printer)

Learn how to remove and replace the printer external panels, covers, and doors.

Removal and replacement: Left door

This document provides the procedures to remove and replace the left door.

[View a video of this procedure](#)

Mean time to repair: 10 minutes

Service level: Basic

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-10 Part information

Part number	Description
G1W39-67926	Left door with instruction guide

Required tools

- No special tools are needed to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service tests are available for this assembly.

1. Remove the left door

Follow these steps to remove the left door.

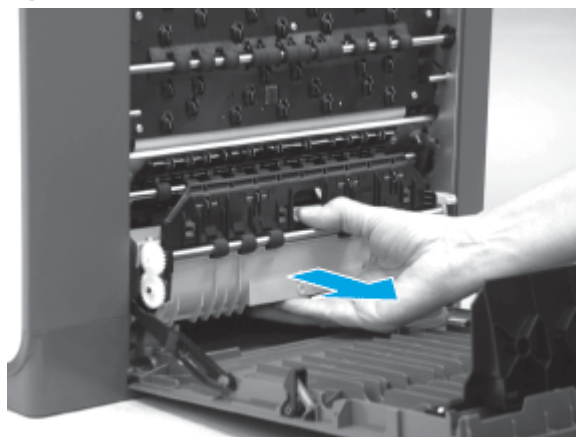
1. Release the latch (callout 1), and then open the left door.

Figure 5-87 Open the left door



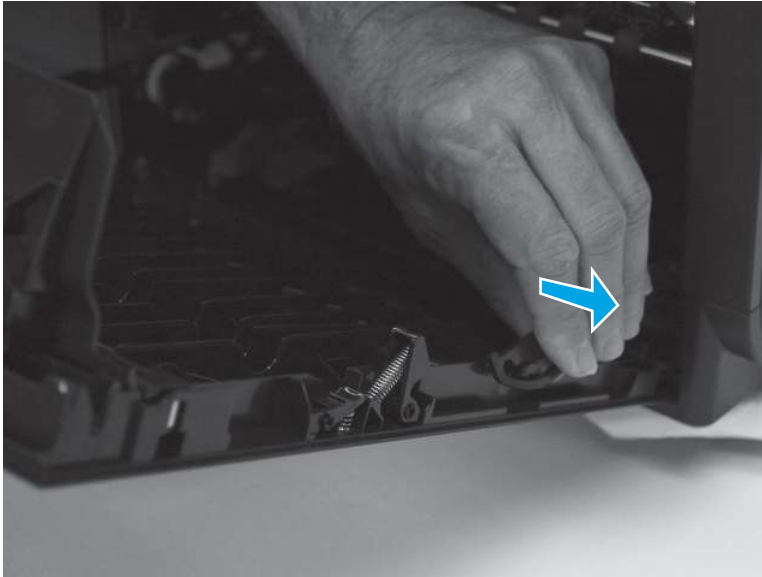
2. Remove the ink collection unit.

Figure 5-88 Remove the ink collection unit



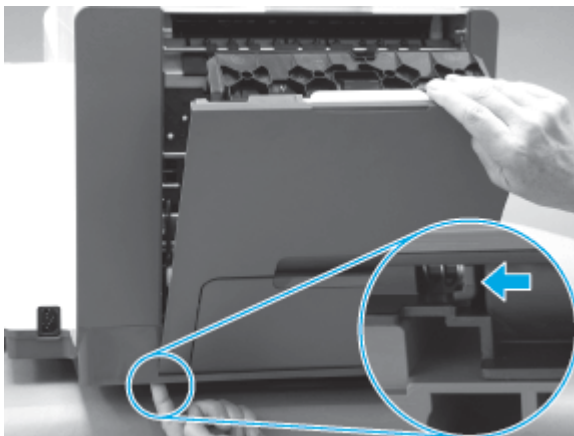
3. Raise the door slightly and unhook each restraining strap by twisting the bottom end of the strap away from the door.

Figure 5-89 Unhook each restraining strap



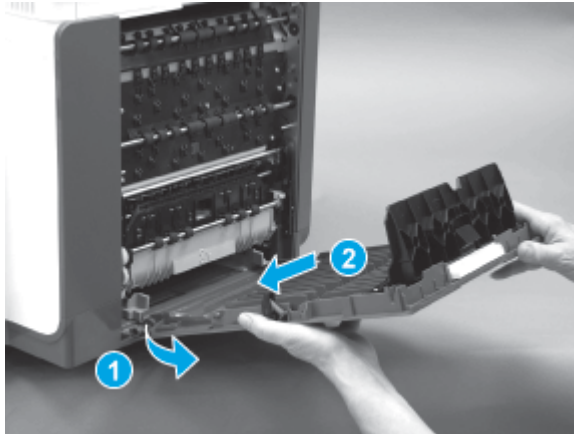
4. Underneath the rear door hinge, locate the catch lever. Press the catch lever toward the rear of the printer and hold it in the released position.

Figure 5-90 Press and hold the catch lever



5. While holding the catch lever in the released position, raise the door to a 45-degree angle. Rotate the rear side of the door to the right (callout 1), and then slide the door to the left (callout 2) to remove it.


Figure 5-91 Remove the left door



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

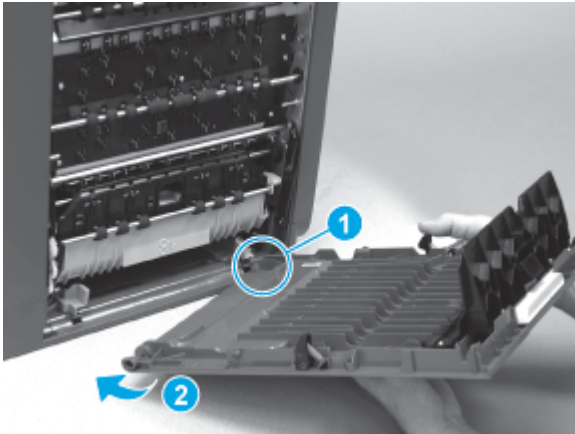
 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the left door

Follow these steps to install the left door.

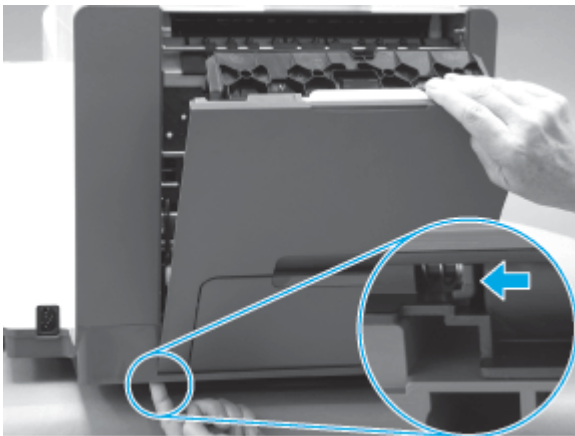
1. Position the shaft on the left door into the opening in the printer (callout 1), and then rotate the door toward the printer (callout 2).

Figure 5-92 Install the left door



2. Underneath the rear door hinge, press the catch lever toward the rear of the printer and hold it in the released position. Position the door against the printer, and then release the catch lever hinge shaft into the opening in the door.

Figure 5-93 Press and hold the catch lever



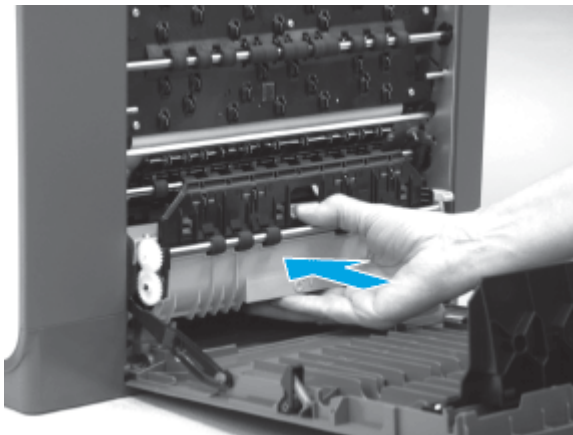
3. Reattach each restraining strap by positioning the top of the strap on the hinge post, and then twisting the bottom end of the strap toward the door.

Figure 5-94 Reattach each restraining strap



4. Reinstall the ink collection unit.

Figure 5-95 Reinstall the ink collection unit



5. Close the left door.

Figure 5-96 Close the left door



Removal and replacement: Scanner control board (SCB) cover

This document provides the procedures to remove and replace the scanner control board (SCB) cover.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-11 Part information

Part number	Description
G1W39-67936	SCB cover

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

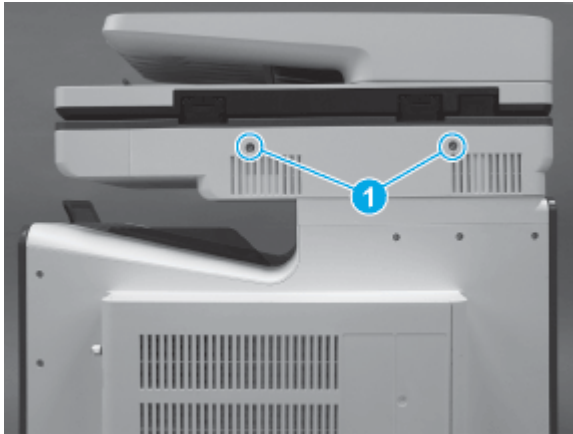
No post service tests are available for this assembly.

1. Remove the scanner control board (SCB) cover

Follow these steps to remove the scanner control board (SCB) cover.

1. At the back of the printer, remove two screws (callout 1).

Figure 5-97 Remove two screws



2. Pull the SCB cover straight off the printer to remove it

Figure 5-98 Remove the SCB cover



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.
-

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the SCB cover

Follow these steps to install the SCB cover.

1. Align the tabs on the back side of the SCB cover with the slots in the printer.

Figure 5-99 Align the SCB cover tabs and printer slots



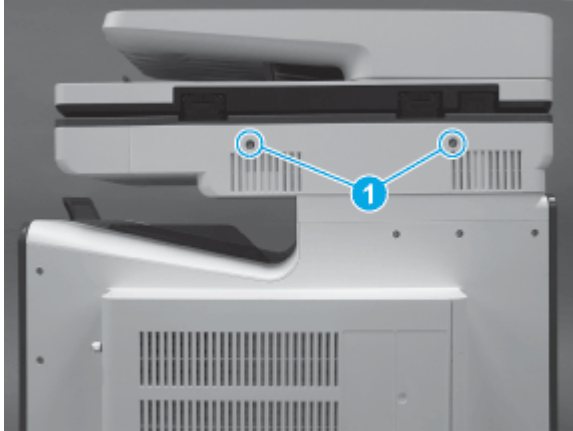
2. Push the cover straight in to install it.

Figure 5-100 Install the SCB cover



3. Install two screws (callout 1).

Figure 5-101 Install two screws



Removal and replacement: Formatter cover

This document provides the procedures to remove and replace the formatter cover.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-12 Part information

Formatter part numbers	
G1W39-67915	Formatter cover
IMPORTANT: This cover has a label on it that contains the printer serial number and other regulatory information. If a print mechanism (PM) kit is installed, this cover must be installed on the PM unit.	

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).


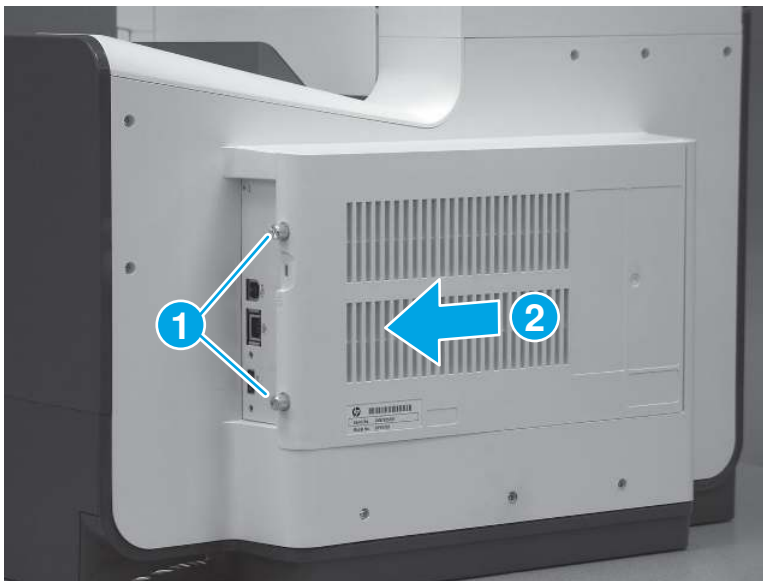
 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-102 Remove the formatter cover



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

- To install an assembly, reverse the removal steps.

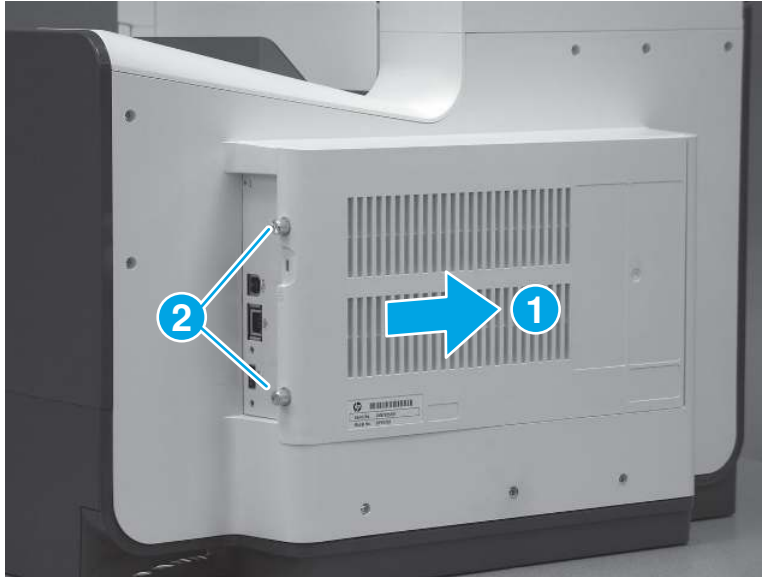
 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-103 Install the formatter cover




Removal and replacement: Right cover (outer)

This document provides the procedures to remove and replace the right cover (outer).

Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-13 Part information

Formatter part numbers	
G1W39-67922	Right cover (outer)
NOTE: In the parts chapter, the right cover (outer) is named: case, right trim.	

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-104 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-105 Remove the right cover (outer)



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

3. Install the right cover (outer)

Follow these steps to install the right cover (outer).

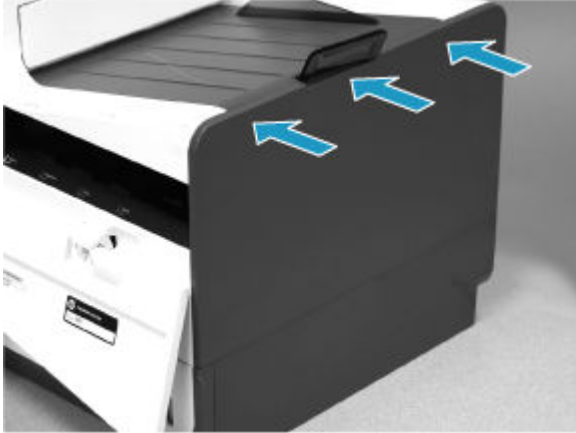
1. Position the bottom edge of the cover on the printer.

Figure 5-106 Position the right cover (outer) on the printer



2. Push in along the top edge of the right cover (outer) to install it.

Figure 5-107 Install the right cover (outer)



Removal and replacement: Left-rear top cover cap (556)

This document provides the procedures to remove and replace the left-rear top cover cap (556).

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-14 Part information

Formatter part numbers	
G1W46-67910	Left-rear top cover cap (M556)

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on


- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the left-rear top cover cap (556)

Follow these steps to remove the left-rear top cover cap (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

▲ Open the left door, and then carefully pull the cover off of the printer.

 **TIP:** It might be easier remove the cover off by using a small flat-blade screwdriver.

Figure 5-108 Remove left-rear top cover cap (556)



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

- To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.


Removal and replacement: Left-front top cover cap (556)

This document provides the procedures to remove and replace the left-front top cover cap (556).

Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-15 Part information

Formatter part numbers	
G1W46-67909	Left-front top cover cap (M556)

Required tools

- No special tools are required to remove or install this assembly.

After performing service

Turn the printer power on


- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the left-front top cover cap (556)

Follow these steps to remove the left-front top cover cap (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

-  Open the left door, and then carefully pull the cover off of the printer.

 **TIP:** It might be easier remove the cover off by using a small flat-blade screwdriver.

Figure 5-109 Remove left-front top cover cap (556)



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.


Removal and replacement: Left rear cover

This document provides the procedures to remove and replace the left rear cover.

Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-16 Part information

Formatter part numbers	
G1W39-67917	Left rear cover

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.

After performing service

Turn the printer power on


- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the left-rear top cover cap (556)

Follow these steps to remove the left-rear top cover cap (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

- ▲ Open the left door, and then carefully pull the cover off of the printer.


 **TIP:** It might be easier remove the cover off by using a small flat-blade screwdriver.

Figure 5-110 Remove left-rear top cover cap (556)



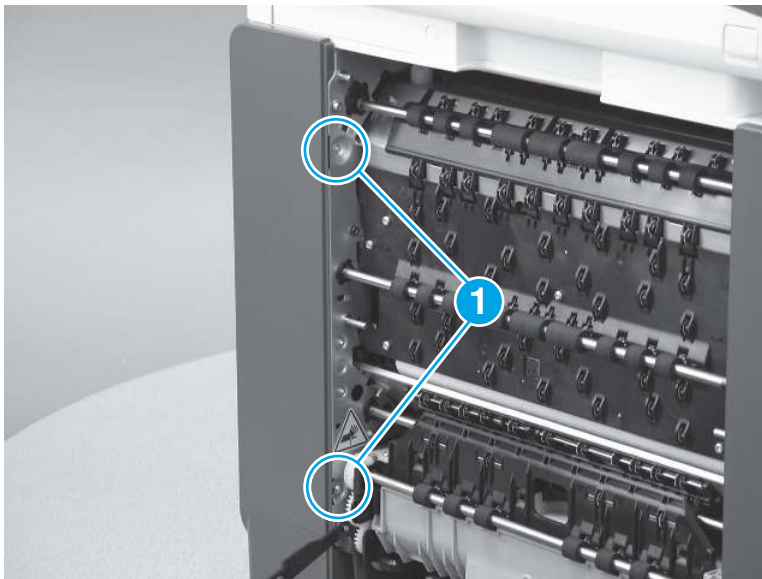
2. Remove the left rear cover

Follow these steps to remove the left rear cover.

 **NOTE:** The figures in this section show the 586 printer. However, the instructions for removing the cover are valid for 556 printers.

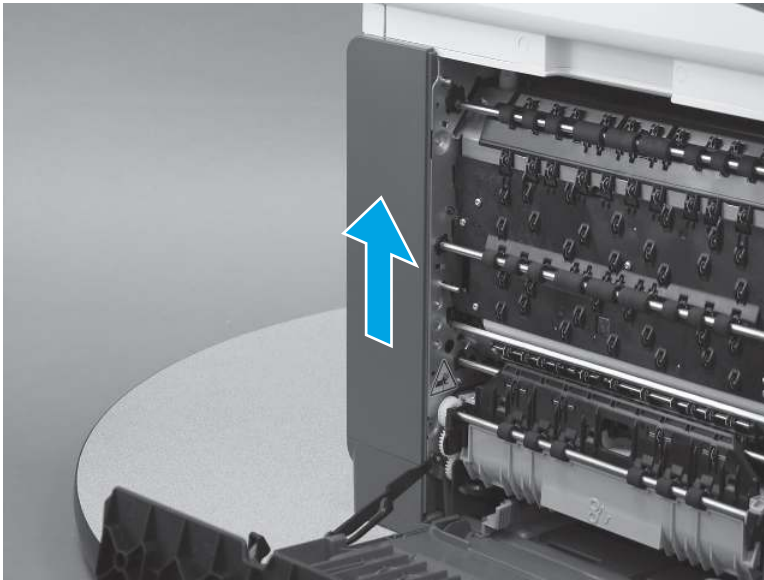
1. Remove two screws (callout 1).

Figure 5-111 Remove two screws



2. Release the cover by sliding it up about 10 mm (0.4 in).

Figure 5-112 Release the cover



3. Remove the cover.

Figure 5-113 Remove the cover



3. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.



1. Dispose of the defective part.





NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

Removal and replacement: Left front cover

This document provides the procedures to remove and replace the left front cover.

Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-17 Part information

Formatter part numbers	
G1W39-67916	Left front cover

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.

After performing service

Turn the printer power on


- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the left-front top cover cap (556)

Follow these steps to remove the left-front top cover cap (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

 Open the left door, and then carefully pull the cover off of the printer.

 **TIP:** It might be easier remove the cover off by using a small flat-blade screwdriver.

Figure 5-114 Remove left-front top cover cap (556)



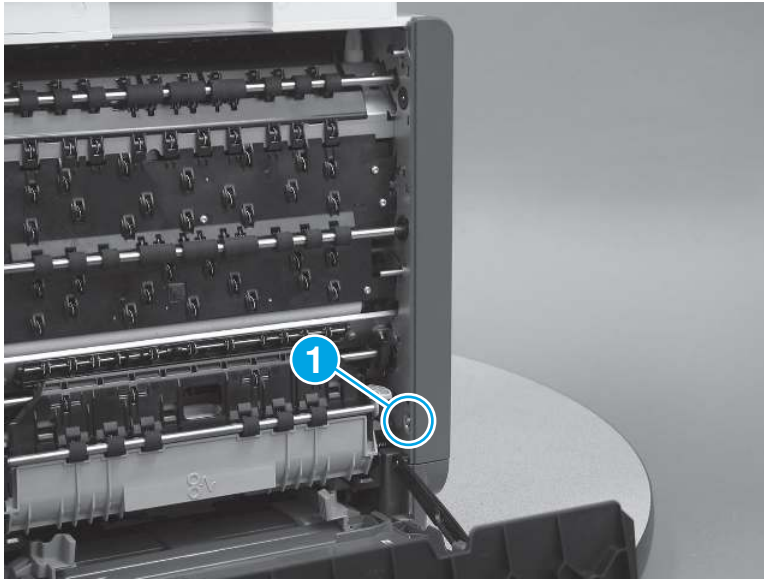
2. Remove the left rear cover

Follow these steps to remove the left rear cover.

 **NOTE:** The figures in this section show the 586 printer. However, the instructions for removing the cover are valid for 556 printers.

1. Remove one screw (callout 1).

Figure 5-115 Remove one screw



2. Release one tab (callout 1), and then release the cover by sliding it up about 10 mm (0.4 in).


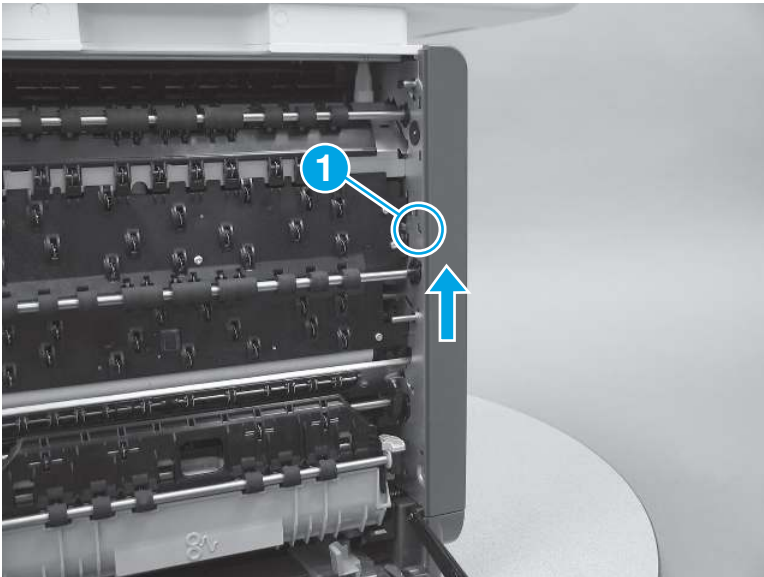
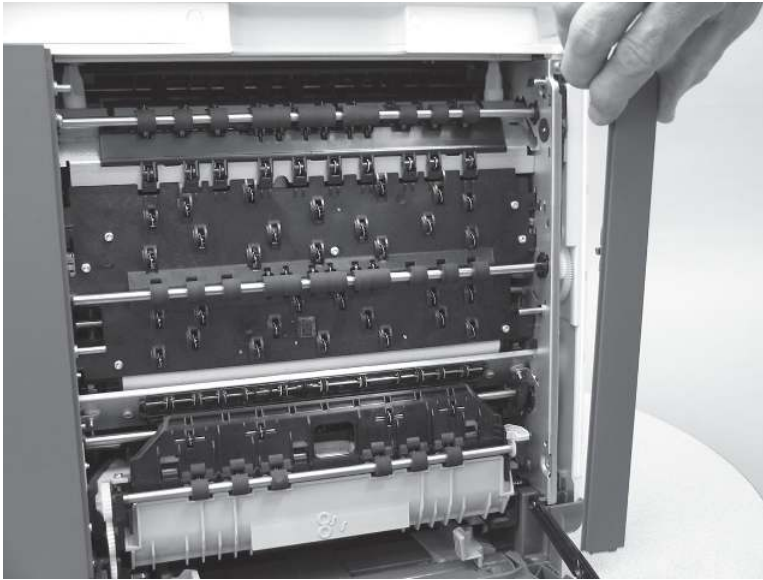
 **NOTE:** This cover can be very difficult to release. It might be easier to use a flat-blade screwdriver to pry the bottom edge of the cover up and away from the chassis.

Figure 5-116 Release the cover



3. Remove the cover.

Figure 5-117 Remove the cover



3. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.




NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>

2. Unpack the replacement part from the packaging.



CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.



IMPORTANT: Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.



NOTE: If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.



NOTE: When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

Removal and replacement: Rear cover

This document provides the procedures to remove and replace the rear cover.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-18 Part information

Formatter part numbers	
G1W39-67919	Rear cover

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.

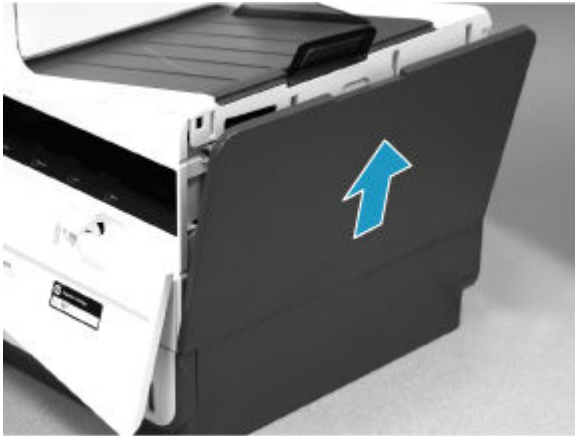
💡 TIP: Open the cartridge door to make removing the cover easier.

Figure 5-118 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-119 Remove the right cover (outer)



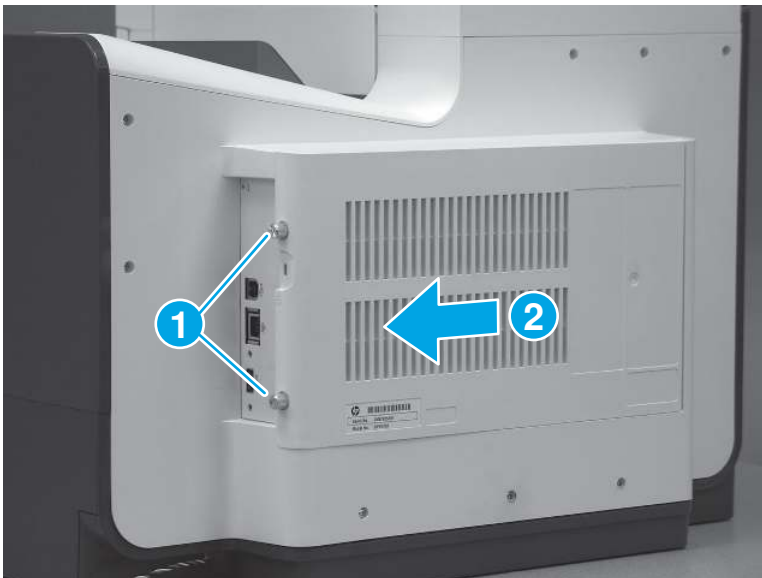
2. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-120 Remove the formatter cover



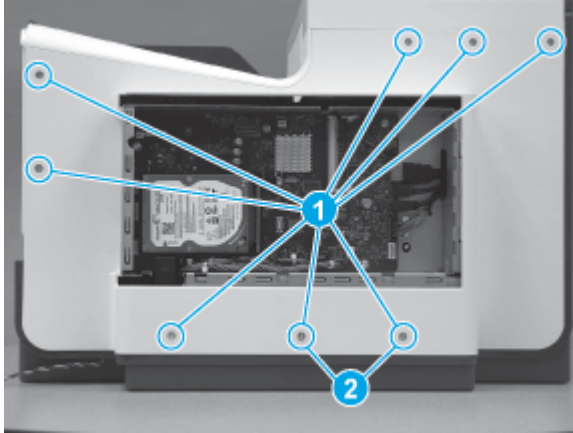
3. Remove the rear cover

Follow these steps to remove the rear cover.

1. Remove eight screws (callout 1).

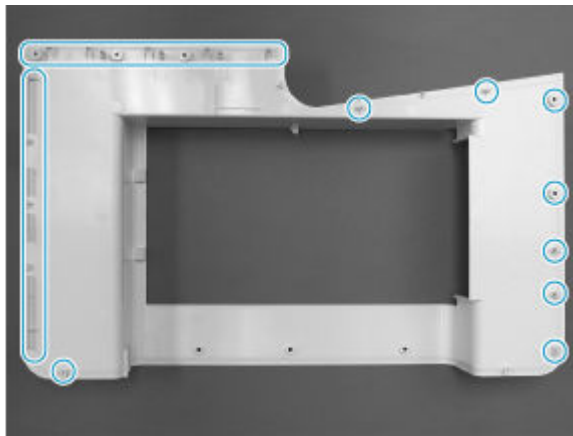
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-121 Remove eight screws



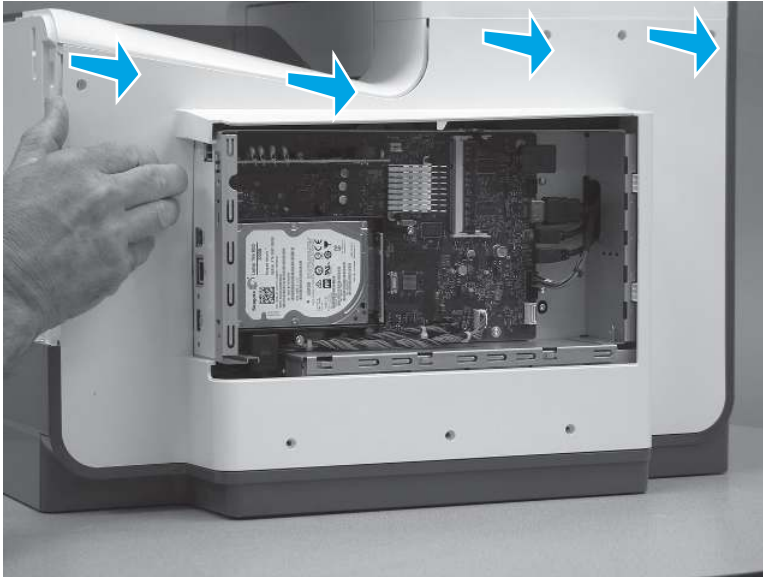
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-122 Find the tabs and bosses on the rear cover



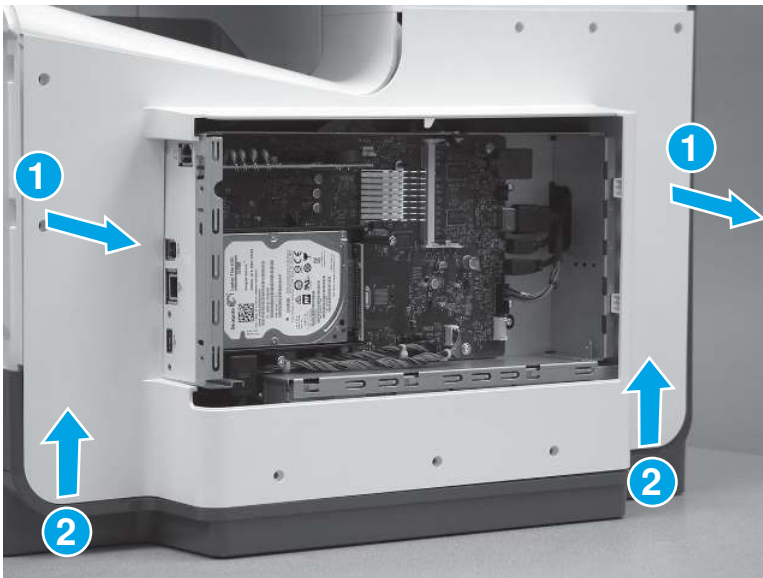
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-123 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-124 Remove the rear cover



4. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.




NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

IMPORTANT:  Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

NOTE:  If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

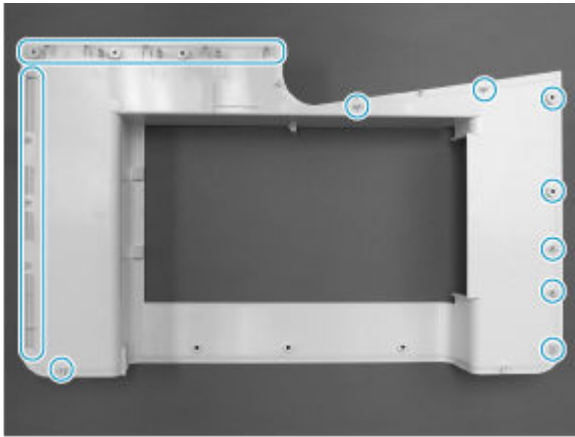
NOTE:  When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

5. Install the rear cover

Follow these steps to install the rear cover.

1. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-125 Find the tabs and bosses on the rear cover



2. Position the bottom edge of the cover on the printer.


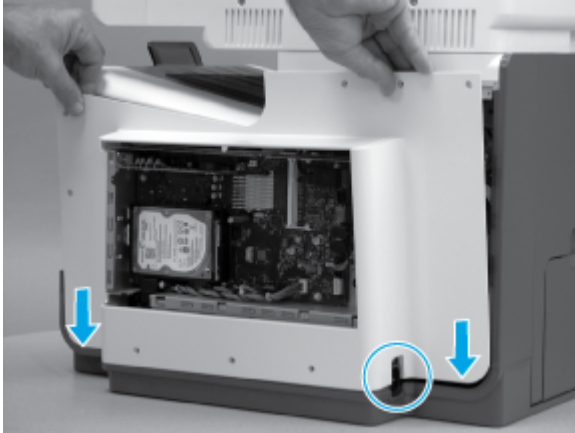
IMPORTANT:  Make sure that the inner two tabs on the cover bottom corners engages with the printer chassis, and that the slot in the cover is fitted correctly over the power supply receptacle.

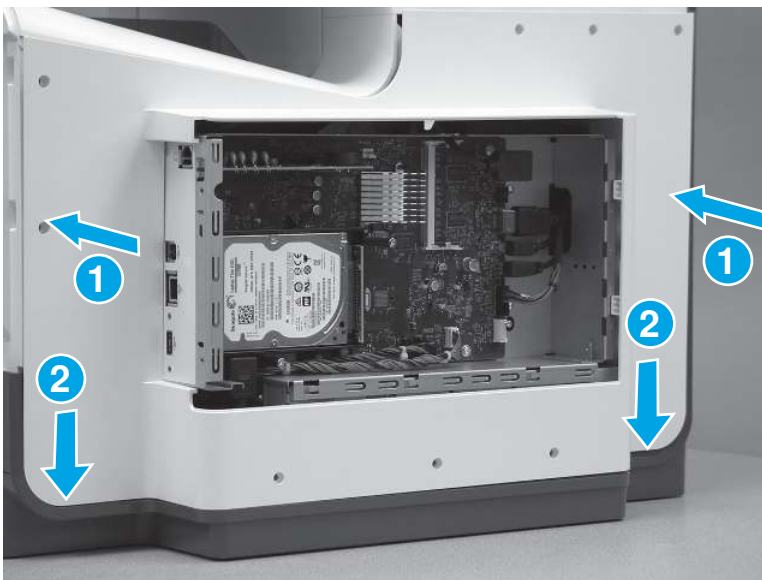
Figure 5-126 Install cover



3. Starting at the bottom of the cover and working upward, push in along the edges of the cover to engage the bosses along the right and left side of the cover (callout 1).

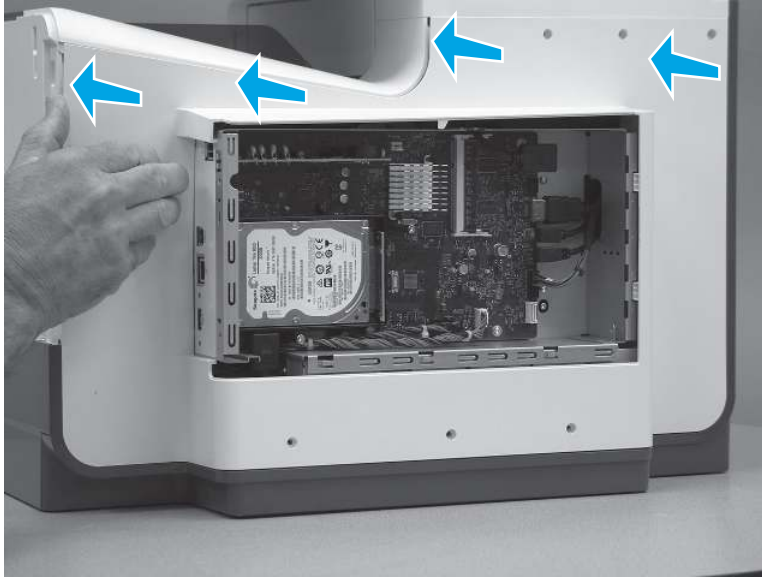
 **NOTE:** Make sure that the bottom edge of the cover (callout 2) remains engaged.

Figure 5-127 Engage the sides of the cover



- Starting at the right upper corner of the cover and working toward the left, push in along the top edge of the cover to engage the bosses along the top of the cover.

Figure 5-128 Release the top edge of the cover



- Install eight screws (callout 1).


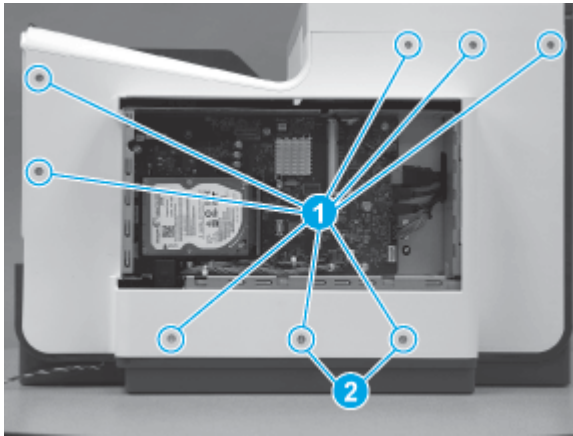
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others. Make sure that they are installed in the correct position.

Figure 5-129 Install eight screws

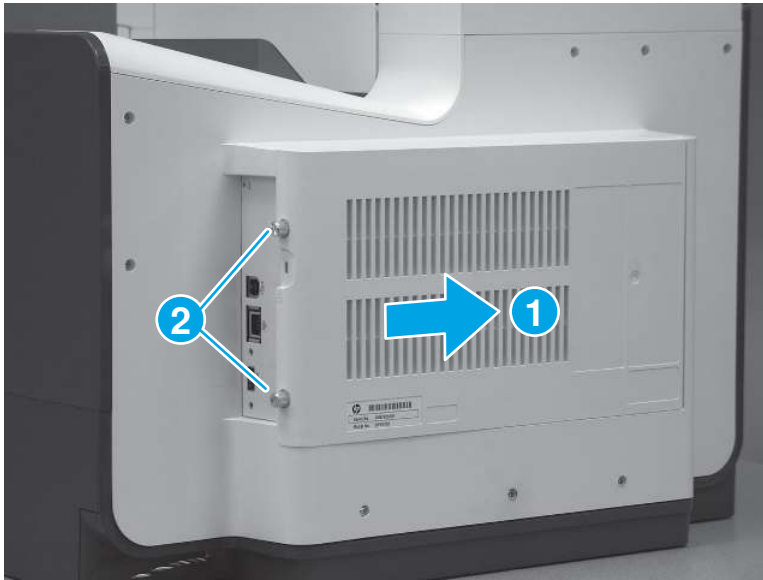


6. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-130 Install the formatter cover



7. Install the right cover (outer)

Follow these steps to install the right cover (outer).

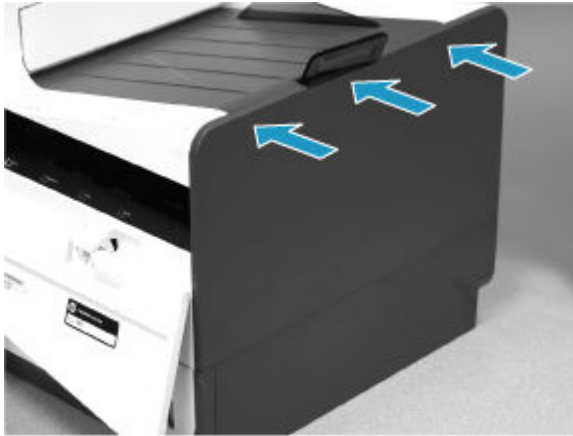
1. Position the bottom edge of the cover on the printer.

Figure 5-131 Position the right cover (outer) on the printer



2. Push in along the top edge of the right cover (outer) to install it.

Figure 5-132 Install the right cover (outer)



Removal and replacement: Top cover (586)

This document provides the procedures to remove and replace the top cover (586).

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-19 Part information

Formatter part numbers	
G1W39-67920	Top cover (586)

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.
- Small flat-blade screwdriver

After performing service

Turn the printer power on


- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the Integrated Scanner Assembly (586)

Follow these steps to remove the Integrated Scanner Assembly (ISA).

 **NOTE:** The ISA includes the document feeder, sub-scanner assembly (SSA), and the scanner control board (SCB).

586 printers only.

1. If the control panel is in the down position, tilt it up to the fully raised position, and then open the document feeder.

Figure 5-133 Tilt the control panel up



2. Use a small flat blade screwdriver to release the small gray plastic cover under the control panel.

Figure 5-134 Release the small gray plastic cover



3. Remove the cover.

Figure 5-135 Remove the cover



4. Beginning at the left side of the control-panel cover, carefully release three bosses along the top edge of the cover.

Figure 5-136 Release three bosses



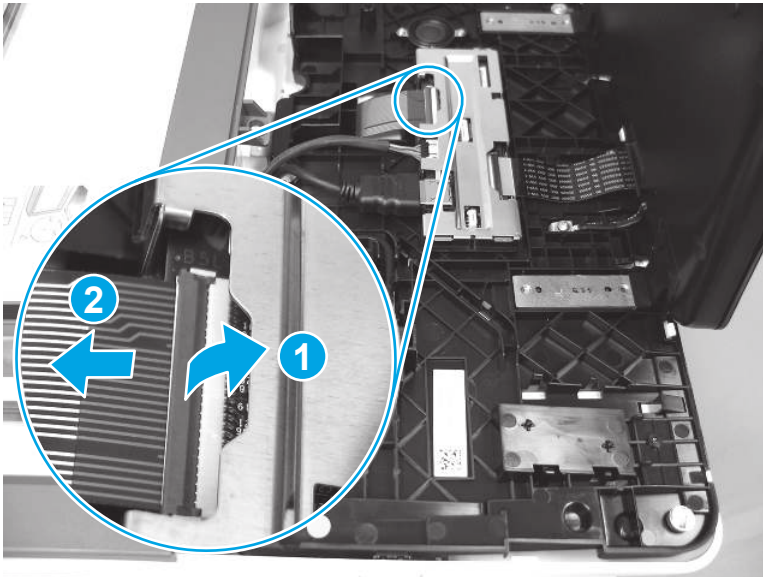
5. Lift up on the cover to release the right- and left-side bosses, and then remove the cover.

Figure 5-137 Remove the control-panel cover



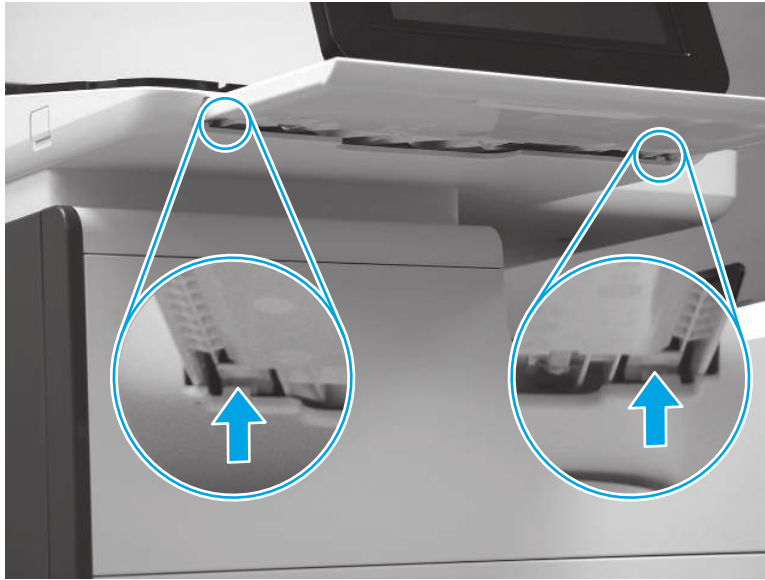
6. **586z only:** Open the connector latch to release the keyboard flat cable.

Figure 5-138 Release the keyboard cable (586z)



7. **586z only:** Slide the keyboard out until it stops, and then release two tabs on the keyboard.

Figure 5-139 Release two tabs (586z)



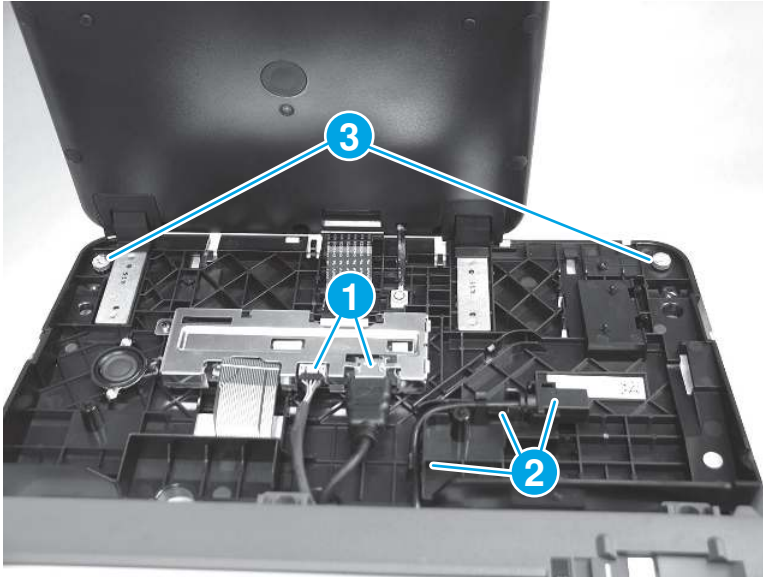
8. **586z only:** Remove the keyboard.

Figure 5-140 Remove the keyboard (586z)



9. Disconnect one HDMI cable and one connector (callout 1), release the USB cable from the holder and retainers (callout 2), and then remove two thumbscrews (callout 3).

Figure 5-141 Disconnect connectors and remove thumbscrews



10. Lift the front of the control panel off of the printer (callout 1), and then slide it toward the front of the printer (callout 2) to remove it.

Figure 5-142 Remove the control panel



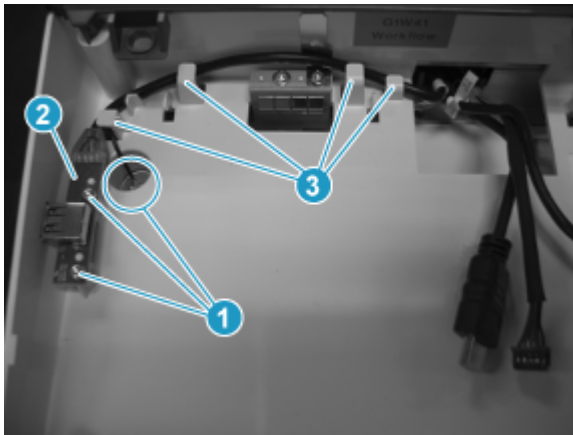
11. Remove the USB port cover.

Figure 5-143 Remove the USB port cover



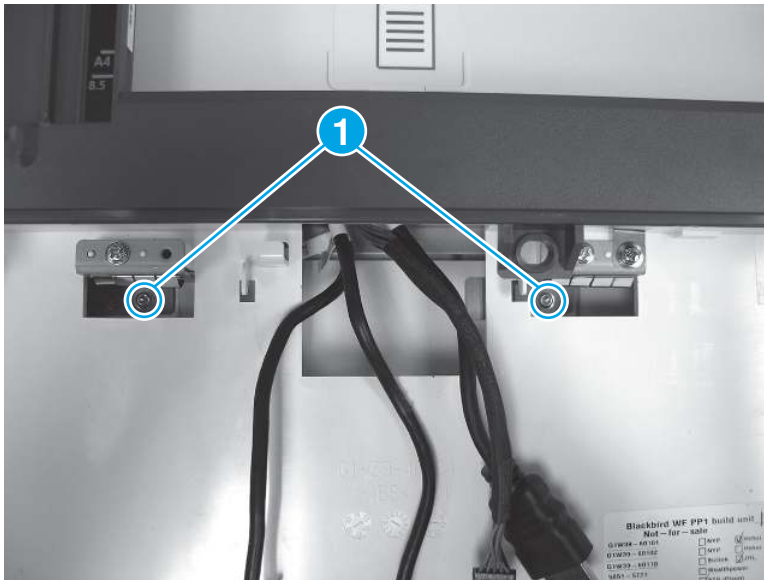
12. Remove three screws (callout 1) to release the USB port PCA (callout 2), and then release the cable from the retainers (callout 3).

Figure 5-144 Remove screws and release the cable



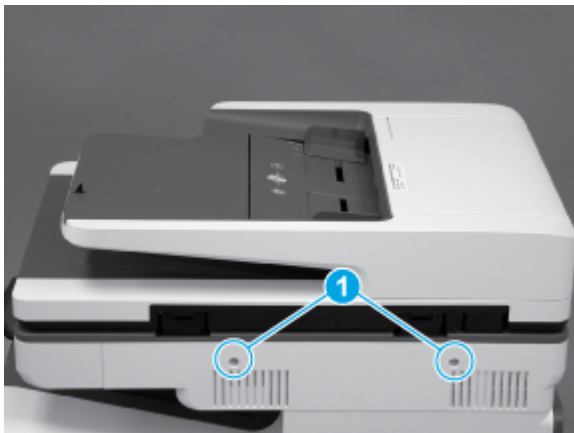
13. Remove two screws (callout 1).

Figure 5-145 Remove two screws



14. At the back of the printer, remove two screws (callout 1).

Figure 5-146 Remove two screws



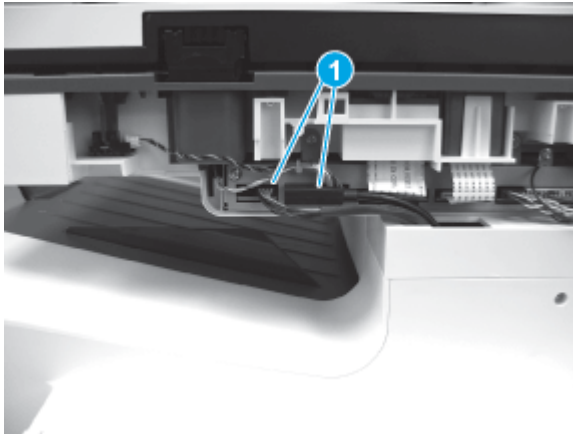
15. Pull the scanner control board (SCB) cover straight off the printer to remove it.

Figure 5-147 Remove the SCB cover



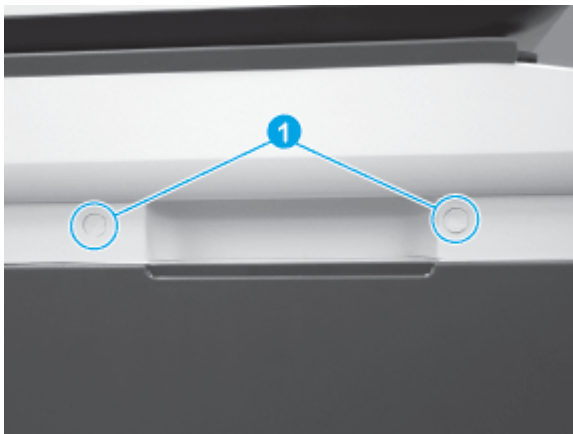
16. At the left end of the SCB, disconnect two connectors (callout 1).

Figure 5-148 Disconnect two connectors



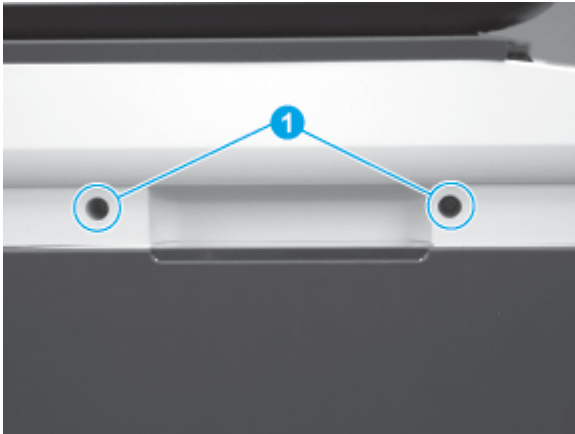
17. At the left side of the printer, use a small flat blade screwdriver to carefully remove two white rubber plugs (callout 1).

Figure 5-149 Remove two plugs



18. Remove two screws (callout 1).

Figure 5-150 Remove two screws



19. Use a flat blade screwdriver to release the scanner base cover.



NOTE: Use a screwdriver with at least a 152 mm (6 in) shaft to release the cover. This cover can be difficult to remove and might require some force to release it from the ISA.

Figure 5-151 Release the cover



20. Remove the cover.

Figure 5-152 Remove the scanner base cover



21. Slightly slide the ISA toward the left side of the printer to release it.

Figure 5-153 Slide the ISA left



22. Slightly lift the front of the ISA up, and then pass the wire harnesses and cables through the opening in the ISA chassis.

CAUTION: The ISA is not captive on the printer base. Do not let it fall off of the printer base.

Figure 5-154 Pass the wire harnesses and cables through the opening



23. Lift the ISA straight up and off of the printer base to remove it.


CAUTION: The ISA is bulky and heavy. Do not drop the ISA.

Figure 5-155 Remove the ISA



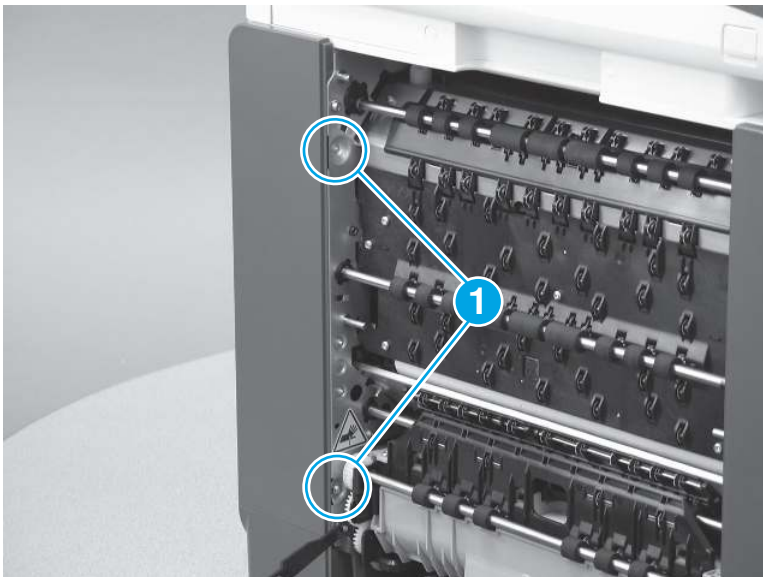
2. Remove the left rear cover

Follow these steps to remove the left rear cover.

 **NOTE:** The figures in this section show the 586 printer. However, the instructions for removing the cover are valid for 556 printers.

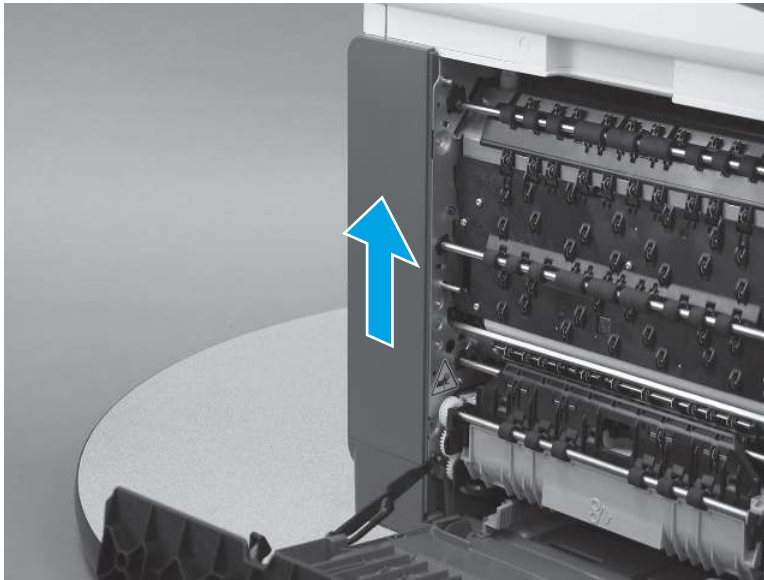
1. Remove two screws (callout 1).

Figure 5-156 Remove two screws



2. Release the cover by sliding it up about 10 mm (0.4 in).

Figure 5-157 Release the cover



3. Remove the cover.

Figure 5-158 Remove the cover



3. Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-159 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-160 Remove the right cover (outer)



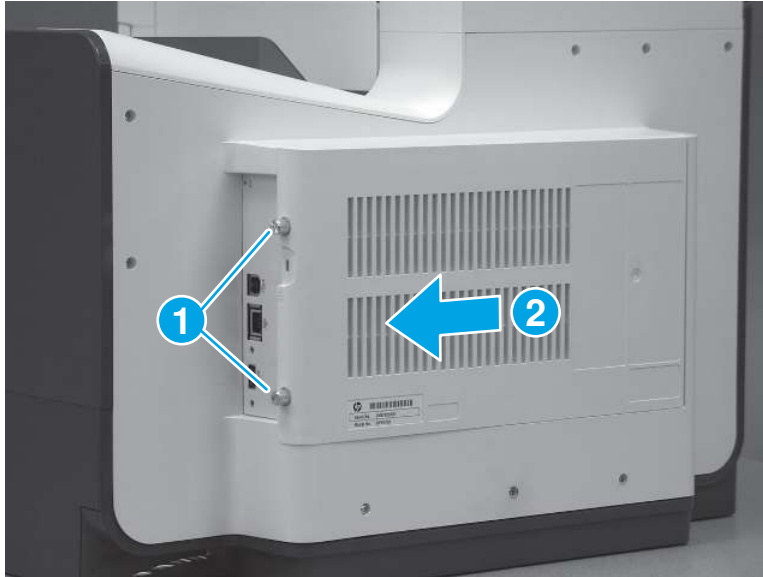
4. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-161 Remove the formatter cover



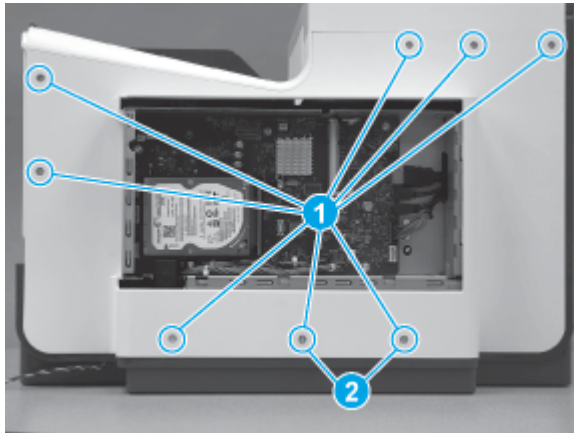
5. Remove the rear cover

Follow these steps to remove the rear cover.

1. Remove eight screws (callout 1).

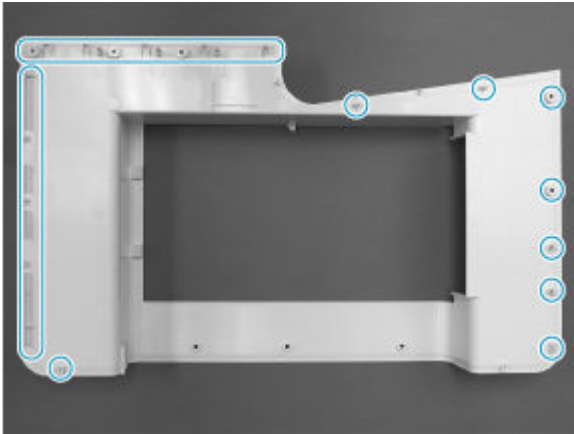
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-162 Remove eight screws



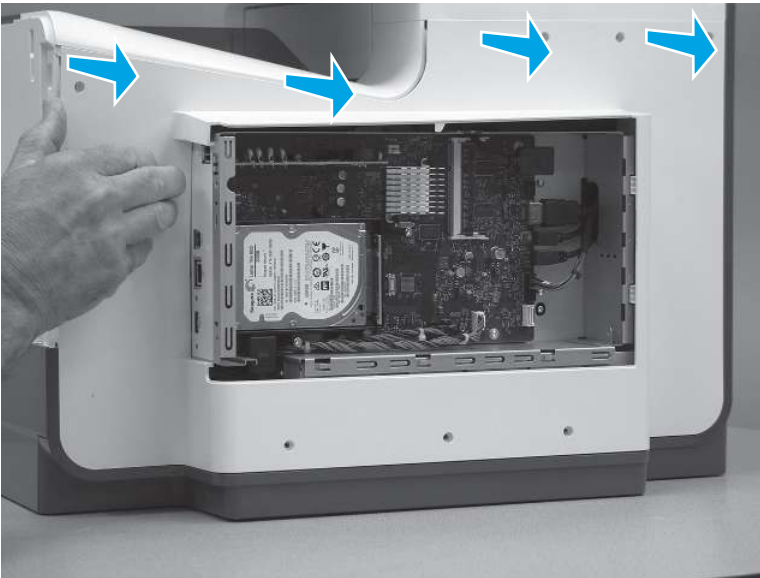
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-163 Find the tabs and bosses on the rear cover



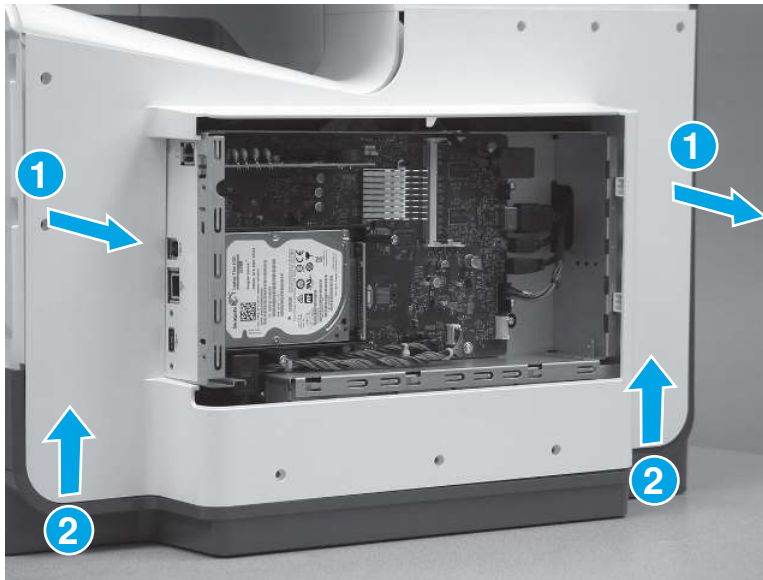
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-164 Release the top edge of the cover




4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-165 Remove the rear cover



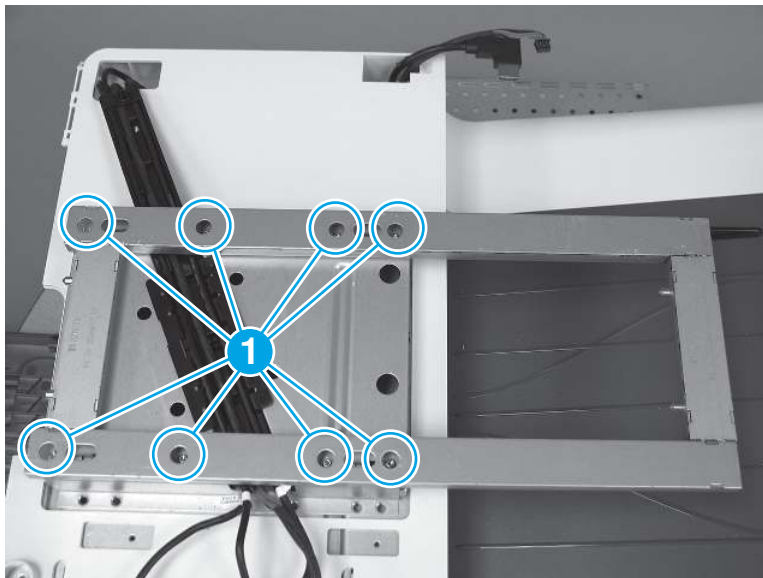
6. Remove the top cover (586)

Follow these steps to remove the top cover (586).

 **NOTE:** This step is for the 586 only. For the 556, skip this step.

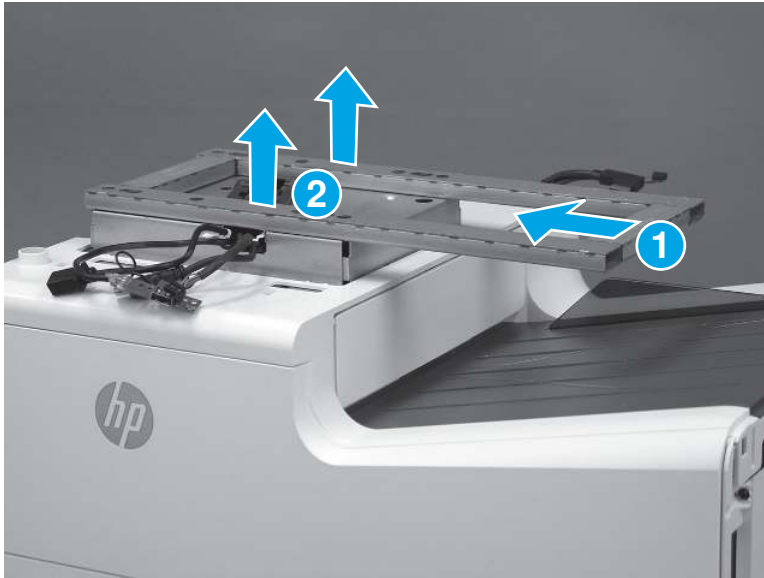
1. Remove eight screws (callout 1).

Figure 5-166 Remove eight screws



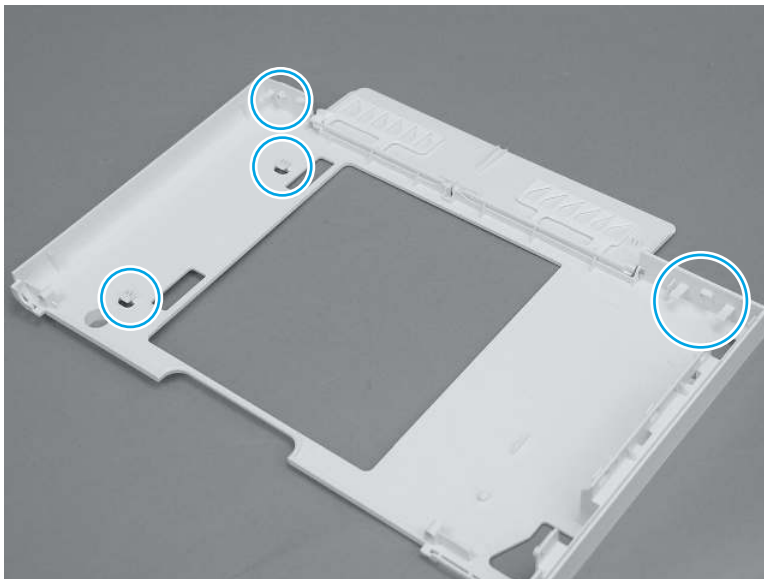
2. Slide the bracket to the left to release it, and then lift it straight up and off of the printer to remove it.

Figure 5-167 Slide the bracket left



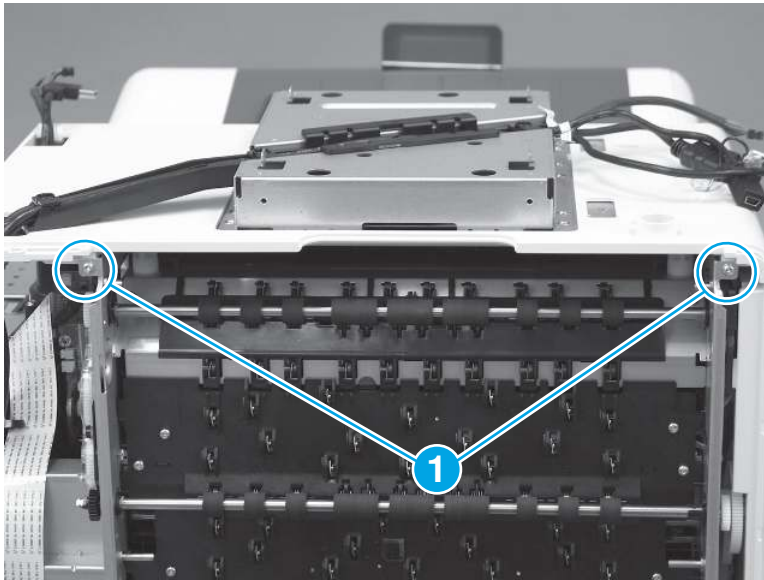
3. Before proceeding, take note of the tabs and hooks on the top cover.

Figure 5-168 Tabs and hooks on the top cover



4. On the left side of the printer, remove two screws (callout 1).

Figure 5-169 Remove two screws



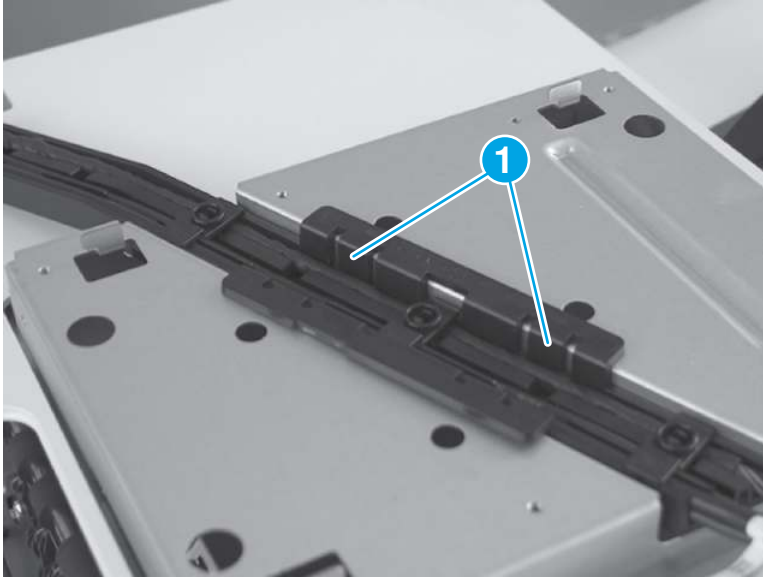
5. Remove one screw.

Figure 5-170 Remove one screw



6. Release two tabs (callout 1) to release the wire guide.

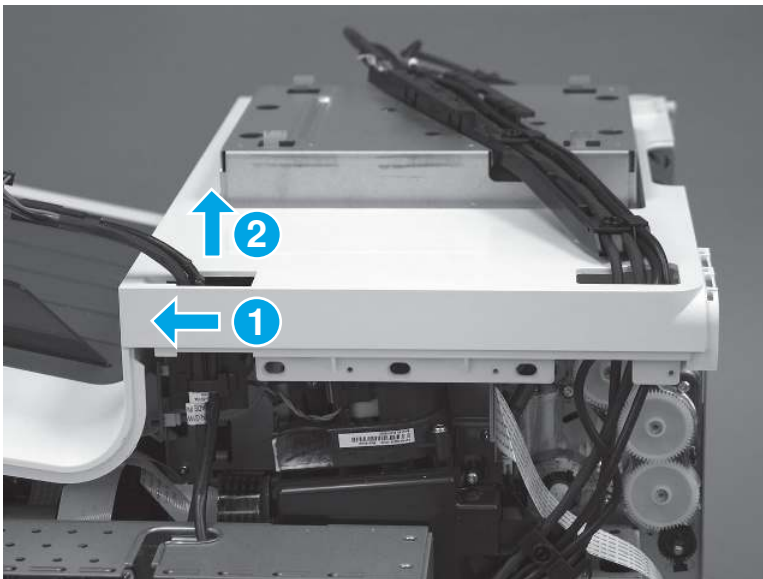
Figure 5-171 Release two tabs



7. At the rear of the printer, flex the top cover to the left (callout 1) and then slightly lift it up (callout 2) to release two tabs.

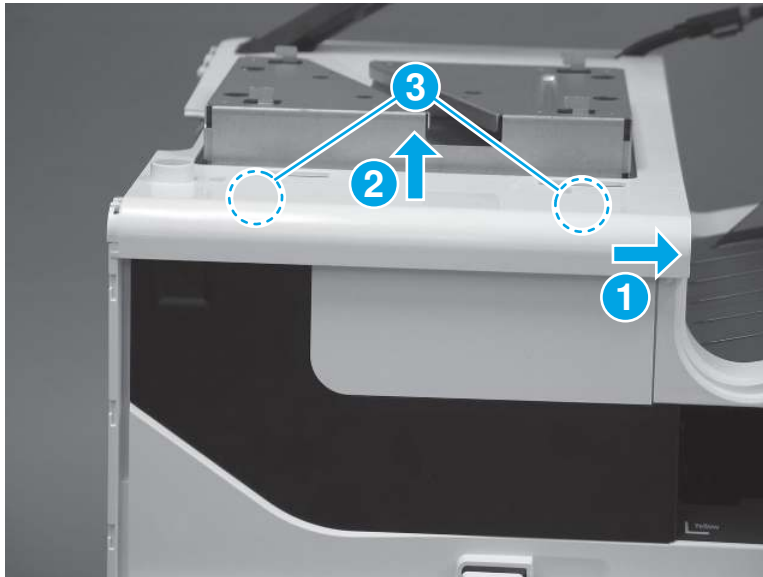
 **NOTE:** To locate the tabs, see step 3.

Figure 5-172 Release two tabs



- At the front of the printer, slide the cover to the right (callout 1) to release the remaining tabs and the hooks (callout 2/3).

Figure 5-173 Release the cover



- Remove the cover.


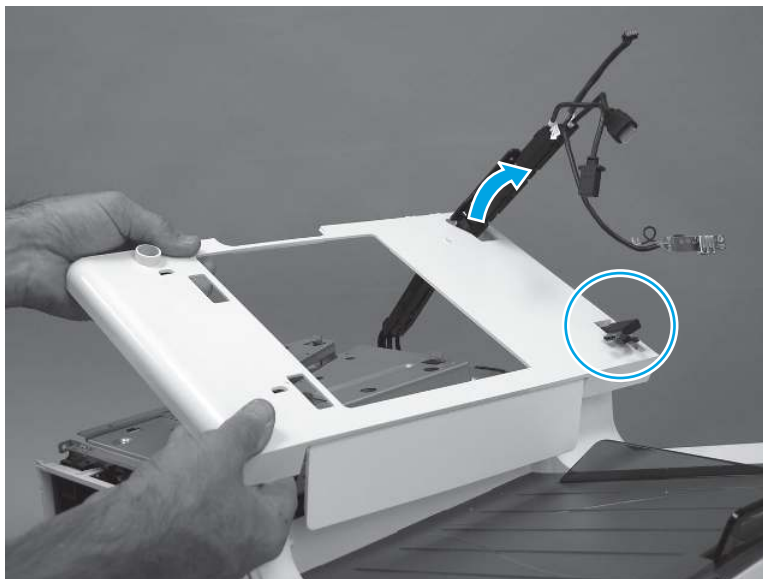
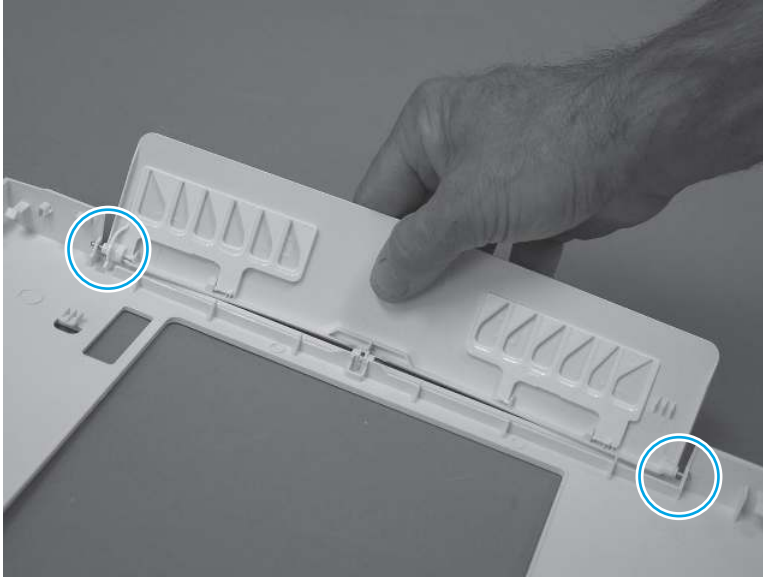
 **NOTE:** Pass the cables, wire harnesses, and the guide through the openings in the cover as it is removed.

Figure 5-174 Remove the cover



10. **Optional step:** If a replacement top cover is being installed, remove the output bin flap by flexing the center of the flap to release the right- and left-side hinge pins from the holes in the cover.

Figure 5-175 Remove the output bin flap



7. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.




NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>

2. Unpack the replacement part from the packaging.



CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.



IMPORTANT: Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.



NOTE: If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.



NOTE: When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.


Removal and replacement: Front cover

This document provides the procedures to remove and replace the front cover.

Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-20 Part information

Formatter part numbers	
G1W39-67918	Front cover

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.
- Small flat-blade screwdriver

After performing service

Turn the printer power on


- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

No post service test is available for this assembly.

1. Remove the control panel (556)

Follow these steps to remove the control panel (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

1. Tilt the control panel to the fully raised position.

Figure 5-176 Tilt the control panel up



2. Insert a small flat-blade screwdriver into the notch in the cover, and then carefully pry up the cover to release it. Remove the cover.

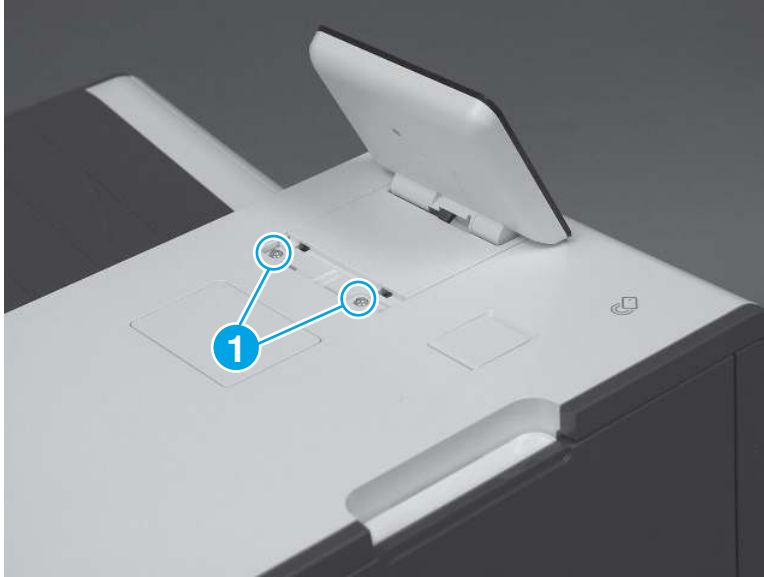
Figure 5-177 Release two tabs



3. Remove two # 10 torx screws (callout 1).

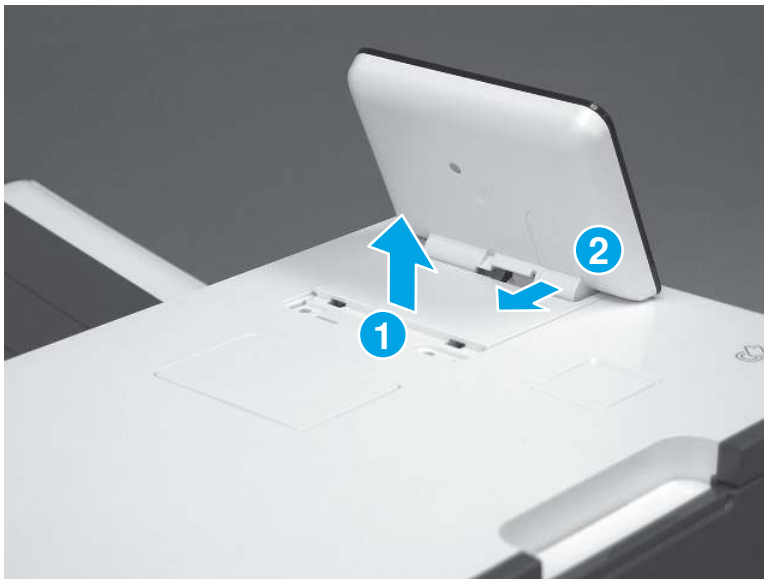
⚠ CAUTION: Store the screws in a secure place where they cannot fall down into the printer.

Figure 5-178 Remove two screws



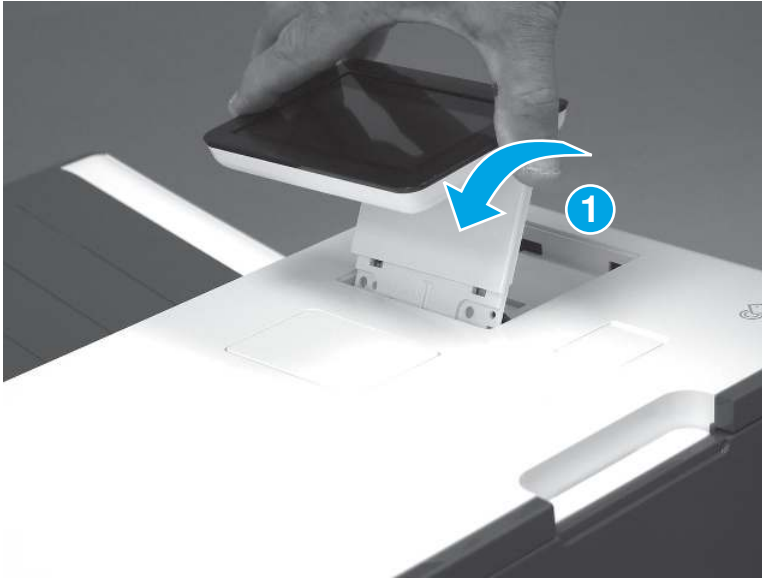
4. Lift up the rear edge of the control panel (callout 1), and then slightly slide it toward the rear of the printer (callout 2) to release the front tabs.

Figure 5-179 Release the control panel over



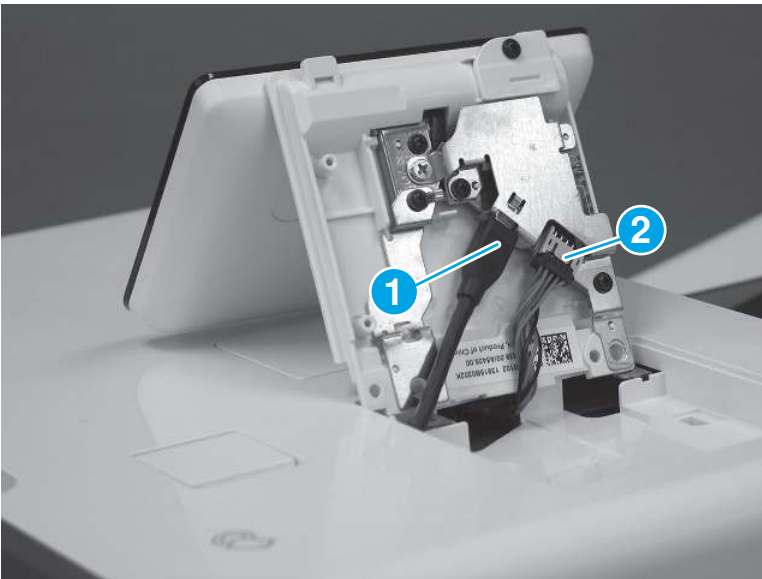
5. Turn the control panel over (callout 1), to gain access to the bottom side.

Figure 5-180 Turn the control panel over




6. Disconnect one HDMI cable (callout 1) and one connector (callout 2), and then remove the control panel.

Figure 5-181 Disconnect connectors and remove the control panel



2. Remove the Integrated Scanner Assembly (586)

Follow these steps to remove the Integrated Scanner Assembly (ISA).

 **NOTE:** The ISA includes the document feeder, sub-scanner assembly (SSA), and the scanner control board (SCB).

586 printers only.

1. If the control panel is in the down position, tilt it up to the fully raised position, and then open the document feeder.

Figure 5-182 Tilt the control panel up



2. Use a small flat blade screwdriver to release the small gray plastic cover under the control panel.

Figure 5-183 Release the small gray plastic cover



3. Remove the cover.

Figure 5-184 Remove the cover



4. Beginning at the left side of the control-panel cover, carefully release three bosses along the top edge of the cover.

Figure 5-185 Release three bosses



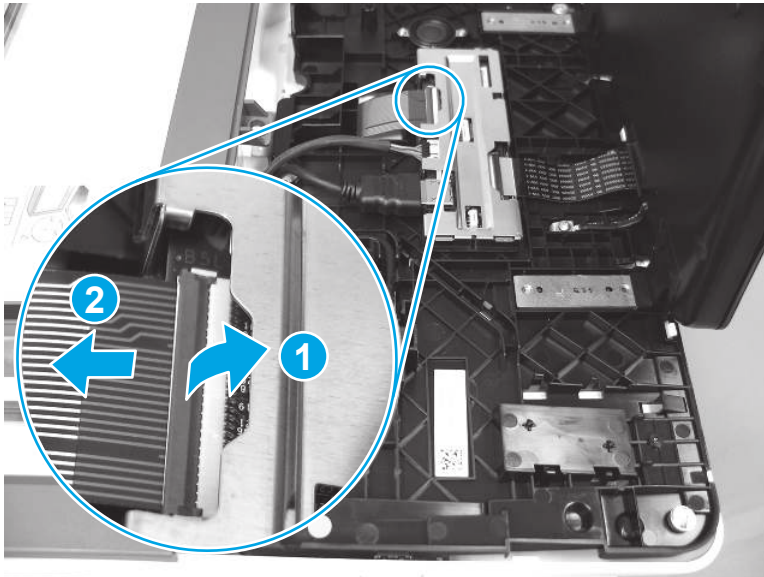
5. Lift up on the cover to release the right- and left-side bosses, and then remove the cover.

Figure 5-186 Remove the control-panel cover



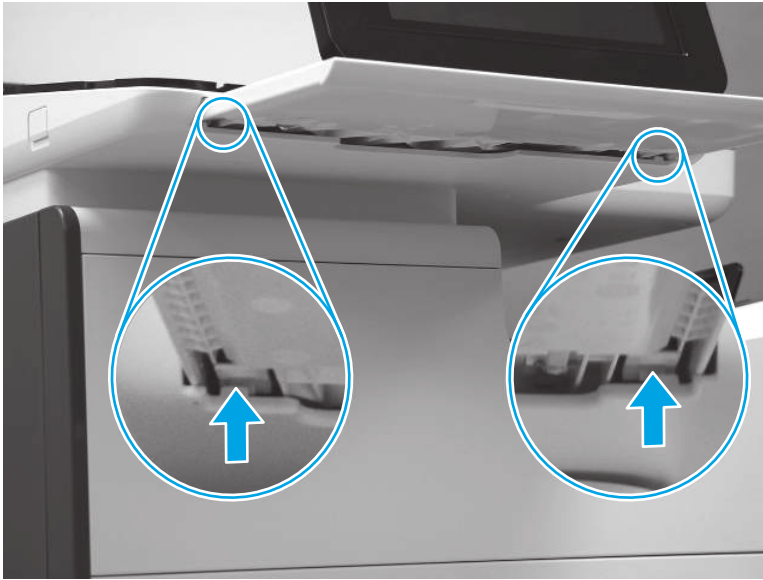
6. **586z only:** Open the connector latch to release the keyboard flat cable.

Figure 5-187 Release the keyboard cable (586z)



7. **586z only:** Slide the keyboard out until it stops, and then release two tabs on the keyboard.

Figure 5-188 Release two tabs (586z)



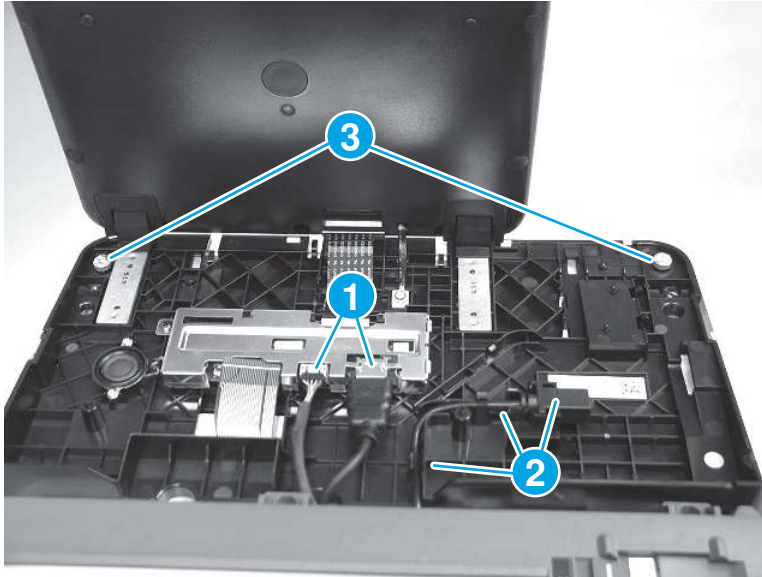
8. **586z only:** Remove the keyboard.

Figure 5-189 Remove the keyboard (586z)



9. Disconnect one HDMI cable and one connector (callout 1), release the USB cable from the holder and retainers (callout 2), and then remove two thumbscrews (callout 3).

Figure 5-190 Disconnect connectors and remove thumbscrews



10. Lift the front of the control panel off of the printer (callout 1), and then slide it toward the front of the printer (callout 2) to remove it.

Figure 5-191 Remove the control panel



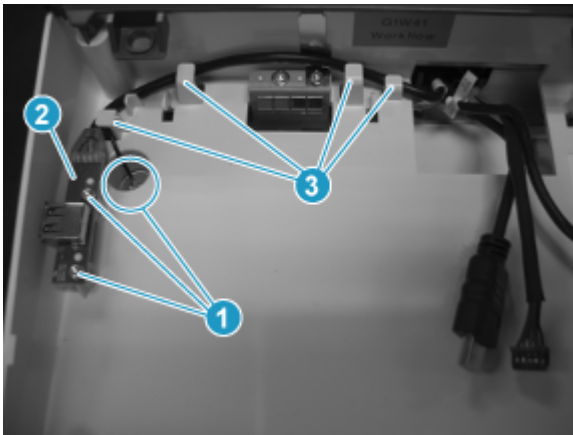
11. Remove the USB port cover.

Figure 5-192 Remove the USB port cover



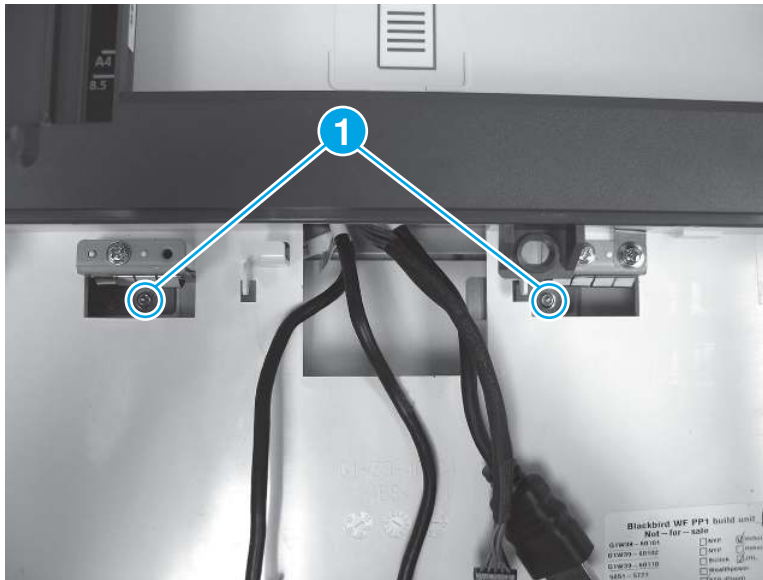
12. Remove three screws (callout 1) to release the USB port PCA (callout 2), and then release the cable from the retainers (callout 3).

Figure 5-193 Remove screws and release the cable



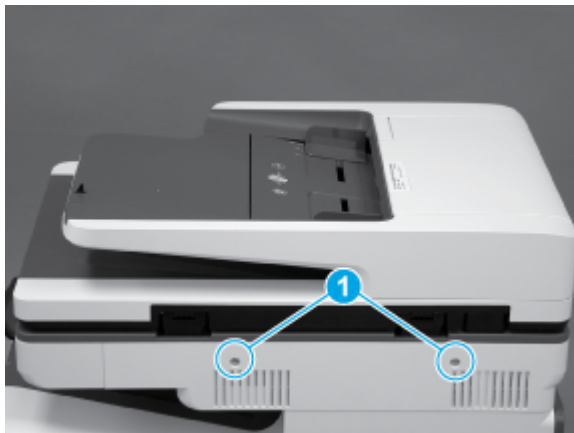
13. Remove two screws (callout 1).

Figure 5-194 Remove two screws



14. At the back of the printer, remove two screws (callout 1).

Figure 5-195 Remove two screws



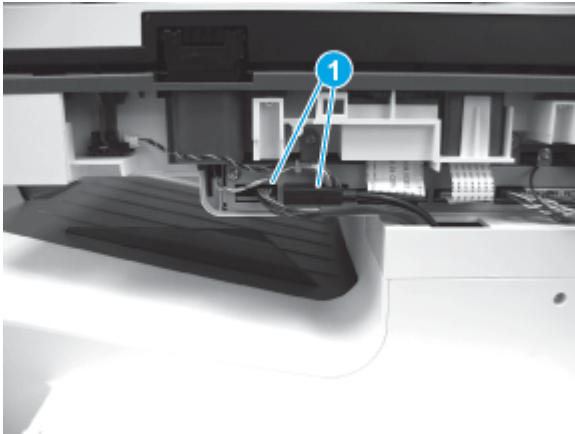
15. Pull the scanner control board (SCB) cover straight off the printer to remove it.

Figure 5-196 Remove the SCB cover



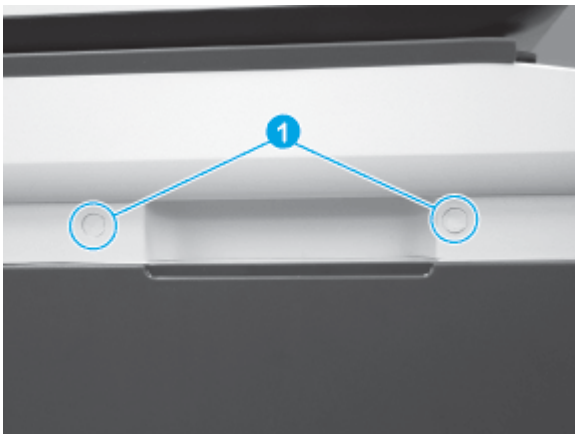
16. At the left end of the SCB, disconnect two connectors (callout 1).

Figure 5-197 Disconnect two connectors



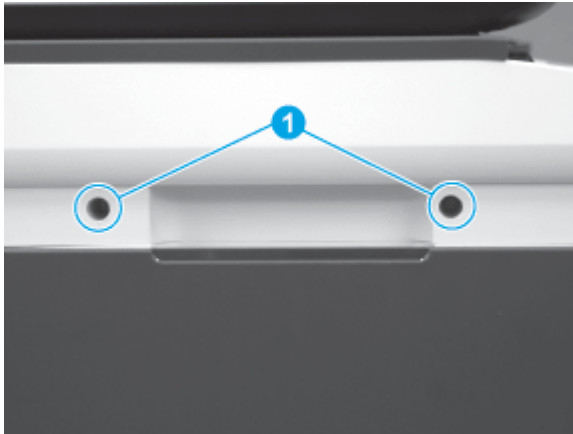
17. At the left side of the printer, use a small flat blade screwdriver to carefully remove two white rubber plugs (callout 1).

Figure 5-198 Remove two plugs



18. Remove two screws (callout 1).

Figure 5-199 Remove two screws



19. Use a flat blade screwdriver to release the scanner base cover.


 **NOTE:** Use a screwdriver with at least a 152 mm (6 in) shaft to release the cover. This cover can be difficult to remove and might require some force to release it from the ISA.

Figure 5-200 Release the cover



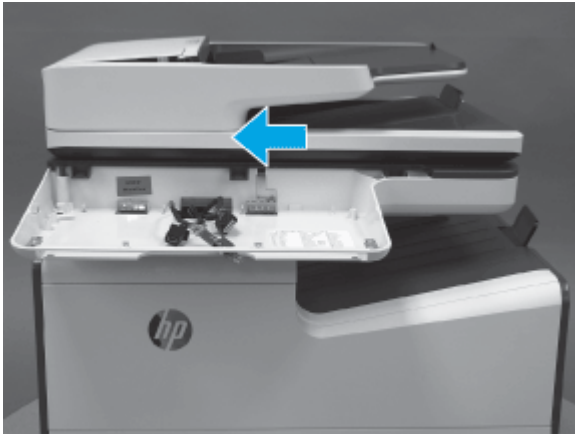
20. Remove the cover.

Figure 5-201 Remove the scanner base cover



21. Slightly slide the ISA toward the left side of the printer to release it.

Figure 5-202 Slide the ISA left



22. Slightly lift the front of the ISA up, and then pass the wire harnesses and cables through the opening in the ISA chassis.

⚠ CAUTION: The ISA is not captive on the printer base. Do not let it fall off of the printer base.

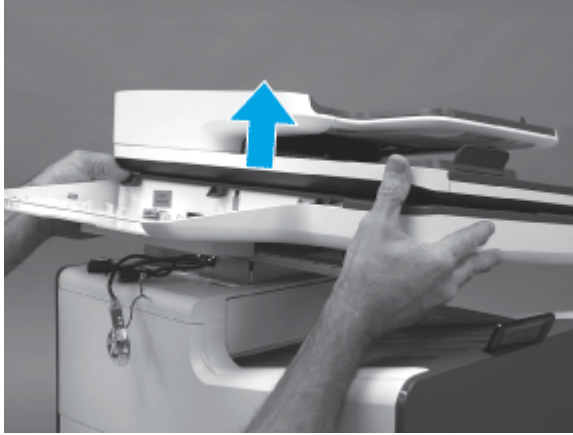
Figure 5-203 Pass the wire harnesses and cables through the opening



23. Lift the ISA straight up and off of the printer base to remove it.


⚠ CAUTION: The ISA is bulky and heavy. Do not drop the ISA.

Figure 5-204 Remove the ISA



3. Remove the left-rear top cover cap (556)

Follow these steps to remove the left-rear top cover cap (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

 Open the left door, and then carefully pull the cover off of the printer.


 **TIP:** It might be easier remove the cover off by using a small flat-blade screwdriver.

Figure 5-205 Remove left-rear top cover cap (556)



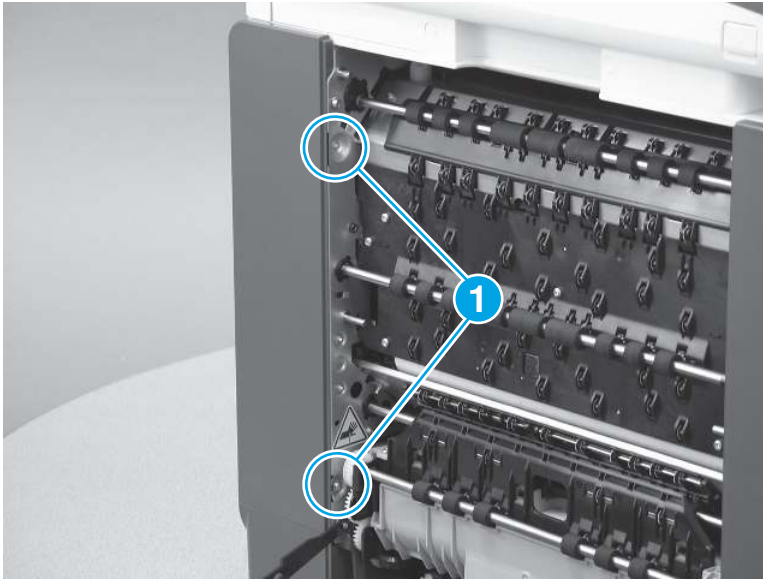
4. Remove the left rear cover

Follow these steps to remove the left rear cover.

 **NOTE:** The figures in this section show the 586 printer. However, the instructions for removing the cover are valid for 556 printers.

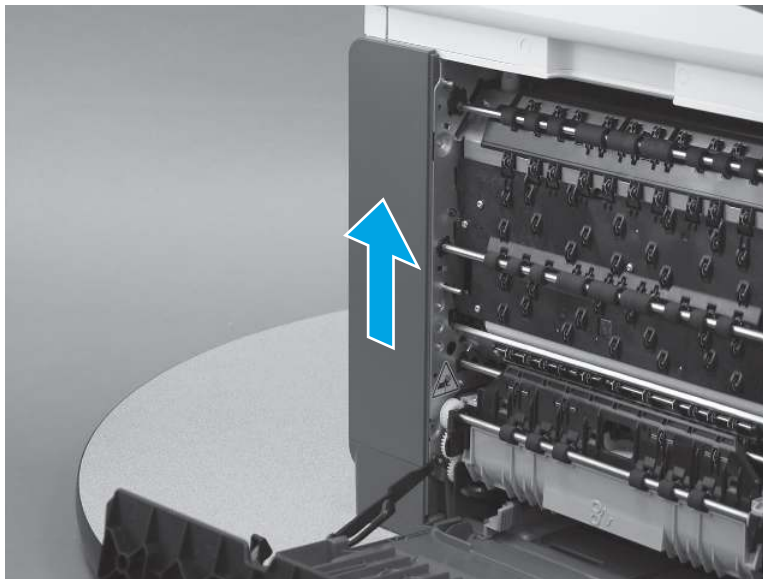
1. Remove two screws (callout 1).

Figure 5-206 Remove two screws



2. Release the cover by sliding it up about 10 mm (0.4 in).

Figure 5-207 Release the cover




3. Remove the cover.

Figure 5-208 Remove the cover



5. Remove the left-front top cover cap (556)

Follow these steps to remove the left-front top cover cap (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

▲ Open the left door, and then carefully pull the cover off of the printer.


 **TIP:** It might be easier remove the cover off by using a small flat-blade screwdriver.

Figure 5-209 Remove left-front top cover cap (556)



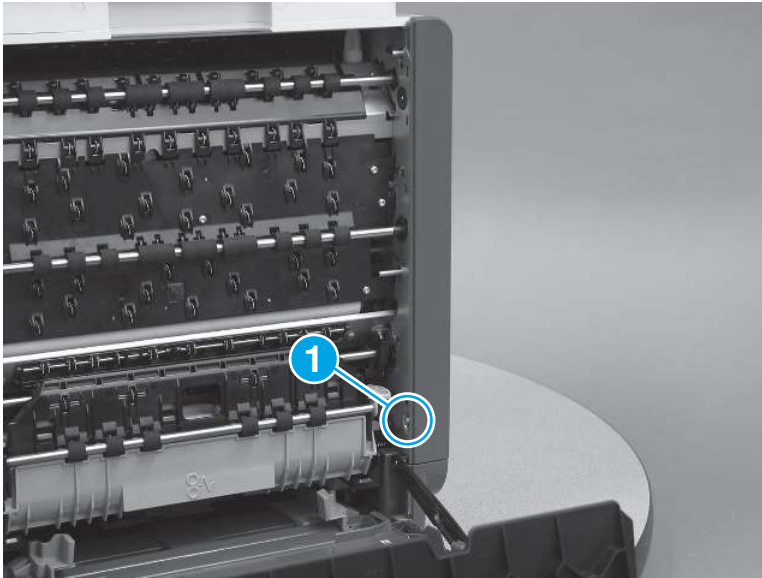
6. Remove the left rear cover

Follow these steps to remove the left rear cover.

 **NOTE:** The figures in this section show the 586 printer. However, the instructions for removing the cover are valid for 556 printers.

1. Remove one screw (callout 1).

Figure 5-210 Remove one screw



2. Release one tab (callout 1), and then release the cover by sliding it up about 10 mm (0.4 in).


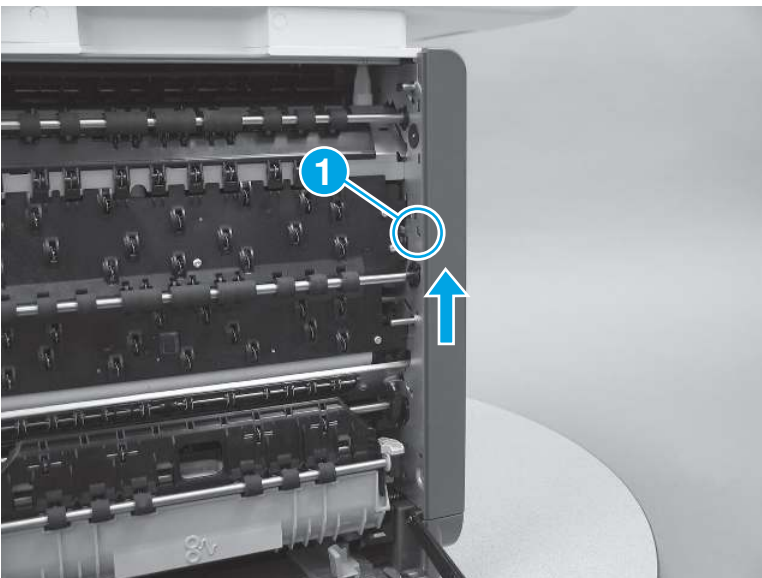
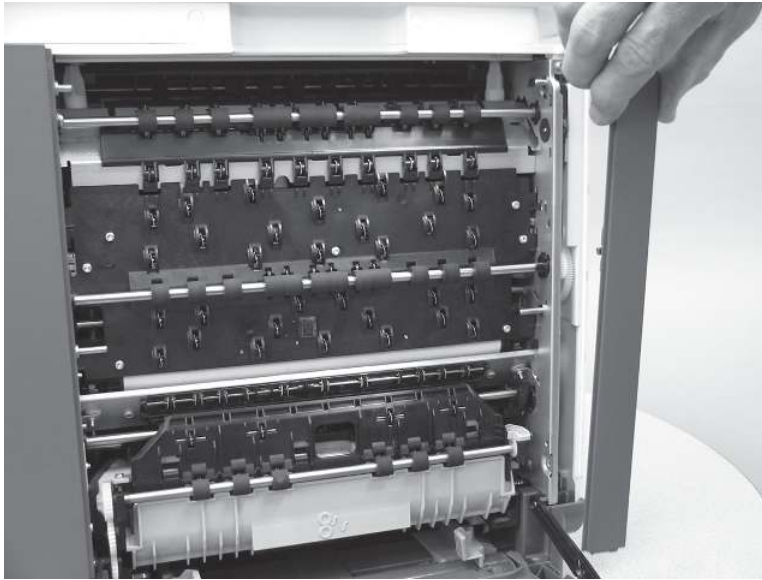
 **NOTE:** This cover can be very difficult to release. It might be easier to use a flat-blade screwdriver to pry the bottom edge of the cover up and away from the chassis.

Figure 5-211 Release the cover



3. Remove the cover.

Figure 5-212 Remove the cover



7. Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


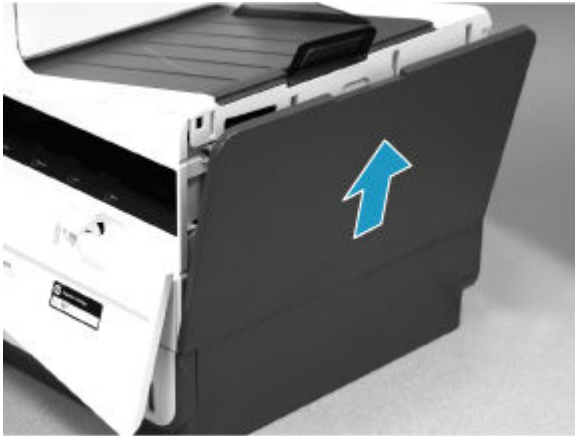
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-213 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-214 Remove the right cover (outer)



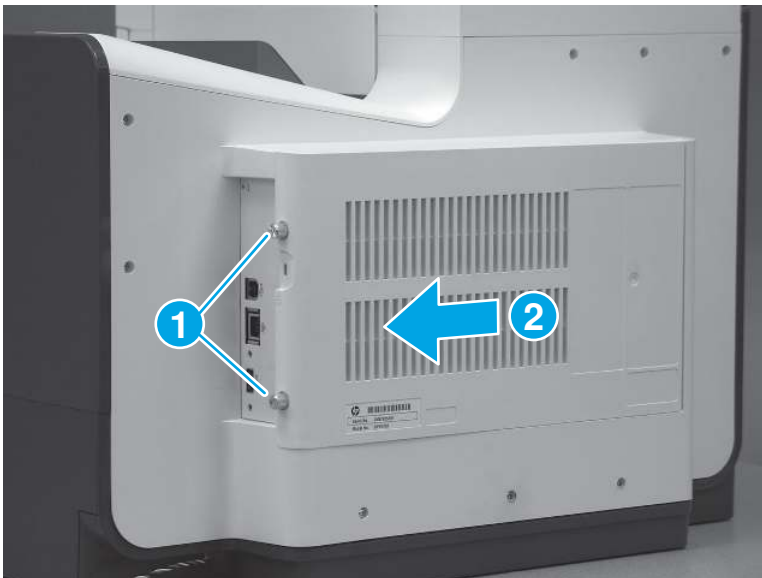
8. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-215 Remove the formatter cover



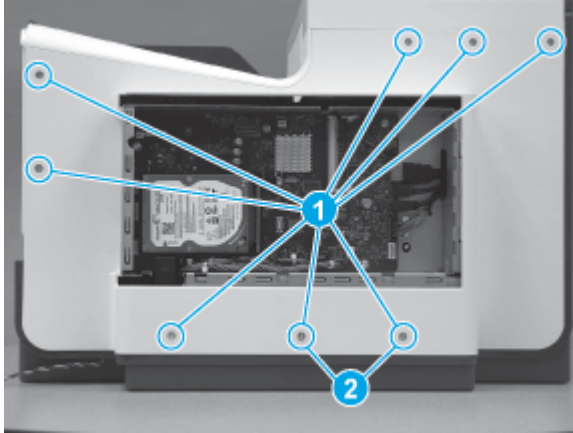
9. Remove the rear cover

Follow these steps to remove the rear cover.

1. Remove eight screws (callout 1).

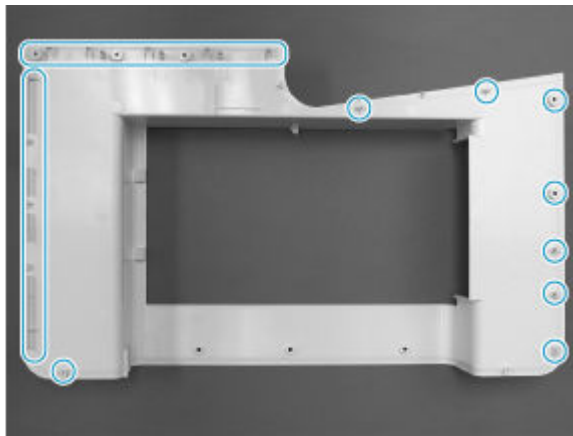
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-216 Remove eight screws



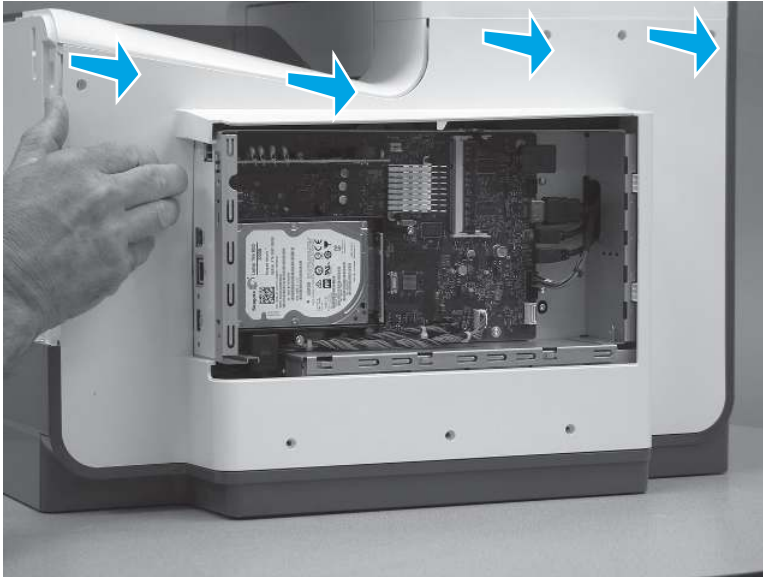
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-217 Find the tabs and bosses on the rear cover



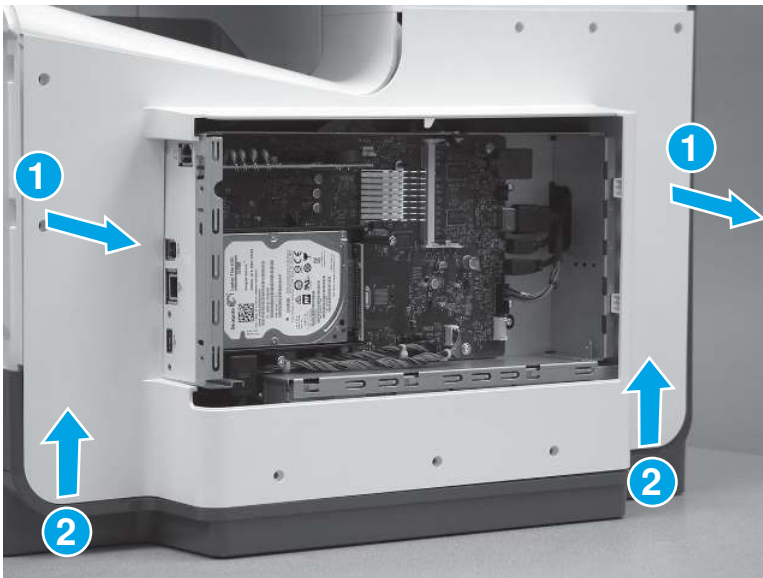
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-218 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-219 Remove the rear cover



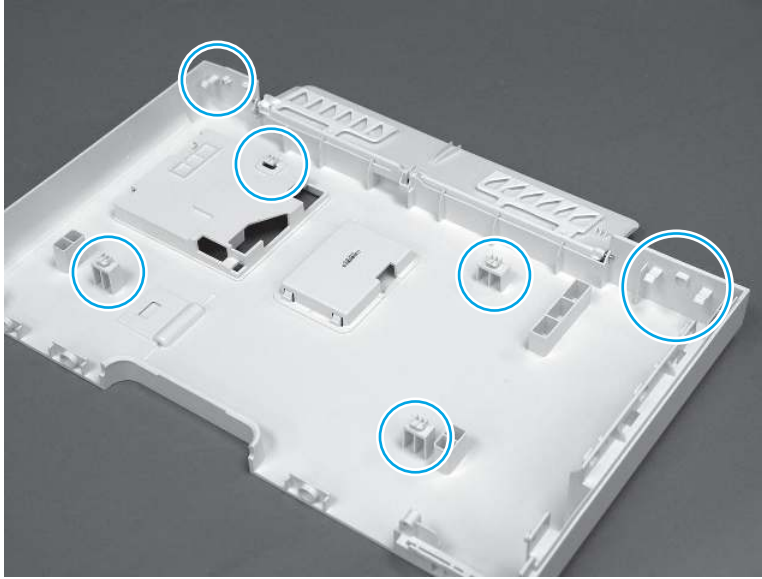
10. Remove the top cover (556)

Follow these steps to remove the top cover (556).

 **NOTE:** This step is for the 556 only. For the 586, skip this step.

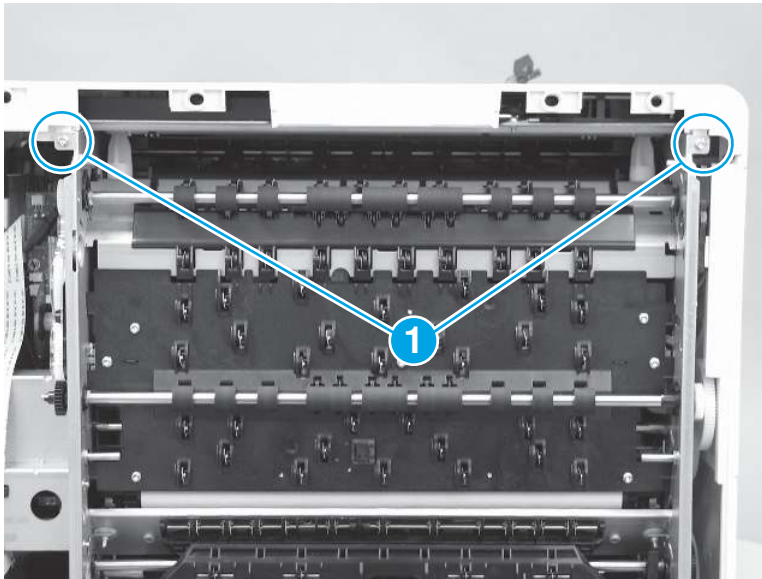
1. Before proceeding, take note of the tabs and hooks on the top cover.

Figure 5-220 Tabs and hooks on the top cover



2. On the left side of the printer, remove two screws (callout 1).

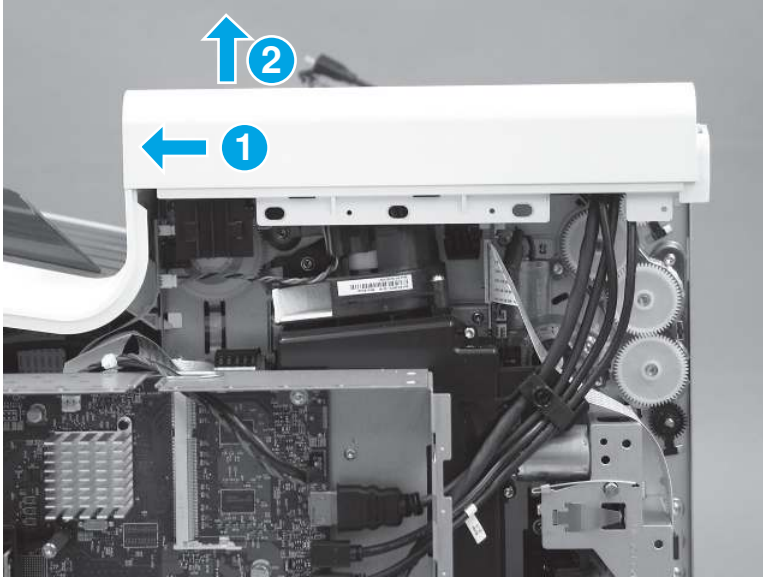
Figure 5-221 Remove two screws



3. At the rear of the printer, flex the top cover to the left (callout 1) and then slightly lift it up (callout 2) to release two tabs.

 **NOTE:** To locate these features, see step 1.

Figure 5-222 Release two tabs



4. At the front of the printer, slide the cover to the right (callout 1) to release the remaining tabs and the hooks (callout 2).


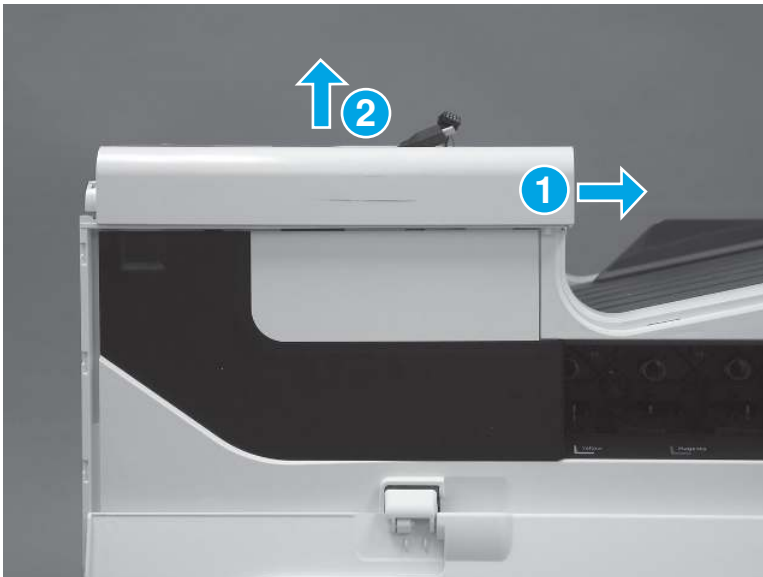
 **NOTE:** To locate these features, see step 1.

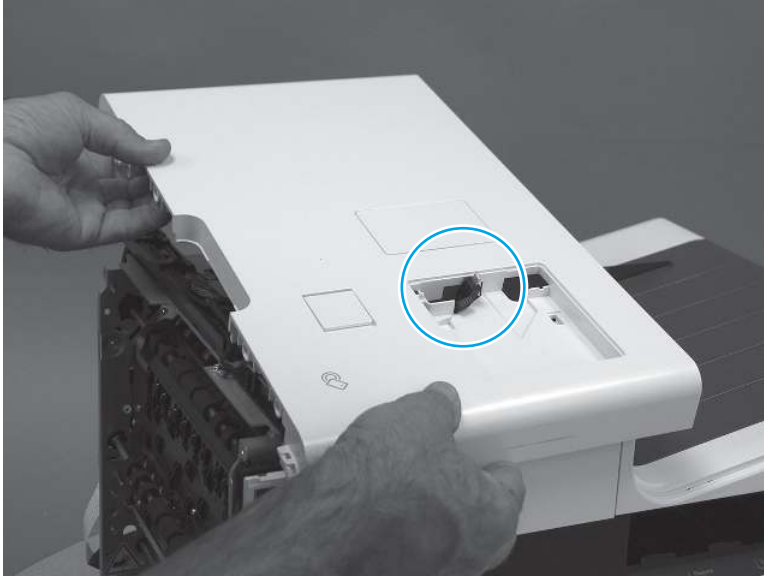
Figure 5-223 Release the cover



5. Remove the cover.

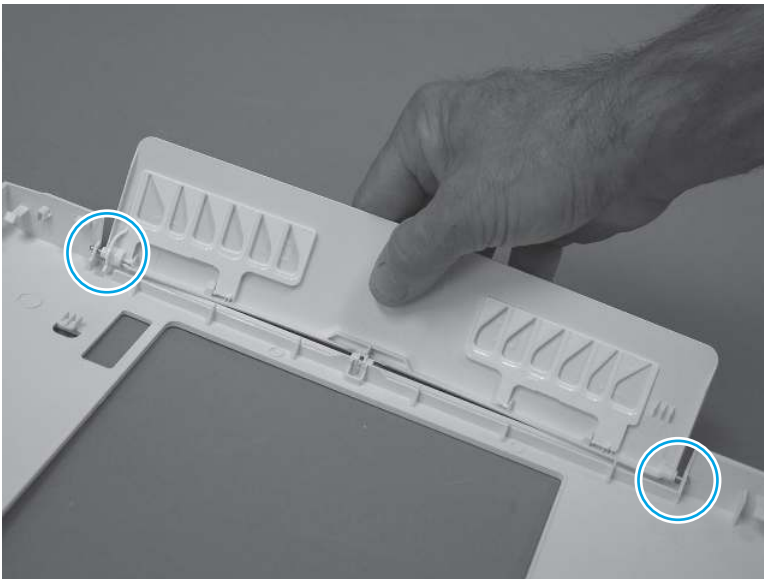
 **NOTE:** Pass the control-panel cable and wire harness through the opening in the cover as it is removed.

Figure 5-224 Release the top cover (556)




6. **Optional step:** If a replacement top cover is being installed, remove the output bin flap by flexing the center of the flap to release the right- and left-side hinge pins from the holes in the cover.

Figure 5-225 Remove the output bin flap



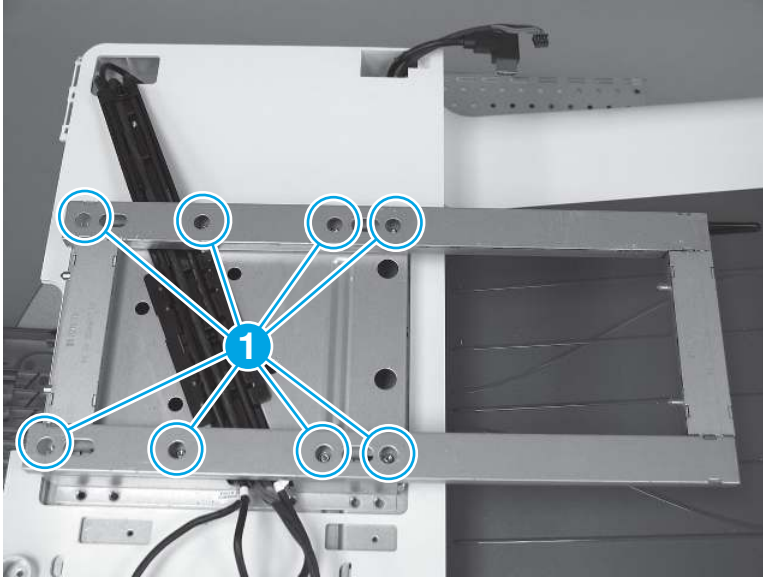
11. Remove the top cover (586)

Follow these steps to remove the top cover (586).

 **NOTE:** This step is for the 586 only. For the 556, skip this step.

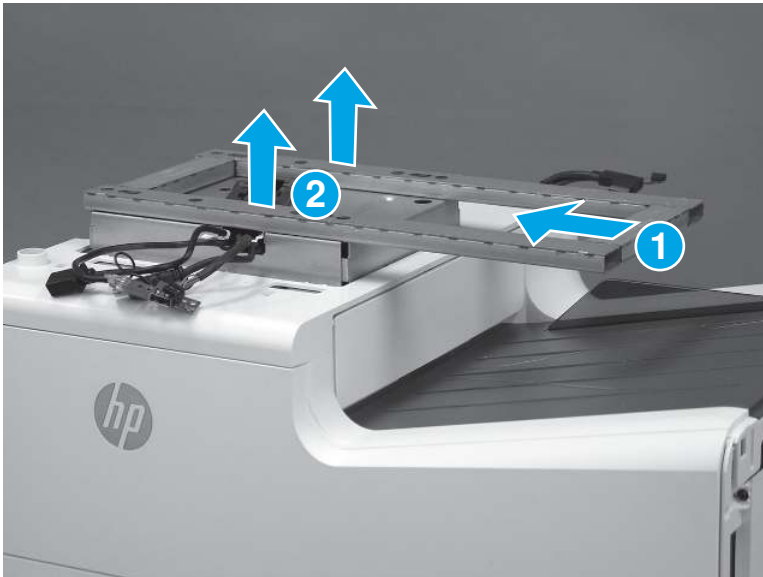
1. Remove eight screws (callout 1).

Figure 5-226 Remove eight screws



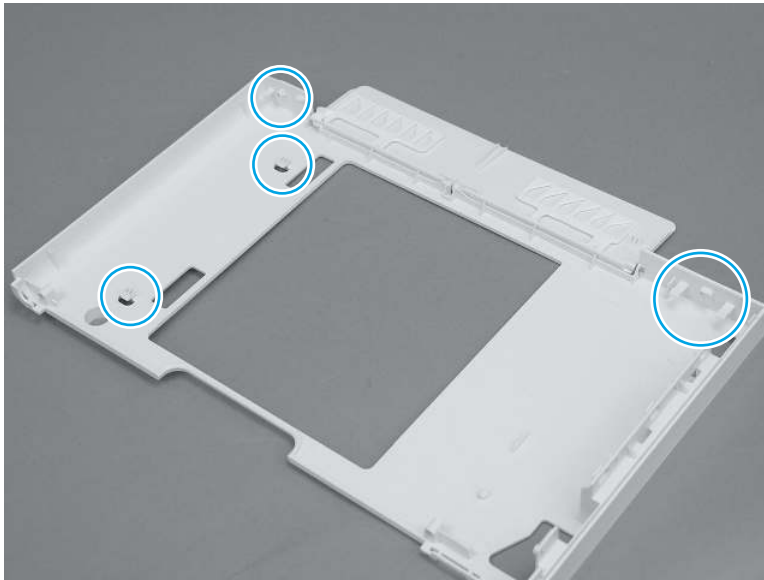
2. Slide the bracket to the left to release it, and then lift it straight up and off of the printer to remove it.

Figure 5-227 Slide the bracket left



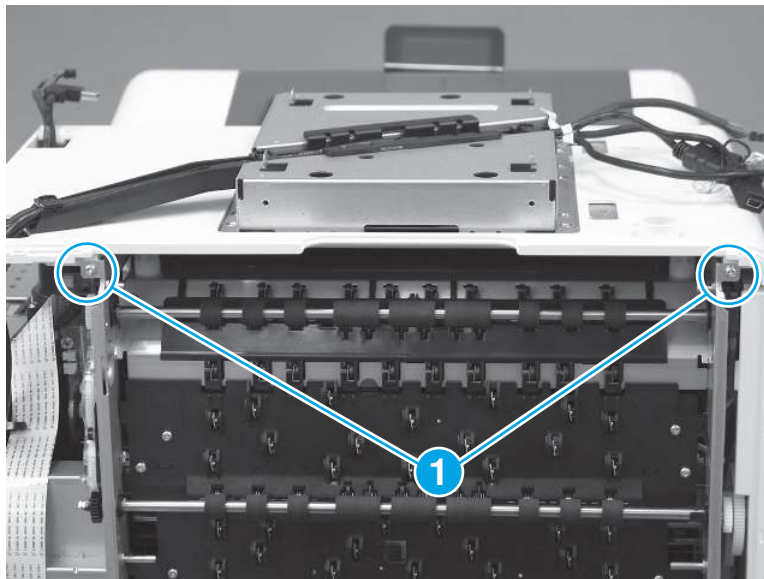
3. Before proceeding, take note of the tabs and hooks on the top cover.

Figure 5-228 Tabs and hooks on the top cover



4. On the left side of the printer, remove two screws (callout 1).

Figure 5-229 Remove two screws



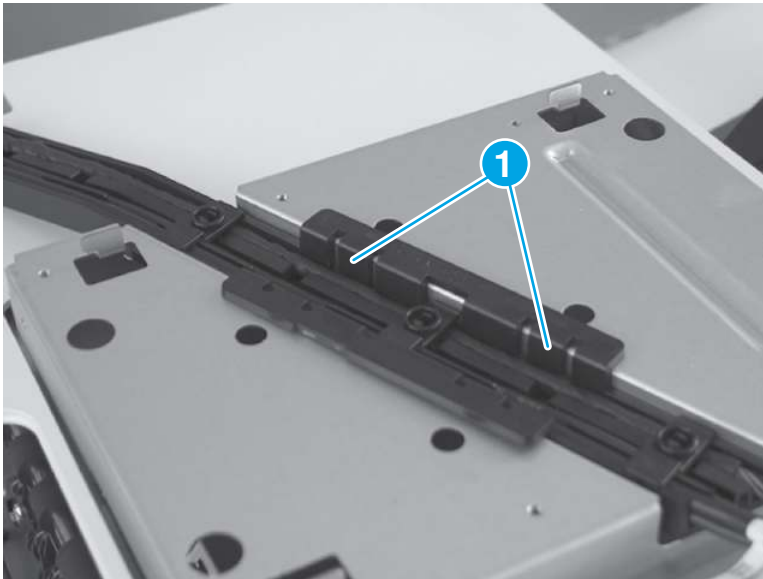
5. Remove one screw.

Figure 5-230 Remove one screw



6. Release two tabs (callout 1) to release the wire guide.

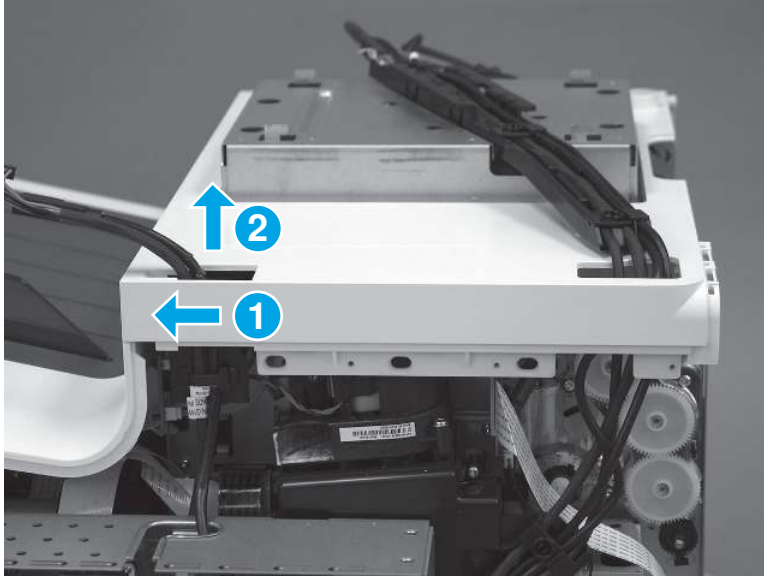
Figure 5-231 Release two tabs



7. At the rear of the printer, flex the top cover to the left (callout 1) and then slightly lift it up (callout 2) to release two tabs.

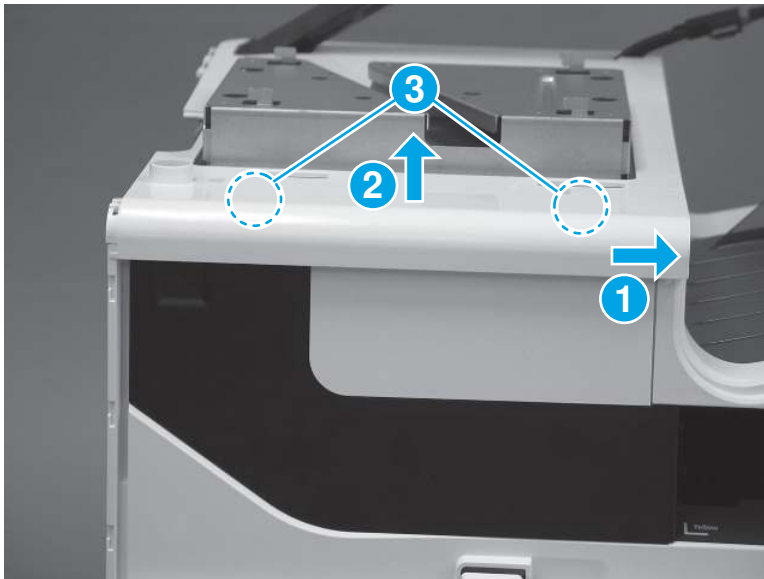
 **NOTE:** To locate the tabs, see step 3.

Figure 5-232 Release two tabs



8. At the front of the printer, slide the cover to the right (callout 1) to release the remaining tabs and the hooks (callout 2/3).

Figure 5-233 Release the cover



9. Remove the cover.

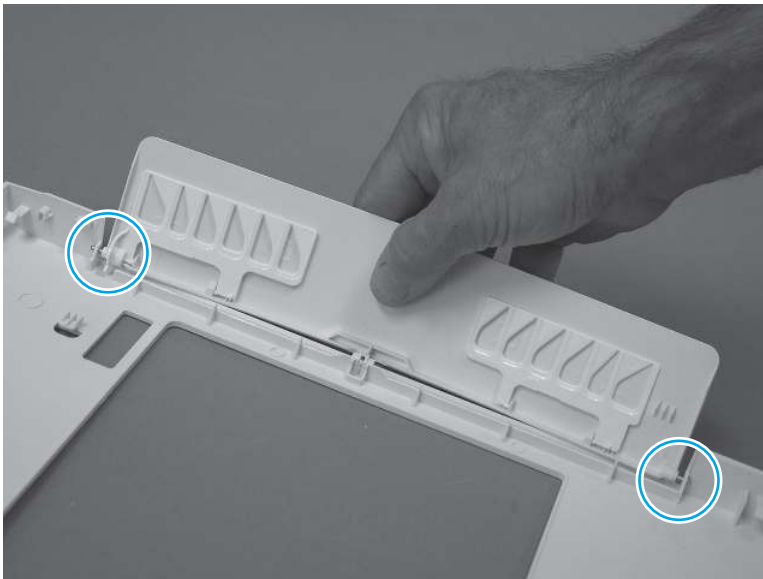
 **NOTE:** Pass the cables, wire harnesses, and the guide through the openings in the cover as it is removed.

Figure 5-234 Remove the cover



10. **Optional step:** If a replacement top cover is being installed, remove the output bin flap by flexing the center of the flap to release the right- and left-side hinge pins from the holes in the cover.

Figure 5-235 Remove the output bin flap

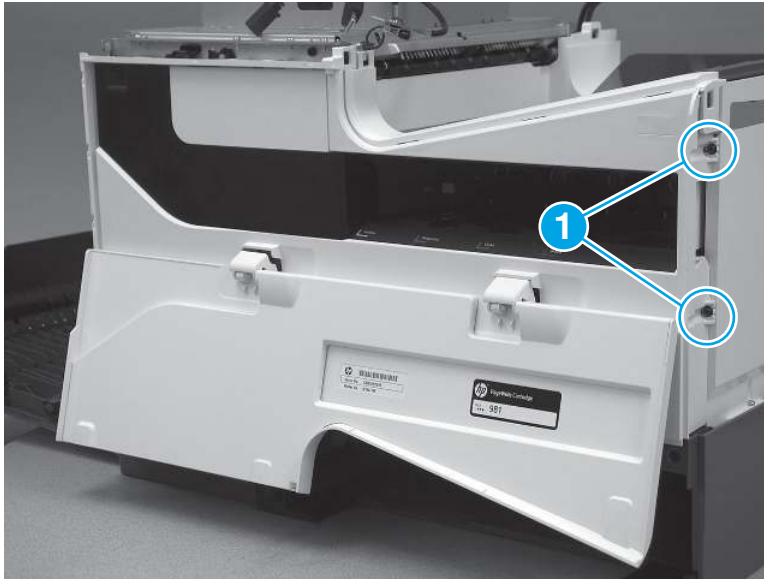


12. Remove the front cover

Follow these steps to remove the front cover.

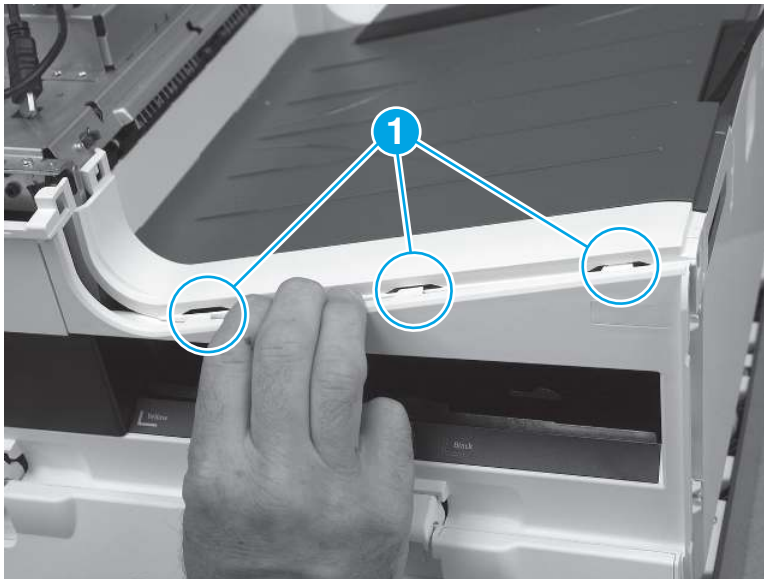
1. Remove two screws (callout 1).

Figure 5-236 Remove two screws



2. Release three tabs (callout 1).

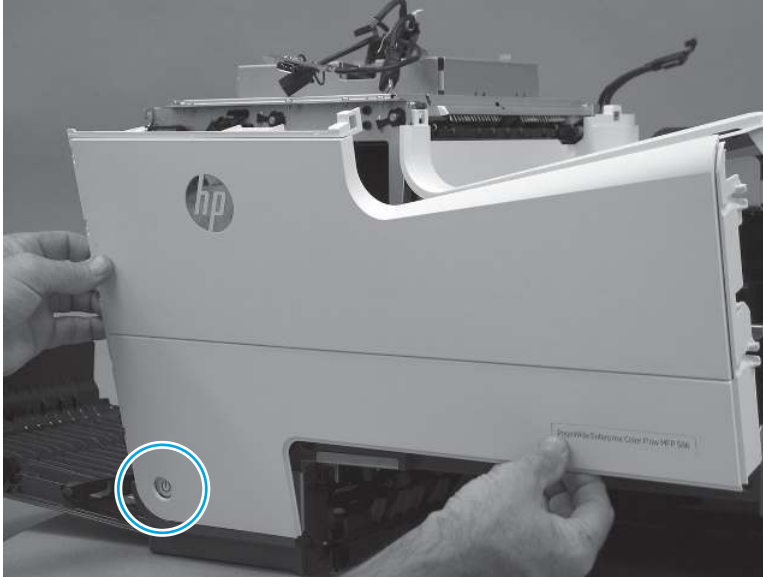
Figure 5-237 Release three tabs



3. Remove the front cover.

⚠ CAUTION: Be careful, when removing the front cover the power-button cover can come loose.

Figure 5-238 Remove the front cover



13. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

Internal parts and assemblies


Learn how to remove and replace the printer internal parts and assemblies.


Removal and replacement: Tray 2-X rollers


Learn how to remove and replace the Tray 2-X rollers.

Before performing service

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

 **IMPORTANT:** The separation roller assemblies look similar but are not interchangeable. If more than one assembly must be replaced, HP recommends that only one assembly be removed and replaced at a time.


 **NOTE:** The Tray 2 roller and separation roller assembly are shown in this guide. However, these instructions are correct for replacing these parts in Tray 3/4/5.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-21 Part number information

Part number	Description
CN598-67018	Tray 2 separation and pick rollers with instruction guide
D3Q21-67002	Tray 3 separation and pick rollers with instruction guide ¹
D3Q21-67003	Tray 4/5 separation and pick rollers with instruction guide ¹

¹A roller removal tool is included in this kit.

 **NOTE:** For ink cartridge service part numbers, see the supplies and accessories table in the parts chapter.

Required tools

- #10 Torx driver
- Roller removal tool (included in the kit)

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

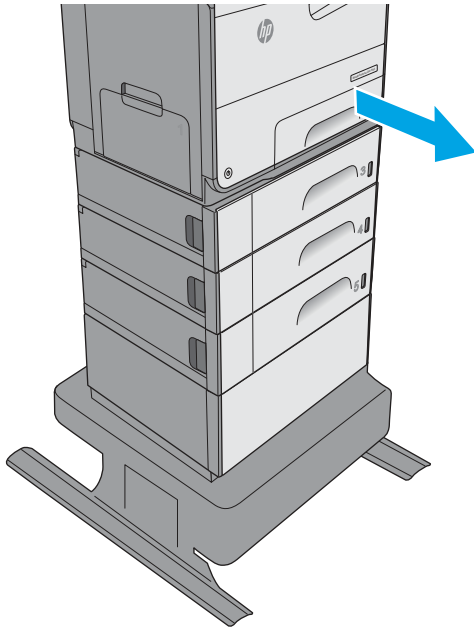
Print a page from each tray to make sure that it is correctly functioning.

1. Remove the tray

Follow these steps to remove the tray.

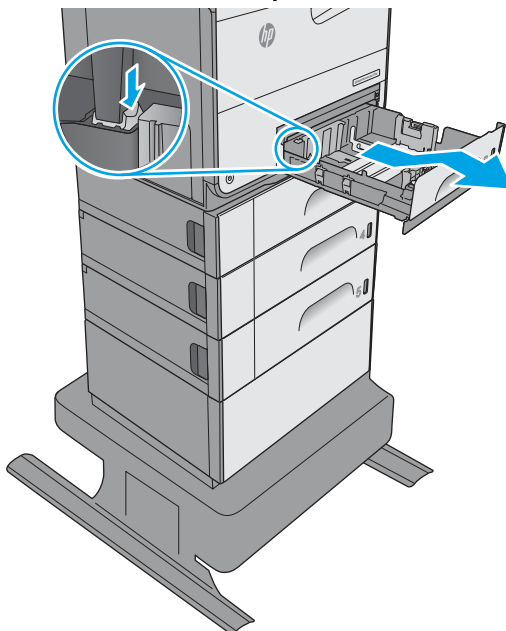
1. Pull the tray out until it stops.

Figure 5-239 Open the tray



2. Press the latch in left-rear corner of the tray to remove it from the printer.

Figure 5-240 Remove the tray

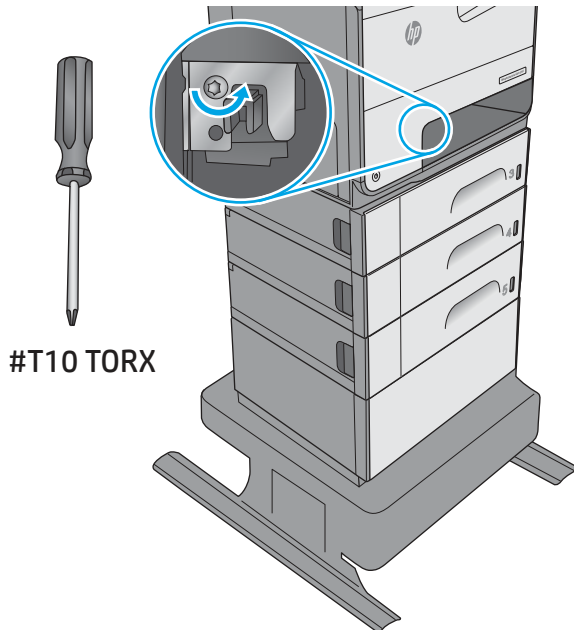


2. Remove the separation and pick roller assemblies

Follow these steps to remove the separation and pick roller assemblies.

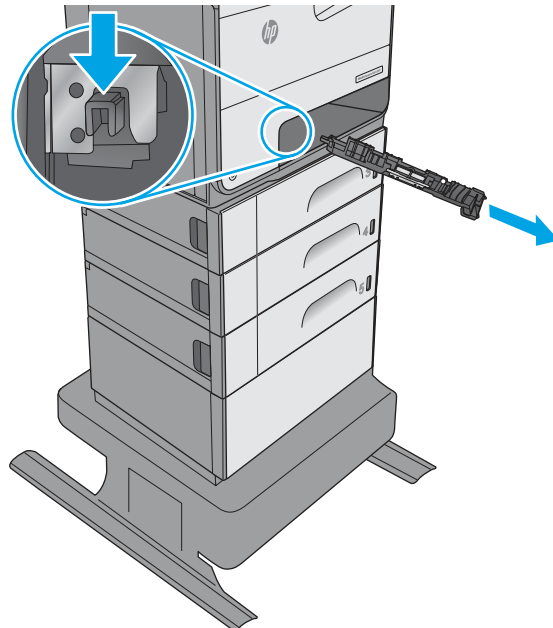
1. Remove one screw.

Figure 5-241 Remove one screw



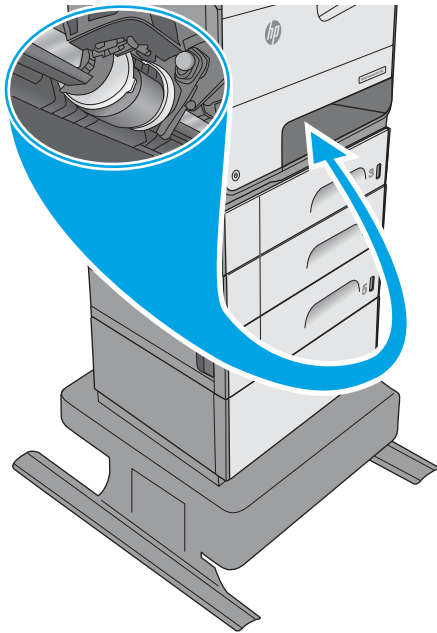
2. Push down on the separation roller assembly to release it, and then pull it straight out of the printer to remove it.

Figure 5-242 Remove the separation roller assembly



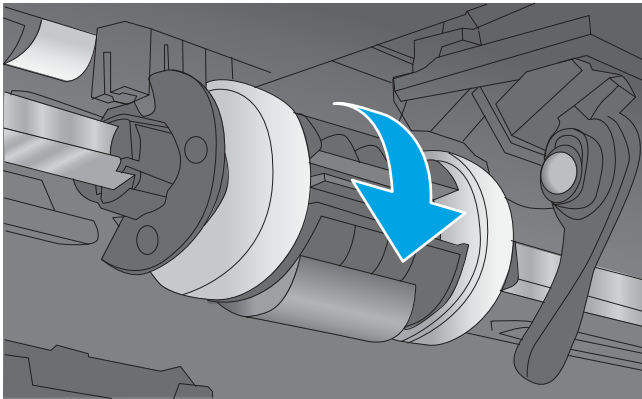
3. Look into the tray cavity and locate the pick roller assembly.

Figure 5-243 Locate the pick roller assembly



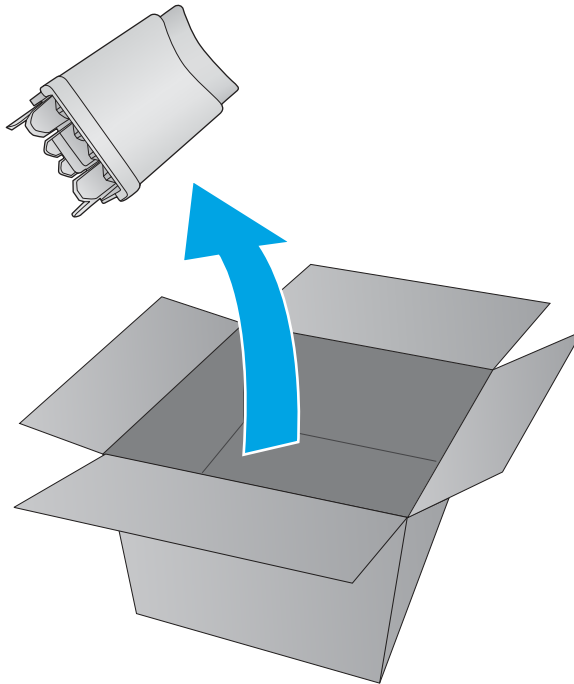
4. Rotate the pick roller and holder assembly until the back of the holder faces outward.

Figure 5-244 Rotate the pick roller and holder assembly



5. Locate the roller removal tool that is included in the kit.

Figure 5-245 Locate the roller removal tool



6. With the back side of the roller holder facing outward, firmly place the roller removal tool against the roller holder.


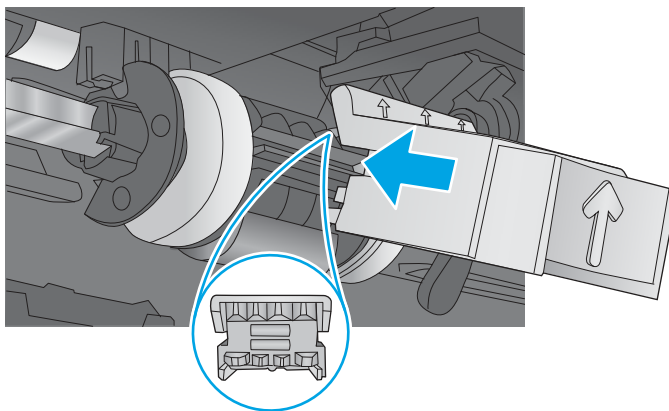
 **NOTE:** The arrow on the end of the tool must point upward.

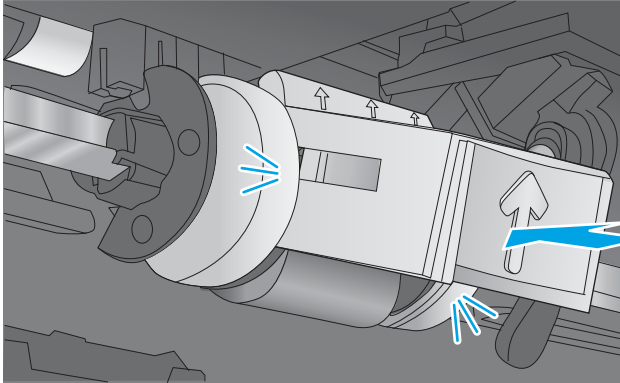
Figure 5-246 Place the roller removal tool on the holder



7. With the roller removal tool placed firmly against the roller holder, press in on the tool to release the roller locking tabs.

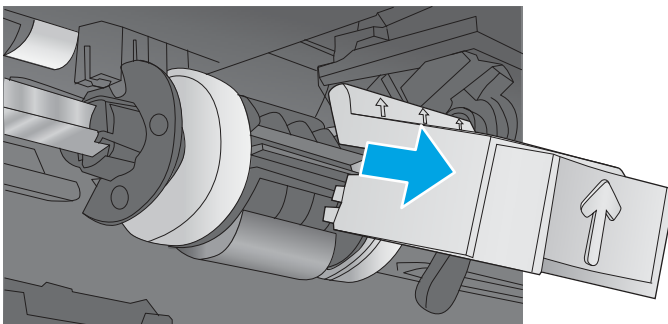
 **NOTE:** An audible click can be heard when the tabs release.

Figure 5-247 Release the roller tabs



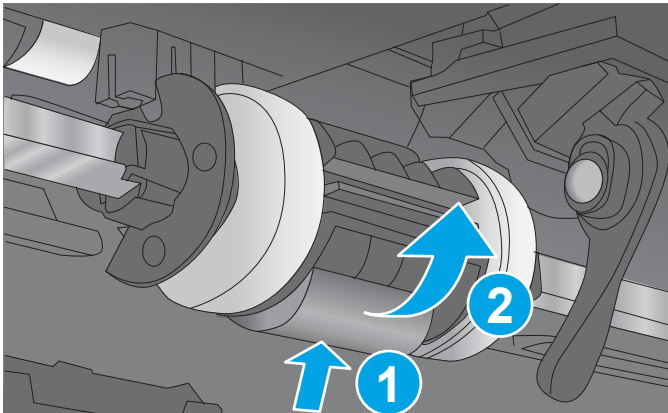
8. Remove the tool.

Figure 5-248 Remove the tool



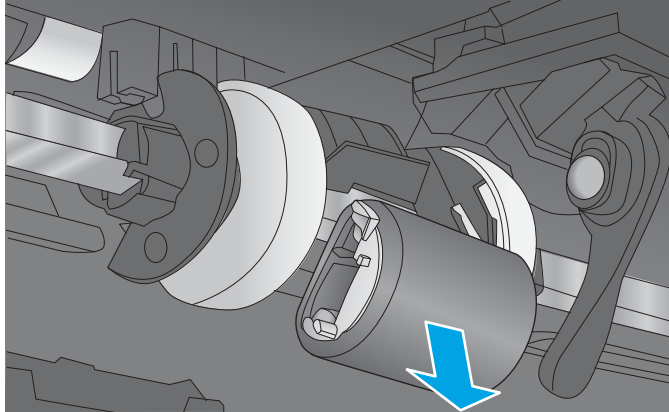
9. Use a finger to hold the roller in place (callout 1), and then rotate the roller and holder up (callout 2) to expose the roller.

Figure 5-249 Release the roller



10. Remove the roller.

Figure 5-250 Remove the roller



3. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.


3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

4. Install the separation and pick roller assemblies

Follow these steps to install the separation and pick roller assemblies.

1. Locate the tabs and pins on the replacement roller.

 **CAUTION:** Avoid touching the spongy part of roller. Skin oils on the roller can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling roller or washing your hands before touching rollers.


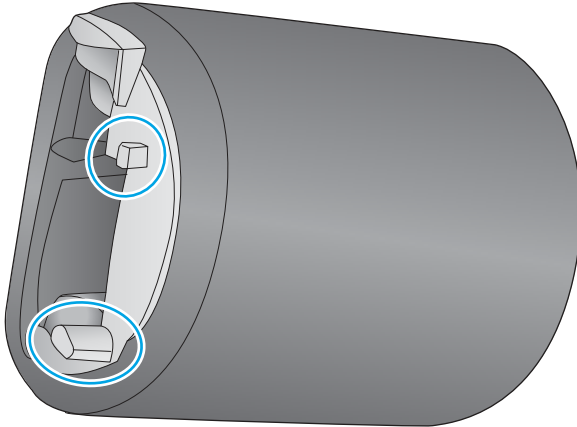

 **NOTE:** There is one pin and one tab one each side of the roller.

Figure 5-251 Remove the roller



2. Install the tabs on either side of the roller into the notches on the holder.

 **TIP:** The holder might need to be repositioned if it rotated while removing the roller.

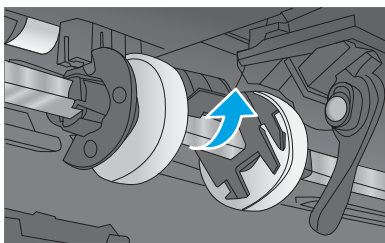
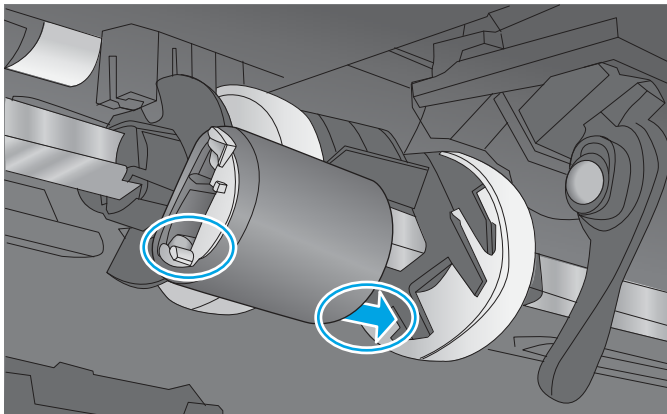


Figure 5-252 Install the tabs



3. Rotate the roller up until the pins snap into the slots on the holder.


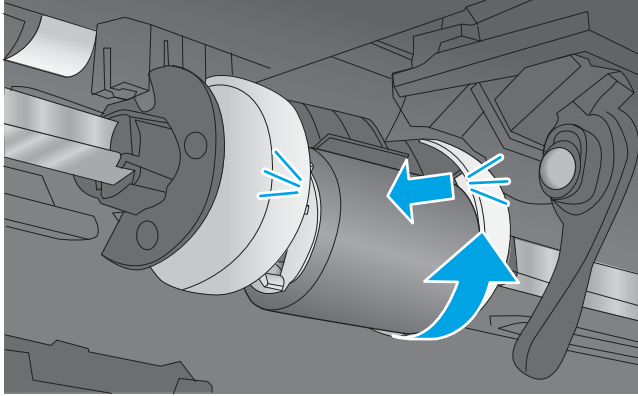
 **Reinstallation tip:** An audible click can be heard when the pins snap into the slots on the roller holder. Make sure that the roller is securely fastened in the holder.

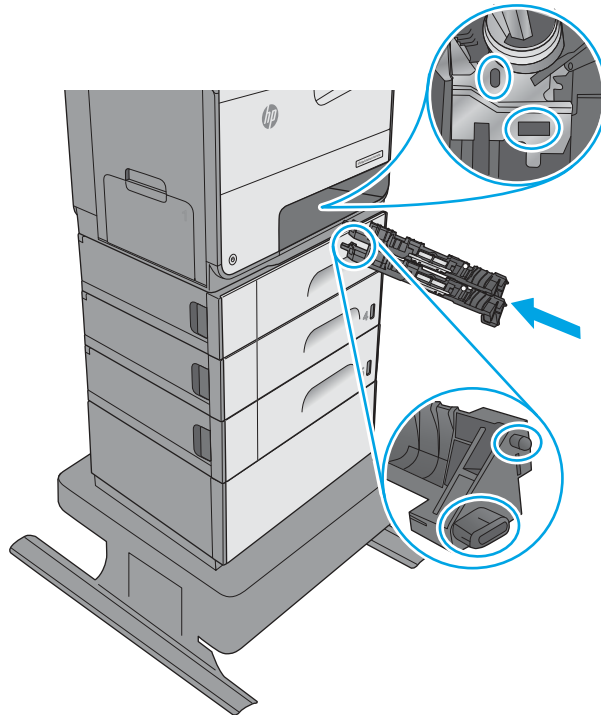
Figure 5-253 Install the pins



4. Install the back end of the separation roller assembly into the printer.

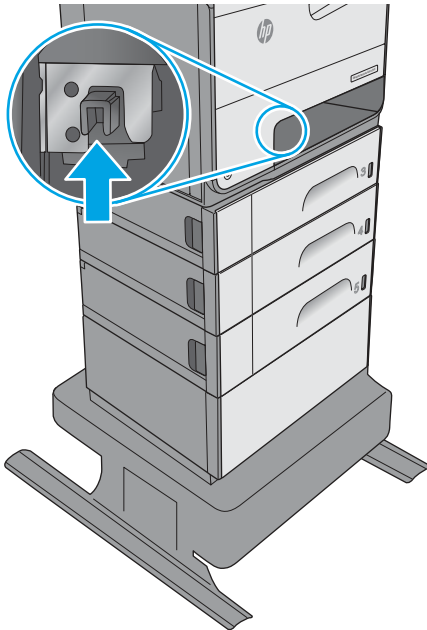
 **Reinstallation tip:** There is a pin and a tab on the assembly that correspond to a hole and a slot in the sheet-metal rear wall of the tray cavity.

Figure 5-254 Install the back end of the assembly



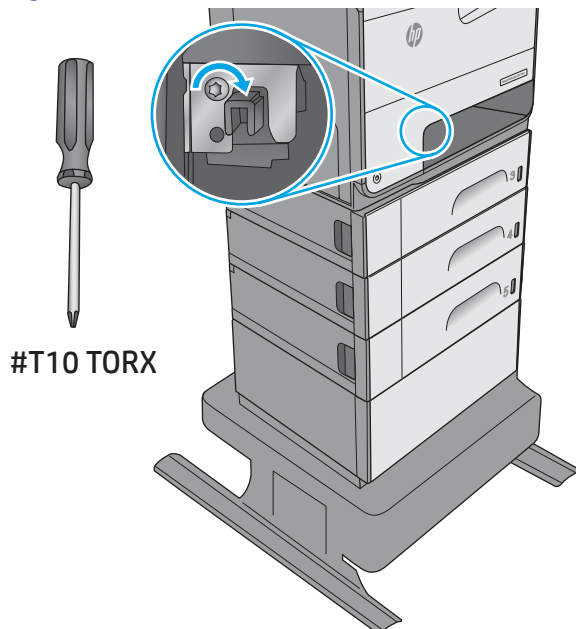
5. Push up on the front end of the separation roller assembly to install it in the holder.

Figure 5-255 Install the front end of the assembly



6. Install one screw.

Figure 5-256 Install one screw

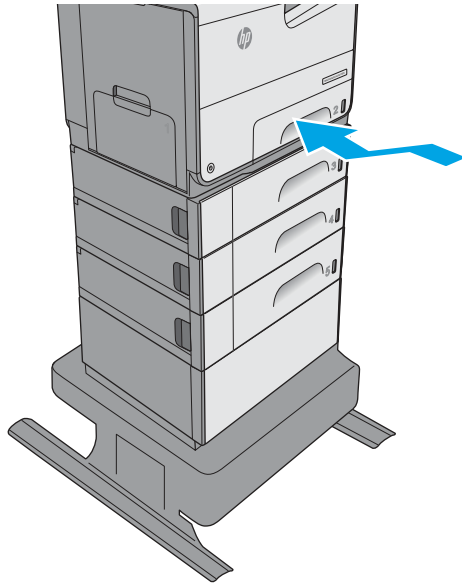


5. Install the tray

Follow these steps to install the tray.

- ▲ With the tray at a slight angle, align the sides of the tray with the rails in the accessory, and then slide the tray straight into the printer to install it.

Figure 5-257 Install the tray



Removal and replacement: Formatter

This document provides the procedures to remove and replace the formatter.

556:

[View a video of removing and replacing the formatter \(556\).](#)

586:

[View a video of removing and replacing the formatter \(586\).](#)

Mean time to repair: 20 minutes

Service level: Intermediate

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

📌 IMPORTANT: Take note of all empty connectors on the formatter before disconnecting any wire harnesses or cables. Some empty connectors might not be visible until other items --like the hard-disk drive --are removed, so pay close attention while removing the formatter and accessories items.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-22 Part information

Part number	Part description
G1W46-67911	Formatter (556) with instruction guide
G1W46-67912	Formatter (556; China) with instruction guide
G1W39-67914	Formatter (586) with instruction guide
G1W39-67939	Formatter (586; China) with instruction guide

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

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

1. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).


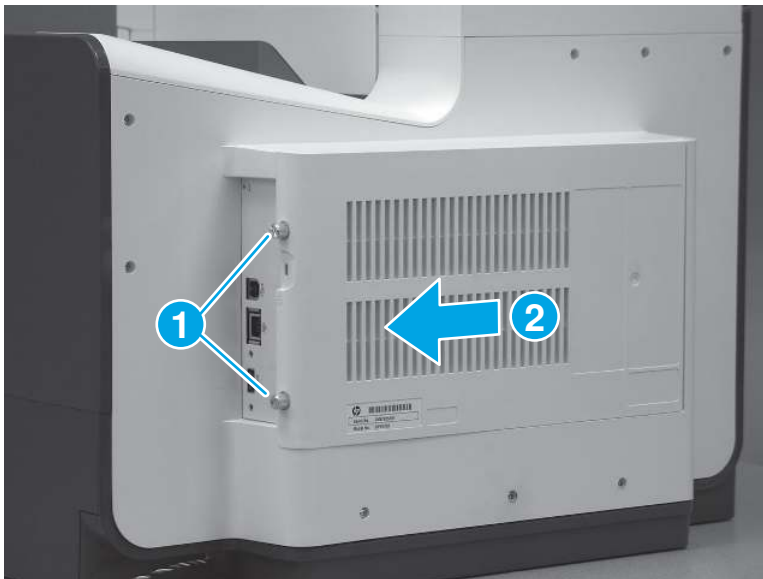

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-258 Remove the formatter cover



2. Remove the fax printed-circuit assembly (PCA)

Follow these steps to remove the fax PCA.

 ESD sensitive part.

 **NOTE:** 586f/z printers only. For all other printers, skip this step.

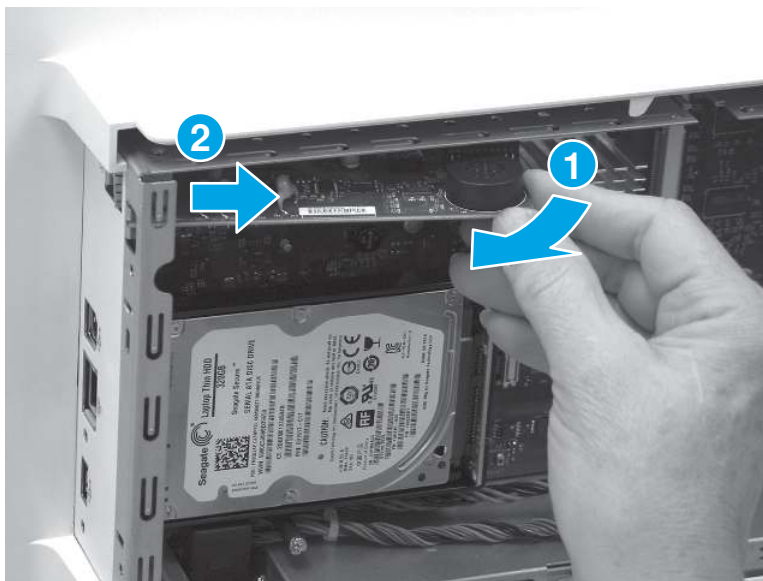
1. Locate the fax PCA (callout 1) on the formatter.

Figure 5-259 Locate the fax PCA




2. Rotate the right end of the fax PCA away from the formatter (callout 1), and then slide the PCA to the right (callout 2) to remove it.

Figure 5-260 Remove the fax PCA



3. Remove the hard-disk drive (HDD)

Follow these steps to Remove the hard-disk drive (HDD).

 **NOTE:** HDD models only. For all other printers, skip this step.

1. Remove two thumbscrews (callout 1).


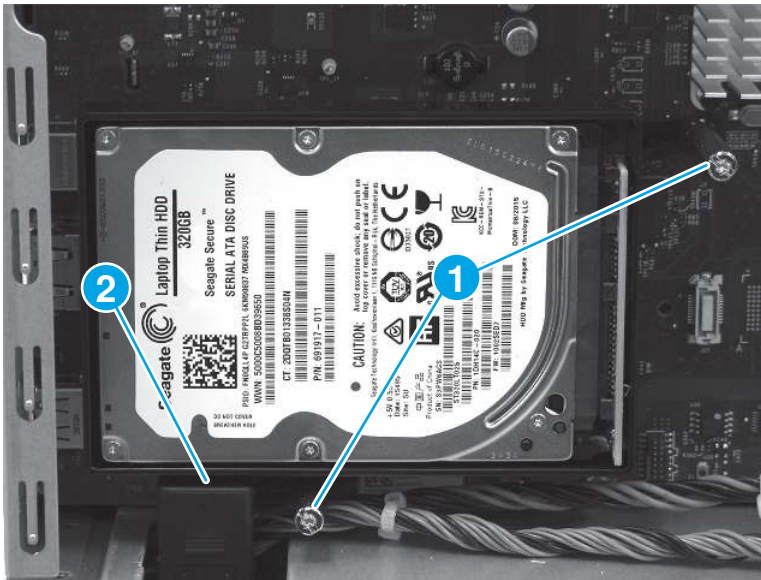
 **TIP:** It might be easier to remove the lower thumbscrew if one connector (callout 2) is disconnected.

Figure 5-261 Release the HDD



2. Pull the HDD straight off of the formatter to remove it.

Figure 5-262 Remove the HDD



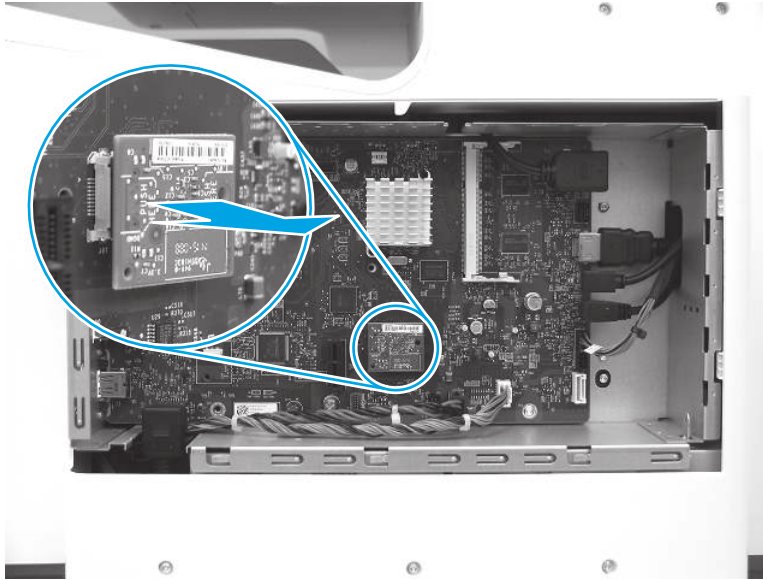
4. Remove the embedded MultiMedia Card (eMMC)

Follow these steps to remove the embedded MultiMedia Card (eMMC).

 **NOTE:** 556dn models only. For all other printers, skip this step.


- ▲ Locate the eMMC component on the formatter, and then pull it straight off of the formatter to remove it.

Figure 5-263 Remove the eMMC



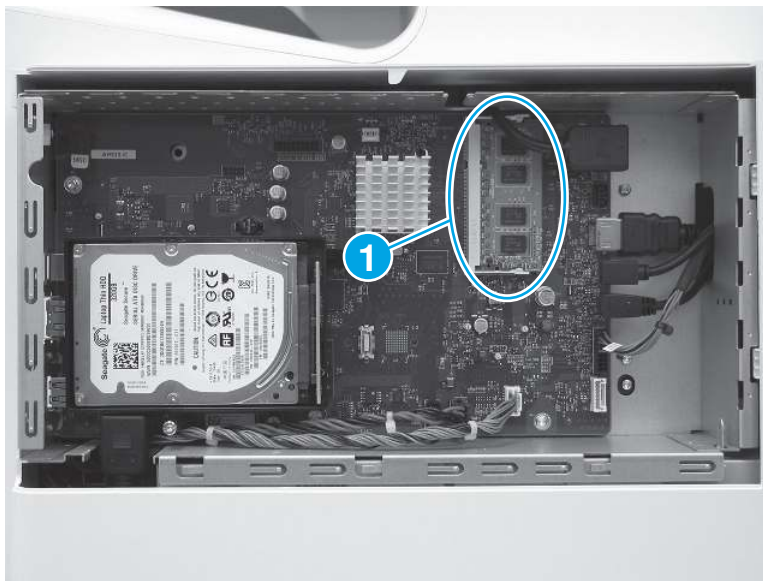
5. Remove the small outline dual in-line memory module (SODIMM)

Follow these steps to remove the small outline dual in-line memory module (SODIMM).

 **NOTE:** SODIMM installed models only. For all other printers, skip this step.

1. Locate the DIMM component on the formatter (callout 1).

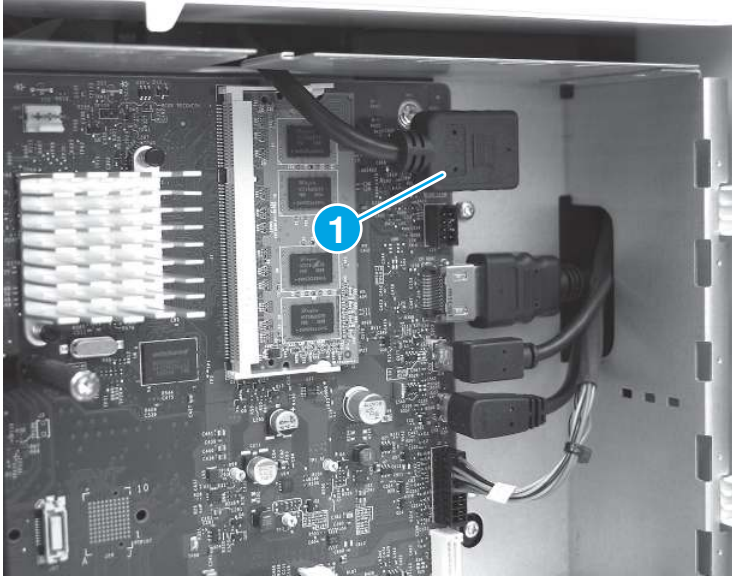
Figure 5-264 Disconnect three connectors



2. **586 printers only:** Disconnect one connector (callout 1).

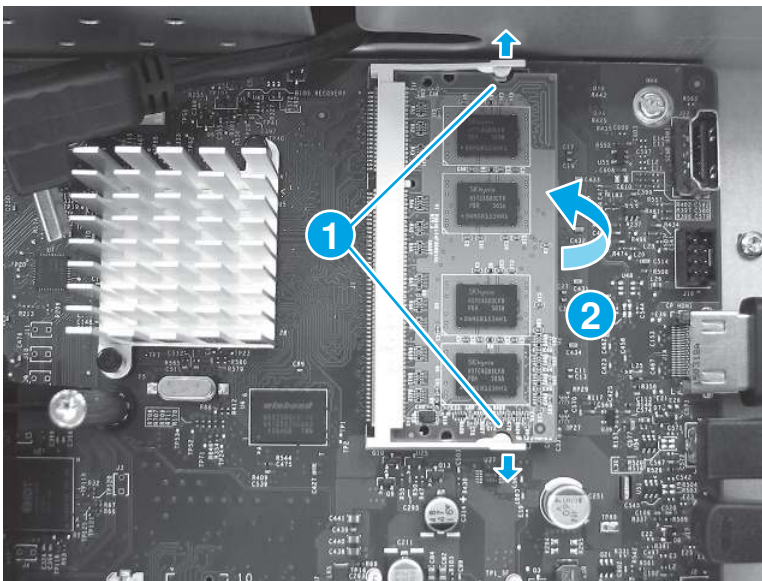
 **IMPORTANT:** Make sure that you connect this connector after the DIMM is installed.

Figure 5-265 Disconnect one connector (586)



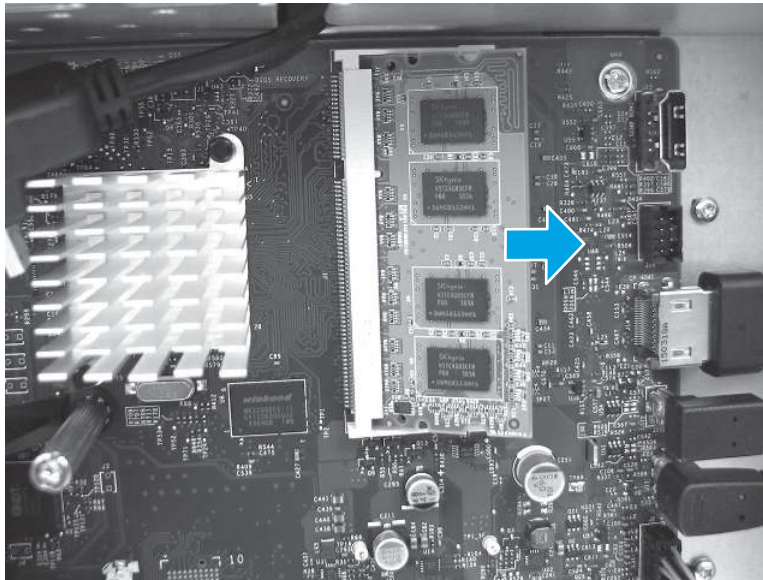
3. Release two locking arms (callout 1), and then rotate the right edge of the SODIMM away from the holder (callout 2).

Figure 5-266 Release the SODIMM



4. Pull the SODIMM out and away from the holder to remove it.


Figure 5-267 Remove the SODIMM



6. Remove the formatter

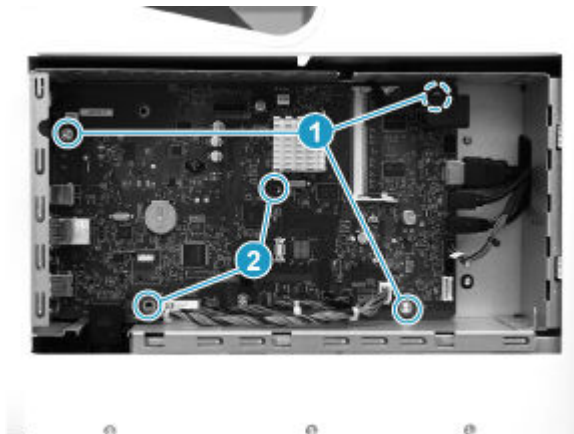
Follow these steps to remove the formatter.

1. Disconnect all of the connectors and cables and then do one of the following:
 - For HDD models: Remove three screws (callout 1).
 - For all other models: Remove five screws (callout 1 and callout 2).

 **IMPORTANT:** Take note of all empty connectors on the formatter before disconnecting any wire harnesses or cables. Some empty connectors might not be visible until other items --like the hard-disk drive --are removed, so pay close attention while removing the formatter and accessories items.

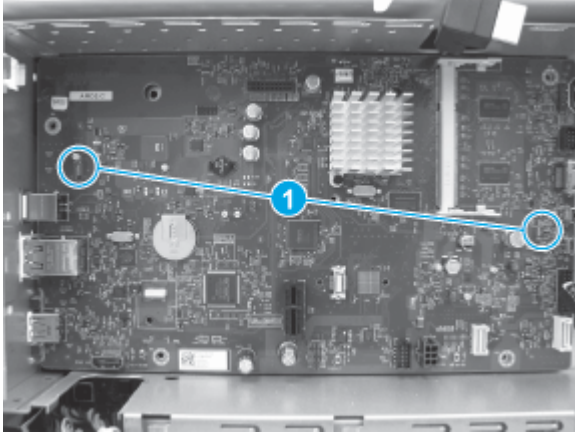
 **NOTE:**

Figure 5-268 Disconnect connectors and remove screws



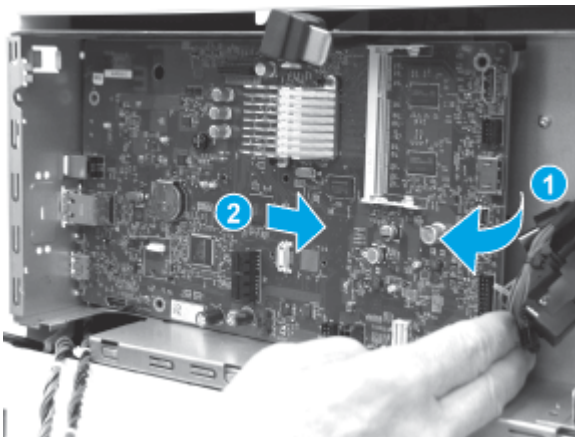
2. Note the location of two metal tabs fitting into slots in the formatter (callout 1).

Figure 5-269 Locate the tabs



3. Rotate the right edge of the formatter away from the printer (callout 1) to release the tabs identified in the previous step, and then slide the formatter to the right (callout 2) to remove it.

Figure 5-270 Remove the formatter



7. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.




NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.




CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.



IMPORTANT: Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.
-

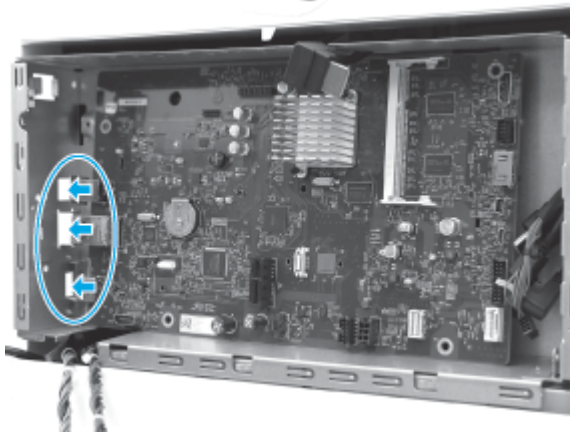
 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

8. Install the formatter

Follow these steps to install the formatter.

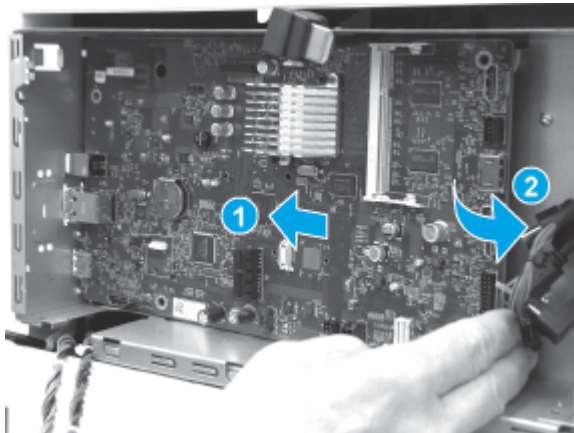
1. Position the ports on the formatter through the openings in the formatter case.

Figure 5-271 Position the ports in the openings



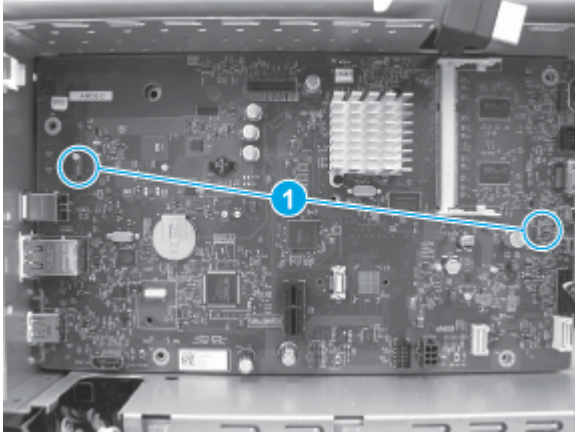
2. Slide the formatter to the left (callout 1) to position the ports in the openings, and then rotate the right edge of the formatter toward the printer (callout 2).

Figure 5-272 Install the formatter



3. Make sure that the two metal tabs (callout 1) fit securely into the slots in the formatter.

Figure 5-273 Check the tabs



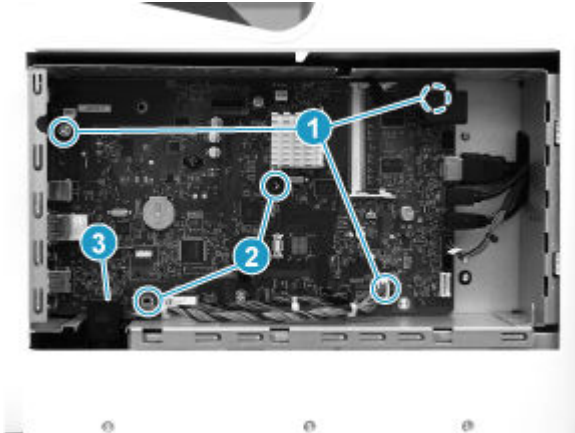
4. Do one of the following:

- For HDD models: Install three screws (callout 1), and then connect all of the connectors and cables.

 **TIP:** For HDD models, it might be easier to install the lower thumbscrew by leaving one connector (callout 3) disconnected.

- For all other models: Install five screws (callout 1 and callout 2), and then connect all of the connectors and cables.


Figure 5-274 Install screws and connect connectors



9. Install the small outline dual in-line memory module (SODIMM)

Follow these steps to install the small outline dual in-line memory module (SODIMM).

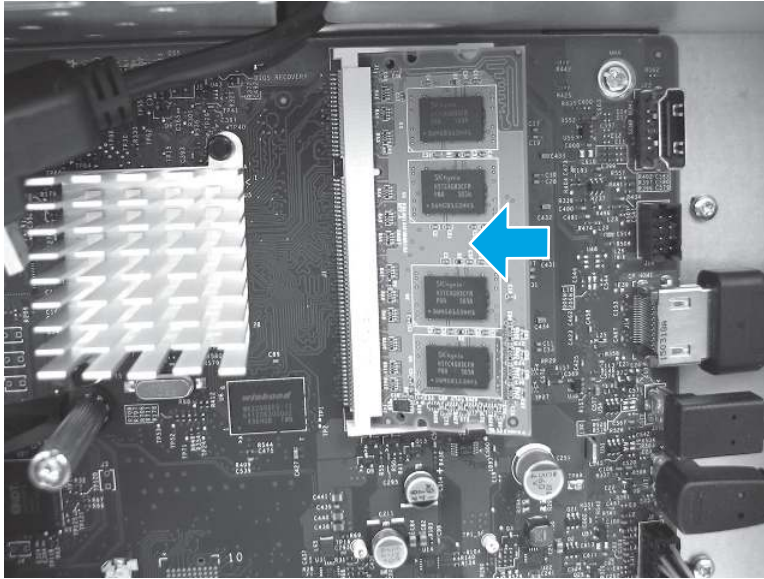
 **CAUTION:**  ESD-sensitive part.

 **NOTE:** SODIMM installed models only. For all other printers, skip this step.

1. Insert the connector end of the SODIMM into the holder. Make sure that the SODIMM is fully pushed into the connector.

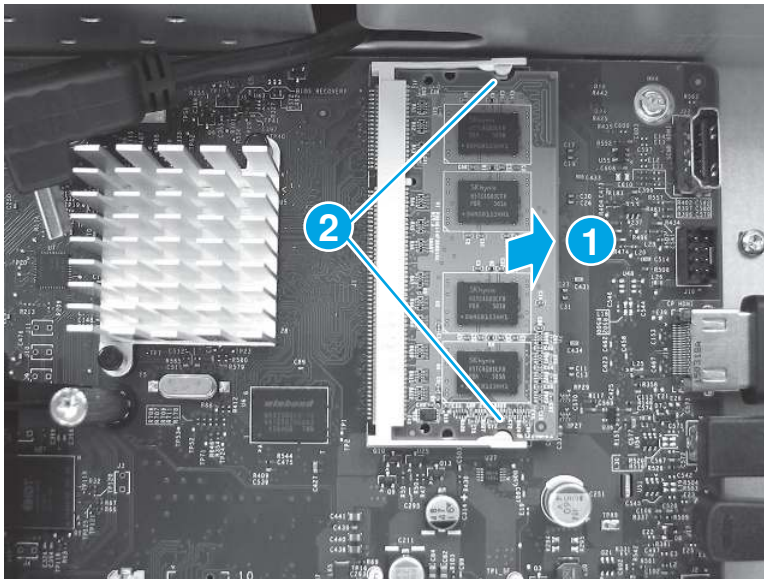
 **NOTE:** The SODIMM is keyed and can only be inserted into the holder one way.

Figure 5-275 Install the SODIMM



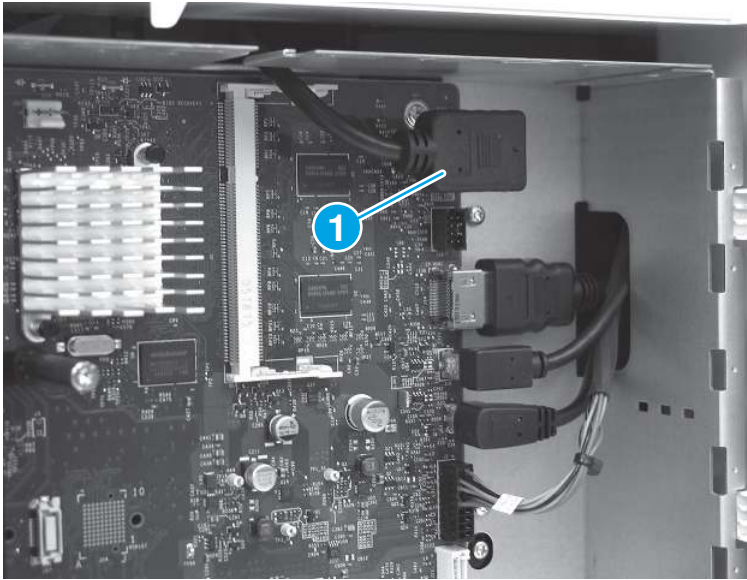
2. Rotate the right edge of the DIMM toward the holder (callout 1). Make sure that the two locking arms (callout 2) snap into place.

Figure 5-276 Seat the SODIMM



3. **586 models only:** Connect one connector (callout 1)

Figure 5-277 Disconnect one connector (586)



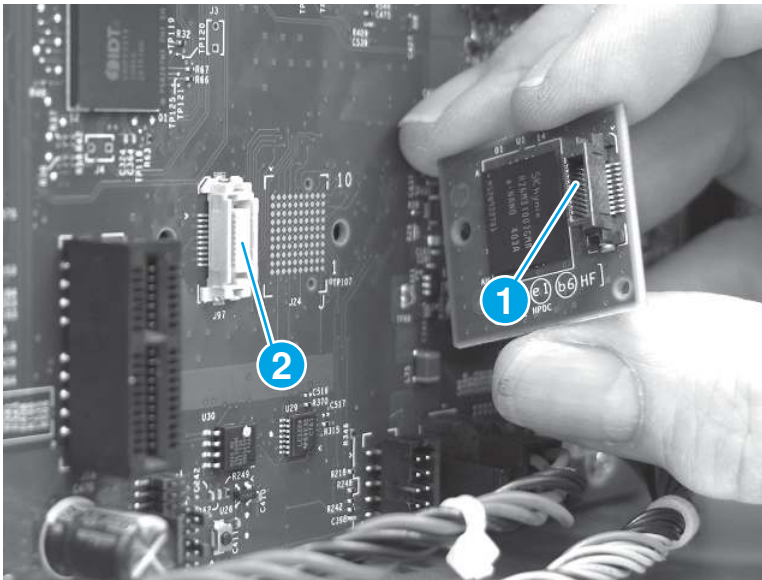
10. Install the embedded MultiMedia Card (eMMC)

Follow these steps to install the embedded MultiMedia Card (eMMC).

 **NOTE:** 556dn models only. For all other printers, skip this step.

1. Note the location of the connector (callout 1) on the eMMC and the connector (callout 2) on the formatter.

Figure 5-278 Locate the eMMC connectors

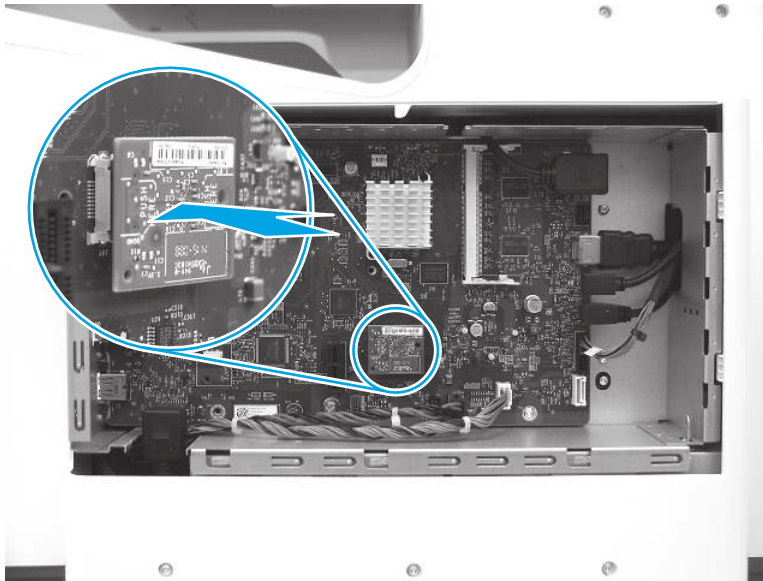


2. Align the connector on the replacement eMMC (callout 1) with the connector on the formatter, and then push the eMMC onto the formatter to install it.

 **IMPORTANT:** Push on the eMMC at the location shown by the arrow. Ignore any “Push here” label on the eMMC itself. Make sure that the eMMC is fully seated in the connector .


 **NOTE:** The eMMC can only be installed in one direction on the formatter.

Figure 5-279 Install the eMMC



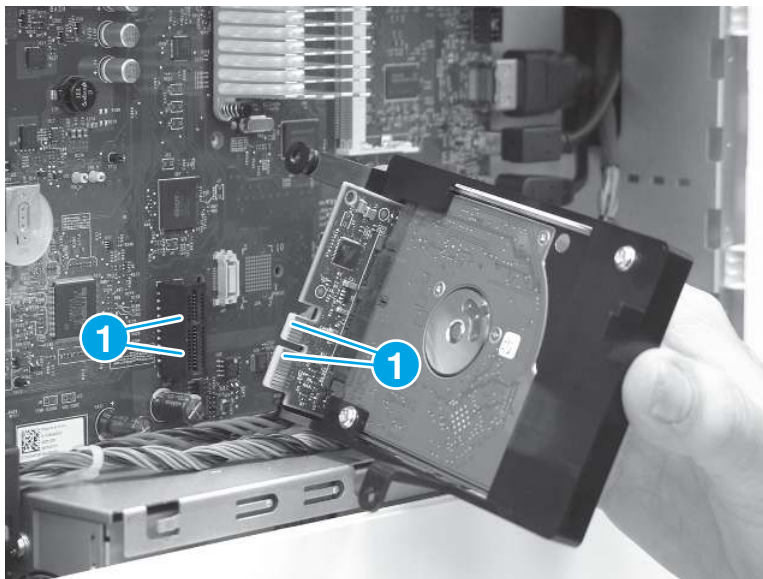
11. Install the hard-disk drive (HDD)

Follow these steps to install the hard-disk drive (HDD).

 **NOTE:** HDD models only. For all other printers, skip this step.

1. Before proceeding, note the location of the connectors (callout 1) on the HDD and the connector slots (callout 2) on the formatter.

Figure 5-280 Locate the connectors



- Align the connectors mentioned in the previous step, and then push the HDD onto the formatter to install it.

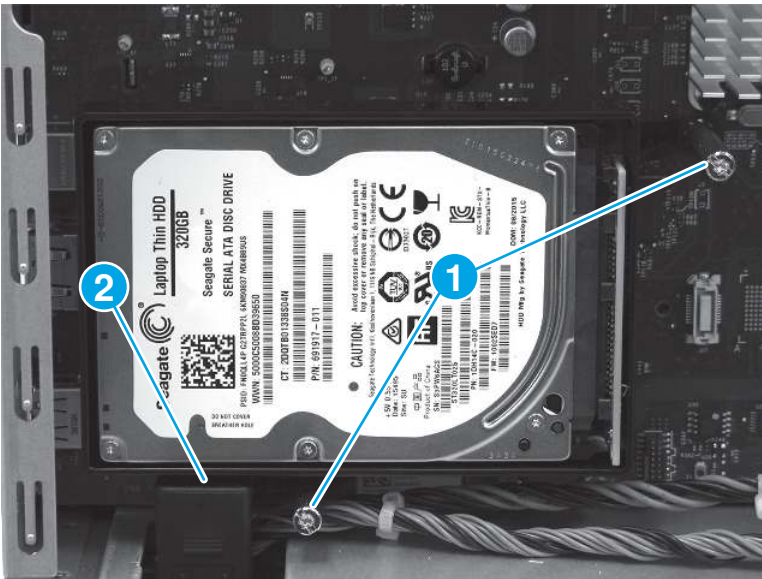
Figure 5-281 Install the HDD



- Install two thumbscrews (callout 1).

 **NOTE:** If the connector (callout 2) was disconnected to make it easier to install the lower thumbscrew, connect it now.

Figure 5-282 Install two thumb screws



12. Remove the fax printed-circuit assembly (PCA)

Follow these steps to remove the fax PCA.



ESD sensitive part.



NOTE: 586f/z printers only (optional for the 586dn). For all other printers, skip this step.

1. Position the port (callout 1) on the fax PCA into the opening (callout 2) in the formatter case. Position the edge of the fax PCA (callout 3) into the sheet-metal slot (callout 4) on the formatter case.


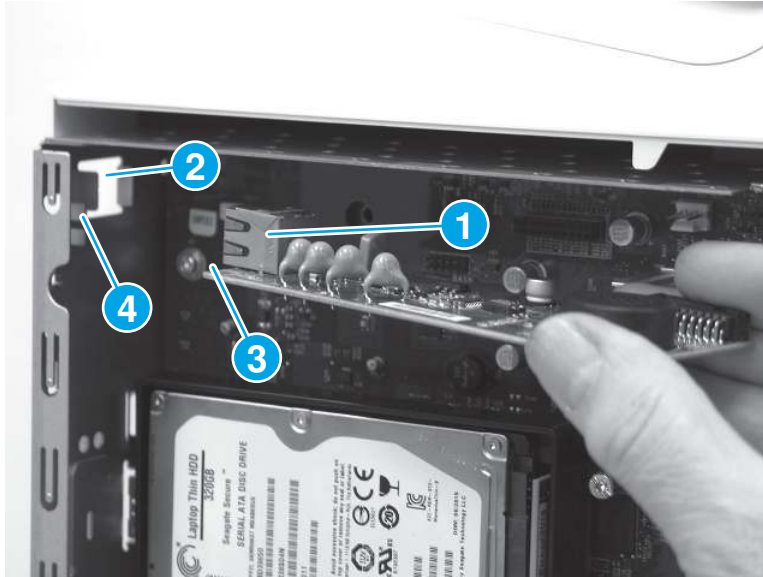
 **TIP:** If a fax accessory is being installed on the 586dn printer, peel away the protective covering on the outside of the formatter case to expose the fax port slot in the sheet metal frame.

Figure 5-283 Locate the slots in the sheet-metal



2. Slide the fax PCA to the left (callout 1) to install the port and the edge of the PCA into the formatter case, as described in the previous step. Rotate the right edge (callout 2) of the PCA toward the formatter to install it in the connector on the formatter.


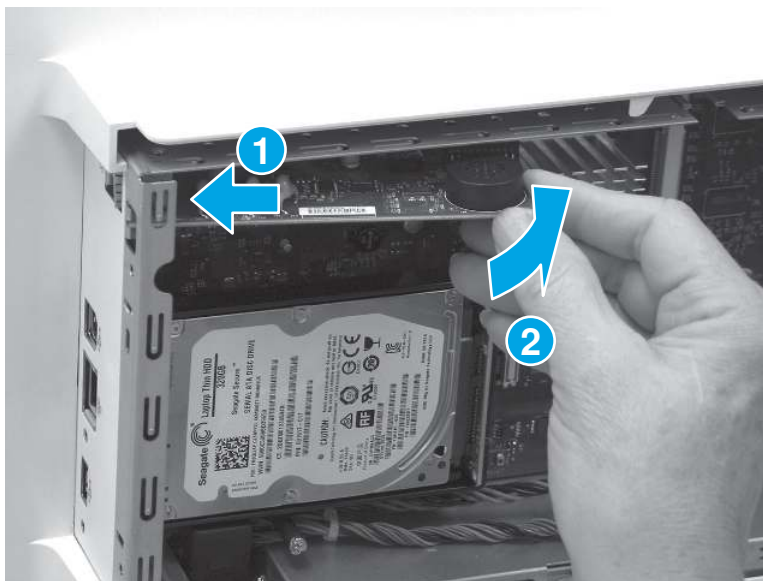
 **NOTE:** Make sure that the fax PCA is fully seated in the connector.

Figure 5-284 Install the fax PCA

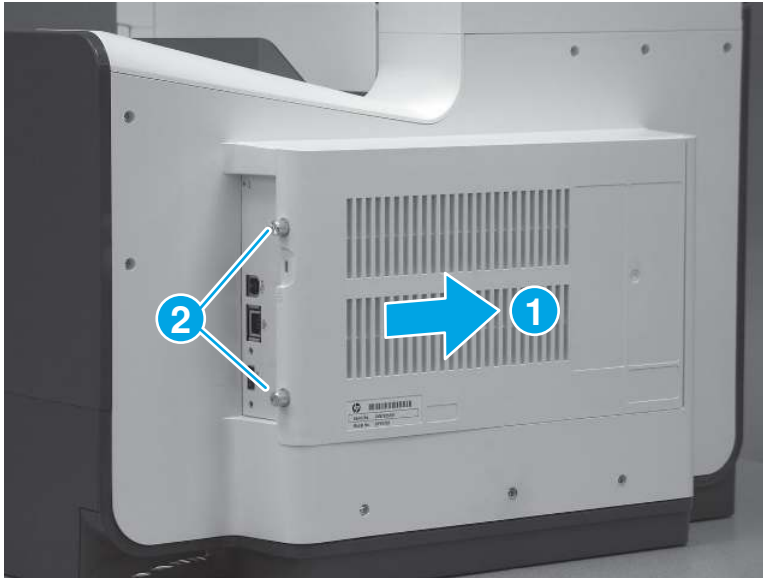


13. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-285 Install the formatter cover



Removal and replacement: Document feeder assembly (586)

This document provides the procedures to remove and replace the document feeder (586).

[View a video of removing and replacing the document feeder assembly.](#)

Mean time to repair: 25 minutes

Service level: Intermediate

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-23 Part information

Part number	Part description
G1W41-67908	ADF whole unit (document feeder; 586) kit with instruction guide ¹

¹ This kit includes a replacement white backing and white backing retention clips.

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.
- Small flat-blade screwdriver.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

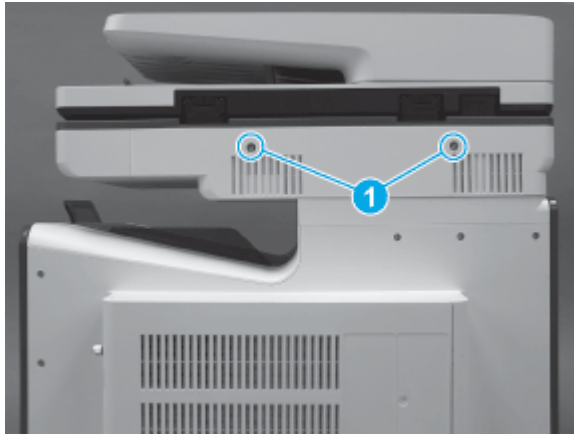
Use the document feeder to make a copy to make sure that it is properly functioning.

1. Remove the scanner control board (SCB) cover

Follow these steps to remove the scanner control board (SCB) cover.

1. At the back of the printer, remove two screws (callout 1).

Figure 5-286 Remove two screws



2. Pull the SCB cover straight off the printer to remove it

Figure 5-287 Remove the SCB cover

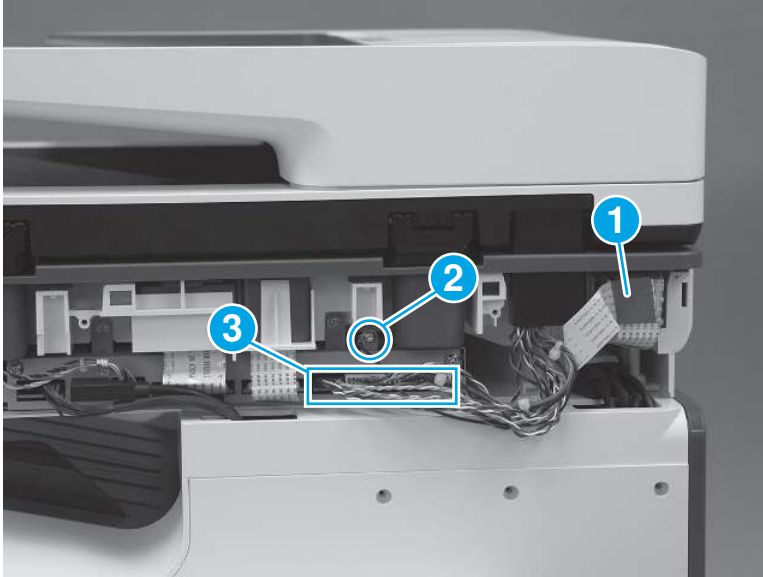


2. Remove the document feeder assembly (M586)

Follow these steps to remove the document feeder assembly (M586).

1. Disconnect one flat cable (callout 1), remove one ground screw (callout 2), and then disconnect five connectors (callout 3).

Figure 5-288 Disconnect connectors and remove ground screw



2. Open the document feeder.

Figure 5-289 Open the document feeder



3. Tilt the document feeder back until it stops (callout 1), and then lift it up until it stops (callout 2).

Figure 5-290 Tilt the document feeder back



4. Support the document feeder, and then use a small, flat-blade screwdriver to release two tabs on the document feeder hinges.

 **NOTE:** The tabs are located on the front side (scanner flatbed glass) of the hinges. Use the figure below to locate the tabs.

Figure 5-291 Release two tabs on the hinges



5. Lift the document feeder up to remove it.

 **NOTE:** While removing the document feeder, carefully pass the wire harnesses and the flat cable through the opening in the scanner.

Figure 5-292 Remove the document feeder



3. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

4. Install the document feeder assembly (M586)

Follow these steps to install the document feeder assembly (M586).

1. Pass the flat cable and wire harness on the replacement document feeder through the hole in the scanner chassis (callout 1), and then align the hinges (callout 2) with the slots (callout 3) in the chassis.

Figure 5-293 Align the hinges



2. Continue to pass the flat cable and wire through the opening in the chassis (callout 1), and then insert the hinges (callout 2) into the slots.

⚠ CAUTION: Do not damage the flat cable or wire harnesses when the cable guide (callout 1) is installed in its slot.

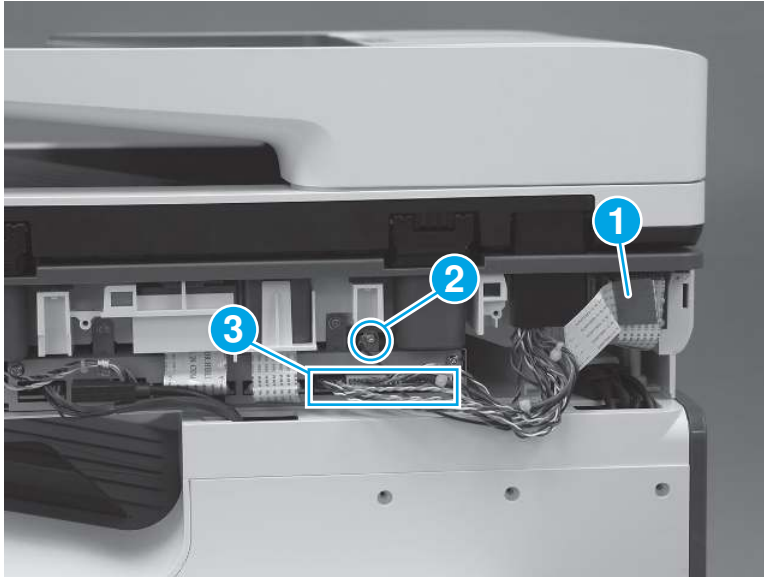
Figure 5-294 Install the document feeder



3. Connect one flat cable (callout 1), install one ground screw (callout 2), and then connect five connectors (callout 3).

💡 TIP: Close the document feeder as shown to make it easier to connect the connectors and install the ground screw.

Figure 5-295 Install the ground screw and connect the connectors



5. Install the SCB cover

Follow these steps to install the SCB cover.

1. Align the tabs on the back side of the SCB cover with the slots in the printer.

Figure 5-296 Align the SCB cover tabs and printer slots



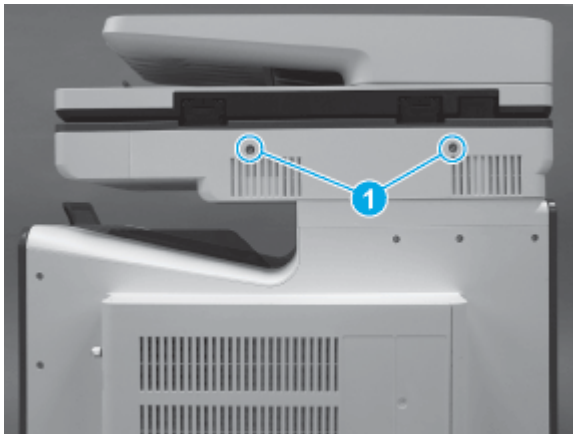
2. Push the cover straight in to install it.

Figure 5-297 Install the SCB cover



3. Install two screws (callout 1).

Figure 5-298 Install two screws



6. Install the white backing

Follow these steps to install the white backing.

1. Place the white backing on the scanner glass.


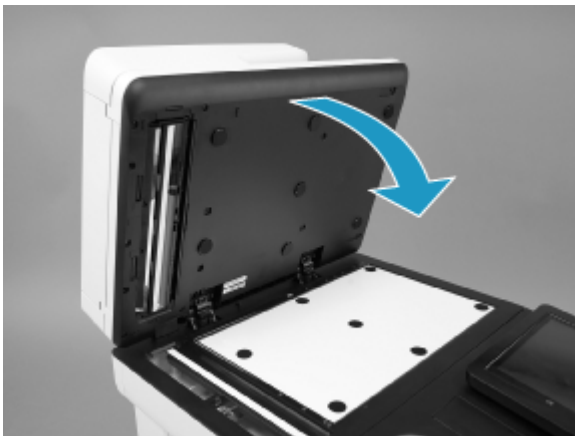
 **IMPORTANT:** Place the corner of the backing that does not have a hook-and-loop fastener in the upper-left corner of the scanner glass.

Figure 5-299 Place the white backing on the glass



2. Close the document feeder.

Figure 5-300 Close the document feeder



3. Open the document feeder and make sure that the white backing is securely attached.

Figure 5-301 Check the white backing



4. Close the document feeder.

Figure 5-302 Close the document feeder



7. Reset the firmware counter

Follow these steps to reset the firmware counter.

1. From the Home screen on the control panel, scroll to and touch the [Device Maintenance](#) button.
2. Scroll to and touch the [Service](#) button.
3. On the sign-in screen, select the [Service Access Code](#) option from the drop-down list.
4. Enter the following service access code for this printer: 05058616.
5. Scroll to and touch the [Cycle Counts](#) item.
6. Reset the following items:
 - [Document Feeder Kit Interval](#); set to zero
 - [ADF Count](#); set to zero

Removal and replacement: Scanner control board (SCB) (586)

This document provides the procedures to remove and replace the scanner control board (SCB) (586).

[View a video of removing and replacing the SCB.](#)

Mean time to repair: 22 minutes

Service level: Intermediate

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-24 Part information

Part number	Part description
G1W39-67935	Scanner control board (SCB) (586) kit with instruction guide

Required tools

- Needle-nose pliers.
- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

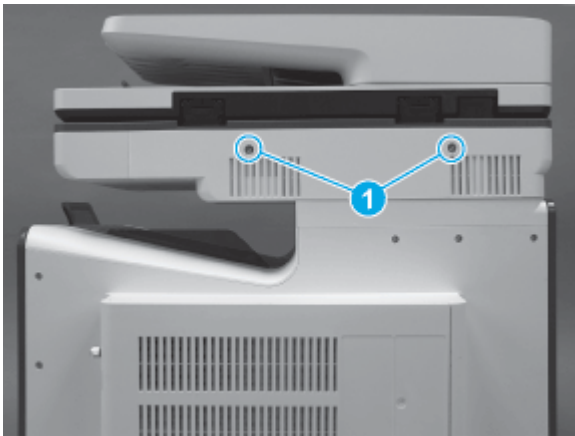
Access the menus by using the printer control panel, and then print a configuration page to make sure that the printer is functioning correctly.

1. Remove the scanner control board (SCB) cover

Follow these steps to remove the scanner control board (SCB) cover.

1. At the back of the printer, remove two screws (callout 1).

Figure 5-303 Remove two screws



2. Pull the SCB cover straight off the printer to remove it

Figure 5-304 Remove the SCB cover



2. Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


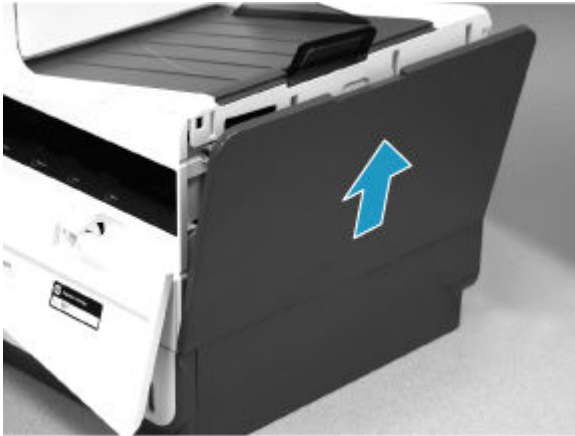
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-305 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-306 Remove the right cover (outer)



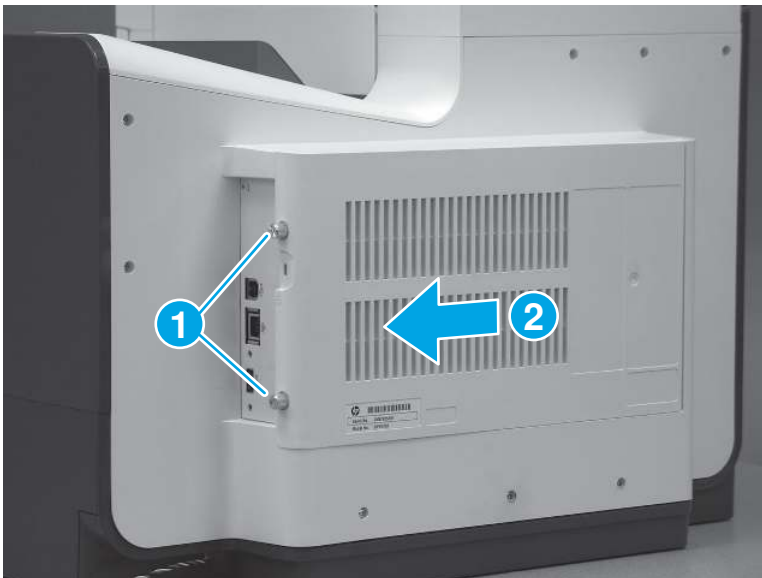
3. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-307 Remove the formatter cover



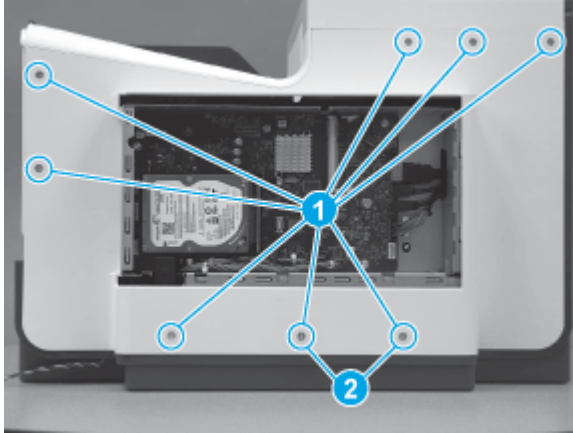
4. Remove the rear cover

Follow these steps to remove the rear cover.

1. Remove eight screws (callout 1).

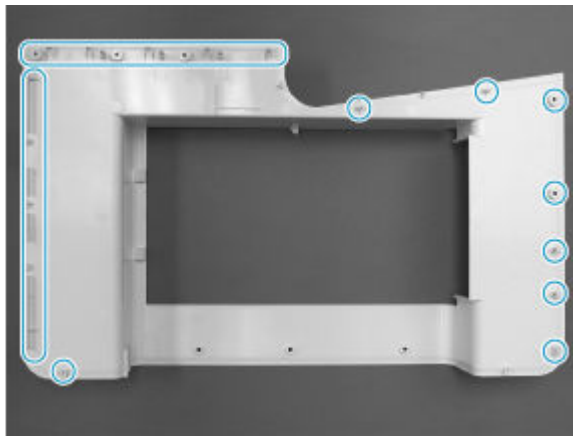
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-308 Remove eight screws



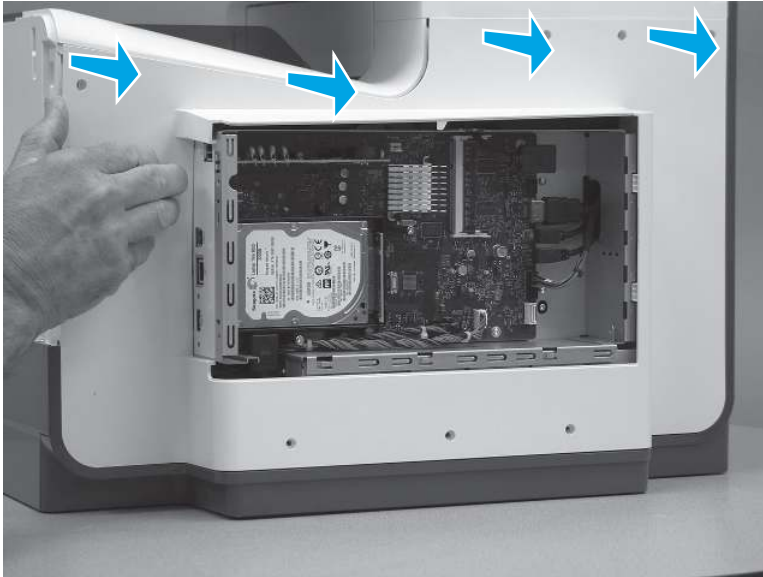
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-309 Find the tabs and bosses on the rear cover



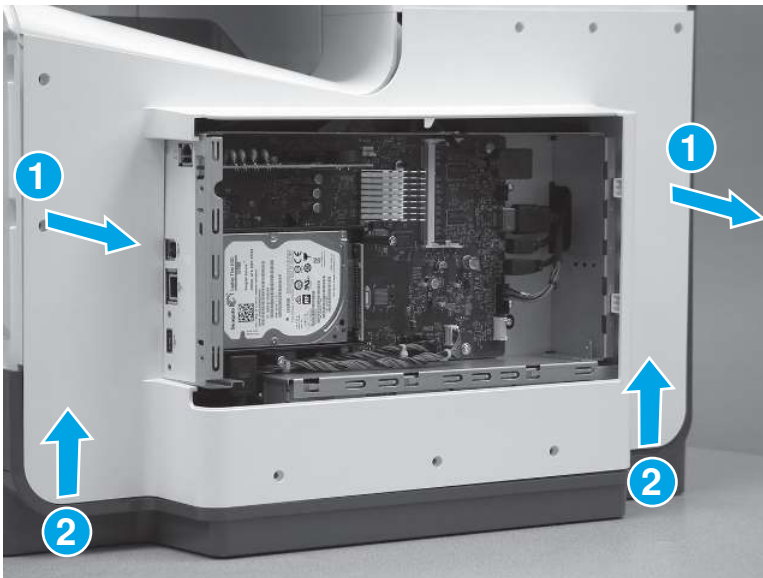
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-310 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-311 Remove the rear cover

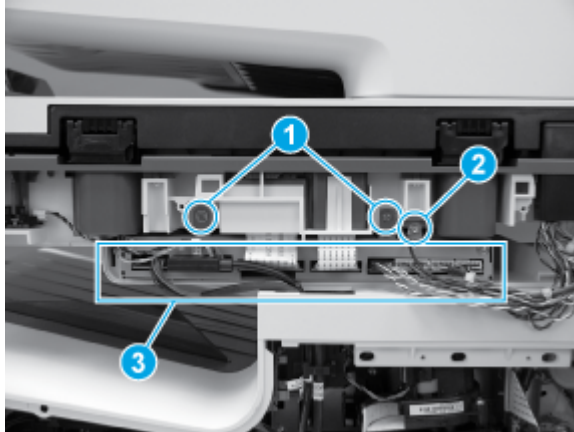


5. Remove the scanner control board (SCB) (M586)

Follow these steps to remove the scanner control board (SCB) (M586).

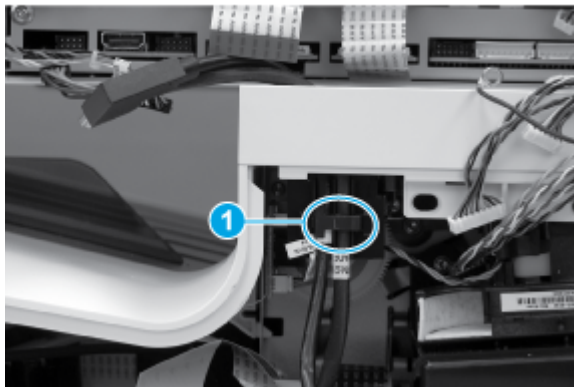
1. Remove two screws (callout 1). Remove one screw (callout 2) and release one grounding wire. Disconnect all of the connectors (callout 3) from the SCB.

Figure 5-312 Disconnect connectors and remove screws



2. Locate the retainer clip (callout 1).

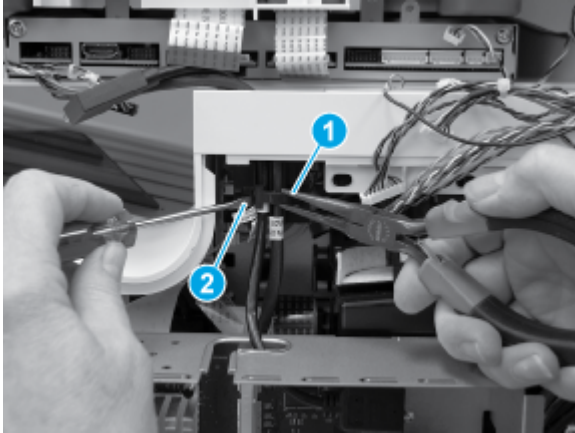
Figure 5-313 Locate the retainer clip



3. Securely hold one end of the retainer clip with needle-nose pliers (callout 1), and then use a small, flat-blade screwdriver (callout 2) to release the other end of the clip.

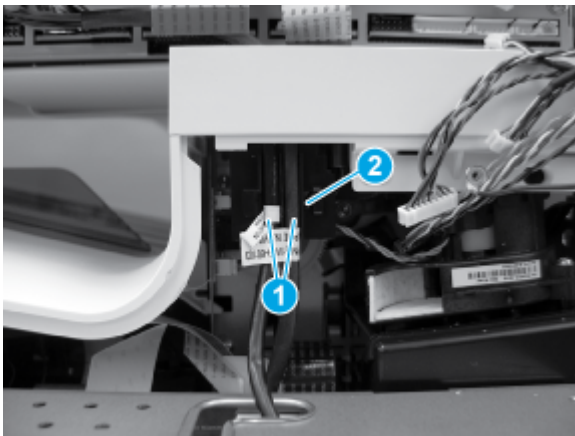
⚠ CAUTION: This clip is not captive and can easily fall inside the printer. Make sure to hold the clip securely when removing it.

Figure 5-314 Remove the retainer clip



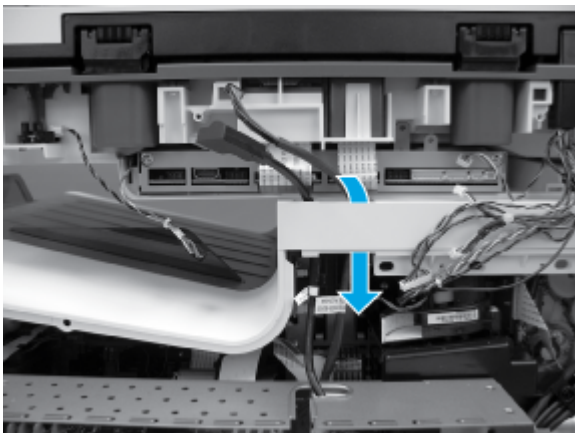
4. Remove two cables (callout 1) from the retainer (callout 2).

Figure 5-315 Remove two cables



5. Release two black cables down through the opening in the printer cover

Figure 5-316 Release two cables through the opening in the cover



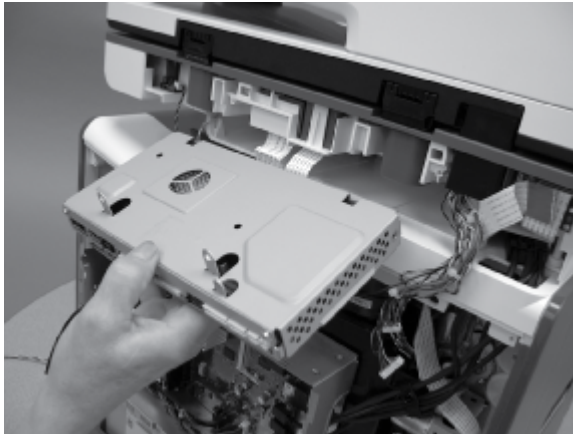
6. Slide the SCB out of the printer.

Figure 5-317 Slide the SCB out



7. Remove the SCB.


Figure 5-318 Remove the SCB out



6. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.
-

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

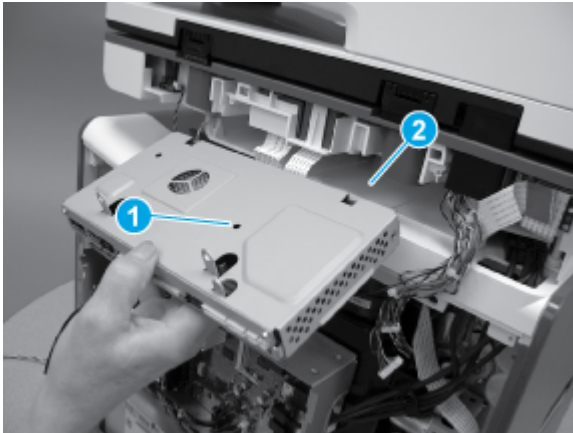
7. Install the SCB (M586)

Follow these steps to install the SCB (M586).

1. Position the SCB (callout 1) in the slot (callout 2) in the printer.
-

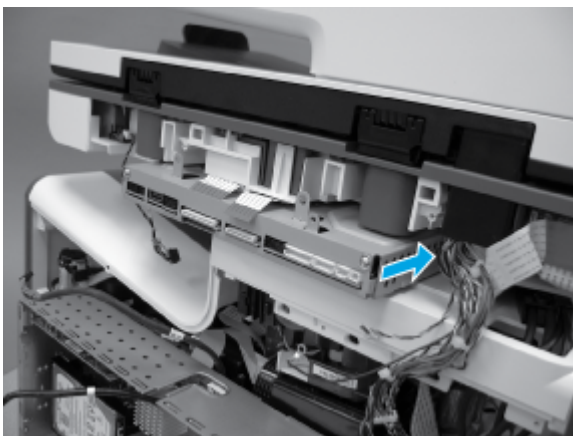
 **NOTE:** Make sure that all of the cables are outside of the slot before installing the SCB.

Figure 5-319 Install the SCB



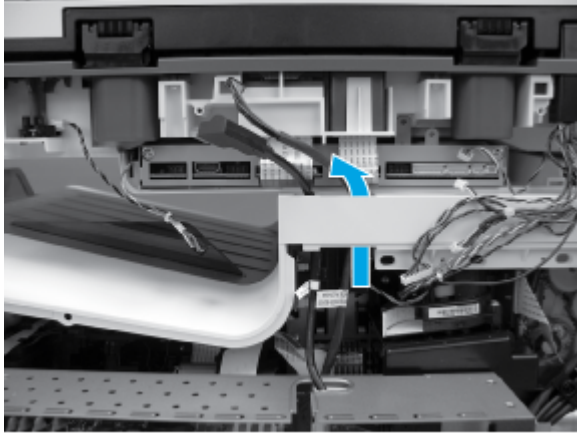
2. Slide the SCB into the printer.

Figure 5-320 Slide the SCB in



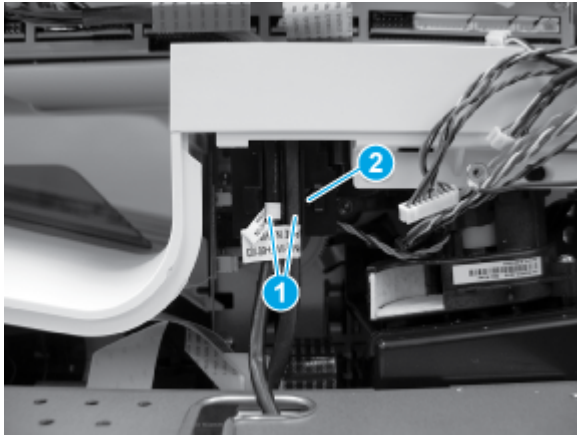
3. Install two black cables up through the opening in the printer cover.

Figure 5-321 Install two cables through the opening in the cover



4. Install two cables (callout 1) into the retainer (callout 2).

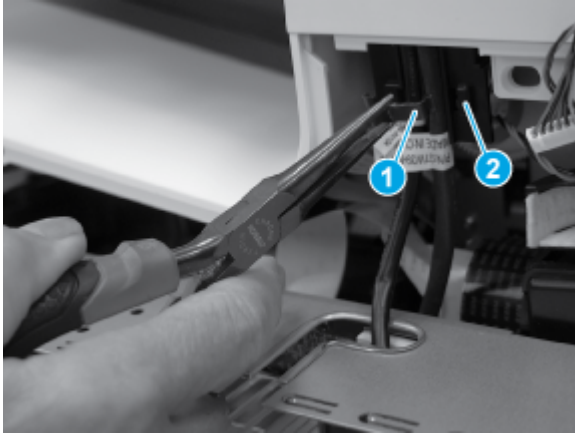
Figure 5-322 Install two cables



5. Securely hold the retainer clip with needle-nose pliers and position the tab (callout 1) in the slot (callout 2) in the printer.

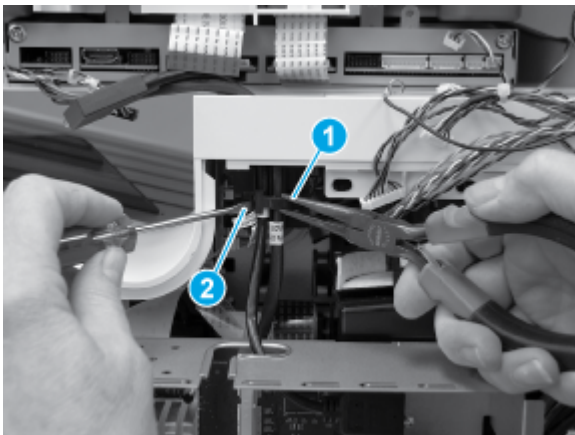
⚠ CAUTION: This clip is not captive and can easily fall inside the printer. Make sure to hold the clip securely when installing it.

Figure 5-323 Engage the clip



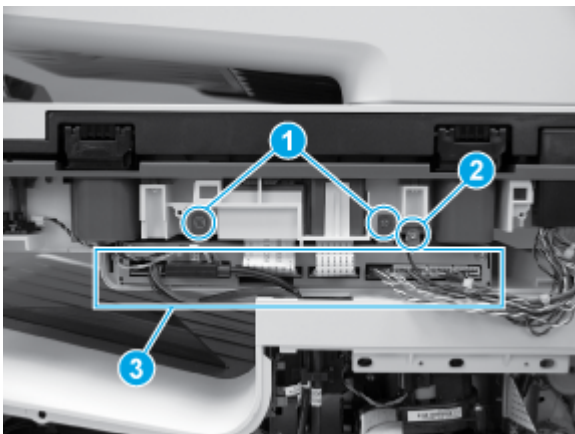
6. Securely hold one end of the retainer clip with needle-nose pliers (callout 1), and then use a small, flat-blade screwdriver (callout 2) to install the other end of the clip.

Figure 5-324 Install the clip



7. Install two screws (callout 1). Position the grounding wire, and then install one screw (callout 2). Connect all of the connectors (callout 3) to the SCB.

Figure 5-325 Connect connectors and install screws

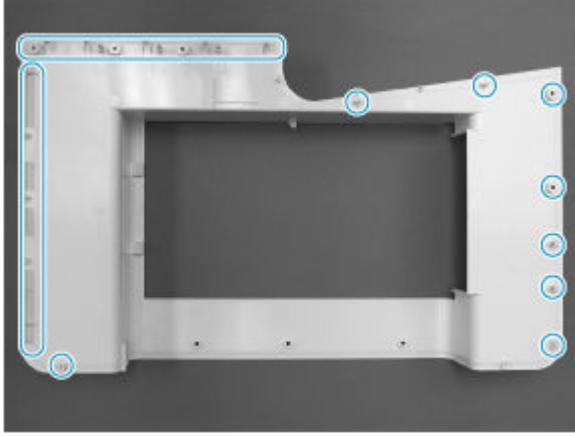


8. Install the rear cover

Follow these steps to install the rear cover.

1. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-326 Find the tabs and bosses on the rear cover



2. Position the bottom edge of the cover on the printer.


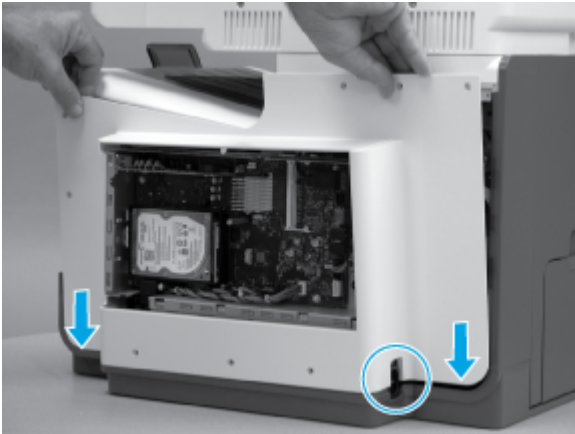
 **IMPORTANT:** Make sure that the inner two tabs on the cover bottom corners engages with the printer chassis, and that the slot in the cover is fitted correctly over the power supply receptacle.

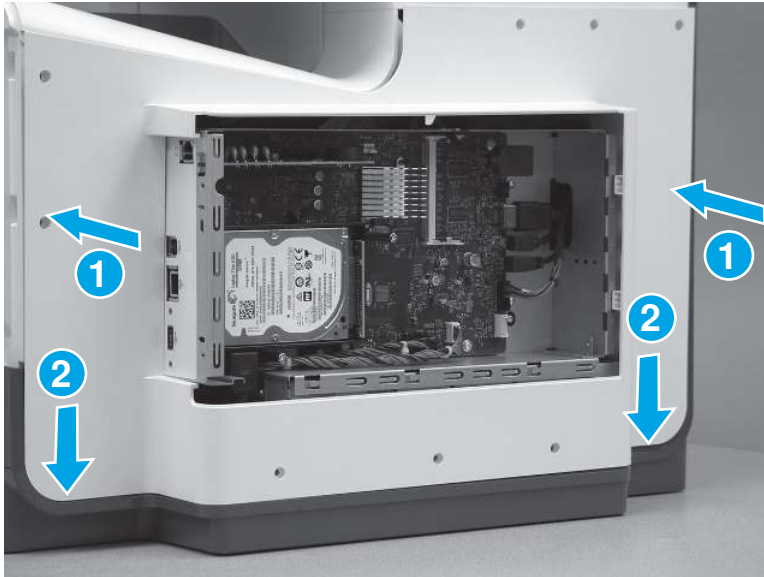
Figure 5-327 Install cover



3. Starting at the bottom of the cover and working upward, push in along the edges of the cover to engage the bosses along the right and left side of the cover (callout 1).

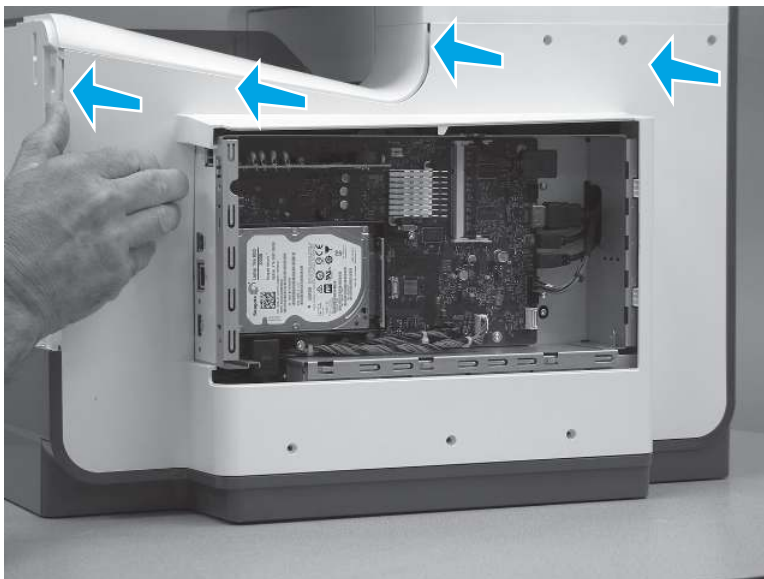
 **NOTE:** Make sure that the bottom edge of the cover (callout 2) remains engaged.

Figure 5-328 Engage the sides of the cover



4. Starting at the right upper corner of the cover and working toward the left, push in along the top edge of the cover to engage the bosses along the top of the cover.

Figure 5-329 Release the top edge of the cover

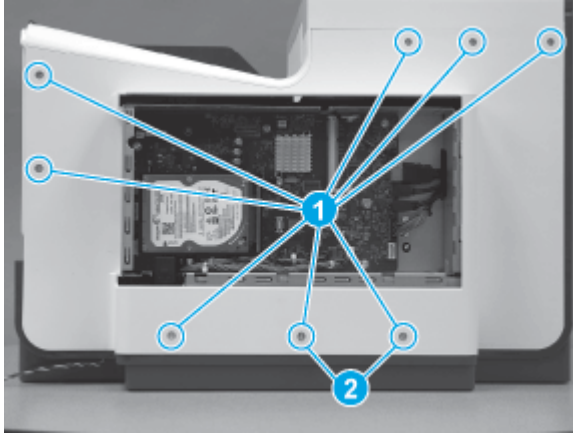


5. Install eight screws (callout 1).



NOTE: Two of these screws (callout 2) are a different type (machine screws) than the others. Make sure that they are installed in the correct position.

Figure 5-330 Install eight screws



9. Install the right cover (outer)

Follow these steps to install the right cover (outer).

1. Position the bottom edge of the cover on the printer.

Figure 5-331 Position the right cover (outer) on the printer



2. Push in along the top edge of the right cover (outer) to install it.

Figure 5-332 Install the right cover (outer)

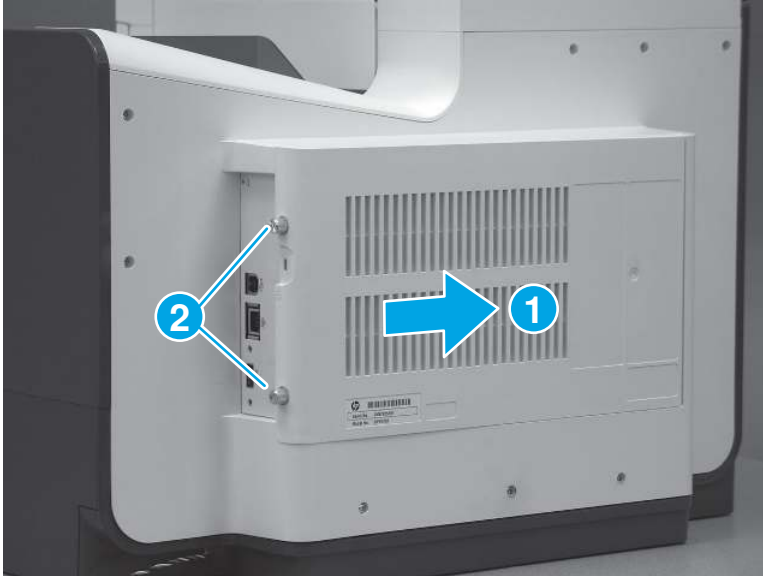


10. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-333 Install the formatter cover



11. Install the SCB cover

Follow these steps to install the SCB cover.

1. Align the tabs on the back side of the SCB cover with the slots in the printer.

Figure 5-334 Align the SCB cover tabs and printer slots



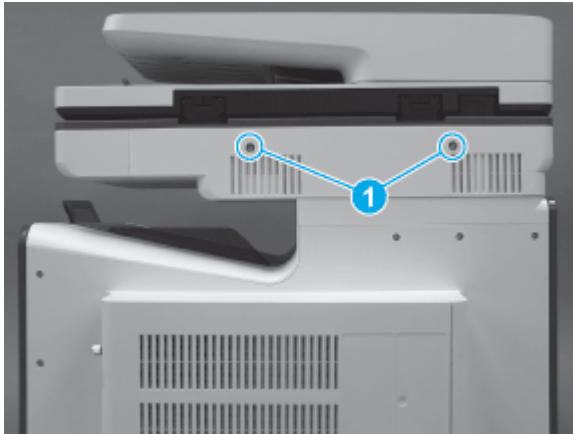
2. Push the cover straight in to install it.

Figure 5-335 Install the SCB cover



3. Install two screws (callout 1).

Figure 5-336 Install two screws



Removal and replacement: Sub scanner assembly (SSA) (586)

This document provides the procedures to remove and replace the sub-scanner assembly (SSA) (586).

[View a video of removing and replacing the SSA.](#)

Mean time to repair: 45 minutes

Service level: Intermediate

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-25 Part information

Part number	Part description
G1W39-67943	Sub-scanner assembly (SSA) (M586) kit with instruction guide ¹

¹This kit includes a replacement white backing and white backing retention clips.


Required tools

- Small flat-blade screwdriver.
- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

 **IMPORTANT:** When a replacement image scanner is installed, the white backing on the document feeder must be removed, and then a replacement white backing (supplied in this kit) must be installed.

Post service test

Use the flatbed glass to make a copy to make sure that it is properly functioning.

1. Remove the white backing

Follow these steps to remove the white backing.

 **NOTE:** This guide shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

1. Open the document feeder.

Figure 5-337 Open the document feeder



2. Pull down on the white backing to remove it.

Figure 5-338 Remove the white backing



2. Remove the control panel (586)

Follow these steps to remove the control panel (586).

The HP PageWide Enterprise Color MFP 586z printer is shown in this guide, however the control-panel replacement procedure is valid for all of the 586 printers. The 586dn and 586f printers do not have a keyboard.

1. If the control panel is in the down position, tilt it up to the fully raised position.

Figure 5-339 Tilt the control panel up



2. Use a small flat blade screwdriver to release the small gray plastic cover under the control panel.

Figure 5-340 Release the small gray plastic cover



3. Remove the cover.

Figure 5-341 Remove the cover



4. Beginning at the left side of the control-panel cover, carefully release three bosses along the top edge of the cover.

 **NOTE:** The thin black-plastic cover will separate from the white plastic control-panel base.

Figure 5-342 Release three bosses



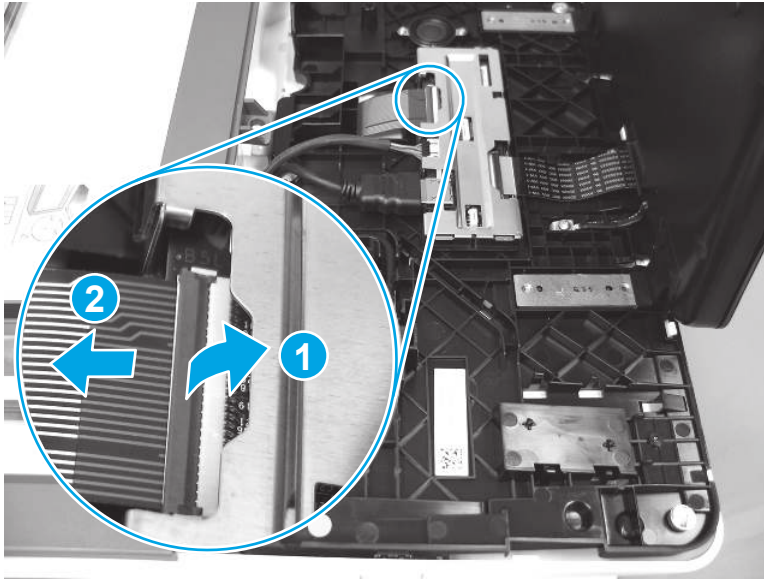
5. Lift up on the cover to release the right- and left-side bosses, and then remove the cover.

Figure 5-343 Remove the cover



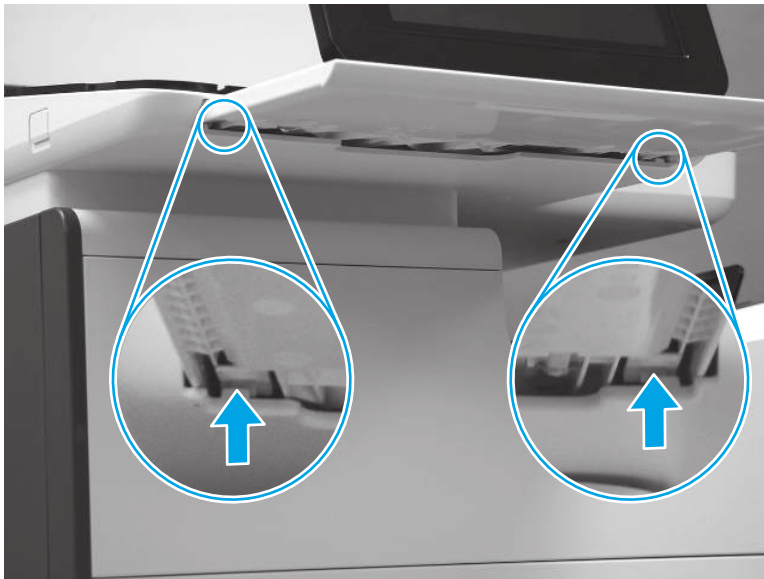
6. **586z only:** Open the connector latch to release the keyboard flat cable.

Figure 5-344 Release the keyboard cable (586z)



7. **586z MFP only:** Slide the keyboard out until it stops, and then release two tabs on the keyboard.

Figure 5-345 Release the keyboard (586z)



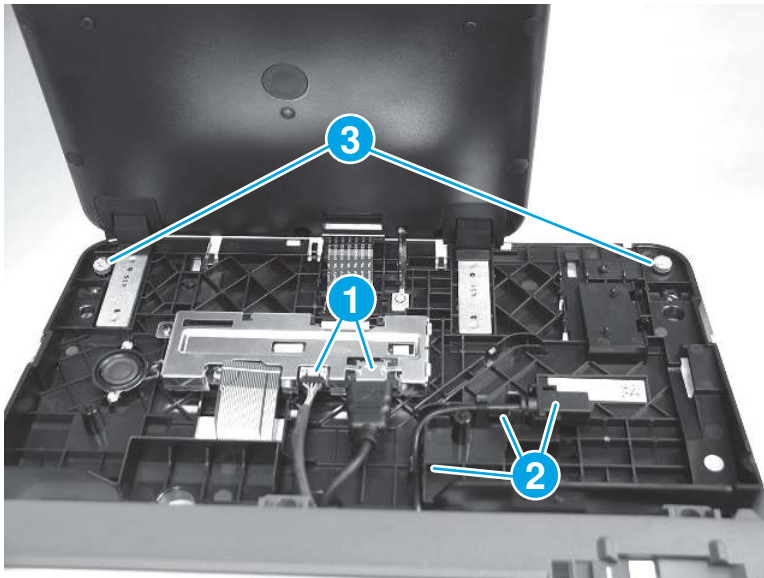
8. **586z MFP only:** Remove the keyboard.

Figure 5-346 Remove the keyboard (586z)



9. Disconnect one HDMI cable and one connector (callout 1), release the USB cable from the holder and retainers (callout 2), and then remove two thumbscrews (callout 3).

Figure 5-347 Disconnect connectors and remove thumbscrews



10. Lift the front of the control panel off of the printer (callout 1), and then slide it toward the front of the printer (callout 2) to remove it.

Figure 5-348 Remove the control panel

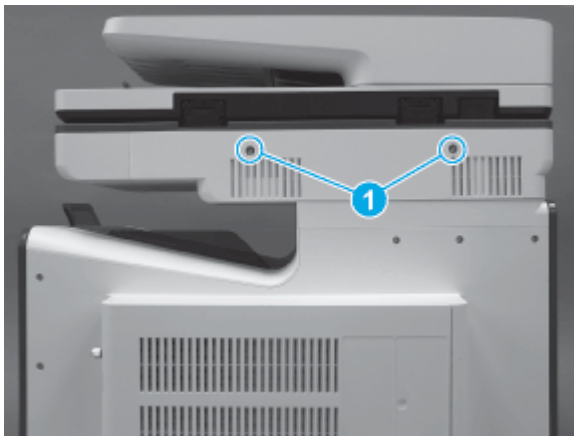


3. Remove the scanner control board (SCB) cover

Follow these steps to remove the scanner control board (SCB) cover.

1. At the back of the printer, remove two screws (callout 1).

Figure 5-349 Remove two screws



2. Pull the SCB cover straight off the printer to remove it

Figure 5-350 Remove the SCB cover



4. Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


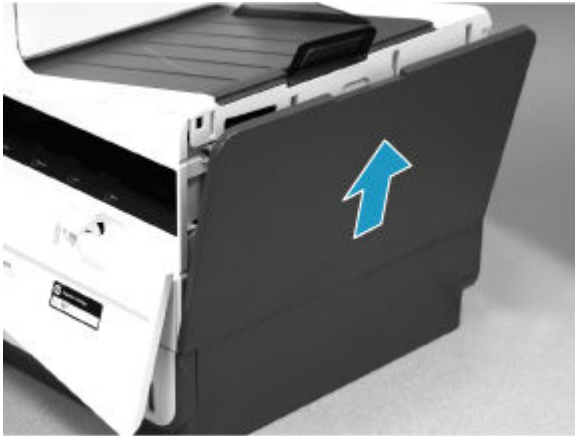
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-351 Release the right cover (outer)



- Slide the cover up and away from the printer to remove it.

Figure 5-352 Remove the right cover (outer)



5. Remove the formatter cover

Follow these steps to remove the formatter cover.

- Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).


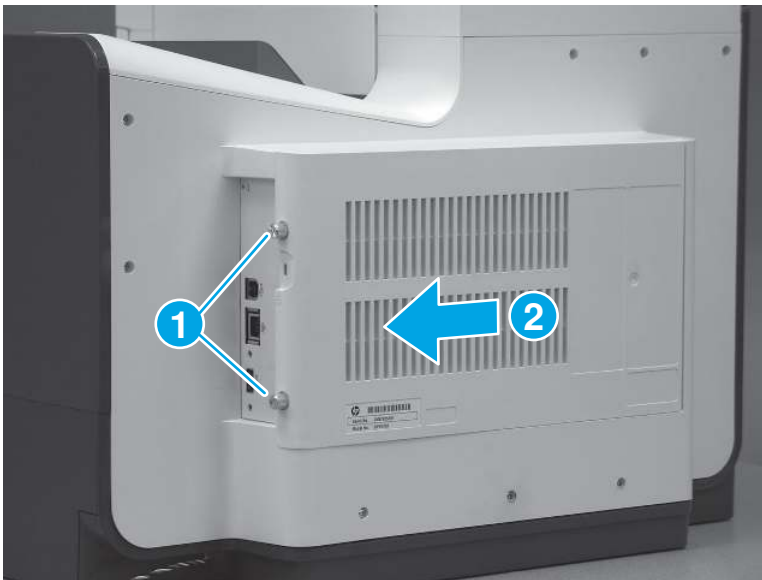
 **NOTE:** The thumb screws are not captive and are easily lost.


Figure 5-353 Remove the formatter cover



Remove the rear cover

Follow these steps to remove the rear cover.

- Remove eight screws (callout 1).

 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.


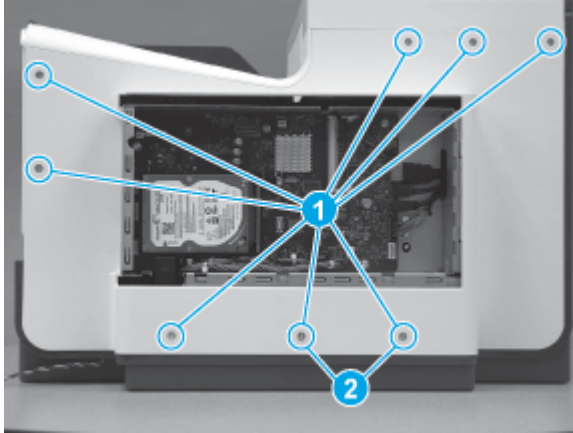
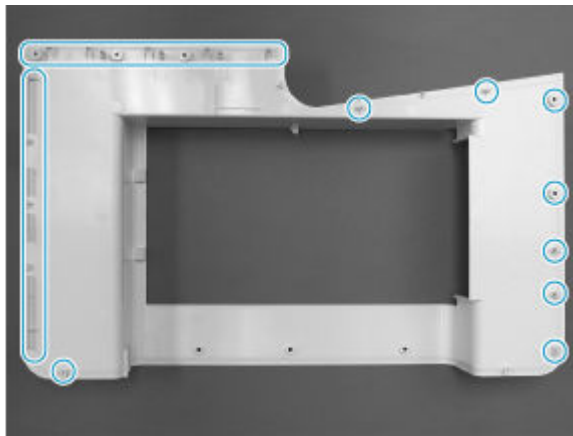
 **IMPORTANT:** When removing the rear cover, take note of the size, type, and location of screws for this part. Always use the correct screws for reinstallation.

Figure 5-354 Remove eight screws



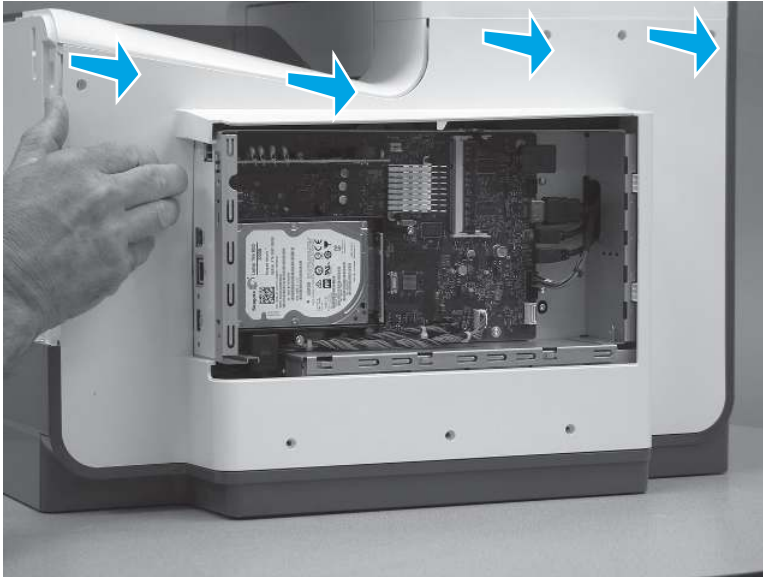
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-355 Find the tabs and bosses on the rear cover



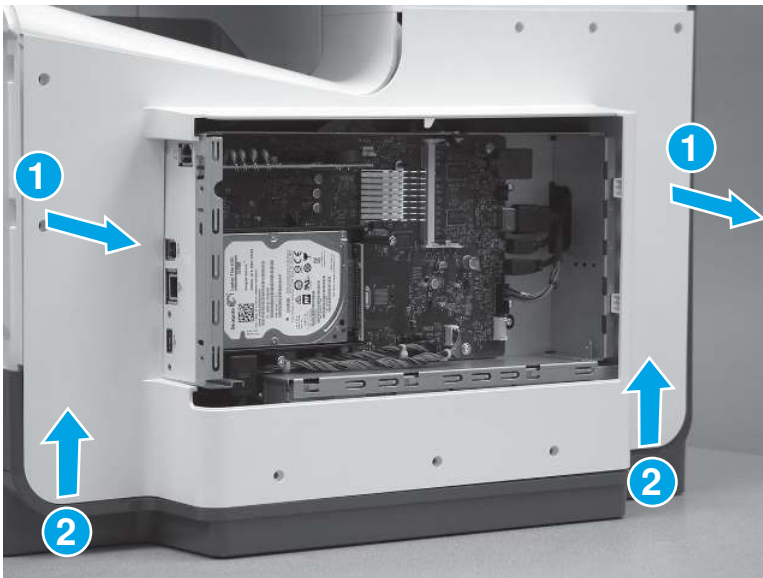
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-356 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-357 Remove the rear cover

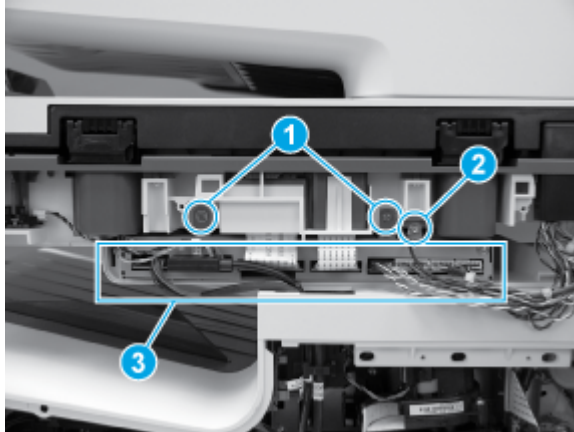


6. Remove the scanner control board (SCB) (M586)

Follow these steps to remove the scanner control board (SCB) (M586).

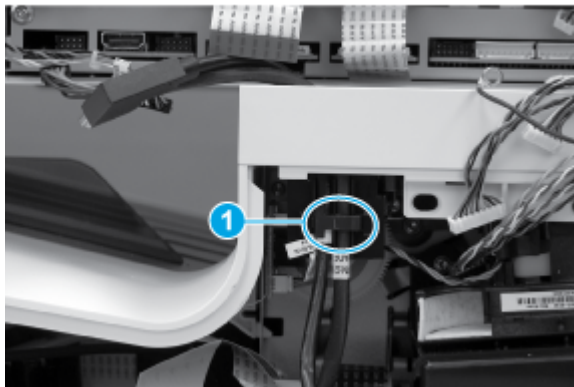
1. Remove two screws (callout 1). Remove one screw (callout 2) and release one grounding wire. Disconnect all of the connectors (callout 3) from the SCB.

Figure 5-358 Disconnect connectors and remove screws



2. Locate the retainer clip (callout 1).

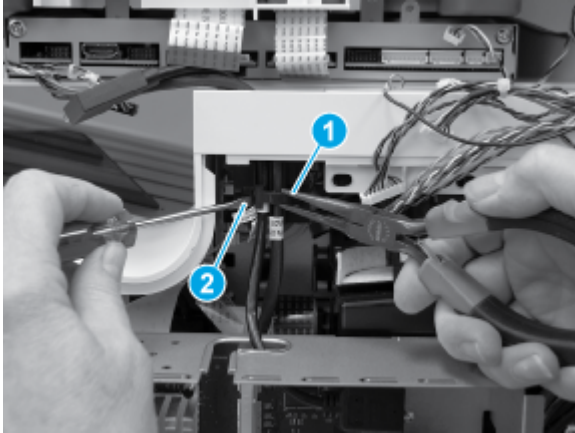
Figure 5-359 Locate the retainer clip



3. Securely hold one end of the retainer clip with needle-nose pliers (callout 1), and then use a small, flat-blade screwdriver (callout 2) to release the other end of the clip.

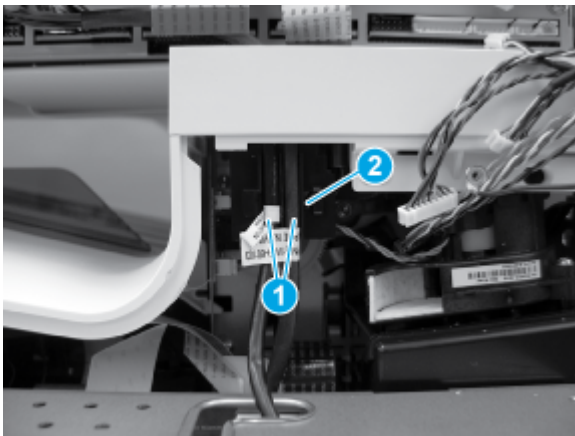
⚠ CAUTION: This clip is not captive and can easily fall inside the printer. Make sure to hold the clip securely when removing it.

Figure 5-360 Remove the retainer clip



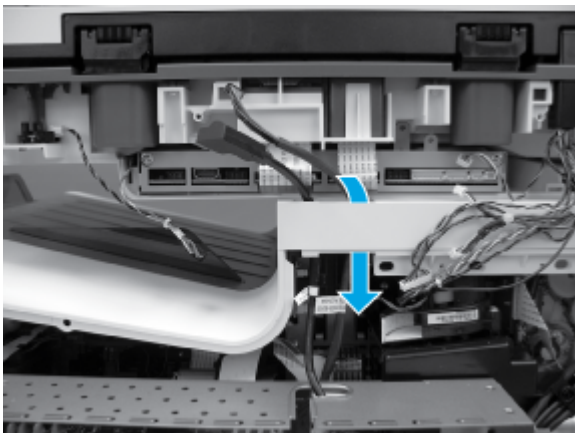
4. Remove two cables (callout 1) from the retainer (callout 2).

Figure 5-361 Remove two cables



5. Release two black cables down through the opening in the printer cover

Figure 5-362 Release two cables through the opening in the cover



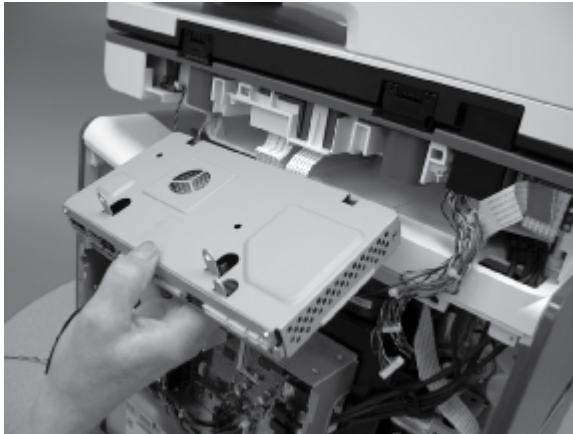
6. Slide the SCB out of the printer.

Figure 5-363 Slide the SCB out



7. Remove the SCB.

Figure 5-364 Remove the SCB out

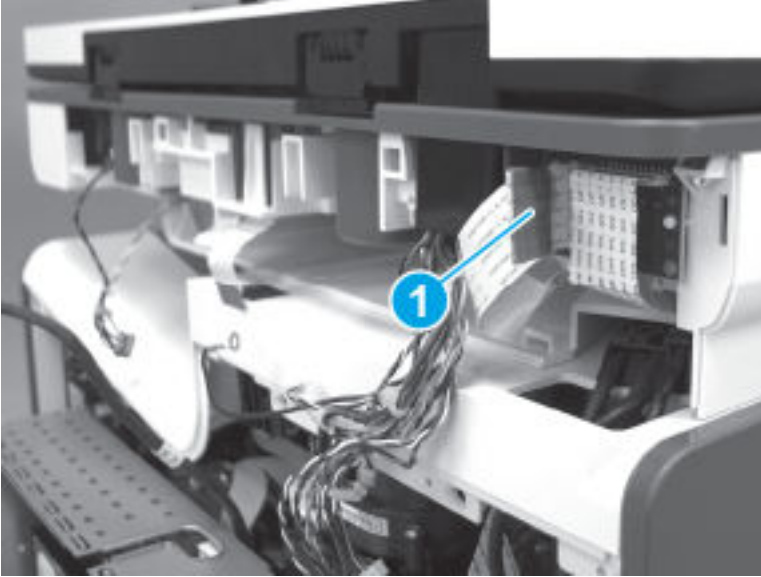


7. Remove the document feeder assembly (M586)

Follow these steps to remove the document feeder assembly (M586).

1. Disconnect one flat cable (callout 1).

Figure 5-365 Disconnect one flat cable



2. Tilt the document feeder back until it stops (callout 1), and then lift it up until it stops (callout 2).

Figure 5-366 Tilt the document feeder back



3. Support the document feeder, and then use a small, flat-blade screwdriver to release two tabs on the document feeder hinges.



NOTE: The tabs are located on the front side (scanner flatbed glass) of the hinges. Use the figure below to locate the tabs.

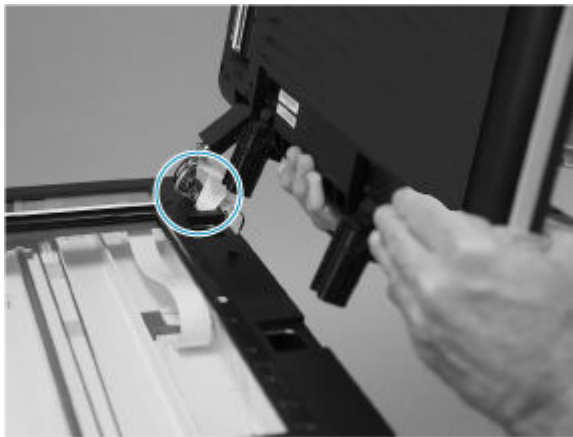
Figure 5-367 Release two tabs on the hinges



4. Lift the document feeder up to remove it.

 **NOTE:** While removing the document feeder, carefully pass the wire harnesses and the flat cable through the opening in the scanner.

Figure 5-368 Remove the document feeder



8. Remove the sub-scanner assembly (SSA)

Follow these steps to remove the sub-scanner assembly (SSA).

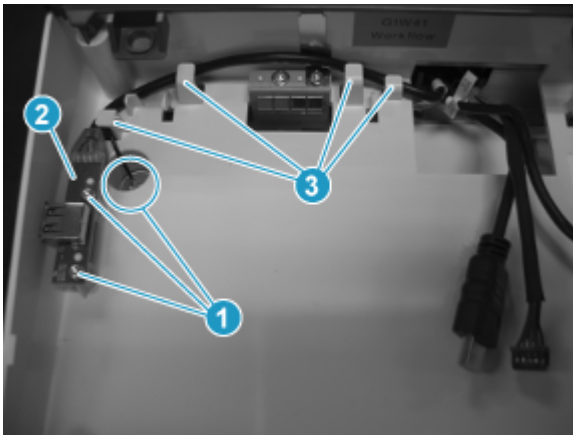
1. Remove the USB port cover.

Figure 5-369 Remove the USB port cover



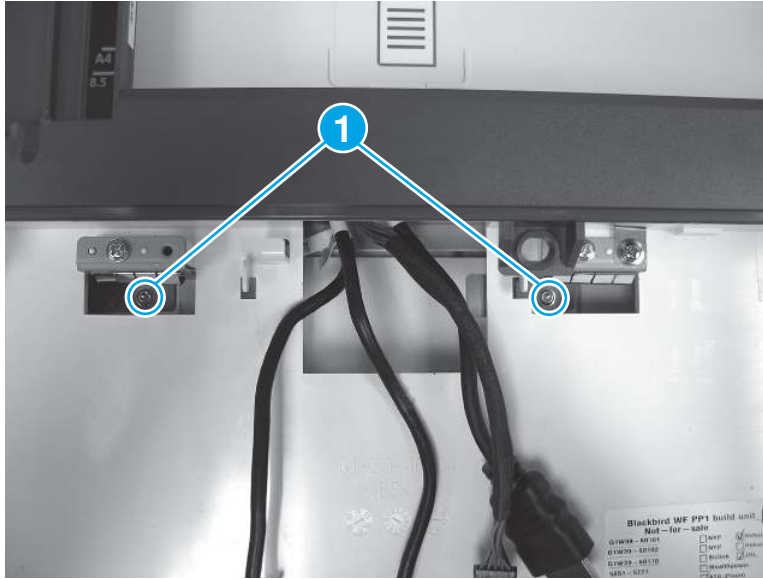
2. Remove three screws (callout 1) to release the USB port PCA (callout 2), and then release the cable from the retainers (callout 3).

Figure 5-370 Remove screws and release the cable



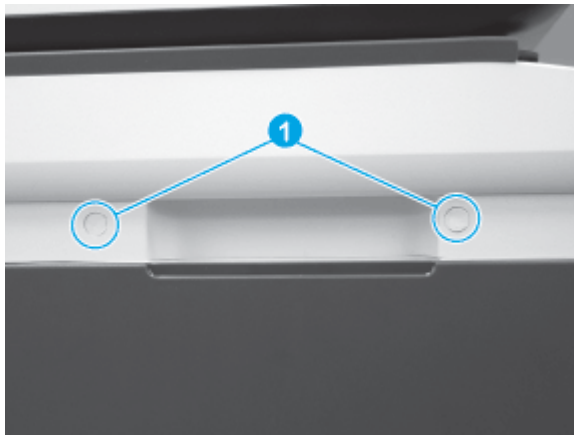
3. Remove two screws (callout 1).

Figure 5-371 Remove two screws



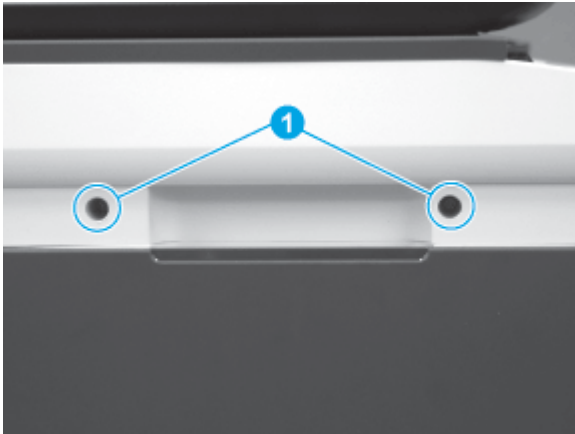
4. At the left side of the printer, use a small flat blade screwdriver to carefully remove two white rubber plugs (callout 1).

Figure 5-372 Remove two plugs



5. Remove two screws (callout 1).

Figure 5-373 Remove two screws



6. Use a flat blade screwdriver to release the scanner base cover.


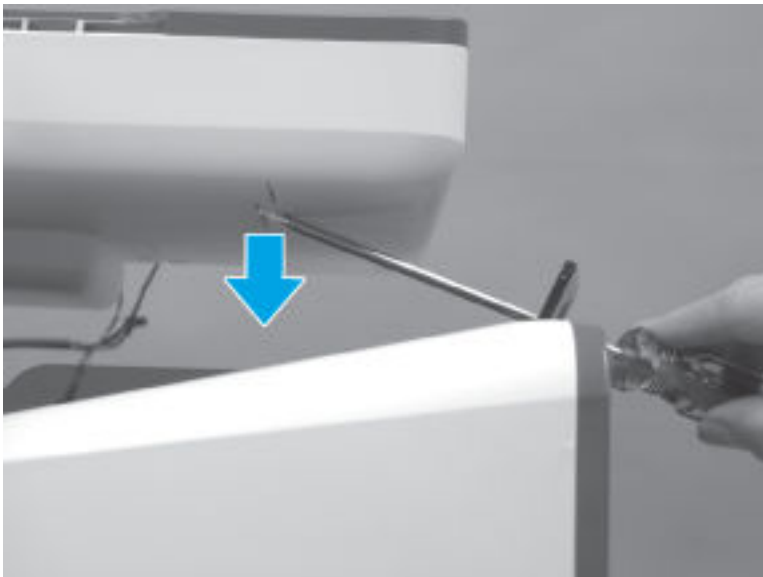
 **NOTE:** Use a screwdriver with at least a 152 mm (6 in) shaft to release the cover. This cover can be difficult to remove and might require some force to release it from the SSA.

Figure 5-374 Release the cover



7. Remove the cover.

Figure 5-375 Remove the cover



8. Slightly slide the SSA toward the left side of the printer to release it.

Figure 5-376 Slide the SSA left



9. Slightly lift the front of the SSA up, and then pass the wire harnesses and cables through the opening in the SSA chassis.

⚠ CAUTION: The SSA is not captive on the printer base. Do not let it fall off of the printer base.

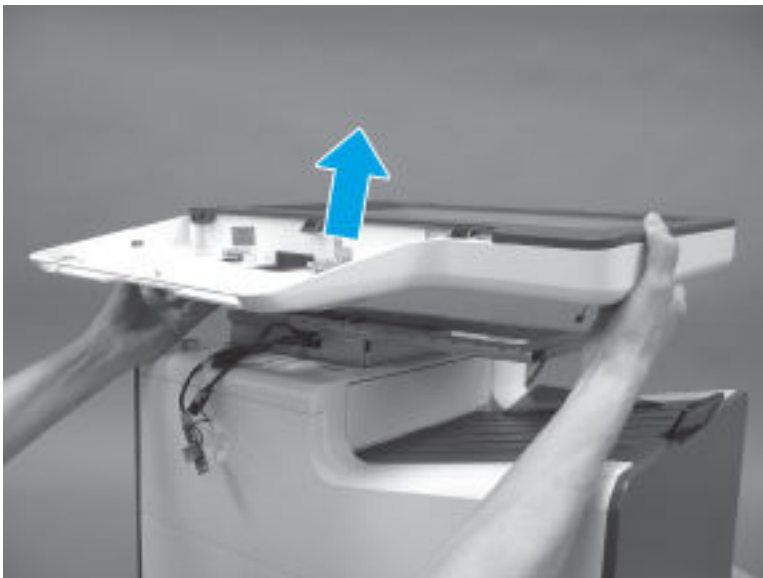
Figure 5-377 Pass the wire harnesses and cables through the opening



10. Lift the SSA straight up and off of the printer base to remove it.

⚠ CAUTION: The SSA is bulky and heavy. Do not drop the SSA.

Figure 5-378 Remove the SSA



9. Unpack the replacement assembly


Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


📄 NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

IMPORTANT:  Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

NOTE:  If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

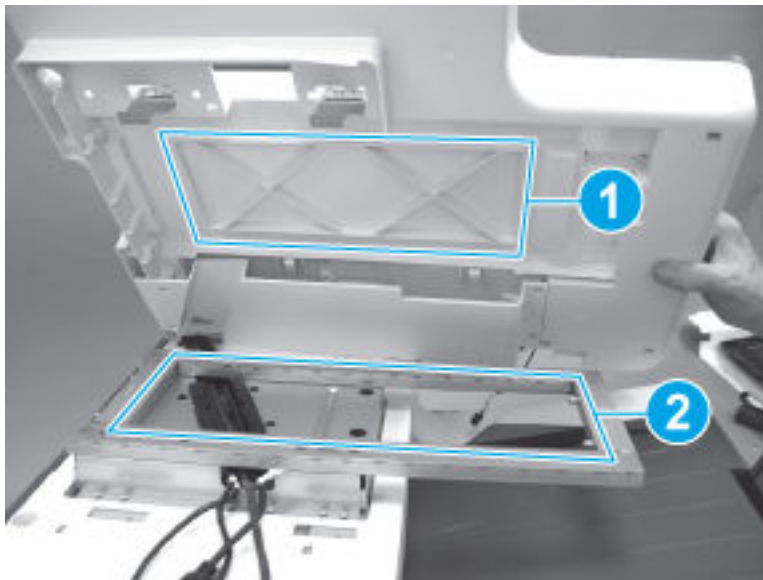
NOTE:  When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

10. Install the sub-scanner assembly (SSA)


Follow these steps to install the sub-scanner assembly (SSA).

1. Before proceeding, locate the SSA mounting bracket (callout 1) on the bottom of the SSA and the tray (callout 2) on the printer base.

Figure 5-379 Locate the SSA mounting bracket

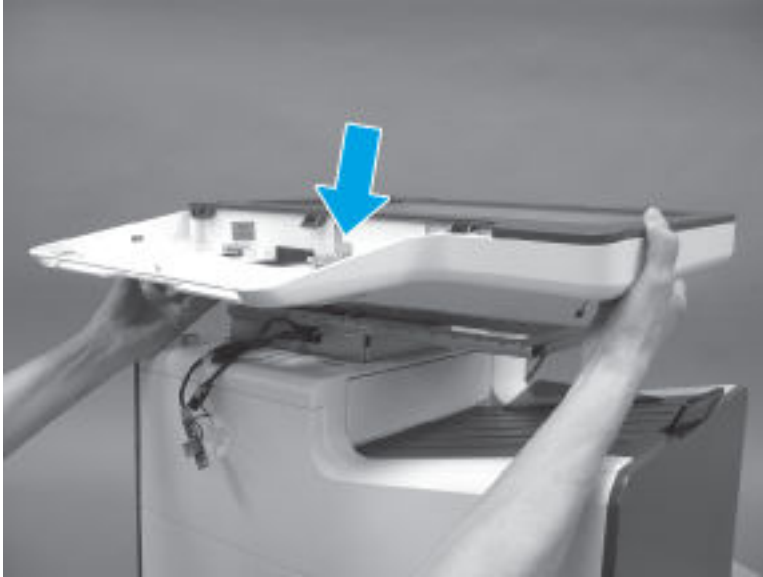


2. Position the SSA on the printer.

CAUTION:  The ISA is bulky and heavy. Do not drop the SSA.

IMPORTANT:  Keep the front of the SSA tilted up so the cables and wire harness are not damaged.

Figure 5-380 Install the ISA



3. With the front of the SSA tilted up, pass the wire harnesses and cables through the opening in the SSA chassis.

⚠ CAUTION: The SSA is not captive on the printer base. Do not let it fall off of the printer base.

Figure 5-381 Pass the wire harnesses and cables through the opening



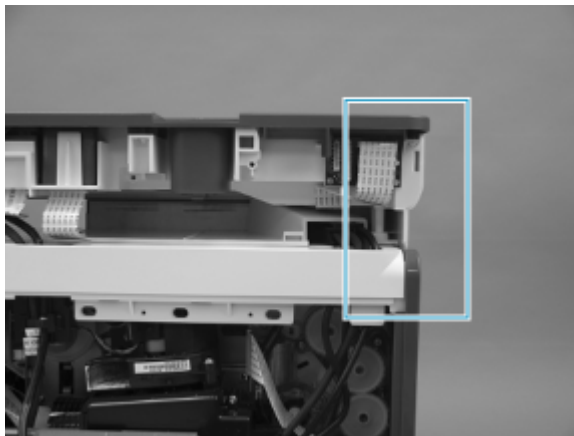
4. Lower the front of the SSA, and then slightly slide it toward the right side of the printer to engage it.

Figure 5-382 Slide the SSA right



5. Before proceeding, at the back of the printer, look at the alignment of the SSA and printer base to verify that the SSA is fully seated on the printer base. The edge of the SSA should be in line with the side of the printer base.

Figure 5-383 Check the SSA and printer base alignment



6. Position the scanner base cover on the printer.

Figure 5-384 Install the cover



7. Push up on the cover to install it.


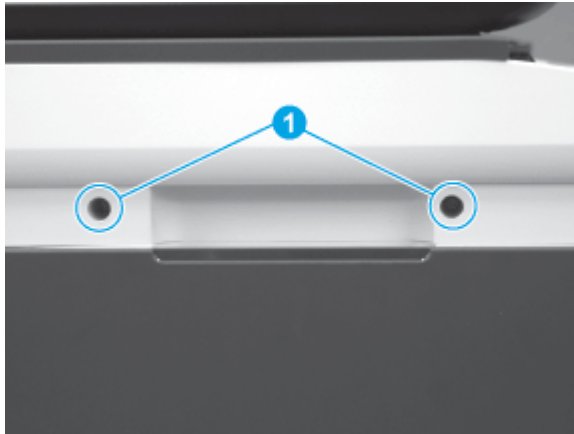
 **NOTE:** Installing the cover might require considerable force to snap it into place

Figure 5-385 Install the cover



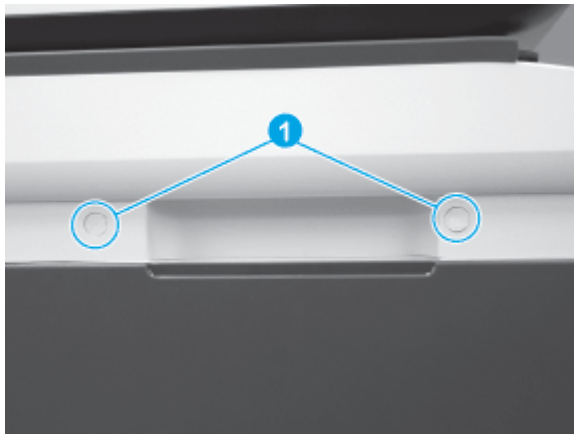
8. At the left side of the printer, install two screws (callout 1).

Figure 5-386 Install two screws



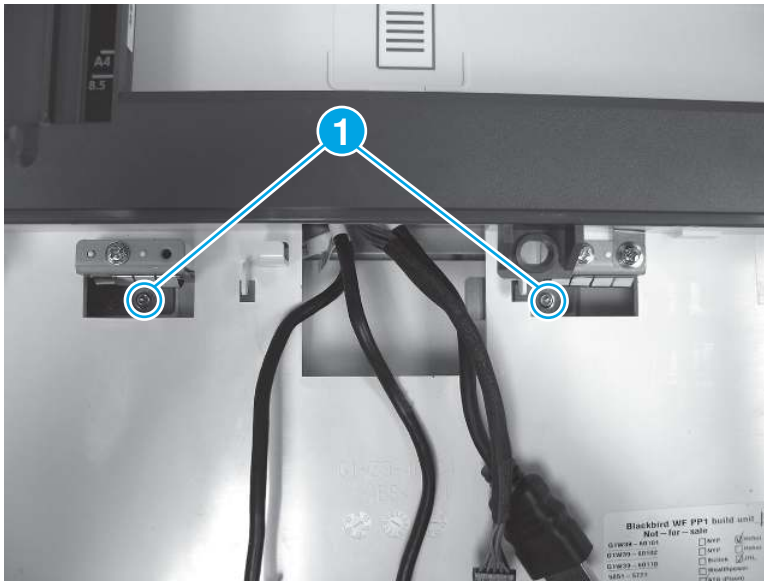
9. Install two white rubber plugs (callout 1).

Figure 5-387 Install two plugs



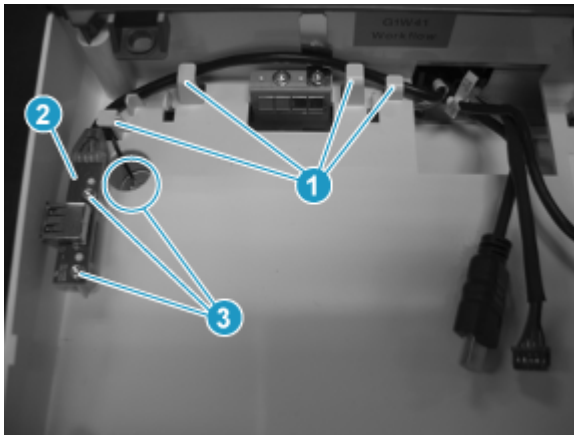
10. At the front of the printer, install two screws (callout 1).

Figure 5-388 Install two screws



11. Install the cable in the retainers (callout 1), position the USB on the mounting bosses (callout 2), and then install three screws (callout 3).

Figure 5-389 Install the USB port PCA



12. Install the USB port cover.

Figure 5-390 Install the USB port cover



11. Install the document feeder assembly (M586)

Follow these steps to install the document feeder assembly (M586).

1. Pass the flat cable and wire harness on the replacement document feeder through the hole in the scanner chassis (callout 1), and then align the hinges (callout 2) with the slots (callout 3) in the chassis.

Figure 5-391 Align the hinges



2. Continue to pass the flat cable and wire through the opening in the chassis (callout 1), and then insert the hinges (callout 2) into the slots.

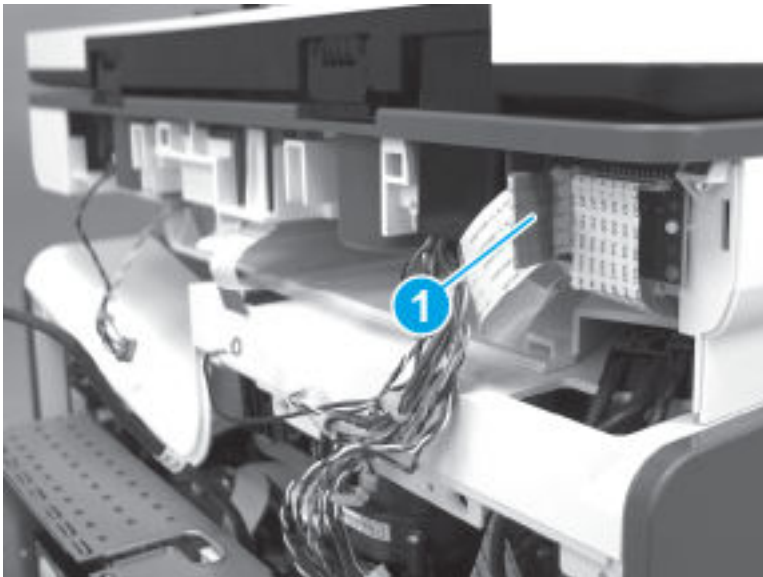
⚠ CAUTION: Do not damage the flat cable or wire harnesses when the cable guide (callout 1) is installed in its slot.

Figure 5-392 Install the document feeder



3. Connect one flat cable.

Figure 5-393 Connect the flat cable



12. Install the SCB (M586)

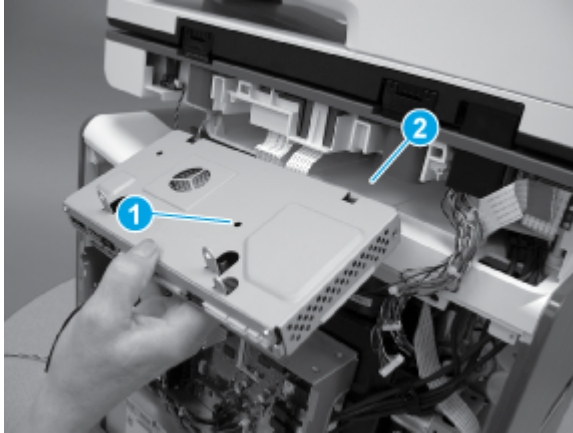
Follow these steps to install the SCB (M586).

1. Position the SCB (callout 1) in the slot (callout 2) in the printer.



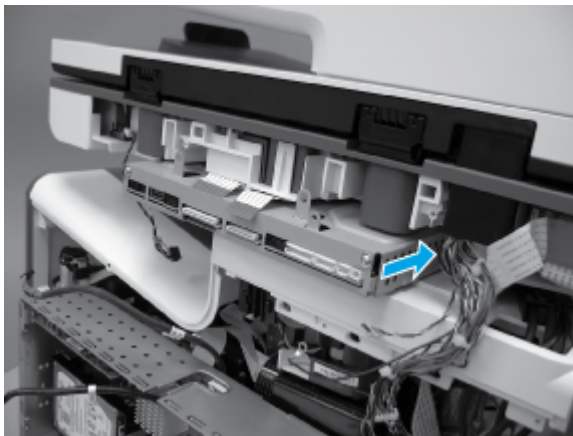
NOTE: Make sure that all of the cables are outside of the slot before installing the SCB.

Figure 5-394 Install the SCB



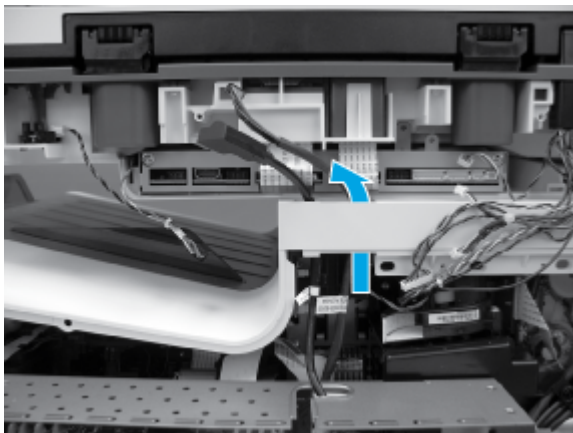
2. Slide the SCB into the printer.

Figure 5-395 Slide the SCB in



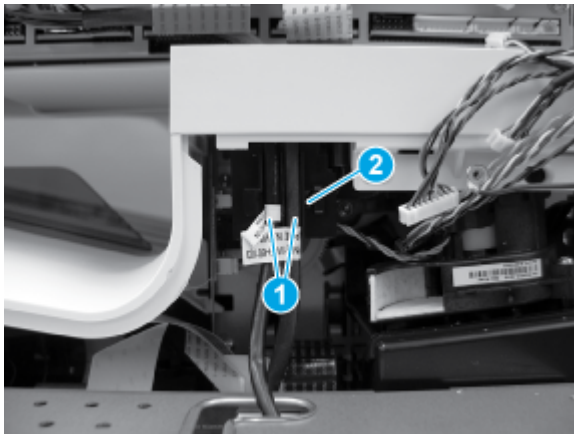
3. Install two black cables up through the opening in the printer cover.

Figure 5-396 Install two cables through the opening in the cover



4. Install two cables (callout 1) into the retainer (callout 2).

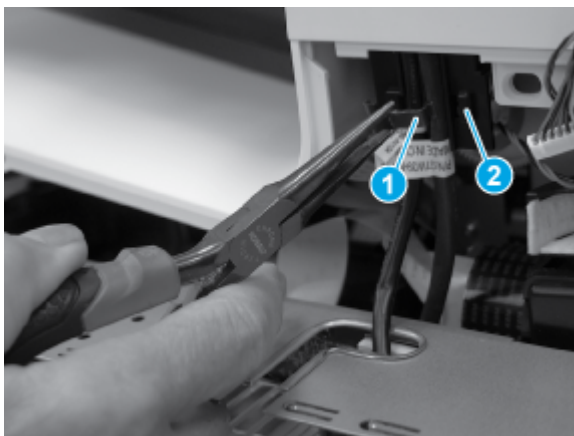
Figure 5-397 Install two cables



5. Securely hold the retainer clip with needle-nose pliers and position the tab (callout 1) in the slot (callout 2) in the printer.

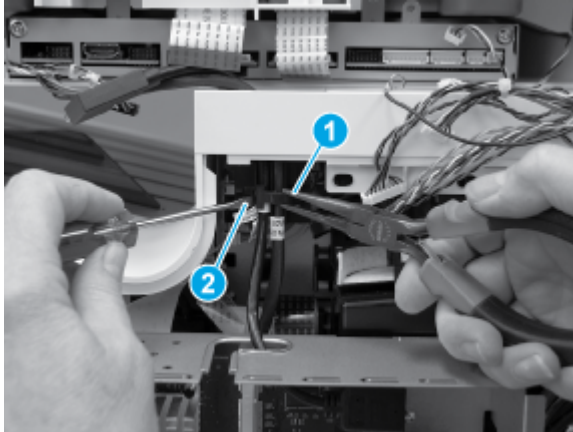
⚠ CAUTION: This clip is not captive and can easily fall inside the printer. Make sure to hold the clip securely when installing it.

Figure 5-398 Engage the clip



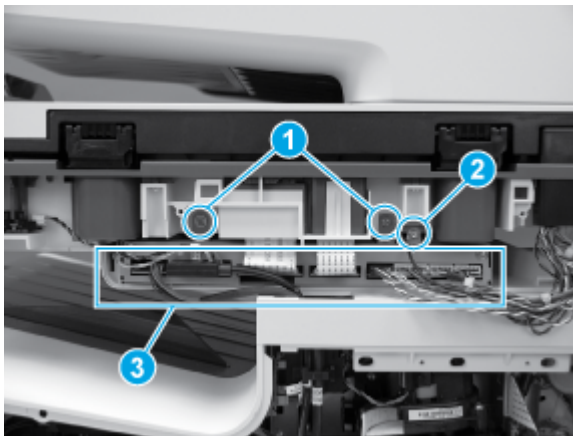
- Securely hold one end of the retainer clip with needle-nose pliers (callout 1), and then use a small, flat-blade screwdriver (callout 2) to install the other end of the clip.

Figure 5-399 Install the clip



- Install two screws (callout 1). Position the grounding wire, and then install one screw (callout 2). Connect all of the connectors (callout 3) to the SCB.

Figure 5-400 Connect connectors and install screws

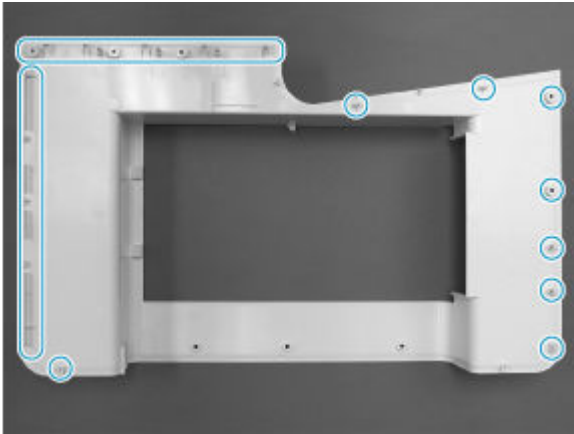


13. Install the rear cover

Follow these steps to install the rear cover.

1. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-401 Find the tabs and bosses on the rear cover

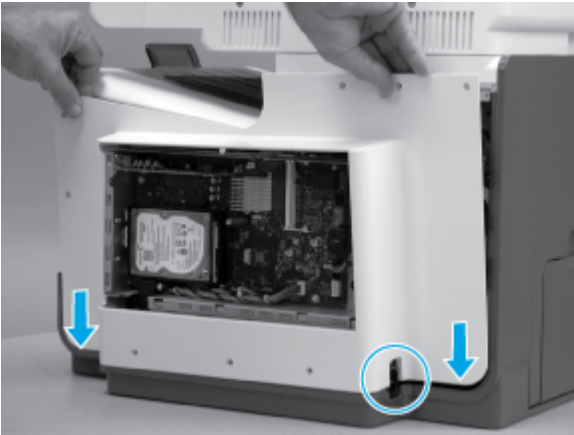


2. Position the bottom edge of the cover on the printer.



IMPORTANT: Make sure that the inner two tabs on the cover bottom corners engages with the printer chassis, and that the slot in the cover is fitted correctly over the power supply receptacle.

Figure 5-402 Install cover

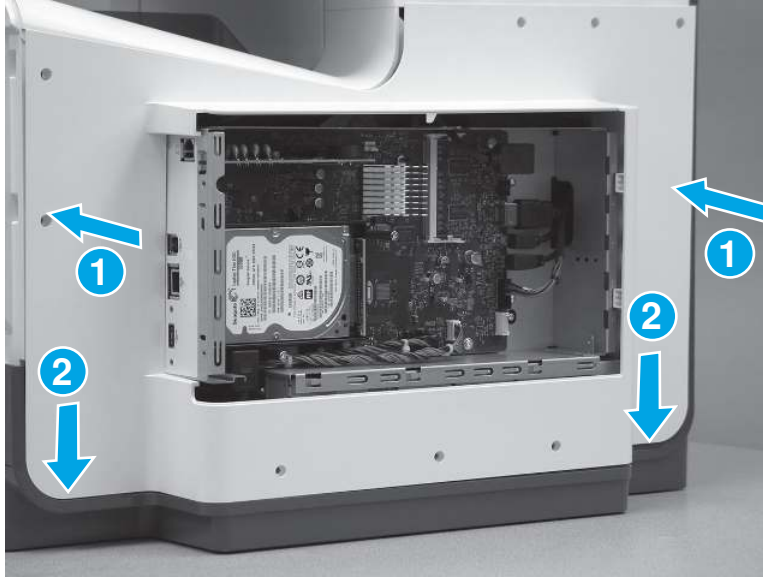


3. Starting at the bottom of the cover and working upward, push in along the edges of the cover to engage the bosses along the right and left side of the cover (callout 1).



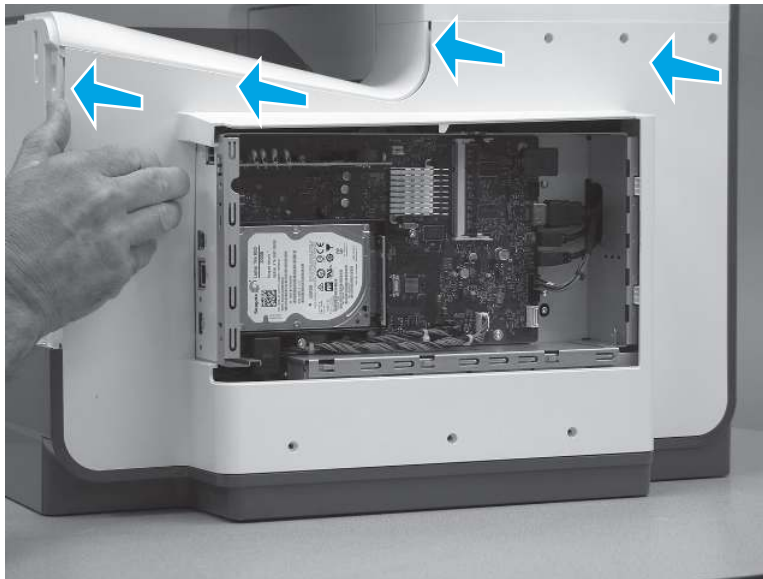
NOTE: Make sure that the bottom edge of the cover (callout 2) remains engaged.

Figure 5-403 Engage the sides of the cover



4. Starting at the right upper corner of the cover and working toward the left, push in along the top edge of the cover to engage the bosses along the top of the cover.

Figure 5-404 Release the top edge of the cover



5. Install eight screws (callout 1).


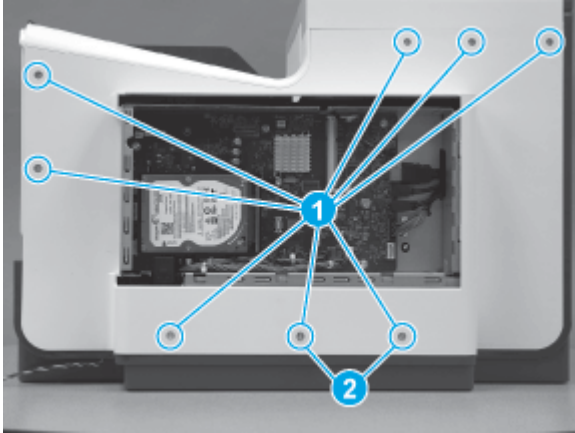
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others. Make sure that they are installed in the correct position.

Figure 5-405 Install eight screws

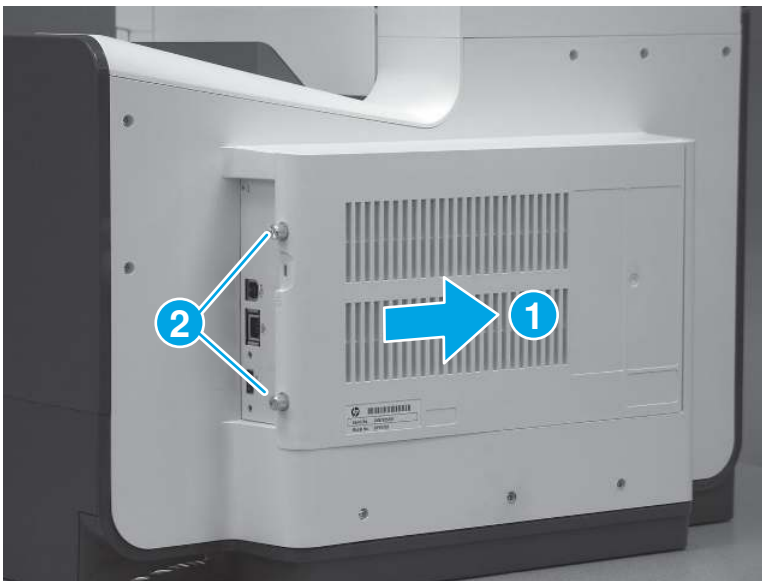


14. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-406 Install the formatter cover

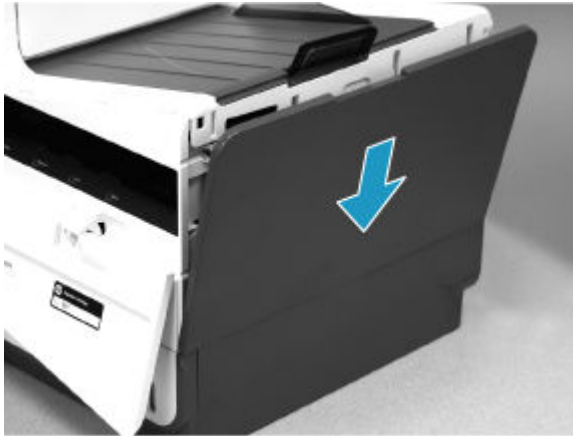


15. Install the right cover (outer)

Follow these steps to install the right cover (outer).

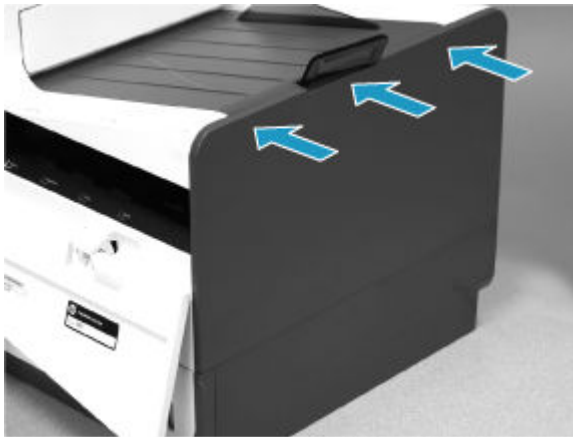
1. Position the bottom edge of the cover on the printer.

Figure 5-407 Position the right cover (outer) on the printer



2. Push in along the top edge of the right cover (outer) to install it.

Figure 5-408 Install the right cover (outer)



16. Install the SCB cover

Follow these steps to install the SCB cover.

1. Align the tabs on the back side of the SCB cover with the slots in the printer.

Figure 5-409 Align the SCB cover tabs and printer slots



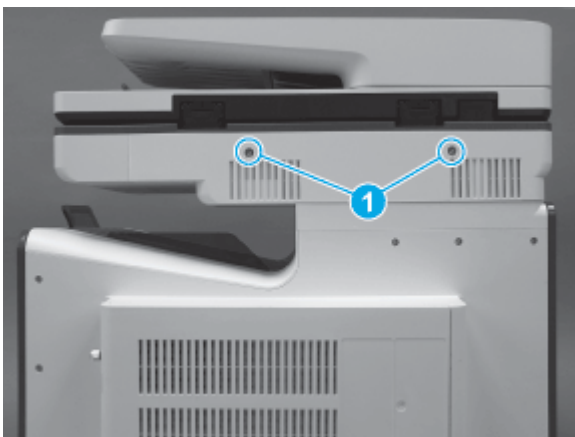
2. Push the cover straight in to install it.

Figure 5-410 Install the SCB cover



3. Install two screws (callout 1).

Figure 5-411 Install two screws



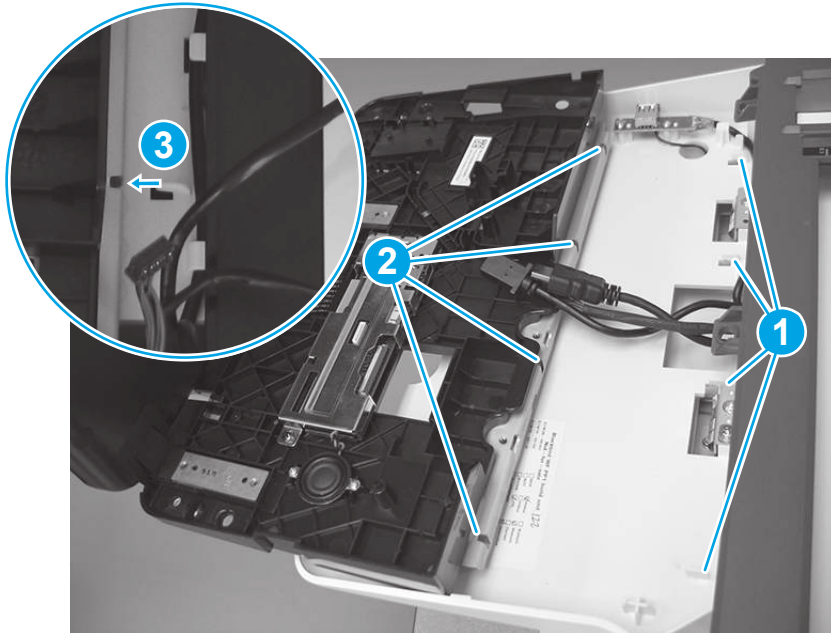
17. Install the control panel (586)

Follow these steps to install the control panel (586).

The HP PageWide Enterprise Color MFP 586z printer is shown in this guide, however the control-panel replacement procedure is valid for all of the 586 printers. The 586dn and 586f printers do not have a keyboard.

1. Locate the four hooks on the SSA chassis (callout 1) and the matching slots in the control-panel base (callout 2). The hooks fit into the slots (callout 3) when the assembly is installed.

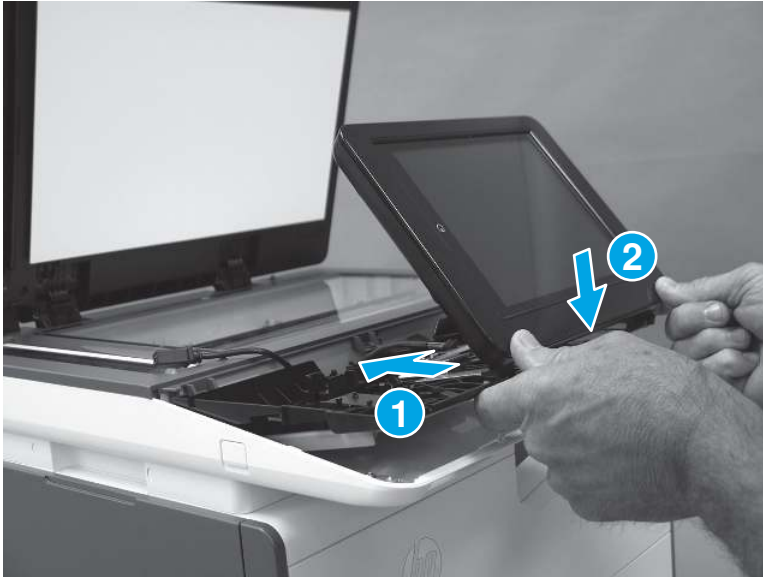
Figure 5-412 Locate the control-panel mounting hooks and slots



2. Position the rear edge of the control panel in the SSA chassis (callout 1), and then lower the front of the assembly down (callout 2).

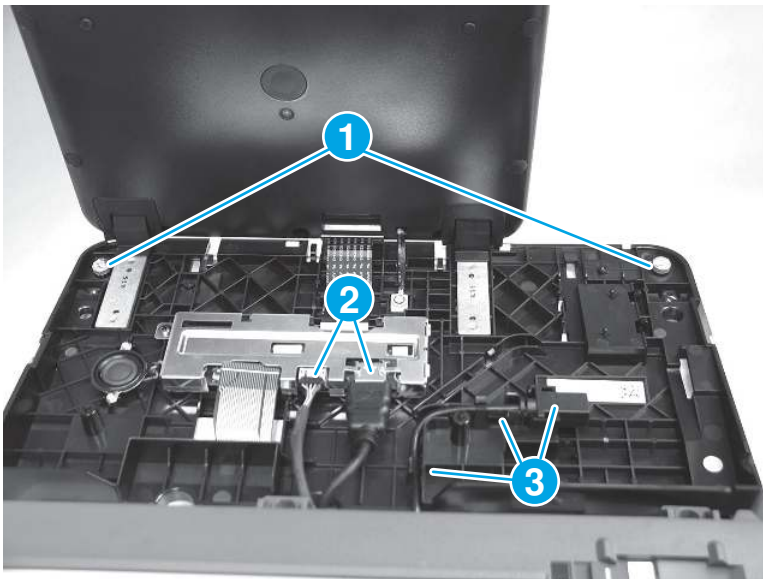
 **NOTE:** Make sure that the hooks on the SSA chassis are engaged in the slots of the control-panel base (see the previous step).

Figure 5-413 Install the control panel



3. Use the screwdriver provided in the kit to install two screws (callout 1). Connect one HDMI cable and one connector (callout 2), and then install the USB cable in the holder and retainers (callout 3).

Figure 5-414 Install thumbscrews and connect connectors



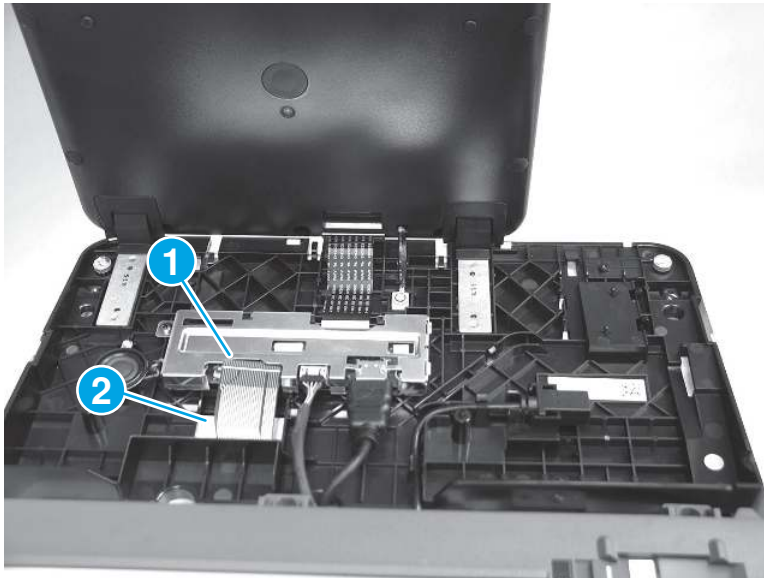
4. **586z MFP only:** Install the keyboard.

Figure 5-415 Install the keyboard (586z)



5. **586z only:** Make sure to feed the keyboard flat cable (callout 1) through the opening (callout 2) in the control-panel base when installing the keyboard.

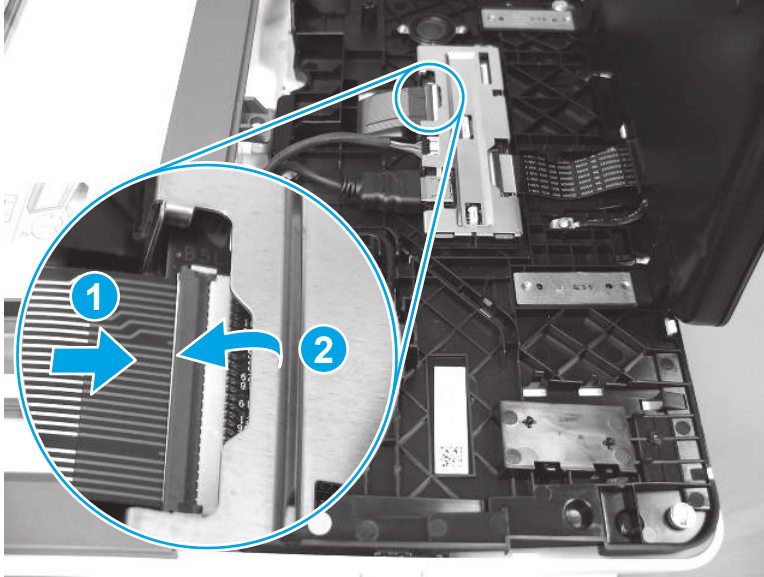
Figure 5-416 Pass the flat cable through the opening (586z)



6. **586z only:** Insert the flat cable in the connector, and then close the latch.

 **TIP:** When the flat cable is correctly inserted in the connector, the white line on the flat cable is parallel to the connector body.

Figure 5-417 Connect the keyboard cable (586z)



7. Position the control-panel cover on the control panel.

Figure 5-418 Install the cover



8. Beginning at the right side of the control-panel cover, carefully push down along the top edge of the cover to engage the bosses.


 **NOTE:** If the right- and left-side bosses are not fully engaged, push down along the edge of the cover to fully seat them.

Figure 5-419 Engage three bosses



9. Position the small gray plastic cover in the slot under the control panel, and then push it straight in to install it.

Figure 5-420 Install the cover

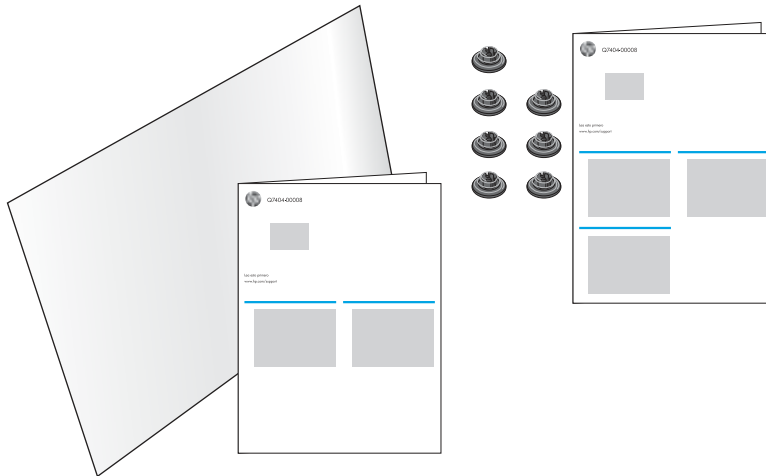


18. Install the white backing

Follow these steps to install the white backing.

- ▲ Follow the instruction guides provided in the kit to install the document feeder retention clips and white backing.

Figure 5-421 Install the retention clips and white backing



Removal and replacement: Power supply

This document provides the procedures to remove and replace the power supply.

[View a video of removing and replacing the power supply.](#)

Mean time to repair: 25 minutes

Service level: Intermediate

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-26 Part information

Part number	Part description
G1W39-67912	Power supply, universal 110V and 220V

Required tools

- #10 Torx driver with a 152 mm (6 in) shaft and magnetized tip.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

1. Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-422 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-423 Remove the right cover (outer)



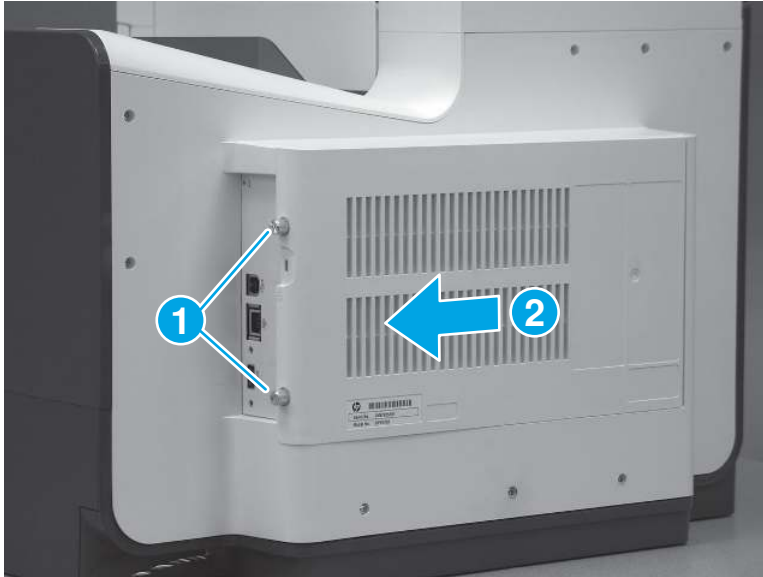
2. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-424 Remove the formatter cover



3. Remove the rear cover

Follow these steps to remove the rear cover.

1. Remove eight screws (callout 1).


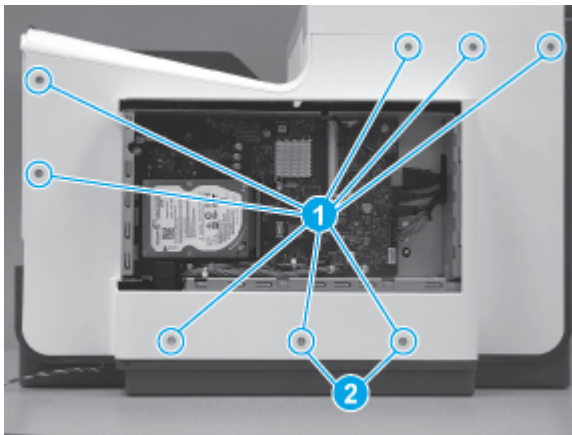
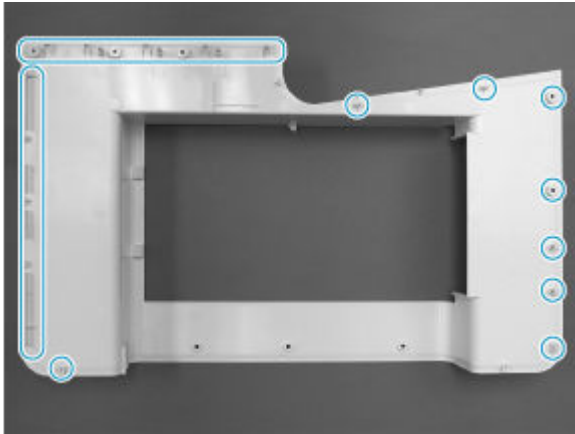
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-425 Remove eight screws



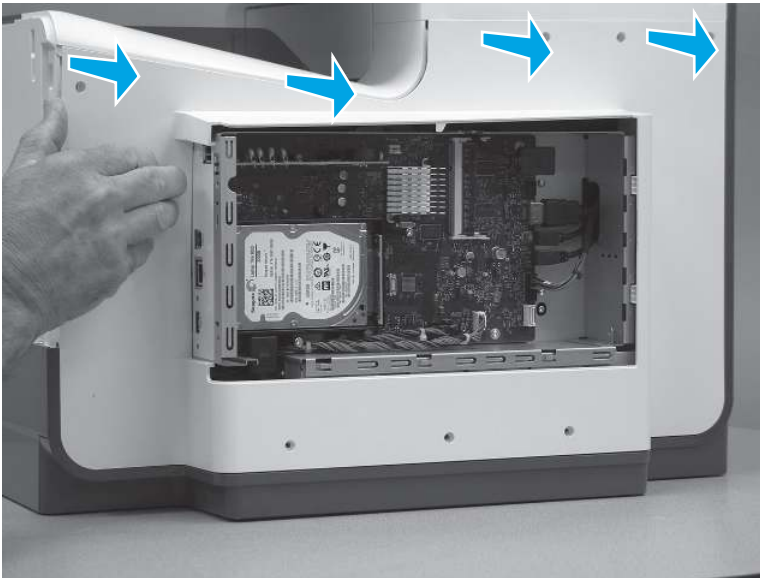
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-426 Find the tabs and bosses on the rear cover



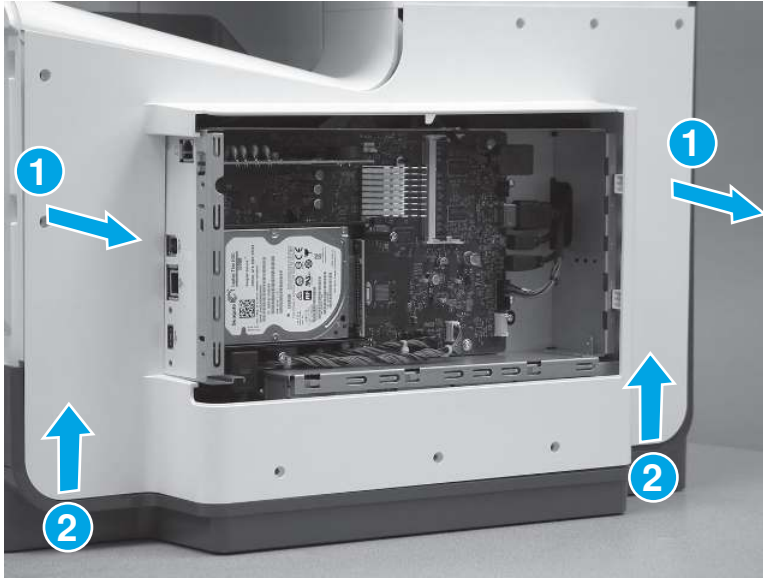
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-427 Release the top edge of the cover




4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-428 Remove the rear cover



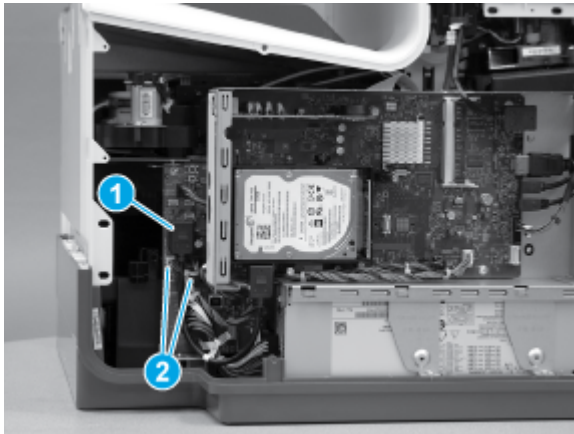
4. Remove the formatter and formatter cage (586)

Follow these steps to remove the formatter and formatter cage (586).

 **NOTE:** This step is for the 586 printer. For the 556 printer, skip this step and see *Remove the formatter and formatter cage (556)*.

1. Disconnect one HDMI cable (callout 1), and then disconnect two connectors (callout 2).

Figure 5-429 Disconnect connectors



2. Disconnect five connectors (callout 1), and then pass the cables and wire harness through the openings in the formatter cage.


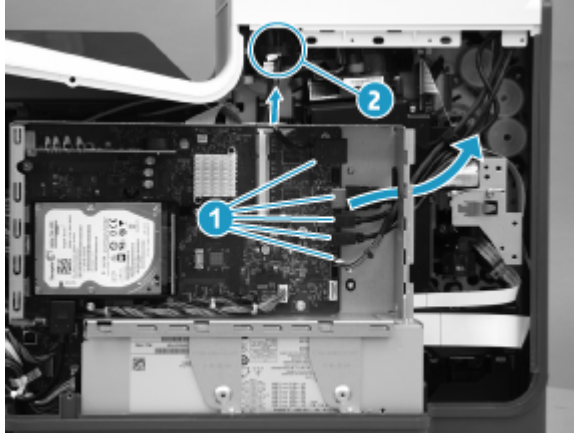
 **TIP:** The cable retainer (callout 2) is easily dislodged. Do not lose the retainer.

Figure 5-430 Disconnect connectors



3. Remove three screws (callout 1).


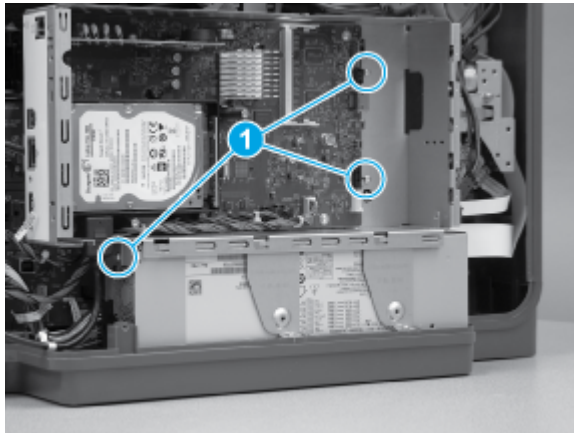
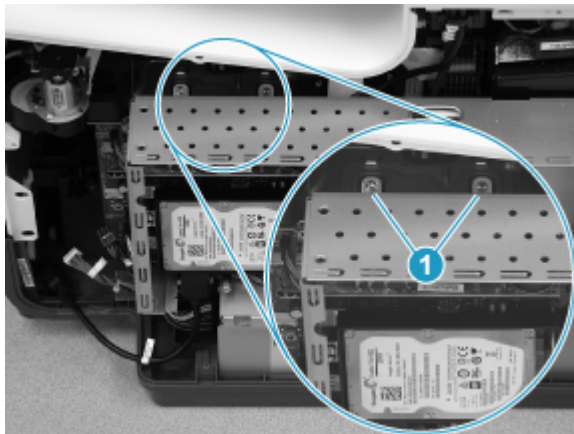
 **TIP:** When reinstalling these screws, it might be easier to install the bottom screw (that goes into the power supply bracket) by disconnecting the nearby HDMI connector. Make sure to reconnect the HDMI connector after installing the screw.

Figure 5-431 Remove three screws



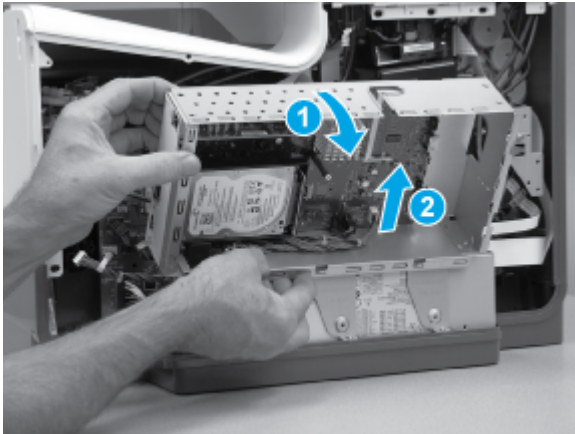
4. Remove two screws (callout 1).

Figure 5-432 Remove two screws




5. Rotate the top of the assembly out and away from the printer, and then remove the assembly.

Figure 5-433 Remove the formatter and cage



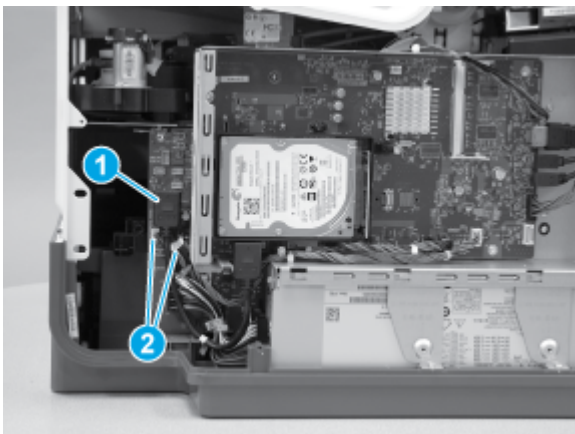
5. Remove the formatter and formatter cage (556)

Follow these steps to remove the formatter and formatter cage (556).

 **NOTE:** This step is for the 556 printer. For the 586 printer, skip this step and see *Remove the formatter and formatter cage (586)*.

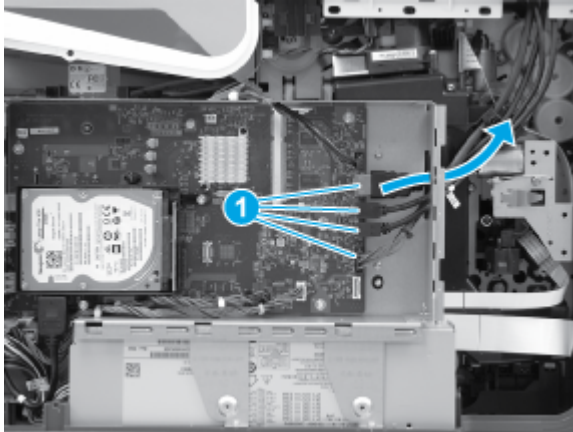
1. Disconnect one HDMI cable (callout 1), and then disconnect two connectors (callout 2).

Figure 5-434 Disconnect connectors



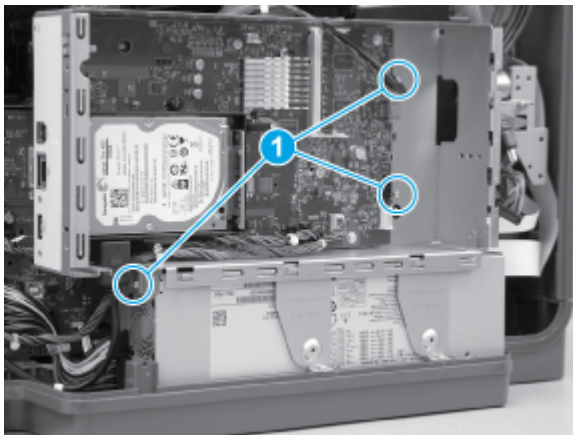
2. Disconnect four connectors (callout 1), and then pass the cables and wire harness through the openings in the formatter cage.

Figure 5-435 Disconnect connectors



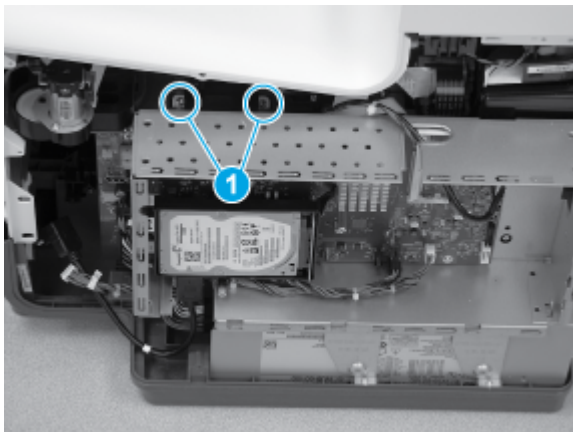
3. Remove three screws (callout 1).

Figure 5-436 Remove three screws



4. Remove two screws (callout 1).

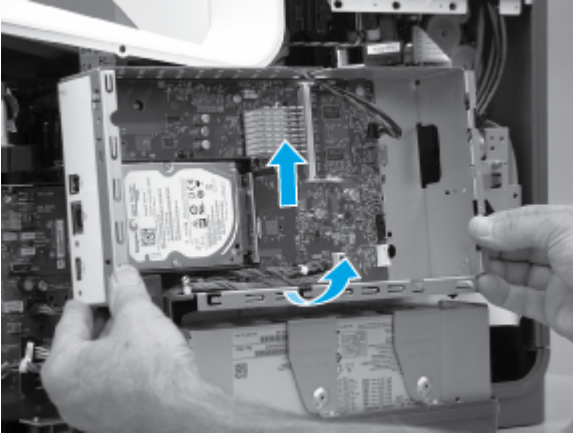
Figure 5-437 Remove two screws



5. Remove the formatter and formatter cage.

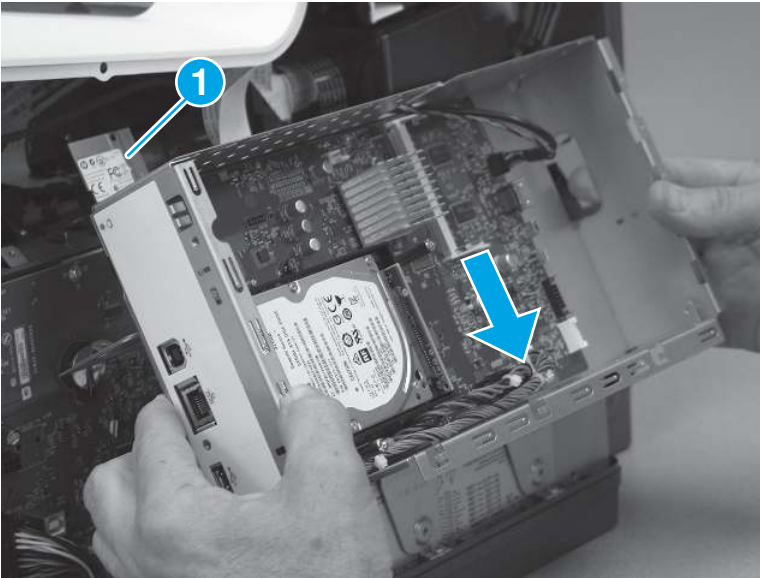
CAUTION: Be careful. Do not damage the wireless PCA (callout 1) when removing the assembly.

Figure 5-438 Release the formatter and cage



6. Rotate the top of the assembly out and away from the printer, and then remove the assembly.

Figure 5-439 Remove the formatter and cage



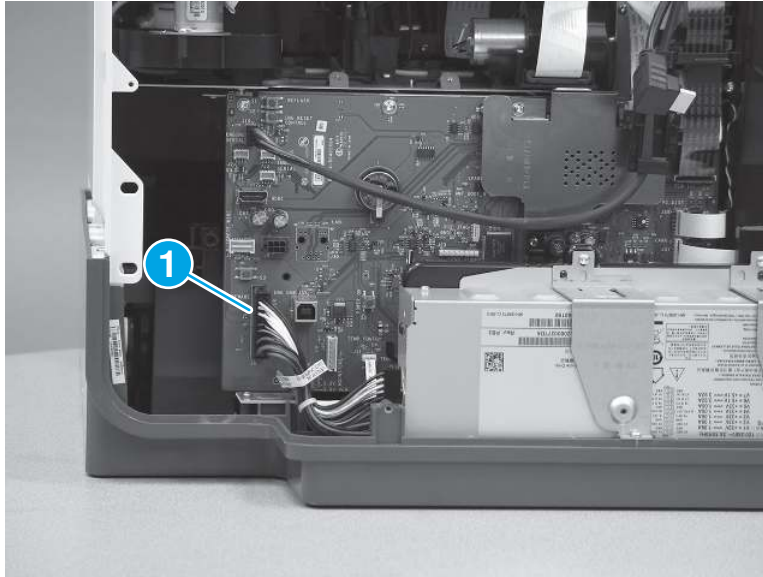
6. Remove the power supply

Follow these steps to remove the power supply.

1. Disconnect one connector (callout 1).

TIP: This connector might take more than normal force to disconnect. Release the small locking tab while pulling the connector straight out to remove it.

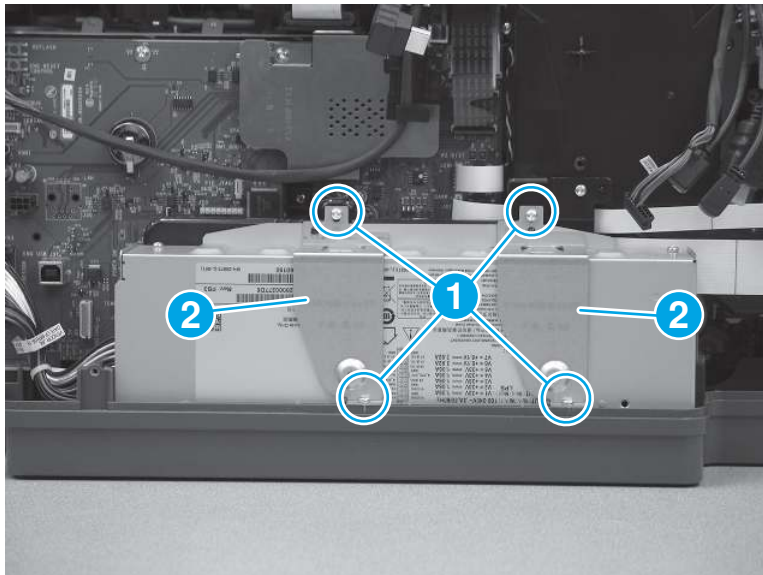
Figure 5-440 Disconnect one connector



2. Remove four screws (callout 1), and then remove two brackets (callout 2).

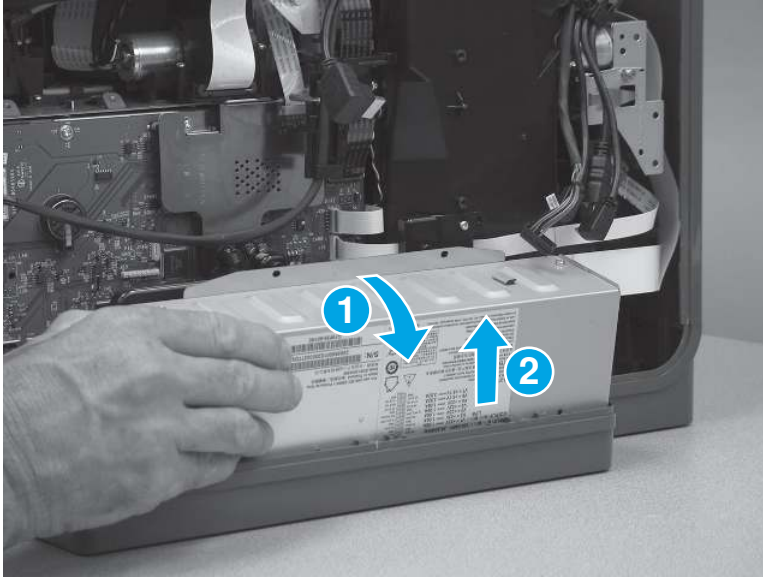
 **IMPORTANT:** Take note of the size, type, and location of screws for this part. Always use the correct screws for reinstallation.

Figure 5-441 Remove the screws and brackets



3. Slightly rotate the top of the power supply away from the printer, and then remove the assembly.

Figure 5-442 Remove the power supply



7. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

8. Install the power supply

Follow these steps to install the power supply.

1. After installing the power supply, make sure that the locator pins fit into the holes on the assembly (callout 1).


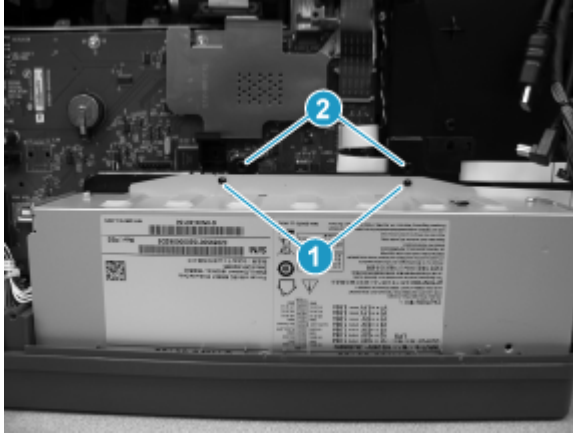
 **TIP:** It might be easier to fit the pins in the holes if two screws (callout 2) are loosened so that the black plastic bracket behind the power supply can be adjusted.

Figure 5-443 Check the locator pins



2. Install two brackets (callout 1), and then install four screws (callout 2).


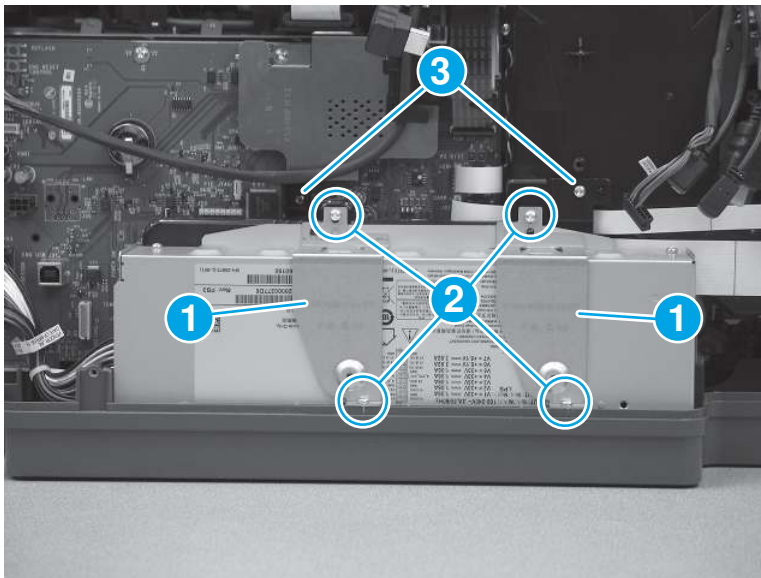
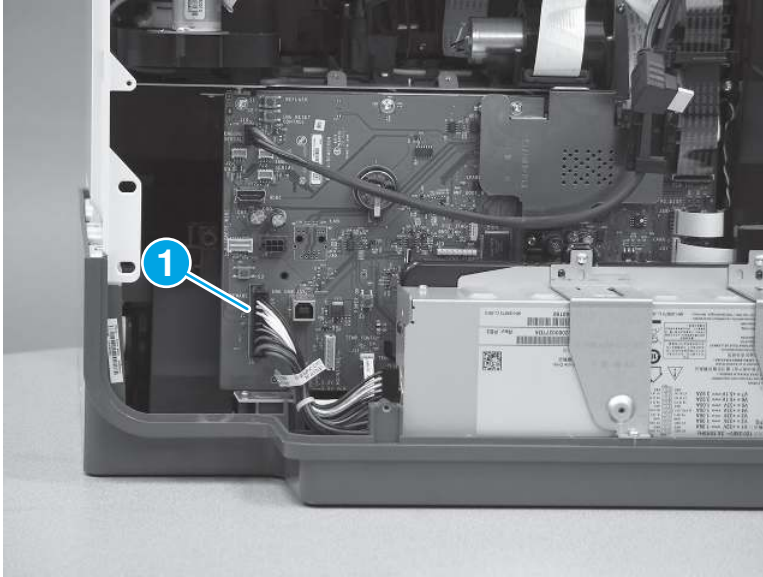
 **NOTE:** If the mounting bracket screws (callout 3) were loosened to adjust the bracket in the previous step, tighten them now.

Figure 5-444 Install brackets and screws




3. Connect one connector (callout 1).

Figure 5-445 Connect one connector



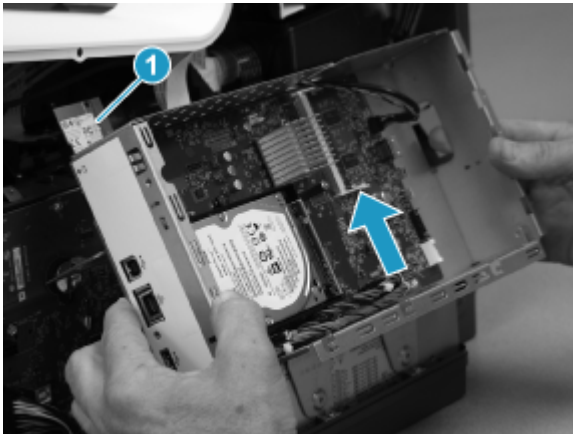
9. Install the formatter and formatter cage (556)

Follow these steps to install the formatter and formatter cage (556).

 **NOTE:** This step is for the 556 printer. For the 586 printer, skip this step.

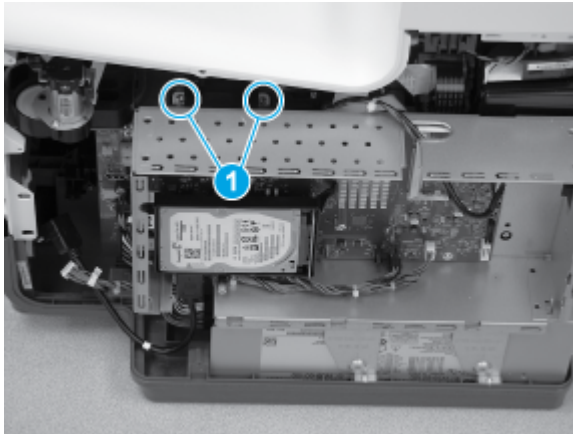
1. Install the formatter and formatter cage assembly.

Figure 5-446 Disconnect connectors



2. Install two screws (callout 1).

Figure 5-447 Install two screws



3. Install three screws (callout 1).


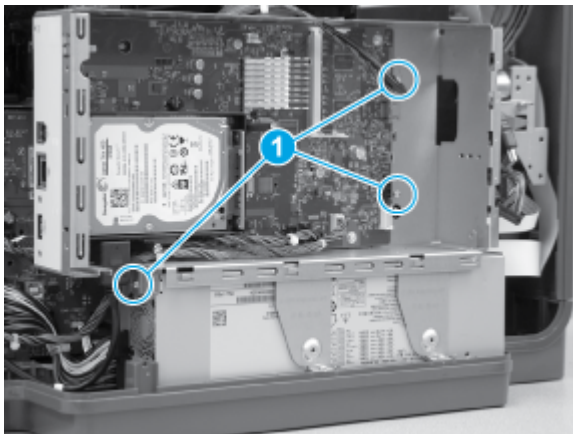
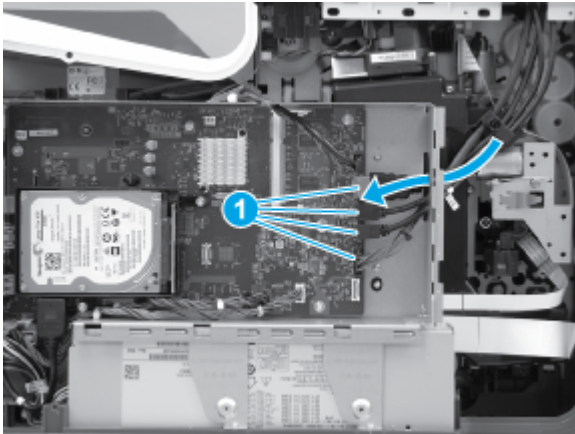
 **TIP:** When reinstalling these screws, it might be easier to install the bottom screw (that goes into the power supply bracket) by disconnecting the nearby HDMI connector. Make sure to reconnect the HDMI connector after installing the screw.

Figure 5-448 Install three screws



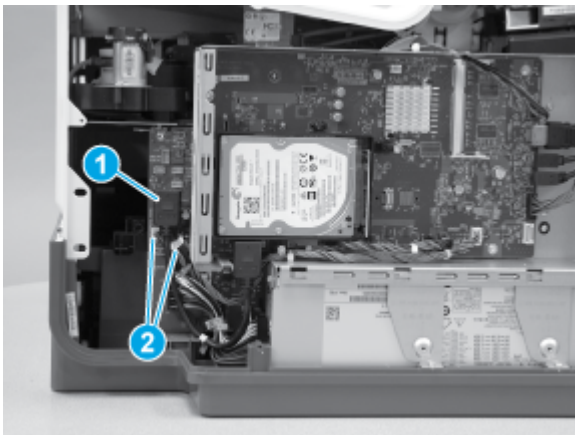
4. Pass the cables and wire harness through the opening in the formatter cage, and then connect four connectors (callout 1).

Figure 5-449 Connect connectors



5. Connect one HDMI cable (callout 1), and then connect two connectors (callout 2).

Figure 5-450 Connect connectors



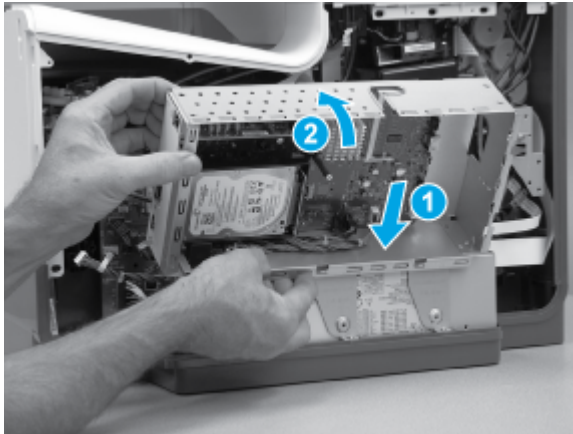
10. Install the formatter and formatter cage (586)

Follow these steps to Install the formatter and formatter cage (586).

 **NOTE:** This step is for the 586 printer. For the 556 printer, skip this step.

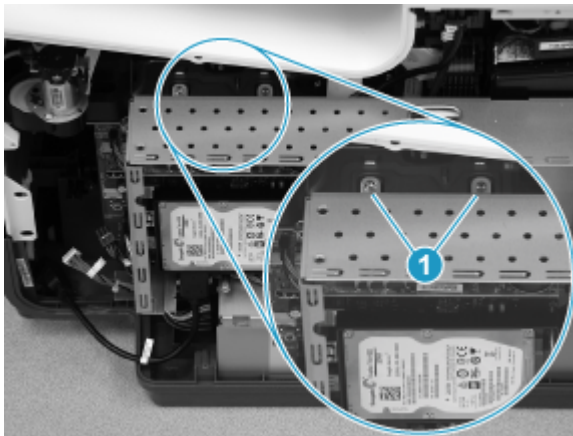
1. Install the formatter and formatter cage in the printer.

Figure 5-451 Install the formatter and cage



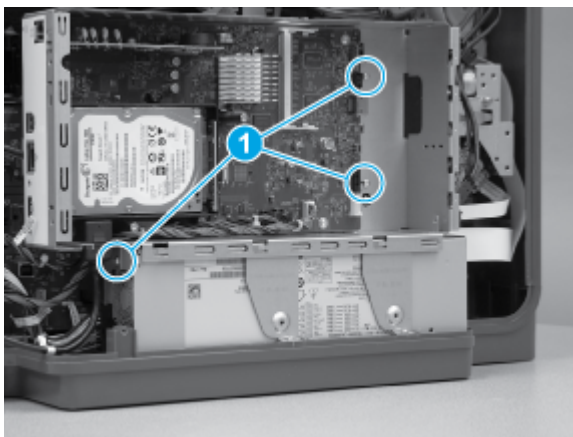
2. Install two screws (callout 1).

Figure 5-452 Install two screws



3. Install three screws (callout 1).

Figure 5-453 Install three screws



4. Pass the cables and wire harness through the opening in the formatter cage, and then connect five connectors (callout 1).


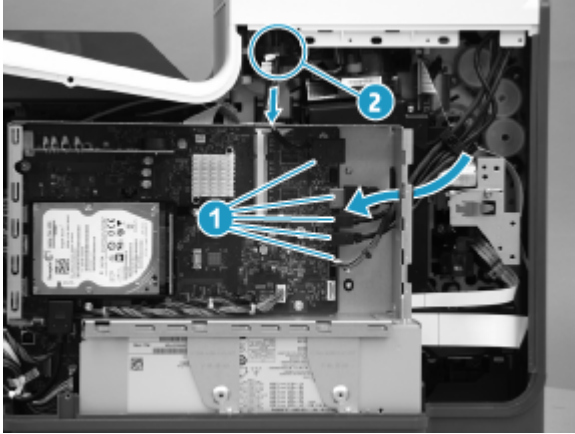
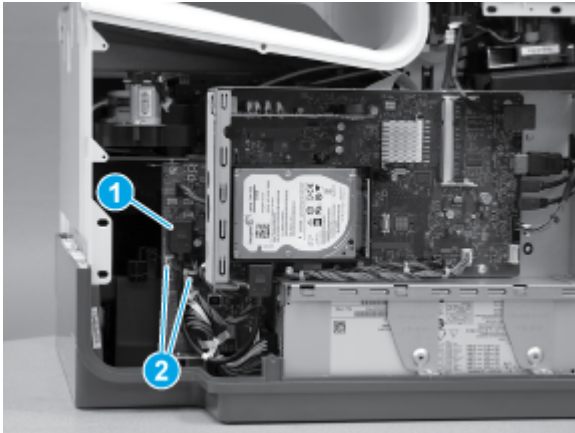
 **TIP:** The cable retainer (callout 2) is easily dislodged. Do not lose the retainer.

Figure 5-454 Disconnect connectors



5. Connect one HDMI cable (callout 1), and then connect two connectors (callout 2).

Figure 5-455 Connect connectors

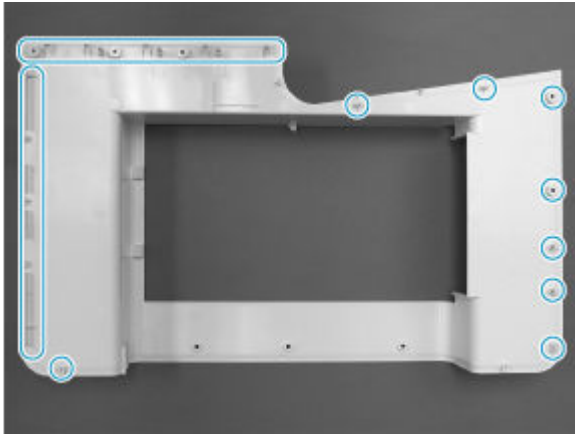


11. Install the rear cover

Follow these steps to install the rear cover.

1. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-456 Find the tabs and bosses on the rear cover



2. Position the bottom edge of the cover on the printer.


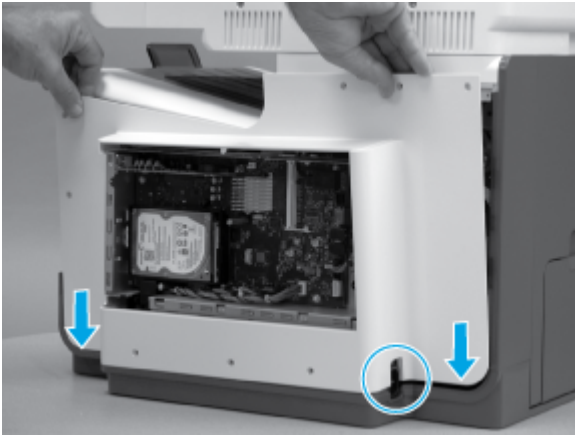
 **IMPORTANT:** Make sure that the inner two tabs on the cover bottom corners engages with the printer chassis, and that the slot in the cover is fitted correctly over the power supply receptacle.

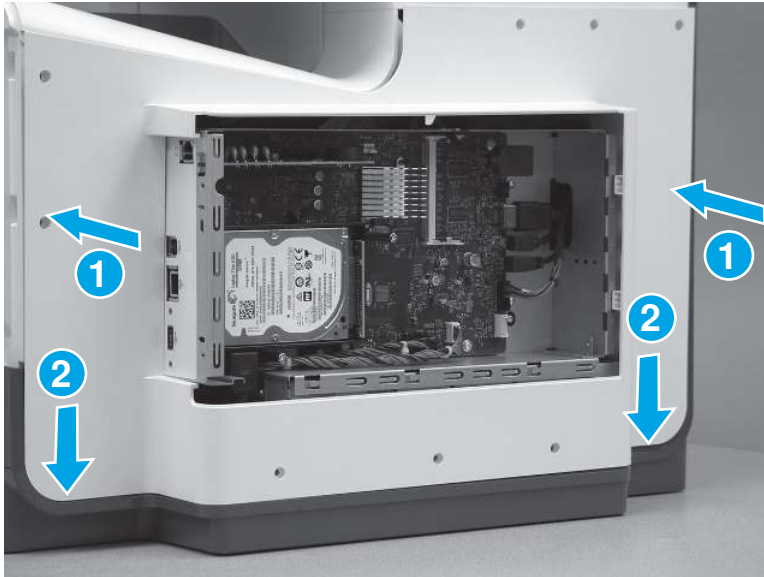
Figure 5-457 Install cover



3. Starting at the bottom of the cover and working upward, push in along the edges of the cover to engage the bosses along the right and left side of the cover (callout 1).

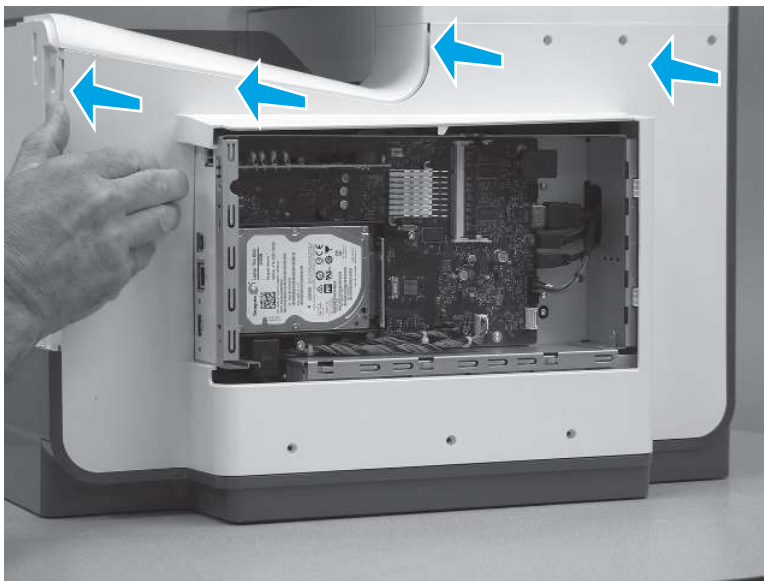
 **NOTE:** Make sure that the bottom edge of the cover (callout 2) remains engaged.

Figure 5-458 Engage the sides of the cover



4. Starting at the right upper corner of the cover and working toward the left, push in along the top edge of the cover to engage the bosses along the top of the cover.

Figure 5-459 Release the top edge of the cover

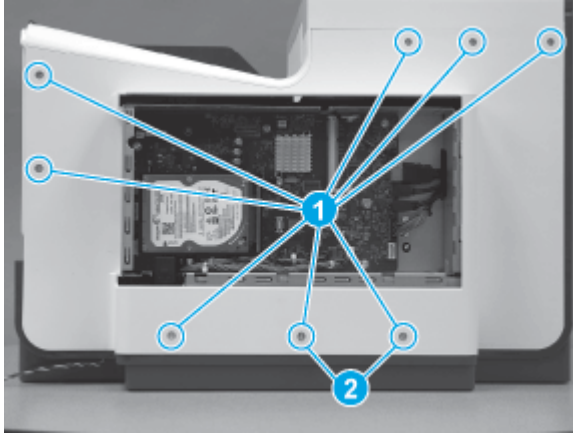


5. Install eight screws (callout 1).



NOTE: Two of these screws (callout 2) are a different type (machine screws) than the others. Make sure that they are installed in the correct position.

Figure 5-460 Install eight screws

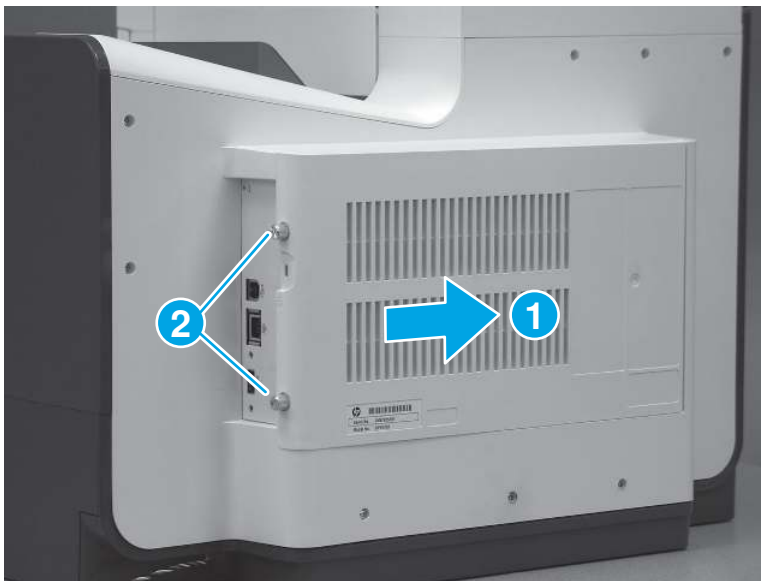


12. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-461 Install the formatter cover

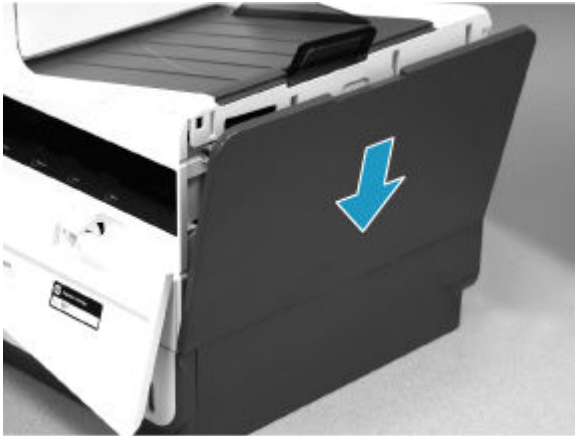


13. Install the right cover (outer)

Follow these steps to install the right cover (outer).

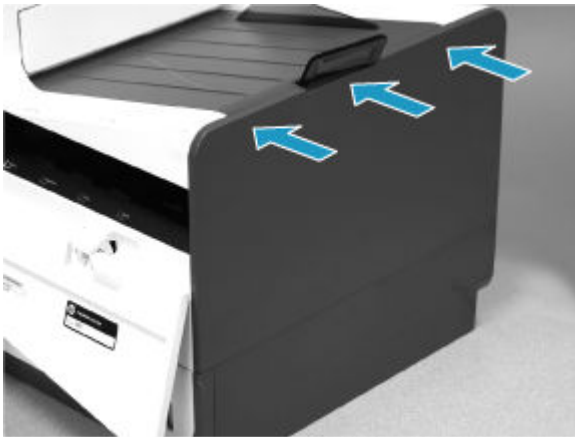
1. Position the bottom edge of the cover on the printer.

Figure 5-462 Position the right cover (outer) on the printer



2. Push in along the top edge of the right cover (outer) to install it.

Figure 5-463 Install the right cover (outer)



Removal and replacement: Print mechanism kit (556)

This document provides the procedures to install the print mechanism (PM) kit.

[View a video about installing the print mechanism kit.](#)

Mean time to repair: 45 minutes

Service level: Intermediate

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-27 Part information

Part number	Part description
G1W47-67901	556 Print Mechanism (PM) with instruction guide

Required tools

- Torx driver (#10) with a 152 mm (6 in) shaft and magnetized tip.
- Phillips screwdriver (#2)
- Small flat-blade screwdriver
- Flat-blade screwdriver 152 mm (6 in) shaft
- Optional: Small pliers (for holding clips during disassembly)

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

Print a configuration page to verify printer functionality.

Acclimation process

The print mechanism kit will not operate properly below 5° C (41° F). The product control panel will display an error message.

Cold temperatures during kit storage or transportation might require extra time before installation to allow the kit and ink cartridges to adjust to a warmer temperature (acclimation). Exposure to extended periods of heat usually requires a minimal amount of acclimation time.

Exposure to extended periods of cold can cause condensation (moisture) to form on the parts when moved into warmer areas. Condensation indicates the need for an acclimation period until the condensation disappears. Exposure to extended cold (below 0° C (32° F)) can cause the ink inside the kit to freeze. The kit and ink cartridges were designed to be exposed to freezing temperatures without being damaged. However, if the ink is frozen and cannot flow properly during installation or during printing, errors might be reported on the control panel or print quality might be poor, or possible damage will occur.

⚠ CAUTION: When unsure if the kit and ink cartridges need to be acclimated, always proceed as if they do need to be acclimated. Acclimation will not damage these kits, but the failure to acclimate them can cause errors or print quality issues, or possible damage can occur.

1. Unpack the kit.
2. Open the doors or remove the covers and pull out the input tray.
3. Leave the kit in the repair area until there is no visible condensation before proceeding with installation.

Ink cartridge acclimation

Unpack the ink cartridges. It is important to remove the ink cartridges from their packaging and to separate them to speed the acclimation process. The packaging will act as an insulation barrier and prevent frozen ink from thawing quickly.

The ink cartridges might need 2 to 4 hours to thaw, depending on how frozen the ink is.

Move the ink cartridges into a warmer area and keep them separated to accelerate the thawing process.

Do not install ink cartridges that show visible condensation on the outside walls.

⚠ CAUTION: Check each ink cartridge's electrical connection (gold colored contacts) for condensation before installing them. Remove condensation by carefully blotting the electrical connections with a lint-free cloth. To prevent damage, do not wipe or drag the cloth across the connections.

Keep the packaging

Do not destroy the box in which the new mechanism kit was shipped. You will use the box to return the defective mechanism.

📝 NOTE: If the customer has activated the anti-theft feature on the ink cartridges, those cartridges must be installed into the new print mechanism (PM) after the initial purge and calibration – which uses the startup cartridges– but before 15 pages are printed on the new mechanism.

📝 NOTE: Do not power on the new print mechanism with any formatter other than the formatter from the defective unit (DU). Using another formatter will cause data loss and require another replacement print mechanism kit.

PM Process

To make the replacement print mechanism (PM) operational, remove the following assemblies from the defective unit (DU) and then install them on the PM.

- Formatter cover
- Formatter and formatter cage (and any installed accessories)
- Power supply (and brackets)
- Blank cover
- Control panel

Removal and replacement strategy





Make sure that assemblies are replaced with the correct screw type. Using the incorrect screw (for example, substituting a long screw for the correct shorter screw) can cause damage to the printer or interfere with printer operation. Do not intermix screws that are removed from one assembly with the screws that are removed from another assembly.

Tracking fasteners used in this printer

1. Draw a series of boxes on a blank sheet of paper.
2. When removing screws, write the removal step number in one of the squares, and place the screws in that square.

For example, in the figure below steps 4, 7, 9 and 10.2 are screw removal steps.

Figure 5-464 Tracking fasteners

4 	7 	9 	10.2 

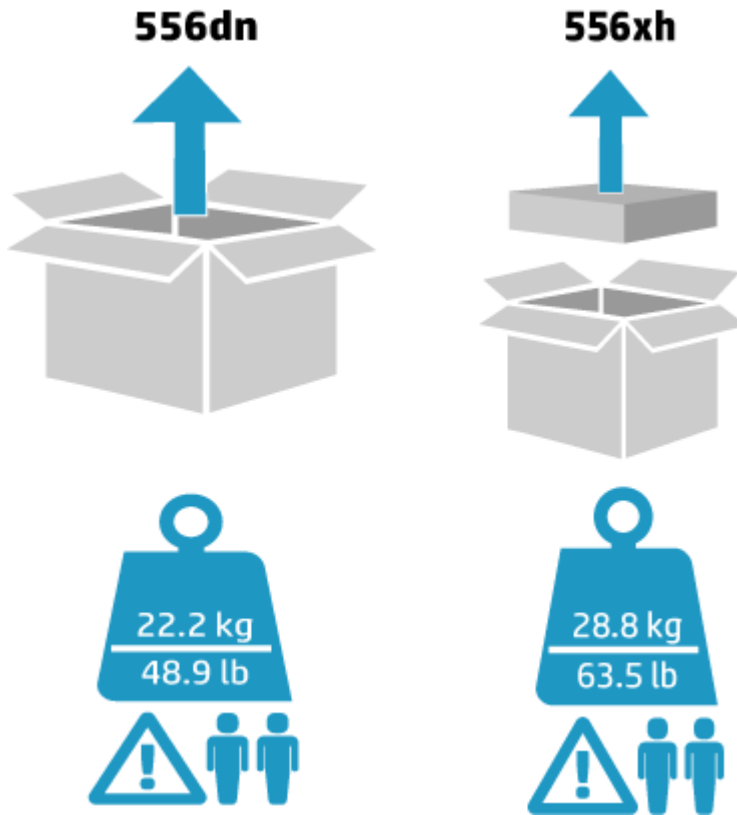
Screw installation steps include a reference to the step where the screws were removed. Match the referenced step number to the corresponding matrix box and use those screws to install the assembly. This method makes sure that the correct type and size screw is correctly installed during reassembly.

1. Unpack the Replacement Print Mechanism (PM)


Follow these steps to unpack the Replacement Print Mechanism (PM).

1. Remove the replacement PM from the box by lifting it out by the bag around it.

Figure 5-465 Unpack the Replacement PM



2. Remove all the blue shipping tape.

 **IMPORTANT:** The replacement PM shown is the 586. For the 556, the shipping tape has identical placement (except for the tape on the top cover).


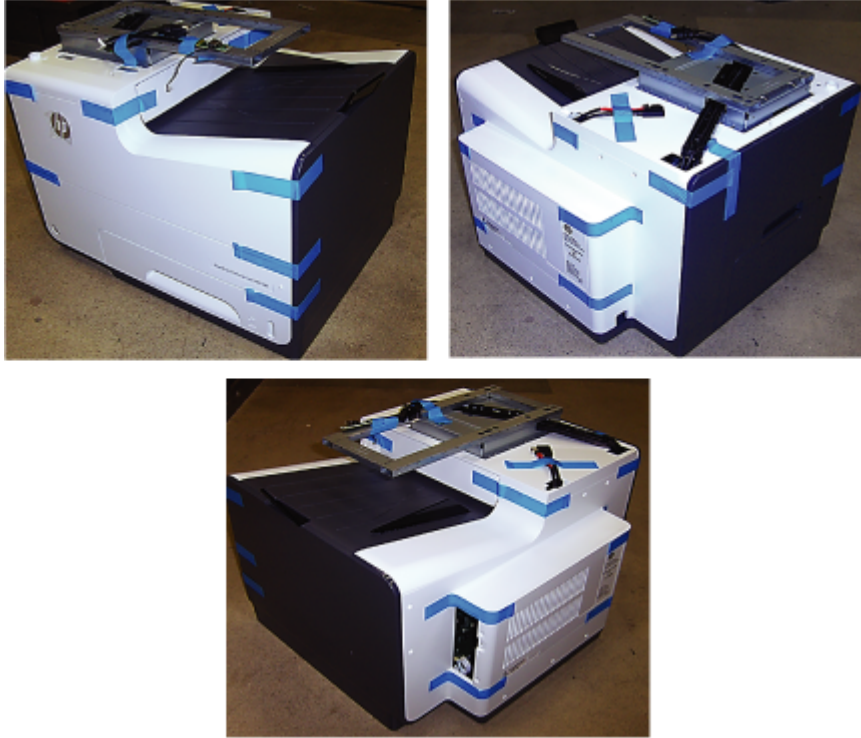
 **NOTE:** The shipping tape is reusable. Use the shipping tape from the replacement print mechanism (PM) to prepare the defective unit (DU) for shipping.

Figure 5-466 Remove the shipping tape



3. Remove the cartridge orange shipping restraint insert that is recessed in the cartridge cavity and the blue print-head restraint.


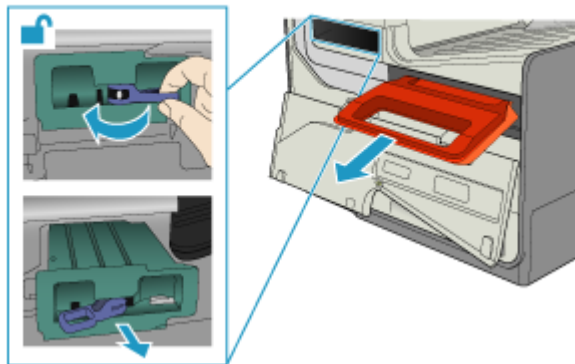
 **NOTE:** The restraint insert, and print-head restraint are reusable. Use the shipping restraint and print-head restraint from the replacement print mechanism (PM) to prepare the defective unit (DU) for shipping.

Figure 5-467 Remove the shipping restraint and the print-head restraint

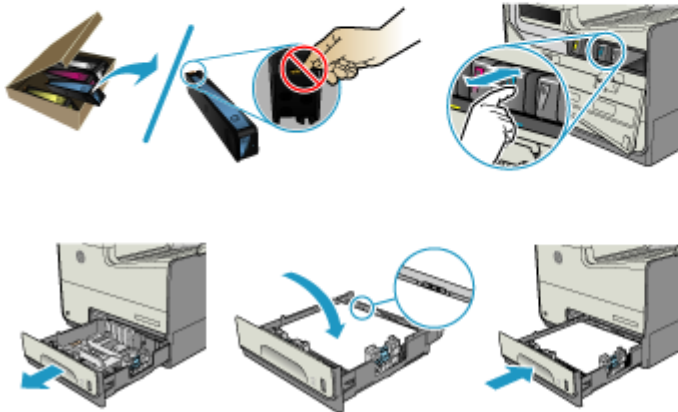


4. Install the startup cartridges included with the kit and load paper into Tray 2.

 **NOTE:** Adjust the sliding paper guides to the correct paper size for this tray.

 **TIP:** Leave the cartridge door open to make removing the right cover easier.

Figure 5-468 Install the startup cartridges



2. Remove the right cover (outer) (PM)

Follow these steps to remove the right cover (outer) (PM).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


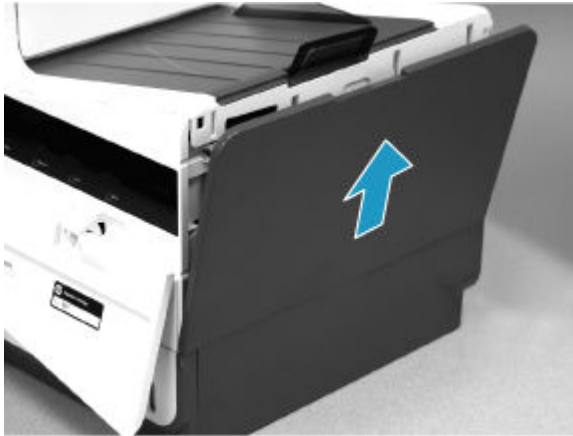
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-469 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-470 Remove the right cover (outer)



3. Remove the formatter cover (PM)

Follow these steps to remove the formatter cover (PM).

- ▲ If installed, slide the formatter cover away from the PM to remove it.

Figure 5-471 Remove the formatter cover (PM)

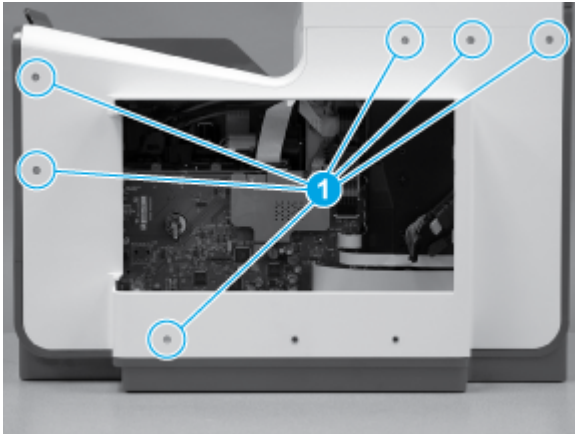


4. Remove the rear cover (PM)

Follow these steps to remove the rear cover (PM).

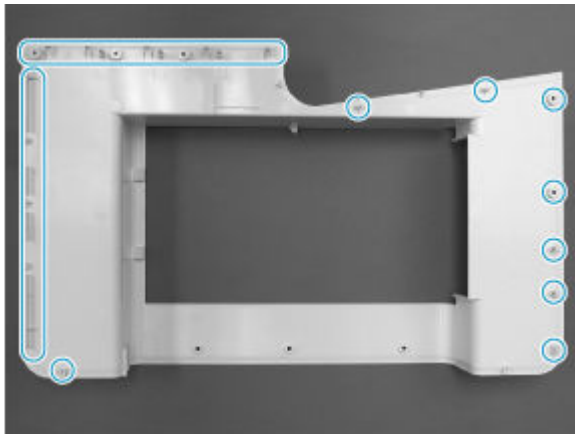
1. Remove six screws (callout 1).

Figure 5-472 Remove six screws



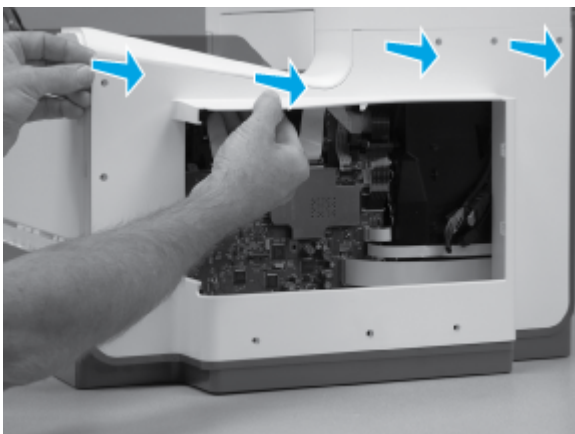
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-473 Find the tabs and bosses on the rear cover



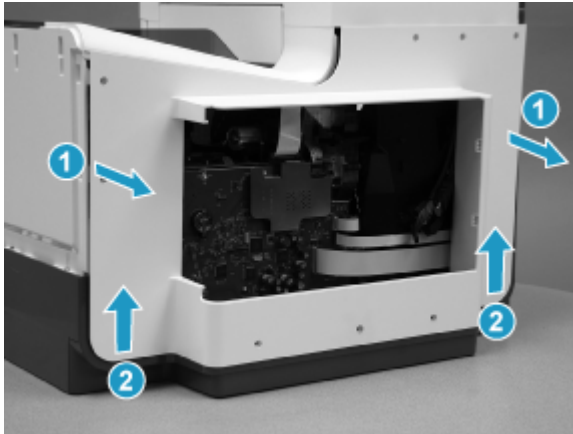
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-474 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to release it.

Figure 5-475 Release the rear cover (PM)



5. Remove the cover.


Figure 5-476 Remove the rear cover (PM)



5. Turn the power off defective unit (DU)

Follow these steps to turn the power off defective unit (DU).

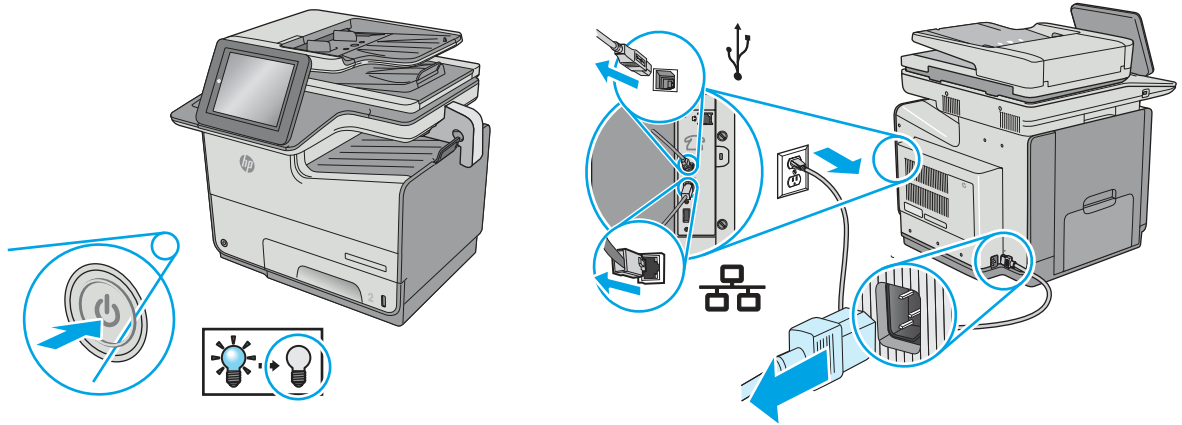
- ▲ Turn the power off and disconnect all interface and power cables (DU).

 **NOTE:** Remove the ink cartridges.

Insert the orange shipping cartridge restraint from the replacement print mechanism kit (PM) into the defective unit (DU).

 **TIP:** Retain the cartridges removed from the DU for use after the STARTUP cartridges are depleted.

Figure 5-477 Turn the power off (DU)



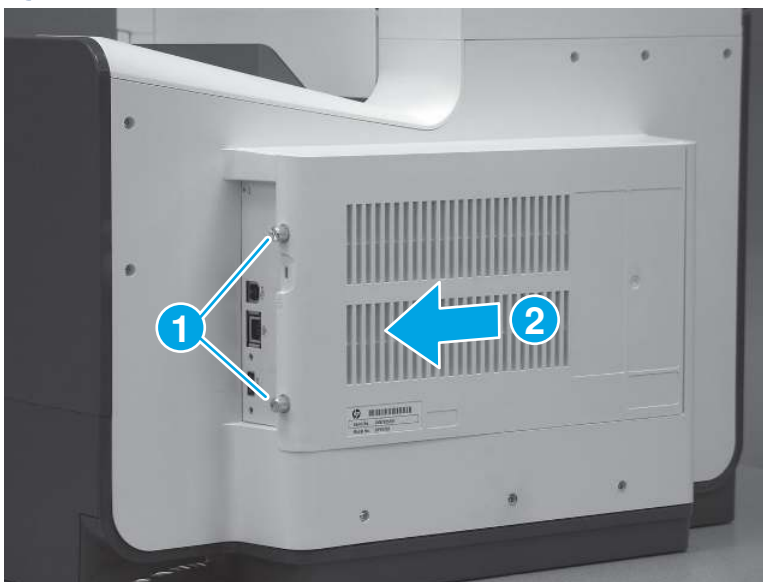
6. Remove the formatter cover (DU)

Follow these steps to remove the formatter cover (DU).

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-478 Remove the formatter cover



7. Remove the right cover (outer) (DU)

Follow these steps to remove the right cover (outer) (DU).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


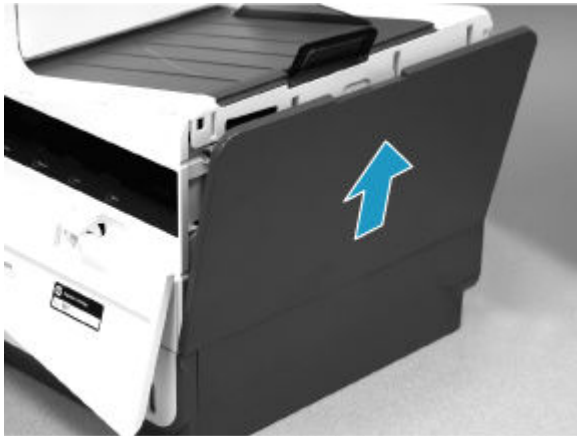
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-479 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-480 Remove the right cover (outer)



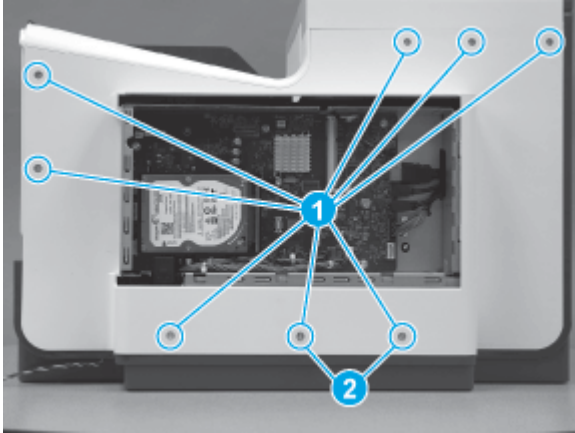
8. Remove the rear cover (DU)

Follow these steps to remove the rear cover (DU).

1. Remove eight screws (callout 1).

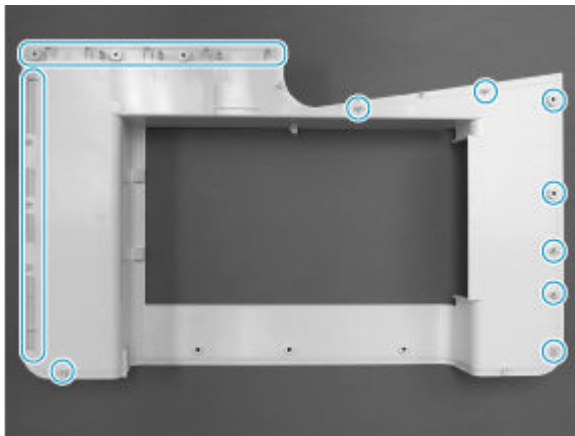
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-481 Remove eight screws



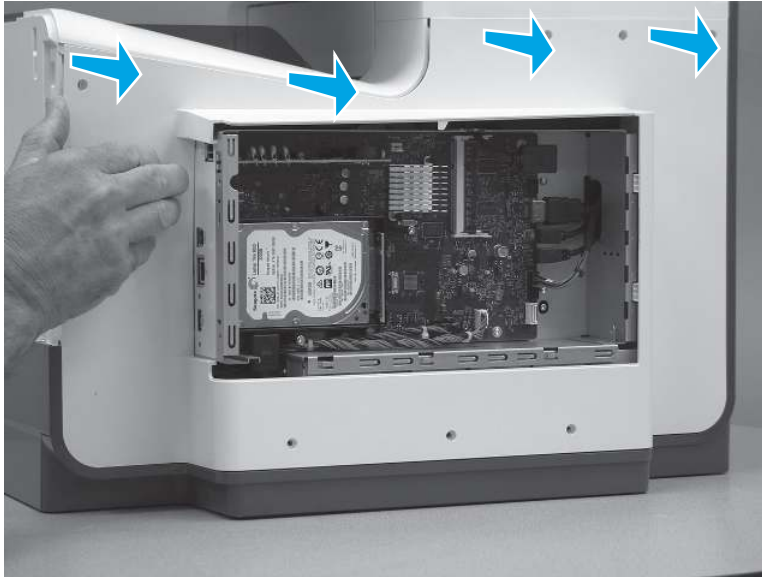
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-482 Find the tabs and bosses on the rear cover



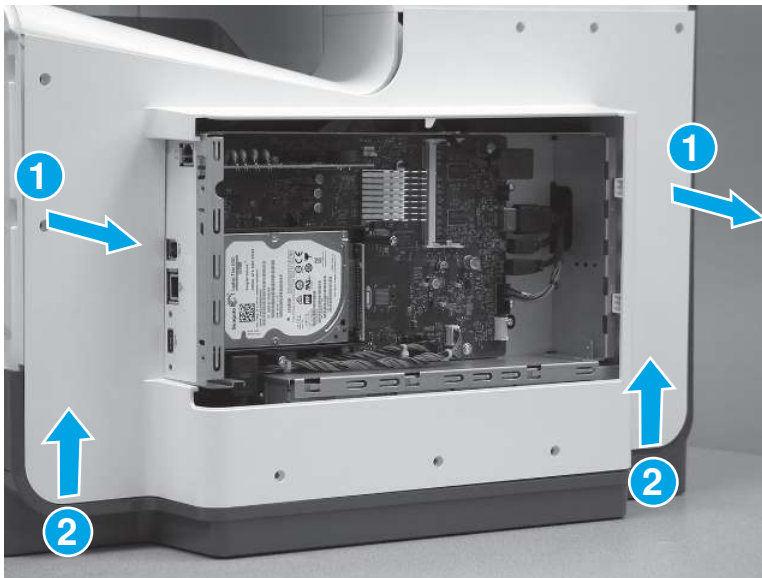
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-483 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-484 Remove the rear cover



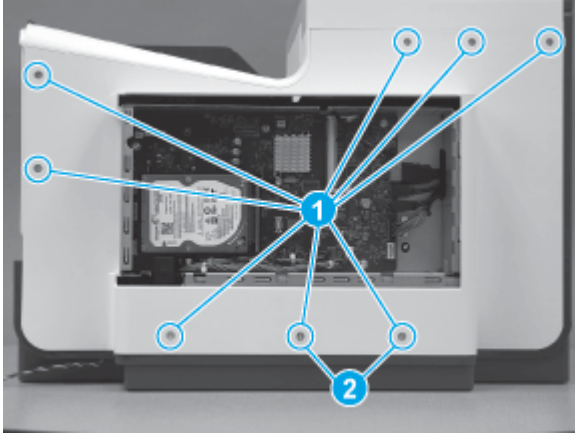
9. Remove the rear cover (DU)

Follow these steps to remove the rear cover (DU).

1. Remove eight screws (callout 1).

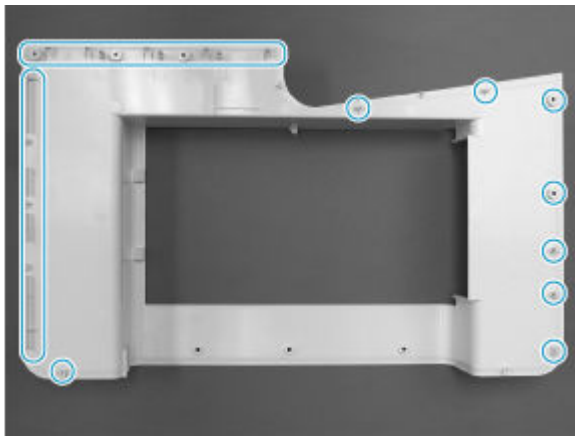
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-485 Remove eight screws



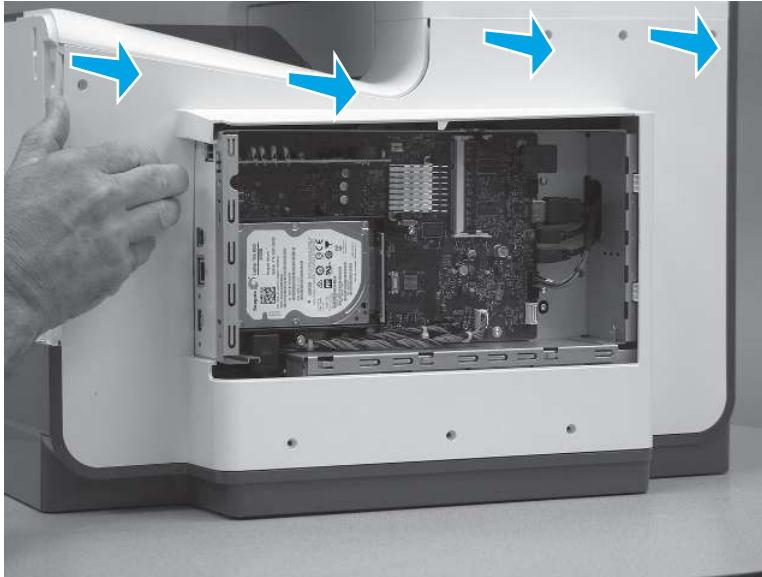
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-486 Find the tabs and bosses on the rear cover



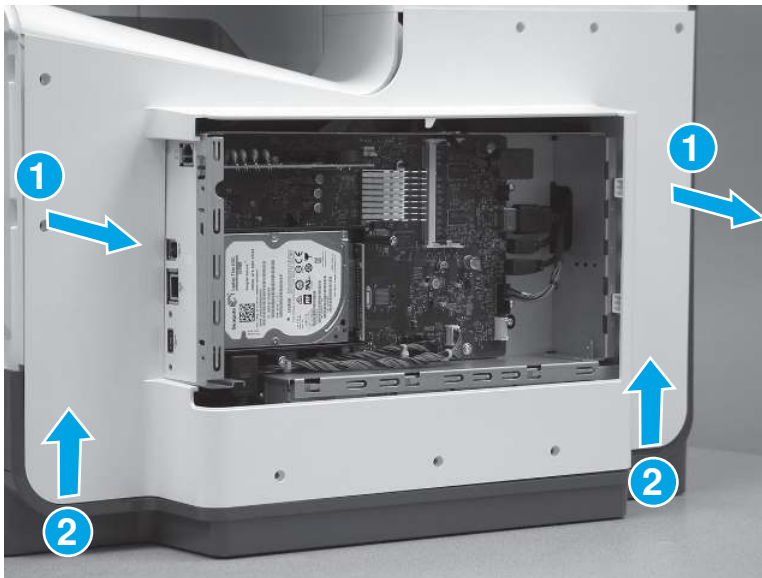
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-487 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-488 Remove the rear cover

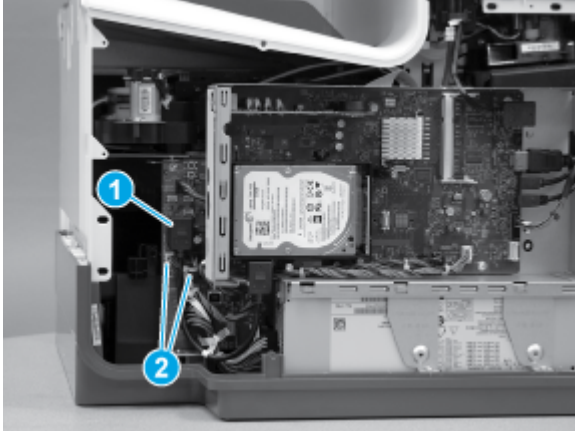


10. Remove the formatter and formatter cage (DU)

Follow these steps to remove the formatter and formatter cage (DU).

1. Disconnect one HDMI cable (callout 1), and then disconnect two connectors (callout 2).

Figure 5-489 Disconnect connectors



2. Disconnect five connectors (callout 1), and then pass the cables and wire harness through the openings in the formatter cage.


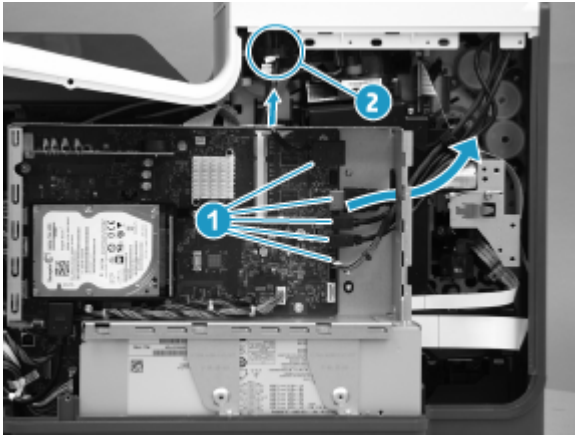
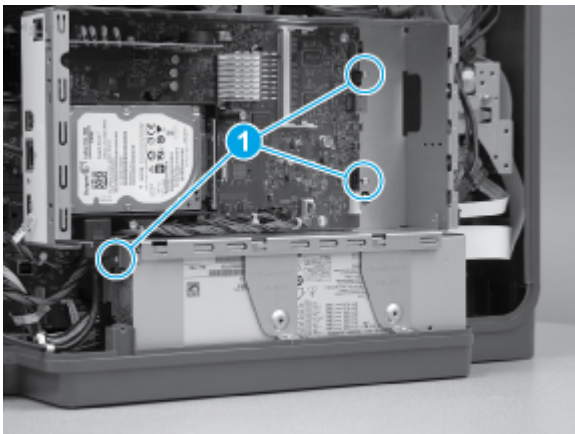
 **TIP:** The cable retainer (callout 2) is easily dislodged. Do not lose the retainer.

Figure 5-490 Disconnect connectors



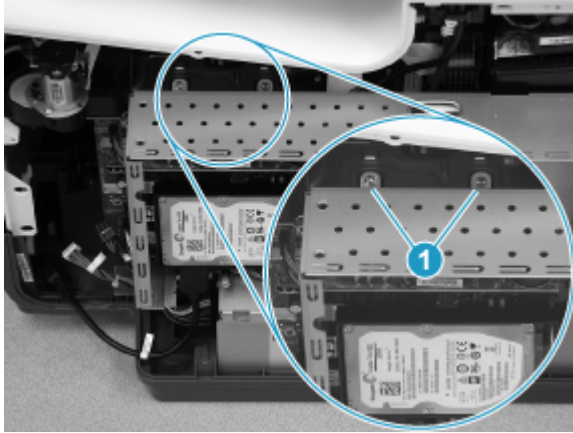
3. Remove three screws (callout 1).

Figure 5-491 Remove three screws



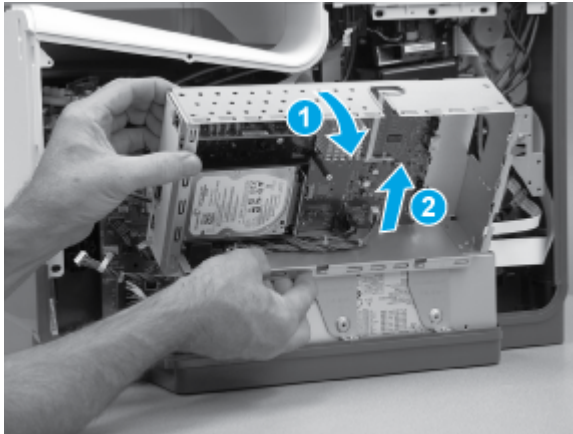
4. Remove two screws (callout 1).

Figure 5-492 Remove two screws



5. Rotate the top of the assembly out and away from the printer, and then remove the assembly.

Figure 5-493 Remove the formatter and cage



11. Remove the power supply (DU)

Follow these steps to remove the power supply (DU).

1. Disconnect one connector (callout 1)


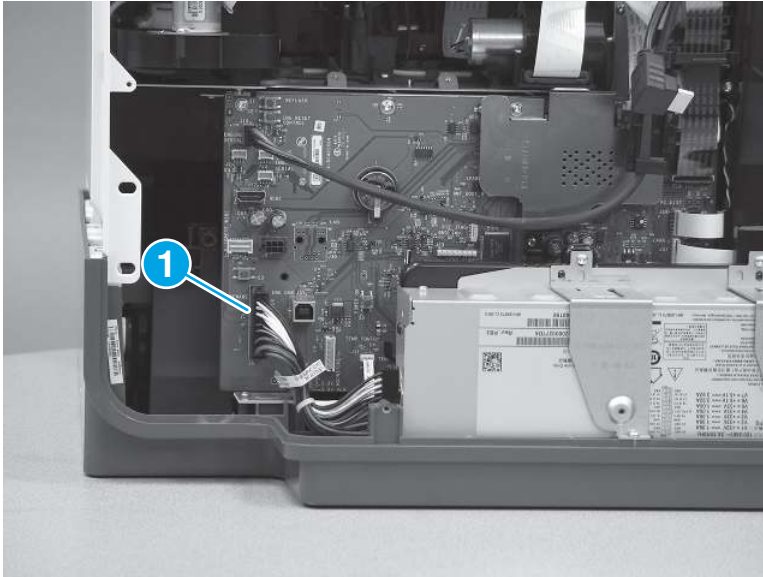
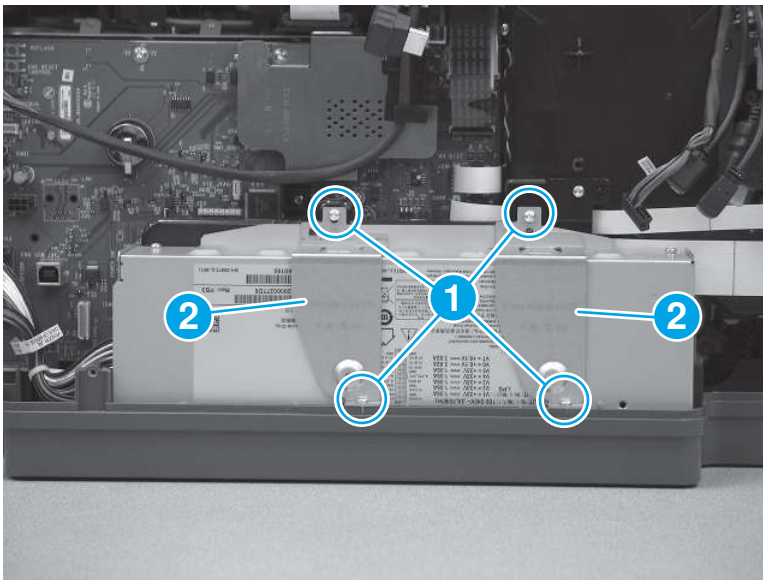
 **TIP:** This connector might take more than normal force to disconnect connect. Release a small locking tab while pulling the connector straight out to remove it.

Figure 5-494 Disconnect one connector



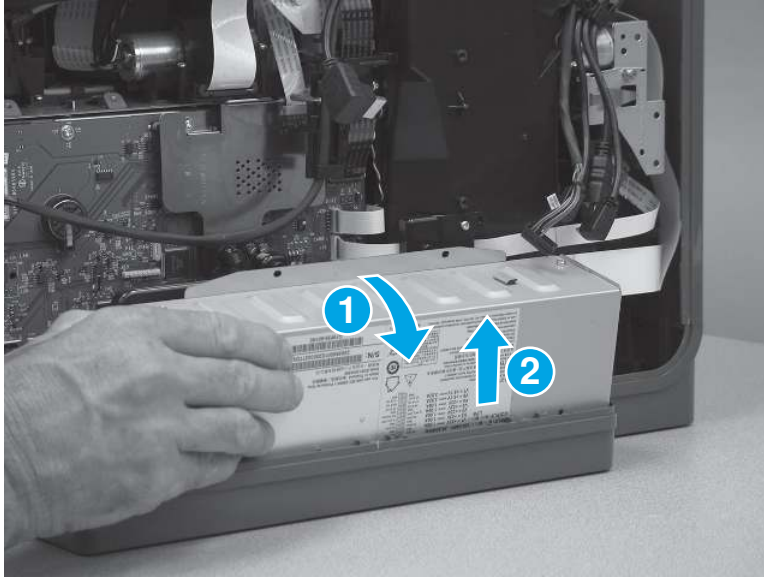
2. Remove four screws (callout 1), and then remove two brackets (callout 2).

Figure 5-495 Remove the screws and brackets



3. Slightly rotate the top of the power supply away from the printer, and then remove the assembly.

Figure 5-496 Remove the power supply

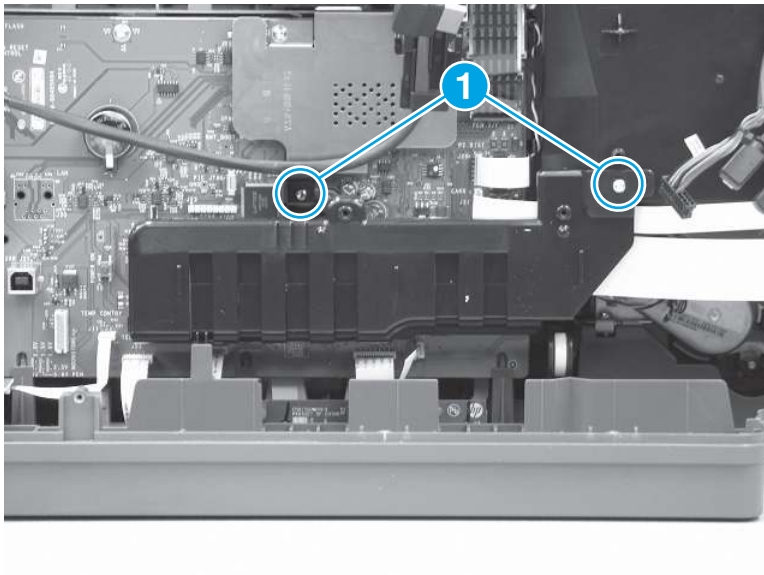


12. Remove the power supply mounting bracket (DU)

Follow these steps to remove the power supply mounting bracket (DU).

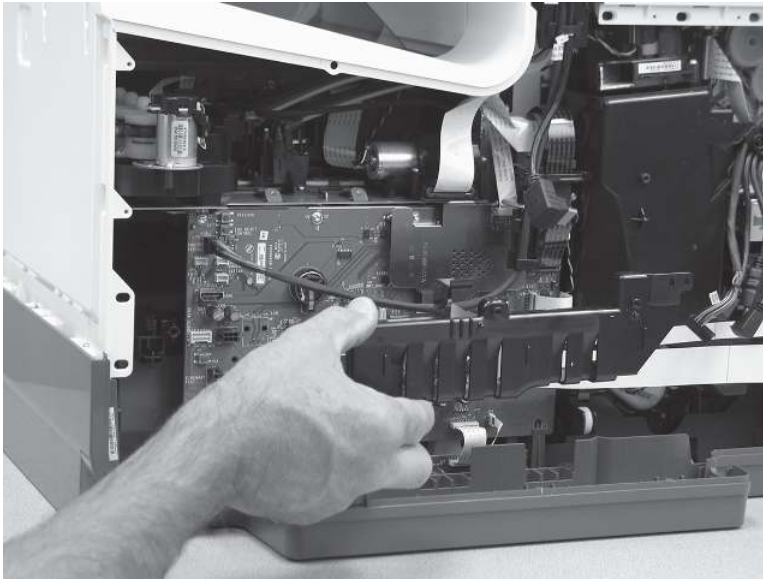
1. Remove two mounting screws (callout 1).

Figure 5-497 Remove two screws



2. Remove the bracket.

Figure 5-498 Remove the bracket



13. Remove the blank cover (DU)

Follow these steps to remove the blank cover (DU).

1. Open the blank cover.

 **IMPORTANT:** The blank cover carries a serial number sticker. The cover/sticker must be transferred to the replacement print mechanism (PM).

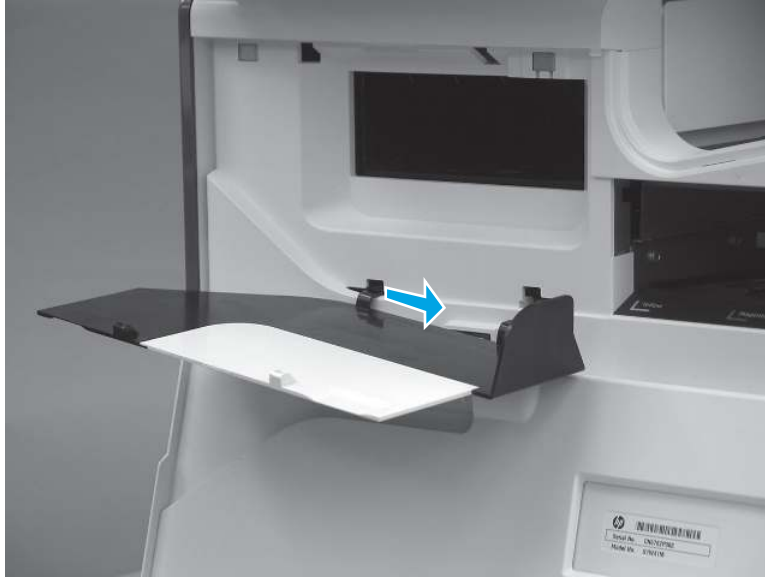
Figure 5-499 Open the blank cover



2. Slide the cover to the right to release the right-side hinge.

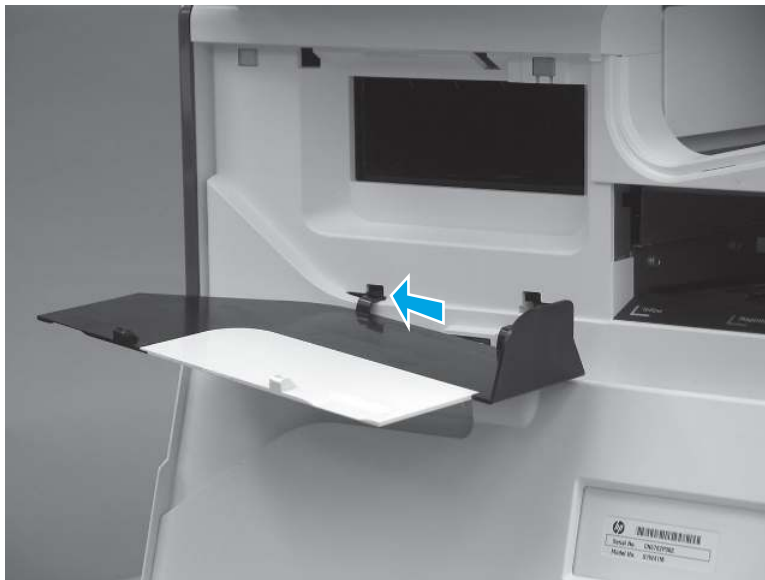
 **NOTE:** Slightly flexing the hinge makes releasing it easier.

Figure 5-500 Slide the cover to the right



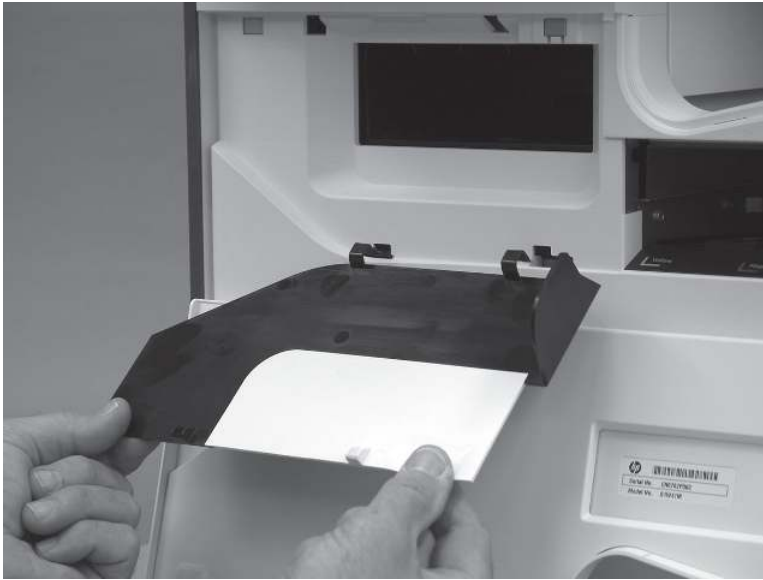
3. Slide the cover to the left to release the left-side hinge.

Figure 5-501 Slide the cover to the left



4. Remove the blank cover.

Figure 5-502 Remove the blank cover



14. Remove the control panel (DU)

Follow these steps to Remove the control panel (DU).

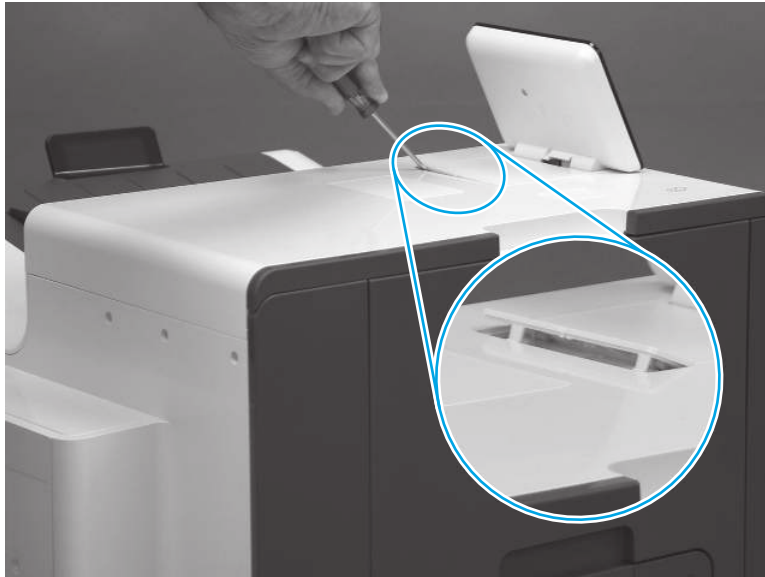
1. Tilt the control panel to the fully raised position.

Figure 5-503 Tilt the control panel up



2. Insert a small flat-blade screwdriver into the notch in the cover, and then carefully pry up the cover to release it. Remove the cover.

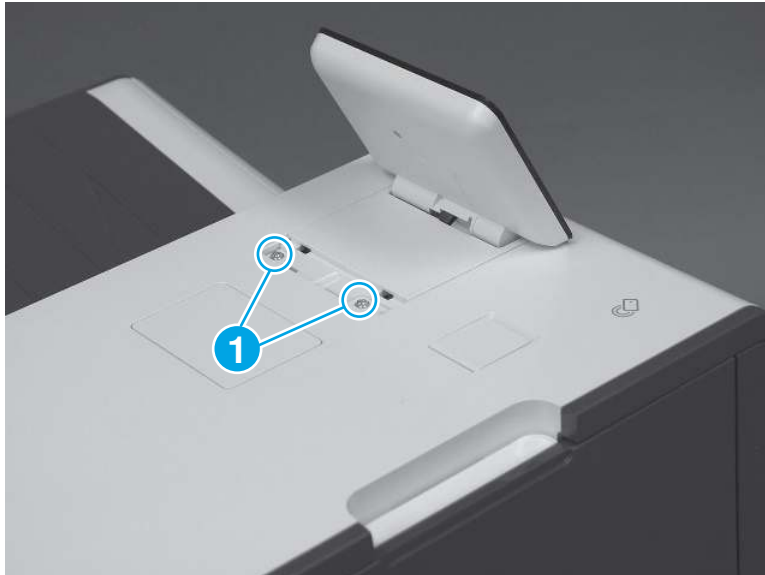
Figure 5-504 Release two tabs



3. Remove two # 10 torx screws (callout 1).

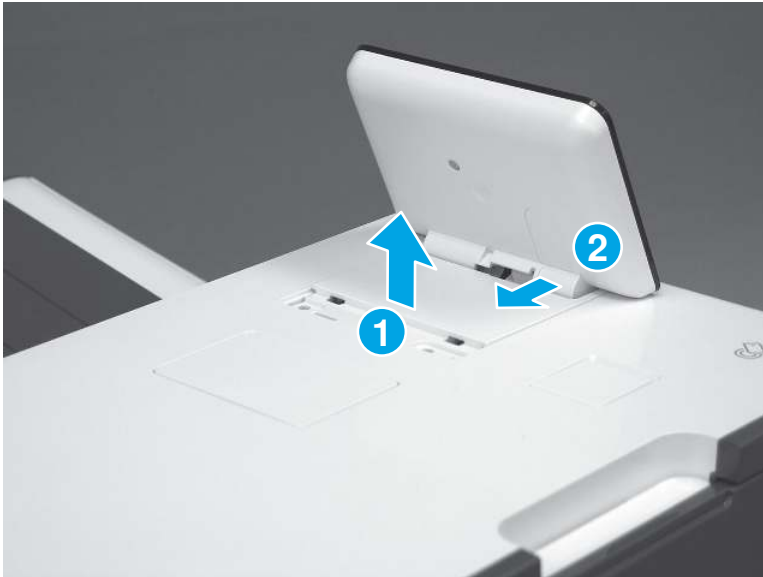
⚠ CAUTION: Store the screws in a secure place where they cannot fall down into the printer.

Figure 5-505 Remove two screws



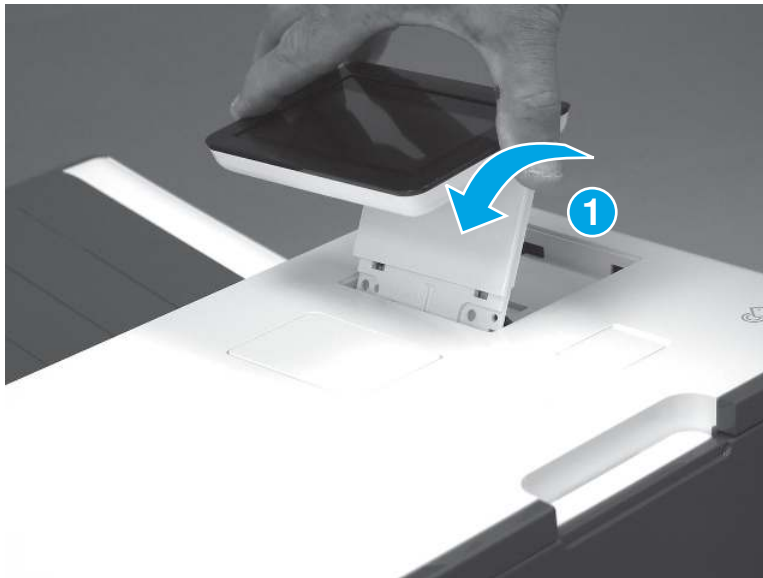
4. Lift up the rear edge of the control panel (callout 1), and then slightly slide it toward the rear of the printer (callout 2) to release the front tabs.

Figure 5-506 Release the control panel over



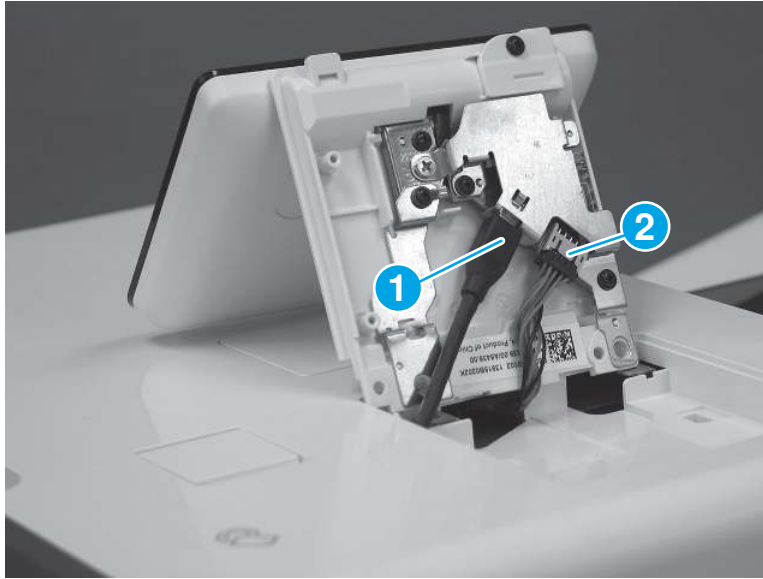
5. Turn the control panel over (callout 1), to gain access to the bottom side.

Figure 5-507 Turn the control panel over



6. Disconnect one HDMI cable (callout 1) and one connector (callout 2), and then remove the control panel.

Figure 5-508 Disconnect connectors and remove the control panel

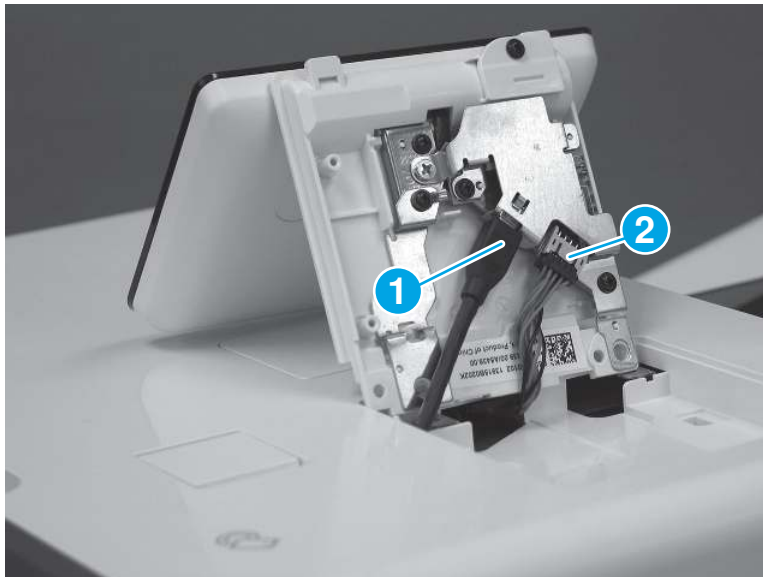


15. Install the control panel (PM)

Follow these steps to install the control panel (PM).

1. Connect one HDMI cable (callout 1) and one connector (callout 2).

Figure 5-509 Connect cables



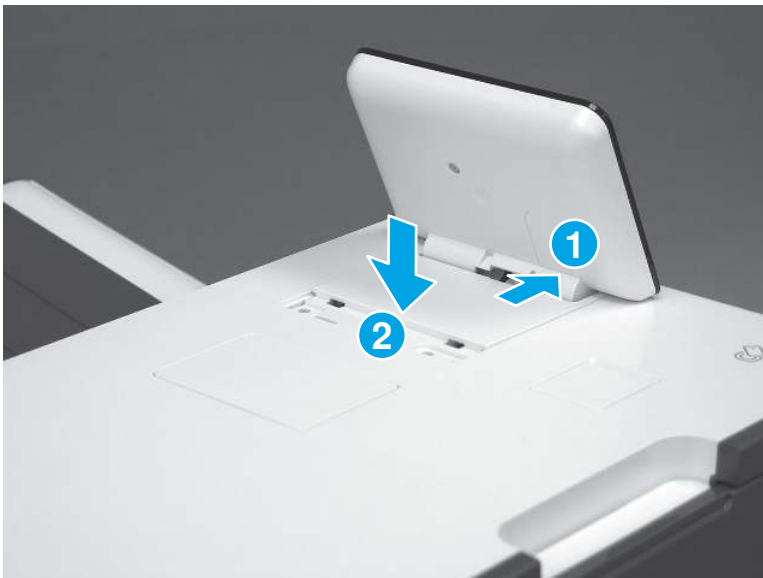
2. Install the tabs (callout 1) on the front of the control panel in the slots (callout 2) on the printer top cover.

Figure 5-510 Install the control panel



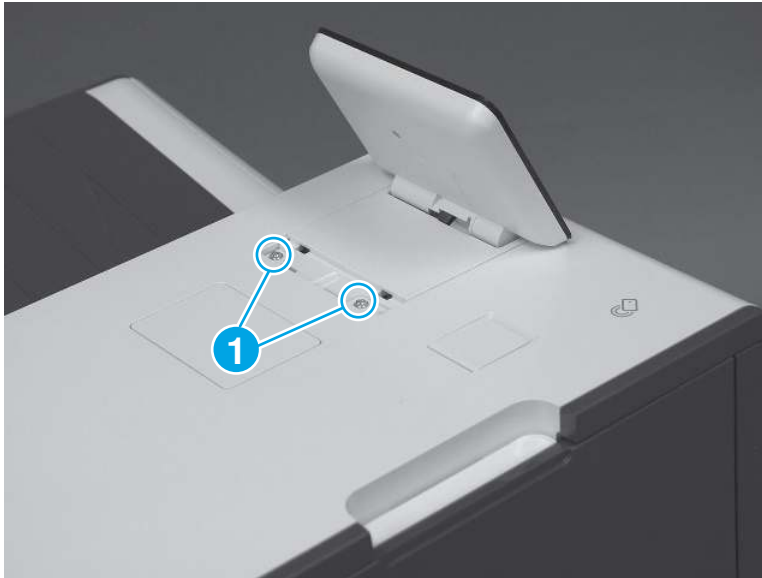
3. With the front tabs engaged in the slots (callout 1), rotate the control-panel base down onto the printer (callout 2).

Figure 5-511 Rotate the control-panel base down



4. Install two # 10 torx screws (callout 1).

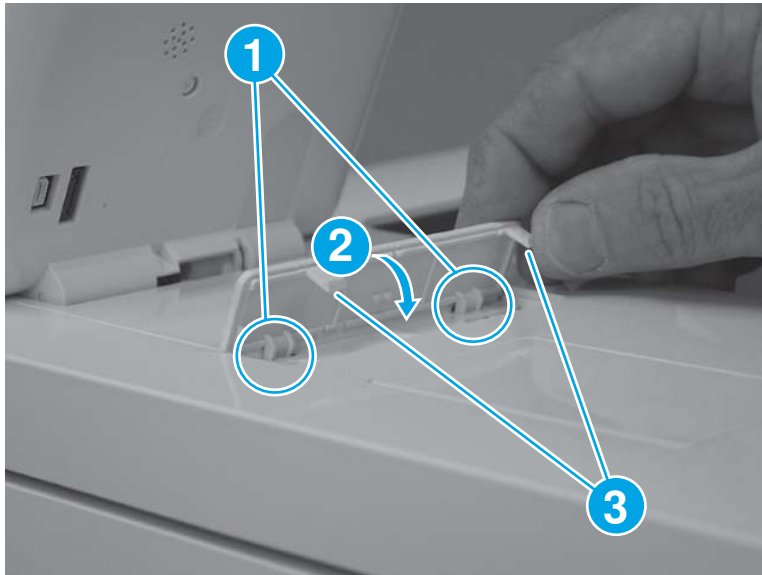
Figure 5-512 Install two screws



5. Position the access cover mounting feet into the slots in the top cover (callout 1), and then rotate the cover down (callout 2) to install it.

 **NOTE:** Press down on the cover firmly to make sure that the tabs (callout 3) snap into place.

Figure 5-513 Install the cover

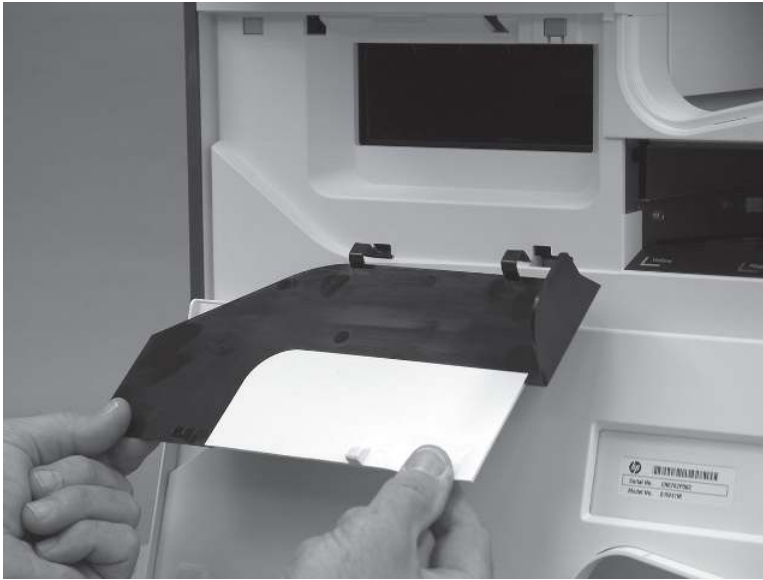


16. Install the blank cover (PM)

Follow these steps to install the blank cover (PM).

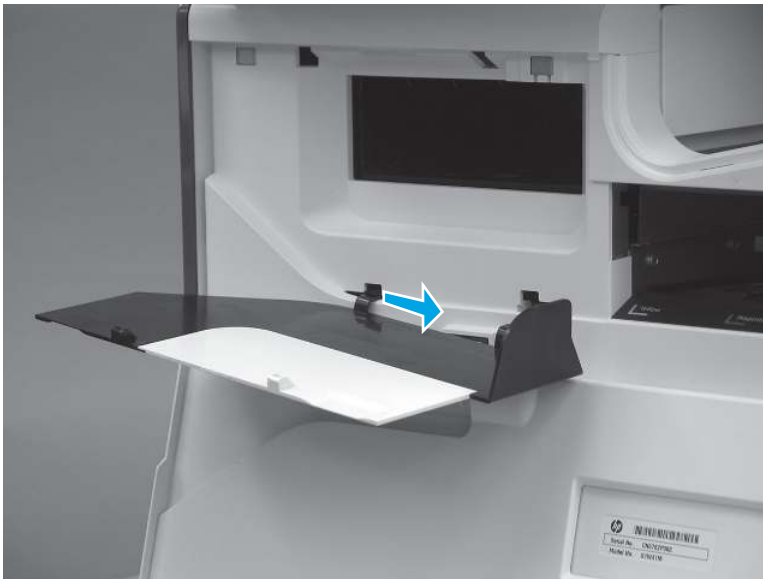
1. Align the hinges on the blank cover with the slots in the printer.

Figure 5-514 Install the blank cover



2. Install the left-side hinge.

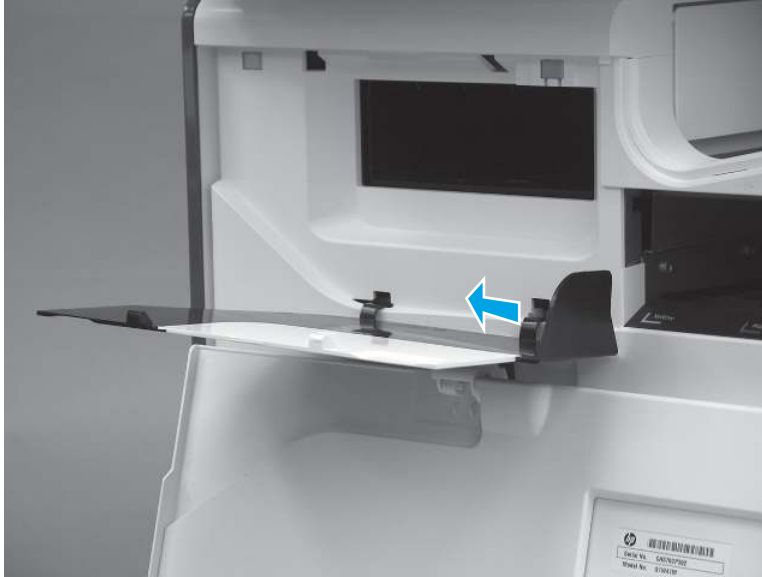
Figure 5-515 Install the left-side hinge



3. Install the right-side hinge.

 **NOTE:** Slightly flexing the hinge makes installing it easier.

Figure 5-516 Install the right-side hinge



4. Close the blank cover.

Figure 5-517 Close the blank cover

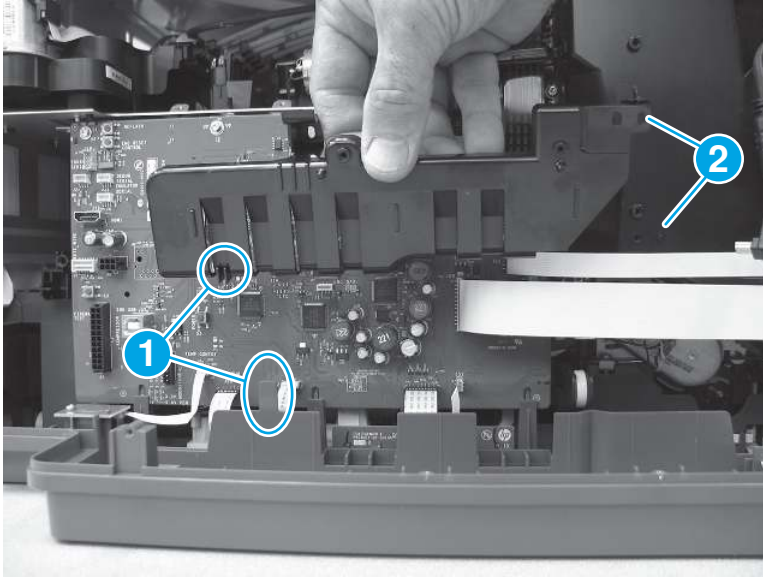


17. Install the power supply mounting bracket (PM)

Follow these steps to install the power supply mounting bracket (PM).

1. When the bracket is properly installed the following occurs:
 - The slot on the bracket rests on the tab of the printer cover (callout 1).
 - The alignment pin on the printer fits into the hole in the bracket (callout 2).

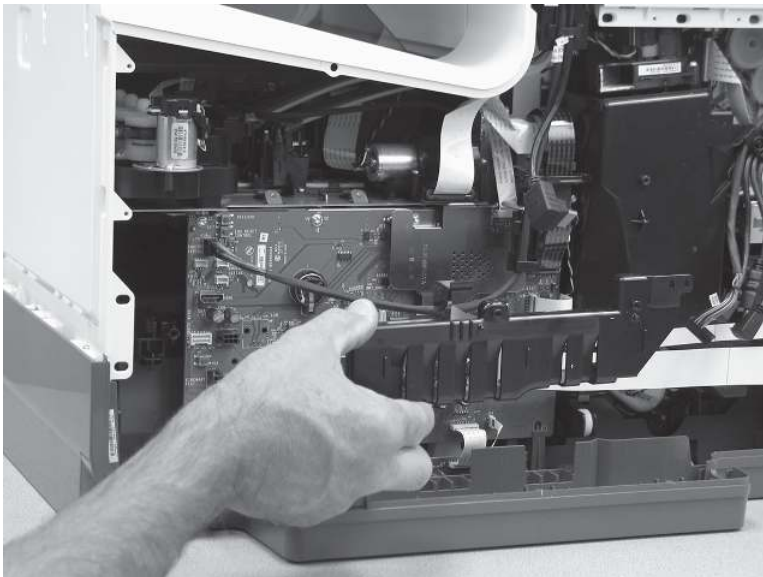
Figure 5-518 Correctly installed power supply mounting bracket



2. Position the bracket on the printer.

 **NOTE:** The bracket placement might need to be adjusted, so do not install the mounting screws until after the power supply is installed.

Figure 5-519 Install the bracket

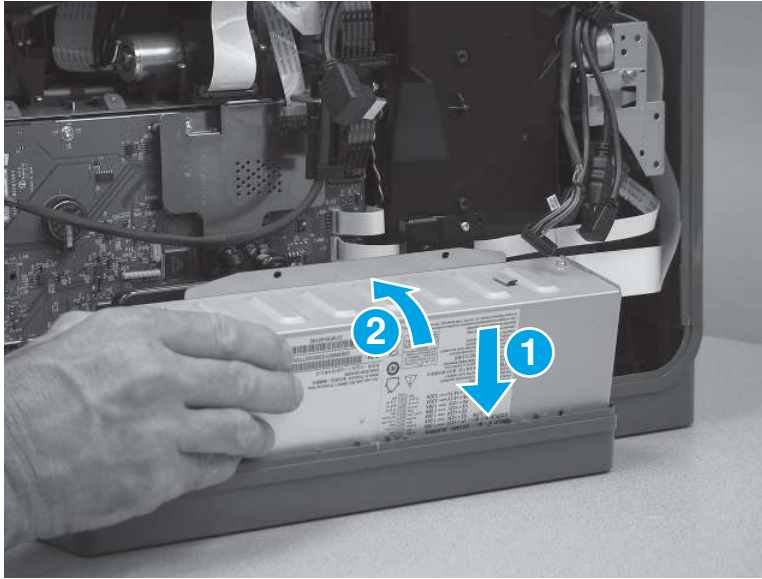


18. Install the power supply (PM)

Follow these steps to install the power supply (PM).

1. Install the power supply.

Figure 5-520 Install the power supply.



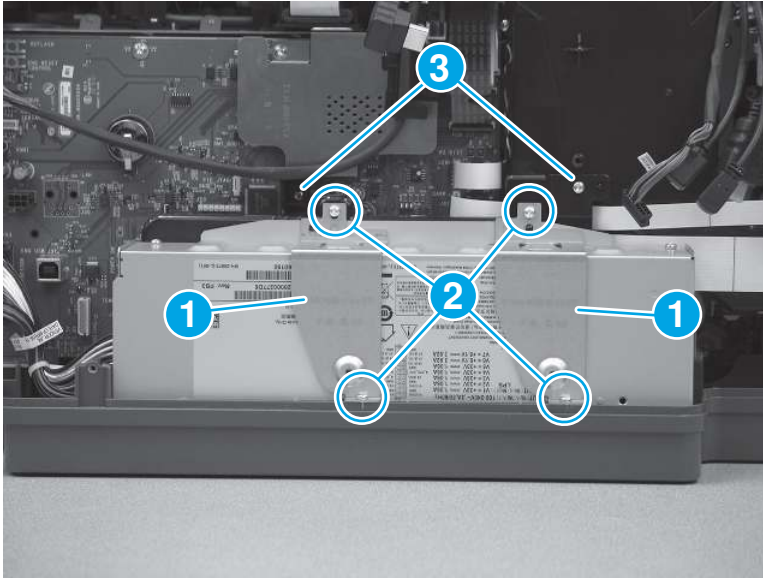
2. After installing the power supply, adjust the bracket as necessary to make sure that the locator pins fit into the holes on the assembly.

Figure 5-521 Check the locator pins



3. Install two brackets (callout 1), install four screws (callout 2), and then install two screws (callout 3).

Figure 5-522 Install brackets and screws



4. Connect one connector (callout 1).


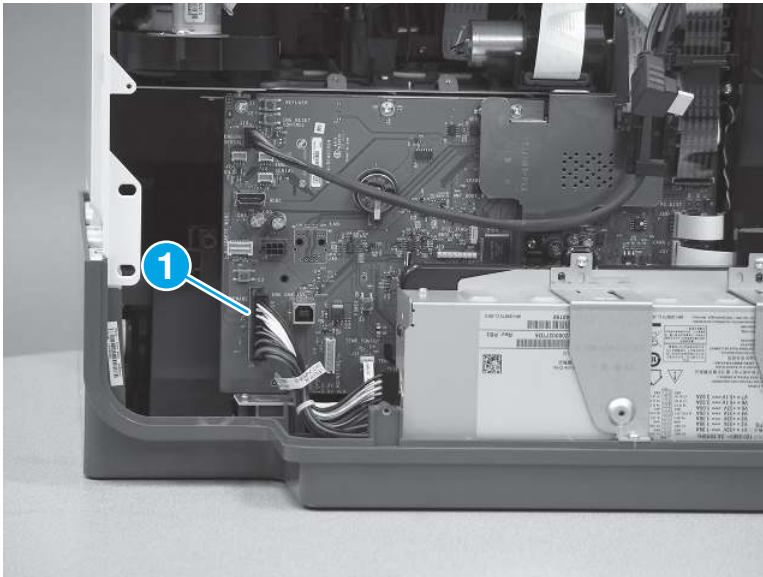
 **TIP:** This connector might take more than normal force to connect. Make sure it is full seated into the connector body.

Figure 5-523 Connect one connector

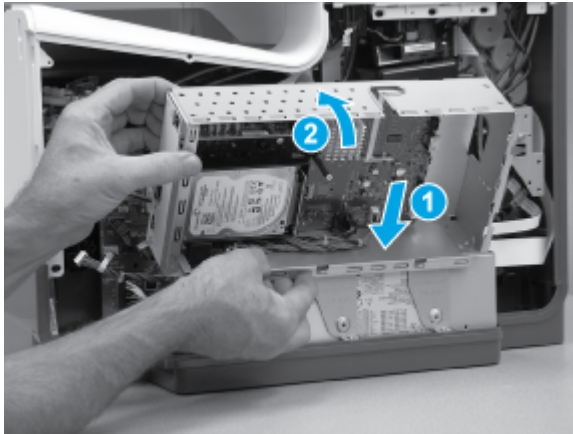


19. Install the formatter and formatter cage (PM)

Follow these steps to install the formatter and formatter cage (PM).

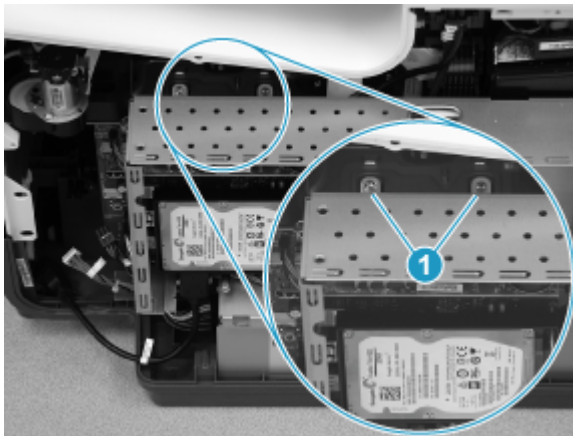
1. Install the formatter and formatter cage in the printer.

Figure 5-524 Install the formatter and cage



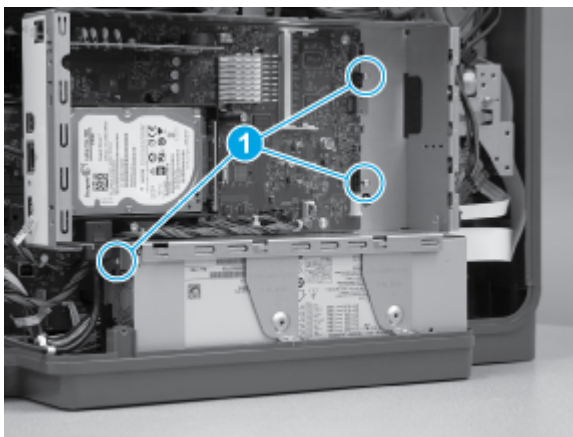
2. Install two screws (callout 1).

Figure 5-525 Install two screws



3. Install three screws (callout 1).

Figure 5-526 Install three screws



4. Pass the cables and wire harness through the opening in the formatter cage, and then connect five connectors (callout 1).


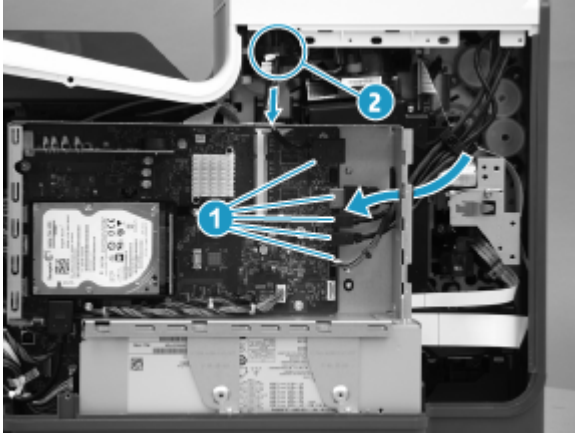
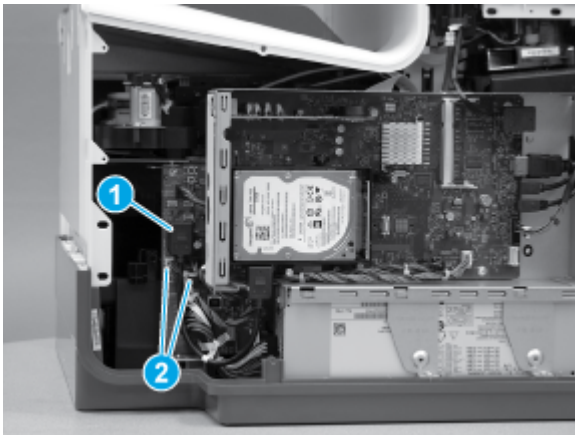
 **TIP:** The cable retainer (callout 2) is easily dislodged. Do not lose the retainer.

Figure 5-527 Disconnect connectors



5. Connect one HDMI cable (callout 1), and then connect two connectors (callout 2).

Figure 5-528 Connect connectors

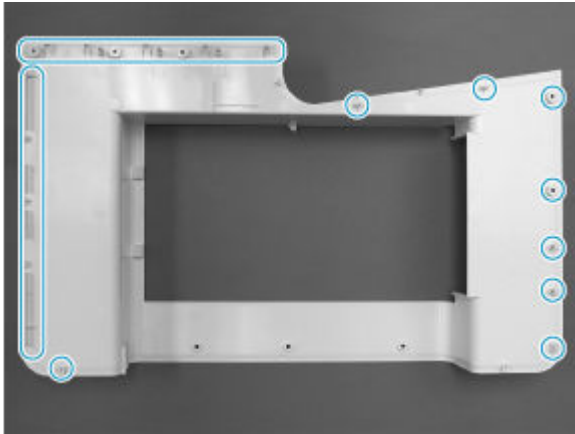


20. Install the rear cover (PM)

Follow these steps to install the rear cover (PM).

1. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-529 Find the tabs and bosses on the rear cover



2. Position the bottom edge of the cover on the printer.


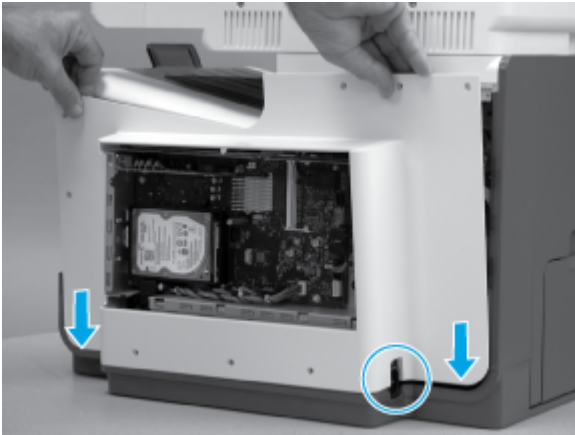
 **IMPORTANT:** Make sure that the inner two tabs on the cover bottom corners engages with the printer chassis, and that the slot in the cover is fitted correctly over the power supply receptacle.

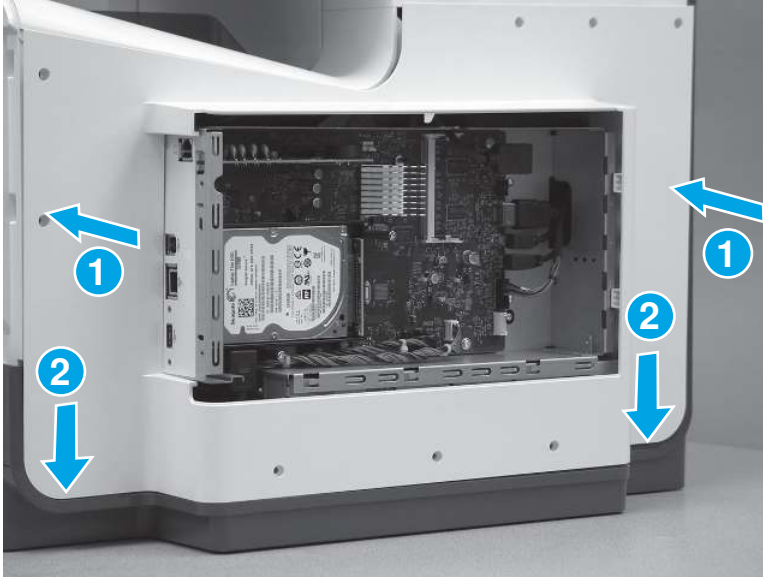
Figure 5-530 Install cover



3. Starting at the bottom of the cover and working upward, push in along the edges of the cover to engage the bosses along the right and left side of the cover (callout 1).

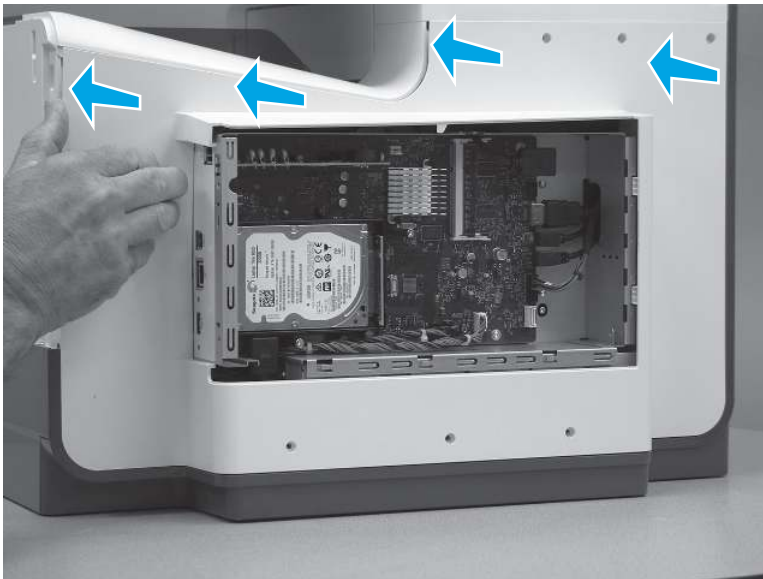
 **NOTE:** Make sure that the bottom edge of the cover (callout 2) remains engaged.

Figure 5-531 Engage the sides of the cover



4. Starting at the right upper corner of the cover and working toward the left, push in along the top edge of the cover to engage the bosses along the top of the cover.

Figure 5-532 Release the top edge of the cover

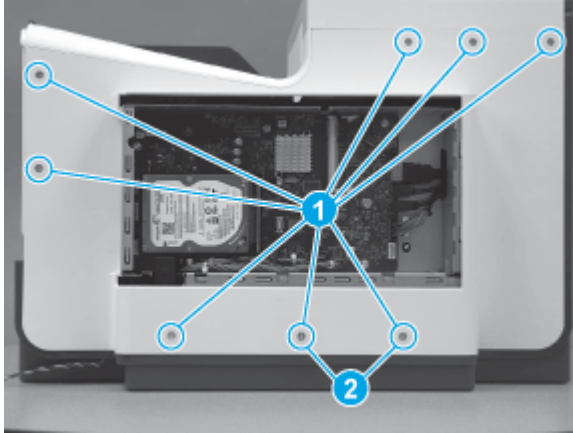


5. Install eight screws (callout 1).



NOTE: Two of these screws (callout 2) are a different type (machine screws) than the others. Make sure that they are installed in the correct position.

Figure 5-533 Install eight screws



21. Install the right cover (outer) (PM)

Follow these steps to install the right cover (outer) (PM).

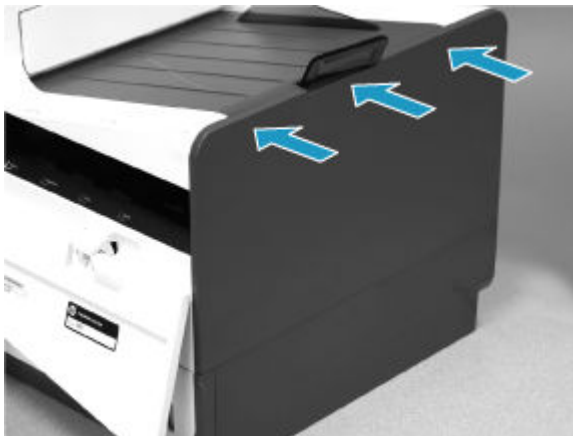
1. Position the bottom edge of the cover on the printer.

Figure 5-534 Position the right cover (outer) on the printer



2. Push in along the top edge of the right cover (outer) to install it.

Figure 5-535 Install the right cover (outer)



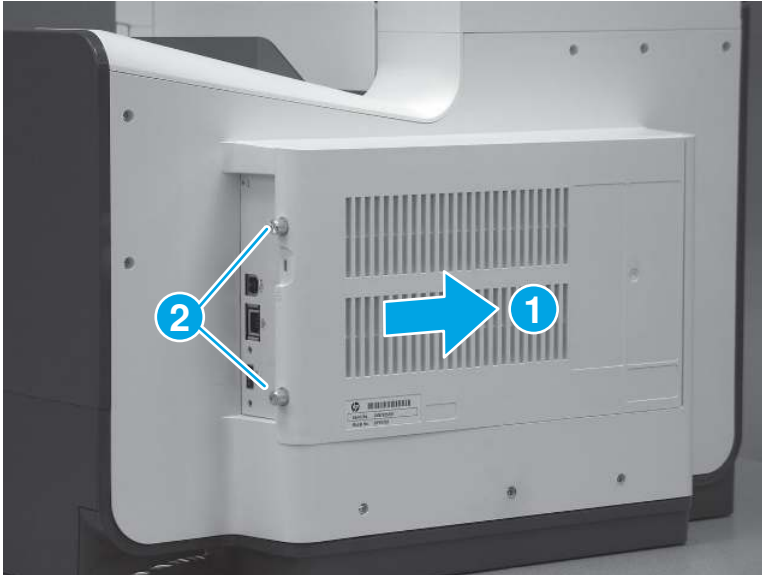
22. Install the formatter cover (PM)

Follow these steps to install the formatter cover (PM).

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

IMPORTANT: Make sure that the cover from the defective unit (DU) is installed on the replacement print mechanism (PM) so that the regulatory and serial number label is transferred to the PM.

Figure 5-536 Install the formatter cover



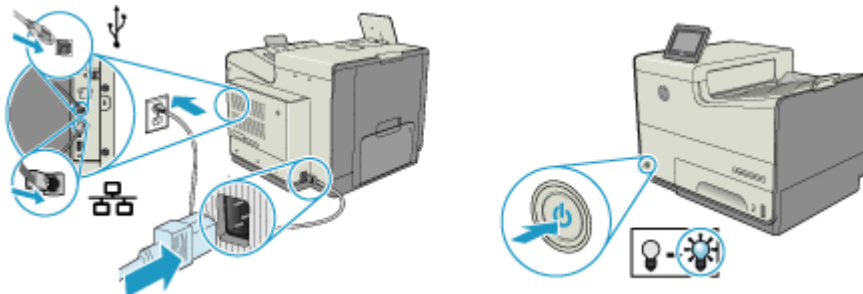
23. Turn the power on print mechanism (PM)

Follow these steps to turn the power on print mechanism (PM).

- ▲ Connect the USB cable or the network cable, plug in the power cable, and then turn on the printer. Allow it to initialize and calibrate. These processes will take approximately 26 minutes. Make sure that Tray 2 contains paper.

CAUTION: Do not power on the print mechanism with any formatter other than the formatter from the defective unit. Using another formatter will cause data loss and require an additional replacement print mechanism.

Figure 5-537 Turn the power on (PM)

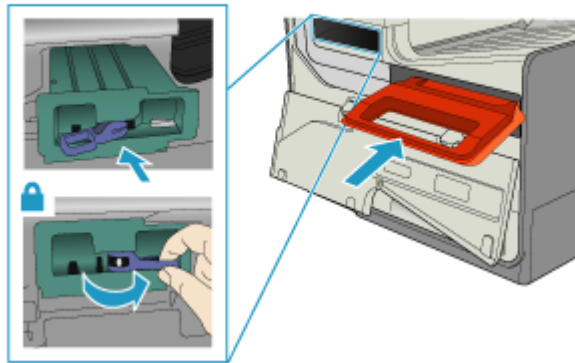


24. Prepare the Defective Unit (DU) for Shipping

Follow these steps to prepare the Defective Unit (DU) for Shipping.

1. While the printer is initializing, install the orange cartridge shipping restraint insert in the cartridge cavity and the blue print-head restraint as shown.

Figure 5-538 Install the cartridge shipping restraint and the print-head restraint



2. Use the shipping tape from the replacement PM to secure the DU, and then package the DU in the box that contained the replacement PM. Return the DU to HP.

Figure 5-539 Box the DU for shipping



Removal and replacement: Print mechanism kit (586)

This document provides the procedures to install the print mechanism (PM) kit.

[View a video about installing the print mechanism kit.](#)

Mean time to repair: 1 hour

Service level: Intermediate

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-28 Part information

Part number	
G1W39-69001	Multi-function print mechanism kit

Required tools

- Torx driver (#10) with a 152 mm (6 in) shaft and magnetized tip.
- Phillips screwdriver (#2)
- Small flat-blade screwdriver
- Flat-blade screwdriver 152 mm (6 in) shaft
- Optional: Small pliers (for holding clips during disassembly)

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

Print a configuration page to verify printer functionality.

Make a copy using the document feeder and the scanner glass.

Acclimation process

The print mechanism kit will not operate properly below 5° C (41° F). The product control panel will display an error message.

Cold temperatures during kit storage or transportation might require extra time before installation to allow the kit and ink cartridges to adjust to a warmer temperature (acclimation). Exposure to extended periods of heat usually requires a minimal amount of acclimation time.

Exposure to extended periods of cold can cause condensation (moisture) to form on the parts when moved into warmer areas. Condensation indicates the need for an acclimation period until the condensation disappears. Exposure to extended cold (below 0° C (32° F)) can cause the ink inside the kit to freeze. The kit and ink cartridges

were designed to be exposed to freezing temperatures without being damaged. However, if the ink is frozen and cannot flow properly during installation or during printing, errors might be reported on the control panel or print quality might be poor, or possible damage will occur.

⚠ CAUTION: When unsure if the kit and ink cartridges need to be acclimated, always proceed as if they do need to be acclimated. Acclimation will not damage these kits, but the failure to acclimate them can cause errors or print quality issues, or possible damage can occur.

1. Unpack the kit.
2. Open the doors or remove the covers and pull out the input tray.
3. Leave the kit in the repair area until there is no visible condensation before proceeding with installation.

Ink cartridge acclimation

Unpack the ink cartridges. It is important to remove the ink cartridges from their packaging and to separate them to speed the acclimation process. The packaging will act as an insulation barrier and prevent frozen ink from thawing quickly.

The ink cartridges might need 2 to 4 hours to thaw, depending on how frozen the ink is.

Move the ink cartridges into a warmer area and keep them separated to accelerate the thawing process.

Do not install ink cartridges that show visible condensation on the outside walls.

⚠ CAUTION: Check each ink cartridge's electrical connection (gold colored contacts) for condensation before installing them. Remove condensation by carefully blotting the electrical connections with a lint-free cloth. To prevent damage, do not wipe or drag the cloth across the connections.

Keep the packaging

Do not destroy the box in which the new mechanism kit was shipped. You will use the box to return the defective mechanism.

📝 NOTE: If the customer has activated the anti-theft feature on the ink cartridges, those cartridges must be installed into the new print mechanism (PM) after the initial purge and calibration – which uses the startup cartridges – but before 15 pages are printed on the new mechanism.

📝 NOTE: Do not power on the new print mechanism with any formatter other than the formatter from the defective unit (DU). Using another formatter will cause data loss and require another replacement print mechanism kit.

PM Process

To make the replacement print mechanism (PM) operational, remove the following assemblies from the defective unit (DU) and then install them on the PM.

- Formatter cover
- Formatter and formatter cage (and any installed accessories)
- Power supply (and brackets)
- Blank cover

- Integrated scanner assembly (ISA)



NOTE: The ISA includes the image scanner, document feeder, control panel, and keyboard (MFP 586z only).

Removal and replacement strategy





Make sure that assemblies are replaced with the correct screw type. Using the incorrect screw (for example, substituting a long screw for the correct shorter screw) can cause damage to the printer or interfere with printer operation. Do not intermix screws that are removed from one assembly with the screws that are removed from another assembly.

Tracking fasteners used in this printer

1. Draw a series of boxes on a blank sheet of paper.
2. When removing screws, write the removal step number in one of the squares, and place the screws in that square.

For example, in the figure below steps 4, 7, 9 and 10.2 are screw removal steps.

Figure 5-540 Tracking fasteners

4	7	9	10.2
			

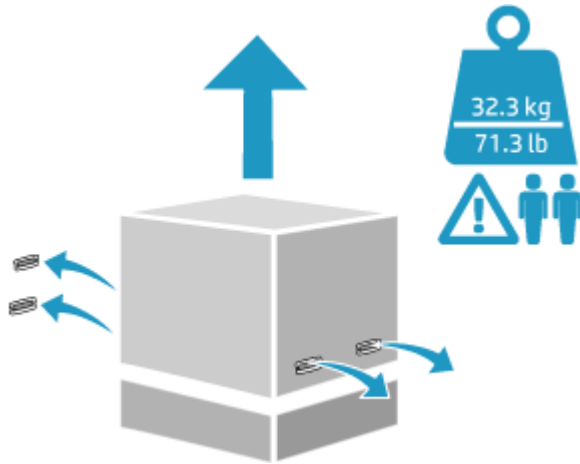
Screw installation steps include a reference to the step where the screws were removed. Match the referenced step number to the corresponding matrix box and use those screws to install the assembly. This method makes sure that the correct type and size screw is correctly installed during reassembly.

1. Unpack the Replacement Print Mechanism (PM)

Follow these steps to unpack the Replacement Print Mechanism (PM).

1. Remove the replacement PM from the box by lifting it out by the bag around it.

Figure 5-541 Unpack the Replacement PM



2. Remove all the blue shipping tape.


 **NOTE:** The shipping tape is reusable. Use the shipping tape from the replacement print mechanism (PM) to prepare the defective unit (DU) for shipping.

Figure 5-542 Remove the shipping tape



3. Remove the cartridge orange shipping restraint insert that is recessed in the cartridge cavity and the blue print-head restraint.


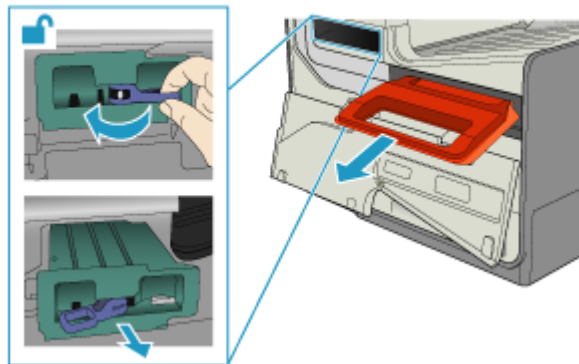
 **NOTE:** The restraint insert, and print-head restraint are reusable. Use the shipping restraint and print-head restraint from the replacement print mechanism (PM) to prepare the defective unit (DU) for shipping.

Figure 5-543 Remove the shipping restraint and the print-head restraint



4. Install the startup cartridges included with the kit and load paper into Tray 2.

 **NOTE:** Adjust the sliding paper guides to the correct paper size for this tray.


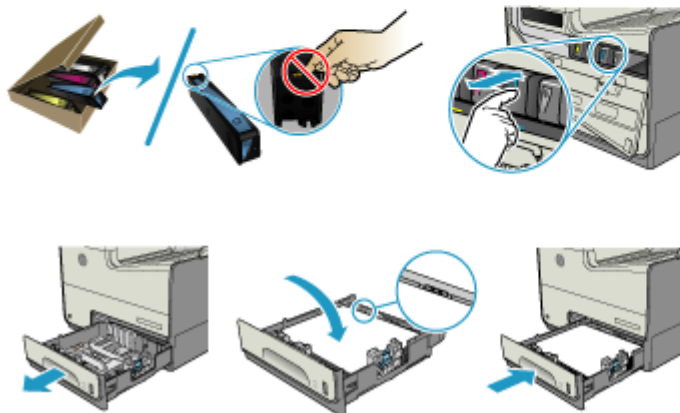
 **TIP:** Leave the cartridge door open to make removing the right cover (later) easier.

Figure 5-544 Install the startup cartridges and load paper



2. Remove the right cover (outer) (PM)

Follow these steps to remove the right cover (outer) (PM).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


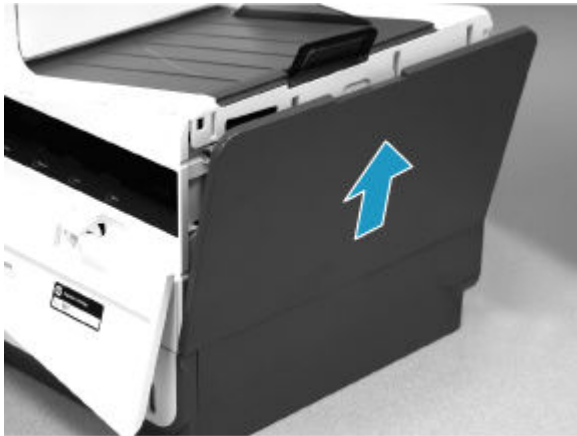
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-545 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-546 Remove the right cover (outer)



3. Remove the formatter cover (PM)

Follow these steps to remove the formatter cover (PM).

- ▲ If installed, slide the formatter cover away from the PM to remove it.

Figure 5-547 Remove the formatter cover (PM)

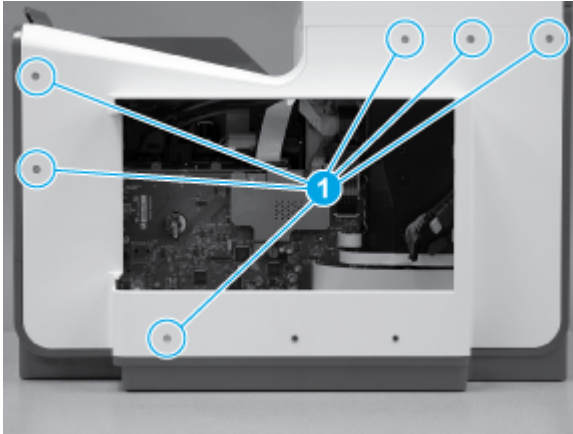


4. Remove the rear cover (PM)

Follow these steps to remove the rear cover (PM).

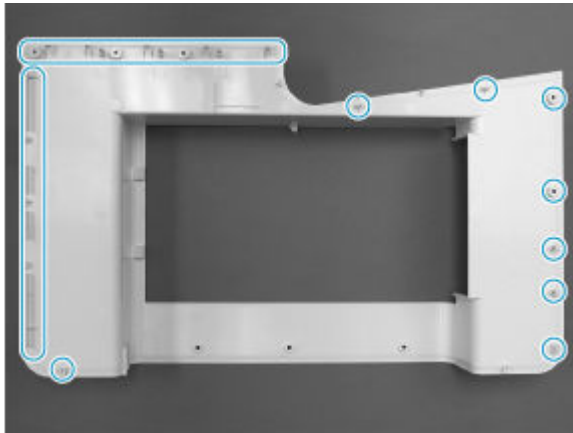
1. Remove six screws (callout 1).

Figure 5-548 Remove six screws



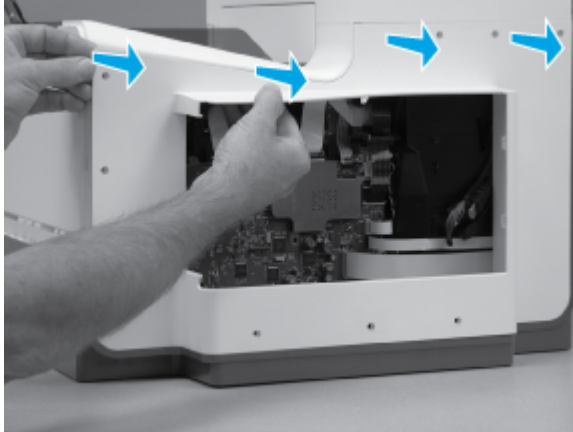
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-549 Find the tabs and bosses on the rear cover



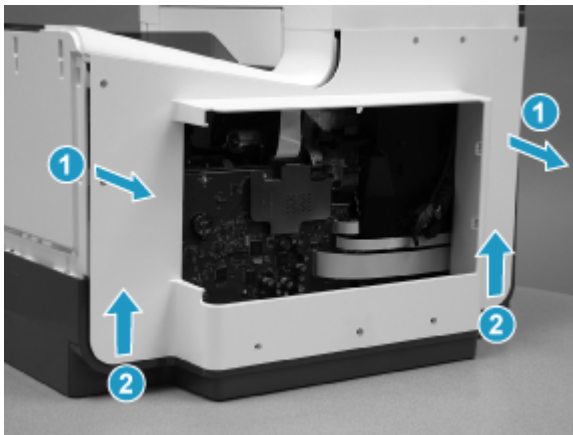
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-550 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to release it.

Figure 5-551 Release the rear cover (PM)



5. Remove the cover.


Figure 5-552 Remove the rear cover (PM)



5. Turn the power off defective unit (DU)

Follow these steps to turn the power off defective unit (DU).

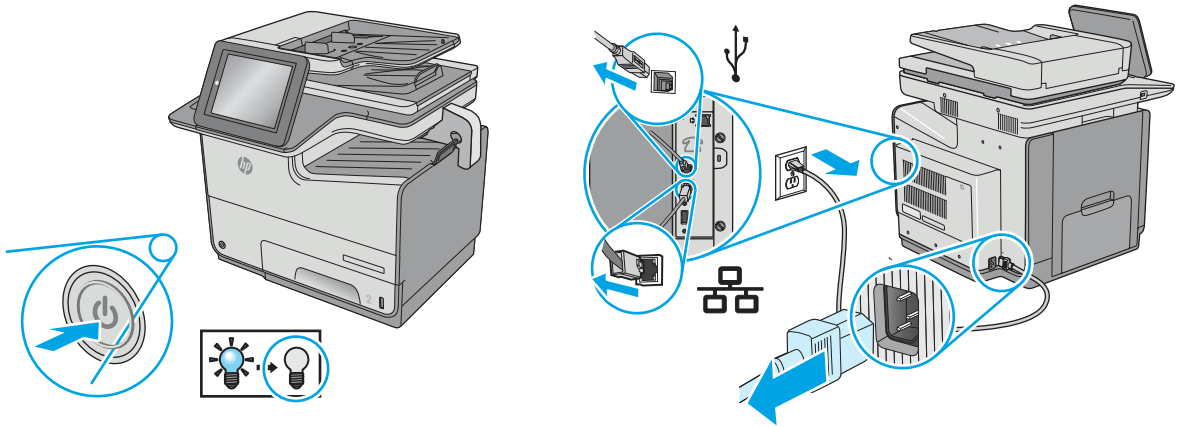
- ▲ Turn the power off and disconnect all interface and power cables (DU).

 **NOTE:** Remove the ink cartridges.

Insert the orange shipping cartridge restraint from the replacement print mechanism kit (PM) into the defective unit (DU).

 **TIP:** Retain the cartridges removed from the DU for use after the STARTUP cartridges are depleted.

Figure 5-553 Turn the power off (DU)



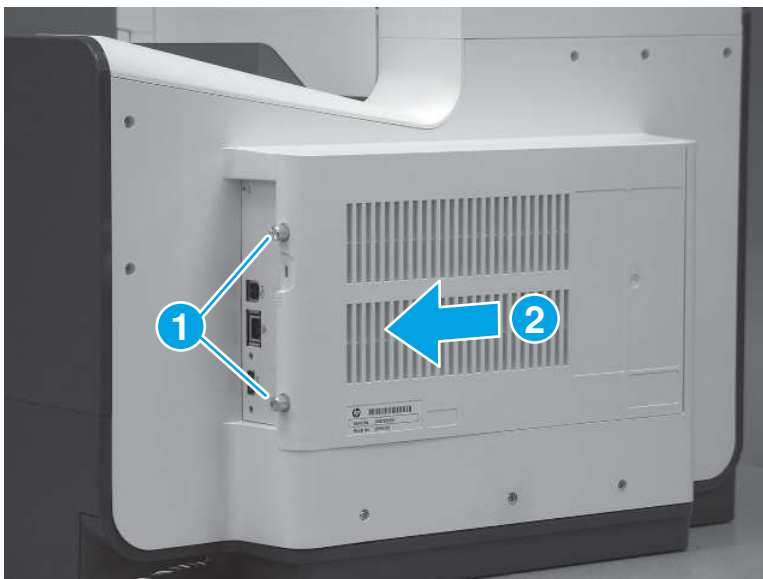
6. Remove the formatter cover (DU)

Follow these steps to remove the formatter cover (DU).

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-554 Remove the formatter cover



7. Remove the right cover (outer) (DU)

Follow these steps to remove the right cover (outer) (DU).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


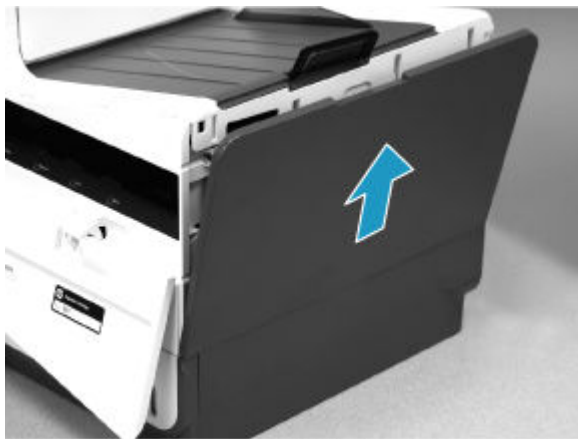
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-555 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-556 Remove the right cover (outer)



8. Remove the rear cover (DU)

Follow these steps to remove the rear cover (DU).

1. Remove eight screws (callout 1).


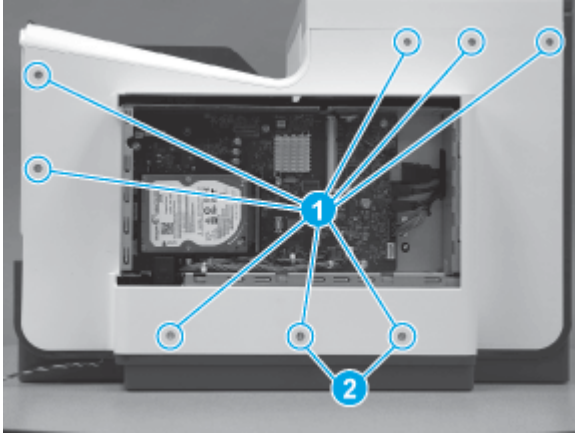
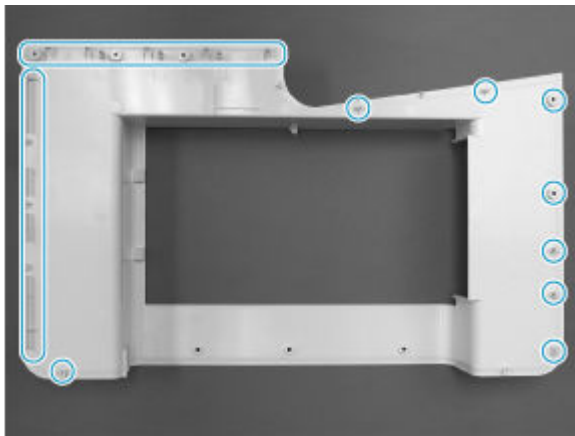
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-557 Remove eight screws



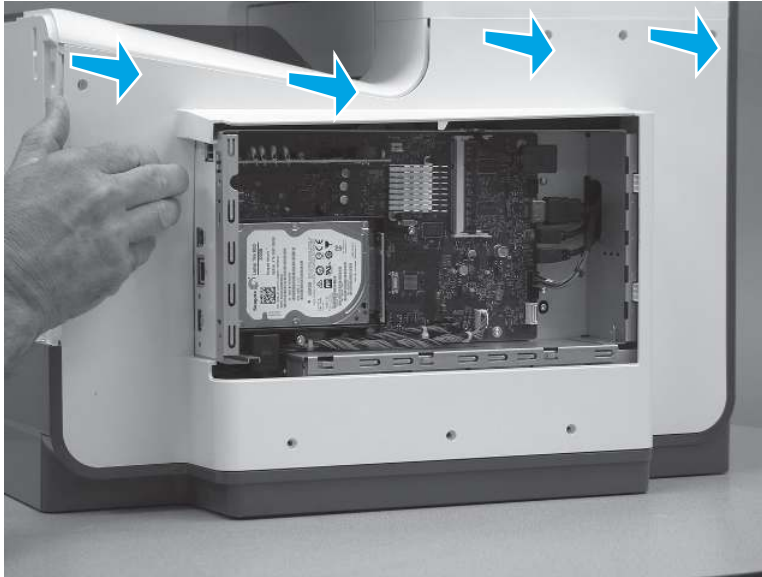
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-558 Find the tabs and bosses on the rear cover



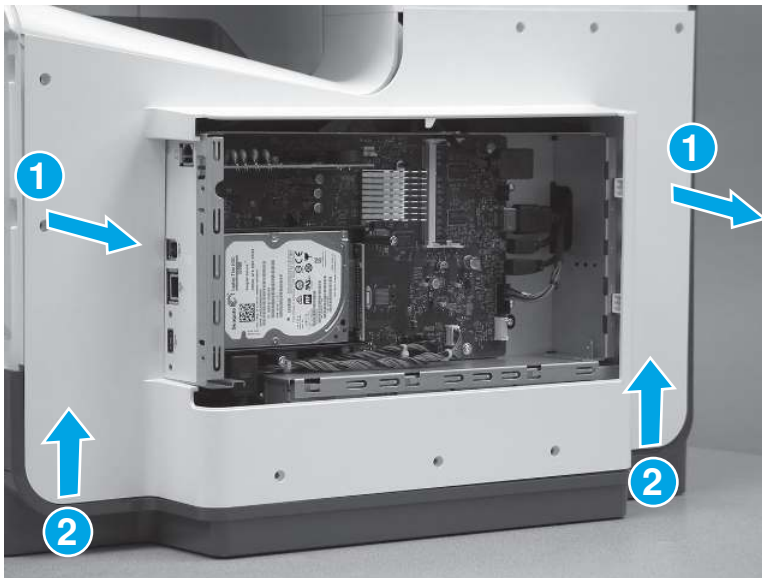
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-559 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-560 Remove the rear cover

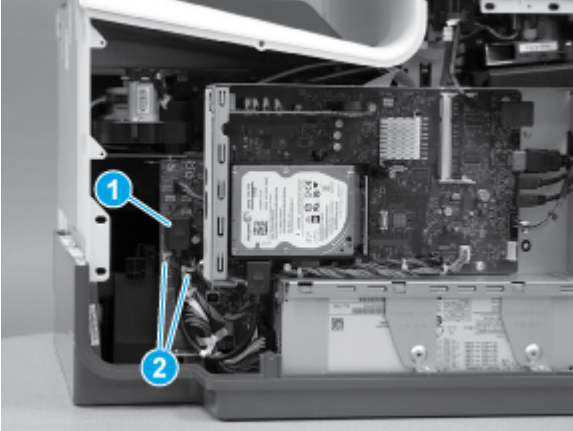


9. Remove the formatter and formatter cage (DU)

Follow these steps to remove the formatter and formatter cage (DU).

1. Disconnect one HDMI cable (callout 1), and then disconnect two connectors (callout 2).

Figure 5-561 Disconnect connectors



2. Disconnect five connectors (callout 1), and then pass the cables and wire harness through the openings in the formatter cage.


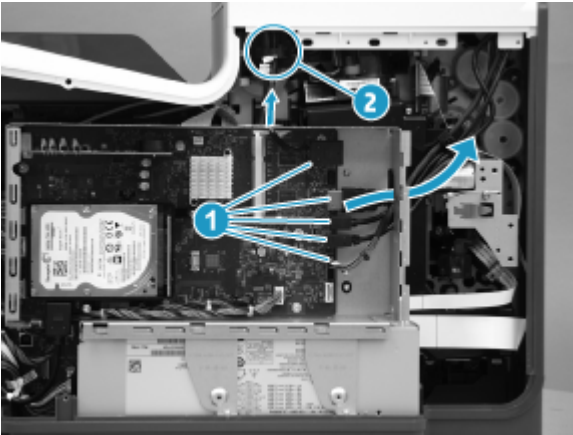
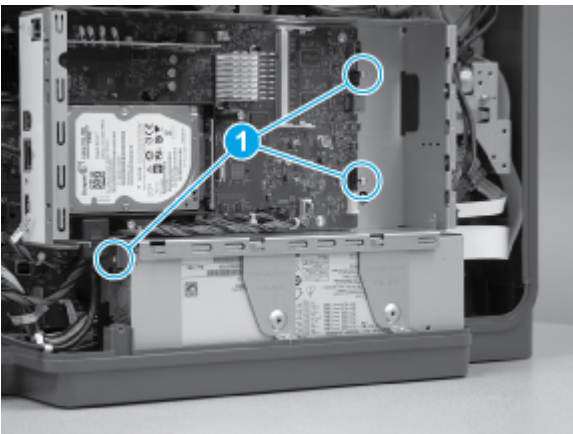
 **TIP:** The cable retainer (callout 2) is easily dislodged. Do not lose the retainer.

Figure 5-562 Disconnect connectors



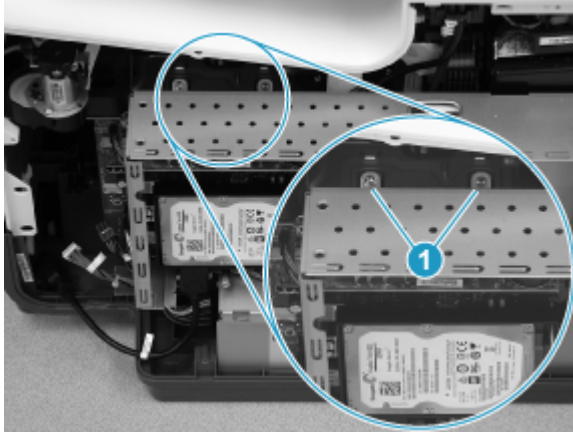
3. Remove three screws (callout 1).

Figure 5-563 Remove three screws



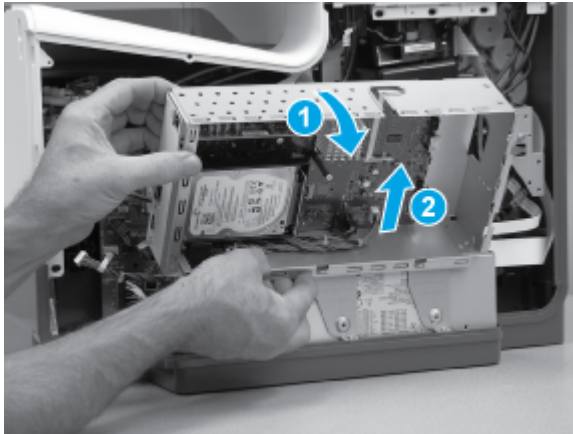
4. Remove two screws (callout 1).

Figure 5-564 Remove two screws



5. Rotate the top of the assembly out and away from the printer, and then remove the assembly.

Figure 5-565 Remove the formatter and cage



10. Remove the power supply (DU)

Follow these steps to remove the power supply (DU).

1. Disconnect one connector (callout 1)


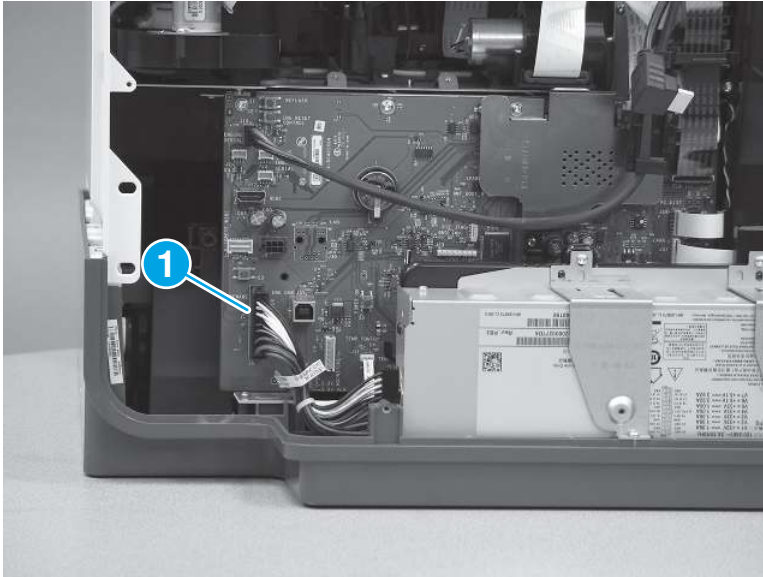
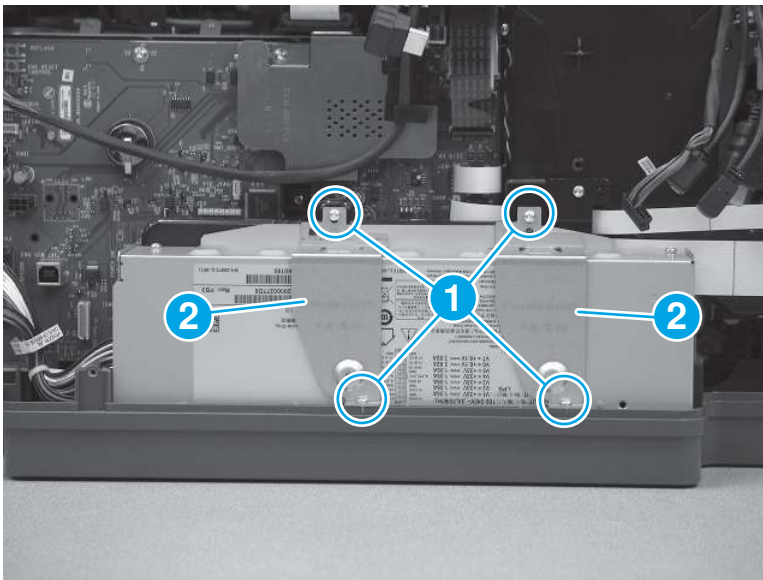
 **TIP:** This connector might take more than normal force to disconnect connect. Release a small locking tab while pulling the connector straight out to remove it.

Figure 5-566 Disconnect one connector



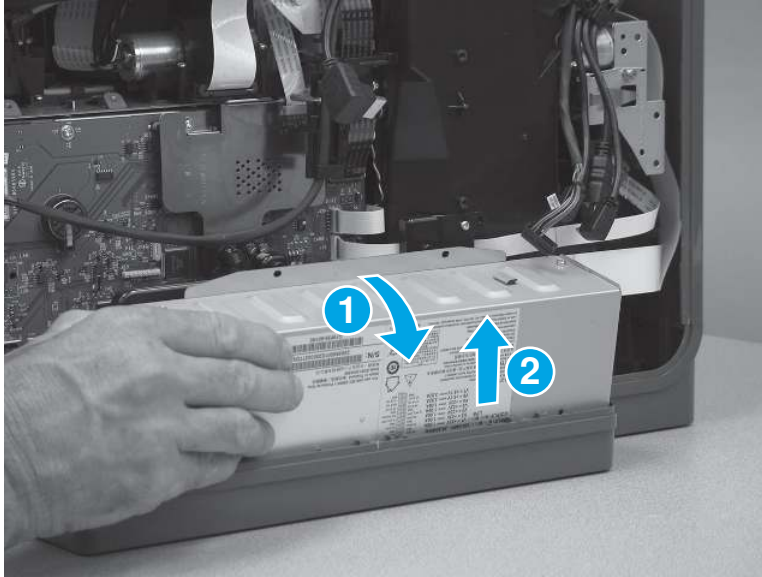
2. Remove four screws (callout 1), and then remove two brackets (callout 2).

Figure 5-567 Remove the screws and brackets



3. Slightly rotate the top of the power supply away from the printer, and then remove the assembly.

Figure 5-568 Remove the power supply

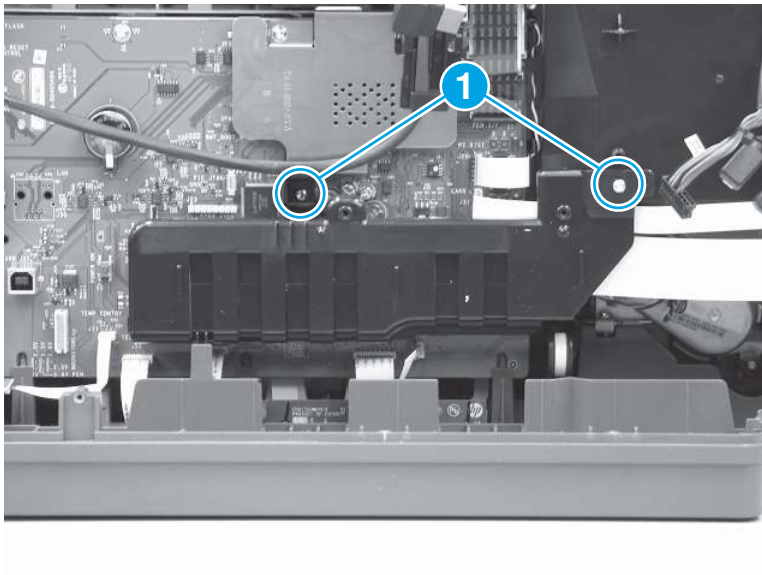


11. Remove the power supply mounting bracket (DU)

Follow these steps to remove the power supply mounting bracket (DU).

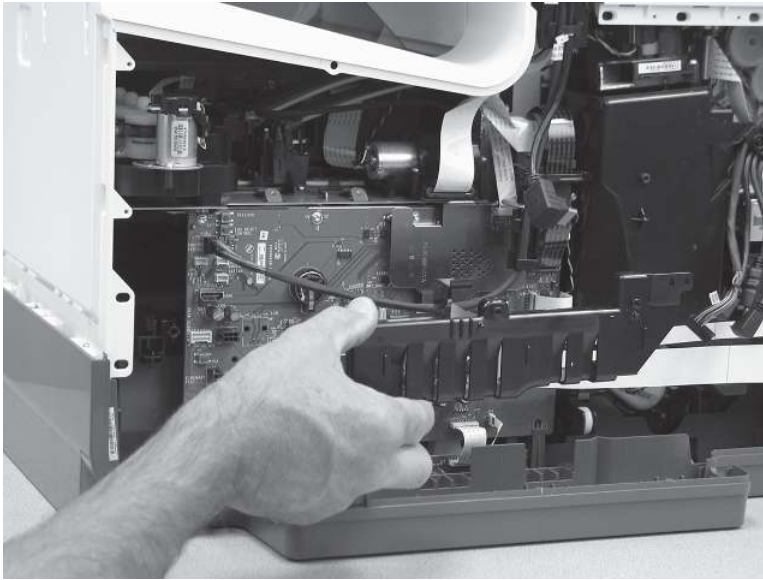
1. Remove two mounting screws (callout 1).

Figure 5-569 Remove two screws



2. Remove the bracket.

Figure 5-570 Remove the bracket



12. Remove the blank cover (DU)

Follow these steps to remove the blank cover (DU).

1. Open the blank cover.

 **IMPORTANT:** The blank cover carries a serial number sticker. The cover/sticker must be transferred to the replacement print mechanism (PM).

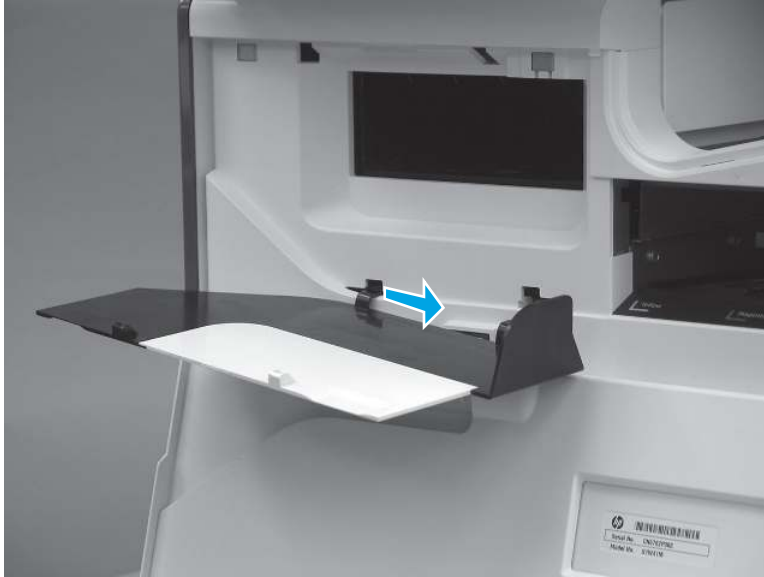
Figure 5-571 Open the blank cover



2. Slide the cover to the right to release the right-side hinge.

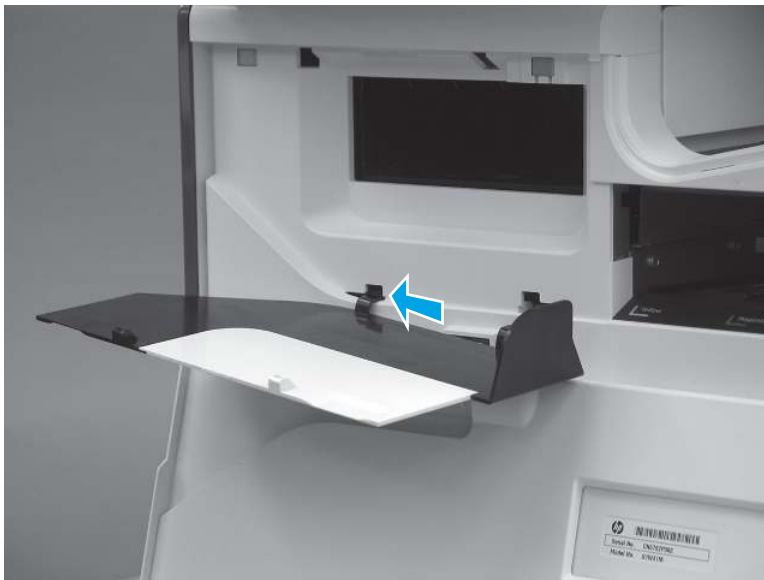
 **NOTE:** Slightly flexing the hinge makes releasing it easier.

Figure 5-572 Slide the cover to the right



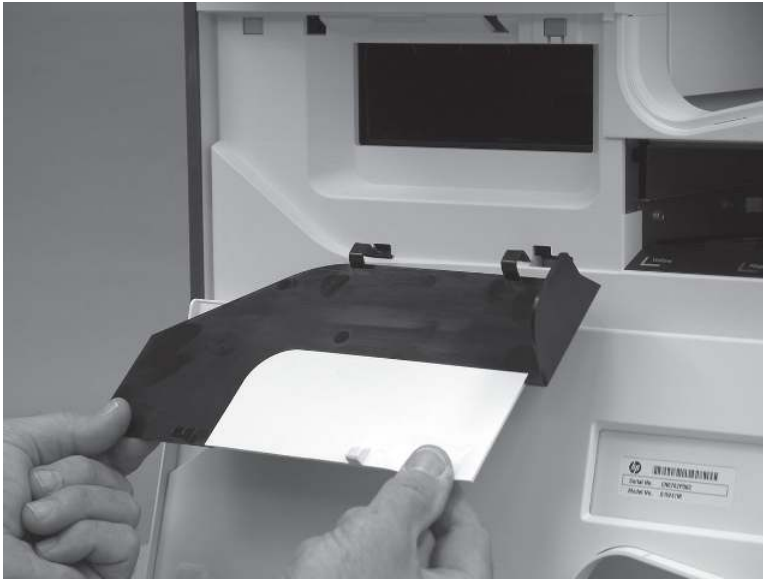
3. Slide the cover to the left to release the left-side hinge.

Figure 5-573 Slide the cover to the left



4. Remove the blank cover.

Figure 5-574 Remove the blank cover



13. Remove the Integrated Scanner Assembly (ISA) (DU)

Follow these steps to remove the Integrated Scanner Assembly (ISA) (DU).

1. If the control panel is in the down position, tilt it up to the fully raised position, and then open the document feeder.

Figure 5-575 Tilt the control panel up



2. Use a small flat blade screwdriver to release the small gray plastic cover under the control panel.

Figure 5-576 Release the small gray plastic cover



3. Remove the cover.

Figure 5-577 Remove the cover



4. Beginning at the left side of the control-panel cover, carefully release three bosses along the top edge of the cover.

Figure 5-578 Release three bosses



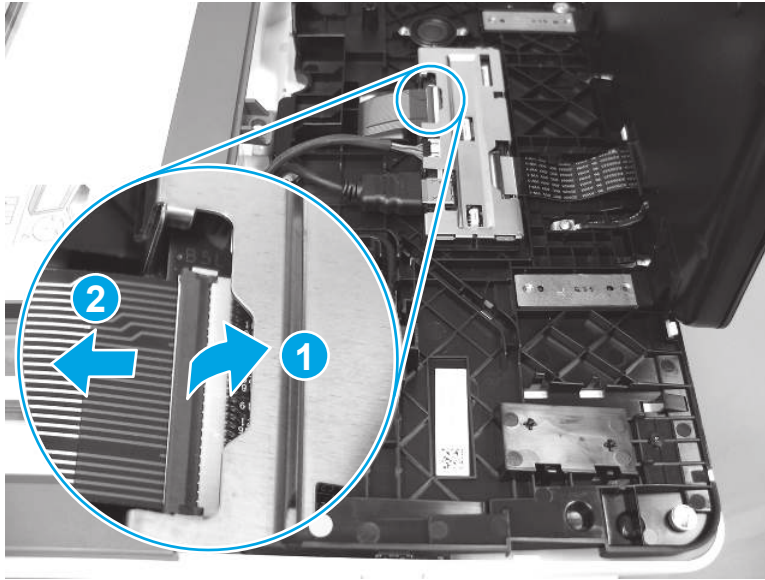
5. Lift up on the cover to release the right- and left-side bosses, and then remove the cover.

Figure 5-579 Remove the control-panel cover



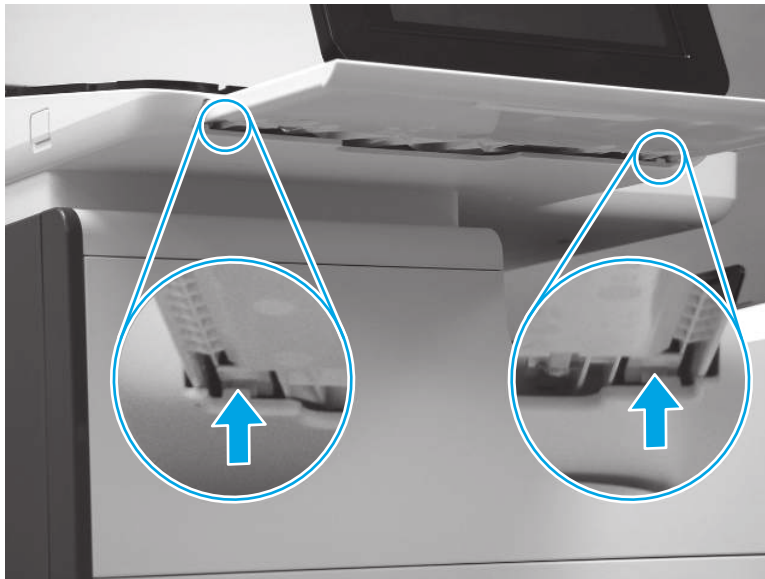
6. **586z only:** Open the connector latch to release the keyboard flat cable.

Figure 5-580 Release the keyboard cable (586z)



7. **586z only:** Slide the keyboard out until it stops, and then release two tabs on the keyboard.

Figure 5-581 Release two tabs (586z)



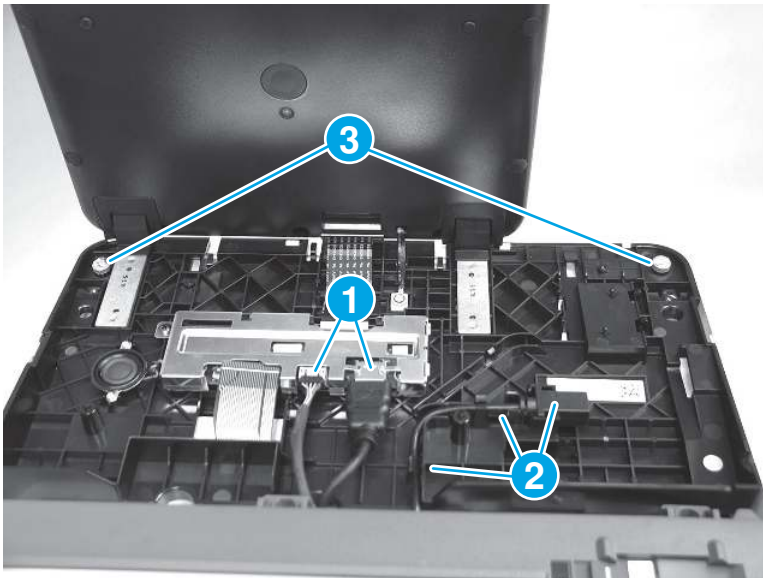
8. **586z only:** Remove the keyboard.

Figure 5-582 Remove the keyboard (586z)



9. Disconnect one HDMI cable and one connector (callout 1), release the USB cable from the holder and retainers (callout 2), and then remove two thumbscrews (callout 3).

Figure 5-583 Disconnect connectors and remove thumbscrews



10. Lift the front of the control panel off of the printer (callout 1), and then slide it toward the front of the printer (callout 2) to remove it.

Figure 5-584 Remove the control panel



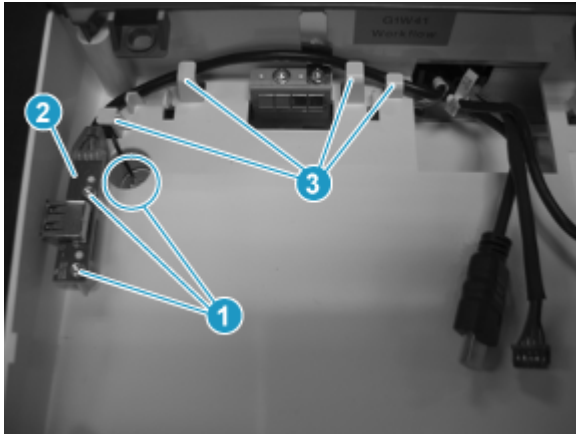
11. Remove the USB port cover.

Figure 5-585 Remove the USB port cover



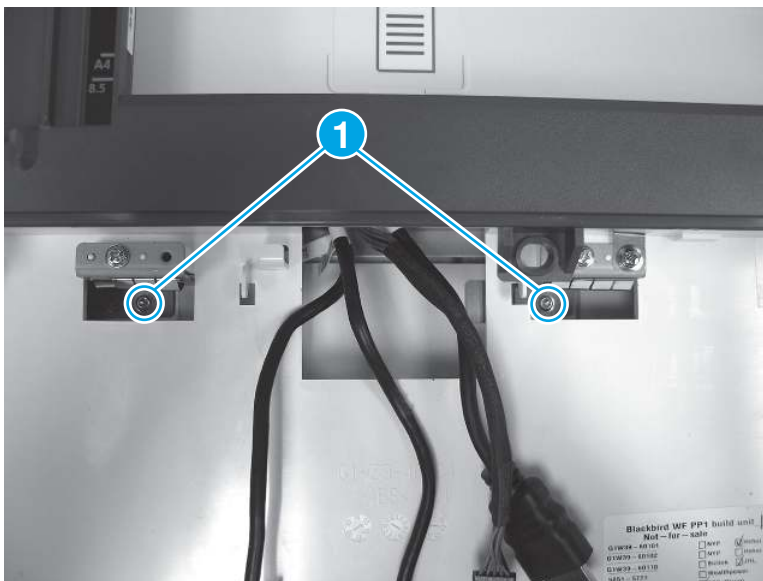
12. Remove three screws (callout 1) to release the USB port PCA (callout 2), and then release the cable from the retainers (callout 3).

Figure 5-586 Remove screws and release the cable



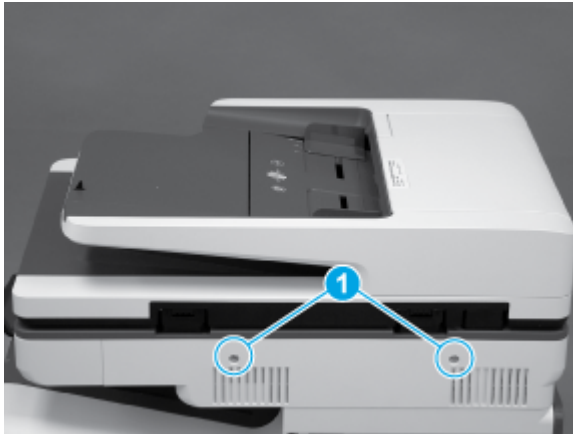
13. Remove two screws (callout 1).

Figure 5-587 Remove two screws



14. At the back of the printer, remove two screws (callout 1).

Figure 5-588 Remove two screws



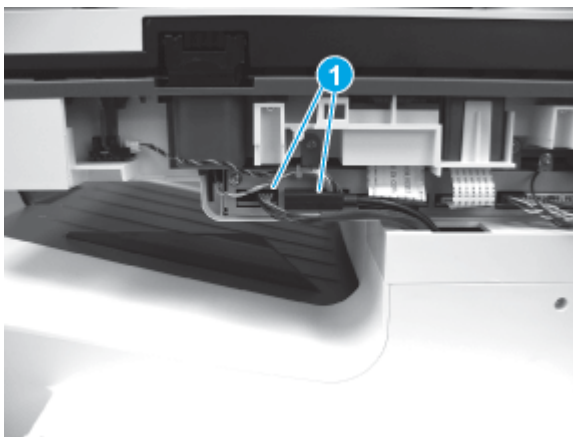
15. Pull the scanner control board (SCB) cover straight off the printer to remove it.

Figure 5-589 Remove the SCB cover



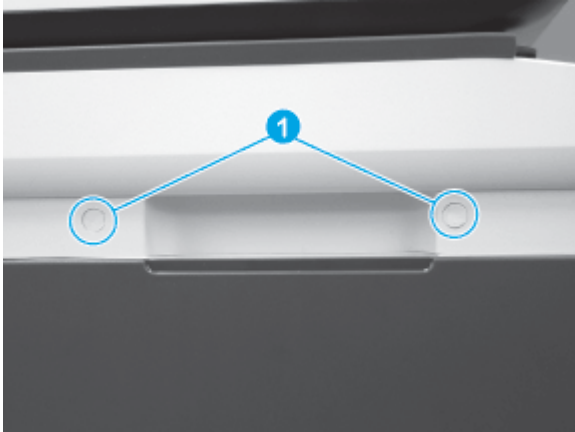
16. At the left end of the SCB, disconnect two connectors (callout 1).

Figure 5-590 Disconnect two connectors



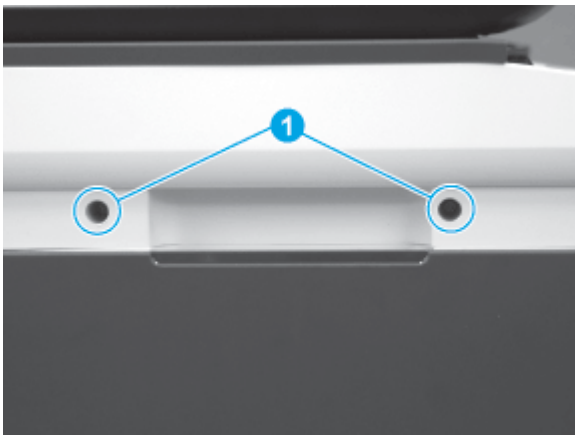
17. At the left side of the printer, use a small flat blade screwdriver to carefully remove two white rubber plugs (callout 1).

Figure 5-591 Remove two plugs



18. Remove two screws (callout 1).

Figure 5-592 Remove two screws



19. Use a flat blade screwdriver to release the scanner base cover.


 **NOTE:** Use a screwdriver with at least a 152 mm (6 in) shaft to release the cover. This cover can be difficult to remove and might require some force to release it from the ISA.

Figure 5-593 Release the cover



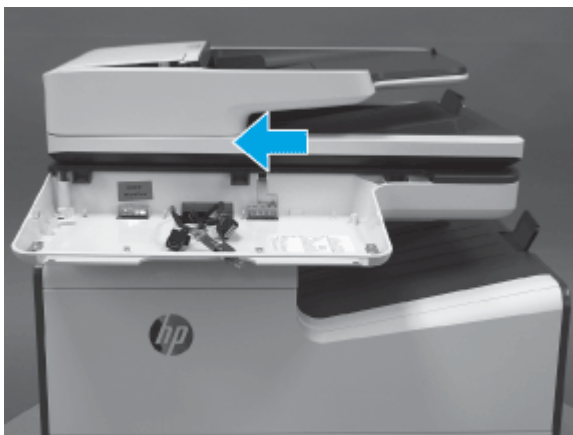
20. Remove the cover.

Figure 5-594 Remove the scanner base cover



21. Slightly slide the ISA toward the left side of the printer to release it.

Figure 5-595 Slide the ISA left



22. Slightly lift the front of the ISA up, and then pass the wire harnesses and cables through the opening in the ISA chassis.

⚠ CAUTION: The ISA is not captive on the printer base. Do not let it fall off of the printer base.

Figure 5-596 Pass the wire harnesses and cables through the opening



23. Lift the ISA straight up and off of the printer base to remove it.

⚠ CAUTION: The ISA is bulky and heavy. Do not drop the ISA.

Figure 5-597 Remove the ISA

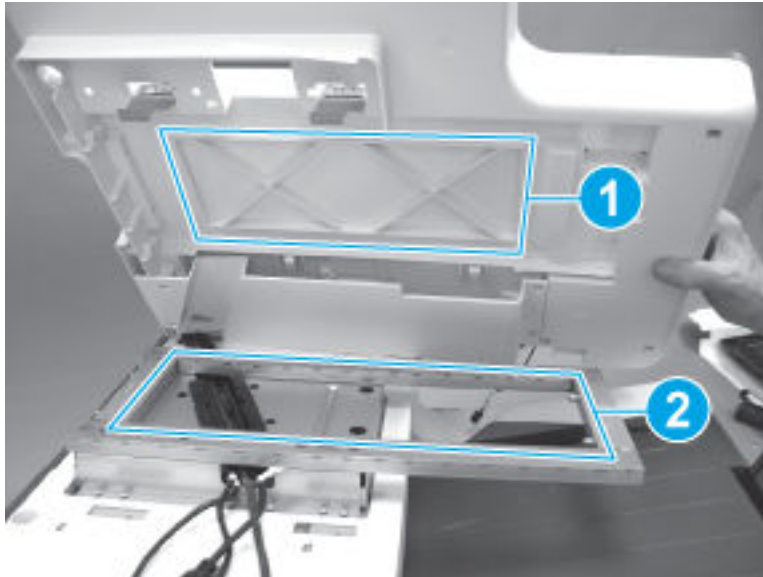


14. Install the Integrated Scanner Assembly (ISA) (PM)

Follow these steps to install the Integrated Scanner Assembly (ISA) (PM).

1. Before proceeding, locate the ISA mounting bracket (callout 1) on the bottom of the ISA and the tray (callout 2) on the printer base.

Figure 5-598 Locate the ISA mounting bracket



2. Position the ISA on the printer.

⚠ CAUTION: The ISA is bulky and heavy. Do not drop the ISA.

🔧 IMPORTANT: Keep the front of the ISA tilted up so the cables and wire harness are not damaged.

Figure 5-599 Install the ISA



3. With the front of the ISA tilted up, pass the wire harnesses and cables through the opening in the ISA chassis.

⚠ CAUTION: The ISA is not captive on the printer base. Do not let it fall off of the printer base.

Figure 5-600 Pass the wire harnesses and cables through the opening



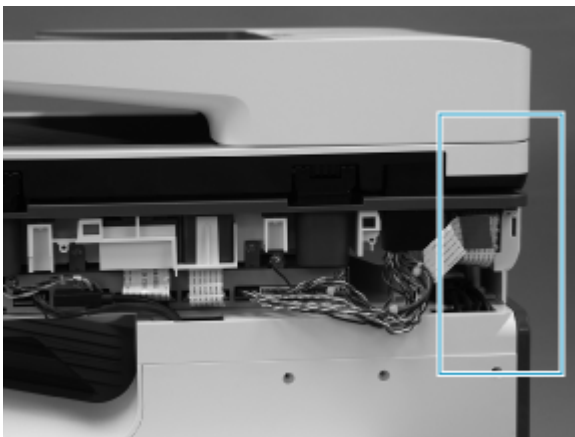
4. Lower the front of the ISA, and then slightly slide it toward the right side of the printer to engage it.

Figure 5-601 Slide the ISA right



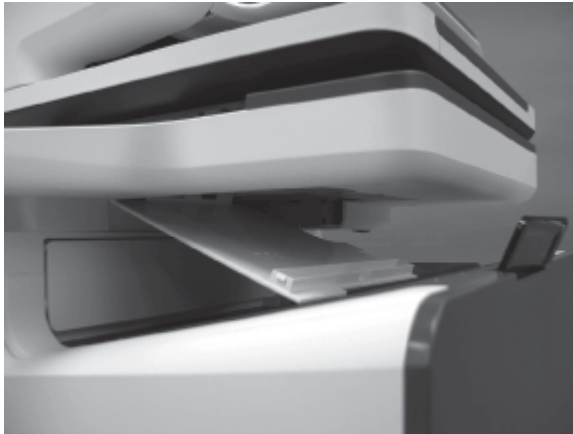
5. Before proceeding, at the back of the printer, look at the alignment of the ISA and printer base to verify that the ISA is fully seated. The edge of the ISA should be in line with the side of the printer base.

Figure 5-602 Check the ISA and printer base alignment



6. Position the scanner base cover on the printer.

Figure 5-603 Install the scanner base cover



7. Push up on the cover to install it.


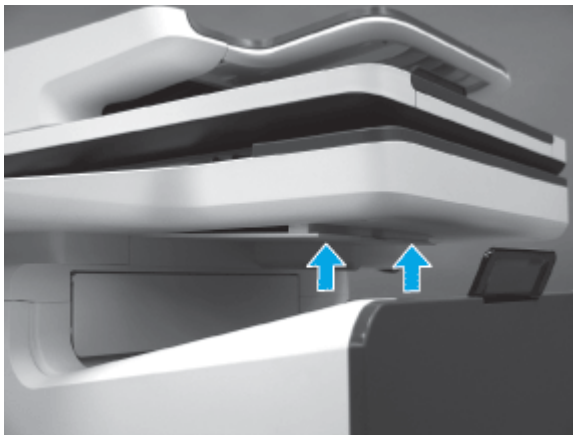
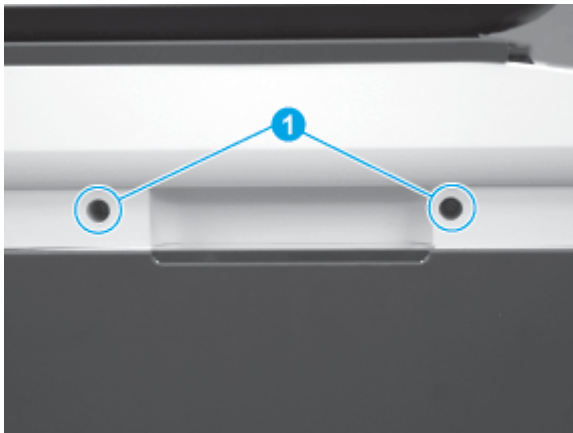
 **NOTE:** Installing the cover might require considerable force to snap it into place

Figure 5-604 Install the cover



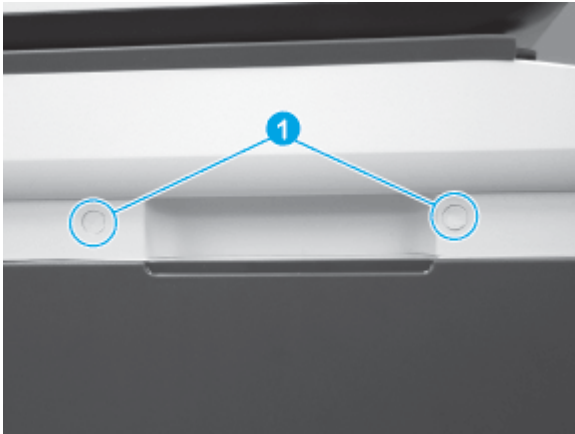
8. At the left side of the printer, install two screws (callout 1).

Figure 5-605 Install two screws



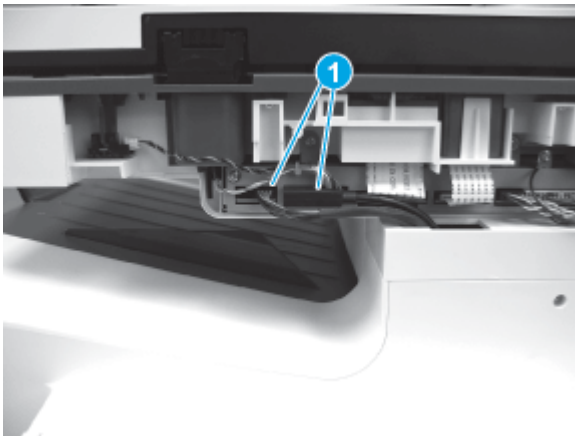
9. Install two white rubber plugs (callout 1).

Figure 5-606 Install two plugs



10. At the rear of the printer, connect two connectors (callout 1) to the SCB.

Figure 5-607 Connect two connectors



11. Align the tabs on the back side of the SCB cover with the slots in the printer.

Figure 5-608 Align the tabs on the SCB cover



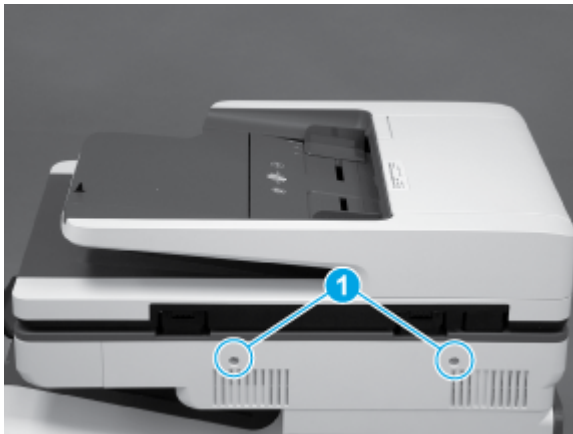
12. Push the cover straight in to install it.

Figure 5-609 Install the SCB cover



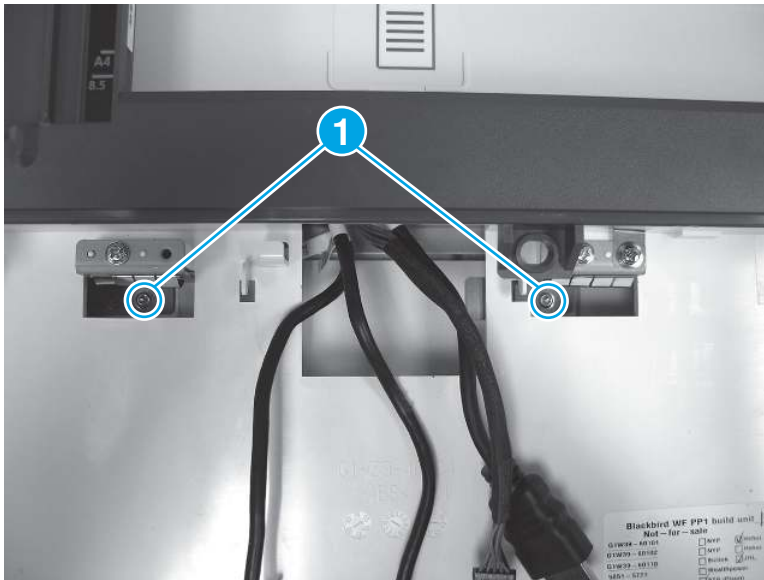
13. Install two screws (callout 1).

Figure 5-610 Install two screws



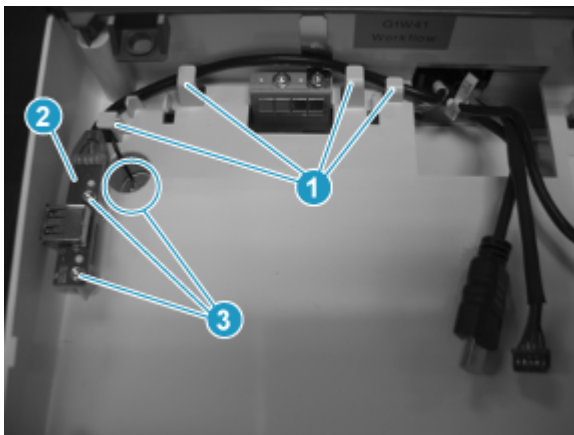
14. At the front of the printer (control panel area), install two screws (callout 1).

Figure 5-611 Install two screws



15. Install the cable in the retainers (callout 1), position the USB on the mounting bosses (callout 2), and then install three screws (callout 3).

Figure 5-612 Install the USB port PCA



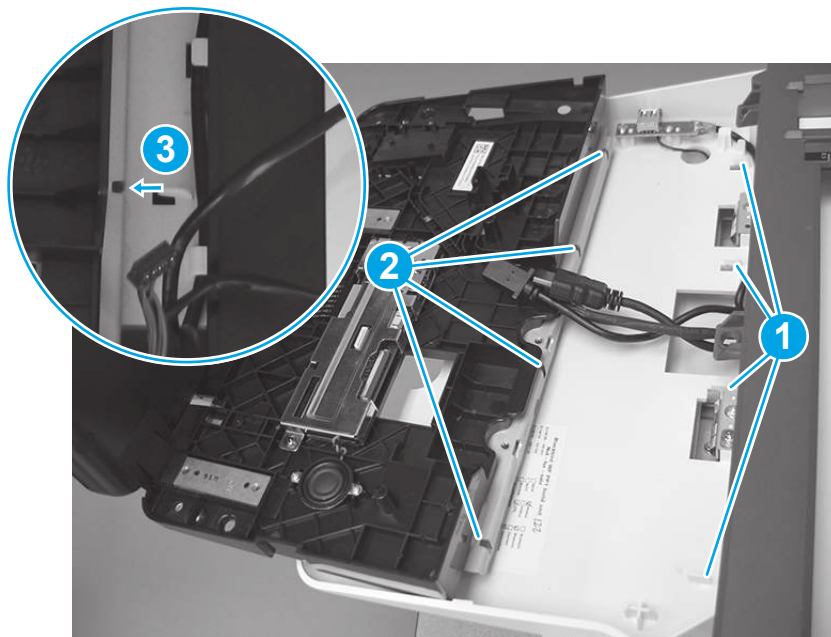
16. Install the USB port cover.

Figure 5-613 Install the USB port cover



17. Locate the four hooks on the ISA chassis (callout 1) and the matching slots in the control-panel base (callout 2). The hooks fit into the slots (callout 3) when the assembly is installed.

Figure 5-614 Locate the control-panel mounting hooks and slots



18. Position the rear edge of the control panel in the ISA chassis (callout 1), and then lower the front of the assembly down (callout 2).


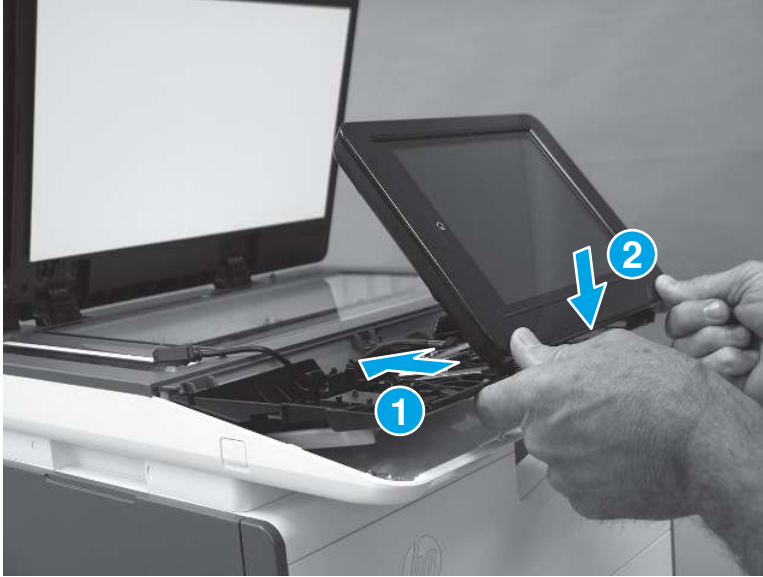
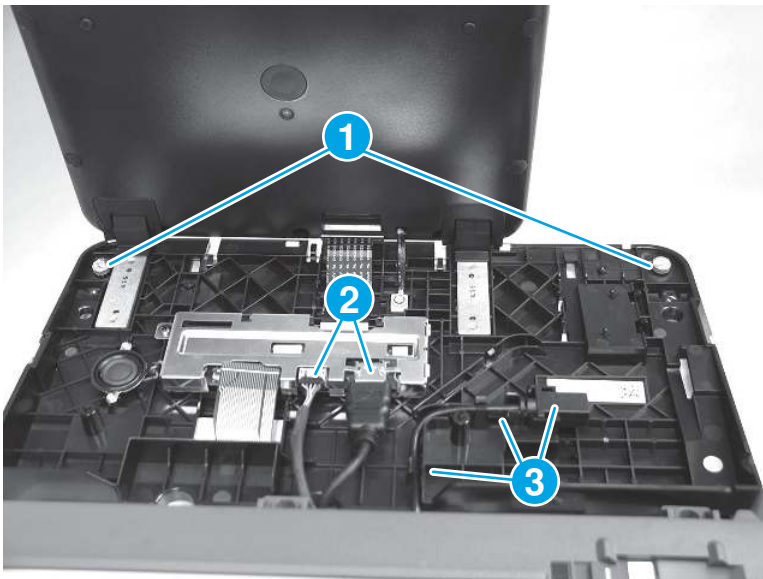
 **NOTE:** Make sure that the hooks on the ISA chassis are engaged in the slots of the control-panel base (see step 17).

Figure 5-615 Install the control panel



19. Install two thumbscrews (callout 1), connect one HDMI cable and one connector (callout 2), and then install the USB cable in the holder and retainers (callout 3).

Figure 5-616 Install thumbscrews and connect connectors



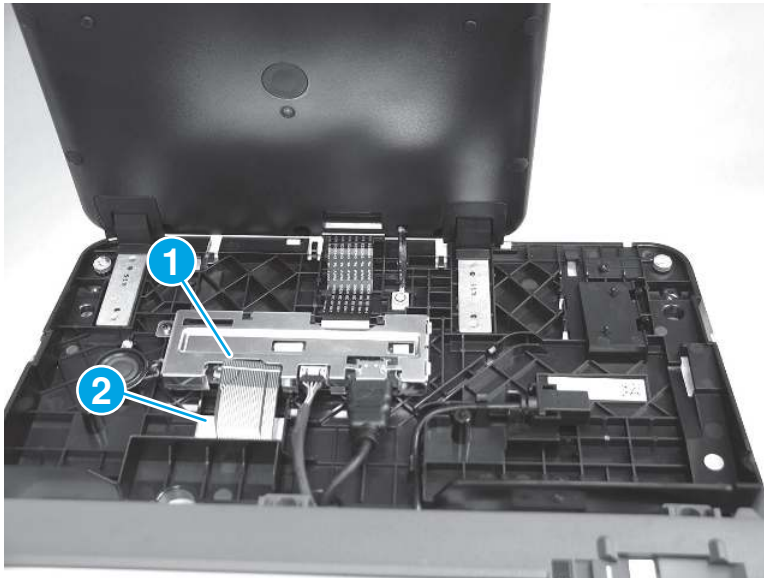
20. **586z only:** Install the keyboard, and then slide it in until it stops.

Figure 5-617 Install the keyboard (586z)



21. **586z only:** As the keyboard is installed, pass the flat cable (callout 1) through the opening (callout 2) in the control-panel base.

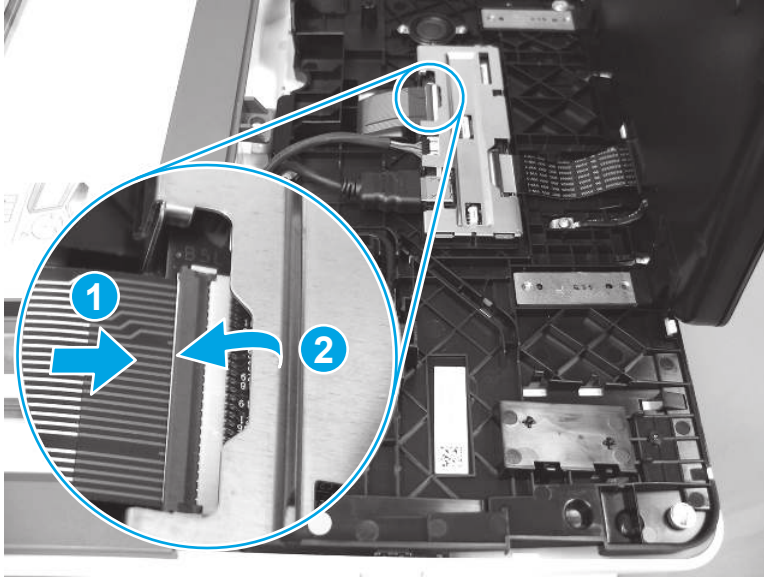
Figure 5-618 Pass the flat cable through the opening



22. **586z only:** Insert the Flat cable in the connector, and then close the latch.

 **TIP:** When the flat cable is correctly inserted in the connector, the white line on the flat cable is parallel to the connector body.

Figure 5-619 Connect the keyboard cable (586z)



23. Position the control-panel cover on the control panel.

Figure 5-620 Install the cover



24. Beginning at the right side of the control-panel cover, carefully push down along the top edge of the cover to engage the bosses.


 **NOTE:** If the right- and left-side bosses are not fully engaged, push down along the edge of the cover to fully seat them.

Figure 5-621 Install the control-panel cover



25. Position the small gray plastic cover in the slot under the control panel, and then push it straight in to install it.

Figure 5-622 Install the cover

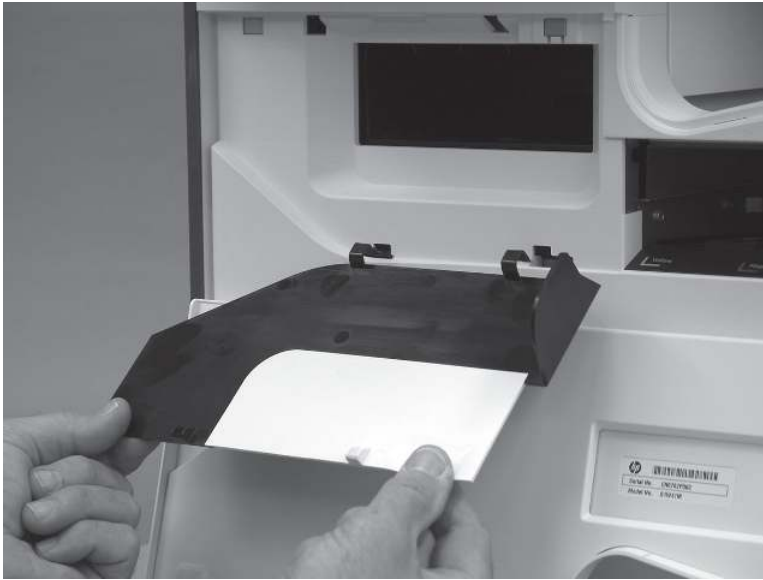


15. Install the blank cover (PM)

Follow these steps to install the blank cover (PM).

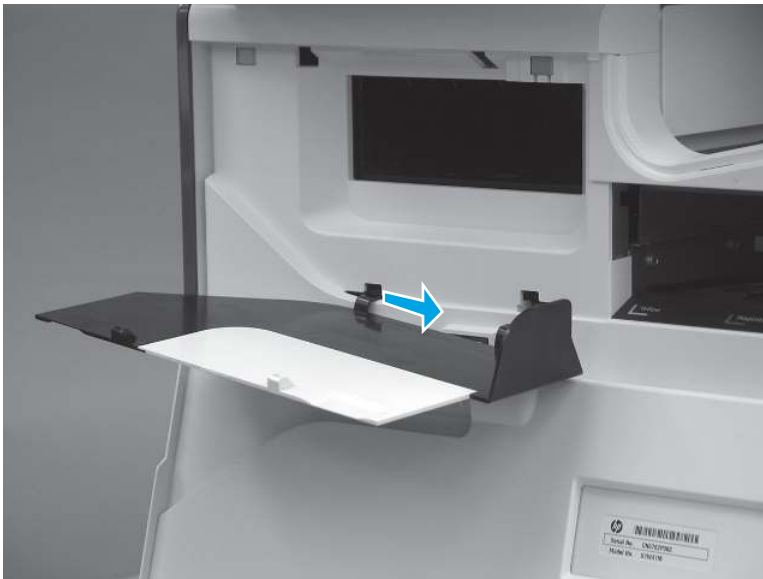
1. Align the hinges on the blank cover with the slots in the printer.

Figure 5-623 Install the blank cover



2. Install the left-side hinge.

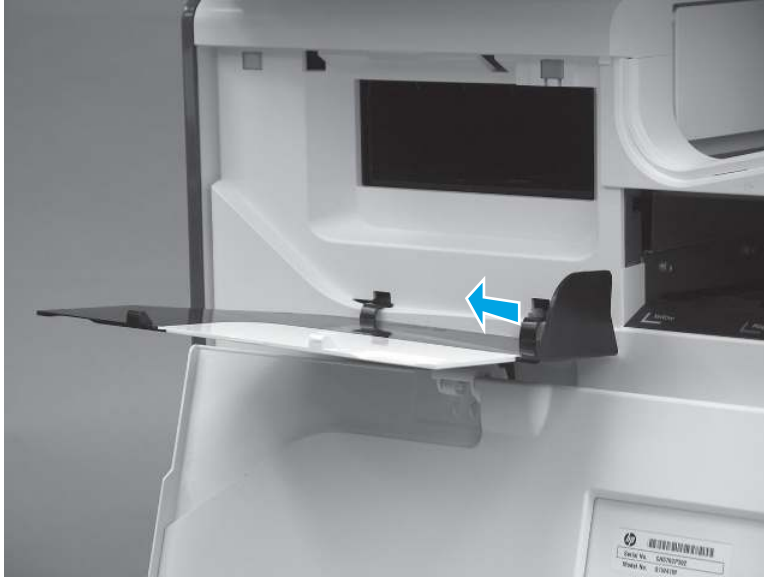
Figure 5-624 Install the left-side hinge



3. Install the right-side hinge.

 **NOTE:** Slightly flexing the hinge makes installing it easier.

Figure 5-625 Install the right-side hinge



4. Close the blank cover.

Figure 5-626 Close the blank cover

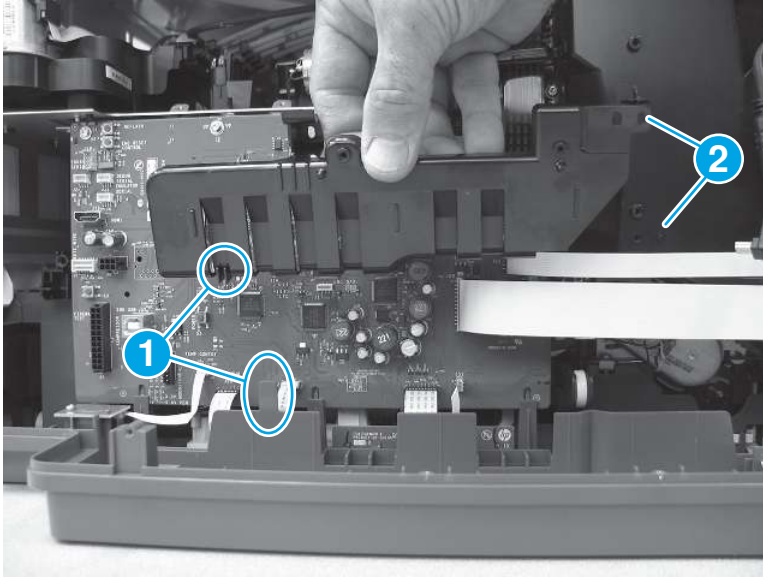


16. Install the power supply mounting bracket (PM)

Follow these steps to install the power supply mounting bracket (PM).

1. When the bracket is properly installed the following occurs:
 - The slot on the bracket rests on the tab of the printer cover (callout 1).
 - The alignment pin on the printer fits into the hole in the bracket (callout 2).

Figure 5-627 Correctly installed power supply mounting bracket



2. Position the bracket on the printer.


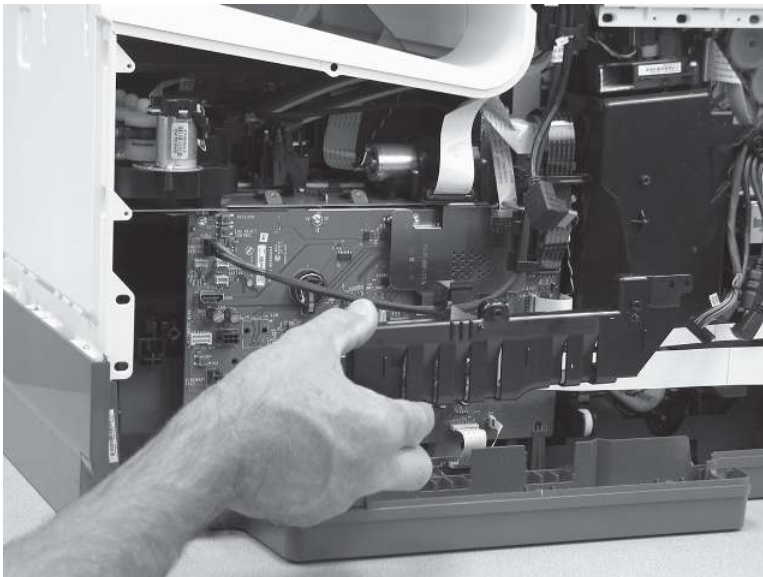
 **NOTE:** The bracket placement might need to be adjusted, so do not install the mounting screws until after the power supply is installed.

Figure 5-628 Install the bracket

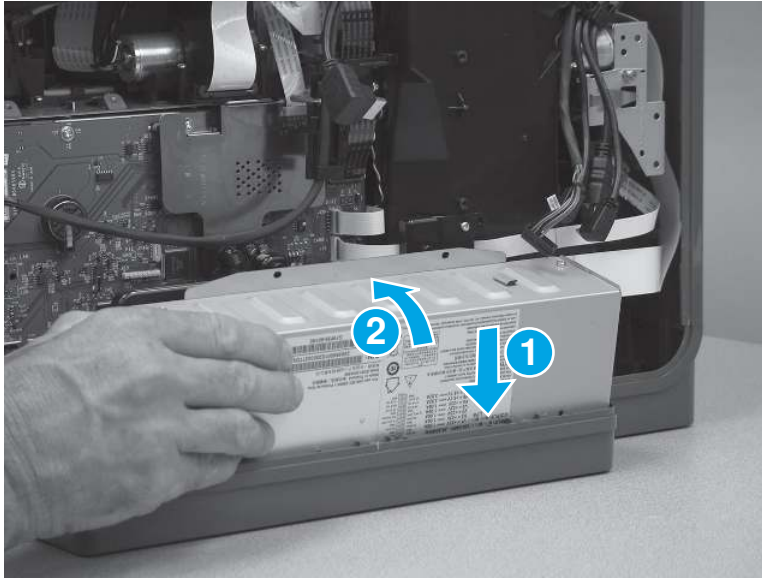


17. Install the power supply (PM)

Follow these steps to install the power supply (PM).

1. Install the power supply.

Figure 5-629 Install the power supply.



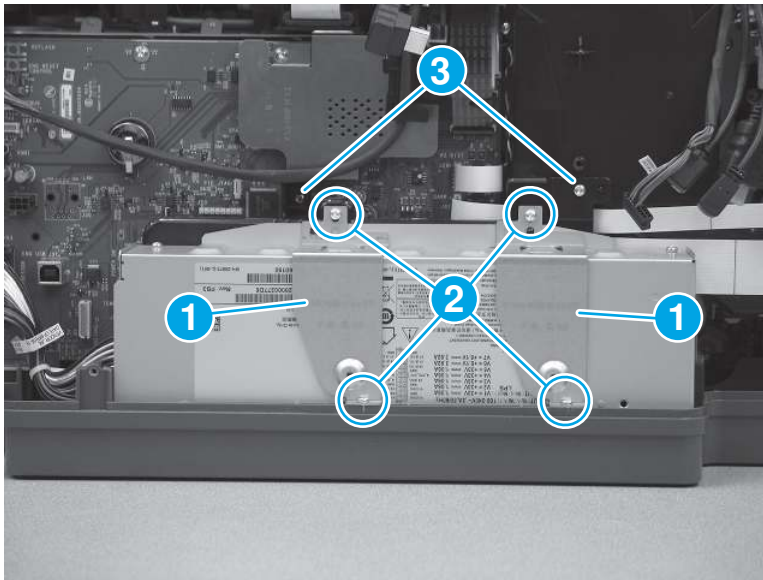
2. After installing the power supply, adjust the bracket as necessary to make sure that the locator pins fit into the holes on the assembly.

Figure 5-630 Check the locator pins



3. Install two brackets (callout 1), install four screws (callout 2), and then install two screws (callout 3).

Figure 5-631 Install brackets and screws



4. Connect one connector (callout 1).


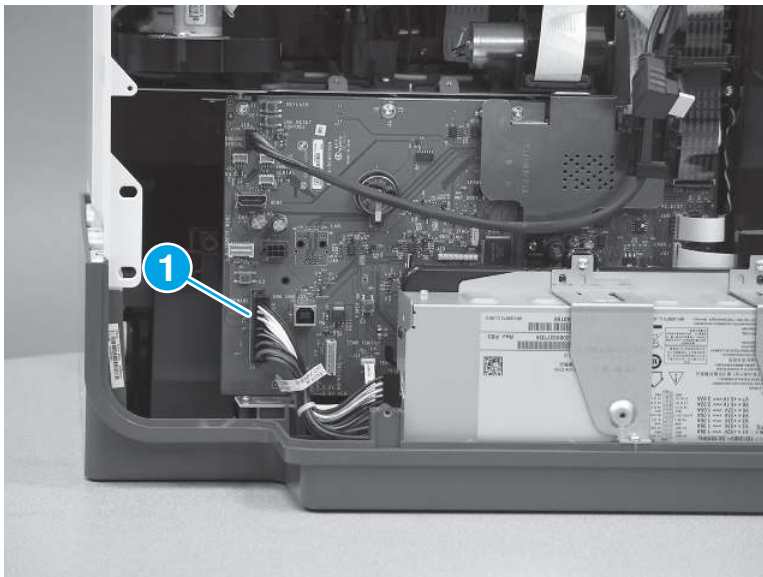
 **TIP:** This connector might take more than normal force to connect. Make sure it is full seated into the connector body.

Figure 5-632 Connect one connector

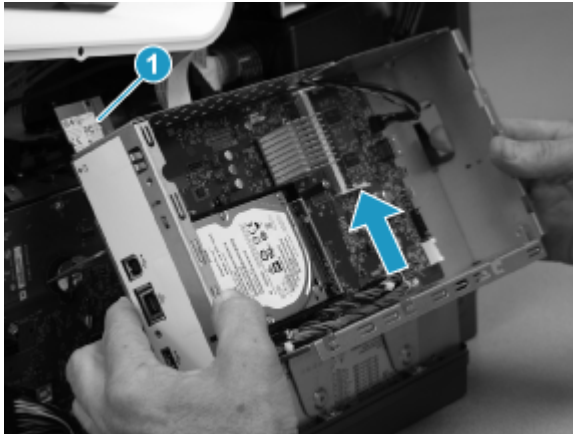


18. Install the formatter and formatter cage (PM)

Follow these steps to install the formatter and formatter cage (PM).

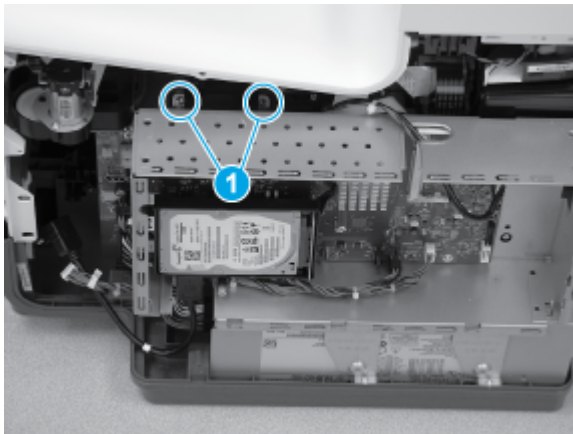
1. Install the formatter and formatter cage assembly.

Figure 5-633 Disconnect connectors



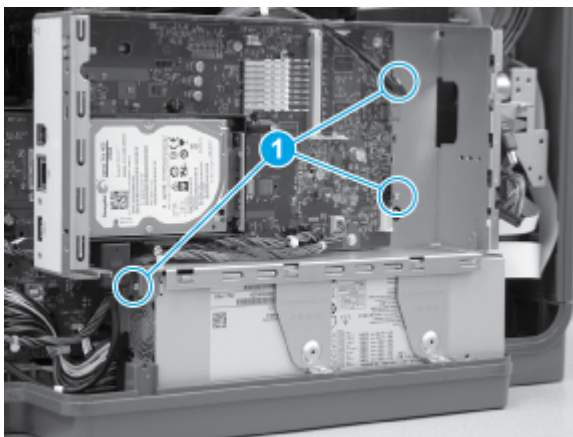
2. Install two screws (callout 1).

Figure 5-634 Install two screws



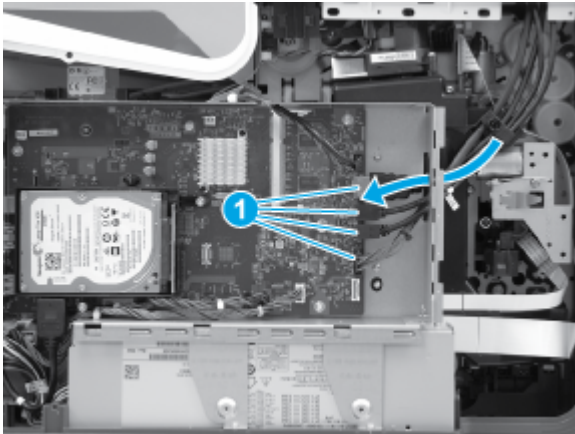
3. Install three screws (callout 1).

Figure 5-635 Install three screws



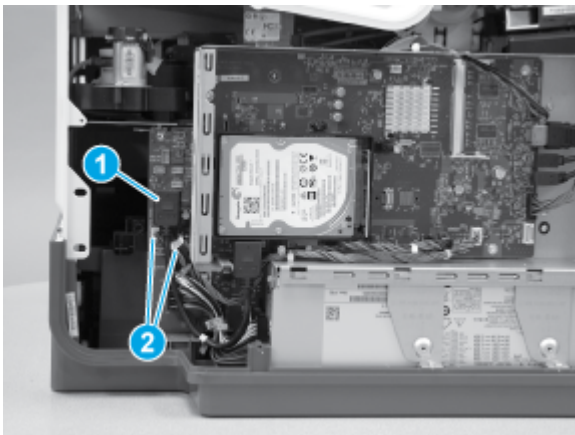
4. Pass the cables and wire harness through the opening in the formatter cage, and then connect four connectors (callout 1).

Figure 5-636 Connect connectors



5. Connect one HDMI cable (callout 1), and then connect two connectors (callout 2).

Figure 5-637 Connect connectors

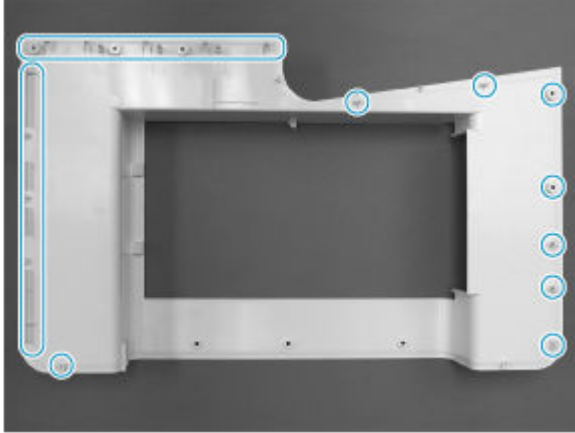


19. Install the rear cover (PM)

Follow these steps to install the rear cover (PM).

1. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-638 Find the tabs and bosses on the rear cover



2. Position the bottom edge of the cover on the printer.


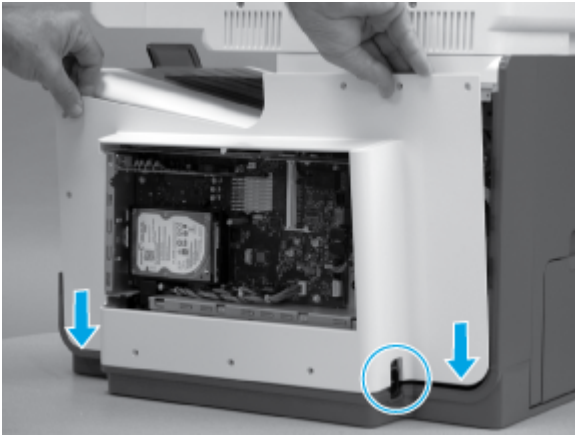
 **IMPORTANT:** Make sure that the inner two tabs on the cover bottom corners engages with the printer chassis, and that the slot in the cover is fitted correctly over the power supply receptacle.

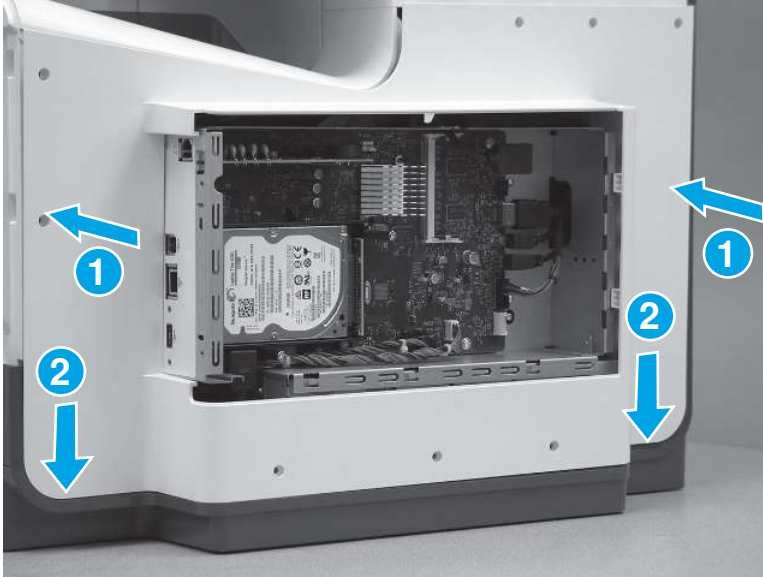
Figure 5-639 Install cover



3. Starting at the bottom of the cover and working upward, push in along the edges of the cover to engage the bosses along the right and left side of the cover (callout 1).

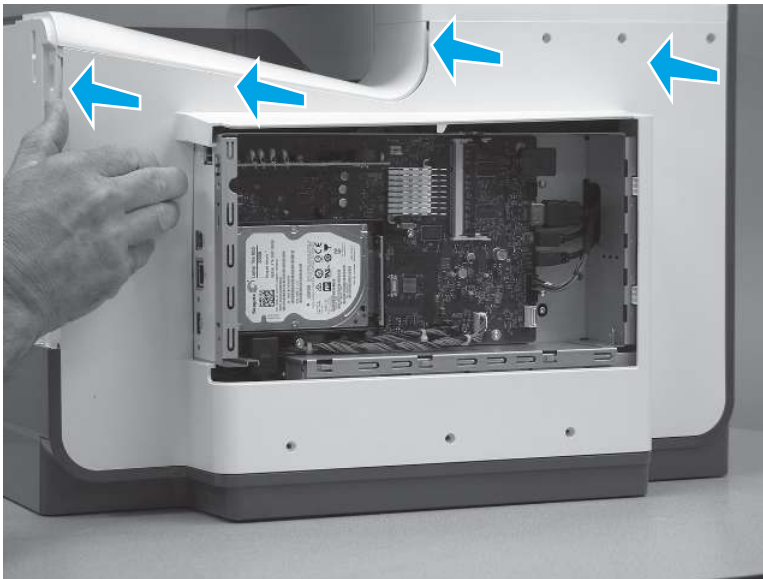
 **NOTE:** Make sure that the bottom edge of the cover (callout 2) remains engaged.

Figure 5-640 Engage the sides of the cover



4. Starting at the right upper corner of the cover and working toward the left, push in along the top edge of the cover to engage the bosses along the top of the cover.

Figure 5-641 Release the top edge of the cover

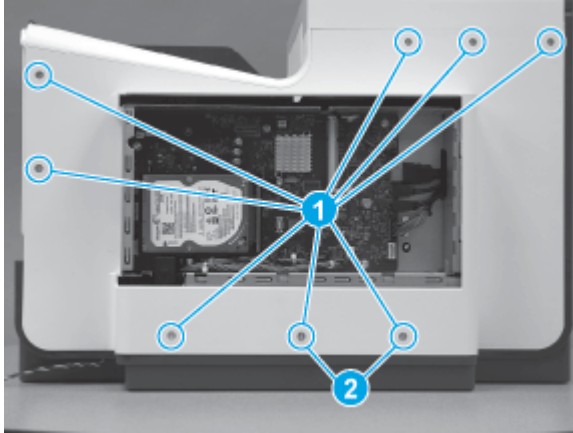


5. Install eight screws (callout 1).



NOTE: Two of these screws (callout 2) are a different type (machine screws) than the others. Make sure that they are installed in the correct position.

Figure 5-642 Install eight screws



20. Install the right cover (outer) (PM)

Follow these steps to install the right cover (outer) (PM).

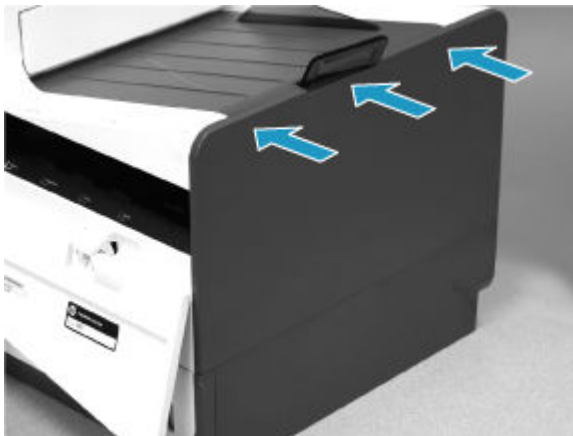
1. Position the bottom edge of the cover on the printer.

Figure 5-643 Position the right cover (outer) on the printer



2. Push in along the top edge of the right cover (outer) to install it.

Figure 5-644 Install the right cover (outer)



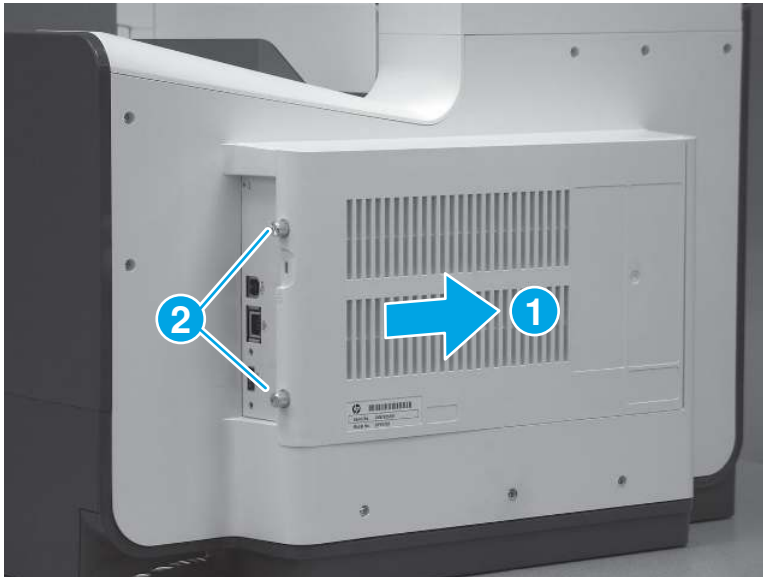
21. Install the formatter cover (PM)

Follow these steps to install the formatter cover (PM).

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

IMPORTANT: Make sure that the cover from the defective unit (DU) is installed on the replacement print mechanism (PM) so that the regulatory and serial number label is transferred to the PM.

Figure 5-645 Install the formatter cover



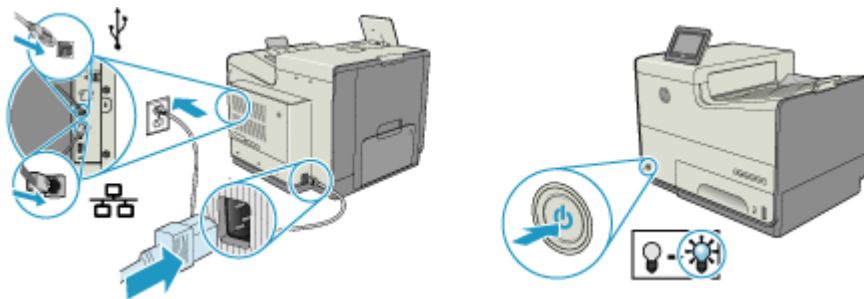
22. Turn the power on print mechanism (PM)

Follow these steps to turn the power on print mechanism (PM).

- ▲ Connect the USB cable or the network cable, plug in the power cable, and then turn on the printer. Allow it to initialize and calibrate. These processes will take approximately 26 minutes. Make sure that Tray 2 contains paper.

CAUTION: Do not power on the print mechanism with any formatter other than the formatter from the defective unit. Using another formatter will cause data loss and require an additional replacement print mechanism.

Figure 5-646 Turn the power on (PM)

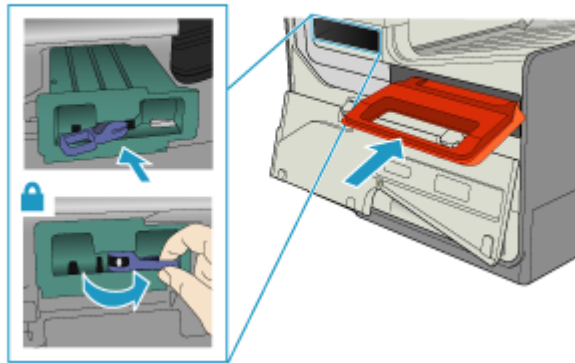


23. Prepare the Defective Unit (DU) for Shipping

Follow these steps to prepare the Defective Unit (DU) for Shipping.

1. While the printer is initializing, install the orange cartridge shipping restraint insert in the cartridge cavity and the blue print-head restraint as shown.

Figure 5-647 Install the cartridge shipping restraint and the print-head restraint



2. Use the shipping tape from the replacement PM to secure the DU, and then package the DU in the box that contained the replacement PM. Return the DU to HP.

Figure 5-648 Box the DU for shipping



Removal and replacement: Engine controller board (ECB)

Learn how to remove and replace a field replaceable unit (FRU) engine controller board (ECB).

 **IMPORTANT:** Read the special instructions provided for the removal and replacement procedure and follow all special installation instructions.

Mean time to repair: 50 minutes

Service level: Advanced

Before performing service

1. Turn the printer power off, and then wait for 30 seconds.
2. Unplug the power cord.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

3. Before replacing the ECB, remove and replace the ink collection unit, and then use genuine HP ink cartridges for printer initialization.

📝 NOTE: If contractual supplies (981YC, for example) are installed, the printer will fail to initialize.

For additional information, refer to the procedure in this document. See [Special instructions: Engine controller board \(ECB\) before replacement on page 658](#).

⚠ CAUTION: Failure to replace the ink collection unit will cause the ink collection unit to overflow.

Part numbers

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-29 Part information

Part number	Part description
B5L04-67906	Ink collection unit (ICU)
G1W39-67001	Engine controller board (ECB)

Required tools

#10 TORX driver with a magnetized tip

Special instructions: Engine controller board (ECB) before replacement

It is recommended to follow the steps in the order presented when replacing an engine controller board.

- [Remove and replace the ink collection unit \(ICU\) on page 659](#)
- [Use genuine HP ink cartridges on page 660](#)
- [Remove the power supply on page 663](#).
- [Remove the engine controller board \(ECB\) on page 672](#).

After performing service

Plug in the power cable, and then use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.


Print a configuration page to verify printer functionality.

Make a copy using the document feeder and the scanner glass.

1. Remove and replace the ink collection unit (ICU)

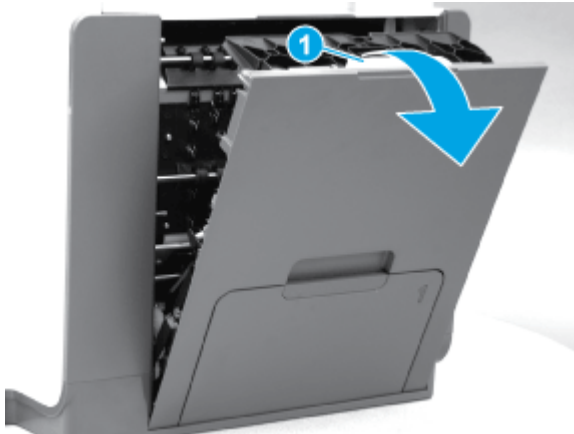
Follow these steps to remove and replace the ink collection unit (ICU).

It is recommended to remove and replace the ink collection unit before replacing the ECB to prevent the ink collection unit from overflowing.

 **NOTE:** To prevent ink smear on skin or clothes, keep the ink collection unit level and avoid making direct contact with the black cylinder when removing the ink collection unit.

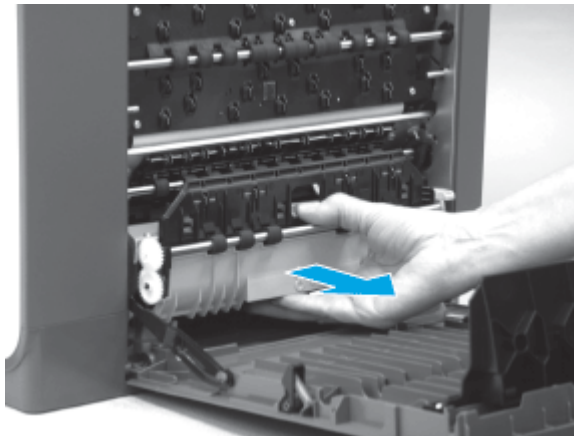
1. Release the latch (callout 1) to open the left door.

Figure 5-649 Open the left door



2. Remove the old ink collection unit.

Figure 5-650 Remove the ink collection unit



3. Install the new collection unit.

Make sure to use the correct part number when installing the ICU.

Part number for Ink collection unit (ICU): B5L04-67906

Figure 5-651 Install a new ink collection unit



4. Close the left door.


Figure 5-652 Close the left door



2. Use genuine HP ink cartridges

Learn how to replace the ink cartridges if genuine HP ink cartridges are not installed or if the ink cartridges has reached the end of life.

Print a supplies status page to ensure that the supplies are not at the end of life. Make sure that genuine HP ink cartridges are installed.

 **NOTE:** Previously used genuine HP 981A, HP 981X, or HP 981Y supplies can be used for printer initialization.

 **WARNING!** A printer will not initialize with setup supplies or previously used setup supplies.

The printer will also not initialize with YC contractual supplies (981YC) and when contract upgrade supplies are installed.

After replacing the ink collection unit, install new or genuine used HP 981A, HP 981X, or HP 981Y ink supplies into the printer before installing the ECB.



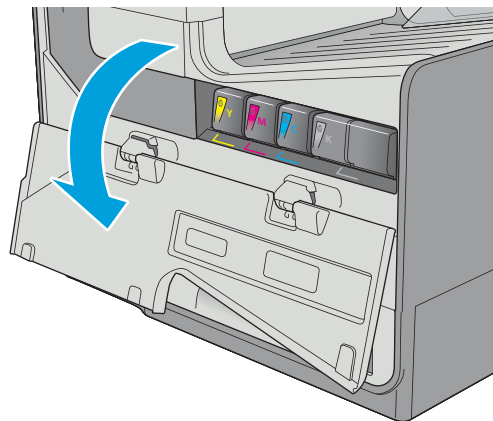
Cartridges part number information

Table 5-30 Part numbers

Part number	Description
J3M71A	HP 981A Black Original PageWide Cartridge
L0R12A	HP 981X High Yield Black Original PageWide Cartridge
L0R16A	HP 981Y Extra High Yield Black Original PageWide Cartridge
J3M68A	HP 981A Cyan Original PageWide Cartridge
L0R09A	HP 981X High Yield Cyan Original PageWide Cartridge
L0R13A	HP 981Y Extra High Yield Cyan Original PageWide Cartridge
J3M70A	HP 981A Yellow Original PageWide Cartridge
L0R11A	HP 981X High Yield Yellow Original PageWide Cartridge
L0R15A	HP 981Y Extra High Yield Yellow Original PageWide Cartridge
J3M69A	HP 981A Magenta Original PageWide Cartridge
L0R10A	HP 981X High Yield Magenta Original PageWide Cartridge
L0R14A	HP 981Y Extra High Yield Magenta Original PageWide Cartridge

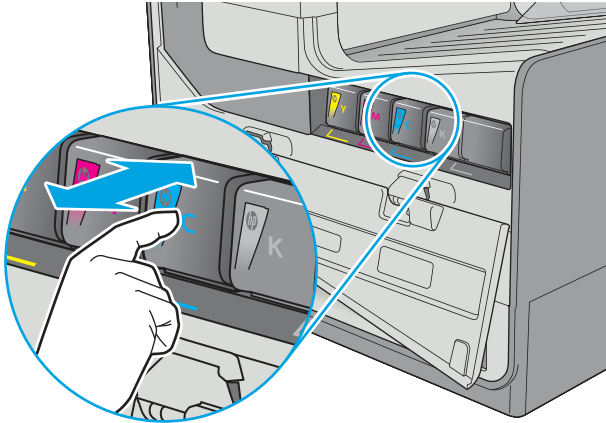
1. Open the cartridge door.

Figure 5-653 Open the door



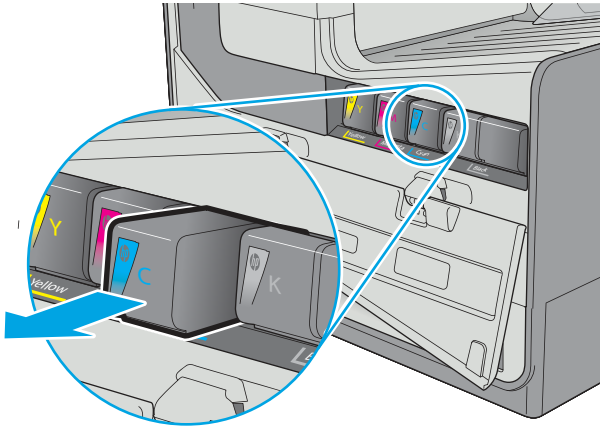
2. Push the old cartridge inward to unlock it.

Figure 5-654 Unlock the cartridge



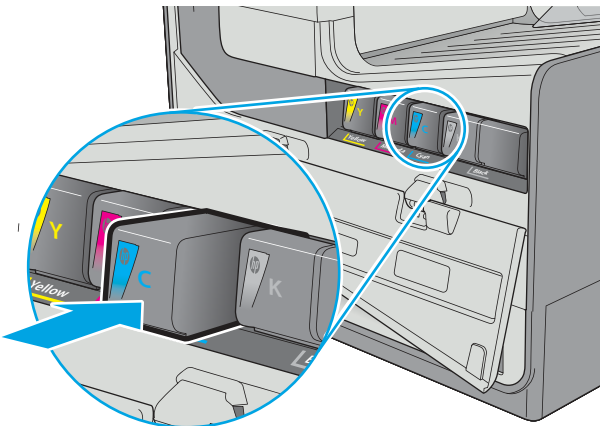
3. Grasp the edge of the old cartridge and then pull the cartridge straight out to remove it.

Figure 5-655 Remove the cartridge



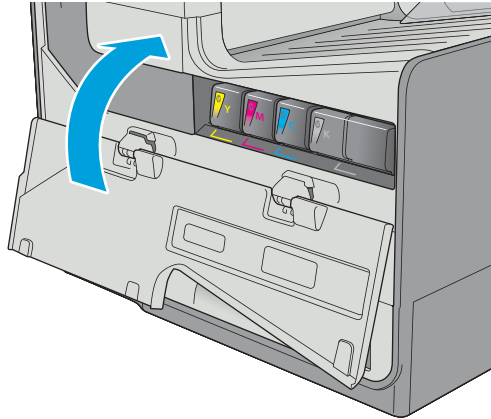
4. Insert the new cartridge into the printer. Make sure the cartridge is firmly in place.

Figure 5-656 Install the cartridge



5. Close the cartridge door.

Figure 5-657 Close the door



3. Remove the power supply

Use the following procedure to remove the power supply.

The removal and replacement steps for the 556 printer model applies to E55650 and for MFP 586 applies to MFP E58650.

Follow the instructions in this document or view the video to remove the power supply.

[View a video of removing and replacing the power supply.](#)

 **NOTE:** After removing the power supply, remove and replace the ECB, and then install the power supply.

Remove the right cover (outer)

Follow these steps to remove the right cover (outer).

1. Pull out on the top corners of the right cover to release the top edge of the cover.


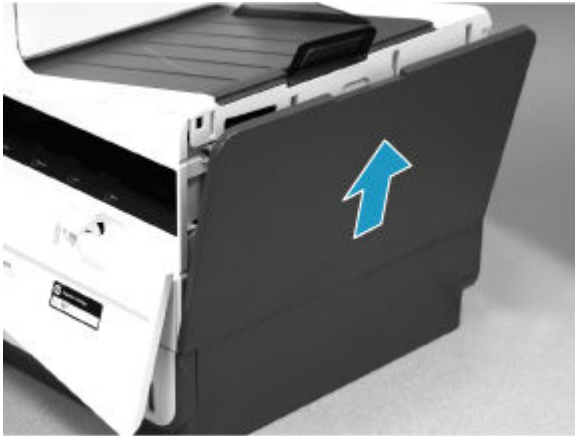
 **TIP:** Open the cartridge door to make removing the cover easier.

Figure 5-658 Release the right cover (outer)



2. Slide the cover up and away from the printer to remove it.

Figure 5-659 Remove the right cover (outer)



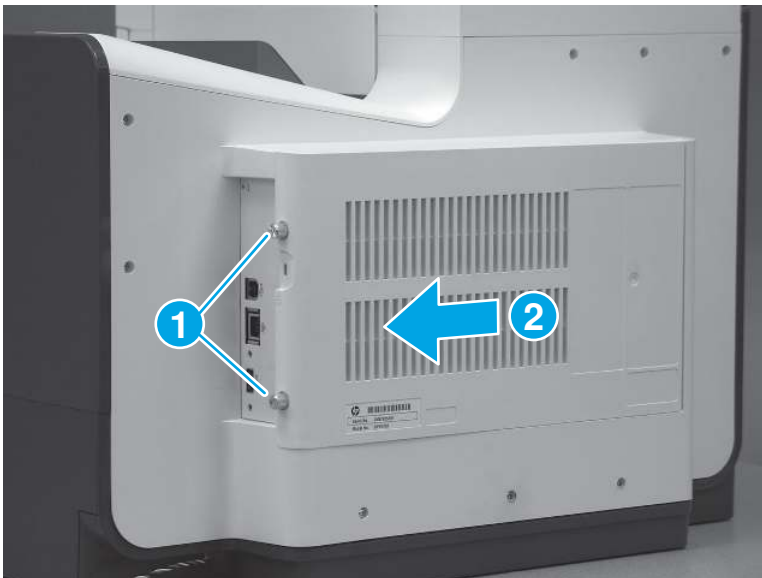
Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-660 Remove the formatter cover



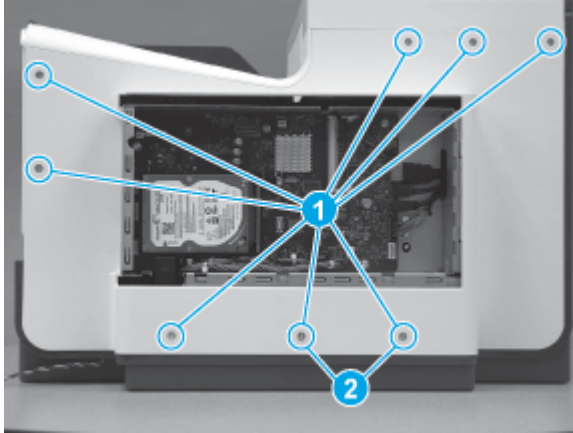
Remove the rear cover

Follow these steps to remove the rear cover.

1. Remove eight screws (callout 1).

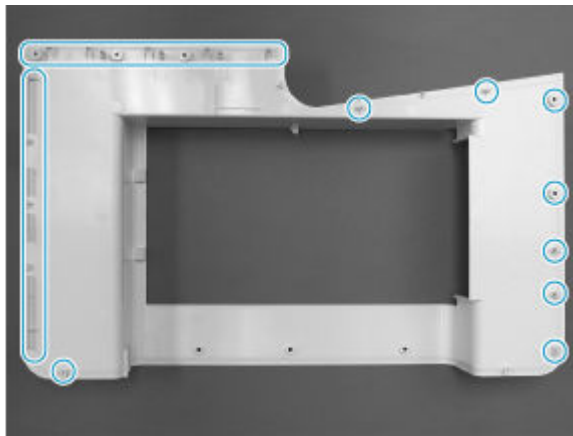
 **NOTE:** Two of these screws (callout 2) are a different type (machine screws) than the others.

Figure 5-661 Remove eight screws



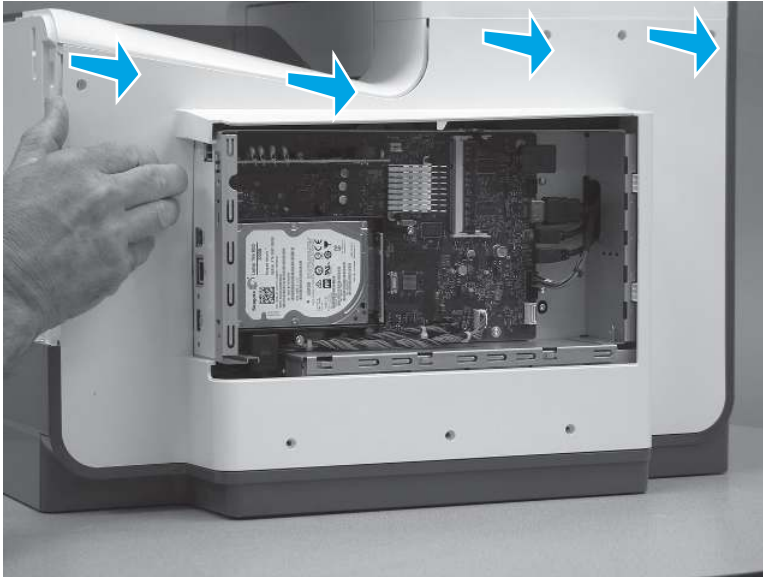
2. Before proceeding, take note of the tabs and bosses on the rear cover.

Figure 5-662 Find the tabs and bosses on the rear cover



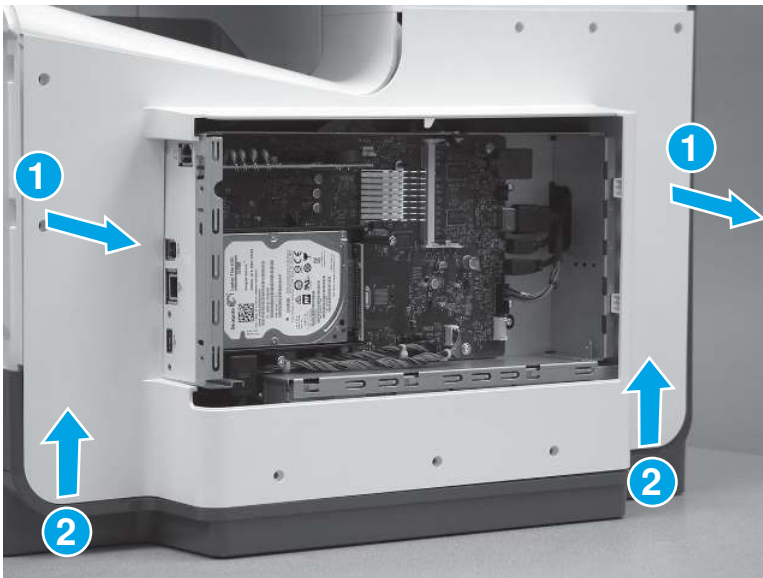
3. Release the boss at the left-upper corner of the rear cover, and then release the remaining bosses along the top of the cover (from left to right).

Figure 5-663 Release the top edge of the cover



4. Release the bosses along the right and left side of the cover, and then lift it straight up to remove it.

Figure 5-664 Remove the rear cover



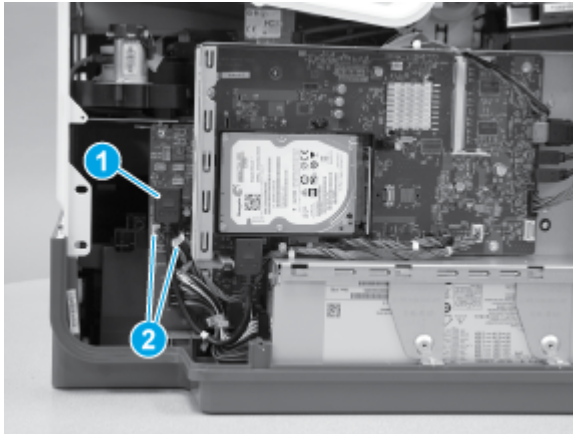
Remove the formatter and formatter cage (556)

Follow these steps to remove the formatter and formatter cage (556).

 **NOTE:** This step is for the 556 printer. For the 586 printer, skip this step and see *Remove the formatter and formatter cage (586)*.

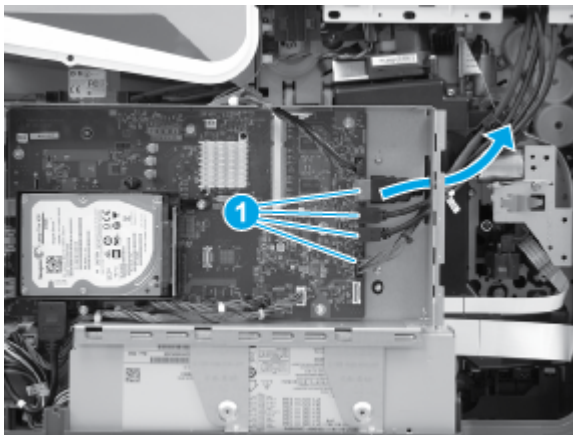
1. Disconnect one HDMI cable (callout 1), and then disconnect two connectors (callout 2).

Figure 5-665 Disconnect connectors



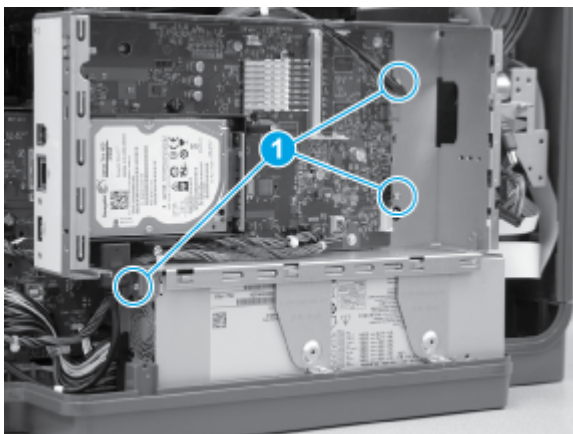
2. Disconnect four connectors (callout 1), and then pass the cables and wire harness through the openings in the formatter cage.

Figure 5-666 Disconnect connectors



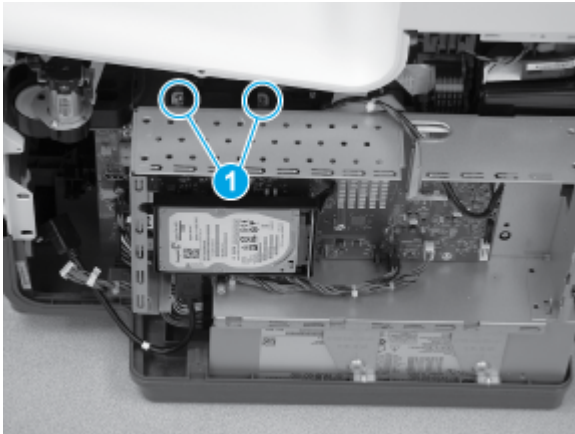
3. Remove three screws (callout 1).

Figure 5-667 Remove three screws



4. Remove two screws (callout 1).

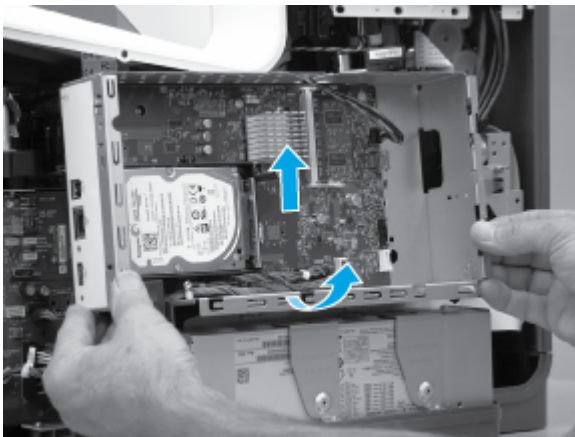
Figure 5-668 Remove two screws



5. Remove the formatter and formatter cage.

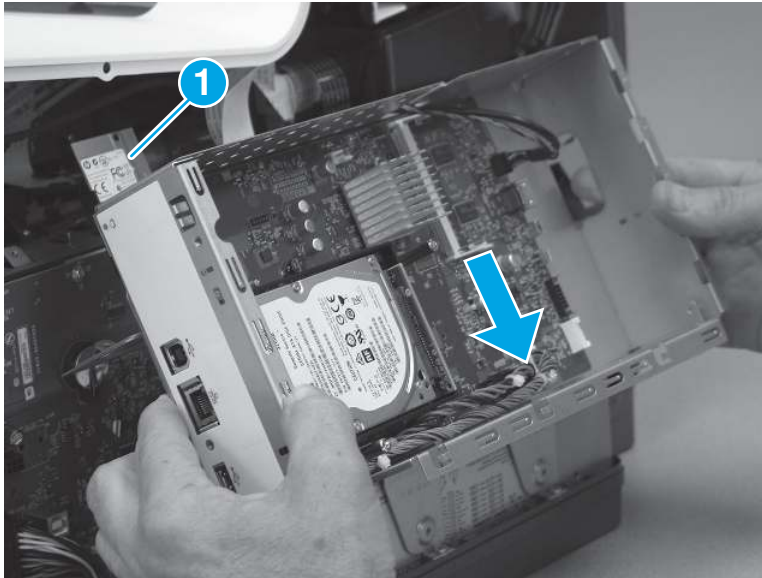
⚠ CAUTION: Be careful. Do not damage the wireless PCA (callout 1) when removing the assembly.

Figure 5-669 Release the formatter and cage




6. Rotate the top of the assembly out and away from the printer, and then remove the assembly.

Figure 5-670 Remove the formatter and cage



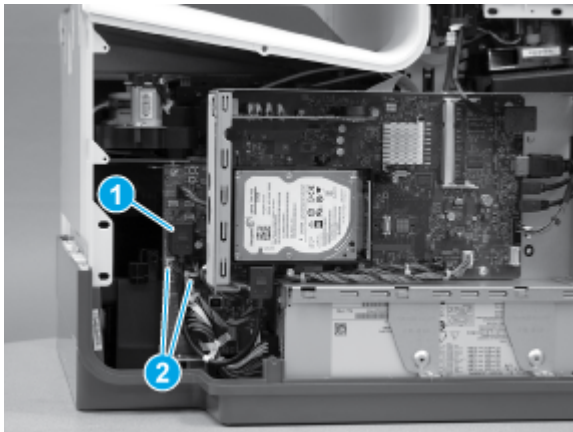
Remove the formatter and formatter cage (586)

Follow these steps to remove the formatter and formatter cage (586).

 **NOTE:** This step is for the 586 printer. For the 556 printer, skip this step and see *Remove the formatter and formatter cage (556)*.

1. Disconnect one HDMI cable (callout 1), and then disconnect two connectors (callout 2).

Figure 5-671 Disconnect connectors



2. Disconnect five connectors (callout 1), and then pass the cables and wire harness through the openings in the formatter cage.


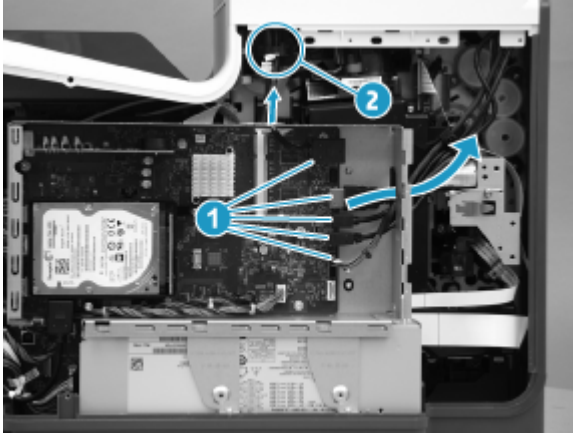
 **TIP:** The cable retainer (callout 2) is easily dislodged. Do not lose the retainer.

Figure 5-672 Disconnect connectors



3. Remove three screws (callout 1).


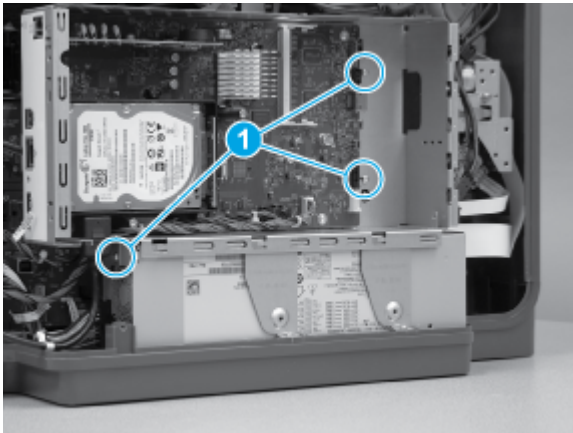
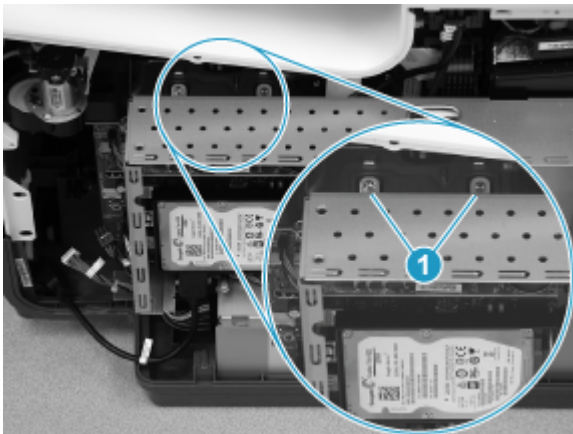
 **TIP:** When reinstalling these screws, it might be easier to install the bottom screw (that goes into the power supply bracket) by disconnecting the nearby HDMI connector. Make sure to reconnect the HDMI connector after installing the screw.

Figure 5-673 Remove three screws



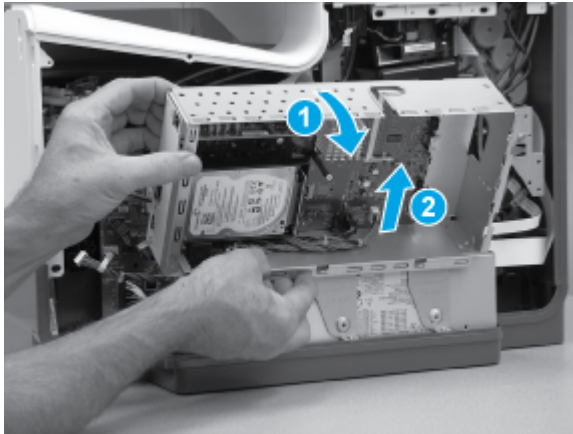
4. Remove two screws (callout 1).

Figure 5-674 Remove two screws



5. Rotate the top of the assembly out and away from the printer, and then remove the assembly.

Figure 5-675 Remove the formatter and cage



Remove the power supply

Follow these steps to remove the power supply.

1. Disconnect one connector (callout 1).


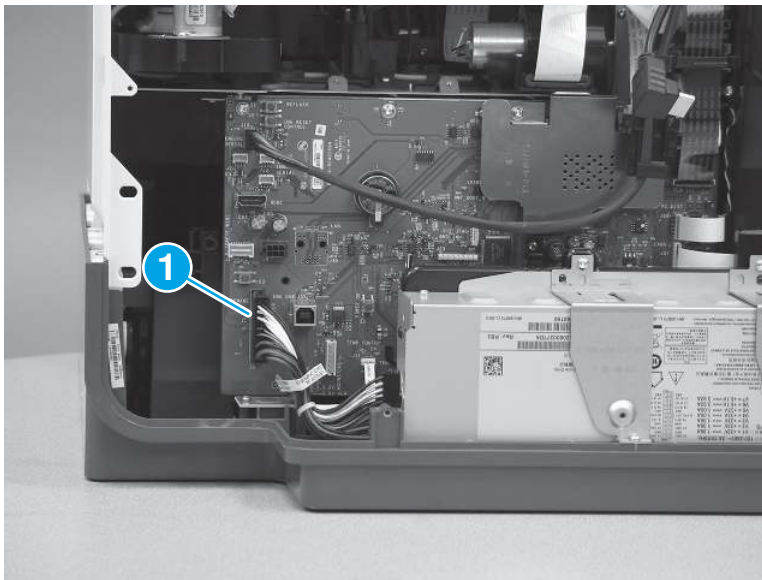
 **TIP:** This connector might take more than normal force to disconnect. Release the small locking tab while pulling the connector straight out to remove it.

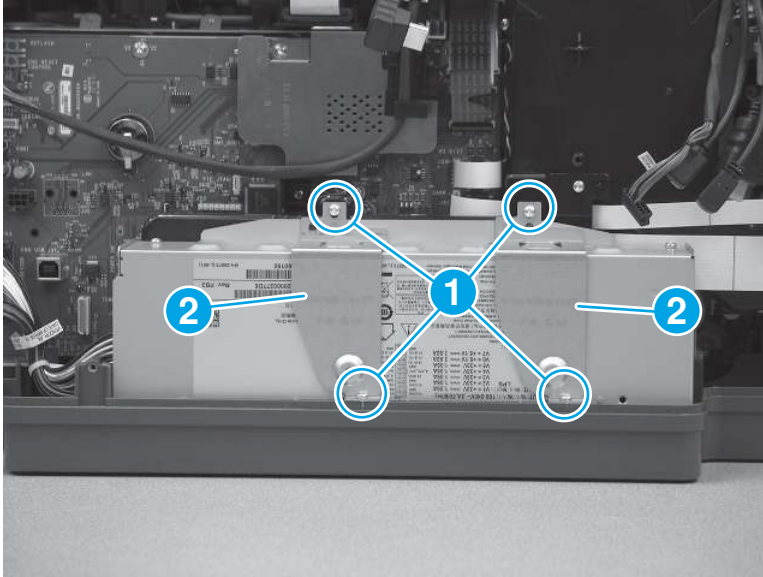
Figure 5-676 Disconnect one connector



2. Remove four screws (callout 1), and then remove two brackets (callout 2).

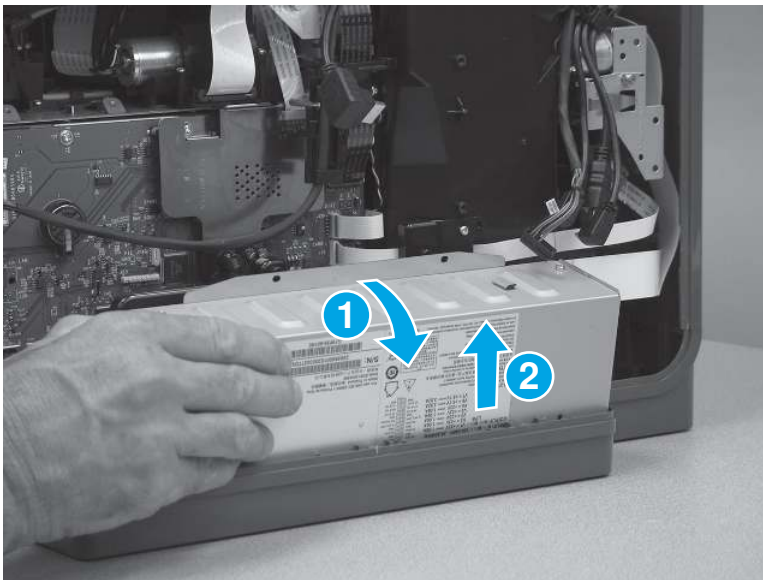
 **IMPORTANT:** Take note of the size, type, and location of screws for this part. Always use the correct screws for reinstallation.

Figure 5-677 Remove the screws and brackets



3. Slightly rotate the top of the power supply away from the printer, and then remove the assembly.

Figure 5-678 Remove the power supply



4. Remove the engine controller board (ECB)

Follow these steps to remove the engine controller board (ECB).

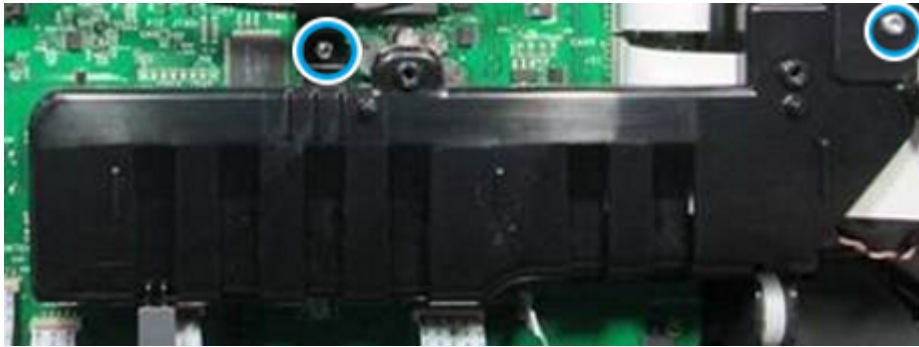
Remove the engine control board shield (556/E55650)

Follow these steps to remove the engine control board shield for HP PageWide Enterprise Color 556 or HP Managed Color E55650.

 **NOTE:** For the MFP 586 or E58650 printer, skip this step and see *Remove the engine control board shield (586/E58650)*

1. Remove the two mounting screws to remove the ECB shield.
Note the size and location of the two screws indicated in the image.

Figure 5-679 Remove the two screws



2. Before proceeding to disconnect the flat-flexible cables (FFCs) from the ECB, note the Zero Insertion Force (ZIF) and ECB sockets.

 **IMPORTANT:** Do not break the latches on the ZIF sockets and ensure not to disconnect the FCC from J34 when disconnecting the FCC.

Figure 5-680 Zero Insertion Force (ZIF) and ECB sockets



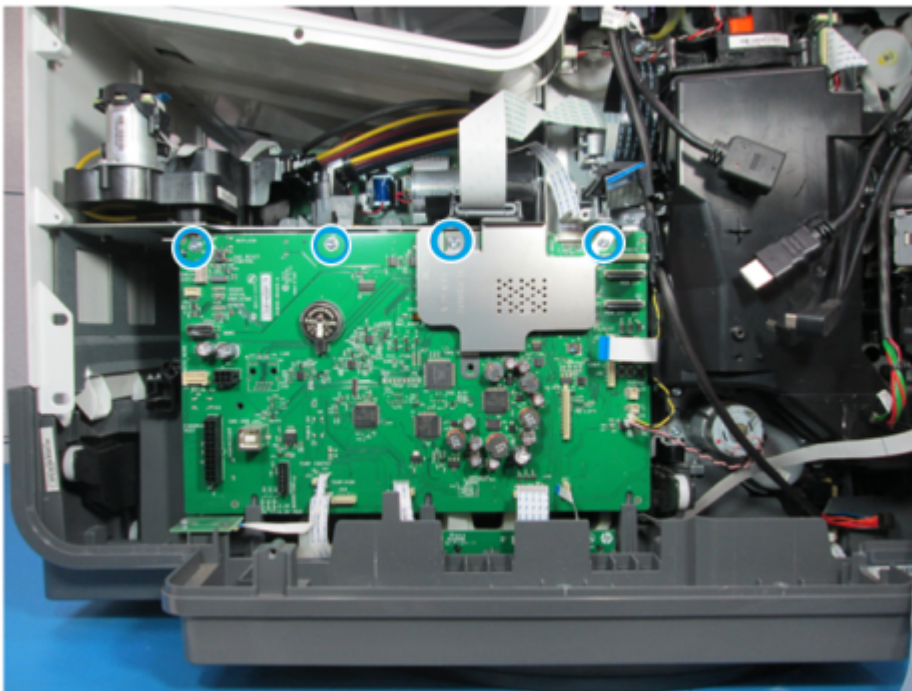
3. Disconnect the cables and FCCs from the ECB except the FCC from J34.

Figure 5-681 Disconnect the cables and FCCs from the ECB



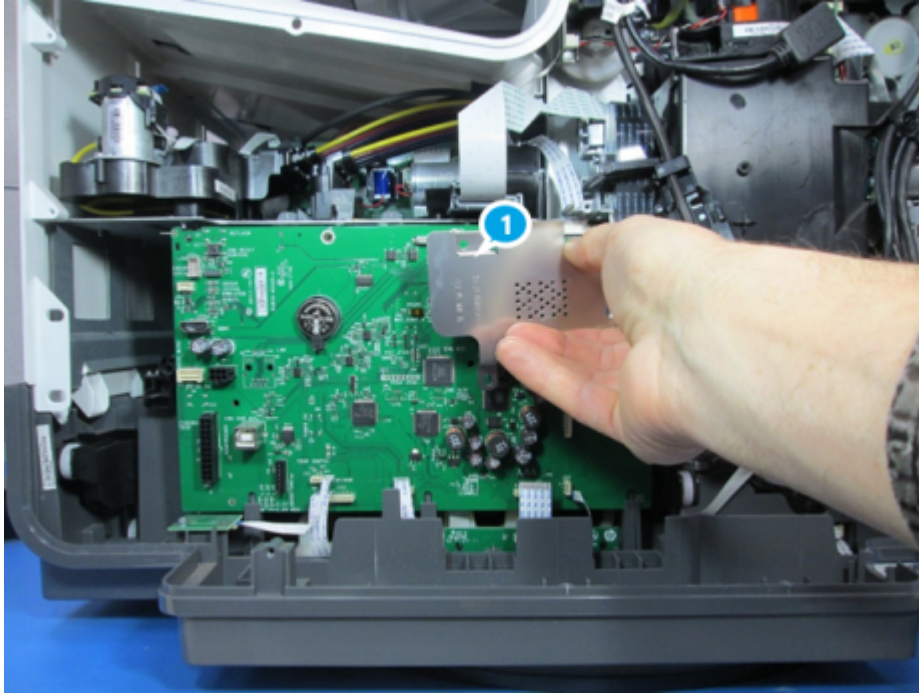
4. Remove the four mounting screws holding the ECB.

Figure 5-682 Remove the four mounting screws



5. Slightly rotate the top of the ECB and electromagnetic interference (EMI) shield from the printer to remove the EMI shield (callout 1).

Figure 5-683 Remove the EMI shield



Remove the engine control board shield (586/E58650)

Follow these steps to remove the engine control board for HP PageWide Enterprise Color MFP 586 or HP Managed Color MFP E58650.

1. Remove the two mounting screws to remove the ECB shield.

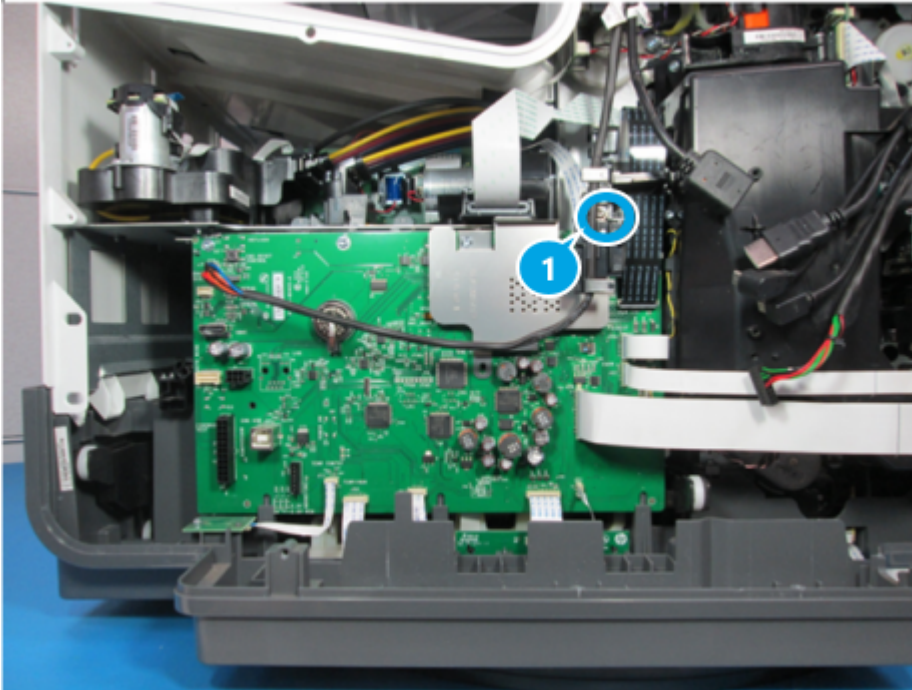
Note the size and location of the two screws indicated in the image.

Figure 5-684 Remove the two screws



2. Remove the scanner cable harness screw (callout 1), and then disconnect the scanner cable to remove the scanner cable harness.

Figure 5-685 Remove the scanner cable harness



3. Before proceeding to disconnect the flat-flexible cables (FFCs) from the ECB, note the Zero Insertion Force (ZIF) and ECB sockets.

 **IMPORTANT:** Do not break the latches on the ZIF sockets and ensure not to disconnect the FCC from J34 when disconnecting the FCC.

Figure 5-686 Zero Insertion Force (ZIF) and ECB sockets



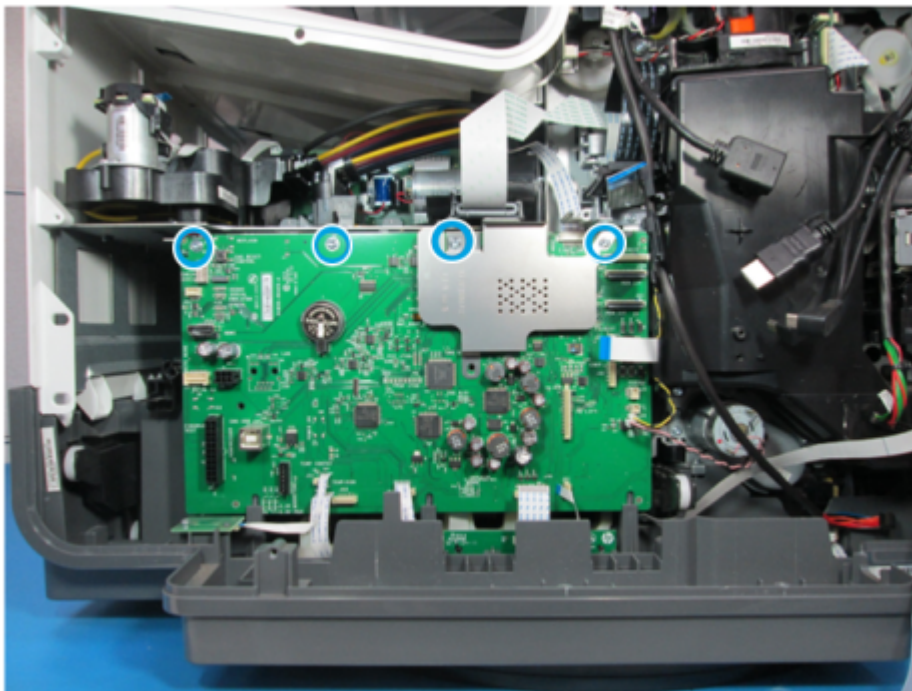
4. Disconnect the cables and FCCs from the ECB except the FCC from J34.

Figure 5-687 Disconnect the cables and FCCs from the ECB



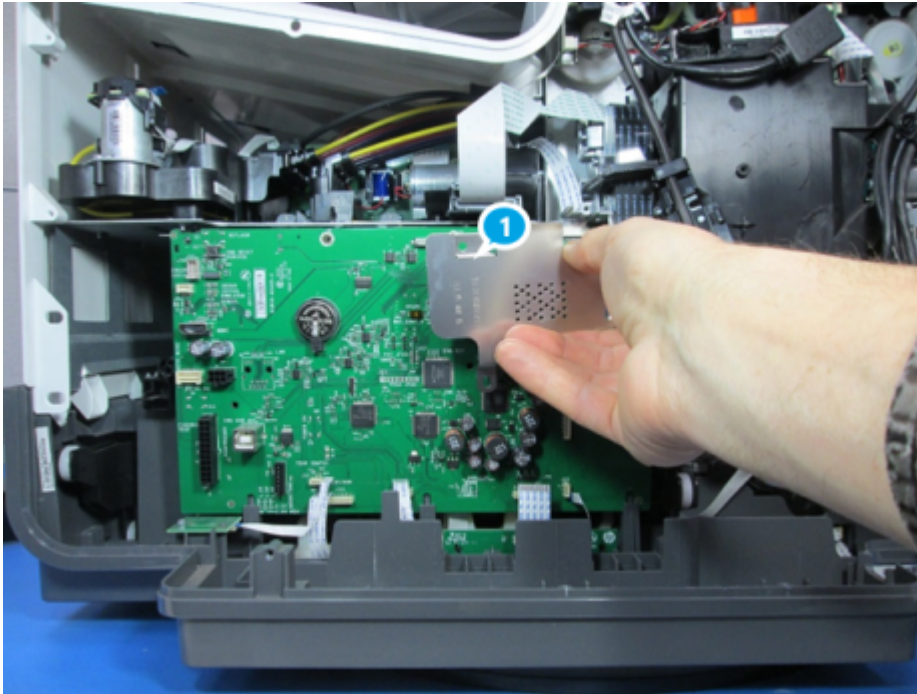
5. Remove the four mounting screws holding the ECB.

Figure 5-688 Remove the four mounting screws



6. Slightly rotate the top of the ECB and electromagnetic interference (EMI) shield from the printer to remove the EMI shield (callout 1).

Figure 5-689 Remove the EMI shield

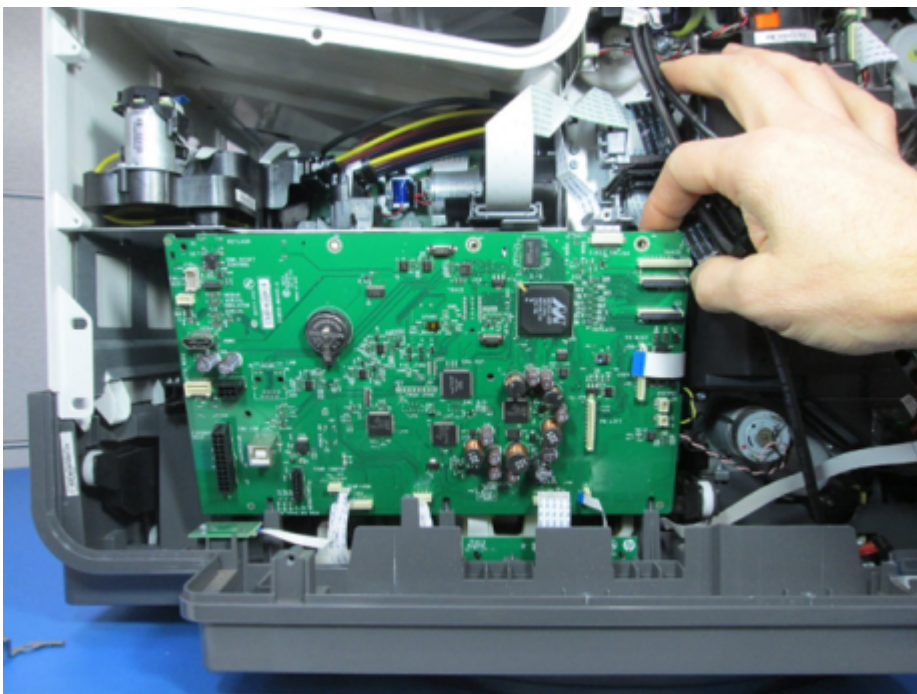


Remove the engine controller board (ECB) from the printer

Follow these steps to remove the ECB from the printer.

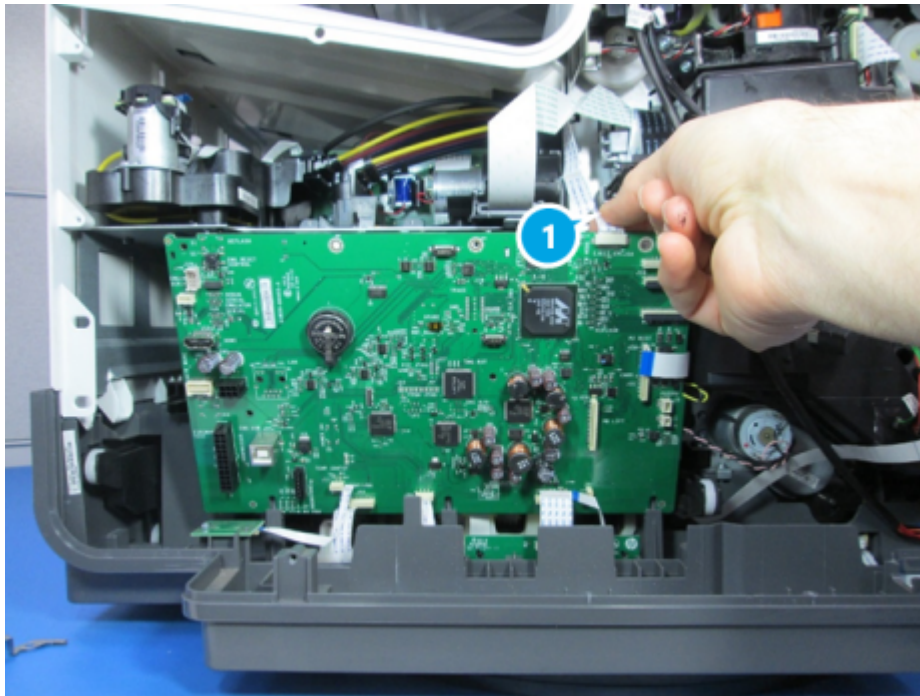
1. Slightly rotate the top of the ECB to access the J34 flat-flexible cable (FFC).

Figure 5-690 Location to access the J34 FFC



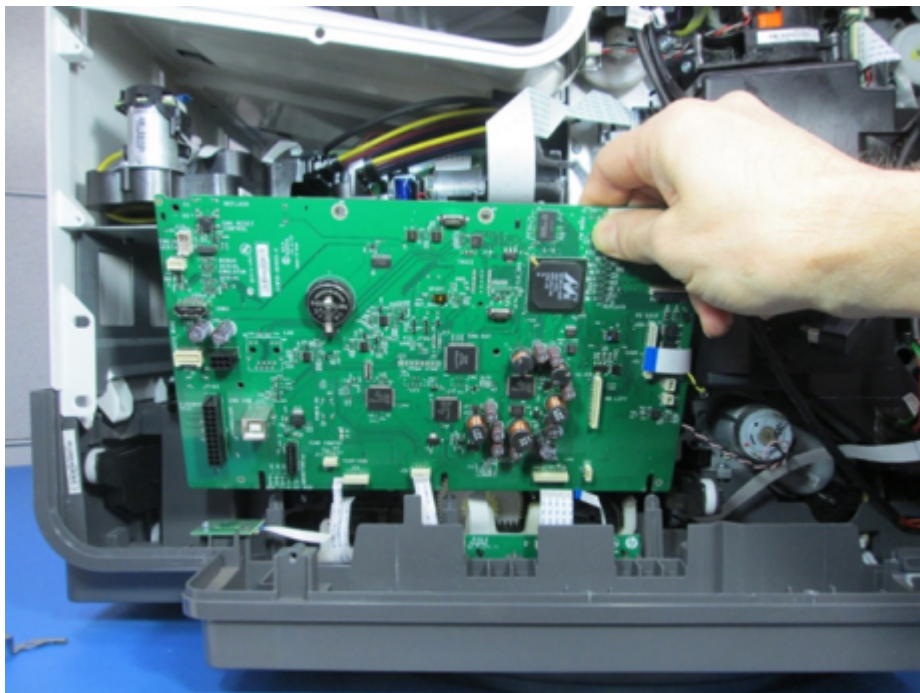
2. Gently lift the FFC cable from J34 (callout 1).


Figure 5-691 Lift the FFC cable from J34



3. Rotate the top of the ECB and lift it up to remove the ECB from the printer.

Figure 5-692 Remove the ECB from the printer



 **NOTE:** Before replacing the ECB, make sure that the ink collection unit (ICU) is replaced and genuine HP ink cartridges are installed in the printer.


To replace the ECB, unpack the ECB replacement assembly and reverse the removal steps.

Part number for ECB: G1W39-67001

Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.


 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

5. Special instructions: Engine controller board (ECB) after replacement

Use the following guidelines after replacing the ECB.

1. Reinstall the power supply.

 **NOTE:** Make sure to reconnect the cables, power supply, formatter cage, formatter and case parts when installing an assembly. Ensure that all of the connectors are connected correctly and fully seated.

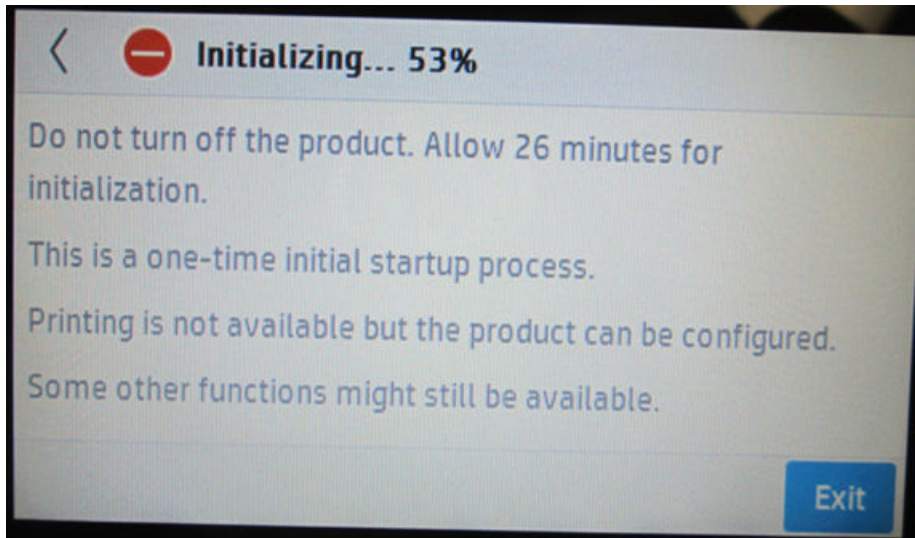
 **CAUTION:** Incorrectly routed or loose wire harnesses or flat flexible cables (FFCs) might interfere with other internal components or assemblies and can be damaged, pinched, or frayed. Make sure that wire harnesses are routed correctly and retained when installing assemblies.

To reinstall the power supply, reverse the removal steps. For instructions, go to Removal and replacement: Power supply .

2. Turn on the printer and wait for the initialization process to complete.

The printer will start initializing at 53% when powered on with a new ECB.

 **NOTE:** If the printer fails to start initializing, verify all ECB cables and harnesses are installed and seated correctly.



When the initialization process is completed, verify the printer's printing and copying functions.

Remove and replacement: Trays

Learn how to remove and replace the printer trays.

Removal and replacement: Tray 2

This document provides the procedures to remove and replace Tray 2.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-31 Part information

Part number	Description
G1W39-67908	Cassette (Tray 2) assembly

Required tools

- No special tools are needed to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.

- Use the power switch to turn the power on.

Post service test

Print any pages necessary to make sure the printer is functioning correctly. Use Tray 2 as the source tray.

1. Remove Tray 2

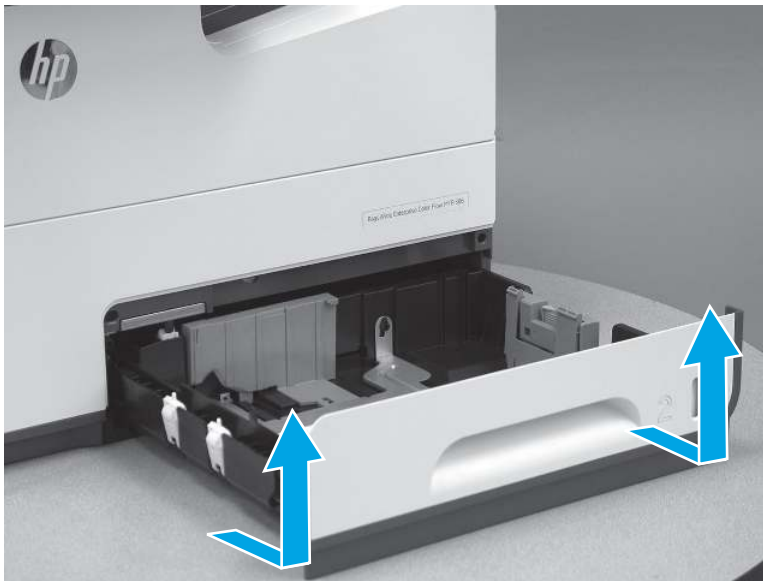
Follow these steps to remove Tray 2.

- ▲ Pull out the tray until it stops, lift the front of the tray, and then pull it out of the printer to remove it.

💡 **Reinstallation tip:** Align the sides of the tray with the rails in the printer, and then slide the tray into the printer.

It might be easier to get the tray started into the cavity if the front edge is slightly raised.

Figure 5-693 Remove the tray



2. Unpack the replacement assembly


Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.


📄 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

⚠️ **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

📄 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.


Removal and replacement: Tray 3-X

This document provides the procedures to remove and replace Tray 3-X.

Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-32 Part information

Part number	Description
G1W39-67956	Cassette (Tray 3) assembly
G1W39-67957	Cassette (Tray 4) assembly
G1W39-67958	Cassette (Tray 5) assembly

Required tools

- No special tools are needed to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.


Post service test

Print any pages necessary to make sure the printer is functioning correctly. Use Tray 3-X as the source tray.

1. Remove Tray 3-X

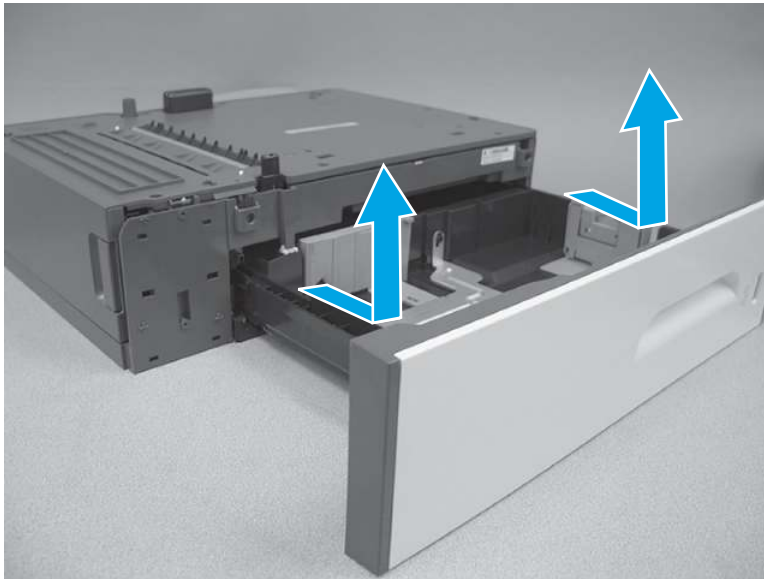
Follow these steps to remove Tray 3-X.

- ▲ Pull out the tray until it stops, lift the front of the tray, and then pull it out of the printer to remove it.

 **Reinstallation tip:** Align the sides of the tray with the rails in the printer, and then slide the tray into the printer.

It might be easier to get the tray started into the cavity if the front edge is slightly raised.

Figure 5-694 Remove the tray



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

- To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

Remove and replacement: Accessories

Learn how to remove and replace the accessories.

Install accessory: Document feeder rollers (586)

This document provides the procedures to remove and replace the document feeder pickup and feed roller assembly and the separation roller assembly (586) accessory.

 **NOTE:** This guide shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

[View a video for removing and installing the document feeder rollers.](#)

Mean time to repair: 5 minutes


Service level: Basic


 **NOTE:** This document shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

 **IMPORTANT:** When replacement rollers are installed, reset the [New Document Feeder Kit](#) firmware counter. See the last step in this guide.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-33 Part information

Part number	Part description
W5U23-67901 (service kit)	Document feeder maintenance kit (586) accessory with instruction guide

Required tools

- No special tools are required to remove this part.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

Use the document feeder to copy a page to make sure that it is functioning correctly.

1. Remove the document feeder pickup and feed roller assembly

Follow these steps to remove the document feeder pickup and feed roller assembly.

 **NOTE:** This guide shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

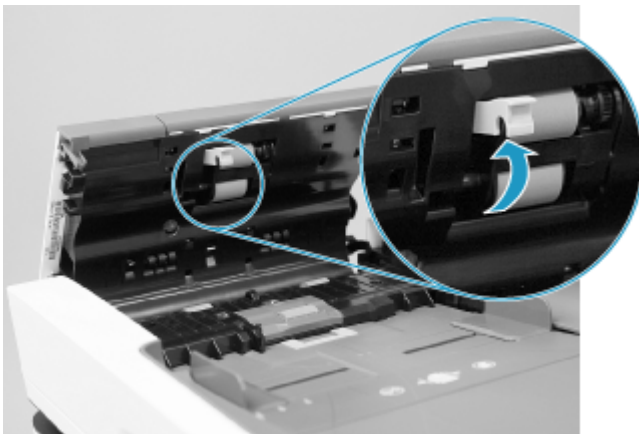
1. Open the document feeder jam access door.

Figure 5-695 Open the door



2. Raise the blue lever to release the document feeder pickup and feed roller assembly.

Figure 5-696 Raise the blue lever



3. Slide the roller assembly toward the front of the printer (callout 1), and then away from the document feeder (callout 2) to remove it.

Figure 5-697 Remove the roller assembly



2. Remove the document feeder separation roller assembly

Follow these steps to remove the document feeder separation roller assembly.

 **NOTE:** This guide shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

1. Open the document feeder separation roller assembly cover.

Figure 5-698 Open the cover



2. Remove the cover.

Figure 5-699 Remove the cover



3. Slide the roller assembly toward the front of the printer, and then rotate it up and away from the document feeder to remove it.

Figure 5-700 Remove the roller assembly



3. Unpack the replacement assembly

Follow these steps to unpack the replacement assembly.

1. Dispose of the defective part.




NOTE: HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.




CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.



IMPORTANT: Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.
-


 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

4. Install the document feeder separation roller assembly

Follow these steps to install the document feeder separation roller assembly.

 **NOTE:** This guide shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

1. Place the solid-shaft end of the assembly (the gear end will face the front of the printer) in the slot provided in the roller holder, and then rotate the gear end down and into the document feeder.
-

 **CAUTION:** Do not touch the gray spongy portion of the roller. Skin oils can cause image-quality problems.


 **NOTE:** The roller might seem loose until the cover is installed and snapped closed. The cover helps hold the roller in place.

Figure 5-701 Install the roller assembly



2. Position the roller cover on the document feeder.

Figure 5-702 Install the roller cover



3. Close the roller cover.

Figure 5-703 Close the roller cover



4. Push down to snap the cover into place.


 **NOTE:** When the cover is correctly installed, an audible click is heard when it snaps into place.

Figure 5-704 Push down on the roller cover



5. Install the document feeder pickup and feed roller assembly

Follow these steps to install the document feeder pickup and feed roller assembly.

 **NOTE:** This guide shows the HP LaserJet Enterprise MFP M527. However, the instructions are also valid for the HP PageWide Enterprise Color MFP 586.

1. Position the roller assembly in the holder (callout 1) with the drive shaft end of the assembly facing toward the rear of the printer.

Slide the assembly toward the rear of the printer to engage the two keyed drive shafts with the two drive bushings (callout 2).


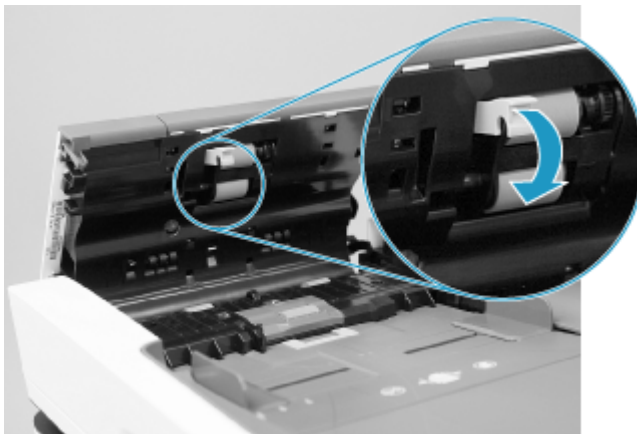
 **CAUTION:** Do not touch the gray spongy portion of the rollers. Skin oils can cause image-quality problems.

Figure 5-705 Install the roller assembly



2. Lower the blue lever until it snaps over the roller assembly solid shaft.

Figure 5-706 Close the blue lever



3. Close the document feeder jam access door.

 **NOTE:** When the door is completely closed, an audible click is heard when it latches closed.

Figure 5-707 Close the door



6. Reset the firmware counter

Follow these steps to reset the firmware counter.

1. From the Home screen on the control panel, scroll to and touch the **Administration** button.
2. Open the following menus:
 - **Manage Supplies**
 - **Reset Supplies**
 - **New Document Feeder Kit**
3. Select the **Reset** item to reset the firmware counter.

Install accessory: Fax printed-circuit assembly (586f/z and 586dn only)

This document provides the procedures to remove and replace the fax PCA.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-34 Part information

Part number	Description
CC487A (586dn accessory)	Fax printed-circuit board with instruction guide
CC487-67901 (586f/z service kit)	

Required tools

- No special tools are needed to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

Send a fax from the printer to verify that the fax function is operating correctly.

Send a fax to the printer to verify that the fax function is operating correctly.

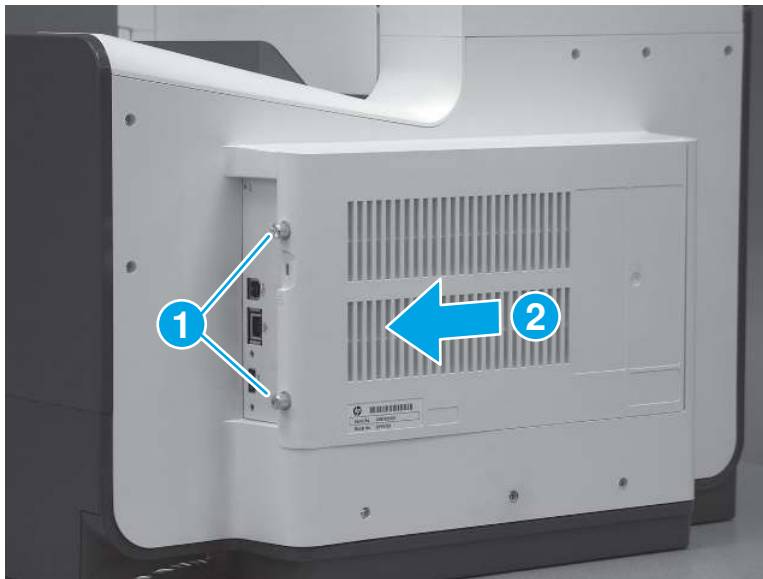
1. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).

 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-708 Remove the formatter cover



2. Remove the fax printed-circuit assembly (PCA)

Follow these steps to remove the fax PCA.



ESD sensitive part.



NOTE: 586f/z printers only. For all other printers, skip this step.

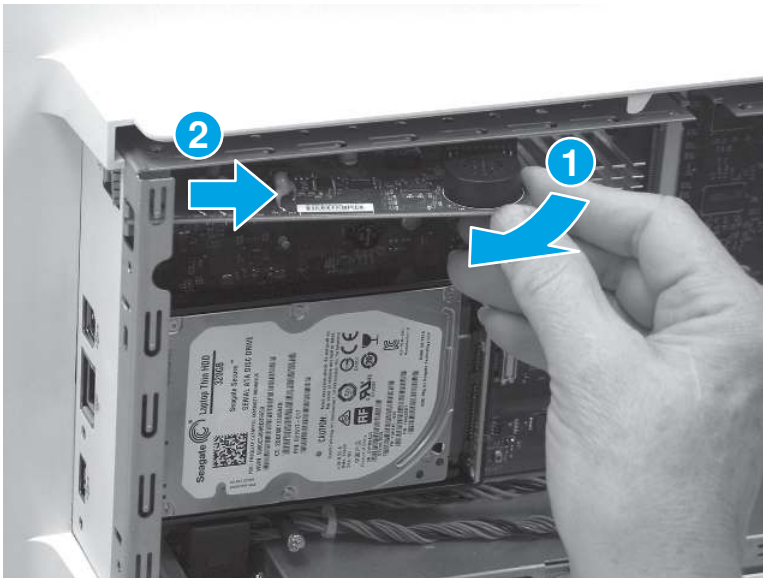
1. Locate the fax PCA (callout 1) on the formatter.

Figure 5-709 Locate the fax PCA



2. Rotate the right end of the fax PCA away from the formatter (callout 1), and then slide the PCA to the right (callout 2) to remove it.

Figure 5-710 Remove the fax PCA



3. Unpack the replacement assembly


Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

CAUTION:  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

IMPORTANT:  Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

NOTE:  If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.


3. To install an assembly, reverse the removal steps.

NOTE:  When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

4. Remove the fax printed-circuit assembly (PCA)

Follow these steps to remove the fax PCA.

 ESD sensitive part.

NOTE:  586f/z printers only (optional for the 586dn). For all other printers, skip this step.

1. Position the port (callout 1) on the fax PCA into the opening (callout 2) in the formatter case. Position the edge of the fax PCA (callout 3) into the sheet-metal slot (callout 4) on the formatter case.


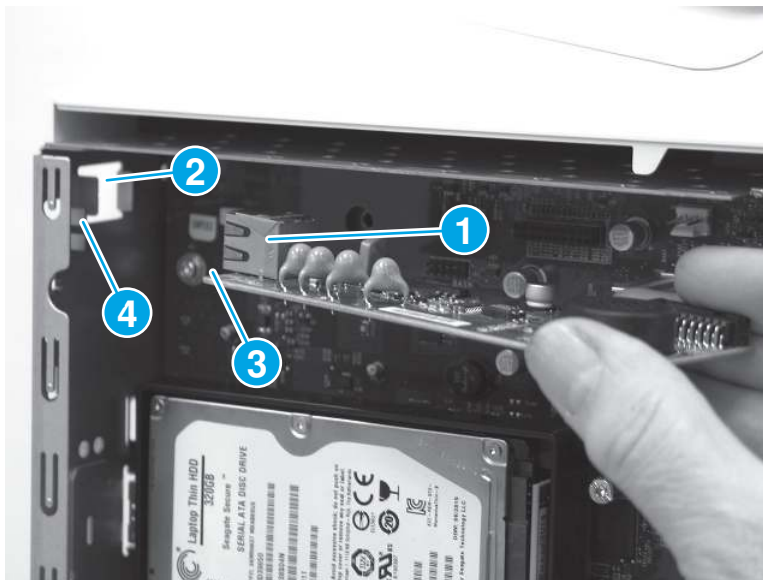
TIP:  If a fax accessory is being installed on the 586dn printer, peel away the protective covering on the outside of the formatter case to expose the fax port slot in the sheet metal frame.

Figure 5-711 Locate the slots in the sheet-metal



- Slide the fax PCA to the left (callout 1) to install the port and the edge of the PCA into the formatter case, as described in the previous step. Rotate the right edge (callout 2) of the PCA toward the formatter to install it in the connector on the formatter.


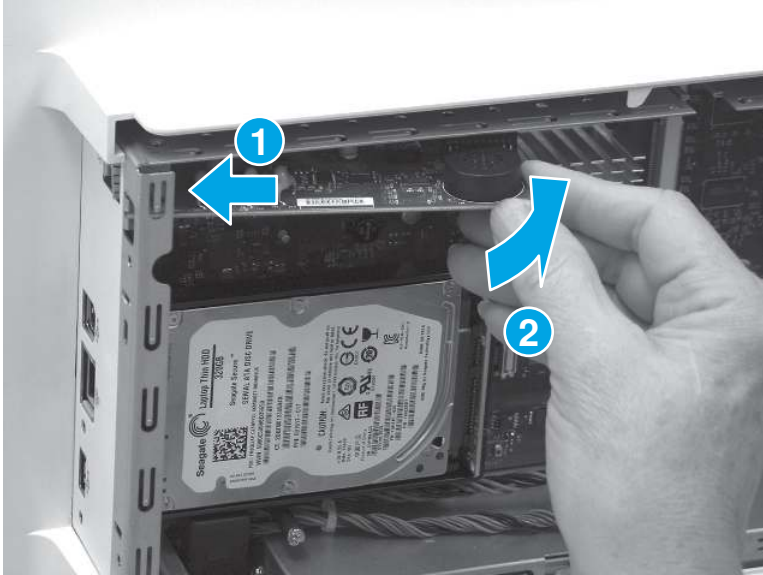
 **NOTE:** Make sure that the fax PCA is fully seated in the connector.

Figure 5-712 Install the fax PCA

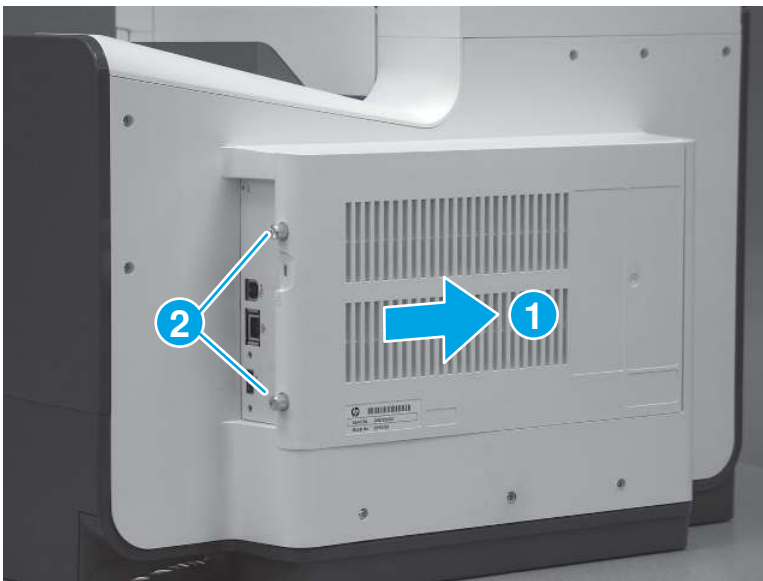


5. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-713 Install the formatter cover




Install accessory: Small outline dual in-line memory module (SODIMM)

This document provides the procedures to remove and replace the SODIMM.

Before performing service

Turn the printer power off

- Disconnect the power cable.

 **WARNING!** To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-35 Part information

Part number	Description
E5K48A (accessory)	Small outline dual in-line memory module (SODIMM) with instruction guide
E5K48-67902 (586f/z service kit)	

Required tools

- No special tools are needed to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

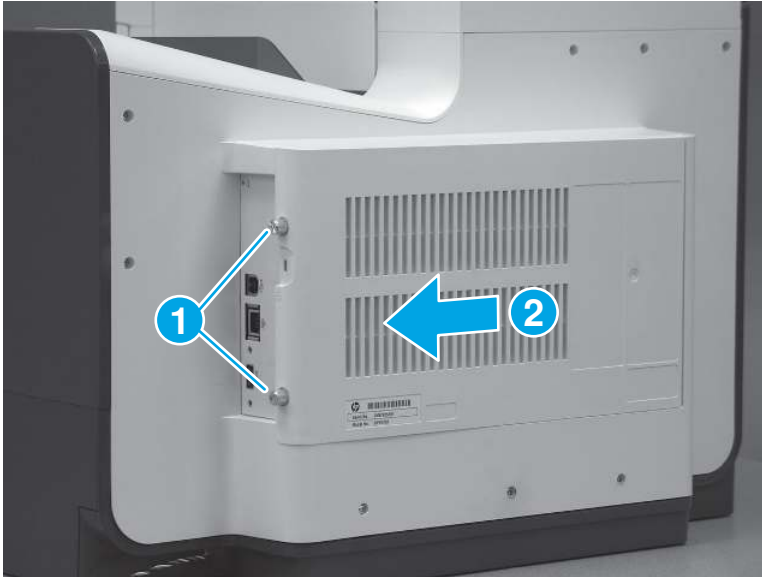
1. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).


 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-714 Remove the formatter cover



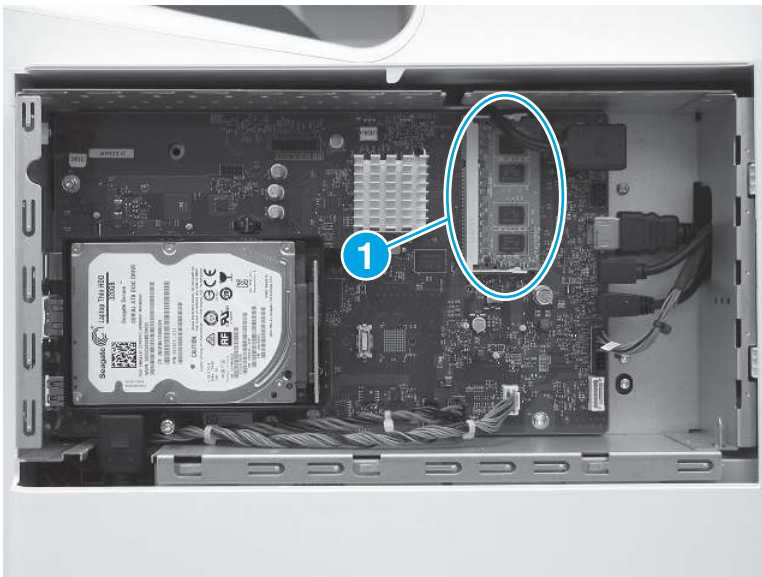
2. Remove the small outline dual in-line memory module (SODIMM)

Follow these steps to remove the small outline dual in-line memory module (SODIMM).

 **NOTE:** SODIMM installed models only. For all other printers, skip this step.

1. Locate the DIMM component on the formatter (callout 1).

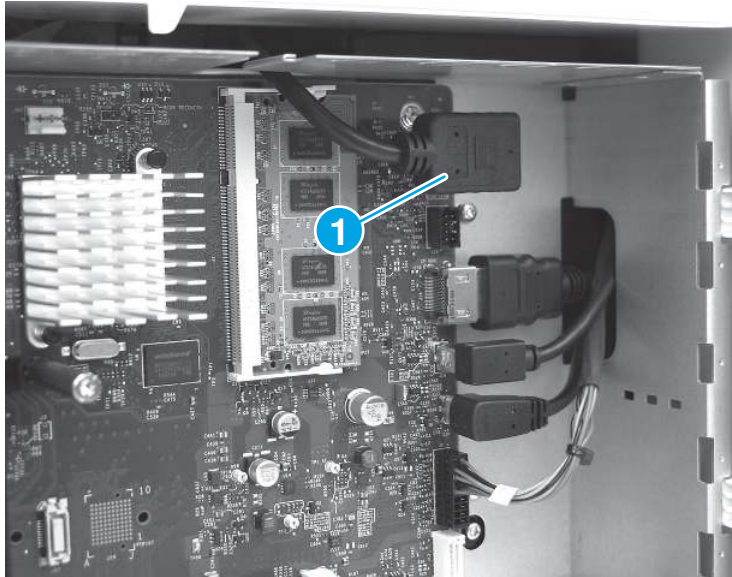
Figure 5-715 Disconnect three connectors



2. **586 printers only:** Disconnect one connector (callout 1).

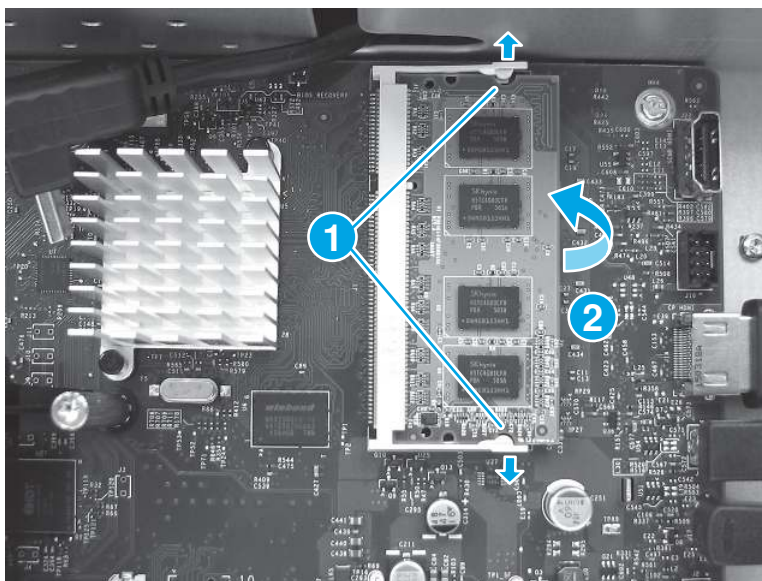
 **IMPORTANT:** Make sure that you connect this connector after the DIMM is installed.

Figure 5-716 Disconnect one connector (586)



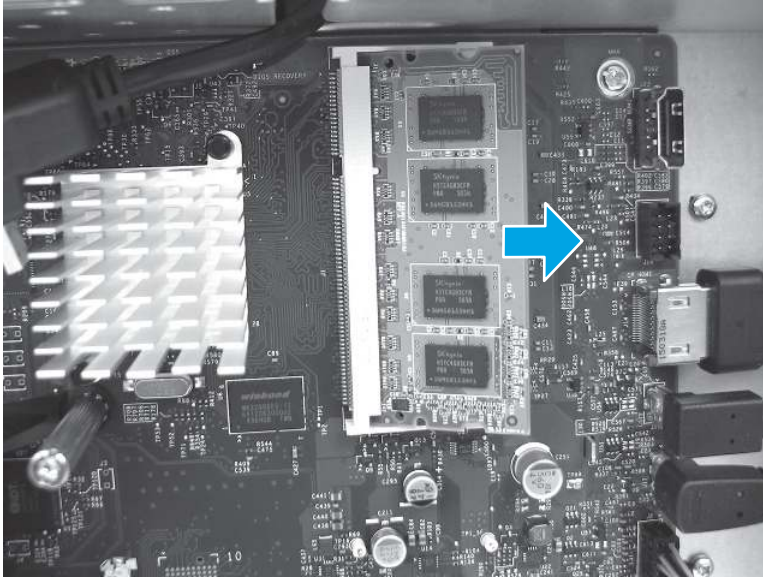
3. Release two locking arms (callout 1), and then rotate the right edge of the SODIMM away from the holder (callout 2).

Figure 5-717 Release the SODIMM



4. Pull the SODIMM out and away from the holder to remove it.

Figure 5-718 Remove the SODIMM



3. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.


3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

4. Install the small outline dual in-line memory module (SODIMM)

Follow these steps to install the small outline dual in-line memory module (SODIMM).

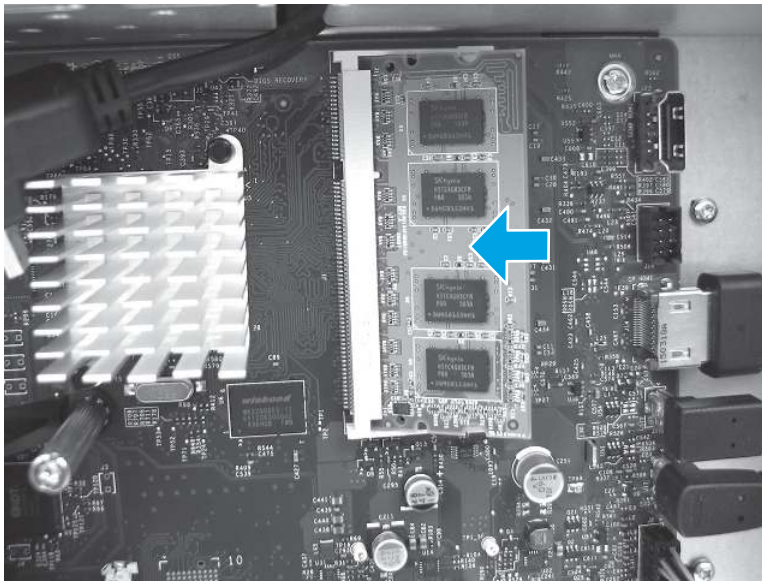
CAUTION:  ESD-sensitive part.

NOTE:  SODIMM installed models only. For all other printers, skip this step.

1. Insert the connector end of the SODIMM into the holder. Make sure that the SODIMM is fully pushed into the connector.

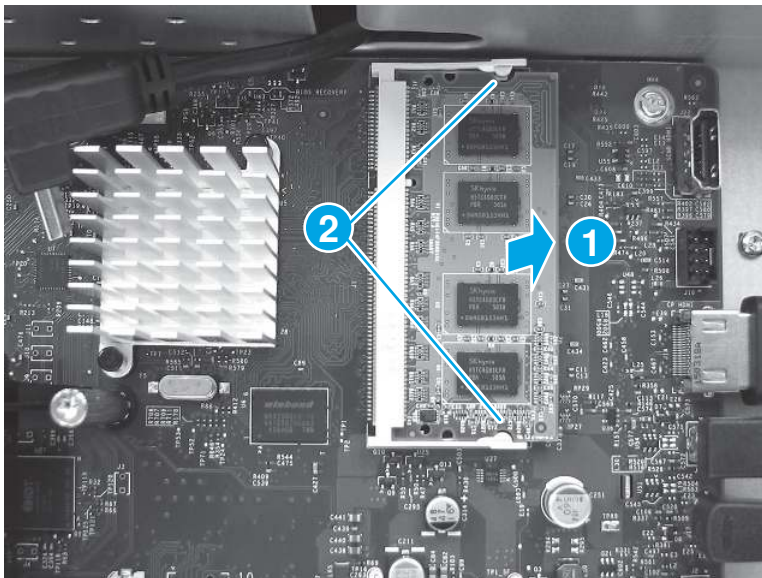
NOTE:  The SODIMM is keyed and can only be inserted into the holder one way.

Figure 5-719 Install the SODIMM



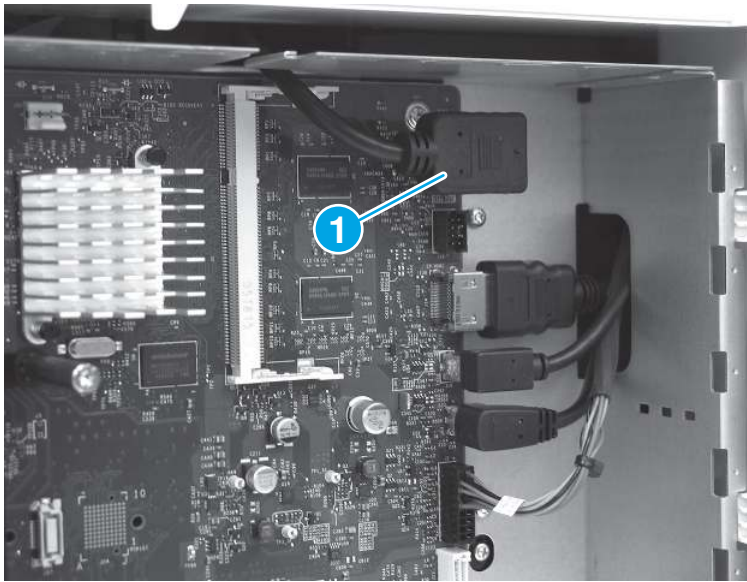
2. Rotate the right edge of the DIMM toward the holder (callout 1). Make sure that the two locking arms (callout 2) snap into place.

Figure 5-720 Seat the SODIMM



3. **586 models only:** Connect one connector (callout 1)

Figure 5-721 Disconnect one connector (586)

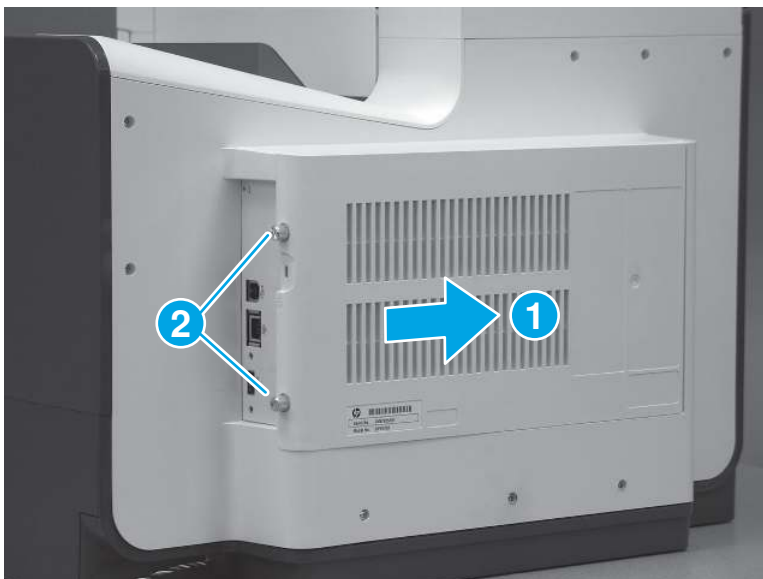


5. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-722 Install the formatter cover



Install accessory: HP Foreign interface harness (FIH) solution

This document provides the procedures to remove and replace the FIH.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-36 Part information

Part number	Description
B5L31A (accessory)	Foreign Interface Harness (FIH) (accessory) with instruction guide
B5L31-90902 (586f/z service kit)	Foreign Interface Harness (FIH) (accessory) with instruction guide

Required tools

- No special tools are needed to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

Connect a third party solution to the FIH, and then verify it correctly functions.

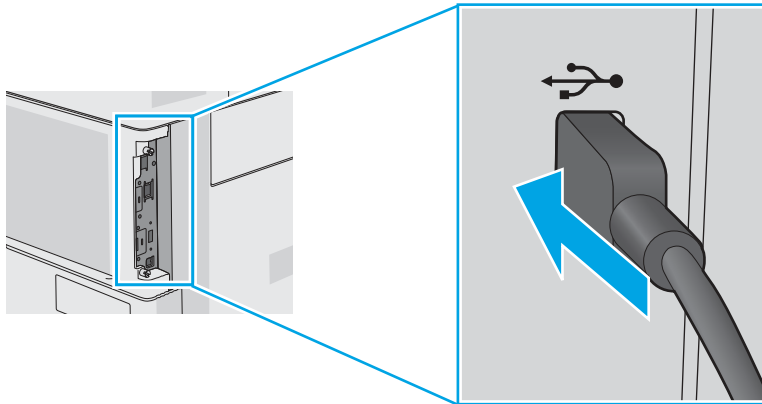
1. Install the FIH accessory

Learn how to install the foreign interface harness (FIH).

1. Unpack the accessory.
 - a. Remove the new part from its package. Save all packaging for recycling.
 - b. For complete information on HP's recycling programs, go to [Product return and recycling](#).
2. Install the foreign interface harness (FIH).

- ▲ Locate the USB port on the printer, and then plug the USB end of the FIH cable into the printer USB port.

Figure 5-723 Plug the FIH cable into the printer USB port



Install accessory: Internal USB ports

This document provides the procedures to remove and replace the internal USB ports.

Before performing service

Turn the printer power off

- Disconnect the power cable.

⚠ WARNING! To avoid damage to the printer, turn the printer off, wait 30 seconds, and then remove the power cable before attempting to service the printer.

Use the table below to identify the correct part number for your printer. To order the part, go to www.hp.com/buy/parts.

Table 5-37 Part information

Part number	Description
B5L28A (accessory)	Internal USB ports (accessory) with instruction guide
B5L28-67902 (586f/z service kit)	Internal USB ports (accessory) with instruction guide

Required tools

- No special tools are needed to remove or install this assembly.

After performing service

Turn the printer power on

- Connect the power cable.
- Use the power switch to turn the power on.

Post service test

Make sure that the printer initializes to a **Ready** state.

1. Remove the formatter cover

Follow these steps to remove the formatter cover.

- ▲ Remove two thumb screws (callout 1), and then slide the cover off of the printer to remove it (callout 2).


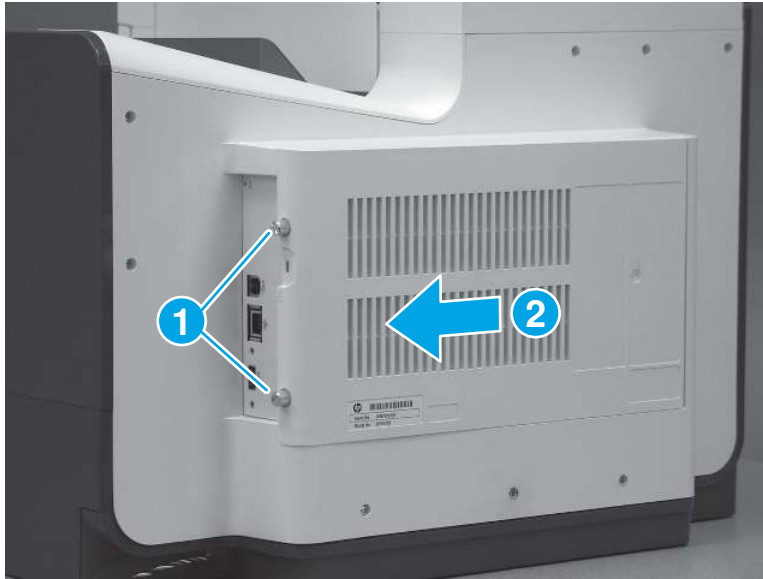
 **NOTE:** The thumb screws are not captive and are easily lost.

Figure 5-724 Remove the formatter cover



2. Unpack the replacement assembly



Follow these steps to unpack the replacement assembly.


1. Dispose of the defective part.


 **NOTE:** HP recommends responsible disposal of the defective part.

<http://www8.hp.com/us/en/hp-information/environment/product-recycling.html>


2. Unpack the replacement part from the packaging.

 **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation or mat. If an ESD workstation or mat is not available, touch the sheet-metal chassis to provide a static ground before touching an ESD-sensitive assembly. Protect the ESD-sensitive assemblies by placing them in ESD pouches when they are out of the printer.

 **IMPORTANT:** Make sure that all of the shipping materials (for example shipping tape) are removed from the replacement part prior to installation.

 **NOTE:** If the replacement part is a roller or pad, avoid touching the spongy part of it. Skin oils on the roller or pad can cause paper pickup and/or print-quality problems. HP recommends using disposable gloves when handling rollers or pads or washing your hands before touching rollers or pads.

3. To install an assembly, reverse the removal steps.

 **NOTE:** When applicable, special installation instructions are provided for an assembly at the end of the removal procedure. Always completely read the removal instructions and follow all special installation instructions.

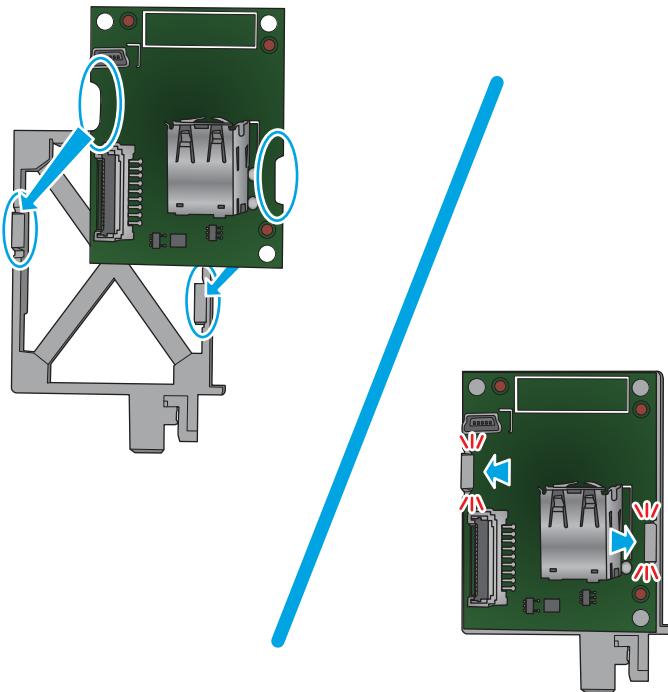
3. Remove the formatter cover

Follow these steps to remove the formatter cover.

 **NOTE:**  ESD sensitive part.

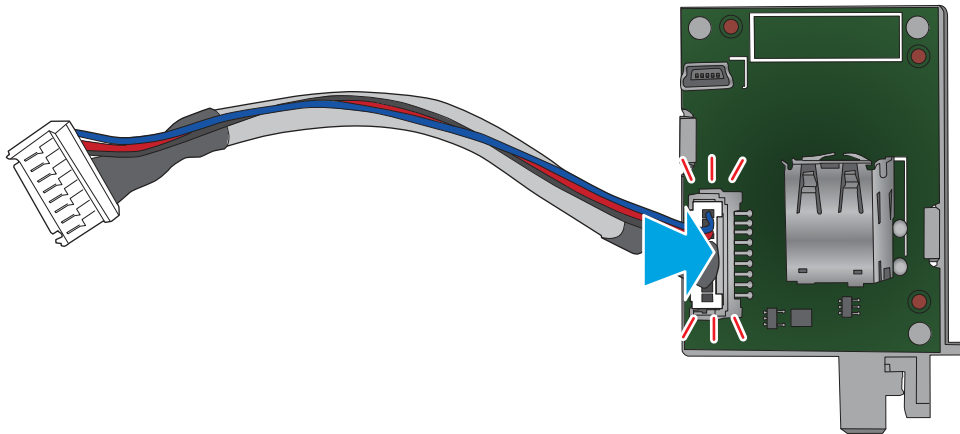
1. Position the notches on the internal USB ports PCA over the clips on the PCA holder and press down to attach the PCA to the holder. Make sure that the clips snap into place.

Figure 5-725 Install the PCA in the holder



2. Connect the wire harness to the PCA.

Figure 5-726 Connect one cable

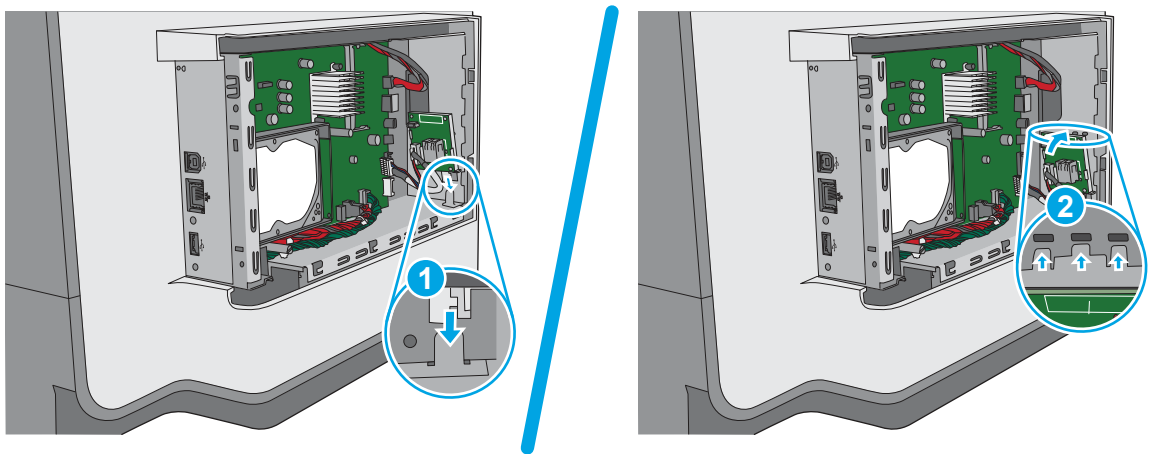


3. Position the PCA and holder on the sheet-metal tab (callout 1) located at the bottom of the formatter case.

Rotate the top of the PCA and holder toward the formatter case to engage the three tabs at the top of the holder with the slots in the formatter case (callout 2).

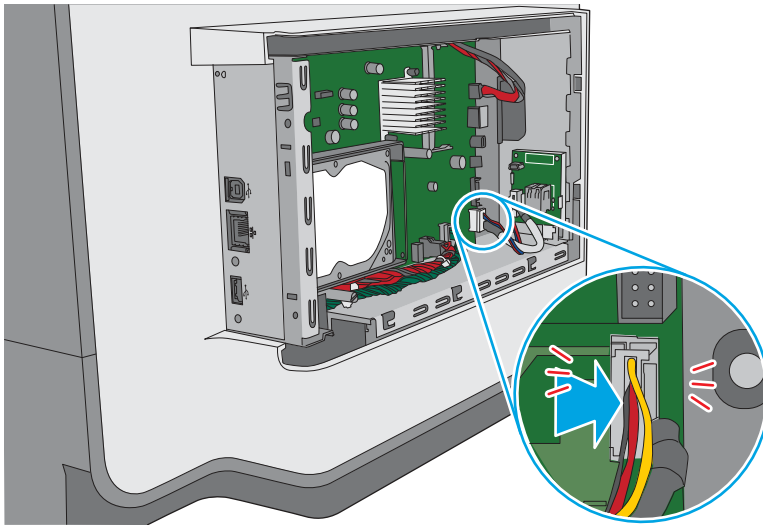
 **NOTE:** When correctly installed, the PCA and holder are firmly held in place.

Figure 5-727 Install the internal USB ports module



4. Connect one connector.

Figure 5-728 Connect one connector

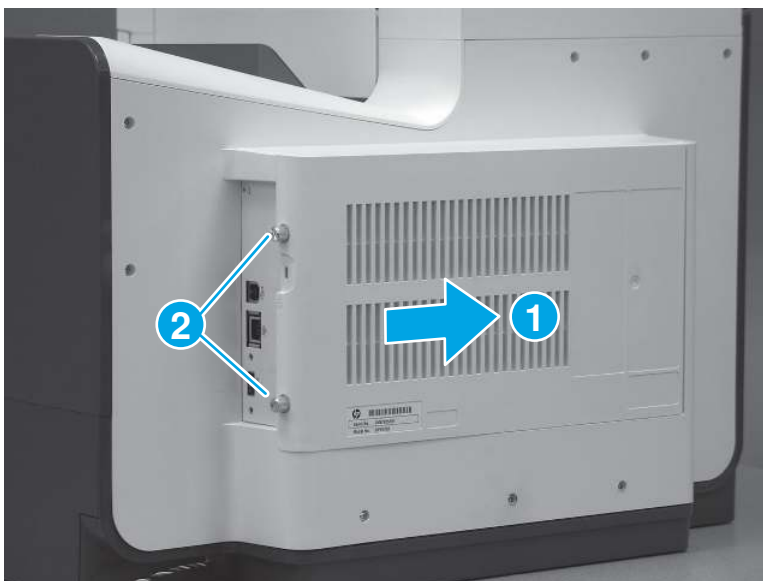


4. Install the formatter cover

Follow these steps to install the formatter cover.

- ▲ Slide the cover onto the printer (callout 1) to install it, and then install two thumb screws (callout 2).

Figure 5-729 Install the formatter cover



6 Parts and diagrams

Printer parts information including exploded assembly diagrams and part number lists.

HP service and support

Learn about HP access to additional service and support information.

Additional service and support for channel partners

Channel partners go to partner.hp.com, and then use the steps below to access the HP Web-based Interactive Search Engine (WISE).

[View a video of how to use the HP Partner First Portal to access WISE.](#)

Access WISE for Channel partners

1. Select [Services & Support](#) (near the top of the screen).
2. Under [Services Delivery](#), select [Technical Support](#).
3. Select [Technical Documentation](#).

Find information about the following topics

- Service manuals
- Service advisories
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Install and configure
- Printer specifications
- Warranty and regulatory information

Additional service and support for HP internal personnel

HP internal personnel, go to one of the following Web-based Interactive Search Engine (WISE) sites:

[View a video of how to access WISE for internal HP users.](#)

Americas (AMS)

- [WISE - English](#)
- [WISE - Spanish](#)
- [WISE - Portuguese](#)
- [WISE - French](#)

Asia Pacific / Japan (APJ)

- [WISE - English](#)
- [WISE - Japanese](#)
- [WISE - Korean](#)
- [WISE - Chinese \(simplified\)](#)
- [WISE - Chinese \(traditional\)](#)
- [WISE - Thai](#)

Europe / Middle East / Africa (EMEA)

- [WISE - English](#)

Additional technical support WISE videos

The videos below provide additional ways to access printer information using WISE.

[View a video of how to use WISE to find technical support videos \(model number search\).](#)

[View a video of ow to use WISE to find technical support videos \(Product detail page \[PDP\] search\).](#)

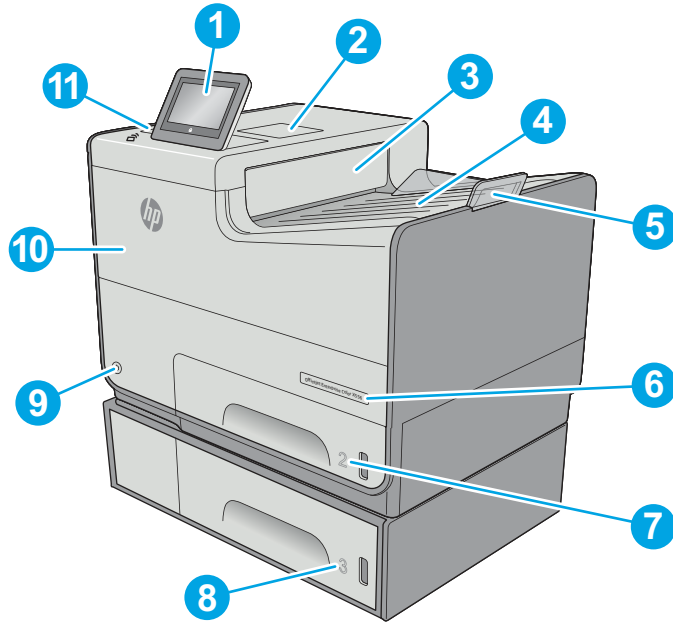
Assembly locations

Learn about the base printer assemblies.

Printer front view (556)

Identify the parts on the front of the printer (SFP).

Figure 6-1 Printer front view (SFP)



Number	Description
1	Control panel with color touchscreen display (tilts up for easier viewing)
2	Hardware integration pocket (for connecting accessory and third-party devices)
3	Output ejector flap
4	Output bin
5	Output bin extension
6	Model name
7	Tray 2
8	Tray 3 (included with the xh model, optional for the dn model)
9	On/off button
10	Cartridge door
11	Easy-access USB port (on the side of the control panel)

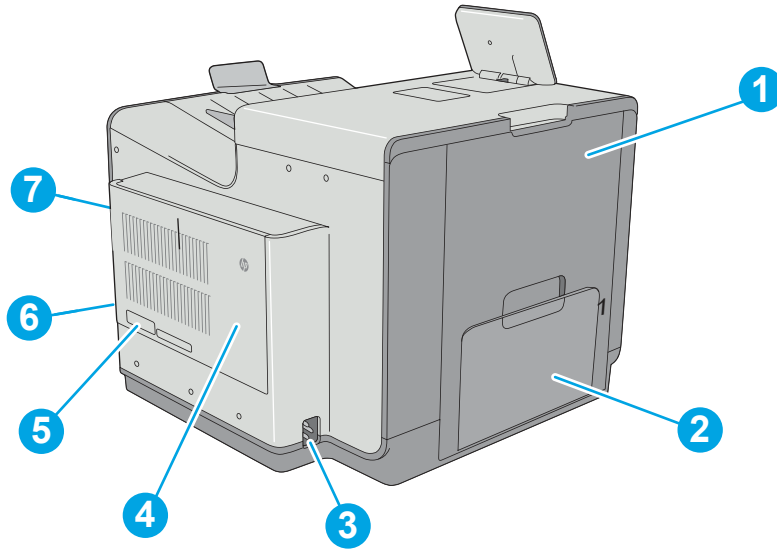
Insert a USB flash drive for printing or scanning without a computer or to update the printer firmware.

NOTE: An administrator must enable this port before use.

Printer back view (556)

Identify the parts on the back of the printer (SFP).

Figure 6-2 Printer rear view (SFP)

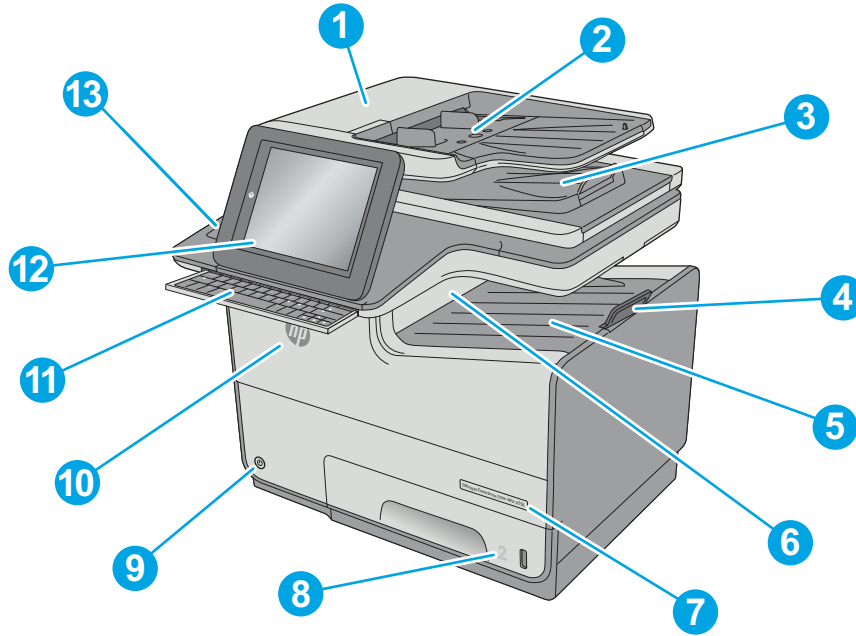


Number	Description
1	Left door (access to the ink-collection unit and for clearing jams)
2	Tray 1
3	Power connection
4	Formatter cover
5	Serial number and product number label
6	Formatter (contains the interface ports)
7	Slot for a cable-type security lock (on the rear cover of the printer)

Printer front view (586)

Identify the parts on the front of the printer (MFP).

Figure 6-3 Printer front view (MFP)

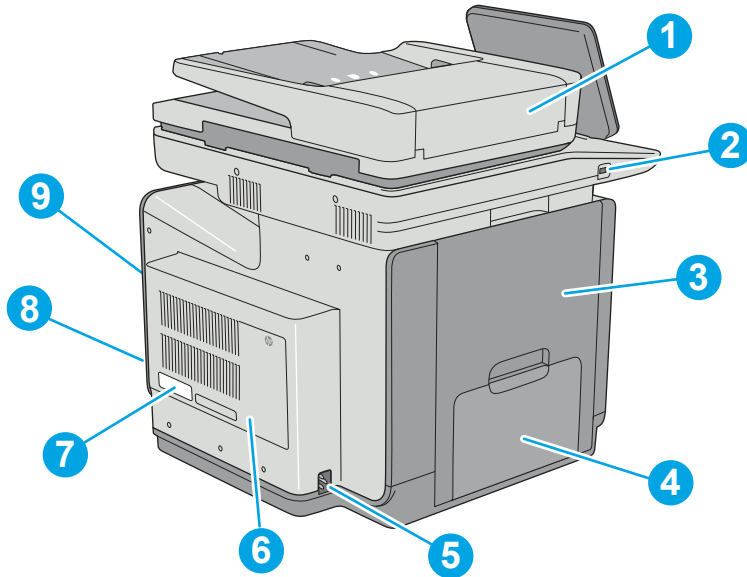


Number	Description
1	Document-feeder cover (access for clearing jams)
2	Document-feeder input tray
3	Document-feeder output bin
	NOTE: When feeding long paper through the document feeder, extend the paper stop at the right side of the output bin.
4	Output bin extension
5	Standard output bin
6	Output ejector flap
7	Model name
8	Tray 2
9	On/off button
10	Cartridge door
11	Physical keyboard (z model only). Pull the keyboard straight out to use it.
12	Control panel with color touchscreen display (tilts up for easier viewing)
13	Hardware integration pocket (for connecting accessory and third-party devices)

Printer back view (586)

Identify the parts on the back of the printer (MFP).

Figure 6-4 Printer rear view (MFP)



Number	Description
1	Document-feeder cover (access for clearing jams or cleaning rollers)
2	Easy-access USB port Insert a USB flash drive for printing or scanning without a computer or to update the printer firmware. NOTE: An administrator must enable this port before use.
3	Left door (access to the ink-collection unit and for clearing jams)
4	Tray 1
5	Power connection
6	Formatter cover
7	Serial number and product number label
8	Formatter (contains the interface ports)
9	Slot for a cable-type security lock (on the rear cover of the printer)

Order parts by authorized service providers

Find information about ordering parts and supplies for the printer.

Ordering

Order parts by authorized service providers.

Table 6-1 Ordering

Item or provider	Description
Order supplies and paper	www.hp.com/go/suresupply
Order parts from authorized service providers	www.hp.com/buy/parts or partsurfer.hp.com

Table 6-1 Ordering (continued)

Item or provider	Description
Order through service or support providers	Contact an HP-authorized service or support provider.
Order using the HP Embedded Web Server (EWS)	To access, in a supported web browser on your computer, enter the printer IP address or host name in the address/URL field. The EWS contains a link to the HP SureSupply web site, which provides options for purchasing Original HP supplies.

Orderable parts

Not all of the parts shown in the exploded assembly diagrams are orderable parts.

Refer to the tables following the diagrams or the alphabetical/numerical parts lists to determine if a part is orderable.

Supplies and accessories

Learn about the supplies and accessories available for the printer.

To order cartridges, visit <http://www.hp.com> (some portions of the HP Web site are available in English only). Ordering cartridges online is not supported in all countries/regions. However, many countries/regions have information about ordering by telephone, locating a local store, and printing a shopping list. In addition, go to hp.com/supplies to obtain information about purchasing HP products in your country/region.

Use only the replacement cartridges that have the same cartridge number as the cartridge that is being replaced.

Table 6-2 Supplies

Item	Description	Cartridge	Part number
HP 981A Cyan Original Ink Cartridge	Standard-capacity replacement cyan cartridge	981A	J3M68A (new)
			J3M68-67901 (service)
HP 981A Magenta Original Ink Cartridge	Standard-capacity replacement magenta cartridge	981A	J3M69A (new)
			J3M69-67901 (service)
HP 981A Yellow Original Ink Cartridge	Standard-capacity replacement yellow cartridge	981A	J3M70A (new)
			J3M70-67901 (service)
HP 981A Black Original Ink Cartridge	Standard-capacity replacement black cartridge	981A	J3M71A (new)
			J3M71-67901 (service)
HP 981X High Yield Cyan Original Ink Cartridge	High-capacity replacement cyan cartridge	981X	L0R09A (new)
			L0R09-67901 (service)
HP 981X High Yield Magenta Original Ink Cartridge	High-capacity replacement magenta cartridge	981X	L0R10A (new)
			L0R10-67901 (service)
HP 981X High Yield Yellow Original Ink Cartridge	High-capacity replacement yellow cartridge	981X	L0R11A (new)
			L0R011-67901 (service)
HP 981X High Yield Black Original Ink Cartridge	High-capacity replacement black cartridge	981X	L0R12A (new)

Table 6-2 Supplies (continued)

Item	Description	Cartridge	Part number
			LOR12-67901 (service)
HP 981Y Extra High Yield Cyan Original Ink Cartridge	Extra high-capacity replacement cyan cartridge	981Y	LOR13A (new) LOR13-67901 (service)
HP 981Y Extra High Yield Magenta Original Ink Cartridge	Extra high-capacity replacement magenta cartridge	981Y	LOR14A (new) LOR14-67901 (service)
HP 981Y Extra High Yield Yellow Original Ink Cartridge	Extra high-capacity replacement yellow cartridge	981Y	LOR15A (new) LOR15-67901 (service)
HP 981Y Extra High Yield Black Original Ink Cartridge	Extra high-capacity replacement black cartridge	981Y	LOR16A (new) LOR16-67901 (service)
HP 981YC Extra High Yield Cyan Original Ink Cartridge (contract)	Extra high-capacity contract replacement cyan cartridge	981YC	LOR17A (new) LOR17-67901 (service)
HP 981YC Extra High Yield Magenta Original Ink Cartridge (contract)	Extra high-capacity contract replacement magenta cartridge	981YC	LOR18A (new) LOR18-67901 (service)
HP 981YC Extra High Yield Yellow Original Ink Cartridge (contract)	Extra high-capacity contract replacement yellow cartridge	981YC	LOR19A (new) LOR19-67901 (service)
HP 981YC Extra High Yield Black Original Ink Cartridge (contract)	Extra high-capacity contract replacement black cartridge	981YC	LOR20A (new) LOR20-67901 (service)
Ink-collection unit	Replacement ink-collection unit		B5L09A (new) B5L04-67906 (service)

Table 6-3 Accessories

Item	Description	Part number
Document feeder roller replacement kit (586 only)	Replacement feed rollers for the document feeder	B5L52A (new) W5U23-67901 (service)
500-sheet paper feeder assembly and tray (Tray 3)	Optional Tray 3 paper feeder assembly and tray	G1W39-67952
500-sheet paper feeder assembly and tray (Tray 4)	Optional Tray 4 paper feeder assembly and tray	G1W39-67953
500-sheet paper feeder assembly and tray (Tray 5)	Optional Tray 5 paper feeder assembly and tray	G1W39-67954
Printer stand	Optional stand to support the printer Includes installation instructions	G1W39-67928
3 x 500-sheet paper feeder and stand	Optional 3 x 500-sheet paper feeder with a stand to support the printer (Trays 3–5)	G1W39-67930
HP 1GB DDR3 x32 144-Pin 800MHz SODIMM	Optional DIMM for expanding the memory	E5K48A (new) E5K48-67902 (service)

Table 6-3 Accessories (continued)

Item	Description	Part number
HP Internal USB Ports	Optional USB ports for connecting third-party devices	B5L28A (new)
		B5L28-67902 (service)
Analog Fax Accessory 600 (586 only)	Optional fax accessory	CC487A (new)
		CC487-67901 (service)
HP Foreign Interface Harness	Optional port for connecting third-party devices	B5L31A (new)
		B5L31-67902 (service)
HP Trusted Platform Module	Automatically encrypts all data that passes through the printer	F5S62-61001
HP Jetdirect 2900nw Print Server	USB wireless print server accessory	J8031-61001
HP Jetdirect 3000w NFC/Wireless Accessory	Wi-Fi direct accessory for “touch” printing from mobile devices	J8030A (new)
		J8030-61001 (service)
HP LaserJet Keyboard Overlay Kit for Simplified Chinese & Traditional Chinese (586z only)	Language-specific, adhesive overlay for the physical keyboard	A7W12A
HP LaserJet Keyboard Overlay Kit for Swedish (586z only)	Language-specific, adhesive overlay for the physical keyboard	A7W14A

Customer self-repair parts

Learn about printer customer self-repair parts.

Customer Self-Repair (CSR) parts are available for HP PageWide printers to reduce repair time.

More information about the CSR program and benefits can be found at www.hp.com/go/csr-support and www.hp.com/go/csr-faq.

Genuine HP replacement parts can be ordered at www.hp.com/buy/parts or by contacting an HP-authorized service or support provider. When ordering, one of the following will be needed: part number, serial number (found on back of printer), product number, or printer name.

- Parts listed as **A**: Easy
- Parts listed as **B**: Difficult and/or require tools

Table 6-4 Customer self-repair (CSR) parts

Item	Description	CSR level	Part number
Output bin	Replacement output bin	A	G1W39-67944
Document feeder retention clips	Replacement retention clips that are behind the scanner white backing	A	G1W41-67904
Document feeder white backing	Replacement white plastic backing for the scanner	A	G1W41-67903
Document feeder roller replacement kit (586 only)	Replacement feed rollers for the document feeder	A	W5U23-67901

Table 6-4 Customer self-repair (CSR) parts (continued)

Item	Description	CSR level	Part number
Control panel (586 only)	Replacement touchscreen control panel for 586 models	A	G1W41-67905
U.S. English keyboard (586z only)	Replacement U.S. English keyboard for the z model	A	G1W41-67938
U.K. English keyboard (586z only)	Replacement U.K. English keyboard for the z model	A	G1W41-67959
embedded MultiMedia Card (eMMC; 556dn only)	Replacement eMMC	A	G1W47-67902
Hard-disk drive (HDD)	Replacement hard-disk drive	A	G1W41-67902
Control panel (556 only)	Replacement control panel for 556 models	B	G1W41-67907
HP LaserJet MFP analog fax accessory 500 (586 only)	Replacement fax board	A	CC487-67901
1GB DDR3 x32 144-Pin 800MHz small outline dual in-line memory module (SODIMM)	Replacement memory DIMM	A	E5K48-67902
HP Foreign interface harness (FIH)	Replacement HP Foreign Interface Harness	A	B5L31-67902
HP Internal USB Ports	Optional USB ports for connecting third-party devices	A	B5L28-67902
HP Trusted Platform Module	Replacement HP Trusted Platform Module	A	F5S62-61001

Related documentation and software

Learn about HP access to additional service and support information.

HP service personnel, go to one of the following Web-based Interactive Search Engines (WISE) sites:

Americas (AMS)

- [WISE - English](#)
- [WISE - Spanish](#)
- [WISE - Portuguese](#)
- [WISE - French](#)

Asia Pacific / Japan (APJ)

- [WISE - English](#)
- [WISE - Japanese](#)
- [WISE - Korean](#)
- [WISE - Chinese \(simplified\)](#)
- [WISE - Chinese \(traditional\)](#)
- [WISE - Thai](#)

Europe / Middle East / Africa (EMEA)

- [WISE - English](#)

Document feeder and scanner whole units

The figures below show the component parts of the printer. 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).

Exploded view and parts list (integrated scanner assembly)

Figure 6-5 Document feeder and scanner (586)

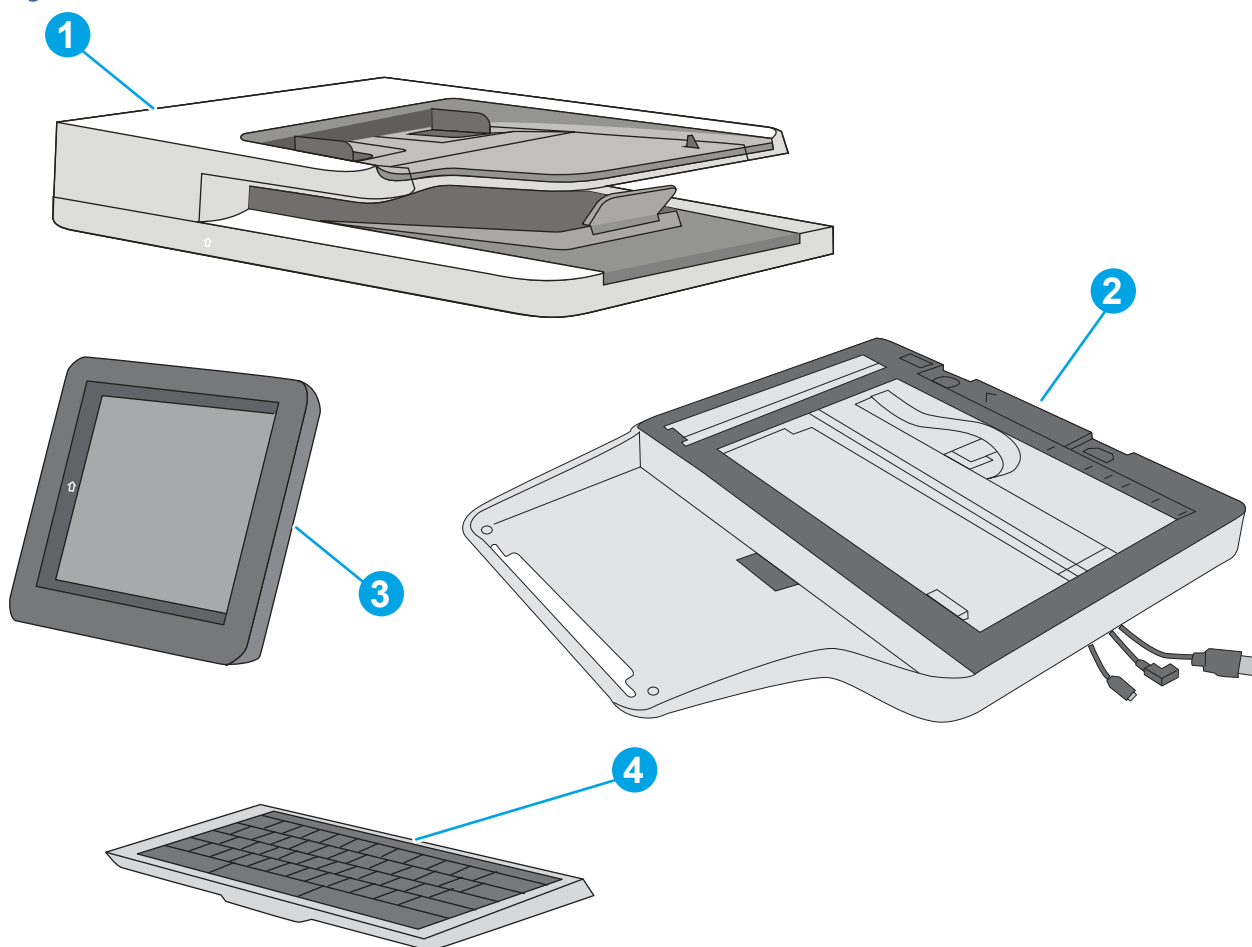


Table 6-5 Document feeder and scanner (586)

Ref No	Part number	Description	Qty
1	G1W41-67908	Document feeder (586) kit; includes white backing and retention clips	1
1	B5L47-67904	Document feeder (Flow models) kit; includes white backing and retention clips	1
2	G1W39-67943	Image scanner (586) kit; includes white backing and retention clips	1
3	G1W41-67905	Control panel (586) kit	1
4	G1W41-67938	Keyboard US (586z)	1
4	G1W41-67959	Keyboard UK (586z)	1
Not shown	5851-6019	Keyboard overlay kit (FR, IT, RU, DE, ES: UK Kybd)	1

Table 6-5 Document feeder and scanner (586) (continued)

Ref No	Part number	Description	Qty
Not shown	5851-6020	Keyboard overlay kit (FR-CN, ES-LA, ES: US Kybd)	1
Not shown	5851-6021	Keyboard overlay kit (FR-SW, DE-SW, DA: UK Kybd)	1
Not shown	5851-6022	Keyboard overlay kit (ZHTW, ZHCN)	1
Not shown	5851-6023	Keyboard overlay kit (ES, PT)	1
Not shown	5851-6024	Keyboard overlay kit (JA-KG, JA-KT)	1
Not shown	G1W39-67935	Scanner control board (586)	1
Not shown	G1W41-67903	White backing (586)	1
Not shown	G1W41-67904	Retention Clip Assembly (586)	1
Not shown	G1W39-67933	Cover, keyboard blank (586)	1
Not shown	W5U23-67901	Document feeder roller replacement kit (586)panel	1

To access HP PartSurfer information, go to [HP PartSurfer](#).

Parts and diagrams: Covers

The figures below show the component parts of the printer. 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).

Exploded view and parts list (556 covers)

Figure 6-6 Covers (556 models)

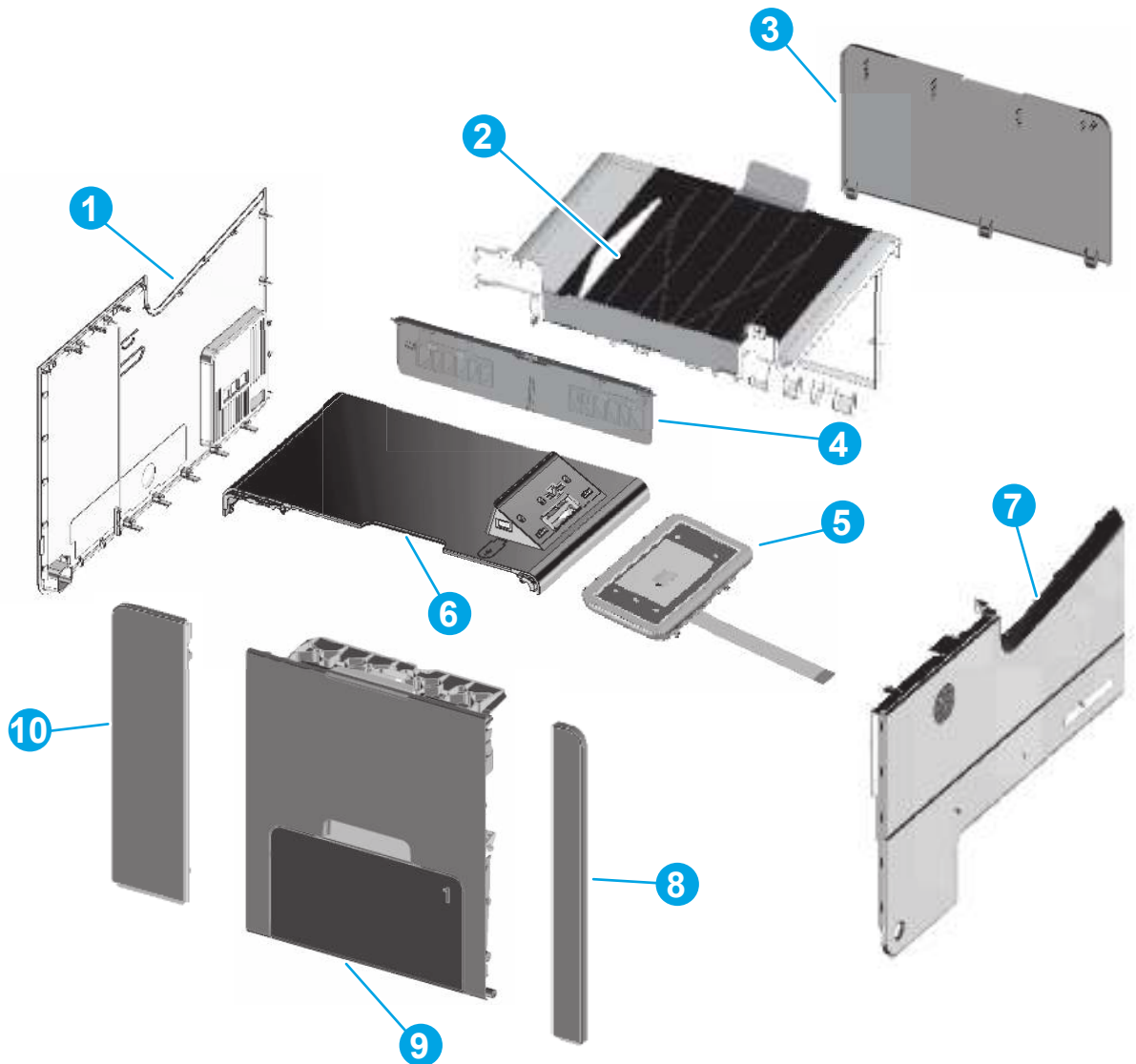


Table 6-6 Covers (556 models)

Ref No	Part number	Description	Qty
1	G1W39-67919	Cover, rear	1
2	G1W39-67944	Output bin	1
3	G1W39-67922	Cover, right (outer)	1
4	G1W39-67949	Flap-eject assembly	1

Table 6-6 Covers (556 models) (continued)

Ref No	Part number	Description	Qty
5	G1W41-67907	Control panel (556)	1
6	Not orderable	Cover, top (556)	1
7	G1W39-67918	Cover, front	1
8	G1W39-67916	Cover, left front	1
9	G1W39-67926	Door, left	1
10	G1W39-67917	Cover, left rear	1
Not shown	G1W39-67915	Cover, formatter	1
Not shown	G1W46-67909	Cover, left top front	1
Not shown	G1W46-67910	Cover, left top rear	1
Not shown	CN598-67002	Strap, left door, front	1
Not shown	CN598-67003	Strap, left door, rear	1
Not shown	G1W46-67914	Cover, HIP	1
Not shown	G1W39-67950	Cover, ISS	1

To access HP PartSurfer information, go to [HP PartSurfer](#).

Parts and diagrams: Covers

The figures below show the component parts of the printer. 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).

Exploded view and parts list (586 covers)

Figure 6-7 Covers (586 models)

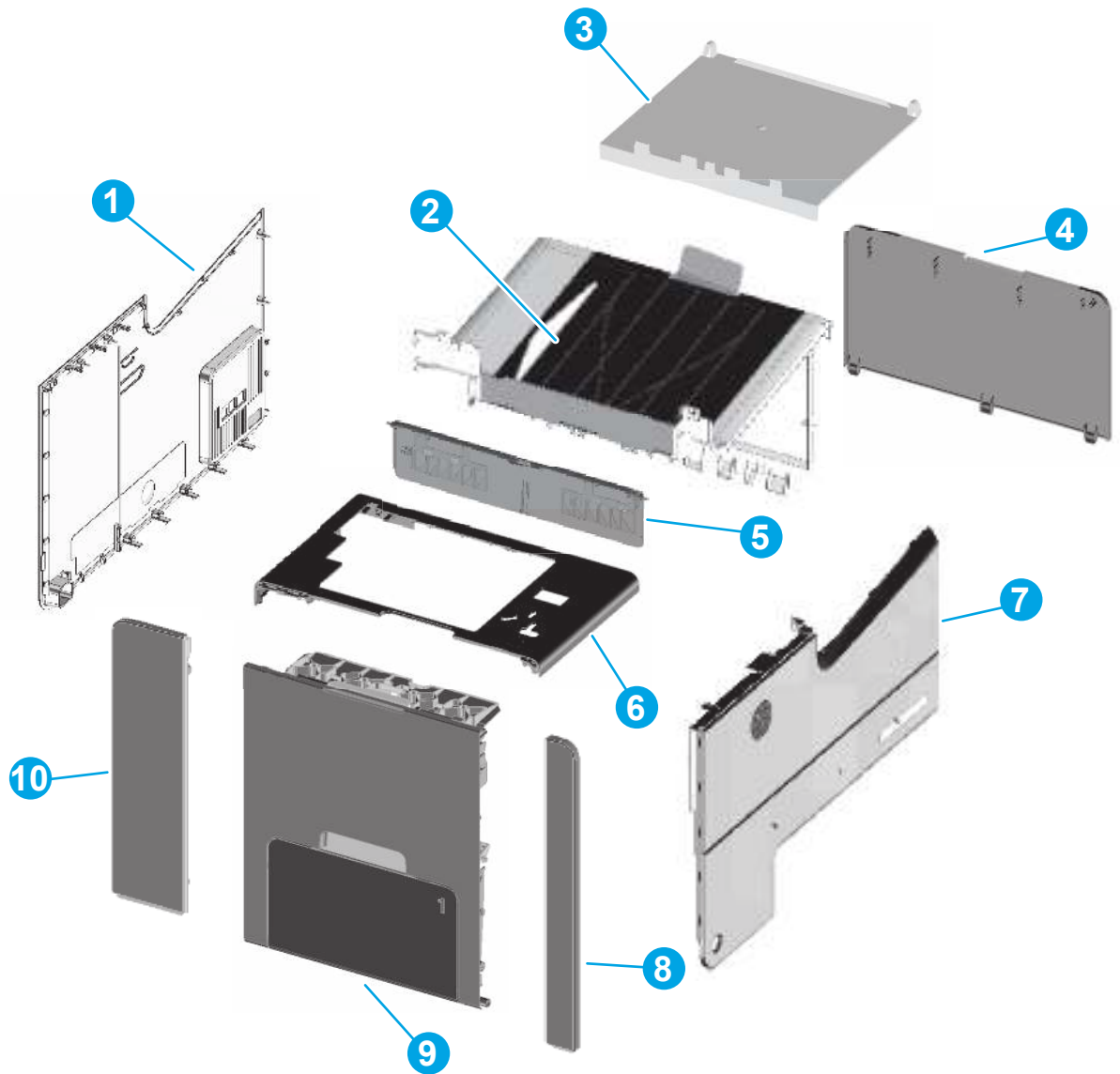


Table 6-7 Covers (586 models)

Ref No	Part number	Description	Qty
1	G1W39-67919	Cover, rear	1
2	G1W39-67944	Output bin	1
3	G1W39-67937	Cover, image scanner base (586)	

Table 6-7 Covers (586 models) (continued)

Ref No	Part number	Description	Qty
4	G1W39-67922	Cover, right (outer)	1
5	G1W39-67949	Flap-eject assembly	1
6	G1W39-67920	Cover, top (586)	1
7	G1W39-67918	Cover, front	1
8	G1W39-67916	Cover, left front	1
9	G1W39-67926	Door, left	1
10	G1W39-67917	Cover, left rear	1
Not shown	G1W39-67915	Cover, formatter	1
Not shown	CN598-67002	Strap, left door, front	1
Not shown	CN598-67003	Strap, left door, rear	1
Not shown	G1W39-67950	Cover, ISS	1
Not shown	G1W39-40003	Cover, HIP	1
Not shown	G1W39-40019	Cover, USB	1
Not shown	G1W39-40002	Bezel, control panel	1
Not shown	G1W39-40005	Trim, control panel	1

To access HP PartSurfer information, go to [HP PartSurfer](#).

Parts and diagrams: Internal assemblies

The figures below show the component parts of the printer. 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).

Exploded view and parts list (internal assemblies)

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

NOTE: 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.

Figure 6-8 Internal assemblies

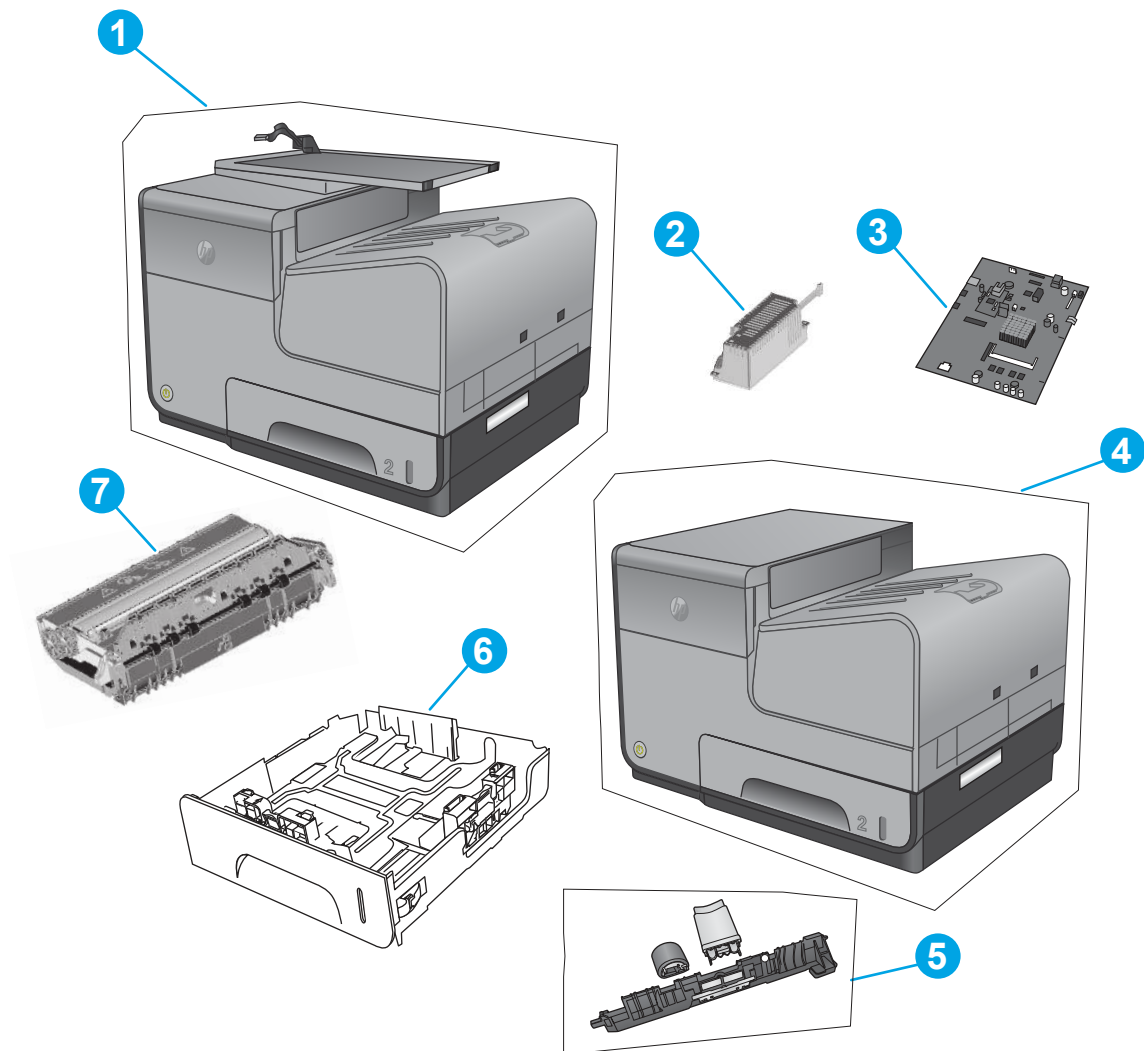


Table 6-8 Internal assemblies

Ref No	Part number	Description	Qty
1	G1W39-69001	Multi-function print mechanism kit (586)	1

Table 6-8 Internal assemblies (continued)

Ref No	Part number	Description	Qty
2	G1W39-67912	Power supply, universal 110V and 220V	1
3	G1W46-67911	Formatter PCA assembly (556)	1
3	G1W46-67912	Formatter PCA assembly—China only (556)	1
3	G1W39-67914	Formatter PCA assembly (586)	1
3	G1W39-67939	Formatter PCA assembly—China only (586)	1
4	G1W47-67901	Single-function print mechanism kit (556)	1
5	CN598-67018	Rollers, separation/pick, Tray 2	1
5	D3Q21-67002	Rollers, separation/pick, Tray 3	1
5	D3Q21-67003	Rollers, separation/pick, Trays 4 and 5	1
6	G1W39-67955	Tray 2	1
7	B5L04-67906	Ink collection unit	1
Not shown	G1W39-67952	Tray 3 assembly and feeder kit	1
Not shown	G1W39-67956	Tray 3 (tray only)	1
Not shown	G1W39-67953	Tray 4 assembly and feeder kit	1
Not shown	G1W39-67957	Tray 4 (tray only)	1
Not shown	G1W39-67954	Tray 5 assembly and feeder kit	1
Not shown	G1W39-67958	Tray 5 (tray only)	1
Not shown	G1W39-67913	Cable, power supply kit	1
Not shown	G1W41-67902	320 GB hard disk drive (HDD; 586 all; 556xh)	1
Not shown	G1W47-67902	embedded MultiMedia Card (eMMC; 556dn)	1
Not shown	CC487-67901	Fax PCA (586f/z service kit)	1
Not shown	D3Q21-67004	Print bar restraint kit	1
Not shown	D3Q24-67041	Wet fl ship cap	1
Not shown	CN459-67006	Advanced cleaning pad kit	1
Not shown	G1W39-67948	Ship/move kit	1

Table 6-8 Internal assemblies (continued)

Ref No	Part number	Description	Qty
Not shown	G1W39-67965	Aerosol fan assembly	1
Not shown	Q3Q24-67015	BDD Sensor Gen2	1
Not shown	G1W39-67002	Cables-Enterprise MFP	1
Not shown	G1W46-67001	Cables- Enterprise SFP	1
Not shown	CN598-67060	Drying path gear assembly	1
Not shown	D3Q24-67016	Duplex drive module	1
Not shown	D3Q24-67010	Duplex presence sensor PCA	1
Not shown	D3Q24-67003	Eject drive-gear module	1
Not shown	D3Q24-67037	Eject flap opto PCA	1
Not shown	D3Q24-67012	Feed shaft encoder PCA	1
Not shown	CN598-67041	FFC, 10-pin pick drive enc	1
Not shown	CN598-67039	FFC, 11-pin printzone	1
Not shown	CN598-67042	FFC, 12-pin REDI distribution	1
Not shown	CN598-67040	FFC, 24-pin printbar lift	1
Not shown	CN598-67043	FFC, 5-pin sensor carriage BDD	1
Not shown	D3Q24-67004	Flap actuator solenoid	1
Not shown	CN598-67031	Gear, output idler gear, 83t/30t	1
Not shown	CN598-67031	Gear, shaft output lower	1
Not shown	D3Q24-67028	Hinge, ISS door	1
Not shown	D3Q24-67014	Media presence flag/opto PCA kit	1
Not shown	D3Q24-67063	Off-axis IDS (500 series)	1

Table 6-8 Internal assemblies (continued)

Ref No	Part number	Description	Qty
Not shown	D3Q24-67011	Pick encoder distribution PCA	1
Not shown	CN598-67025	Platen (Add graphic)	1
Not shown	D3Q24-67070	Platen & REDI (Add graphic)	1
Not shown	D3Q24-67061	Power button assembly	1
Not shown	D3Q24-67009	Printbar Lift Clutch/Shaft Assembly	1
Not shown	D3Q24-67008	Printbar lift mechanism assembly	1
Not shown	CN598-67048	Printbar lift rod assembly	1
Not shown	D3Q24-67013	Print Zone Distribution PCA	1
Not shown	D3Q24-67078	Rear Bearing Assembly	1
Not shown	D3Q24-67017	REDI distribution PCA	1
Not shown	CN598-67038	REDI sensors	1
Not shown	D3Q24-67007	Sensor carriage PCA/encoder strip	1
Not shown	D3Q24-67002	Service Sled Assembly (552/577 models)	1
Not shown	CN598-67003	Strap, left door rear	1
Not shown	D3Q24-67005	Temperature sensor	1
Not shown	CN598-67020	Tray lift transmission assembly	1
Not shown	D3Q19-67003	Tray 3 Interconnect PCA PageWide A4	1
Not shown	D3Q24-67002	Web advance rack assembly	1
Not shown	D3Q24-67062	500 Series Pigtails	1
Not shown	D3Q24-67018	500 Series Printbar 3xFFC	1

To access HP PartSurfer information, go to [HP PartSurfer](#).

Alphabetical parts list

Table 6-9 Alphabetical parts list

Description	Part number	Table and page
320 GB hard disk drive (HDD; 586 all; 556xh)	G1W41-67902	Internal assemblies on page 727
500 Series Pigtails	D3Q24-67062	Internal assemblies on page 727
500 Series Printbar 3xFFC	D3Q24-67018	Internal assemblies on page 727
Advanced cleaning pad kit	CN459-67006	Internal assemblies on page 727
Aerosol fan assembly	G1W39-67965	Internal assemblies on page 727
BDD Sensor Gen2	Q3Q24-67015	Internal assemblies on page 727
Bezel, control panel	G1W39-40002	Covers (586 models) on page 725
Cable, power supply kit	G1W39-67913	Internal assemblies on page 727
Cables- Enterprise SFP	G1W46-67001	Internal assemblies on page 727
Cables-Enterprise MFP	G1W39-67002	Internal assemblies on page 727
Control panel (556)	G1W41-67907	Covers (556 models) on page 723
Control panel (586) kit	G1W41-67905	Document feeder and scanner (586) on page 721
Cover, HIP	G1W39-40003	Covers (586 models) on page 725
Cover, HIP	G1W46-67914	Covers (556 models) on page 723
Cover, ISS	G1W39-67950	Covers (556 models) on page 723
Cover, ISS	G1W39-67950	Covers (586 models) on page 725
Cover, USB	G1W39-40019	Covers (586 models) on page 725
Cover, formatter	G1W39-67915	Covers (556 models) on page 723
Cover, formatter	G1W39-67915	Covers (586 models) on page 725
Cover, front	G1W39-67918	Covers (556 models) on page 723
Cover, front	G1W39-67918	Covers (586 models) on page 725
Cover, image scanner base (586)	G1W39-67937	Covers (586 models) on page 725
Cover, keyboard blank (586)	G1W39-67933	Document feeder and scanner (586) on page 721
Cover, left front	G1W39-67916	Covers (556 models) on page 723
Cover, left front	G1W39-67916	Covers (586 models) on page 725
Cover, left rear	G1W39-67917	Covers (556 models) on page 723
Cover, left rear	G1W39-67917	Covers (586 models) on page 725
Cover, left top front	G1W46-67909	Covers (556 models) on page 723
Cover, left top rear	G1W46-67910	Covers (556 models) on page 723
Cover, rear	G1W39-67919	Covers (556 models) on page 723
Cover, rear	G1W39-67919	Covers (586 models) on page 725

Table 6-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, right (outer)	G1W39-67922	Covers (556 models) on page 723
Cover, right (outer)	G1W39-67922	Covers (586 models) on page 725
Cover, top (556)	Not orderable	Covers (556 models) on page 723
Cover, top (586)	G1W39-67920	Covers (586 models) on page 725
Document feeder (586) kit; includes white backing and retention clips	G1W41-67908	Document feeder and scanner (586) on page 721
Document feeder (Flow models) kit; includes white backing and retention clips	B5L47-67904	Document feeder and scanner (586) on page 721
Document feeder roller replacement kit (586)panel	W5U23-67901	Document feeder and scanner (586) on page 721
Door, left	G1W39-67926	Covers (556 models) on page 723
Door, left	G1W39-67926	Covers (586 models) on page 725
Drying path gear assembly	CN598-67060	Internal assemblies on page 727
Duplex drive module	D3Q24-67016	Internal assemblies on page 727
Duplex presence sensor PCA	D3Q24-67010	Internal assemblies on page 727
Eject drive-gear module	D3Q24-67003	Internal assemblies on page 727
Eject flap opto PCA	D3Q24-67037	Internal assemblies on page 727
FFC, 10-pin pick drive enc	CN598-67041	Internal assemblies on page 727
FFC, 11-pin printzone	CN598-67039	Internal assemblies on page 727
FFC, 12-pin REDI distribution	CN598-67042	Internal assemblies on page 727
FFC, 24-pin printbar lift	CN598-67040	Internal assemblies on page 727
FFC, 5-pin sensor carriage BDD	CN598-67043	Internal assemblies on page 727
Fax PCA (586f/z service kit)	CC487-67901	Internal assemblies on page 727
Feed shaft encoder PCA	D3Q24-67012	Internal assemblies on page 727
Flap actuator solenoid	D3Q24-67004	Internal assemblies on page 727
Flap-eject assembly	G1W39-67949	Covers (556 models) on page 723
Flap-eject assembly	G1W39-67949	Covers (586 models) on page 725
Formatter PCA assembly (556)	G1W46-67911	Internal assemblies on page 727
Formatter PCA assembly (586)	G1W39-67914	Internal assemblies on page 727
Formatter PCA assembly—China only (556)	G1W46-67912	Internal assemblies on page 727
Formatter PCA assembly—China only (586)	G1W39-67939	Internal assemblies on page 727
Gear, output idler gear, 83t/30t	CN598-67031	Internal assemblies on page 727
Gear, shaft output lower	CN598-67031	Internal assemblies on page 727
Hinge, ISS door	D3Q24-67028	Internal assemblies on page 727
Image scanner (586) kit; includes white backing and retention clips	G1W39-67943	Document feeder and scanner (586) on page 721

Table 6-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Ink collection unit	B5L04-67906	Internal assemblies on page 727
Keyboard UK (586z)	G1W41-67959	Document feeder and scanner (586) on page 721
Keyboard US (586z)	G1W41-67938	Document feeder and scanner (586) on page 721
Keyboard overlay kit (ES, PT)	5851-6023	Document feeder and scanner (586) on page 721
Keyboard overlay kit (FR, IT, RU, DE, ES: UK Kybd)	5851-6019	Document feeder and scanner (586) on page 721
Keyboard overlay kit (FR-CN, ES-LA, ES: US Kybd)	5851-6020	Document feeder and scanner (586) on page 721
Keyboard overlay kit (FR-SW, DE-SW, DA: UK Kybd)	5851-6021	Document feeder and scanner (586) on page 721
Keyboard overlay kit (JA-KG, JA-KT)	5851-6024	Document feeder and scanner (586) on page 721
Keyboard overlay kit (ZHTW, ZHCN)	5851-6022	Document feeder and scanner (586) on page 721
Media presence flag/opto PCA kit	D3Q24-67014	Internal assemblies on page 727
Multi-function print mechanism kit (586)	G1W39-69001	Internal assemblies on page 727
Off-axis IDS (500 series)	D3Q24-67063	Internal assemblies on page 727
Output bin	G1W39-67944	Covers (556 models) on page 723
Output bin	G1W39-67944	Covers (586 models) on page 725
Pick encoder distribution PCA	D3Q24-67011	Internal assemblies on page 727
Platen & REDI (Add graphic)	D3Q24-67070	Internal assemblies on page 727
Platen (Add graphic)	CN598-67025	Internal assemblies on page 727
Power button assembly	D3Q24-67061	Internal assemblies on page 727
Power supply, universal 110V and 220V	G1W39-67912	Internal assemblies on page 727
Print Zone Distribution PCA	D3Q24-67013	Internal assemblies on page 727
Print bar restraint kit	D3Q21-67004	Internal assemblies on page 727
Printbar Lift Clutch/Shaft Assembly	D3Q24-67009	Internal assemblies on page 727
Printbar lift mechanism assembly	D3Q24-67008	Internal assemblies on page 727
Printbar lift rod assembly	CN598-67048	Internal assemblies on page 727
REDI distribution PCA	D3Q24-67017	Internal assemblies on page 727
REDI sensors	CN598-67038	Internal assemblies on page 727
Rear Bearing Assembly	D3Q24-67078	Internal assemblies on page 727
Retention Clip Assembly (586)	G1W41-67904	Document feeder and scanner (586) on page 721
Rollers, separation/pick, Tray 2	CN598-67018	Internal assemblies on page 727

Table 6-9 Alphabetical parts list (continued)

Description	Part number	Table and page
Rollers, separation/pick, Tray 3	D3Q21-67002	Internal assemblies on page 727
Rollers, separation/pick, Trays 4 and 5	D3Q21-67003	Internal assemblies on page 727
Scanner control board (586)	G1W39-67935	Document feeder and scanner (586) on page 721
Sensor carriage PCA/encoder strip	D3Q24-67007	Internal assemblies on page 727
Service Sled Assembly (552/577 models)	D3Q24-67002	Internal assemblies on page 727
Ship/move kit	G1W39-67948	Internal assemblies on page 727
Single-function print mechanism kit (556)	G1W47-67901	Internal assemblies on page 727
Strap, left door rear	CN598-67003	Internal assemblies on page 727
Strap, left door, front	CN598-67002	Covers (556 models) on page 723
Strap, left door, front	CN598-67002	Covers (586 models) on page 725
Strap, left door, rear	CN598-67003	Covers (556 models) on page 723
Strap, left door, rear	CN598-67003	Covers (586 models) on page 725
Temperature sensor	D3Q24-67005	Internal assemblies on page 727
Tray 2	G1W39-67955	Internal assemblies on page 727
Tray 3 (tray only)	G1W39-67956	Internal assemblies on page 727
Tray 3 Interconnect PCA PageWide A4	D3Q19-67003	Internal assemblies on page 727
Tray 3 assembly and feeder kit	G1W39-67952	Internal assemblies on page 727
Tray 4 (tray only)	G1W39-67957	Internal assemblies on page 727
Tray 4 assembly and feeder kit	G1W39-67953	Internal assemblies on page 727
Tray 5 (tray only)	G1W39-67958	Internal assemblies on page 727
Tray 5 assembly and feeder kit	G1W39-67954	Internal assemblies on page 727
Tray lift transmission assembly	CN598-67020	Internal assemblies on page 727
Trim, control panel	G1W39-40005	Covers (586 models) on page 725
Web advance rack assembly	D3Q24-67002	Internal assemblies on page 727
Wet ft ship cap	D3Q24-67041	Internal assemblies on page 727
White backing (586)	G1W41-67903	Document feeder and scanner (586) on page 721
embedded MultiMedia Card (eMMC; 556dn)	G1W47-67902	Internal assemblies on page 727

Numerical parts list

Table 6-10 Numerical parts list

Part number	Description	Table and page
5851-6019	Keyboard overlay kit (FR, IT, RU, DE, ES: UK Kybd)	Document feeder and scanner (586) on page 721
5851-6020	Keyboard overlay kit (FR-CN, ES-LA, ES: US Kybd)	Document feeder and scanner (586) on page 721
5851-6021	Keyboard overlay kit (FR-SW, DE-SW, DA: UK Kybd)	Document feeder and scanner (586) on page 721
5851-6022	Keyboard overlay kit (ZHTW, ZHCN)	Document feeder and scanner (586) on page 721
5851-6023	Keyboard overlay kit (ES, PT)	Document feeder and scanner (586) on page 721
5851-6024	Keyboard overlay kit (JA-KG, JA-KT)	Document feeder and scanner (586) on page 721
B5L04-67906	Ink collection unit	Internal assemblies on page 727
B5L47-67904	Document feeder (Flow models) kit; includes white backing and retention clips	Document feeder and scanner (586) on page 721
CC487-67901	Fax PCA (586f/z service kit)	Internal assemblies on page 727
CN459-67006	Advanced cleaning pad kit	Internal assemblies on page 727
CN598-67002	Strap, left door, front	Covers (556 models) on page 723
CN598-67002	Strap, left door, front	Covers (586 models) on page 725
CN598-67003	Strap, left door rear	Internal assemblies on page 727
CN598-67003	Strap, left door, rear	Covers (556 models) on page 723
CN598-67003	Strap, left door, rear	Covers (586 models) on page 725
CN598-67018	Rollers, separation/pick, Tray 2	Internal assemblies on page 727
CN598-67020	Tray lift transmission assembly	Internal assemblies on page 727
CN598-67025	Platen (Add graphic)	Internal assemblies on page 727
CN598-67031	Gear, output idler gear, 83t/30t	Internal assemblies on page 727
CN598-67031	Gear, shaft output lower	Internal assemblies on page 727
CN598-67038	REDI sensors	Internal assemblies on page 727
CN598-67039	FFC, 11-pin printzone	Internal assemblies on page 727
CN598-67040	FFC, 24-pin printbar lift	Internal assemblies on page 727
CN598-67041	FFC, 10-pin pick drive enc	Internal assemblies on page 727
CN598-67042	FFC, 12-pin REDI distribution	Internal assemblies on page 727
CN598-67043	FFC, 5-pin sensor carriage BDD	Internal assemblies on page 727
CN598-67048	Printbar lift rod assembly	Internal assemblies on page 727
CN598-67060	Drying path gear assembly	Internal assemblies on page 727
D3Q19-67003	Tray 3 Interconnect PCA PageWide A4	Internal assemblies on page 727

Table 6-10 Numerical parts list (continued)

Part number	Description	Table and page
D3Q21-67002	Rollers, separation/pick, Tray 3	Internal assemblies on page 727
D3Q21-67003	Rollers, separation/pick, Trays 4 and 5	Internal assemblies on page 727
D3Q21-67004	Print bar restraint kit	Internal assemblies on page 727
D3Q24-67002	Service Sled Assembly (552/577 models)	Internal assemblies on page 727
D3Q24-67002	Web advance rack assembly	Internal assemblies on page 727
D3Q24-67003	Eject drive-gear module	Internal assemblies on page 727
D3Q24-67004	Flap actuator solenoid	Internal assemblies on page 727
D3Q24-67005	Temperature sensor	Internal assemblies on page 727
D3Q24-67007	Sensor carriage PCA/encoder strip	Internal assemblies on page 727
D3Q24-67008	Printbar lift mechanism assembly	Internal assemblies on page 727
D3Q24-67009	Printbar Lift Clutch/Shaft Assembly	Internal assemblies on page 727
D3Q24-67010	Duplex presence sensor PCA	Internal assemblies on page 727
D3Q24-67011	Pick encoder distribution PCA	Internal assemblies on page 727
D3Q24-67012	Feed shaft encoder PCA	Internal assemblies on page 727
D3Q24-67013	Print Zone Distribution PCA	Internal assemblies on page 727
D3Q24-67014	Media presence flag/opto PCA kit	Internal assemblies on page 727
D3Q24-67016	Duplex drive module	Internal assemblies on page 727
D3Q24-67017	REDI distribution PCA	Internal assemblies on page 727
D3Q24-67018	500 Series Printbar 3xFFC	Internal assemblies on page 727
D3Q24-67028	Hinge, ISS door	Internal assemblies on page 727
D3Q24-67037	Eject flap opto PCA	Internal assemblies on page 727
D3Q24-67041	Wet fl ship cap	Internal assemblies on page 727
D3Q24-67061	Power button assembly	Internal assemblies on page 727
D3Q24-67062	500 Series Pigtails	Internal assemblies on page 727
D3Q24-67063	Off-axis IDS (500 series)	Internal assemblies on page 727
D3Q24-67070	Platen & REDI (Add graphic)	Internal assemblies on page 727
D3Q24-67078	Rear Bearing Assembly	Internal assemblies on page 727
G1W39-40002	Bezel, control panel	Covers (586 models) on page 725
G1W39-40003	Cover, HIP	Covers (586 models) on page 725
G1W39-40005	Trim, control panel	Covers (586 models) on page 725
G1W39-40019	Cover, USB	Covers (586 models) on page 725
G1W39-67002	Cables-Enterprise MFP	Internal assemblies on page 727
G1W39-67912	Power supply, universal 110V and 220V	Internal assemblies on page 727
G1W39-67913	Cable, power supply kit	Internal assemblies on page 727

Table 6-10 Numerical parts list (continued)

Part number	Description	Table and page
G1W39-67914	Formatter PCA assembly (586)	Internal assemblies on page 727
G1W39-67915	Cover, formatter	Covers (556 models) on page 723
G1W39-67915	Cover, formatter	Covers (586 models) on page 725
G1W39-67916	Cover, left front	Covers (556 models) on page 723
G1W39-67916	Cover, left front	Covers (586 models) on page 725
G1W39-67917	Cover, left rear	Covers (556 models) on page 723
G1W39-67917	Cover, left rear	Covers (586 models) on page 725
G1W39-67918	Cover, front	Covers (556 models) on page 723
G1W39-67918	Cover, front	Covers (586 models) on page 725
G1W39-67919	Cover, rear	Covers (556 models) on page 723
G1W39-67919	Cover, rear	Covers (586 models) on page 725
G1W39-67920	Cover, top (586)	Covers (586 models) on page 725
G1W39-67922	Cover, right (outer)	Covers (556 models) on page 723
G1W39-67922	Cover, right (outer)	Covers (586 models) on page 725
G1W39-67926	Door, left	Covers (556 models) on page 723
G1W39-67926	Door, left	Covers (586 models) on page 725
G1W39-67933	Cover, keyboard blank (586)	Document feeder and scanner (586) on page 721
G1W39-67935	Scanner control board (586)	Document feeder and scanner (586) on page 721
G1W39-67937	Cover, image scanner base (586)	Covers (586 models) on page 725
G1W39-67939	Formatter PCA assembly—China only (586)	Internal assemblies on page 727
G1W39-67943	Image scanner (586) kit; includes white backing and retention clips	Document feeder and scanner (586) on page 721
G1W39-67944	Output bin	Covers (556 models) on page 723
G1W39-67944	Output bin	Covers (586 models) on page 725
G1W39-67948	Ship/move kit	Internal assemblies on page 727
G1W39-67949	Flap-eject assembly	Covers (556 models) on page 723
G1W39-67949	Flap-eject assembly	Covers (586 models) on page 725
G1W39-67950	Cover, ISS	Covers (556 models) on page 723
G1W39-67950	Cover, ISS	Covers (586 models) on page 725
G1W39-67952	Tray 3 assembly and feeder kit	Internal assemblies on page 727
G1W39-67953	Tray 4 assembly and feeder kit	Internal assemblies on page 727
G1W39-67954	Tray 5 assembly and feeder kit	Internal assemblies on page 727
G1W39-67955	Tray 2	Internal assemblies on page 727

Table 6-10 Numerical parts list (continued)

Part number	Description	Table and page
G1W39-67956	Tray 3 (tray only)	Internal assemblies on page 727
G1W39-67957	Tray 4 (tray only)	Internal assemblies on page 727
G1W39-67958	Tray 5 (tray only)	Internal assemblies on page 727
G1W39-67965	Aerosol fan assembly	Internal assemblies on page 727
G1W39-69001	Multi-function print mechanism kit (586)	Internal assemblies on page 727
G1W41-67902	320 GB hard disk drive (HDD; 586 all; 556xh)	Internal assemblies on page 727
G1W41-67903	White backing (586)	Document feeder and scanner (586) on page 721
G1W41-67904	Retention Clip Assembly (586)	Document feeder and scanner (586) on page 721
G1W41-67905	Control panel (586) kit	Document feeder and scanner (586) on page 721
G1W41-67907	Control panel (556)	Covers (556 models) on page 723
G1W41-67908	Document feeder (586) kit; includes white backing and retention clips	Document feeder and scanner (586) on page 721
G1W41-67938	Keyboard US (586z)	Document feeder and scanner (586) on page 721
G1W41-67959	Keyboard UK (586z)	Document feeder and scanner (586) on page 721
G1W46-67001	Cables- Enterprise SFP	Internal assemblies on page 727
G1W46-67909	Cover, left top front	Covers (556 models) on page 723
G1W46-67910	Cover, left top rear	Covers (556 models) on page 723
G1W46-67911	Formatter PCA assembly (556)	Internal assemblies on page 727
G1W46-67912	Formatter PCA assembly—China only (556)	Internal assemblies on page 727
G1W46-67914	Cover, HIP	Covers (556 models) on page 723
G1W47-67901	Single-function print mechanism kit (556)	Internal assemblies on page 727
G1W47-67902	embedded MultiMedia Card (eMMC; 556dn)	Internal assemblies on page 727
Not orderable	Cover, top (556)	Covers (556 models) on page 723
Q3Q24-67015	BDD Sensor Gen2	Internal assemblies on page 727
W5U23-67901	Document feeder roller replacement kit (586)panel	Document feeder and scanner (586) on page 721

A Printer specifications

Learn about printer specifications.

Printer dimensions

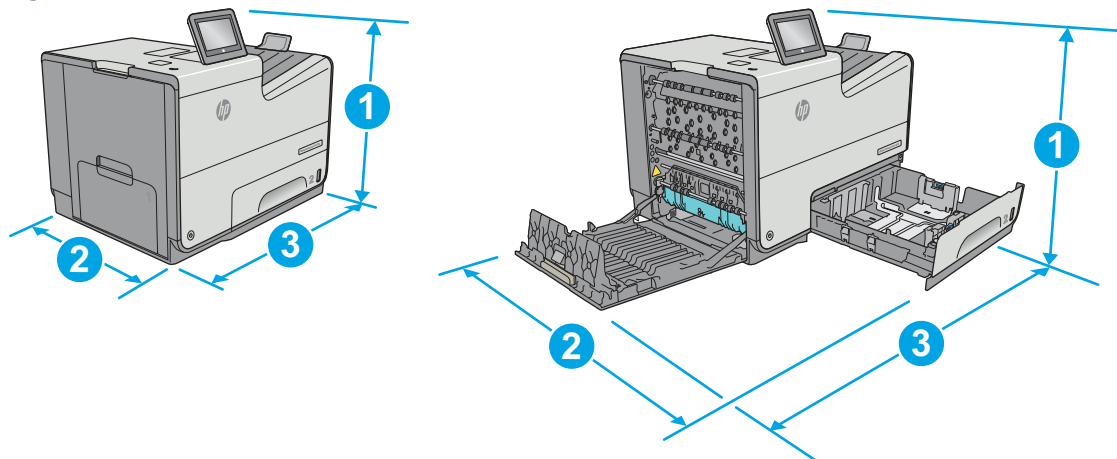
Learn about different printer bundle dimensions.

556 models

 **NOTE:** These values are subject to change. For current information, go to www.hp.com/support/pagewidecolor556 or www.hp.com/support/pagewidecolor586MFP.

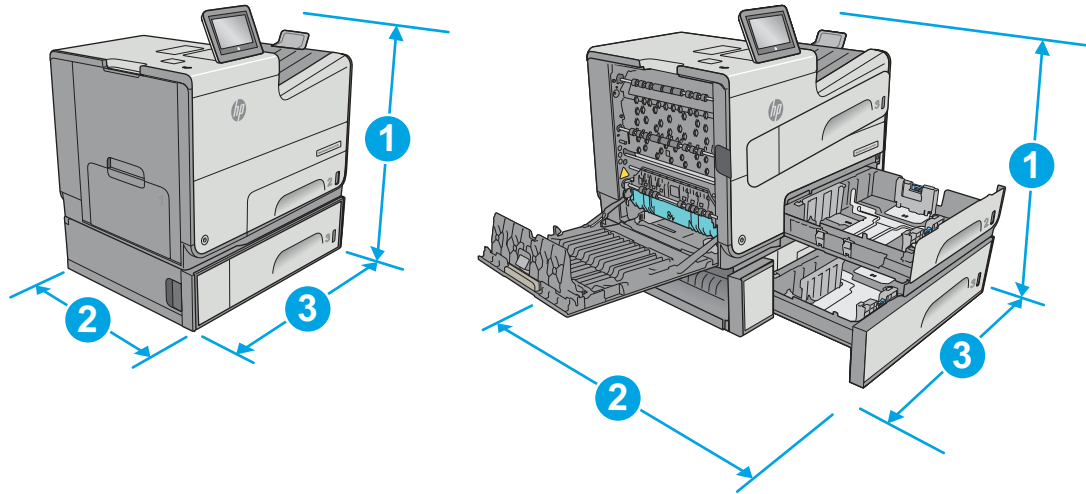
Do not extend more than one paper tray at a time.

Figure A-1 Dimensions for the 556dn model



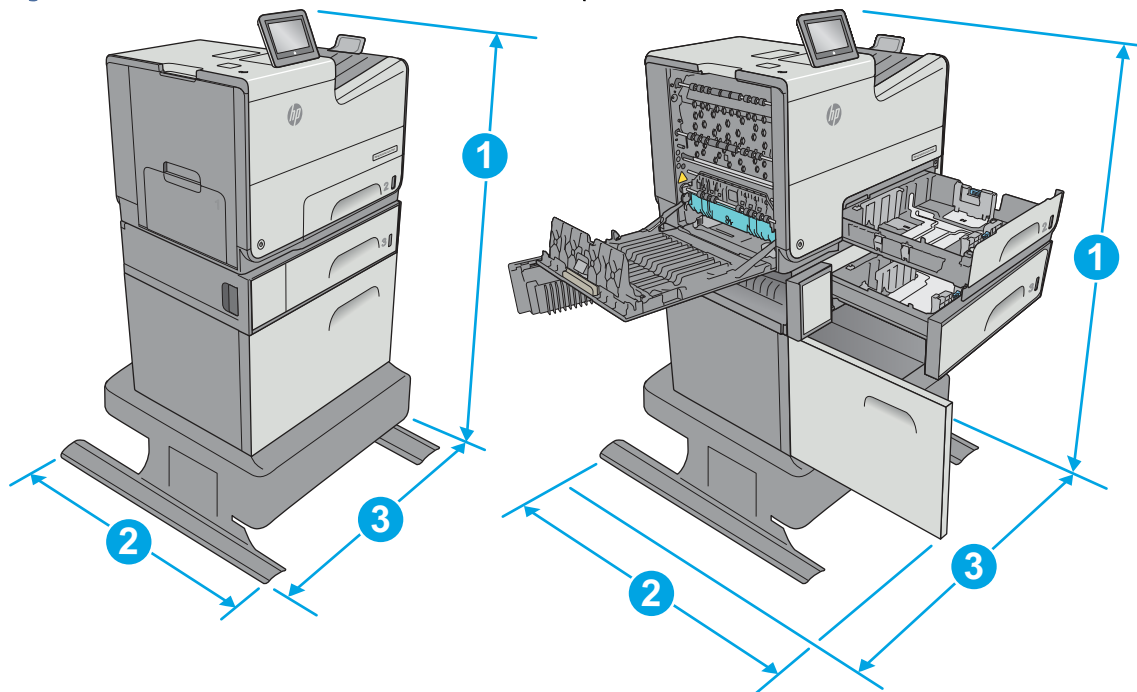
Item	Printer fully closed	Printer fully opened
Height (1)	457 mm (17.9 in)	457 mm (17.9 in)
Depth (2)	463 (18.2 in)	745 mm (29.3 in)
Width (3)	530 mm (20.8 in)	934 mm (36.7 in)
Weight	22.2 kg (48.9 lb)	Not applicable

Figure A-2 Dimensions for the 556xh model



Item	Printer fully closed	Printer fully opened
Height (1)	597 mm (23.5 in)	597 mm (23.5 in)
Depth (2)	463 (18.2 in)	745 mm (29.3 in)
Width (3)	530 mm (20.8 in)	1038 mm (40.8 in)
Weight	34.1 kg (75.2 lb)	Not applicable

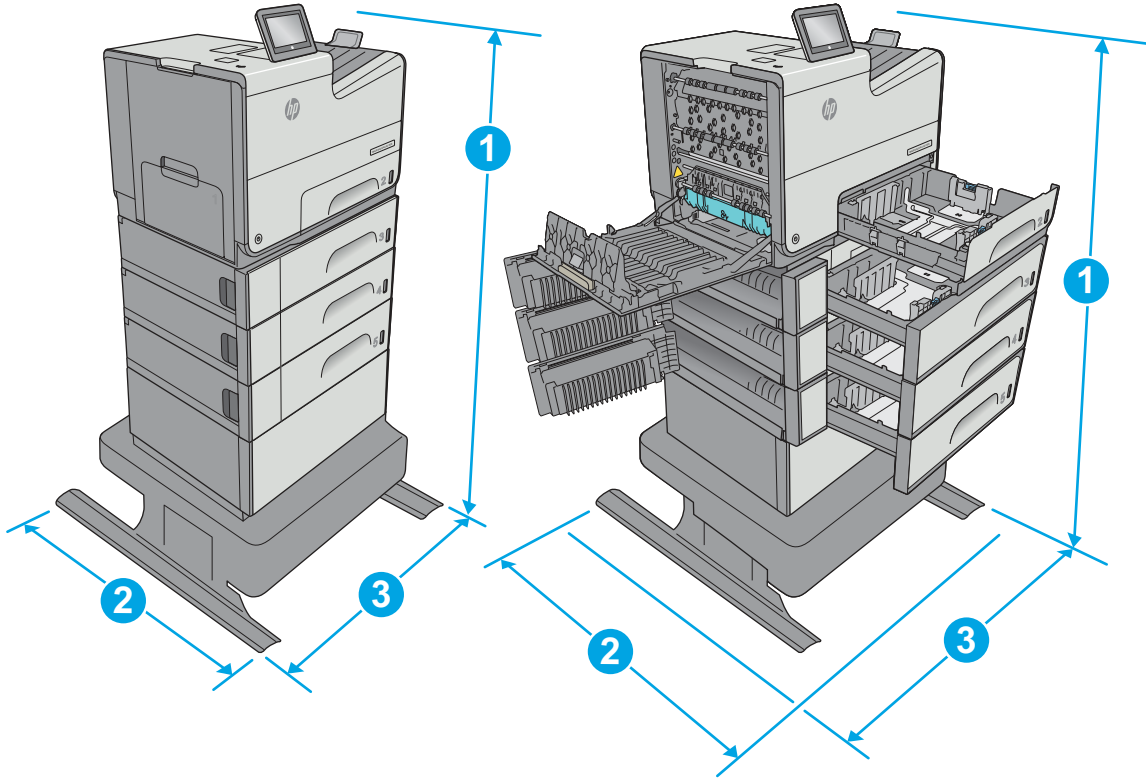
Figure A-3 Dimensions for the 556xh model with the printer stand



Item	Printer and accessory fully closed	Printer and accessory fully opened
Height (1)	1297 mm (48.6 in)	1297 mm (48.6 in)
Depth (2)	669 (26.3 in)	810 mm (31.8 in)

Item	Printer and accessory fully closed	Printer and accessory fully opened
Width (3)	669 (26.3 in)	1040 mm (40.9 in)
Weight	59.9 kg (132.2 lb)	Not applicable

Figure A-4 Dimensions for the 556dn model with the 3 x 500-sheet paper feeder and stand



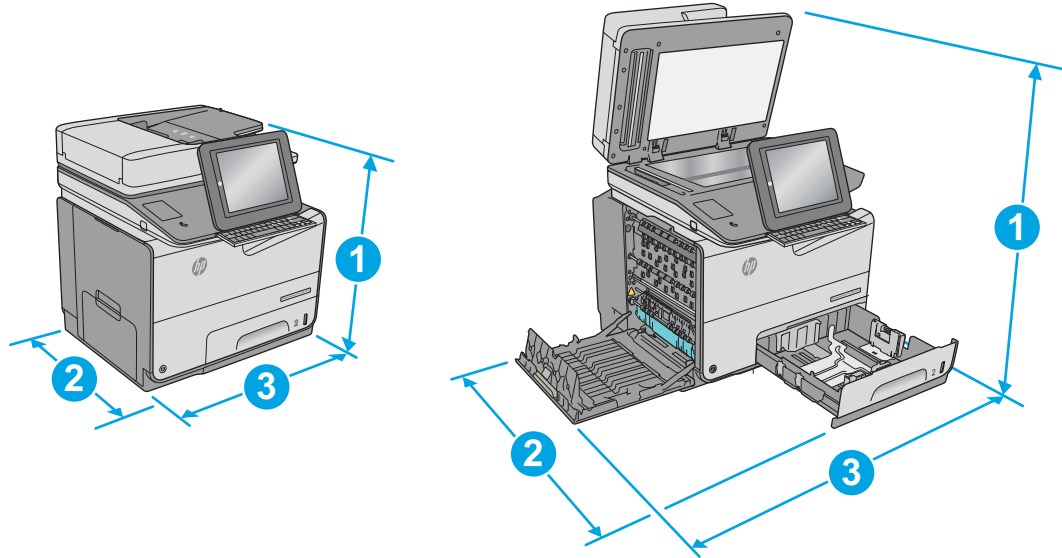
Item	Printer and accessory fully closed	Printer and accessory fully opened
Height (1)	1099 mm (43.2 in)	1099 mm (43.2 in)
Depth (2)	669 (26.3 in)	795 mm (31.2 in)
Width (3)	669 (26.3 in)	1040 mm (40.9 in)
Weight	58 kg (127.9 lb)	Not applicable

586 models

 **NOTE:** These values are subject to change. For current information, go to www.hp.com/support/pagewidecolor556 or www.hp.com/support/pagewidecolor586MFP.

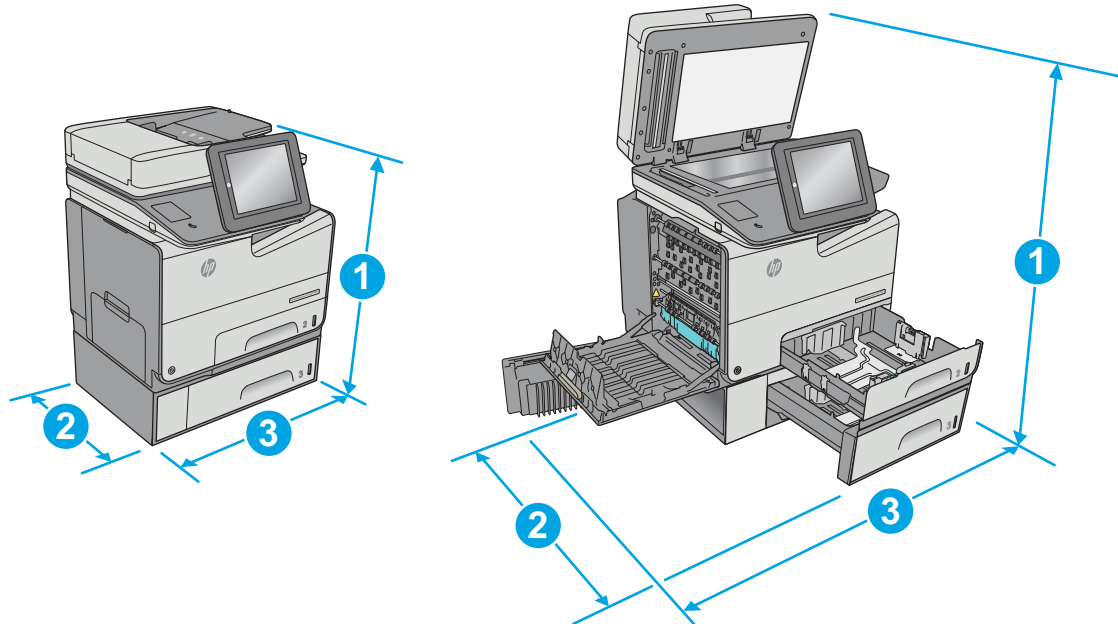
Do not extend more than one paper tray at a time.

Figure A-5 Dimensions for the 586dn, 586f, and 586z models



Item	Printer fully closed	Printer fully opened
Height (1)	529 mm (20.8 in)	786 mm (30.9 in)
Depth (2)	564 (22.2 in)	752 mm (29.6 in)
Width (3)	530 mm (20.8 in)	934 mm (36.7 in)
Weight	32.3 kg (71.2 lb)	Not applicable

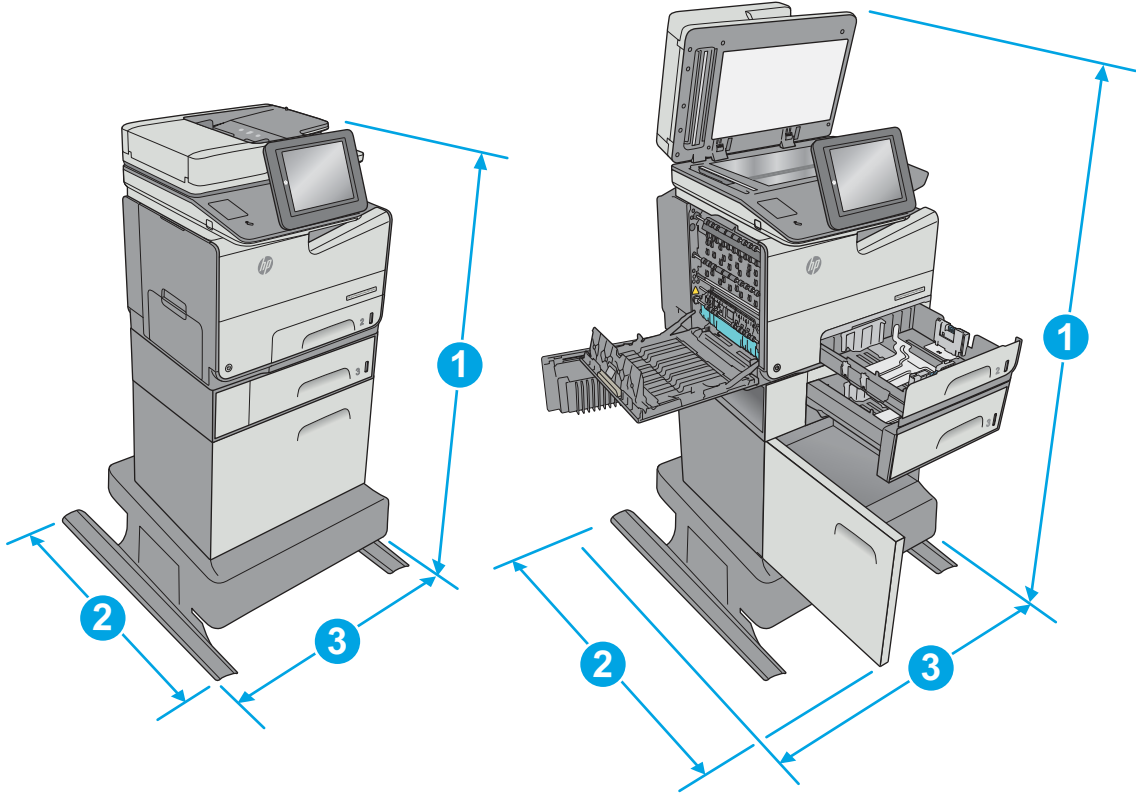
Figure A-6 Dimensions for the 586dn, 586f, and 586z models with Tray 3



Item	Printer and accessory fully closed	Printer and accessory fully opened
Height (1)	667 mm (26.2 in)	924 mm (36.3 in)
Depth (2)	564 (22.2 in)	752 mm (29.6 in)

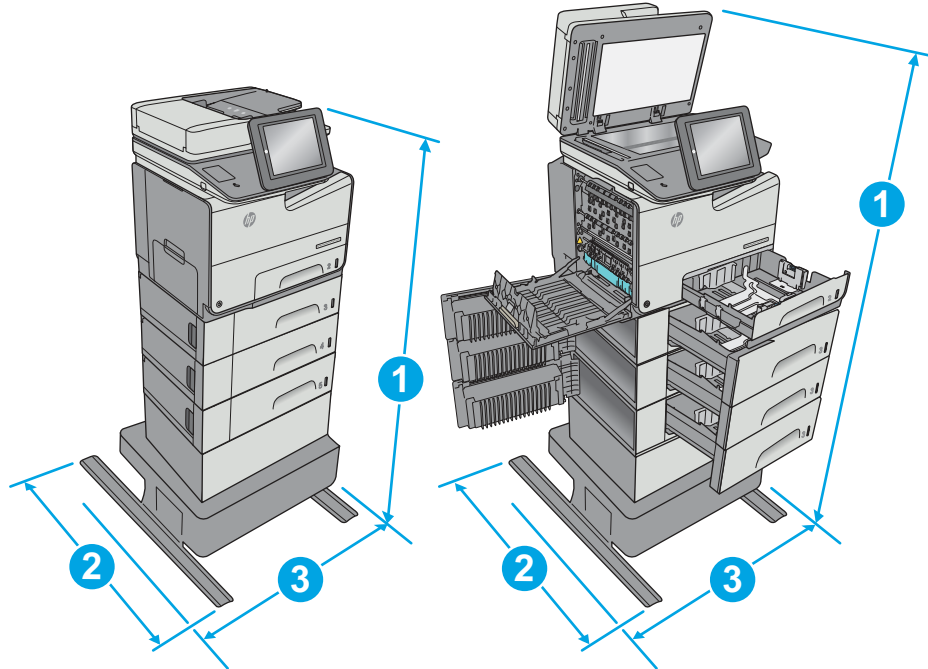
Item	Printer and accessory fully closed	Printer and accessory fully opened
Width (3)	530 mm (20.8 in)	963 mm (37.9 in)
Weight	37.7 kg (83.1 lb)	Not applicable

Figure A-7 Dimensions for the 586dn, 586f, and 586z models with the printer stand



Item	Printer and accessory fully closed	Printer and accessory fully opened
Height (1)	1307 mm (51.4 in)	1564 mm (61.5 in)
Depth (2)	669 (26.3 in)	810 mm (31.8 in)
Width (3)	669 (26.3 in)	1040 mm (40.9 in)
Weight	63.5 kg (140.1 lb)	Not applicable

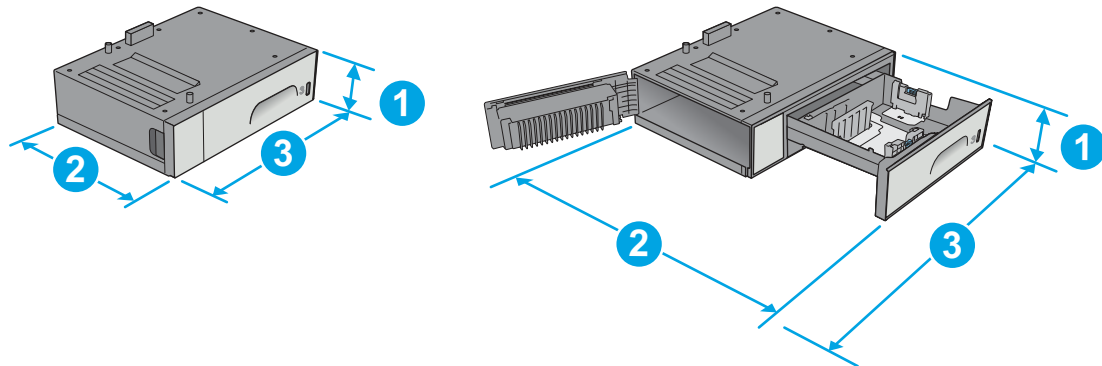
Figure A-8 Dimensions for the 586dn, 586f, and 586z models with the 3 x 500-sheet paper feeder and stand



Item	Printer and accessory fully closed	Printer and accessory fully opened
Height (1)	1171 mm (46.1 in)	1428 mm (56.2 in)
Depth (2)	669 (26.3 in)	795 mm (31.2 in)
Width (3)	669 (26.3 in)	1040 mm (40.9 in)
Weight	68.15 kg (150.3 lb)	Not applicable

Accessories

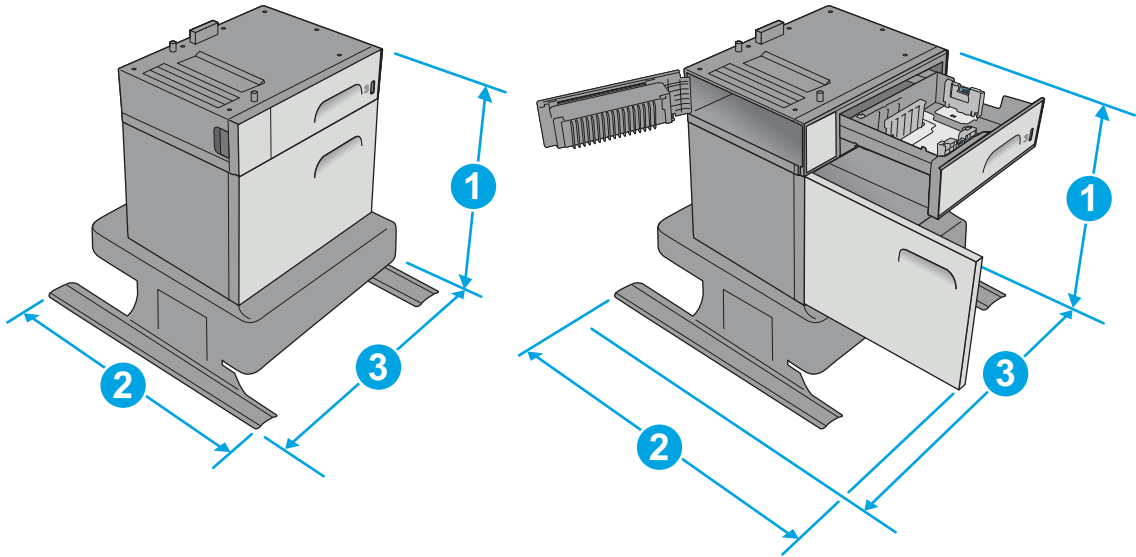
Figure A-9 Dimensions for Tray 3



Item	Dimensions
Height (1)	138 mm (5.4 in)
Depth (2)	Tray closed: 396 (15.5 in) Tray open: 678 (26.6 in)

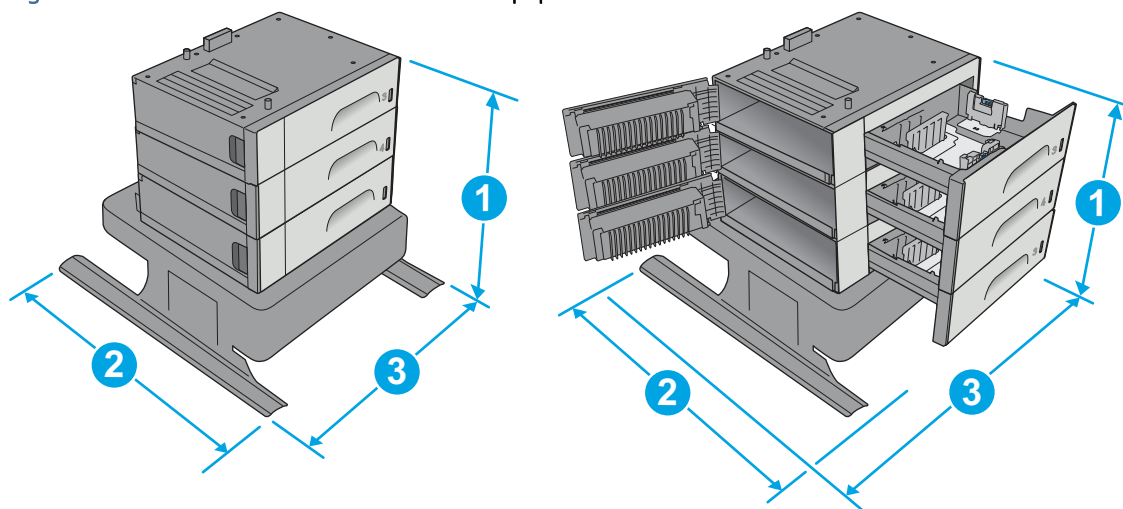
Item	Dimensions
Width (3)	Left-lower door closed: 514 mm (20.2 in) Left-lower door open: 963 mm (37.9 in)
Weight	5.4 kg (11.8 lb)

Figure A-10 Dimensions for the printer stand



Item	Dimensions
Height (1)	640 mm (25.1 in)
Depth (2)	Tray closed: 669 (26.3 in) Tray open: 810 (31.8 in)
Width (3)	Left-lower door closed: 669 (26.3 in) Left-lower door open: 1040 mm (40.9 in)
Weight	31.2 kg (69 lb)

Figure A-11 Dimensions for the 3 x 500-sheet paper feeder and stand



Item	Dimensions
Height (1)	642 mm (26.3 in)
Depth (2)	Tray closed: 669 (26.3 in) Tray open: 795 (31.2 in)
Width (3)	Left-lower door closed: 669 (26.3 in) Left-lower door open: 1040 mm (40.9 in)
Weight	35.8 kg (79 lb)

Printer space requirements

Learn about the required open space around the printer.

HP recommends that 30 mm (1.81 in) be added to the printer dimensions provided in this chapter to make sure there is sufficient space to open doors and covers, and to provide proper ventilation. See [Printer dimensions on page 739](#).

Power consumption, electrical specifications, and acoustic emissions

Learn about printer power, electrical, and acoustic specifications.

See www.hp.com/support/pagewidecolor556 or www.hp.com/support/pagewidecolor586MFP for current information.

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

Operating-environment range

Learn about printer temperature and humidity specifications.

Table A-1 Operating-environment specifications

Environment	Recommended	Allowed
Temperature	17° to 25°C (62.6° to 77°F)	15° to 30°C (59° to 86°F)
Relative humidity	30% to 70% relative humidity (RH)	10% to 80% RH

B Certificate of Volatility

View the printer certificates of volatility.

Certificate of Volatility

Review the certificates of volatility for the printers.

Figure B-1 Certificate of Volatility (556; 1 of 2)

Hewlett-Packard Certificate of Volatility				
Model: HP Officejet Enterprise color SFP 556 series	Part Number: 556dn = G1W46A, 556xh = G1W47A		Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714	
Volatile Memory				
Does the device contain volatile memory (Memory whose contents are lost when power is removed)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (SRAM, DRAM, etc): DRAM	Size: 1.25 GB	User Modifiable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function: Used for temporary storage of data during scan or print job processes, and for applications that are running on the OS.	Steps to clear memory: When the device is powered off the memory is erased.
Non-Volatile Memory				
Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (Flash, EEPROM, etc): SPI Flash	Size: 12 MB	User Modifiable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Function: Contains boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc): EEPROM	Size: 128 KB	User Modifiable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function: Backup device for critical system counters and product configuration information.	Steps to clear memory: There are no steps to clear this data.
Mass Storage				
Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (HDD, Tape, etc): HDD (HDD is standard on xh model)	Size: 320 GB	User Modifiable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Function: Stores customer data, OS, applications, digitally signed firmware images, persistent data, and temporary data used for processing and system functions.	Steps to clear memory: There are several ways to erase this: 1. Erase and Unlock Encrypted Disk – This changes the encryption keys rendering all data unreadable. 2. Secure Storage Erase – Erases temporary files and job data by overwriting information one or three times. 3. Secure Disk Erase – Industry standard ATA Secure Erase. Overwrites all data on the HDD. 4. Secure File Erase – Erases files when jobs finish processing by overwriting them one or three times.
Type (HDD, Tape, etc): SSD (SSD is standard on dn model)	Size: 8 GB	User Modifiable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Function: See HDD function above.	Steps to clear memory: See HDD Steps to clear memory above.

Figure B-2 Certificate of Volatility (556; 2 of 2)

USB			
Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below			
Description: Print jobs, HP digitally signed firmware upgrades, 3 rd party application loading, Restore encrypted backed-up system settings. USB ports can be disabled.			
Can any data other than scan upload be sent to the USB device)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below			
Diagnostic service logs can be uploaded. Back-up of encrypted system settings.			
RF/RFID			
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below			
Purpose: Wireless printing on xh model			
Frequency: 2.4GHz		Bandwidth: Up to 54 Mb/s	
Modulation: MCS 0-7, 64QAM, QPSK		Effective Radiate Power (ERP): 15 +/- 1.5 dBm	
Specifications: Meets IEEE 802.11b/g/n			
Other Transmission Capabilities			
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below:			
Purpose:			
Frequency:		Bandwidth:	
Modulation:		Effective Radiate Power (ERP):	
Specifications:			
Other Capabilities			
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below:			
Purpose:			
Specifications:			
Author Information			
Name:	Title: Technical Marketing Engineer	Email: @hp.com	Business Unit:
			Date Prepared: 03-02-16

Figure B-3 Certificate of Volatility (586; 1 of 2)

Hewlett-Packard Certificate of Volatility				
Model: HP Officejet Enterprise color MFP X586 series		Part Number: MFP 586dn = G1W39A, MFP 586f = G1W40A, MFP 586z = G1W41A		Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714
Volatile Memory				
Does the device contain volatile memory (Memory whose contents are lost when power is removed)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (SRAM, DRAM, etc): DRAM	Size: 2.0 GB	User Modifiable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function: Used for temporary storage of data during scan or print job processes, and for applications that are running on the OS.	Steps to clear memory: When the device is powered off the memory is erased.
Non-Volatile Memory				
Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (Flash, EEPROM, etc): SPI Flash	Size: 12 MB	User Modifiable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Function: Contains boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc): EEPROM	Size: 128 KB	User Modifiable: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Function: Backup device for critical system counters and product configuration information.	Steps to clear memory: There are no steps to clear this data.
Mass Storage				
Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (HDD, Tape, etc): HDD, Self Encrypting, SATA	Size: 320 GB	User Modifiable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Function: Stores customer data, OS, applications, digitally signed firmware images, persistent data, and temporary data used for processing and system functions.	Steps to clear memory: There are several ways to erase this: 1. Erase and Unlock Encrypted Disk – This changes the encryption keys rendering all data unreadable. 2. Secure Storage Erase – Erases temporary files and job data by overwriting information one or three times. 3. Secure Disk Erase – Industry standard ATA Secure Erase. Overwrites all data on the HDD. 4. Secure File Erase – Erases files when jobs finish processing by overwriting them one or three times.

Figure B-4 Certificate of Volatility (586; 2 of 2)

USB			
Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below			
Description: Print jobs, HP digitally signed firmware upgrades, 3 rd party application loading, Restore encrypted backed-up system settings. USB ports can be disabled.			
Can any data other than scan upload be sent to the USB device)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below			
Diagnostic service logs can be uploaded. Back-up of encrypted system settings.			
RF/RFID			
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below			
Purpose:			
Frequency:		Bandwidth:	
Modulation:		Effective Radiate Power (ERP):	
Specifications:			
Other Transmission Capabilities			
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes please describe below:			
Purpose:			
Frequency:		Bandwidth:	
Modulation:		Effective Radiate Power (ERP):	
Specifications:			
Other Capabilities			
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes please describe below:			
Purpose: Fax modem – send/receive fax data (on f and z models)			
Specifications: 33.6 kbs			
Author Information			
Name:	Title: Technical Marketing Engineer	Email: @hp.com	Business Unit:
			Date Prepared: 03-02-16

Glossary of terms

802.11

802.11 is a set of standards for wireless local area network (WLAN) communication, developed by the IEEE LAN/MAN Standards Committee (IEEE 802).

802.11b/g/n

802.11b/g/n can share the same hardware and use the 2.4 GHz band. 802.11b supports bandwidth up to 11 Mbps, 802.11n supports bandwidth up to 150 Mbps. 802.11b/g/n devices might occasionally suffer interferences from microwave ovens, cordless telephones, and Bluetooth devices.

AC

An electric current that reverses its direction many times a second at regular intervals. For example, the 110V line current found in a typical US electrical wall receptacle.

AC Control Module (PageWide)

The AC Control Module controls the heating elements in the airflow assembly. Functions include voltage monitoring (ensuring correct operation in a low-quality-power environment), isolation (low voltage heater control signals are isolated from the high voltage AC power for safety), AC switching (power is switched on/off to the heater), and heating element configuration (heating element configuration is changed between series and parallel for temperature predictability).

ADF

An Automatic Document Feeder (ADF) is a device that automatically feeds an original sheet (or multiple sheets) of paper into the image scanner. The document feeder is a component of the integrated scanner assembly (ADF and image scanner).

Airflow System (PageWide)

The airflow system conditions the printed pages to avoid page curling due to the ink on the page. The airflow system functionally consists of a fan and heating elements. The pressurized air is blown on the page through the nozzles that are placed on the paper path of the airflow system between print and eject zone.

BOOTP

Bootstrap Protocol. A network protocol used by a network client to obtain its IP address automatically. This is usually done in the bootstrap process of computers or operating systems running on them. The BOOTP servers assigns an IP address from a pool of addresses to each client. BOOTP enables “diskless workstation” computers to obtain an IP address prior to loading any advanced operating system.

CCD

A Charged Coupled Device (CCD) is the scanner module which enables a scan job. A CCD locking mechanism is used to hold the CCD module to prevent any damage when the printer is moved.

CIS

A Contact Image Sensor (CIS) scanner captures an image using the printer's optical path. Red, green, and blue LEDs sequentially illuminate a small strip of the document (often called a raster line), and the optical system captures each color in a single row of Charged Coupled Device (CCD) sensors that cover the entire page width.

Collation

Collation is a process of printing a multiple-copy job in sets. When collation is selected, the device prints an entire set before printing additional copies.

Control Panel

The control panel is a flat, typically vertical panel or screen where the user can control and/or monitor the printer. The control panel is found on the front of the printer.

Coverage

Coverage is the printing term used for a toner usage measurement on printing. For example, 5% coverage means that an A4 sided paper has about 5% image or text on it. If the paper or original has complicated images or a large amount of text, the coverage will be higher and at the same time, a toner usage will be as much as the coverage.

DC

An electric current flowing in one direction only. Typically, a low voltage load current supplied to an electrical assembly.

DCC

The DC controller (DCC) controls the operation of the printer sub-systems and electrical components. The DCC sends out various signals to operate motors, solenoids, and other printer components based on the print command and image data that the host computer sends the formatter.

Default

The value or setting that is in effect when a printer is unboxed, reset, or initialized.

DHCP

Dynamic Host Configuration Protocol (DHCP) is a client-server networking protocol. A DHCP server provides configuration parameters specific to the DHCP client host requesting, generally, information required by the client host to participate on an IP network. The DHCP also provides a mechanism for allocation of IP addresses to client hosts.

Digital Send Software

Digital send software allows a multi-function printer (MFP) to scan and send information quickly and securely to email, network folders, other printers, and fax services.

DIMM

A Dual Inline Memory Module (DIMM) is a small circuit board that holds memory. The DIMM stores all data within the printer, such as printing data and received fax data.

DPI

Dots Per Inch (DPI) is a measurement of resolution that is used for scanning and printing. Generally, higher DPI results in a higher resolution (more visible detail in the image and a larger file size).

Duplex

A mechanism that automatically turns over a sheet of paper so that the printer can print (or scan) on both sides of the paper. A printer equipped with a duplex unit can print on both sides of the paper during one print cycle.

Duty Cycle

Duty cycle is the page quantity which does not affect printer performance for a month. Generally, the printer has the lifespan limitation such as pages per year. The lifespan means the average capacity of print-outs, usually within the warranty period.

For example, if the duty cycle is 48,000 pages per month the printer limit is 2,400 pages a day (assuming 20 working days/month).

Dynamic Security

Dynamic Security is a toner cartridge design and process for authenticating genuine HP supplies. HP printers use toner cartridges that have security chips or electronic circuitry. Cartridges using a non-HP chip, or modified chip, or non-HP circuitry might not work (now or in the future).

e-Duplex

Single-pass electronic duplex (e-Duplex) printer use two separate scan modules to scan the front-side and back-side of an e-duplex copy job page in a single pass through the document feeder.

EMC

EMC is a measure of a device's ability to operate as intended in its shared operating environment while, at the same time, not affecting the ability of other equipment within the same environment to operate as intended.

EMI

EMI is the electromagnetic energy which affects the functioning of an electronic device. Electronic devices (like printers) are a source of EMI. Because it is rare for electronics to operate in isolation, products are generally engineered to function in the presence of some amount of EMI.

eMMC

An embedded Multi-Media Card is a compact memory device consisting of NAND flash memory and a simple storage controller.

Emulation

Emulation is a technique of one machine obtaining the same results as another. An emulator duplicates the functions of one system with a different system, so that the second system behaves like the first system. Emulation focuses on exact reproduction of external behavior. This is different from simulation, which concerns an abstract model of the system being simulated, often considering its internal state.

EPS

Encapsulated PostScript (EPS) is a PostScript (PS) code file which is used for storing font and vector graphic image information.

ESD

An electrostatic discharge (ESD) is a sudden flow of electricity between two electrically charged objects caused by contact, an electrical short, or dielectric breakdown. Discharge of built up static electricity.

Ethernet

Ethernet is a frame-based computer networking technology for local area networks (LANs). It defines wiring and signaling for the physical layer, and frame formats and protocols for the media access control (MAC)/data link layer of the OSI model. Ethernet is mostly standardized as IEEE 802.3. Ethernet has become the most widespread LAN technology in use during the 1990s to present.

Ferrite

A ferrite is used to reduce the amount of radio frequency noise (or interference) in a wire or cable. A ferrite enables proper EMC/EMI performance for regulatory purposes.

FFC

Flat Flexible Cables (FFCs) are designed for Printed Circuit Assembly (PCA) to PCA connections (for example, connecting a fax PCA to the formatter).

FIH

A Foreign Interface Harness (FIH) is a port that enables HP multifunction printers (MFPs) to use third-party devices to extend the capabilities of the MFP.

Firmware

The formatter stores the printer firmware. A remote firmware upgrade process is used to overwrite and upgrade the firmware.

Flash memory

Flash memory is non-volatile, meaning it retains stored data even when the power is turned off.

Flow integrated scanner assembly

A printer scanner assembly that includes a slide-out external physical keyboard.

Formatter (LaserJet)

The formatter controls printer functions like receiving and processes print data, developing and coordinating data placement and timing with the DC controller PCA, storing font and customer configuration information, communicating with the host computer, and monitoring control panel functions and relaying printer status information through the control panel.

FTP

FTP stands for File Transfer Protocol. FTP is a protocol designed for transferring files over the Internet. Files stored on an FTP server can be accessed using an FTP client, such as a web browser, FTP software program, or a command line interface.

Fuser Unit

The fuser unit is part of a laser printer that adheres the toner onto the printed page. It consists of a heat roller and a pressure roller. After toner is transferred onto the paper, the fuser unit applies heat and pressure to make sure that the toner stays on the paper permanently (which is why paper is warm when it comes out of a laser printer).

Gateway

A connection between computer networks, or between a computer network and a telephone line. A gateway is used to connect two different computer networks, especially a connection to the Internet.

Grayscale

Shades of gray that represent light and dark portions of a color image printed in monochrome. Colors are represented by a range of gray shades from white to black.

Halftone

Halftone is a way of reproducing a photograph or other image in which the various tones of gray or color are produced by variously sized dots of ink or toner. Halftone simulates grayscale by varying the number of dots. Highly colored areas consist of a large number of dots, while lighter areas consist of a smaller number of dots.

HDD

A Hard-Disk Drive (HDD) (commonly referred to as a hard drive or hard disk) is a non-volatile storage device which stores digitally-encoded data on rapidly rotating platters with magnetic surfaces.

IEEE

The Institute of Electrical and Electronics Engineers (IEEE) is an international non-profit, professional organization for the advancement of technology related to electricity.

Image scanner

The image scanner (or Sub Scanner Assembly) contains the components to digitally scan an original source document. The image scanner is a component of the integrated scanner assembly (ADF and image scanner).

IP address

An Internet Protocol (IP) address is a unique number that a device uses in order to identify and communicate with other devices on a network utilizing the Internet Protocol standard.

IPM

The Images Per Minute (IPM) is a method of measuring the speed of a printer. An IPM rate indicates the number of single-sided sheets a printer can complete in one minute.

IPP

The Internet Printing Protocol (IPP) defines a standard protocol for printing and managing print jobs, media size, resolution, etc. IPP can be used locally, or over the internet to reach hundreds of printers. IPP also supports access control, authentication, and encryption, making it a capable and secure printing solution.

ISA

The Integrated Scanner Assembly (ISA) includes the document feeder and image scanner.

ISO

The International Organization for Standardization (ISO) is an international standard-setting body composed of representatives from national standards bodies. It produces world-wide industrial and commercial standards.

JBIG

Joint Bi-level Image Experts Group (JBIG) is an image compression standard with no loss of accuracy or quality. It was designed for compression of binary images, particularly for faxes, but can also be used for other images.

JPEG

Joint Photographic Experts Group (JPEG) is a commonly used standard method of loss compression for photographic images. It is the format used for storing and transmitting photographs on the World Wide Web.

LDAP

The Lightweight Directory Access Protocol (LDAP) is a networking protocol for querying and modifying directory services running over TCP/IP.

LED

A Light-Emitting Diode (LED) is a semiconductor device that can indicate the status of a printer (formatter LEDs) or a component in a contact image sensor (CIS) scanner that helps capture an image.

LEDM

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.

LPDC

Late point differentiation configuration (LPDC) allows the channel partner to configure the speed to the printer depending on the customer's order. LPDC configuration is stored on the Trusted Platform Module (TPM).

LVPS - SMPS

Low Voltage Power Supplies (LVPS) and Switching Mode Power Supplies (SMPS) supply direct current (DC) voltages to various printer components and assemblies.

MAC address

Media Access Control (MAC) address is a unique identifier associated with a network adapter. MAC address is a unique 48-bit identifier usually written as 12 hexadecimal characters grouped in pairs (for example, 00-00-0c-34-11-4e). This address is

usually hard-coded into a Network Interface Card (NIC) by the manufacturer and used as an aid for routers trying to locate machines on a large network.

MEt

HP Memory Enhancement technology (MEt) effectively doubles the standard memory through a variety of font- and data-compression methods. MEt is available only in Printer Command Language (PCL) mode; it is not functional when printing in PostScript (PS) mode.

MFP

A Multi Function Printer (MFP) is a printer that incorporates multiple functionalities in a single physical body. For example, an MFP printer can scan, digitally send, fax, copy, and print.

MHV

Miniature High Voltage (MHV) is designed for high voltage applications of BNC connectors (DC voltage between 500 V and 5 kV).

Modem

A device that modulates a carrier signal to encode digital information, and also demodulates such a carrier signal to decode transmitted information.

MPCA (PageWide)

The MPCA integrates both formatter (LaserJet) and engine control electronics (DC controller) into a single assembly. The Main PCA (MPCA) controls printer functions like receiving and processes print data, developing and coordinating data placement, storing font and customer configuration information, communicating with the host computer, and monitoring control panel functions and relaying printer status information through the control panel.

NAND

NAND is not an acronym (the term is short for **NOT AND** a Boolean operator and logic gate). NAND (flash) memory is non-volatile, meaning it retains stored data even when the power is turned off.

NVRAM

Nonvolatile random access memory (NVRAM) is used to store I/O and information about the print environment configuration (stored data even when the power is turned off).

OPC

Organic Photo Conductor (OPC) is a mechanism that makes a virtual image for print using a laser beam emitted from a laser printer. It is usually green or rust colored and has a cylinder shape. An imaging unit containing a drum slowly wears the drum surface during its usage in the printer, and it should be replaced appropriately due to wear from contact with the cartridge development brush, cleaning mechanism, and paper.

Originals

The first example of something, such as a document, photograph, or text which is copied, reproduced, or translated to produce additional copies. The original itself is not copied or derived from something else.

PCA

Printed Circuit Assembly (PCA). Once the printed circuit board (PCB) is complete, electronic components must be assembled to form a functional printed circuit assembly or PCA.

PCL

Printer Command Language (PCL) is a Page Description Language (PDL) developed by HP as a printer protocol. PCL has become an industry standard. Originally developed for early Inkjet printers, PCL has been released in varying levels for thermal, dot matrix printers and laser printers.

PDF

Portable Document Format (PDF) is a proprietary file format developed by Adobe Systems. A PDF represents two dimension documents in a device independent and resolution independent format.

PJL

Printer job language (PJL) is an integral part of printer configuration, in addition to the standard PCL and PostScript (PS). With standard cabling, the printer can use PJL to perform a variety of functions like dynamic I/O switching, context-sensitive switching, and isolation of print environment settings from one print job to the next.

PML

Printer management language (PML) allows remote configuration of the printer and status read-back from the printer through the I/O ports.

PostScript (PS)

PostScript (PS) is a Page Description Language (PDL) and programming language used primarily in electronic and desktop publishing. PostScript is run in an interpreter to generate an image.

PPM

Pages Per Minute (PPM) is a method of measurement for determining how fast a printer works, meaning the number of pages a printer can produce in one minute.

Print Media

Media like paper, envelopes, labels, and transparencies which can be used in a printer, scanner, fax, or copier.

Printer Driver

A program used to send commands and transfer data from the computer to the printer.

Printhead (PageWide)

The printhead converts the digital firing instructions from the printer electronics into properly formed and timed microscopic drops of the four ink colors.

Printhead Wiper (PageWide)

The printhead wiper system keeps the printhead nozzles firing correctly throughout the life of the printer as it performs the wiping and capping functions. The wiping function cleans the nozzles of ink residue and particulates. The capping function keeps the nozzles moist during storage and when the printer is idle.

Protocol

A convention or standard that controls or enables the connection, communication, and data transfer between two computing endpoints.

RAM

Random Access Memory (RAM) is the printer memory device where the data in current use is kept so it can be quickly retrieved by the device's processor. This memory is an important factor in avoiding errors and printing documents properly. Printer memory is used to store, and process print jobs as they are sent to the printer from a computer. After printing, the job is cleared from the memory to make room for more print jobs. Printer memory is directly linked to two print characteristics: speed and print quality. More memory allows you to print faster and print larger, high-quality graphics.

REDI sensor

An optical reflective edge detection interrupter (REDI) sensor. Usually used in conjunction with mirrors to sense the presence or absence of paper in the paper path. These sensors are carefully aligned and calibrated at the factory, so care must be taken when servicing these sensors.

Resolution

The sharpness of an image is measured in Dots Per Inch (DPI). The higher the DPI, the greater the resolution.

SCB

The Scanner Control Board (SCB) controls the functions of the image scanner components in the Sub Scanner Assembly (SSA).

Service fluid and aerosol management systems (PageWide)

There are two types of service fluid, shipping fluid and ink. The service fluid management system is contained entirely within the duplex module. Service fluid is discharged as droplets from the printhead, and then collected in a container inside the duplex module. Some of the droplets are called aerosol because they are lighter than air. Aerosol can float inside the printer and collect on the lens of optical sensors, producing false failures. The aerosol management system transports the aerosol and collects it in a safe place. Aerosol management consists of an aerosol fan, mounted on the rear wall of the air flow assembly, which creates air flow that pulls the aerosol through the holes in the platen and into the aerosol filter inside the duplex module.

SFP

A single-function printer only processes print jobs sent from a host computer or from an USB port on the printer.

SMB

Server Message Block (SMB) is a network protocol mainly applied to share files, printers, serial ports, and miscellaneous communications between nodes on a network. SMB also provides an authenticated inter-process communication mechanism.

SMTP

Simple Mail Transfer Protocol (SMTP) is the standard for email transmissions across the internet. SMTP is a relatively simple, text-based protocol, where one or more recipient of a message is specified, and the message text is transferred. It is a client server protocol where the client transmits an email message to the server.

SODIMM

Small outline dual in-line memory module (SODIMM) is a thin profile memory storage device (a smaller alternative to a standard DIMM device).

SSA

The Sub-Scanner Assembly is the image scanner component of the Integrated Scanner Assembly (ISA, which includes the document feeder and the image scanner).

Subnet Mask

The subnet mask is used in conjunction with the network address to determine which part of the address is the network address and which part is the host address.

TCP/IP

The Transmission Control Protocol (TCP) and the Internet Protocol (IP) are the set of communications protocols that implement the protocol stack on which the internet and most commercial networks run.

TIFF

Tagged Image File Format (TIFF) is a variable-resolution bit mapped image format. TIFF describes image data that typically come from scanners. TIFF images use tags, keywords defining the characteristics of the image that is included in the file. This flexible and platform-independent format can be used for pictures that have been made by various image processing applications.

Toner Cartridge

A bottle or container that holds toner, which is used in a machine like a printer. Toner is a powder used in laser printers and photocopiers. The toner forms the text and images on printed paper. Toner can be fused by a combination of heat/pressure from the fuser, causing it to bind the fibers in the paper.

TPM

The HP Trusted Platform Module (TPM) is a security accessory for printers. The TPM strengthens protection of encrypted credentials and data stored on your printer. Certificate private keys are both generated by and protected by the TPM. Once installed, the printer and the TPM are sealed, and the printer owns the TPM. The TPM may not be moved to another device without losing its ownership from the original printer. Installing a TPM accessory might necessitate a firmware upgrade. The TPM prevents the printer from starting if the TPM is missing. If the TPM is removed from the printer, a control-panel error message appears indicating that the TPM is missing.



NOTE: The TPM is not a service part for some printer models. Check the printer service manual to determine if the TPM is a replaceable service part.

TWAIN

An industry standard for scanners and software. By using a TWAIN compliant scanner with TWAIN-compliant software, a scan can be initiated from the program. TWAIN is an image capture API for Microsoft Windows and Apple Macintosh operating systems.

URL

Uniform Resource Locator (URL) is the global address of documents and resources on the internet. The first part of the address indicates what protocol to use. The second part specifies the IP address or the domain name where the resource is located.

USB

Universal Serial Bus (USB) is a standard that was developed by the USB Implementers Forum, Inc., to connect computers and peripherals. Unlike the parallel port, USB is designed to concurrently connect a single computer USB port to multiple peripherals.

Walk-up USB

Some printers support direct printing from a USB flash drive (the walk-up USB port is usually near the control panel).

Watermark

A watermark is a recognizable image or pattern in paper that appears lighter when viewed by transmitted light. Watermarks were first introduced in Bologna, Italy in 1282. Watermarks have been used by paper makers to identify their product, and also on postage stamps, currency, and other government documents to discourage counterfeiting.

XPS

XML Paper Specification (XPS) is a specification for a Page Description Language (PDL) and a new document format developed by Microsoft. This has benefits for portable document and electronic documents. It is an XML-based specification based on a new print path and vector-based, device-independent document format.

ZIF Connector

Zero insertion force (ZIF) connectors use a mechanical locking method to secure Flat Flexible Cables (FFCs) to a Printed Circuit Assembly (PCA).

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