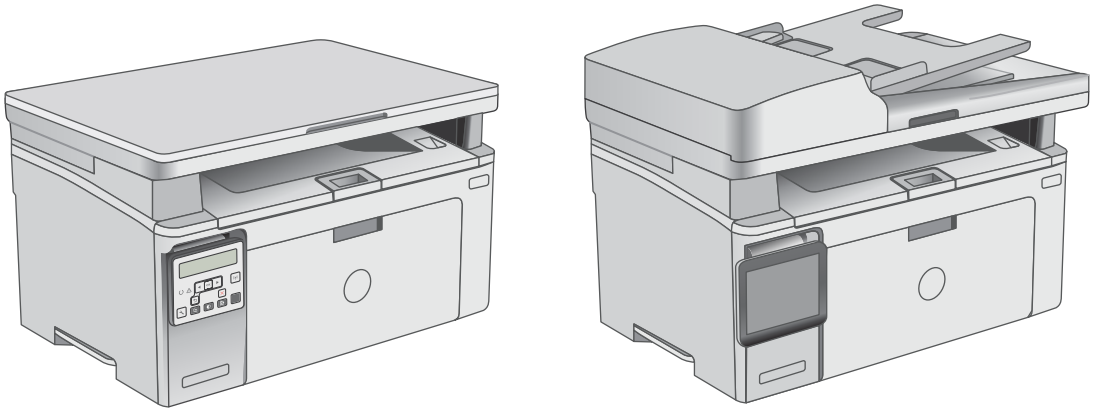
LaserJet Pro M101-M106
LaserJet Pro MFP M129-M134

Troubleshooting Manual

M101-M106



M129-M134

www.hp.com/support/ljM101
www.hp.com/support/ljM129MFP

For printer part removal and part number information, see the Repair Manual.

HP LaserJet Pro M101, M106 and LaserJet Pro MFP M129, M134

Troubleshooting Manual

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Conventions used in this guide

TIP: Helpful hints or shortcuts.

Reinstallation tip: Reinstallation helpful hints, shortcuts, or considerations.

NOTE: Information that explains a concept or how to complete a task.

IMPORTANT: Information that help the user to avoid potential printer error conditions.

CAUTION: Procedures that the user must follow to avoid losing data or damaging the printer.

WARNING! Procedures that the user must follow to avoid personal injury, catastrophic loss of data, or extensive damage to the printer.

For additional service and support information

HP service personnel, go to the Service Access Work Bench (SAW) at http://h41302.www4.hp.com/km/saw/home.do.

Channel partners, go to HP Channel Services Network (CNS) at https://h30125.www3.hp.com/hpcsn.

At these locations, find 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/ or scan the Quick Response (QR) code below.

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1 Theory of operation

- Related documentation and software
- Basic operation
- Formatter-control system
- Engine-control system
- Engine laser scanner system
- Engine pickup, feed, and delivery system
- Scanning and image capture system (MFP printers)
- Document feeder system (MFP printers)
- Fax functions and operation (fax models only)

Related documentation and software

HP service personnel, go to the Services Access Workbench (SAW) at http://h41302.www4.hp.com/km/saw/home.do.

Channel partners, go to HP Channel Services Network (CSN) at https://h30125.www3.hp.com/hpcsn.

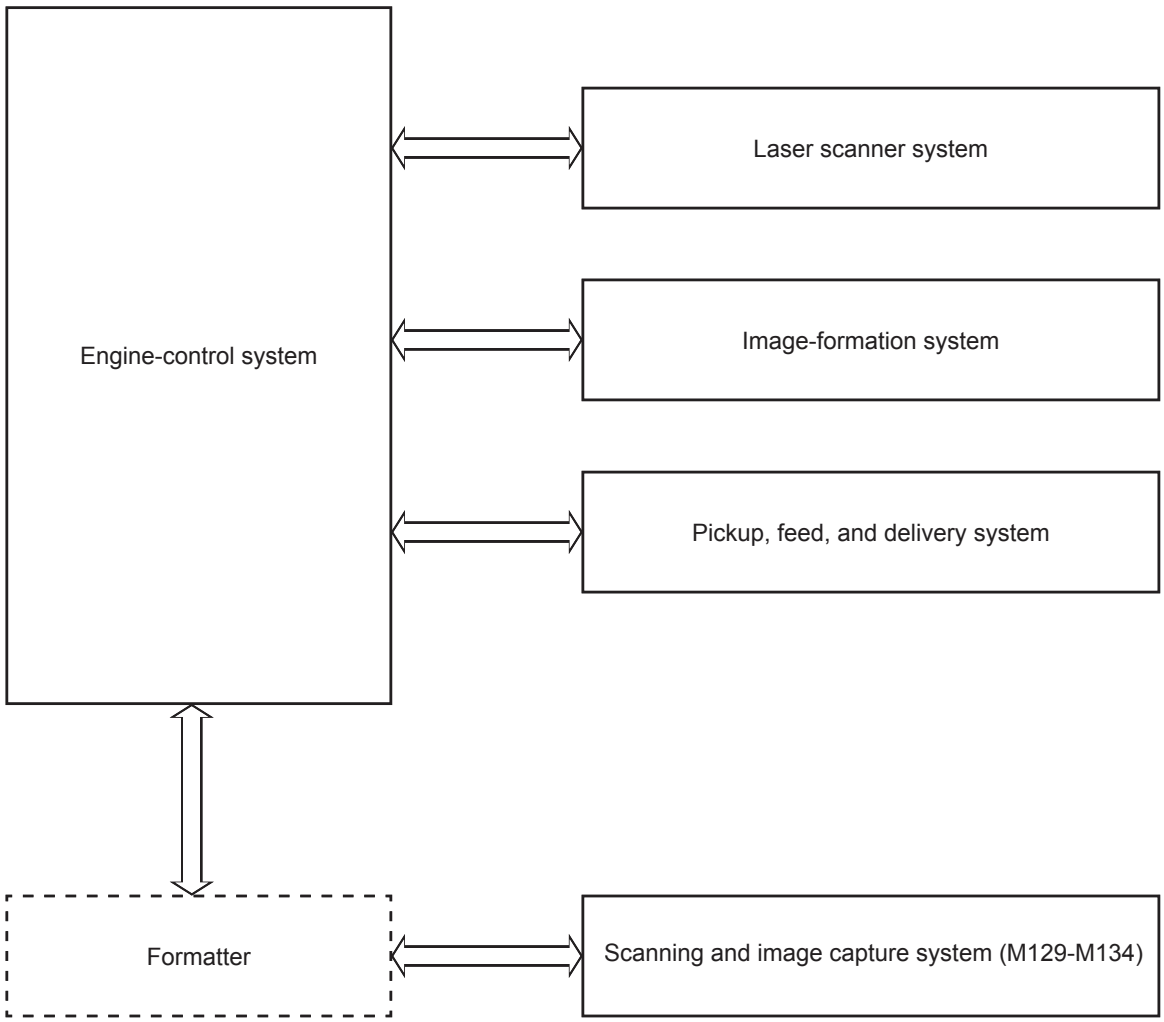
Basic operation

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
- Scanning and image capture system (M129–M134)

Figure 1-1 Relationship between the main printer systems



Sequence of operation

The DC controller PCA controls the operating sequence, as described in the following table.

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.	• Heats the fuser film in the fuser • Detects the presence of the toner cartridge • Rotates and stops the main motor • Cleans the transfer roller • Separates the developer roller
Standby	From the end of the waiting sequence or the last rotation until the formatter receives a print command, or until the printer is turned off.	• Remains in the Ready state • Enters Active OFF mode 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.	• Rotates the main motor • Activates the high-voltage power supply (high-voltage bias) • Prepares the laser scanner unit • Warms the fuser to the correct temperature • Engages the developer roller
Printing	From the time the first sheet of paper enters the paper path until the last sheet passes through the fuser.	• Forms the image on the photosensitive drum • 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.	• Stops the main motor • Stops the high-voltage power supply (high-voltage bias) • Stops the laser scanner unit • Turns the fuser heater off • Separates the developer roller • If another print command is received, the printer enters the initial rotation period when the last rotation is complete.

Formatter-control system

The formatter performs the following functions:

- Controls the sleep delay function
- Receives and processes print data from the various printer inputs
- Monitors control-panel functions and relays printer status information (through the control panel and the bidirectional input/output)
- Develops and coordinates data placement and timing with the DC controller
- Communicates with the host computer through the network or the bidirectional interface

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

Sleep delay

When the printer is in sleep delay mode, the control-panel backlight is turned off, but the printer retains all printer settings, downloaded fonts, and macros. The default setting is a 15-minute idle time. The setting can be changed or turned off from the control panel menus.

The printer exits sleep delay mode and enters the warm-up cycle when any of the following occurs.

- A print job, valid data, or a PML or PJL command is received at the serial port.
- The control panel is touched (button press or touchscreen touch depending on model).
- A document is loaded in the document feeder or the scanner lid is opened (M129/M134).
- A tray is opened.

TIP: Error messages override the sleep delay message. The printer enters sleep mode at the appropriate time, but the error message continues to appear.

Printer job language (PJL)

PJL is an integral part of printer configuration, in addition to the printer control language mobility (PCLM), printer working group (PWG) raster, and PostScript (PS). With standard cabling, the printer can use PJL to perform a variety of functions.

- **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 (PS or PCLM) of each job and configure itself to serve that personality.
- **Isolation of print environment settings from one print job to the next:** For example, if a print job is sent to the printer in landscape mode, the subsequent print jobs print in landscape only if they are formatted for landscape printing.

Printer management language (PML)

PML allows remote configuration of the printer and status monitoring through the input/output (I/O) ports.

Control panel

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

Wireless

NOTE: Wireless models only.

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

Low end data model (LEDM) overview

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

Advanced control language (ACL) overview

The advanced control language (ACL) is a language that supports printer control and firmware downloads in printers that support both PJL/PCL and host-based printing. Each sequence of ACL commands must be preceded by a unified exit command (UEL) and an @PJL ENTER LANGUAGE=ACL command. The ACL sequence is always followed by a UEL. Any number of commands can be placed between the UELs. The only exception to these rules is the download command. If a firmware download is done, the download command must be the last command in the sequence. It will not be followed by a UEL.

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

CPU

The formatter incorporates a 600 MHz processor.

Input/output (I/O)

The following sections discuss the input and output features of the printer.

USB

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

USB hosts

The printer includes USB hosts for USB flash drive and wireless communication control.

10/100 networking

The printer includes a 10/100 network (Ethernet) connection.

Fax

NOTE: M129-M134 models only.

The printer includes a fax phone line connection.

Memory

If the printer encounters a problem when managing available memory, a clearable warning message appears on the control panel.

Firmware

The formatter stores the printer firmware. A remote firmware upgrade process is used to overwrite and upgrade the firmware.

Nonvolatile random access memory (NVRAM)

The printer uses nonvolatile memory (NVRAM) to store I/O and information about the print environment configuration. The contents of NVRAM are retained when the printer is turned off or disconnected.

Flash memory

DRR: Stores microprocessor control programs.

NAND: Stores fax memory (M129/M134 models only) and driver installation software.

Random access memory

DDR memory

- 128 MB (M101/M129 base model)
- 256 MB (all other models)

Flash memory

- 16 MB NOR (M101/M106 and M129 base model)
- 256 MB NAND flash (all other models)

HP Memory Enhancement technology (MEt)

The HP Memory Enhancement technology (MEt) effectively doubles the standard memory through a variety of font- and data-compression methods.

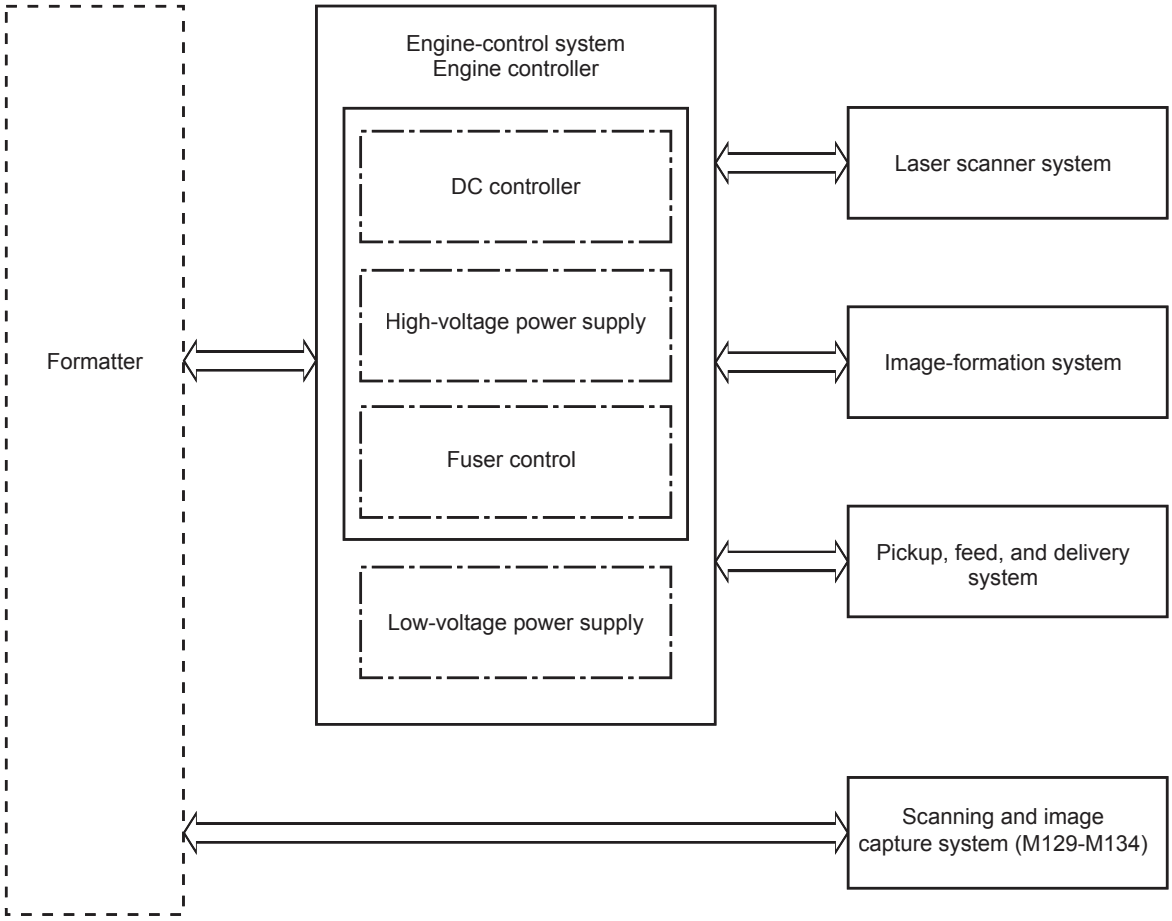
NOTE: The MEt is available only in PCL mode; it is not functional when printing in PS mode.

Engine-control system

The engine-control system receives commands from the formatter and interacts with the other main systems to coordinate all printer functions. The engine-control system consists of the following components:

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

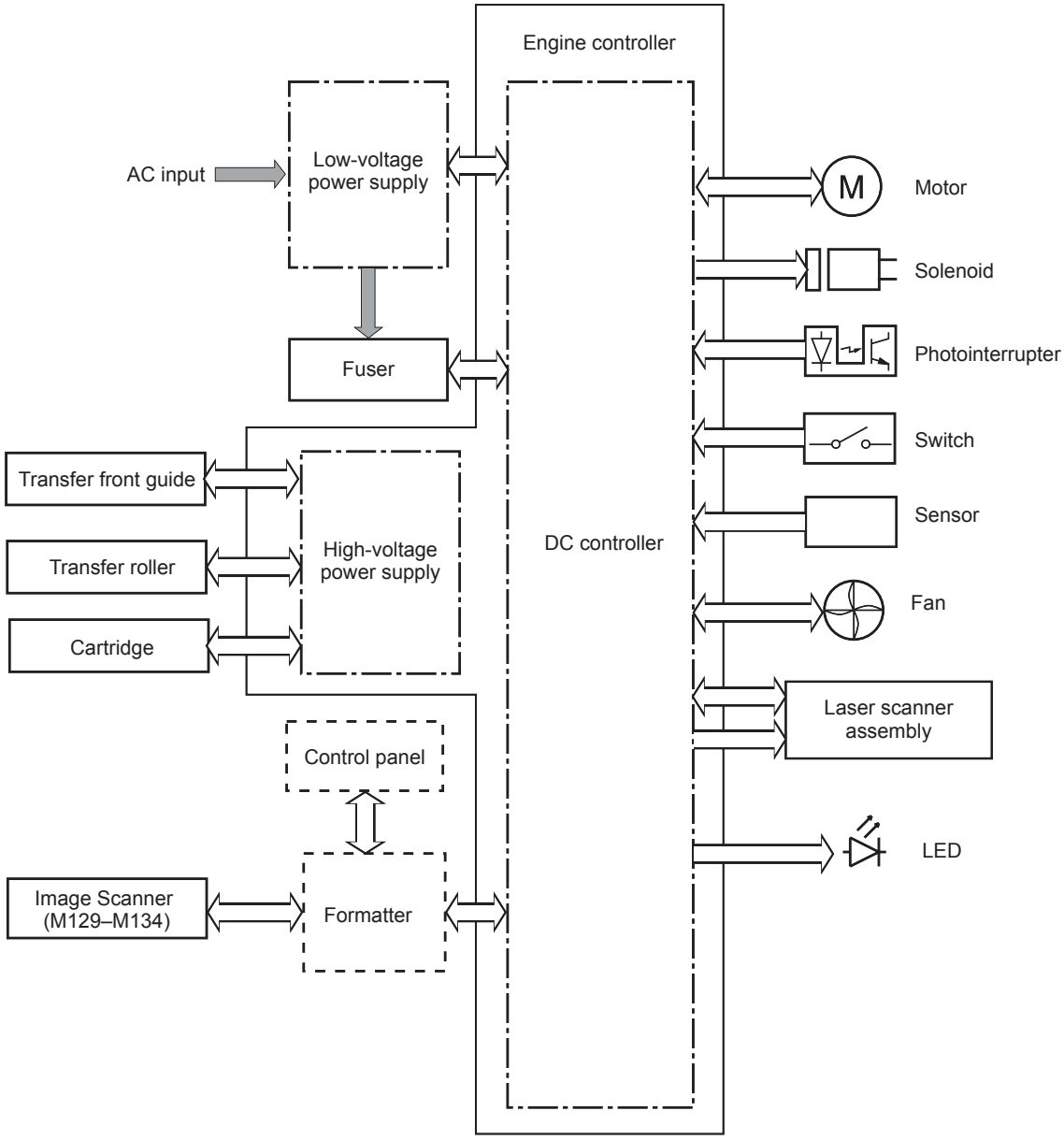
Figure 1-2 Engine-control system



DC controller

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

Figure 1-3 DC controller block diagram



Component type	Abbreviation	Description
Motor	M1	Main motor
Solenoid	SL1	Pickup solenoid
	SL2	Developer alienation solenoid

Component type	Abbreviation	Description
Switch	SW1	Developer alienation switch
	SW501	Cartridge door switch
	SW740	Power switch
Photointerrupter	PS601	Main motor rotation number sensor
	SR760	Top of page (TOP) sensor
	SR770	Media out sensor
	SR771	Pickup media width sensor
	SR780	Fuser output sensor
	SR781	Fuser media width sensor
Sensor	-	Environment sensor
	-	Toner level sensor (M105-M106 and M133-M134 models)
LED	LED391	Pre-exposure LED
	LED740	Power supply LED

Motor control

The printer has one motor. The motor drives the components in the image-formation system.

The DC controller monitors the motor to determine if it has failed. It notifies the formatter when it encounters the following conditions:

- Startup failure: the motor does not reach a specified speed within a specified time from when the motor starts.
- Rotational failure: the rotational speed of the motor is not in the specified range for a specified time after the motor reaches a specified speed.

Table 1-2 Motors

Abbreviation	Name	Purpose	Failure detection
M1	Main motor	Pickup roller, photosensitive drum, feed roller, pressure roller, and output roller	Yes

Low-voltage power supply

The low-voltage power-supply (LVPS) circuit converts the AC power from the wall receptacle into the DC voltage used by the printer components.

The following two printer states relate to the low-voltage power supply:

- **Inactive OFF**: In this state, the printer power is turned off.
- **Active OFF**: In this state, the printer is in sleep mode. The low-voltage power supply only sends power to the formatter and DC controller.

Figure 1-4 Low-voltage power-supply circuit

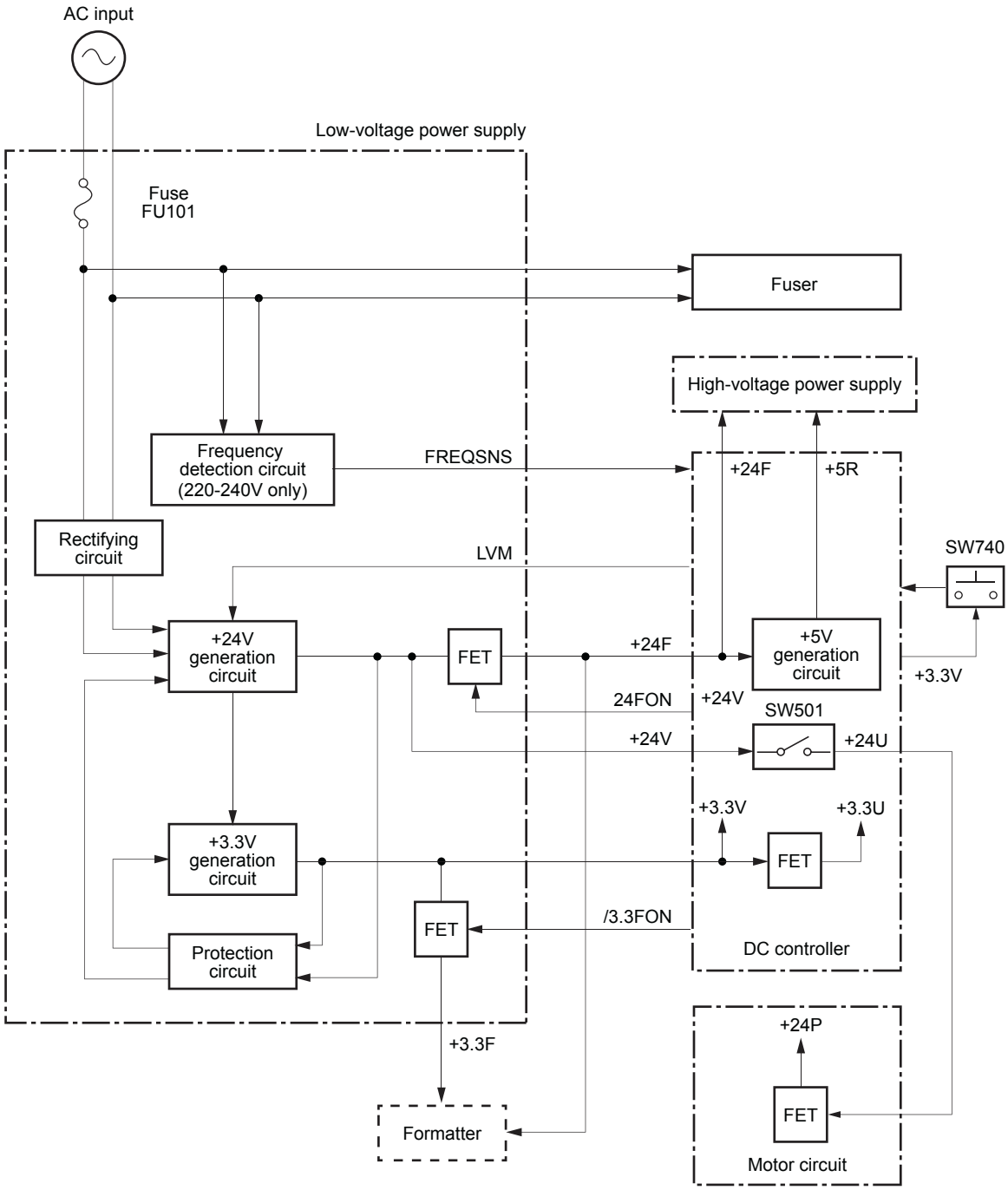


Table 1-3 List of DC voltages

DC power supply		Description
+24V	+24V	Constantly supplied
	+24U	Stopped when cartridge door is opened. (SW501)
		Stopped during active OFF or inactive OFF

Table 1-3 List of DC voltages (continued)

DC power supply		Description
	+24P	Stopped when cartridge door is opened. (SW501) Stopped during active OFF or inactive OFF
	+24F	Constantly supplied Stopped during active OFF or inactive OFF
+3.3V	+3.3V	Constantly supplied
	+3.3U	Supplied only during printing and stopped during standby Stopped during active OFF or inactive OFF
	+3.3F	Constantly supplied Stopped during inactive OFF
+5V	+5R	Constantly supplied Stopped during active OFF or inactive OFF

Overcurrent/overvoltage protection

The overcurrent/overvoltage protection function automatically stops supplying DC voltage to the printer components whenever it detects excessive current or abnormal voltage. The low-voltage power supply has a protective function against overcurrent and overvoltage to prevent failures in the power supply circuit. In addition, two fuses in the low-voltage power supply protect against an overcurrent event. If an overcurrent event occurs in the AC line, the fuse blows and stops the flow of AC power.

! **CAUTION:** If the low-voltage power supply is not supplying DC voltage, the protective circuit might be running. In this case, turn the printer off, and then unplug the power cord. Do not plug in the power cord or turn the printer on again until the root cause is found and corrected.

! **WARNING!** For personal safety, the printer interrupts +24U and +24P power when the cartridge door detection switch is turned off. This stops DC power supply to the motor and solenoids. The remote switch control circuit turns the printer power on or off so that AC power flows even when the power switch is turned off. Unplug the printer power cord before disassembling the printer.

Low-voltage power supply failure detection

The only time the DC controller detects a failure of the low-voltage power supply is when the printer power cord is plugged into a power source. If the low-voltage power supply outputs 24F when the 24FON signal is ON, the DC controller reports a low-voltage power supply failure.

High-voltage power supply

The DC controller controls the high-voltage power supply (HVPS) to generate biases. The HVPS delivers high-voltage biases to the following components used to transfer toner during the image-formation process:

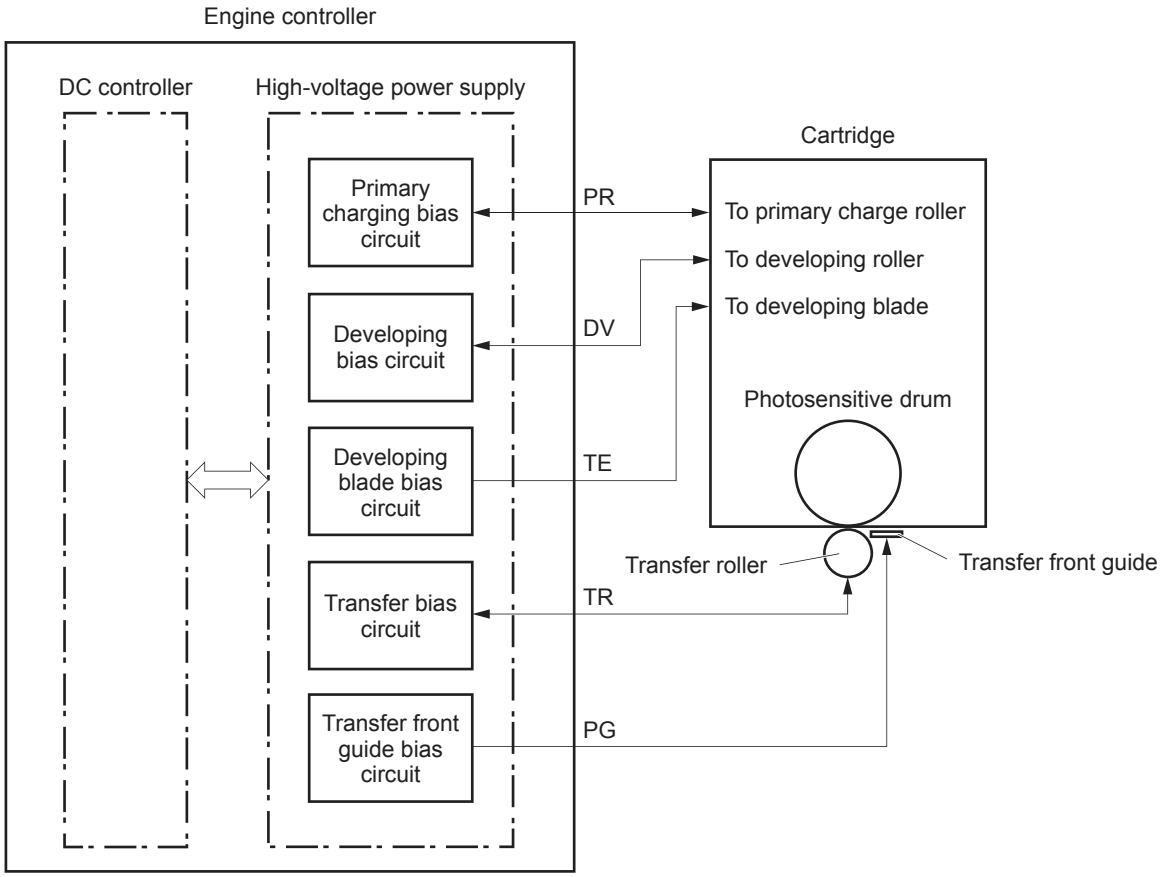
- Primary charging roller (in the toner cartridge)
- Developing roller (in the toner cartridge)
- Developer blade (in the toner cartridge)

- Transfer front guide
- Transfer roller

High-voltage power supply circuits

The high-voltage power supply contains the following separate circuits.

Figure 1-5 High-voltage power supply circuits



Fuser control

The printer uses an on-demand fusing method. 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 components

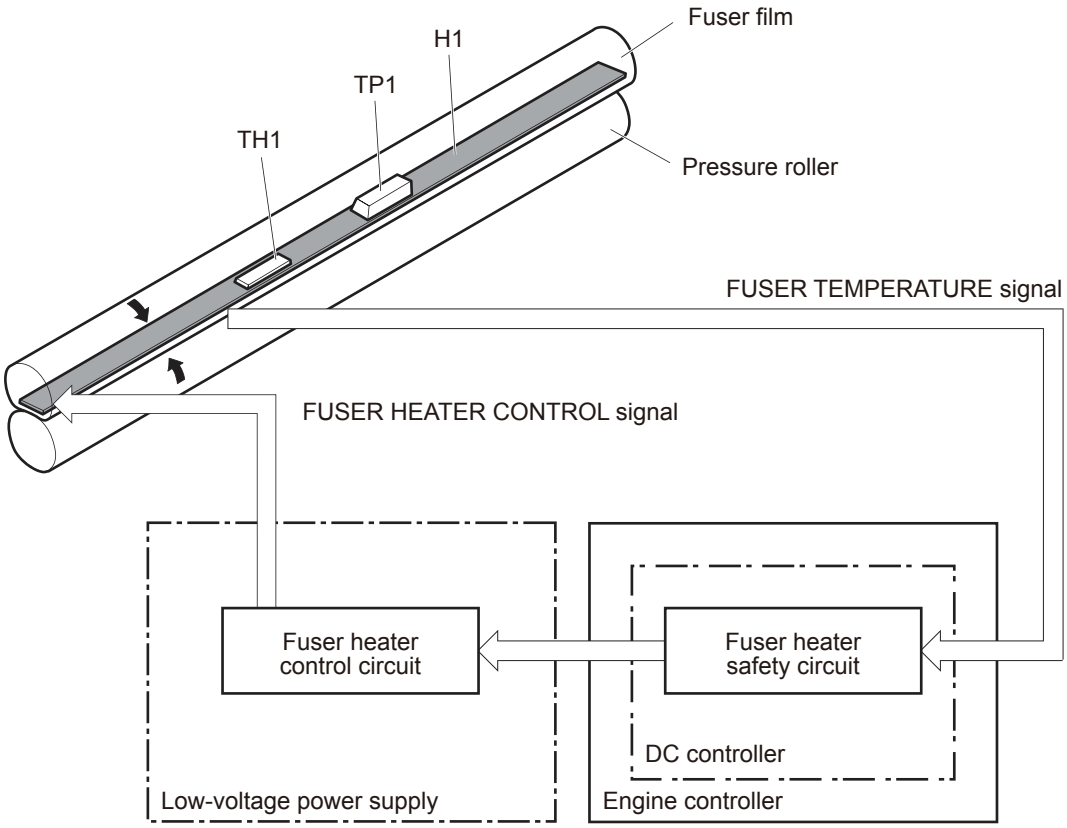
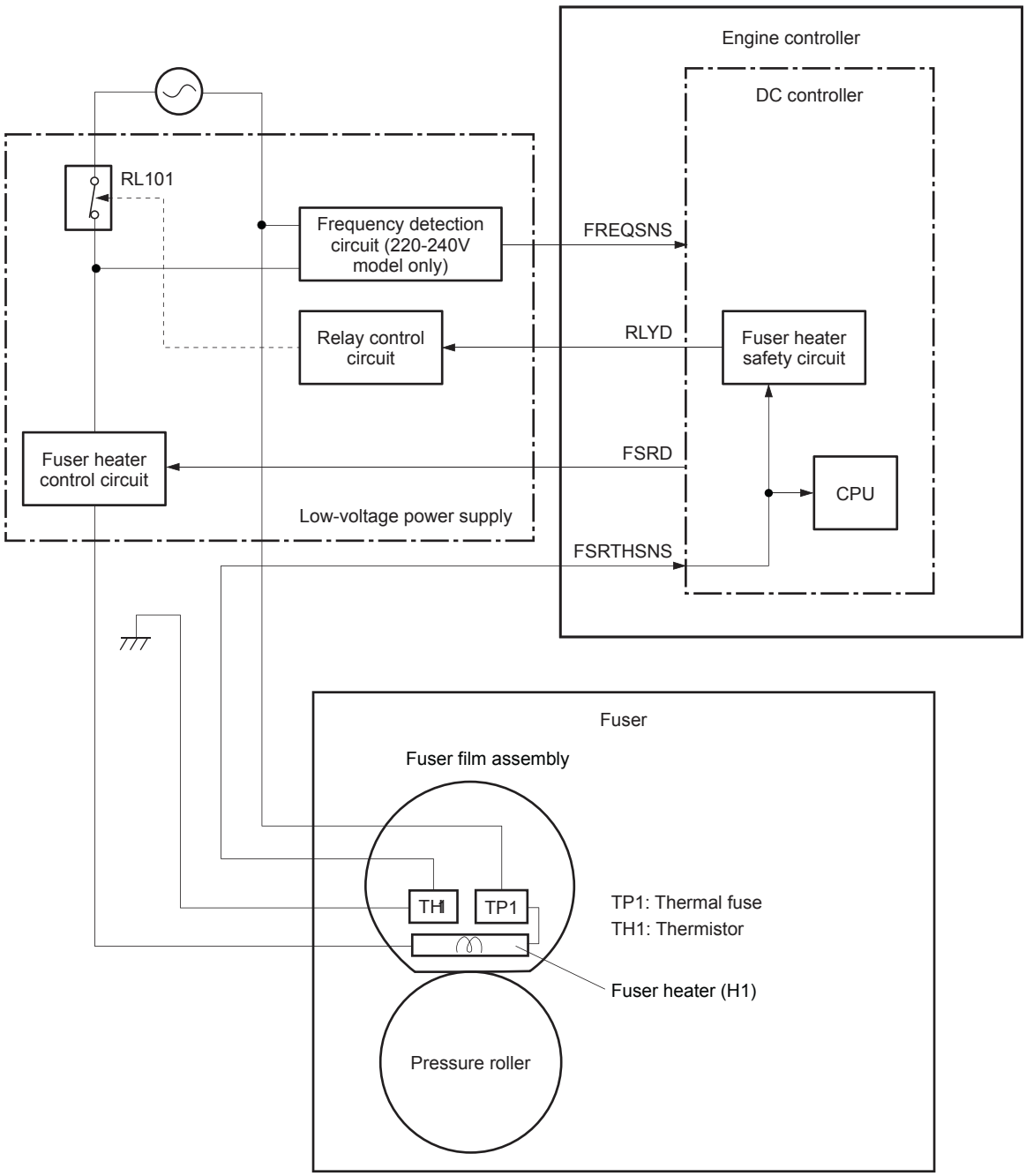


Table 1-4 Fuser components

Component Name	Abbreviation	Function
Fuser heater	H1	Heats the fuser film assembly
Thermistor (contact type)	TH1	Detects the temperature of the fuser heater
Thermal fuse (contact type)	TP1	Prevents an abnormal temperature rise in the fuser heater

Fuser control functions

Figure 1-7 Fuser control



The printer has the following fuser control functions.

Table 1-5 Fuser control functions

Failure detection function	Supported feature
Fuser temperature control	Yes
Heat-up error detection	Yes

Table 1-5 Fuser control functions (continued)

Failure detection function	Supported feature
Low temperature error detection	Yes
High temperature error detection	Yes
Breaking of a heater wire detection	No
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
Fuser presence detection	No
Fuser life detection	No
Fuser roller cleaning	Yes

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**: The DC controller constantly monitors the temperature of the thermistor. When the DC controller detects an excessive temperature, it deactivates the FUSER HEATER CONTROL signal and turns off the relays (RL101) to interrupt power supply to the fuser heater.
- **Fuser heater safety circuit**: The fuser heater safety circuit constantly monitors the detected temperature of the thermistors. When the fuser heater safety circuit detects an excessive temperature, it turns off the relays (RL101) to interrupt power supply to the fuser heater.
- **Thermal fuse**: When the thermal fuse detects an abnormally high temperature in the fuser heater, the contact of the thermal fuse opens and interrupts the power supply to the fuser heater.

Engine laser scanner system

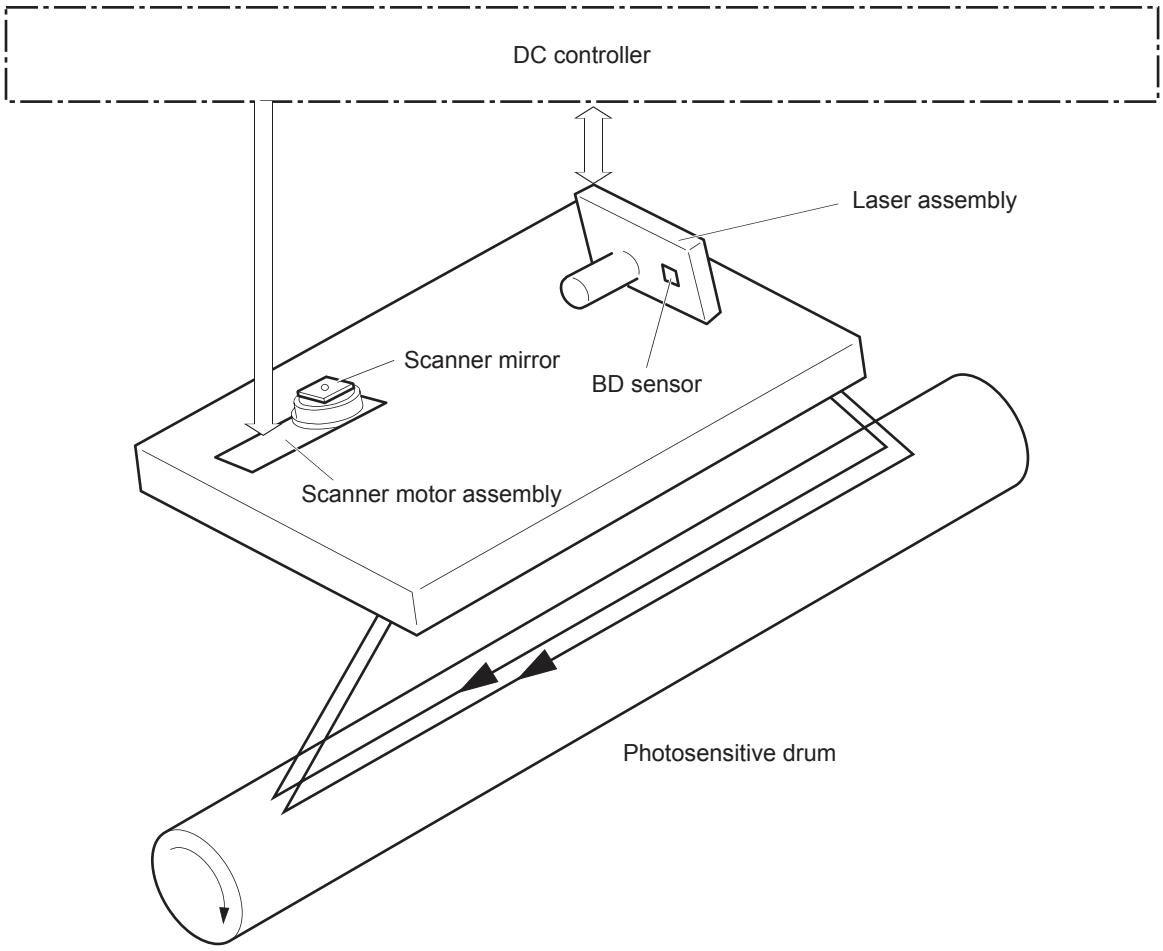
The DC controller receives instructions from the formatter in order to control the laser scanner system.

The DC controller signals the lasers to emit light, and the laser beams pass through lenses and onto the scanner mirror, which rotates at a constant speed. The mirror reflects the beam onto the photosensitive drum inside of the toner cartridge in the pattern required for the image, exposing the surface of the drum so that it can receive toner.

The main components of the laser scanner system, which are controlled by the VIDEO signals sent from the DC controller, are:

- Laser assembly
- Scanner motor assembly
- Beam detect (BD) sensor
- Scanner mirror

Figure 1-8 Laser scanner system



Laser scanner failure detection

The DC controller detects the following laser scanner failures:

Failure detection function	Supported feature
Beam detect (BD) failure detection: A specified BD interval is not detected within a specified period of time during the scanner rotation.	Yes
Laser scanner failure detection: A specified laser intensity is not detected.	No

Safety

The laser scanner assembly has a mechanical laser shutter. For the safety of users and service technicians, the laser shutter interrupts the optical path of the laser scanner assembly when the cartridge door is opened.

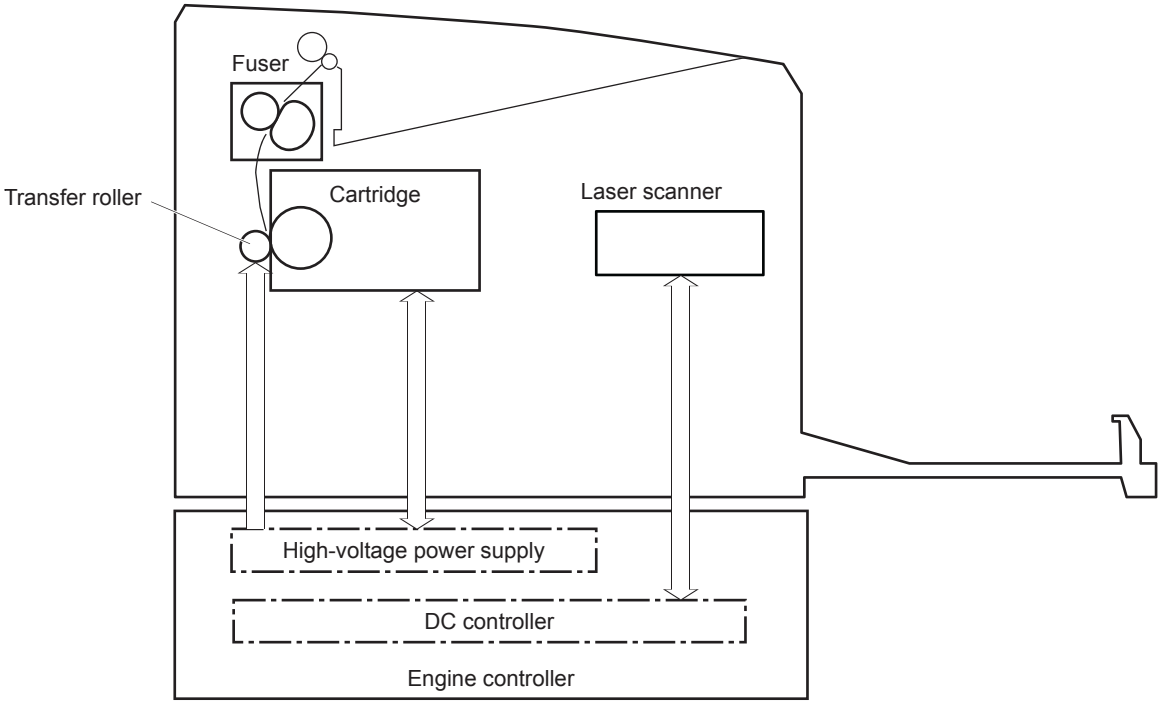
Image-formation process

The DC Controller controls the internal components of the image formation system (according to commands received from the formatter) to form the toner image on the photosensitive drum surface. The toner image is then transferred to the print media and fused.

The image-formation system consists of the following components:

- Toner cartridge
- Transfer roller
- Fuser
- Laser scanner
- High-voltage power supply

Figure 1-9 Image-formation system

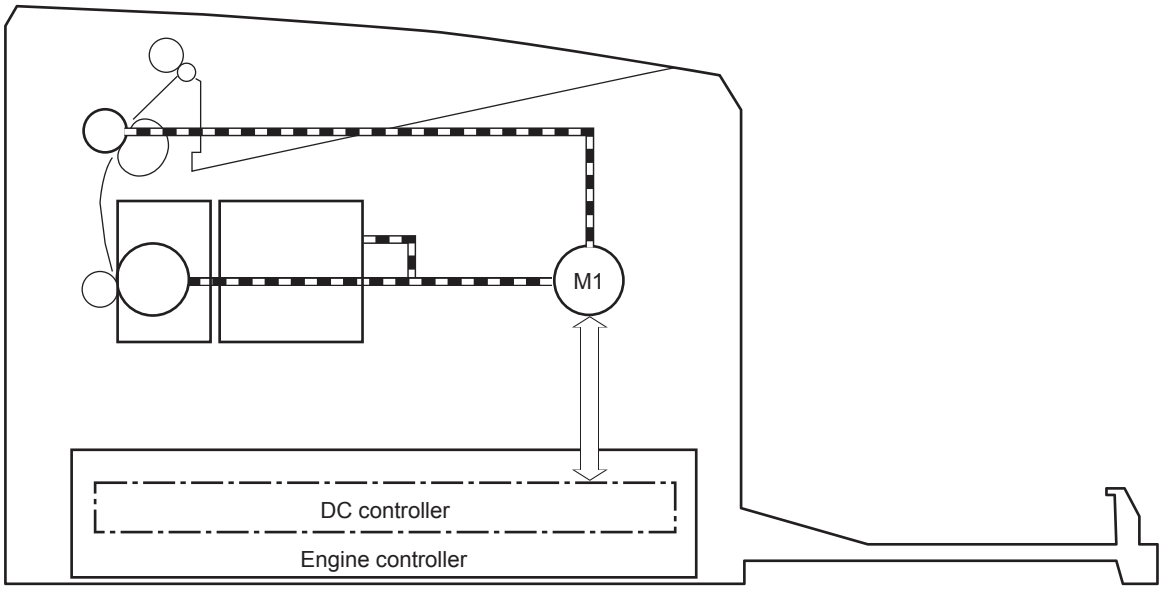


The main motor (M1) drives the following image formation components:

- Photosensitive drum
- Developing roller
- Primary charging roller (follows the photosensitive drum)
- Transfer roller (follows the photosensitive drum)
- Pressure roller
- Fuser film (follows the pressure roller)

NOTE: The primary charging roller and developer roller are located in the toner cartridge.

Figure 1-10 Main motor (M1) and image formation components



Abbreviation	Component
M1	Main motor

The following figure shows the sensors in the image-formation system.

Figure 1-11 Sensors

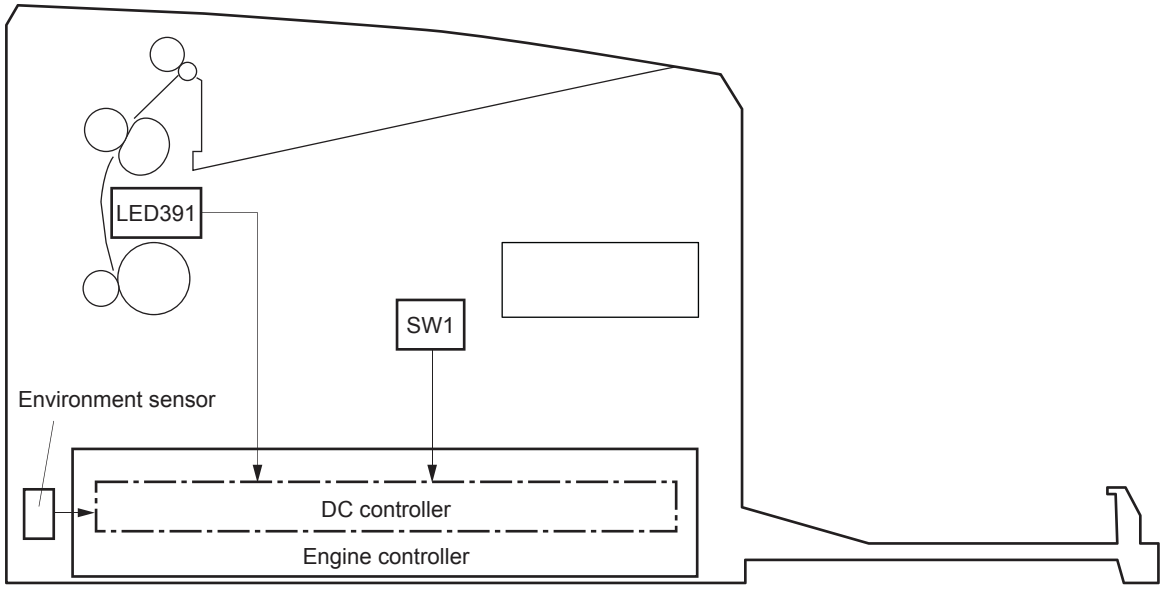


Table 1-6 Sensors

Abbreviation	Component
LED391	Pre-exposure LED
-	Environment sensor
SW1	Developer alienation switch

The image-formation process consists of ten steps divided into five functional blocks.

Figure 1-12 Image-formation process

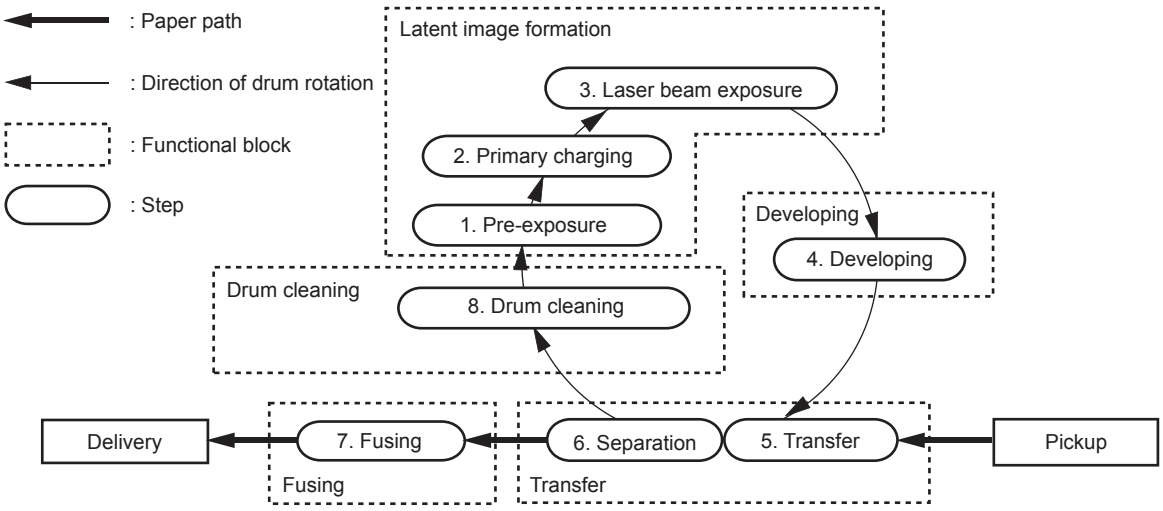


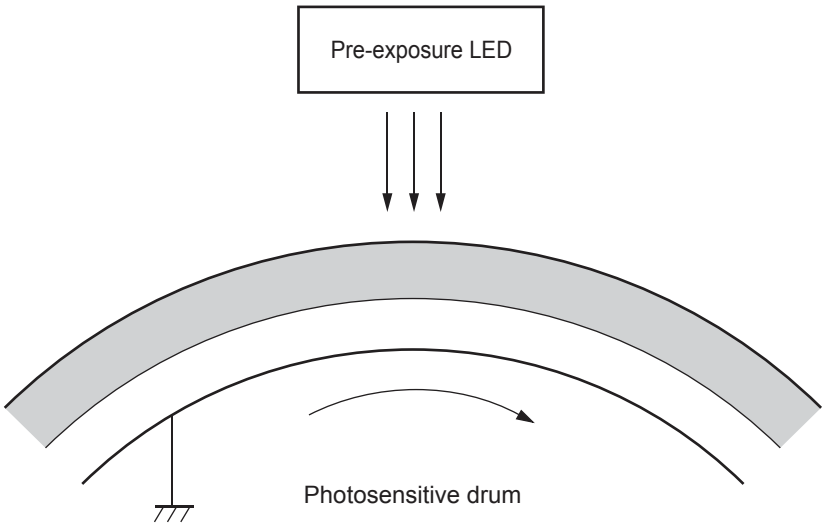
Table 1-7 Image formation process

Functional block	Steps	Description
Latent image formation	1. Pre-exposure 2. Primary charging 3. Laser-beam exposure	An invisible latent image forms on the surface of the photosensitive drums.
Development	4. Development	Toner adheres to the electrostatic latent image on the photosensitive drum.
Transfer	5. Transfer 6. Separation	The toner image transfers to the paper.
Fusing	7. Fusing	The toner fuses to the paper to make a permanent image.
Drum cleaning	8. Drum cleaning	Residual toner is removed from the drum.

Step 1: Pre-exposure

To prepare for primary charging, light from the pre-exposure LED strikes the surface of the photosensitive drum to remove any residual electrical charges from the drum surface.

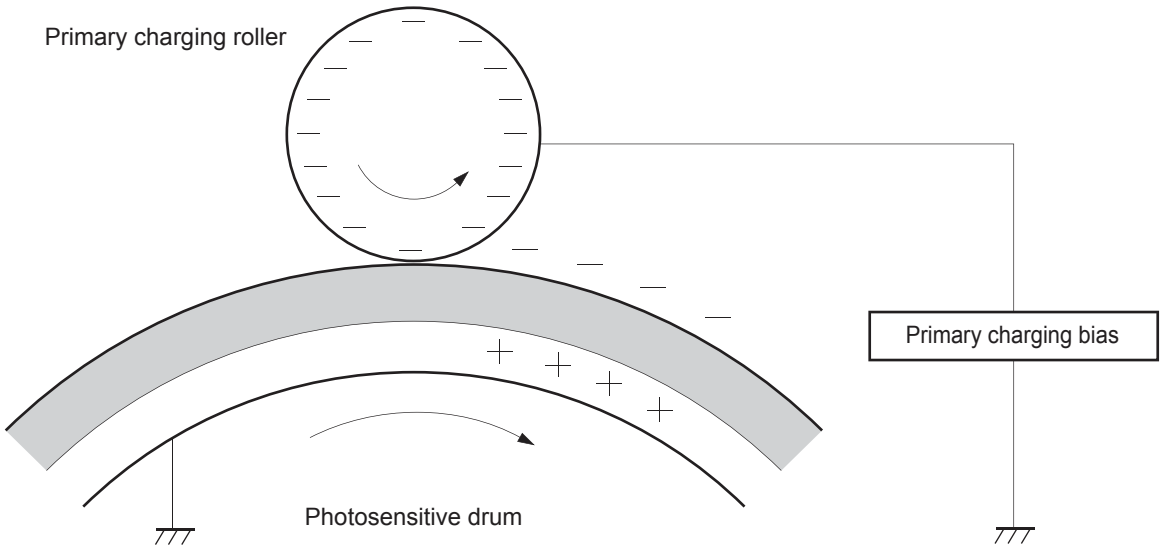
Figure 1-13 Pre-exposure



Step 2: Primary charging

To prepare for latent image formation, the surface of the photosensitive drum is charged with a uniform negative charge. The primary charging roller receives the primary charging bias, and then the roller charges the drum directly.

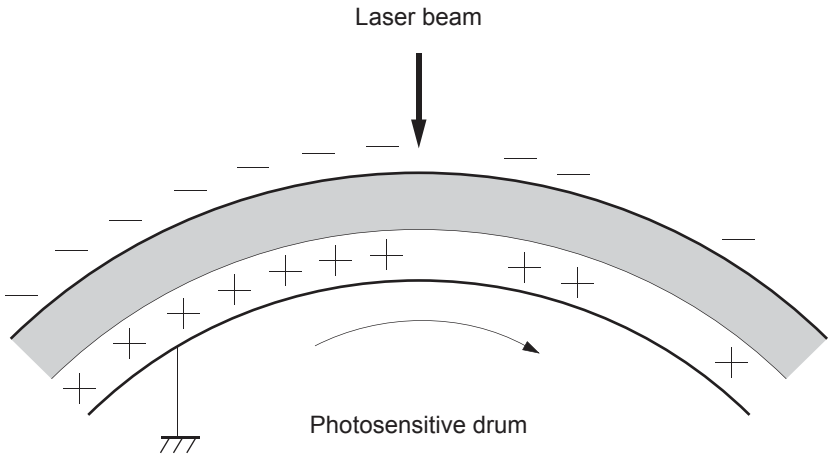
Figure 1-14 Primary charging



Step 3: Laser-beam exposure

The laser beam strikes the photosensitive drum to neutralize the negative charge on portions of the drum surface. An electrostatic latent image forms where the negative charge was neutralized.

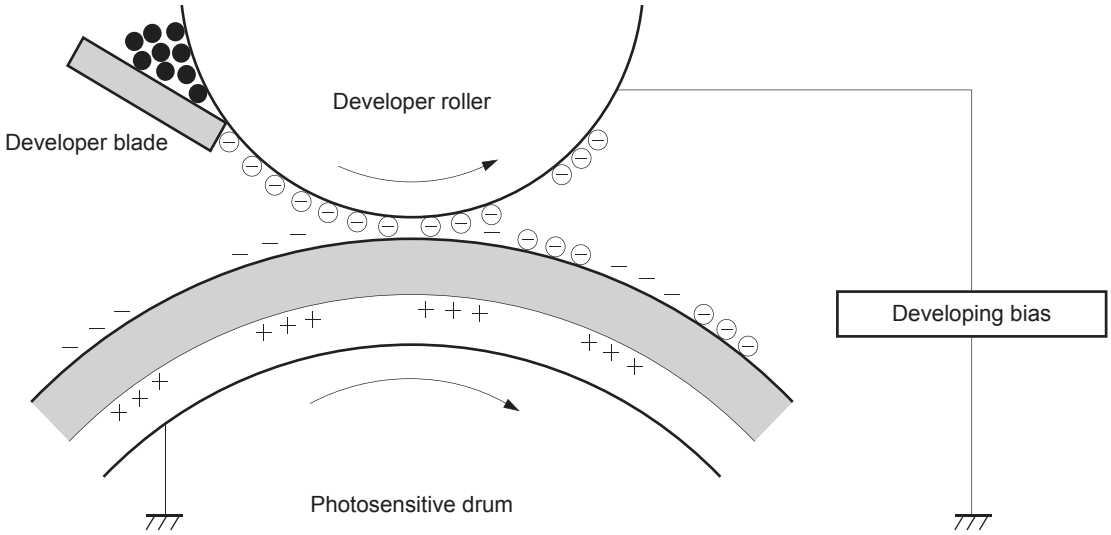
Figure 1-15 Laser-beam exposure



Step 4: Development

Toner acquires a negative charge as a result of the friction from the developing roller rotating against the developing blade. Developing bias is applied to the developing roller. When the negatively charged toner comes in contact with the drum, it adheres to the electrostatic latent image. When the toner is on the drum, the image becomes visible.

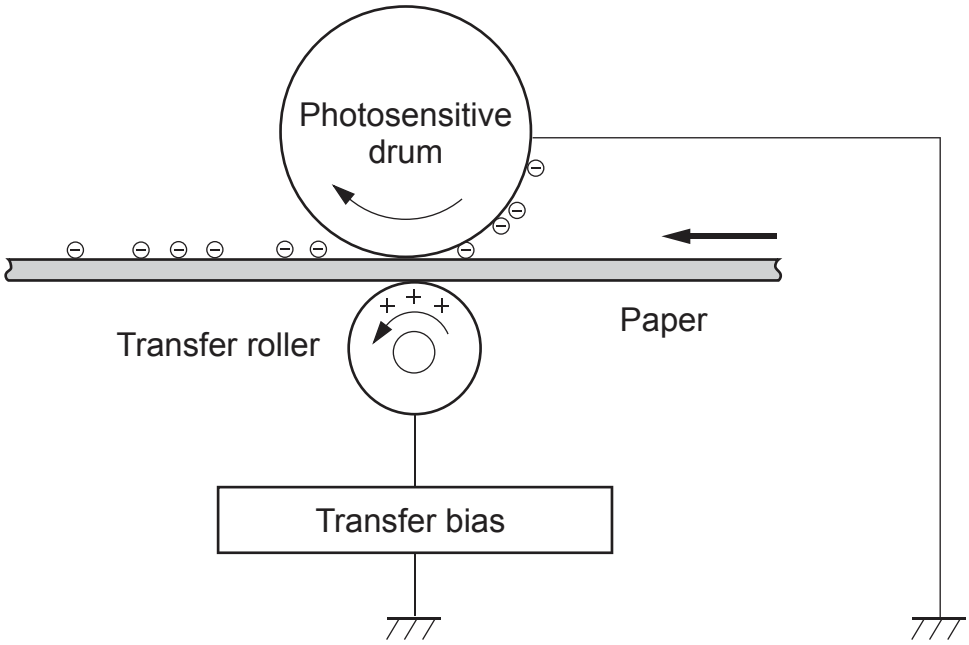
Figure 1-16 Development



Step 5: Transfer

Transfer bias is applied to the transfer roller to give the paper a positive charge. The positively charged paper attracts the negatively charged toner from the photosensitive drum surface and the image transfers to the paper.

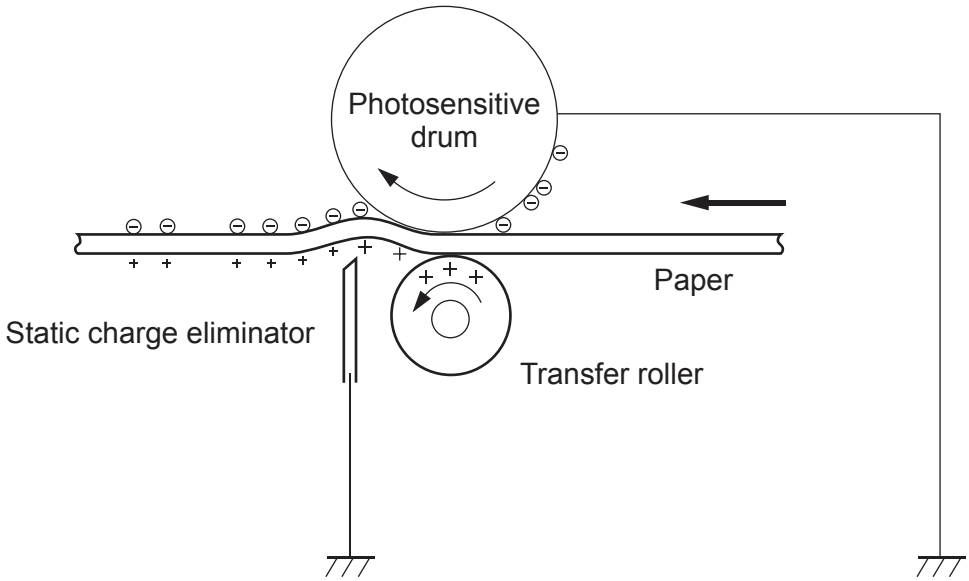
Figure 1-17 Primary transfer



Step 6: Separation

The elasticity of the paper and the curvature of the photosensitive drum cause the paper to separate from the drum surface. The static charge eliminator reduces the electrical charge on the back side of the paper for stable paper feeding and image quality.

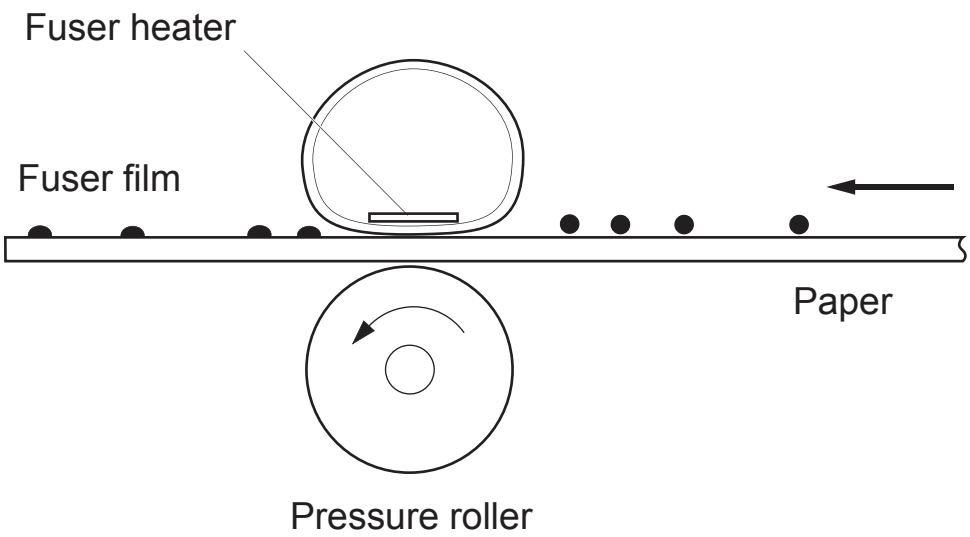
Figure 1-18 Separation



Step 7: Fusing

The toner image is fused onto the paper by heat and pressure.

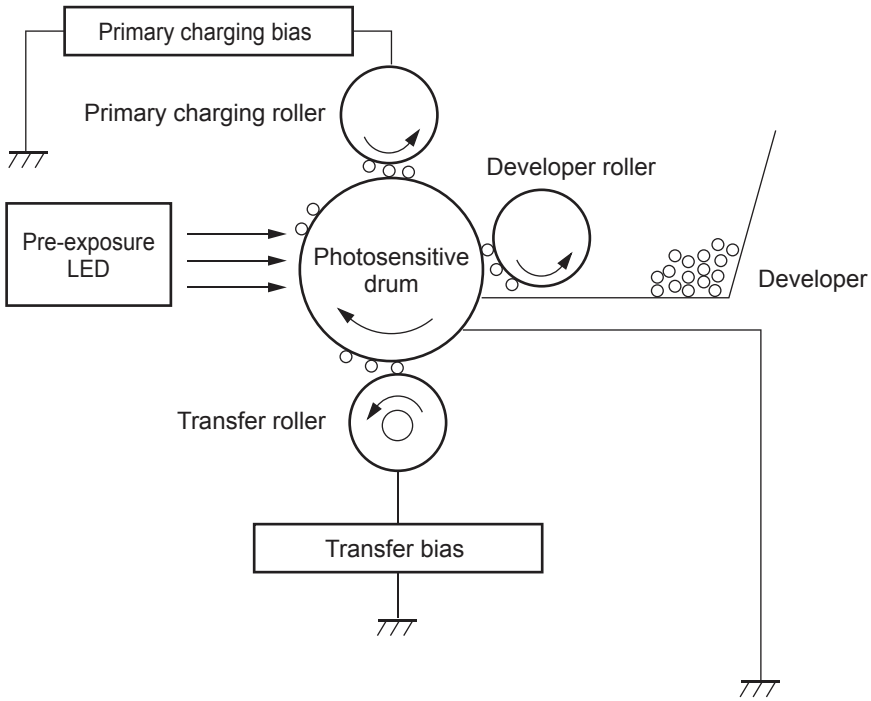
Figure 1-19 Fusing



Step 8: Drum cleaning

A reverse charge is applied to the transfer roller and the primary charging roller to transfer any residual toner on each roller back to the photosensitive drum. This toner is then removed from the drum surface by the developing roller and deposited in the developer.

Figure 1-20 Drum cleaning



Toner cartridges

The printers support separate toner cartridges and imaging drum cartridges.

Design

The toner cartridge system consists of the following components:

- Photosensitive drum
- Developer roller
- Primary-charging roller
- Memory chip

The printers support two configurations of toner and imaging drum cartridges:

- **ODT configuration** (M101-M104 and M129-M132 models): The imaging drum cartridge (O cartridge) contains the photosensitive drum, the primary charging roller, and a memory chip. The toner cartridge (DT cartridge) contains toner, the developer roller, and a memory chip.
- **PT configuration** (M105-M106 and M133-M134 models): The imaging drum cartridge (P cartridge) contains the photosensitive drum, the primary charging roller, the developer roller, and a memory chip. The toner cartridge (T cartridge) contains toner.

Figure 1-21 ODT cartridge configuration

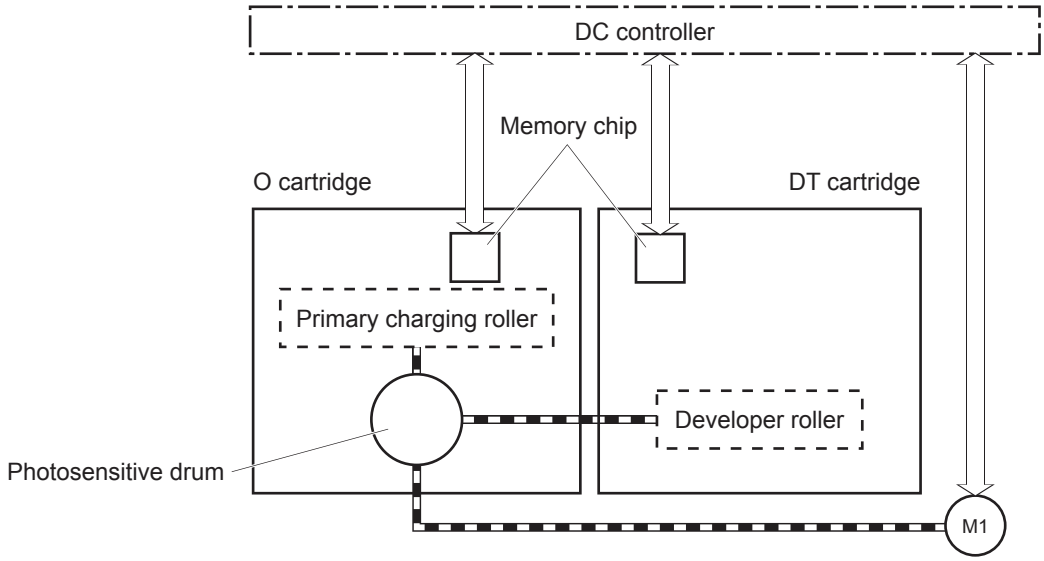


Figure 1-22 PT cartridge configuration

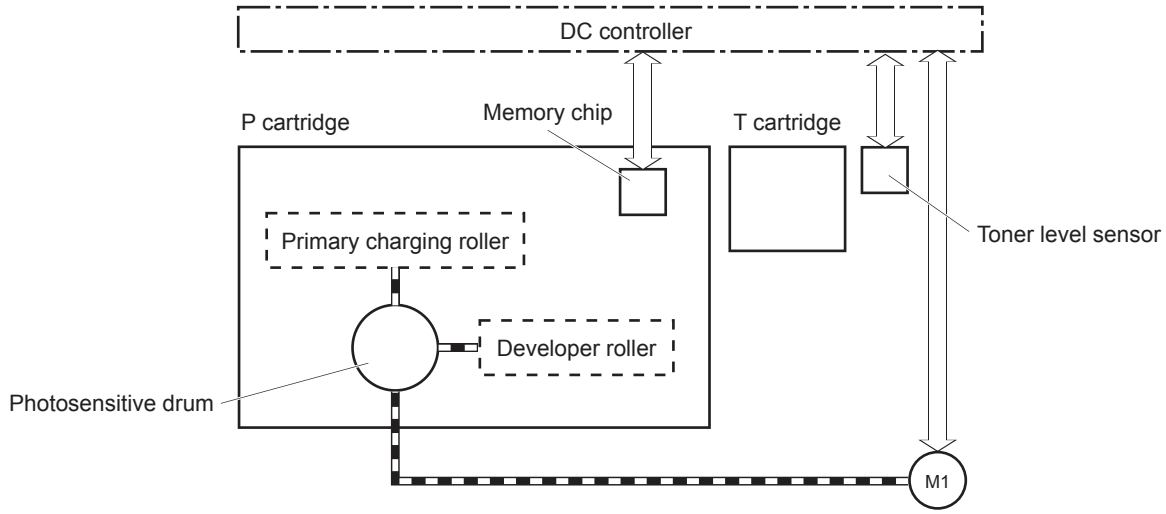


Table 1-8 Toner cartridge functions

Function	Supported feature
Cartridge presence detection	Yes
Toner level detection (M105-M106 and M133-M134 models)	Yes
Cartridge life detection	Yes
Cartridge mis-installation detection	No
Drum discharge	No
Developer alienation control	Yes
Toner level sensor mechanism malfunction (M105-M106 and M133-M134 models)	Yes

Table 1-8 Toner cartridge functions (continued)

Function	Supported feature
Transfer roller cleaning	Yes
Primary charging roller cleaning	Yes

Engine pickup, feed, and delivery system

The pickup, feed, and delivery system uses a series of rollers to move the paper through the printer and consists of the following two functional blocks. The DC controller controls each block to pick up, feed and deliver the paper (according to commands received from the formatter).

- **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 1-23 Pickup, feed, and delivery system

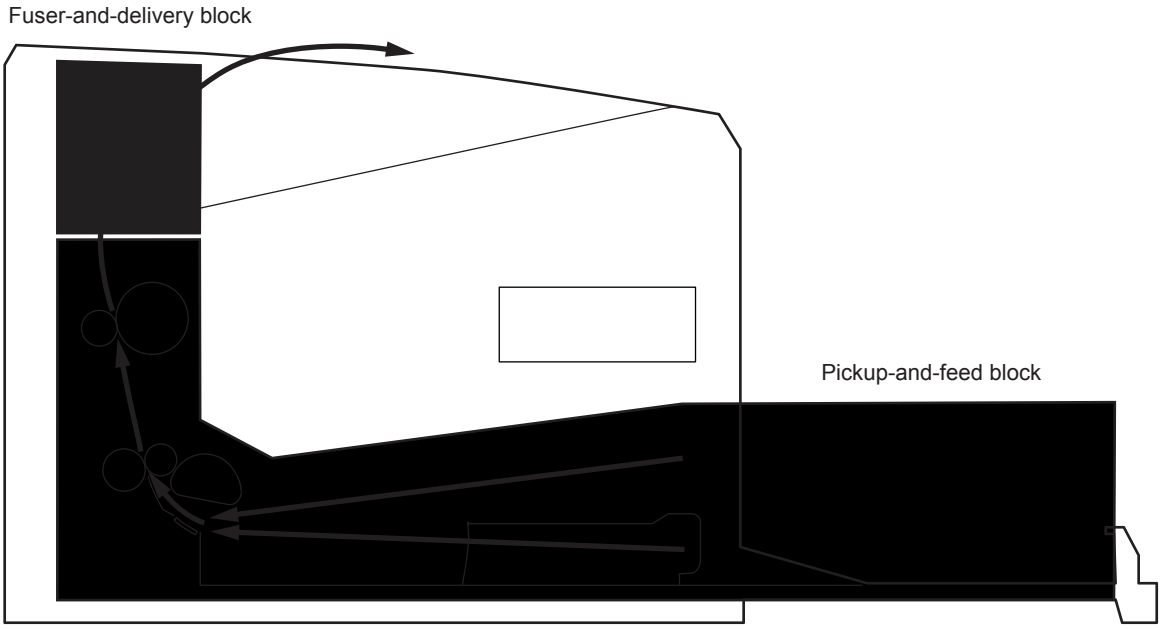


Table 1-9 Pickup, feed, and delivery system functions

Function	Supported feature
Cassette media size detection	No
Cassette presence detection	No
Cassette media surface detection	No
Cassette media presence detection	No
Cassette media level detection	No
Cassette lift-up control	No
Cassette lift-down control	No
Cassette multiple-feed prevention mechanism	No
Multipurpose tray media presence detection	Yes
Multipurpose tray media width detection	Yes
Multipurpose tray last-media detection	No
Skew-feed prevention mechanism	No

Table 1-9 Pickup, feed, and delivery system functions (continued)

Function	Supported feature
Feed speed control	Yes
Loop control	No
Media detection	No
OHT detection	No
Image leading edge positioning	Yes
Media length detection	Yes
Media width detection	Yes
Pressure roller pressure release control	No
Output bin media-full detection	No
Automatic delivery	Yes

Sensors and switches

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

Figure 1-24 Sensors and switches for the pickup, feed, and delivery system

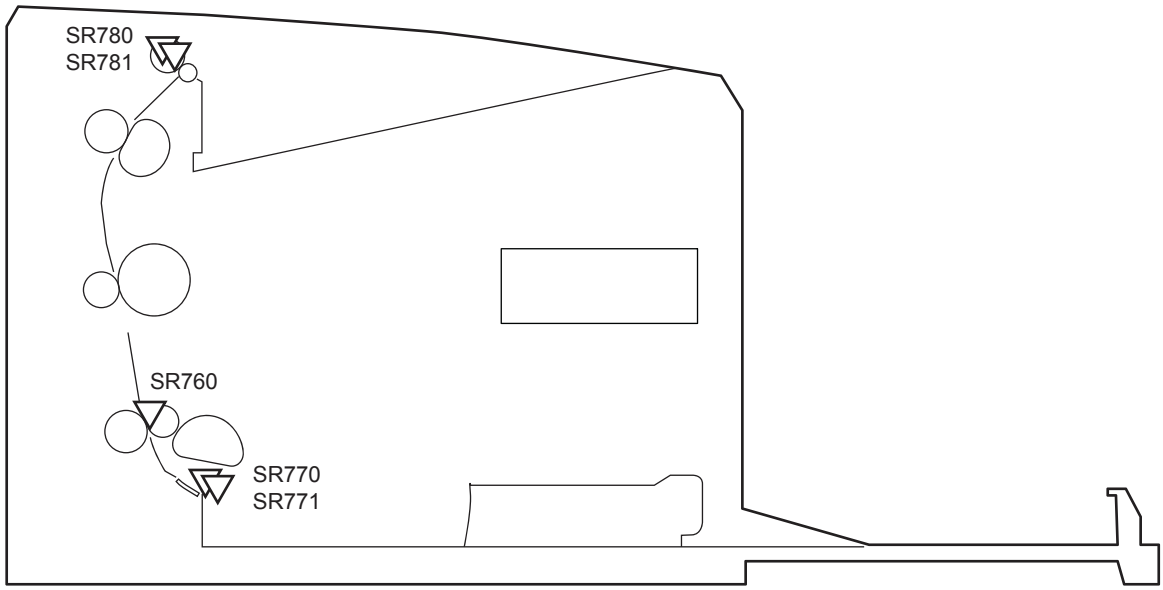


Table 1-10 Photo sensors and switches

Abbreviation	Component
SR760	Top of page (TOP) sensor
SR770	Media out sensor
SR2b	
SR771	Pickup media width sensor
SR780	Fuser output sensor
SR781	Fuser media width sensor

Motors and solenoids

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

Figure 1-25 Motors and solenoids

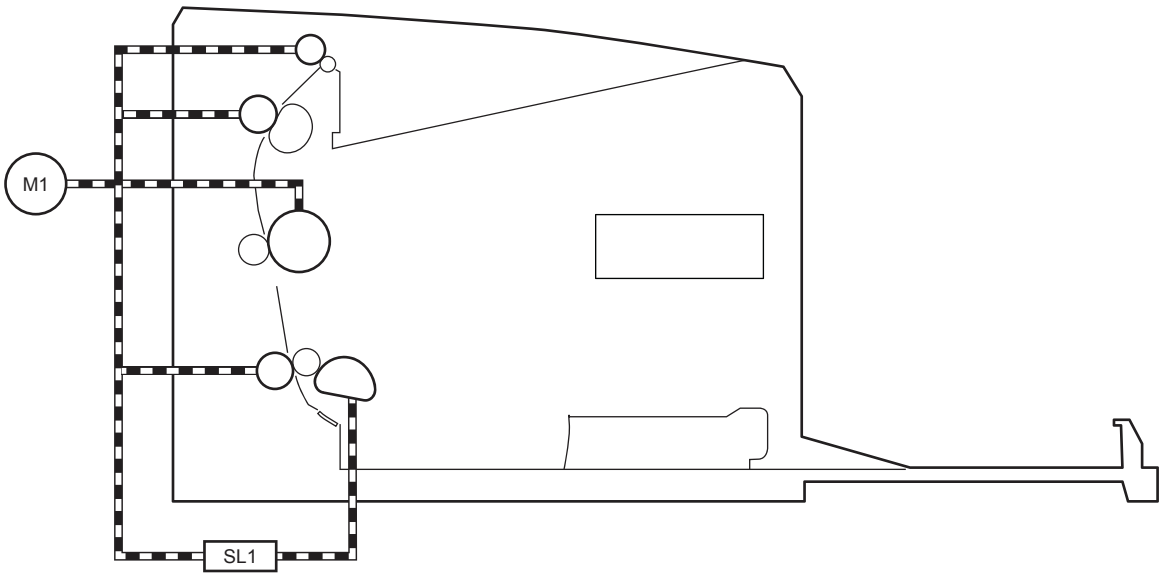


Table 1-11 Motors and solenoids

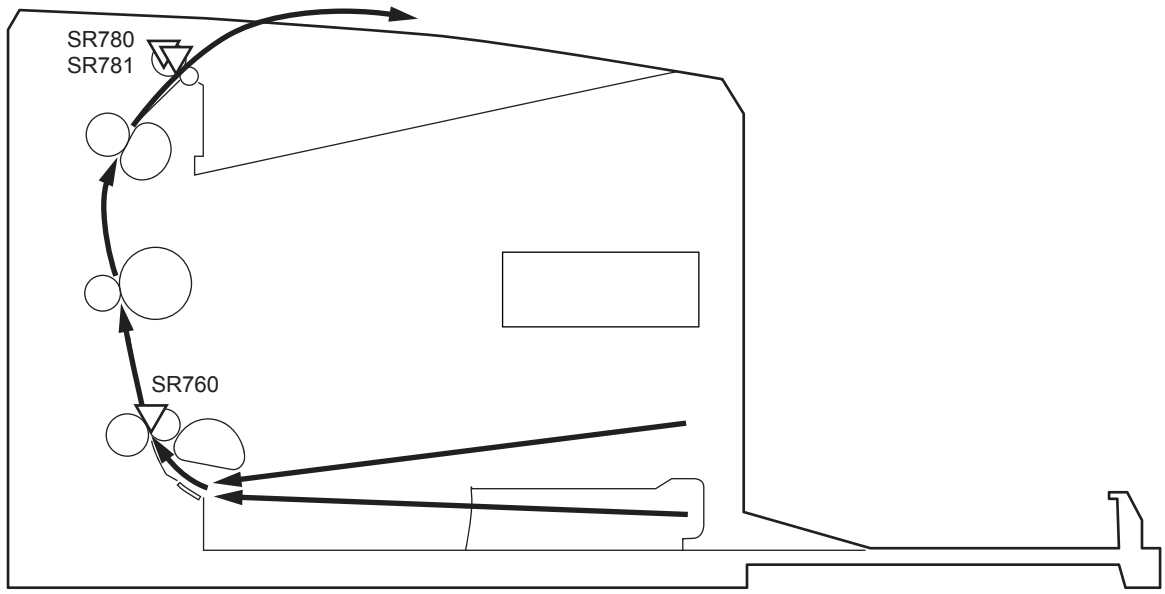
Abbreviation	Component
M1	Main motor
SL1	Pickup solenoid

Jam detection/prevention

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

- Top of page (TOP) sensor (SR760)
- Fuser output sensor (SR780)
- Fuser media width sensor (SR781)

Figure 1-26 Jam detection sensors



The printer determines that a jam has occurred if one of these sensors detects paper at an inappropriate time. The DC controller stops the print operation and notifies the formatter.

Table 1-12 Jams that the printer detects

Jam	Supported feature
No pick jam 1	Yes
No pick jam 4	No
Pickup stay jam 1	Yes
Pickup stay jam 2	No
Pickup stay jam 3	No
Pickup stay jam 4	No
Fuser delivery delay jam 1	Yes
Fuser delivery delay jam 2	No
Fuser delivery delay jam 3	No
Fuser delivery delay jam 4	No
Fuser delivery stay jam 1	Yes
Fuser delivery stay jam 2	No
Fuser delivery stay jam 3	No
Fuser delivery stay jam 4	No
Residual paper jam 1	Yes
Residual paper jam 2	No
Residual paper jam 3	No
Residual paper jam 4	No

Table 1-12 Jams that the printer detects (continued)

Jam	Supported feature
Door open jam 1	Yes
Door open jam 2	No
Door open jam 3	No
Door open jam 4	No
Fuser wrap jam 1	Yes
Fuser wrap jam 2	No
Fuser wrap jam 3	No
Fuser wrap jam 4	No
Delivery delay jam 1	No
Delivery delay jam 2	No
Delivery delay jam 3	No
Delivery delay jam 4	No
Delivery stay jam 1	No
Delivery stay jam 2	No
Delivery stay jam 3	No
Delivery stay jam 4	No
Multiple feed jam 1	No
Multiple feed jam 2	No
Multiple feed jam 3	No
Multiple feed jam 4	No

Scanning and image capture system (MFP printers)

NOTE: This section is for the (MFP printers) only.

The image scanner is located on the top of the printer. The contact image sensor component of the image scanner captures an electronic image of the document on the glass. The formatter controls the operation of the image capture system. The image scanner is available in two configurations:

- **Image scanner model** (M129a/nw, M130a/nw, M131a, M132a/nw, M133a, M134a): This model consists of only the flatbed image scanner. The document to be scanned is placed face-down on the scanner glass.
- **Integrated scanner assembly model** (M129fn/fw, M130fn/fp/fw, M131fn, M132snw/fn/fp/fw, M133fn, M134fn): This model consists of an automatic document feeder and image scanner. The document feeder feeds a document to be scanned from the document feeder input tray to the scanner glass.

Figure 1-27 Image scanner model block diagram

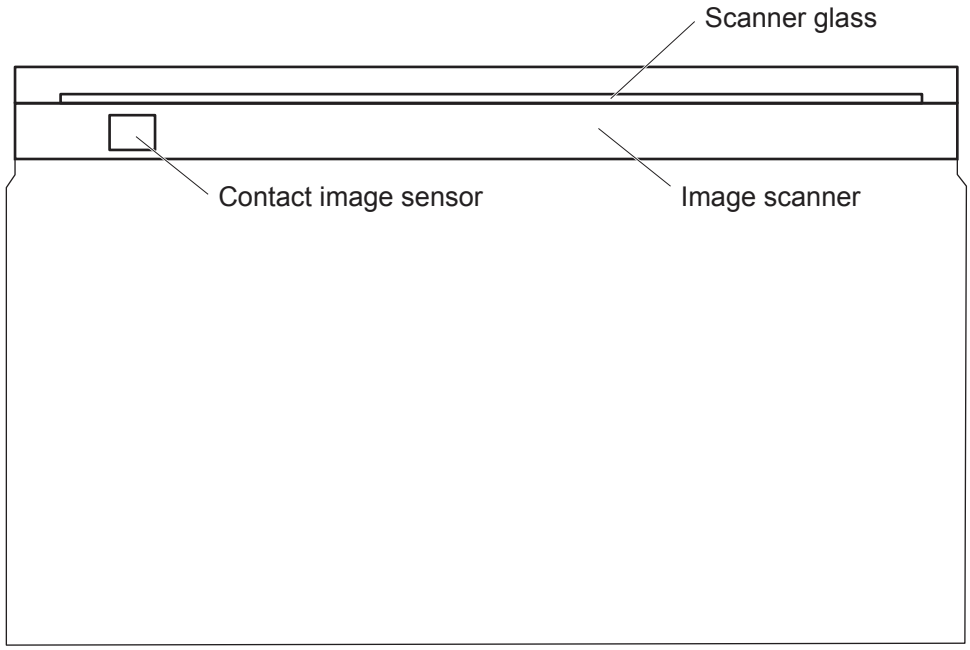
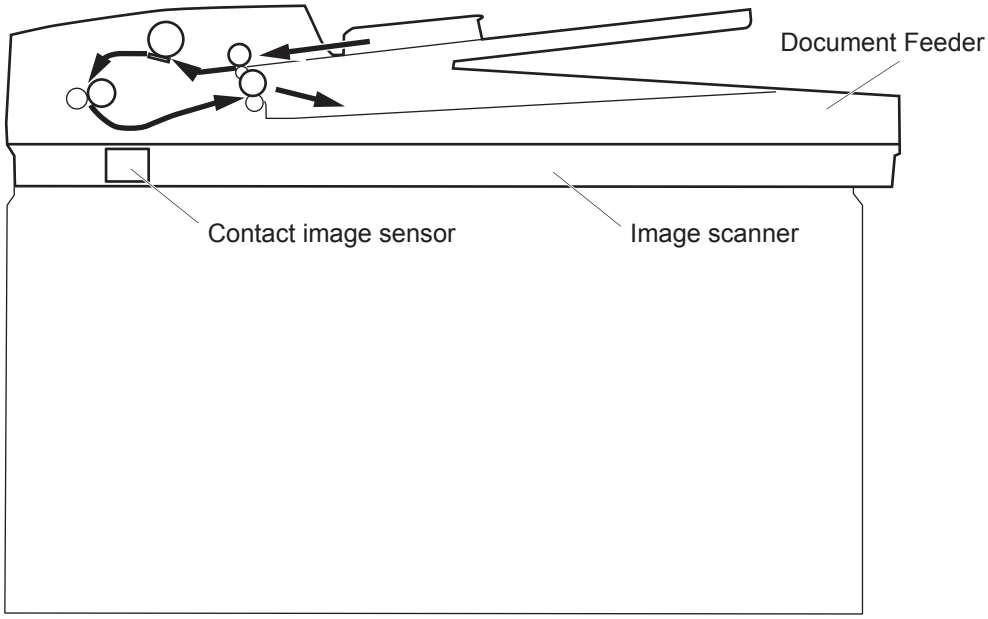


Figure 1-28 Integrated scanner assembly model block diagram



Motor and sensors

The following figure shows the motors and sensors in the scanning and image capture system.

Figure 1-29 Motor and sensors

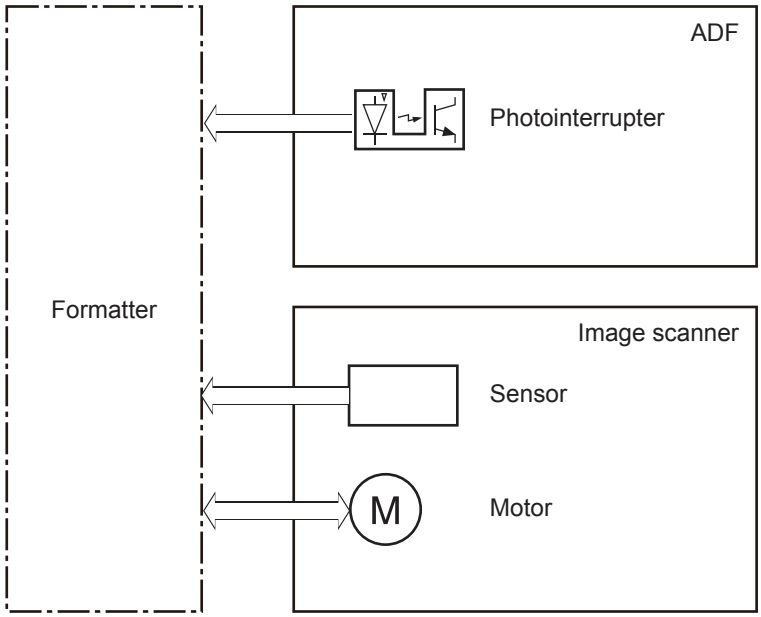


Table 1-13 Motor and sensors

Component type	Abbreviation	Component name
Motor	M2	Scan motor (drives document feeder rollers and contact image sensor)
Sensor	CIS	Contact image sensor
Photointerrupter	PS791	Document feeder document out sensor
	PF792	Document feeder TOF sensor

Document feeder system (MFP printers)

NOTE: This section is for the MFP printers only.

Document feeder simplex operation

The document feeder will not function when the document feeder cover is open. The paper path is incomplete if the document feeder cover is lifted from the glass.

The standard operation of the document feeder consists of the standby (paper loading) mode, pick, feed, and lift steps:

- Standby (paper-loading) mode

  In standby mode, the lift plate is in the down position. When a document is loaded into the input tray, the paper-present sensor detects its presence.

  When a copy/scan is initiated, the document feeder motor engages the gear train and raises the lift plate until the document makes contact with the pick roller. The document feeder then begins the pick, feed, and lower sequence.

- Pick

  The pick roller rotates and moves one or more sheets forward into the document feeder where the sheets engage with the separation roller. The separation roller contacts the document feeder separation pad, which separates multiple sheets into a single sheet.

- Feed

  The single sheet continues through the document feeder paper path (aided by the pre-scan rollers) until the leading edge of the page activates the top-of-form sensor. Activation of this sensor initiates the scan process, and the scanner acquires the image as the document moves over the document feeder glass. The post-scan rollers then eject the sheet into the output area. The pick and feed steps are repeated as long as paper is detected by the paper-present sensor.

- Home

  When the form sensor detects the trailing edge of the last page, the last sheet is ejected and the motor turns on a sequence that rests the separation floor back down in standby mode, which allows it to detect when more media is loaded.

Fax functions and operation (fax models only)

The following sections describe the printer fax capabilities.

Computer and network security features

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

The following printer features prevent virus transmission:

- No direct connection exists between the fax line and any devices that are connected to the USB or Ethernet ports.
- The internal firmware cannot be modified through the fax connection.
- All fax communications go through the fax subsystem, which does not use Internet data-exchange protocols.

PSTN operation

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

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

On most phone systems, the TIP and RING signals appear on pins 3 and 4 of the RJ-11 modular jack (the one on the fax card, as defined in the common 6 wire RJ standard). These two signals do not have to be polarized because all of the equipment works with either TIP or RING on one pin and the other signal on the other pin. This means that cables of either polarity can interconnect and still work.

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

Receive faxes when you hear fax tones

In general, incoming faxes to the printer are automatically received. However, if other devices are connected to the same phone line, the printer might not be set to answer automatically.

If the printer is connected to a phone line that receives both fax and phone calls, and you hear fax tones when you answer the extension phone, receive the fax in one of two ways:

- If you are near the printer, press Start Fax on the control panel.
- Press 1-2-3 in sequence on the extension phone keypad, listen for fax transmission sounds, and then hang up.

NOTE: In order for the 1-2-3 sequence to work, the extension phone setting must be set to On in the Fax Setup menu.

Distinctive ring function

Distinctive ring is a service that a telephone company provides. The distinctive ring service allows three phone numbers to be assigned to one phone line. Each phone number has a distinctive ring. The first phone number has a single ring, the second phone number has a double ring, and the third phone number has a triple ring.

NOTE: The printer has not been tested with all of the distinctive-ring services that telephone companies provide in all countries/regions. HP does not guarantee that the distinctive-ring function will operate correctly in all countries/regions. Contact the local phone service provider for assistance.

Set up the distinctive ring function

1. Open the Setup menu.
2. Open the Fax menu.
3. Select the Basic Setup menu.
4. Select the Distinctive Ring setting.
5. Use the arrow buttons to select one of the following options:
   - All Rings (default setting)
   - Single
   - Double
   - Triple
   - Double and Triple

Fax by using voice over IP (VOIP) services

Voice over IP (VoIP) services provide normal telephone service, including long distance service through a broadband Internet connection. These services use packets to break up the voice signal on a telephone line and transmit it digitally to the receiver, where the packets are reassembled. The VoIP services are often not compatible with fax machines. The VoIP provider must state that the service supports fax over IP services.

Because the installation process varies, the VoIP service provider will have to assist in installing the printer fax component.

Although a fax might work on a VoIP network, it can fail when the following events occur:

- Internet traffic becomes heavy and packets are lost.
- Latency (the time it takes for a packet to travel from its point of origin to its point of destination) becomes excessive.

If you experience problems using the fax feature on a VoIP network, ensure that all of the printer cables and settings are correct. Configuring the Fax Speed setting to Medium(V.17) or Slow(V.29) can also improve your ability to send a fax over a VoIP network.

If you continue to have problems faxing, contact your VoIP provider.

The fax subsystem

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

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

Fax card in the fax subsystem

Two versions of the fax card are used in the printer. One is used in the North American, South American, and Asian countries/regions. The other is used primarily in European countries/regions.

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

The only difference between the two versions is that each version is compliant with the 2/4-wire phone jack system from the respective country/region.

Safety isolation

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

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

Safety-protection circuitry

In addition to the safety barrier, the fax card protects against over-voltage and over-current events.

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

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

A voltage suppressor (a crowbar-type thyristor) provides differential protection. This device becomes low impedance at approximately 300 V differential, and crowbars to a low voltage. A series thermal switch works in conjunction with the crowbar for continuous telephone line events, such as crossed power lines.

All communications cross the isolation barrier magnetically. The breakdown voltage rating of barrier-critical components is greater than 5 kV.

Data path

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

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

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

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

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

Hook state

Another magnetically coupled signal is the control signal that disconnects the downstream telephone devices (such as a phone or answering machine). A control signal originating on the DSP can change the relay state, causing the auxiliary jack (downstream jack) to be disconnected from the telephone circuit.

The printer takes control of calls that it recognizes as fax calls. If the printer does not directly pick up the call, it monitors incoming calls for the fax tone or for the user to direct it to receive a fax. This idle mode is also called eavesdropping. This mode is active when the printer is on-hook but current exists in the downstream phone line because another device is off-hook. During eavesdropping, the receive circuit is enabled but has a different gain from the current that is generated during normal fax transmissions.

The printer does not take control of the line unless it detects a fax tone or the user causes it to connect manually. This feature allows the user to make voice calls from a phone that is connected to the printer without being cut off if a fax is not being received.

Downstream device detection

The line voltage monitoring module of the silicon DAA can detect the line state as well as the downstream device. It tells DSP via DIB that an active device (telephone, modem, or answering machine) is connected to the auxiliary port on the printer (the right side of the dual RJ-11 jack). The DSP uses the signal to ensure that the printer does not go off-hook (and disconnects a downstream call) until it has been authorized to do so (by a manual fax start or the detection of the appropriate tones).

Hook switch control

In the silicon DAA the CODEC controls the hook switch directly. The CODEC is activated when it receives commands from the DSP. When the circuit is drawing DC current from the central office it is considered off-hook. When no DC current flows the state is considered on-hook.

Ring detect

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

Line current control

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

Billing or metering tone filters

Switzerland and Germany provide high-frequency AC signals on the phone line in order to bill customers.

A filter in a special fax cable (for certain countries/regions), can filter these signals. Because these billing signals are not used in the U.S., these filters are not present in the U.S. fax cable.

To obtain a special fax cable, contact your local telephone service provider.

Fax page storage in flash memory

Fax pages are the electronic images of the document page. They can be created in any of three ways: scanned to be sent to another fax machine, generated to be sent by the computer, or received from a fax machine to be printed.

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

These pages are stored in flash memory, which is the nonvolatile memory that can be repeatedly read from, written to, and erased. The printer has 8 MB of flash memory, of which 7.5 MB is available for fax storage. The remaining 0.5 MB is used for the file system and reclamation. Adding RAM does not affect the fax page storage because the printer does not use RAM for storing fax pages.

Stored fax pages

The user can reprint stored fax receive pages in case of errors. For a fax send, the printer will resend the fax in case of errors. The printer will resend stored fax pages after a busy signal, communication error, no answer, or power failure. Other fax devices store fax pages in either normal RAM or short-term RAM. Normal RAM immediately loses its data when power is lost, while short-term RAM loses its data about 60 minutes after power failure. Flash memory maintains its data for years without any applied power.

Advantages of flash memory storage

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

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

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

2 Solve problems

- For additional service and support
- Troubleshooting process
- Tools for troubleshooting
- Improve print quality
- Improve copy and scan image quality (M129/M134)
- Clean the printer
- Solve paper-handling problems
- Solve performance problems
- Solve connectivity problems
- Service mode functions
- Solve fax problems (fax models only)
- Solve email problems (M129/M134)
- Update the firmware

For additional service and support

HP service personnel, go to the Service Access Workbench (SAW) at http://sawpro.glb.itcs.hp.com.

Channel partners, go to HP Channel Services Network (CSN) at www.hp.com/partners/csn .

At these locations, find 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/ or scan the Quick Response (QR) code below.

Troubleshooting process

Determine the problem source

When the printer malfunctions or encounters an unexpected situation, the printer control panel alerts the user to the situation. This section contains a pre-troubleshooting checklist and a troubleshooting flow chart to filter out many possible causes of the problem. Use the pre-troubleshooting checklist to gather information about the problem from the customer. 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 pre-troubleshooting check list to gather information about the problem from the customer. See Pre-troubleshooting checklist on page 49.
- Use the troubleshooting flowchart to pinpoint the root cause of hardware malfunctions. The flowchart provides guides to the section of this chapter that contain steps to correct the malfunction. See Troubleshooting flowchart on page 50.

Before beginning any troubleshooting procedure, check the following issues:

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

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

Pre-troubleshooting checklist

The following table includes basic questions to ask the customer to quickly help define the problem(s).

General topic	Questions
Environment	• Is the printer installed on a solid, level surface (+/- 1°)? • Is the power-supply voltage within ± 10 volts of the specified power source? • Is the power-supply plug inserted in the printer and the outlet? • Is the operating environment within the specified parameters? • Is the printer exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials? **NOTE:** Diazo copiers produce ammonia gas as part of the copying processes. Ammonia gas (from cleaning supplies or a diazo copier) can have an adverse effect on some printer components (for example, the toner cartridge or image drum). • Is the printer exposed to direct sunlight?
Media	• Does the customer use only supported media? • Is the media in good condition (no curls, folds, or distortion)? • Is the media stored correctly and within environmental limits?
Input tray	• Is the amount of media in the tray within specifications? • Is the media correctly placed in the tray? • Are the paper guides aligned with the stack?
Toner cartridge	• Are the toner cartridge and imaging drum installed correctly?

General topic	Questions
Transfer roller and fuser	• Are the transfer roller and fuser installed correctly?
Covers	• Is the toner cartridge door closed?
Condensation	• Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe affected parts dry or leave the printer on for 10 to 20 minutes. • Were a toner cartridge or imaging drum opened soon after being moved from a cold to a warm room? If so, allow the toner cartridge or imaging drum to sit at room temperature for 1 to 2 hours.
Miscellaneous	• Check for and remove any non-HP components (toner cartridge or imaging drum) from the printer. • Remove the printer from the network (network models) and ensure that the failure is associated with the printer before beginning troubleshooting.

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

1 **Power on**	Is the printer on and does a readable message display or is the Ready LED illuminated (depends on printer model)?		Follow the power-on troubleshooting checks. See Power-on checks on page 51. After the control panel display is functional, see step 2.
	Yes ↓	No →	
2 **Control panel messages/Alerts**	Does the message **Ready** display on the control panel or is the Ready LED illuminated?		After the errors have been corrected, go to step 3.
	Yes ↓	No →	
3 **Event log**	Open the Troubleshooting menu (depends on printer model) and print an event log to see the history of errors with this printer. Does the event log print?		If the event log does not print, check for error messages. If paper jams inside the printer, see the jams section of the printer service manual. If error messages display on the control panel when trying to print an event log, see the control panel message section of the printer troubleshooting service manual. After successfully printing and evaluating the event log, see step 4.
	Yes ↓	No →	
4 **Information pages**	Print the configuration pages to verify all printer settings.		After evaluating the configuration pages, see step 5.
	Yes ↓	No →	

Table 2-1 Troubleshooting flowchart (continued)

5 **Print quality**	Does the print quality meet the customer's requirements?		Compare the images with the sample defects in the image defect tables. See the images defects table in the printer troubleshooting service manual. After the print quality is acceptable, see step 6.
	Yes ↓	No →	
6 **Interface**	Can the customer print successfully from the host computer?		Verify that all I/O cables are connected correctly and that a valid IP address is listed on the network configuration page (depends on printer model). If error messages display on the control panel,(or the Attention LED is illuminated), see the control-panel message section (or the interpret control-panel light patterns section) of the printer troubleshooting service manual. When the customer can print from the host computer, this is the end of the troubleshooting process.
	Yes. This is the end of the troubleshooting process.	No →	

Power subsystem

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

Power-on checks

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

NOTE: If the printer does not power on, the overcurrent/overvoltage protection circuit in the low-voltage power supply might be functioning. This circuit automatically stops supplying DC voltage to the printer components whenever it detects excessive current or abnormal voltage. In this case, turn the printer off and unplug the power cord. Do not turn the printer on until the cause of the excessive current or voltage from the power source is found and corrected.

Control panel checks

The printer includes diagnostic tests for the LED, LCD, and touchscreen control panels.

1. Open the secondary service menu.

LED control panels

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

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

a. Open the HP Printer Assistant.

- **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
- **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
- **Windows** 7, **Windows Vista**, and **Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.

b. In the **HP Printer Assistant**, select **Print**, and then select **HP Device Toolbox**.

2-line control panels

a. From the printer control panel, press the Setup button.

b. Simultaneously press the Resume/Cancel button and the left arrow button. The **2ndary Service** menu item should be at the top of the list.

c. Use the left and right arrow buttons to navigate through the menu. When finished, press the Resume/Cancel button to close the menu.

Touchscreen control panel

a. From the Home screen on the printer control panel, touch the Setup button.

b. Touch the space between the Home and the Help button.

c. Touch the Back button.

d. Touch the Setup button.

e. Touch 2ndary Service (at the top of the list) to access the menu.

2. Select one of the following tests:

NOTE: Not all tests are available for all control panels.

- LED test: Test the LED lights. The touchscreen control panels do not have any LEDs.
- Display Test: Test the control panel display.
- Button Test: Test the control panel buttons.

Tools for troubleshooting

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

Individual component diagnostics

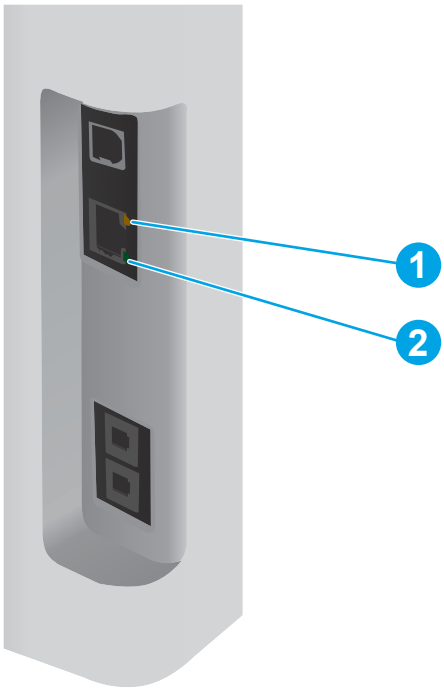
Tools for troubleshooting: LED diagnostics

LED, engine, and individual diagnostics can identify and troubleshoot printer problems.

Network LEDs (network models)

The formatter has two network LEDs. When the printer is connected to a properly working network through a network cable, the amber LED indicates network activity, and the green LED indicates the link status.

A blinking amber LED indicates network traffic. If the green LED is off, a link has failed. For link failures, check all of the network cable connections. In addition, you can try to manually configure the network card link speed setting by using the printer control-panel.



1	Link status LED (green)
2	Network activity LED (amber)

Control-panel LEDs

NOTE: The following section describes control-panel LEDs for LED control panels (not touchscreen models).

The state of the Ready light and Attention light on the printer signal the printer status. The following table outlines the possible control-panel light states.

Printer state	Ready light state	Attention light state
Initializing	Blinking	Blinking
Ready	On	Off
Receiving data/processing job or cancelling job	Blinking	Off
Error message	Off	Blinking
Fatal error[1]	On	On

[1] The printer restarts after one of these errors occurs.

Change the link speed setting (network models)

Change the link speed setting from a 2-line control panel

1. Press the Setup button on the printer control panel.
2. Open the **Network Setup** menu.
3. Open the **Link Speed** menu.
4. Use the Left arrow button or the Right arrow button to scroll to the desired item, and then press the OK button.

NOTE: **Automatic** is the default selection.

Change the link speed setting from a touchscreen control panel

1. From the Home screen on the printer control panel, touch the Setup button.
2. Open the following menus:
   - **Network Setup**
   - **Link Speed**
3. Select the desired item.

NOTE: **Automatic** is the default selection.

Tools for troubleshooting: Engine diagnostics

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

Engine test

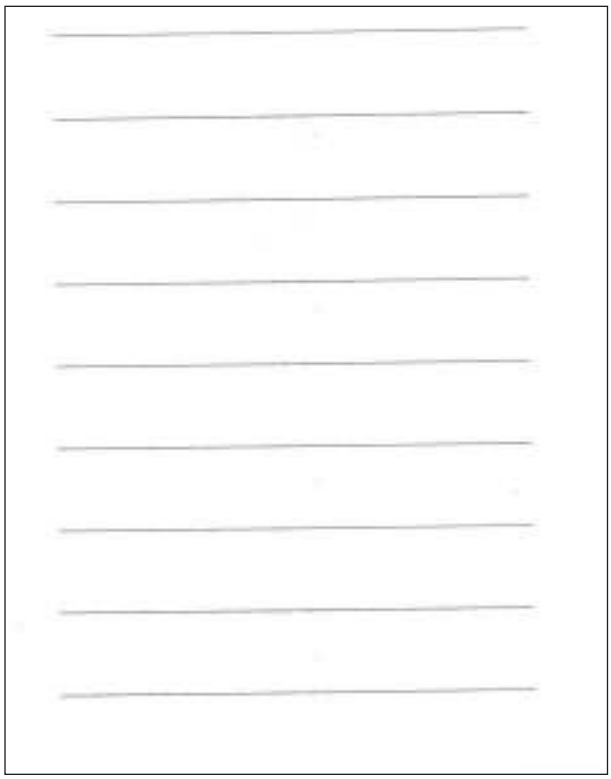
NOTE: The printer has an engine-test page in the firmware that is printed by opening and closing the toner-cartridge door in a specific pattern. Use A4 or letter-size paper to print the engine-test page.

1. Make sure that paper is correctly loaded in the tray.
2. Turn the printer power on. Wait for the printer to reach the Ready state.

3. Open, and then close the toner-cartridge door four times at an interval of about two seconds to start the internal engine-test.

4. If the engine test is successful, an engine-test page prints. The test page should have a series of lines that are parallel to the short end of the page.

Figure 2-1 Engine test page



Drum rotation test check

The photosensitive drum, located in the imaging drum cartridge, must rotate for the print process to work. The printer drive gears rotate the photosensitive drum.

1. Open the toner-cartridge door.

2. Remove the toner cartridge and imaging drum cartridge.

3. Mark the drive gear on the imaging drum cartridge with a felt-tipped marker. Note the position of the mark.

4. Replace the toner cartridge and imaging drum cartridge and then close the toner-cartridge door. The startup sequence should rotate the drum enough to move the mark.

5. Open the toner-cartridge door and remove the toner cartridge and imaging drum cartridge. Inspect the gear on the imaging drum cartridge that was marked in step 3. Verify that the mark moved.

   If the mark did not move, inspect the drive gears to make sure they are meshing with the imaging drum cartridge gear. If the drive gears appear functional and the drum does not move, replace the imaging drum cartridge.

Diagrams

Use the diagrams in this section to identify printer components.

Diagrams: Block diagrams

Sensors and switches (image formation system; printer base)

Figure 2-2 Sensors and switches (image formation system; printer base)

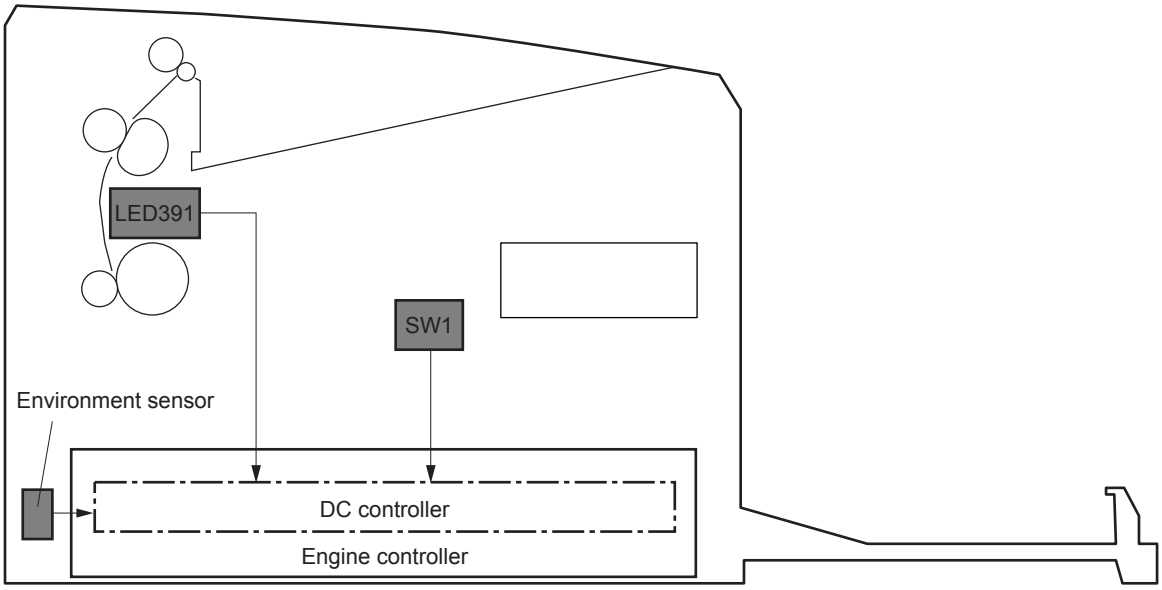


Table 2-2 Sensors and switches (image formation system; printer base)

Item	Description
LED391	Pre-exposure LED
NA	Environment sensor
SW1	Developer alienation switch

Sensors (pickup, feed, and delivery system; printer base)

Figure 2-3 Sensors (pickup, feed, and delivery system; printer base)

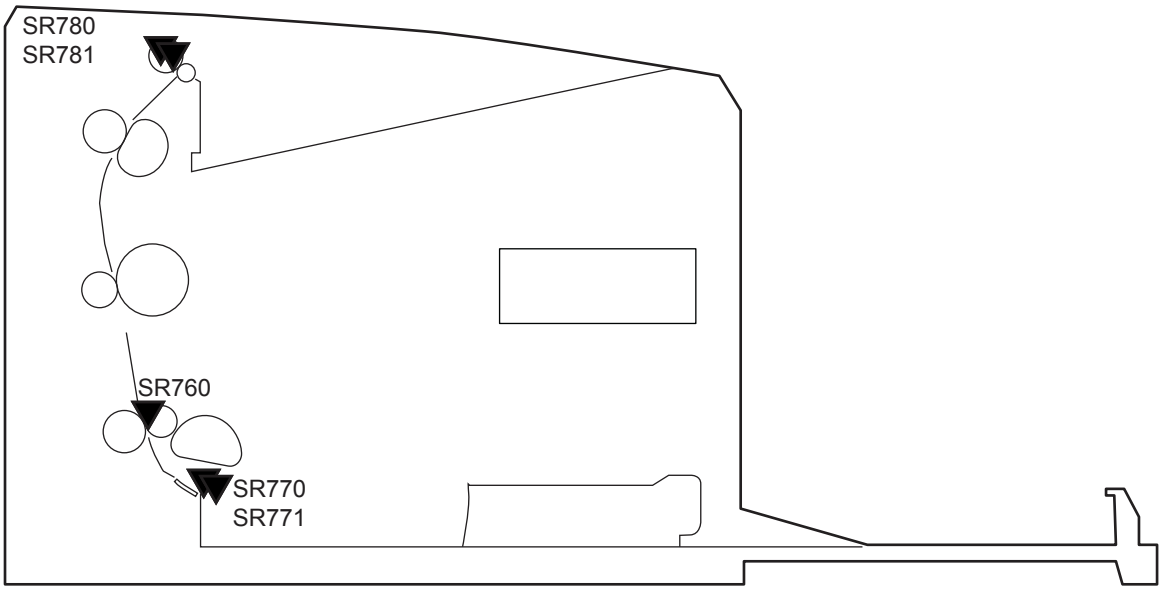


Table 2-3 Sensors (pickup, feed, and delivery system; printer base)

Item	Description
PS760	Top-of-page (TOP) sensor
PS770	Media out sensor
PS771	Pickup media width sensor
PS780	Fuser output sensor
PS781	Fuser media width sensor

Cross section diagrams

- Service parts (printer base)
- Image formation (printer base)
- Motor (printer base)

Service parts (printer base)

Figure 2-4 Service parts (cross section; printer base)

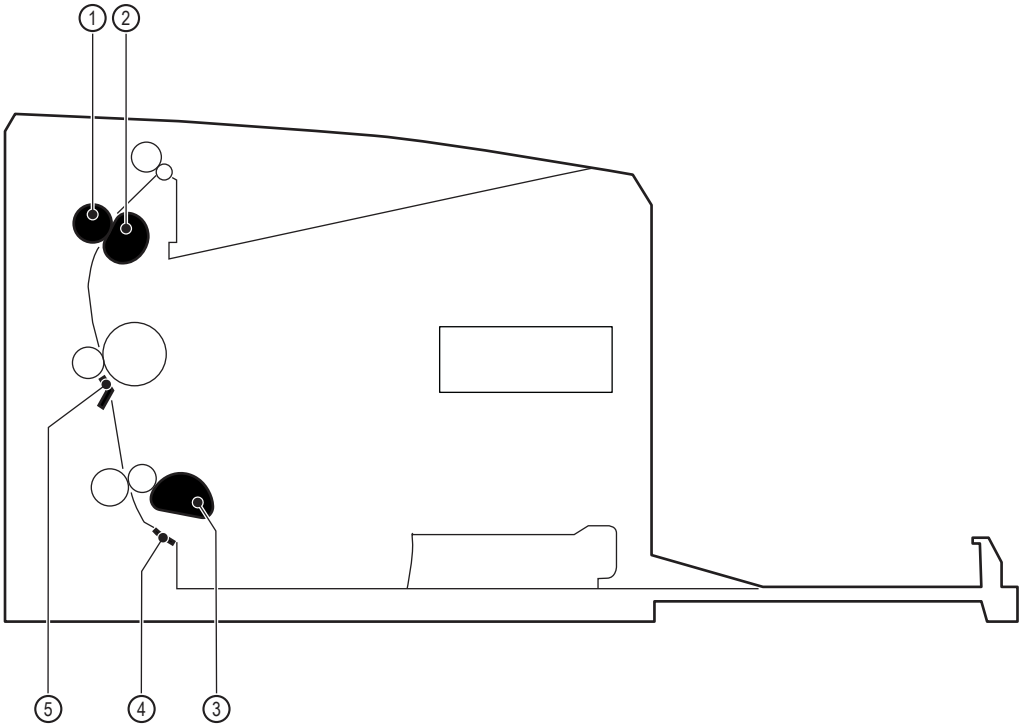
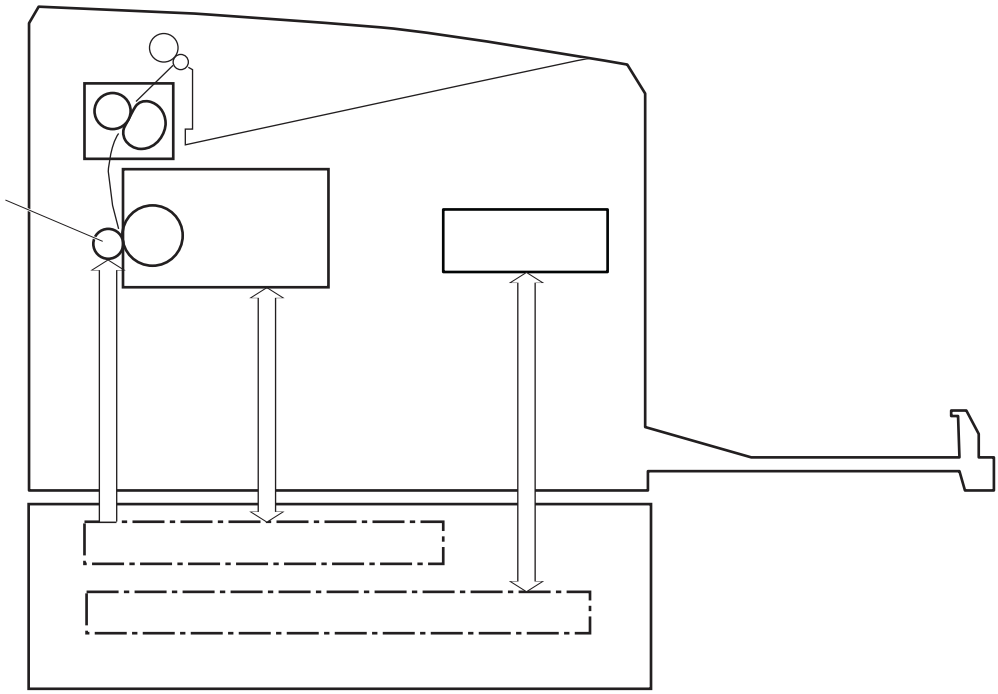


Table 2-4 Service parts (cross section; printer base)

Item	Description	Item	Description
1	Fuser film	4	Separation pad
2	Pressure roller	5	Transfer front guide
3	Pickup roller		

Image formation (printer base)

Figure 2-5 Image formation (cross section; printer base)



Motor (printer base)

Figure 2-6 Motor (cross section; printer base)

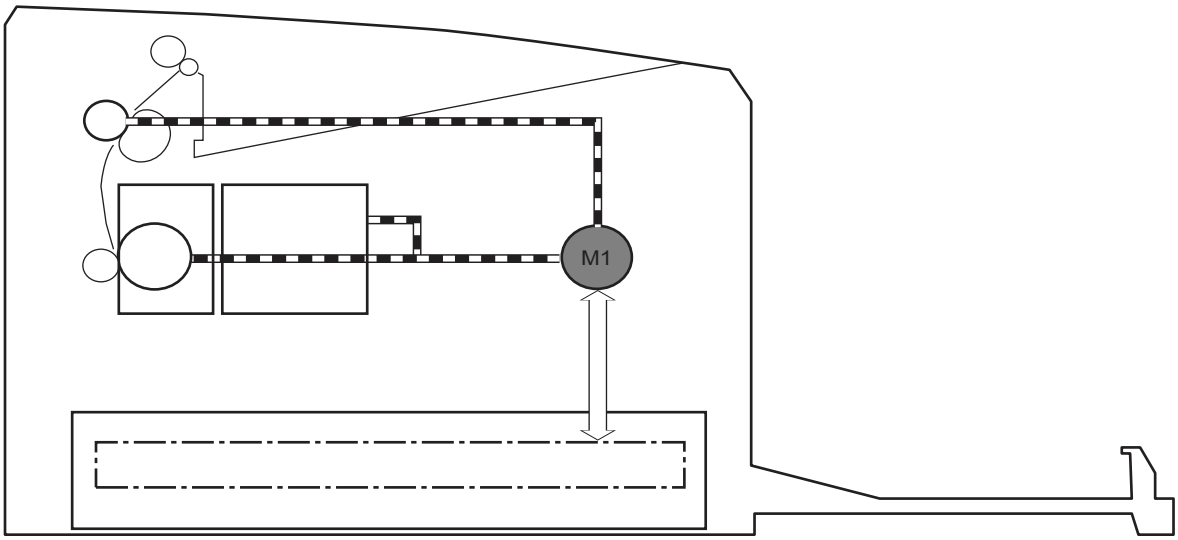


Table 2-5 Motor (cross section; printer base)

Item	Description
M1	Main motor

Diagrams: Printed circuit assembly (PCA) connector locations

- Engine controller PCA
- Formatter PCA

Engine controller PCA

Figure 2-7 Engine controller PCA connectors

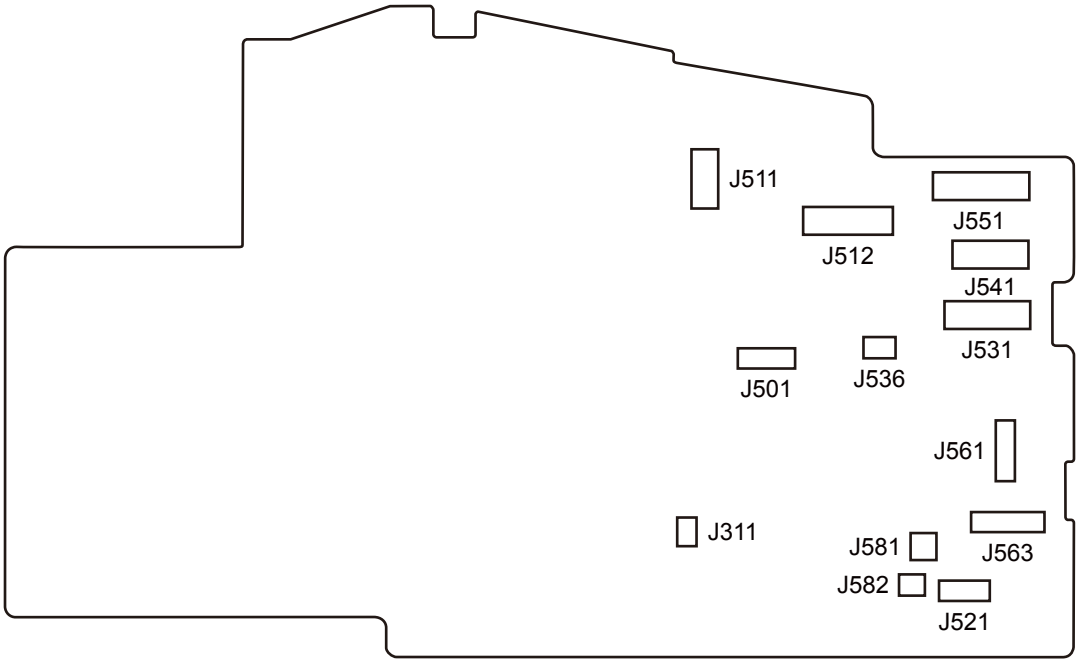


Table 2-6 Engine controller PCA connectors

Item	Description	Item	Description
J311	Pre-exposure LED PCA	J541	Laser PCA
J501	Not used	J551	Motor PCA
J511	Low-voltage power supply (LVPS)	J561	Top-of-page (TOP) sensor
J512	Low-voltage power supply (LVPS)	J563	Media sensor PCA
J521	Toner level sensor PCA[1]	J581	E-label (cartridge memory)
J531	Formatter PCA	J582	E-label (cartridge memory)
J536	Power switch PCA		

[1] M101/M106 PT printers and M129/M134 PT printers only.

Formatter PCA

Figure 2-8 Formatter PCA (M101/M106)

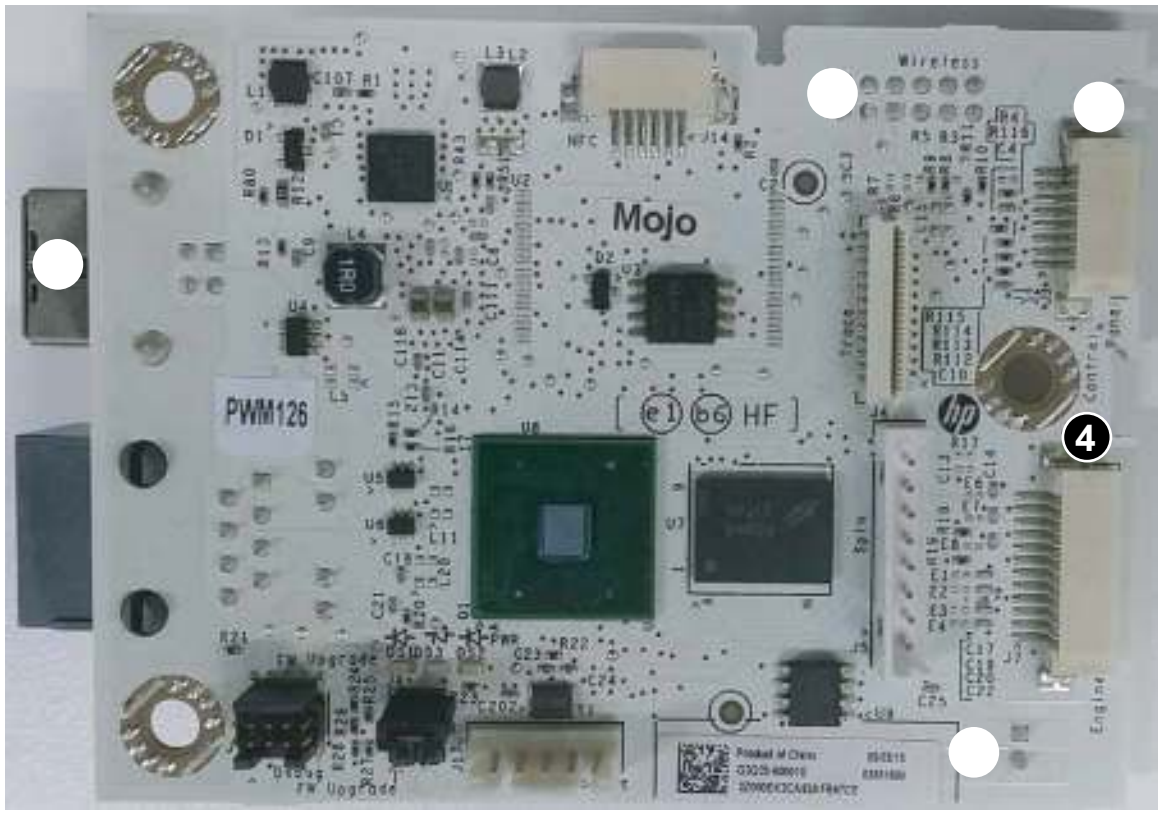


Table 2-7 Formatter PCA (M101/M106)

Item	Description	Item	Description
1	USB port, J13	4	Engine interface, J7
2	Wireless interface, J12	5	Power, J16
3	Control-panel interface, J1/J3		

Figure 2-9 Formatter PCA (M129/M134)

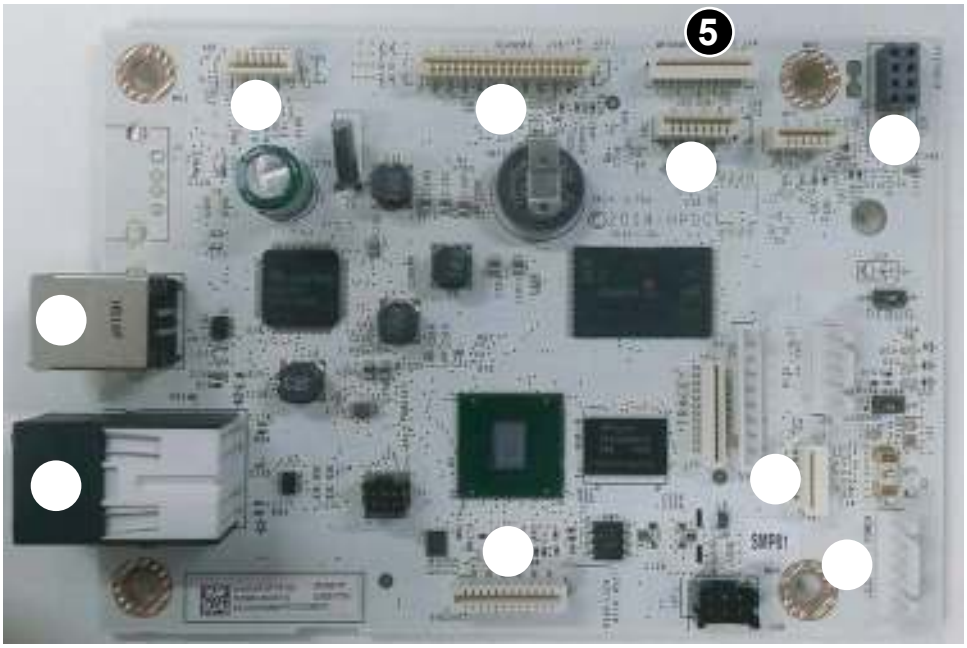


Table 2-8 Formatter PCA (M129/M134)

Item	Description	Item	Description
1	LAN port, J2	6	LCD control-panel interface, J28
2	USB port, J4	7	Wireless interface, J30
3	Document feeder interface, J11	8	Fax interface, J12
4	Scanner interface, J19	9	Power, J1
5	Touchscreen control-panel interface, J14	10	Engine interface, J42

Diagrams: External plug and port locations

Figure 2-10 External plug and port locations (M101/M106)

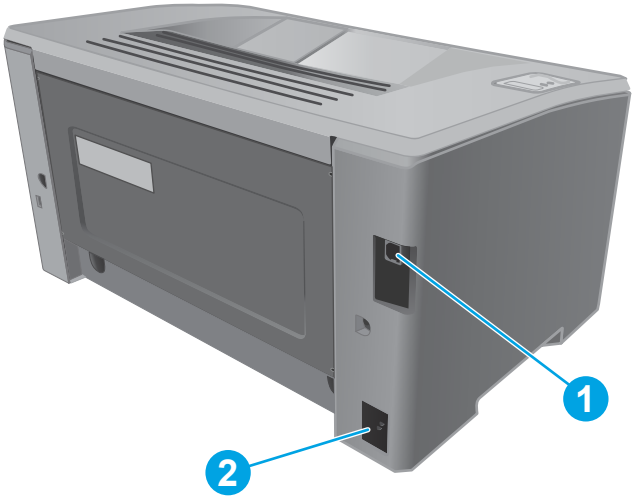


Table 2-9 External plug and port locations (M101/M106)

Item	Description
1	USB connector
2	Power cord receptacle

Figure 2-11 External plug and port locations (M129/M134)

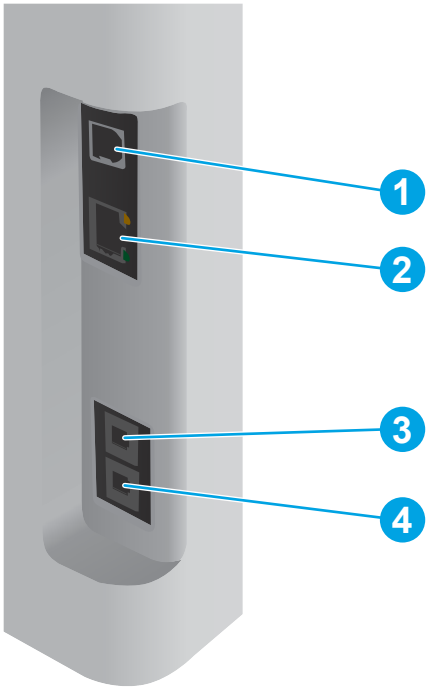


Table 2-10 External plug and port locations (M126/M134)

Item	Description	Item	Description
1	USB connector	3	Fax "line in" port for attaching the fax phone line to the product (fax models only)
2	Ethernet port (network models only)	4	Telephone "line out" port for attaching an extension phone, answering machine, or other device (fax models only)

Diagrams: Locations of major components

Major components (printer base)

Figure 2-12 Main assemblies

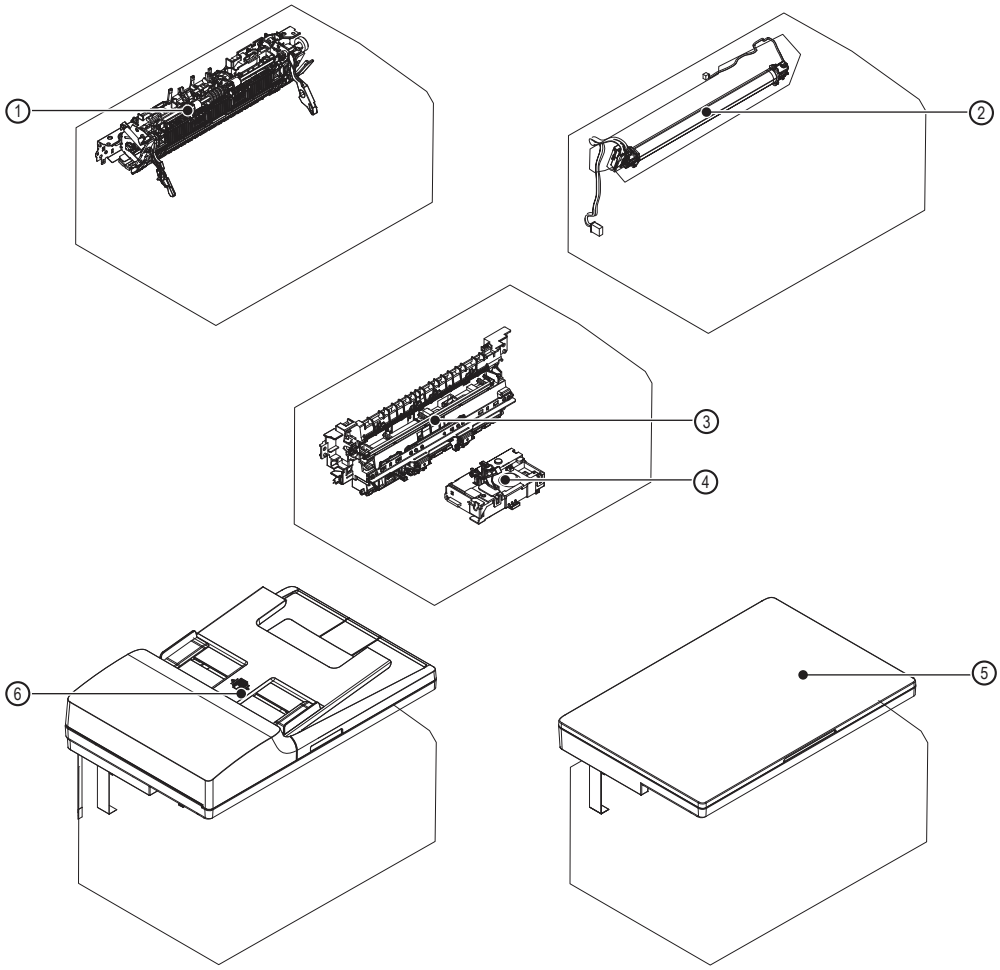


Table 2-11 Main assemblies

Item	Description	Item	Description
1	Fuser	4	Laser/scanner assembly
2	Fuser film assembly	5	Image scanner (M129/134)
3	Transfer assembly	6	Document feeder/image scanner (M129/M134)

Figure 2-13 Main parts (printer base)

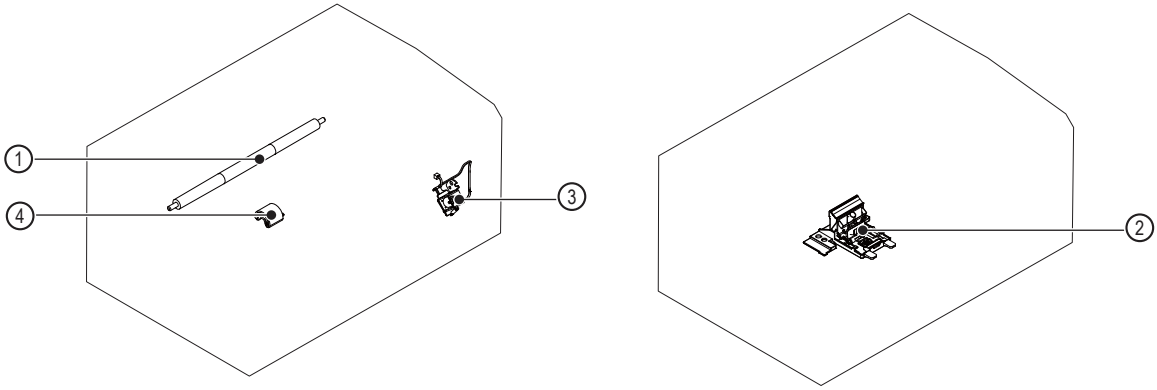


Table 2-12 Main parts (printer base)

Item	Description	Item	Description
1	Transfer roller	3	Developer alienation solenoid
2	Separation pad assembly	4	Pickup roller

Figure 2-14 PCAs (printer base)

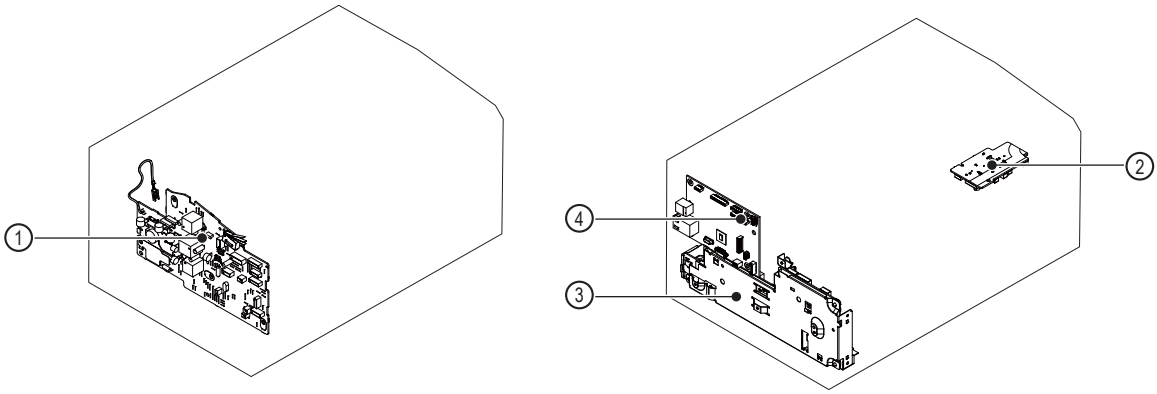


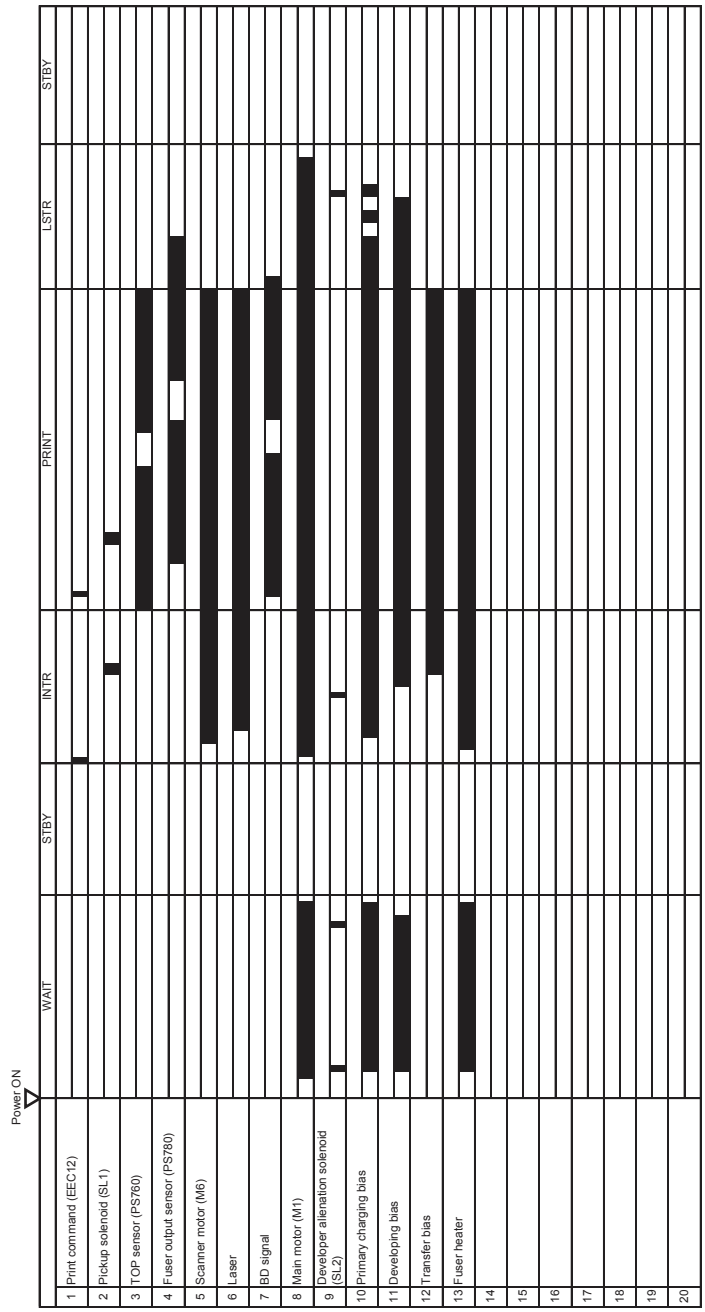
Table 2-13 PCAs (printer base)

Item	Description	Item	Description
1	Engine controller PCA	3	Low-voltage power supply (LVPS) PCA
2	Motor PCA	4	Formatter PCA

Diagrams: Timing chart

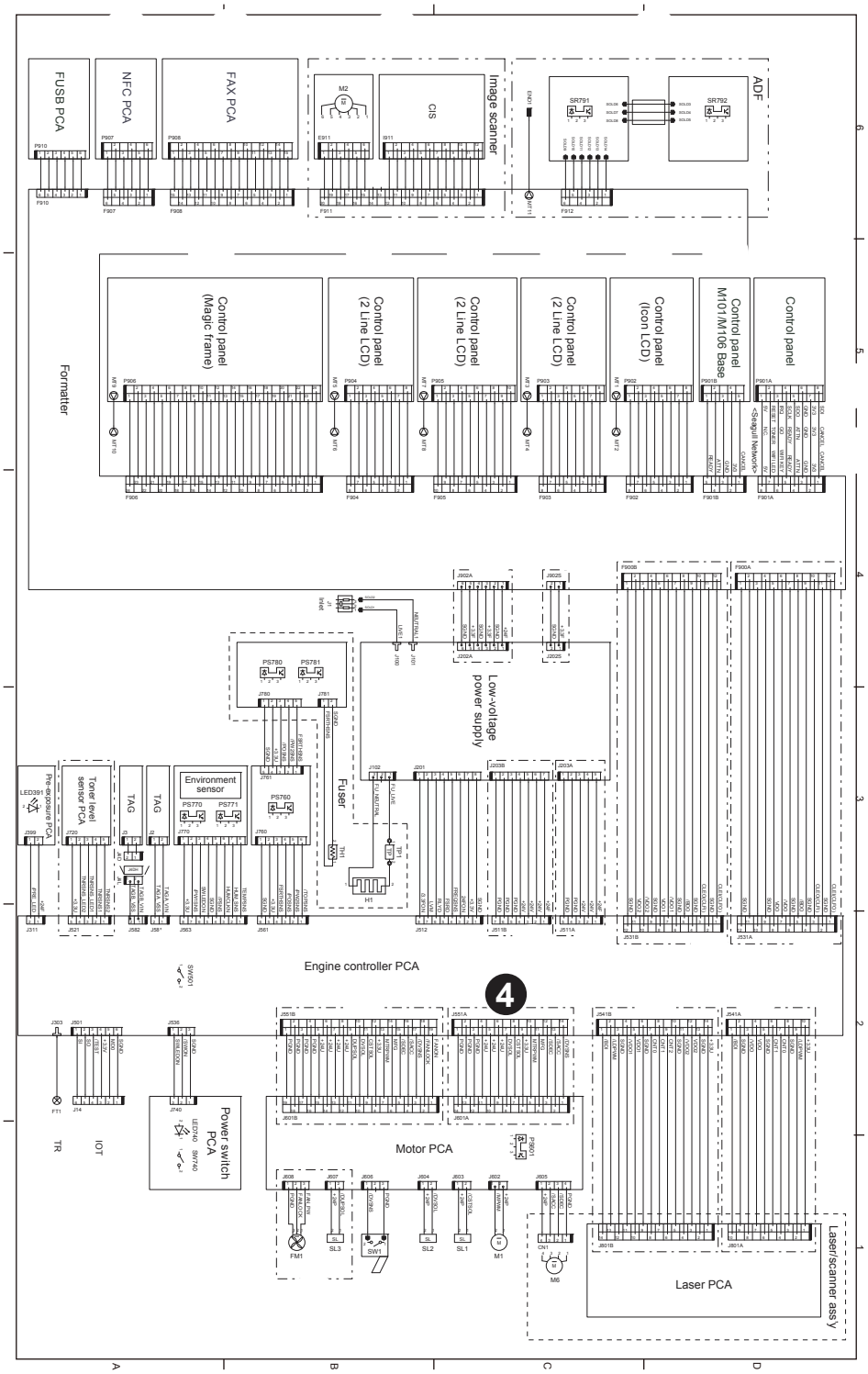
NOTE: The timing chart is based on two consecutive prints on letter-size paper.

Figure 2-15 General timing chart



Diagrams: Circuit diagrams

Figure 2-16 General circuit diagram



1	M101/M106	2	M129/M134 only	3	M129/M134 PT
4	M101/M106/M129/M134	5	M101/M106/M129/M134 PT	6	Not used in these printers

Use advanced configuration with HP Embedded Web Server (EWS) and HP Device Toolbox (Windows)

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

- View printer status information
- Determine the remaining life for all supplies and order new ones
- View and change tray configurations
- View and change the printer control-panel menu configuration
- View and print internal pages
- Receive notification of printer and supplies events
- View and change network configuration

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

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

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

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

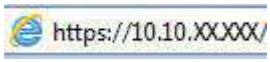
Method one: Open the HP Embedded Web Server (EWS) from the Start menu

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

Method two: Open the HP Embedded Web Server (EWS) from a web browser (M101/M106)

1. Print a configuration page to determine the IP address or host name.
   a. Press and hold the Resume/Cancel button until the Ready light begins blinking.
   b. Release the Resume/Cancel 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.

Method two: Open the HP Embedded Web Server (EWS) from a browser (M129/M134)

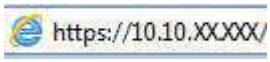
NOTE: The steps vary according to the type of control panel.

1	2-line control panel
2	Touchscreen control panel

1. **2-line control panels:** On the printer control panel, press the Setup button. Open the **Network Setup** menu, and then select **Show IP Address** to display the IP address or host name.

   Touchscreen control panels: From the Home screen on the printer control panel, touch the Connection Information button, and then touch the Network Connected button or the Network Wi-Fi ON button to display 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 control panel. 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.

Table 2-14 HP Embedded Web Server (EWS) and HP Device Toolbox (Windows)

Tab or section	Description
Home tab Provides printer, status, and configuration information.	• **Device Status**: Shows the printer status and shows the approximate percent life remaining of HP supplies. • **Supplies Status**: Shows the approximate percent life remaining of HP supplies. Actual supply life remaining can vary. Consider having a replacement supply available to install when print quality is no longer acceptable. The supply does not need to be replaced unless the print quality is no longer acceptable. • **Device Configuration**: Shows the information found on the printer configuration page. • **Network Summary**: Shows the information found on the printer network configuration page. • **Reports**: Print the configuration and supplies status pages that the printer generates. • **Event Log**: Shows a list of all printer events and errors.
System tab Provides the ability to configure the printer from your computer.	• **Device Information**: Provides basic printer and company information. • **Paper Setup**: Change the default paper-handling settings for the printer. • **Print Quality**: Change the default print-quality settings for the printer. • **Energy Settings**: Change the default times for entering Sleep/Auto Off mode or automatic shutdown. • **Paper Types**: Configure print modes that correspond to the paper types that the printer accepts. • **System Setup**: Change the system defaults for the printer. • **Supply Settings**: Change the settings for **Cartridge is low** alerts and other supplies information. • **Service**: Perform the cleaning procedure on the printer. • **Save and Restore**: Save the current settings for the printer to a file on the computer. Use this file to load the same settings onto another printer or to restore these settings to this printer at a later time. • **Administration**: Set or change the printer password. Enable or disable printer features. **NOTE:** The **System** tab can be password-protected. If this printer is on a network, always consult with the administrator before changing settings on this tab.
Print tab Provides the ability to change default print settings from your computer.	• **Printing**: Change the default printer print settings, such as number of copies and paper orientation. These are the same options that are available on the printer control panel.
Fax tab (Fax printers only)	• **Receive Options**: Configure how the printer handles incoming faxes. • **Phone Book**: Add or delete entries in the fax phone book. • **Junk Fax List**: Set fax numbers to block from sending faxes to the printer. • **Fax Activity Log**: Review recent fax activity for the printer.

Table 2-14 HP Embedded Web Server (EWS) and HP Device Toolbox (Windows) (continued)

Tab or section	Description
Scan tab (MFP models only)	Configure the Scan to Network Folder and Scan to E-mail features. • **Network Folder Setup**: Configure folders on the network to which the printer can save a scanned file. • **Scan to E-mail Setup**: Begin the process to set up the Scan to E-mail feature. • **Outgoing E-mail Profiles**: Set an email address that will appear as the "from" address for all emails sent from the printer. • **E-mail Address Book**: Add or delete entries in the email address book. • **E-mail Options**: Configure a default subject line and body text. Configure default scan settings for emails.
Copy tab (MFP models only)	Use this tab to set up the default copy settings.
Networking tab (Network-connected printers only) Provides the ability to change network settings from your computer.	Network administrators can use this tab to control network-related settings for the printer when it is connected to an IP-based network. It also allows the network administrator to set up Wi-Fi Direct functionality. This tab does not appear if the printer is directly connected to a computer.
HP Web Services tab	Use this tab to set up and use various web tools with the printer.

Internal test and information pages

The following internal test and information pages are available from the **Setup** menu (depending on the printer model):

- Demo Page
- Configuration Page
- Menu Structure
- Supplies Status Page
- Network Summary
- Usage Page
- Service Page
- Default Info Page
- Fax Reports (fax models only)

Print the configuration report

The configuration report lists current printer settings and properties. This page also contains a status log report. To print a configuration report, complete one of the following procedures.

IMPORTANT: Depending on the printer model, other pages might print with the configuration report. Also, the information found on a configuration report can vary depending on the printer model.

Print a configuration report from an LED control panel

1. Press and hold down the Resume/Cancel (M101/M106) or Start/Copy (M129/M134) button until the Ready light begins to blink.
2. Release the button to print the report.

Print the configuration report from a 2-line control panel

1. On the printer control panel, press the Setup button to open the menus.
2. Use the arrow buttons to select the Reports menu, and then press the OK button.
3. Use the arrow buttons to select the Configuration Report item, and then press the OK button to print the report.

Print the configuration report from a touchscreen control panel

1. From the Home screen on the printer control panel, touch the Setup button.
2. Touch the Reports menu.
3. Touch the Configuration Report button to print the report.

Finding important information on the configuration report

The figure below shows an example of a configuration page from the HP LaserJet MFP M130fw.

Figure 2-17 Sample configuration report

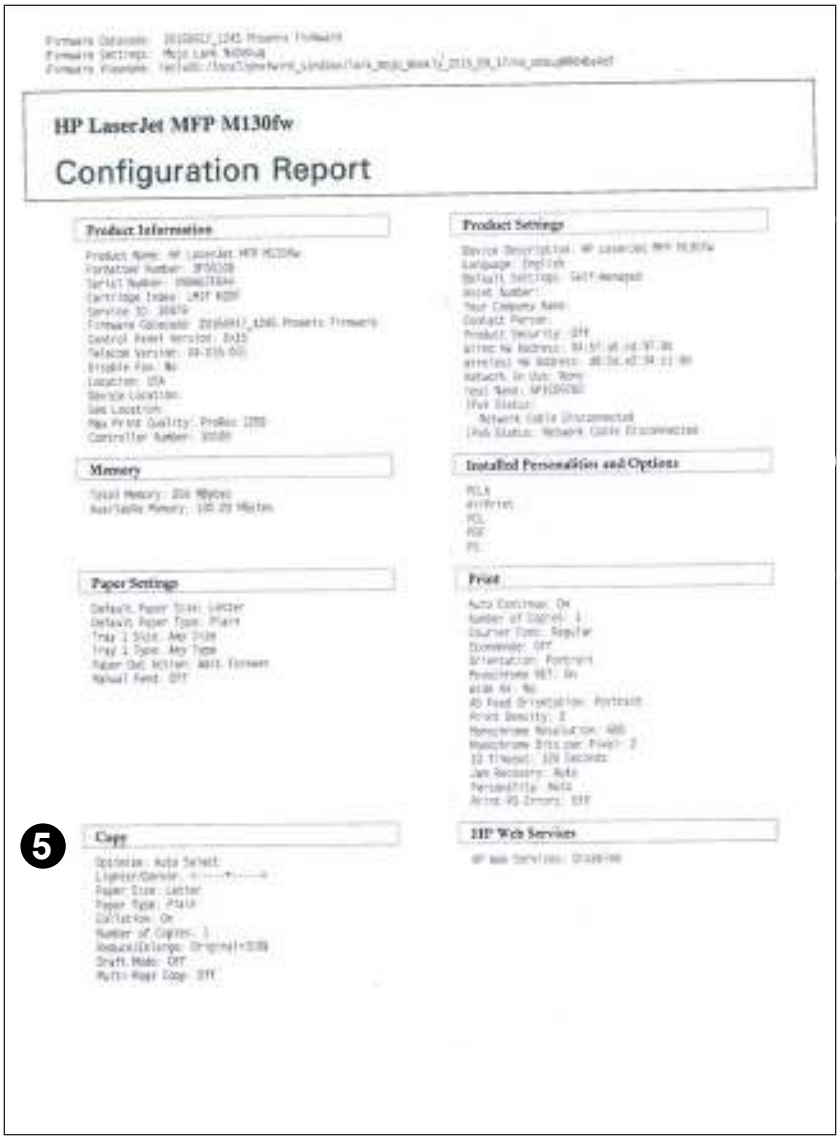


Table 2-15 Sample configuration report

Item	Description	Item	Description
1	Printer name and model information	6	Product Settings information
2	Product information	7	Installed Personalities and Options information
3	Memory information	8	Print settings information
4	Paper Settings information	9	HP Web Services information
5	Copy setting information		

Control panel menus

Setup menu

To open this menu, either press the Setup button (2-line control panels) or touch the Setup button (touchscreen control panels). The following sub menus are available:

- HP Web Services

NOTE: **For 2-line control panels**: Attempting to access this menu for the first time causes a **Print Information Sheet** message to appear on the control-panel display. Follow the instruction on this sheet.

- Reports
- Self Diagnostics
- Fax Setup (fax models only)
- System Setup
- Service
- Network Setup
- Quick Forms

HP Web Services menu

Table 2-16 HP Web Services menu

Menu item	Description
Enable Web Services	Use Enable Web Services to set up Web Services on the printer. **NOTE:** You must be connected to a network to enable HP Web Services.
Proxy Settings	The Proxy Settings sub-menu includes the following: • Proxy Server • Proxy Port • Username • Password

Reports menu

Table 2-17 Reports menu

Menu item	Description
Demo Page	Prints a page that demonstrates print quality.
Fax Reports (fax models only)	• Fax Confirmation: Sets whether the printer prints a confirmation report after a successful fax job. • Include First Page: Sets whether the printer includes a thumbnail image of the first page of the fax on the report. • Fax Error Report: Sets whether the printer prints a report after a failed fax job. • Print Last Call Report: Prints a detailed report of the last fax operation, either sent or received. • Fax Activity Log: — Print Log Now: Prints a list of the faxes that have been sent from or received by this printer. — Auto Log Print: Automatically prints a report after every fax job. • Print Phone Book: Prints a list of the speed dials that have been set up for this printer. • Print Junk Fax List: Prints a list of phone numbers that are blocked from sending faxes to this printer. • Print All Fax Reports: Prints all fax-related reports.
Menu Structure	Prints a control-panel menu layout map.
Configuration Report	Prints a list of the printer settings.
Supplies Status	Prints the toner cartridge status. Includes the following information: • Approximate pages remaining • Supply level • Serial number • Number of pages printed • First install date • Last used date
Network Summary	Displays status for: • Network hardware configuration • Enabled features • TCP/IP and SNMP information • Network statistics • Wireless network configuration (wireless models only)
Usage Page	Displays the number of pages printed, faxed, copied, and scanned by the printer. (Specific items reported are model dependent.)

Table 2-17 Reports menu (continued)

Menu item	Description
Service Page	Prints the service page. The service page includes information about supported paper types, copy settings, and other settings that are not included on the configuration page. It also includes the event log.
Default Info Page	Prints a page that shows the default settings for the LaserJet Update feature.

Self Diagnostics menu

NOTE: Not available for the 2-line control panel.

Table 2-18 Self Diagnostics menu

Menu item	Description
Run Wireless Test (if connected to a wireless network — wireless models only)	The network test provides information on the following: • Diagnostics summary • Troubleshooting • Configuration summary
Run Fax Test (fax models only)	Test the printer fax capabilities.

Fax Setup menu (fax models)

In the following table, items that have an asterisk (*) indicate the factory default setting.

Table 2-19 Fax Setup menu

Menu item	Sub-menu item	Sub-menu item	Description
Fax Setup Utility			This is a tool for configuring the fax settings. Follow the onscreen prompts and select the appropriate response for each question.
Basic Setup	Time/Date	(Settings for time format, current time, date format, and current date.)	Sets the time and date setting for the printer.
	Fax Header	Enter Your Fax Number	Sets the identifying information that is sent to the receiving printer.
		Enter Company Name	Identifies the fax sender (optional)
	Answer Mode	Automatic*	Sets the type of answer mode. The following options are available: • Automatic: The printer automatically answers an incoming call on the configured number of rings. • Manual: The user must touch the Start Fax button or use an extension phone number to make the printer answer the incoming call. • TAM: A telephone answering machine (TAM) is attached to the auxiliary phone port of the printer. The printer will not pick up any incoming call, but will listen for fax tones after the answering machine has picked up the call. • Fax/Tel: The printer must automatically pick up the call and determine if the call is a voice or fax call. If the call is a fax call, the printer handles the call as usual. If the call is a voice call, an audible synthesized ring is generated to alert the user of an incoming voice call.
		Manual	
		TAM	
		Fax/Tel	
	Rings to Answer		Sets the number of rings that must occur before the fax modem answers. The default setting is 5.

Table 2-19 Fax Setup menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
Basic Setup (continued)	Distinctive Ring	All Rings* Single Double Triple Double and Triple	If you have distinctive ring phone service, use this item to configure how the printer responds to incoming calls. • All Rings: The printer answers any calls that come through the telephone line. • Single: The printer answers any calls that produce a single-ring pattern. • Double: The printer answers any calls that produce a double-ring pattern. • Triple: The printer answers any calls that produce a triple-ring pattern. • Double and Triple: The printer answers any calls that produce a double-ring or triple-ring pattern.
	Dial Prefix	On Off*	Specifies a prefix number that must be dialed when sending faxes from the printer. If this feature is turned on, the printer prompts you for the number and then it automatically includes that number every time a fax is sent.
Advanced Setup	Fax Resolution	Standard Fine* Superfine Photo	Sets the resolution for sent documents. Higher resolution images have more dots per inch (dpi), so they show more detail. Lower resolution images have fewer dots per inch and show less detail, but the file size is smaller and the fax takes less time to transmit.
	Lighter/Darker		Sets the darkness for outgoing faxes.
	Fit to Page	On* Off	Shrinks incoming faxes that are larger than the paper size set for the tray.
	Glass Size	Letter A4	Sets the default paper size for documents being scanned from the flatbed scanner. **NOTE:** The default setting is determined by the choice of location during the initial printer setup.
	Dialing Mode	Tone* Pulse	Sets whether the printer should use tone or pulse dialing.
	Redial if Busy	On* Off	Sets whether the printer should attempt to redial if the line is busy.
	Redial if No Answer	On Off*	Sets whether the printer should attempt to redial if the recipient fax number does not answer.
	Redial if Comm. Error	On* Off	Sets whether the printer should attempt to redial the recipient fax number if a communication error occurs.
	Detect Dial Tone	On Off*	Sets whether the printer should check for a dial tone before sending a fax.

Table 2-19 Fax Setup menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
Advanced Setup (continued)	Billing Codes	On Off*	Enables the use of billing codes when set to On. A prompt appears for the billing code for an outgoing fax.
	Extension Phone	On* Off	When this feature is enabled, the **1-2-3** buttons on the extension phone can be pressed to cause the printer to answer an incoming fax call.
	Stamp Faxes	On Off*	Sets the printer to print the date, time, sender's phone number, and page number on each page of incoming faxes.
	Private Receive	On Off*	Setting Private Receive to On requires you to set a printer password. After setting the password, the following options are set: • Private Receive is turned on. • All old faxes are deleted from memory. • Fax Forwarding is set to Off and is not allowed to be changed. • All incoming faxes are stored in memory.
	Confirm Fax Number	On Off*	Confirm a fax number by entering it a second time.
	Allow Fax Reprint	On* Off	Sets whether incoming faxes are stored in memory for reprinting later.
	Fax/Tel Ring Time	20 30 40 70	Sets the time, in seconds, after which the printer should stop sounding the Fax/Tel audible ring to notify the user of an incoming voice call.
	Fax Speed	Fast(V.34) Medium(V.17)* Slow(V.29)	Sets the allowed fax communication speed.

System Setup menu

In the following table, items that have an asterisk (*) indicate the factory default setting.

Table 2-20 System Setup menu

Menu item	Sub-menu item	Sub-menu item	Description
Language	(List of available control-panel display languages.)		Sets the language in which the control panel displays messages and printer reports.
Paper Setup	Default Paper Size	Letter A4 Legal	Sets the size for printing internal reports, faxes, or any print job that does not specify a size. **NOTE:** The default setting is determined by the choice of location during the initial printer setup.
	Default Paper Type	Lists available paper types.	Sets the type for printing internal reports, faxes, or any print job that does not specify a type.
	Tray 1	Paper Type Paper Size	Configures the size and type for the tray.
	Tray Size Prompt	Yes* No	Enable or disable the user tray size prompt when the input tray is reloaded.
	Paper Out Action	Wait forever* Cancel Override	Determines how the printer reacts when a print job requires a paper size or type that is unavailable or when the tray is empty. • Wait forever: The printer waits until you load the correct paper. • Override: Print on a different size paper after a specified delay. • Cancel: Automatically cancel the print job after a specified delay. • If you select either the Override or Cancel item, the control panel prompts you for the number of seconds to delay.
Print Quality	Adjust Alignment	Print Test Page	Shifts the margin alignment to center the image on the page from top to bottom, and left to right. You can also align the image that is printed on the front with the image that is printed on the back. Allows for one-sided and two-sided printing alignment. Print Test Page: Prints a test page that shows the current registration settings.

Table 2-20 System Setup menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
		Adjust Tray 1	• X1 Shift: Registration of the image on the paper from side to side, as the paper lies in the tray. For duplex models, this side is the second side (back) of the paper. • X2 Shift: Registration of the image on the paper from side to side, as the paper lies in the tray, for the first side (front) of a duplexed page. This item appears only on duplex models (M377dw, M452dn/dw and M477fdn/fdw). **NOTE:** Set X1 Shift first. • Y Shift: Registration of the image on the paper from top to bottom as the paper lies in the tray.
Energy Settings	Sleep/Auto Off After	5 Minute 15 Minutes 30 Minutes 1 Hour*	Specifies the amount of idle time before the printer enters sleep mode.
	Shut Down After	2 Hours 4 Hours* 8 Hours	Set the amount of elapsed time before the printer turns itself off.
	Delay Shut Down	No Delay When Ports Are Active*	Select whether or not the printer delays shutting down after the user presses the power button. No Delay: The printer shuts down immediately. When Ports Are Active: The printer waits until there is no I/O port activity before shutting down.
Print Density			Use this item to set the page print density (1-5; default setting: 3).
Supply Settings	Black Cartridge	Very Low Setting	Stop: The printer stops printing until you replace the print cartridge. Prompt*: The printer stops printing and prompts you to replace the print cartridge. You can acknowledge the prompt and continue printing. Continue: The printer alerts you that the print cartridge is very low, but it continues printing.
		Low Threshold	Enter a percentage for the low threshold setting.
	Image Drum	Very Low Setting	Stop: The printer stops printing until you replace the print cartridge. Prompt*: The printer stops printing and prompts you to replace the print cartridge. You can acknowledge the prompt and continue printing. Continue: The printer alerts you that the print cartridge is very low, but it continues printing.
		Low Threshold	Enter a percentage for the low threshold setting.

Table 2-20 System Setup menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
	Store Usage Data		Select where to store the printer's usage data, either on the supplies or not on the supplies.
	Cartridge Policy	Off Authorized HP	Use the Cartridge Policy feature to allow only genuine HP cartridges to be used with this printer. When someone attempts to install a cartridge that is not a genuine HP cartridge, the printer control panel displays a message informing that the cartridge is unauthorized, and it displays information explaining how to proceed.
Supply Settings (continued)	Cartridge Protection	Off* Protect Cartridges	Use the Cartridge Protection feature to permanently associate toner cartridges with a specific printer so they cannot be used in other printers. When someone attempts to transfer a protected cartridge from the original printer into another printer, that printer will not print. The printer control panel displays a message informing that the cartridge is protected, and it displays information explaining how to proceed. After selecting Protect Cartridges, when the printer prompts to confirm, select Continue to enable the feature. **NOTE:** After enabling cartridge protection for the printer, all subsequent toner cartridges installed in the printer are automatically and *permanently* protected. To avoid protecting a new cartridge, disable the feature before installing the new cartridge. To disable the feature, select Cancel rather than Continue in this step.
Volume Settings	Alarm Volume Ring Volume Key-Press Volume Phone Line Volume	Off Soft Medium* Loud	Set the volume levels for the printer.
Time/Date	12 Hour 24 Hour		Set the time and date setting for the printer.
Administration	Product Security	On Off*	Set the printer-security feature. If you select the On setting, you must set a password.
	Disable Fax (fax models only)	Yes No*	Enable, or disable, faxing to and from the printer.
	Scan to Network Folder (MFP models only)	On* Off	Enable, or disable, the printer's scan to folder capability.
	Scan to E-mail (MFP models only)	On* Off	Enable, or disable, the printer's scan to email feature.
Inactivity Timer			Set the amount of time that passes before a given menu or item will close due to printer inactivity.
Courier Font	Regular* Dark		Set Courier font values.

Network Setup menu

In the following table, items that have an asterisk (*) indicate the factory default setting.

Table 2-21 Network Setup menu

Menu item	Sub-menu item	Description
Wireless Menu (wireless models only)	Wireless Setup Wizard	Guides you through the steps to set up the printer on a wireless network.
	Wi-Fi Protected Setup	If your wireless router supports this feature, use this method to set up the printer on a wireless network. This is the simplest method.
	Run Wireless Test	Tests the wireless network and prints a report with the results.
	Turn Wireless On/Off	Enables or disables the wireless network feature.
	Wireless Band Frequency	Select one of the following: • 2.4 GHz • 5 GHz • 2.4 GHz and 5 GHz
Google Cloud Print	Print Claim Sheet	Press OK to send printer capabilities and model number to Google and print a sheet of registration instructions from Google.
	Proxy Settings	Enter proxy information. Proxy Server Proxy Port Username Password
IPv4 Config Method	DHCP BootP Auto IP Manual	The printer automatically configures all the TCP/IP settings via DHCP, BootP or AutoIP. Manual: You can manually configure the IP address, subnet mask, and default gateway. The control panel prompts you to specify values for each address section. As each address is completed, the printer prompts for address confirmation before moving to the next one. After all three addresses are set, the network reinitializes.
Network Services	IPv4 IPv6	Enable or disable the IPv4 and IPv6 protocols. By default, each protocol is enabled.
Show IP Address (2-line control panels)	Yes No*	This item determines if the printer IP address is appears on the control-panel display.
Link Speed	Automatic* 10T Full 10T Half 100TX Full 100TX Half	Sets the link speed manually if needed. After setting the link speed, the printer automatically restarts.

Table 2-21 Network Setup menu (continued)

Menu item	Sub-menu item	Description
Security	Product Security	Enable printer security. If turned on, the printer prompts you to set a password. After it is set, the password will be needed to change printer settings.
	HTTPS Enforcement	An encrypted communication and secure identification of a network web server. Only enabled if the printer is password protected.
	Firewall	Enable, disable, or reset the printer firewall.
	Access Control List	Enable, disable, or reset the network access control list.
	802.1x (wireless models only)	Enable or disable the 802.1x wireless authentication protocol.
	Reset All Security	Reset the security settings to the factory-set default values.
Wi-Fi Direct	On	Manage the printer's Wi-Fi Direct settings.
	Off	
	Wi-Fi Direct Name	Set the printer name for a Wi-Fi Direct setup.
	Connection Method	Specify the Wi-Fi Direct connection method.
		Automatic
		Manual
	Wi-Fi Direct Password	Set the password for a Wi-Fi Direct setup.
Restore Defaults		Resets all network configurations to their factory defaults.

Quick Forms menu

Table 2-22 Quick Forms menu

Menu item	Sub-menu item	Description
Notebook Paper	Narrow Rule	Prints pages that have preprinted lines.
	Wide Rule	
	Child Rule	
Graph Paper	1/8 inch	Prints pages that have preprinted graph lines.
	5 mm	
Checklist	1-Column	Prints pages that have preprinted lines with check boxes.
	2-Column	
Music Paper	Portrait	Prints pages that have preprinted lines for writing music.
	Landscape	

Function specific menus

The printer features function-specific menus for copying, faxing, scanning, and using a USB flash drive. To open these menus, touch the button for that function on the control panel.

Fax Menu (fax models)

To open this menu, touch the Fax button, and then touch the Fax Menu button.

Table 2-23 Fax Menu

Menu item	Sub-menu item	Sub-menu item	Description
Fax Reports	Fax Confirmation	On Every Fax On Send Fax Only On Receive Fax Only Never*	Sets whether the printer prints a confirmation report after a successful fax job.
	Include First Page	On* Off	Sets whether the printer includes a thumbnail image of the first page of the fax on the report.
Fax Reports (continued)	Fax Error Report	On Every Error* On Send Error On Receive Error Never	Sets whether the printer prints a report after a failed fax job.
	Print Last Call Report		Prints a detailed report of the last fax operation, either sent or received.
	Fax Activity Log	Print Log Now Auto Log Print	Print Log Now: Prints a list of the faxes that have been sent from or received by this printer. Auto Log Print: Automatically prints a report after every fax job.
	Print Phone Book		Prints a list of the speed dials that have been set up for this printer.
	Print Junk Fax list		Prints a list of phone numbers that are blocked from sending faxes to this printer.
	Print All Fax Reports		Prints all fax-related reports.
Send Options	Send Fax Later		Allows a fax to be sent at a later time and date.
	Broadcast Fax		Sends a fax to multiple recipients.
	Fax Job Status		Displays pending fax jobs, and allows you to cancel pending fax jobs.

Table 2-23 Fax Menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
	Fax Resolution	Standard Fine* Superfine Photo	Sets the resolution for sent documents. Higher resolution images have more dots per inch (dpi), so they show more detail. Lower resolution images have fewer dots per inch and show less detail, but the file size is smaller.
Receive Options	Block Junk Faxes	Add Number Delete Number Delete All Numbers Print Junk Fax list	Modifies the junk fax list. The junk fax list can contain up to 30 numbers. When the printer receives a call from one of the junk fax numbers, it deletes the incoming fax. It also logs the junk fax in the activity log along with job-accounting information.
Receive Options (continued)	Reprint Faxes		Prints the received faxes stored in available memory. This item is available only if you have turned on the Allow Fax Reprint feature in the Fax Setup menu.
	Forward Fax	On Off*	Sets the printer to send all received faxes to another fax machine.
	Polling Receive		Allows the printer to call another fax machine that has polling send enabled.
Phone Book Setup	Individual Setup		Edits the fax phone book speed dials and group-dial entries. The printer supports up to 120 phone book entries, which can be either individual or group entries.
	Group Setup		
	Delete Entry	Deletes a specific phone book entry.	
	Delete All Entries	Deletes all entries in the phone book.	
	Print Report Now	Prints a list of all the individual and group dial entries in the phone book.	
Change Defaults			Opens the Fax Setup menu.

Copy menu (MFP models)

To open this menu, touch the Copy button, and then touch the Settings button.

NOTE: Settings that have been changed with this menu expire 2 minutes after the last copy completes.

Table 2-24 Copy menu

Menu item	Sub-menu item	Sub-menu item	Description
ID Copy **NOTE:** This item is available from the main Copy screen. You do not need to touch the Settings button to access it.			Copies both sides of identification cards, or other small-size documents, onto the same side of one sheet of paper.
Number of Copies	(1–99)		Specifies the number of copies.
Reduce/Enlarge	Original=100% A4 to Letter=94% Letter to A4=97% Full Page=91% Fit to Page 2 Pages per Sheet 4 Pages per Sheet Custom: 25 to 400%		Specifies the size of the copy.
Lighter/Darker			Specifies the contrast of the copy.
Optimize	Describe Original	Auto Select* Mixed Text Picture	Specifies the type of content in the original document, so the copy is the best match for the original.
Paper	Letter Legal A4		Specifies the paper size. **NOTE:** The default paper size setting is determined by the choice of location during the initial printer setup.
Multi-Page Copy	Off* On		When this feature is on, the printer prompts you to load another page onto the scanner glass or to indicate that the job is complete.
Collation	On* Off		Specifies whether to collate copy jobs.
Draft Mode	Off* On		Specifies whether to use draft-quality printing for copies.

Table 2-24 Copy menu (continued)

Menu item	Sub-menu item	Sub-menu item	Description
Set as New Defaults			Saves any changes you have made to this menu as the new defaults.
Restore Defaults			Restores the factory defaults for this menu.

Scan menu (MFP models)

Table 2-25 Scan menu

Menu item	Description
Scan to Network Folder	Scans a document to a network folder.
Scan to E-mail	Scans a document and sends as an email attachment.

Apps

Use the Apps menu to install HP Web Services applications.

Supplies

Use the Supplies menu to print a supplies status page. Press Report.

Control panel message document (CPMD)

Control-panel message types

The control-panel messages and event code entries indicate the current printer status or situations that might require action.

NOTE: Event log errors do not appear on the control-panel display. Open the event log to view or print the event log errors.

A control-panel message displays temporarily and might require the user to acknowledge the message by touching the OK button to resume printing or by touching the Cancel button to cancel the job. With certain messages, the job might not finish printing or the print quality might be affected. If the message is related to printing and the auto-continue feature is on, the printer will attempt to resume printing after the message has appeared for 10 seconds without acknowledgement.

For some messages, restarting the printer might fix the problem. If a critical error persists, the printer might require service.

Control-panel messages and event log entries

NOTE: Some of the messages in the following sections only appear in the event log.

TIP: Some control-panel messages and event log entries refer to a specific printer sensor or switch in the recommended action to solve the problem. See the diagrams in the clear jams section of this manual for sensor and switch locations.

Control Panel Error Messages (M102w, M104a/w, M106w models)

If the printer requires attention, an error code appears on the control-panel display.

Table 2-26 Status-light legend

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

Table 2-27 Primary control-panel light patterns

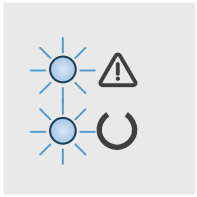
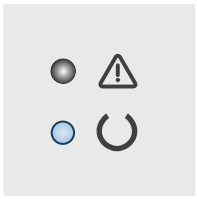
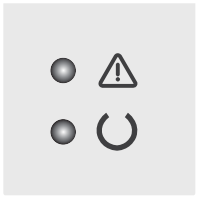
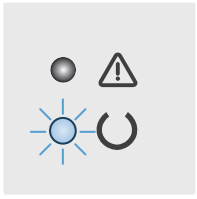
Light status	State of the printer	Action
The Ready and Attention lights are blinking. 	The printer is starting (initializing).	No action required.
The Ready light is on and the Attention light is off. 	The printer is idle.	No action required.
The Ready and Attention lights are off. 	The printer is in Auto Off mode.	No action required. **TIP:** Use the **System** tab in the HP Embedded Web Server (EWS) to change default times for entering Sleep/Auto Off mode or automatic shutdown.
The Ready light is blinking and the Attention light is off. 	The printer is processing a print job or the printer is canceling a print job.	No action required.

Table 2-27 Primary control-panel light patterns (continued)

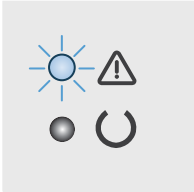
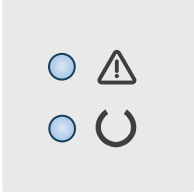
Light status	State of the printer	Action
The Ready light is off and the Attention light is blinking. 	The printer is processing a confirmation prompt, warning, or error.	No action required.
The Ready and Attention lights are on. 	The printer has experienced a fatal error.	**Check for secondary control-panel light patterns** 1. Press and hold down the Resume/Cancel button. 2. If the state of the lights changes (for example, if the LEDs start blinking) a fatal error is indicated. Go to Table 2-28 Secondary control-panel light patterns on page 93 to find the fatal error description. **NOTE:** If the state of the lights does not change, there is no secondary LED state.

Table 2-28 Secondary control-panel light patterns

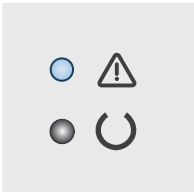
Light status	State of the printer	Action
The Ready light is off and the Attention light is on. 	Engine error • Communication error • DCC memory error • Unknown engine firmware error	1. Turn the printer off, and then on. 2. If the error persists, reset the printer: a. Turn off the power by using the power switch, and then wait at least 30 seconds. b. Turn on the power and wait for the product to initialize. 3. If a surge protector is used: a. Turn the printer off. b. Remove the surge protector. c. Plug the printer directly into the wall socket and turn the printer on. 4. If the error persists, the printer will require service.

Table 2-28 Secondary control-panel light patterns (continued)

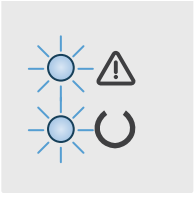
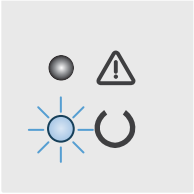
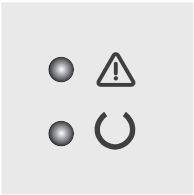
Light status	State of the printer	Action
The Ready light is blinking and the Attention light is on. 	Power error • Low-voltage power supply (LVPS) • Power outage detected	1. Recovering from power failure. Please wait. 2. If the error persists, reset the printer: a. Turn off the power by using the power switch, and then wait at least 30 seconds. b. Turn on the power and wait for the product to initialize. 3. If a surge protector is used: a. Turn the printer off. b. Remove the surge protector. c. Plug the printer directly into the wall socket and turn the printer on. 4. If the error persists, the printer will require service.
The Ready light is on and the Attention light is blinking. 	Fuser error • Bad fuser • Low fuser • Slow fuser • High fuser • Fuser drive • Fuser release lever • Low fuser temp 2 • High fuser temp 2 • Low fuser temp 3 • High fuser temp 3	1. Check the power source. Make sure the power source meets printer requirements. 2. Turn the printer off, and then on. 3. If the error persists, reset the printer: a. Turn off the power by using the power switch, and then wait at least 30 seconds. b. Turn on the power and wait for the product to initialize. 4. If a surge protector is used: a. Turn the printer off. b. Remove the surge protector. c. Plug the printer directly into the wall socket and turn the printer on. 5. If the error persists, the printer will require service.
The Ready and Attention lights are blinking. 	General engine error	1. Turn the printer off, and then on. 2. If the error persists, reset the printer: a. Turn off the power by using the power switch, and then wait at least 30 seconds. b. Turn on the power and wait for the product to initialize. 3. If a surge protector is used:

Table 2-28 Secondary control-panel light patterns (continued)

Light status	State of the printer	Action
		a. Turn the printer off. **b.** Remove the surge protector. **c.** Plug the printer directly into the wall socket and turn the printer on. **4.** If the error persists, the printer will require service.
The Ready and Attention lights are cycling on and off. 	Sensor error • Sensor dirty • Level sensor error • Bad TOP sensor	**1.** Turn the printer off, and then on. **2.** If the error persists, reset the printer: **a.** Turn off the power by using the power switch, and then wait at least 30 seconds. **b.** Turn on the power and wait for the product to initialize. **3.** If a surge protector is used: **a.** Turn the printer off. **b.** Remove the surge protector. **c.** Plug the printer directly into the wall socket and turn the printer on. **4.** If the error persists, the printer will require service.

Table 2-28 Secondary control-panel light patterns (continued)

Light status	State of the printer	Action
The Ready light is blinking and the Attention light is off. 	Motor rotation error • Bad fuser motor start • Bad fuser motor • Bad drum motor start • Bad drum motor rotation • Bad developer motor start • Bad developer motor rotation • Bad main motor start • T2 clutch error • Bad main motor • Bad developer motor • T1 alienation	1. Turn the printer off, and then on. 2. If the error persists, reset the printer: a. Turn off the power by using the power switch, and then wait at least 30 seconds. b. Turn on the power and wait for the product to initialize. 3. If a surge protector is used: a. Turn the printer off. b. Remove the surge protector. c. Plug the printer directly into the wall socket and turn the printer on. 4. If the error persists, the printer will require service.
The Ready and Attention lights are off. 	Laser failure	1. Turn the printer off, and then on. 2. If the error persists, reset the printer: a. Turn off the power by using the power switch, and then wait at least 30 seconds. b. Turn on the power and wait for the product to initialize. 3. If a surge protector is used: a. Turn the printer off. b. Remove the surge protector. c. Plug the printer directly into the wall socket and turn the printer on. 4. If the error persists, the printer will require service.

Control Panel Error Messages (M130a, M132a, M133a, M134a models)

Messages appear on the control panel display to indicate the printer's status or errors.

'go' and 'Er' will alternate with a two digit code indicating a specific action to be taken or a specific error.

- 'go' = the printer is waiting for a user response
- 'Er' = the printer has experienced an error

go/01

Description

The printer has received a request to manual feed media.

Recommended action

Manual feed <Letter, Plain> Or press OK to use available media.

go/02

Description

The printer has received a request to manual duplex..

Recommended action

Load the page in Tray 1 with the side to be printed face up, and the top of the page away from you, and then press the OK button.

go/03

Description

The printer has received a request for <Letter, Plain> media in Tray 1.

Recommended action

Load tray 1 with <Letter, Plain> media. Or press OK to use available media.

go/99

Description

Prompt to unlock hidden EWS service page.

Recommended action

Press OK to enable the Embedded Web Server service page.

Er/01

Description

All paper trays are empty.

Recommended action

Load paper.

Er/02

Description

A door is open or shipping material has not been removed from the rear door.

Recommended action

1. Ensure that all packing material has been removed from the rear door.
2. Check that the following doors are closed:
    - Toner door
    - Upper right door
    - Lower right door
    - Rear door

Er/03

Description

No paper pickup.

Recommended action

Press OK to continue.

Er/04

Description

Jam in tray 1.

Recommended action

Clear the jam and then press OK.

Er/05

Description

Jam in cartridge area.

Recommended action

Open front door and clear the jam.

Er/06

Description

Jam in the output bin.

Recommended action

Open the rear door and clear the jam.

Er/07

Description

Supply is missing or not properly installed.

Recommended action

1. Install or reinstall the black cartridge.
2. Install or reinstall the imaging drum.

Er/08

Description

The black cartridge is Very Low.

Recommended action

Replace the black cartridge.

Er/09

Description

The imaging drum is Very Low.

Recommended action

Replace the imaging drum.

Er/10

Description

Multiple supplies are Very Low.

Recommended action

Replace both the black cartridge and imaging drum.

Er/11

Description

Black cartridge supply error. The black cartridge has experienced one of the following errors:

— The cartridge shipping lock is still installed

— The cartridge is incompatible with the printer

— The cartridge is missing the e-label

— The cartridge has experienced an e-label memory error

Recommended action

1. Ensure the shipping lock in the cartridge has been removed.
2. Replace the cartridge.

Er/12

Description

Imaging drum supply error. The image drum has experienced one of the following errors:

— The imaging drum is incompatible with the printer

— The imaging drum is missing the e-label

— The imaging drum has experienced an e-label memory error

Recommended action

Replace the imaging drum.

Er/13

Description

Multiple supplies are incompatible.

Recommended action

1. Ensure the shipping lock in the cartridge has been removed.
2. Replace the black cartridge.
3. Replace the imaging drum.

Er/14

Description

The black cartridge is protected. A previously protected cartridge was installed in a printer other than the one that initiated the cartridge protection.

Recommended action

The cartridge can only be used in the product or fleet of products that initially protected it using Cartridge Protection.

Replace the cartridge with a new toner cartridge.

Er/15

Description

The imaging drum is protected. A previously protected drum was installed in a printer other than the one that initiated the drum protection.

Recommended action

The imaging drum can only be used in the product or fleet of products that initially protected it using Cartridge Protection.

Replace the imaging drum with a new imaging drum.

Er/16

Description

Multiple supplies are protected. A previously protected cartridge and drum were installed in a printer other than the one that initiated the drum protection.

Recommended action

The black cartridge and imaging drum can only be used in the product or fleet of products that initially protected it using Cartridge/Drum Protection.

Replace both the cartridge and imaging drum with new ones.

Er/17

Description

Unauthorized black cartridge. The administrator has configured this product to use only genuine HP supplies. The product has determined there is a supply not meeting this criteria.

Recommended action

Change the Cartridge Policy to Off or replace the cartridge to continue printing.

Er/18

Description

Unauthorized imaging drum. The administrator has configured this product to use only genuine HP supplies. The product has determined there is a supply not meeting this criteria.

Recommended action

Change the Drum Policy to Off or replace the drum to continue printing.

Er/19

Description

Unauthorized multiple supplies. The administrator has configured this product to use only genuine HP supplies. The product has determined there are multiple supplies not meeting this criteria.

Recommended action

Change the Cartridge/Drum Policy to Off or replace the cartridge and drum to continue printing.

Er/20

Description

Cartridge sensor error. Light pipe blocked.

Recommended action

Check cartridge sensor area and remove the obstacles that block the light guide sensor.

Er/22

Description

The MICR cartridge is not installed.

Recommended action

Install a MICR cartridge.

Er/23

Description

Memory Low (Print, Copy or Scan).

Recommended action

Job canceled. Press OK to continue. Break the job into smaller jobs that contain fewer pages.

Er/25

Description

Print size error. The printer was expecting <Letter> sized paper in Tray 1.

Recommended action

Load Letter in to tray 1. Press OK to continue.

Er/26

Description

General engine error. Press OK to continue.

Recommended action

1. Turn the printer off then on.
2. If the error persists, reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
3. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the printer directly into the wall socket and turn the printer on.
4. If the error persists, the printer will require service.

Er/30

Description

Scanner error.

Recommended action

1. Turn the printer off then on.
2. If the error persists, reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
3. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the printer directly into the wall socket and turn the printer on.
4. If the error persists, the printer will require service.

Er/49

Description

The product has experienced an internal firmware error. Under most conditions, the product automatically restarts.

Recommended action

1. Reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the printer directly into the wall socket and turn the printer on.
3. If the error persists, disconnect any network or USB cables and power cycle. If the product returns to Ready, check the FW version and update if a newer version is available.
4. If the error is intermittent, attempt to isolate the issue to something specific in the customer's environment.

> **NOTE:** If the 49 Error is caused by the network or a specific file, do not service the printer; it will not resolve the issue. Instead, attempt to isolate the issue in a way that demonstrates the error is caused by something in the environment.

5. If the error persists, the printer will require service.

Er/50

Description

Fuser error.

— 50.0 — Bad fuser

— 50.1 — Low fuser

— 50.2 — Slow fuser

— 50.3 — High fuser

— 50.4 — Fuser drive

— 50.7 — Fuser release error

— 50.8 — Low fuser temp 2

— 50.9 — High fuser temp 2

— 50.11 — High fuser temp 3

— 50.12 — Low fuser temp 3

Recommended action

1. Check the power source. Make sure the power source meets product requirements.
2. Turn the printer off then on.
3. If the error persists, reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
4. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the printer directly into the wall socket and turn the printer on.
5. If the error persists, the printer will require service.

Er/51

Description

Laser error.

— 51.0 — Laser error

— 51.20 — Error

— 51.30 — Error

Recommended action

1. Turn the printer off then on.
2. If the error persists, reset the printer:

a. Turn off the power by using the power switch, and then wait at least 30 seconds.

b. Turn on the power and wait for the product to initialize.

3. If you are using a surge protector:

a. Power off the printer.

b. Remove the surge protector.

c. Plug the printer directly into the wall socket and turn the printer on.

4. If the error persists, the printer will require service.

Er/52

Description

Scanner motor error.

Recommended action

1. Turn the printer off then on.
2. If the error persists, reset the printer:

a. Turn off the power by using the power switch, and then wait at least 30 seconds.

b. Turn on the power and wait for the product to initialize.

3. If you are using a surge protector:

a. Power off the printer.

b. Remove the surge protector.

c. Plug the printer directly into the wall socket and turn the printer on.

4. If the error persists, the printer will require service.

Er/54

Description

The printer has experienced an internal sensor error.

— 54.1C — Sensor dirty

— 54.18 — Level sensor error

— 54.19 — Bad TOP sensor

Recommended action

1. Turn the printer off then on.
2. If the error persists, reset the printer:

a. Turn off the power by using the power switch, and then wait at least 30 seconds.

b. Turn on the power and wait for the product to initialize.

3. If you are using a surge protector:
    a. Power off the printer.
    b. Remove the surge protector.
    c. Plug the printer directly into the wall socket and turn the printer on.
4. If the error persists, the printer will require service.

Er/55

Description

The printer has experienced a engine communication error.

— 55.0 — DCC internal communication error

— 55.0601 — NVRAM data error

— 55.0602 — NVRAM access error

— 55.1 — DCC memory error

Recommended action

1. Turn the printer off then on.
2. If the error persists, reset the printer:
    a. Turn off the power by using the power switch, and then wait at least 30 seconds.
    b. Turn on the power and wait for the product to initialize.
3. If you are using a surge protector:
    a. Power off the printer.
    b. Remove the surge protector.
    c. Plug the printer directly into the wall socket and turn the printer on.
4. If the error persists, the printer will require service.

Er/56

Description

Input path unavailable.

Recommended action

1. Turn the printer off then on.
2. If the error persists, the printer will require service.

Er/58

Description

Power errors.

— 58.04 — LVPS malfunction

— 58.4 — Power outage detected

Recommended action

1. Recovering from power failure. Please wait.
2. If the error persists, reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
3. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the printer directly into the wall socket and turn the printer on.
4. If the error persists, the printer will require service.

Er/59

Description

The printer as experienced a motor rotation error.

— 59.30 — Bad fuser motor start

— 59.40 — Bad fuser motor

— 59.50 — Bad drum motor start

— 59.60 — Bad drum motor rotation

— 59.70 — Bad developer motor start

— 59.80 — Bad developer motor rotation

— 59.90 — Bad main motor start

— 59.99 — T2 clutch error

— 59.A0 — Bad main motor

— 59.C0 — Bad developer motor

— 59.F0 — T1 alienation error

Recommended action

1. Turn the printer off then on.
2. If the error persists, reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.

3. If you are using a surge protector:
    a. Power off the printer.
    b. Remove the surge protector.
    c. Plug the printer directly into the wall socket and turn the printer on.
4. If the error persists, the printer will require service.

Er/79

Description

The product has experienced an internal firmware error. Under most conditions, the product automatically restarts.

Recommended action

1. Reset the printer:
    a. Turn off the power by using the power switch, and then wait at least 30 seconds.
    b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
    a. Power off the printer.
    b. Remove the surge protector.
    c. Plug the printer directly into the wall socket and turn the printer on.
3. If the error persists, disconnect any network or USB cables and power cycle. If the product returns to Ready, check the FW version and update if a newer version is available.
4. If the error is intermittent, attempt to isolate the issue to something specific in the customer's environment.

> **NOTE:** If the 79 Error is caused by the network or a specific file, do not service the printer; it will not resolve the issue. Instead, attempt to isolate the issue in a way that demonstrates the error is caused by something in the environment.

5. If the error persists, the printer will require service.

Er/80

Description

Engine firmware upgrade has failed.

Recommended action

Resend the firmware upgrade.

Er/81

Description

The incorrect firmware was downloaded to the printer. Update failed.

Recommended action

Press OK to continue.

Er/82

Description

Bad code signature received.

Recommended action

1. To accept invalid signature, press OK.
2. Press Cancel to cancel the upgrade.

Er/83

Description

Bad code signature received.

Recommended action

Invalid signature. Upgrade canceled. Press OK to continue.

Er/90

Description

There is an engine cable connection issue. Press OK to continue.

Recommended action

1. Turn the printer off then on.
2. If the error persists, the printer will require service.

Er/91

Description

There is a flatbed cable connection issue. Press OK to continue.

Recommended action

1. Turn the printer off then on.
2. If the error persists, the printer will require service.

Er/92

Description

There is a control panel cable connection issue. Press OK to continue.

Recommended action

1. Turn the printer off the on.
2. If the error persists, the printer will require service.

Control Panel Error Messages (M130nw/fn/fw, M132nw/snw/fn/fp/fw, M133fn, M134fn models)

Messages appear on the control panel display to indicate the printer's status or errors.

30.XXXX Scanner Error

Description

The flatbed or ADF scanner is failing to initialize for the following reasons:

— **30.0013** = Scanner failed to find home

— **30.0016** = Scan sensor communication error

— **30.0017** = Scan motor exceeded max position error

— **30.0023** = ADF scanner calibration error

Recommended action

1. Verify that the product has the most recent firmware from hp.com.
2. Verify that the (flat flexible cables (FFC's) are seated correctly on the formatter board.
3. If the error persists, replace the Scanner/ADF Assembly:

Integrated scanner assembly (document feeder with image scanner)	G3Q59–60113

4. If the error persists, escalate to Level 3 so that Technical Marketing has visibility to the problem.

49 Error, Turn off then on

Description

The product has experienced an internal embedded software error. Under most conditions, the product automatically restarts.

Recommended action

1. Reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, disconnect any network or USB cables and power cycle. If the product returns to Ready, check the FW version and update if a newer version is available.
4. If the error persists, print a Service Page from the Reports menu. Also, print an Error Report from the 2ndary Service Menu. On the Service Page, look at the xxxx portion of the 49.xxxx errors listed:

- If the numbers are all or mostly different, then power quality is a possible problem; try a different wall socket.
- If the xxxx portion of 49.xxxx contain repeats of the same numbers or groups of numbers, then check the 2ndary Service Error Report printed earlier for indications of a failure in a particular area. The report may indicate whether the error is caused by a network problem or a problem with the job.

5. If the error persists, replace the product.

NOTE: If the 49 Error is caused by the network or a specific file, do not replace the product; it will not resolve the issue. Instead, attempt to isolate the issue in a way that demonstrates the error is caused by something in the environment.

6. If the error persists after product replacement, escalate to Level 3 so that Technical Marketing has visibility to the problem.

50.XX Fuser Error, Turn off then on

Description

The product has experienced an internal fuser hardware error:

— **50.00** = Generic Fuser error

— **50.10** = Low Fuser temperature error

— **50.11** = High sub thermistor area 3 fuser error

— **50.12** = Low sub thermistor area 3 fuser error

— **50.20** = Slow fuser error

— **50.30** = High fuser temperature error

— **50.40** = Fuser drive circuit error

— **50.70** = Fuser open error

— **50.80** = Low sub thermistor fuser error

— **50.90** = High sub thermistor fuser error

Recommended action

1. Reset the product:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
   a. Power off the product.
   b. Remove the surge protector.
   c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, replace the Fusing Assembly:

Fixing (fuser) assembly (110-120V))	RM2-6947-000CN
Fixing (fuser) assembly (220-240V)	RM2-6948-000CN

4. If the error persists, replace the product.

51.XX Laser Error, Turn off then on

Description

An error with the laser/scanner assembly has occurred in the product.

— **51.00** = Laser error

— **51.20** = Black laser scanner error

— **51.30** = Laser error

Recommended action

1. Reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, replace the product.

55.XXXX Error, Turn off then on

Description

The product has experienced an error with one of the internal sensors.

— **55.0** = DC controller communication error

— **55.0601** = DC controller NVRAM data error

— **55.0602** = DC controller NVRAM access error

— **55.1** = DC controller memory error

— **55.3** = Engine communication error

Recommended action

1. Reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:

a. Power off the printer.

b. Remove the surge protector.

c. Plug the product directly into the wall socket and turn the product power on.

3. If the error persists, replace the DC Controller PCB Assembly (HP Part #: ??????).

4. If the error persists, replace the product.

57 Fan Error, Turn off then on

Description

The product has experienced an error with its internal fan.

— **57.01** = Fan 1 error

Recommended action

1. Reset the printer:

   a. Turn off the power by using the power switch, and then wait at least 30 seconds.

   b. Turn on the power and wait for the product to initialize.

2. If you are using a surge protector:

   a. Power off the printer.

   b. Remove the surge protector.

   c. Plug the product directly into the wall socket and turn the product power on.

3. If the error persists, replace the internal cooling fan (HP Part #: ??????).

4. If the error persists, replace the product.

58.XX Error, Turn off then on

Description

The product has experienced an error with the low voltage power supply.

— **58.04** = Low voltage power supply malfunction

Recommended action

1. Reset the printer:

   a. Turn off the power by using the power switch, and then wait at least 30 seconds.

   b. Turn on the power and wait for the product to initialize.

2. If you are using a surge protector:

   a. Power off the printer.

   b. Remove the surge protector.

   c. Plug the product directly into the wall socket and turn the product power on.

3. Check the voltage label on the back of the product. If the product is rated 220V and is plugged into a 110V outlet, this error might occur. In most cases, no damage is caused to the product. If a power transformer is used to convert 220V power to 110V, verify that the transformer power rating is sufficient to operate the product.
4. If the error persists, replace the Low Voltage Power Supply PCB Assembly:

L.V.POWER SUPPLY PCB ASS'Y (110v)	RM2-1656-000CN
L.V.POWER SUPPLY PCB ASS'Y (220v) CHINA ONLY	RM2-1658-000CN
L.V.POWER SUPPLY PCB ASS'Y (110v) EXCEPT CHINA	RM2-1657-000CN

5. If the error persists, replace the product.

59.XX Error, Turn off then on

Description

The product has experienced an error with the internal motor.

Recommended action

1. Reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the product directly into the wall socket and turn the product power on.
3. If the error persists, replace the Main Motor Assembly (HP Part #: ??????).

79 Error, Turn off then on

Description

The product has experienced an internal firmware error. Under most conditions, the product automatically restarts.

Recommended action

1. Reset the printer:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
2. If you are using a surge protector:
   a. Power off the printer.
   b. Remove the surge protector.
   c. Plug the product directly into the wall socket and turn the product power on.

3. If the error is intermittent, attempt to isolate the issue to something specific in the customers environment.

NOTE: If the 79 Error is caused by the network or a specific file, do not replace the product; it will not resolve the issue. Instead, attempt to isolate the issue in a way that demonstrates the error is caused by something in the environment.

4. If the error is persistent, replace the Formatter PCA:

M134a	Formatter PCB Assembly	G3Q57-60001
M402/M403 D		C5F92-60001
M132nw	Formatter PCB Assembly	G3Q58-60001
		C5F93-60001
M132fp/fw, M134fn	Formatter PCB Assembly	C5F94-60001
		G3Q63-60001
M132snw	Formatter PCB Assembly	G3Q68-60001
		C5F98-60001

5. If the error persists, replace the product.
6. If the error persists after product replacement, escalate to Level 3 so that Technical Marketing has visibility to the problem.

<COLOR> cartridge is low.

Description

The indicated toner cartridge is nearing the end of its useful life.

Recommended action

Printing can continue, but consider having a replacement supply on hand.

<COLOR> cartridge is very low.

Description

The indicated toner cartridge is at the end of its useful life. A customer configurable option on this product is "Prompt to Remind Me in 100 pages, 200 pages, 300 pages, 400 pages, or never." This option is provided as a customer convenience and is not an indication these pages will have acceptable print quality.

Recommended action

To ensure optimal print quality, HP recommends replacing the toner cartridge at this point. You can continue printing until you notice a decrease in print quality. Actual cartridge life might vary. Once an HP supply has reached Very Low, HP's Premium Protection Warranty on that supply has ended. All print defects or cartridge failures incurred when an HP supply is used in Continue at very low mode will not be considered to be defects in materials or workmanship in the supply under the HP Print Cartridge Warranty Statement.

Cleaning.

Description

The product periodically performs a cleaning procedure to maintain the best print quality.

Recommended action

Wait for the cleaning process to finish.

Device error. Press [OK] to continue.

Description

Paper has been delayed as it moves through the product.

Recommended action

Press the OK button to clear the message.

To avoid this problem, try the following solutions:

1. Adjust the paper guides in the tray. Ensure the front paper guide is pushing the paper against the back edge of the tray.
2. Use paper that meets HP specifications. Store paper unopened in its original packaging.
3. Use the product in an area that meets the environmental specifications for this product.

Device is busy. Try again later.

Description

The product is currently in use.

Recommended action

1. Wait for the product to finish the current job, or to finish initializing.
2. Turn the product off, then on, to see whether it comes to a **Ready** state.
3. Restore the device to the factory default settings. (Setup Menu -> Service Menu -> Restore Defaults)
4. If the issue persists, upgrade to the latest firmware version.

Document feeder jam. Clear and reload.

Description

Paper is jammed in the document feeder tray or a sensor has incorrectly detected media in the document feeder paper path.

Recommended action

1. Remove the paper from the document feeder. If the paper rips, use a thick piece of paper (such as a business card) to clean the paper path.
2. Reset the printer:

a. Turn off the power by using the power switch, and then wait at least 30 seconds.

b. Turn on the power and wait for the product to initialize.

3. If the error persists, replace the Scanner/ADF Assembly:

Integrated scanner assembly (document feeder with image scanner)	G3Q59–60113

Document feeder mispick. Reload.

Description

The product did not pick up the paper in the document feeder.

Recommended action

1. Remove the paper from the document feeder tray, and then reload it.
2. Verify there are no staples or paper clips on the stack of originals. Verify the originals are straightened out from previous folds or curl.
3. If the control panel displays **Document Feeder Loaded** when the originals are not in the input tray of the document feeder, the sensor on the document feeder might be malfunctioning. Replace the Scanner/ADF Assembly:

Integrated scanner assembly (document feeder with image scanner)	G3Q59–60113

Door is open.

Description

The products front door is open.

Recommended action

Close the door.

Engine cable connection issue. Contact HP service. Press [OK] to continue.

Description

The print engine cable diagnostics did not pass due to a cable issue.

Recommended action

Press OK to continue to use the device for scanning and faxing, but printing will not be functional. Either replace the product or send to HP service.

Fax is busy. Canceled send.

Description

The fax line to which you were sending a fax was busy. The product has canceled sending the fax.

Recommended action

1. Call the recipient to ensure that the fax machine is on and ready.
2. Verify that the fax number is correct.
3. Verify that the Redial if Busy option is enabled.
4. Open the Service menu, and then touch the Fax Service button. Touch the Run Fax Test button. This test verifies that the phone cord is connected to the correct port and that the phone line has a signal. The product prints a report with the results.
5. Additional fax sending/receiving troubleshooting can be found in this document: HP LaserJet Pro MFP - Solve problems sending or receiving faxes (includes fax error messages)(c03491494) (in English) available in Service Access Workbench (SAW) or Channel Service Network (CSN).

Fax receive error.

Description

An error occurred while trying to receive a fax.

Recommended action

1. Ask the sender to resend the fax.
2. To verify that the telephone cord is securely connected, disconnect and reconnect the telephone cord.
3. Verify that you are using the telephone cord that came with the product.
4. Open the Service menu, and touch the Fax Service button. Touch the Run Fax Test button. This test verifies that the phone cord is connected to the correct port and that the phone line has a signal. The product prints a report with the results.
5. Decrease the fax speed. Ask the sender to resend the fax.
6. Turn off error-correction mode. Ask the sender to resend the fax.

   NOTE: Turning off error-correction mode might reduce the quality of the fax image.

7. Connect the product to a different phone line.
8. Additional fax sending/receiving troubleshooting can be found in this document: HP LaserJet Pro MFP - Solve problems sending or receiving faxes (includes fax error messages)(c03491494) (in English) available in Service Access Workbench (SAW) or Channel Service Network (CSN).

Fax Send error.

Description

An error occurred while trying to send a fax.

Recommended action

1. Resend the fax.
2. Try faxing to another fax number.
3. To verify that the telephone cord is securely connected, disconnect and reconnect the telephone cord. Check that the telephone cord is securely connected by unplugging and replugging the cord.

4. Verify that you are using the telephone cord that came with the product.
5. Open the Service menu, and touch the Fax Service button. Touch the Run Fax Test button. This test verifies that the phone cord is connected to the correct port and that the phone line has a signal. The product prints a report with the results.
6. Connect the product to a different phone line.
7. Set the fax resolution to Standard instead of the default of Fine .
8. Additional fax sending/receiving troubleshooting can be found in this document: HP LaserJet Pro MFP - Solve problems sending or receiving faxes (includes fax error messages)(c03491494) (in English) available in Service Access Workbench (SAW) or Channel Service Network (CSN).

Fax storage is full. Canceling the fax send/receive.

Description

The amount of available memory for storing faxes is insufficient to store an incoming fax.

Recommended action

1. If you are using the Private Receive feature, print all received faxes to regain some memory.
2. If the issue persists, clear faxes from memory:
   a. Open the Service menu.
   b. Touch the Fax Service button.
   c. Touch the Clear Saved Faxes menu item.

Genuine HP supply installed.

Description

A genuine HP supply was just installed.

Recommended action

No action necessary.

Install <COLOR> cartridge.

Description

The indicated toner cartridge is missing or not seated correctly.

Recommended action

Remove and reinstall the indicated supply.

Jam in output bin. Open rear door and clear jam.

Description

A paper jam occurred in the output bin area of the printer.

Recommended action

1. Follow the instructions on the control panel to clear the jammed media.
2. If the issue persists:
   a. Use paper that meets HP specifications. Store paper unopened in its original packaging.
   b. Use the product in an area that meets the environmental specifications for this product.

Jam in Tray 1. Clear jam and then press [OK].

Description

A paper jam occurred while printing from the Tray 1 slot.

Recommended action

1. Follow the instructions on the control panel to clear the jammed media.
2. If the issue persists:
   a. Adjust the side paper guides in the tray 1 slot. Allow the printer to pull the media in when inserted in the Tray 1 slot.
   b. Use paper that meets HP specifications. Store paper unopened in its original packaging.
   c. Use the product in an area that meets the environmental specifications for this product.
3. If the issue persists, check the pick-up rollers for wear or damage and replace if necessary.

Jam in Tray 2. Clear jam and then press [OK].

Description

A paper jam occurred while printing from Tray 2.

Recommended action

1. Follow the instructions on the control panel to clear the jammed media.
2. If the issue persists:
   a. Adjust the paper guides in the tray. Ensure the front paper guide is pushing the paper against the back edge of the tray.
   b. Use paper that meets HP specifications. Store paper unopened in its original packaging.
   c. Use the product in an area that meets the environmental specifications for this product.
3. If the issue persists, check the pick-up rollers for wear or damage and replace if necessary.

Load paper.

Description

The tray is empty.

Recommended action

Load paper in the tray.

Load tray 1 <TYPE>, <SIZE>. Press [OK] to continue.

Description

The tray is not configured for the paper type and size that the print job is requesting.

Recommended action

Load the correct paper into Tray 1 and press OK to continue printing.

Load tray 1. Plain, <SIZE> / Cleaning mode. Press [OK] to start.

Description

The product is ready to process the cleaning operation.

Recommended action

Load Tray 1 with plain paper in the size indicated, and then press the OK button.

Load tray 1. Press [OK] to continue.

Description

The tray is empty.

Recommended action

Load paper into the tray and press OK to continue printing.

Load tray <X> Press [OK] for available media.

Description

The tray is empty.

Recommended action

Load paper into the tray to continue printing. Press the OK button to select a different tray.

Manual Duplex. Load Tray <#>. Press [OK] to continue.

Description

The first side of a manual duplex job has printed, and the page needs to be loaded to process the second side.

Recommended action

Load the page in the indicated tray with the side to be printed face up, and the top of the page away from you, and then press the OK button.

Memory is low. Press [OK] to continue.

Description

The product memory is almost full.

Recommended action

Press the OK button to finish the job, or touch the Cancel button to cancel the job. Break the job into smaller jobs that contain fewer pages.

NFC cable connection issue. Contact HP service. Press [OK] to continue.

Description

The Near Field Communication (NFC) cable diagnostics did not pass due to a cable issue.

Recommended action

Press OK to continue to use the device, but NFC will not be functional. Either replace the product or send to HP service.

No dial tone.

Description

The product could not detect a dial tone.

Recommended action

1. Check for a dial tone on the phone line by touching the Start Fax button.
2. Unplug the telephone cord from both the product and the wall and replug the cord.
3. Verify that you are using the telephone cord that came with the product.
4. Open the Service menu, and touch the Fax Service button. Touch the Run Fax Test button. This test verifies that the phone cord is connected to the correct port and that the phone line has a signal. The product prints a report with the results.
5. Additional fax sending/receiving troubleshooting can be found in this document: HP LaserJet Pro MFP - Solve problems sending or receiving faxes (includes fax error messages)(c03491494) (in English) available in Service Access Workbench (SAW) or Channel Service Network (CSN).

No fax detected.

Description

The product answered the incoming call but did not detect that a fax machine was calling.

Recommended action

1. Open the Service menu, and touch the Fax Service button. Touch the Run Fax Test button. This test verifies that the phone cord is connected to the correct port and that the phone line has a signal. The product prints a report with the results.
2. Additional fax sending/receiving troubleshooting can be found in this document: HP LaserJet Pro MFP - Solve problems sending or receiving faxes (includes fax error messages)(c03491494) (in English) available in Service Access Workbench (SAW) or Channel Service Network (CSN).

Non-HP supply installed.

Description

A non-HP supply has been installed.

Recommended action

No action necessary.

NOTE: If customer believes they purchased a new genuine HP supply, direct them to www.hp.com/go/anticounterfeit to verify

NOTE: Service or repairs that are required as a result of using unsupported supplies is not covered under HP warranty.

Print failure, press [OK]. If error repeats, turn off then on.

Description

The product cannot process the page.

Recommended action

Press the OK button to continue printing the job, but output might be affected.

If the error persists, turn the power off and then on. Resend the print job.

Protected <COLOR> cartridge.

Description

A previously protected cartridge was installed in a printer other than the one that initiated the cartridge protection.

Recommended action

The cartridge can only be used in the product or fleet of products that initially protected it using Cartridge Protection.

Install a new or unprotected supply.

Rear door open.

Description

The products rear door is open.

Recommended action

Close the door.

Replace <COLOR>.

Description

The indicated toner cartridge is at the end of its useful life, and the product is customer-configured to stop printing when it reaches the very low state.

Recommended action

Replace the indicated cartridge or change the Very Low Setting for the supply to something other than Stop.

NOTE: To ensure optimal print quality, HP recommends replacing the toner cartridge at this point. You can continue printing (if Very Low Setting is set to something other than Stop) until you notice a decrease in print quality. Actual cartridge life might vary. Once an HP supply has reached **Very Low**, HP's Premium Protection Warranty on that supply has ended. All print defects or cartridge failures incurred when an HP supply is used in Continue at very low mode will not be considered to be defects in materials or workmanship in the supply under the HP Print Cartridge Warranty Statement.

Supply memory error.

Description

There is an error with one of the installed cartridges. 'X' indicates the color of the cartridge.

(X=0: Black, X=1: Cyan, X=2: Magenta, X=3: Yellow)

— **10.000X** (Event Code) — cartridge memory error

— **10.010X** (Event Code) — cartridge memory error

— **10.020X** (Event Code) — cartridge memory error

— **10.030X** (Event Code) — cartridge memory error

— **10.100X** (Event Code) — cartridge memory chip is missing

Recommended action

1. Reset the product:
   a. Turn off the power by using the power switch, and then wait at least 30 seconds.
   b. Turn on the power and wait for the product to initialize.
2. If the error persists, check the event-log messages to identify the specific cartridge at fault.
3. Verify the indicated cartridge is HP Genuine.
4. If the error persists, replace the cartridge.
5. If the error persists, replace the product.

The product is unable to calibrate. Close the lid and remove paper from the document feeder.

Description

The scanner is unable to calibrate because either the lid is open or there is paper blocking the scan head.

Recommended action

1. Remove any paper from the scanner glass or the ADF and close the lid.
2. If the error persists, replace the scanner/ADF Assembly:

Integrated scanner assembly (document feeder with image scanner)	G3Q59–60113

Unauthorized <COLOR> cartridge.

Description

The administrator has configured this product to use only genuine HP supplies. The product has determined there is a supply not meeting this criteria

Recommended action

Change the Cartridge Policy to Off or replace the cartridge to continue printing.

NOTE: If customer believes they purchased a new genuine HP supply, direct them to www.hp.com/go/anticounterfeit to verify

NOTE: Service or repairs that are required as a result of using unsupported supplies is not covered under HP warranty.

Unexpected size in Tray <#>. Load <SIZE>. Press [OK] to continue.

Description

The product has detected paper in the indicated tray that does not match the configuration for the tray.

Recommended action

Load the correct paper into the tray, or configure the tray for the size that you have loaded and press OK to continue printing.

Used or counterfeit <COLOR> cartridge in use.

Description

The indicated cartridge is used or counterfeit.

Recommended action

No action necessary.

NOTE: If customer believes they purchased a new genuine HP supply, direct them to www.hp.com/go/anticounterfeit to verify

NOTE: Service or repairs that are required as a result of using unsupported supplies is not covered under HP warranty.

Used or counterfeit <COLOR> cartridge is installed. Press [OK] to continue.

Description

The indicated cartridge is used or counterfeit.

Recommended action

Replace the indicated cartridge with a new genuine HP supply or press OK to continue using the installed cartridge.

Wireless cable connection issue. Contact HP service. Press [OK] to continue.

Description

The wireless cable diagnostics did not pass due to a cable issue.

Recommended action

Press OK to continue to use the device, but wireless printing will not be functional. Either replace the product or send to HP service.

Improve print quality

If the printer is having print-quality problems, try the following solutions in the order presented to resolve the issue.

- Print from a different software program
- Check the paper-type setting for the print job
  - Check the paper type setting (Windows)
  - Check the paper type setting (OS X)
- Check toner-cartridge status (M101/M106)
- Check toner-cartridge status (M129/M134)
- Clean the printer (M101/M106)
  - Print a cleaning page
- Clean the printer (M129/M134)
  - Print a cleaning page
- Visually inspect the toner cartridge and imaging drum
- Check paper and the printing environment
  - Step one: Use paper that meets HP specifications
  - Step two: Check the environment
- Check paper and the printing environment
  - Step one: Use paper that meets HP specifications
  - Step two: Check the environment
- Check other print job settings
  - Check the EconoMode settings
- Use the HP Embedded Web Server (EWS) to improve print quality
- Print quality troubleshooting guide
  - Image defects table
  - Product specific image defects

Print from a different software program

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

Check the paper-type setting for the print job

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

Check the paper type setting (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. From the **Media:** drop-down list, select the correct paper type.
5. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog, 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. By default, the print driver displays the **Copies & Pages** menu. Open the menus drop-down list, and then click the **Finishing** menu.
4. Select a type from the **Media-type** drop-down list.
5. Click the **Print** button.

Check toner-cartridge status (M101/M106)

Check the supplies status page for the following information:

- Estimated percentage of cartridge life remaining
- Approximate pages remaining
- Part numbers for HP toner cartridges
- Number of pages printed

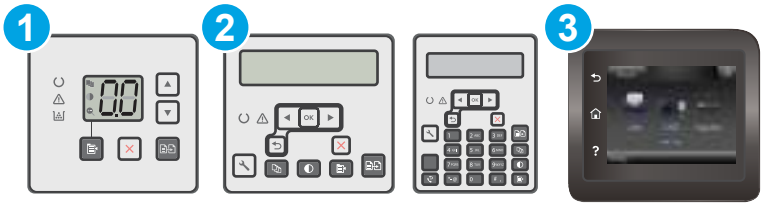
The printer prints the supplies status page when it prints the configuration page.

1. Press and hold the Resume/Cancel button until the Ready light begins blinking.
2. Release the Resume/Cancel button.

Check toner-cartridge status (M129/M134)

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

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



1	LED control panel
2	2-line control panel
3	Touchscreen control panel

Step one: Print the supplies status page (LED control panels)

1. Press and hold the Start Copy button until the Ready light begins blinking.
2. Release the Start Copy button.

   The supplies status page prints with the printer configuration page.

Step one: Print the supplies status page (2-line and touchscreen control panels)

1. On the printer control panel, open the Setup menu.
2. Open the Reports menu.
3. **2-line control panels**: Open the **Supplies Status** menu, press the OK button, select **Print Supplies status page** item, and then press the OK button.

   Touchscreen control panels: Touch Supplies Status.

Step two: Check supplies status

1. Look at the supplies status report to check the percent of life remaining for the toner cartridges and if applicable, the status of other replaceable maintenance parts.

   Print quality problems can occur when using a toner cartridge that is at its estimated end of life. The supplies status page indicates when a supply level is very low. After an HP supply has reached the very low threshold, HP's premium protection warranty on that supply has ended.

   The toner cartridge does not need to be replaced now unless the print quality is no longer acceptable. Consider having a replacement available to install when print quality is no longer acceptable.

   If you determine that you need to replace a toner cartridge or other replaceable maintenance parts, the supplies status page lists the genuine HP part numbers.
2. Check to see if you are using a genuine HP cartridge.

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

Clean the printer (M101/M106)

Print a cleaning page

1. Open the HP Printer Assistant.
   - **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
   - **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
   - **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
2. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.
3. On the **Systems** tab, click **Service**.
4. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.

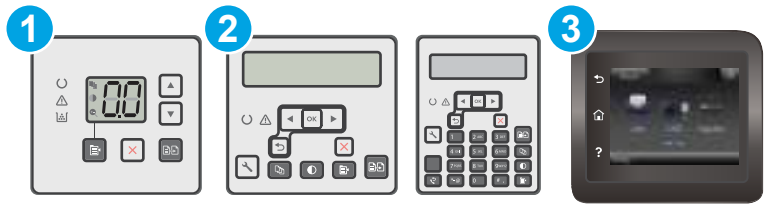
Clean the printer (M129/M134)

Print a cleaning page

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

Use the following procedure to print a cleaning page.

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



1	LED control panel
2	2-line control panel
3	Touchscreen control panel

LED control panels:

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

- **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
- **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
- **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.

b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

2. Click the **System** tab, and then select the **Service** page.
3. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.

2-line and touchscreen control panels

1. On the printer control panel, open the Setup menu.
2. Open the following menus:
   - Service
   - Cleaning Page
3. Load plain letter or A4 paper when you are prompted, and then press the OK button.

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

Visually inspect the toner cartridge and imaging drum

Follow these steps to inspect each toner cartridge and imaging drum.

1. Remove the toner cartridge and imaging drum 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 and imaging drum.
5. Reinstall the toner cartridge and imaging drum, 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

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.

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- 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.

Check other print job settings

Check the EconoMode settings

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

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

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

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab, and then locate the **Quality Settings** area.
   - If the entire page is too dark, select the **EconoMode** setting.
   - If the entire page is too light, select the **FastRes 1200** setting.
4. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog, click the **OK** button to print the job.

Use the HP Embedded Web Server (EWS) to improve print quality

Adjust print modes or enable optimize settings to solve image-quality problems.

IMPORTANT: Only adjust print modes or enable optimize settings if there are print-quality problems.

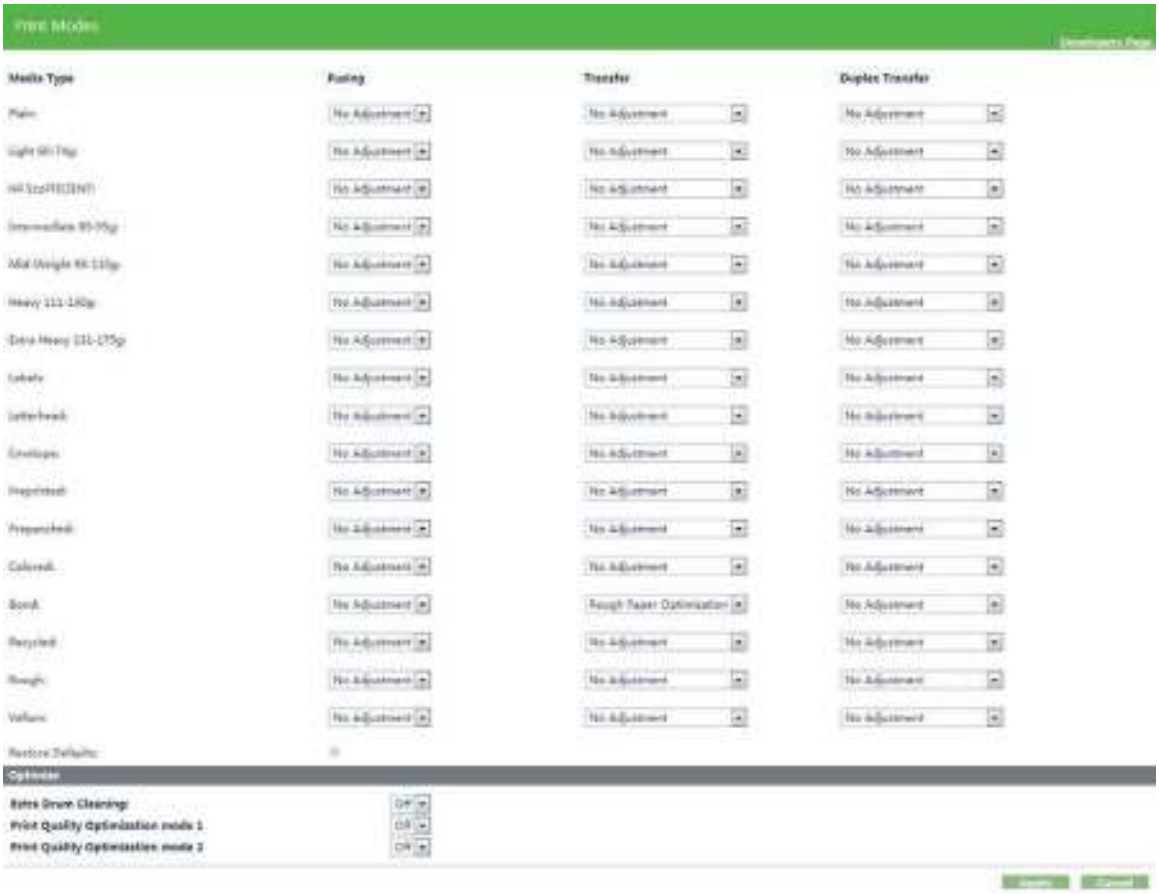
1. Print a configuration report to obtain the printer IP address.

   TIP: The printer IP address is located in the product settings section of the configuration report.

2. Open a web browser, and in the address line, type the IP address exactly as it displays on the printer configuration page. Add `/developer/printModes.html` after the IP address.
3. Press the Enter key on the computer keyboard. The EWS **Print modes** page opens.

4. Adjust the appropriate print mode or enable an optimize setting, and then click **Apply**.

Figure 2-18 Print mode and optimize EWS page



Print quality troubleshooting guide

- Image defects table
- Product specific image defects
  - Repetitive image defect ruler
  - Print quality troubleshooting guide

Image defects table

Table 2-29 Image defects table quick reference

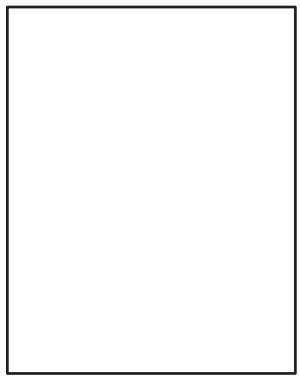
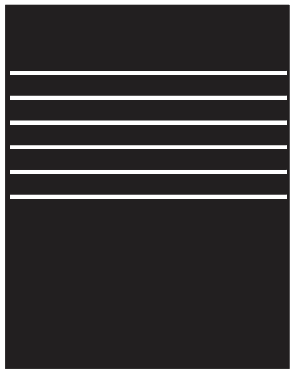
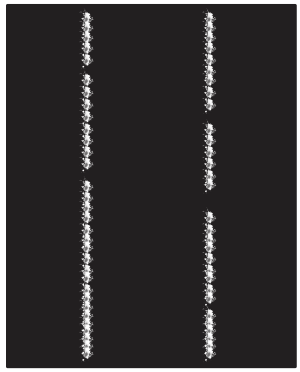
Table 2-30 Light print on page 137	Table 2-31 Gray background or dark print on page 137	Table 2-32 Blank page — No print on page 138 
Table 2-33 Black page on page 138	Table 2-34 Banding defects on page 139 	Table 2-35 Streak defects on page 139 

Table 2-29 Image defects table quick reference (continued)

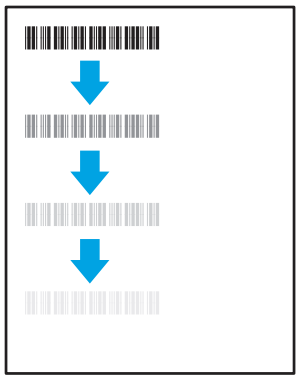
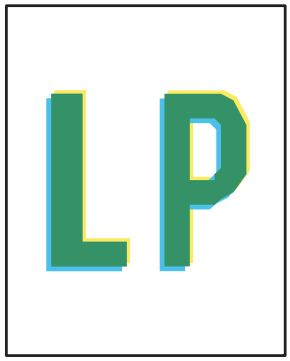
Table 2-36 Fixing/fuser defects on page 140	Table 2-37 Image placement defects on page 140	Table 2-38 Color plane registrations defects (color models only) on page 141
		

Table 2-39 Output defects on page 141

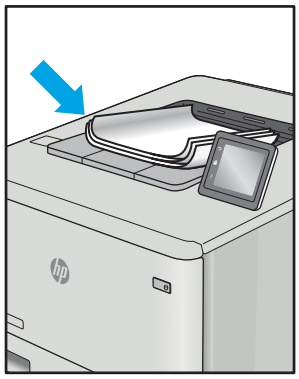


Image defects, no matter the cause, can often be resolved using the same steps. Use the following steps as a starting point for solving image defect issues.

1. Reprint the document. Print quality defects can be intermittent in nature or can go away completely with continued printing.
2. Check the condition of the cartridge or cartridges. If a cartridge is in a **Very Low** state (it has passed the rated life), replace the cartridge.
3. Make sure that the driver and tray print mode settings match the media that is loaded in the tray. Try using a different ream of media or a different tray. Try using a different print mode.
4. Make sure 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 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 2-30 Light print

Description	Sample	Possible solutions
Light print: The printed content on the entire page is light or faded.		1. Reprint the document. 2. Remove the cartridge, and then shake it to redistribute the toner. 3. **Mono models only:** Make sure that the Economode setting is disabled both at the printer control panel and in the print driver. 4. Make sure that the cartridge is installed correctly. 5. Print a Supply status page and check for life and usage of the cartridge. 6. Replace the cartridge. 7. If the problem persists, go to support.hp.com.

Table 2-31 Gray background or dark print

Description	Sample	Possible solutions
Gray background or dark print: The image or text is darker than expected.		1. Make sure that the paper in the trays has not already been run through the printer. 2. Use a different paper type. 3. Reprint the document. 4. **Mono models only:** From the Home screen on the printer control panel, go to the Adjust Toner Density menu, and then adjust the toner density to a lower level. 5. Make sure that the printer is in within the supported operating temperature and humidity range. 6. Replace the cartridge. 7. If the problem persists, go to support.hp.com.

Table 2-32 Blank page — No print

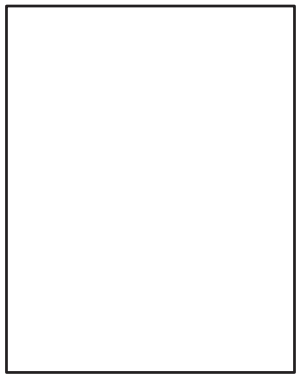
Description	Sample	Possible solutions
Blank page — No print: The page is completely blank and contains no printed content.		1. Make sure that the cartridge is genuine HP cartridges. 2. Make sure that the cartridge is installed correctly. 3. Print with a different cartridge. 4. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a lighter paper type. 5. If the problem persists, go to support.hp.com.

Table 2-33 Black page

Description	Sample	Possible solutions
Black page: The entire printed page is black.		1. Visually inspect the cartridge to check for damage. 2. Make sure that the cartridge is installed correctly. 3. Replace the cartridge 4. If the problem persists, go to support.hp.com.

Table 2-34 Banding defects

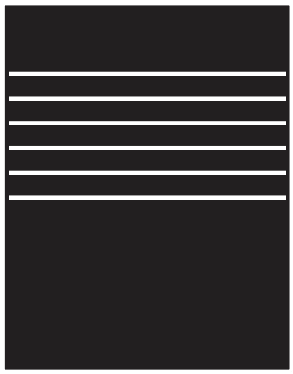
Description	Sample	Possible solutions
Repetitive wide-pitch banding and Impulse bands: Dark or light lines which repeat down the length of the page. They might be sharp or soft in nature. The defect displays only in areas of fill, not in text or sections with no printed content.		1. Reprint the document. 2. Try printing from another tray. 3. Replace the cartridge. 4. Use a different paper type. 5. **Enterprise models only:** From the Home screen on the printer control panel, go to the Adjust Paper Types menu, and then choose a print mode that is designed for a slightly heavier media than what you are using. This slows the print speed and might improve the print quality. 6. If the problem persists, go to support.hp.com.

Table 2-35 Streak defects

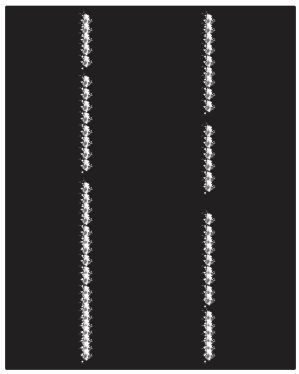
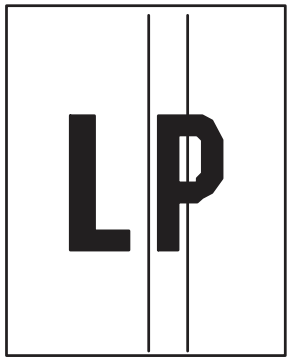
Description	Sample	Possible solutions
Light vertical streaks: Light streaks that usually span the length of the page. The defect displays only in areas of fill, not in text or sections with no printed content.		1. Reprint the document. 2. Remove the cartridge, and then shake it to redistribute the toner. 3. If the problem persists, go to support.hp.com. **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.
Dark vertical streaks and ITB cleaning streaks (color models only): 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.		1. Reprint the document. 2. Remove the cartridge, and then shake it to redistribute the toner. 3. Print a cleaning page. 4. Check the toner level in the cartridge. 5. If the problem persists, go to support.hp.com.

Table 2-36 Fixing/fuser defects

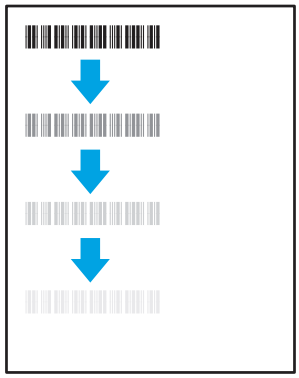
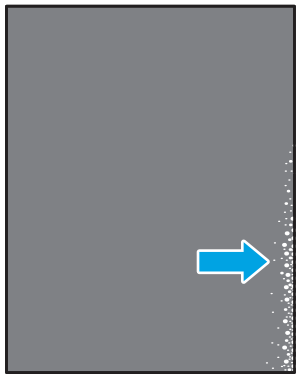
Description	Fixing/fuser	Possible solutions
Hot fuser offset (shadow): Slight shadows, or offsets, of the image repeated down the page. The repeated image might fade with each recurrence.		1. Reprint the document. 2. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a lighter paper type. 3. If the problem persists, go to support.hp.com.
Poor fusing: 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.		1. Reprint the document. 2. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a heavier paper type. 3. **Enterprise models only:** From the printer control panel, go to the Edge-to-Edge menu and then select Normal. Reprint the document. 4. **Enterprise models only:** From the printer control panel, select Auto Include Margins and then reprint the document. 5. If the problem persists, go to support.hp.com.

Table 2-37 Image placement defects

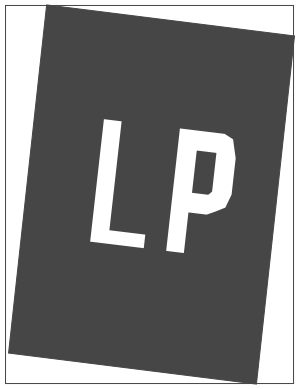
Description	Sample	Possible solutions
Margins and skew: The image is not centered, or is skewed on the page. The defect occurs when the paper is not positioned properly as it is pulled from the tray and moves through the paper path.		1. Reprint the document. 2. Remove the paper and then reload the tray. Make sure that all the paper edges are even on all sides. 3. Make sure that the top of the paper stack is below the tray full indicator. Do not overfill the tray. 4. Make sure that the paper guides are adjusted to the correct size for the paper. Do not adjust the paper guides tightly against the paper stack. Adjust them to the indentations or markings in the tray. 5. If the problem persists, go to support.hp.com.

Table 2-38 Color plane registrations defects (color models only)

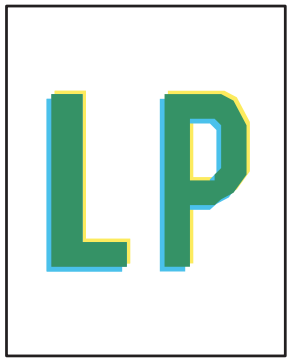
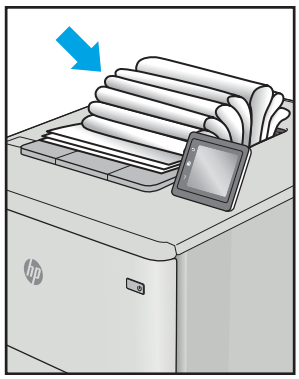
Description	Sample	Possible solutions
Color plane registrations: One or more color of the planes is not aligned with the other color planes. The primary error will typically occur with yellow.		1. Reprint the document. 2. From the printer control panel, calibrate the printer. 3. If a cartridge has reached a **Very Low** state or the printed output is severely faded, replace the cartridge. 4. From the printer control panel use the Restore Calibration feature to reset the printer's calibration settings to the factory defaults. 5. If the problem persists, go to support.hp.com.

Table 2-39 Output defects

Description	Sample	Possible solutions
Output curl: 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: • **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.		1. Reprint the document. 2. **Positive curl:** From the printer control panel, select a heavier paper type. The heavier paper type creates a higher temperature for printing. **Negative curl:** From the printer control panel, select a lighter paper type. The lighter paper type creates a lower temperature for printing. Try storing the paper in a dry environment prior or use freshly opened paper. 3. Print in duplex mode. 4. If the problem persists, go to support.hp.com.
Output stacking: 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: • 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		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 support.hp.com.

Product specific image defects

- Repetitive image defect ruler
- Print quality troubleshooting guide

Repetitive image defect ruler

Defects on printer rollers can cause image defects to appear at regular intervals on the page, corresponding to the circumference of the roller that is causing the defect. Measure the distance between defects that recur on a page (See Use a ruler to measure between repetitive defects on page 143). Use the following table or the repetitive-defect ruler to determine which roller is causing the defect. To resolve the problem, try cleaning the roller first. If the roller remains dirty after cleaning or if it is damaged, replace the part that is indicated in the following table.

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

NOTE: The following table replaces the graphical repetitive defect ruler. You can make your own ruler by using these measurements. For the most accurate results, use a metric ruler.

Figure 2-19 Repetitive image defect ruler

Table 2-40 Repetitive defects

Component[1]	Distance between defects
D roller	25.5 mm (1.00 in)
C roller	27.7 mm (1.09 in)

Table 2-40 Repetitive defects (continued)

Component[1]	Distance between defects
FD roller	30.11 mm (1.85 in)
Delivery roller	42.37 mm (1.67 in)
Pressure roller[1]	44.16 mm (1.74 in)
Duplex roller[1]	55.6 mm (2.19 in)
Fuser film	56.5 mm (2.22 in)
OPC	62.8 to 62.83 mm (2.47 in)
Pickup roller	74.15 mm (2.91 in)

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

Use a ruler to measure between repetitive defects

The figures in this section show color repetitive defect pages. However, the process for measuring repetitive defects is valid for mono pages.

1. Identify a repetitive defect on the page.

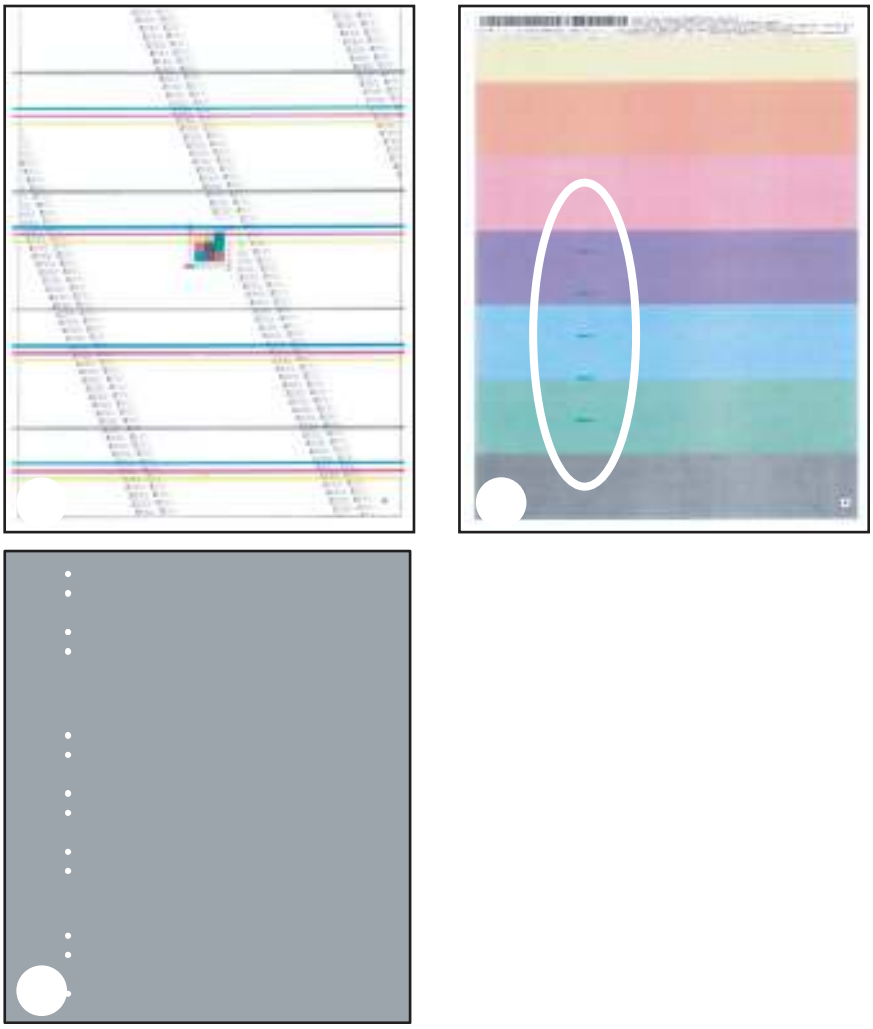
TIP: Print a cleaning page to see if that resolves the defect.

The example pages below show the following types of repetitive defects.

NOTE: These are examples only, other types of repetitive defects might appear on a page.

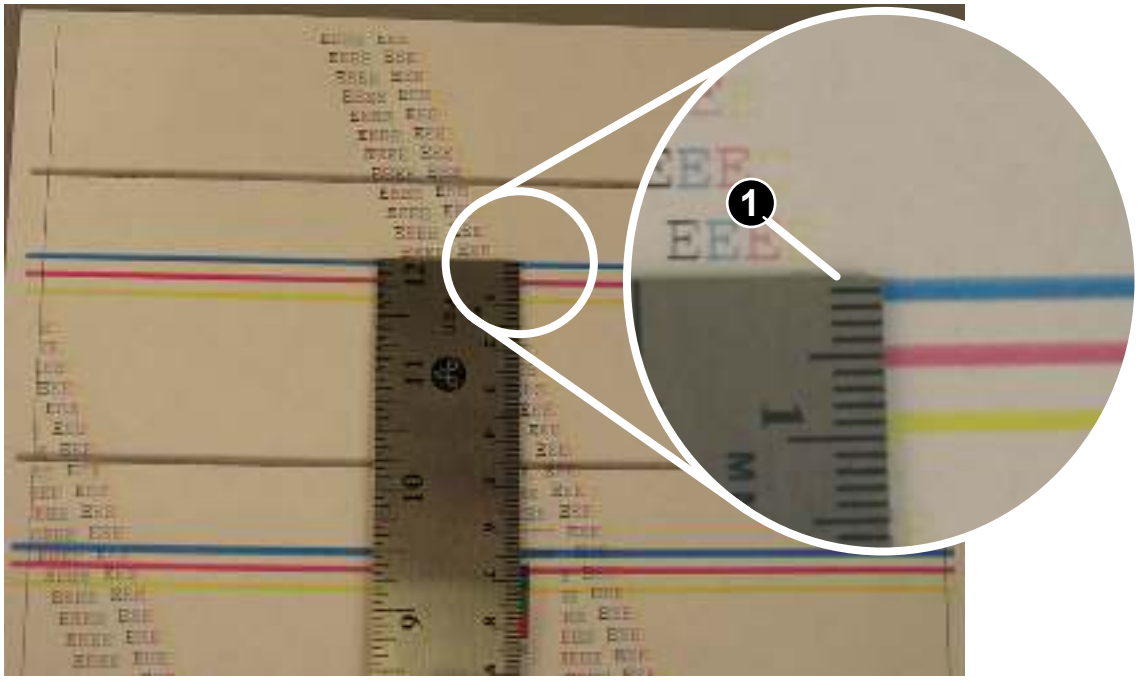
- Lines (callout 1)
- Smudges (callout 2)
- Dots or spots (callout 3)

Figure 2-20 Examples of repetitive defects



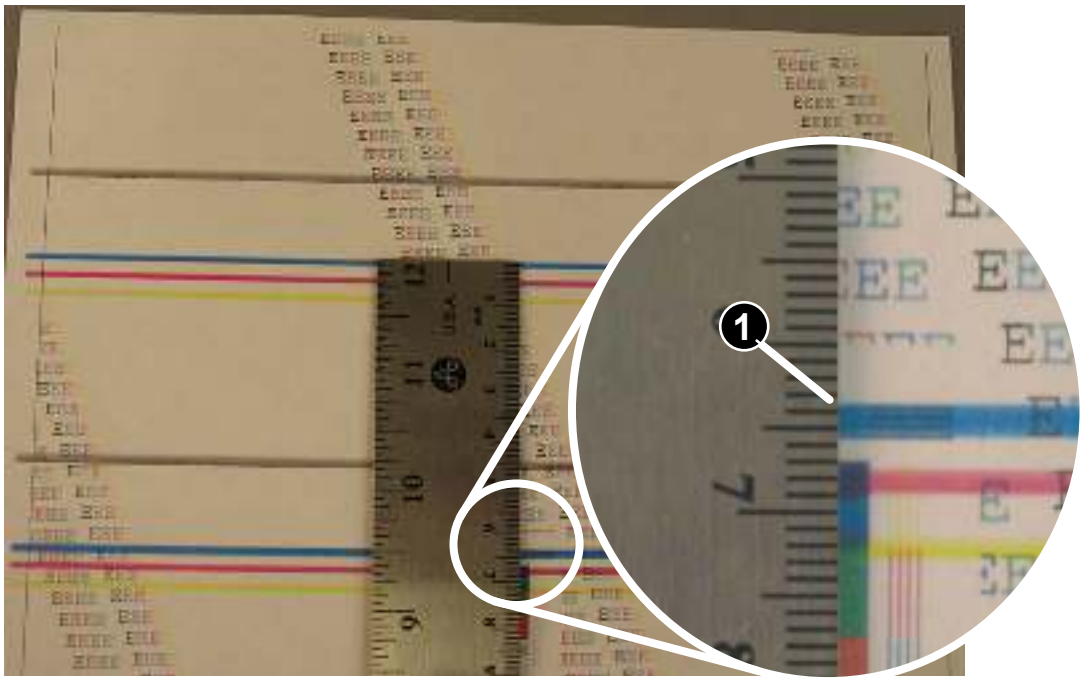
2. Position a metric ruler on the page with the “zero” ruler mark at one occurrence of the defect (callout 1).

Figure 2-21 Place the ruler on the page



3. Locate the next occurrence of the defect (callout 1).

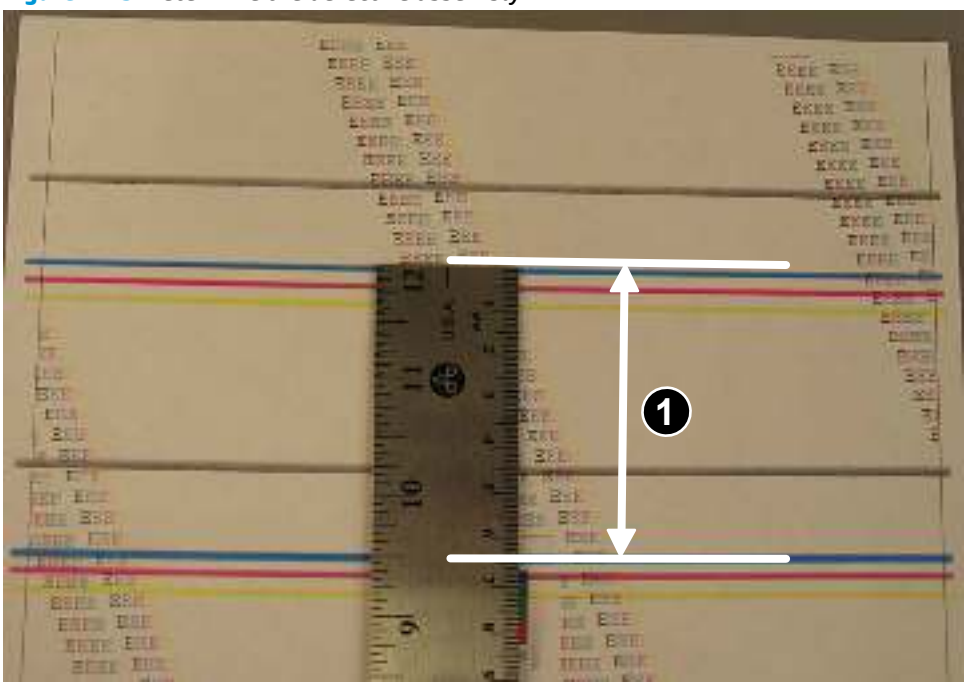
Figure 2-22 Locate the next repetitive defect



4. Measure the distance (in millimeters) between the two occurrences (callout 1), and then use Table 2-40 Repetitive defects on page 142 to determine the defective assembly.

TIP: Always measure from and to the same point on the defects. For example, if the ruler is “zeroed” at the top edge of a defect, measure to the top edge of the next occurrence of that defect.

Figure 2-23 Determine the defective assembly

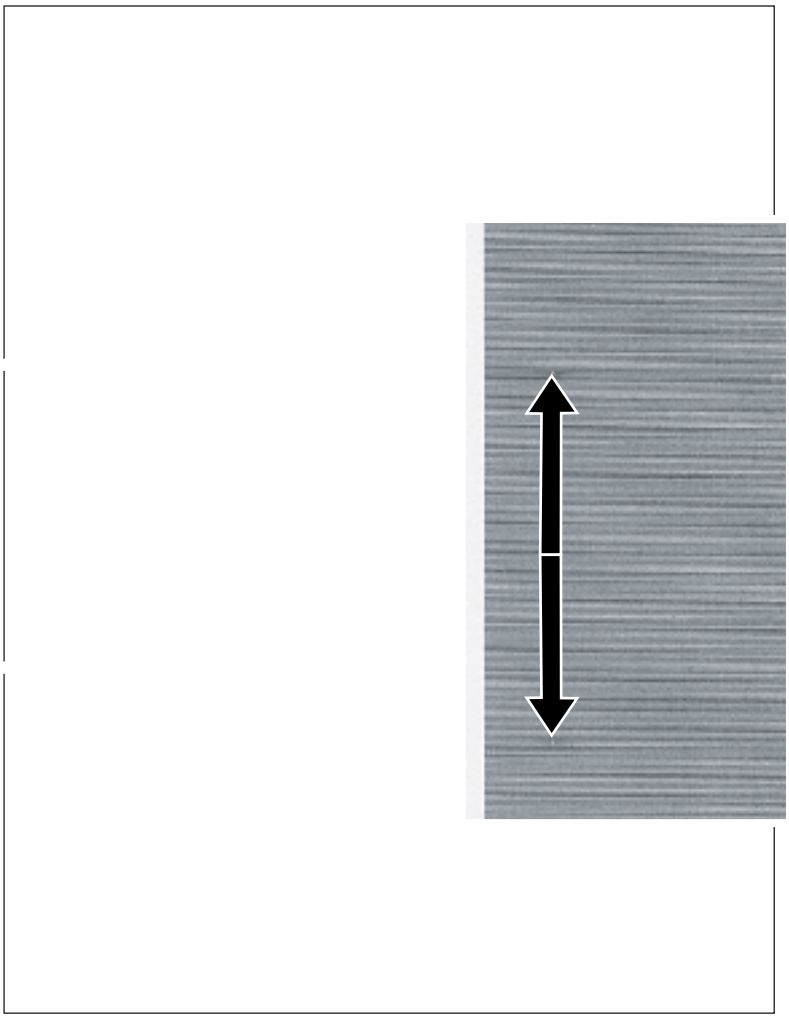


Print quality troubleshooting guide

- OPC short
- White blotches at low temperature
- OPC drum ghost
- Toner block contamination on the exit roller
- Cartridge coupling defect (1 of 2)
- Cartridge coupling defect (2 of 2)
- Toner contamination
- Sharp vertical streaks

OPC short

Figure 2-24 OPC short



Description

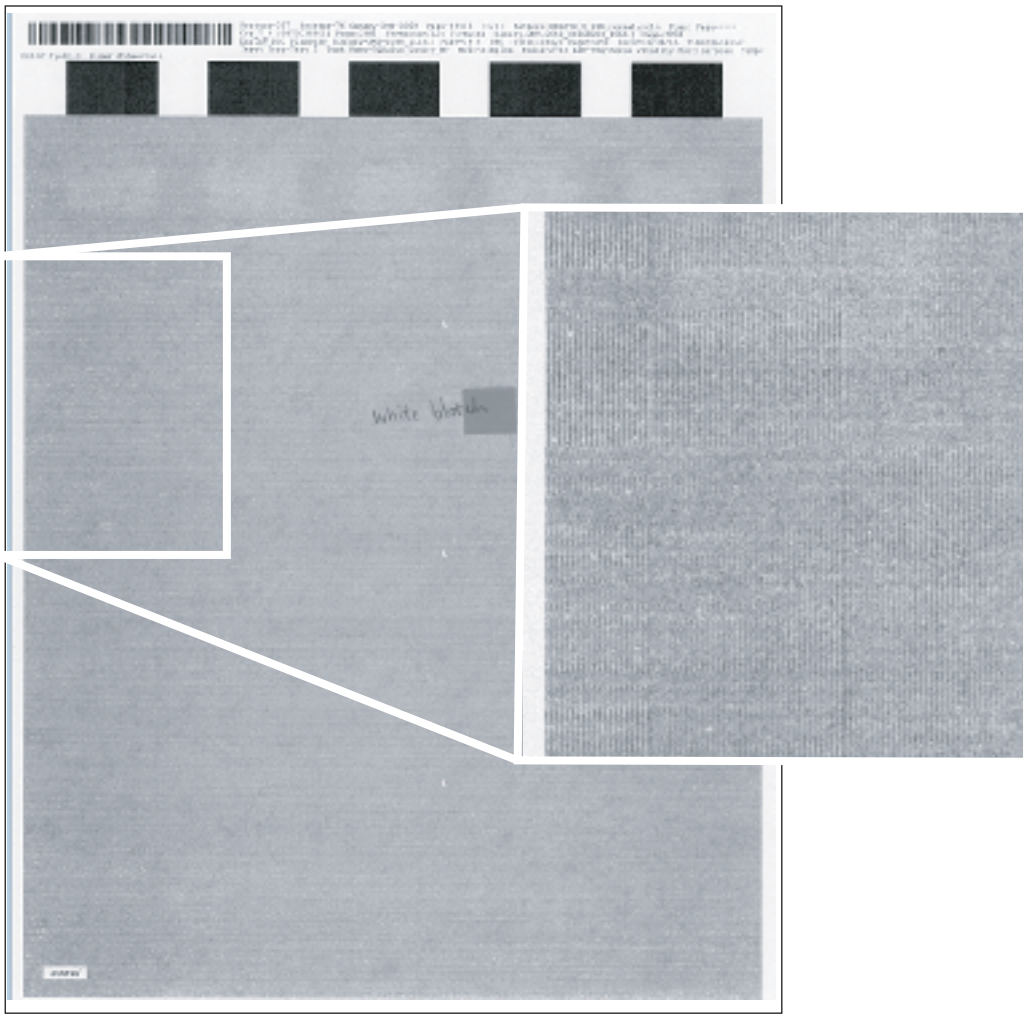
Repeating white point defect with 63 mm (2.48 in) spacing, with darker surrounding area.

Solution

Replace the OPC drum (image cartridge).

White blotches at low temperature

Figure 2-25 White blotches



Description

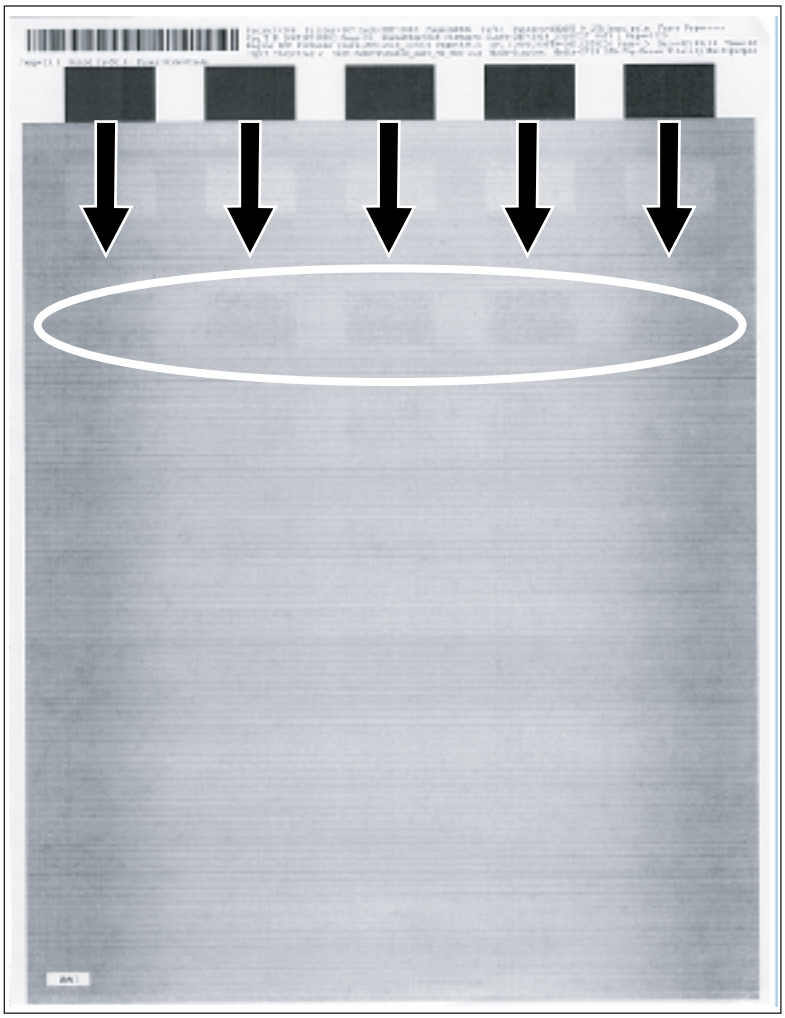
Blotchy white defects, particularly occurring in a low temperature/humidity environment.

Solution

- Make sure the environment where the printer is installed meets HP specifications.
- Open the HP Embedded Web Server (EWS) and change the print mode to **Print Quality Optimize Mode 2**.

OPC drum ghost

Figure 2-26 OPC drum ghost



Description

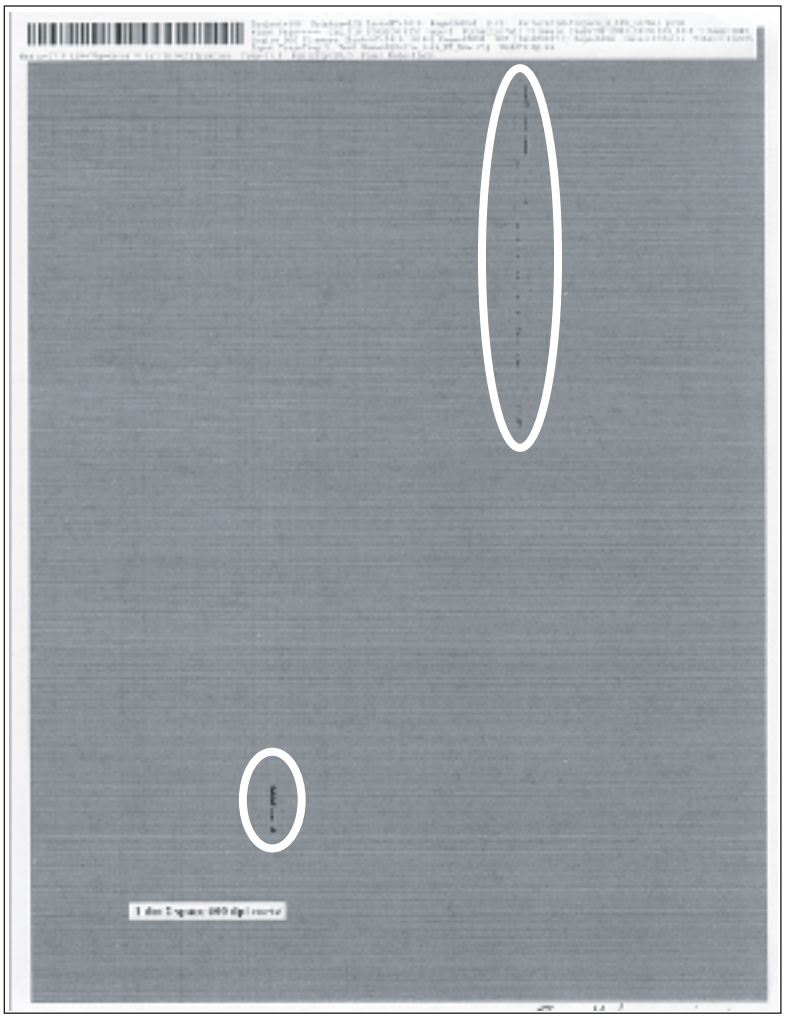
Dark ghost like defect with 63 mm (2.48 in) spacing from a black feature on the page.

Solution

Open the HP Embedded Web Server (EWS) and change the print mode to **Print Quality Optimize Mode 1**.

Toner block contamination on the exit roller

Figure 2-27 Toner block contamination



Description

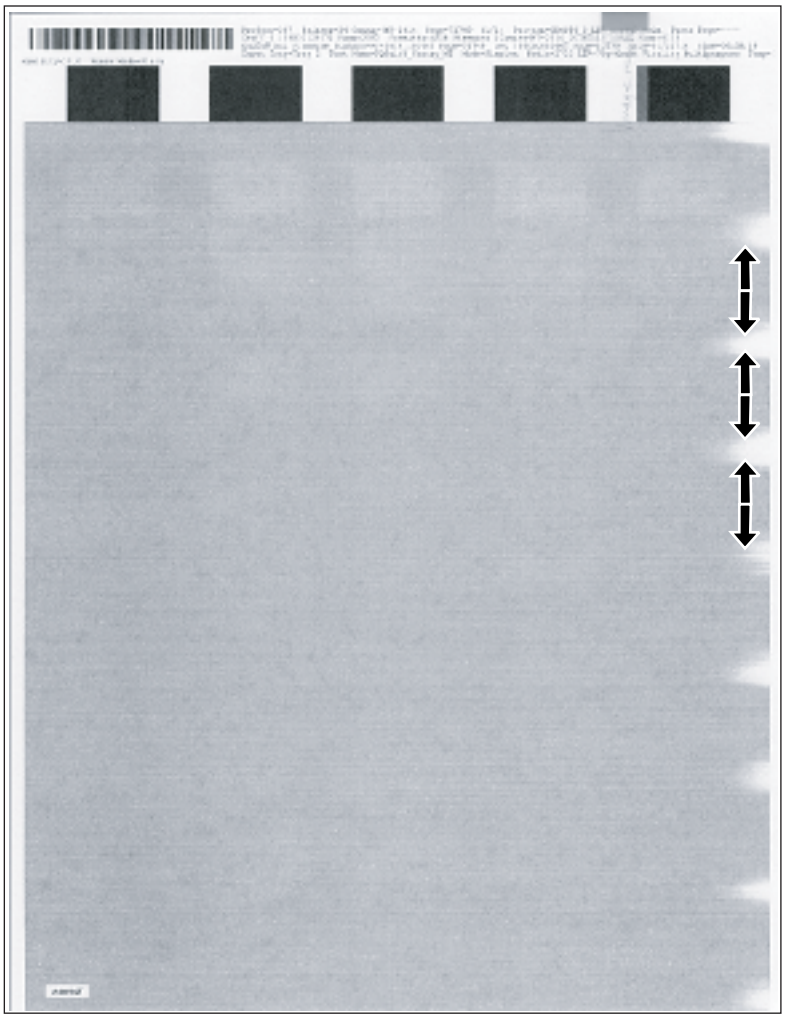
Residue toner on the page with parallel vertical distribution spaced about 60 mm (2.36 in) apart.

Solution

Clean any residual toner off of the exit roller.

Cartridge coupling defect (1 of 2)

Figure 2-28 Cartridge coupling (1 of 2)



Description

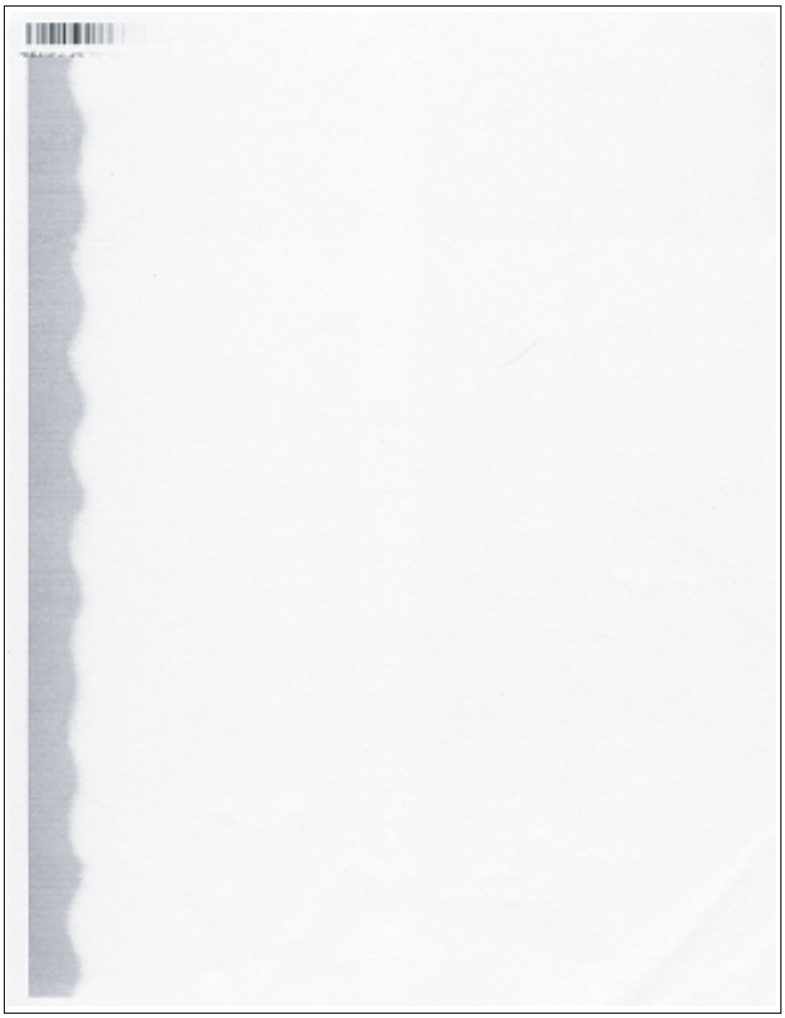
Repeating white defect with 26 mm (1.02 in) spacing along the right edge of the page.

Solution

Remove, and then reinstall the toner and image cartridges.

Cartridge coupling defect (2 of 2)

Figure 2-29 Cartridge coupling (2 of 2)



Description

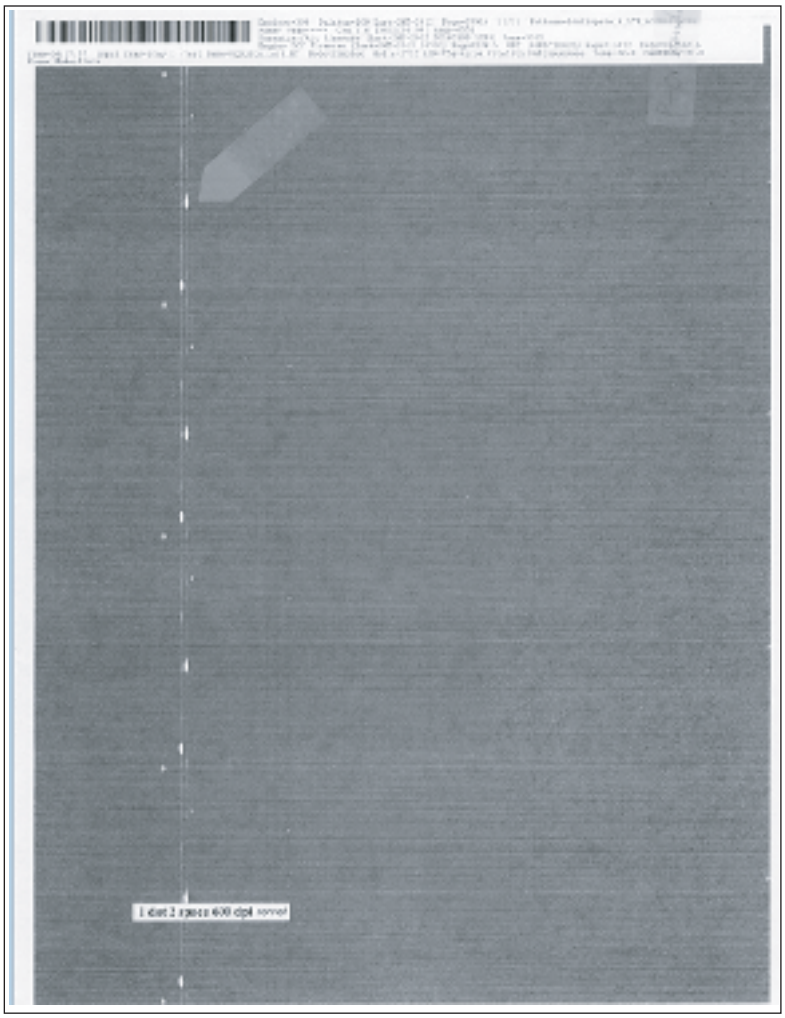
Missing image from the center to right side of the page (might have a wavy boundary).

Solution

Remove, and then reinstall the toner and image cartridges.

Toner contamination

Figure 2-30 Toner contamination



Description

This defect appears as repeating dots.

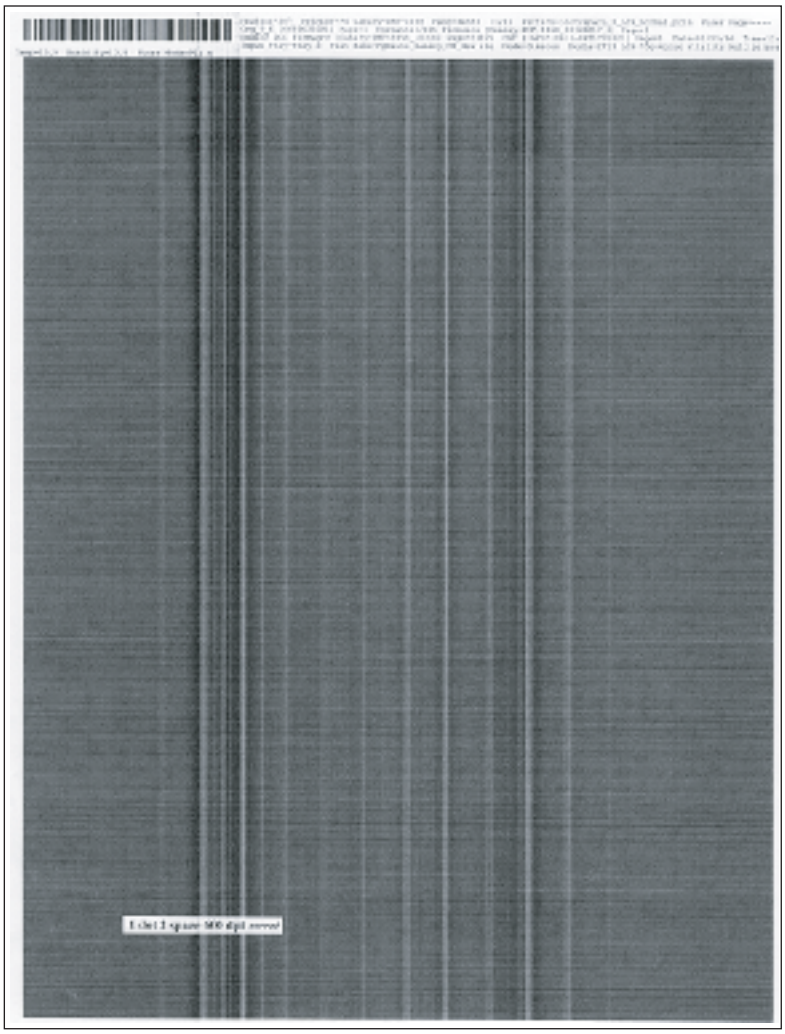
Solution

Open the HP Embedded Web Server (EWS) and select **Clean Mode**.

If the error persists after printing a few more pages, replace the OPC drum (image cartridge).

Sharp vertical streaks

Figure 2-31 Vertical streaks



Description

This defect appears as distinct vertical streak (not thin lines).

Solution

Replace the toner and image cartridges.

If the error persists after printing a few more pages, check the laser scanner assembly.

Improve copy and scan image quality (M129/M134)

Introduction

If the printer is having image quality problems, 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

Try these few simple steps first:

- Use the flatbed scanner rather than the document feeder.
- Use high-quality originals.
- When using the document feeder, load the original document into the feeder correctly, using the paper guides, to avoid unclear or skewed images.

If the problem still exists, try these additional solutions. If they do not fix the problem, see “Improve print quality” for further solutions.

Check the scanner glass for dirt and smudges

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.

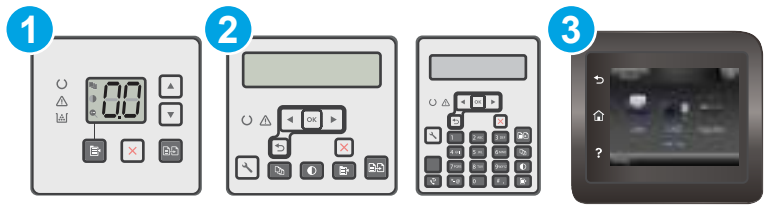
1. Press the power button to turn the printer off, and then disconnect the power cable from the electrical outlet.
2. Open the scanner lid.
3. Clean the scanner glass and the white plastic backing underneath the scanner lid with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

   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

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



1	LED control panel
2	2-line control panel
3	Touchscreen control panel

LED control panels

1. Open the HP Embedded Web Server (EWS):
   a. Open the HP Printer Assistant.
      - **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
      - **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
      - **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
   b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.
2. On the **Systems** tab, click **Paper Setup**.
3. Change the necessary settings, and then click **Apply**.

LCD control panels

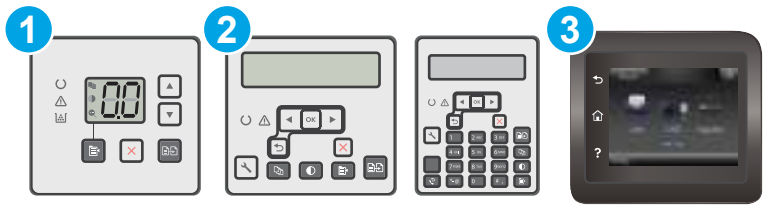
1. On the printer control panel, press the Setup button.
2. Open the following menus:
   - **System Setup**
   - **Paper Setup**
3. Select **Def. paper size**.
4. Select the name of the paper size that is in the input tray, and then press the OK button.
5. Select **Def. paper type**.
6. Select the name of the paper type that is in the input tray, and then press the OK button.

Touchscreen control panels

1. From the Home screen on the product control panel, touch the Setup button.
2. Open the following menus:
   - System Setup
   - Paper Setup
3. Select the Paper Size option, and then touch the name of the paper size that is in the input tray.
4. Select the Paper Type option, and then touch the name of the paper type that is in the input tray.

Optimize for text or pictures

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



1	LED control panel
2	2-line control panel
3	Touchscreen control panel

LED control panels

1. Open the HP Embedded Web Server (EWS):
   a. Open the HP Printer Assistant.
      - **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
      - **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
      - **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
   b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.
2. On the **Copy** tab, select the **Optimize** drop-down list.
3. Select the setting you want to use.
   - **Auto Select**: Use this setting when you are not concerned about the quality of the copy. This is the default setting.
   - **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**.

2-line control panels

1. On the printer control panel, press the Copy Menu button.
2. To optimize copy quality for different types of documents, use the arrow keys to select the **Optimize** menu, and then press the OK button. The following copy-quality settings are available:
   - **Auto Select**: Use this setting when you are not concerned about the quality of the copy. This is the default setting.
   - **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.

Touchscreen control panels

1. From the Home screen on the printer control panel, touch the Copy icon.
2. Touch the Settings button, and then scroll to and touch the Optimize button.
3. Touch the name of the setting you want to adjust.
   - Auto Select: Use this setting when you are not concerned about the quality of the copy. This is the default setting.
   - 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.

Edge-to-edge copying

The printer cannot print fully edge-to-edge. There is a 4 mm (1/6 inch) 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 inch) 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

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 and image drum cartridge is changed or whenever print-quality 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.

Print a cleaning page (M101/M106)

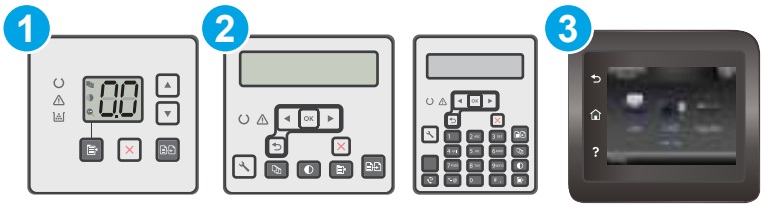
1. Open the HP Printer Assistant.
   - **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
   - **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
   - **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.
2. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.
3. On the **Systems** tab, click **Service**.
4. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.

Print a cleaning page (M129/M134)

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

Use the following procedure to print a cleaning page.

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



1	LED control panel
2	2-line control panel
3	Touchscreen control panel

LED control panels:

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

   a. Open the HP Printer Assistant.

   - **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
   - **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
   - **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.

   b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

2. Click the **System** tab, and then select the **Service** page.
3. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.

2-line and touchscreen control panels

1. On the printer control panel, open the Setup menu.
2. Open the following menus:
   - Service
   - Cleaning Page
3. Load plain letter or A4 paper when you are prompted, and then press the OK button.

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

Clean the pickup roller and separation pad

1. Turn off the printer, unplug the power cable from the printer, and then remove the roller (from inside the printer) and pad assembly (from the bottom of the printer).
2. Dab a lint-free cloth in isopropyl alcohol, and then scrub the roller and pad.

   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.

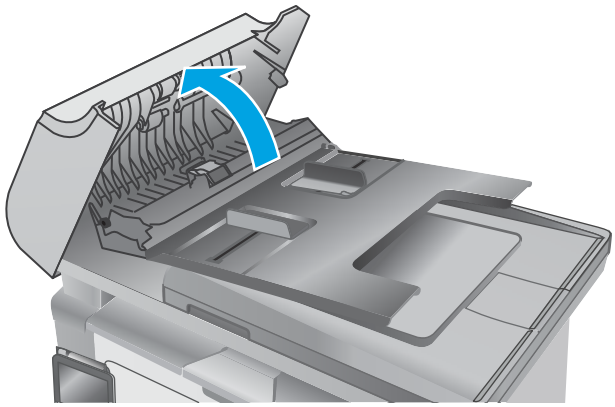
   NOTE: In certain areas of California (USA), air pollution control regulations restrict the use of liquid isopropyl alcohol (IPA) as a cleaning agent. In those areas of California, please disregard the previous recommendations and use a dry, lint free cloth, moistened with water, to clean the pickup roller.

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

Clean the pickup rollers and separation pad in the document feeder

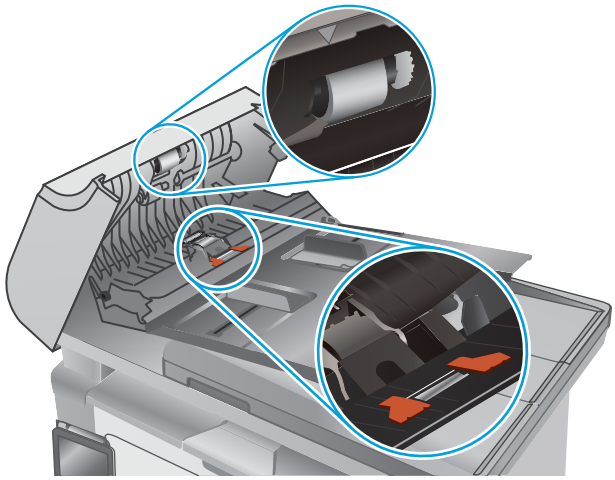
If the document feeder experiences paper-handling problems, such as jams or multiple-page feeds, clean the document-feeder rollers and separation pad.

1. Open the document-feeder access cover.

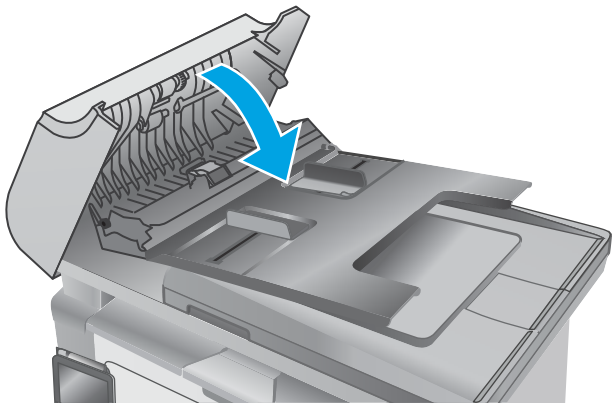


2. Use a moist, lint-free cloth to wipe both pickup rollers and the separation pad to remove dirt.

   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.



3. Close the document feeder access cover.



Check the scanner glass and white backing for dirt or 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 if the printed pages have streaks, unwanted lines, black dots, poor print quality, or unclear text.

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

   Clean the white plastic backing (callout 1) and the scanner glass (callout 2) with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

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

   NOTE: If you are having trouble with streaks on copies when you are using the document feeder model printer, be sure to clean the ADF replaceable film assembly on the left side of the scanner. See Clean the ADF replaceable film assembly on page 163.

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

   Close the scanner lid.

Figure 2-32 Clean the white plastic backing and the scanner glass

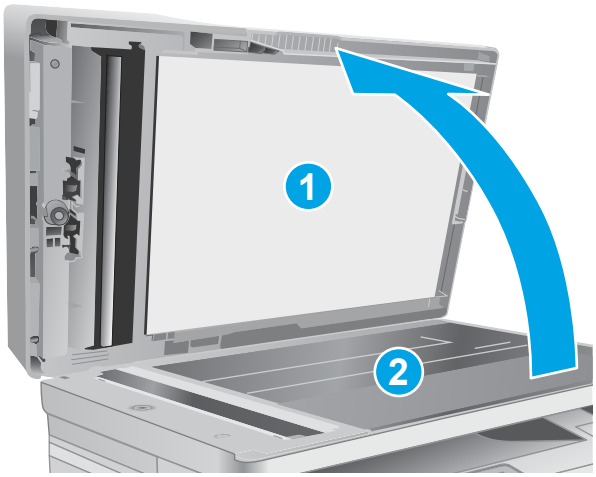
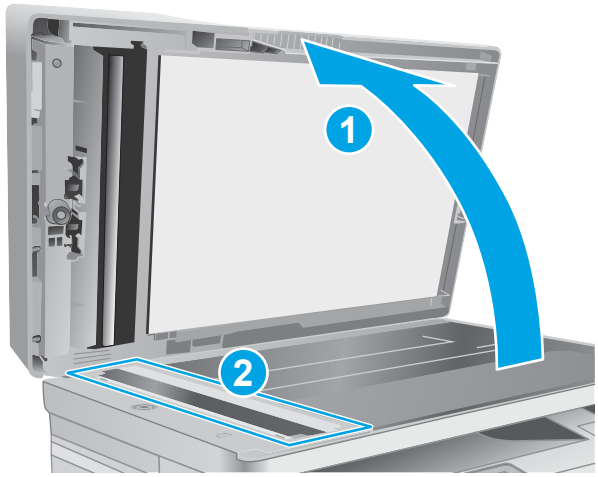


Figure 2-33 Dry the white plastic backing and the scanner glass

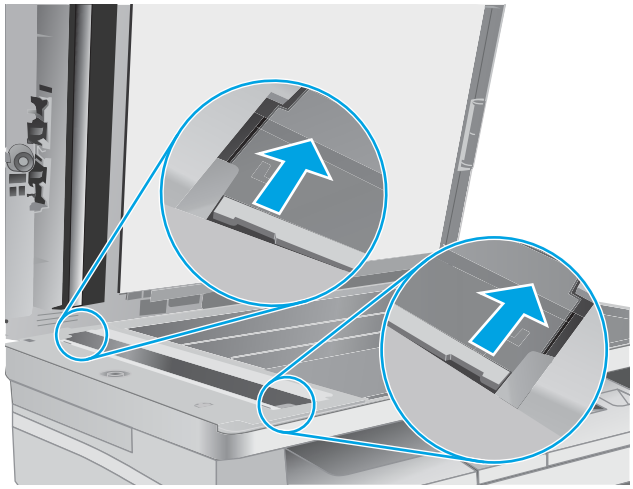
Clean the ADF replaceable film assembly

Over time, specks of debris might collect on the automatic document feeder (ADF) glass strip and replaceable film assembly, which can affect performance. Use the following procedure to clean the glass and film assembly.

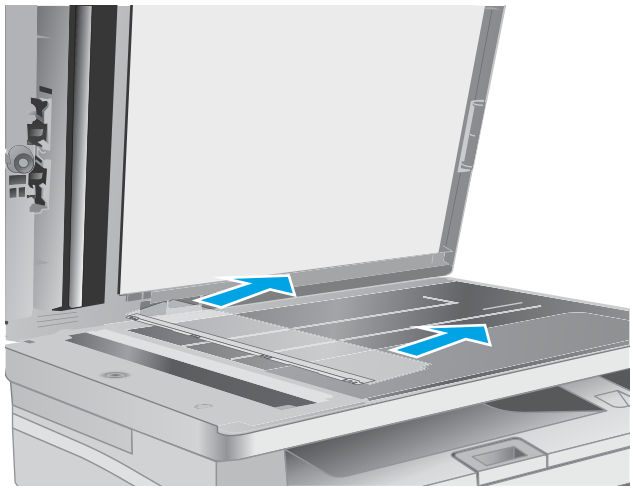
1. Open the scanner lid, and then locate the ADF replaceable film assembly.



2. Use two slots to pry the film assembly away from the scanner body.

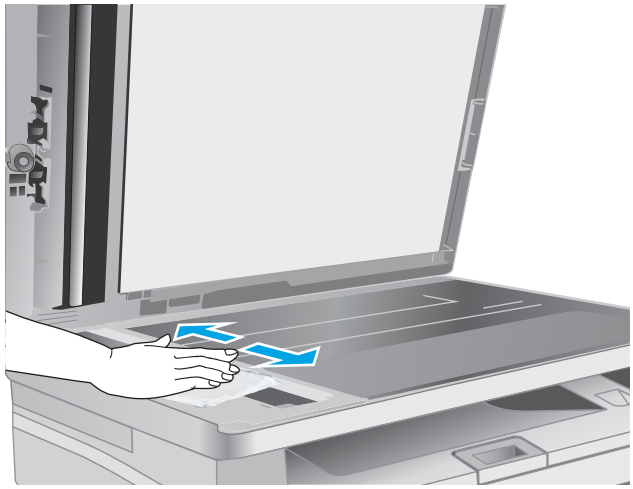


3. Slide the assembly in the direction indicated to remove it.

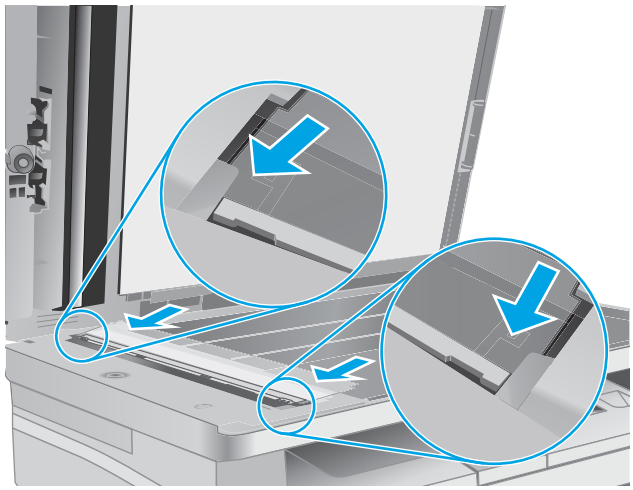


4. Clean the glass strip and the film assembly with a lint-free cloth.

   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.



5. Reinstall the film assembly. Make sure that the film slides underneath the tabs on each end of the scanner body.



6. Close the scanner lid.

Clean the touchscreen

Clean the touchscreen whenever it is necessary to remove fingerprints or dust. Wipe the touchscreen gently with a clean, water-dampened, lint-free cloth.

! **CAUTION:** Use water only. Solvents or cleaners can damage the touch screen. Do not pour or spray water directly onto the touchscreen.

Solve paper-handling problems

Printer feeds incorrect page size

Printer feeds incorrect page size

Cause	Solution
The correct size paper is not loaded in the tray.	Load the correct size paper in the tray.
The correct size paper is not selected in the software program or printer driver.	Confirm that the settings in the software program and printer driver are correct, because the software program settings override the printer driver and control panel settings, and the printer driver settings override the control panel settings.
The correct size paper for the tray is not selected in the printer control panel.	From the control panel, select the correct size paper for the tray.
The paper size is not configured correctly for the tray.	Print a configuration page or use the control panel to determine the paper size for which the tray is configured.
The guides in the tray are not against the paper.	Verify that the paper guides are touching the paper, but not so tightly that the paper is buckled.

Printer pulls from incorrect tray

Printer pulls from incorrect tray

Cause	Solution
You are using a driver for a different printer.	Use a driver for this printer.
The input tray is empty.	Load paper in the input tray.
The guides in the tray are not against the paper.	Verify that the guides are touching the paper.

Printer will not duplex or duplexes incorrectly

Printer will not duplex (print 2-sided jobs) or duplexes incorrectly

Cause	Solution
You are trying to duplex on unsupported paper.	Verify that the paper is supported for duplex printing.
The printer driver is not set up for duplex printing.	Set up the printer driver to enable duplex printing.
The printer model does not support automatic 2-sided printing.	Us the **Print on Both Sides Manually** item in the printer driver.

Paper does not feed from the input tray

Paper does not feed from the input tray

Cause	Solution
The correct size paper is not loaded.	Load the correct size paper.

Paper does not feed from the input tray

Cause	Solution
The input tray is empty.	Load paper in the input tray.
The correct paper type for the input tray is not selected in the printer driver.	Open the printer driver, select the correct paper size and type for the input tray.
Paper from a previous jam has not been completely removed.	Open the printer and remove any paper in the paper path.
The guides in the tray are not against the paper.	Verify that the guides are touching the paper.

Output is curled or wrinkled

Output is curled or wrinkled

Cause	Solution
Paper does not meet the specifications for this printer.	Use only paper that meets the HP paper specifications for this printer.
Paper is damaged or in poor condition.	Remove paper from the input tray and load paper that is in good condition.
Printer is operating in an excessively humid environment.	Verify that the printing environment is within humidity specifications.
You are printing large, solid-filled areas.	Large, solid-filled areas can cause excessive curl. Try using a different pattern.
Paper used was not stored correctly and might have absorbed moisture.	Remove paper and replace it with paper from a fresh, unopened package.
Paper has poorly cut edges.	Remove paper, flex it, rotate it 180 degrees or turn it over, and then reload it into the input tray. Do not fan paper. If the problem persists, replace the paper.
The paper has previously been used for a print job.	Do not re-use paper.

Printer does not pick up paper or misfeeds

The printer does not pick up paper

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

1. Open the printer and remove any jammed sheets of paper.
2. Load the tray with the correct size of paper for the job.
3. Make sure the paper size and type are set correctly on the printer control panel or in the printer driver.
4. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides to the appropriate indentation in the tray.
5. The pickup and feed rollers, or the separation pad might be contaminated. Clean the rollers and pad with a lint-free cloth dampened with warm water.

The printer picks up multiple sheets of paper

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

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

The document feeder jams, skews, or picks up multiple sheets of paper (MFP models)

- The original might have something on it, such as staples or self-adhesive notes, that must be removed.
- Make sure that the rollers and separation pad are installed correctly and that the document feeder access cover is fully closed..
- Make sure that the top document-feeder cover is closed.
- The pages might not be placed correctly. Straighten the pages and adjust the paper guides to center the stack.
- The paper guides must be touching the sides of the paper stack to work correctly. Make sure that the paper stack is straight and the guides are against the paper stack.
- The document feeder input tray or output bin might contain more than the maximum number of pages. Make sure the paper stack fits below the guides in the input tray, and remove pages from the output bin.
- Verify that there are no pieces of paper, staples, paper clips, or other debris in the paper path.
- Clean the document-feeder rollers and the separation pad. Use compressed air or a clean, lint-free cloth moistened with warm water. If misfeeds still occur, replace the rollers.

Paper does not feed automatically

Paper does not feed automatically

Cause	Solution
Manual feed is selected in the software program.	Load Tray 2 with paper, or, if the paper is loaded, press the OK button.
The correct size paper is not loaded.	Load the correct size paper.
The input tray is empty.	Load paper into the input tray.
Paper from a previous jam has not been completely removed.	Open the printer and remove any paper in the paper path.

Paper does not feed automatically

Cause	Solution
The paper size is not configured correctly for the input tray.	Print a configuration page or use the control panel to determine the paper size for which the tray is configured.
The guides in the tray are not against the paper.	Verify that the rear and width paper guides are touching the paper.

Clear paper jams (M101/M106)

Introduction

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

- Paper path jam sensor locations (M101/M106)
- Paper jam locations
- Experiencing frequent or recurring paper jams?
- Clear paper jams in the input tray
- Clear paper jams in the toner-cartridge area
- Clear paper jams in the output bin

Paper path jam sensor locations (M101/M106)

NOTE: Use the figures below to identify the locations of sensors where reoccurring jams are found.

Figure 2-34 Printer base jam sensors

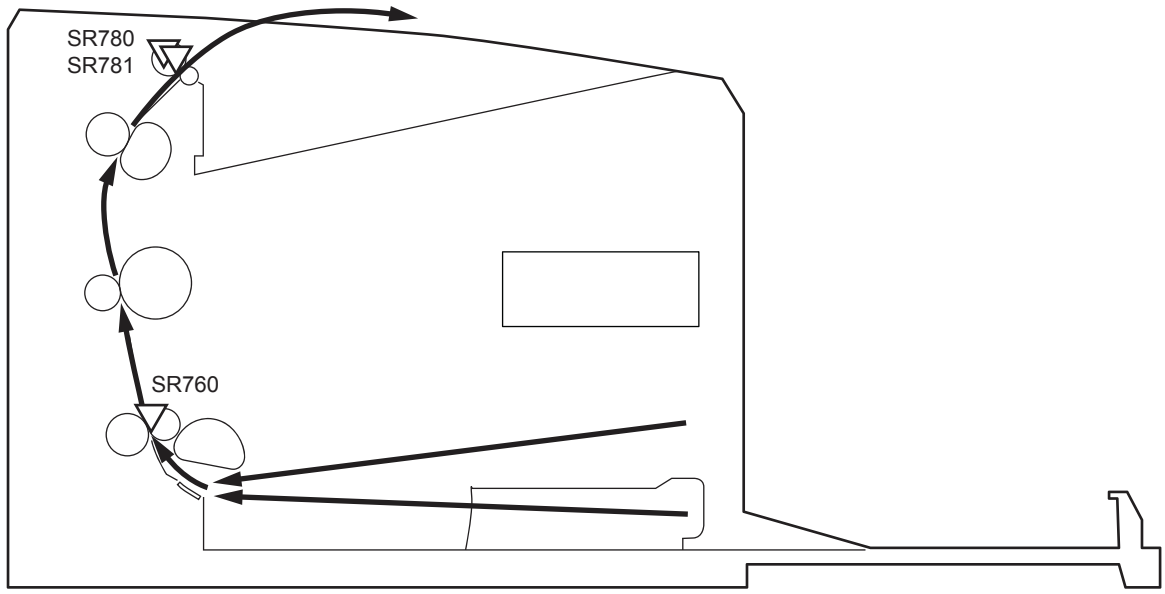
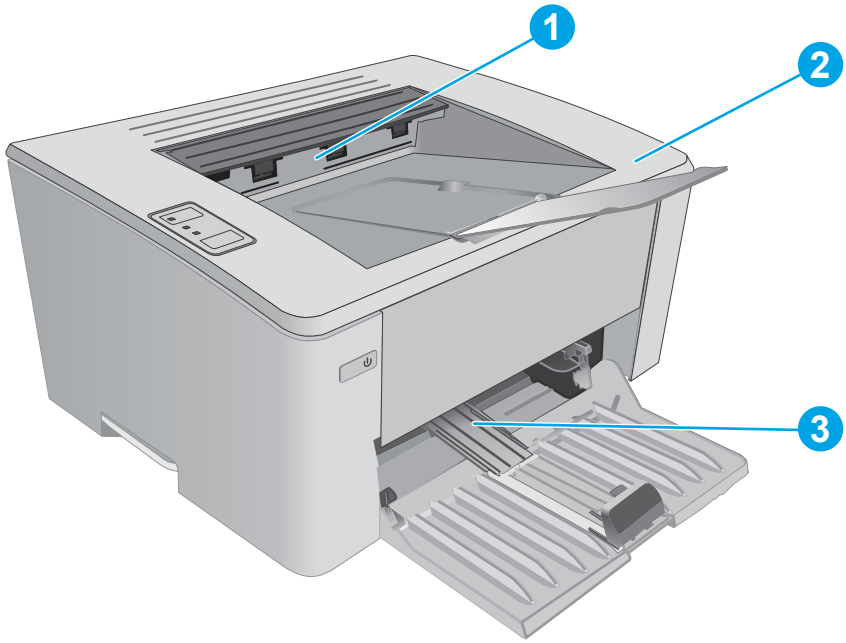


Table 2-41 Printer base jam sensors

Sensor	Description
SR760	Top-of-Page (TOP) sensor
SR780	Fuser output sensor
SR781	Fuser media width sensor

Paper jam locations



1	Output bin
2	Toner cartridge area
3	Main input tray or priority input tray (wireless models only)

Experiencing 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 tray is configured for the correct paper size and type in the HP Embedded Web Server (EWS). Adjust paper settings if necessary.

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

      ### Direct-connected printers

      i. Open the HP Printer Assistant.

         - **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
         - **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
         - **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.

      ii. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

      ### Network-connected printers

      i. Print a configuration page to determine the IP address or host name.

         1. Press and hold the Resume/Cancel button until the Ready light begins blinking.
         2. Release the Resume/Cancel button.

      ii. 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.

   b. Click the **System** tab, and then click the **Paper Setup** page.

   c. Select the type of paper that is in the tray.

   d. Select the size of paper that is in the tray.

3. Turn the printer off, wait 30 seconds, and then turn it on again.
4. Print a cleaning page to remove excess toner from inside the printer.

   a. Open the HP Printer Assistant.

- **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
- **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
- **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.

b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

c. On the **Systems** tab, click **Service**.

d. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.

5. Print a configuration page to test the printer.

a. Press and hold the Resume/Cancel button until the Ready light begins blinking.

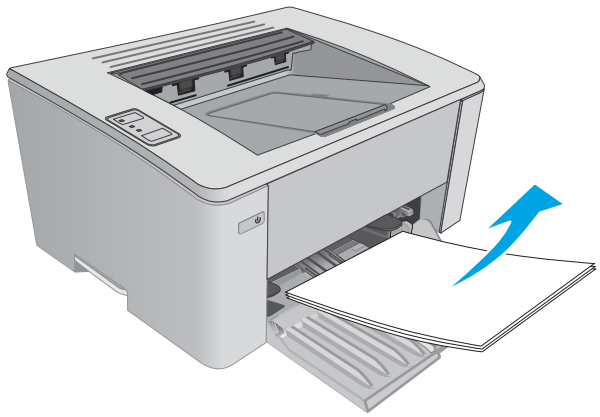
b. Release the Resume/Cancel button.

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

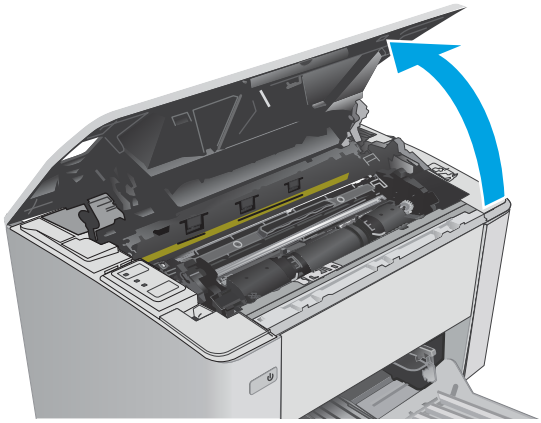
Clear paper jams in the input tray

When a jam occurs, the Attention light blinks repeatedly on the printer control panel.

1. Remove any loose paper from the input tray.

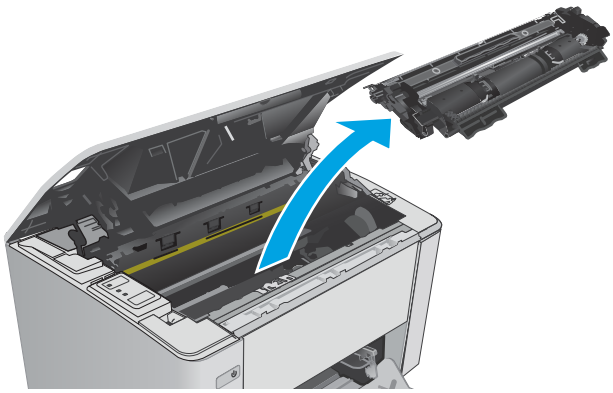


2. Open the top cover.

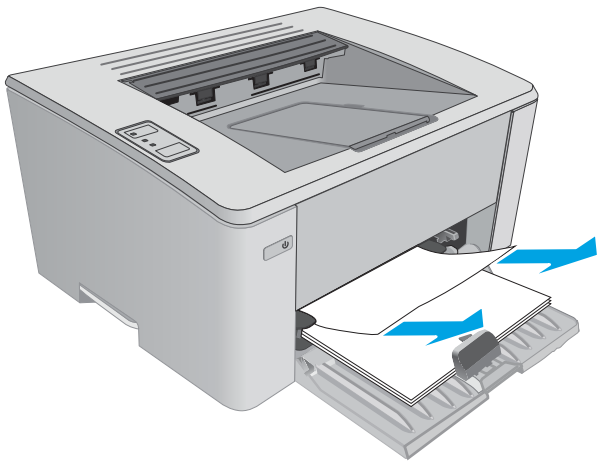


3. Remove the toner cartridge and imaging drum.

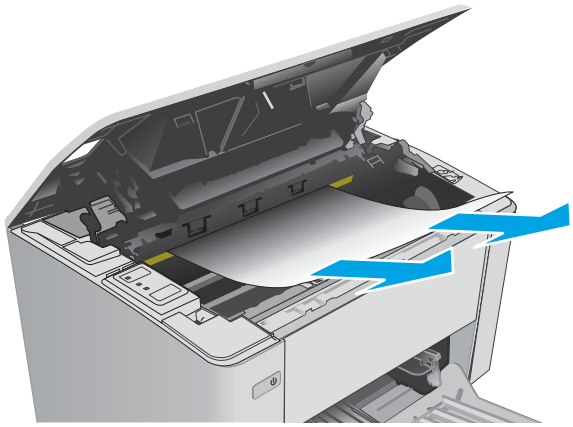
   - **M101-M105 models**: Remove the toner cartridge first, and then remove the imaging drum.
   - **M106 models**: Remove the toner cartridge and imaging drum as one unit.



4. Remove any visible jammed paper in the input tray area. Use both hands to remove jammed paper to avoid tearing the paper.

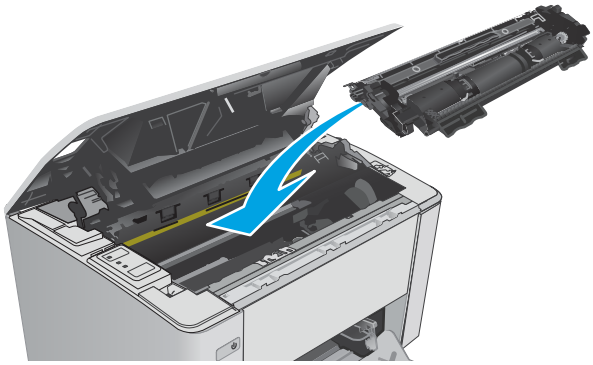


5. Remove any jammed paper from the toner-cartridge area. Use both hands to remove jammed paper to avoid tearing the paper.

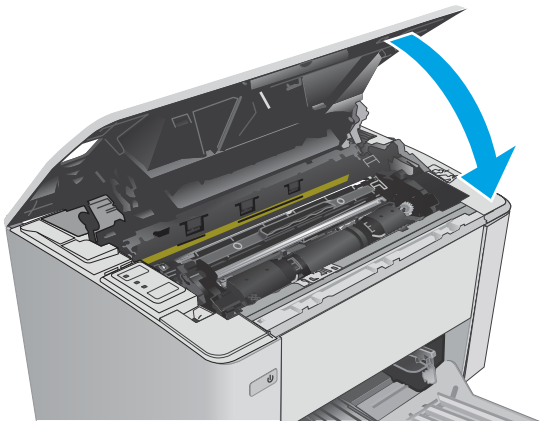


6. Reinsert the imaging drum and toner cartridge.

   - **M101-M105 models**: Install the imaging drum first, and then install the toner cartridge .
   - **M106 models**: Install the toner cartridge and imaging drum as one unit.



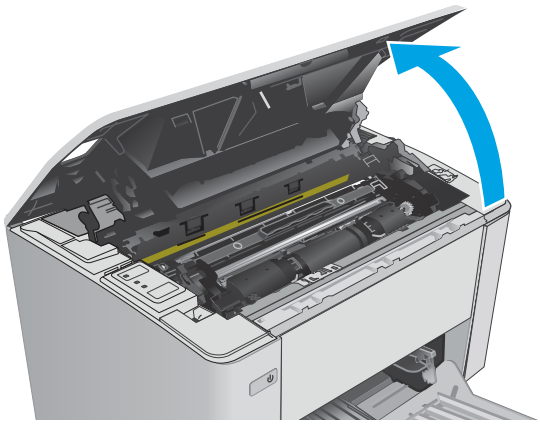
7. Close the top cover.



Clear paper jams in the toner-cartridge area

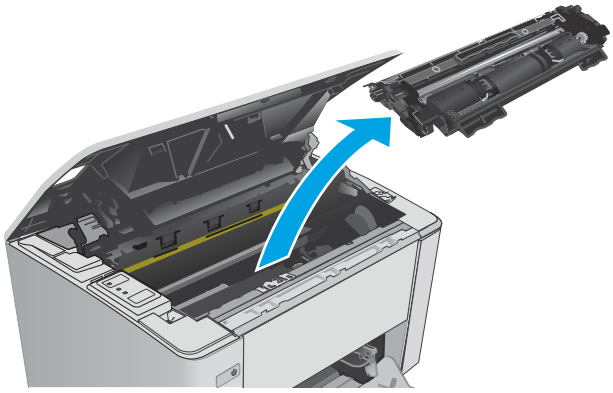
When a jam occurs, the Attention ⚠ light blinks repeatedly on the printer control panel.

1. Open the top cover.

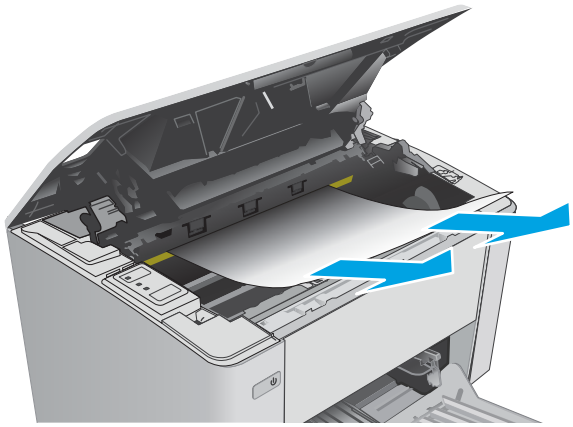


2. Remove the toner cartridge and imaging drum.

   - **M101-M105 models**: Remove the toner cartridge first, and then remove the imaging drum.
   - **M106 models**: Remove the toner cartridge and imaging drum as one unit.

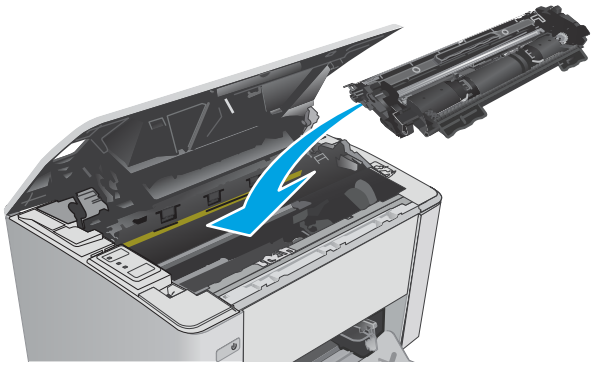


3. Remove any jammed paper from the toner-cartridge area. Use both hands to remove jammed paper to avoid tearing the paper.

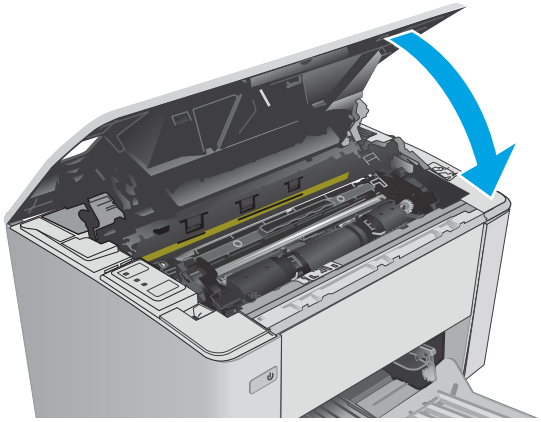


4. Reinsert the imaging drum and toner cartridge.

   - **M101-M105 models**: Install the imaging drum first, and then install the toner cartridge .
   - **M106 models**: Install the toner cartridge and imaging drum as one unit.



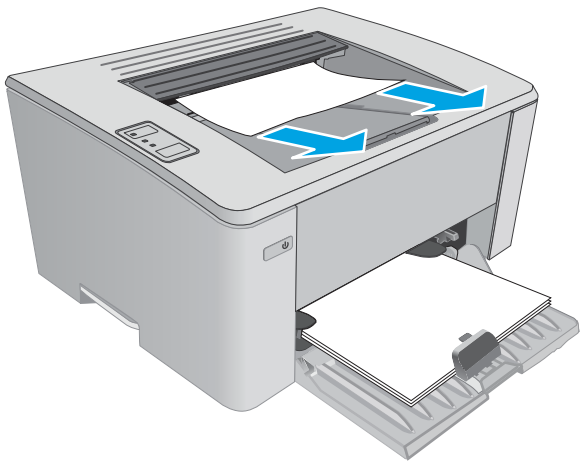
5. Close the top cover.



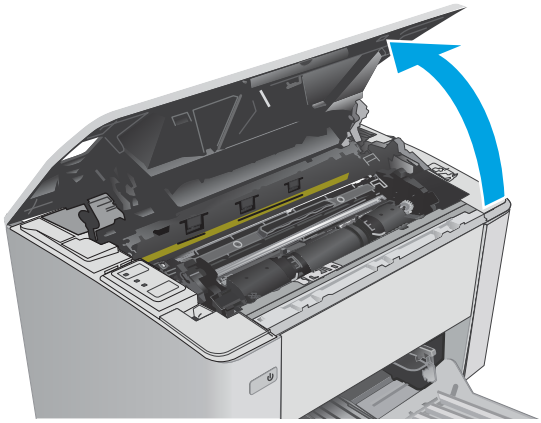
Clear paper jams in the output bin

When a jam occurs, the Attention ⚠ light blinks repeatedly on the printer control panel.

1. Remove any visible jammed paper from the output bin area. Use both hands to remove jammed paper to avoid tearing the paper.

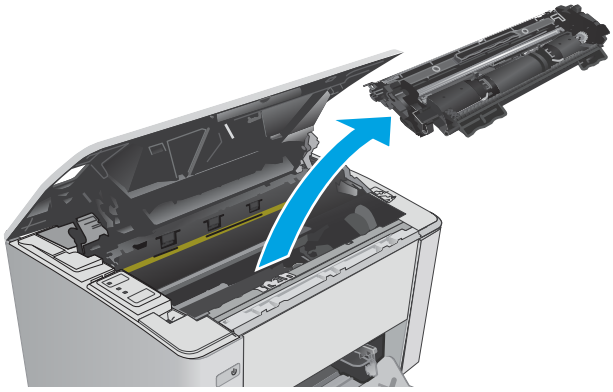


2. Open the top cover.

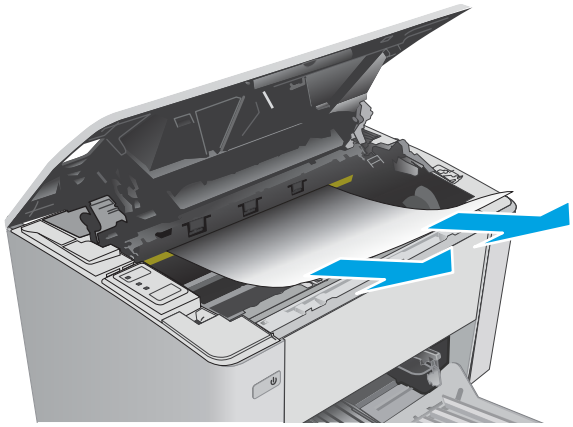


3. Remove the toner cartridge and imaging drum.

   - **M101-M105 models**: Remove the print cartridge first, and then remove the imaging drum.
   - **M106 models**: Remove the toner cartridge and imaging drum as one unit.

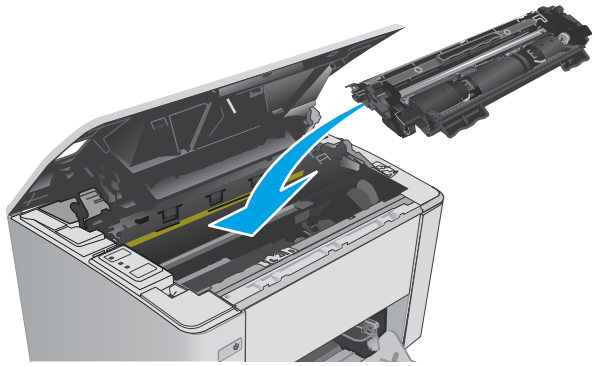


4. Remove any jammed paper from the toner-cartridge area.

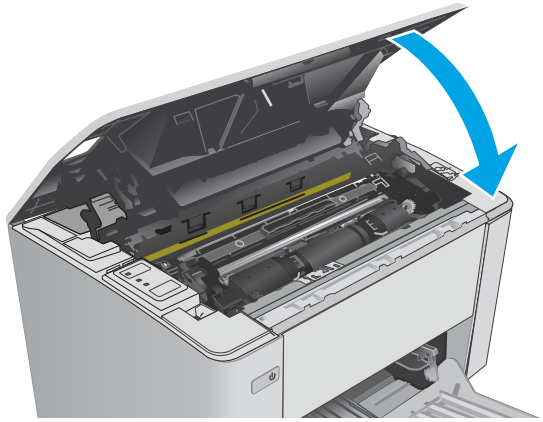


5. Reinsert the imaging drum and toner cartridge.

   - **M101-M105 models**: Install the imaging drum first, and then install the toner cartridge .
   - **M106 models**: Install the toner cartridge and imaging drum as one unit.



6. Close the top cover.



Clear paper jams (M129/M134)

Introduction

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

- Paper path jam sensor locations (M129/M134)
- Paper jam locations
- Experiencing frequent or recurring paper jams?
- Clear paper jams in the input tray
- Clear paper jams in the toner-cartridge area
- Clear paper jams in the output bin
- Clear paper jams in the document feeder (document feeder models only)

Paper path jam sensor locations (M129/M134)

NOTE: Use the figures below to identify the locations of sensors where reoccurring jams are found.

Figure 2-35 Printer base jam sensors

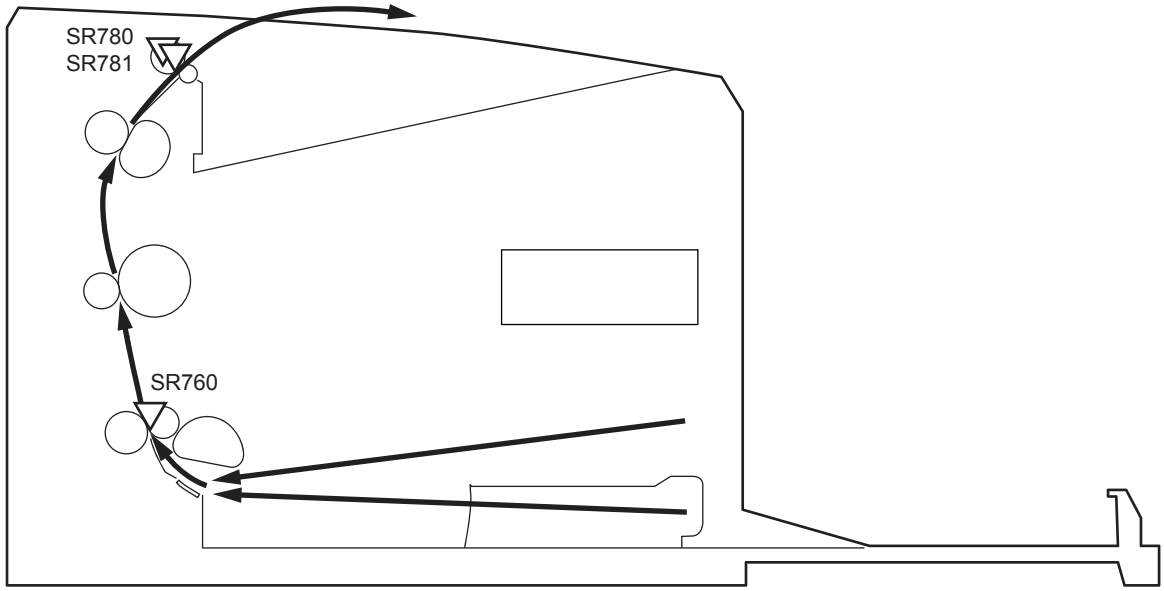


Table 2-42 Printer base jam sensors

Sensor	Description
PS760	Top-of-Page (TOP) sensor
PS780	Fuser output sensor
PS781	Fuser media width sensor

Figure 2-36 Document feeder jam sensors

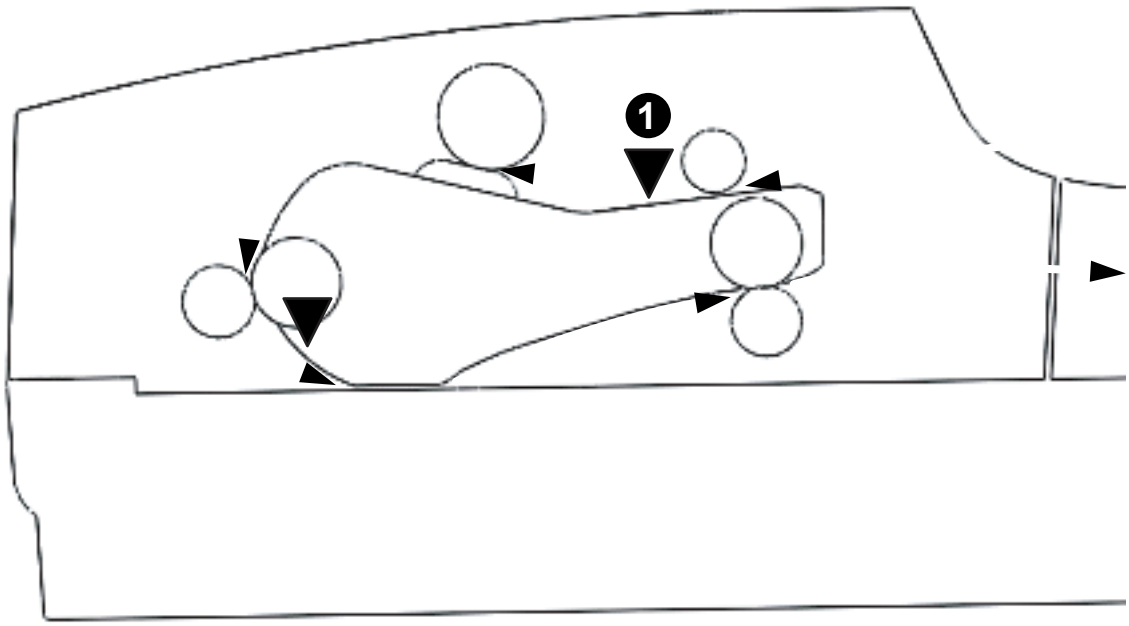
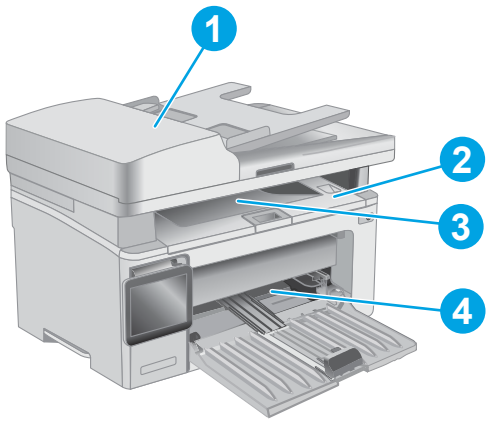


Table 2-43 **Document feeder jam sensors**

Item	Description
1	Document load sensor
2	Top-of-Paper sensor

Paper jam locations

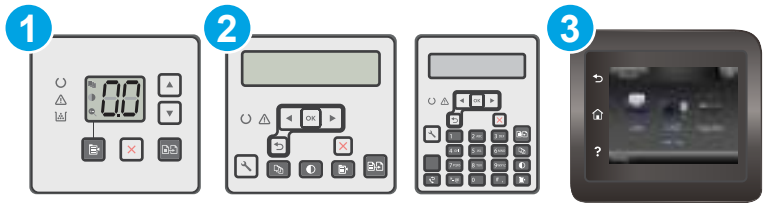


1	Document feeder
2	Print cartridge area
3	Output bin
4	Input tray

Experiencing 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.

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



1	LED control panel
2	2-line control panel
3	Touchscreen control panel

1. If paper has jammed in the printer, clear the jam and then print a configuration page to test the printer.
2. Check that the tray is configured for the correct paper size and type on the printer control panel. Adjust paper settings if necessary.

   ### LED control panels:

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

      i. Open the HP Printer Assistant.

      - **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
      - **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
      - **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.

      ii. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

   b. Click the **System** tab, and then click the **Paper Setup** page.

   c. Select the tray from the list.

   d. Select **Paper Type** and then select the type of paper that is in the tray.

   e. Select **Paper Size** and then select the size of paper that is in the tray.

   f. Click **Apply** to save the changes.

2-line and touchscreen control panels:

a. On the printer control panel, open the Setup menu.

b. Open the following menus:

- System Setup
- Paper setup

c. Select the tray from the list.

d. Select Paper Type and then select the type of paper that is in the tray.

e. Select Paper Size and then select the size of paper that is in the tray.

3. Turn the printer off, wait 30 seconds, and then turn it on again.

4. Print a cleaning page to remove excess toner from inside the printer.

LED control panels:

a. Open the HP Printer Assistant.

- **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
- **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
- **Windows 7, Windows Vista, and Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.

b. In the HP Printer Assistant, select **Print**, and then select **HP Device Toolbox**.

c. On the **Systems** tab, click **Service**.

d. In the **Cleaning Mode** area, click **Start** to begin the cleaning process.

2-line and touchscreen control panels:

a. On the printer control panel, open the Setup menu.

b. Open the Service menu.

c. Select Cleaning Page.

d. Load plain letter or A4 paper when you are prompted.

Wait until the process is complete. Discard the page that prints.

5. Print a configuration page to test the printer.

LED control panels:

▲ Press and hold the Start Copy button until the Ready light begins blinking, and then release the button.

2-line and touchscreen control panels:

a. On the printer control panel, open the Setup menu.

b. Open the Reports menu.

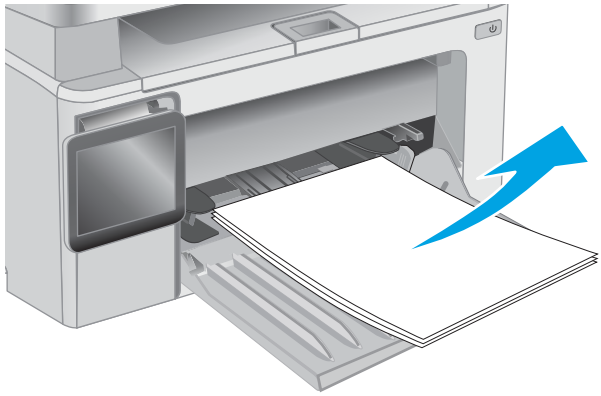
c. Select Configuration Report.

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

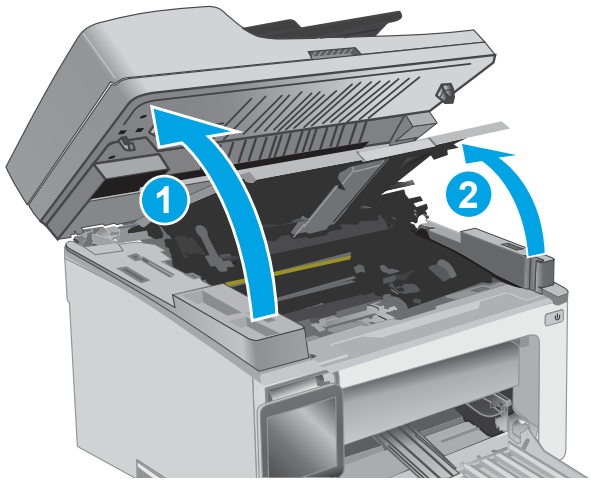
Clear paper jams in the input tray

When a jam occurs, the Attention ⚠ light blinks repeatedly on LED control panels, and a jam message displays on 2-line and touchscreen control panels.

1. Remove any loose paper from the input tray.

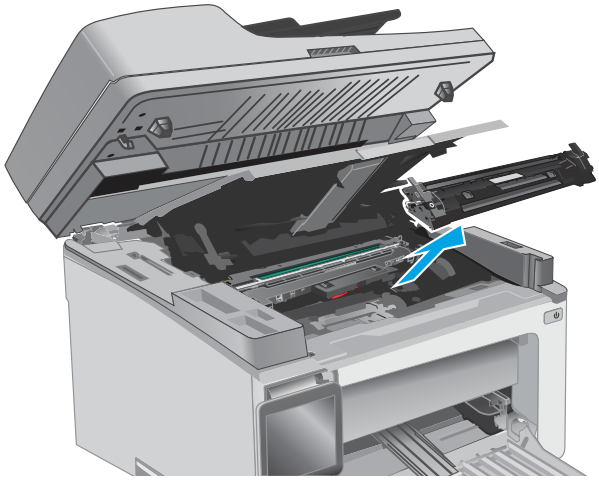


2. Lift the scanner assembly, and then open the top cover.

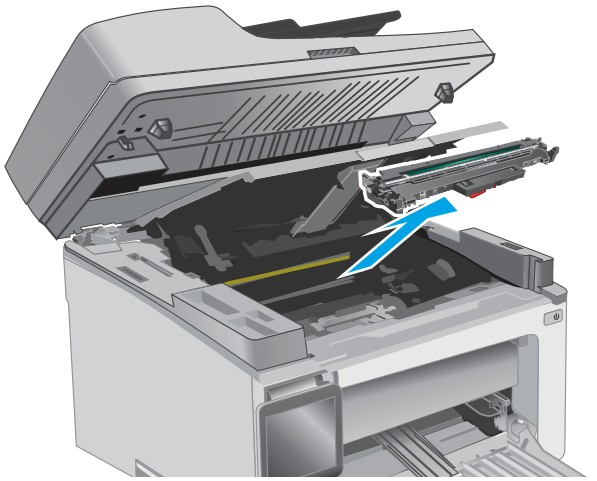


3. Remove the toner cartridge.

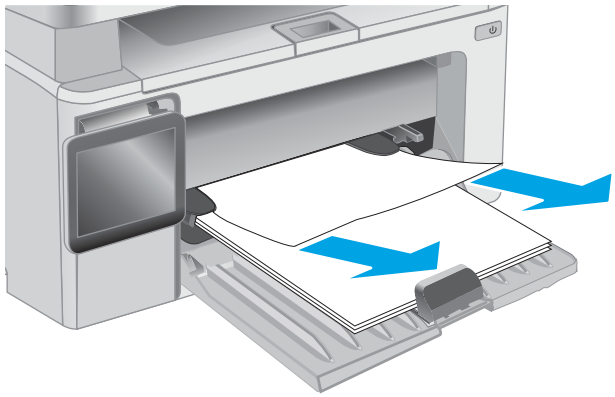
   NOTE: **M133-M134 models**: Remove the imaging drum and toner cartridge as one unit.



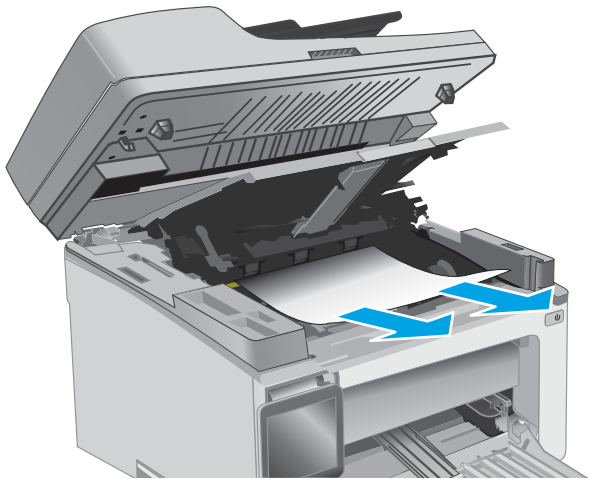
4. Remove the imaging drum.



5. Remove any visible jammed paper in the input tray area. Use both hands to remove jammed paper to avoid tearing the paper.

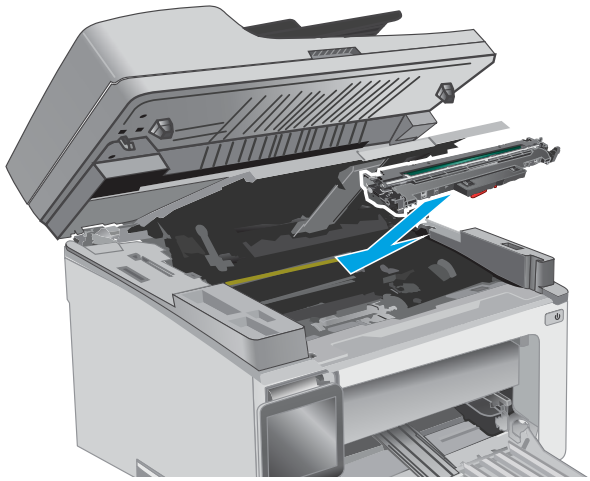


6. Remove any jammed paper from the toner-cartridge area. Use both hands to remove jammed paper to avoid tearing the paper.

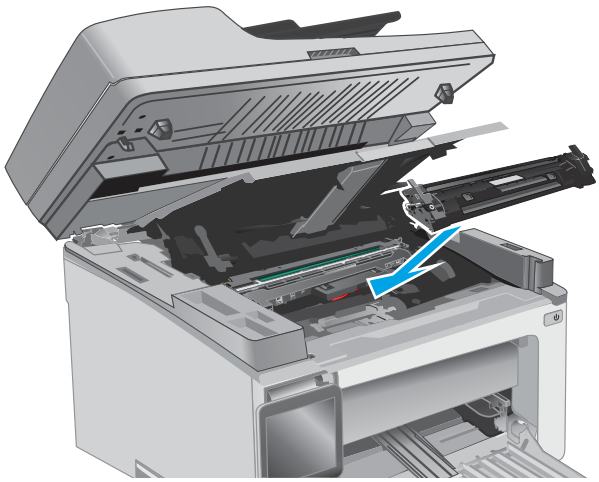


7. Insert the imaging drum into the printer.

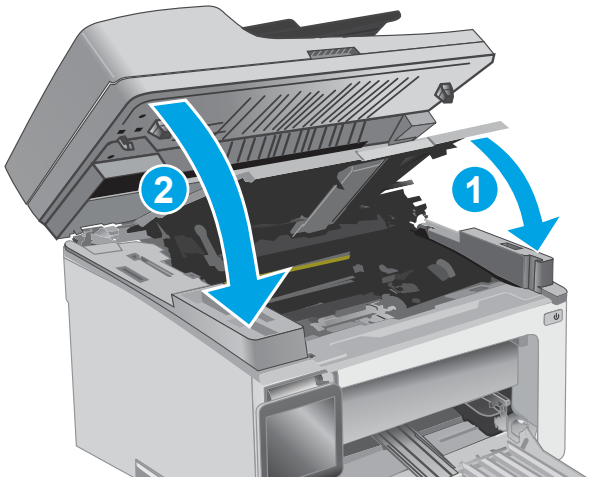
   NOTE: **M133-M134 models**: Install the imaging drum and toner cartridge as one unit.



8. Insert the toner cartridge.



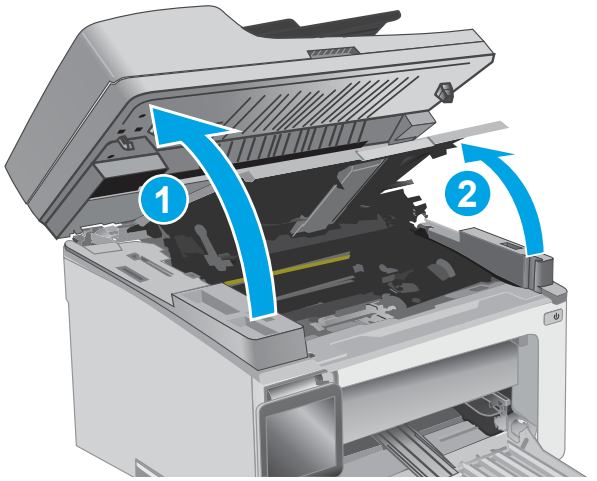
9. Close the top cover, and then lower the scanner assembly.



Clear paper jams in the toner-cartridge area

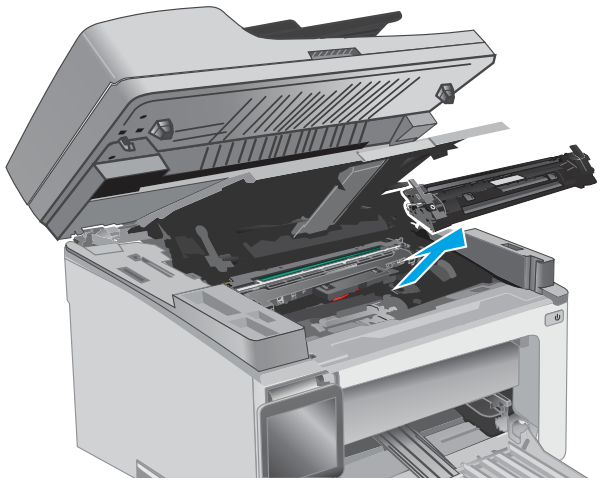
When a jam occurs, the Attention ⚠ light blinks repeatedly on LED control panels, and a jam message displays on 2-line and touchscreen control panels.

1. Lift the scanner assembly, and then open the top cover.

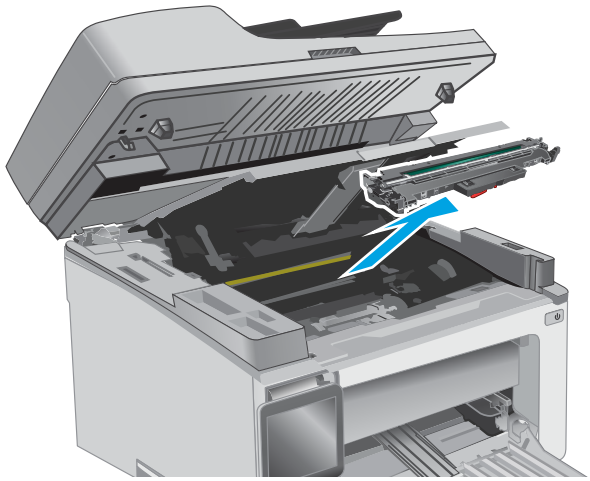


2. Remove the toner cartridge.

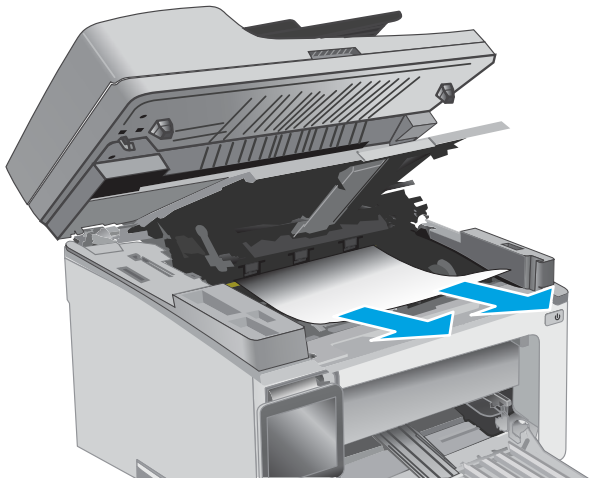
   NOTE: **M133-M134 models**: Remove the imaging drum and toner cartridge as one unit.



3. Remove the imaging drum.

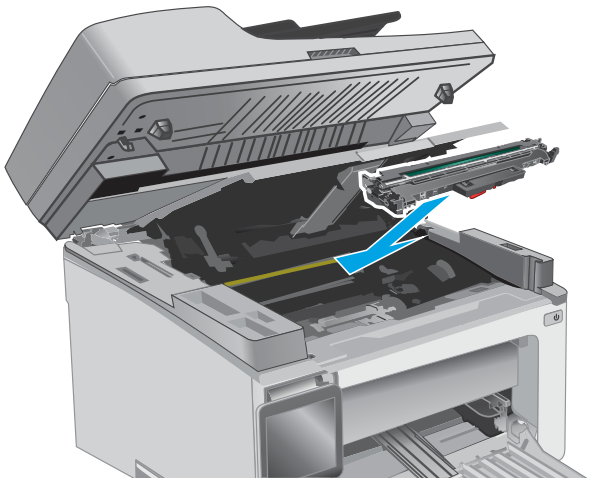


4. Remove any jammed paper from the toner-cartridge area. Use both hands to remove jammed paper to avoid tearing the paper.

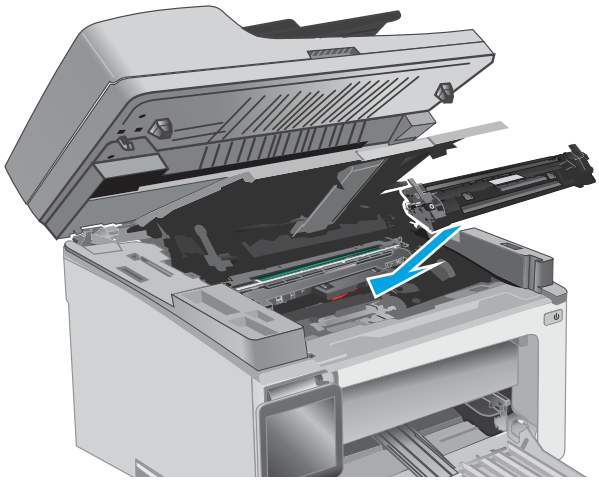


5. Insert the imaging drum into the printer.

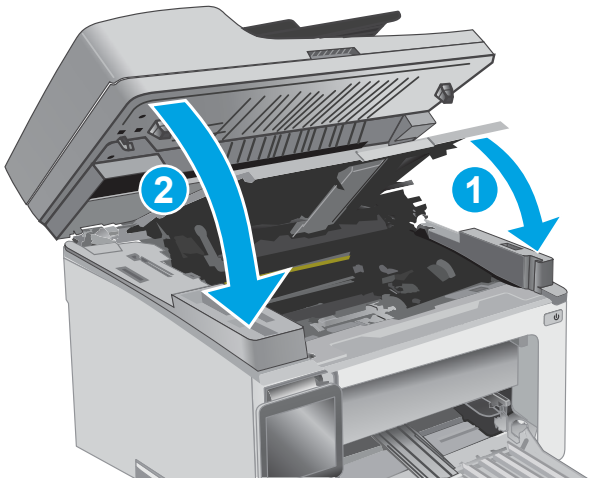
   NOTE: **M133-M134 models**: Install the imaging drum and toner cartridge as one unit.



6. Insert the toner cartridge.



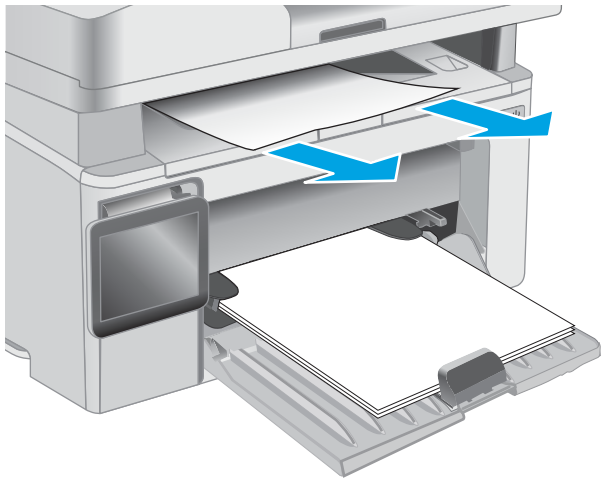
7. Close the top cover, and then lower the scanner assembly.



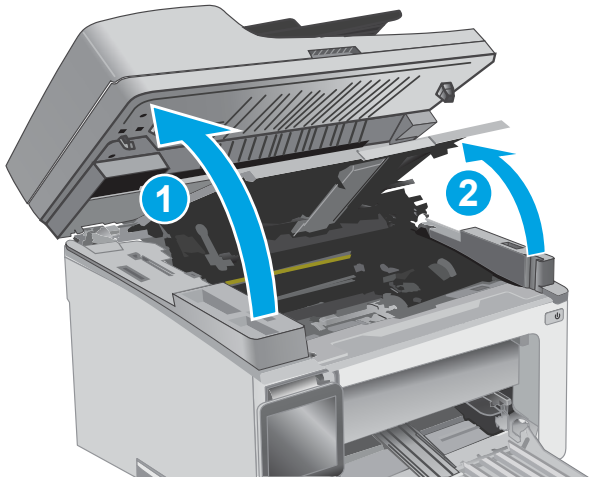
Clear paper jams in the output bin

When a jam occurs, the Attention ⚠ light blinks repeatedly on LED control panels, and a jam message displays on 2-line and touchscreen control panels.

1. Remove any visible jammed paper from the output bin area. Use both hands to remove jammed paper to avoid tearing the paper.

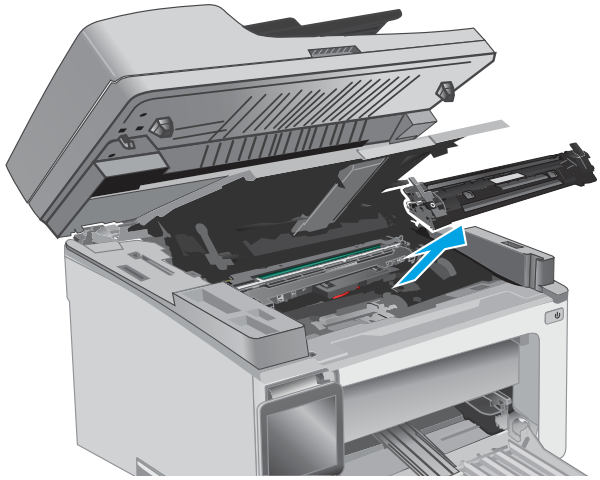


2. Lift the scanner assembly, and then open the top cover.

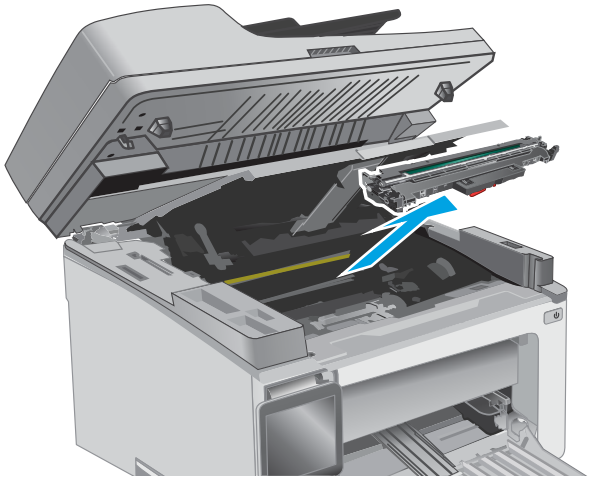


3. Remove the toner cartridge.

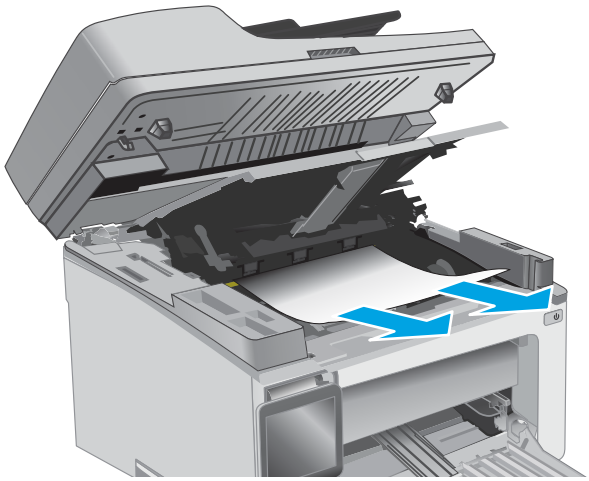
   NOTE: **M133-M134 models**: Remove the imaging drum and toner cartridge as one unit.



4. Remove the imaging drum.

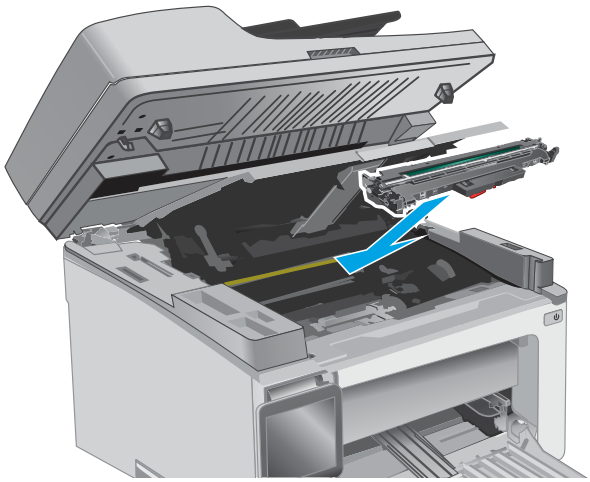


5. Remove any jammed paper from the toner-cartridge area.

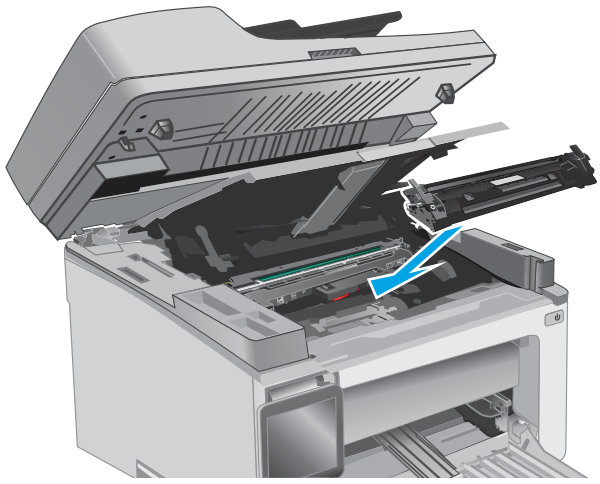


6. Insert the imaging drum into the printer.

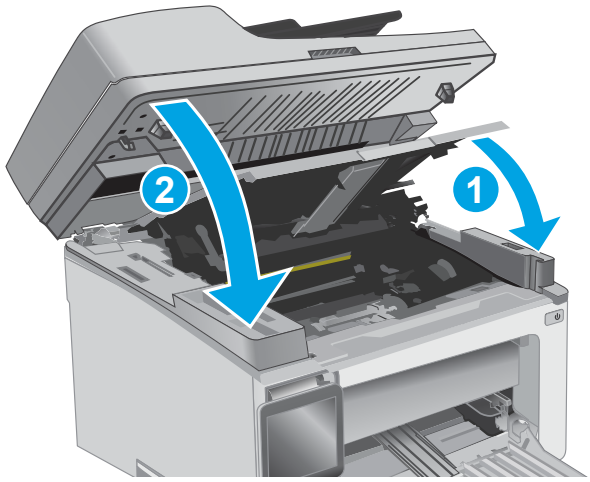
   NOTE: **M133-M134 models**: Install the imaging drum and toner cartridge as one unit.



7. Insert the toner cartridge.



8. Close the top cover, and then lower the scanner assembly.

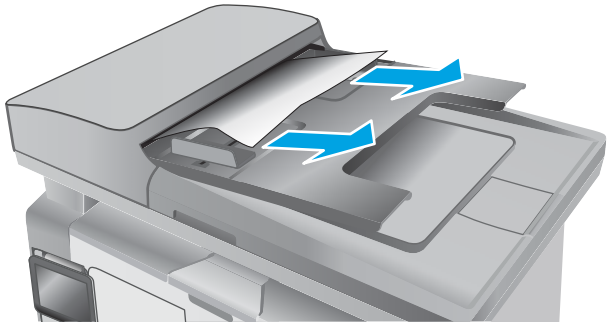


Clear paper jams in the document feeder (document feeder models only)

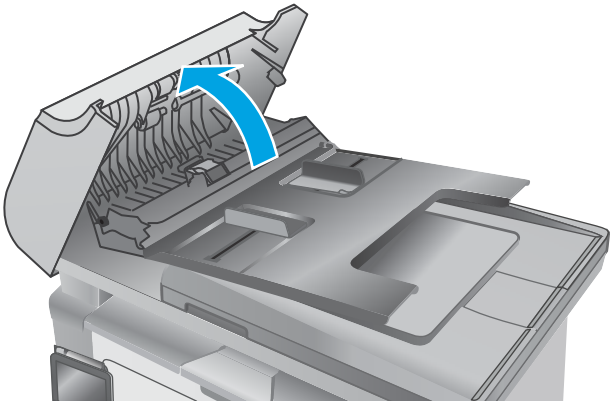
When a jam occurs, a jam message displays on the printer control panel.

1. Remove any loose paper from the input tray of the document feeder.

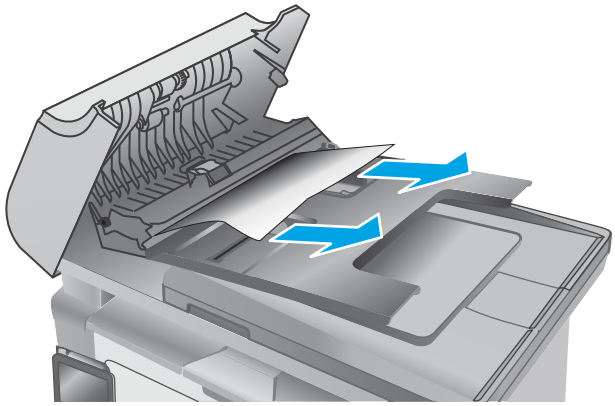
2. Remove any jammed paper visible in the input tray area. Use both hands to remove jammed paper to avoid tearing the paper.



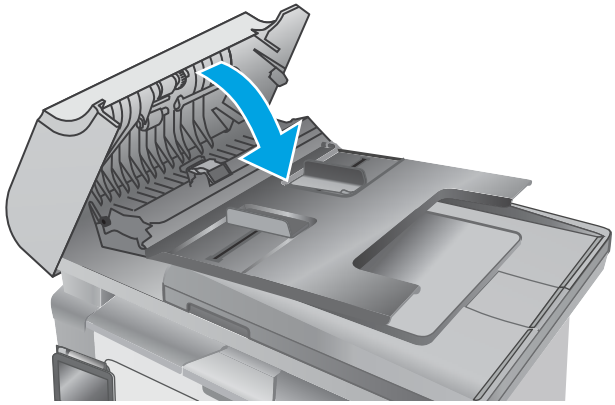
3. Lift the jam-access cover in the document feeder.



4. Remove any jammed paper.



5. Close the jam-access cover.



Solve performance problems

Table 2-44 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 page.
Pages print very slowly.	Heavier paper types can slow the print job.	Print on a different type of paper.
	Complex pages can print slowly.	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.	• 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

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 wired network problems

Introduction

Check the following items to verify that the printer is communicating with the network. Before beginning, print a configuration page from the printer control panel and locate the printer IP address that is listed on this page.

- Poor physical connection
- The computer is using the incorrect IP address for the printer
- The computer is unable to communicate with the printer
- The printer is using incorrect link speed settings for the network
- New software programs might be causing compatibility problems
- The computer or workstation might be set up incorrectly
- The printer is disabled, or other network settings are incorrect

NOTE: HP does not support peer-to-peer networking, as the feature is a function of Microsoft operating systems and not of the HP print drivers. For more information, go to Microsoft at www.microsoft.com.

Poor physical connection

1. Verify that the printer is attached to the correct network port using a cable of the correct length.
2. Verify that cable connections are secure.
3. Look at the network port connection on the back of the printer, and verify that the amber activity light and the green link-status light are lit.
4. If the problem continues, try a different cable or port on the hub.

The computer is using the incorrect IP address for the printer

1. Open the printer properties and click the **Ports** tab. Verify that the current IP address for the printer is selected. The printer IP address is listed on the printer configuration page.
2. If you installed the printer using the HP standard TCP/IP port, select the box labeled **Always print to this printer, even if its IP address changes**.

3. If you installed the printer using a Microsoft standard TCP/IP port, use the hostname instead of the IP address.
4. If the IP address is correct, delete the printer and then add it again.

The computer is unable to communicate with the printer

1. Test network communication by pinging the network.
   a. Open a command-line prompt on your computer.
      - For Windows, click **Start**, click **Run**, type `cmd`, and then press Enter.
      - For OS X, go to **Applications**, then **Utilities**, and open **Terminal**.
   b. Type `ping` followed by the IP address for your printer.
   c. If the window displays round-trip times, the network is working.
2. If the ping command failed, verify that the network hubs are on, and then verify that the network settings, the printer, and the computer are all configured for the same network.

The printer is using incorrect link speed settings for the network

HP recommends leaving these settings in automatic mode (the default setting). If you change these settings, you must also change them for your network.

New software programs might be causing compatibility problems

Verify that any new software programs are correctly installed and that they use the correct print driver.

The computer or workstation might be set up incorrectly

1. Check the network drivers, print drivers, and the network redirection settings.
2. Verify that the operating system is configured correctly.

The printer is disabled, or other network settings are incorrect

1. Review the configuration page to check the status of the network protocol. Enable it if necessary.
2. Reconfigure the network settings if necessary.

Service mode functions

Service menu (M129/M134)

The Service menu is used to adjust print settings, restore factory default settings, and clean the print paper path.

2-line control panels

1. From the printer control panel, press the OK button, and then press the right ▶ button until the **Service** menu item displays.
2. Press the OK button to open the **Service** menu.

Touchscreen control panels

1. From the Home screen on the printer control panel, touch the Setup button.
2. Touch the Service button.

The following menu items appear in the Service menu:

Table 2-45 Service menu

Menu item	Sub-menu item	Description
Fax Service (fax models only)	Clear Saved Faxes Run Fax Test Print T.30 Trace Error Correction Fax Service Log	These items provide the means to test and adjust fax functionality.
Cleaning Page		This function removes dust and toner from the print paper path.
USB Speed	High Full	This item sets the printer USB speed.
Less Paper Curl		This feature puts the printer into a mode that reduces paper curl.
Archive Print		This feature puts the printer into a mode that produces output less susceptible to toner smearing and dusting for preservation and archival.
Firmware Datecode		This feature displays the printer firmware date code.
Restore Defaults		Resets all customer-accessible menu settings back to the factory default settings (except language).
Signature Check		This item configures how the printer proceeds when a firmware upgrade file does not have a valid signature.

Table 2-45 Service menu (continued)

Menu item	Sub-menu item	Description
LaserJet Update	Check for Updates Now Manage Updates	This items provides the means to manually update the firmware or to set up automatic firmware updates.
SMTP Comm. Report		This report provides information regarding the printer communication with an SMTP server for the last Scan to E-Mail job.
Override Size Errors	Yes No*	Selecting Yes causes the printer to automatically override input tray paper size mismatches.

Secondary service menu

Use the secondary service menu to print service-related reports and to run special tests. Customers do not have access to this menu.

▲ Open the secondary service menu.

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

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

LED control panels

a. Open the HP Printer Assistant.

- **Windows 8.1**: Click the down arrow in lower left corner of the **Start** screen, and then select the printer name.
- **Windows 8**: Right-click an empty area on the **Start** screen, click **All Apps** on the app bar, and then select the printer name.
- **Windows** 7, **Windows Vista**, and **Windows XP**: From the computer desktop, click **Start**, select **All Programs**, click **HP**, click the folder for the printer, select the icon with the printer's name, and then open **HP Printer Assistant**.

b. In the **HP Printer Assistant**, select **Print**, and then select **HP Device Toolbox**.

2-line control panels

a. From the printer control panel, press the Setup button.

b. Simultaneously press the OK button and the Cancel button. The **2ndary Service** menu item should be at the top of the list.

c. Use the left and right arrow buttons to navigate through the menu. When finished, press the Cancel button to close the menu.

Touchscreen control panel

a. From the Home screen on the printer control panel, touch the Setup button.

b. Touch the space between the Home and the Help button.

c. Touch the Back button.

d. Touch the Setup button.

e. Touch 2ndary Service (at the top of the list) to access the menu.

The following menu items appear in the secondary service menu:

Table 2-46 Secondary service menu

Menu item	Sub-menu item	Description
Default Settings	Self-managed	This item optimizes open security settings with a proactive configuration for a self-managed environment.
	IT-managed	This item optimizes centralized administration of a group of printers with enhanced security settings in an information technology (IT) administrator managed environment.
Location	A list of available locations displays	This item sets certain printer parameters that are dependent on the location, such as the default paper size and the symbol set. Scroll to the appropriate location and select Yes to set the location. The printer automatically restarts after you change the location.
Line Frequency		This item allows the refresh rate of the touchscreen control panel to be changed between 50 and 60 Hz.
LED test (2-line control panels only)		**2-line control panels**: This test verifies that the LEDs on the control-panel display function correctly. At the beginning of the test, each of the LEDs turns on one-at-a-time. Press the OK button to continue to the next LED.
Display test		**2-line control panels**: This test begins by testing the pixels on each line. Then, each of the 255 characters is displayed in groups of 16. Press the OK button to continue to the next group of 16 characters. You can cancel the test at any time by touching the Resume/Cancel button. **Touchscreen control panels**: The test sets the display colors. Touch the OK button to confirm each setting.
Button test		This test verifies that the control-panel buttons function correctly. The display prompts you to touch each button.
CP FW Version		This item displays the current control panel firmware version.
NAND Reset		This item resets the NAND memory.
Permanent Config. **IMPORTANT:** This item affects the printer NVRAM memory and should only be used by authorized HP service personnel.	Allow Prevent	This item is used only by authorized third-party vendors for custom printer setup. When Allow is selected, the printer is set as a non-HP printer. **CAUTION:** Do not select the Allow option unless requested to do so by an authorized third-party vendor.
Auto-On / Auto-Off	Enabled* Disabled*	Use this item to enable or disable the auto-on / auto-off function.

Table 2-46 Secondary service menu (continued)

Menu item	Sub-menu item	Description
Service Reports	Cont. Self-Test	This item prints a continuous configuration page.
	Error report	This item prints an error report that contains the last 5 instances of **49.xx.yy** or **79.xx.yy** errors.
	DS Fax	
Color Cal.	Adjust color	This item adjusts density settings for contrast, highlights, midtones, and shadows. Adjust each color individually.
	Timing	This item specifies how frequently the printer should automatically perform a color calibration. The default setting is 48 hours. You can turn automatic calibration off.
Scan Calibration		This item calibrates the scanner assembly.
Clean Belt		This item runs additional belt-cleaning cycles.
Speed		Use this item to toggle between high and low.
802.11n (Wireless models only)		This item enables or disables the wireless 802.11n functionality.
Fax Settings		Use this item to access the fax settings menu.

Printer resets

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, tray size, or language. To restore the printer to the factory-default settings, follow these steps.

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

1. **2-line control panels**: On the printer control panel, press the Setup button.

   Touchscreen control panels: From the Home screen on the printer control panel, touch the Setup button.

2. Open the Service menu.
3. Select the Restore Defaults option, and then press or touch the OK button.

   The printer automatically restarts.

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.

! **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.

After performing an NVRAM initialization, reconfigure any computers that print to this printer. Uninstall and then reinstall the product software on the computers.

LED control panels

1. Press and hold down the Resume/Cancel button for about 50 seconds.
2. When the green LED illuminates, the NVRAM initialization is complete.

2-line control panels

1. Turn the printer off.
2. Press and hold down the right-arrow ▶ button, and then turn the printer on.
3. When the **Permanent Storage Init.** message appears on the display, release the right-arrow ▶ button.

   The NVRAM initialization starts. When the product has finished the NVRAM initialization, it returns to the Ready state.

Touchscreen control panels

1. Turn the printer off.
2. Touch and hold the lower-right quadrant of the touchscreen, and then turn the printer on.
3. When the **Permanent Storage Init.** message appears on the display, release the touchscreen.

   The NVRAM initialization starts. When the product has finished the NVRAM initialization, it returns to the Ready state.

Super NVRAM initialization

! **WARNING!** A super NVRAM initialization resets the printer page count and removes the formatter association to the printer serial number. The lack of formatter association to the printer serial number might affect the printer's warranty entitlement. Also, the printer will not be allowed to connect to the HP cloud.

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.

1. Turn the printer off.
2. **LED control panels**: Press and hold down the Resume/Cancel button for about 60 seconds until the green LED illuminates.
3. **2-line control panels**: Press and hold the left-arrow button ◀ and the Cancel ✕ button simultaneously. Keep the buttons depressed as you turn the printer on.

   Touchscreen control panels: Turn the printer on, and then, as soon as the HP logo appears, press the lower left quadrant of the control panel.

4. When the **Permanent Storage Init.** message appears on the display, release the buttons (2-line control panels) or touchscreen..

   The super NVRAM initialization starts.

5. When the super NVRAM initialization has been completed, the printer enters the generic printer mode.

Solve fax problems (fax models only)

Checklist for solving fax problems

- Several possible fixes are available. After each recommended action, retry faxing to see if the problem is resolved.
- For best results during fax problem solving, make sure the line from the printer is connected directly to the wall phone port. Disconnect all other devices that are connected to the printer.

1. Verify that the telephone cord is connected to the correct port on the back of the printer.
2. Check the phone line by using the fax test:

   a. From the Home screen on the printer control panel, touch the Setup button, and then touch the Service menu.

   b. Select the Self Diagnostics menu.

   c. Select the Run Fax Test option. The printer prints a fax test report.

   The report contains the following possible results:

   - **Pass**: The report contains all of the current fax settings for review.
   - **Fail**: The report indicates the nature of the error and contains suggestions for how to resolve the issue.

3. Verify that the printer firmware is current:

   a. Print a configuration page from the control panel Reports menu to obtain the current firmware date code.

   b. Go to www.hp.com.

   1. Click the **Support & Drivers** link.
   2. Click the **Download drivers and software (and firmware)** link option.
   3. In the **For product** box, enter the printer model number, and then click the **Go** button.
   4. Click the link for your operating system.
   5. Scroll to the Firmware section of the table.

      — If the listed version matches the version on the configuration page, you have the most current version.

      — If the versions are different, download the firmware upgrade file and upgrade the firmware on the printer following the on-screen instructions.

      NOTE: The printer must be connected to a computer with internet access to upgrade firmware.

      — Resend the fax.

4. Verify that the fax was set up when the printer software was installed.

   From the computer, in the HP program folder, run the Fax Setup Utility.

5. Verify that the telephone service supports analog fax.
    - If using ISDN or digital PBX, contact your service provider for information about configuring to an analog fax line.
    - If using a VoIP service, change the Fax Speed setting to Slow V.29 from the control panel. Ask if your service provider supports fax and for the recommended fax modem speed. Some companies might require an adapter.
    - If you are using a DSL service, make sure that a filter is included on the phone-line connection to the printer. Contact the DSL service provider, or purchase a DSL filter if you do not have one. If a DSL filter is installed, try another filter because filters can be defective.
6. If the error persists, find more detailed problem-solving solutions in the sections that follow this one.

Perform a fax diagnostic test

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

1. From the Home screen on the printer control panel, touch the Setup button.
2. Open the following menus:
    - Service
    - Fax Service
3. Touch the Run Fax Test button to start the test. The printer prints a test page that shows test results.

Solve general fax problems

- Faxes are sending slowly
- Print quality of a photo is poor or prints as a gray box.
- Fax quality is poor
- You touched the Cancel button to cancel a fax, but the fax was still sent
- No fax address book button displays
- Not able to locate the fax settings in HP Web Jetadmin
- The header is appended to the top of the page when the overlay option is enabled
- A mix of names and numbers is in the recipients box
- A one-page fax prints as two pages
- A document stops in the document feeder in the middle of faxing
- The volume for sounds coming from the fax accessory is too high or too low
- Use fax over VoIP networks

Faxes are sending slowly

The printer is experiencing poor phone line quality.

- Retry sending the fax when the line conditions have improved.
- Check with the phone service provider that the line supports fax.
- Turn off the Error Correction setting.
  a. From the Home screen on the printer control panel, touch the Setup button.
  b. Open the Service menu.
  c. Open the Fax Service menu.
  d. Open the Error Correction menu.
  e. Select the Off setting.

NOTE: This can reduce image quality.

- Use white paper for the original. Do not use colors such as gray, yellow, or pink.
- Increase the Fax Speed setting.
  a. From the Home screen on the printer control panel, touch the Setup button.
  b. Open the Fax Setup menu.
  c. Open the Advanced Setup menu.
  d. Open the Fax Speed menu.
  e. Select the correct setting.
- Divide large fax jobs into smaller sections, and then fax them individually.
- Change the fax settings on the control panel to a lower resolution.
  a. From the Home screen on the printer control panel, touch the Setup button.
  b. Open the Fax Setup menu.
  c. Open the Advanced Setup menu.
  d. Open the Fax Resolution menu.
  e. Select the correct setting.

Print quality of a photo is poor or prints as a gray box.

You are using the wrong page-content setting or the wrong resolution setting.

Try setting the Optimize Text/Picture option to the Photo setting.

Fax quality is poor

Fax is blurry or light.

- Increase fax resolution when sending faxes. Resolution does not affect received faxes.
  a. From the Home screen on the printer control panel, touch the Setup button.
  b. Open the Fax Setup menu.

c. Open the Advanced Setup menu.

d. Open the Fax Resolution menu.

e. Select the correct setting.

NOTE: Increasing resolution slows transmission speed.

- Turn on the Error Correction setting from the control panel.

  a. From the Home screen on the printer control panel, touch the Setup button.

  b. Open the Service menu.

  c. Open the Fax Service menu.

  d. Open the Error Correction menu.

  e. Select the On setting.

- Check the toner cartridges and replace if necessary.
- Ask the sender to darken the contrast setting on the sending fax machine, and then resend the fax.

You touched the Cancel button to cancel a fax, but the fax was still sent

If the job is too far along in the sending process, you cannot cancel the job.

This is normal operation.

No fax address book button displays

The fax address book feature has not been enabled.

Use the HP MFP Digital Sending Software Configuration utility to enable the fax address book feature.

Not able to locate the fax settings in HP Web Jetadmin

Fax settings in HP Web Jetadmin are located under the status page drop-down menu.

Select **Digital Sending and Fax** from the drop-down menu.

The header is appended to the top of the page when the overlay option is enabled

For all forwarded faxes, the printer appends the overlay header to the top of a page.

This is normal operation.

A mix of names and numbers is in the recipients box

Names and numbers can both display, depending on where they are from. The fax address book lists names, and all other databases list numbers.

This is normal operation.

A one-page fax prints as two pages

The fax header is being appended to the top of the fax, pushing text to a second page.

To print a one page fax on one page, set the overlay header to overlay mode, or adjust the fit-to-page setting.

A document stops in the document feeder in the middle of faxing

A jam is in the document feeder.

Clear the jam, and send the fax again.

The volume for sounds coming from the fax accessory is too high or too low

The volume setting needs to be adjusted.

Adjust the volume in the Fax Send Settings menu and the Fax Receive Settings menu.

Use fax over VoIP networks

VoIP technology converts the analog phone signal into digital bits. These are then assembled into packets which travel on the Internet. The packets are converted and transmitted back to analog signals at or near the destination.

Transmission of information on the Internet is digital instead of analog. Therefore, there are different constraints on the fax transmission that might require different fax settings than the analog Public Switched Telephone Network (PSTN). Fax is very dependent upon timing and signal quality, so a fax transmission is more sensitive to a VoIP environment.

The following are suggested changes in settings for the printer when it is connected to a VoIP service:

- Begin with the fax speed set to Medium (V.17). This might be helpful in environments where a new VoIP network is in use.
- If numerous errors or retries occur with the fax speed set to Fast, set it to Medium (V.17).
- If errors and retries persist, set the fax speed to Slow (V.29) because some VoIP systems cannot handle the higher signal rates associated with fax.
- In rare cases, if errors persist, turn off ECM on the printer. The image quality might decrease. Ensure that the image quality is acceptable with ECM off before using this setting.
- If the preceding setting changes have not improved the VoIP fax reliability, contact your VoIP provider for help.

Solve problems receiving faxes

Table 2-47 Solve problems receiving faxes

Problem	Cause	Solution
The fax does not respond.	The fax has a dedicated phone line.	• Set the Answer Mode option to the Automatic setting from the control panel. **a.** From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Basic Setup menu.

Table 2-47 Solve problems receiving faxes (continued)

Problem	Cause	Solution
		d. Open the Answer Mode menu. **e.** Select the Automatic setting.
	An answering machine is connected to the printer.	• Set the Answer Mode option to the TAM setting and connect the answering machine to the “telephone” port. **a.** From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Basic Setup menu. **d.** Open the Answer Mode menu. **e.** Select the TAM setting. If the TAM setting is unavailable, set the Answer Mode option to the Automatic setting. • Set the Rings to Answer setting to at least one ring more than the number of rings for which the answering machine is set. **a.** From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Basic Setup menu. **d.** Open the Rings to Answer menu. **e.** Select the correct setting. • Connect the answering machine to the “telephone” port. • If the printer has a telephone handset connected, set the Answer Mode option to the Fax/Tel setting to route calls to the correct device. When detecting a voice call, the printer generates a ring tone that alerts you to pick up the telephone handset. **a.** From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Basic Setup menu. **d.** Open the Answer Mode menu. **e.** Select the Fax/Tel setting.
	A handset is connected to the printer.	• Make sure the phone is hung up. • Change the Answer Mode option to match the printer setup.

Table 2-47 Solve problems receiving faxes (continued)

Problem	Cause	Solution
		a. From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Basic Setup menu. **d.** Open the Answer Mode menu. **e.** Select the setting that matches the printer setup. Set the Answer Mode option to the Fax/Tel setting to automatically receive faxes. The Fax/Tel setting automatically detects whether the incoming transmission is a fax or a voice call and routes the call to the appropriate device.
	The Answer Mode setting is set to the Manual setting.	• Touch the Start Fax button on the printer control panel.
	Voice mail is available on the fax line.	• Add a distinctive ring service to your telephone line and change the Distinctive Ring setting on the printer to match the ring pattern supplied by the telephone company. Contact your telephone company for information. **a.** From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Basic Setup menu. **d.** Open the Distinctive Ring menu. **e.** Select the correct setting. • Buy a dedicated line for faxing. • Set the Answer Mode option to the Manual setting. **a.** From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Basic Setup menu. **d.** Open the Answer Mode menu. **e.** Select the Manual setting. **NOTE:** You must be present to receive faxes.
	The printer is connected to a DSL phone service.	• Check the installation and features. A DSL modem requires a high-pass filter on the phone line

Table 2-47 Solve problems receiving faxes (continued)

Problem	Cause	Solution
		connection to the printer. Contact your DSL service provider for a filter or buy a filter. • Verify that the filter is connected. • Replace the existing filter to make sure that it is not defective.
	The printer uses a fax over IP or VoIP phone service.	• Set the Fax Speed option to the Slow(V.29) or Medium(V.17) setting. **a.** From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Advanced Setup menu. **d.** Open the Fax Speed menu. **e.** Select the correct setting. • Contact your service provider to make sure that fax is supported and for a recommended fax speed setting. Some companies might require an adapter.
Sender receives a busy signal	A handset is connected to the printer.	• Make sure the phone is hung up. • Change the Answer Mode option to match the printer setup. **a.** From the Home screen on the printer control panel, touch the Setup button. **b.** Open the Fax Setup menu. **c.** Open the Basic Setup menu. **d.** Open the Answer Mode menu. **e.** Select the setting that matches the printer setup. Set the Answer Mode option to the Fax/Tel setting to automatically receive faxes. The Fax/Tel setting automatically detects whether the incoming transmission is a fax or a voice call and routes the call to the appropriate device.
	A phone line splitter is being used.	• If you are using a phone line splitter, remove the splitter and set up the phone as a downstream phone. • Make sure the phone is hung up. • Make sure the phone is not being used for a voice call when faxing.
No dial tone	A phone line splitter is being used.	• If using a phone line splitter, remove the phone line splitter and set up the phone as a downstream phone.

Table 2-47 Solve problems receiving faxes (continued)

Problem	Cause	Solution
	The phone cable is not connected correctly to the printer.	Verify that the telephone cord is plugged into the correct port on the back of the printer.
Printer rings once, but does not answer	An answering machine or voice messaging service is sharing the phone line with the printer.	• **Answering machine**: Set the Answer Mode option to the TAM setting and connect the answering machine to the “telephone” port. • **Voice mail**: Add a distinctive ring service to your telephone line and change the Distinctive Ring setting on the printer to match the ring pattern supplied by the telephone company. Contact your telephone company for information.
	The Distinctive Ring setting is incorrectly set.	1. From the Home screen on the printer control panel, touch the Setup button. 2. Open the Fax Setup menu. 3. Open the Basic Setup menu. 4. Open the Distinctive Ring menu. 5. Select the correct setting.
	The sender number is blocked, and the printer is ringing once before blocking the fax job.	This is normal printer behavior.
Printer continues to ring, but does not answer	The Answer Mode setting is set to the Manual setting.	Touch the Start Fax button on the printer control panel.
	The Rings to Answer setting is incorrectly set.	1. From the Home screen on the printer control panel, touch the Setup button. 2. Open the Fax Setup menu. 3. Open the Basic Setup menu. 4. Open the Rings to Answer menu. 5. Select the correct setting.
	The Distinctive Ring setting is incorrectly set.	1. From the Home screen on the printer control panel, touch the Setup button. 2. Open the Fax Setup menu. 3. Open the Basic Setup menu. 4. Open the Distinctive Ring menu. 5. Select the correct setting.
Printer does not ring, no fax received	The phone cable is not connected correctly to the printer.	Verify that the telephone cord is plugged into the correct port on the back of the printer.

Table 2-47 Solve problems receiving faxes (continued)

Problem	Cause	Solution
Printer answers, but fax does not print	The Private Receive feature is on	• When the Private Receive feature is activated, received faxes are stored in memory. A password is required to print the stored faxes. • Enter the password to print the fax. If you do not know the password, contact the printer administrator. **NOTE:** Memory errors might occur if the faxes are not printed. The printer will not answer if the memory is full.
	The Private Receive option is enabled.	When the Private Receive feature is activated, received faxes are stored in memory. A password is required to print the stored faxes. Enter the password to print the fax. If you do not know the password, contact the printer administrator.
	The printer is out of paper.	Verify that paper is loaded.
Header information prints on top of the fax information	For all forwarded faxes, the printer appends the overlay header to the top of a page.	This is normal printer behavior.

Solve problems sending faxes

Table 2-48 Solve problems sending faxes

Problem	Cause	Solution
Fax does not send	The Send Fax Later option is enabled and scheduled to send the fax at a later time.	This is normal printer behavior.
	The redial settings are all inactive, causing the printer to try dialing once and then stop if it encounters a busy signal, no answer, or an error.	Change the redial settings to prompt the printer to try to resend the fax automatically. 1. From the Home screen on the printer control panel, touch the Setup button. 2. Open the Fax Setup menu. 3. Open the Advanced Setup menu. 4. Open the following items: — Redial if Busy — Redial if No Answer — Redial if Comm. Error 5. Select the correct setting for each option.
	Outgoing fax calls keep dialing. The printer automatically redials a fax number if the redial options are on.	This is normal printer behavior. To prevent the fax from resending, set the Redial if Busy option to 0, set the Redial if No Answer option to 0, and set the Redial if Comm. Error option to 0.
	The fax number is too long.	Enter a phone number that is the proper length.

Table 2-48 Solve problems sending faxes (continued)

Problem	Cause	Solution
Fax stops while sending	The receiving fax machine might be malfunctioning.	Try sending to another fax machine.
	The phone line might not be working.	Disconnect the printer from the phone jack, and connect a phone. Try to make a phone call to verify that the phone line is working.
	The phone line might be noisy or poor quality.	Try using a slower fax speed to improve the reliability of transmission.
	A call-waiting feature might be active.	Verify that the fax telephone line does not have an activated call-waiting feature. A call-waiting notice can interrupt a fax call in progress, which causes a communication error.
Sent faxes are not arriving at the receiving fax machine	The receiving fax machine is turned off or has an error condition, such as being out of paper.	Ask the recipient to make sure that the fax machine is turned on and ready to receive faxes.
	The receiving machine is blocking the sending machine number.	Ask the recipient to make sure that the receiving fax machine is not blocking the sending machine fax number.

Fax error messages on the control panel

The No Fax Detected message displays

NOTE: This error does not always refer to a missed fax. If a voice call is made to a fax number by mistake and the caller hangs up, the **No Fax Detected** message displays on the control panel.

- Ask the sender to resend the fax.
- Make sure that the telephone cord from the printer is connected to the wall telephone jack.
- Try a different phone cord.
- Connect the printer phone cord to a jack for another phone line.
- Make sure the telephone line and phone wall jack are active by connecting a telephone and checking for a dial tone.
- Make sure that the telephone cord is connected to the “line” port on the printer.
- Check the phone line by running a fax test from the control panel.
- If the error persists, contact HP. See www.hp.com/support/ljM101 and/or www.hp.com/support/ljM129MFP or the support flyer that came in the printer box.

The Communication error message appears

- Ask the sender to send the fax again or send at a later time when line conditions have improved.
- Disconnect the printer telephone cord from the wall, connect a telephone to the phone jack on the wall, and try making a call. Plug the printer phone cord into a jack for another phone line.
- Try a different phone cord.

- Set the Fax Speed option to the Slow(V.29) or Medium(V.17) setting.
    a. From the Home screen on the printer control panel, touch the Setup button.
    b. Open the Fax Setup menu.
    c. Open the Advanced Setup menu.
    d. Open the Fax Speed menu.
    e. Select the correct setting.
- Turn off the Error Correction feature to prevent automatic error correction.

NOTE: Turning off the Error Correction feature can reduce image quality.

    a. From the Home screen on the printer control panel, touch the Setup button.
    b. Open the Service menu.
    c. Open the Fax Service menu.
    d. Open the Error Correction Mode menu.
    e. Select the Off setting.
- Print the Fax Activity Log report from the control panel to determine if the error occurs with a specific fax number.
    a. Touch the Fax button, and then touch the Fax Menu button.
    b. Open the Fax Reports menu.
    c. Open the Fax Activity Log menu.
    d. Select the Print Log Now option.
- If the error persists, contact HP. See www.hp.com/support/ljM101 and/or www.hp.com/support/ljM129MFP or the support flyer that came in the printer box.

No Dial Tone

- Make sure that the telephone cord is connected to the correct port on the printer.
- Make sure that the telephone cord from the printer is connected directly to the wall telephone jack.
- Check for a dial tone on the phone line by using the Start Fax button.
- Disconnect the printer telephone cord from the wall, connect a telephone to the phone jack on the wall, and try making a voice call.
- Disconnect the telephone cord from both the printer and the wall and reconnect the cord.
- Make sure that you are using the telephone cord that came with the printer.
- Connect the printer phone cord to a jack for another phone line.
- Check the phone line by using the Run Fax Test option from the Service menu on the control panel.

a. From the Home screen on the printer control panel, touch the Setup button.

b. Open the Service menu.

c. Open the Fax Service menu.

d. Select the Run Fax Test item.

The Fax is busy message appears

- Try sending the fax again.
- Call the recipient to ensure that the fax machine is on and ready.
- Check that you are dialing the correct fax number.
- Check for a dial tone on the phone line by using the Start Fax button.
- Make sure that the phone line is working by disconnecting the printer, connecting a telephone to the phone line, and making a voice call.
- Connect the printer phone cord to a jack for another phone line, and try sending the fax again.
- Try a different phone cord.
- Send the fax at a later time.
- If the error persists, contact HP. See www.hp.com/support/ljM101 and/or www.hp.com/support/ljM129MFP or the support flyer that came in the printer box.

The No fax answer message appears

- Try to resend the fax.
- Call the recipient to ensure that the fax machine is on and ready.
- Check that you are dialing the correct fax number.
- Disconnect the printer telephone cord from the wall, connect a telephone to the phone jack on the wall, and try making a voice call.
- Connect the printer phone cord to a jack for another phone line.
- Try a different phone cord.
- Make sure that the phone cord from the wall telephone jack is connected to the line port.
- Check the phone line by using the Run Fax Test option from the Service menu on the control panel.

  a. From the Home screen on the printer control panel, touch the Setup button.

  b. Open the Service menu.

  c. Open the Fax Service menu.

  d. Select the Run Fax Test item.

- If the error persists, contact HP. See www.hp.com/support/ljM101 and/or www.hp.com/support/ljM129MFP or the support flyer that came in the printer box.

Document feeder paper jam

- Verify that the paper meets printer size requirements. The printer does not support pages longer than 381 mm (15 in) for faxing.
- Copy or print the original to letter, A4, or legal size paper, and then resend the fax.

The Fax storage is full message appears

- Turn the printer off then on.
- Delete stored faxes from memory.
  - **a.** From the Home screen on the printer control panel, touch the Setup button.
  - **b.** Open the Service menu.
  - **c.** Open the Fax Service menu.
  - **d.** Select the Clear Saved Faxes item.
- Divide the large fax job into smaller sections, and then fax them individually.

Scanner error

- Verify that the paper meets printer size requirements. The printer does not support pages longer than 381 mm (15 in) for faxing.
- Copy or print the original onto letter, A4, or legal size paper and then resend the fax.

The control panel displays a Ready message with no attempt to send the fax

- Check the fax activity log for errors.
  - **a.** Touch the Fax button, and then touch the Fax Menu button.
  - **b.** Open the Fax Reports menu.
  - **c.** Open the Fax Activity Log menu.
  - **d.** Select the Print Log Now option.
- If a phone is connected to the printer, make sure that the phone is hung up.
- Disconnect all other lines between the fax and the printer.
- Connect the printer directly into the wall telephone jack and resend the fax.

The control panel displays the message "Storing page 1" and does not progress beyond that message

- Delete stored faxes from memory.
  - **a.** From the Home screen on the printer control panel, touch the Setup button.
  - **b.** Open the Service menu.
  - **c.** Open the Fax Service menu.
  - **d.** Select the Clear Saved Faxes item.

Faxes can be received, but not sent

Send fax and nothing happens.

1. Check for a dial tone on the phone line by using the Start Fax button.
2. Turn the printer off then on.
3. Use the control panel or the HP Fax Setup Wizard to configure the fax time, date, and fax header information.
    a. From the Home screen on the printer control panel, touch the Setup button.
    b. Open the Fax Setup menu.
    c. Open the Basic Setup menu.
    d. Open the Fax Header menu.
    e. Enter the correct settings.
4. Verify that any extension phones on the line are hung up.
5. If using a DSL service, make sure that the phone line connection to the printer includes a high-pass filter.

Printer is password protected

If a network administrator has set a printer password, then you must obtain the password in order to use the printer fax features.

Unable to use fax functions from the control panel

- The printer might be password protected. Use the HP Embedded Web Server, HP Toolbox software, or the control panel to set a password.
- If you do not know the password for the printer, contact your system administrator.
- Verify with the system administrator that the fax functionality has not been disabled.

Unable to use speed dials

- Make sure that the fax number is valid.
- If an outside line requires a prefix, turn on the Dial Prefix option or include the prefix in the speed dial number.
    a. From the Home screen on the printer control panel, touch the Setup button.
    b. Open the Fax Setup menu.
    c. Open the Basic Setup menu.
    d. Open the Dial Prefix menu.
    e. Select the On setting.

Unable to use group dials

- Make sure that the fax number is valid.
- If an outside line requires a prefix, turn on the Dial Prefix option or include the prefix in the speed dial number.
  a. From the Home screen on the printer control panel, touch the Setup button.
  b. Open the Fax Setup menu.
  c. Open the Basic Setup menu.
  d. Open the Dial Prefix menu.
  e. Select the On setting.
- Set up all entries in the group with speed dial entries.
  a. Open an unused speed dial entry.
  b. Enter the fax number for the speed dial.
  c. Touch the OK button to save the speed dial.

Receive a recorded error message from the phone company when trying to send a fax

- Make sure you dial the fax number correctly, and make sure that the phone service is not blocked. For example, some phone services might prevent long distance calling.
- If an outside line requires a prefix, turn on the Dial Prefix option or include the prefix in the speed dial number.
  a. From the Home screen on the printer control panel, touch the Setup button.
  b. Open the Fax Setup menu.
  c. Open the Basic Setup menu.
  d. Open the Dial Prefix menu.
  e. Select the On setting.

NOTE: To send a fax without a prefix, when the Dial Prefix option is turned on, send the fax manually.

- Send a fax to an international number
  a. If a prefix is required, manually dial the telephone number with the prefix.
  b. Enter the country/region code before dialing the phone number.
  c. Wait for pauses as you hear the tones on the phone.
  d. Send the fax manually from the control panel.

Unable to send a fax when a phone is connected to the printer

- Make sure that the telephone is hung up.
- Make sure that the telephone is not being used for a voice call when faxing.
- Disconnect the phone from the line, and then try sending the fax.

Troubleshoot fax codes and trace reports

View and interpret fax error codes

Use fax error codes from the fax activity log to solve problems with the printer fax features.

Error code	Description	Solution
232	Possible causes include the following: • A communication failure has occurred between the two machines. • The user at the remote machine might have pressed the Stop or Cancel button. • The power at the remote machine has been interrupted, or deliberately turned off causing the fax session to be interrupted.	1. Resend the fax at a different time when telephone line conditions have improved. 2. If the error persists, and error correction is in use for the fax session, disable the Error Correction setting.
282	Possible causes include the following: • The printer has not received any data at the start of a page during reception in error correction mode, but the modem has not detected a remote disconnect. • The remote machine is probably transmitting sync frames instead of data and has either jammed or broken.	Have the sender verify that the sending machine is working correctly, and then request that the sender resend the fax.
321	There was a communication error with the receiving fax machine due to poor telephone line conditions.	Resend the fax at a different time when telephone line conditions have improved.
344-348	Possible causes include the following: • The remote machine has failed to respond to a fax command from the local machine due to the connection being interrupted. • The user at the remote machine might have pressed the Stop or Cancel button. • In rare instances, incompatibility between the two machines can cause the remote machine to simply terminate the call.	1. Resend the fax at a different time when telephone line conditions have improved. 2. If the error persists, and error correction is in use for the fax session, disable the Error Correction setting.
381	Possible causes include the following: • The remote machine has failed to respond to a fax command from the local machine due to the connection being interrupted. • The user at the remote machine might have pressed the Stop button.	1. Resend the fax at a different time when telephone line conditions have improved. 2. If the error persists, and error correction is in use for the fax session, disable the Error Correction setting.

Fax trace report

A fax T.30 trace report has information that can help resolve fax transmission problems. If you call HP for help in resolving these problems, print a T.30 trace report before you call.

1. From the Home screen on the printer control panel, touch the Setup button.
2. Touch the Service menu.
3. Touch the Fax Service menu.
4. Touch the Print T.30 Trace button, and then touch the Now button.

NOTE: This procedure prints a report for the last fax job, successful or not. To generate a report for each unsuccessful fax job, select the If Error setting. To generate a report for each fax job, select the At End of Call setting.

Fax logs and reports

Use the following instructions to print fax logs and reports:

Print all fax reports

Use this procedure to print all of the following reports at one time:

- Last Call Report
- Fax Activity Log
- Phone Book Report
- Junk Fax List
- Billing Report (when Billing Codes are turned on)
- Configuration Report
- Usage Page

1. From the Home screen on the printer control panel, touch the Fax button.
2. Touch the Fax Menu button.
3. Touch the Fax Reports button.
4. Touch the Print All Fax Reports button.

Print individual fax reports

1. From the Home screen on the printer control panel, touch the Fax button.
2. Touch the Fax Menu button.
3. Touch the Fax Reports button.
4. Touch the name of the report that you want to print.

Set the fax error report

A fax error report is a brief report that indicates the printer experienced a fax job error. You can set it to print after the following events:

- Every fax error (the factory-set default)
- Send fax error
- Receive fax error
- Never

NOTE: With this option, you will have no indication that a fax failed to be transmitted unless you print a fax activity log.

1. From the Home screen on the printer control panel, touch the Fax button.
2. Touch the Fax Menu button.
3. Touch the Fax Reports button.
4. Touch the Fax Error Report button, and then touch the printing option that you want to use.

Set the fax-error-correction mode

Usually, the printer monitors the signals on the telephone line while it is sending or receiving a fax. If the printer detects an error during the transmission and the error-correction setting is On, the printer can request that the portion of the fax be resent. The factory-set default for error correction is On.

You should turn off error correction only if you are having trouble sending or receiving a fax, and you are willing to accept the errors in the transmission. Turning off the setting might be useful when you are trying to send a fax overseas or receive one from overseas, or if you are using a satellite telephone connection.

1. From the Home screen on the printer control panel, touch the Setup button.
2. Touch the Service menu.
3. Touch the Fax Service menu.
4. Touch the Error Correction button, and then touch the On button.

Change the fax speed

The fax-speed setting is the modem protocol that the printer uses to send faxes. It is the worldwide standard for full-duplex modems that send and receive data across telephone lines at up to 33,600 bits per second (bps). The factory-set default for the fax-speed setting is Fast V.34.

You should change the setting only if you are having trouble sending a fax to or receiving a fax from a particular device. Decreasing the fax speed might be useful when you are trying to send a fax overseas, or receive one from overseas, or if you are using a satellite telephone connection.

1. From the Home screen on the printer control panel, touch the Setup button.
2. Touch the Fax Setup menu.
3. Touch the Advanced Setup menu.
4. Scroll to and touch the Fax Speed button, and then touch the speed setting that you want to use.

Use fax on a DSL, PBX, or ISDN system

HP printers are designed specifically for use with traditional analog phone services. They are not designed to work on DSL, PBX, ISDN lines, or VoIP services, but they work with the proper setup and equipment.

NOTE: HP recommends discussing DSL, PBX, ISDN, and VoIP setup options with the service provider.

The HP LaserJet printer is an analog device that is not compatible with all digital phone environments (unless a digital-to-analog converter is used). HP does not guarantee that the printer will be compatible with digital environments or digital-to-analog converters.

DSL

A digital subscriber line (DSL) uses digital technology over standard copper telephone wires. This printer is not directly compatible with those digital signals. However, if the configuration is specified during DSL setup, the signal can be separated so that some of the bandwidth is used to transmit an analog signal (for voice and fax) while the remaining bandwidth is used to transmit digital data.

NOTE: Not all faxes are compatible with DSL services. HP does not guarantee that the printer will be compatible with all DSL service lines or providers.

A typical DSL modem employs a filter to separate the higher frequency DSL modem communication from lower frequency analog phone and fax modem communication. It is often necessary to use a filter with analog phones and analog fax products that are connected to a telephone line used by a DSL modem. The DSL service provider usually provides this filter. Contact the DSL provider for more information or for assistance.

PBX

The printer is an analog device that is not compatible in all digital phone environments. Digital-to-analog filters or converters might be needed for faxing functionality. If faxing issues occur in a PBX environment, it might be necessary to contact the PBX provider for assistance. HP does not guarantee that the printer will be compatible with digital environments or digital-to-analog converters.

Contact the PBX provider for more information and for assistance.

ISDN

The printer is an analog device that is not compatible in all digital phone environments. Digital-to-analog filters or converters might be needed for faxing functionality. If faxing issues occur in an ISDN environment, it might be necessary to contact the ISDN provider for assistance. HP does not guarantee that the printer will be compatible with ISDN digital environments or digital-to-analog converters.

Solve email problems (M129/M134)

If Scan to E-mail problems occur, try these solutions:

- Make sure this feature has been set up. If this feature has not been set up, use the setup wizard in the HP Device Toolbox (Windows) or HP Utility for Mac OS X software to set it up.
- Make sure the Scan to Email feature is enabled. If it has been disabled, enable the feature through the HP Device Toolbox (Windows) or HP Utility for Mac OS X software.
- Make sure that the printer is connected to a computer or to a network.

Cannot connect to the email server

- Make sure the SMTP or LDAP server name is correct. Check this setting with your system administrator or Internet Service Provider.
- If the printer cannot establish a secure connection to the SMTP or LDAP server, try without the secure connection or try a different server or port. Check this setting with your system administrator or Internet Service Provider.
- If the SMTP or LDAP server requires authentication, make sure a valid user name and password are used.
- If the SMTP or LDAP server uses an authentication method that is not supported, try a different server. Check this setting with your system administrator or Internet Service Provider.

Validate the SMTP gateway (Windows)

1. Open an MS-DOS command prompt: click **Start**, click **Run**, type `cmd`, and then press the Enter key.
2. In the command prompt window, type `telnet` followed by the SMTP gateway address and then the number 25, which is the port over which the printer is communicating. For example, type `telnet 123.123.123.123 25` where "123.123.123.123" represents the SMTP gateway address.
3. Press the Enter key. If the SMTP gateway address is not valid, the response contains the message **Could not open connection to the host on port 25: Connect Failed**.
4. If the SMTP gateway address is not valid, contact the network administrator.

Validate the LDAP gateway (Windows)

1. Open Windows Explorer. In the address bar, type `LDAP://` immediately followed by the LDAP gateway address. For example, type `LDAP://12.12.12.12` where "12.12.12.12" represents the LDAP gateway address.
2. Press the Enter key. If the LDAP gateway address is valid, the **Find People** dialog box opens.
3. If the LDAP gateway address is not valid, contact the network administrator.

Update the firmware

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

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

Method one: Update the firmware using the control panel

Use these steps to load the firmware from the control panel (for network-connected printers only), and/or set the printer to automatically load future firmware updates. For USB-connected printers, use method two.

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

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

2. From the Home screen on the printer control panel, open the Setup menu.

   - For touchscreen control panels, touch the Setup button.
   - For standard control panels, press the left or right arrow button.

3. Scroll to and open the Service menu, and then open the LaserJet Update menu.

   NOTE: If the LaserJet Update option is not listed, use method two.

4. Check for updates.

   - For touchscreen control panels, touch Check for Updates Now.
   - For standard control panels, select **Check for Update**.

   NOTE: The printer automatically checks for an update, and if a newer version is detected, the update process automatically starts.

5. Set the printer to automatically update the firmware when updates become available.

   From the Home screen on the printer control panel, open the Setup menu.

   - For touchscreen control panels, touch the Setup button.
   - For standard control panels, press the left or right arrow button.

   Scroll to and open the Service menu, open the LaserJet Update menu, and then select the Manage Updates menu.

   Set the printer to automatically update the firmware.

   - For touchscreen control panels, set the Allow Updates option to YES, and then set the Check automatically option to ON.
   - For standard control panels, set the **Allow Updates** option to **YES**, and then set the **Automatic Check** option to **ON**.

Method two: 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.

1. Go to www.hp.com/go/support, click the **Drivers & Software** link, type the printer name in the search field, press the ENTER button, and then select the printer from the list of search results.
2. Select the operating system.
3. Under the **Firmware** section, locate the **Firmware Update Utility**.
4. Click **Download**, click **Run**, and then click **Run** again.
5. When the utility launches, select the printer from the drop-down list, and then click **Send Firmware**.

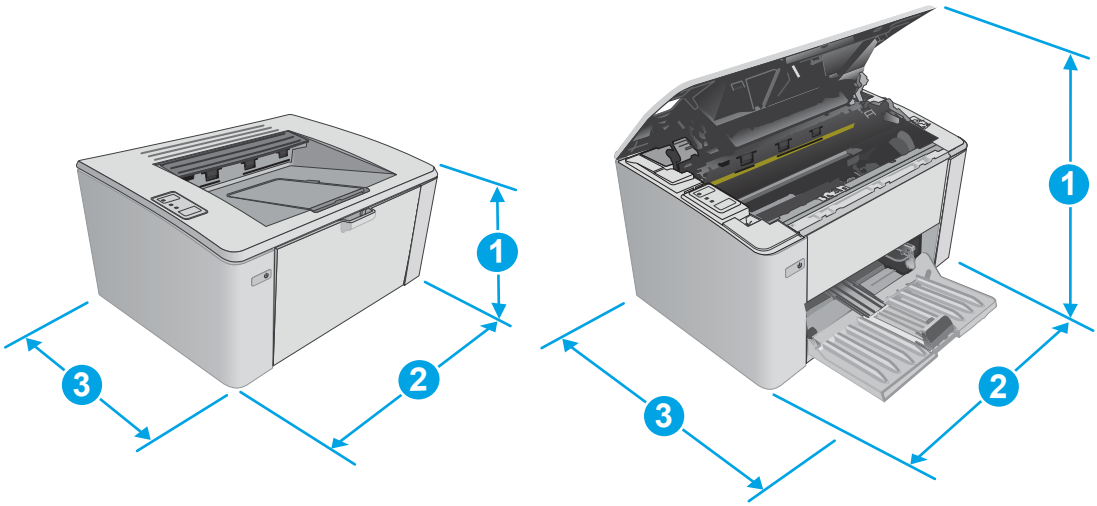
   NOTE: To print a configuration page to verify the installed firmware version before or after the update process, click **Print Config**.

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

A Printer specifications

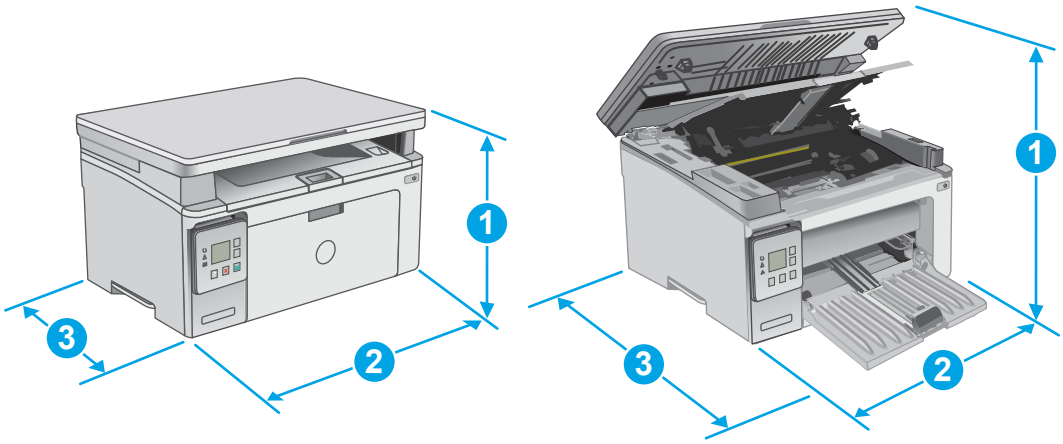
- Printer dimensions (M101/M106)
- Printer dimensions (M129/M134)
- Printer space requirements
- Power consumption, electrical specifications, and acoustic emissions
- Operating-environment range (M101/M106)
- Operating-environment range (M129/M134)
- Certificates of volatility

Printer dimensions (M101/M106)

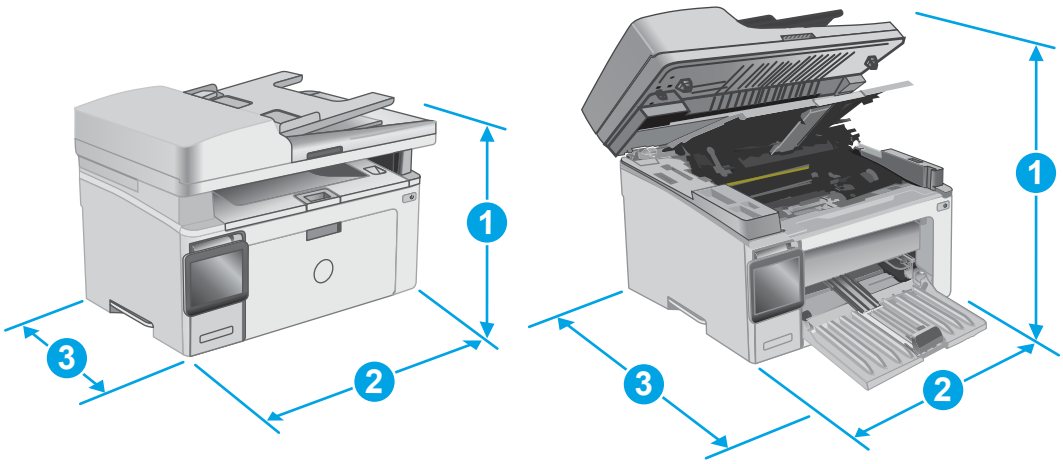


	Printer fully closed	Printer fully open
1. Height	190.7 mm (7.5 in)	332.4 mm (13.1 in)
2. Width	364.7 mm (14.4 in)	364.7 mm (14.4 in)
3. Depth	247.8 mm (9.7 in)	467 mm (18.4 in)
Weight (with cartridges)	WIth CF217A/CF218A cartridge: 5.1 kg (11.24 lb) WIth CF233A cartridge: 5.26 kg (11.6 lb)	

Printer dimensions (M129/M134)



	Printer fully closed	Printer fully open
1. Height	231 mm (9.1 in)	388 mm (15.3 in)
2. Width	398 mm (15.7 in)	398 mm (15.7 in)
3. Depth	288 mm (11.3 in)	482 mm (19 in)
Weight (with cartridges)	9.1 kg (20 lb) to 9.33 kg (20.5 lb)	



	Printer fully closed	Printer fully open
1. Height	279.5 mm (11 in)	423.7 mm (16.7 in)
2. Width	423 mm (16.6 in)	423 mm (16.6 in)
3. Depth	288.6 mm (11.4 in)	511 mm (20.1 in)
Weight (with cartridges)	10.2 kg (22.5 lb) to 10.6 kg (23.4 lb)	

Printer space requirements

HP recommends that 30 mm (1.81 in) be added to the printer dimensions provided in this chapter to make sure there is sufficient space to open doors and covers, and to provide proper ventilation. See Printer dimensions (M101/M106) on page 230 and/or Printer dimensions (M129/M134) on page 231.

Power consumption, electrical specifications, and acoustic emissions

See www.hp.com/support/ljM101 and/or www.hp.com/support/ljM129MFP for current information.

! **CAUTION:** Power requirements are based on the country/region where the printer is sold. Do not convert operating voltages. This will damage the printer and void the printer warranty.

Operating-environment range (M101/M106)

Environment	Recommended	Allowed
Temperature	15° to 27°C (59° to 80.6°F)	15° to 30°C (59° to 86°F)
Relative humidity	20% to 70% relative humidity (RH), non-condensing	10% to 80% (RH), non-condensing
Altitude	Not applicable	0 to 3048 m (0 to 10,000 ft)

Operating-environment range (M129/M134)

Environment	Recommended	Allowed
Temperature	15° to 27°C (59° to 80.6°F)	15° to 30°C (59° to 86°F)
Relative humidity	20% to 70% relative humidity (RH), non-condensing	10% to 80% (RH), non-condensing
Altitude	Not applicable	0 to 3048 m (0 to 10,000 ft)

Certificates of volatility

Figure A-1 Certificate of volatility M102/M103/M104/M106 (1 of 2)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Pro M102a HP LaserJet Pro M102w HP LaserJet Pro M104a HP LaserJet Pro M104w HP LaserJet Ultra M106w HP LaserJet Pro M103a	Part Number: G3Q34A G3Q35A G3Q36A G3Q37A G3Q39A P6N97A	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3-DRAM	128MB	☐ Yes ☒ No	Used for temporary storage during the process of jobs, and for applications that are running on the OS.	When the printer is powered off, the memory is erased.
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
EEPROM	16KB	☐ Yes ☒ No	Store customer data for backup/restore.	Perform NVRAM initialization according to service manual, it returns most system parameter in NVRAM to default factory setting.
Type (Flash, EEPROM, etc): Nor-Flash	Size: 16MB	User Modifiable: ☐ Yes ☒ No	Function: Store firmware code, file system, customer setting data for backup/restore	Steps to clear memory: Permanent storage requires special code to clear or update firmware-Typically not done by the user.
Type (Flash, EEPROM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☐ Yes ☒ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	
Type (HDD, Tape, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

USB

Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?
☐ Yes ☒ No If Yes please describe below

Can any data other than scan upload be sent to the USB device)?
☐ Yes ☐ No If Yes please describe below

Figure A-2 Certificate of volatility M102/M103/M104/M106 (2 of 2)

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: Wireless connection (wireless models only)	
Frequency: 2.4GHz/5GHz	Bandwidth:
Modulation: DSSS / OFDM modulation (WiFi)	Effective Radiate Power (ERP):
Specifications: 802.11 b/g/n/ac	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications

Author Information			
Name:	Title: Security Technical Marketing Engineer	Email:	Business Unit: IPG
			Date Prepared: 06-22-16

Figure A-3 Certificate of volatility M130/M131/M132/M134 base models (1 of 2)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Pro MFP M130a HP LaserJet Pro MFP M132a HP LaserJet Ultra MFP M134a HP LaserJet Pro MFP M131a	Part Number: G3Q57A G3Q61A G3Q66A P6N77A	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3-DRAM	128MB	☐ Yes ☒ No	Used for temporary storage during the process of jobs, and for applications that are running on the OS.	When the printer is powered off, the memory is erased.
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
EEPROM	16KB	☐ Yes ☒ No	Store customer data for backup/restore.	Perform NVRAM initialization according to service manual, it returns most system parameter in NVRAM to default factory setting.
Type (Flash, EEPROM, etc): Nor-Flash	Size: 16MB	User Modifiable: ☐ Yes ☒ No	Function: Store firmware code, file system, customer setting data for backup/restore	Steps to clear memory: Permanent storage requires special code to clear or update firmware-Typically not done by the user.
Type (Flash, EEPROM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☐ Yes ☒ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	
Type (HDD, Tape, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

USB

Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?
☐ Yes ☒ No If Yes please describe below

Can any data other than scan upload be sent to the USB device)?
☐ Yes ☐ No If Yes please describe below

Figure A-4 Certificate of volatility M130/M131/M132/M134 base models (2 of 2)

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☐ Yes ☒ No If Yes please describe below:	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications

Author Information			
Name:	Title: Security Technical Marketing Engineer	Email:	Business Unit: IPG
			Date Prepared: 06-22-16

Figure A-5 Certificate of volatility M130//M131/M132/M134 models (1 of 2)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Pro MFP M130nw HP LaserJet Pro MFP M130fn HP LaserJet Pro MFP M130fw HP LaserJet Pro MFP M132nw HP LaserJet Pro MFP M132snw HP LaserJet Pro MFP M132fn HP LaserJet Pro MFP M132fp HP LaserJet Pro MFP M132fw HP LaserJet Ultra MFP M134fn HP LaserJet Pro MFP M131fn	Part Number: G3Q58A G3Q59A G3Q60A G3Q62A G3Q68A G3Q63A G3Q64A G3Q65A G3Q67A P6N80A	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3-DRAM	256MB	☐ Yes ☒ No	Used for temporary storage during the process of jobs, and for applications that are running on the OS.	When the printer is powered off, the memory is erased.
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
EEPROM	16KB	☐ Yes ☒ No	Store customer data for backup/restore.	Perform NVRAM initialization according to service manual, it returns most system parameter in NVRAM to default factory setting.
Type (Flash, EEPROM, etc): Nor-Flash	Size: 128MB	User Modifiable: ☐ Yes ☒ No	Function: Store firmware code, file system, customer setting data for backup/restore	Steps to clear memory: Permanent storage requires special code to clear or update firmware-Typically not done by the user.
Type (Flash, EEPROM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☐ Yes ☒ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	
Type (HDD, Tape, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

USB

Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?
☐ Yes ☒ No If Yes please describe below

Can any data other than scan upload be sent to the USB device)?
☐ Yes ☐ No If Yes please describe below

Figure A-6 Certificate of volatility M130//M131/M132/M134 models (2 of 2)

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: Wireless connection (wireless models only)	
Frequency: 2.4GHz/5GHz	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications: 802.11 b/g/n/ac	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications

Author Information			
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			Date Prepared: 06-22-16

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