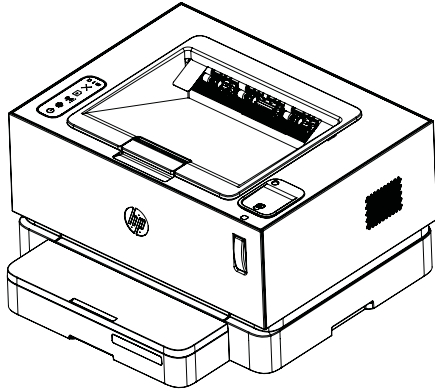


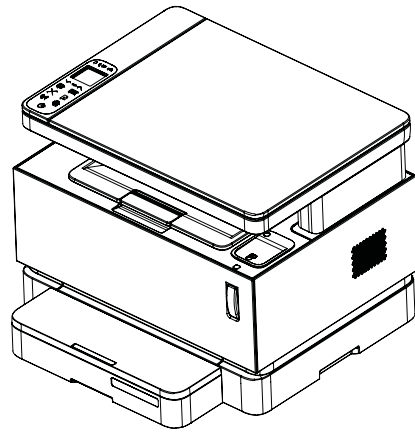


HP Neverstop Laser 1000 and MFP 1200 HP Laser NS 1020 and MFP 1005

Service Manual: Troubleshooting



Neverstop Laser 1000a/1000w
Laser NS 1020/1020w



Neverstop Laser MFP 1200a/1200w
Laser NS MFP 1005/1005w



www.hp.com/support/Neverstop1000
www.hp.com/support/ns1020
www.hp.com/support/Neverstop1200
www.hp.com/support/ns1005



HP Neverstop Laser 1000 and MFP 1200 / HP Laser NS 1020 and MFP 1005 - Service Manual : Troubleshooting

SUMMARY

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1 Theory of operation

- [For additional service and support](#)
- [Conventions used in this guide](#)
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- [Engine-control system](#)
- [Engine laser scanner system](#)
- [Pickup, feed, and delivery system](#)
- [Scanning and image capture system \(HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 models only\)](#)

For additional service and support

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

- **AMS**
 - <https://support.hp.com/wise/home/ams-en>
 - <https://support.hp.com/wise/home/ams-es>
 - <https://support.hp.com/wise/home/ams-pt>
 - <https://support.hp.com/wise/home/ams-fr>
- **APJ**
 - <https://support.hp.com/wise/home/apj-en>
 - <https://support.hp.com/wise/home/apj-ja>
 - <https://support.hp.com/wise/home/apj-ko>
 - <https://support.hp.com/wise/home/apj-zh-Hans>
 - <https://support.hp.com/wise/home/apj-zh-Hant>
 - <https://support.hp.com/wise/home/apj-th>
- **EMEA**

- <https://support.hp.com/wise/home/emea-en>

Channel partners, go to partner.hp.com.

The above websites provide information on the following topics:

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

Channel partners, access training materials in the HP University and Partner Learning Center at <https://content.ext.hp.com/sites/LMS/HPU.page>.

To access HP PartSurfer information from any mobile device, go to <http://partsurfermobile.hp.com/>.

Conventions used in this guide

Learn about the conventions used in this publication.



TIP: Tips provide helpful hints or shortcuts.



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



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



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

Basic operation

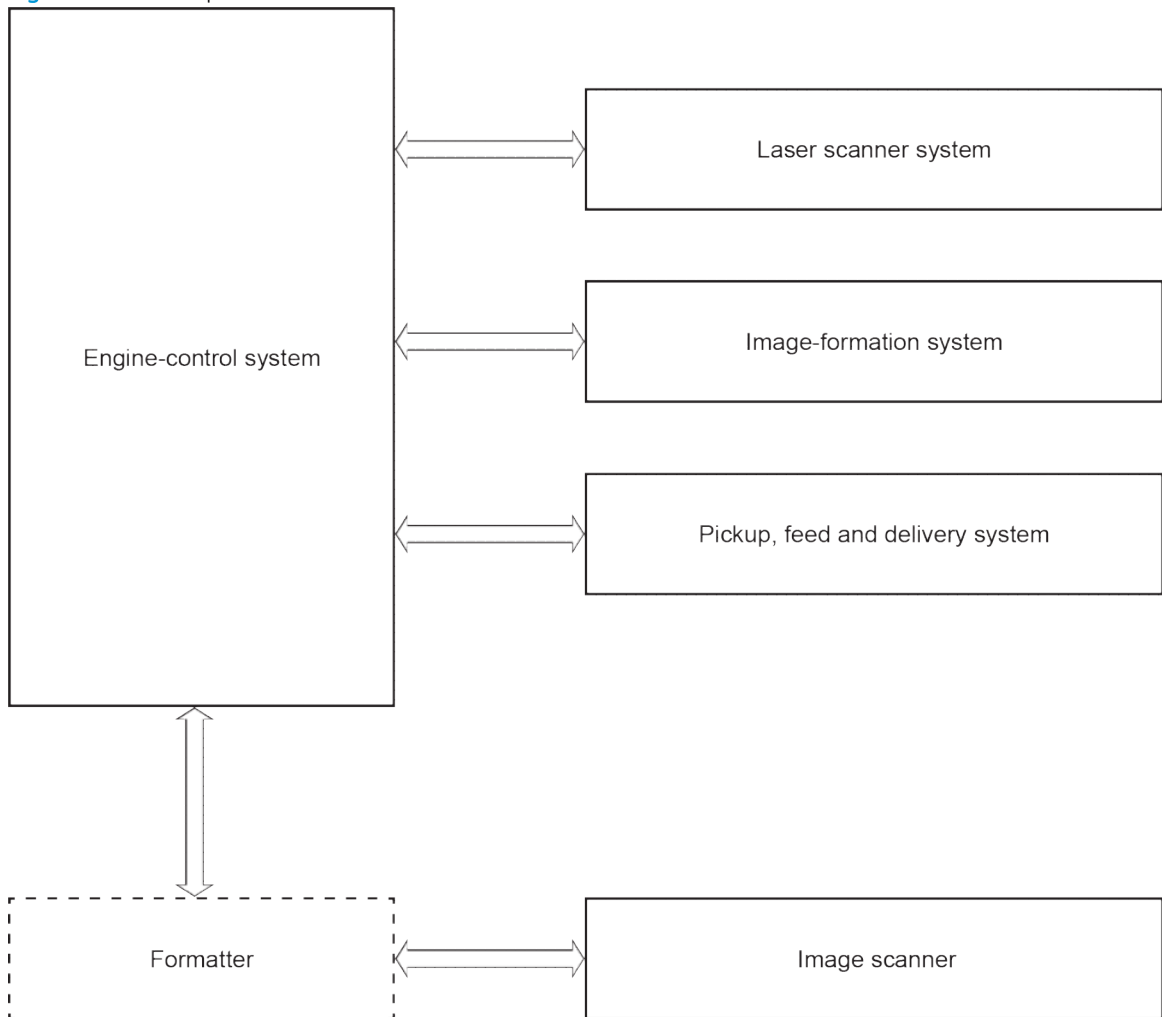
- [Sequence of operation](#)

The printer routes all high-level processes through the formatter, which stores font information, processes the print image, and communicates with the host computer.

The basic printer operation comprises the following systems:

- Engine control system
- Laser scanner system
- Image-formation system
- Pickup, feed, and delivery system
- Integrated scanner system (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 model only)

Figure 1-1 Basic operation



Sequence of operation

The DC controller in the engine control system controls the operational sequence of the printer. The table below shows the duration and operation for each period from when the printer power is turned on until the motor stops rotating.

Table 1-1 Sequence of operation

Period	Duration	Description
Waiting	From the time the power is turned on, the door is closed, or when the printer exits sleep mode until the printer is ready for printing	<ul style="list-style-type: none"> • Heats the fuser film in the fuser • Rotates and stops the main motor • Clean the transfer roller
Standby	From the end of the waiting sequence, the last rotation until the formatter receives a print command, or until the printer is turned off	<ul style="list-style-type: none"> • The printer is in the Ready state • Enter active OFF or inactive OFF if a power control mode designation command is sent
Initial rotation	From the time the formatter receives a print command until the paper enters the paper path	<ul style="list-style-type: none"> • Rotates the main motor • Activates the high-voltage power supply • Prepares the laser scanner unit • Warms the fuser to the correct temperature
Printing	From the time the first sheet of paper enters the paper path until the last sheet has passed through the fuser	<ul style="list-style-type: none"> • Forms the image on the photosensitive drums • Transfers the toner to the paper • Fuses the toner image onto the paper
Last rotation	From the time the last sheet of paper exits the fuser until the motors stop rotating	<ul style="list-style-type: none"> • Moves the last printed sheet into the output bin • Stops the main motor • Stops the high-voltage power supply • Stops the laser scanner unit • Stops the fuser • If the DC controller receives another print command, the printer enters the initial rotation period when the last rotation is complete.

Formatter-control system

- [Printer job language \(PJL\)](#)
- [Printer management language \(PML\)](#)
- [Control panel](#)
- [Wireless \(wireless models\)](#)
- [CPU](#)
- [USB](#)

The formatter is involved in the following procedures:

- Controlling the sleep delay function
- Receiving and processing print data from the various printer inputs
- Monitoring control-panel functions and relaying printer status information (through the control panel and the bidirectional input/output)
- Developing and coordinating data placement and timing with the DC controller PCA
- Storing font information
- Communicating with the host computer through the bidirectional interface

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

Printer job language (PJL)

Printer job language (PJL) is an integral part of configuration. With standard cabling, use PJL to perform a variety of functions, such as these:

- **Dynamic I/O switching:** The printer can be configured with a host on each I/O by using dynamic I/O switching. Even when the printer is offline, it can receive data from more than one I/O simultaneously, until the I/O buffer is full.
- **Context-sensitive switching:** The printer can automatically recognize the personality of each job and configure itself in that personality.
- **Isolation of print environment settings from one print job to the next:** For example, if a print job is sent to the printer in landscape mode, the subsequent print jobs are printed in landscape mode only if they are formatted for it.

Printer management language (PML)

The printer management language (PML) allows remote configuration and status monitoring through the I/O ports.

Control panel

The formatter sends and receives printer status and command data to and from the control panel.

Wireless (wireless models)

Wireless models contain a wireless card to enable 802.11b/g/n wireless communication.

CPU

The formatter incorporates an 400 MHz processor.

USB

The printer uses a universal serial bus (USB) 2.0 connection.

Engine-control system

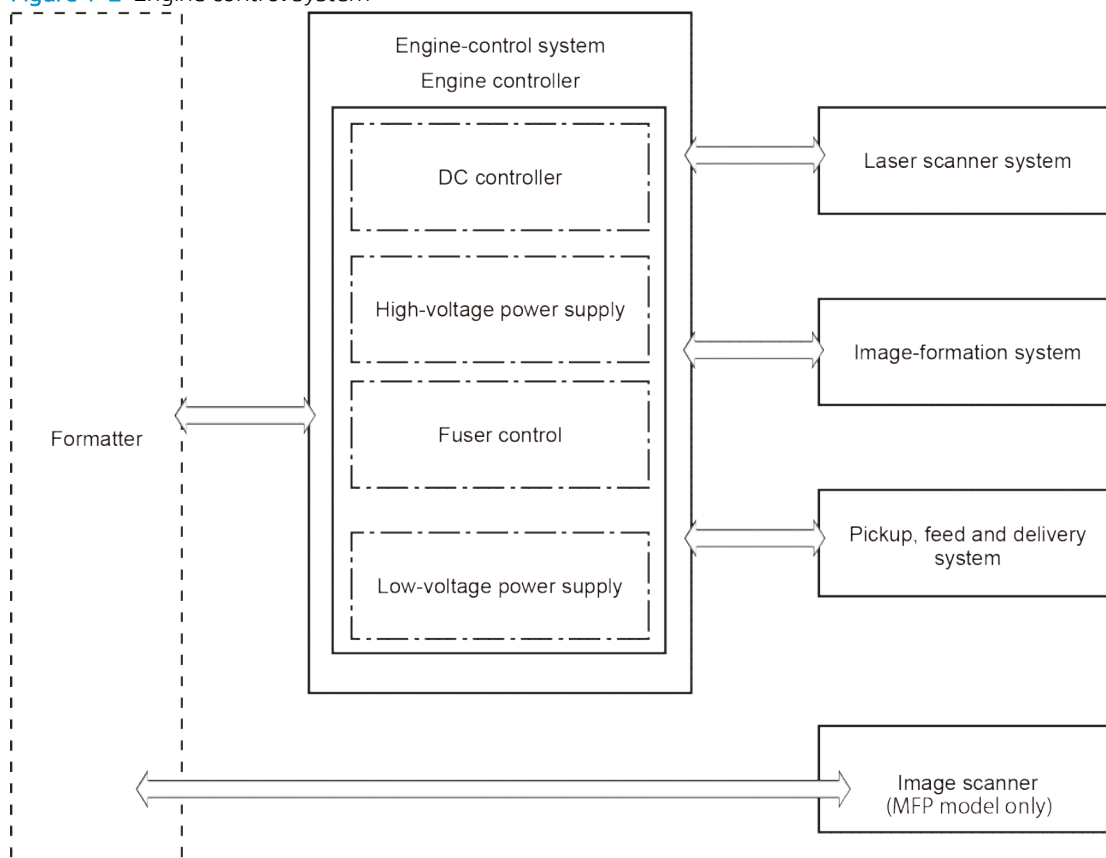
- [DC controller](#)
- [Low-voltage power supply \(LVPS\) and High-voltage power supply \(HVPS\)](#)
- [Fuser control](#)

The engine-control system receives commands from the formatter and coordinates all of the other systems. The engine-control system contains the following components:

- DC controller
- High-voltage power supply
- Low-voltage power supply
- Fuser control

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

Figure 1-2 Engine control system

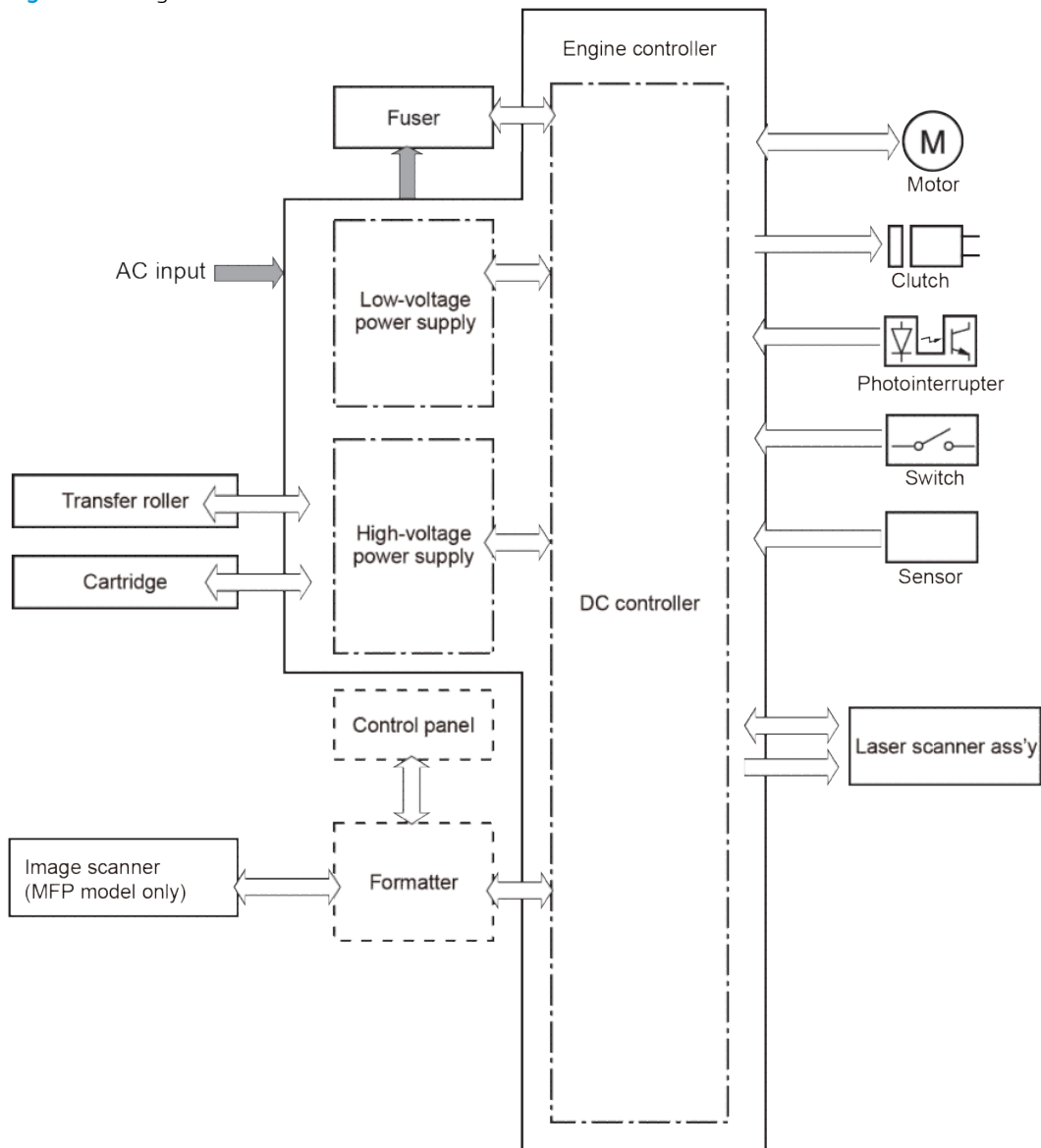


DC controller

- [Motors](#)
- [Clutch](#)
- [Sensors](#)

The DC controller PCA controls the operation of the printer and its components. The DC controller PCA starts printer operation when the power is turned on and the power supply sends DC voltage to the DC controller PCA. After the printer enters the standby sequence, the DC controller PCA sends out various signals to operate motors, solenoids, and other electrical components based on the print command and image data that the host computer sends.

Figure 1-3 Engine control unit



Motors

Table 1-2 Motors

Component name	Abbreviation	Components driven	Failure detection
Motor	M1	Main motor	Yes

Clutch

The printer has one clutch. The clutch is used for printer operation control.

Table 1-3 Clutch

Component abbreviation	Component name
CL1	Pickup clutch

Sensors

The printer has 2 sensors. Sensors are used for remote detection of various functions during printer operation.

Table 1-4 Sensors

Sensor type	Abbreviation	Component name
Photo interrupter	PS1	Feed sensor
	PS2	Width sensor 1
	PS3	Width sensor 2

Low-voltage power supply (LVPS) and High-voltage power supply (HVPS)

- [Low-voltage power supply](#)
- [High-voltage power supply](#)

The printer has a power board of integrated LVPS and HVPS.

Low-voltage power supply

- [Overcurrent/overvoltage protection](#)
- [Sleep mode operation](#)

The low-voltage power supply converts AC power from the power receptacle into DC power to cover the DC loads.

Overcurrent/overvoltage protection

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

If the DC power is not being supplied from the low-voltage power supply, the protective function might have activated. In this case, turn off the power switch, and then disconnect the power cord. Do not connect the power cord or turn the power switch on again until the root cause is found and corrected.

Sleep mode operation

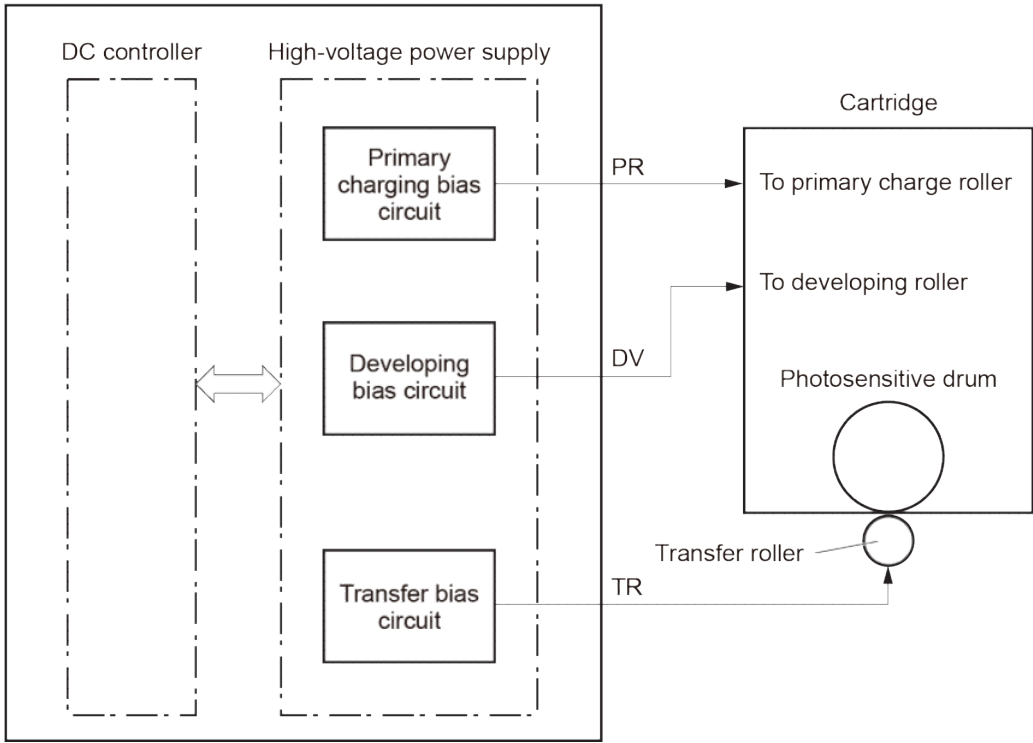
Active OFF: In this state the printer is in Sleep mode. The low-voltage power supply is output to the formatter and DC controller only.

High-voltage power supply

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

- Primary charging roller (in the toner cartridges)
The primary charging bias negatively charges the surface of the photosensitive drum to prepare for image formation.
- Developing roller (in the toner cartridges)
The developing bias adheres toner to an electrostatic latent image formed on the photosensitive drum.
- Transfer roller
The transfer bias transfers the toner from the photosensitive drum onto the paper.

Figure 1-4 High-voltage power supply circuits
Engine controller



Fuser control

- [Introduction](#)
- [Fuser circuits](#)
- [Fuser heater protection](#)

Introduction

The fuser heater control circuit and the safety circuit control the fuser temperature according to signals from the DC controller.

Figure 1-5 Fuser components

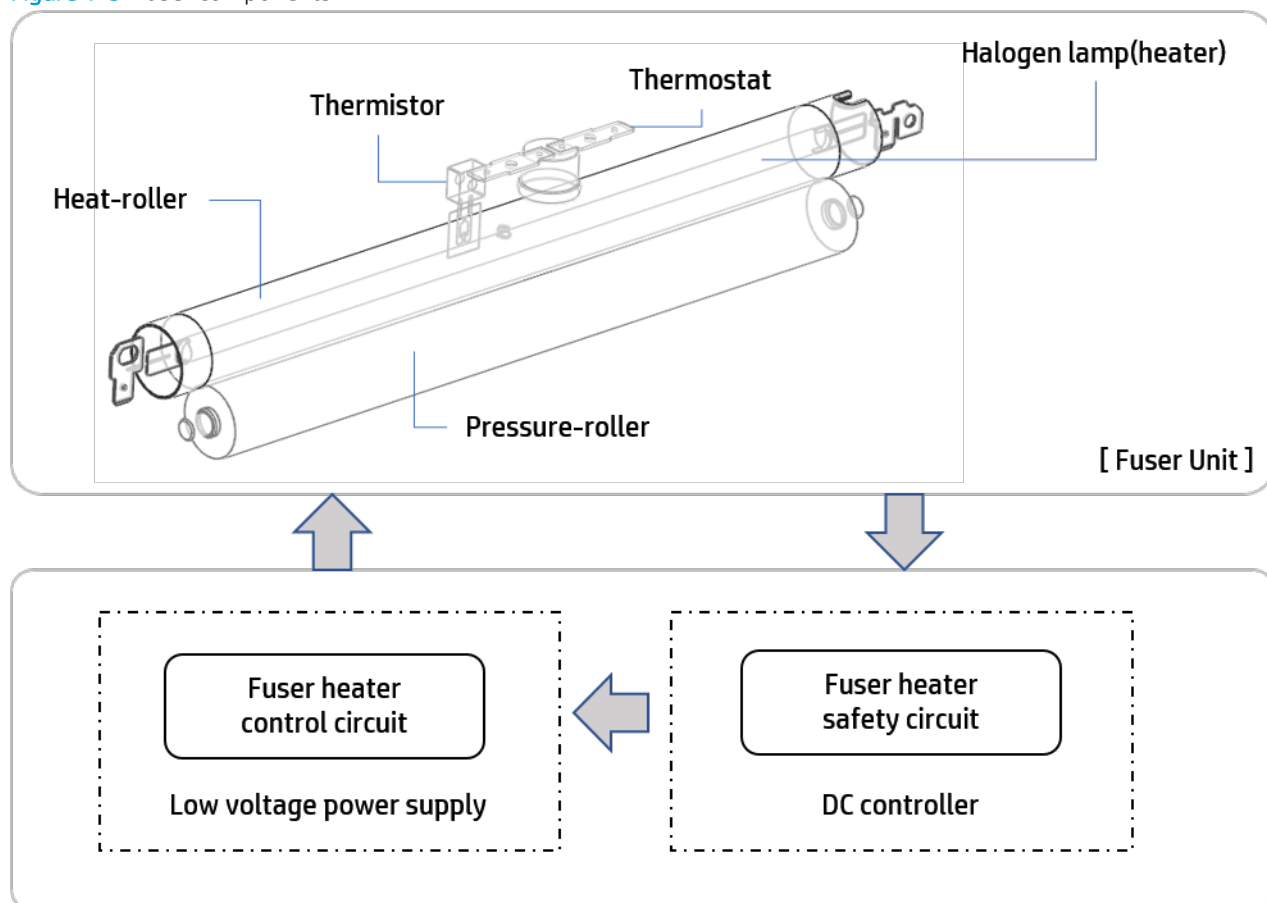


Table 1-5 Fuser control functions

Fuser detective function	Applied
Fuser temperature control	Yes
Heat up error detection	Yes
Low temperature error detection	Yes
High temperature error detection	Yes
Breaking of a heater wire detection	No

Table 1-5 Fuser control functions (continued)

Fuser detective function	Applied
Driving circuit failure detection (frequency detection circuit failure detection)	Yes
Low-voltage power supply failure detection	No
Fuser pressure release mechanism failure detection	No
Fuser type discrepancy detection	No
Fuser type identification detection	No
Fuse presence detection	No
Fuser life detection	No
Fuser roller cleaning	No

Fuser circuits

The fuser heater control circuit and the fuser heater safety circuit control the fuser temperature according to commands from the DC controller. The fuser consists of the following major components:

Figure 1-6 Fuser control

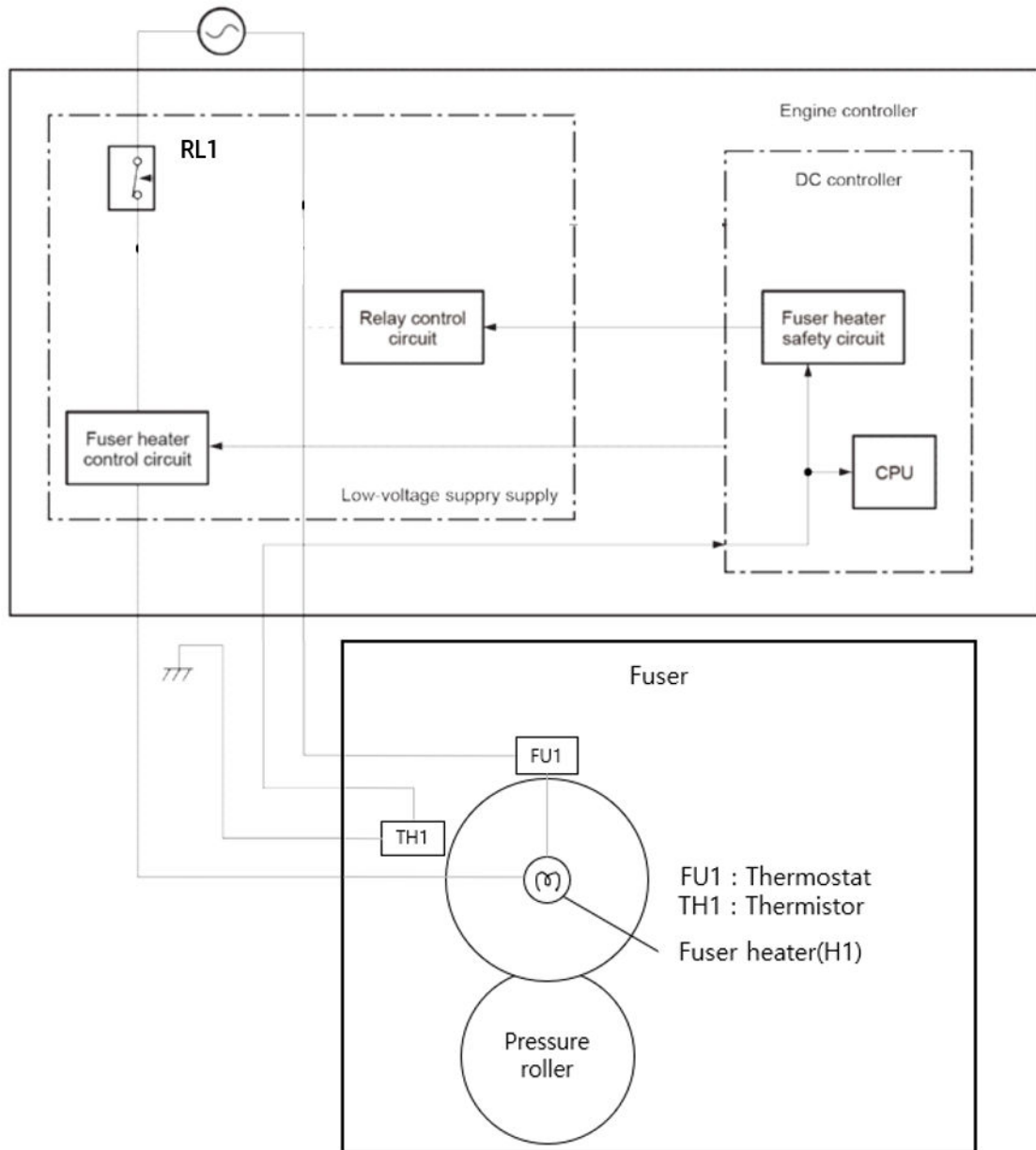


Table 1-6 Fuser components

Type of component	Abbreviation	Function
Fuser heater	H1	Heats the fuser heat roller pipe assembly
Thermistors	TH1	Detects the center temperature of the fuser heater
Thermostat	FU1	Prevents an abnormal temperature rise in the fuser heater

Fuser heater protection

Fuser heater protection is a feature that detects excessive temperatures in the fuser and interrupts the power supply to the fuser heater.

The following three protective components prevent the fuser heater from excessive rising temperature:

- **DC controller:** Monitors the detected temperature of the thermistor. If excessive temperature is detected, the DC controller deactivates the FUSER HEATER CONTROL signal and turns off the relay to interrupt power supply to the fuse heater.
- **Fuser-heater safety circuit:** Monitors the detected temperature of the thermistor. If excessive temperature is detected, the fuser-heater safety circuit turns off the relay to interrupt power supply to the fuse heater.

Engine laser scanner system

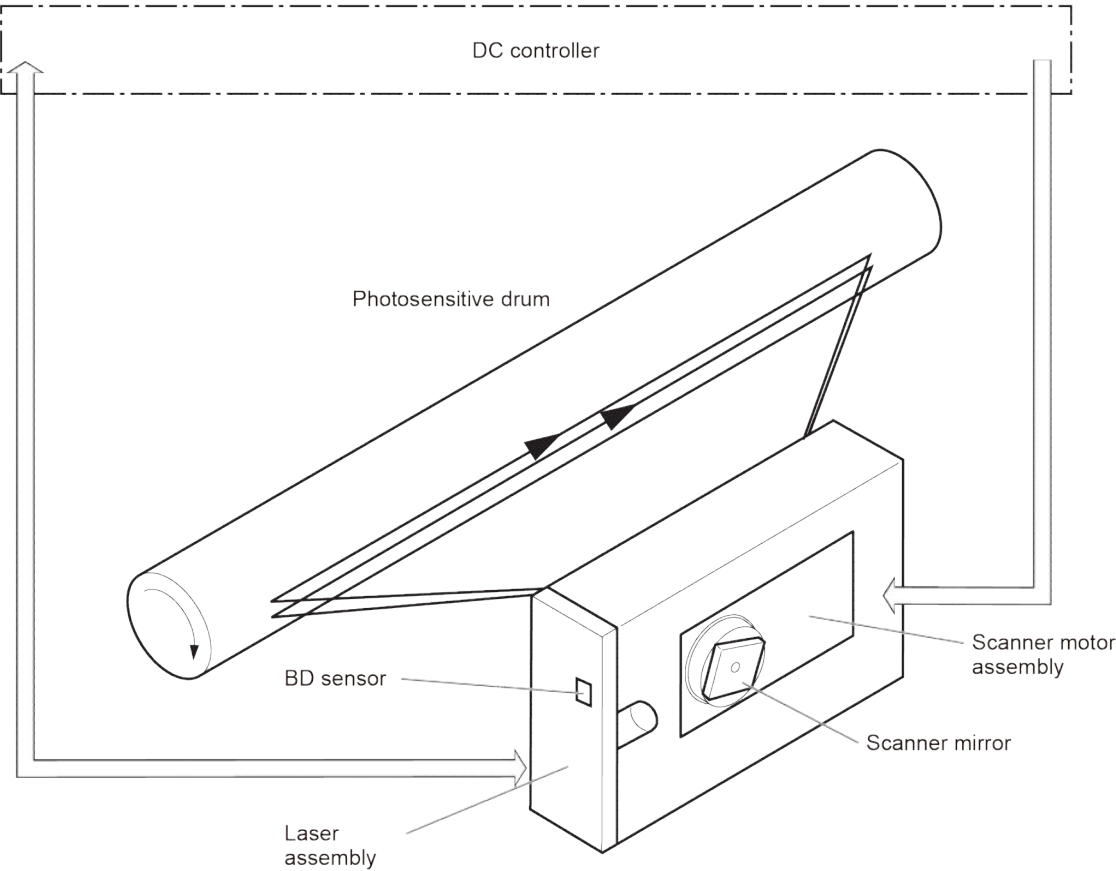
- [Laser failure detection](#)

The DC controller forms the latent image on the surface of the photosensitive drum by controlling components (using the VIDEO signals) of the laser scanner system.

The laser scanner system consists of the following components.

- Laser assembly
- Scanner motor assembly
- BD sensor
- Scanner mirror

Figure 1-7 Laser scanner system



Laser failure detection

The DC controller identifies the following laser scanner failures:

Table 1-7 Laser failure detection

Failure detective function	Applied
BD failure detection	No

Table 1-7 Laser failure detection (continued)

Failure detective function	Applied
Scanner motor startup failure detection	Yes
Scanner motor rotation failure detection	Yes
Laser scanner failure detection	No

Pickup, feed, and delivery system

- [Introduction](#)
- [Photo sensors](#)
- [Motors](#)

Introduction

The DC controller controls the pickup, feed, and delivery system according to commands from the formatter. The pickup, feed, and delivery system uses a series of rollers to move the paper through the printer.

The pickup, feed, and delivery system consists of the following functional blocks. The DC controller controls each block to pick up, feed and deliver the paper.

- Pickup-and-feed-block: Controls the movement of the paper from each pickup source to the fuser inlet.
- Fuser-and-delivery-block: Controls the movement of the paper from the fuser to the delivery destination.

Figure 1-8 Pickup, feed, and delivery system

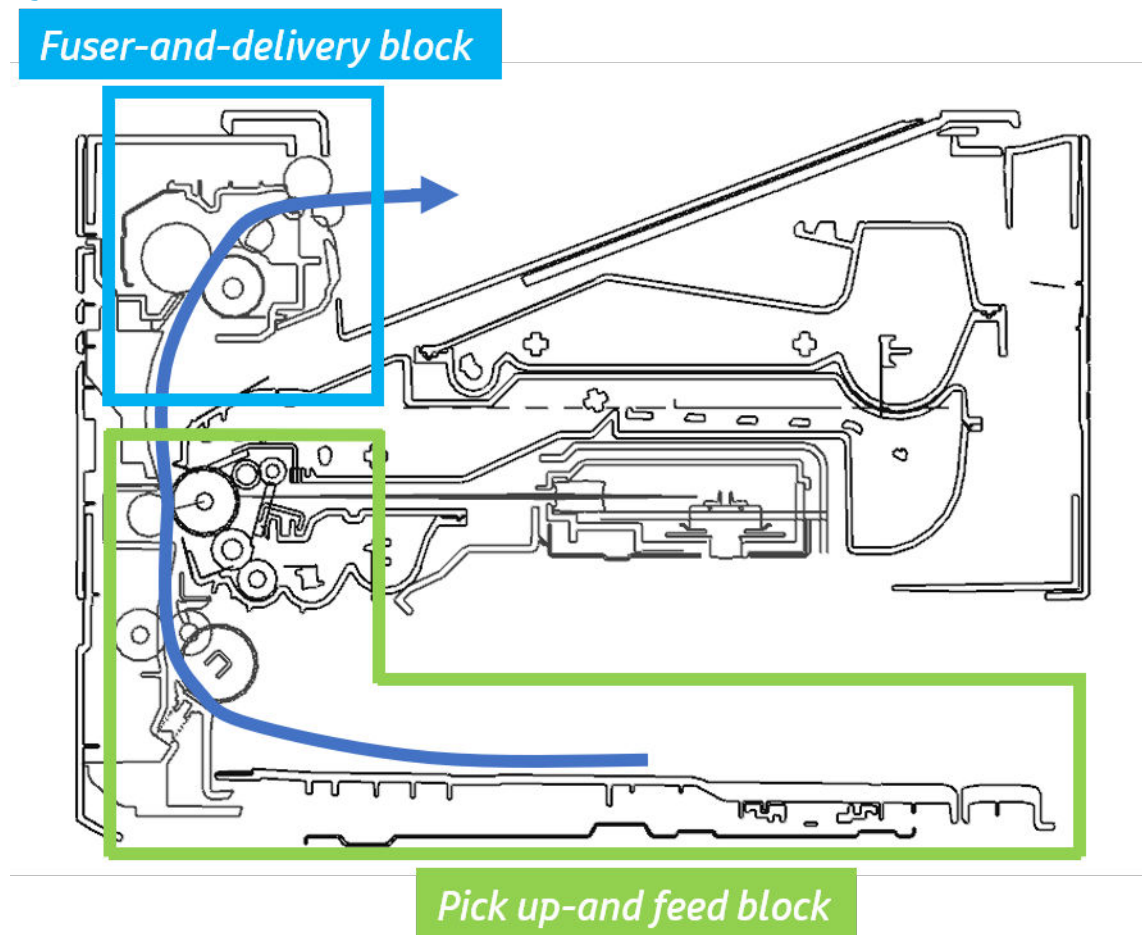


Photo sensors

The following figure shows the photo sensors for the pickup, feed, and delivery system.

Figure 1-9 Photo sensors

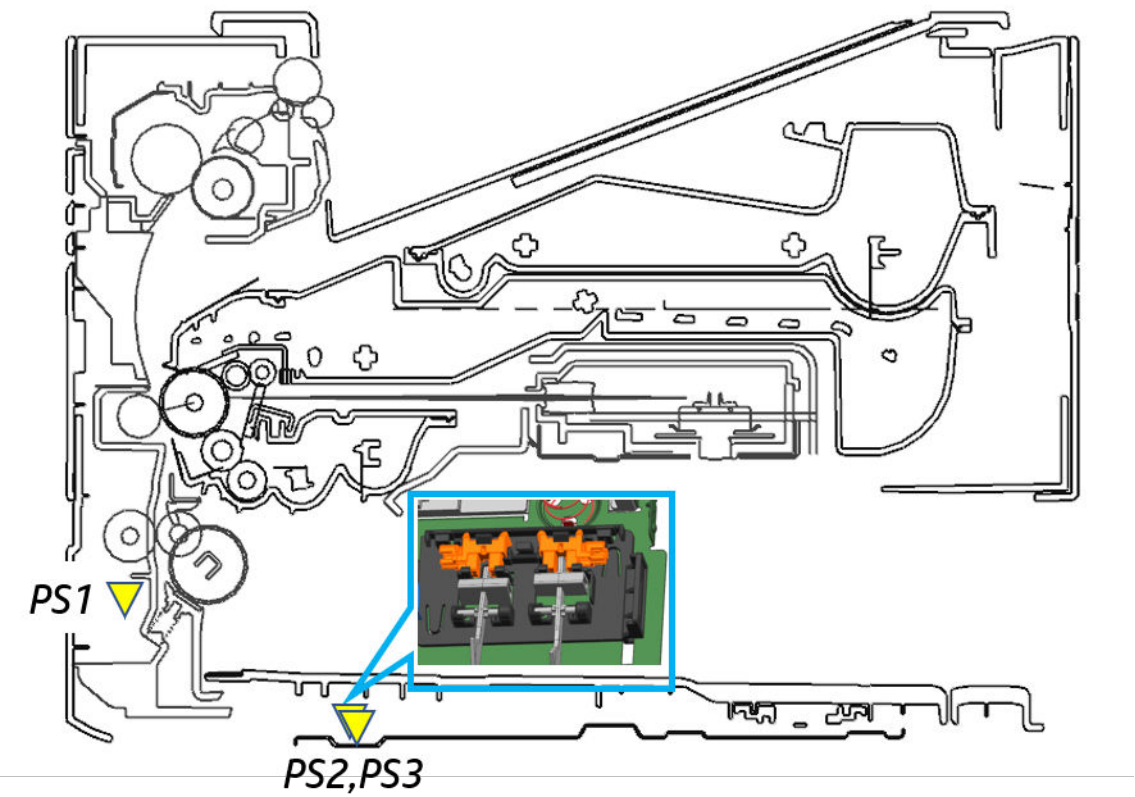


Table 1-8 Photo sensors

Abbreviation	Component
PS1	Feed sensor
PS2	Width sensor 1
PS3	Width sensor 2

Motors

The following figure shows the motors for the pickup, feed, and delivery system.

Figure 1-10 Motors

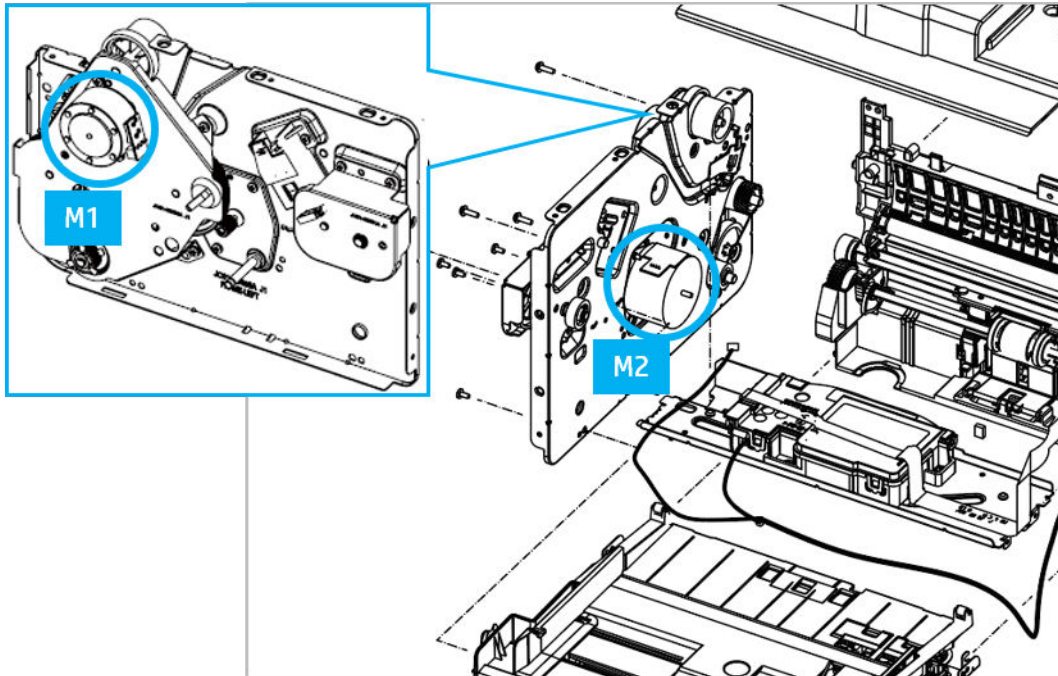


Table 1-9 Motor and clutch

Abbreviation	Component
M1	Step motor 1
M2	Step motor 2

Scanning and image capture system (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 models only)

 **NOTE:** This section is for HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 models only.

The image scanner is installed at the top of the printer, and scans a document placed on the glass using a contact image sensor (CIS).

The formatter controls the operational sequence of the image scanner.

Figure 1-11 Scanning and image capture system outline

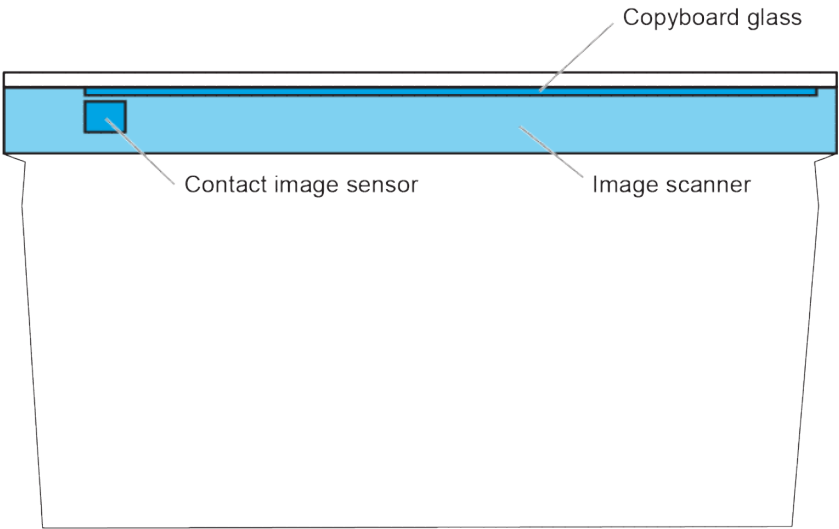


Table 1-10 Scanning and image capture system

Component type	Abbreviation	Component name
Motor	M2	Scan motor
Sensor	CIS	Contact image sensor

2 Solve problems

- [Solve problems checklist](#)
- [Troubleshooting process](#)
- [Tools for troubleshooting](#)
- [Improve print quality](#)
- [Print quality troubleshooting guide](#)
- [Improve copy and scan image quality \(HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005\)](#)
- [Clean the printer](#)
- [Solve paper-handling problems](#)
- [Solve performance problems](#)
- [Solve connectivity problems](#)
- [Printer resets](#)
- [Firmware upgrades](#)

Solve problems checklist

- [Print a configuration page](#)
- [Check the event log using the HP Embedded Web Server or HP Tool Box](#)

If the printer is not correctly functioning, complete the steps (in the order given) in the following checklist. If the printer fails a checklist step, follow the corresponding troubleshooting suggestions for that step. If a checklist step resolves the problem, skip the remaining checklist items.

1. Make sure that the printer is set up correctly.
 1. Press the power button to turn on the printer.
 2. Check the power-cable connections.
 3. Make sure that the line voltage is correct for the printer power configuration. See the label that is on the printer for voltage requirements. If you are using a power strip and its voltage is not within specifications, plug the printer directly into the wall. If it is already plugged into the wall, try a different outlet.
2. Check the cable connections.
 1. Check the cable connection between the printer and the computer. Make sure that the connection is secure.
 2. Make sure that the cable itself is not faulty, by using a different cable if possible.
 3. Check the wireless network connection (wireless models only): Make sure that the wireless button on the control panel is lit.

If the printer remains unable to connect to the network, uninstall and then reinstall the printer. If the error persists, contact a network administrator.
3. Check to see if any codes appear on the control panel (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 models only) and the Attention LED on the control panel is lit or flashing
4. Make sure that the paper you are using meets specifications.
5. Make sure that the paper is loaded correctly in the input tray.
6. Make sure that the printer software is installed correctly.
7. Verify that you have installed the printer driver for this printer, and that you are selecting this printer from the list of available printers.
8. Print a configuration report.

After printing the configuration report, check the following:

1. If the page does not print, verify that the input tray contains paper and that the paper is properly loaded.
2. Make sure that the imaging drum is installed correctly.
3. If the page jams in the printer, clear the jam.

4. If the event log (on the configuration page) shows an error, clear the error condition.
5. If the print quality is unacceptable, complete the following steps:
 - Verify that the print settings are correct for the paper you are using.
 - Solve print-quality problems.
9. Print a small document from a different program that has printed in the past. If this solution works, then the problem is with the program you are using. If this solution does not work (the document does not print), complete these steps:
 1. Try printing the job from another computer that has the printer software installed.
 2. Check the cable connection. Direct the printer to the correct port, or reinstall the software, selecting the connection type you are using.

Print a configuration page


 **NOTE:** An event log is included on the configuration page.

Print a configuration page to test the printer.

Press and hold the **Resume** button for 3 seconds to print a configuration page.

Check the event log using the HP Embedded Web Server or HP Tool Box

1. Open the HP Embedded Web Service (EWS):

 **NOTE:** HP Device Toolbox is software used to connect to the HP Embedded Web Server when the printer is connected to a computer using a USB cable. 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.

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

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

Network connected printers

1. Print a configuration report to determine the 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 configuration report. Press the Enter key on the computer keyboard. The EWS will open.



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

2. Select the Home tab, and then select the Event Log page.



TIP: If needed, print the event log from the browser.

Troubleshooting process

- [Determine the problem source](#)
- [Power subsystem](#)

Determine the problem source

- [Troubleshooting flowchart](#)

When the printer malfunctions or encounters an unexpected situation, the printer control panel alerts the user to the situation. This section contains a pre-troubleshooting checklist to filter out many possible causes of the problem. Use the troubleshooting flowchart to help diagnose the root cause of the problem. The remainder of this chapter provides steps for correcting problems.

- Use the troubleshooting flowchart to pinpoint the root cause of hardware malfunctions. The flowchart provides guides to the sections of this chapter that contain steps to correct the malfunction.

Before beginning any troubleshooting procedure, check the following issues:

- Are supply items within their rated life?
- Does the configuration report reveal any configuration errors?
- Is the printer installed on a level surface ($\pm 1^\circ$)?
- Does the printer environment fall within the acceptable ranges?

Allowed temperature and humidity

- 15°C (59°F) to 32°C (90°F)
- 10% to 80% (relative humidity, non condensing)

- Is the printer exposed to ammonia gas (such as that produced by diazo copiers or office cleaning materials)?



NOTE: Ammonia gas can adversely effect some printer components (like the photosensitive drum in the toner cartridge).

- Make sure that the toner cartridge is full seated and installed correctly, and that the cartridge door fully closes.
- Was the toner cartridge opened soon after being moved from a cold to warm environment? If so, allow the cartridge to sit at room temperature for 1 to 2 hours before printing.



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

Troubleshooting flowchart

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

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

Table 2-1 Troubleshooting flowchart

Step	Check	Action
1 Power on	Is the printer on and does a readable message display?	Follow the power-on troubleshooting checks. After the control panel display is functional, see step 2.
2 Control panel	Is the control panel Ready LED illuminated?	Determine printer errors using the LED display (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 models only) and Attention LED state. After the errors have been corrected, go to step 3. The printer event log is also available from the following: <ul style="list-style-type: none"> • Configuration Page • HP Embedded Web Server • HP Tool Box
3 Event log	Access the event log to see the history of errors with this printer.	Correct any error conditions found in the event log. See the Control panel (layout and interpreting light patterns) section of the service manual. NOTE: Use the following to access the event log: <ul style="list-style-type: none"> • Configuration Page • HP Embedded Web Server • HP Tool Box If paper jams inside the printer, see the Clear paper jams section of the service manual. After successfully evaluating the event log, see step 4.
4 Information pages	Print the configuration page.	Print a configuration report from the HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 control panel <ol style="list-style-type: none"> 1. Press and hold the Resume button until the Ready light begins blinking. 2. Release the Resume button. Print a configuration report from the HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 models control panel <ul style="list-style-type: none"> • Press and hold the Resume button for 3 seconds to print a configuration page. Verify all printer settings. After evaluating the configuration page, see step 5.

Table 2-1 Troubleshooting flowchart (continued)

Step	Check	Action
5 Print quality	Is the print quality acceptable?	<p>Compare print defects with the examples in the Print quality troubleshooting guide section in this manual.</p> <p>After the print quality is acceptable, see step 6.</p>
6 Interface	Can the customer print successfully from the host computer?	<p>Verify that the USB cable is connected correctly.</p> <p>Wireless models only: verify that a valid IP address is being used.</p> <p>If error messages display (or the Attention LED is illuminated), see the Control panel (layout and interpreting light patterns) section of the service manual..</p> <p>When the customer can print from the host computer, this is the end of the troubleshooting process.</p>

Power subsystem

- [Power-on checks](#)

Power-on checks

- [Power-on troubleshooting overview](#)

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

HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 wireless models only: If the control panel display remains blank, random patterns display, or asterisks remain on the control panel display, perform power-on checks to find the cause of the problem.

Operational check

If the printer does not start with the power turned on, do the following:

- The low-voltage power supply overcurrent/overvoltage protection circuit might be functioning.
 1. Turn the printer power off, and then unplug the power cord.
 2. Leave the power off for 5 minutes or longer.
 3. Plug the power cord in and turn the printer power on.
- If the error persists: the fuse on the engine controller unit (ECU) might be blown or the ECU is defective. Replace the ECU.

Power-on troubleshooting overview

- [Test pages](#)
- [Power-on troubleshooting overview](#)

When the printer power is turned on, the normal operation sounds of a motor rotating is heard and the output rollers rotate.

Test pages

Printing a test page helps determine if the printer is functioning. If a printer failure occurs, print a test page to verify printer functionality.

Power-on troubleshooting overview

When the printer power is turned on, the normal operation sounds of a motor rotating is heard and the output rollers rotate.

Troubleshooting power on problems

1. Verify that power is available to the printer. If the printer is plugged into a surge protector or uninterruptible power supply (UPS), remove it, and then plug the printer directly into a known operating wall receptacle (make sure that the wall receptacle provides the correct voltage and current for the printer).

Unplug any other devices on the same circuit that the printer is using.

2. Try another known operating wall receptacle and a different power cord.
3. Listen for startup noises (motors and output roller rotation) and illuminated lights on the control panel. If startup noises are not heard, try opening and then closing the cartridge door.



NOTE: Operational motors and control-panel lights indicate the following:

- AC power is present at the printer.
 - The low-voltage power supply (LVPS) is providing either or both 24 Vdc and 5 Vdc voltages.
 - The DC controller microprocessor is functioning.
-

4. If startup noises are not heard, check the following:
 1. Turn the printer off, and then replace the formatter (the engine can not turn on with the formatter removed).
 2. Turn the printer on, and then listen for startup noises. If normal startup noises are heard, go to step 5.
 3. If normal startup noises and lights are still not present, replace the engine controller assembly.



NOTE: If the error persists after replacing these assemblies, escalate the problem to the Global Business Unit (GBU).

5. Print a configuration page to test the printer.
 - Press and hold the Resume button for 3 seconds to print a configuration page.

If the configuration page prints, the print engine is operating normally.



NOTE: If the configuration page does not print, turn the printer off, replace the formatter, and then try to print the configuration page again. If the page prints, the problem might be the formatter.

HP Neverstop Laser MFP 120x / HP Laser NS MFP 1005 models only: If the flatbed lid is opened or the copy buttons are pressed but the control panel does not illuminate, it can be caused by one or more of the following:

- No power to the printer.
- Power supply has tripped (over-current/over-voltage/temperature issue).
- Formatter not fully seated.
- Faulty component installed on the formatter (for example a WiFi PCA).
- Control panel connector not fully seated.
- Faulty formatter
- Faulty DC controller (on the engine controller unit).
- Faulty control panel.

Troubleshooting a blank control panel (HP Neverstop Laser MFP 120x / HP Laser NS MFP 1005)

1. Verify that power is available to the printer. If the printer is plugged into a surge protector or uninterruptible power supply (UPS), remove it, and then plug the printer directly into a known operating wall receptacle (make sure that the wall receptacle provides the correct voltage and current for the printer).
2. Make sure that the power switch is in the on position.
3. Make sure that the motor runs briefly (at start up), which indicates that the power supply is operational.
4. Make sure that the control-panel display flat cable is connected.
5. Make sure that the formatter is operating correctly. Turn off the printer and remove the formatter. Reinstall the formatter, make sure the power switch is in the on position.
6. If the control panel display is blank, but the motor runs briefly after the printer power is turned on, try printing an engine-test page to determine whether the problem is with the control-panel display, formatter, or other printer assemblies.
 - With the printer on and in the Ready state, open and then close the cartridge door four times within 5 seconds. The printer prints one simplex engine test page.

If the engine test page prints, the print engine is operating normally (a failed engine test print page does not necessarily indicate that the ECU is defective).

7. If the print engine appears to be correctly operating (the engine test page successfully printed) and the control panel is still blank ((HP Neverstop Laser MFP 120x / HP Laser NS MFP 1005 models only), replace the ECU.



NOTE: If the error persists after replacing these assemblies, escalate the problem to the Global Business Unit (GBU).

Tools for troubleshooting

- [Individual component diagnostics](#)
- [Diagrams](#)
- [Control panel \(layout and interpreting light patterns\)](#)

The section describes the tools that can help solve problems with the printer.

Individual component diagnostics

- [Tools for troubleshooting: Engine diagnostics](#)

Tools for troubleshooting: Engine diagnostics

- [Half self-test functional check](#)
- [Drum rotation functional check](#)

The printer contains extensive internal engine diagnostics that help in troubleshooting print quality, paper path, noise, assembly, and timing issues.

Half self-test functional check

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

1. Send a print job to the printer.



NOTE: HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 only: Use the image scanner to make a copy.

2. Open the toner-cartridge door after the paper advances halfway through the printer (about 5 seconds after the motor begins rotating). The leading edge of the paper should have advanced past the toner cartridge.
3. Remove the toner cartridge.
4. Look at the photosensitive drum. If a dark and distinct toner image is present on the drum surface, assume that the first two functions of the electrophotographic process are functioning (image formation and development). Troubleshoot the failure as a transfer or fusing problem.
5. If there is no image on the photosensitive drum, do the following:
 1. Make sure that the entire length of the sealing tape was removed before reinstalling the cartridge.
 2. perform a drum rotation functional check to make sure that the drum is rotating.
6. Make sure that the high-voltage contacts are clean and not damage.

Drum rotation functional check

The photosensitive drum, located in the toner cartridge, must rotate for the print process to work. The main motor drives the photosensitive drum.



NOTE: This test is especially important if refilled toner cartridges are used.

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

If the mark did not move, inspect the drive gear in the printer to make sure it is meshing with the toner cartridge gear. If the gear appears functional and the drum does not move, replace the toner cartridge.

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Diagrams

- [Diagrams: Printed circuit assembly \(PCA\) connector locations](#)
- [Diagrams: External plug and port locations](#)
- [Diagrams: Locations of major components](#)

Use the diagrams in this section to identify printer components.

Diagrams: Printed circuit assembly (PCA) connector locations

- [Diagrams: Formatter connections](#)

Diagrams: Formatter connections

Figure 2-1 HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005 fomatter connection

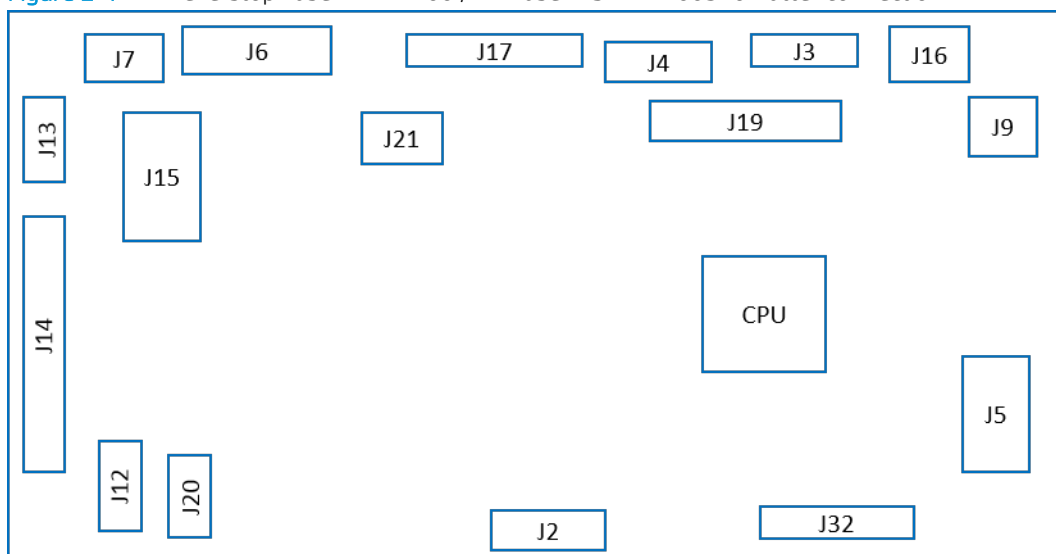


Figure 2-2 HP Neverstop Laser 1000 / HP Laser NS 1020 fomatter connection

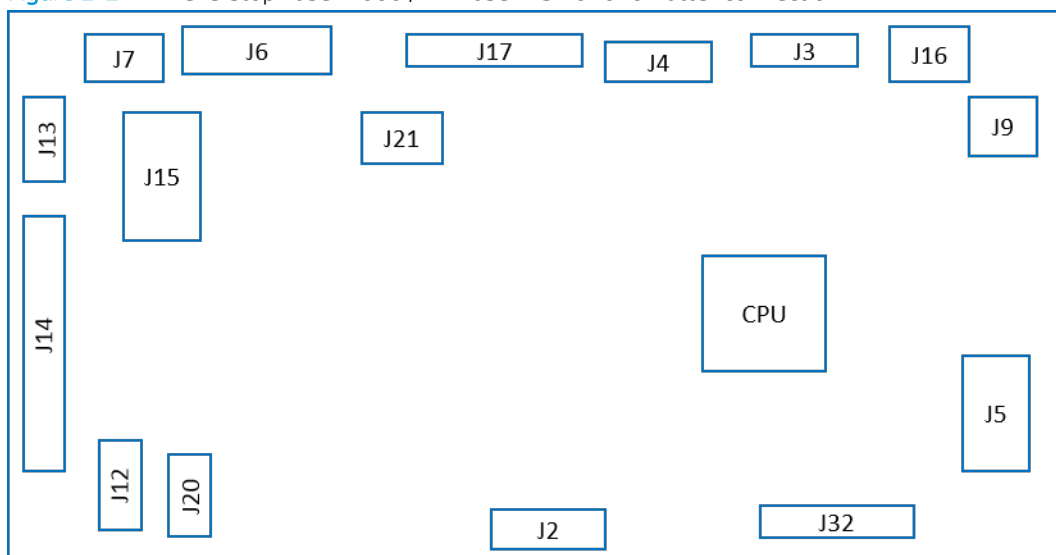


Table 2-2 Formatter connections

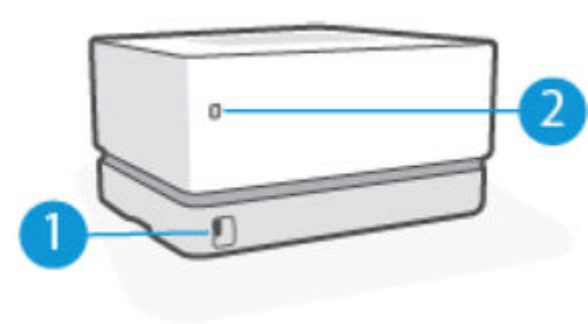
No	Description
J2	Wireless card
J3	Control panel
J4	Paper sensor
J5	Feed binfull sensor

Table 2-2 Formatter connections (continued)

No	Description
J6	Toner remain sensor
J7	Syringe detect
J9	Pickup clutch
J12	DC motor
J13	DC motor
J14	LVPS/HVPS
J15	Step motor
J16	Fuser
J17	Laser SU
J19	CIS PCA
J20	Toner gauge
J21	Syringe photo sensor
J32	Debug

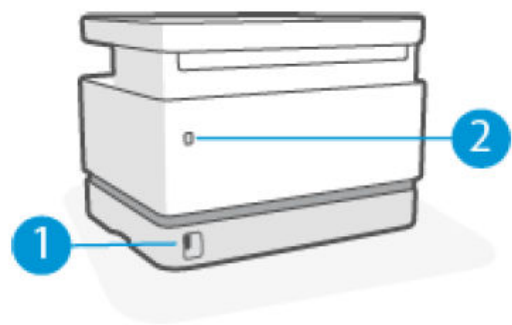
Diagrams: External plug and port locations

Figure 2-3 External plug and port locations (HP Neverstop Laser 1000 / HP Laser NS 1020)



No.	Item
1	Power connection
2	USB port

Figure 2-4 External plug and port locations (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)



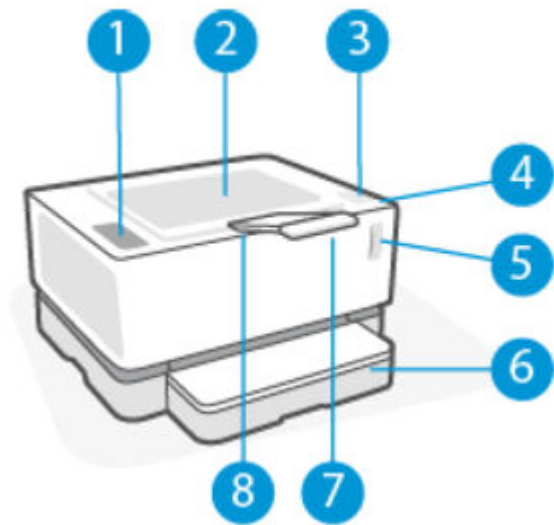
No.	Item
1	Power connection
2	USB interface port

Diagrams: Locations of major components

- [External panels, doors, and covers](#)

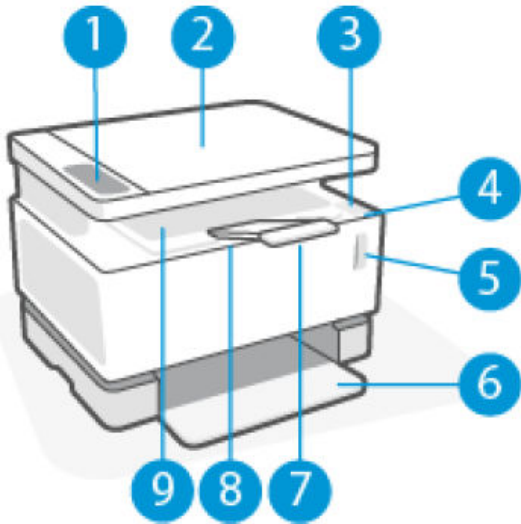
External panels, doors, and covers

Figure 2-5 External panels, doors, and covers (HP Neverstop Laser 1000 / HP Laser NS 1020)



No	Description
1	Control panel
2	Output bin
3	Reload port
4	Reload port indicator light
5	Toner status lights
6	Input tray
7	Output bin extension
8	Finger recess

Figure 2-6 External panels, doors, and covers (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)



No	Description
1	Control panel
2	Flatbed scanner
3	Reload indicator light
4	Reload port
5	Toner level indicator lights
6	Input tray
7	Output bin extension
8	Finger recess
9	Output bin

Control panel (layout and interpreting light patterns)

- [Control panel features \(HP Neverstop Laser 1000 / HP Laser NS 1020\)](#)
- [Control panel features \(HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005\)](#)
- [Control panel display features \(HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005\)](#)
- [Interpret control-panel light patterns \(HP Neverstop Laser 1000 / HP Laser NS 1020\)](#)
- [Interpret control-panel light patterns \(HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005\)](#)

Control panel features (HP Neverstop Laser 1000 / HP Laser NS 1020)

Figure 2-7 Control panel for base models

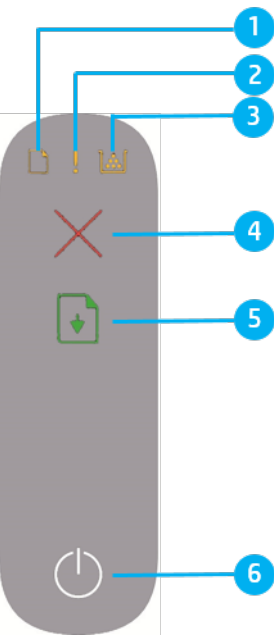


Table 2-3 Control panel for base models

No	Item	Description
1	Paper light	The Paper light blinks when the input tray is out of paper, and is on (solid) when there is a paper error.
2	Attention light	The Attention light blinks when the printer requires user attention. If the Attention light is on solid, there is a service error.
3	Imaging Drum light	The Imaging drum light indicates that the imaging drum is nearing the end of its useful life. If the light blinks you must replace the imaging drum to continue printing.
4	Cancel button	Press this button to cancel a job.

Table 2-3 Control panel for base models (continued)

No	Item	Description
5	Resume button	<p>Press this button for the following actions:</p> <ul style="list-style-type: none"> • If the printer is in a error or prompt state, with the Resume light on, press the button to clear the error and resume printing. • In manual duplex mode, press this button to print the second side of the document. • Press and hold this button for 3 seconds to print a configuration page.
6	Power button/Ready light	<p>Use this button to turn the printer on or off.</p> <p>The Ready light is on when the printer is ready to print. It blinks when the printer is receiving print data and dims when the printer is in a low-power state.</p>

Figure 2-8 Control panel for wireless models

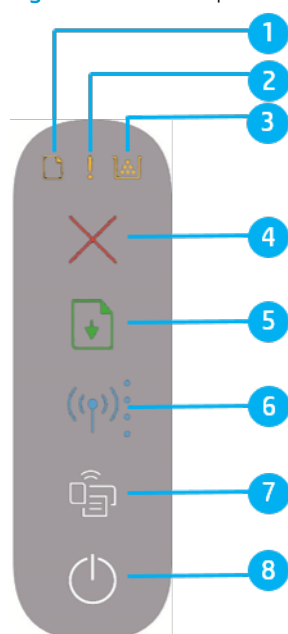


Table 2-4 Control panel for wireless models

No	Item	Description
1	Paper light	The Paper light blinks when the input tray is out of paper, and is on (solid) when there is a paper error.
2	Attention light	The Attention light blinks when the printer requires user attention. If the Attention light is on solid, there is a service error.
3	Imaging Drum light	The Imaging drum light indicates that the imaging drum is nearing the end of its useful life. If the light blinks you must replace the imaging drum to continue printing.
4	Cancel button	Press this button to cancel a job.

Table 2-4 Control panel for wireless models (continued)

No	Item	Description
5	Resume button	Press this button for the following actions: <ul style="list-style-type: none">• If the printer is in a error or prompt state, with the Resume light on, press the button to clear the error and resume printing.• In manual duplex mode, press this button to print the second side of the document.• Press and hold this button for 3 seconds to print a configuration page.
6	Wireless button and light	Press this button to turn the wireless feature on or off. Press and hold this button for 3-5 seconds to configure a WPS connection. If the Wireless button light glows steady blue, there is a stable wireless connection. If it is blinking blue, the printer is in wireless connection setup mode or WPS configuration is in progress. If the light glows amber, the printer cannot connect to the wireless network, or there is a WPS error.
7	Wi-Fi Direct button	Press this button to turn Wi-Fi direct on or off. Press this button to complete a W-iFi Direct connection if it is blinking.
8	Power button/Ready light	Use this button to turn the printer on or off. The Ready light is on when the printer is ready to print. It blinks when the printer is receiving print data and dims when the printer is in a low-power state.

Control panel features (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)

Figure 2-9 Control panel for base models

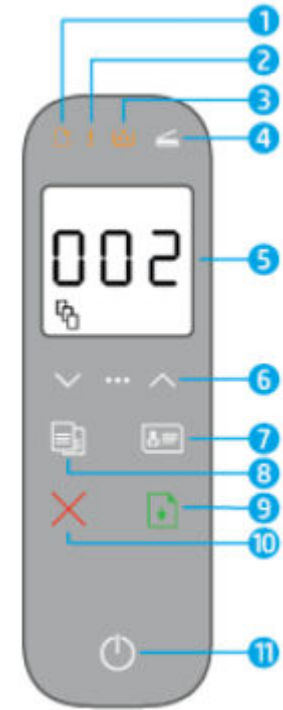


Table 2-5 Control panel for base models

No	Item	Description
1	Paper light	The Paper light blinks when the input tray is out of paper, and is on (solid) when there is a paper error.
2	Attention light	The Attention light blinks when the printer requires user attention. If the Attention light is on solid, there is a service error.
3	Imaging Drum light	The Imaging drum light indicates that the imaging drum is nearing the end of its useful life. If the light blinks you must replace the imaging drum to continue printing.
4	Lid Open light	The light flashes during ID Copy mode to prompt you to open the lid and turn the original over to copy the second side.
5	Control panel display	In Copy mode, the display shows the number of copies selected (as shown in the example), the contrast setting, and the scaling factor. In ID Copy mode, the display prompts you through the process. In other modes, the display shows error codes and other prompts.
6	Menu buttons	Use the Menu button (3 dots) and the up and down arrows as follows: <ol style="list-style-type: none"> 1. Press the Menu button to display the first menu option, number of copies. 2. Use the up and down arrows to adjust the number of copies to print. 3. Press the Menu button to move to the next option, contrast setting. 4. Use the up and down arrows to adjust the contrast. 5. Press the Menu button to move to the next option, the reduce/enlarge setting. 6. Use the up and down arrows to adjust the size. 7. Press the Menu button to save the settings and exit the menu.
7	ID Copy button	Press the ID Copy button to start the process of copying a two-sided identification card or similar document. Follow the prompts as you copy the first side, then open the lid, turn the card over, and copy the second side.
8	Copy button	Press the Copy button to start a copy job.
9	Resume button	Press this button for the following actions: <ul style="list-style-type: none"> • If the printer is in a error or prompt state, with the Resume light on, press the button to clear the error and resume printing. • In manual duplex mode, press this button to print the second side of the document. • In ID Copy mode, press this button to scan the back side of the identification card. • Press and hold this button for 3 seconds to print a configuration page.
10	Cancel button	Press this button to stop or cancel the current job.
11	Power button/Ready light	Use this button to turn the printer on or off. Any active jobs will be cancelled. The Ready light is on when the printer is ready to print. It blinks when the printer is receiving print data and dims when the printer is in a low-power state.

Figure 2-10 Control panel for wireless models



Table 2-6 Control panel for wireless models

No	Item	Description
1	Paper light	The Paper light blinks when the input tray is out of paper, and is on (solid) when there is a paper error.
2	Attention light	The Attention light blinks when the printer requires user attention. If the Attention light is on solid, there is a service error.
3	Imaging Drum light	The Imaging drum light indicates that the imaging drum is nearing the end of its useful life. If the light blinks you must replace the imaging drum to continue printing.
4	Lid Open light	The light flashes during ID Copy mode to prompt you to open the lid and turn the original over to copy the second side.
5	Control panel display	<p>In Copy mode, the display shows the number of copies selected (as shown in the example), the contrast setting, and the scaling factor. In ID Copy mode, the display prompts you through the process.</p> <p>In other modes, the display shows error codes and other prompts.</p>
6	Menu buttons	<p>Use the Menu button (3 dots) and the up and down arrows as follows:</p> <ol style="list-style-type: none">1. Press the Menu button to display the first menu option, number of copies.2. Use the up and down arrows to adjust the number of copies to print.3. Press the Menu button to move to the next option, contrast setting.4. Use the up and down arrows to adjust the contrast.5. Press the Menu button to move to the next option, the reduce/enlarge setting.6. Use the up and down arrows to adjust the size.7. Press the Menu button to save the settings and exit the menu.

Table 2-6 Control panel for wireless models (continued)

No	Item	Description
7	ID Copy button	<p>Press the ID Copy button to start the process of copying a two-sided identification card or similar document.</p> <p>Follow the prompts as you copy the first side, then open the lid, turn the card over, and copy the second side.</p>
8	Copy button	Press the Copy button to start a copy job.
9	Resume button	<p>Press this button for the following actions:</p> <ul style="list-style-type: none"> • If the printer is in a error or prompt state, with the Resume light on, press the button to clear the error and resume printing. • In manual duplex mode, press this button to print the second side of the document. • In ID Copy mode, press this button to scan the back side of the identification card. • Press and hold this button for 3 seconds to print a configuration page.
10	Cancel button	Press this button to stop or cancel the current job.
11	Wi-Fi Direct button	Press this button to turn Wi-Fi direct on or off. Press this button to complete a W-Fi Direct connection if it is blinking.
12	Wireless button	<p>Press this button to turn the wireless feature on or off.</p> <p>Press and hold this button for 3-5 seconds to configure a WPS connection.</p> <p>If the Wireless button light glows steady blue, there is a stable wireless connection. If it is blinking blue, the printer is in wireless connection setup mode or WPS configuration is in progress. If the light glows amber, the printer cannot connect to the wireless network, or there is a WPS error.</p>
13	Power button/Ready light	<p>Use this button to turn the printer on or off. Any active jobs will be cancelled.</p> <p>The Ready light is on when the printer is ready to print. It blinks when the printer is receiving print data and dims when the printer is in a low-power state.</p>

Control panel display features (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)

The appearance of the control panel display changes depending on the mode that the printer is in. Three common display modes are shown below.

Table 2-7 The appearance of the control panel display


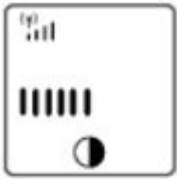

Item	Description
	<p>Copy mode</p> <p>The display shows the Number of Copies icon, and the number of copies currently selected.</p>

Table 2-7 The appearance of the control panel display (continued)

Item	Description
	Contrast mode The display shows the lighter/darker icon, and the current setting.
	Scale mode The display shows the reduce/enlarge icon, and the current scale (as a percentage of the original size).

Elements of the control panel display are identified below.

Figure 2-11 Elements of the control panel display

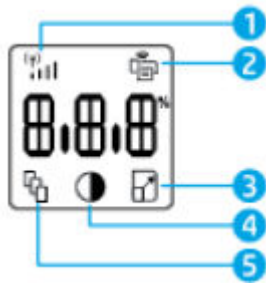


Table 2-8 Elements of the control panel display

No	Item	Description
1	Wi-Fi Signal Strength indicator (wireless models only)	The Wi-Fi Signal Strength indicator shows the wireless signal strength of the network that the printer is connected to.
2	Wi-Fi Direct icon (wireless models only)	The Wi-Fi Direct icon indicates that Wi-Fi Direct is on.
	Character display	Depending on the current mode, the characters display the following: <ul style="list-style-type: none">• Number of copies being printed• Copy settings (contrast and the reduce/enlarge setting)• Animation to show that the device is busy• Error and status codes
3	Reduce/Enlarge icon	When displayed, the character display shows the current scaling factor (in percent).

Table 2-8 Elements of the control panel display (continued)

No	Item	Description
4	Lighter/Darker (contrast) icon	When displayed, the character display shows the contrast setting (as a bar graphic).
5	Number of Copies icon	When displayed, the character display shows the number of copies currently selected for printing.

Interpret control-panel light patterns (HP Neverstop Laser 1000 / HP Laser NS 1020)

SHORT DESCRIPTION

Table 2-9 Status-light legend



Item	Description
	Example symbol for "light blinking"
	Example symbol for "light on"

Table 2-10 Control-panel light patterns






Light status	State of the printer	Action
	The printer is in manual-feed mode.	Load the correct paper type and size into the input tray. Press the Resume button to continue.
	The printer is processing a manual duplex job.	Load the pages into the input tray to print the second sides. Press the Resume button to continue.
	The printer received a request for Google Cloud Print registration.	Press the Resume button to continue.
Attention light is blinking, Paper light is on, Resume light is on 	The paper type or size of the print job is different than the input tray settings.	Load the correct paper type and size into the input tray, or press the Resume button to continue with the paper currently loaded.
Wi-Fi Direct light is blinking 	The printer has received a request to connect to this printer using Wi-Fi Direct.	Press the Wi-Fi Direct button to connect.
Attention light is blinking, Paper light is blinking 	The input tray is empty.	Load the input tray.
Attention light is blinking 	A door is open.	Verify that the top cover is fully closed.

Table 2-10 Control-panel light patterns (continued)














Light status	State of the printer	Action
Attention light is blinking, Paper light is on, Resume light is on 	Paper is jammed in the input tray.	Clear the jam. Press the Resume button to continue.
Attention light is blinking, Paper light is on 	Paper is jammed in the imaging drum area.	Clear the jam.
Toner Level warning light (on the toner level indicator) is blinking. The reload indicator light is on (white) 	The imaging drum is out of toner.	Add toner to the imaging drum using a Toner Reload Kit.
Attention light is blinking, Imaging Drum light is blinking 	The imaging drum has reached the end of its service life and must be replaced.	Replace the imaging drum.
Toner Reload Indicator is amber and blinking rapidly 	There is a problem with the Toner Reload Kit.	Use a different Toner Reload Kit.
Attention light is blinking, Imaging Drum Light is on 	The imaging drum is missing or incorrectly installed.	Install or reinstall the imaging drum.
	There is a problem with the Imaging Drum.	Use a different Imaging Drum.
	There is a problem reading the toner level	Remove and shake the imaging drum, and then reinstall it.
	Imaging drum seal in place	Remove the seal on the imaging drum.
Attention light is on. 	There is a problem detected by the imaging drum sensor.	
	There is an issue with the flatbed scanner.	Turn off the device and then turn it on. If the problem persists, contact HP support.
	Paper wrap jam.	Contact service. A service call is required to clear the jam without damaging the print engine.
	There is an issue with the print engine.	Turn off the device and then turn it on. If the problem persists, contact HP support.
	There is a problem with the wireless hardware.	Turn off the device and then turn it on. If the problem persists, contact HP support.

Table 2-10 Control-panel light patterns (continued)

Light status	State of the printer	Action
Toner Reload Indicator is amber and blinking rapidly 	The printer cannot accept additional toner at this time.	Remove the toner reload kit and wait for the indicator to turn white before attempting to reload toner.
	The printer cannot accept additional toner at this time either because it is busy, or the imaging drum is too close to the end of its useful life.	Remove the toner reload kit and wait for the indicator to turn white before attempting to reload toner.
	The previous toner reload kit was not completely emptied into the printer.	Remove the current toner reload kit, reinstall the previous toner reload kit, and make sure that the toner is dispensed completely into the printer.
	The printer cannot accept additional toner at this time.	Remove the toner reload kit and wait for the indicator to turn white before attempting to reload toner.
Toner Reload Indicator is amber and blinking, Toner Level Warning light is blinking  	There is a problem with the toner reload kit docking motor.	Clear any debris from the reloading port.
Wireless light is on (amber) and the Cancel light is blinking  	An error occurred when attempting a wireless WPS connection.	Press the Cancel button to continue.
Attention light is blinking, Resume light is on  	The wireless hardware is not detected.	Press the Resume button to continue without the wireless hardware.
	Incorrect firmware has been loaded.	Press the Resume button to continue. Load the correct firmware.

Interpret control-panel light patterns (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)

SHORT DESCRIPTION

Table 2-11 Status-light legend



Item	Descript
	Example symbol for "light blinking"
	Example symbol for "light on"

Table 2-12 Control-panel light patterns


Light status	Error code	State of the printer	Action
Resume light is on 	Go/01	The printer is in manual-feed mode.	Load the correct paper type and size into the input tray. Press the Resume button to continue.

Table 2-12 Control-panel light patterns (continued)








Light status	Error code	State of the printer	Action
	Go/02	The printer is processing a manual duplex job.	Load the pages into the input tray to print the second sides. Press the Resume button to continue.
	Go/04	The printer received a request for Google Cloud Print registration	Press the Resume button to continue.
Attention light is blinking, Paper light is on, Resume light is on 	Go/03	The paper type or size of the print job is different than the input tray settings.	Load the correct paper type and size into the input tray, or press the Resume button to continue with the paper currently loaded.
Wi-Fi Direct light is blinking 	Go/06	The printer has received a request to connect to this printer using Wi-Fi Direct.	Press the Wi-Fi Direct button to connect.
The Open lid light is blinking until the lid is opened.  The Resume light blinks after the lid is opened. 	P2	An ID Copy job has been started.	When the Lid Open light blinks, open the lid and turn over the identification card. Press the Resume button to continue.
Attention light is blinking, Paper light is blinking 	Er/01	The input tray is empty.	Load the input tray.
Attention light is blinking 	Er/02	A door is open.	Verify that the top cover is fully closed.
Attention light is blinking, Paper light is on, Resume light is on 	Er/04	Paper is jammed in the input tray.	Clear the jam. Press the Resume button to continue.
Attention light is blinking, Paper light is on 	Er/05	Paper is jammed in the imaging drum area.	Clear the jam.

Table 2-12 Control-panel light patterns (continued)









Light status	Error code	State of the printer	Action
Toner Level warning light (on the toner level indicator) is blinking. The reload indicator light is on (white)	Er/08	The imaging drum is out of toner.	Add toner to the imaging drum using a Toner Reload Kit.
			
Attention light is blinking, Imaging Drum light is blinking	Er/09	The imaging drum has reached the end of its service life and must be replaced.	Replace the imaging drum.
			
Toner Reload Indicator is amber and blinking rapidly	Er/11	There is a problem with the Toner Reload Kit.	Use a different Toner Reload Kit.
			
Attention light is blinking, Imaging Drum Light is on	Er/07	The imaging drum is missing or incorrectly installed.	Install or reinstall the imaging drum.
	Er/12	There is a problem with the Imaging Drum.	Use a different Imaging Drum.
	Er/27	There is a problem reading the toner level	Remove and shake the imaging drum, and then reinstall it.
	Er/28	Imaging drum seal in place	Remove the seal on the imaging drum.
			
Attention light is on.	Er/20	There is a problem detected by the imaging drum sensor.	
	Er/30	There is an issue with the flatbed scanner.	Turn off the device and then turn it on. If the problem persists, contact HP support.
	Er/36	Paper wrap jam.	Contact service. A service call is required to clear the jam without damaging the print engine.
	Er/50	There is an issue with the print engine.	Turn off the device and then turn it on. If the problem persists, contact HP support.
	Er/51		
	Er/52		
	Er/54		
	Er/55	There is a problem with the wireless hardware.	Turn off the device and then turn it on. If the problem persists, contact HP support.
	Er/66		
Toner Reload Indicator is amber and blinking rapidly	Er/31	The printer cannot accept additional toner at this time.	Remove the toner reload kit and wait for the indicator to turn white before attempting to reload toner.
			

Table 2-12 Control-panel light patterns (continued)

Light status	Error code	State of the printer	Action
	Er/32	The printer cannot accept additional toner at this time either because it is busy, or the imaging drum is too close to the end of its useful life.	Remove the toner reload kit and wait for the indicator to turn white before attempting to reload toner.
	Er/33	The previous toner reload kit was not completely emptied into the printer.	Remove the current toner reload kit, reinstall the previous toner reload kit, and make sure that the toner is dispensed completely into the printer.
	Er/34	The printer cannot accept additional toner at this time.	Remove the toner reload kit and wait for the indicator to turn white before attempting to reload toner.
Toner Reload Indicator is amber and blinking, Toner Level Warning light is blinking 	Er/35	There is a problem with the toner reload kit docking motor.	Clear any debris from the reloading port.
Wireless light is on (amber) and the Cancel light is blinking 	Er/61	An error occurred when attempting a wireless WPS connection.	Press the Cancel button to continue.
Attention light is blinking, Resume light is on 	Er/66	The wireless hardware is not detected.	Press the Resume button to continue without the wireless hardware.
	Er/81	Incorrect firmware has been loaded.	Press the Resume button to continue. Load the correct firmware.
Attention light is on. 	Er/30	There is an issue with the flatbed scanner.	Turn off the device and then turn it on. If the problem persists, contact HP support.

Improve print quality

- [Introduction](#)
- [Update the printer firmware](#)
- [Print from a different software program](#)
- [Check the paper-type setting for the print job](#)
- [Check the toner level](#)
- [Visually inspect the imaging drum](#)
- [Check paper and the printing environment](#)
- [Supported operating systems](#)
- [Adjust Print Density](#)

Introduction

The following information provides troubleshooting steps to resolve print-quality problems, including the following problems:

- Smears
- Fuzzy print
- Dark print
- Light print
- Streaks
- Missing toner
- Scattered dots of toner
- Loose toner
- Skewed images

To resolve these or other print-quality problems, try the following solutions in the order presented.

For information about resolving specific image defects, see the Print quality troubleshooting section of this manual.

Update the printer firmware

Try upgrading the printer firmware. For more information, see the Firmware upgrades section of this manual.

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 loaded in the printer](#)
- [Check the paper type setting \(Windows\)](#)
- [Check the paper type setting \(OS X\)](#)

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 loaded in the printer

1. Remove the input tray cover.
2. Verify that the input tray is loaded with the correct type of paper.
3. Replace the input tray cover.

Check the paper type setting (Windows)

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. Expand the **Paper Type** option to see the paper types that are available.
5. Select the option for the type of paper you are using, and click the **OK** button.
6. 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 (OS X)

1. Click the **File** menu, and then click the **Print** option.
2. In the **Printer** menu, select the printer.
3. Choose paper type from the **Media & Quality** option.
4. Click the **Print** button.

Check the toner level

When the toner in the printer runs low, you will need one or two HP Toner Reload Kits to add toner. You can purchase original HP Toner Reload Kits from www.hp.com/buy/supplies or your local HP reseller.

Check the toner level indicator on the front of the printer to determine when to add toner.



NOTE: Always check the Reload Status light next to the reload port to determine whether or not toner can be added.

Toner can be added when the Reload Status light next to the reload port glows white. Toner cannot be added when the light is off. If the light is off, there may still be too much toner to accept a full reload, or the imaging drum may need to be replaced soon.

Table 2-13 The toner level





Item	Description
	Full: Toner level is high and more toner cannot be added at this time.
	Fill: Toner level is low. The “+1” means one Toner Reload Kit can be added


Table 2-13 The toner level (continued)

Item	Description
	Low: Toner level is low. "+2" means two Toner Reload Kits can be added
	Very Low: Toner is depleted. Printer will not print until toner is added

Visually inspect the imaging drum

Follow these steps to inspect the imaging drum.

1. Remove the Toner Cartridge from the printer.
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

- [Step one: Use paper that meets HP specifications](#)
- [Step two: Check the environment](#)

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 for 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.

Supported operating systems

The following information applies to the printer-specific Windows PCLmS and OS X print drivers.

Windows: The HP Software Installer installs the PCLmS, or PCLm-S driver depending on the Windows operating system, along with optional software when using the software installer. See the software installation notes for more information.

OS X: Mac computers are supported with this printer. Download HP Easy Start either from 123.hp.com 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.
2. Follow the steps provided to download the printer software.

Linux: For information and print drivers for Linux, go to <http://www.hp.com/support/>

Table 2-14 Supported operating systems and print drivers

OS	Description	
Windows 7, 32-bit and 64-bit	The HP PCLmS 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 PCLmS printer-specific print driver is installed for this operating system as part of the software installation.	Windows 8 RT support is provided through Microsoft IN OS Version 4, 32-bit driver.
Windows 8.1, 32-bit and 64-bit	The HP PCLm-S V4 printer-specific print driver is installed for this operating system as part of the software installation.	Windows 8.1 RT support is provided through Microsoft IN OS Version 4, 32-bit driver.
Windows 10, 32-bit and 64-bit	The HP PCLm-S 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 PCLm-S printer-specific print driver is available for download from the printersupport website. Download the driver, and then use the Microsoft Add Printer tool to install it.	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.
Windows Server 2008 R2, SP1, 64-bit	The HP PCLmS printer-specific print driver is installed for this operating system as part of the software installation.	
Windows Server 2012	The HP PCLmS printer-specific print driver is installed for this operating system as part of the software installation.	
Windows Server 2012 R2	The HP PCLm-S printer-specific print driver is installed for this operating system as part of the software installation.	
Windows Server 2016, 64-bit	The HP PCLm-S printer-specific print driver is installed for this operating system as part of the software installation.	
OS X 10.11 El Capitan, OS X 10.12 Sierra, OS X 10.13	To install the print driver, download HP Easy Start from 123.hp.com . Follow the steps provided to install the printer software and print driver.	

Adjust Print Density

Complete the following steps to adjust the print density.

Adjust Print Density (HP Neverstop Laser 1000 / HP Laser NS 1020)

1. Open the HP Embedded Web Server (EWS).

- Use the HP Smart app to access the EWS, if available.
 - Use the HP Printer Assistant for Windows 7 systems.
 - Press and hold the Resume button to print a configuration page, then navigate to the IP address or host name shown on the printer configuration page.
2. Click the **System** tab, and then select **System Setup** from the left navigation pane.
 3. Select the correct density settings.
 4. Click **Apply** to save the changes.

Adjust Print Density (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)

1. Open the HP Embedded Web Server (EWS):
 - Use the HP Smart app to access the EWS, if available.
 - Use the HP Printer Assistant for Windows 7 systems.
 - Press and hold the Resume button to print a configuration page, then navigate to the IP address or host name shown on the printer configuration page.
2. Click the **System** tab, and then select **System Setup** from the left navigation pane.
3. Select the correct density settings.
4. Click **Apply** to save the changes.

Print quality troubleshooting guide

- [Resolving print quality problems](#)
- [Printer-specific image defects](#)

Resolving print quality problems

- [Introduction](#)
- [Troubleshoot print quality problems](#)

Introduction

The following information provides troubleshooting steps for solving image defect issues, including the following defects:

- Light print
- Gray background or dark print
- Blank pages
- Black pages
- Dark or light bands
- Dark or light streaks
- Missing toner
- Skewed images
- Curled paper

Troubleshoot print quality problems

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. 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 that 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 <https://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 short-edge first.

Table 2-15 Light print


Description	Sample	Possible solutions
Light print: The printed content on the entire page is light or faded.		<ul style="list-style-type: none"> When the light image occurs, check the terminal contact between the imaging drum and machine.

Table 2-16 Gray background or dark print


Description	Sample	Possible solutions
Gray background or dark print: The image or text is darker than expected.		<ol style="list-style-type: none"> Make sure that the paper in the input tray has not already been run through the printer. Use a different paper type. Reprint the document. From the printer EWS, go to the Adjust Toner Density menu, and then adjust the toner density to a lower level. Make sure that the printer is in within the supported operating temperature and humidity range. If the toner is low, reload toner. If the problem persists, go to https://support.hp.com.

Table 2-17 Blank page — No print

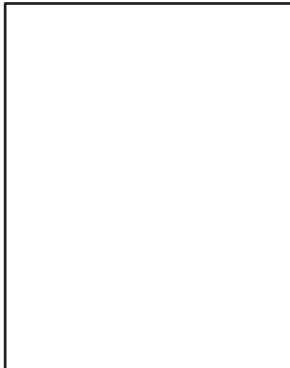
Description	Sample	Possible solutions
Blank page — No print: The page is completely blank and contains no printed content.		<ol style="list-style-type: none"> Make sure that the imaging drum is installed correctly. Check the paper type in the input tray and adjust the printer settings to match. If necessary, select a lighter paper type. If the problem persists, go to https://support.hp.com.

Table 2-18 Black page


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

Table 2-19 Banding defects


Description	Sample	Possible solutions
Repetitive wide-pitch banding and Impulse bands: Dark or light lines which repeat down the length of the page. 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. If the toner is low, reload toner. 3. Use a different paper type. 4. If the problem persists, go to https://support.hp.com.

Table 2-20 Streak defects

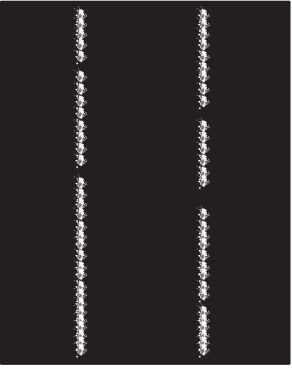
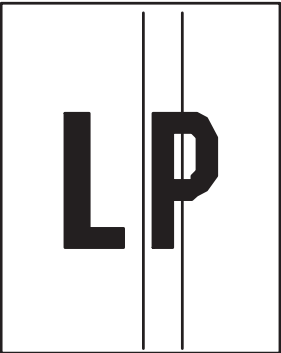
Description	Sample	Possible solutions
<p>Light vertical streaks:</p> <p>Light streaks that usually span the length of the page. The defect displays only in areas of fill, not in text or sections with no printed content.</p>		<ul style="list-style-type: none"> When the light image occurs, check the terminal contact between the imaging drum and machine. <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 streaks:</p> <p>Dark 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.</p>		<ol style="list-style-type: none"> Reprint the document. Remove the imaging drum, and then shake it to redistribute the toner. If the toner level is low, reload toner. If the problem persists, go to https://support.hp.com.

Table 2-21 Fixing/fuser defects

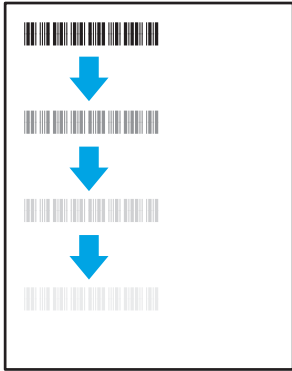
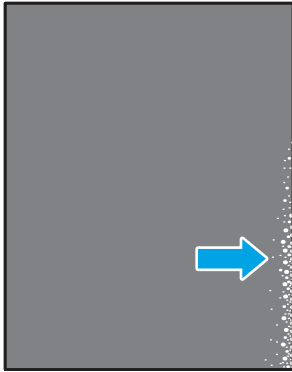
Description	Sample	Possible solutions
<p>Hot fuser offset (shadow):</p> <p>Slight shadows, or offsets, of the image repeated down the page. The repeated image might fade with each recurrence.</p>		<ol style="list-style-type: none"> 1. Reprint the document. 2. Check the paper type in the input tray and adjust the printer settings to match. If necessary, select a lighter paper type. 3. If the problem persists, go to https://support.hp.com.
<p>Poor fusing:</p> <p>Toner rubs off along either edge of 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 input tray and adjust the printer settings to match. If necessary, select a heavier paper type. 3. If the problem persists, go to https://support.hp.com.

Table 2-22 Image placement defects




Description	Sample	Possible solutions
<p>Margins and skew:</p> <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 input 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 input 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 input tray full indicator. Do not overfill the input 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. 5. If the problem persists, go to https://support.hp.com.

Table 2-23 Output defects

Description	Sample	Possible solutions
<p>Output curl:</p> <p>Printed paper has 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 EWS, select a heavier paper type. The heavier paper type creates a higher temperature for printing. Negative curl: From the printer EWS, select a lighter paper type. The lighter paper type creates a lower temperature for printing. Try storing the paper in a dry environment prior or use freshly opened paper. 3. Print in duplex mode. 4. If the problem persists, go to https://support.hp.com.
<p>Output stacking:</p> <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, complete 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 problem persists, go to https://support.hp.com.

Printer-specific image defects

- [Repetitive image defects](#)
- [Printer-specific print quality troubleshooting guide](#)

Repetitive image defects

When troubleshooting the source of some print image defects, one solution is to identify if it is a repetitive defect (does the print quality defect appear multiple times on the printed page?). If this is the case, use a ruler to measure occurrences of repetitive image defects to help solve image-quality problems.

Use a ruler to measure occurrences of repetitive image defects to help solve image-quality problems. Place the ruler next to the first occurrence of the defect on the page. Find the distance between identical defects and use the table below to identify the component that is causing the defect.


 **NOTE:** Do not use solvents or oils to clean rollers. Instead, rub the roller with lint-free paper. If dirt is difficult to remove, rub the roller with lint-free paper that has been dampened with water

Table 2-24 Repetitive image defects

Distance between identical defects	Component	Component Notes
26.0 mm (1.03 in)	Primary charging roller ¹	Appears in the form of dropouts.
31.0 mm (1.22 in)	Developer roller ¹	Appears in the form of dropouts or dirt on the page.
39.0 mm (1.54 in)	Transfer roller	Appears in the form of dropouts or dirt on the back of the page.
45.0 mm (1.77 in)	Pressure roller	Appears in the form of dirt on the page, dropouts, or dirt on the back of the page.
57.0 mm (2.24 in)	Fuser film	Appears in the form of dropouts or dirt on the page.
63.0 mm (2.48 in)	Photosensitive drum	Appears in the form of dropouts or dirt on the page.

¹ The primary charging roller, photosensitive drum, and developer roller cannot be cleaned. If any of these rollers are indicated, replace the toner cartridge.

Printer-specific print quality troubleshooting guide

- [Light print](#)
- [Dark print](#)
- [Blank page](#)
- [All black](#)
- [White spots](#)
- [Dirt on the back of the page](#)
- [Vertical lines](#)
- [Vertical white lines](#)
- [Horizontal lines](#)
- [Horizontal white lines](#)[Description](#)
- [Dropouts](#)[Description](#)
- [Loose toner](#)
- [Toner smear](#)
- [Misformed or misplaced image](#)
- [Wrinkles or creases](#)
- [Dirt on the front of the page](#)
- [Vertical density variation](#)
- [Repetitive image defects](#)

Light print

Figure 2-12 Light print



Description

Print is light on the entire page.

Solution

Poor contact between the transfer roller contact and the transfer roller shaft.

Clean the contacts. If the problem remains after cleaning, check the contacts for deformation or damage. Replace any defective parts.

Dark print

Figure 2-13 Dark print



Description

The image on the page is too dark.

Solution

- Poor contact between the drum grounding contact and the toner container.
Clean the contacts. If the problem remains after cleaning, check the contacts for deformation or damage. Replace any defective parts.
- Poor contact between the primary charging bias contact and the toner container.
Clean the contacts. If the problem remains after cleaning, check the contacts for deformation or damage. Replace any defective parts.

Blank page

Figure 2-14 Blank page



Description

The page is completely blank.

Solution

- Poor contact between the drum grounding contact and the toner container.
Clean the contacts. If the problem remains after cleaning, check the contacts for deformation or damage. Replace any defective parts.
- The high-voltage power supply is defective (no developing bias).
Replace the HVPS.

All black

Figure 2-15 All black page



Description

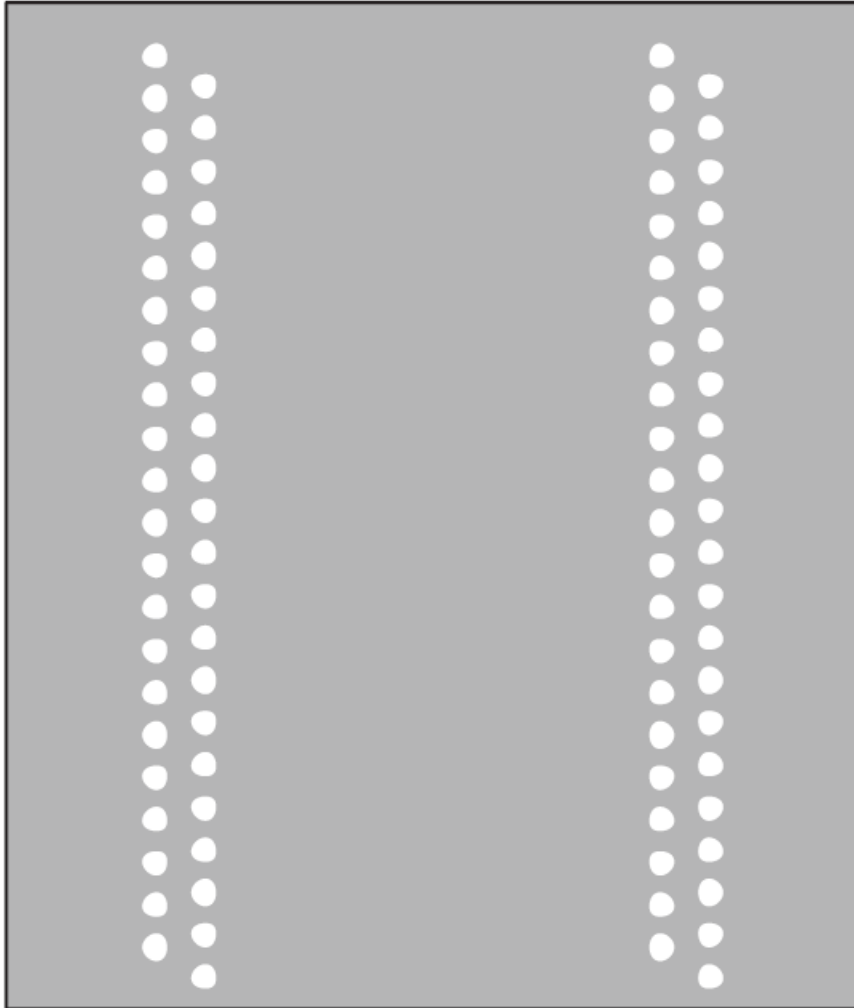
The page is all black.

Solution

- Poor contact between the drum grounding contact and the toner container.
Clean the contacts. If the problem remains after cleaning, check the contacts for deformation or damage. Replace any defective parts.
- The primary charging roller is defective.
Replace the imaging drum.

White spots

Figure 2-16 White spots



Description

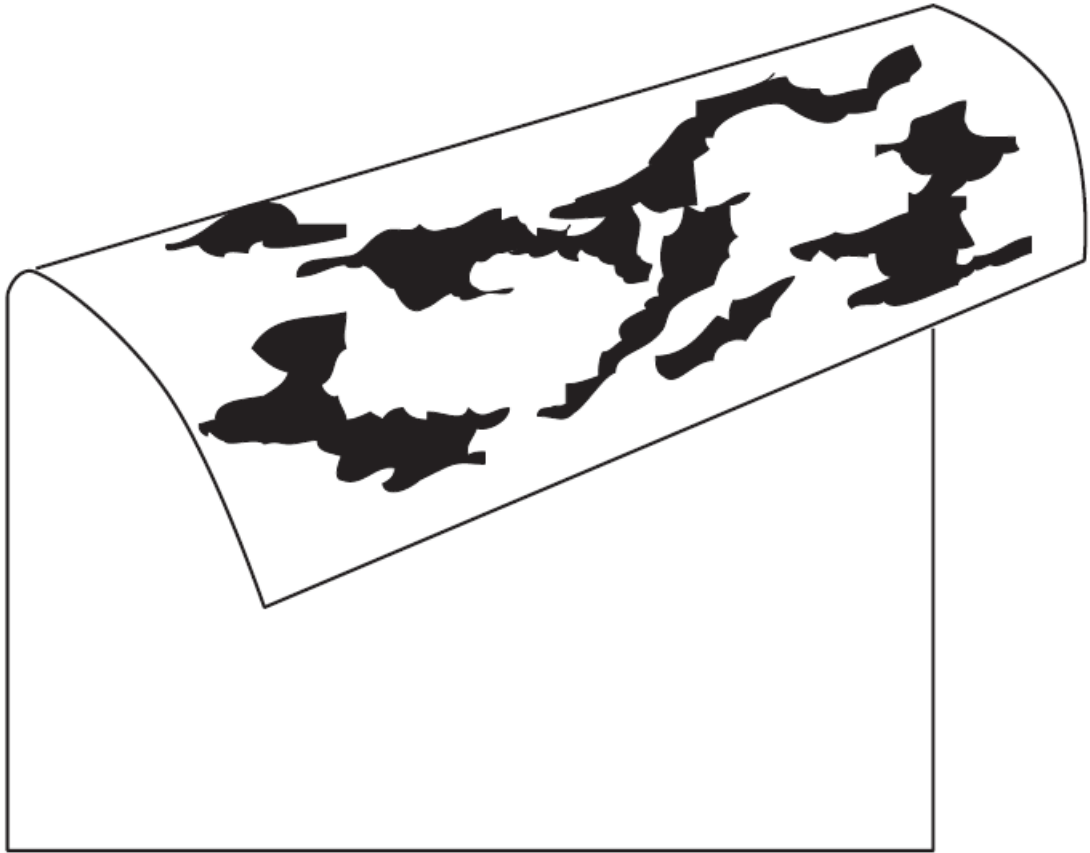
White spots appear on the page.

Solution

- The static charge eliminator is dirty.
Clean the static charge eliminator.
- The transfer roller is deformed or damaged.
Replace the transfer roller.
- Poor contact between the transfer roller contact and the transfer roller shaft.
Clean the contacts. If the problem remains after cleaning, check the contacts for deformation or damage.
Replace any defective parts.

Dirt on the back of the page

Figure 2-17 Dirt on the back of the page



Description

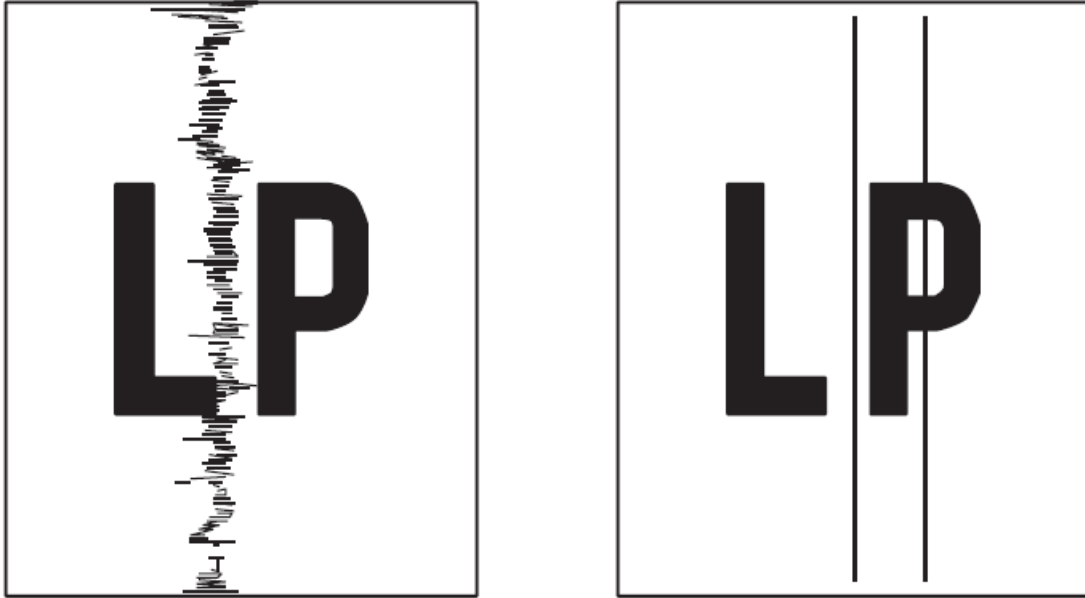
The back of the page is dirty.

Solution

- The transfer roller is dirty
Replace the transfer roller
- The fuser inlet guide or separation guide is dirty.
Clean the dirty parts. If the contamination does not come off, replace the fuser.
- The pressure roller is dirty.
Print 2 or 3 blank page. If the contamination does not come off, replace the fuser.

Vertical lines

Figure 2-18 Vertical lines



Description

Vertical bands or streaks appear on the page.

Solution

- Inspect the imaging drum.
If scratches are present on the surface of the photosensitive drum, replace the imaging drum.
- Inspect the heat roller of the fuser.
If scratches are present on the surface of the heat roller, replace the fuser.

Vertical white lines

Figure 2-19 Vertical white lines



Description

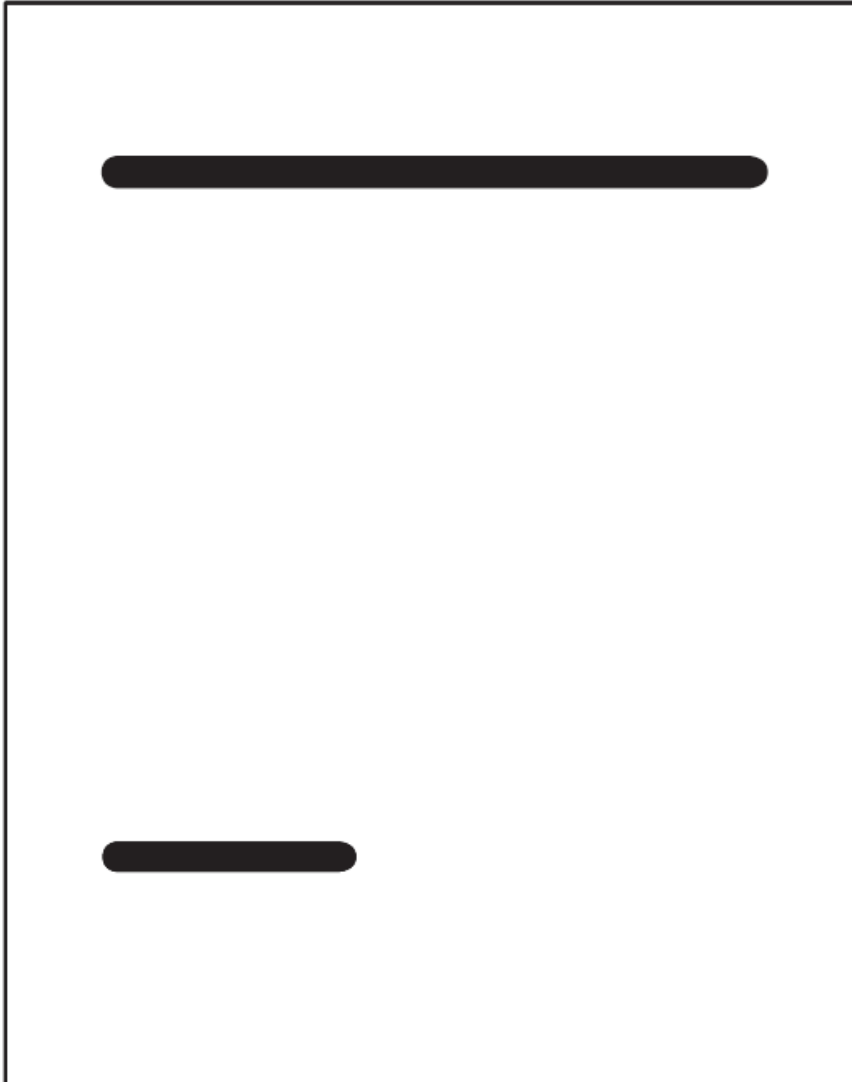
Vertical bands or streaks appear on the page.

Solution

- Inspect the imaging drum.
If scratches are present on the developer roller or photosensitive drum in the imaging drum, replace the imaging drum.
- The laser scanner mirror is dirty.
Replace the laser scanning unit(LSU).

Horizontal lines

Figure 2-20 Horizontal lines



Description

Horizontal lines appear on the page.

Solution

- If the lines are repeating down the page, measure the distance between the lines and associate a printer component with that measurement.
Clean any contamination off of the identified roller. If the contamination cannot be removed, replace the roller or corresponding printer component.
- Horizontal scratches are present on the photosensitive drum.
Replace the imaging drum.
- Horizontal scratches are present on the heat roller.
Replace the fuser.

Horizontal white lines

Figure 2-21 Horizontal white lines



Description

Horizontal white lines appear on the page.

Solution

- If the lines are repeating down the page, measure the distance between the lines and associate a printer component with that measurement.

Clean any contamination off of the identified roller. If the contamination cannot be removed, replace the roller or corresponding printer component.
- Horizontal scratches are present on the photosensitive drum.

Replace the imaging drum.

Dropouts

Figure 2-22 Dropouts



Description

Portions of the image are missing.

Solution

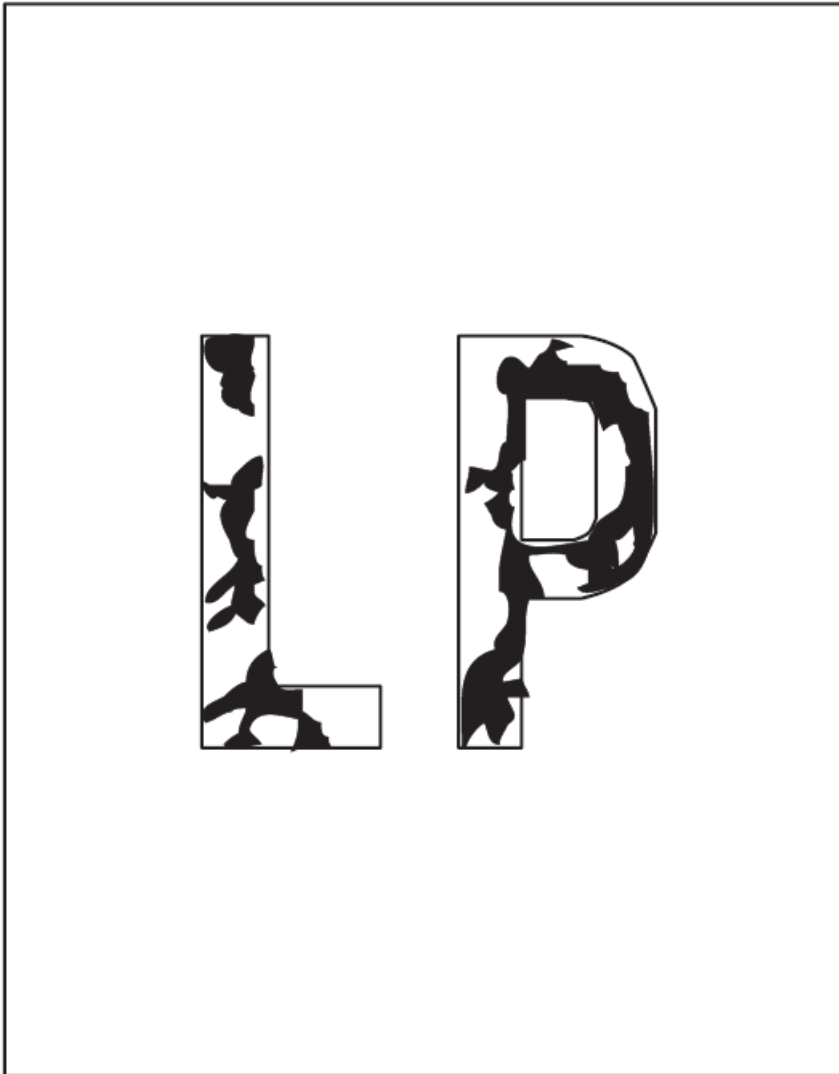
- If transfer roller is deformed or has deteriorated.
Replace the transfer roller
- If the primary charging roller, developer roller, or photosensitive drum in the imaging drum are deformed or have deteriorated.
Replace the imaging drum.
- The fuser heat roller is deformed or has deteriorated.

Replace the fuser.

- The high-voltage power supply is defective (no transfer bias output).
Replace the engine controller assembly.

Loose toner

Figure 2-23 Loose toner



Description

Toner is not fully fused to the paper.

Solution

- The heat roller or pressure roller is scarred or deformed.

Replace the fuser.

- If the thermistor is defective.

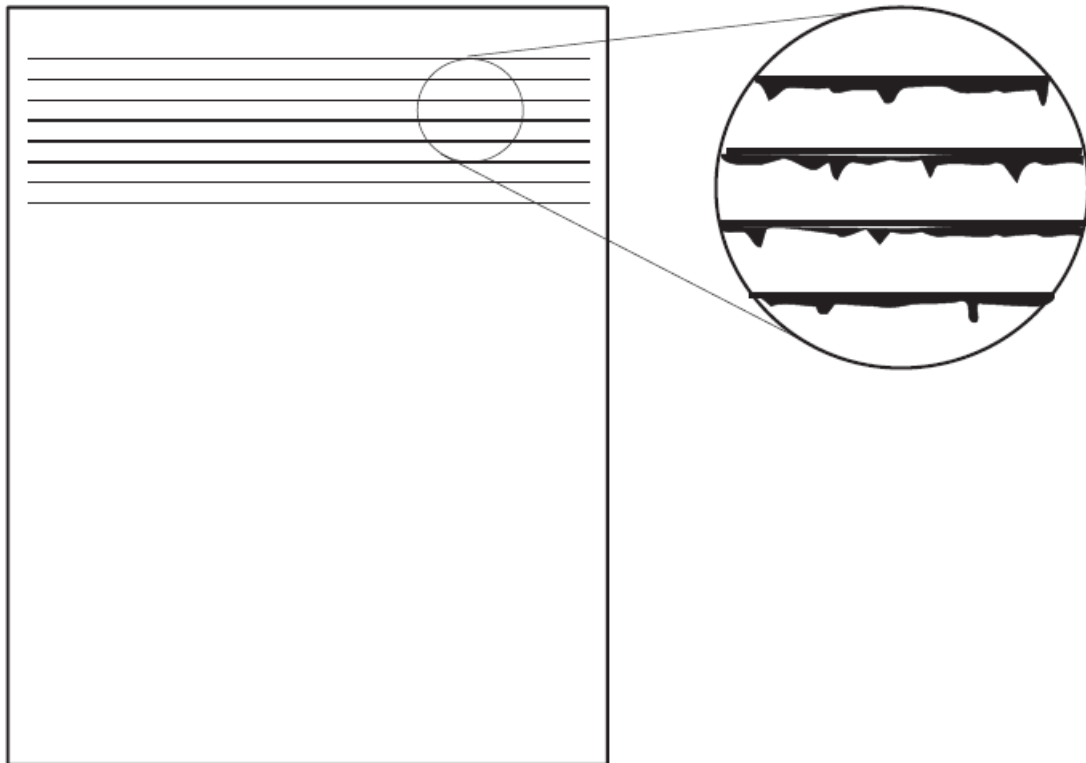
Replace the fuser.

- The fuser control circuit is defective.

Replace the formatter PCA.

Toner smear

Figure 2-24 Toner smear



Description

Toner is smeared on the paper.

Solution

- Residual paper present in the printer.
Remove residual paper.
- Poor toner container grounding contact.
- A foreign substance is adhered to the fuser inlet guide or the guide is dirty.
Clean the fuser inlet guide. If the contamination does not come off, replace the fuser

Misformed or misplaced image

Figure 2-25 Malformed or misplaced image



Description

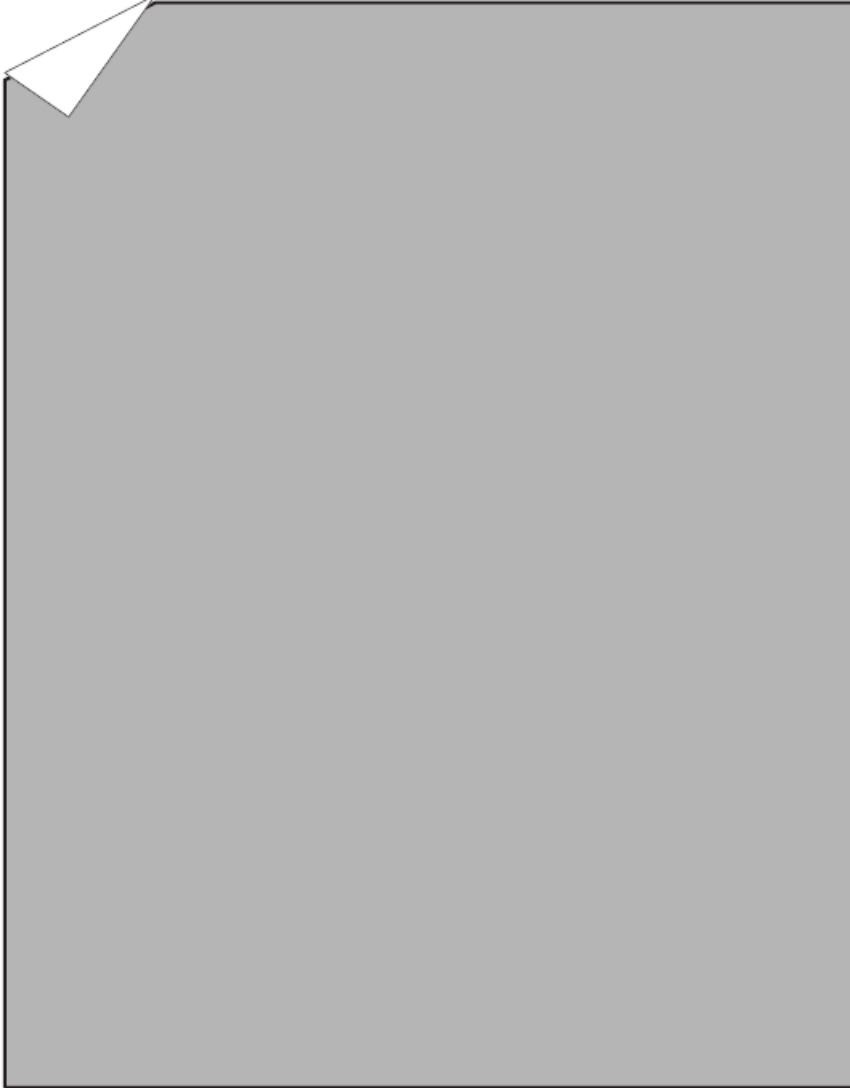
An image on the page is misformed or incorrectly placed.

Solution

- The laser scanner unit is defective.
Replace the laser scanning unit(LSU).

Wrinkles or creases

Figure 2-26 Wrinkles or creases



Description

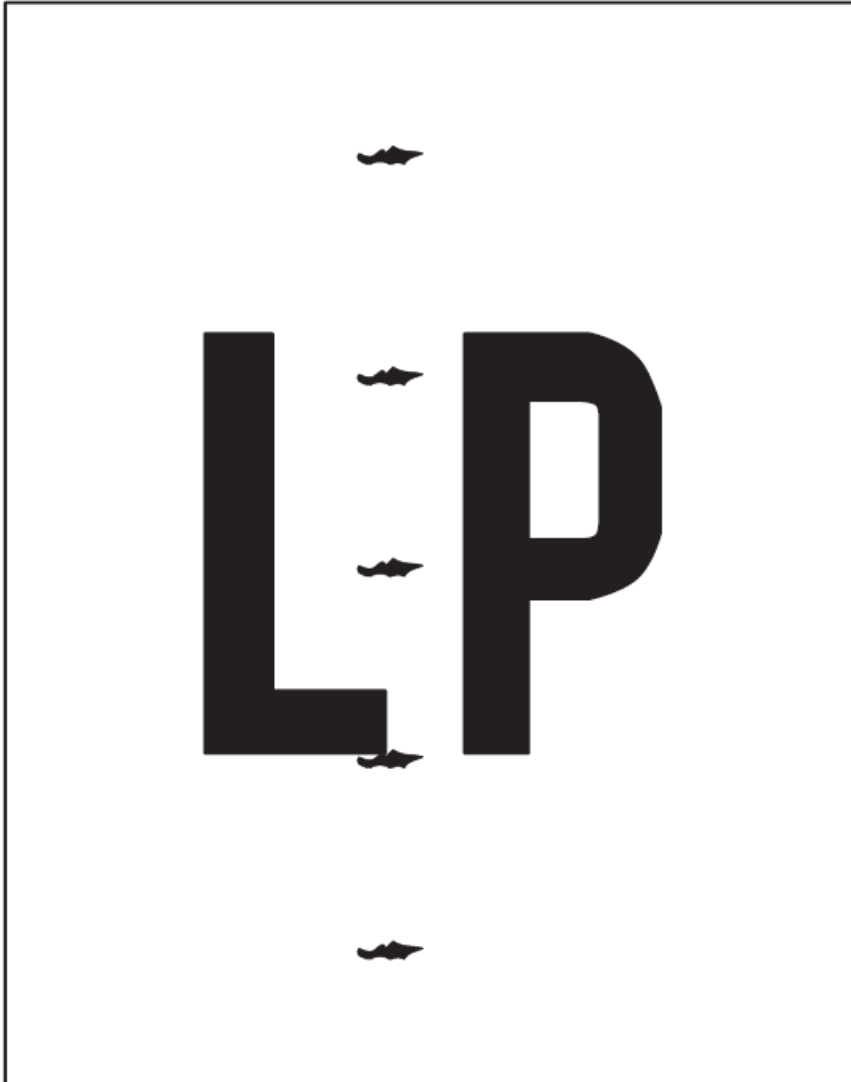
The printed page contains wrinkles or creases.

Solution

- The feed roller or paper feed guide are dirty.
Clean any dirty parts.
- A foreign substance is adhered to the fuser inlet guide or the guide is dirty.

Dirt on the front of the page

Figure 2-27 Dirt on the front of the page



Description

The front of the page is dirty (stray toner marks).

Solution

- If the photosensitive drum or the developer roller is dirty.
Replace the imaging drum.
- The heat roller or pressure roller is contaminated.
Replace the fuser.

Vertical density variation

Figure 2-28 Vertical density variation



Description

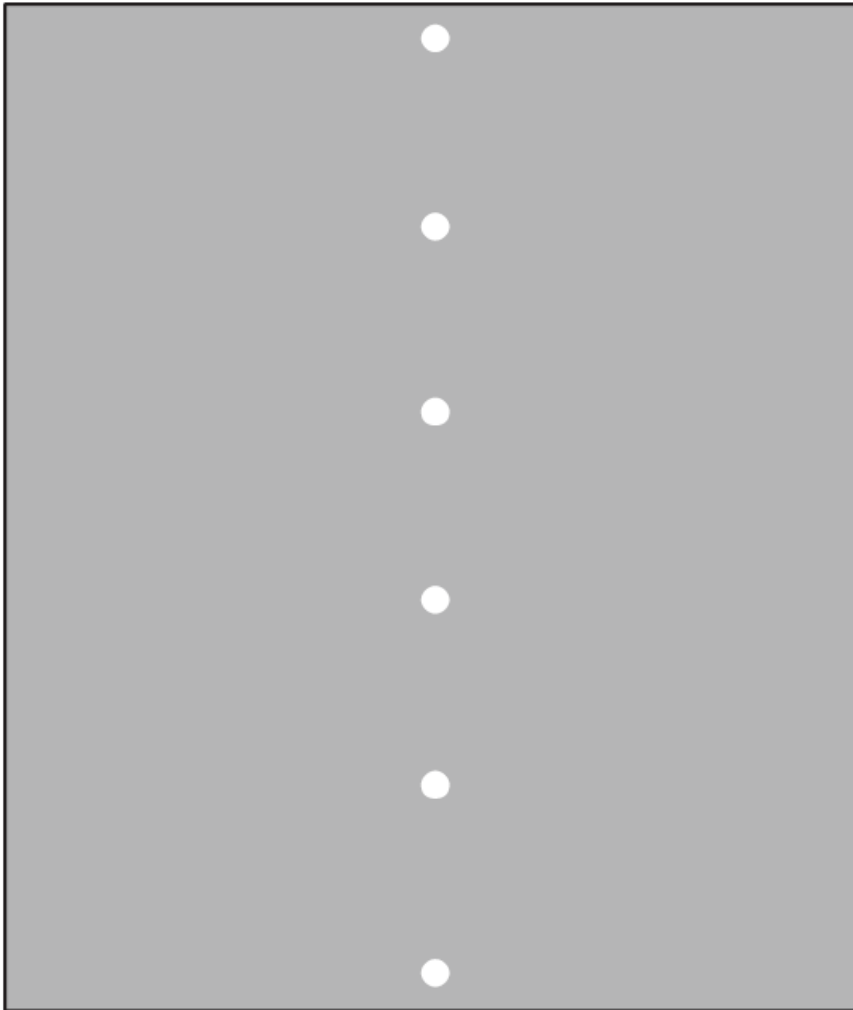
The vertical density varies on images on the page.

Solution

- The photosensitive drum surface has deteriorated.
Replace the imaging drum.
- The laser scanner unit(LSU) is defective.
Replace the LSU.

Repetitive image defects

Figure 2-29 Repetitive image defects



Description

Repetitive white spots appear in an image.

Solution

- If the lines are repeating down the page, measure the distance between the lines and associate a printer component with that measurement.
Clean any contamination off of the identified roller. If the contamination cannot be removed, replace the roller or corresponding printer component.
- The transfer roller is deformed or has deteriorated.
Replace the transfer roller.
- A foreign substance is adhered to the primary charging roller or photosensitive drum.
Replace the imaging drum.

Improve copy and scan image quality (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)

- [Introduction](#)
- [Check the scanner glass for dirt and smudges](#)
- [Check the paper settings](#)
- [Optimize for text or pictures](#)
- [Edge-to-edge copying](#)

Introduction

If the printer is having image quality problems, first make sure you are using high-quality originals. If the problem still exists, try the following solutions in the order presented to resolve the issue.


- Check the scanner glass for dirt and smudges
- Check the paper settings
- Optimize for text or pictures
- Edge-to-edge copying

If the issue is not resolved, see “Improve print quality” for further solutions.

Check the scanner glass for dirt and smudges

Over time, specks of debris might collect on the scanner glass and white plastic backing, which can affect performance. Use the following procedure to clean the scanner.

1. Press the power button to turn the printer off, and then disconnect the power cable from the electrical outlet.
2. Open the scanner lid.
3. Clean the scanner glass and the white plastic backing underneath the scanner lid with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

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

4. Dry the glass and white plastic parts with a chamois or a cellulose sponge to prevent spotting.
5. Connect the power cable to an outlet, and then press the power button to turn the printer on.

Check the paper settings

1. Open the HP Embedded Web Server (EWS):

- Use the HP Smart app to access the EWS, if available.
 - Use the HP Printer Assistant for Windows 7 systems.
 - Press and hold the Resume button to print a configuration page, then navigate to the IP address or host name shown on the printer configuration page.
2. On the **Systems** tab, click **Paper Setup**.
 3. Change the necessary settings, and then click **Apply**.

Optimize for text or pictures

1. Open the HP Embedded Web Server (EWS):
 - Use the HP Smart app to access the EWS, if available.
 - Use the HP Printer Assistant for Windows 7 systems.
 - Press and hold the Resume button to print a configuration page, then navigate to the IP address or host name shown on the printer configuration page.
2. On the **Copy** tab, select the **Optimize** drop-down list.
3. Select the setting you want to use.
 - **Mixed:** Use this setting for documents that contain a mixture of text and graphics.
 - **Text:** Use this setting for documents that contain mostly text.
 - **Picture:** Use this setting for documents that contain mostly graphics.
4. Change the necessary settings, and then click **Apply**.

Edge-to-edge copying

The printer cannot print fully edge-to-edge. There is a 4 mm (1/6 in) unprintable border around the page.

Considerations for printing or scanning documents with cropped edges:

- When the original is smaller than the output size, move the original 4 mm (1/6 in) away from the corner indicated by the icon on the scanner. Recopy or scan in this position.
- When the original is the size of the printed output that you want, use the Reduce/Enlarge feature to reduce the image so the copy is not cropped.

Clean the printer

- [Clean the scanner glass and platen \(HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005\)](#)
- [Clean the pickup rollers](#)

Over time, particles of toner and paper accumulate inside the printer. This can cause print-quality problems during printing. Cleaning the printer eliminates or reduces these problems.


Clean the paper path and toner-cartridge areas every time that the toner cartridge is changed or whenever printquality problems occur. As much as possible, keep the printer free from dust and debris.

To clean the printer exterior, use a soft, water-moistened cloth.

Clean the scanner glass and platen (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)

Over time, specks of debris might collect on the scanner glass and white plastic backing, which can affect performance. Use the following procedure to clean the scanner glass and white plastic backing.

1. Use the power switch to turn off the printer, and then unplug the power cable from the electrical socket.
2. Open the scanner lid.
3. Clean the scanner glass and the white plastic backing with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

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


4. Dry the glass and white plastic backing with a chamois or a cellulose sponge to prevent spotting.
5. Connect the printer, and then use the power switch to turn on the printer.


Clean the pickup rollers

1. Turn off the printer, unplug the power cable from the printer, and then remove the toner cartridge.

 **NOTE:** Also remove any paper in the input tray.

2. Dab a lint-free cloth in isopropyl alcohol, and then scrub the rollers.

 **WARNING!** Alcohol is flammable. Keep the alcohol and cloth away from an open flame. Before you close the printer and connect the power cable, allow the alcohol to dry completely.

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

3. Use a dry lint free cloth to remove loose dirt from the rollers.

Solve paper-handling problems

- [Printer does not pick up paper or misfeeds](#)
- [Prevent paper jams](#)
- [Clear paper jams](#)

Printer does not pick up paper or misfeeds

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

The product does not pick up paper

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

1. Open the product and remove any jammed sheets of paper.
2. Load the correct size of paper for your job.
3. Make sure you select the correct paper size and type when setting up the print job.
4. Make sure the paper guides in the input tray are adjusted correctly for the size of paper.
5. The rollers above the input tray might be contaminated. Clean the rollers with a lint-free cloth dampened with warm water.

The product picks up multiple sheets of paper

If the product picks up multiple sheets of paper from the input tray, try these solutions.

1. Remove the stack of paper from the input tray and flex it, rotate it 180 degrees, and flip it over. Return the stack of paper to the input tray.
2. Use only paper that meets HP specifications for this product.
3. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
4. Make sure the input tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the input tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper.
6. Make sure the printing environment is within recommended specifications.

Prevent paper jams

To reduce the number of paper jams, try these solutions.

- Use only paper that meets HP specifications for this printer.
- Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
- Use paper that has not previously been printed or copied on.
- If the frequent paper jam occurs, make sure the leading edge of the paper is waved. If yes, turn the stack of paper over in the tray.

Clear paper jams

- [Introduction](#)
- [Paper path jam sensor locations](#)
- [Frequent or recurring paper jams?](#)
- [Clear jams from the input tray \(HP Neverstop Laser 1000 / HP Laser NS 1020\)](#)
- [Clear jams from the input tray \(HP Neverstop Laser 1000 / HP Laser NS 1020\)](#)
- [Clear jams from inside the product \(HP Neverstop Laser 1000 / HP Laser NS 1020\)](#)
- [Clear jams from inside the product \(HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005\)](#)
- [Clear jams from the output areas \(HP Neverstop Laser 100x / HP Laser NS 1020\)](#)
- [Clear jams from the output areas \(HP Neverstop Laser MFP 120x / HP Laser NS MFP 1005\)](#)

Introduction

The following information includes instructions for clearing paper jams from the printer.

- Paper path jam sensor locations
- Experiencing frequent or recurring paper jams?
- Paper jam locations
- Clear jams from the input tray
- Clear jams from inside the product
- Clear jams from the output areas

Paper path jam sensor locations


The printer uses the following sensors to detect the paper as it moves through the paper path and to report to the DC controller if the paper has jammed.

- Feed sensor (PS1)

Frequent or recurring paper jams?


Follow these 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 input tray is configured for the correct paper size and type. Adjust paper settings if necessary.
 1. Print a configuration page to determine the IP address or host name.


1. Press and hold the **Resume** button for three seconds.
 2. Release the **Resume** button.
 2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the Enter key on the computer keyboard. The EWS opens.
-
-  **NOTE:** If the web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.
-
3. Click the **System** tab, and then click the **Paper Setup** page.
 4. Select the type of paper that is in the input tray.
 5. Select the size of paper that is in the input tray.
3. Turn the printer off, wait 30 seconds, and then turn it on again.
 4. Print a configuration page to test the printer.
1. Press and hold the **Resume** button for three seconds.
 2. Release the **Resume** button.

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

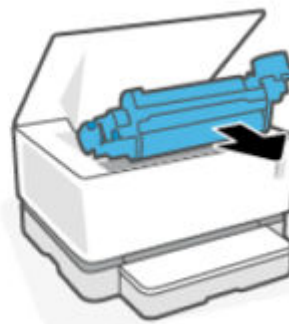
Clear jams from the input tray (HP Neverstop Laser 1000 / HP Laser NS 1020)

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

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

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

1. Lift the top cover, and then remove the imaging drum.

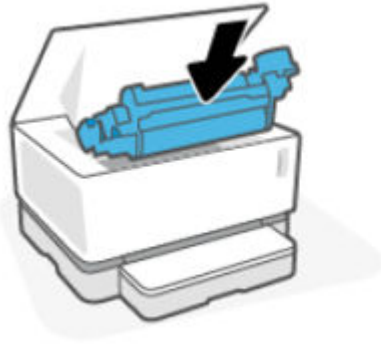


⚠ CAUTION: To prevent damage, do not expose the imaging drum to light. Cover it with a piece of paper.

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



3. Reinstall the imaging drum, and then lower the top cover.



Clear jams from the input tray (HP Neverstop Laser 1000 / HP Laser NS 1020)

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

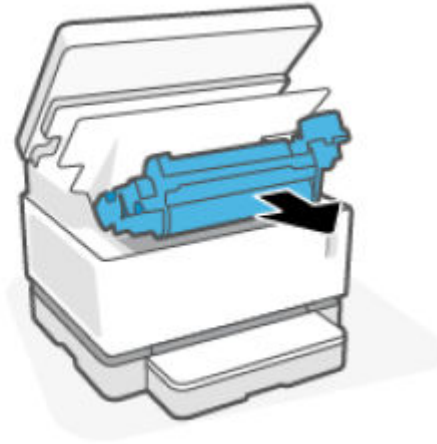
When removing jammed media, pull the jammed media straight away from the product. Pulling jammed media out of the product at an angle can damage the product.

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

1. Lift the scanner.

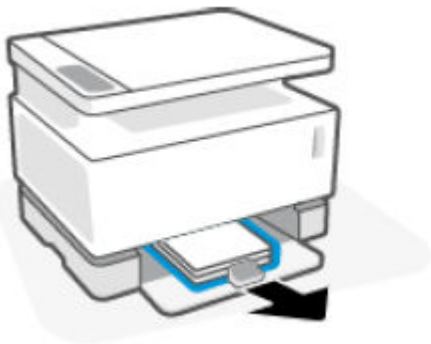


2. Lift the top cover, and then remove the imaging drum.

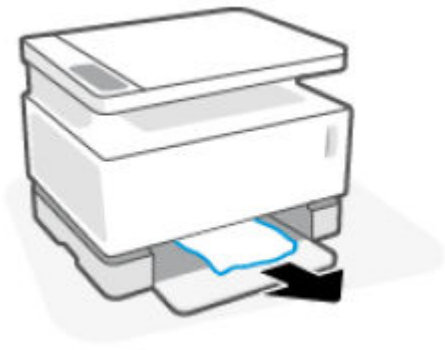


CAUTION: To prevent damage, do not expose the imaging drum to light. Cover it with a piece of paper.

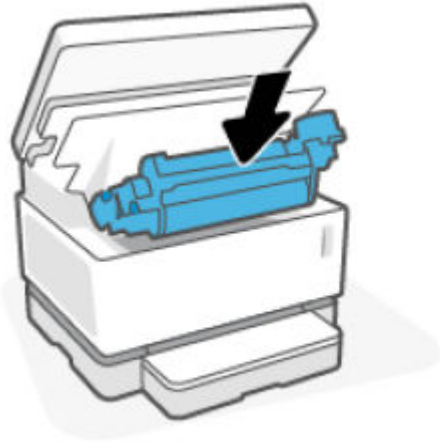
3. Remove the media stack from the input tray.



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



5. Reinstall the imaging drum, and then lower the top cover.



6. Lower the scanner.

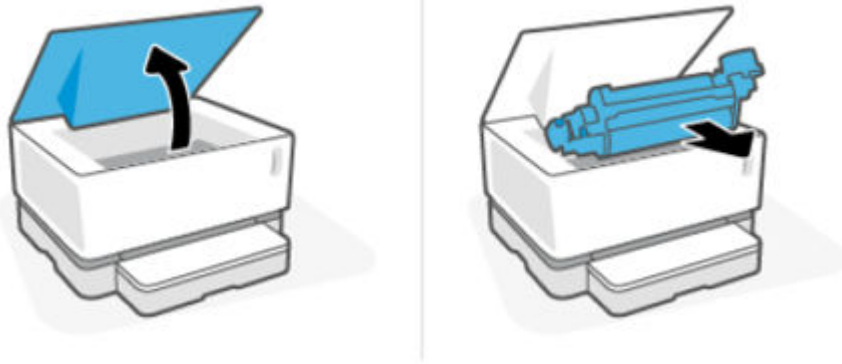


Clear jams from inside the product (HP Neverstop Laser 1000 / HP Laser NS 1020)

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

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

1. Lift the top cover, and then remove the imaging drum.



⚠ CAUTION: To prevent damage, do not expose the imaging drum to light. Cover it with a piece of paper.

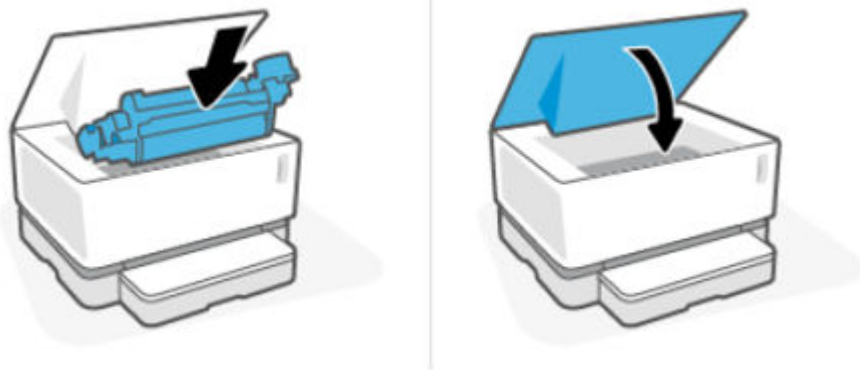
2. Remove the media stack from the input tray.



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



4. Reinstall the imaging drum, and then lower the top cover.

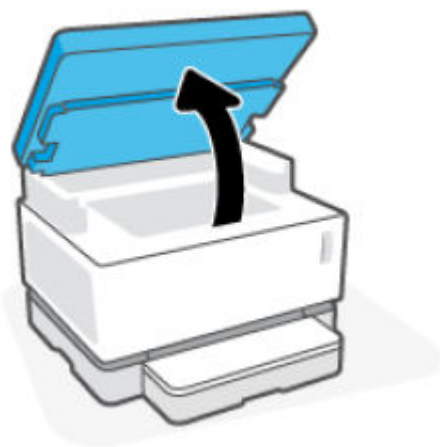


Clear jams from inside the product (HP Neverstop Laser MFP 1200 / HP Laser NS MFP 1005)

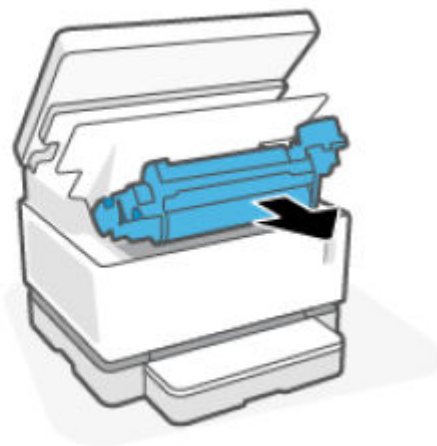
⚠ CAUTION: Do not use sharp objects, such as tweezers or needle-nose pliers, to remove jams. Damage caused by sharp objects will not be covered by the warranty.

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

1. Lift the scanner.



2. Lift the top cover, and then remove the imaging drum.

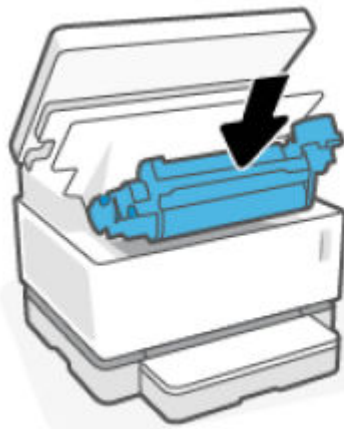


⚠ CAUTION: To prevent damage, do not expose the imaging drum to light. Cover it with a piece of paper.

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



4. Reinstall the imaging drum, and then lower the top cover.



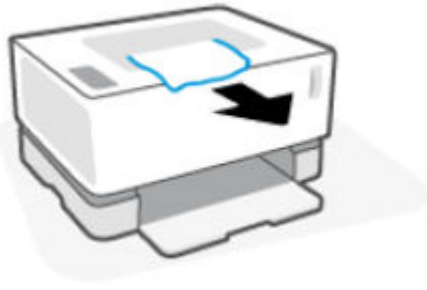
5. Lower the scanner.



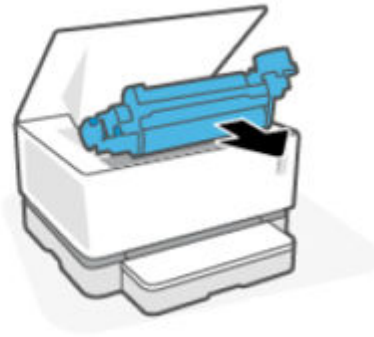
Clear jams from the output areas (HP Neverstop Laser 100x / HP Laser NS 1020)

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

1. If you can see the jammed paper in the output bin, carefully grasp the jammed paper, and slowly pull it out of the product.



2. Lift the top cover, and then remove the imaging drum.

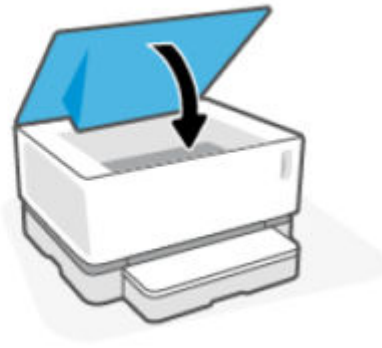
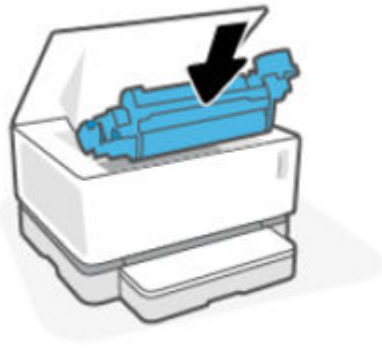


CAUTION: To prevent damage, do not expose the imaging drum to light. Cover it with a piece of paper.

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



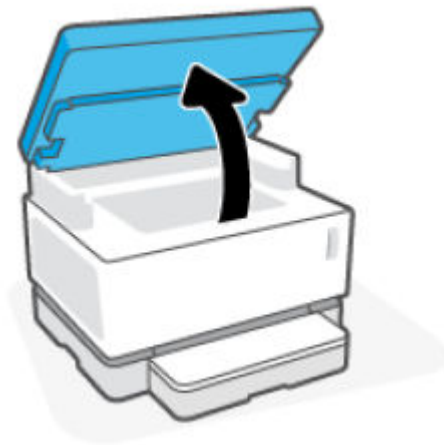
4. Reinstall the imaging drum, and then lower the top cover.



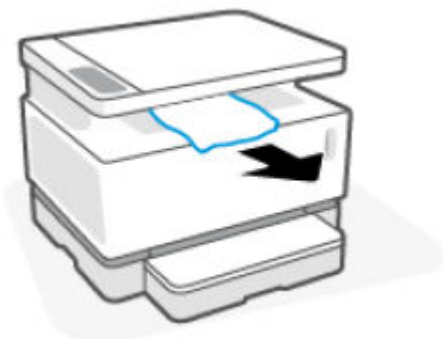
Clear jams from the output areas (HP Neverstop Laser MFP 120x / HP Laser NS MFP 1005)

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

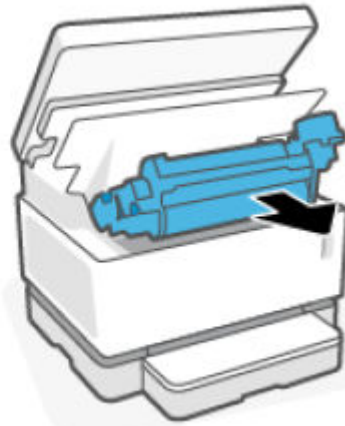
1. Lift the scanner.



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



3. Lift the top cover, and then remove the imaging drum.

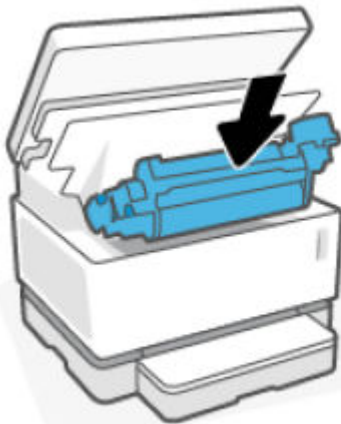


CAUTION: To prevent damage, do not expose the imaging drum to light. Cover it with a piece of paper.

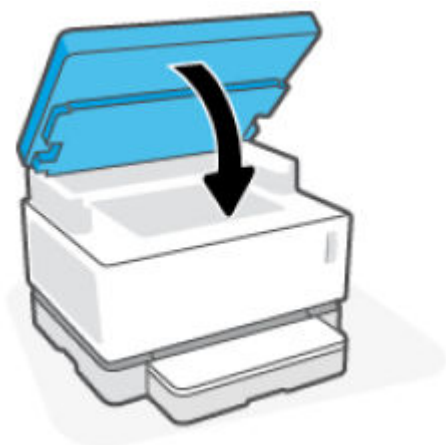
4. With both hands, grasp the side of the jammed media that is most visible (this includes the middle), and carefully pull it free from the product.



5. Reinstall the imaging drum, and then lower the top cover.



6. Lower the scanner.



Solve performance problems

Table 2-25 Solve performance problems

Problem	Cause	Solution
Pages print but are totally blank.	The document might contain blank pages.	Check the original document to see if content is present on all of the pages.
	The printer might be malfunctioning.	To check the printer, print a configuration report.
Pages print very slowly.	Heavier paper types can slow the print job.	Print on a different type of paper.
	Complex pages can print slowly.	Proper fusing might require a slower print speed to ensure the best print quality.
	Large batches, narrow paper, and special paper such as gloss, transparency, cardstock, and HP Tough Paper can slow the print job.	Print in smaller batches, on a different type of paper, or on a different size of paper
Pages did not print.	The printer might not be pulling paper correctly.	Make sure paper is loaded in the tray correctly.
	The paper is jamming in the printer.	Clear the jam.
	The USB cable might be defective or incorrectly connected.	<ul style="list-style-type: none"> • Disconnect the USB cable at both ends and reconnect it. • Try printing a job that has printed in the past. • Try using a different USB cable.
	Other devices are running on the host computer.	The printer might not share a USB port. If an external hard drive or network switchbox is connected to the same port as the printer, the other device might be interfering with the printer. To connect and use the printer, disconnect the other device or use two USB ports on the host computer.

Solve connectivity problems

- [Solve USB connection problems](#)
- [Solve wireless network problems](#)

Solve USB connection problems

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

- Verify that the cable is connected to the computer and to the printer.
- Verify that the cable is not longer than 5 m (16.4 ft). Try using a shorter cable.
- Verify that the cable is working correctly by connecting it to another printer. Replace the cable if necessary.

Solve wireless network problems

- [Introduction](#)
- [Wireless connectivity checklist](#)
- [Perform a wireless network diagnostic test](#)
- [The printer does not print after the wireless configuration completes](#)
- [The printer does not print, and the computer has a third-party firewall installed](#)
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- [Reduce interference on a wireless network](#)

Introduction

Use the troubleshooting information to help resolve issues.

Wireless connectivity checklist

- 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. The wireless light should be blue to indicate that the printer is connected. (If the light is blinking, the printer is in setup mode or attempting to connect.)
- Verify that the network name (service set identifier, or SSID) is correct. Print a configuration page to determine the SSID.
 1. Press and hold the **Resume** button for three seconds.
 2. Release the **Resume** button.

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.
- 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). Check the signal strength shown by the wireless light.
- 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 OS X, verify that the wireless router supports Bonjour.

Perform a wireless network diagnostic test

A wireless network diagnostic test can be performed using the printer control panel or the Embedded Web Server (EWS). The wireless network diagnostic test provides information about the wireless network settings.

Method one: Perform a wireless network diagnostic test using the printer control panel

From the printer control panel, press and hold the wireless button for 10 seconds.

Method two: Perform wireless network diagnostic test using the EWS

1. Open the HP Embedded Web Server (EWS):
 1. Print a configuration page to determine the IP address or host name.
 1. Press and hold the **Resume** button for three seconds.
 2. Release the **Resume** button.
 2. Open a web browser, and in the address line, type the IP address or host name exactly as it displays on the printer configuration page. Press the Enter key on the computer keyboard. The EWS opens.



NOTE: If you receive a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

2. Select the **Networking** tab.
3. On the **Wireless Configuration** page, verify that the On option is selected.
4. Click the **Print Test Report** button to print a test page that shows test results.

The printer does not print after the wireless configuration completes

1. Make sure that the printer is turned on and in the ready state.
2. Make sure that the wireless network is working correctly.
3. Make sure that your computer is working correctly. If necessary, restart the computer.
4. Make sure that the correct printer driver is installed on the printer (Windows).
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

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

1. Make sure that the router or printer connects to the same network that your computer connects to.
2. Check the signal strength indicator and make sure that the printer still has a strong wireless signal.
3. Print a configuration page.
4. Compare the network name (SSID) on the configuration report to the SSID of the network the computer is on.

If the SSIDs are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for the printer.

Cannot connect more devices to the wireless printer (Wi-Fi Direct)

1. Make sure that each device is within the wireless range and that no obstacles block the signal. (For Wi-Fi Direct printing, the device must be within wireless range of the printer.)
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. 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

- Make sure the wireless router is turned on and has power.
- The network might be hidden.
- Make sure that the printer is within wireless range of the wireless router, and that there are no obstacles blocking the signal.
- The printer operates on the 2.4 GHz wireless band. Any 5 GHz networks will not show up in the list.

The wireless network is not functioning

1. To verify if the network has lost communication, try connecting other devices to the network.
2. Test network communication by pinging the network.
 1. Open a command-line prompt on your computer.

- For Windows, click **Start**, click **Run**, type `cmd`, and then press **Enter**.
 - For OS X, go to **Applications**, then **Utilities**, and open **Terminal**.
- 2. Type `ping` followed by the router IP address.
- 3. If the window displays round-trip times, the network is working.
- 3. Make sure that the router or printer connects to the same network that the computer connects to.
 - 1. Print a configuration page.
 - 1. Press and hold the **Resume** button for three seconds.
 - 2. Release the **Resume** button.
 - 2. Compare the network name (SSID) on the configuration report to the SSID of the network the computer is on.

If the SSIDs are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for the printer.

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.

Printer resets

- [Restore the factory-set defaults](#)
- [NVRAM initialization](#)
- [Super NVRAM initialization](#)

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 (the tray size and language settings are reset to factory defaults). 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.

All onboard network settings are also reset. Be sure to print a configuration page before restoring defaults. Make note of the IP address that is listed on the configuration page. You might need to restore the IP address after restoring factory-set defaults.

NVRAM initialization

Performing an NVRAM initialization resets the following settings and information:

- All menu settings are reset to factory default values.
- All localization settings, including language and country/region, are reset to factory defaults.

 **CAUTION:** All onboard network settings are also reset. Be sure to print a configuration page before restoring defaults. Make note of the IP address that is listed on the configuration page. You might need to restore the IP address after an NVRAM initialization.

Super NVRAM initialization

A super NVRAM initialization restores the printer to the “generic printer mode” in which it arrived from the factory. This means that you will have to reset the language and country/region settings when the printer starts after the initialization. A super NVRAM initialization erases all data stored in the protected and unprotected NVRAM sections.


Firmware upgrades

- [Update the firmware using the Firmware Update Utility](#)

Follow these steps to update the firmware for a single printer.


Update the firmware using the Firmware Update Utility

Use these steps to manually download and install the Firmware Update Utility from HP.com.

 **NOTE:** This method is the only firmware update option available for printers connected to the computer via a USB cable. It also works for printers 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, select your country/region or language, and then click the **Software and Drivers** link.
2. Type the printer name in the search field, press the Enter button, and then select the printer from the list of search results.
3. Select the operating system.
4. Under the **Firmware** section, locate the **Firmware Update Utility**.
5. Click **Download**, click **Run**, and then click **Run** again.
6. When the utility launches, select the printer from the drop-down list, and then click **Send Firmware**.

 **NOTE:** To print a configuration page to verify the installed firmware version before or after the update process, click **Print Config**.

7. Follow the on-screen instructions to complete the installation, and then click the **Exit** button to close the utility.

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