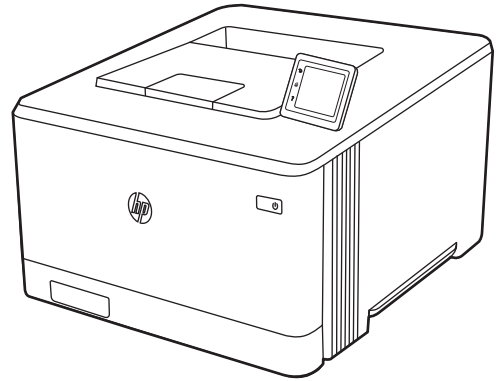
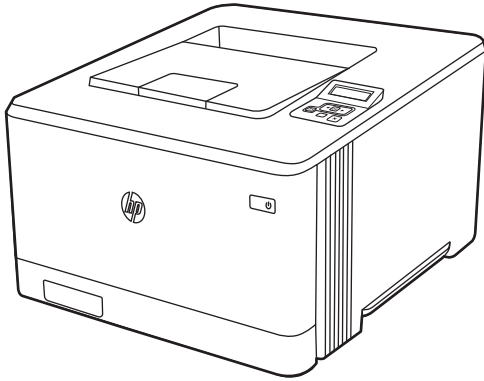




HP Color LaserJet Pro M454

User Guide



www.hp.com/videos/LaserJet
www.hp.com/support/colorljM454



HP Color LaserJet Pro M454

User Guide

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Table of contents

1 Printer overview	1
Warning icons	1
Potential shock hazard	2
Open source license	3
Printer views	4
Printer front view	4
Printer back view	5
2-line control panel view (nw and dn models)	5
Touchscreen control panel view (dw model)	7
How to use the touchscreen control panel	8
Printer hardware setup and software installation	9
Printer specifications	10
Technical specifications	10
Supported operating systems	11
Mobile printing solutions	12
Printer dimensions	13
Power consumption, electrical specifications, and acoustic emissions	14
Operating environment range	15
2 Paper trays	17
Introduction	17
Load paper to Tray 1	18
Introduction	18
Load Paper Tray 1 (multipurpose tray)	18
Tray 1 paper orientation	19
Load paper to Tray 2	22
Introduction	22
Load paper Tray 2	22
Tray 2 paper orientation	24
Load paper to Tray 3	27
Introduction	27
Load paper to Tray 3 (optional)	27

Tray 3 paper orientation	29
Load and print envelopes	31
Introduction	31
Print envelopes	31
Envelope orientation	31
3 Supplies, accessories, and parts	33
Order supplies, accessories, and parts	34
Ordering	34
Supplies and accessories	34
Customer self-repair parts	36
Dynamic security	36
Configure the HP toner-cartridge-protection supply settings	37
Introduction	37
Enable or disable the Cartridge Policy feature	38
Use the printer control panel to enable the Cartridge Policy feature	38
Use the printer control panel to disable the Cartridge Policy feature	38
Use the HP Embedded Web Server (EWS) to enable the Cartridge Policy feature	39
Use the HP Embedded Web Server (EWS) to disable the Cartridge Policy feature	39
Troubleshoot Cartridge Policy control panel error messages	40
Enable or disable the Cartridge Protection feature	41
Use the printer control panel to enable the Cartridge Protection feature	41
Use the printer control panel to disable the Cartridge Protection feature	41
Use the HP Embedded Web Server (EWS) to enable the Cartridge Protection feature	42
Use the HP Embedded Web Server (EWS) to disable the Cartridge Protection feature	43
Troubleshoot Cartridge Protection control panel error messages	43
Replace the toner cartridges	44
Toner cartridge information	44
Remove and replace the toner cartridges	46
4 Print	51
Print tasks (Windows)	52
How to print (Windows)	52
Automatically print on both sides (Windows)	52
Manually print on both sides (Windows)	53
Print multiple pages per sheet (Windows)	53
Select the paper type (Windows)	54
Additional print tasks	54
Print tasks (macOS)	55
How to print (macOS)	55
Automatically print on both sides (macOS)	55

Manually print on both sides (macOS)	55
Print multiple pages per sheet (macOS)	56
Select the paper type (macOS)	56
Additional print tasks	57
Store print jobs on the printer to print later or print privately	58
Introduction	58
Before beginning	58
Set up job storage	58
Disable or enable the job storage feature	59
Create a stored job (Windows)	60
Create a stored job (macOS)	60
Print a stored job	61
Delete a stored job	63
Delete a job that is stored on the printer	63
Information sent to printer for Job Accounting purposes	63
Mobile printing	64
Introduction	64
Wi-Fi Direct printing (wireless models only)	65
To turn on Wi-Fi Direct	65
Change the printer Wi-Fi Direct name	67
Step one: Open the HP Embedded Web Server	67
Step two: Change the Wi-Fi Direct name	67
HP ePrint via Email (touchscreen control panel)	67
HP ePrint via Email (2-line LCD control panel)	68
AirPrint	69
Android embedded printing	69
Print from a USB flash drive (touchscreen control panel only)	70
Introduction	70
Print USB documents	70
5 Manage the printer	71
Use HP Web Services applications (touchscreen models only)	71
Change the printer connection type (Windows)	72
Advanced configuration with HP Embedded Web Server and Printer Home Page (EWS)	73
Method one: Open the HP Embedded Web Server (EWS) from the software	73
Method two: Open the HP Embedded Web Server (EWS) from a web browser	73
Configure IP network settings	76
Introduction	76
Printer sharing disclaimer	76
View or change network settings	76
Rename the printer on a network	77

Manually configure IPv4 TCP/IP parameters from the control panel	77
Link speed and duplex settings	78
Printer security features	79
Introduction	79
Assign or change the system password using the Embedded Web Server	79
Energy-conservation settings	80
Introduction	80
Print with EconoMode	80
Set the Sleep Mode/Sleep Delay (Min.) setting	80
Set the Shutdown Mode/Shutdown after Sleep (Hr.) setting	81
Set the Disable Shutdown setting	81
HP Web Jetadmin	82
Update the firmware	83
Method one: Update the firmware using the control panel	83
Method two: Update the firmware using the HP Printer Update utility	84
6 Solve problems	85
Customer support	85
Restore the factory-set defaults	86
Control panel help system	86
A “Cartridge is low” or “Cartridge is very low” message displays on the printer control panel	88
Change the “Very Low” settings	89
Change the “Very Low” settings from the control panel	89
Order supplies	89
Printer does not pick up paper or misfeeds	90
Introduction	90
The printer does not pick up paper	90
The printer picks up multiple sheets of paper	93
Clear paper jams	95
Paper jam locations	95
Experiencing frequent or recurring paper jams?	95
Clear paper jams in Tray 1 - 13.02	97
Clear paper jams in Tray 2 - 13.03	99
Clear paper jams in the output bin - 13.10, 13.11, 13.13	101
Clear paper jams in the duplexer (dn and dw models only) - 13.14, 13.15	101
Clear paper jams in the rear door and the fuser area (nw model only) - 13.08, 13.09	102
Resolving print quality problems	104
Introduction	104
Troubleshoot print quality	105
Update the printer firmware	105
Print from a different software program	105

Check the paper-type setting for the print job	106
Check the paper type setting on the printer	106
Check the paper type setting (Windows)	106
Check the paper type setting (macOS)	106
Check toner-cartridge status	107
Step one: Print the supplies status page	107
Step two: Check supplies status	107
Print a cleaning page	107
Visually inspect the toner cartridge or cartridges	108
Check paper and the printing environment	109
Step one: Use paper that meets HP specifications	109
Step two: Check the environment	109
Step three: Set the individual tray alignment	109
Try a different print driver	110
Troubleshoot color quality	111
Calibrate the printer to align the colors	111
Adjust color settings (Windows)	111
Print and interpret the print quality page	111
Check the EconoMode settings	112
Adjust print density	113
Troubleshoot image defects	114
Solve wired network problems	123
Introduction	123
Poor physical connection	123
The computer is unable to communicate with the printer	123
The printer is using incorrect link and duplex settings for the network	124
New software programs might be causing compatibility problems	124
The computer or workstation might be set up incorrectly	124
The printer is disabled, or other network settings are incorrect	124
Solve wireless network problems	125
Introduction	125
Wireless connectivity checklist	125
The printer does not print after the wireless configuration completes	126
The printer does not print, and the computer has a third-party firewall installed	126
The wireless connection does not work after moving the wireless router or printer	126
Cannot connect more computers to the wireless printer	127
The wireless printer loses communication when connected to a VPN	127
The network does not appear in the wireless networks list	127
The wireless network is not functioning	127
Perform a wireless network diagnostic test	128
Reduce interference on a wireless network	128

Index 129

1 Printer overview

Review the location of features on the printer, the physical and technical specifications of the printer, and where to locate setup information.

- [Warning icons](#)
- [Potential shock hazard](#)
- [Open source license](#)
- [Printer views](#)
- [Printer hardware setup and software installation](#)
- [Printer specifications](#)

For more information:

For video assistance, see www.hp.com/videos/LaserJet.

The following information is correct at the time of publication. For current information, see the support home page for your printer: www.hp.com/support/colorljM454.

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

Warning icons

Use caution if you see a warning icon on your HP printer, as indicated in the icon definitions.

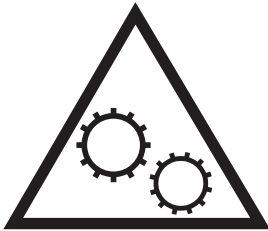
- Caution: Electric shock



- Caution: Hot surface



- Caution: Keep body parts away from moving parts



- Caution: Sharp edge in close proximity



- Warning



Potential shock hazard

Review this important safety information.

- Read and understand these safety statements to avoid an electrical shock hazard.
- Always follow basic safety precautions when using this product to reduce risk of injury from fire or electric shock.
- Read and understand all instructions in the user guide.
- Observe all warnings and instructions marked on the product.
- Use only a grounded electrical outlet when connecting the product to a power source. If you do not know whether the outlet is grounded, check with a qualified electrician.
- Do not touch the contacts on any of the sockets on the product. Replace damaged cords immediately.
- Unplug this product from wall outlets before cleaning.
- Do not install or use this product near water or when you are wet.
- Install the product securely on a stable surface.
- Install the product in a protected location where no one can step on or trip over the power cord.

Open source license

For information on open source software used in this printer, visit www.hp.com/software/opensource.

Printer views

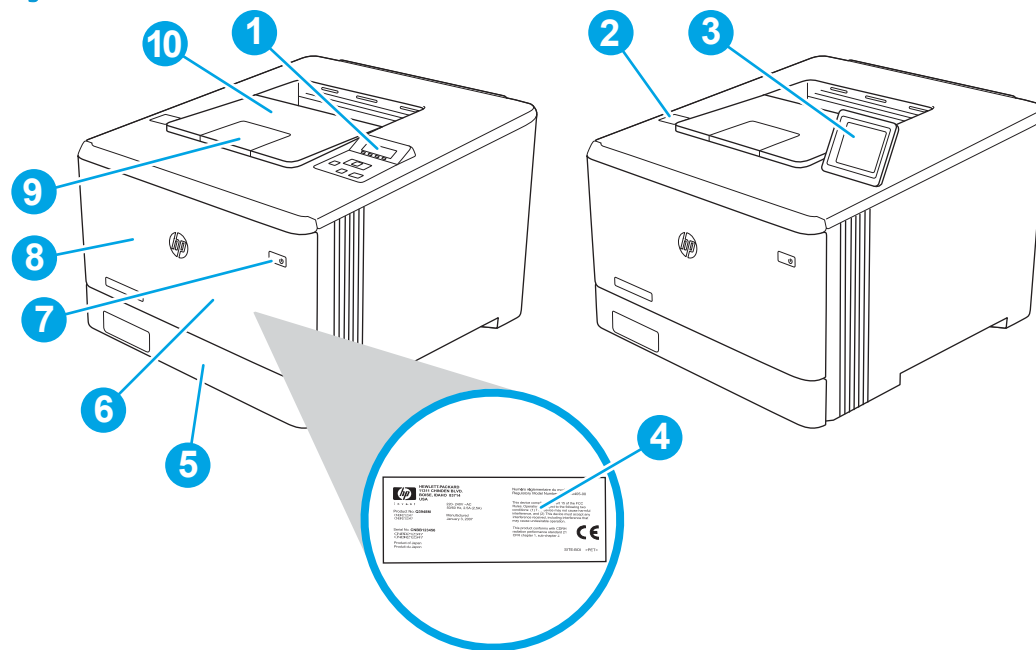
Identify parts on the printer and buttons on the control panel.

- [Printer front view](#)
- [Printer back view](#)
- [2-line control panel view \(nw and dn models\)](#)
- [Touchscreen control panel view \(dw model\)](#)

Printer front view

Identify the parts on the front of the printer.

Figure 1-1 Printer front view

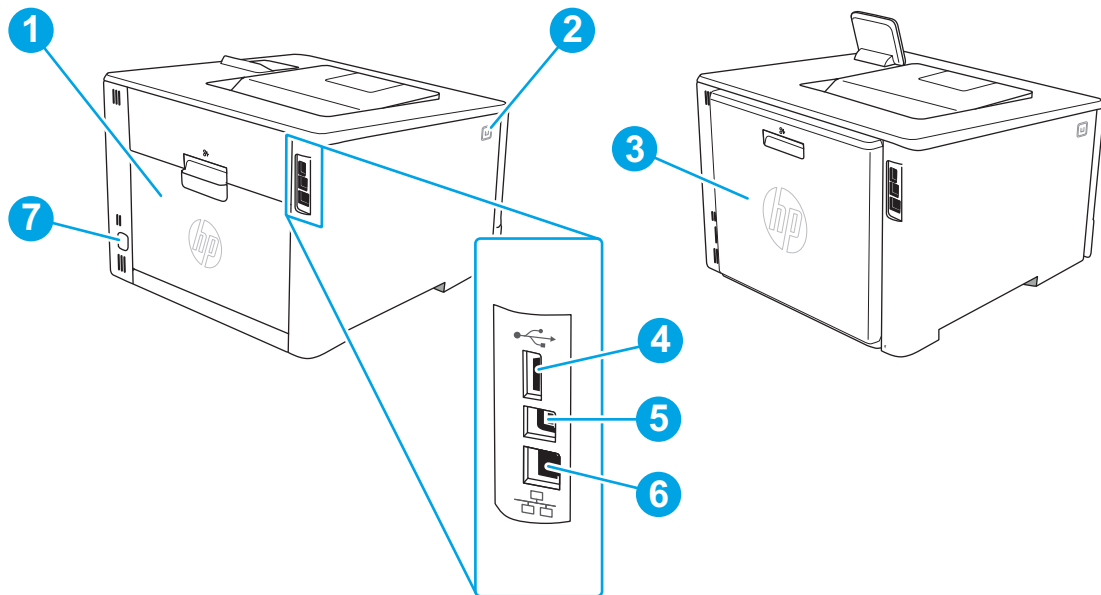


Number	Description
1	2-line control panel (nw and dn models)
2	Walk-up USB port (dw model only, for printing without a computer)
3	Touchscreen control panel (dw model, tilts up for easier viewing)
4	Regulatory label (inside the front door)
5	Tray 2
6	Tray 1
7	Power on/off button
8	Front door (provides toner cartridge access)
9	Output bin extension
10	Output bin

Printer back view

Identify the parts on the back of the printer.

Figure 1-2 Printer rear view

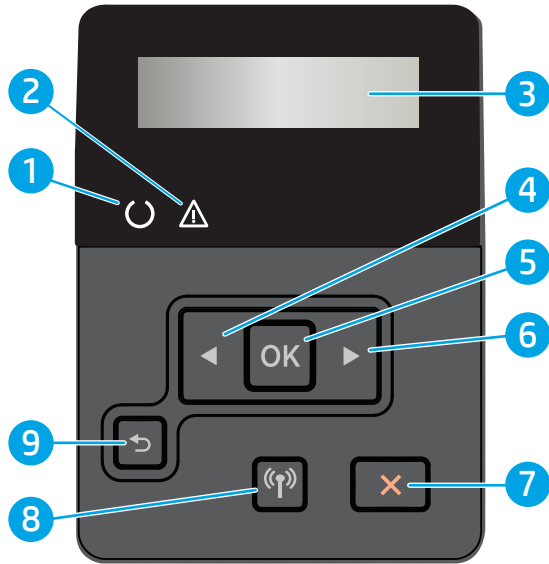


Number	Description
1	Rear door (nw model only, access for clearing jams)
2	Front door release button
3	Duplexer (dn and dw models only)
4	USB port for job storage
5	USB port for direct connection to a computer
6	Ethernet port
7	Power connection

2-line control panel view (nw and dn models)

Identify the buttons and lights on the 2-line printer control panel.

Figure 1-3 2-line control panel



Number	Item	Description
1	Ready light (green)	This light is on when the printer is ready to print. It blinks when the printer is receiving print data.
2	Attention light (amber)	This light blinks when the printer requires user attention.
3	Control panel display	This screen displays menus and printer information.
4	Left arrow ◀ button	Use this button to navigate through the menus or to decrease a value that appears on the display.
5	OK button	Press the OK button for the following actions: <ul style="list-style-type: none"> • Open the control panel menus. • Open a submenu displayed on the control panel display. • Select a menu item. • Clear some errors. • Begin a print job in response to a control-panel prompt (for example, when the message Press [OK] to continue appears on the control panel display).
6	Right arrow ▶ button	Use this button to navigate through the menus or to increase a value that appears on the display.
7	Cancel ✕ button	Press this button to cancel a print job or to exit the control panel menus.
8	Wireless (Ⓜ) button (wireless models only)	Use this button to access the wireless menu.
9	Back arrow ↶ button	Use this button for the following actions: <ul style="list-style-type: none"> • Exit the control panel menus. • Scroll back to a previous menu in a submenu list. • Scroll back to a previous menu item in a submenu list (without saving changes to the menu item).


Touchscreen control panel view (dw model)

Identify the buttons and features on the touchscreen control panel.

- [How to use the touchscreen control panel](#)

The Home screen provides access to the printer features and indicates the current status of the printer.

Return to the Home screen at any time by touching the Home button on the left side of the printer control panel.

 **NOTE:** For more information about the printer control panel features, go to the support home page for your printer: www.hp.com/support/colorljM454.


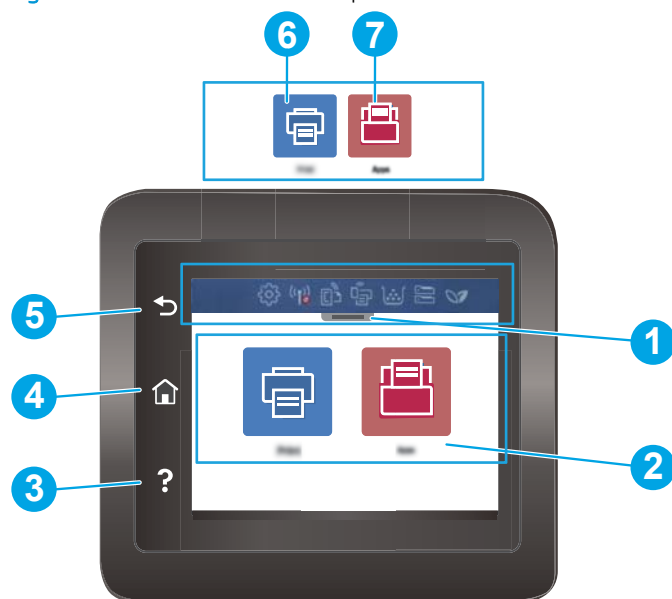



 **NOTE:** The features that appear on the Home screen can vary, depending on the printer configuration.

Figure 1-4 Touchscreen control panel










Number	Item	Description
1	Home screen dashboard display icons	See the table that follows for a description of the icons. Pull down the tab to open the Jobs menu.
2	Color touchscreen	Provides access to menus, help animations, and printer information.
3	Help button	Provides access to the control panel help system.
4	Home button	Provides access to the Home screen.
5	Back button	Returns to the previous screen.
6		Print icon: Touch this icon to open the Print menus.
7		Apps icon: Touch this icon to open the Apps menu to print directly from select Web applications.

 **NOTE:** While the control panel does not have a standard [Cancel](#) button, during many printer processes a [Cancel](#) button appears on the touchscreen. This permits users to cancel a process before the printer completes it.

Home screen dashboard display icons


Table 1-1 Home screen icons

Icon	Purpose
	Setup icon: Opens the Setup menu, where you can change preferences and perform maintenance functions.
	Wireless icon: Opens the Wireless Summary menu, where you can check wireless status and change wireless settings. You can also print a wireless test report, which helps diagnosing network connection issues.
	HP ePrint icon: Opens the Web Services Summary menu, where you can check ePrint status details, change ePrint settings, or print an Info page.
	Wi-Fi Direct icon: Opens the Wi-Fi Direct menu, where you can turn on Wi-Fi Direct, turn off Wi-Fi Direct, and display the Wi-Fi Direct name and password.
	Cartridge icon: Opens the Cartridge Information screen, where you can view the estimated levels and pages remaining for the toner cartridges.
	Paper Setup icon: Opens the Paper Setup menu, where you can configure the default Paper Size and Paper Type for the paper trays.
	ECO icon: Allows you to configure some of the printer environmental features.

How to use the touchscreen control panel

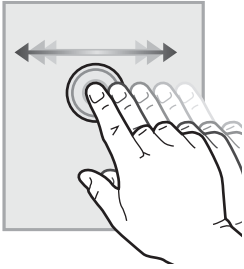
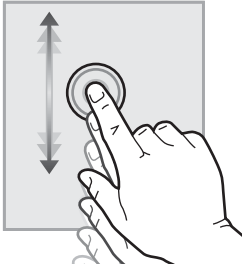
Use the following actions to use the printer touchscreen control panel.

Table 1-2 How to use the touchscreen control panel

Action	Description	Example
Touch	Touch an item on the screen to select that item or open that menu. Also, when scrolling through menus, briefly touch the screen to stop the scrolling.	Touch the Setup  icon to open the Setup menu.

A line drawing of a right hand with the index finger touching a grey rectangular screen. A circular ripple effect is shown at the point of contact, indicating a touch action.

Table 1-2 How to use the touchscreen control panel (continued)

Action	Description	Example
Swipe	Touch the screen and then move your finger horizontally to scroll the screen sideways.	Swipe the Home screen to access additional menu options.
		
Scroll	Touch the screen and then move your finger vertically to scroll the screen up and down. When scrolling through menus, briefly touch the screen to stop the scrolling.	Scroll through the Setup menu.
		

Printer hardware setup and software installation

For basic setup instructions, see the Hardware Installation Guide that came with the printer. For additional instructions, go to HP support on the web.

Go to www.hp.com/support/colorljM454 for HP's all-inclusive help for the printer, which includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information
- Find instructions about how to use the Microsoft Add Printer tool

Printer specifications

Review hardware, software, and printer environment specifications.

- [Technical specifications](#)
- [Supported operating systems](#)
- [Mobile printing solutions](#)
- [Printer dimensions](#)
- [Power consumption, electrical specifications, and acoustic emissions](#)
- [Operating environment range](#)



IMPORTANT: The following specifications are correct at the time of publication, but they are subject to change. For current information, see the support home page for your printer: www.hp.com/support/colorljM454.

Technical specifications

Review the technical specifications for the printer.

For current information, see www.hp.com/support/colorljM454.

Table 1-3 Technical specifications

Model name		M454nw	M454dn	M454dw
Product number		W1Y43A	W1Y44A	W1Y45A
Paper handling	Tray 1 (50-sheet capacity)	Included	Included	Included
Paper handling	Tray 2 (250-sheet capacity)	Included	Included	Included
Paper handling	Optional 550-sheet accessory tray	Optional	Optional	Optional
Paper handling	Automatic duplex printing	Not available	Included	Included
Connectivity	10/100/1000 Ethernet LAN connection with IPv4 and IPv6	Included	Included	Included
Connectivity	Hi-Speed USB 2.0	Included	Included	Included
Connectivity	Walk-up USB port	Not available	Not available	Included
Connectivity	Print server for wireless connectivity	Included	Not available	Included
Connectivity	Bluetooth Low Energy (BLE)	Included	Not available	Included
Connectivity	Wi-Fi Direct for printing from mobile devices	Included	Not available	Included
Control-panel display and input	2-line control panel	Included	Included	Not available
Control-panel display and input	Color touchscreen control panel	Not available	Not available	Included
Print	Prints 27 pages per minute (ppm) on A4 and 28 ppm on letter-size paper	Included	Included	Included

Table 1-3 Technical specifications (continued)

Model name		M454nw	M454dn	M454dw
Product number		W1Y43A	W1Y44A	W1Y45A
Print	Walk-up USB printing (no computer required)	Not available	Not available	Included
Print	Job storage and private printing (Requires a 16 GB or greater USB thumb drive.)	Included	Included	Included

Supported operating systems

The following information applies to the printer-specific Windows and HP print drivers for macOS and to the software installer.

Windows: The HP Software Installer installs either a V3 or V4 PCL 6 print driver depending on the Windows operating system along with optional software when using the full software installer. See the software installation notes for more information.

macOS: Mac computers and Apple mobile devices are supported with this printer. Download HP Easy Start either from 123.hp.com/laserjet or from the Printer Support page, and then use HP Easy Start to install the HP print driver. HP Easy Start is not included in the HP Software Installer.

1. Go to 123.hp.com/laserjet.
2. Follow the steps provided to download HP Easy Start.

Linux: For information and print drivers for Linux, go to www.hp.com/go/linuxprinting.

UNIX: For information and print drivers for UNIX, go to www.hp.com/go/unixmodelscripts.

Table 1-4 Supported operating systems and print drivers

Operating system	Print driver installed (from the software on the web)
Windows 7, 32-bit and 64-bit	The HP PCL 6 (V3) printer-specific print driver is installed for this operating system as part of the software installation.
Windows 8, 32-bit and 64-bit	The HP PCL 6 (V3) printer-specific print driver is installed for this operating system as part of the software installation. ¹
Windows 8.1, 32-bit and 64-bit	The HP PCL-6 (V4) printer-specific print driver is installed for this operating system as part of the software installation. ²
Windows 10, 32-bit and 64-bit	The HP PCL-6 (V4) printer-specific print driver is installed for this operating system as part of the software installation.
Windows Server 2008 R2, 64-bit	The HP PCL 6 (V3) printer-specific print driver is available for download from the printer support website. Download the driver, and then use the Microsoft Add Printer tool to install it. ³
Windows Server 2008 R2, SP1, 64-bit	The HP PCL 6 (V3) printer-specific print driver is available for download from the printer support website. Download the driver, and then use the Microsoft Add Printer tool to install it.
Windows Server 2012	The HP PCL 6 (V3) printer-specific print driver is available for download from the printer support website. Download the driver, and then use the Microsoft Add Printer tool to install it.


Table 1-4 Supported operating systems and print drivers (continued)

Operating system	Print driver installed (from the software on the web)
Windows Server 2012 R2	The HP PCL 6 (V3) printer-specific print driver is available for download from the printer support website. Download the driver, and then use the Microsoft Add Printer tool to install it.
Windows Server 2016, 64-bit	The HP PCL 6 (V3) printer-specific print driver is available for download from the printer support website. Download the driver, and then use the Microsoft Add Printer tool to install it.
macOS Sierra 10.12, macOS High Sierra 10.13, macOS Mojave 10.14	To install the print driver, download HP Easy Start from 123.hp.com/laserjet . Follow the steps provided to install the printer software and print driver.

¹ Windows 8 RT support is provided through Microsoft IN OS Version 4, 32-bit driver.

² Windows 8.1 RT support is provided through Microsoft IN OS Version 4, 32-bit driver.

³ Microsoft retired mainstream support for Windows Server 2008 in January 2015. HP will continue to provide best effort support for the discontinued Server 2008 operating system.

 **NOTE:** For a current list of supported operating systems, go to www.hp.com/support/colorljM454 for HP's all-inclusive help for the printer.

 **NOTE:** For details on client and server operating systems and for HP UPD PCL6 and UPD PS driver support for this printer, go to www.hp.com/go/upd and click [Specifications](#).

Table 1-5 Minimum system requirements

Windows 7, 8, 8.1, 10	macOS Sierra v10.12, macOS High Sierra v10.13, macOS Mojave v10.14	Mobile devices, iOS, Android
<ul style="list-style-type: none"> • 32-bit or 64-bit • 2 GB of available hard disk space • Microsoft Internet Explorer • Internet connection • USB port 	<ul style="list-style-type: none"> • 2 GB of available hard disk space • Internet connection 	Router connection not required www.hp.com/go/mobileprinting

Mobile printing solutions

HP offers multiple mobile and ePrint solutions to enable easy printing to an HP printer from a laptop, tablet, smartphone, or other mobile device.

To see the full list and to determine the best choice, go to www.hp.com/go/MobilePrinting.

- Bluetooth Low Energy
- HP ePrint via email (requires HP Web Services to be enabled and the printer to be registered with HP Connected)
- ePrint Enterprise app (supported on all printers with ePrint Enterprise Server Software)
- HP Smart app for iOS and Android devices
- HP ePrint app (available for Blackberry)

- Google Cloud Print
- AirPrint
- Android Printing
- HP Roam

Printer dimensions

Make sure your printer environment is large enough to accommodate the printer.

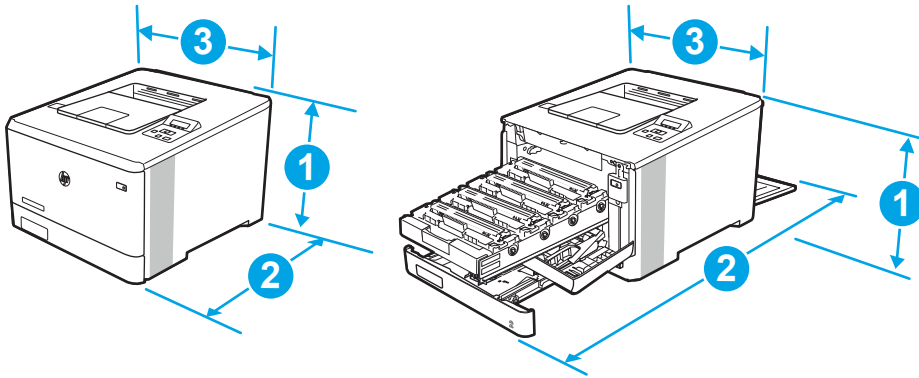


Table 1-6 Dimensions for the M454nw model

Measurement	Printer fully closed	Printer fully opened
1 - Height	295.7 mm (11.64 in)	295.7 mm (11.64 in)
2 - Depth	459 mm (17.83 in)	1025 mm (40.35 in)
3 - Width	413.6 mm (16.28 in)	413.6 mm (16.28 in)
Weight (with cartridges)	17.5 kg (38.58 lb)	17.5 kg (38.58 lb)

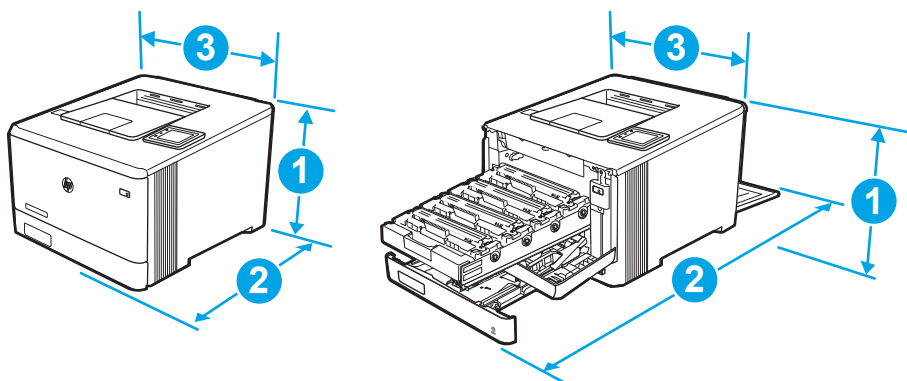


Table 1-7 Dimensions for the M454dn and 454dw models

Measurement	Printer fully closed	Printer fully opened
1 - Height	295.7 mm (11.64 in)	295.7 mm (11.64 in) (dn model) 339.6 mm (13.37 in) (dw model)
2 - Depth	472 mm (18.59 in)	1124.4 mm (44.27 in)
3 - Width	413.6 mm (16.28 in)	413.6 mm (16.28 in)
Weight (with cartridges)	18.9 kg (41.67 lb)	18.9 kg (41.67 lb)

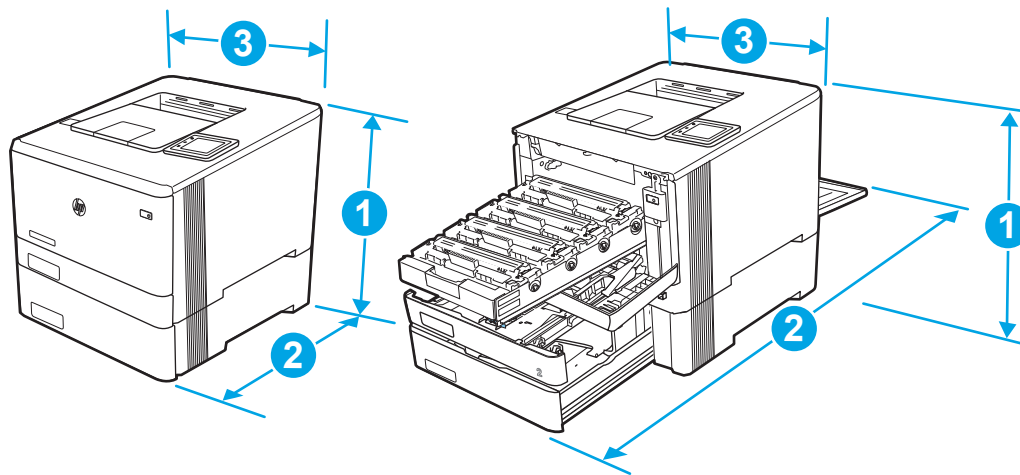


Table 1-8 Dimensions for models with optional Tray 3

Measurement	Printer fully closed	Printer fully opened
1 - Height	427.7 mm (16.83 in)	427.7 mm (16.83 in) (nw and dn models) 471.6 mm (18.56 in) (dw model)
2 - Depth	453 mm (17.83 in) (nw model) 472.3 mm (18.59 in) (dn and dw models)	1025 mm (40.35 in) (nw model) 1124.4 mm (44.27 in) (dn and dw models)
3 - Width	413.6 mm (16.28 in)	413.6 mm (16.28 in)
Weight (with cartridges)	22.7 kg (50.04 lb) (nw model) 24.1 kg (53.13 lb) (dn and dw models)	22.7 kg (50.04 lb) (nw model) 24.1 kg (53.13 lb) (dn and dw models)

Power consumption, electrical specifications, and acoustic emissions

In order to operate properly, the printer must be in an environment that meets certain power specifications.

For current information, see the support home page for your printer: www.hp.com/support/colorljM454.

⚠ 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

Review the recommended operating-environment specifications for your printer.

Table 1-9 Operating environment specifications

Environment	Recommended	Allowed
Temperature	15° to 27°C (59° to 80.6°F)	15° to 30°C (59° to 86°F)
Relative humidity	20% to 70% relative humidity (RH)	10% to 80% RH

2 Paper trays

Discover how to load and use the paper trays, including how to load special items such as envelopes.

- [Introduction](#)
- [Load paper to Tray 1](#)
- [Load paper to Tray 2](#)
- [Load paper to Tray 3](#)
- [Load and print envelopes](#)

For more information:

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

Introduction

Review the following information about the paper trays.

 **CAUTION:** Do not extend more than one paper tray at a time.

Do not use paper tray as a step.

Keep hands out of paper trays when closing.

All trays must be closed when moving the printer.

Load paper to Tray 1

Review the following information about loading paper to Tray 1.

- [Introduction](#)
- [Load Paper Tray 1 \(multipurpose tray\)](#)
- [Tray 1 paper orientation](#)

Introduction

The following information describes how to load paper into Tray 1.

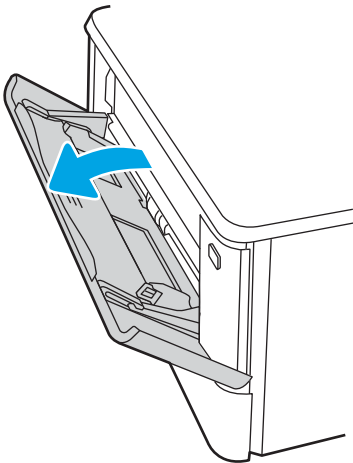
Load Paper Tray 1 (multipurpose tray)

Follow these steps to load paper in Tray 1.

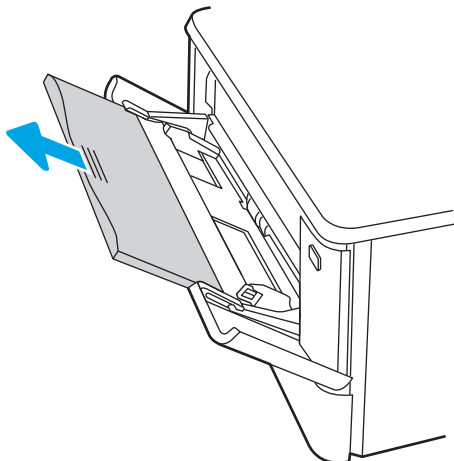
This tray holds up to 50 sheets of 75 g/m² (20 lb) paper.

⚠ CAUTION: To avoid jams, never add or remove paper from Tray 1 during printing.

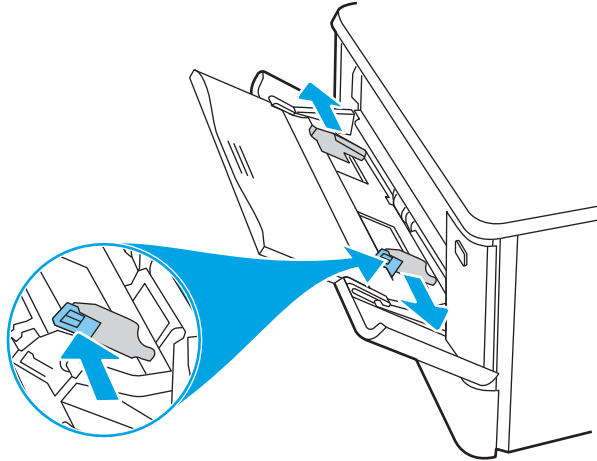
1. Open Tray 1 by grasping the handles on the left and right side of the tray and pulling down.



2. Slide out the tray extension.

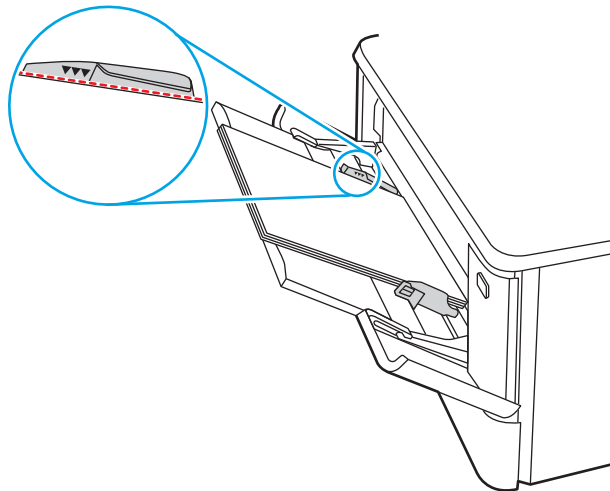


3. Press down on the tab on the right paper guide, and then spread the paper guides to the correct size.



4. Load the paper into the tray. Make sure that the paper fits under the tabs and below the maximum height indicators.

For information on how to orient the paper, see [Tray 1 paper orientation on page 19](#).



5. At the computer, begin the printing process from the software application. Make sure that the driver is set to the correct paper type and size for the paper being printed from the tray.

Tray 1 paper orientation

When using paper that requires a specific orientation, load it according to the information in the following table.

Table 2-1 Tray 1 paper orientation

Paper type	Output	How to load paper
Letterhead or preprinted	1-sided printing	Face-up Top edge leading into the printer

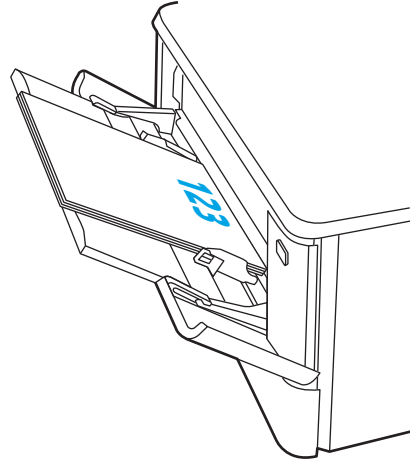
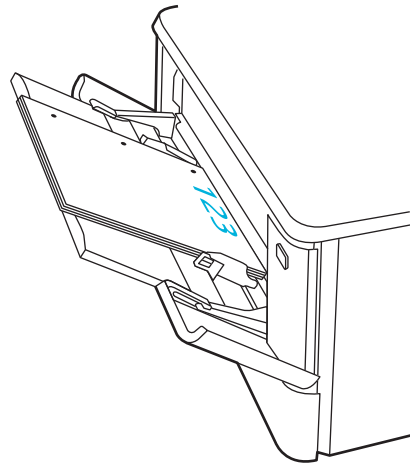
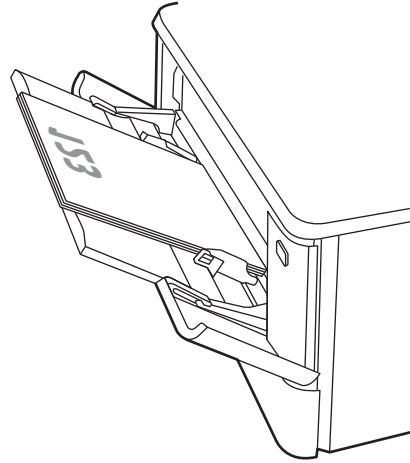


Table 2-1 Tray 1 paper orientation (continued)

Paper type	Output	How to load paper
Letterhead or preprinted	2-sided printing	Face-down Top edge away from the printer
Pre-punched	1-sided or 2-sided printing	Face-up Holes toward the left side of the printer



Load paper to Tray 2

Review the following information about loading paper to Tray 2.

- [Introduction](#)
- [Load paper Tray 2](#)
- [Tray 2 paper orientation](#)

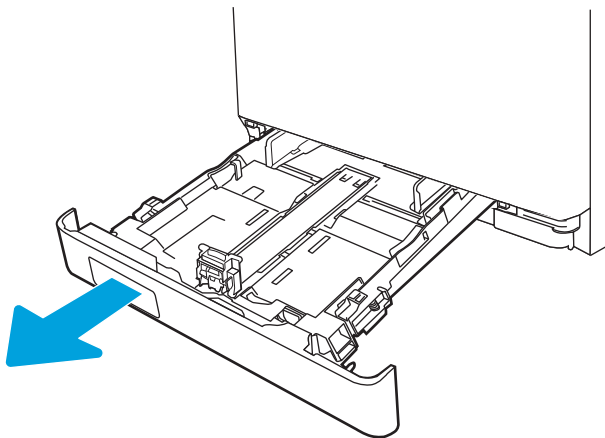
Introduction

The following information describes how to load paper into Tray 2.

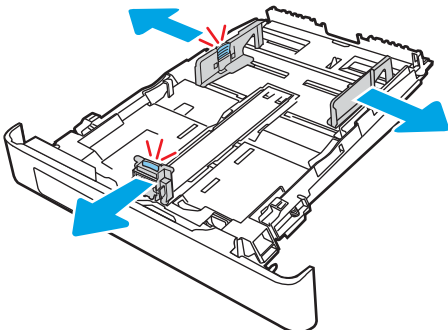
Load paper Tray 2

This tray holds up to 250 sheets of 75 g/m² (20 lb) paper.

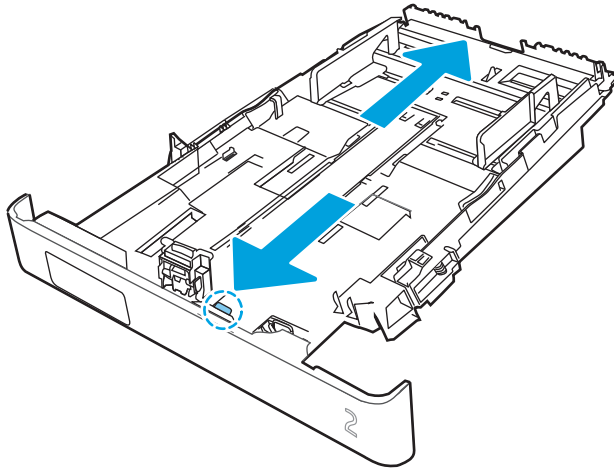
1. Open tray 2.




2. Adjust the paper-width guides by squeezing the adjustment latches on the guides and then sliding the guides to the size of the paper being used.



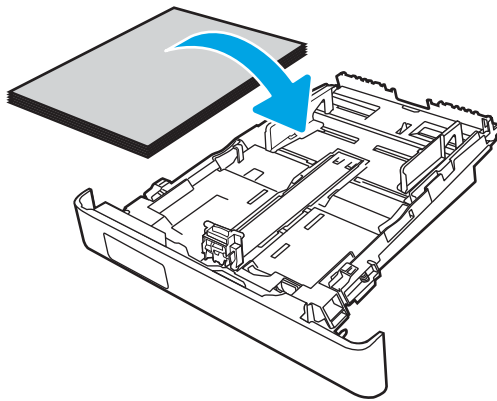
3. To load legal-size paper, extend the tray front by squeezing the front latch and pulling the front of the tray.




 **NOTE:** When loaded with legal-size paper, Tray 2 extends from the front of the printer approximately (2 in)51 mm.

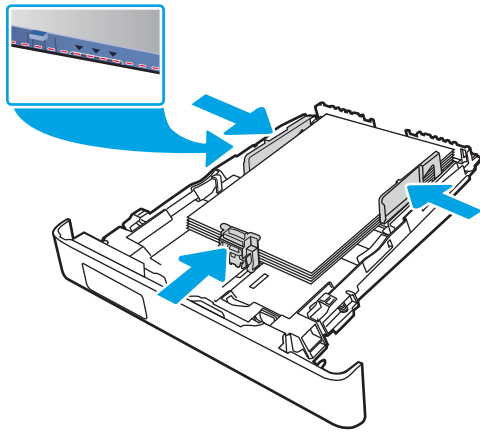
4. Load the paper into the tray.

For information about how to orient the paper, see [Tray 2 paper orientation on page 24](#).

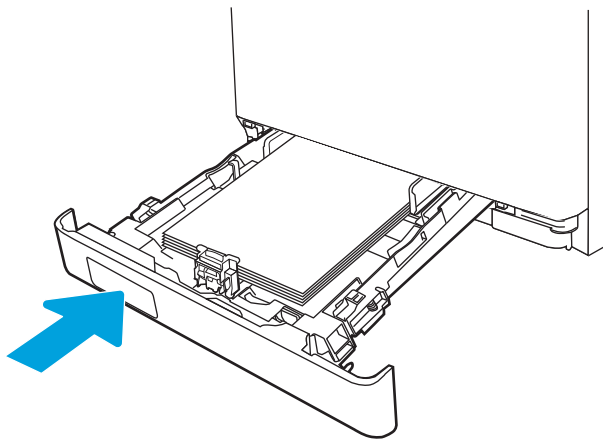


5. Make sure that the paper stack is flat at all four corners. Slide the paper length and width guides so that they are against the stack of paper.

 **NOTE:** To prevent jams, do not overfill the tray. Be sure that the top of the stack is below the tray full indicator.



6. After making sure that the paper stack is below the tray full indicator, close the tray.



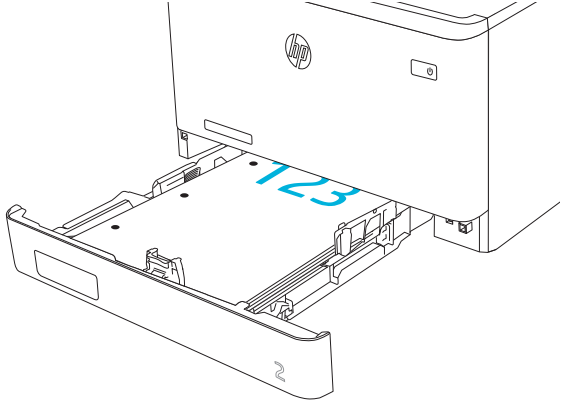
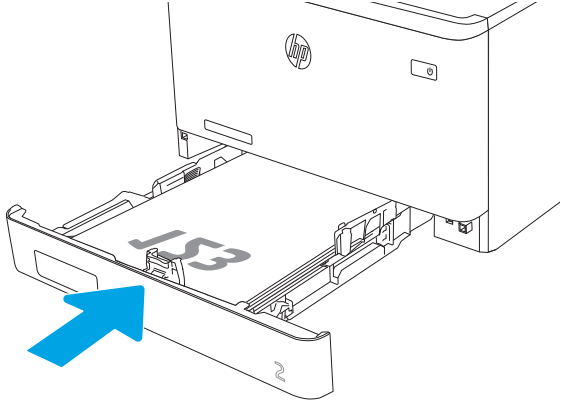
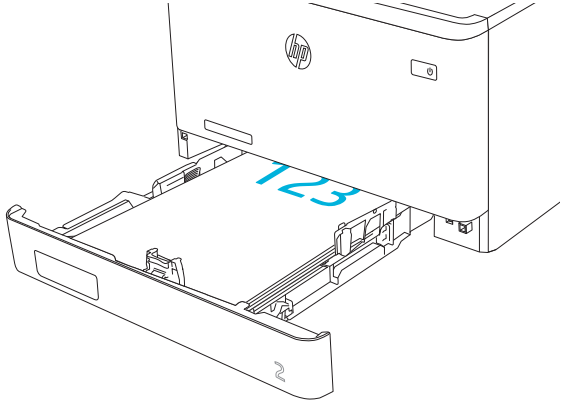
7. At the computer, begin the printing process from the software application. Make sure that the driver is set to the correct paper type and size for the paper being printed from the tray.

Tray 2 paper orientation

When using paper that requires a specific orientation, load it according to the information in the following table.

Table 2-2 Tray 2 paper orientation

Paper type	Output	How to load paper
Letterhead or preprinted	1-sided printing	Face-up Top edge toward the printer.
Letterhead or preprinted	2-sided printing	Face-down Top edge away from the printer
Prepunched	1-sided printing or 2-sided printing	Face-up Holes toward the left side of the printer



For information about positioning and orienting envelopes in Tray 2, see [Envelope orientation on page 31](#).

Load paper to Tray 3

Review the following information about loading paper to Tray 3.

- [Introduction](#)
- [Load paper to Tray 3 \(optional\)](#)
- [Tray 3 paper orientation](#)

Introduction

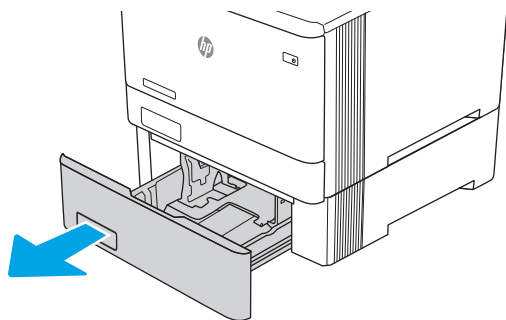
The following information describes how to load paper into Tray 3.

Load paper to Tray 3 (optional)

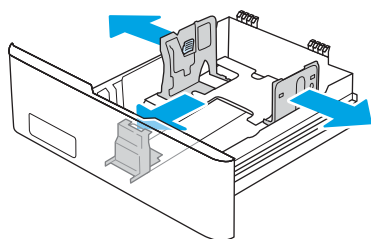
This tray holds up to 550 sheets of 75 g/m² (20 lb) paper.

Do not print envelopes, labels, or unsupported sizes of paper from Tray 3. Print these types of paper only from Tray 1.

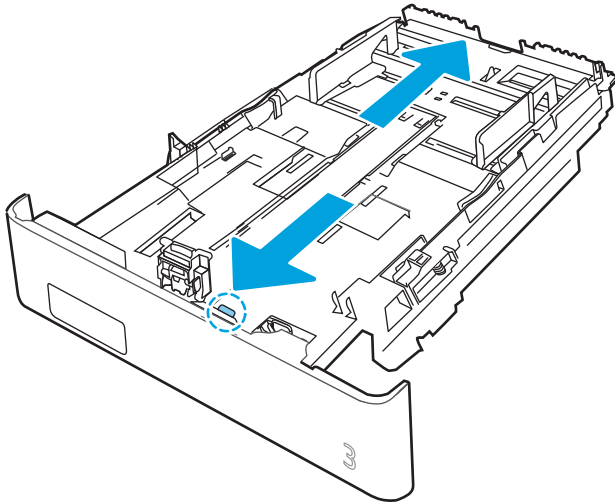
1. Open Tray 3.



2. Adjust the paper-width guides by squeezing the adjustment latches on the guides and then sliding the guides to the size of the paper being used.




3. To load legal-size paper, extend the tray front by squeezing the front latch and pulling the front of the tray.

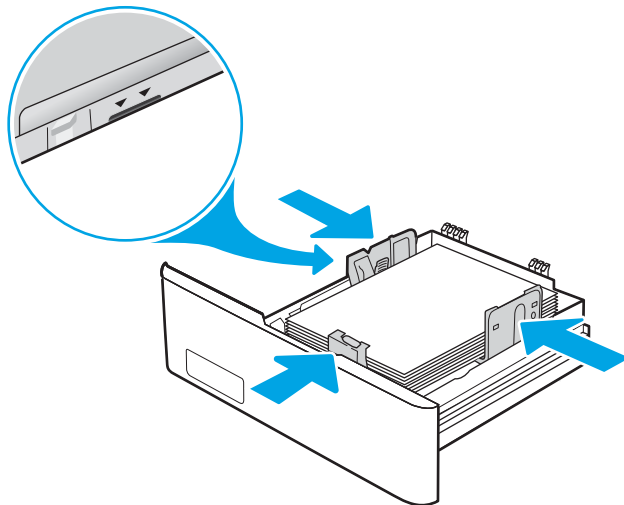


4. Load paper into the tray.

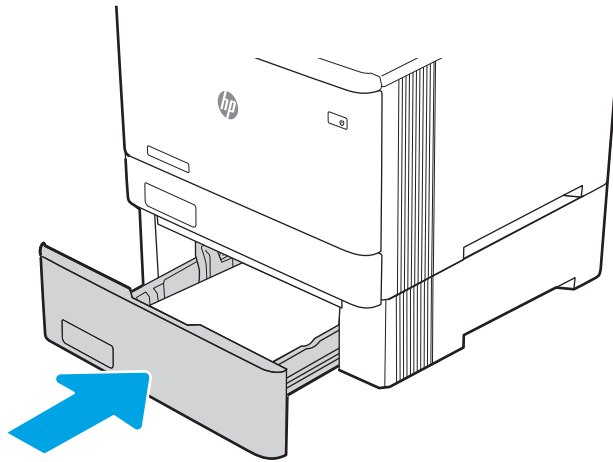
For information about how to orient the paper, see [Tray 3 paper orientation on page 29](#).

5. Make sure that the paper stack is flat at all four corners. Slide the paper length and width guides so that they are against the stack of paper.

 **NOTE:** To prevent jams, do not overfill the tray. Be sure that the top of the stack is below the tray full indicator.



6. After making sure that the paper stack is below the tray full indicator, close the tray.



7. At the computer, begin the printing process from the software application. Make sure that the driver is set to the correct paper type and size for the paper being printed from the tray.

Tray 3 paper orientation

When using paper that requires a specific orientation, load it according to the information in the following table.

Table 2-3 Tray 3 paper orientation

Paper type	Output	How to load paper
Letterhead or preprinted	1-sided printing	Face-up Top edge toward the printer.

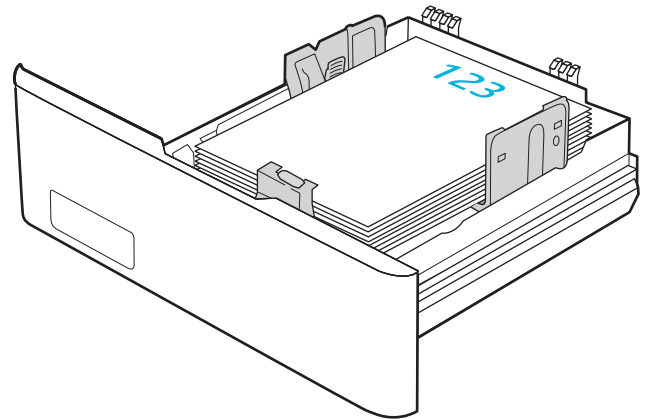
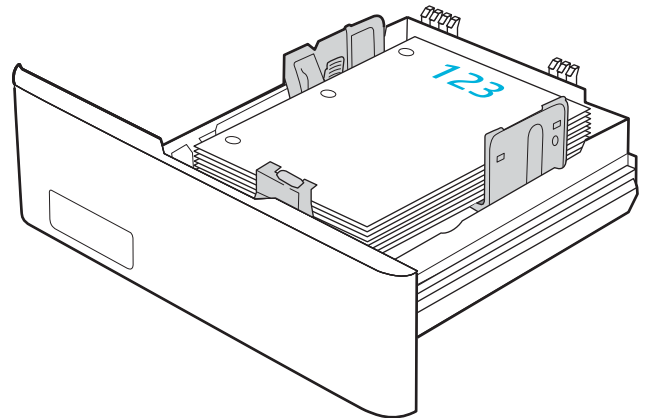
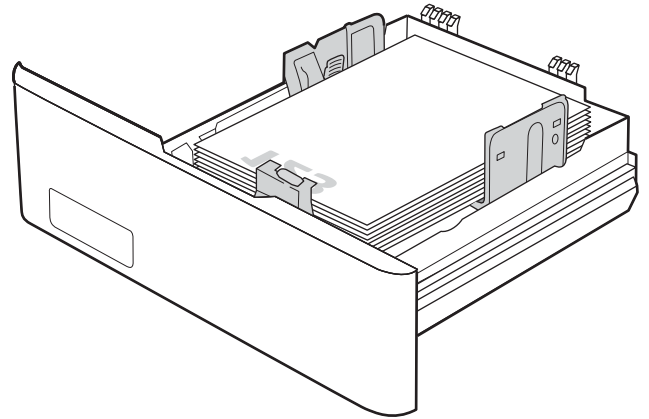


Table 2-3 Tray 3 paper orientation (continued)

Paper type	Output	How to load paper
Letterhead or preprinted	2-sided printing	Face-down Top edge away from the printer
Prepunched	1-sided printing or 2-sided printing	Face-up Holes on left side of the printer



Load and print envelopes

Review the following information about loading and printing envelopes.

- [Introduction](#)
- [Print envelopes](#)
- [Envelope orientation](#)

Introduction

The following information describes how to print and load envelopes.

Print envelopes

To print envelopes using either Tray 1 or Tray 2, follow the steps to select the correct settings in the print driver. Tray 1 holds up to 10 envelopes.

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click or tap the **Properties** or **Preferences** button to open the print driver.



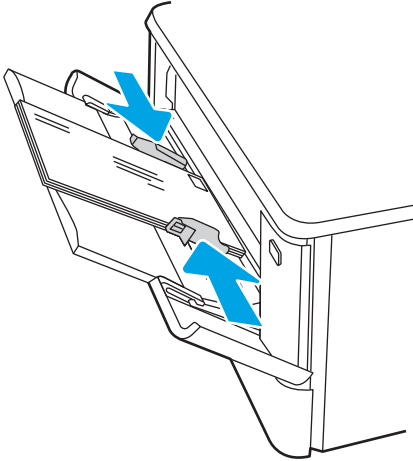
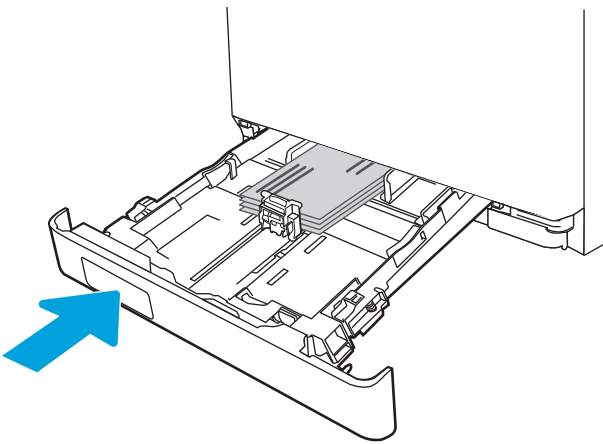
NOTE: The name of the button varies for different software programs.

3. Click or tap the **Paper/Quality** tab.
4. In the **Paper size** drop-down list, select the correct size for the envelopes.
5. In the **Paper type** drop-down list, select **Envelope**.
6. In the **Paper source** drop-down list, select **Manual feed**.
7. Click the **OK** button to close the **Document Properties** dialog box.
8. In the **Print** dialog box, click the **OK** button to print the job.

Envelope orientation

When using envelopes, load them according to the information in the following table.

Table 2-4 Envelope orientation

Tray	How to load
Tray 1	Face-up Short, postage-end leading into the printer
 A line drawing of the top paper tray of a printer. The tray is tilted upwards. Two blue arrows point into the tray from the top-left and top-right, indicating the direction of paper insertion. The arrows point towards the center of the tray where the paper would be placed.	
Tray 2	Face-up Short, postage-end leading into the printer
 A line drawing of the bottom paper tray of a printer. The tray is tilted downwards. A blue arrow points into the tray from the bottom-left, indicating the direction of paper insertion. The arrow points towards the center of the tray where the paper would be placed.	

3 Supplies, accessories, and parts

Order supplies or accessories, replace the toner cartridges, or remove and replace another part.

- [Order supplies, accessories, and parts](#)
- [Dynamic security](#)
- [Configure the HP toner-cartridge-protection supply settings](#)
- [Replace the toner cartridges](#)

For video assistance, see www.hp.com/videos/LaserJet.

For more information:

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

Order supplies, accessories, and parts

Review details about ordering supplies, accessories and parts for your printer.

- [Ordering](#)
- [Supplies and accessories](#)
- [Customer self-repair parts](#)

Ordering

Find information and links for ordering supplies, parts, and accessories for your printer.

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

Supplies and accessories

Find information about the supplies and accessories that are available for your printer.


 **CAUTION:** Cartridges are for distribution and use within their designated region only; they will not work outside of their designated region.

Table 3-1 Supplies

Item	Description	Cartridge number	Part number
Supplies			
For use in North America and Latin America only			
HP 414A Black Original LaserJet Toner Cartridge	Standard-capacity replacement black toner cartridge	414A	W2020A
HP 414A Cyan Original LaserJet Toner Cartridge	Standard-capacity replacement cyan toner cartridge	414A	W2021A
HP 414A Yellow Original LaserJet Toner Cartridge	Standard-capacity replacement yellow toner cartridge	414A	W2022A
HP 414A Magenta Original LaserJet Toner Cartridge	Standard-capacity replacement magenta toner cartridge	414A	W2023A
HP 414X High Yield Black Original LaserJet Toner Cartridge	High-capacity replacement black toner cartridge	414X	W2020X
HP 414X High Yield Cyan Original LaserJet Toner Cartridge	High-capacity replacement cyan toner cartridge	414X	W2021X

Table 3-1 Supplies (continued)

Item	Description	Cartridge number	Part number
HP 414X High Yield Yellow Original LaserJet Toner Cartridge	High-capacity replacement yellow toner cartridge	414X	W2022X
HP 414X High Yield Magenta Original LaserJet Toner Cartridge	High-capacity replacement magenta toner cartridge	414X	W2023X
For use in Europe, Middle East, Russia, CIS, and Africa only			
HP 415A Black Original LaserJet Toner Cartridge	Standard-capacity replacement black toner cartridge	415A	W2030A
HP 415A Cyan Original LaserJet Toner Cartridge	Standard-capacity replacement cyan toner cartridge	415A	W2031A
HP 415A Yellow Original LaserJet Toner Cartridge	Standard-capacity replacement yellow toner cartridge	415A	W2032A
HP 415A Magenta Original LaserJet Toner Cartridge	Standard-capacity replacement magenta toner cartridge	415A	W2033A
HP 415X High Yield Black Original LaserJet Toner Cartridge	High-capacity replacement black toner cartridge	415X	W2030X
HP 415X High Yield Cyan Original LaserJet Toner Cartridge	High-capacity replacement cyan toner cartridge	415X	W2031X
HP 415X High Yield Yellow Original LaserJet Toner Cartridge	High-capacity replacement yellow toner cartridge	415X	W2032X
HP 415X High Yield Magenta Original LaserJet Toner Cartridge	High-capacity replacement magenta toner cartridge	415X	W2033X
For use in Asia Pacific only			
HP 416A Black Original LaserJet Toner Cartridge	Standard-capacity replacement black toner cartridge	416A	W2040A
HP 416A Cyan Original LaserJet Toner Cartridge	Standard-capacity replacement cyan toner cartridge	416A	W2041A
HP 416A Yellow Original LaserJet Toner Cartridge	Standard-capacity replacement yellow toner cartridge	416A	W2042A
HP 416A Magenta Original LaserJet Toner Cartridge	Standard-capacity replacement magenta toner cartridge	416A	W2043A
HP 416X High Yield Black Original LaserJet Toner Cartridge	High-capacity replacement black toner cartridge	416X	W2040X
HP 416X High Yield Cyan Original LaserJet Toner Cartridge	High-capacity replacement cyan toner cartridge	416X	W2041X
HP 416X High Yield Yellow Original LaserJet Toner Cartridge	High-capacity replacement yellow toner cartridge	416X	W2042X
HP 416X High Yield Magenta Original LaserJet Toner Cartridge	High-capacity replacement magenta toner cartridge	416X	W2043X

Table 3-2 Accessories

Item	Description	Part number
Accessories		
Optional 550-sheet paper feeder	Optional Tray 3	CF404A
USB 2.0 printer cable	A-to-B cable (2-meter standard)	DT2738

Customer self-repair parts

Customer Self-Repair (CSR) parts are available for many HP LaserJet 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 **Mandatory** self-replacement are to be installed by customers, unless you are willing to pay HP service personnel to perform the repair. For these parts, on-site or return-to-depot support is not provided under the HP printer warranty.
- Parts listed as **Optional** self-replacement can be installed by HP service personnel at your request for no additional charge during the printer warranty period.

Table 3-3 Customer self-repair parts

Item	Description	Self-replacement options	Part number
150-sheet paper input tray	Replacement cassette for Tray 2	Mandatory	RM2-6377-000CN
550-sheet paper feeder	Replacement optional Tray 3	Mandatory	CF404-67901

Dynamic security

Learn about dynamic-security-enabled printers.

Certain HP printers use cartridges that have security chips or electronic circuitry. Cartridges using a non-HP chip or modified or non-HP circuitry* might not work. And, those that work today might not work in the future.

As is standard in the printing business, HP has a process for authenticating cartridges. HP continues to use security measures to protect the quality of our customer experience, maintain the integrity of our printing systems, and protect our intellectual property. These measures include authentication methods that change periodically and might prevent some third-party supplies from working now or in the future. HP printers and original HP cartridges deliver the best quality, security and reliability. When cartridges are cloned or counterfeited, the customer is exposed to quality and potential security risks, compromising the printing experience.

***Non-HP Chips and modified or non-HP electronic circuitry** are not produced or validated by HP. HP cannot guarantee that these chips or circuitry will work in your printer now or in the future. If you are using a non-original HP cartridge, please check with your supplier to ensure your cartridge has an original HP security chip or unmodified HP electronic circuitry.

Configure the HP toner-cartridge-protection supply settings


A network administrator can configure the toner-cartridge-protection settings using the printer control panel or the HP Embedded Web Server (EWS).

- [Introduction](#)
- [Enable or disable the Cartridge Policy feature](#)
- [Enable or disable the Cartridge Protection feature](#)

Introduction

Use HP Cartridge Policy and Cartridge Protection to control which cartridges are installed in the printer and protect the cartridges that are installed from theft.

- **Cartridge Policy:** This feature protects the printer from counterfeit toner cartridges by allowing only genuine HP cartridges to be used with the printer. Using genuine HP cartridges ensures the best possible print quality. When someone installs a cartridge that is not a genuine HP cartridge, the printer control panel displays a message that the cartridge is unauthorized and it provides information explaining how to proceed.
- **Cartridge Protection:** This feature permanently associates toner cartridges with a specific printer, or fleet of printers, so they cannot be used in other printers. Protecting cartridges protects your investment. When this feature is enabled, if someone attempts to transfer a protected cartridge from the original printer into an unauthorized printer, that printer will not print with the protected cartridge. The printer control panel displays a message that the cartridge is protected, and it provides information explaining how to proceed.

 **CAUTION:** After enabling cartridge protection for the printer, all subsequent toner cartridges installed in the printer are automatically and *permanently* protected. To avoid protecting a new cartridge, disable the feature *before* installing the new cartridge.

Turning the feature off does not turn off protection for cartridges that are currently installed.

Both features are off by default. Follow these procedures to enable or disable them.

Enable or disable the Cartridge Policy feature

The Cartridge Policy feature can be enabled or disabled using the control panel or the Embedded Web Server (EWS).

- [Use the printer control panel to enable the Cartridge Policy feature](#)
- [Use the printer control panel to disable the Cartridge Policy feature](#)
- [Use the HP Embedded Web Server \(EWS\) to enable the Cartridge Policy feature](#)
- [Use the HP Embedded Web Server \(EWS\) to disable the Cartridge Policy feature](#)
- [Troubleshoot Cartridge Policy control panel error messages](#)




NOTE: Enabling or disabling this feature might require entering an administrator password.

Check with your administrator to determine if an administrator password has been set. EWS passwords cannot be recovered.


Use the printer control panel to enable the Cartridge Policy feature

From the printer control panel, a network administrator can enable the Cartridge Policy feature. This allows only genuine HP cartridges to be used with the printer.

1. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. **Supply Settings**
 2. **Cartridge Policy**
3. Select **Authorized HP** to enable the feature.

Use the printer control panel to disable the Cartridge Policy feature

From the printer control panel, a network administrator can disable the Cartridge Policy feature. This removes the restriction that only genuine HP cartridges can be used.

1. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:

1. [Supply Settings](#)
2. [Cartridge Policy](#)
3. Select **Off** to disable the feature.

Use the HP Embedded Web Server (EWS) to enable the Cartridge Policy feature

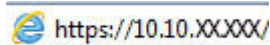
From the EWS, a network administrator can enable the Cartridge Policy feature. This allows only genuine HP cartridges to be used with the printer.


1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:

1. [Setup](#)
2. [Network Setup](#)
3. [General Settings](#)

On the General Settings menu, select [Show the IP Address](#), and then select **Yes** to display the printer's IP address or host name.

2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

3. On the EWS Home page, click the **Settings** tab.
4. In the left navigation pane, click **Supplies** to expand the options, and then click **Supply Settings**.
5. In the **Cartridge Policy** area, click the drop-down menu and select **Authorized HP**.
6. Click **Apply** to save the changes.

Use the HP Embedded Web Server (EWS) to disable the Cartridge Policy feature

From the EWS, a network administrator can disable the Cartridge Policy feature. This removes the restriction that only genuine HP cartridges can be used.

1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow and the **OK** button buttons to navigate to and open the following menus:

1. [Setup](#)
2. [Network Setup](#)
3. [General Settings](#)

On the General Settings menu, select [Show the IP Address](#), and then select [Yes](#) to display the printer's IP address or host name.

2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the [Enter](#) key on the computer keyboard. The EWS opens.



 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

3. On the EWS Home page, click the **Settings** tab.
4. In the left navigation pane, click **Supplies** to expand the options, and then click **Supply Settings**.
5. In the **Cartridge Policy** area, click the drop-down menu and select **Off**.
6. Click **Apply** to save the changes.

Troubleshoot Cartridge Policy control panel error messages

Review the recommended actions for Cartridge Policy error messages.

Table 3-4 Cartridge Policy control panel error messages

Error message	Description	Recommended action
10.0X.30 Unauthorized <Color> Cartridge	The administrator has configured this printer to use only genuine HP supplies that are still under warranty. The cartridge must be replaced to continue printing.	<p>Replace the cartridge with a genuine HP toner cartridge.</p> <p>If you believe you purchased a genuine HP supply, visit www.hp.com/go/anticounterfeit to determine if the toner cartridge is a genuine HP cartridge, and learn what to do if it is not a genuine HP cartridge.</p>

Enable or disable the Cartridge Protection feature

The Cartridge Protection feature can be enabled or disabled using the control panel or the Embedded Web Server (EWS).

- [Use the printer control panel to enable the Cartridge Protection feature](#)
- [Use the printer control panel to disable the Cartridge Protection feature](#)
- [Use the HP Embedded Web Server \(EWS\) to enable the Cartridge Protection feature](#)
- [Use the HP Embedded Web Server \(EWS\) to disable the Cartridge Protection feature](#)
- [Troubleshoot Cartridge Protection control panel error messages](#)




NOTE: Enabling or disabling this feature might require entering an administrator password.

Check with your administrator to determine if an administrator password has been set. EWS passwords cannot be recovered.

Use the printer control panel to enable the Cartridge Protection feature

From the printer control panel, a network administrator can enable the Cartridge Protection feature. This protects the cartridges associated with the printer from being stolen and used in other printers.

1. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. [Supply Settings](#)
 2. [Cartridge Protection](#)
3. Select [Protect Cartridges](#).



CAUTION: After enabling cartridge protection for the printer, all subsequent toner cartridges installed in the printer are automatically and *permanently* protected. To avoid protecting a new cartridge, disable the feature *before* installing the new cartridge.

Turning the feature off does not turn off protection for cartridges that are currently installed.

Use the printer control panel to disable the Cartridge Protection feature

From the printer control panel, a network administrator can disable the Cartridge Protection feature. This removes protection for any new cartridges installed in the printer.

1. Navigate to the Setup menu:

- **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon (⚙️).
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. **Supply Settings**
 2. **Cartridge Protection**
 3. Select **Off** to disable the feature.

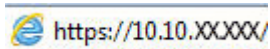
Use the HP Embedded Web Server (EWS) to enable the Cartridge Protection feature


From the EWS, a network administrator can enable the Cartridge Protection feature. This protects the cartridges that are associated with the printer from being stolen and used in other printers.

1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:
 1. **Setup**
 2. **Network Setup**
 3. **General Settings**

On the General Settings menu, select **Show the IP Address**, and then select **Yes** to display the printer's IP address or host name.

2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXXX/>

 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

3. On the EWS Home page, click the **Settings** tab.
4. In the left navigation pane, click **Supplies** to expand the options, and then click **Supply Settings**.
5. In the **Cartridge Protection** area, click the drop-down menu and select **On**.
6. Click **Apply** to save the changes.

 **CAUTION:** After enabling Cartridge Protection for the printer, all subsequent toner cartridges installed in the printer are automatically and *permanently* protected. To avoid protecting a new cartridge, disable the feature *before* installing the new cartridge.


Turning the feature off does not turn off protection for cartridges that are currently installed.

Use the HP Embedded Web Server (EWS) to disable the Cartridge Protection feature

From the EWS, a network administrator can disable the Cartridge Protection feature. This removes protection for any new cartridges installed in the printer.

1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:
 1. **Setup**
 2. **Network Setup**
 3. **General Settings**On the General Settings menu, select **Show the IP Address**, and then select **Yes** to display the printer's IP address or host name.
2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

3. On the EWS Home page, click the **Settings** tab.
4. In the left navigation pane, click **Supplies** to expand the options, and then click **Supply Settings**.
5. In the **Cartridge Protection** area, click the drop-down menu and select **Off**.
6. Click **Apply** to save the changes.

Troubleshoot Cartridge Protection control panel error messages

Review the recommended actions for Cartridge Protection error messages.

Table 3-5 Cartridge Protection control panel error messages

Error message	Description	Recommended action
10.0X.57 Protected <Color> Cartridge	<p>The cartridge can only be used in the printer or fleet of printers that initially protected it using HP Cartridge Protection.</p> <p>The Cartridge Protection feature allows an administrator to restrict cartridges to work in only one printer or fleet of printers. The cartridge must be replaced to continue printing.</p>	Replace the cartridge with a new toner cartridge.

Replace the toner cartridges

Replace the toner cartridges if you receive a message on the printer, or if you have print quality problems.

- [Toner cartridge information](#)
- [Remove and replace the toner cartridges](#)

Toner cartridge information

Review details about ordering replacement toner cartridges.

The printer indicates when the toner cartridge level is low. The actual toner cartridge life remaining can vary. Consider having a replacement cartridge available to install when print quality is no longer acceptable.

To purchase cartridges or check cartridge compatibility for the printer, go to HP SureSupply at www.hp.com/go/suresupply. Scroll to the bottom of the page and verify that the country/region is correct.

The printer uses four colors and has a different toner cartridge for each color: yellow (Y), magenta (M), cyan (C), and black (K). The toner cartridges are inside the front door.

⚠ CAUTION: Cartridges are for distribution and use within their designated region only; they will not work outside of their designated region.

Table 3-6 Supplies

Item	Description	Cartridge number	Part number
Supplies			
For use in North America and Latin America only			
HP 414A Black Original LaserJet Toner Cartridge	Standard-capacity replacement black toner cartridge	414A	W2020A
HP 414A Cyan Original LaserJet Toner Cartridge	Standard-capacity replacement cyan toner cartridge	414A	W2021A
HP 414A Yellow Original LaserJet Toner Cartridge	Standard-capacity replacement yellow toner cartridge	414A	W2022A
HP 414A Magenta Original LaserJet Toner Cartridge	Standard-capacity replacement magenta toner cartridge	414A	W2023A
HP 414X High Yield Black Original LaserJet Toner Cartridge	High-capacity replacement black toner cartridge	414X	W2020X
HP 414X High Yield Cyan Original LaserJet Toner Cartridge	High-capacity replacement cyan toner cartridge	414X	W2021X
HP 414X High Yield Yellow Original LaserJet Toner Cartridge	High-capacity replacement yellow toner cartridge	414X	W2022X
HP 414X High Yield Magenta Original LaserJet Toner Cartridge	High-capacity replacement magenta toner cartridge	414X	W2023X
For use in Europe, Middle East, Russia, CIS, and Africa only			
HP 415A Black Original LaserJet Toner Cartridge	Standard-capacity replacement black toner cartridge	415A	W2030A
HP 415A Cyan Original LaserJet Toner Cartridge	Standard-capacity replacement cyan toner cartridge	415A	W2031A

Table 3-6 Supplies (continued)

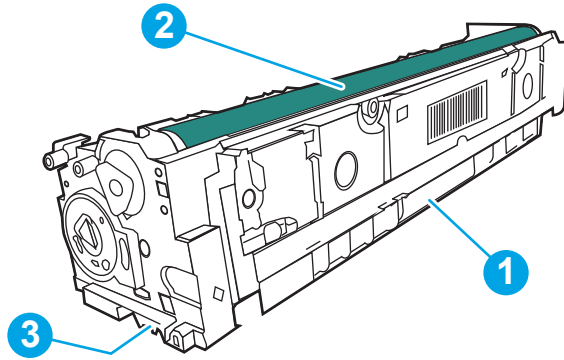
Item	Description	Cartridge number	Part number
HP 415A Yellow Original LaserJet Toner Cartridge	Standard-capacity replacement yellow toner cartridge	415A	W2032A
HP 415A Magenta Original LaserJet Toner Cartridge	Standard-capacity replacement magenta toner cartridge	415A	W2033A
HP 415X High Yield Black Original LaserJet Toner Cartridge	High-capacity replacement black toner cartridge	415X	W2030X
HP 415X High Yield Cyan Original LaserJet Toner Cartridge	High-capacity replacement cyan toner cartridge	415X	W2031X
HP 415X High Yield Yellow Original LaserJet Toner Cartridge	High-capacity replacement yellow toner cartridge	415X	W2032X
HP 415X High Yield Magenta Original LaserJet Toner Cartridge	High-capacity replacement magenta toner cartridge	415X	W2033X
For use in Asia Pacific only			
HP 416A Black Original LaserJet Toner Cartridge	Standard-capacity replacement black toner cartridge	416A	W2040A
HP 416A Cyan Original LaserJet Toner Cartridge	Standard-capacity replacement cyan toner cartridge	416A	W2041A
HP 416A Yellow Original LaserJet Toner Cartridge	Standard-capacity replacement yellow toner cartridge	416A	W2042A
HP 416A Magenta Original LaserJet Toner Cartridge	Standard-capacity replacement magenta toner cartridge	416A	W2043A
HP 416X High Yield Black Original LaserJet Toner Cartridge	High-capacity replacement black toner cartridge	416X	W2040X
HP 416X High Yield Cyan Original LaserJet Toner Cartridge	High-capacity replacement cyan toner cartridge	416X	W2041X
HP 416X High Yield Yellow Original LaserJet Toner Cartridge	High-capacity replacement yellow toner cartridge	416X	W2042X
HP 416X High Yield Magenta Original LaserJet Toner Cartridge	High-capacity replacement magenta toner cartridge	416X	W2043X

Do not remove the toner cartridge from its package until it is time to replace it.

⚠ CAUTION: To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes. If the toner cartridge must be removed from the printer for an extended period of time, place the cartridge in the original plastic packaging, or cover the cartridge with a lightweight opaque item.

The following illustration shows the toner cartridge components.

Figure 3-1 Toner cartridge components



Number	Description
1	Handle
2	Imaging drum
3	Memory chip

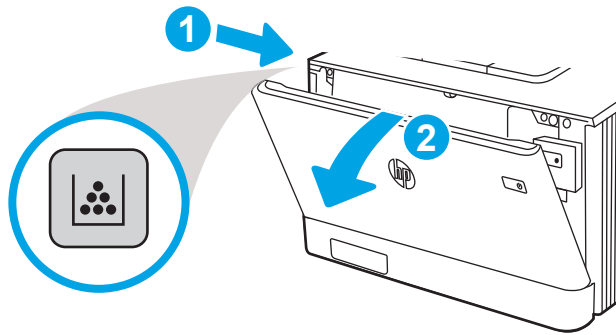
CAUTION: If toner gets on clothing, wipe it off by using a dry cloth and wash the clothes in cold water. Hot water sets toner into fabric.

NOTE: Information about recycling used toner cartridges is in the toner cartridge box.

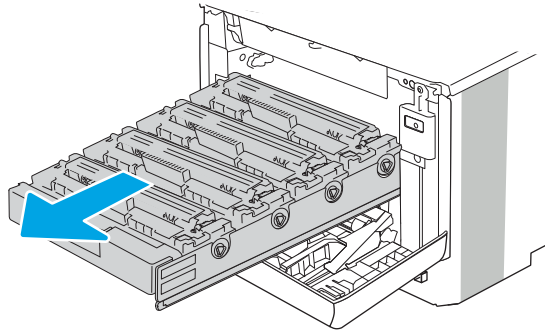
Remove and replace the toner cartridges

Follow these steps to replace the toner cartridge.

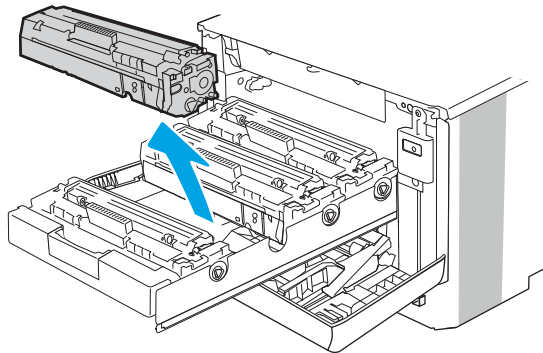
1. Open the front door by pressing the button on the left panel.



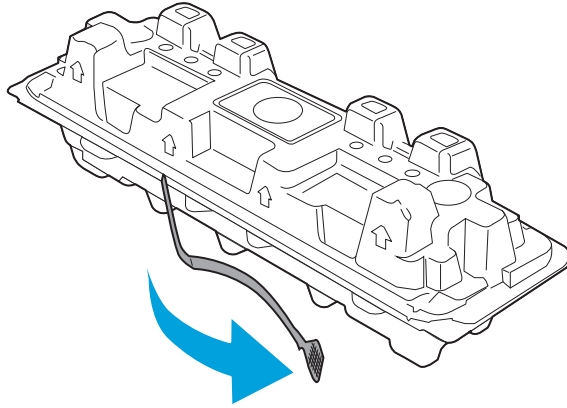
2. Grasp the blue handle on the toner cartridge drawer, and then pull out the drawer.



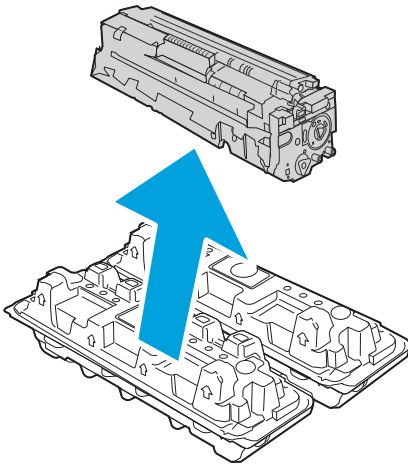
3. Grasp the handle on the toner cartridge, and then pull the toner cartridge straight up to remove it.



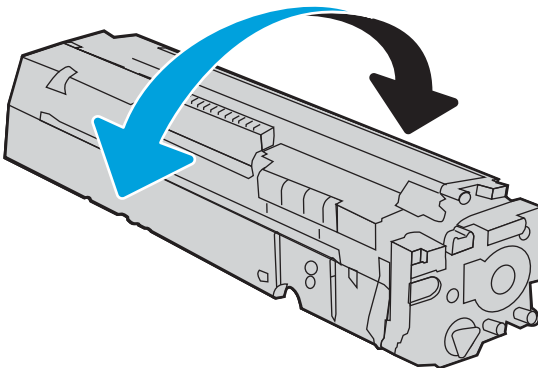
4. Remove the new toner cartridge package from the box, and then pull the release tab on the packaging.



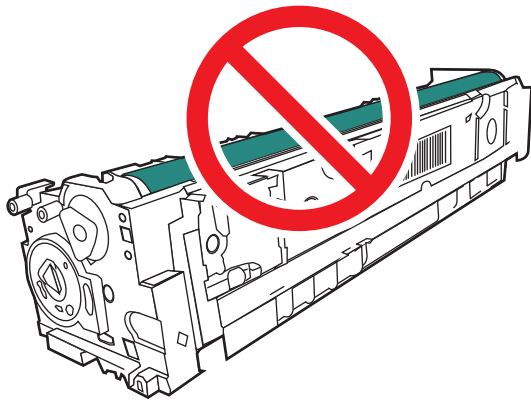
5. Remove the toner cartridge from the opened packaging shell. Place the used toner cartridge in the shell for recycling.



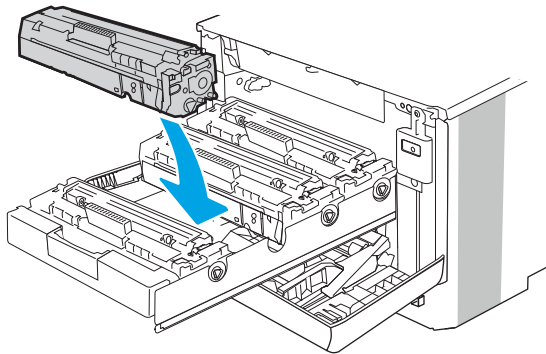
6. Hold both ends of the toner cartridge and rock it 5-6 times.



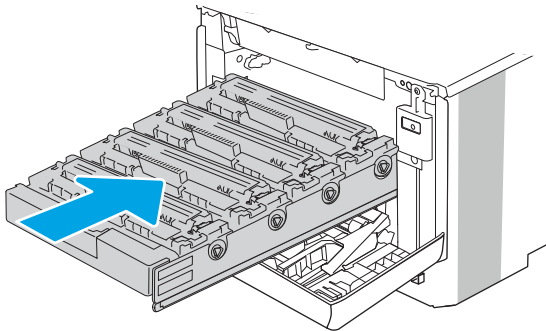
7. Do not touch the imaging drum on the bottom of the toner cartridge. Fingerprints on the imaging drum can cause print-quality problems. Also, do not expose the cartridge to light unnecessarily.



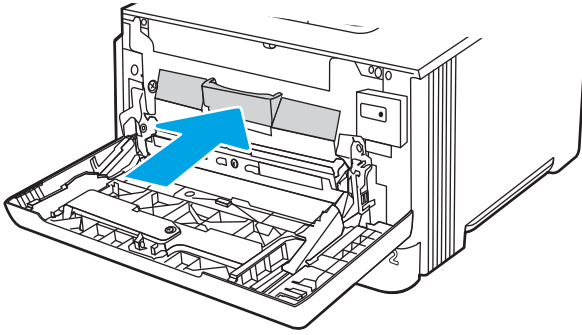
8. Insert the new toner cartridge into the drawer. Make sure that the color chip on the cartridge matches the color chip on the drawer.



9. Close the toner cartridge drawer.



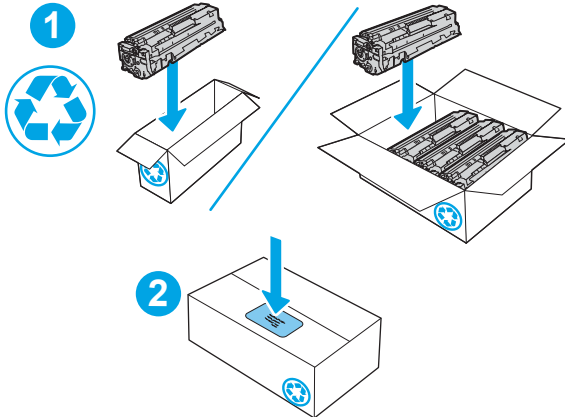
10. Close the front door.



11. Pack the used toner cartridge into the box the new cartridge came in, or use a large cardboard box and fill it with several cartridges you need to recycle. See the enclosed recycling guide for information about recycling.

In the US, a pre-paid shipping label is included in the box. In other countries/regions, go to www.hp.com/recycle to print a pre-paid shipping label.

Adhere the pre-paid shipping label to the box, and return the used cartridge to HP for recycling.



 <http://www.hp.com/recycle>

4 Print

Print using the software, or print from a mobile device or USB flash drive.

- [Print tasks \(Windows\)](#)
- [Print tasks \(macOS\)](#)
- [Store print jobs on the printer to print later or print privately](#)
- [Mobile printing](#)
- [Print from a USB flash drive \(touchscreen control panel only\)](#)

For more information:

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

Print tasks (Windows)

Learn about common printing tasks for Windows users.

- [How to print \(Windows\)](#)
- [Automatically print on both sides \(Windows\)](#)
- [Manually print on both sides \(Windows\)](#)
- [Print multiple pages per sheet \(Windows\)](#)
- [Select the paper type \(Windows\)](#)
- [Additional print tasks](#)

How to print (Windows)

Use the **Print** option from a software application to select the printer and basic options for your print job.

The following procedure describes the basic printing process for Windows.

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers. To change settings, click the **Properties** or **Preferences** button to open the print driver.



NOTE:

- The name of the button varies for different software programs.
 - For the HP PCL-6 V4 driver, the HP AiO Printer Remote application downloads additional driver features when **More settings** is selected.
 - For more information, click the Help (?) button in the print driver.
-
3. Click the tabs in the print driver to configure the available options. For example, set the paper orientation on the **Finishing** tab, and set the paper source, paper type, paper size, and quality settings on the **Paper/Quality** tab.
 4. Click the **OK** button to return to the **Print** dialog box. Select the number of copies to print from this screen.
 5. Click the **Print** button to print the job.

Automatically print on both sides (Windows)

If your printer has an automatic duplexer installed, you can automatically print on both sides of the paper. Use a paper size and type supported by the duplexer.

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click the **Properties** or **Preferences** button to open the print driver.

 **NOTE:**

- The name of the button varies for different software programs.
 - For the HP PCL-6 V4 driver, the HP AiO Printer Remote application downloads additional driver features when **More settings** is selected.
-

3. Click the **Finishing** tab.
4. Select **Print on both sides**. Click **OK** to close the **Document Properties** dialog.
5. In the **Print** dialog, click **Print** to print the job.

Manually print on both sides (Windows)

Use this procedure for printers that do not have an automatic duplexer installed or to print on paper that the duplexer does not support.

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click the **Properties** or **Preferences** button to open the print driver.

 **NOTE:**

- The name of the button varies for different software programs.
 - For the HP PCL-6 V4 driver, the HP AiO Printer Remote application downloads additional driver features when **More settings** is selected.
-

3. Click the **Finishing** tab.
4. Select **Print on both sides (manually)**, and then click **OK** to close the **Document Properties** dialog.
5. In the **Print** dialog, click **Print** to print the first side of the job.
6. Retrieve the printed stack from the output bin, and place it in Tray 1.
7. If prompted, select the appropriate control panel button to continue.

Print multiple pages per sheet (Windows)

When you print from a software application using the **Print** option, you can select an option to print multiple pages on a single sheet of paper. For example, you might want to do this if you are printing a very large document and want to save paper.

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click the **Properties** or **Preferences** button to open the print driver.

 **NOTE:**

- The name of the button varies for different software programs.
 - For the HP PCL-6 V4 driver, the HP AiO Printer Remote application downloads additional driver features when **More settings** is selected.
-

3. Click the **Finishing** tab.

4. Select the number of pages per sheet from the **Pages per sheet** drop-down.
5. Select the correct **Print page borders**, **Page order**, and **Orientation** options. Click **OK** to close the **Document Properties** dialog.
6. In the **Print** dialog, click **Print** to print the job.

Select the paper type (Windows)

When you print from a software application using the **Print** option, you can set the paper type you are using for your print job. For example, if your default paper type is Letter, but you are using a different paper type for a print job, select that specific paper type.

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then click or tap the **Properties** or **Preferences** button to open the print driver.



NOTE:

- The name of the button varies for different software programs.
 - For the HP PCL-6 V4 driver, the HP AiO Printer Remote application downloads additional driver features when **More settings** is selected.
-

3. Click the **Paper/Quality** tab.
4. Select the option for the type of paper you are using, and then click **OK**.
5. Click **OK** to close the **Document Properties** dialog.
6. In the **Print** dialog, click **Print** to print the job.

Additional print tasks

Locate information on the Web for performing common printing tasks.

Go to www.hp.com/support/colorljM454.

Instructions are available for print tasks, such as the following:

- Create and use printing shortcuts or presets
- Select the paper size, or use a custom paper size
- Select the page orientation
- Create a booklet
- Scale a document to fit a specific paper size
- Print the first or last pages of the document on different paper
- Print watermarks on a document

Print tasks (macOS)

Print using the HP printing software for macOS, including how to print on both sides or print multiple pages per sheet.

- [How to print \(macOS\)](#)
- [Automatically print on both sides \(macOS\)](#)
- [Manually print on both sides \(macOS\)](#)
- [Print multiple pages per sheet \(macOS\)](#)
- [Select the paper type \(macOS\)](#)
- [Additional print tasks](#)

How to print (macOS)

Use the **Print** option from a software application to select the printer and basic options for your print job.

The following procedure describes the basic printing process for macOS.

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Click **Show Details** or **Copies & Pages**, and then select other menus to adjust the print settings.



NOTE: The name of the item varies for different software programs.

4. Click the **Print** button.

Automatically print on both sides (macOS)

If your printer has an automatic duplexer installed, you can automatically print on both sides of the paper. Use a paper size and type supported by the duplexer.

This feature is available if you install the HP print driver. It might not be available if you are using AirPrint.

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Click **Show Details** or **Copies & Pages**, and then click the **Layout** menu.



NOTE: The name of the item varies for different software programs.


4. Select a binding option from the **Two-Sided** drop-down list.
5. Click the **Print** button.

Manually print on both sides (macOS)

If your printer does not have an automatic duplexer installed, or you are using a paper size or type not supported by the duplexer, you can print on both sides of the paper using a manual process. You will need to reload the pages for the second side.

This feature is available if you install the HP print driver. It might not be available if you are using AirPrint.

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Click **Show Details** or **Copies & Pages**, and then click the **Manual Duplex** menu.

 **NOTE:** The name of the item varies for different software programs.

4. Click the **Manual Duplex** check box, and select a binding option.
5. Go to the printer, and remove any blank paper that is in Tray 1.
6. Click the **Print** button.
7. Retrieve the printed stack from the output bin and place it with the printed-side facing down in the input tray.
8. If prompted, touch the appropriate control panel button to continue.

Print multiple pages per sheet (macOS)

When you print from a software application using the **Print** option, you can select an option to print multiple pages on a single sheet of paper. For example, you might want to do this if you are printing a very large document and want to save paper.

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Click **Show Details** or **Copies & Pages**, and then click the **Layout** menu.

 **NOTE:** The name of the item varies for different software programs.

4. From the **Pages per Sheet** drop-down list, select the number of pages that you want to print on each sheet.
5. In the **Layout Direction** area, select the order and placement of the pages on the sheet.
6. From the **Border** menu, select the type of border to print around each page on the sheet.
7. Click the **Print** button.

Select the paper type (macOS)

When you print from a software application using the **Print** option, you can set the paper type you are using for your print job. For example, if your default paper type is Letter, but you are using a different paper type for a print job, select that specific paper type.

1. Click the **File** menu, and then click the **Print** option.
2. Select the printer.
3. Click **Show Details** or **Copies & Pages**, and then click the **Media & Quality** menu or the **Paper/Quality** menu.

 **NOTE:** The name of the item varies for different software programs.

4. Select from the **Media & Quality** or **Paper/Quality** options.

 **NOTE:** This list contains the master set of options available. Some options are not available on all printers.

- **Media Type:** Select the option for the type of paper for the print job.
- **Print Quality:** Select the resolution level for the print job.
- **EconoMode:** Select this option to conserve toner when printing drafts of documents.

5. Click the **Print** button.

Additional print tasks

Locate information on the Web for performing common printing tasks.

Go to www.hp.com/support/colorljM454.

Instructions are available for print tasks, such as the following:

- Create and use printing shortcuts or presets
- Select the paper size, or use a custom paper size
- Select the page orientation
- Create a booklet
- Scale a document to fit a specific paper size
- Print the first or last pages of the document on different paper
- Print watermarks on a document

Store print jobs on the printer to print later or print privately

Store print jobs in the printer memory for printing at a later time.

- [Introduction](#)
- [Before beginning](#)
- [Set up job storage](#)
- [Disable or enable the job storage feature](#)
- [Create a stored job \(Windows\)](#)
- [Create a stored job \(macOS\)](#)
- [Print a stored job](#)
- [Delete a stored job](#)
- [Information sent to printer for Job Accounting purposes](#)

Introduction

The following information provides procedures for creating and printing documents that are stored on a USB flash drive. These jobs can be printed at a later time or printed privately.

Before beginning

Review the requirements for using the job storage feature.

The job storage feature has the following requirements:

- A dedicated USB 2.0 storage device with at least 16 GB free space must be installed in the rear host USB. This USB storage device holds the job storage jobs sent to the printer. Removing this USB storage device from the printer disables the job storage feature.
- If you are using an HP Universal Print Driver (UPD), you must use UPD version 5.9.0 or above.

Set up job storage

Set up job storage in the print driver, insert the storage media (USB flash drive) in the printer, and verify the feature is ready to use.

Before you begin, install the printer software if it is not already installed. Go to www.hp.com/support, click **Software and Drivers**, and then follow the onscreen instructions to download the latest HP software.

When the print driver is installed, the Job Storage option is set to **Automatic** by default. The option is located as follows:

- Windows: **Devices and Printers ► Printer Properties ► Device Settings**
- macOS: **Printers & Scanners ► Options & Supplies**

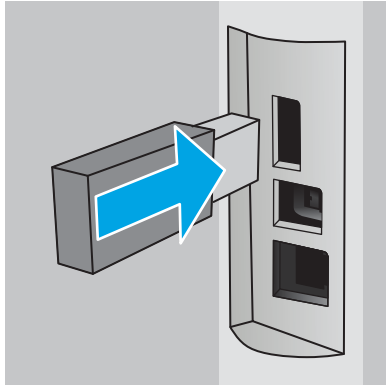
To complete Job Storage setup:

1. Locate the rear USB port.

On some models, the rear USB port is covered. Remove the rear USB port cover before proceeding.

2. Insert the USB flash drive into the rear USB port.

Figure 4-1 Insert USB flash drive



A message displays on the control panel warning that the USB drive will be formatted. Select **OK** to complete the procedure.

3. Open the print driver to verify the **Job Storage** tab is visible. If it is visible, the feature is ready to use.

From a software program, select the **Print** option, select your printer from the list of printers, and do the following:

- **Windows:** Select **Properties** or **Preferences**. Click the **Job Storage** tab.

If the **Job Storage** tab is not showing, activate it as follows:

From the Start menu, open **Settings**, click **Devices**, and then click **Devices and Printers**. Right-click on the printer name and click **Printer Properties**. Click the **Device Settings** tab, click on **Job Storage**, and then select **Automatic**. Click **Apply** and **OK**.

- **macOS:** The print driver displays the **Copies & Pages** menu. Open the drop-down list, and then click the **Job Storage** menu.

If the **Job Storage** menu is not showing, close the Print window and then reopen it to activate the menu.

Disable or enable the job storage feature

Disable the job storage feature to make it unavailable, even if a USB drive is inserted into the printer. Enable the feature to make it available again.

1. Open the **Printer Properties**:

- **Windows:** From the Start menu, open **Settings**, click **Devices**, and then click **Devices and Printers**. Right-click on the printer and click **Printer properties**.
- **macOS:** From the Apple menu, open **System Preferences**, and then click **Printers & Scanners**. Select the printer and click **Options & Supplies**.

2. Disable the Job Storage option as follows:

- **Windows:** Click the **Device settings** tab, click on **Job Storage**, and then select **Disable**.
- **macOS:** On the **Options** tab, clear the **Job Storage** check box.

To enable the feature, set the Job Storage option back to **Automatic** (Windows), or select the **Job Storage** check box (macOS).

Create a stored job (Windows)

Store jobs on the USB flash drive for private or delayed printing.

1. From the software program, select the **Print** option.
2. Select the printer from the list of printers, and then select **Properties** or **Preferences**.



NOTE:

- The name of the button varies for different software programs.
- For the HP PCL-6 V4 driver, the HP AiO Printer Remote application downloads additional driver features when **More settings** is selected.

3. Click the **Job Storage** tab.



NOTE: If the **Job Storage** tab is not showing, follow the instructions in the "Disable or enable job storage feature" section to activate the tab.

4. Select a **Job Storage Mode** option:
 - **Proof and Hold:** Print and proof one copy of a job, and then print more copies. The first copy prints immediately. Printing of the subsequent copies must be initiated from the device's front control panel. For example, if 10 copies are sent, one copy prints immediately, and the other nine copies will print when the job is retrieved. The job is deleted after all copies are printed.
 - **Personal Job:** The job does not print until you request it at the printer control panel. For this job-storage mode, you can select one of the **Make Job Private/Secure** options. If you assign a personal identification number (PIN) to the job, you must provide the required PIN at the control panel. If you encrypt the job, you must provide the required password at the control panel. The print job is deleted from memory after it prints.
 - **Quick Copy:** Print the requested number of copies of a job and store a copy of the job in the printer memory so you can print it again later. The job is deleted manually or by the job retention schedule.
 - **Stored Job:** Store a job on the printer and allow other users to print the job at any time. For this job-storage mode, you can select one of the **Make Job Private/Secure** options. If you assign a personal identification number (PIN) to the job, the person who prints the job must provide the required PIN at the control panel. If you encrypt the job, the person who prints the job must provide the required password at the control panel. The job is deleted manually or by the job retention schedule.
5. To use a custom user name or job name, click the **Custom** button, and then enter the user name or the job name.

Select which option to use if another stored job already has that name:

- **Use Job Name + (1-99):** Append a unique number to the end of the job name.
 - **Replace Existing File:** Overwrite the existing stored job with the new one.
6. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog box, click the **Print** button to print the job.

Create a stored job (macOS)

Store jobs on the USB flash drive for private or delayed printing.

1. Click the **File** menu, and then click the **Print** option.
2. In the **Printer** menu, select the printer.
3. Click **Show Details** or **Copies & Pages**, and then click the **Job Storage** menu.



NOTE: If the **Job Storage** menu is not showing, follow the instructions in the "Disable or enable job storage feature" section to activate the menu.

4. In the **Mode** drop-down list, select the type of stored job.
 - **Proof and Hold:** Print and proof one copy of a job, and then print more copies. The first copy prints immediately. Printing of the subsequent copies must be initiated from the device's front control panel. For example, if 10 copies are sent, one copy prints immediately, and the other nine copies will print when the job is retrieved. The job is deleted after all copies are printed.
 - **Personal Job:** The job does not print until someone requests it at the printer control panel. If the job has a personal identification number (PIN), provide the required PIN at the control panel. The print job is deleted from memory after it prints.
 - **Quick Copy:** Print the requested number of copies of a job and store a copy of the job in the printer memory to print it again later. The job is deleted manually or by the job retention schedule.
 - **Stored Job:** Store a job on the printer and allow other users to print the job at any time. If the job has a personal identification number (PIN), the person who prints the job must provide the required PIN at the control panel. The job is deleted manually or by the job retention schedule.
5. To use a custom user name or job name, click the **Custom** button, and then enter the user name or the job name.



NOTE: **macOS 10.14 Mojave and later:** The print driver no longer includes the **Custom** button. Use the options below the **Mode** drop-down list to set up the saved job.

Select which option to use if another stored job already has that name.

- **Use Job Name + (1-99):** Append a unique number to the end of the job name.
 - **Replace Existing File:** Overwrite the existing stored job with the new one.
6. If you selected the **Stored Job** or **Personal Job** option in the **Mode** drop-down list, you can protect the job with a PIN. Type a 4-digit number in the **Use PIN to Print** field. When other people attempt to print this job, the printer prompts them to enter this PIN.
 7. Click the **Print** button to process the job.

Print a stored job

Print a job that is stored on a USB flash drive.

1. Navigate to the folder where the stored jobs are saved:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the **Print** icon, and then touch **Job Storage**.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Job Storage**, and then press the **OK** button again.
2. From the Job Folders list, navigate to and select the name of the folder where the job is stored.

3. Navigate to and select the name of the job that you want to print.

If the job is private or encrypted, enter the PIN or password. Touch **Done** (touchscreen control panel).

4. Print the job:

- **Touchscreen control panel:** To adjust the number of copies, touch the box to the left of the **Print** button and then enter the number of copies using the touch keypad. Touch **Done** to close the keypad, and then touch **Print** to print the job.
- **2-line LCD control panel:** To adjust the number of copies, use the arrow buttons to navigate to the **Copy** option, and then press **OK**. On the Copy screen, use the arrow buttons to select the number of copies, then press **OK** to save the setting. Press **OK** again to print the job.


Delete a stored job

When a new job is stored on a USB flash drive, any previous jobs with the same user and job name are overwritten. If the memory on the USB flash drive is full, the following message displays on the printer control panel: **The USB flash storage device is out of memory. Delete unused jobs, and then try again.** Existing stored jobs must be deleted before additional print jobs can be stored.

- [Delete a job that is stored on the printer](#)

Delete a job that is stored on the printer

Delete a job that is stored on a USB flash drive.

1. Navigate to the folder where the stored jobs are saved:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the [Print](#) icon, and then touch [Job Storage](#).
 - **2-line LCD control panel:** On the printer control panel, press the [OK](#) button to display the Home screen. Use the arrow buttons to navigate to [Job Storage](#), and then press the [OK](#) button again.
2. From the Job Folders list, navigate to and select the name of the folder where the job is stored.
3. Navigate to and select the name of the job that you want to delete.
If the job is private or encrypted, enter the PIN or password.
4. Delete the job:
 - **Touchscreen control panel:** Touch the Trash icon , and then touch [Delete](#) to delete the job.
 - **2-line control panel:** Use the arrow buttons to navigate to the [Delete](#) option and then press the [OK](#) button. Press [OK](#) again to delete the job.

Information sent to printer for Job Accounting purposes

Printing jobs sent from drivers on the client (e.g., PC) may send personally identifiable information to HP's Printing and Imaging devices. This information may include, but is not limited to, user name and client name from which the job originated that may be used for job accounting purposes, as determined by the Administrator of the printing device. This same information may also be stored with the job on the mass storage device (e.g., disk drive) of the printing device when using the job storage feature.

Mobile printing

Mobile and ePrint solutions enable easy printing to an HP printer from a laptop, tablet, smartphone, or other mobile device.

- [Introduction](#)
- [Wi-Fi Direct printing \(wireless models only\)](#)
- [HP ePrint via Email \(touchscreen control panel\)](#)
- [HP ePrint via Email \(2-line LCD control panel\)](#)
- [AirPrint](#)
- [Android embedded printing](#)

Introduction

Review the following information about mobile printing.

To see the full list of mobile and ePrint solutions and determine the best choice, go to www.hp.com/go/LaserJetMobilePrinting.

Wi-Fi Direct printing (wireless models only)

Wi-Fi Direct enables printing from a wireless mobile device without requiring a connection to a network or the Internet.

- [To turn on Wi-Fi Direct](#)
- [Change the printer Wi-Fi Direct name](#)

 **NOTE:** Not all mobile operating systems are currently supported by Wi-Fi Direct.

Use **Wi-Fi Direct** to print wirelessly from the following devices:

- Android mobile devices compatible with the Android embedded print solution
- iPhone, iPad, or iPod touch using Apple AirPrint or the HP Smart app
- Android mobile devices using the HP Smart app or the Android embedded print solution
- PC and Mac devices using the HP ePrint Software
- HP Roam


For more information on Wi-Fi Direct printing, go to www.hp.com/go/wirelessprinting.

Wi-Fi Direct can be enabled or disabled from the printer control panel.


To turn on Wi-Fi Direct

To print wirelessly from mobile devices, Wi-Fi Direct must be turned on.

Follow these steps to turn on Wi-Fi Direct from the printer control panel.


1. Navigate to the Wi-Fi Direct menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Wi-Fi Direct icon (.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:
 1. [Setup](#)
 2. [Wi-Fi Direct](#)

The Wi-Fi Direct Details screen displays.

2. Open the Wi-Fi Direct Status screen:
 - **Touchscreen control panel:** On the Wi-Fi Direct Details screen, touch the Settings icon (.
 - **2-line LCD control panel:** On the Wi-Fi Direct Details screen, navigate to and open the [Wi-Fi Direct Status](#) menu.
3. Turn on Wi-Fi Direct:
 - **Touchscreen control panel:** If [Wi-Fi Direct](#) is set to **Off**, touch the switch to turn it on.
 - **2-line LCD control panel:** If [Wi-Fi Direct](#) is set to **Off**, press the right arrow button to turn it on, and then press **OK** to save the setting.



NOTE: In environments where more than one model of the same printer is installed, it might be helpful to provide each printer a unique Wi-Fi Direct name for easier printer identification when using Wi-Fi Direct printing.

To view the Wi-Fi Direct Name on a touchscreen control panel, go to the Home screen, swipe the Dashboard tab downward, and then touch the Wi-Fi Direct icon ().

To view the Wi-Fi Direct name on a 2-line LCD control panel, press the OK button to display the Home screen, and then navigate to and open the following menus:

1. [Setup](#)
 2. [Wi-Fi Direct](#)
 3. [Wi-Fi Direct Name](#)
-

Change the printer Wi-Fi Direct name

Change the printer Wi-Fi Direct name using the HP Embedded Web Server (EWS):

- [Step one: Open the HP Embedded Web Server](#)
- [Step two: Change the Wi-Fi Direct name](#)

Step one: Open the HP Embedded Web Server

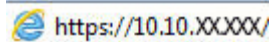
Use the following procedure to open the HP Embedded Web Server (EWS).


1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:

1. [Setup](#)
2. [Network Setup](#)
3. [General Settings](#)

On the General Settings menu, select [Show the IP Address](#), and then select [Yes](#) to display the printer's IP address or host name.

2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

Step two: Change the Wi-Fi Direct name

Use the following procedure to change the Wi-Fi Direct name.

1. On the EWS Home page, click the **Network** tab.
2. In the left navigation pane, click **Wi-Fi Direct**.
3. Under the **Status** field, click **Edit Settings**.
4. In the **Wi-Fi Direct Name** field, enter the new name, and then click **Apply**.


HP ePrint via Email (touchscreen control panel)

Use HP ePrint to print documents by sending them as an email attachment to the printer's email address from any email-enabled device. These instructions are for printer models with a **touchscreen control panel**.

To use HP ePrint, the printer must meet these requirements:

- The printer must be connected to a wired or wireless network and have Internet access.
- HP Web Services must be enabled on the printer, and the printer must be registered with HP Connected.

Follow these steps to enable HP Web Services and register with HP Connected:

1. From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the HP ePrint icon .
2. In the HP ePrint screen, touch **Setup** in the lower right corner.
3. In the Setup Web Services screen, read the terms of use agreement. Touch **Yes** to accept the terms of use and enable HP Web Services.

The printer enables Web Services and then prints an information page. The information page contains the printer code that is necessary to register the printer at HP Connected.

4. Go to www.hpconnected.com to create an HP ePrint account and complete the setup process.

HP ePrint via Email (2-line LCD control panel)

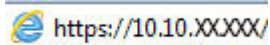
Use HP ePrint to print documents by sending them as an email attachment to the printer's email address from any email-enabled device. These instructions are for printer models with a **2-line LCD control panel**.


To use HP ePrint, the printer must meet these requirements:

- The printer must be connected to a wired or wireless network and have Internet access.
- HP Web Services must be enabled on the printer, and the printer must be registered with HP Connected.

Follow these steps to enable HP Web Services and register with HP Connected:

1. On the printer control panel, press the **OK** button to display the Home screen.
2. Use the arrow buttons and the **OK** button to navigate to and open the following menus:
 1. **Setup**
 2. **Network Setup**
 3. **General Settings**
3. On the General Settings menu, select **Show the IP Address**, and then select **Yes** to display the printer's IP address or host name.
4. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

5. On the EWS Home page, click the **Web Services** tab.
6. In the **Web Services Settings** section, click **Setup**, click **Continue**, and then follow the onscreen instructions to accept the terms of use.

The printer enables Web Services and then prints an information page. The information page contains the printer code that is necessary to register the printer at HP Connected.

7. Go to www.hpconnected.com to create an HP ePrint account and complete the setup process.

AirPrint

With Apple AirPrint, you can print directly to the printer from your iOS device or Mac computer, without having a print driver installed.

AirPrint is supported for iOS and from Mac computers running macOS (10.7 Lion and newer).

Use AirPrint to print directly to the printer from an iPad, iPhone (3GS or later), or iPod touch (third generation or later) in the following mobile applications:

- Mail
- Photos
- Safari
- iBooks
- Select third-party applications

To use AirPrint, the printer must be connected to the same network (sub-net) as the Apple device. For more information about using AirPrint and about which HP printers are compatible with AirPrint, go to www.hp.com/go/LaserJetMobilePrinting.



NOTE: Before using AirPrint with a USB connection, verify the version number. AirPrint versions 1.3 and earlier do not support USB connections.

Android embedded printing

HP's built-in print solution for Android and Kindle enables mobile devices to automatically find and print to HP printers that are either on a network or within wireless range for Wi-Fi Direct printing.

The printer must be connected to the same network (sub-net) as the Android device.

The print solution is built into the supported operating systems, so installing drivers or downloading software is not necessary.

For more information on how to use Android embedded printing and which Android devices are supported, go to www.hp.com/go/LaserJetMobilePrinting.

Print from a USB flash drive (touchscreen control panel only)

Learn how to print directly from a USB flash drive.

- [Introduction](#)
- [Print USB documents](#)

Introduction


The walk-up USB printing feature allows you to quickly print files without sending them from a computer. This feature is available on printer models with a **touchscreen control panel**.

The printer accepts standard USB flash drives in the USB port that is located below the control panel. It supports the following types of files:

- .pdf
- .jpg
- .prn and .PRN
- .pcl and .PCL
- .ps and .PS
- .doc and .docx
- .ppt and .pptx

Print USB documents

Use the following procedure to print USB documents.

1. Insert the USB flash drive into the USB port on the front of the printer.
A **Reading...** message displays on the printer control panel.
2. On the Memory Device Options screen, touch [Print Documents](#).
3. Scroll to and touch the name of the file that you want to print. If the file is stored in a folder, touch the name of the folder, and then scroll to and touch the name of the file.
4. When the Print from USB menu displays, touch any of the following menu items to change the settings for the print job:
 - [2-Sided](#)
 - [Tray Selection](#)
 - [Copies](#)
 - [Quality](#)For additional options, touch the Settings icon .
5. Touch [Print](#) to print the job.
6. Retrieve the printed job from the output bin, and then remove the USB flash drive from the USB port.

5 Manage the printer

Utilize management tools, security and energy-conservation settings, and firmware updates for the printer.

- [Use HP Web Services applications \(touchscreen models only\)](#)
- [Change the printer connection type \(Windows\)](#)
- [Advanced configuration with HP Embedded Web Server and Printer Home Page \(EWS\)](#)
- [Configure IP network settings](#)
- [Printer security features](#)
- [Energy-conservation settings](#)
- [HP Web Jetadmin](#)
- [Update the firmware](#)

For more information:

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information


Use HP Web Services applications (touchscreen models only)

With Web Services, you can add print apps to your printer using HP Connected. Print apps is a content-on-demand delivery platform that allows you to browse and view popular web destinations and print in an easy-to-read format.

1. From the Home screen on the printer control panel, swipe right and then touch [Apps](#).
2. Touch the print app that you want to use.

For more information about individual print apps and to create an account, visit the HP Connected site at [HP Connected](#). With an HP Connected account, you can add, configure, or remove print apps, and set the order in which the apps appear on your printer control panel.

 **NOTE:** The HP Connected website might not be available in all countries/regions.

 **NOTE:** You can also turn off print apps using the EWS. To do so, open the EWS (see [Open the Embedded Web Server](#)), click the **Web Services** tab, and then click **Turn Off** next to the Print Apps option.

Change the printer connection type (Windows)

If you are already using the printer and you wish to change the way it is connected, use **Device Setup & Software** to change the connection. For example, connect the new printer to the computer using a USB or network connection, or change the connection from a USB to a wireless connection.

To open **Device Setup & Software**, complete the following procedure:

1. Open the HP Printer Assistant.
 - **Windows 10:** From the **Start** menu, click **All Apps**, click **HP**, and then select the printer name.
 - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
 - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
 - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, and then select the printer name.
2. In the HP Printer Assistant, select **Tools** from the navigation bar, and then select **Device Setup & Software**.


Advanced configuration with HP Embedded Web Server and Printer Home Page (EWS)


Use the HP Embedded Web Server to manage printing functions from your computer instead of the printer control panel.

- [Method one: Open the HP Embedded Web Server \(EWS\) from the software](#)
- [Method two: Open the HP Embedded Web Server \(EWS\) from a web browser](#)
- View printer status information
- Determine the remaining life for all supplies and order new ones
- View and change tray configurations (paper types and sizes)
- View and print internal pages
- View and change network configuration

The HP Embedded Web Server works when the printer is connected to an IP-based network. The HP Embedded Web Server does not support IPX-based printer connections. You do not have to have Internet access to open and use the HP Embedded Web Server.

When the printer is connected to the network, the HP Embedded Web Server is automatically available.

 **NOTE:** Printer Home Page (EWS) is software used to connect to the HP Embedded Web Server when the printer is connected to a computer via USB. It is available only if a full installation was performed when the printer was installed on a computer. Depending on how the printer is connected, some features might not be available.

 **NOTE:** The HP Embedded Web Server is not accessible beyond the network firewall.

Method one: Open the HP Embedded Web Server (EWS) from the software

Use this method to open the EWS from the HP Printer Assistant software.

1. Open the HP Printer Assistant.
 - **Windows 10:** From the **Start** menu, click **All Apps**, click **HP**, and then select the printer name.
 - **Windows 8.1:** Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
 - **Windows 8:** Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
 - **Windows 7, Windows Vista, and Windows XP:** From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, and then select the printer name.
2. In the HP Printer Assistant, select **Print**, and then select **Printer Home Page (EWS)**.

Method two: Open the HP Embedded Web Server (EWS) from a web browser

Use the EWS to manage your printer from a computer instead of the printer control panel.


Your printer must be connected to an IP-based network before you can access the EWS.

1. Locate the printer's IP address on the printer control panel:

- **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
- **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:
 1. [Setup](#)
 2. [Network Setup](#)
 3. [General Settings](#)

On the General Settings menu, select [Show the IP Address](#), and then select **Yes** to display the printer's IP address or host name.

2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.

 <https://10.10.XXXX/>


 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

Table 5-1 HP Embedded Web Server tabs

Tab or section	Description
Home tab Provides printer, status, and configuration information.	<ul style="list-style-type: none"> • Sleep Mode: Configure the Sleep Mode settings. • Web Services: Set up and manage Web Services such as HP ePrint and Print Apps. • Printer Update: Check for new printer updates. • Estimated Cartridge Levels: View the status of the cartridges and the estimated cartridge levels. • Network Summary: View a summary of the printer's network settings. • Print Quality Toolbox: Use maintenance tools to improve the print quality of your printouts. • Wireless Setup Wizard: Connect the printer to a wireless network. • Wi-Fi Direct: View and edit Wi-Fi Direct settings. • AirPrint: View and edit AirPrint settings. • Printer Information: View general information about the printer. • Administrator: Set up and manage advanced security and usage controls for the printer. • Shutdown Mode: Configure Shutdown Mode settings. • Usage Report: View detailed information about printer usage. • Firewall: Set up and manage the printer's firewall. • Printer Reports: View the reports available for the printer. • Backup: Back up the printer settings into a password-encrypted file. • Personalize: Add or remove features that display on the Home tab.
Copy/Print tab	<ul style="list-style-type: none"> • Change default print settings from your computer, such as the number of copies and print quality.

Table 5-1 HP Embedded Web Server tabs (continued)

Tab or section	Description
Web Services tab	<ul style="list-style-type: none"> • Web Services Settings
Network tab	<ul style="list-style-type: none"> • General • Wired (802.3) • Wireless (802.11) • Wi-Fi Direct • Bluetooth Smart • AirPrint • Google Cloud Print • Internet Printing Protocol • Security • Advanced Settings
(Network-connected printers only)	
Provides the ability to change network settings from your computer.	
Tools tab	<ul style="list-style-type: none"> • Product Information • Reports • Utilities • Backup and Restore • Printer Restart • Printer Updates
Settings tab	<ul style="list-style-type: none"> • Power Management • Preferences • Supplies • Control Panel Customization (Touchscreen models only) • Security • Email Alerts • Restore Defaults • Firewall

Configure IP network settings

Review the following information about configuring IP network settings.

- [Introduction](#)
- [Printer sharing disclaimer](#)
- [View or change network settings](#)
- [Rename the printer on a network](#)
- [Manually configure IPv4 TCP/IP parameters from the control panel](#)
- [Link speed and duplex settings](#)

Introduction

Use the information in the following sections to configure the printer network settings.



Printer sharing disclaimer

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

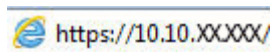
Go to Microsoft at www.microsoft.com.


View or change network settings

Use the HP Embedded Web Server to view or change IP configuration settings.

1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon () or the Ethernet icon () to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:
 1. [Setup](#)
 2. [Network Setup](#)
 3. [General Settings](#)On the General Settings menu, select [Show the IP Address](#), and then select **Yes** to display the printer's IP address or host name.

2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

3. On the EWS Home page, click the **Network** tab to view network information. Change settings as needed.

Rename the printer on a network

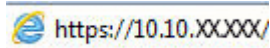
Use the HP Embedded Web Server (EWS) to rename the printer on a network so it can be uniquely identified.


1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:

1. [Setup](#)
2. [Network Setup](#)
3. [General Settings](#)

On the General Settings menu, select [Show the IP Address](#), and then select [Yes](#) to display the printer's IP address or host name.

2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

3. On the EWS Home page, click the **Network** tab.
4. In the left navigation pane, click **General** to expand the options, and then click **Network Identification**.
5. In the **Host Name** text field, enter a name to uniquely identify this printer, and then click **Apply** to save the changes.

Manually configure IPv4 TCP/IP parameters from the control panel

Use the control-panel menus to manually set the IPv4 address, subnet mask, and default gateway.

1. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon (⚙️).
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to [Setup](#), and then press the **OK** button again.

2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:




1. [Network Setup](#)
2. [Ethernet Settings](#)
3. [IP Settings](#)
4. [Manual](#)


3. Use the arrow buttons to enter the IP Address and then press **OK**.

4. Use the arrow buttons to enter the Subnet Mask and then press **OK**.
5. Use the arrow buttons to enter the Gateway and then press **OK**.

Link speed and duplex settings

The link speed and communication mode of the print server must match the network hub. For most situations, leave the printer in automatic mode. Incorrect changes to the link speed and duplex settings might prevent the printer from communicating with other network devices. If you need to make changes, use the printer control panel.

-
-  **NOTE:** This information applies only to Ethernet (wired) networks. It does not apply to wireless networks.
 -  **NOTE:** The printer setting must match the setting for the network device (a network hub, switch, gateway, router, or computer).
 -  **NOTE:** Making changes to these settings causes the printer to turn off and then on. Make changes only when the printer is idle.
-

1. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. [Network Setup](#)
 2. [Ethernet Settings](#)
 3. [Link Speed](#)
3. On the [Link Speed](#) menu, navigate to and select one of the following options:

Setting	Description
Automatic	The print server automatically configures itself for the highest link speed and communication mode allowed on the network.
10T Full	10 Mbps, full-duplex operation
10T Half	10 Mbps, half-duplex operation
100TX Full	100 Mbps, full-duplex operation
100TX Half	100 Mbps, half-duplex operation
1000T Full	1000 Mbps, full-duplex operation

4. Select **OK** to save the setting. The printer turns off and then on.

Printer security features

Review the following information about the printer security features.

- [Introduction](#)
- [Assign or change the system password using the Embedded Web Server](#)

Introduction

The printer includes several security features to restrict who has access to configuration settings, to secure data, and to prevent access to valuable hardware components.

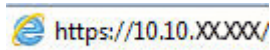
Assign or change the system password using the Embedded Web Server


Assign an administrator password for access to the printer and the HP Embedded Web Server so that unauthorized users cannot change the printer settings.

1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:
 1. [Setup](#)
 2. [Network Setup](#)
 3. [General Settings](#)

On the General Settings menu, select [Show IP Address](#), and then select [Yes](#) to display the printer's IP address or host name.

2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



 **NOTE:** If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

3. On the EWS Home page, click the **Settings** tab.
4. In the left navigation pane, click **Security** to expand the options, and then click **General Security**.
5. Enter a password.
6. Re-enter the password in the **Confirm Password** field, and then click **Apply**.

 **NOTE:** Make note of the password and store it in a safe place.

Energy-conservation settings

Learn about the energy-conservation settings that are available on your printer.

- [Introduction](#)
- [Print with EconoMode](#)
- [Set the Sleep Mode/Sleep Delay \(Min.\) setting](#)
- [Set the Shutdown Mode/Shutdown after Sleep \(Hr.\) setting](#)
- [Set the Disable Shutdown setting](#)

Introduction

The printer includes several economy features to conserve energy and supplies.

Print with EconoMode

This printer has an EconoMode option for printing drafts of documents. Using EconoMode can use less toner. However, using EconoMode can also reduce print quality.

HP does not recommend the full-time use of EconoMode. If EconoMode is used full-time, the toner supply might outlast the mechanical parts in the toner cartridge. If print quality begins to degrade and is no longer acceptable, consider replacing the toner cartridge.

 **NOTE:** If this option is not available in your print driver, you can set it using the HP Embedded Web Server.

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. Click the **EconoMode** check box.

Set the Sleep Mode/Sleep Delay (Min.) setting


Use the control panel menus to specify the amount of time the printer must be inactive before it goes into sleep mode.


1. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon (⚙️).
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. [Power Management](#)
 2. [Sleep Mode](#) (touchscreen control panel) or [Sleep Delay \(Min.\)](#) (2-line LCD control panel)
3. Specify the number of minutes the printer must be inactive before it goes into sleep mode:

- **Touchscreen control panel:** Touch the desired option from the list.
- **2-line LCD control panel:** Use the arrow buttons to select the number of minutes, and then press the **OK** button to save the setting.

Set the Shutdown Mode/Shutdown after Sleep (Hr.) setting


Use the control panel menus to specify the amount of time the printer must be inactive before it shuts down.

 **NOTE:** After the printer shuts down, the power consumption is 1 watt or less.

1. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. **Power Management**
 2. **Shutdown Mode** (touchscreen control panel) or **Shutdown after Sleep (Hr.)** (2-line LCD control panel)
3. Specify the number of hours the printer must be inactive before it shuts down:
 - **Touchscreen control panel:** Touch the desired option from the list.
 - **2-line LCD control panel:** Use the arrow buttons to select the number of hours, and then press the **OK** button to save the setting.

Set the Disable Shutdown setting

Use the control panel menus to disable the printer from shutting down after a period of inactivity.

1. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. **Power Management**
 2. **Disable Shutdown**
3. Select one of the following options:
 - **When ports are active:** The printer will not shut down unless all ports are inactive. An active network link or fax connection will prevent the printer from shutting down.
 - **Do not disable** (touchscreen control panel) or **Never** (2-line LCD control panel): The printer will shut down after a period of inactivity as determined by the **Sleep Mode/Shutdown after Sleep (Hr.)** setting.

 **NOTE:** The default setting is **When ports are active**.

HP Web Jetadmin

HP Web Jetadmin is an award-winning, industry-leading tool for efficiently managing a wide variety of networked HP products, including printers, multifunction printers, and digital senders. This single solution allows you to remotely install, monitor, maintain, troubleshoot, and secure your printing and imaging environment — ultimately increasing business productivity by helping you save time, control costs, and protect your investment.

HP Web Jetadmin upgrades are periodically made available to provide support for specific printer features. Go to www.hp.com/go/webjetadmin for more information.

Update the firmware

HP offers periodic printer updates, new Web Services apps, and new features to existing Web Services apps. Follow these steps to update the printer firmware for a single printer. When you update the firmware, Web Service apps will update automatically.

- [Method one: Update the firmware using the control panel](#)
- [Method two: Update the firmware using the HP Printer Update utility](#)

There are two supported methods to perform a firmware update on this printer. Use only one of the following methods to update the printer firmware.


Method one: Update the firmware using the control panel

Follow these steps to update the firmware using the printer control panel (for network-connected printers only). For USB-connected printers, skip to Method two.

1. Make sure the printer is connected to a wired (Ethernet) or wireless network with an active Internet connection.





NOTE: The printer must be connected to the internet to update the firmware via a network connection.

2. Navigate to the Setup menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
3. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. [Printer Maintenance](#)
 2. [Update the Printer](#) (touchscreen control panel) or [Update Firmware](#) (2-line LCD control panel)




NOTE: If the [Update the Printer](#) or [Update Firmware](#) option is not listed, use Method two.

4. Update the firmware:
 - **Touchscreen control panel:** Touch [Check for Printer Updates Now](#) to check for updates. If a newer firmware version is detected, the update process starts automatically.
 - **2-line LCD control panel:** If a firmware update is available, press the **OK** button to start the update process.
5. **Touchscreen control panel only:** Set the printer to automatically update the firmware when updates become available:
 - a. From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - b. Scroll to and touch [Printer Maintenance](#), and then touch [Update the Printer](#).

- c. Touch [Manage Updates](#), touch [Allow Updates](#), and then touch [Yes](#).
- d. Touch the Back button , touch [Printer Update Options](#), and then touch [Install Automatically \(Recommended\)](#).

Method two: Update the firmware using the HP Printer Update utility

Follow these steps to manually download and install the HP Printer Update utility.

 **NOTE:** This method is the only firmware update option available for printers connected to the computer via a USB cable. This method also works for printers that are connected to a network.

 **NOTE:** You must have a print driver installed in order to use this method.

1. Go to www.hp.com/go/support, click **Software and Drivers**, and then click **Printer**.
2. In the text field, type the printer name, click **Submit**, and then click your printer model from the list of search results.
3. In the **Firmware** section, locate the **Firmware Update** file.
4. Click **Download**, and then click **Run**.
5. When the HP Printer Update utility launches, select the printer that you wish to update, and then click **Update**.
6. Follow the on-screen instructions to complete the installation, and then click the **OK** button to close the utility.

6 Solve problems

Troubleshoot problems with the printer. Locate additional resources for help and technical support.

- [Customer support](#)
- [Restore the factory-set defaults](#)
- [Control panel help system](#)
- [A “Cartridge is low” or “Cartridge is very low” message displays on the printer control panel](#)
- [Printer does not pick up paper or misfeeds](#)
- [Clear paper jams](#)
- [Resolving print quality problems](#)
- [Solve wired network problems](#)
- [Solve wireless network problems](#)

For more information:

HP's all-inclusive help for the printer includes the following information:

- Install and configure
- Learn and use
- Solve problems
- Download software and firmware updates
- Join support forums
- Find warranty and regulatory information

Customer support

Find support contact options for your HP printer.


Table 6-1 HP support options

Support option	Contact information
Get telephone support for your country/region	Country/region phone numbers are on the flyer that was in the box with the printer or at www.hp.com/support .
Have the printer name, serial number, date of purchase, and problem description ready	
Get 24-hour Internet support, and download software utilities and drivers	www.hp.com/support/colorljM454
Order additional HP service or maintenance agreements	www.hp.com/go/carepack
Register the printer	www.register.hp.com


Restore the factory-set defaults

Restoring the factory-set defaults returns all of the printer and network settings to the factory defaults. It will not reset the page count, or tray size.

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

 **CAUTION:** Restoring the factory-set defaults returns all of the settings to the factory defaults, and it also deletes any pages that are stored in the memory.

 **NOTE:** The steps vary according to the type of control panel.

1. Navigate to the [Setup](#) menu as follows.
 - **2-line control panels:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons to navigate to Setup, and then press the **OK** button again.
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. [Printer Maintenance](#)
 2. [Restore](#)
 3. [Restore Factory Defaults](#)

The printer automatically restarts.

Control panel help system

The printer has a built-in Help system that explains how to use each screen. This feature is available on printer models with a **touchscreen control panel**.

To open the Help system, touch the Help icon  in the lower-right corner of the screen.

Tips for using the online Help:

- For some screens, the Help opens to a global menu where you can search for specific topics. You can browse through the menu structure by touching the buttons in the menu.
- Some Help screens include animations that guide you through procedures, such as clearing jams.
- For screens that contain settings for individual jobs, the Help opens to a topic that explains the options for that screen.
- If the printer alerts you of an error or warning, touch the Help icon **?** to open a message that describes the problem. The message also contains instructions to help solve the problem.

A “Cartridge is low” or “Cartridge is very low” message displays on the printer control panel

Understand the cartridge-related messages on the control panel and what actions to take.

- [Change the “Very Low” settings](#)

Cartridge is low: The printer indicates when a toner cartridge level is low. Actual toner cartridge life remaining may vary. Consider having a replacement available to install when print quality is no longer acceptable. The toner cartridge does not need to be replaced now.

Continue printing with the current cartridge until redistributing the toner no longer yields acceptable print quality. To redistribute the toner, remove the toner cartridge from the printer and gently rock the cartridge back and forth about its horizontal axis. For graphical representation, see cartridge replacement instructions. Reinsert the toner cartridge into the printer and close the cover.

Cartridge is very low: The printer indicates when the toner cartridge level is very low. Actual toner cartridge life remaining may vary. Consider having a replacement available to install when print quality is no longer acceptable. The toner cartridge does not need to be replaced now unless the print quality is no longer acceptable.

HP’s Premium Protection Warranty expires when a message indicating that HP’s Premium Protection Warranty on this supply has ended appears on the Supplies Status Page or the EWS.


Change the “Very Low” settings

You can change the way the printer reacts when supplies reach the Very Low state. You do not have to re-establish these settings when you install a new toner cartridge.

- [Change the “Very Low” settings from the control panel](#)
- [Order supplies](#)

Change the “Very Low” settings from the control panel

Determine how the printer will notify you about very low cartridge levels.

1. Navigate to the [Setup](#) menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line control panel:** Press the [OK](#) button to display the Home screen. Use the arrow buttons to navigate to [Setup](#), and then press the [OK](#) button again.
2. From the Setup menu, touch or use the arrow buttons and the [OK](#) button to open the following menus:
 1. [Supply Settings](#)
 2. [Black Cartridge](#) or [Color Cartridge](#)
 3. [Very Low Setting](#)
3. Select one of the following options:
 - Select the [Stop](#) option to set the printer to stop printing until you replace the toner cartridge.
 - Select the [Prompt](#) option to set the printer to stop printing and prompt you to replace the toner cartridge. You can acknowledge the prompt and continue printing.
 - Select the [Continue](#) option to set the printer to alert you when the toner cartridge is very low, but to continue printing.
 - (For Color Cartridges): Select the [Print Black](#) option to set the printer to alert you when the toner cartridge is very low, but to continue printing using black only.



NOTE: The [Low Threshold](#) option allows you to define the level of ink that is considered very low.

Order supplies

Order supplies and paper for your HP printer.

Table 6-2 Options for ordering supplies

Ordering options	Contact information
Order supplies and paper	www.hp.com/go/suresupply
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 website, which provides options for purchasing Original HP supplies.

Printer does not pick up paper or misfeeds

Review the following information about the printer not picking up paper or misfeeding paper.

- [Introduction](#)
- [The printer does not pick up paper](#)
- [The printer picks up multiple sheets of paper](#)

Introduction

The following solutions can help solve problems if the printer is not picking up paper from the tray or is picking up multiple sheets of paper at one time. Either of these situations can result in paper jams.

The printer does not pick up paper

If the printer does not pick up paper from the tray, try these solutions.

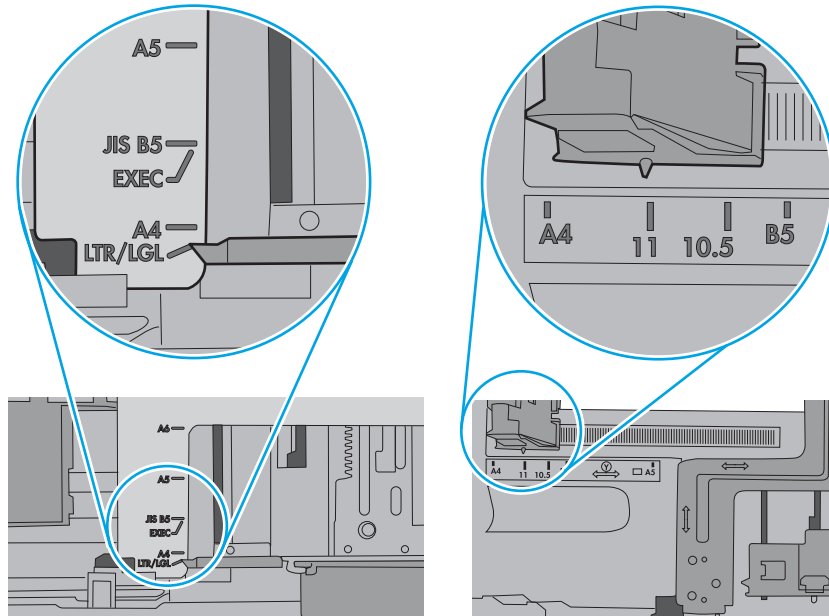
1. Open the printer and remove any jammed sheets of paper. Verify that no torn remnants of paper remain inside of the printer.
2. Load the tray with the correct size of paper for the job.
3. Make sure the paper size and type are set correctly on the printer control panel.

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. The arrow on the tray guide should line up exactly with the marking on the tray.

 **NOTE:** Do not adjust the paper guides tightly against the paper stack. Adjust them to the indentations or markings in the tray.

The following image shows examples of the paper-size indentations in the trays. Most HP printers have markings similar to these.

Figure 6-1 Examples of size markings

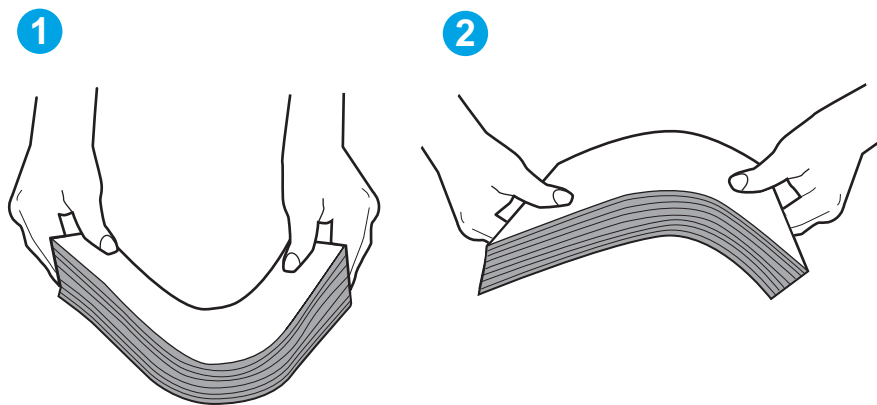


5. Verify that the humidity in the room is within specifications for this printer, and that paper is being stored in unopened packages. Most reams of paper are sold in moisture-proof wrapping to keep paper dry.

In high-humidity environments, paper at the top of the stack in the tray can absorb moisture, and it might have a wavy or uneven appearance. If this happens, remove the top 5 to 10 sheets of paper from the stack.

In low-humidity environments, excess static electricity can cause sheets of paper to stick together. If this happens, remove the paper from the tray, and flex the stack by holding it at each end and bringing the ends up to form a U shape. Then, rotate the ends down to reverse the U shape. Next, hold each side of the stack of paper, and repeat this process. This process releases individual sheets without introducing static electricity. Straighten the paper stack against a table before returning it to the tray.

Figure 6-2 Technique for flexing the paper stack

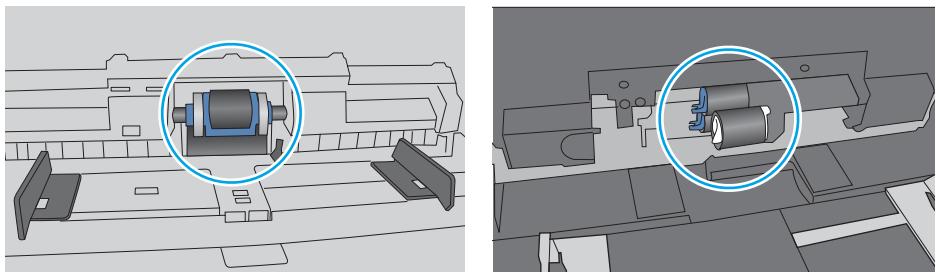


6. Check the printer control panel to see if it is displaying a prompt to feed the paper manually. Load paper, and continue.
7. The rollers above the tray might be contaminated. Clean the rollers with a lint-free cloth dampened with warm water. Use distilled water, if it is available.

CAUTION: Do not spray water directly on to the printer. Instead, spray water on the cloth or dab the cloth in water and wring it out before cleaning the rollers.

The following image shows examples of the roller location for various printers.

Figure 6-3 Roller locations for Tray 1 or the multipurpose tray



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.


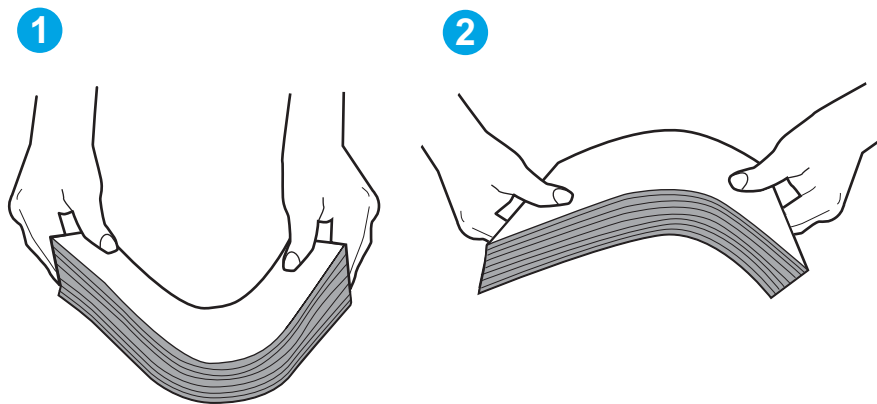
 **NOTE:** Fanning the paper introduces static electricity. Instead of fanning the paper, flex the stack by holding it at each end and bringing the ends up to form a U shape. Then, rotate the ends down to reverse the U shape. Next, hold each side of the stack of paper, and repeat this process. This process releases individual sheets without introducing static electricity. Straighten the paper stack against a table before returning it to the tray.

Figure 6-4 Technique for flexing the paper stack



2. Use only paper that meets HP specifications for this printer.
3. Verify that the humidity in the room is within specifications for this printer, and that paper is being stored in unopened packages. Most reams of paper are sold in moisture-proof wrapping to keep paper dry.

In high-humidity environments, paper at the top of the stack in the tray can absorb moisture, and it might have a wavy or uneven appearance. If this happens, remove the top 5 to 10 sheets of paper from the stack.

In low-humidity environments, excess static electricity can cause sheets of paper to stick together. If this happens, remove the paper from the tray, and flex the stack as described above.

4. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.

5. Make sure the tray is not overfilled by checking the stack-height markings inside the tray. If it is overfilled, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.

The following images show examples of the stack-height markings in the trays for various printers. Most HP printers have markings similar to these. Also make sure that all sheets of paper are below the tabs near the stack-height marks. These tabs help hold the paper in the correct position as it enters the printer.

Figure 6-5 Stack height markings

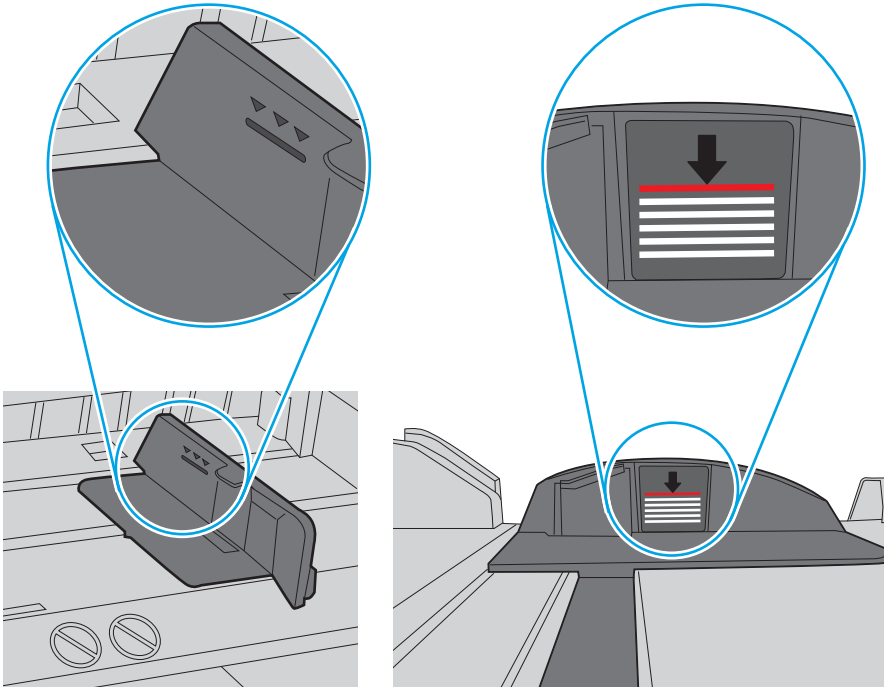
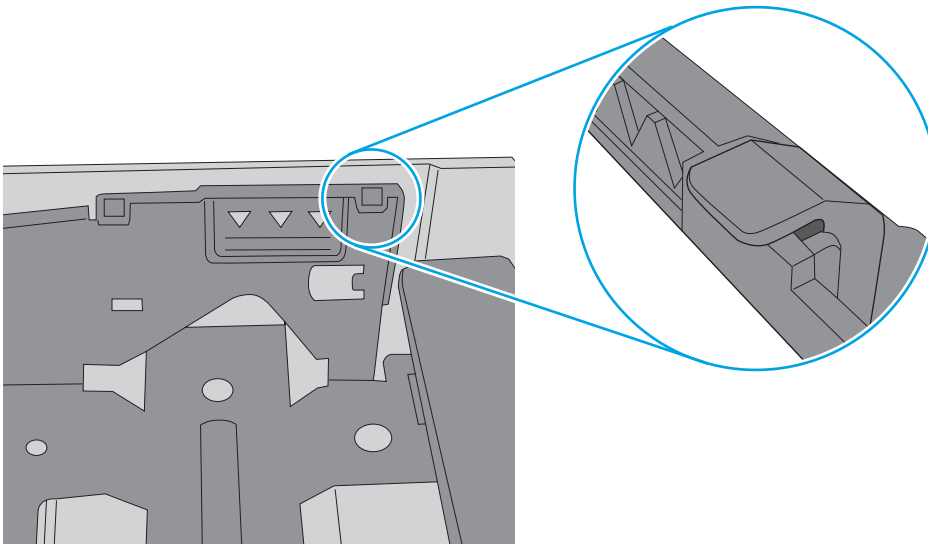


Figure 6-6 Tab for the paper stack



6. 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.
7. Make sure the printing environment is within recommended specifications.

Clear paper jams

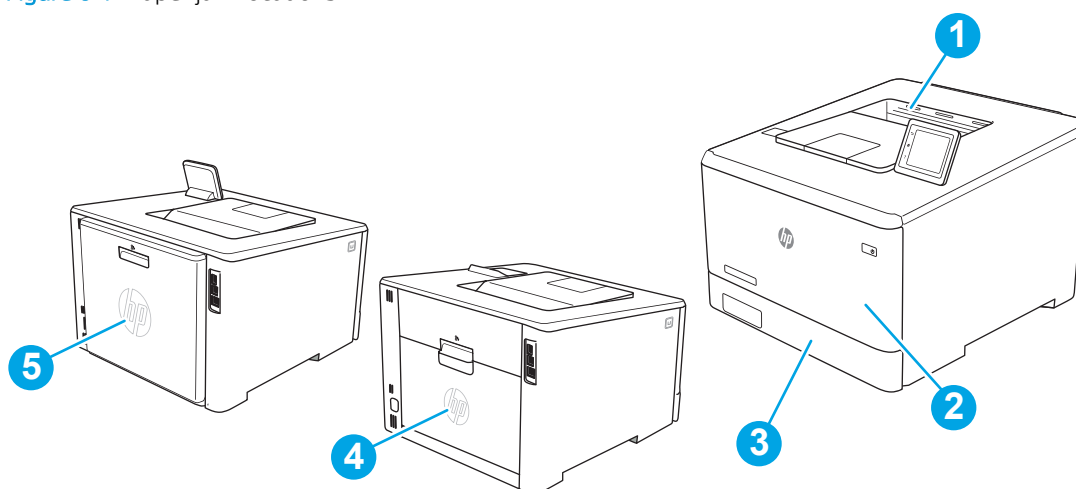
Review the following information about clearing paper jams.

- [Paper jam locations](#)
- [Experiencing frequent or recurring paper jams?](#)
- [Clear paper jams in Tray 1 - 13.02](#)
- [Clear paper jams in Tray 2 - 13.03](#)
- [Clear paper jams in the output bin - 13.10, 13.11, 13.13](#)
- [Clear paper jams in the duplexer \(dn and dw models only\) - 13.14, 13.15](#)
- [Clear paper jams in the rear door and the fuser area \(nw model only\) - 13.08, 13.09](#)

Paper jam locations

Jams can occur in these locations.



Figure 6-7 Paper jam locations




Number	Description
1	Output bin
2	Tray 1
3	Tray 2
4	Rear door and fuser area (nw model only)
5	Duplexer (dn and dw models only)

Experiencing frequent or recurring paper jams?

Follow the steps to solve problems with frequent paper jams. If the first step does not resolve the problem continue with the next step until you have resolved the problem.

1. If paper has jammed in the printer, clear the jam and then print a configuration page to test the printer.
2. Check that the tray is configured for the correct paper size and type on the printer control panel. Adjust paper settings if necessary.
 - a. Navigate to the [Setup](#) menu as follows.
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to [Setup](#), and then press the **OK** button again.
 - b. Open the [Paper setup](#) menu.
 - c. Select the tray from the list.
 - d. Select [Paper Type](#) and then select the type of paper that is in the tray.
 - e. Select [Paper Size](#) and then select the size of paper that is in the tray.
3. Turn the printer off, wait 30 seconds, and then turn it on again.
4. Print a cleaning page to remove excess toner from inside the printer.
 - a. Navigate to the [Setup](#) menu as follows.
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to [Setup](#), and then press the **OK** button again.
 - b. Open the following menus:
 1. [Printer Maintenance](#)
 2. [Print Quality Tools](#)
 3. [Cleaning Page](#)

2-line control panel: Press **OK**.
 - c. Load plain letter or A4 paper when you are prompted.
Wait until the process is complete. Discard the page that prints.
5. Print a configuration page to test the printer.
 - a. Navigate to the [Setup](#) menu as follows.
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to [Setup](#), and then press the **OK** button again.
 - b. Open the following menus:

1. [Reports](#)
2. [Printer Configuration Report](#)

If none of these steps resolves the problem, the printer might need service. Contact HP customer support.

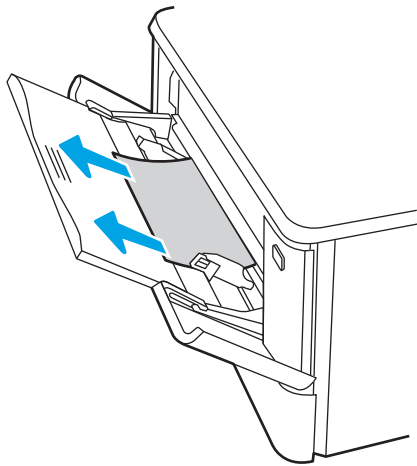
Clear paper jams in Tray 1 - 13.02

Use the following procedure to clear paper jams in Tray 1.

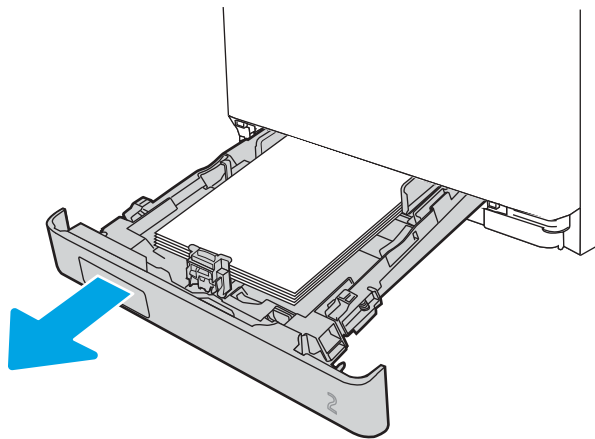
When a jam occurs, the control panel displays an error message (2-line control panels) or an animation (touchscreen control panels) that assists in clearing the jam.

 **NOTE:** If the sheet tears, remove all fragments before resuming printing.

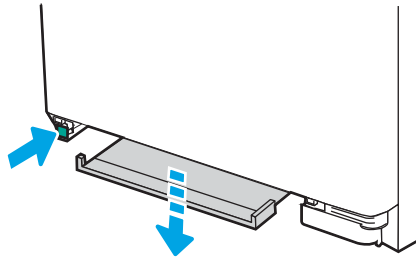
1. If you can see the jammed sheet in Tray 1, remove the jammed sheet by pulling it straight out.



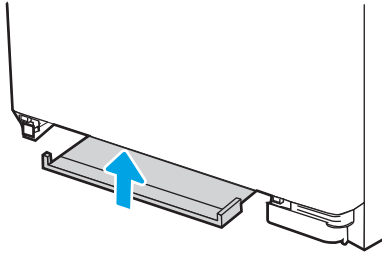
2. If you cannot see the jammed sheet, close Tray 1, and then remove Tray 2.



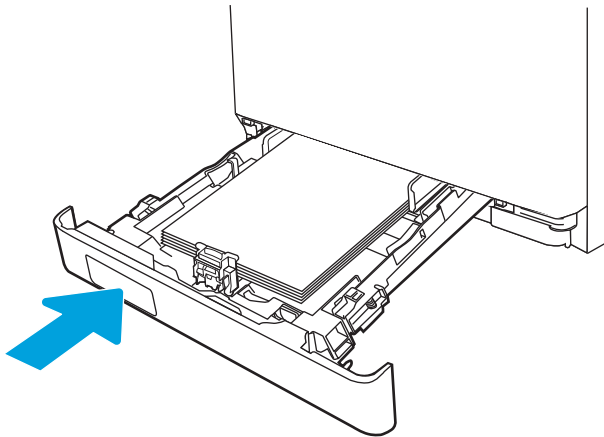
3. At the left side of the Tray 2 cavity, press the tab to lower the tray plate, and then remove any paper. Remove the jammed sheet by gently pulling it straight out.



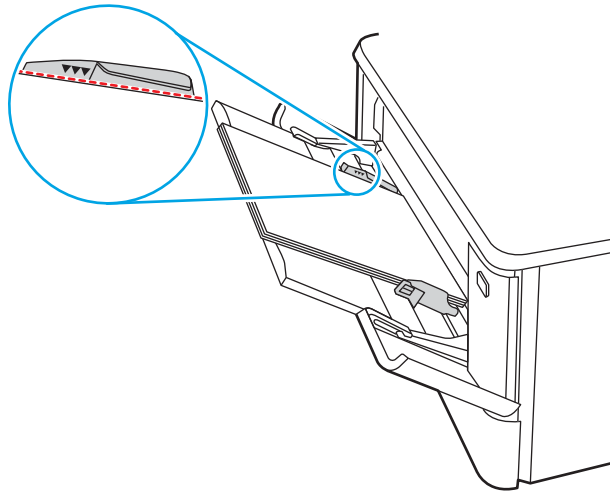
4. Push the tray plate back up into place.



5. Reinstall Tray 2.



6. Reopen Tray 1 and load paper into the tray.

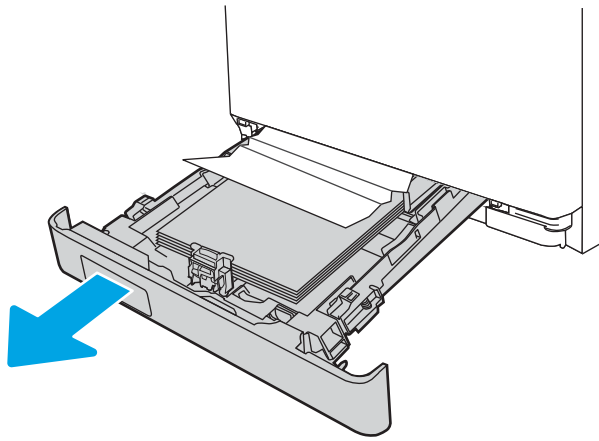


Clear paper jams in Tray 2 - 13.03

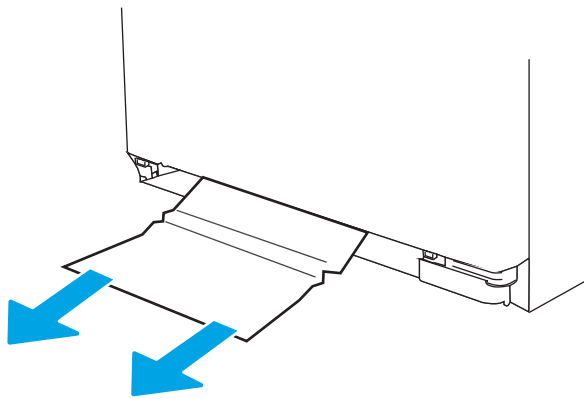
Use the following procedure to check for a paper jam in Tray 2.

When a jam occurs, the control panel displays an error message (2-line control panels) or an animation (touchscreen control panels) that assists in clearing the jam.

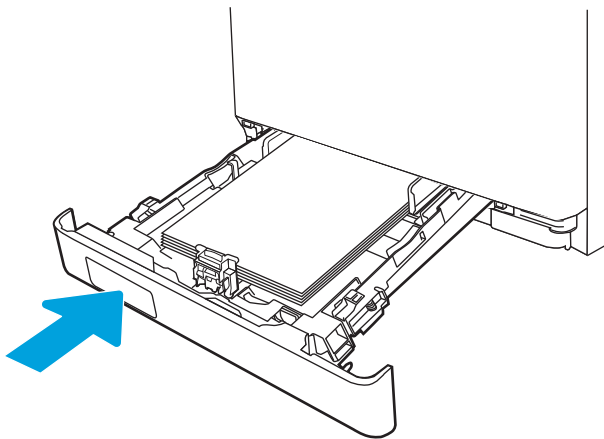
1. Pull the tray completely out of the printer.




2. Remove any jammed or damaged sheets of paper.



3. Reinsert and close Tray 2.



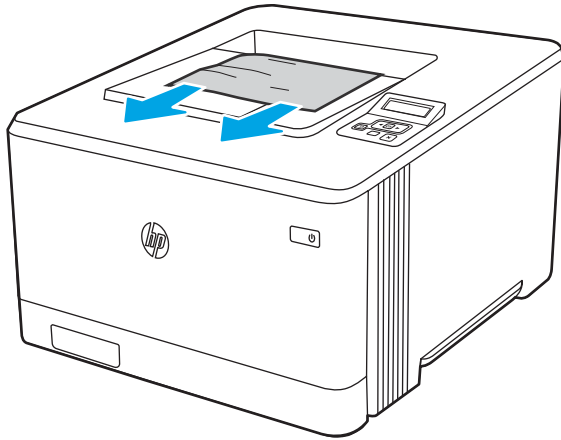
 **NOTE:** When reinserting the paper, make sure the paper guides are adjusted properly for the paper size. For more information, see [Load paper to Tray 2 on page 22](#).

Clear paper jams in the output bin - 13.10, 13.11, 13.13

Use the following procedure to clear jams in the output bin.

When a jam occurs, the control panel displays an error message (2-line control panels) or an animation (touchscreen control panels) that assists in clearing the jam.

- ▲ If paper is visible in the output bin, grasp the leading edge and remove it.

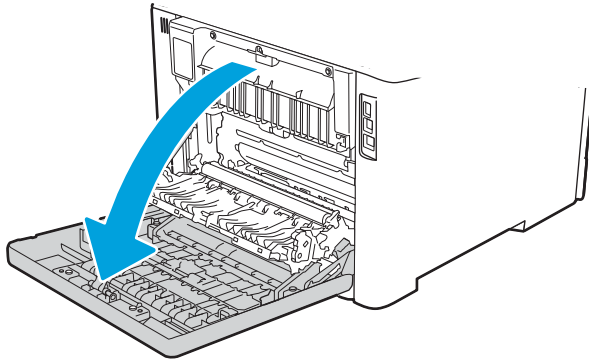


Clear paper jams in the duplexer (dn and dw models only) - 13.14, 13.15

Use the following procedure to check for paper in the duplexer

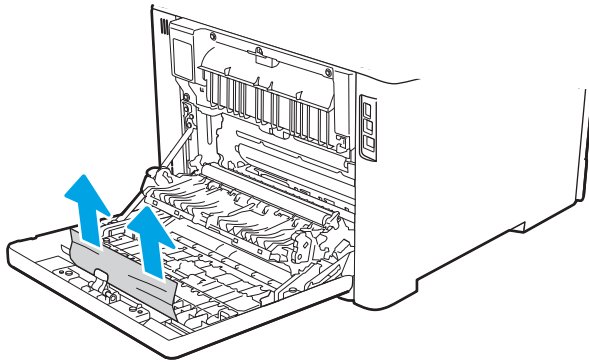
When a jam occurs, the control panel displays an error message (2-line control panels) or an animation (touchscreen control panels) that assists in clearing the jam.

1. At the rear of the printer, open the rear door to access the duplexer.

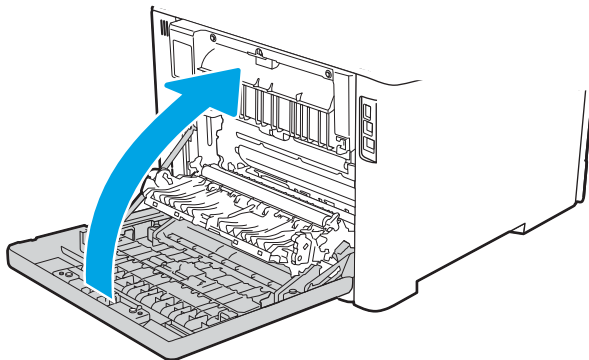


2. Gently pull out any jammed paper from the rollers in the rear door area.

⚠ CAUTION: The fuser is located above the rear door, and it is hot. Do not attempt to reach into the area above the rear door until the fuser is cool.



3. Close the duplexer.



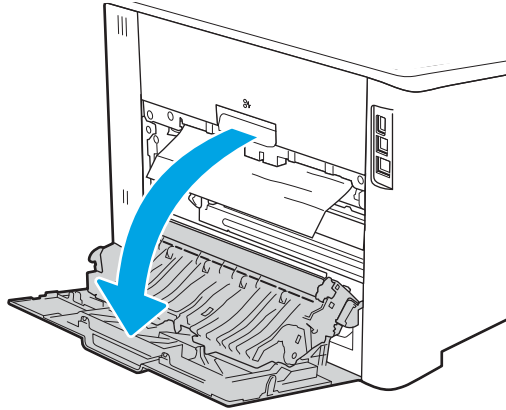
Clear paper jams in the rear door and the fuser area (nw model only) - 13.08, 13.09

Use the procedure to check for paper inside the rear door.

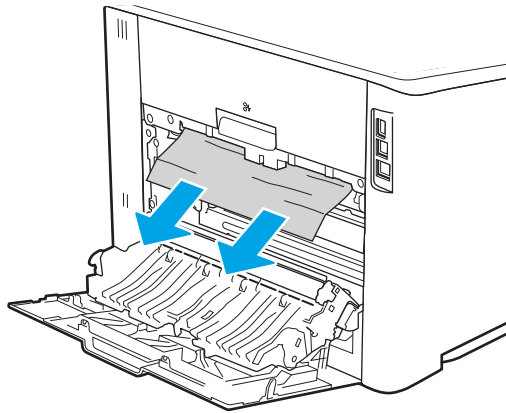
When a jam occurs, the control panel displays an error message (2-line control panels) or an animation (touchscreen control panels) that assists in clearing the jam.

⚠ CAUTION: The fuser is located above the rear door, and it is hot. Do not attempt to reach into the area above the rear door until the fuser is cool.

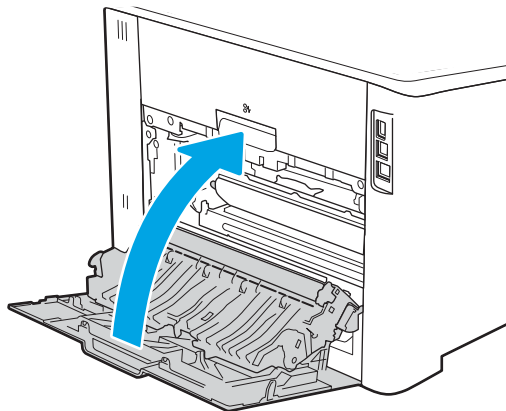
1. Open the rear door.



2. Gently pull out any jammed paper from the rollers in the rear door area.



3. Close the rear door.



Resolving print quality problems

Review the following information about resolving print quality problems.

- [Introduction](#)
- [Troubleshoot print quality](#)
- [Troubleshoot image defects](#)

Introduction

Use the information below to troubleshoot print-quality problems, including issues with image quality and color quality.

The troubleshooting steps can help resolve the following defects:

- Blank pages
- Black pages
- Colors that do not align
- Curled paper
- Dark or light bands
- Dark or light streaks
- Fuzzy print
- Gray background or dark print
- Light print
- Loose toner
- Missing toner
- Scattered dots of toner
- Skewed images
- Smears
- Streaks

Troubleshoot print quality

To resolve print-quality issues, try these steps in the order presented.

- [Update the printer firmware](#)
- [Print from a different software program](#)
- [Check the paper-type setting for the print job](#)
- [Check toner-cartridge status](#)
- [Print a cleaning page](#)
- [Visually inspect the toner cartridge or cartridges](#)
- [Check paper and the printing environment](#)
- [Try a different print driver](#)
- [Troubleshoot color quality](#)
- [Check the EconoMode settings](#)
- [Adjust print density](#)

To troubleshoot specific image defects, see [Troubleshoot Image Defects](#).

Update the printer firmware

Try upgrading the printer firmware.

See www.hp.com/support for more information.

Print from a different software program

Try printing from a different software program.

If the page prints correctly, the problem is with the software program from which you were printing.

Check the paper-type setting for the print job

Check the paper type setting when printing from a software program and the printed pages have smears, fuzzy or dark print, curled paper, scattered dots of toner, loose toner, or small areas of missing toner.

- [Check the paper type setting on the printer](#)
- [Check the paper type setting \(Windows\)](#)
- [Check the paper type setting \(macOS\)](#)

Check the paper type setting on the printer

Check the paper type setting on the printer control panel, and change the setting as needed.

1. Open the tray.
2. Verify that the tray is loaded with the correct type of paper.
3. Close the tray.
4. Follow the control panel instructions to confirm or modify the paper type settings for the tray.

Check the paper type setting (Windows)

Check the paper type setting for Windows, and change the setting as needed.

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. From the **Paper Type** drop-down list, click the **More...** option.
5. Expand the list of **Type is:** options.
6. Expand the category of paper types that best describes your paper.
7. Select the option for the type of paper you are using, and click the **OK** button.
8. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog box, click the **OK** button to print the job.

Check the paper type setting (macOS)

Check the paper type setting for macOS, and change the setting as needed.

1. Click the **File** menu, and then click the **Print** option.
2. In the **Printer** menu, select the printer.
3. Click **Show Details** or **Copies & Pages**.
4. Open the menus drop-down list, and then click the **Paper/Quality** menu.
5. Select a type from the **Media Type** drop-down list.
6. Click the **Print** button.


Check toner-cartridge status

Follow these steps to check the estimated life remaining in the toner cartridges, and if applicable, the status of other replaceable maintenance parts.

- [Step one: Print the supplies status page](#)
- [Step two: Check supplies status](#)

Step one: Print the supplies status page

Use the control panel menus to print a supplies status page.

1. Navigate to the Setup menu as follows:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. [Reports](#)
 2. [Supplies Status](#)
3. Press or touch **OK** to print the report.

Step two: Check supplies status

The supplies status page contains information about the cartridges and other replaceable maintenance parts.


1. Look at the supplies status page to check the percent of life remaining for the toner cartridges, and if applicable, the status of other replaceable maintenance parts.
 - Print quality problems can occur when using a toner cartridge that is at its estimated end of life. The supplies status page indicates when a supply level is very low.
 - HP's Premium Protection Warranty expires when a message indicating that HP's Premium Protection Warranty on this supply has ended appears on the supplies status page or in the EWS.
 - The toner cartridge does not need to be replaced now unless the print quality is no longer acceptable. Consider having a replacement cartridge available to install when print quality is no longer acceptable.
 - If you determine that you need to replace a toner cartridge, or another replaceable maintenance part, the genuine HP part numbers are listed on the supplies status page.
2. Check to see if you are using a genuine HP cartridge.

A genuine HP toner cartridge has "HP" on it, or it has the HP logo. For more information on identifying HP cartridges go to www.hp.com/go/learnaboutsupplies.

Print a cleaning page

During the printing process paper, toner, and dust particles can accumulate inside the printer and can cause print-quality issues such as toner specks or spatter, smears, streaks, lines, or repeating marks.

Use the following procedure to print a cleaning page.

1. Navigate to the [Setup](#) menu:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to [Setup](#), and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. [Printer Maintenance](#)
 2. [Print Quality Tools](#)
 3. [Cleaning Page](#)
3. Load plain letter or A4 paper when you are prompted, and then touch or press **OK**.

A **Cleaning** message displays on the printer control panel. Wait until the process is complete. Discard the page that prints.

Visually inspect the toner cartridge or cartridges

Follow these steps to inspect each toner cartridge:

1. Remove the toner cartridge from the printer, and verify that the sealing tape has been removed.
2. Check the memory chip for damage.
3. Examine the surface of the green imaging drum.

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

4. If you see any scratches, fingerprints, or other damage on the imaging drum, replace the toner cartridge.
5. Reinstall the toner cartridge and print a few pages to see if the problem has resolved.

Check paper and the printing environment

Use the following information to check the paper selection and the printing environment.

- [Step one: Use paper that meets HP specifications](#)
- [Step two: Check the environment](#)
- [Step three: Set the individual tray alignment](#)

Step one: Use paper that meets HP specifications

Some print-quality problems arise from using paper that does not meet HP specifications.

- Always use a paper type and weight that this printer supports.
- 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 does not contain metallic material, such as glitter.
- Use paper that is designed for use in laser printers. Do not use paper that is designed only for use in Inkjet printers.
- Use paper that is not too rough. Using smoother paper generally results in better print quality.

Step two: Check the environment


The environment can directly affect print quality and is a common cause of print-quality or paper-feeding issues. Try the following solutions:

- Move the printer away from drafty locations, such as open windows or doors, or air-conditioning vents.
- Make sure the printer is not exposed to temperatures or humidity outside of printer specifications.
- Do not place the printer in a confined space, such as a cabinet.
- Place the printer on a sturdy, level surface.
- Remove anything that is blocking the vents on the printer. The printer requires good air flow on all sides, including the top.
- Protect the printer from airborne debris, dust, steam, grease, or other elements that can leave residue inside the printer.

Step three: Set the individual tray alignment

Follow these steps when text or images are not centered or aligned correctly on the printed page when printing from specific trays.

1. Navigate to the Setup menu:

- **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. [Tray Management](#)
 2. [Image Adjust](#), and select the tray to adjust.
 3. [Print Test Page](#)
 3. Follow the instructions on the printed pages.
 4. Scroll to or touch [Print Test Page](#) again to verify the results, and then make further adjustments if necessary.

Try a different print driver

Try a different print driver when printing from a software program and the printed pages have unexpected lines in graphics, missing text, missing graphics, incorrect formatting, or substituted fonts.

Download any of the following drivers from the HP Web site: www.hp.com/support/colorljM454.

Table 6-3 Print drivers

Driver	Description
HP PCL.6 driver	If available, this printer-specific print driver supports older operating systems like Windows XP and Windows Vista. For a list of supported operating systems, go to www.hp.com/go/support .
HP PCL 6 driver	This printer-specific print driver supports Windows 7 and newer operating systems that support version 3 drivers. For a list of supported operating systems, go to www.hp.com/go/support .
HP PCL-6 driver	This product-specific print driver supports Windows 8 and newer operating systems that support version 4 drivers. For a list of supported operating systems, go to www.hp.com/go/support .
HP UPD PS driver	<ul style="list-style-type: none"> ● Recommended for printing with Adobe software programs or with other highly graphics-intensive software programs ● Provides support for printing from Postscript emulation needs, or for Postscript flash font support
HP UPD PCL 6	<ul style="list-style-type: none"> ● Recommended for printing in all Windows environments ● Provides the overall best speed, print quality, and printer feature support for most users ● Developed to align with Windows Graphic Device Interface (GDI) for best speed in Windows environments ● Might not be fully compatible with third-party and custom software programs that are based on PCL 5


Troubleshoot color quality

Try the suggested steps if you have issues with color alignment or the quality of color images.

- [Calibrate the printer to align the colors](#)
- [Adjust color settings \(Windows\)](#)
- [Print and interpret the print quality page](#)

Calibrate the printer to align the colors

Calibration is a printer function that optimizes print quality, and can help resolve print-quality problems such as misaligned color, colored shadows, blurry graphics, or other print-quality issues.

1. Navigate to the [Setup](#) menu as follows:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the [OK](#) button to display the Home screen. Use the arrow buttons to navigate to [Setup](#), and then press the [OK](#) button again.
2. From the Setup menu, touch or use the arrow buttons and the [OK](#) button to open the following menus:
 1. [Printer Maintenance](#)
 2. [Color Calibration](#)

2-line LCD control panel: Press [OK](#) to start the calibration process.

A **Calibrating** message will display on the printer control panel. The calibration process takes a few minutes to complete. Do not turn the printer off until the calibration process has finished.

3. Wait while the printer calibrates, and then try printing again.

Adjust color settings (Windows)


When printing from a software program, follow these steps if colors on the printed page do not match colors on the computer screen, or if the colors on the printed page are not satisfactory.

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Color** tab.
4. Click the **Print in Grayscale** option to print a color document in black and shades of gray. Use this option to print color documents for photocopying or faxing. Also use this option to print draft copies or to save color toner.
5. Click the [OK](#) button to close the **Document Properties** dialog box. In the **Print** dialog box, click the [OK](#) button to print the job.

Print and interpret the print quality page

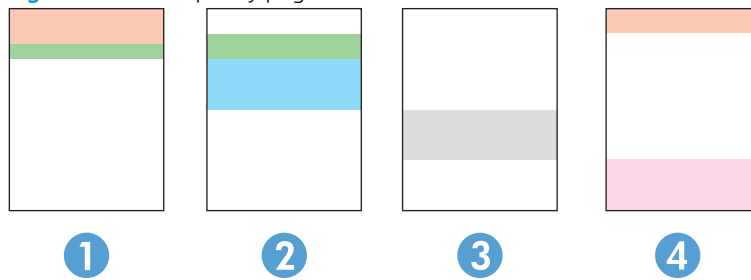
Use the following procedure to print and interpret the print quality page.

1. Navigate to the Setup menu:

- **Touchscreen control panel:** From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - **2-line LCD control panel:** Press the **OK** button to display the Home screen. Use the arrow buttons to navigate to **Setup**, and then press the **OK** button again.
2. From the Setup menu, touch or use the arrow buttons and the **OK** button to open the following menus:
 1. **Reports**
 2. **Print Quality Report**
 3. Press or touch **OK** to print the page.

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

Figure 6-8 Print quality page



Section	Toner cartridge
1	Yellow
2	Cyan
3	Black
4	Magenta

- If dots or streaks appear in only one of the groups, replace the toner cartridge that correlates with that group.
- If dots appear in more than one group, print a cleaning page. If this does not solve the problem, determine if the dots are always the same color; for example, if magenta dots appear in all five color bands. If the dots are all the same color, replace that toner cartridge.
- If streaks appear in multiple color bands, contact HP. A component other than the toner cartridge is probably causing the problem.

Check the EconoMode settings

HP does not recommend the full-time use of EconoMode. If EconoMode is used full-time, the toner supply might outlast the mechanical parts in the toner cartridge. If print quality begins to degrade and is no longer acceptable, consider replacing the toner cartridge.



NOTE: This feature is available with the PCL 6 print driver for Windows. If you are not using that driver, you can enable the feature by using the HP Embedded Web Server.

Follow these steps if the entire page is too dark or too light:


1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab, and locate the **Print Quality** area.
4. If the entire page is too dark, use these settings:
 - Select the **600 dpi** option, if available.
 - Select the **EconoMode** check box to enable it.
 If the entire page is too light, use these settings:
 - Select the **FastRes 1200** option, if available.
 - Clear the **EconoMode** check box to disable it.
5. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog, click the **OK** button to print the job.

Adjust print density

Adjust the print density when your printing results are too dense or too light in color.

Complete the following steps to adjust the print density.

1. Locate the printer's IP address on the printer control panel:
 - **Touchscreen control panel:** From the Home screen on the printer control panel, touch the Wireless icon (📶) or the Ethernet icon (🌐) to view the printer's IP address or host name.
 - **2-line LCD control panel:** On the printer control panel, press the **OK** button to display the Home screen. Use the arrow buttons and the **OK** button to navigate to and open the following menus:
 1. [Setup](#)
 2. [Network Setup](#)
 3. [General Settings](#)
 On the General Settings menu, select [Show the IP Address](#), and then select [Yes](#) to display the printer's IP address or host name.
2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer control panel. Press the **Enter** key on the computer keyboard. The EWS opens.



 If a message displays in the web browser indicating that the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.
3. On the EWS Home page, click the **Tools** tab.
4. In the left navigation pane, click **Utilities** to expand the options, and then click **Print Density**.
5. Under **Print Density**, adjust the setting as desired.
6. Click **Apply** to save the changes.

Troubleshoot image defects

Review examples of image defects and steps to resolve these defects.

Table 6-4 Image defects table quick reference



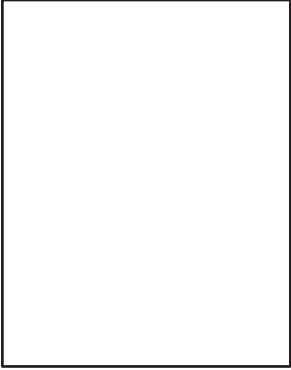


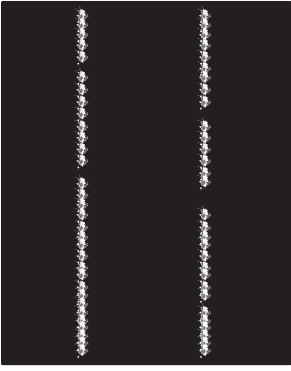
Defect	Defect	Defect
<p>Table 6-12 Light print on page 120</p> 	<p>Table 6-10 Gray background or dark print on page 119</p> 	<p>Table 6-7 Blank page — No print on page 117</p> 
<p>Table 6-6 Black page on page 116</p> 	<p>Table 6-5 Banding defects on page 116</p> 	<p>Table 6-14 Streak defects on page 122</p> 

Table 6-4 Image defects table quick reference (continued)

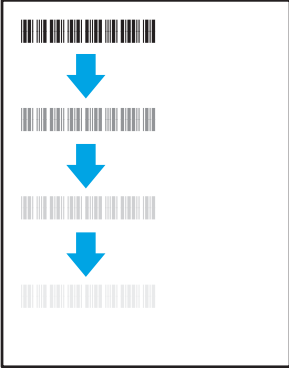


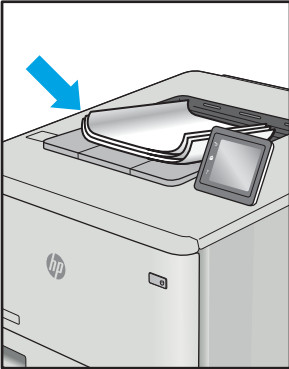

Defect	Defect	Defect
<p>Table 6-9 Fixing/fuser defects on page 118</p> 	<p>Table 6-11 Image placement defects on page 119</p> 	<p>Table 6-8 Color plane registrations defects (color models only) on page 117</p> 
<p>Table 6-13 Output defects on page 121</p> 		

Image defects, no matter the cause, can often be resolved using the same steps. Use the following steps as a starting point for solving image defect issues.

1. Reprint the document. Print quality defects can be intermittent in nature or can go away completely with continued printing.
2. Check the condition of the cartridge or cartridges. If a cartridge is in a **Very Low** state (it has passed the rated life), replace the cartridge.
3. Make sure that the driver and tray print mode settings match the media that is loaded in the tray. Try using a different ream of media or a different tray. Try using a different print mode.
4. Make sure the printer is within the supported operating temperature/humidity range.
5. Make sure that the paper type, size, and weight are supported by the printer. See the printer support page at support.hp.com for a list of the supported paper sizes and types for the printer.

 **NOTE:** The term "fusing" refers to the part of the printing process where toner is affixed to paper.

The following examples depict letter-size paper that has passed through the printer with the short edge first.

Table 6-5 Banding defects

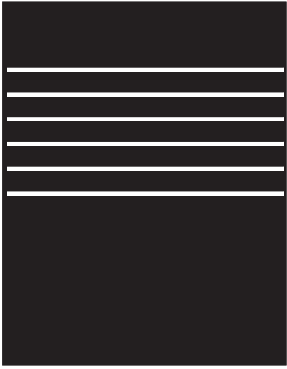
Sample	Description	Possible solutions
	Dark or light lines which repeat down the length of the page, and are wide-pitch and/or impulse bands. They might be sharp or soft in nature. The defect displays only in areas of fill, not in text or sections with no printed content.	<ol style="list-style-type: none">1. Reprint the document.2. Try printing from another tray.3. Replace the cartridge.4. Use a different paper type.5. Enterprise models only: From the Home screen on the printer control panel, go to the Adjust Paper Types menu, and then choose a print mode that is designed for a slightly heavier media than what you are using. This slows the print speed and might improve the print quality.6. If the issue persists, go to support.hp.com.

Table 6-6 Black page


Sample	Description	Possible solutions
	The entire printed page is black.	<ol style="list-style-type: none">1. Visually inspect the cartridge to check for damage.2. Make sure that the cartridge is installed correctly.3. Replace the cartridge.4. If the issue persists, go to support.hp.com.

Table 6-7 Blank page — No print


Sample	Description	Possible solutions
	<p>The page is completely blank and contains no printed content.</p>	<ol style="list-style-type: none"> 1. Make sure that the cartridges are genuine HP cartridges. 2. Make sure that the cartridge is installed correctly. 3. Print with a different cartridge. 4. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a lighter paper type. 5. If the issue persists, go to support.hp.com.

Table 6-8 Color plane registrations defects (color models only)


Sample	Description	Possible solutions
	<p>One or more color plane(s) is not aligned with the other color planes. This registration error will typically occur with yellow.</p>	<ol style="list-style-type: none"> 1. Reprint the document. 2. From the printer control panel, calibrate the printer. 3. If a cartridge has reached a Very Low state, or the printed output is severely faded, replace the cartridge. 4. From the printer control panel use the Restore Calibration feature to reset the printer's calibration settings to the factory defaults. 5. If the issue persists, go to support.hp.com.

Table 6-9 Fixing/fuser defects

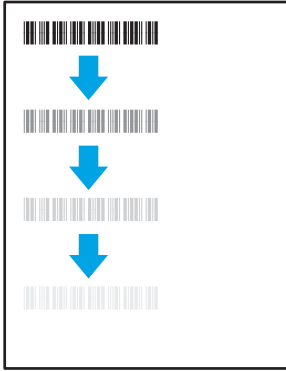
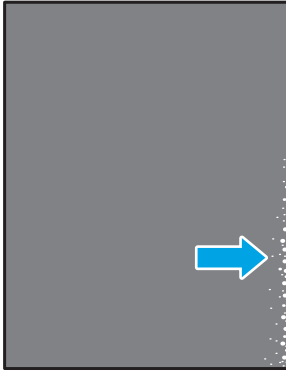
Sample	Description	Possible solutions
	<p>Slight shadows or offsets of the image are repeated down the page. The repeated image might fade with each recurrence.</p>	<ol style="list-style-type: none"> 1. Reprint the document. 2. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a lighter paper type. 3. If the issue persists, go to support.hp.com.
	<p>Toner rubs off along either edge of the page. This defect is more common at the edges of high-coverage jobs, and on light media types, but can occur anywhere on the page.</p>	<ol style="list-style-type: none"> 1. Reprint the document. 2. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a heavier paper type. 3. Enterprise models only: From the printer control panel, go to the Edge-to-Edge menu and then select Normal. Reprint the document. 4. Enterprise models only: From the printer control panel, select Auto Include Margins and then reprint the document. 5. If the issue persists, go to support.hp.com.

Table 6-10 Gray background or dark print


Sample	Description	Possible solutions
	<p>The image or text is darker than expected and/or the background is gray.</p>	<ol style="list-style-type: none"> 1. Make sure that the paper in the trays has not already been run through the printer. 2. Use a different paper type. 3. Reprint the document. 4. Mono models only: From the Home screen on the printer control panel, go to the Adjust Toner Density menu, and then adjust the toner density to a lower level. 5. Make sure that the printer is within the supported operating temperature and humidity range. 6. Replace the cartridge. 7. If the issue persists, go to support.hp.com.

Table 6-11 Image placement defects


Sample	Description	Possible solutions
	<p>The image is not centered, or is skewed on the page. The defect occurs when the paper is not positioned properly as it is pulled from the tray and moves through the paper path.</p>	<ol style="list-style-type: none"> 1. Reprint the document. 2. Remove the paper and then reload the tray. Make sure that all the paper edges are even on all sides. 3. Make sure that the top of the paper stack is below the tray-full indicator. Do not overfill the tray. 4. Make sure that the paper guides are adjusted to the correct size for the paper. Do not adjust the paper guides tightly against the paper stack. Adjust them to the indentations or markings in the tray. 5. If the issue persists, go to support.hp.com.

Table 6-12 Light print


Sample	Description	Possible solutions
	The printed content is light or faded on the entire page.	<ol style="list-style-type: none"><li data-bbox="1054 289 1294 317">1. Reprint the document.<li data-bbox="1054 338 1433 390">2. Remove the cartridge, and then shake it to redistribute the toner.<li data-bbox="1054 411 1437 516">3. Mono models only: Make sure that the EconoMode setting is disabled, both at the printer control panel and in the print driver.<li data-bbox="1054 537 1366 590">4. Make sure that the cartridge is installed correctly.<li data-bbox="1054 611 1437 663">5. Print a Supplies Status Page and check the life and usage of the cartridge.<li data-bbox="1054 684 1294 711">6. Replace the cartridge.<li data-bbox="1054 732 1326 785">7. If the issue persists, go to support.hp.com.

Table 6-13 Output defects

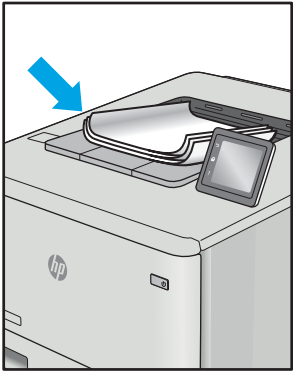
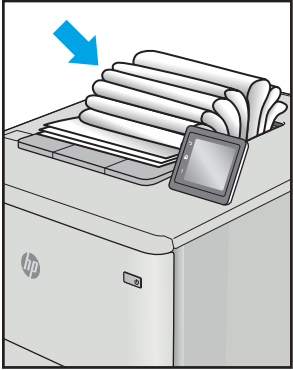
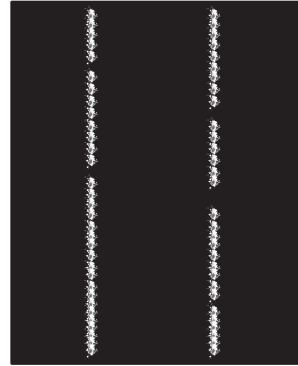
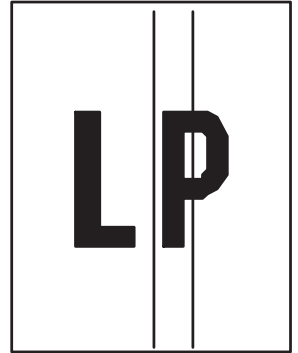
Sample	Description	Possible solutions
	<p>Printed pages have curled edges. The curled edge can be along the short or long side of the paper. Two types of curl are possible:</p> <ul style="list-style-type: none"> • Positive curl: The paper curls toward the printed side. The defect occurs in dry environments or when printing high-coverage pages. • Negative curl: The paper curls away from the printed side. The defect occurs in high-humidity environments or when printing low-coverage pages. 	<ol style="list-style-type: none"> 1. Reprint the document. 2. Positive curl: From the printer control panel, select a heavier paper type. The heavier paper type creates a higher temperature for printing. Negative curl: From the printer control panel, select a lighter paper type. The lighter paper type creates a lower temperature for printing. Try storing the paper in a dry environment prior to use, or use freshly opened paper. 3. Print in duplex mode. 4. If the issue persists, go to support.hp.com.
	<p>The paper does not stack well in the output tray. The stack might be uneven, skewed, or the pages might be pushed out of the tray and onto the floor. Any of the following conditions can cause this defect:</p> <ul style="list-style-type: none"> • Extreme paper curl • The paper in the tray is wrinkled or deformed • The paper is a non-standard paper type, such as envelopes • The output tray is too full 	<ol style="list-style-type: none"> 1. Reprint the document. 2. Extend the output bin extension. 3. If the defect is caused by extreme paper curl, refer to the troubleshooting steps for "Output curl." 4. Use a different paper type. 5. Use freshly opened paper. 6. Remove the paper from the output tray before the tray gets too full. 7. If the issue persists, go to support.hp.com.

Table 6-14 Streak defects

Sample	Description	Possible solutions
	<p>Light vertical streaks that usually span the length of the page. The defect displays only in areas of fill, not in text or sections with no printed content.</p>	<ol style="list-style-type: none"> 1. Reprint the document. 2. Remove the cartridge, and then shake it to redistribute the toner. 3. If the issue persists, go to support.hp.com. <p>NOTE: Both light and dark vertical streaks can occur when the printing environment is outside the specified range for temperature or humidity. Refer to your printer's environmental specifications for allowable temperature and humidity levels.</p>
	<p>Dark vertical lines which occur down the length of the page. The defect might occur anywhere on the page, in areas of fill or in sections with no printed content. On color models, these lines or streaks will also be visible on the ITB cleaning page.</p>	<ol style="list-style-type: none"> 1. Reprint the document. 2. Remove the cartridge, and then shake it to redistribute the toner. 3. Print a cleaning page. 4. Check the toner level in the cartridge. 5. If the issue persists, go to support.hp.com.

Solve wired network problems

Check the following information to resolve wired network issues.

- [Introduction](#)
- [Poor physical connection](#)
- [The computer is unable to communicate with the printer](#)
- [The printer is using incorrect link and duplex settings for the network](#)
- [New software programs might be causing compatibility problems](#)
- [The computer or workstation might be set up incorrectly](#)
- [The printer is disabled, or other network settings are incorrect](#)

Introduction

Certain types of problems can indicate there is a network communication problem. These problems include the following issues:

Poor physical connection

Check the cable connections.

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 flashes indicating network traffic, and the green link-status light is continuously lit indicating a network link.
4. If the problem continues, try a different cable or port on the hub.

The computer is unable to communicate with the printer

Verify that the printer is communicating with the network and your computer.

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 (also known as subnet).
3. 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.

4. 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**.
5. If you installed the printer using a Microsoft standard TCP/IP port, use the printer's hostname instead of the IP address.
6. If the IP address is correct, delete the printer and then add it again.
7. Reinstall the printer software and driver.

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

An incorrectly configured computer can cause issues with printing.

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

Check the network settings.

1. Review the printer's configuration/networking pages to check the status of the network settings and protocols.
2. Reconfigure the network settings if necessary.

Solve wireless network problems

To resolve network issues, try these steps in the order presented.

- [Introduction](#)
- [Wireless connectivity checklist](#)
- [The printer does not print after the wireless configuration completes](#)
- [The printer does not print, and the computer has a third-party firewall installed](#)
- [The wireless connection does not work after moving the wireless router or printer](#)
- [Cannot connect more computers to the wireless printer](#)
- [The wireless printer loses communication when connected to a VPN](#)
- [The network does not appear in the wireless networks list](#)
- [The wireless network is not functioning](#)
- [Perform a wireless network diagnostic test](#)
- [Reduce interference on a wireless network](#)

Introduction

Use the troubleshooting information to help resolve issues.



NOTE: To determine whether Wi-Fi Direct printing is enabled on your printer, print a configuration page from the printer control panel

Wireless connectivity checklist

Review the following information to check wireless connectivity.

- Verify that the network cable is not connected.
- Verify that the printer and the wireless router are turned on and have power. Also make sure that the wireless radio in the printer is turned on.
- Verify that the service set identifier (SSID) is correct. Print a configuration page to determine the SSID. If you are not sure the SSID is correct, run the wireless setup again.
- With secured networks, verify that the security information is correct. If the security information is incorrect, run the wireless setup again.
- If the wireless network is working correctly, try accessing other computers on the wireless network. If the network has Internet access, try connecting to the Internet over a wireless connection.
- Verify that the encryption method (AES or TKIP) is the same for the printer as it is for the wireless access point (on networks using WPA security).
- Verify that the printer is within the range of the wireless network. For most networks, the printer must be within 30 m (100 ft) of the wireless access point (wireless router).

- Verify that obstacles do not block the wireless signal. Remove any large metal objects between the access point and the printer. Make sure poles, walls, or support columns containing metal or concrete do not separate the printer and wireless access point.
- Verify that the printer is located away from electronic devices that might interfere with the wireless signal. Many devices can interfere with the wireless signal including motors, cordless phones, security system cameras, other wireless networks, and some Bluetooth devices.
- Verify that the print driver is installed on the computer.
- Verify that you have selected the correct printer port.
- Verify that the computer and printer connect to the same wireless network.
- For macOS, verify that the wireless router supports Bonjour.

The printer does not print after the wireless configuration completes

If the printer does not print after the wireless configuration completes, try these solutions.

1. Make sure that the printer is turned on and in the ready state.
2. Turn off any third-party firewalls on your computer.
3. Make sure that the wireless network is working correctly.
4. Make sure that your computer is working correctly. If necessary, restart the computer.
5. Verify that you can open the printer HP Embedded Web Server from a computer on the network.

The printer does not print, and the computer has a third-party firewall installed

If the printer does not print, and the computer has a third-party firewall installed, try these solutions.

1. Update the firewall with the most recent update available from the manufacturer.
2. If programs request firewall access when you install the printer or try to print, make sure you allow the programs to run.
3. Temporarily turn off the firewall, and then install the wireless printer on the computer. Enable the firewall when you have completed the wireless installation.

The wireless connection does not work after moving the wireless router or printer

If the wireless connection does not work after moving the wireless router or printer, try these solutions.

1. Make sure that the router or printer connects to the same network that your computer connects to.
2. Print a configuration page.
3. Compare the service set identifier (SSID) on the configuration page to the SSID in the printer configuration for the computer.
4. If the numbers are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for the printer.

Cannot connect more computers to the wireless printer

If additional computers cannot connect to the wireless printer, try these solutions.

1. Make sure that the other computers are within the wireless range and that no obstacles block the signal. For most networks, the wireless range is within 30 m (100 ft) of the wireless access point.
2. Make sure that the printer is turned on and in the ready state.
3. Make sure there are not more than 5 concurrent Wi-Fi Direct users.
4. Turn off any third-party firewalls on your computer.
5. Make sure that the wireless network is working correctly.
6. Make sure that your computer is working correctly. If necessary, restart the computer.

The wireless printer loses communication when connected to a VPN

Typically, you cannot connect to a VPN and other networks at the same time.

The network does not appear in the wireless networks list

If the network does not appear in the wireless networks list, try these solutions.

- Make sure the wireless router is turned on and has power.
- The network might be hidden. However, you can still connect to a hidden network.


The wireless network is not functioning

If the wireless network is not functioning, try these solutions.

1. Make sure that the network cable is not connected.
2. To verify if the network has lost communication, try connecting other devices to the network.
3. 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 router IP address.
 - c. If the window displays round-trip times, the network is working.
4. Make sure that the router or printer connects to the same network that the computer connects to.
 - a. Print a configuration page.
 - b. Compare the service set identifier (SSID) on the configuration report to the SSID in the printer configuration for the computer.
 - c. If the numbers are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for the printer.

Perform a wireless network diagnostic test

From the printer control panel, you can run a diagnostic test that provides information about the wireless network settings.

1. For a **touchscreen control panel** (some printer models):
 - a. From the Home screen on the printer control panel, swipe the tab at the top of the screen downward to open the Dashboard, and then touch the Setup icon .
 - b. Scroll to and touch [Reports](#).
 - c. Scroll to and touch [Wireless Test Report](#).

The printer prints a test page that shows test results.

2. For a **2-Line LCD control panel** (some printer models):
 - a. From the printer control panel, press the [OK](#) button.
 - b. Use the arrow buttons and the [OK](#) button to navigate to and open the following menus:
 1. [Setup](#)
 2. [Network Setup](#)
 3. [Wireless Setting](#)
 4. [Print Wireless Test Report](#)

The printer prints a test page that shows test results.

Reduce interference on a wireless network

The following tips can reduce interference in a wireless network:

- Keep the wireless devices away from large metal objects, such as filing cabinets, and other electromagnetic devices, such as microwaves and cordless telephones. These objects can disrupt radio signals.
- Keep the wireless devices away from large masonry structures and other building structures. These objects can absorb radio waves and lower signal strength.
- Position the wireless router in a central location in line of sight with the wireless printers on the network.

Index

Symbols/Numerics

- 2-line LCD
 - locating features 5
- 550-sheet paper trays
 - part numbers 34

A

- accessories
 - ordering 34
 - part numbers 34
- acoustic specifications 14
- AirPrint 64, 69
- Android devices
 - printing from 64, 69

B

- bin, output
 - locating 4
- browser requirements
 - HP Embedded Web Server 73

C

- calibrate
 - colors 111
- Cancel button
 - locating 5
- cartridge
 - dynamic security 36
 - replacing 44
- cartridge policy 37, 38
- cartridge protection 37, 41
- cartridges
 - order numbers 44
- checklist
 - wireless connectivity 125
- cleaning
 - paper path 105
- color options
 - changing, Windows 111

- color theme
 - changing, Windows 111
- colors
 - calibrate 111
- control panel
 - help 86
 - locating 4
 - locating features 5, 7
- customer support
 - online 85

D

- deleting
 - stored jobs 58, 63
- dimensions, printer 13
- double-sided printing
 - Mac 55
 - Windows 52
- drivers, supported 11
- duplex printing
 - Mac 55
- duplex printing (double-sided)
 - settings (Windows) 52
 - Windows 52
- duplexer
 - jams 101
- duplexing
 - automatically (Windows) 52
 - manually (Mac) 55
 - manually (Windows) 52
- dynamic security
 - toner cartridge 36

E

- EconoMode setting 80, 105
- economy settings 80
- electrical specifications 14

- Embedded Web Server (EWS)
 - assigning passwords 79
 - features 73
- envelopes
 - orientation 19, 31
- envelopes, loading 31
- Ethernet (RJ-45)
 - locating 5

F

- firmware
 - updating 83

G

- genuine HP cartridges 37, 38

H

- Help button
 - locating 7
- help, control panel 86
- Hi-Speed USB 2.0 printing port
 - locating 5
- Home button
 - locating 7
- HP Customer Care 85
- HP Embedded Web Server (EWS)
 - features 73
- HP ePrint 67, 68
- HP EWS, using 73
- HP Printer Home Page, using 73
- HP Web Jetadmin 82

I

- image quality
 - check toner-cartridge status 105, 107
- image quality issues
 - examples and solutions 104

- interface ports
 - locating 5
- IP network settings
 - configure 76

J

- jams
 - duplexer 101
 - locations 95
 - output bin 101
 - rear door and fuser area 102
 - Tray 1 97
 - Tray 2 99
- Jetadmin, HP Web 82
- jobs, stored
 - creating (Windows) 58
 - deleting 58, 63
 - Mac settings 58
 - printing 58

K

- keypad
 - locating 4

L

- LAN port
 - locating 5
- loading
 - paper in Tray 1 18
 - paper in Tray 2 22
 - paper in Tray 3 27
- local area network (LAN)
 - locating 5

M

- Mac driver settings
 - Job Storage 58
- manual duplex
 - Mac 55
 - Windows 52
- memory
 - included 10
- memory chip (toner)
 - locating 44
- mobile printing
 - Android devices 64, 69
- mobile printing, software supported 12
- multiple pages per sheet
 - printing (Mac) 55
 - printing (Windows) 52

N

- network settings 76
- networks
 - HP Web Jetadmin 82
 - supported 10

O

- OK button
 - locating 5
- on/off button
 - locating 4
- online help, control panel 86
- online support 85
- Open source license 3
- operating systems, supported 11
- ordering
 - supplies and accessories 34
- output bin
 - jams 101
 - locating 4

P

- pages per minute 10
- pages per sheet
 - selecting (Mac) 55
 - selecting (Windows) 52
- paper
 - loading Tray 1 18
 - loading Tray 2 22
 - loading Tray 3 27
 - selecting 105, 109
 - Tray 1 orientation 19
 - Tray 2 orientation 24
 - Tray 3 orientation 29
- paper jams
 - duplexer 101
 - locations 95
 - output bin 101
 - rear door and fuser area 102
 - Tray 1 97
 - Tray 2 99
- paper pickup problems
 - solving 90, 93
- paper trays
 - part numbers 34
- paper type
 - selecting (Windows) 52
- paper types
 - selecting (Mac) 55
- paper, ordering 34

- part numbers
 - accessories 34
 - replacement parts 36
 - supplies 34
 - toner cartridges 34
- ports
 - locating 5
- potential shock hazard 2
- power
 - consumption 14
- power connection
 - locating 5
- power switch
 - locating 4
- print drivers, supported 11
- print on both sides
 - Mac 55
 - manually, Windows 52
 - Windows 52
- printing
 - from USB flash drives 70
 - stored jobs 58
- printing on both sides
 - settings (Windows) 52
- private printing 58
- product number
 - locating 4, 5
- protect cartridges 37, 41

R

- rear door
 - jams 102
- replacement parts
 - part numbers 36
- replacing
 - toner cartridges 44
- RJ-45 port
 - locating 5

S

- security features 79
- serial number
 - locating 4
- shut down after delay
 - setting 80
- sleep delay
 - setting 80
- specifications
 - electrical and acoustic 14
 - printer 10

- storage, job
 - Mac settings 58
- store print jobs 58
- stored jobs
 - creating (Mac) 58
 - creating (Windows) 58
 - deleting 58, 63
 - printing 58
- storing jobs
 - with Windows 58
- supplies
 - low threshold settings 88
 - ordering 34
 - part numbers 34
 - replacing toner cartridges 44
 - using when low 88
- support
 - online 85
- supported operating systems 11
- system requirements
 - HP Embedded Web Server 73
 - minimum 10

T

- technical support
 - online 85
- toner cartridge
 - dynamic security 36
 - low threshold settings 88
 - using when low 88
- toner cartridges
 - components 44
 - order numbers 44
 - part numbers 34
 - replacing 44
- touchscreen
 - locating features 7
- Tray 1
 - jams 97
 - loading 18
 - loading envelopes 31
 - paper orientation 19
- Tray 2
 - jams 99
 - loading 22
 - paper orientation 24
- Tray 3
 - loading 27
 - paper orientation 29

- trays
 - capacity 10
 - included 10
 - locating 4
- troubleshooting
 - check toner-cartridge status 105, 107
 - color quality 111
 - network problems 123
 - paper feed problems 90
 - print quality 105
 - wired network 123
 - wireless network 125
- two-sided printing
 - settings (Windows) 52

U

- USB flash drives
 - printing from 70
- USB port
 - locating 5

W

- walk-up USB printing 70
- web browser requirements
 - HP Embedded Web Server 73
- Web sites
 - customer support 85
 - HP Web Jetadmin, downloading 82
- weight, printer 13
- Wi-Fi Direct Printing 64, 65
- wireless network
 - troubleshooting 125
- wireless network interference 125, 128

