

# LASERJET PRO MFP

## Troubleshooting Manual



M521





# HP LaserJet Pro MFP M521 Printer

## Troubleshooting Manual

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## Conventions used in this guide

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 **TIP:** Tips provide helpful hints or shortcuts.

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

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

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

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# Table of contents

<b>1 Theory of operation .....</b>	<b>1</b>
Basic operation .....	2
Major systems .....	2
Product block diagram .....	2
Sequence of operation .....	3
Normal sequence of operation .....	3
Formatter-control system .....	4
Auto on/Auto off mode .....	4
Input/output .....	5
CPU .....	5
Memory .....	6
Firmware .....	6
Nonvolatile memory .....	6
Control panel .....	6
Engine-control system .....	7
Motors, fans, clutches, solenoids, switches, and sensors .....	8
DC controller operations .....	15
Fuser-control circuit .....	17
Fuser failure detection .....	18
Fuser temperature control .....	19
Fuser protective function .....	20
Low-voltage power supply .....	21
Overcurrent/overvoltage protection .....	22
High-voltage power supply .....	23
Laser/scanner system .....	24
Laser failure detection .....	25
Image-formation system .....	26
Electrophotographic process .....	26
Image formation process .....	27
Latent-image formation stage .....	28
Primary charging .....	28
Laser beam exposure .....	28

Developing stage .....	29
Toner cartridge .....	29
Transfer stage .....	30
Fusing stage .....	30
Cleaning stage .....	31
Toner detection .....	32
Pickup, feed, and delivery system .....	33
Paper trays .....	33
Photo sensors and switches .....	34
Solenoids and clutches .....	36
Tray 1 or Tray 2 .....	38
Pickup and feed unit .....	38
Cassette paper size detection/cassette paper detection .....	38
Cassette pickup .....	38
Tray 1 paper pickup .....	38
Paper pickup and feed .....	39
Jam detection .....	40
Additional tray .....	41
Tray driver PCA .....	41
Paper pickup and feed .....	42
Paper level and size detection .....	43
Jam detection .....	43
Scanner system .....	44
Scanner power-on sequence of events .....	44
Copy or scan sequence of events .....	45
<b>2 Solve problems .....</b>	<b>47</b>
Solve problems checklist .....	48
Menu map .....	50
Troubleshooting process .....	51
Pre-troubleshooting checklist .....	51
Determine the problem source .....	52
Troubleshooting flowchart .....	52
Power subsystem .....	53
Power-on checks .....	53
Power-on troubleshooting overview .....	53
Control-panel checks .....	54
Tools for troubleshooting .....	56
Diagrams .....	56
Block diagrams .....	56
Location of connectors .....	58

DC controller connections .....	58
Formatter connections .....	59
Plug and port locations .....	60
Locations of major assemblies .....	61
General timing charts .....	65
Circuit diagrams .....	66
Use HP Device Toolbox (Windows) .....	68
Internal print-quality test pages .....	69
Clean the paper path .....	69
Print the configuration page .....	69
Print quality troubleshooting tools .....	70
Repetitive defects ruler .....	70
Control-panel menus .....	71
Setup Menu .....	71
HP Web Services .....	71
Reports menu .....	72
Self Diagnostics menu .....	73
Fax Setup menu .....	73
System Setup menu .....	76
Service menu .....	79
Network Setup menu .....	81
Quick Forms menu .....	82
Function specific menus .....	83
USB Flash Drive .....	83
Fax Menu .....	83
Copy Menu .....	86
Scan Menu .....	87
Apps .....	87
Interpret control-panel messages .....	88
Control panel message types .....	88
Control panel messages .....	88
49 Error, Turn off then on .....	88
50.x Fuser Error .....	88
51.XX Error .....	88
54.XX Error .....	89
55.X Error .....	89
57 Fan Error, Turn off then on .....	89
59.X Error .....	90
79 Error Turn off then on .....	90
Black Cartridge low .....	90
Black Cartridge very low .....	90

Cleaning .....	91
Communication Error .....	91
Device error, press OK .....	91
Document feeder door is open. Canceled fax. ....	92
Door open .....	92
Fax is busy. Canceled send. ....	92
Fax is busy. Redial pending. ....	92
Fax receive error. ....	93
Fax Send error. ....	93
Fax storage is full. Canceling the fax receive. ....	94
Fax storage is full. Canceling the fax receive. ....	94
Fax storage is full. Canceling the fax send. ....	94
Genuine HP supply installed .....	94
Incompatible <color> .....	95
Install <color> cartridge .....	95
Invalid driver Press OK .....	95
Jam in Tray 1, Clear jam and then press OK .....	95
Load tray 1 Press OK for available media .....	95
Load Tray 1 <TYPE> <SIZE>, Press OK to use available media .....	96
Load Tray 1, <PLAIN> <SIZE> / Cleaning mode, OK to start .....	96
Load Tray <X>: [Type], [Size] .....	96
Manual Duplex Load Tray 1, Press OK .....	96
Manual feed <SIZE> <TYPE>, Press OK to use available media .....	96
Memory is low. Press OK. ....	97
Misprint, Press OK .....	97
No dial tone. ....	97
No fax answer. Canceled send. ....	98
No fax answer. Redial pending. ....	98
No Fax Detected .....	98
Print failure, press OK. If error repeats, turn off then on. ....	99
Remove shipping lock from <color> cartridge .....	99
Replace <color> .....	99
Unexpected size in tray 1 Load <size> Press OK .....	99
Unsupported <color> Press OK to continue .....	100
Used <color> cartridge is installed Press OK to continue .....	100
Event-log messages .....	100
Print the event log .....	100
Show an event log .....	100
Event log messages .....	101
Clear jams .....	104
Jam locations .....	104

Clear jams in the document feeder .....	105
Clear jams in the output area .....	107
Clear jams in Tray 1 .....	109
Clear jams in Tray 2 or optional Tray 3 .....	112
Clear jams in the fuser .....	116
Clear jams in the duplexer .....	118
Paper feeds incorrectly or becomes jammed .....	120
The product does not pick up paper .....	120
The product picks up multiple sheets of paper .....	120
The document feeder jams, skews, or picks up multiple sheets of paper .....	121
Prevent paper jams from the paper trays .....	121
Solve image-quality problems .....	122
Image defect examples .....	122
Clean the product .....	130
Clean the pickup and separation rollers .....	130
Clean the paper path .....	130
Clean the scanner glass strip and platen .....	130
Clean the document feeder pickup rollers and separation pad .....	131
Clean the touchscreen .....	132
Solve performance problems .....	133
Solve connectivity problems .....	134
Solve USB connection problems .....	134
Solve wired network problems .....	134
Poor physical connection .....	134
The computer is using the incorrect IP address for the product .....	135
The computer is unable to communicate with the product .....	135
The product is using incorrect link and duplex settings for the network .....	135
New software programs might be causing compatibility problems .....	135
The computer or workstation might be set up incorrectly .....	135
The product is disabled, or other network settings are incorrect .....	135
Solve wireless network problems .....	136
Wireless connectivity checklist .....	136
The product does not print after the wireless configuration completes .....	137
The product does not print, and the computer has a third-party firewall installed .....	137
The wireless connection does not work after moving the wireless router or product .....	137
Cannot connect more computers to the wireless product .....	137
The wireless product loses communication when connected to a VPN .....	138
The network does not appear in the wireless networks list .....	138
The wireless network is not functioning .....	138

Perform a wireless network diagnostic test .....	138
Reduce interference on a wireless network .....	139
Service mode functions .....	140
Service menu .....	140
Service menu settings .....	140
Restore the factory-set defaults .....	140
Secondary service menu .....	141
Open the secondary service menu .....	141
Secondary service menu structure .....	141
Product resets .....	142
NVRAM initialization .....	142
Super NVRAM initialization .....	143
Solve fax problems .....	144
Checklist for solving fax problems .....	144
Perform a fax diagnostic test .....	145
Fax trace report .....	146
Fax error report printing .....	146
Print all fax reports .....	146
Print individual fax reports .....	146
Set the fax error report .....	147
Set the fax-error-correction mode .....	147
Change the fax speed .....	147
Solve problems sending faxes .....	148
An error message displays on the control panel .....	148
The Communication Error message appears .....	148
No dial tone. ....	149
The Fax is busy. message appears .....	149
The No fax answer. message appears .....	150
Document feeder paper jam .....	150
The Fax storage is full. message appears .....	151
Scanner error .....	151
The control panel displays a Ready message with no attempt to send the fax .	151
The control panel displays the message "Storing page 1" and does not progress beyond that message .....	152
Faxes can be received, but not sent .....	152
Product is password protected .....	152
Unable to use fax functions from the control panel .....	152
Unable to use speed dials .....	153
Unable to use group dials .....	153
Receive a recorded error message from the telephone company when trying to send a fax .....	153



Unable to send a fax when a telephone is connected to the product .....	154
Solve problems receiving faxes .....	154
The fax does not respond .....	154
The fax has a dedicated telephone line .....	154
An answering machine is connected to the product .....	155
The Answer Mode setting is set to the Manual setting .....	155
Voice mail is available on the fax line .....	156
The product is connected to a DSL telephone service .....	156
The product uses a fax over IP or VoIP telephone service .....	156
An error message displays on the control panel .....	157
The No Fax Detected message displays .....	157
The Communication Error message appears .....	157
The Fax storage is full. message appears .....	158
The Fax is busy. message appears .....	158
A fax is received but does not print .....	159
The Private Receive feature is on .....	159
Sender receives a busy signal .....	159
A handset is connected to the product .....	159
A telephone line splitter is being used .....	159
No dial tone .....	159
Cannot send or receive a fax on a PBX line .....	159
Solve general fax problems .....	160
Faxes are sending slowly .....	160
Fax quality is poor .....	161
Fax cuts off or prints on two pages .....	161
Product updates .....	163
Manually update the firmware .....	163
Set the product to automatically update the firmware .....	163

## **Appendix A Service and support ..... 165**

Hewlett-Packard limited warranty statement .....	166
HP's Premium Protection Warranty: LaserJet toner cartridge limited warranty statement .....	168
HP policy on non-HP supplies .....	169
HP anticounterfeit Web site .....	170
Data stored on the toner cartridge .....	171
End User License Agreement .....	172
OpenSSL .....	175
Customer self-repair warranty service .....	176
Customer support .....	177

<b>Appendix B Product specifications .....</b>	<b>179</b>
Physical specifications .....	180
Power consumption, electrical specifications, and acoustic emissions .....	180
Environmental specifications .....	180
 <b>Appendix C Regulatory information .....</b>	 <b>181</b>
FCC regulations .....	182
Environmental product stewardship program .....	183
Protecting the environment .....	183
Ozone production .....	183
Power consumption .....	183
Toner consumption .....	183
Paper use .....	183
Plastics .....	183
HP LaserJet print supplies .....	184
Return and recycling instructions .....	184
United States and Puerto Rico .....	184
Multiple returns (more than one cartridge) .....	184
Single returns .....	184
Shipping .....	184
Non-U.S. returns .....	185
Paper .....	185
Material restrictions .....	185
Disposal of waste equipment by users .....	186
Electronic hardware recycling .....	186
Chemical substances .....	186
Material Safety Data Sheet (MSDS) .....	186
For more information .....	186
Declaration of conformity (dn model) .....	188
Declaration of conformity (dw model) .....	190
Safety statements .....	192
Laser safety .....	192
Canadian DOC regulations .....	192
VCCI statement (Japan) .....	192
Power cord instructions .....	192
Power cord statement (Japan) .....	192
EMC statement (China) .....	193
EMC statement (Korea) .....	193
EMI statement (Taiwan) .....	193
Laser statement for Finland .....	193
GS statement (Germany) .....	195

Substances Table (China) .....	195
Restriction on Hazardous Substances statement (Turkey) .....	195
Restriction on Hazardous Substances statement (Ukraine) .....	195
Additional statements for telecom (fax) products .....	196
EU Statement for Telecom Operation .....	196
New Zealand Telecom Statements .....	196
Additional FCC statement for telecom products (US) .....	196
Telephone Consumer Protection Act (US) .....	197
Industry Canada CS-03 requirements .....	197
Vietnam Telecom wired/wireless marking for ICTQC Type approved products .....	198
Additional statements for wireless products .....	199
FCC compliance statement—United States .....	199
Australia statement .....	199
Brazil ANATEL statement .....	199
Canadian statements .....	199
Products with 5 GHz Operation Industry of Canada .....	200
Exposure to Radio Frequency Radiation (Canada) .....	200
European Union regulatory notice .....	200
Notice for use in France .....	200
Notice for use in Russia .....	200
Mexico statement .....	201
Taiwan statement .....	201
Korean statement .....	201
Vietnam Telecom wired/wireless marking for ICTQC Type approved products .....	201

<b>Index .....</b>	<b>203</b>
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# 1 Theory of operation

- [Basic operation](#)
- [Formatter-control system](#)
- [Engine-control system](#)
- [Image-formation system](#)
- [Pickup, feed, and delivery system](#)
- [Tray 1 or Tray 2](#)
- [Additional tray](#)
- [Scanner system](#)

# Basic operation

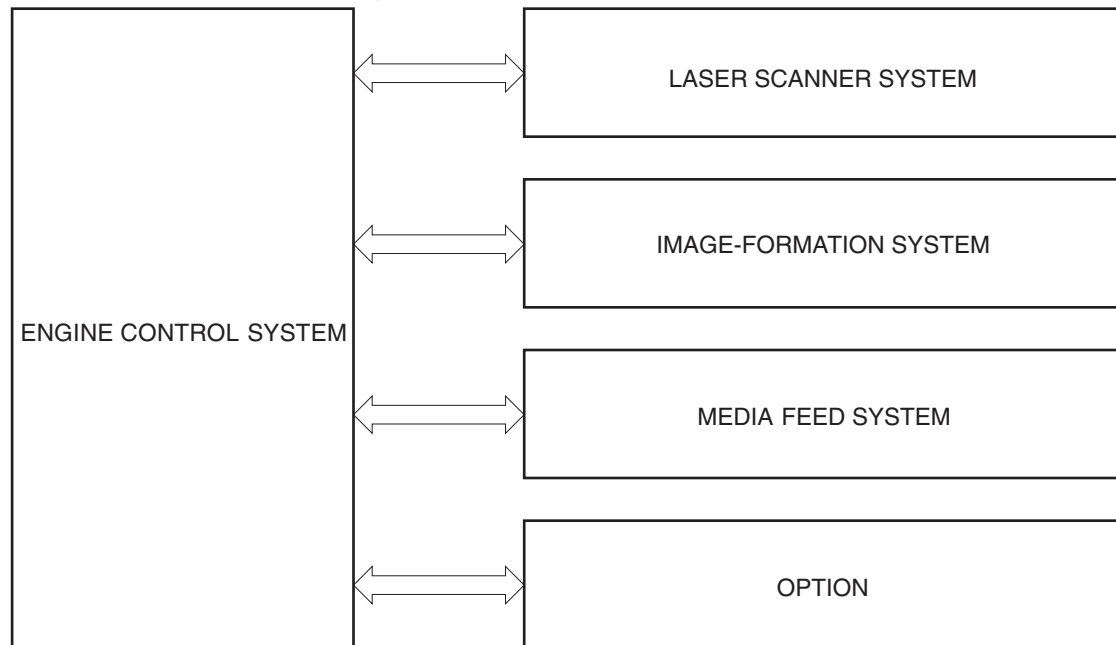
## Major systems

The product contains the following systems:

- Engine-control system
- Laser/scanner system
- Image-formation system
- Paper feed system
- Option

## Product block diagram

**Figure 1-1** Product block diagram



## Sequence of operation

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

### Normal sequence of operation

**Table 1-1 Sequence of operation**

Name	Timing	Purpose
WAIT	From the time the power switch is turned on or the door is closed until the product is ready for a print operation.	Brings the product to printable condition. The product performs the following during the operation: <ul style="list-style-type: none"><li>• Detects the toner cartridge</li></ul>
STBY (standby)	From the end of the WAIT or LSTR period until either a print command is sent or the power switch is turned off.	Maintains the product in printable condition.
INTR (initial rotation)	From the time the print command is received until the temperature of the fuser unit reaches its targeted temperature.	Starts up the high-voltage biases, the laser/scanner, and the fuser unit for printing.
PRINT	From the end of the INTR period until the last sheet completes the fuser operation.	Forms the image on the photosensitive drum based on the VIDEO signals from the formatter. Transfers and fuses the toner image to the paper.
LSTR (last rotation)	From the end of the PRINT period until the main motor stops rotating.	Moves the last printed sheet out of the product.  The product enters the INTR period as the LSTR period is completed, if the formatter sends another print command.

# Formatter-control system

The formatter is responsible for the following procedures:

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

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

## Auto on/Auto off mode

This feature conserves power after the product has been idle for an adjustable period of time by using two power-saving modes: Sleep mode and Auto off mode.

The product enters Sleep mode after a specified period of idle time. The default idle time to enter Sleep mode is fifteen minutes. The "Ready" LED on the front of the product remains lit when the product is in Sleep mode.

The product enters Auto on/Auto off mode after a specified period of idle time. The default idle time to enter Auto off mode is thirty minutes. The "Ready" LED on the front of the product turns off when the product is in Auto on/Auto off mode.

The product enters Auto off/Manual on mode after a specified period of time when no wake events are selected.

	<b>Power consumption</b>	<b>Status of power button light</b>	<b>How to enable mode</b>	<b>How to disable mode (put in Ready state)</b>	<b>Relative time to Ready state</b>	<b>Control-panel term</b>
Off	Less than 0.5W	Off	Manually: press the power button  Automatically: sleep timer expires	Press the power button	Longest	



	Power consumption	Status of power button light	How to enable mode	How to disable mode (put in Ready state)	Relative time to Ready state	Control-panel term
Auto off	Less than 1W	Blinks at 3 second intervals	Auto off timer expires	Print via USB port  Open the cartridge door  Touch the control panel touchscreen  Press the power button  Incoming fax call	Longer than Sleep mode	
Sleep	Approximately 4W	Blinks at 3 second intervals	Auto off timer expires	Printing maintenance tasks  Receive a fax  Insert paper into empty ADF tray  Open the cartridge door  Touch the control panel touchscreen  Press the power button	Shortest	All events



**NOTE:** Product error messages override the Sleep message. The product enters sleep mode at the appropriate time, but the error message continues to appear.

## Input/output

The product receives print data primarily from the gigabit LAN interface and fax data from telecom interface. The product also has a USB 2.0 port for connecting directly to a computer and a USB 2.0 HOST port for connecting to a portable storage device. The M521dw products are capable of receiving print data from 802.11b/g/n compatible devices.

## CPU

The formatter incorporates a 800 MHz processor.

## Memory

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



**NOTE:** If the product encounters a problem when managing available memory, a clearable warning message appears on the control panel display.

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## Firmware

The firmware is contained on the formatter. A remote firmware update process is used to overwrite and update the firmware on the formatter.

## Nonvolatile memory

The product uses nonvolatile random access memory (NVRAM) and Flash memory to store device and user configuration settings. The contents of NVRAM are retained when the product is turned off or disconnected. The product uses Flash memory to store system firmware and the SmartInstall package.

## Control panel

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

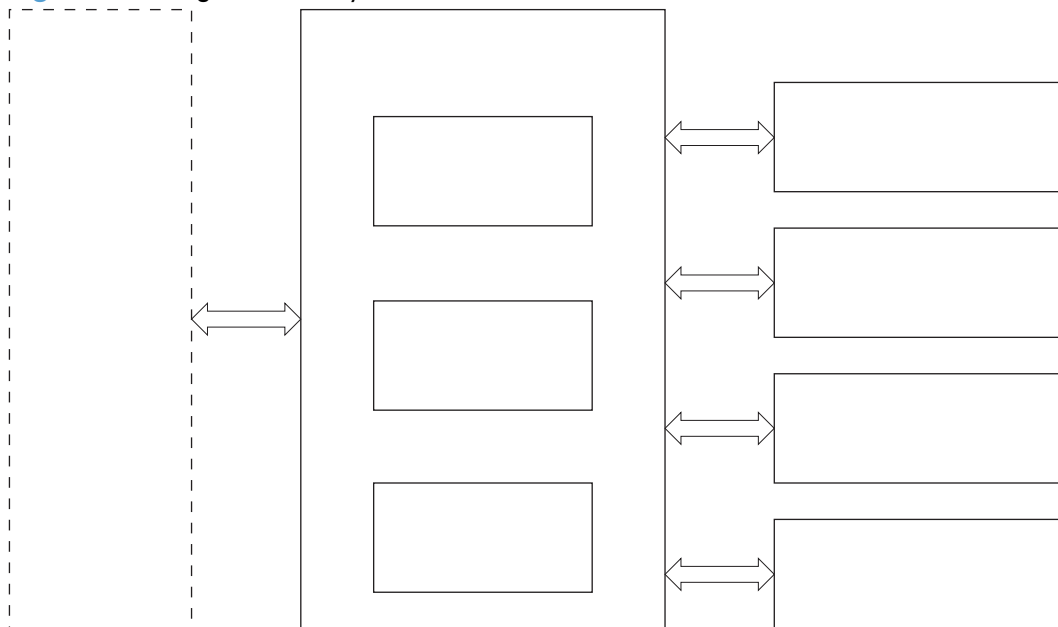
# Engine-control system

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

The engine control system contains the following major components:

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

**Figure 1-2** Engine-control system



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

Figure 1-3 Motors

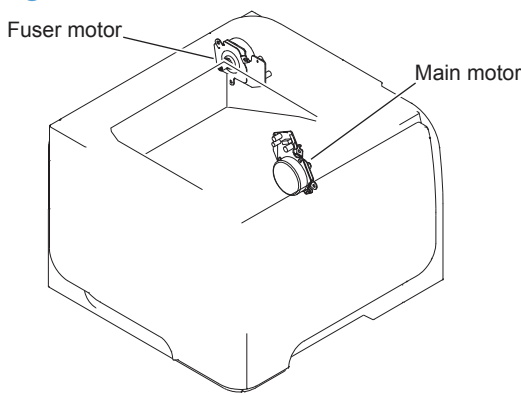
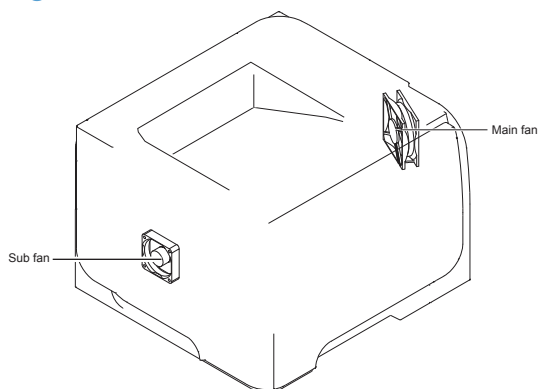


Table 1-2 Motors

Description	Components driven	Fault detection
Main motor (M8001)	<ul style="list-style-type: none"><li>• Pickup roller</li><li>• Feed roller</li><li>• Transfer roller</li><li>• Photosensitive drum</li><li>• Developing roller</li><li>• Duplex repickup roller</li></ul>	Yes
Fuser motor (M8002)	<ul style="list-style-type: none"><li>• Pressure roller</li><li>• Delivery roller</li><li>• Fuser-delivery roller</li><li>• Duplex-feed roller</li></ul>	Yes

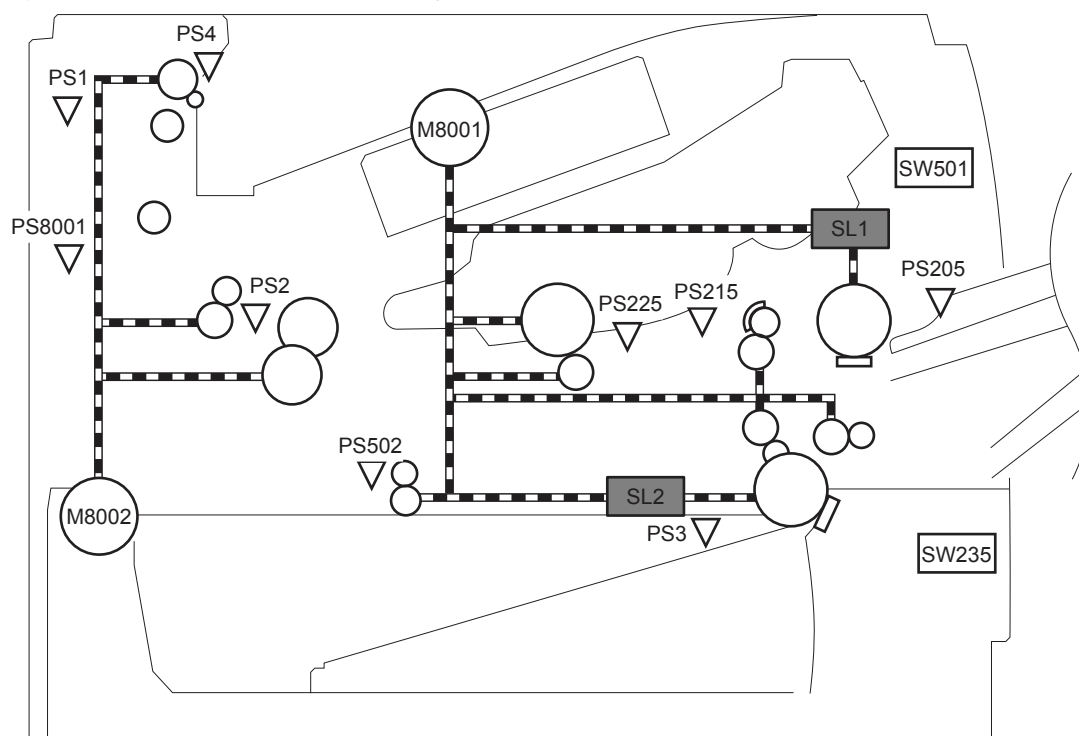
**Figure 1-4** Fans



**Table 1-3** Fans

Description	Area cooled	Type	Speed
Main fan (FM1)	Inside the product	Intake	Full
Sub fan (FM2)	Inside the product	Intake	Full

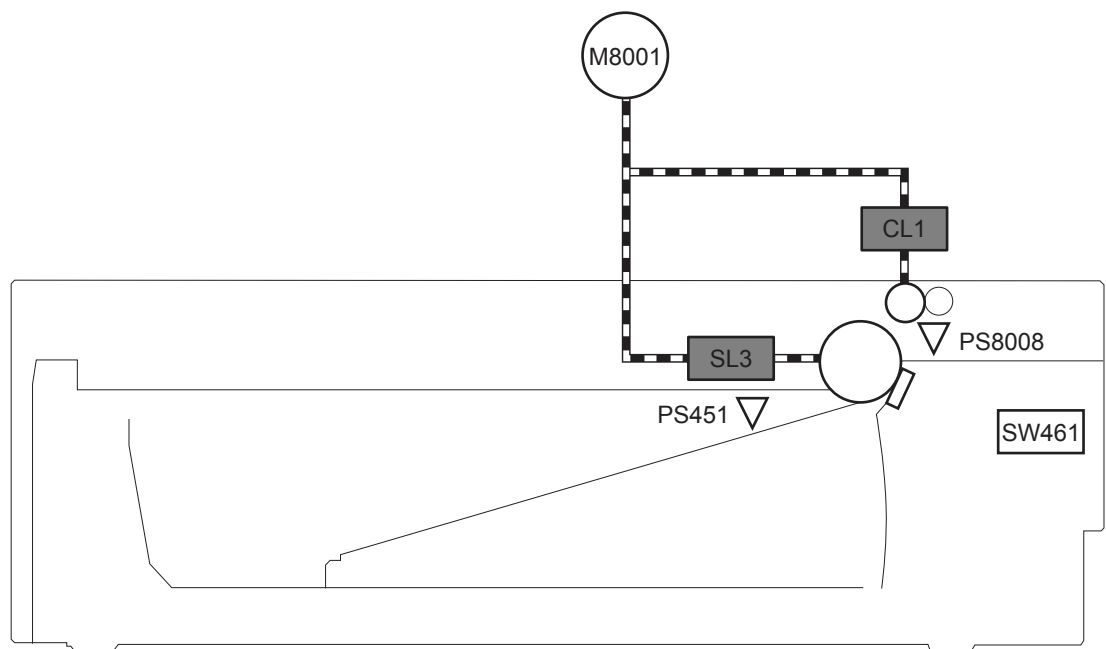
**Figure 1-5** Solenoids and clutches (product)



**Table 1-4** Solenoids and clutches (product)


Item	Description
SL1	Tray 1 (multipurpose tray) pickup solenoid
SL2	Cassette (Tray 2) pickup solenoid

**Figure 1-6** Solenoids and clutches (Tray 2 and Tray 3)

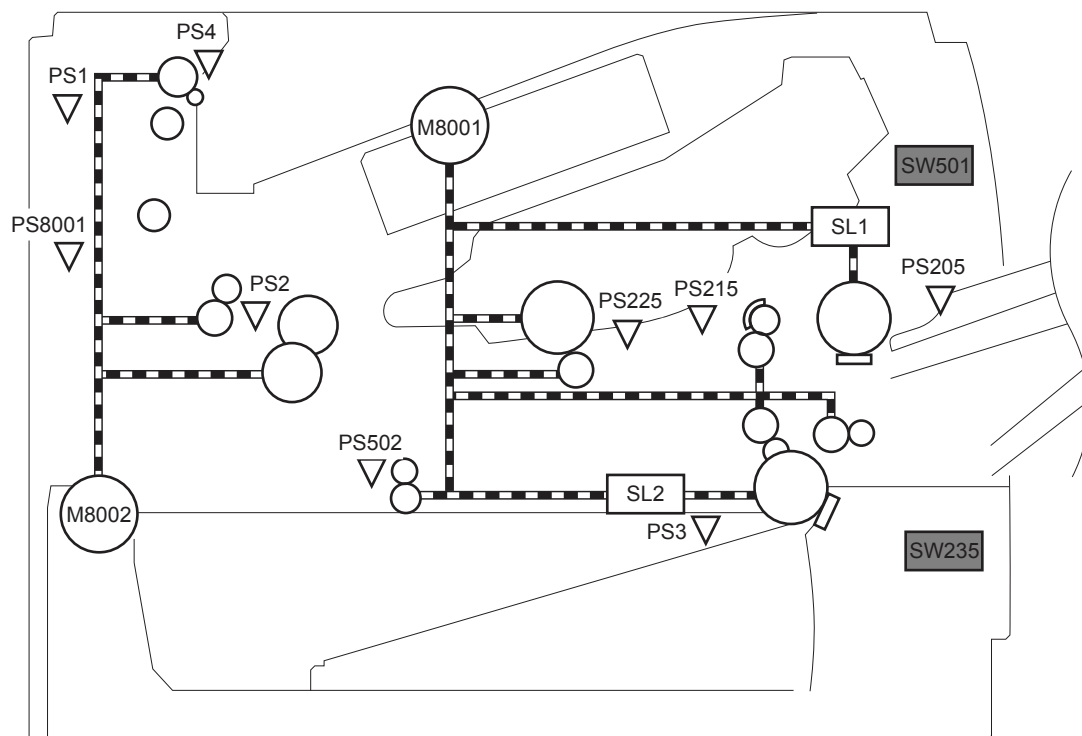


**Table 1-5 Solenoids and clutches (Tray 2 and Tray 3)**

Item	Description
SL3	Paper feeder pickup solenoid
CL1	Paper feeder pickup clutch

 **NOTE:** Tray 2 and Tray 3 are identical 500-sheet input trays.

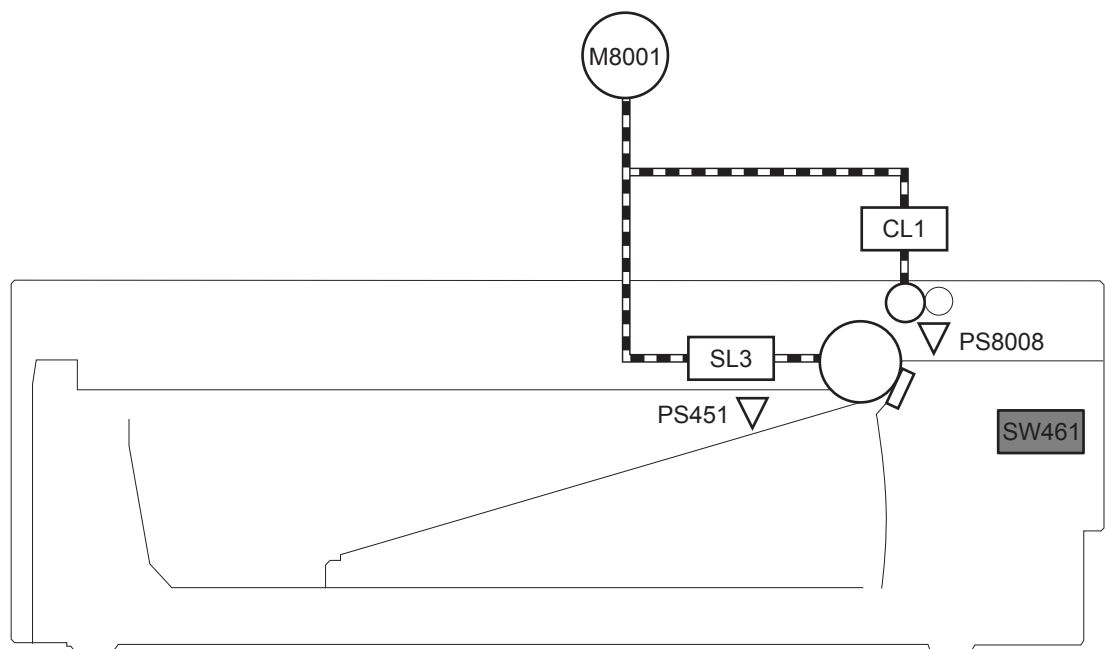
**Figure 1-7** Switches (product)



**Table 1-6** Switches (product)


Item	Description
SW235	Cassette presence switch
SW501	Cartridge-door switch

**Figure 1-8** Switches (Tray 2 and Tray 3)



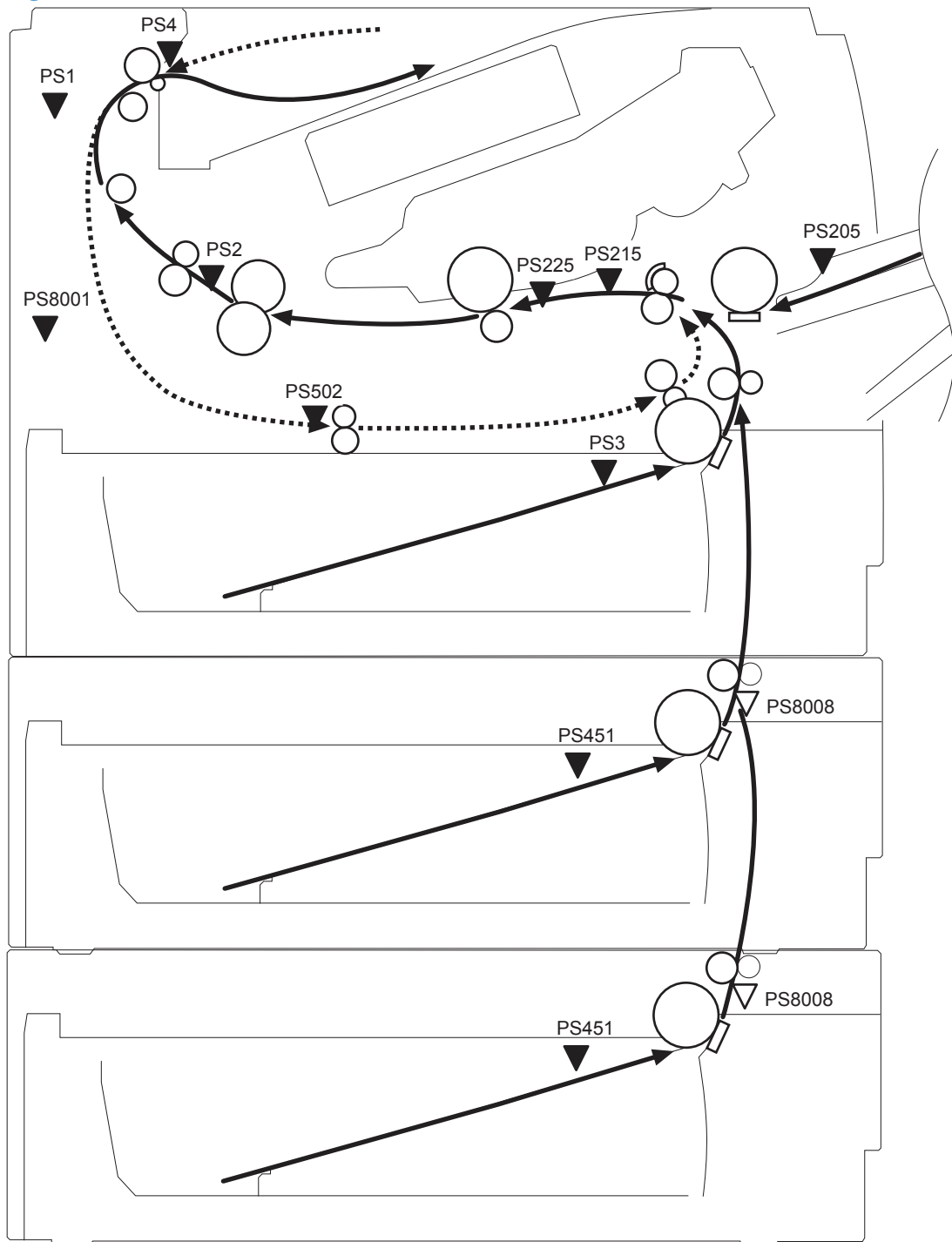
**Table 1-7** Switches (Tray 2 and Tray 3)

Item	Description
SW461	Paper feeder cassette presence switch

 **NOTE:** Tray 2 and Tray 3 are identical 500-sheet input trays.



**Figure 1-9** Sensors



**Table 1-8** Sensors

Item	Description	Item	Description
PS1	Face-up sensor	PS225	Paper-width sensor
PS2	Fuser delivery sensor	PS502	Duplex paper-feed sensor

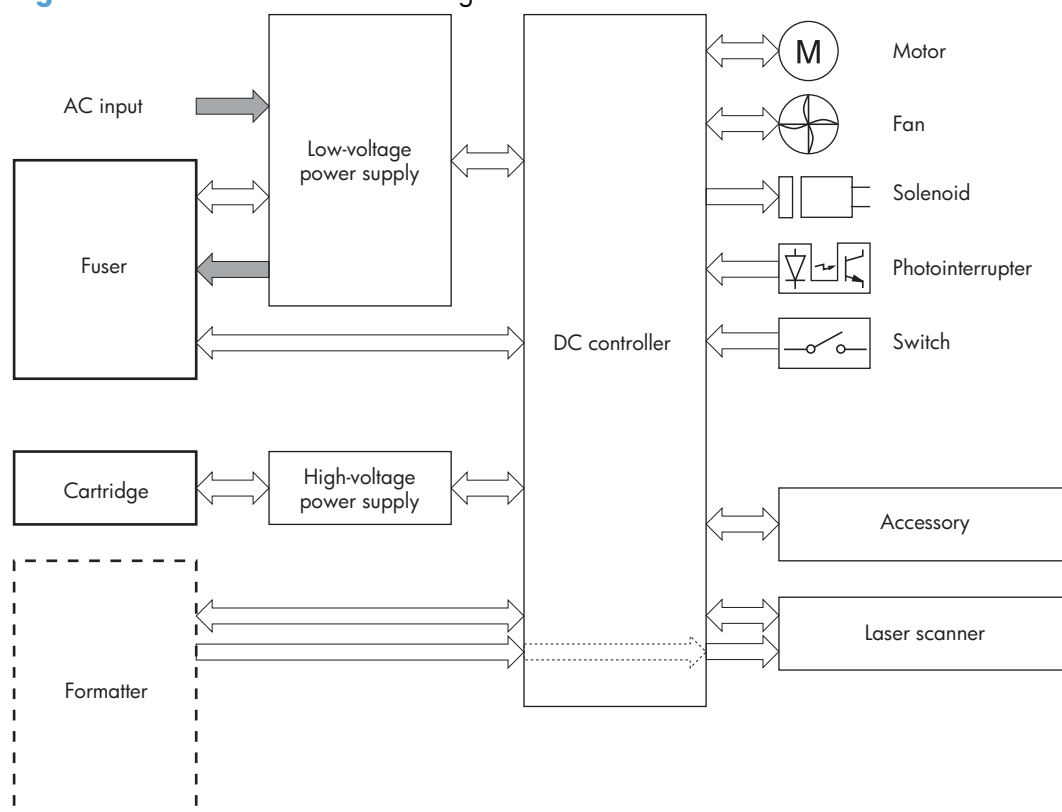
**Table 1-8 Sensors (continued)**

Item	Description	Item	Description
PS3	Cassette paper-presence sensor	PS451	Paper feeder cassette paper-presence sensor <b>NOTE:</b> PS451 is used in Tray 3, and Tray 4.
PS4	Face-down tray paper-full sensor	PS8001	Rear door sensor
PS205	Tray 1 (multipurpose tray) paper-presence sensor	PS8008	Paper feeder paper-feed sensor <b>NOTE:</b> PS8008 is used in Tray 2, and Tray 3.
PS215	Top-of-Page (TOP) sensor		

## DC controller operations

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

**Figure 1-10** DC controller block diagram



**Table 1-9** DC controller controlled components

Component	Designator	Description
Motor	M8001	Main motor
	M8002	Fuser motor
Fan	FM1	Main fan
	FM2	Sub fan
Solenoid	SL1	Tray 1 (multipurpose tray) pickup solenoid
	SL2	Cassette (Tray 2) pickup solenoid
Photointerrupter	PS1	Face-up sensor
	PS2	Fuser-delivery sensor
	PS3	Cassette paper-presence sensor
	PS4	Face-down tray (output bin) paper-full sensor
	PS205	Tray 1 (multipurpose tray) presence sensor
	PS215	Top-of-Page (TOP) sensor

**Table 1-9 DC controller controlled components (continued)**

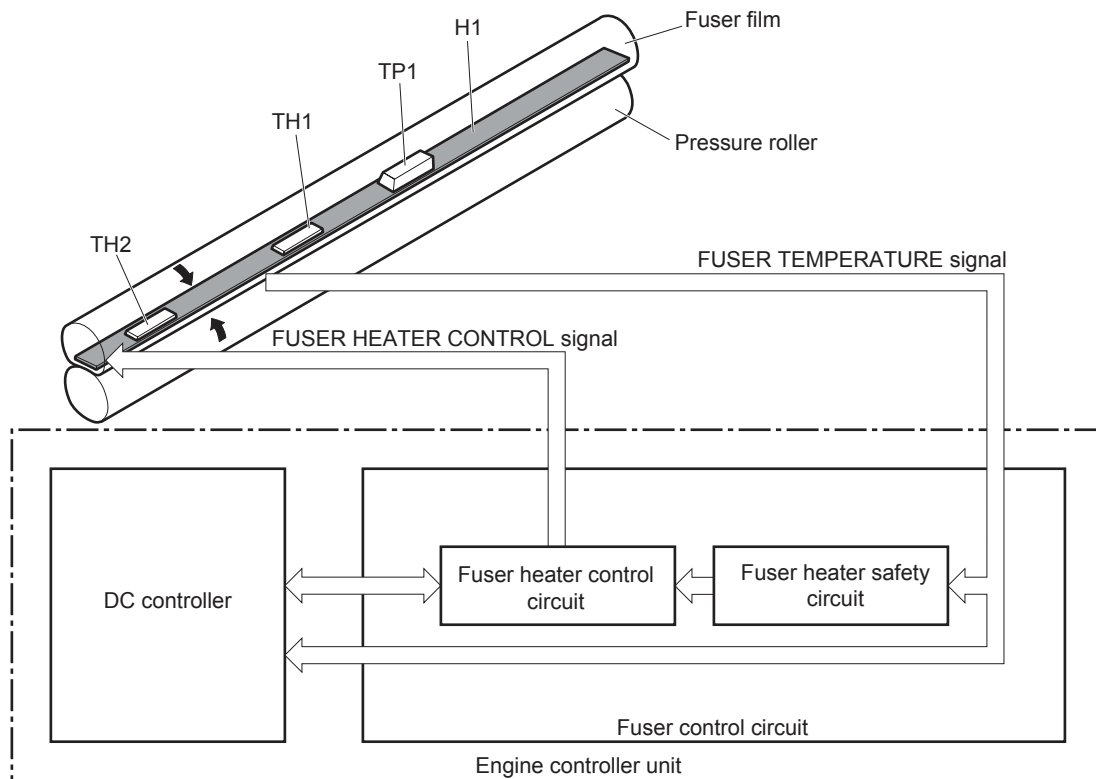
Component	Designator	Description
	PS225	Paper-width sensor
	PS502	Duplex paper-feed sensor
	PS8001	Rear-door sensor
Switch	SW235	Cassette-presence switch <b>NOTE:</b> PS8008 is used in Tray 2, and Tray 3
	SW240	Power switch
	SW260	Interlock switch
	SW501	Cartridge-door switch
	SW2100	Test-print switch

## Fuser-control circuit

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

- Fuser heater (H1): heats the fusing film
- Thermistor (TH1 and TH2): detects the fuser temperature (contact type)
  - Main thermistor (TH1): controls the temperature in the fuser (contact type)
  - Sub thermistor (TH2): detects a one-sided temperature rise in the fuser and controls the temperature in the fuser (contact type)
- Thermoswitch (TP1): prevents abnormal temperature rise in the fuser (contact type)

**Figure 1-11** Fuser control circuit



## Fuser failure detection

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

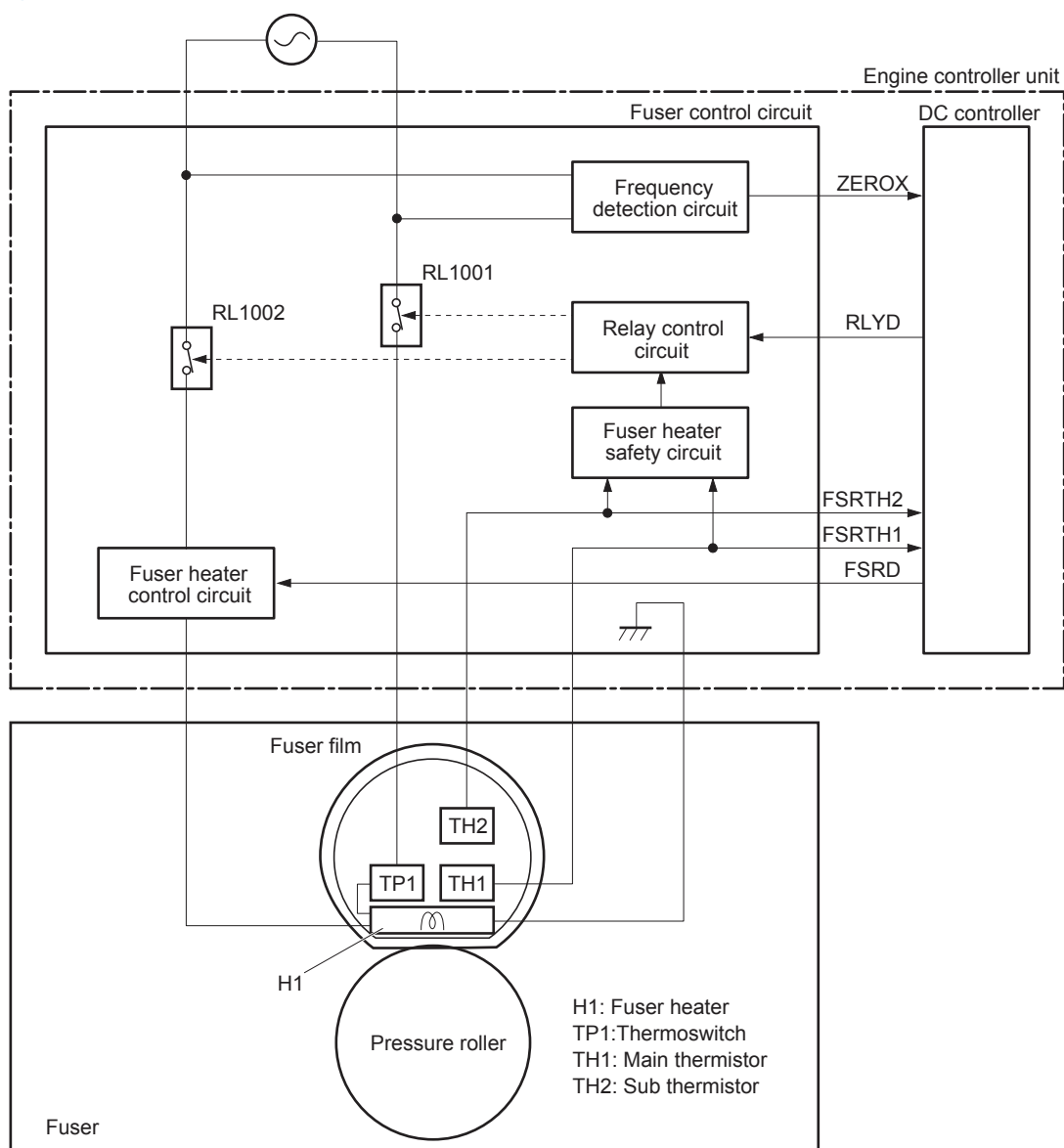
- Start-up failure
  - If the main thermistor does not detect a specified temperature during the start-up process of the heater in the wait period
  - If the main thermistor does not detect a specified temperature during the heater temperature control in the initial rotation period
- Abnormal low temperature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

## Fuser temperature control

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

The DC controller monitors the FUSER TEMPERATURE (FSRTH1, FSRTH2) signals and sends the FUSER HEATER CONTROL (FSRD) signal according to the detected temperature. The fuser heater control circuit controls the fuser heater depending on the signal so that the heater remains at the targeted temperature.

**Figure 1-12** Fuser-heater control circuit



## Fuser protective function

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

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

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

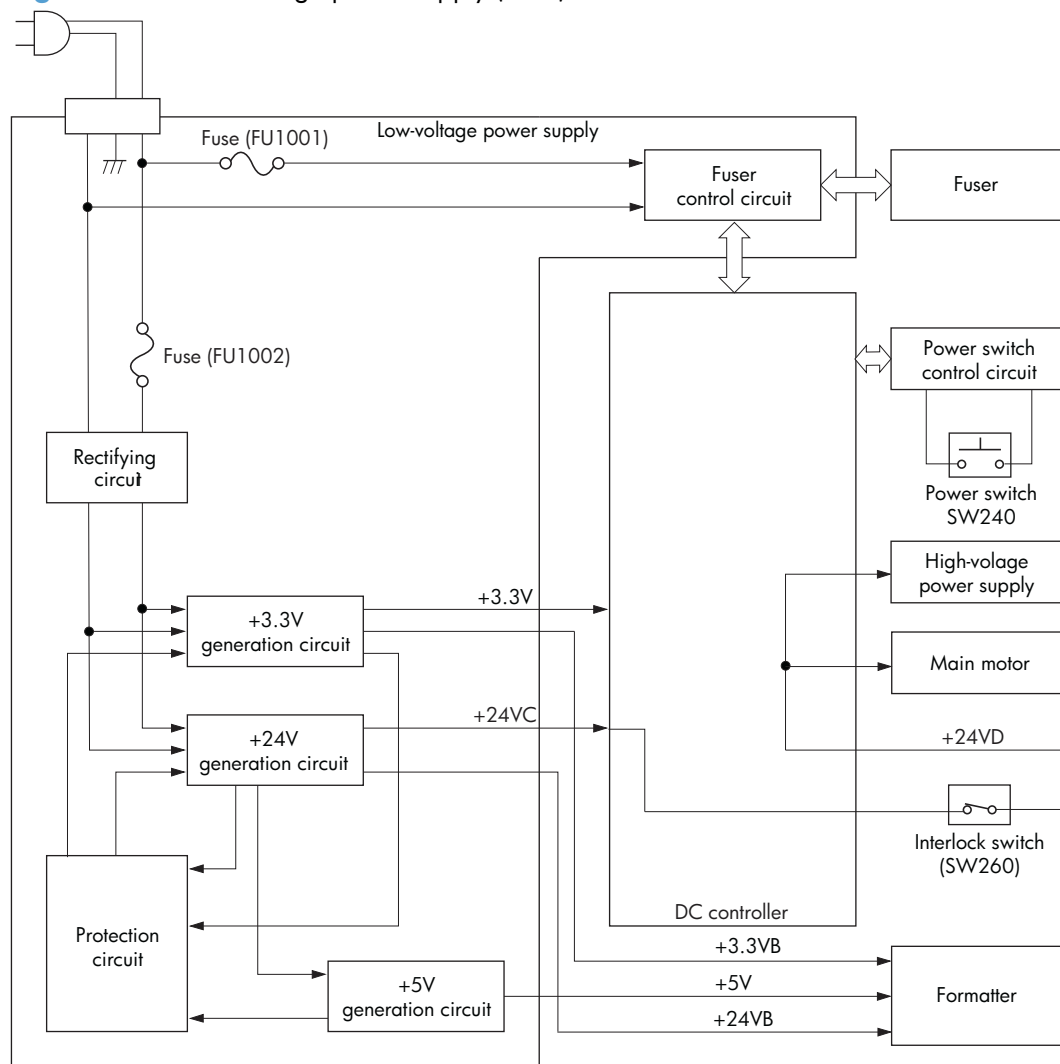


## Low-voltage power supply

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

**WARNING!** The product power switch only interrupts DC voltage from the LVPS. The AC voltage is present in the product when the power cable is plugged into a power receptacle and the power switch is in the off position. You must disconnect the product power cable before servicing the product.

**Figure 1-13** Low-voltage power supply (LVPS)



## Overcurrent/overvoltage protection

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

If the DC power is not being supplied from the low-voltage power supply, the protective function might be running. In such case, turn off the power switch and disconnect the power cable. Do not connect the power cable or turn on the power switch again until the cause is found.

---

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

---

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

For safety reasons, the product interrupts power (24 V) to the main motor and high-voltage power supply. The interlock switch is turned off to interrupt power when the cartidge door opens (SW260 is turned off). The AC voltage remains present in the product when the power switch is in the off position. Disconnect the power cable when disassembling the product.



---

**NOTE:** An accidental electrical short while servicing the product can result in a loss of power to the product causing the control panel to shut down (blank out). Turn the product power off, and then unplug the power cable. Wait at least 15 minutes before plugging the power cable in and turning the product power on.

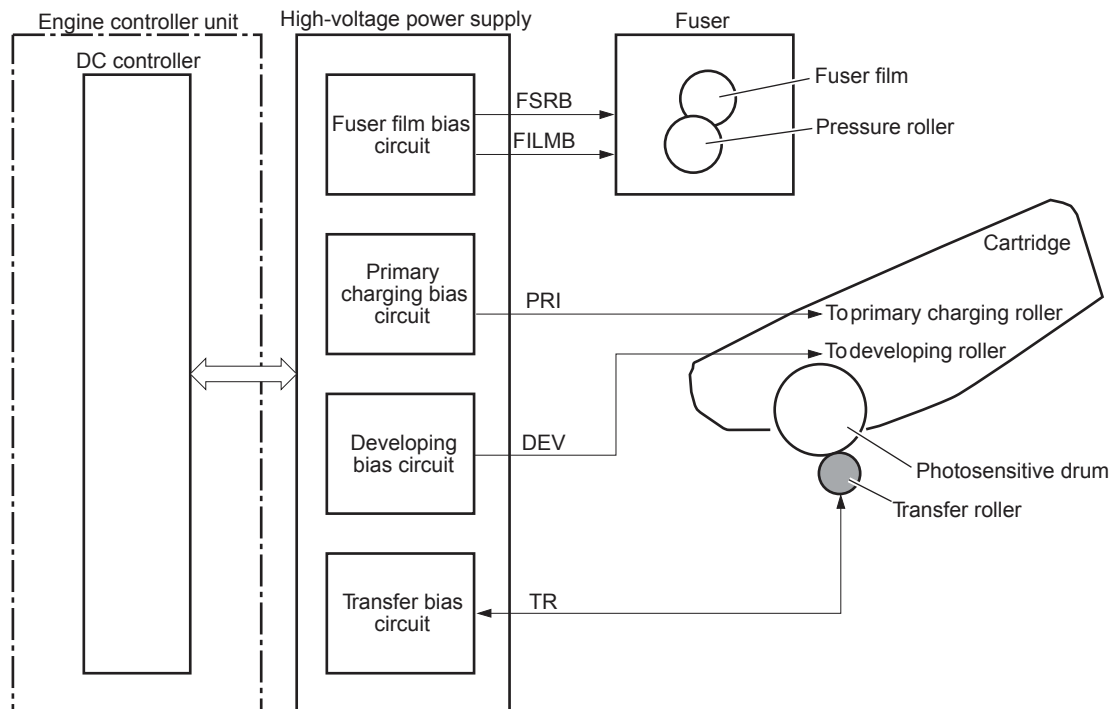
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## High-voltage power supply

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

- Primary charging roller
- Developing roller
- Transfer roller
- Fusing film

**Figure 1-14** High-voltage power supply

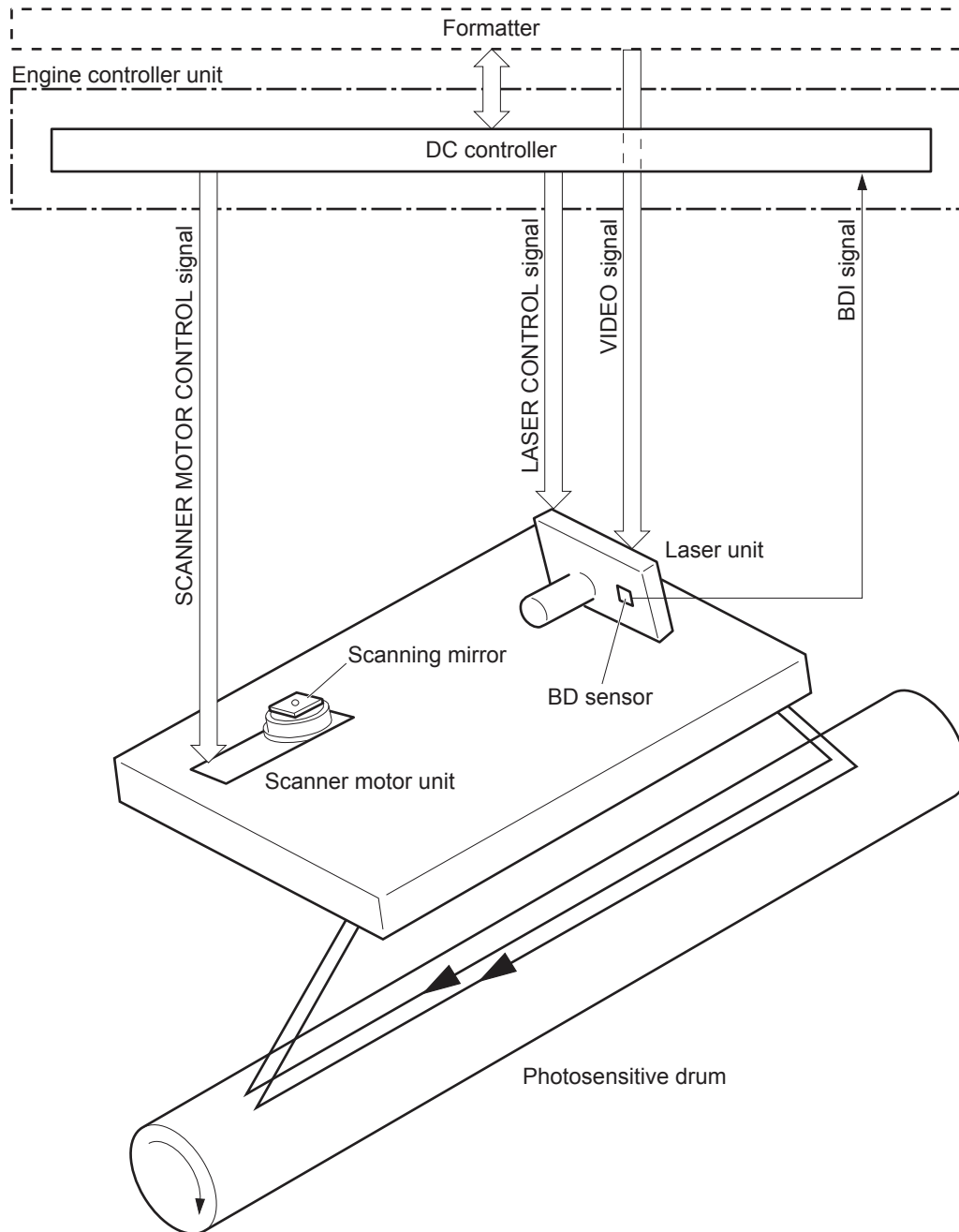


## Laser/scanner system

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

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

**Figure 1-15** Laser/scanner system



## Laser failure detection

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

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

# Image-formation system

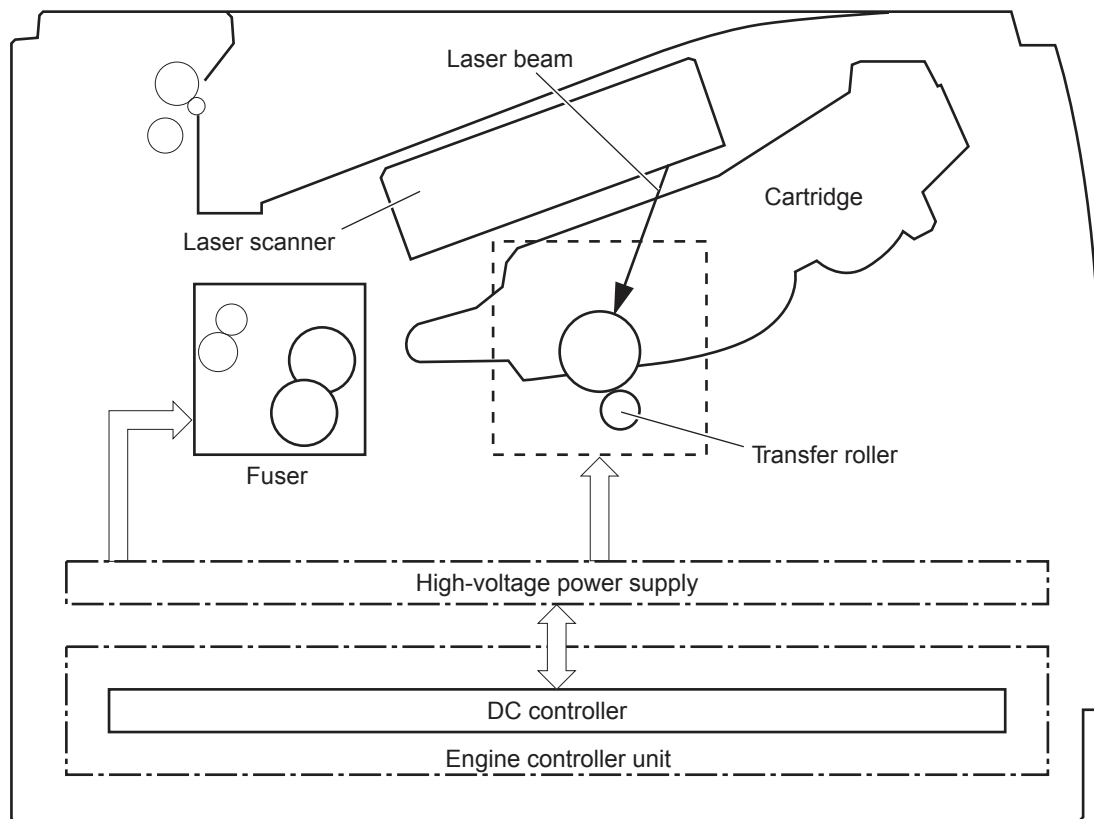
## Electrophotographic process

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

- Toner cartridge
- Transfer roller
- Fuser
- Laser/scanner

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

**Figure 1-16** Electrophotographic process block diagram

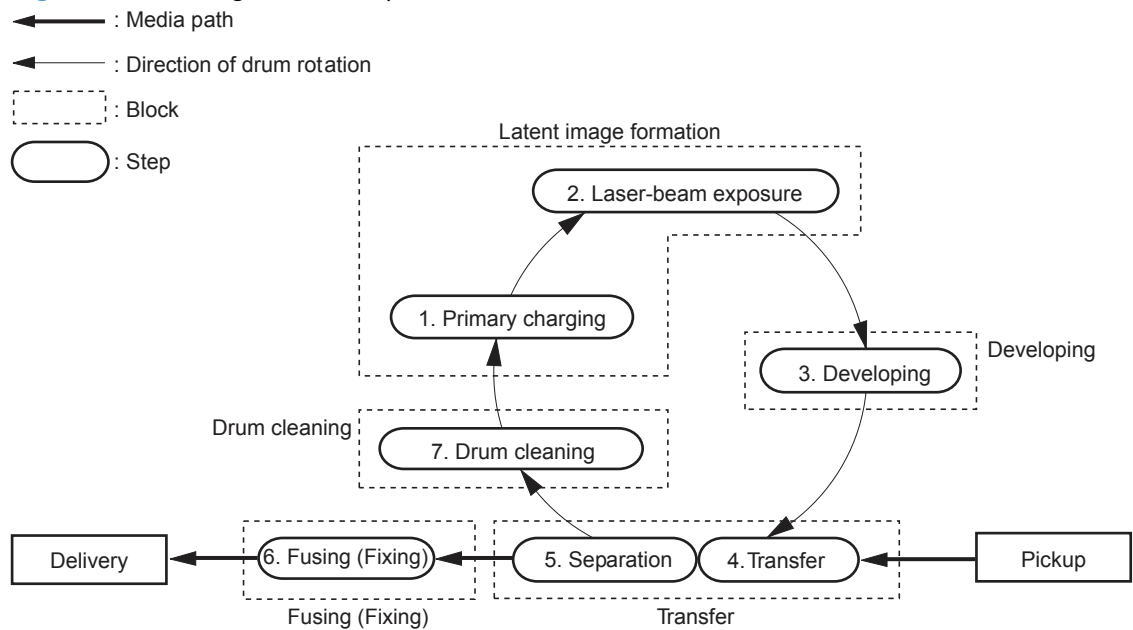


## Image formation process

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

- Latent-image formation block
  - Step 1: Primary charging
  - Step 2: Laser-beam exposure
- Developing block
  - Step 3: Developing
- Transfer block
  - Step 4: Transfer
  - Step 5: Separation
- Fusing block
  - Step 6: Fusing
- Drum cleaning block
  - Step 7: Drum cleaning

**Figure 1-17** Image formation process



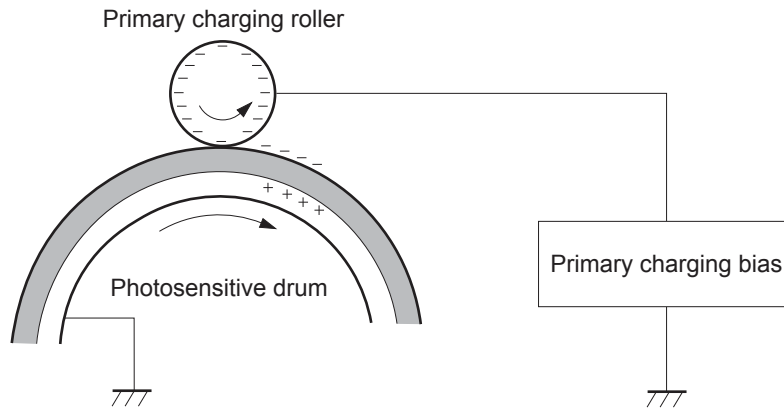
## Latent-image formation stage

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

### Primary charging

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

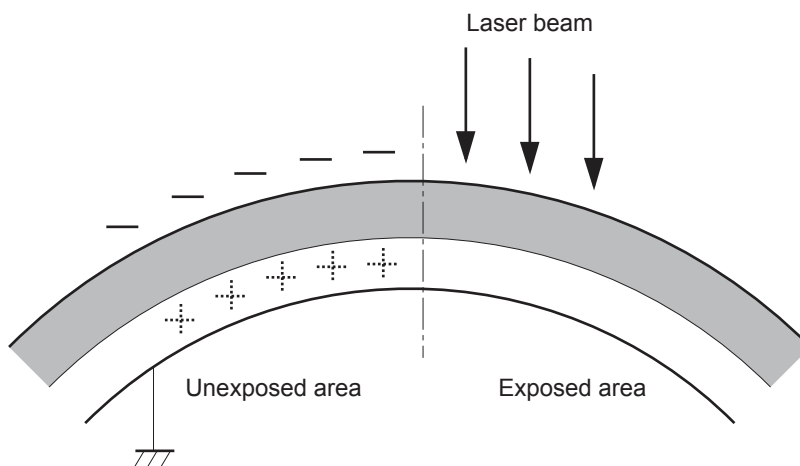
**Figure 1-18** Primary charging



### Laser beam exposure

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

**Figure 1-19** Laser beam exposure



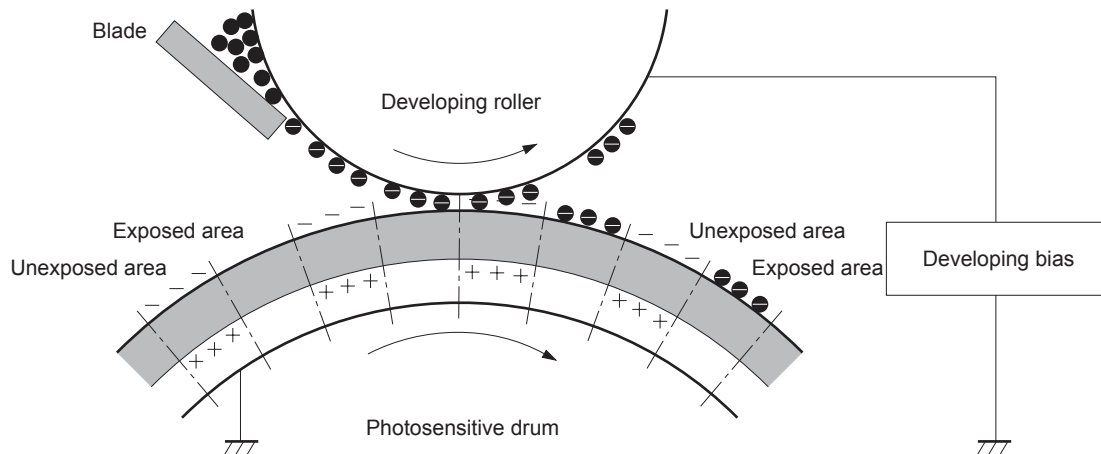


## Developing stage

### Toner cartridge

**Step 3:** In the toner cartridge, the developing cylinder comes in contact with the photosensitive drum to deposit toner onto the electrostatic latent image.

**Figure 1-20** Toner cartridge

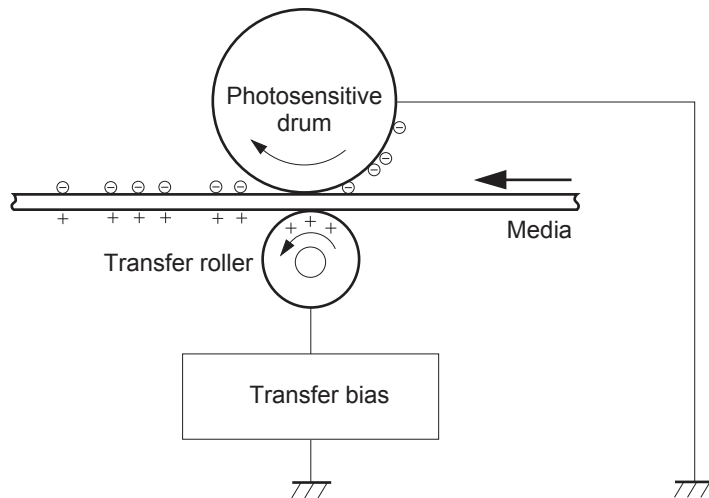


Toner acquires a negative charge from the friction that occurs when the developing roller rotates against the developing blade. The developing bias is applied to the developing roller to make a potential difference between the developing roller and the photosensitive drum. The negatively charged toner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

## Transfer stage

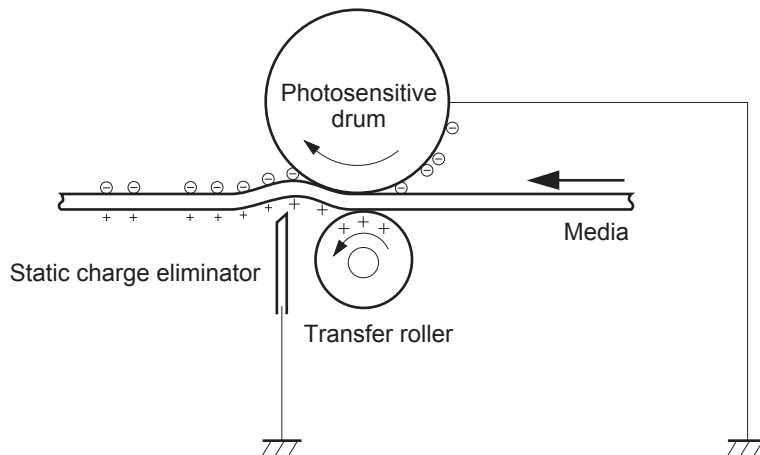
**Step 4:** The transfer charging roller, to which a DC positive bias is applied, imparts a positive charge on the paper. When the paper comes in contact with the photosensitive drum, the toner is transferred to the paper.

**Figure 1-21** Transfer



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

**Figure 1-22** Separation

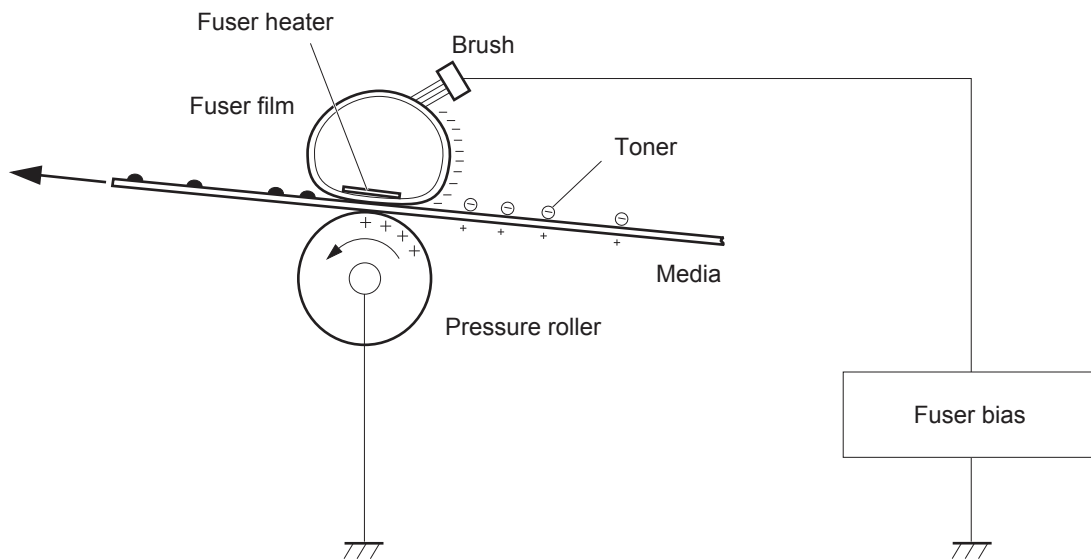


## Fusing stage

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

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

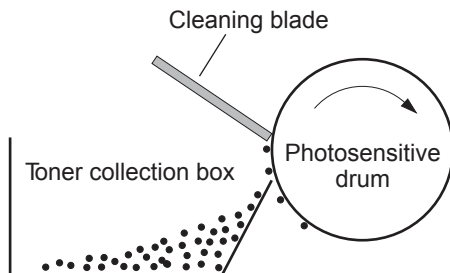
**Figure 1-23** Fusing



### Cleaning stage

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

**Figure 1-24** Drum cleaning



## Toner detection

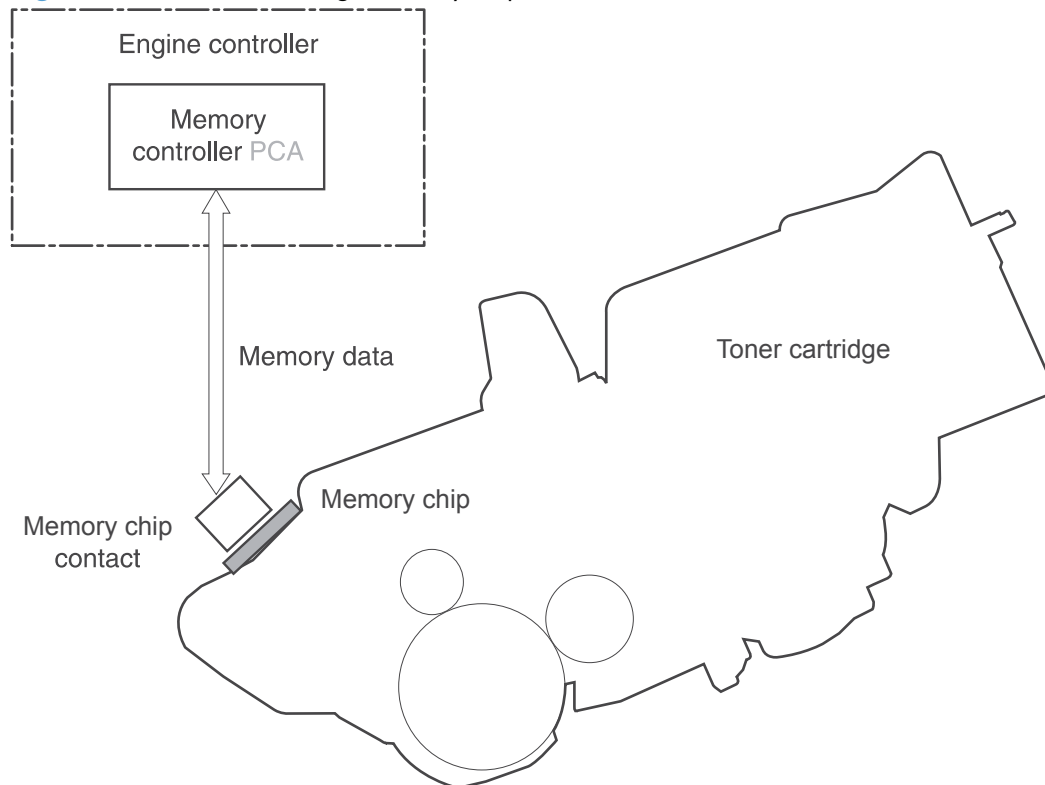
The product uses a nonvolatile memory chip built into the toner cartridge. Toner-cartridge detection happens when the engine controller detects the presence of a genuine HP toner-cartridge that contains a memory chip. Toner detection happens as the engine controller reads or writes the data that is stored on the memory chip. The engine controller renews the information in the prescribed timing and reads or writes it from or to the memory chip.

The engine controller commands the memory chip to read or write with the following conditions:

- **Read**
  - Power is on
  - The cartridge door is closed
  - A command is received from the formatter
- **Write**
  - A page of paper is printed
  - A command is received from the formatter

When the engine controller fails to read or write three times in a row, it determines that the memory chip is abnormal and sends a cartridge memory abnormality warning to the formatter.

**Figure 1-25** Toner cartridge memory chip



## Pickup, feed, and delivery system

The pickup/feed/delivery system consists of several types of feed rollers and sensors. The product uses a motor and two solenoids to drive the rollers. Three paper-detection sensors detect paper as it passes through the product. If paper does not reach or pass each sensor within a specified time, the DCC determines that a jam has occurred and alerts the formatter.

### Paper trays

The product has the following paper trays:

- Tray 1 (multipurpose tray, all models)
- Tray 2 (500-sheet tray, all models)
- Tray 3 (optional 500-sheet input tray)

# Photo sensors and switches

Figure 1-26 Photo sensors and switches (product)

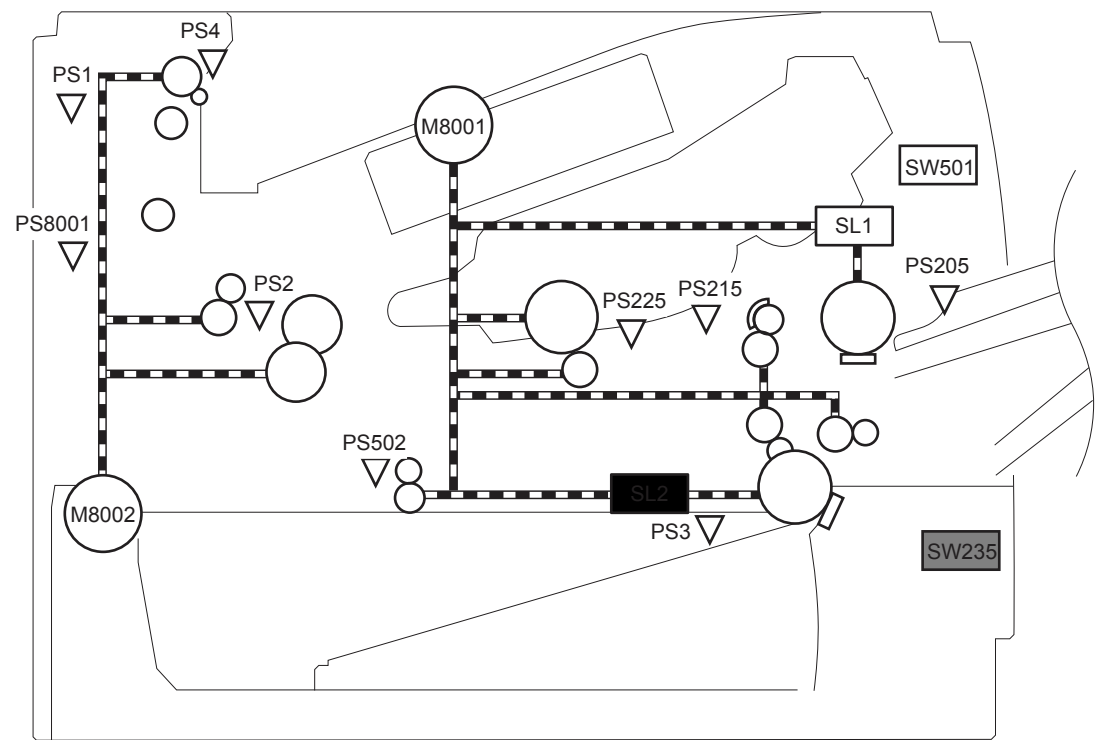
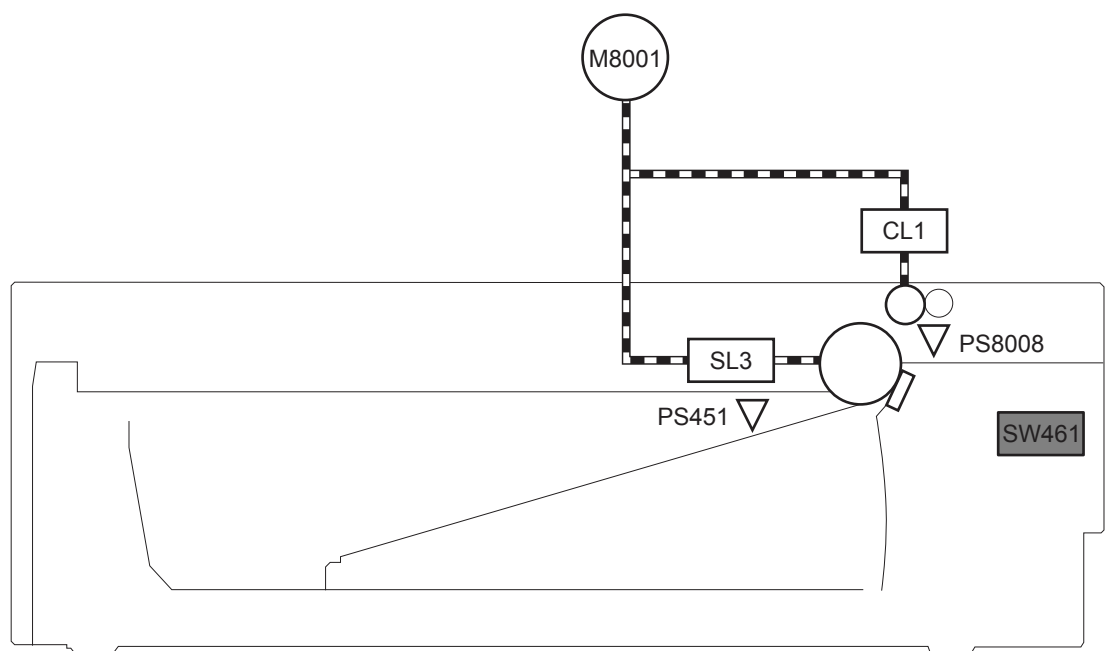


Table 1-10 Photo sensors and switches (product)


Item	Description	Item	Description
PS1	Face-up sensor	PS215	Top-of-Page (TOP) sensor
PS2	Fuser-delivery sensor	PS225	Paper-width sensor
PS3	Cassette paper-presence sensor	PS502	Duplex paper-feed sensor
PS4	Face-down tray paper-full sensor	PS8001	Rear-door sensor
PS205	Tray 1 (MP tray) paper-presence sensor	SW235	Cassette-presence sensor

**Figure 1-27** Photo sensors and switches (Tray 2 and Tray 3)



**Table 1-11** Photo sensors and switches (Tray 2 and Tray 3)

Item	Description
PS451	Paper feeder cassette-paper presence sensor
PS8008	Paper feeder paper-feed sensor
SW461	Paper feeder cassette-presence switch

 **NOTE:** Tray 2 and Tray 3 are identical 500-sheet input trays.

# Solenoids and clutches

Figure 1-28 Solenoids and clutches (product)

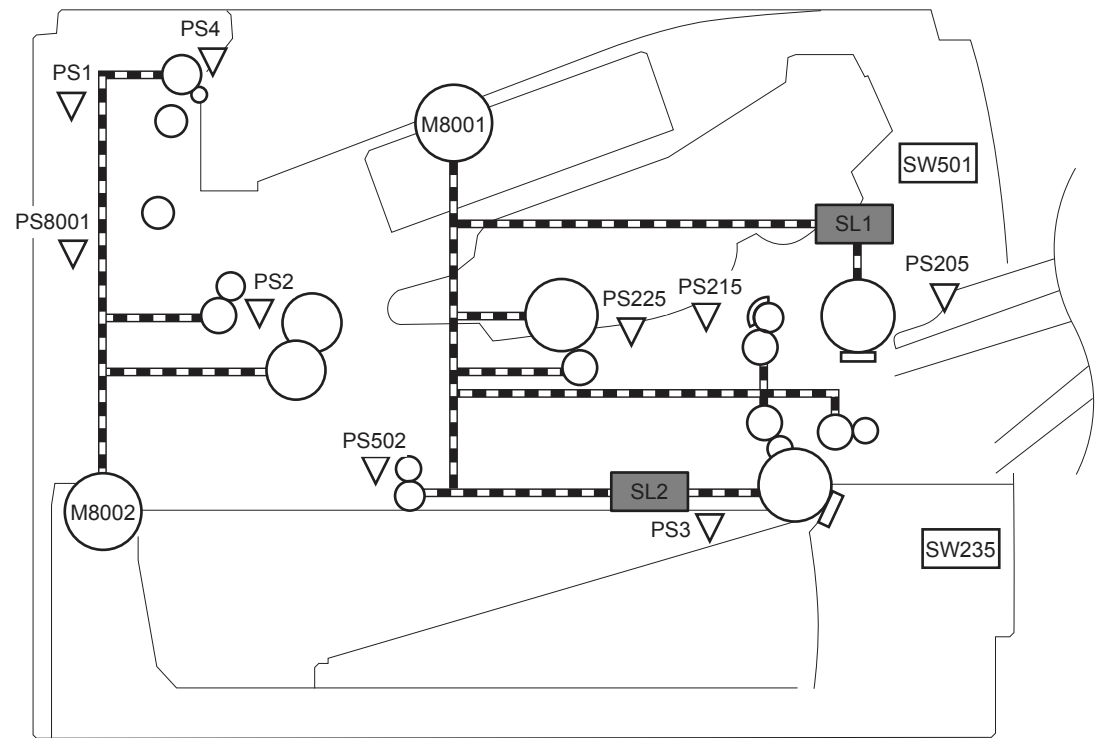
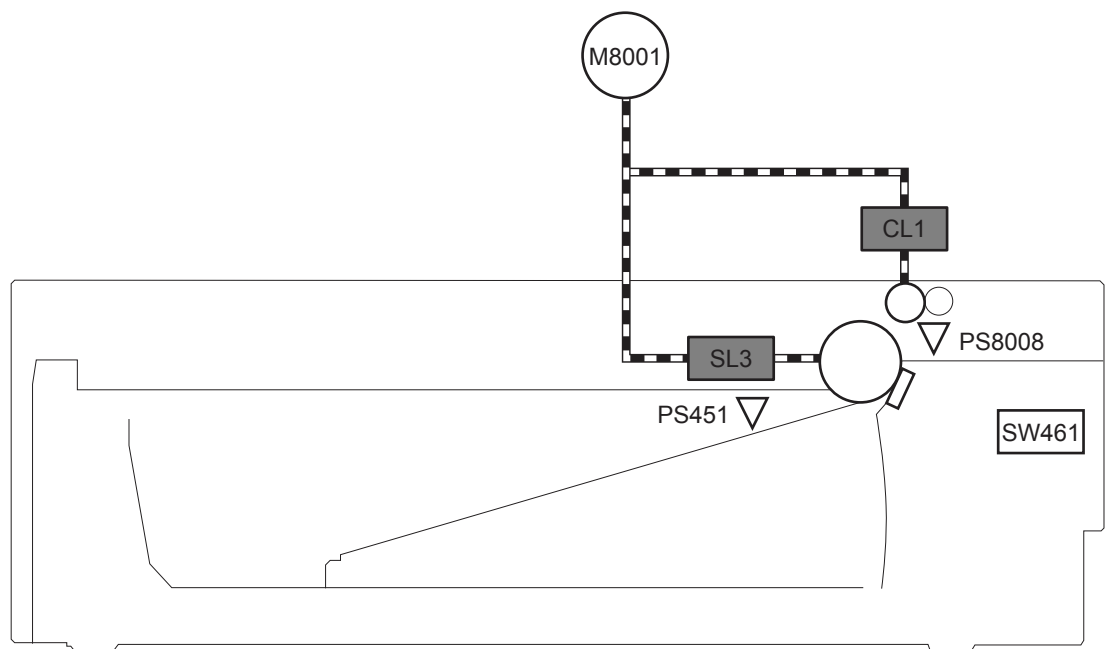


Table 1-12 Solenoids and clutches (product)

Item	Description
SL1	Tray 1 (multipurpose tray) pickup solenoid
SL2	Cassette (Tray 2) pickup solenoid




**Figure 1-29** Solenoids and clutches (Tray 2 and Tray 3)



**Table 1-13** Solenoids and clutches (Tray 2 and Tray 3)

Item	Description
SL3	Paper feeder pickup solenoid
CL1	Paper feeder pickup clutch

 **NOTE:** Tray 2 and Tray 3 are identical 500-sheet input trays.

# Tray 1 or Tray 2

## Pickup and feed unit

The pickup and feed unit uses the following components and processes.

### Cassette paper size detection/cassette paper detection



**NOTE:** To find the following components, see [Photo sensors and switches on page 34](#).

- PS3: cassette paper-presence sensor
- PS225: paper width sensor (detects paper width *after* the paper enters the paper path)

### Cassette pickup



**NOTE:** To find the following components, see [Solenoids and clutches on page 36](#).

- SL2: cassette (Tray 2) pickup solenoid

### Tray 1 paper pickup



**NOTE:** To find the following components, see [Photo sensors and switches on page 34](#) and [Solenoids and clutches on page 36](#).

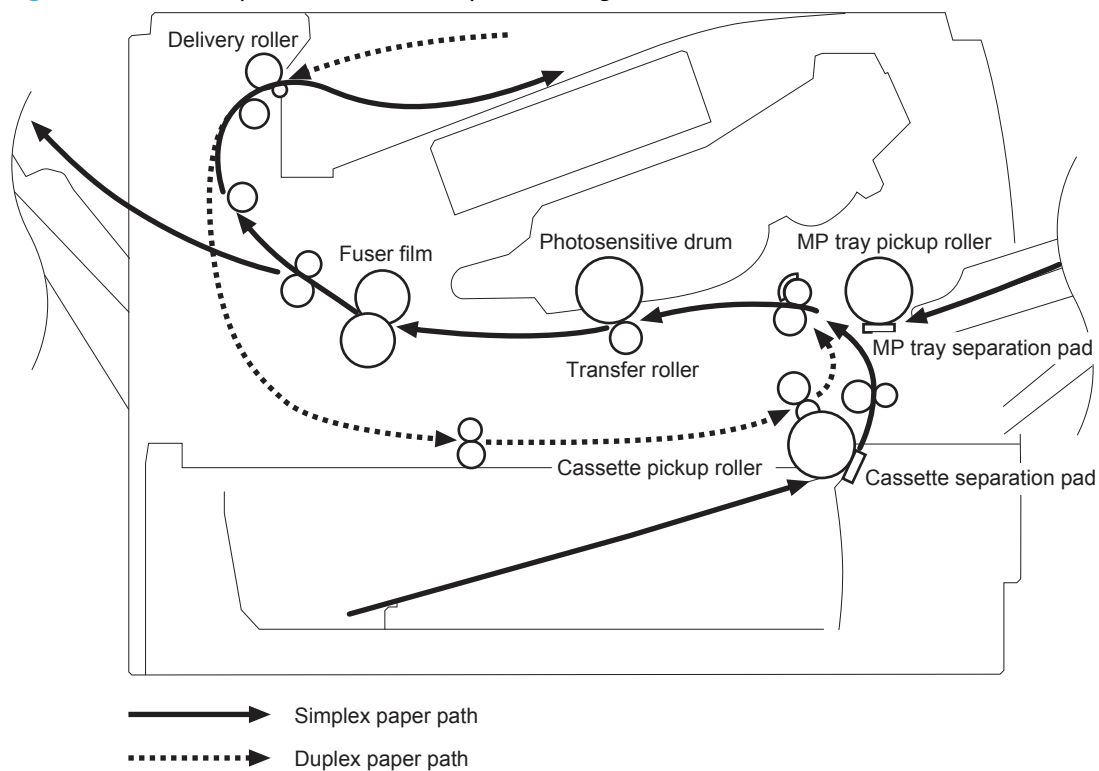
- PS205: Tray 1 (multipurpose tray) paper-presence sensor
- SL1: Tray 1 (multipurpose tray) pickup solenoid

## Paper pickup and feed

The following figure shows the pickup and feed paper path.

 **NOTE:** Duplex models include a duplex paper-feed path for automatic two-sided printing.

**Figure 1-30** Pickup, feed, and delivery block diagram



## Jam detection

The product uses the following sensors to detect the presence of paper and to check for jams. If paper does not reach or pass each sensor within a specified time, the engine control unit (ECU) determines that a jam has occurred and alerts the formatter.



**NOTE:** To find the following components, see [Photo sensors and switches on page 34](#).

**Table 1-14 Sensors**


Paper Jam Sensors	PS2	Fuser-delivery sensor
	PS215	Top-of-Page (TOP) sensor
	PS502	Duplex paper-feed sensor
Paper present sensors	PS4	Face-down tray paper-full sensor
	PS225	Paper width sensor
	PS8008	Paper feeder paper-feed sensor

**NOTE:** PS8008 is used in Tray 2 and Tray 3.

The product detects the following jams:

- Pickup delay jam
- Pickup stationary jam
- Delivery delay jam
- Delivery stationary jam
- Fuser wrapping jam
- Door open jam
- Residual paper jam
- Duplex re-pickup jam

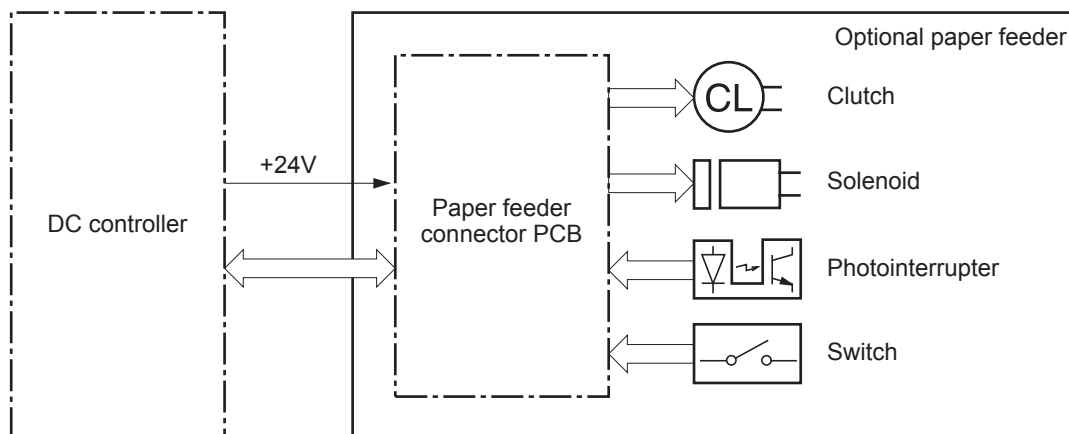
## Additional tray

 **NOTE:** This product supports identical 500-sheet input trays (Tray 2 and Tray 3).


### Tray driver PCA

The following figure shows the signals between the DC controller and the tray driver PCA.

**Figure 1-31** Tray 2 and Tray 3 driver PCA block diagram

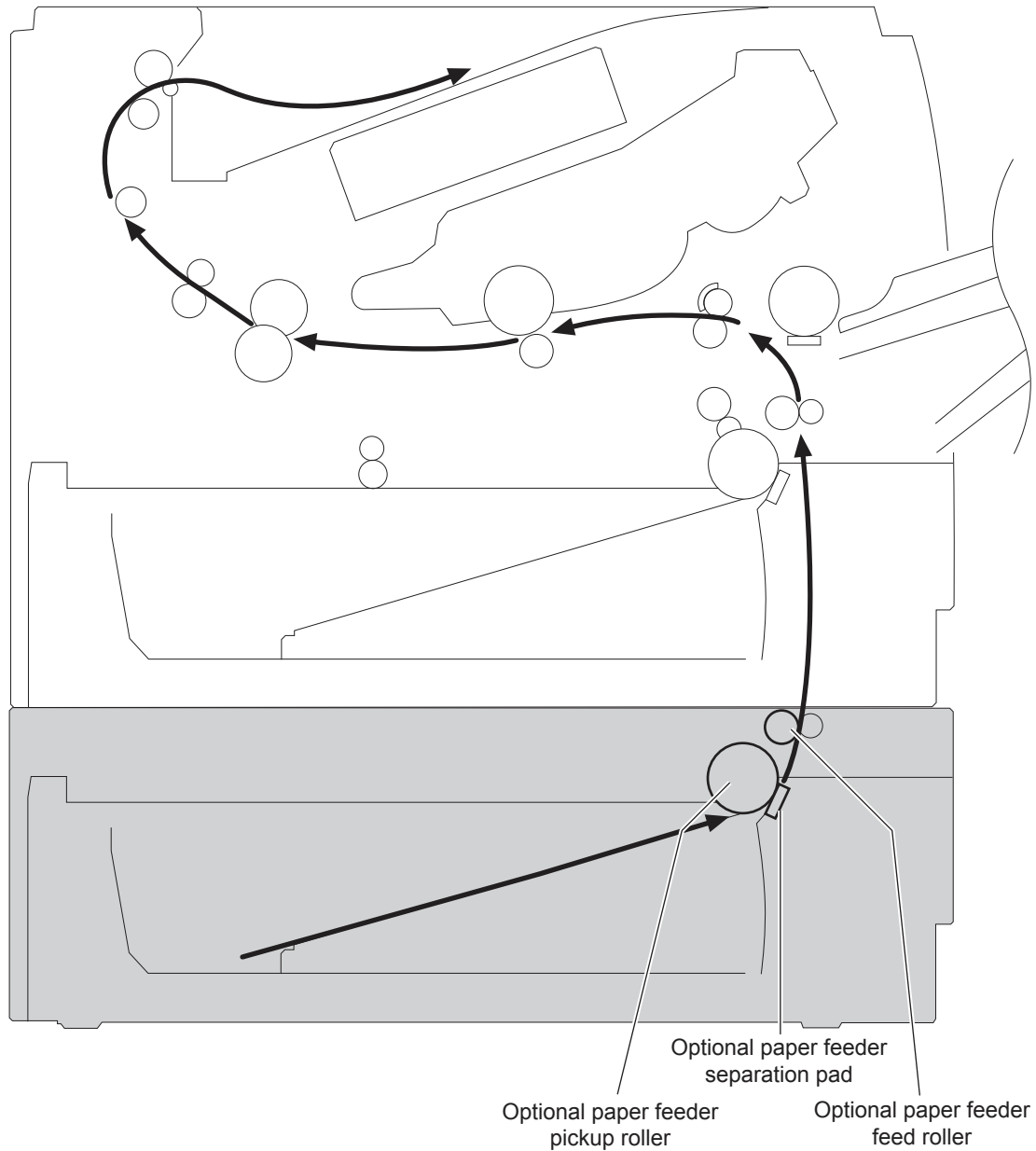


## Paper pickup and feed

 **NOTE:** Tray 2 and Tray 3 are identical 500-sheet input trays.

The following figure shows the pickup and feed paper path (Tray 3 shown).

**Figure 1-32** Tray 2 and Tray 3 pickup, feed, and delivery block diagram



## Paper level and size detection

- PS451: paper feeder paper-presence sensor detects if paper is present in the tray.



**NOTE:** PS451 is used in Tray 2 and Tray 3.

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- Paper size is detected after the page enters the product. See [Cassette paper size detection/cassette paper detection on page 38](#).

## Jam detection

- PS8008: paper feeder paper-feed sensor detects jams in the paper feeder.

## Scanner system

The flatbed image scanner captures an electronic image of the document on the glass. The scanner does this by illuminating the document with LEDs (red, green, and blue) and capturing the image in the image sensor to create an electronic format of the document. The flatbed scanner consists of three main elements.

- **CIS scanner.** The CIS (contact image sensor) scanner captures an image using the product's optical path. Red, green, and blue LEDs sequentially illuminate a small strip of the document (called a raster line), and the optical system captures each color in a single row of CCD sensors that cover the entire page width. Because only one color is captured for each line per exposure, the three colors are recombined electronically to create the full-color image. For monochromatic scans or copies, all three LEDs are illuminated to create a white light for the scan so the raster line can be captured in one exposure.
- **Mechanical carriage drive.** The carriage drive moves the CIS scan head along the document length to create the image. In this product, a small DC motor with an optical encoder creates this motion. The speed of the carriage drive is proportional to the scan resolution (300 ppi is much faster than 1200 ppi) and also proportional to the type of scan (color scans are three-times slower than monochromatic scans). A 1200 ppi color scan moves so slowly that the product might appear to not be working, whereas a monochromatic copy scan moves at 50 times that speed and will be a little noisy.
- **Image processing system (formatter).** The formatter processes the scanner data into either a copy or a scan to the computer. For copies, the image data is sent directly to the product without being transmitted to the computer. Depending on user selections for the copy settings, the formatter enhances the scanner data significantly before sending it to the product. Image data is captured at 300 ppi for copies and is user selectable for scans to the computer. Each pixel is represented by 8 bits for each of the three colors (256 levels for each color), for a total of 24 bits per pixel (24-bit color).

## Scanner power-on sequence of events

When the product is turned on, it performs the following tests:

- **Motor test.** The product moves the motor left and right to confirm operation. It reports a scanner error 12 if no motion is detected in the motor encoder system.
- **Wall find.** The scan carriage moves slowly to the left while monitoring an encoder on the carriage motor to determine when the carriage has found the side wall or stop. This enables the product to identify the document origin (position of the original). If the document origin cannot be located, a default position is used instead.
- **LED check.** The product moves the carriage to the white calibration label under the left side of the flatbed image scanner, and it verifies that the minimum and maximum response is acceptable. It reports a scanner error 14 if the response is unacceptable.
- **Home find.** The scan carriage uses the optical scanner to find physical reference features that relate to the document origin at the left side of the image glass. This process ensures accurate location of the first document pixels so that the user documents will have an accurate placement of



the image on scans and copies. It reports a scanner error 6 message if the reference features are not found.

- **Calibration.** This test, also known as scanner color calibration, enables the product to identify the black and white on every pixel in the CCD. Calibration occurs in two major processes: a broad (analog) adjustment of all pixels to bring them into the target output range, and a pixel-by-pixel adjustment (digital) to fine tune the actual black and white response. The calibration process occurs under the left side of flatbed image scanner where there is a special white calibration label.

Calibration is the most important step in creating a high quality image. Calibration problems can include color inaccuracies, brightness inaccuracies, and vertical streaks through the image. The calibration process identifies any bad pixels and enables the image formatter to recreate the lost information from adjacent pixels. Extreme cases of this problem can appear as large vertical streaks or image smears. The user has no control over the calibration process itself or this pixel-replacement process.

## Copy or scan sequence of events

To create an accurate rendition of a document, the scanner must be calibrated for the requested operation. If the user selects a scan at 600 ppi color, the flatbed image scanner calibrates for that specific operational mode. Subsequently, the flatbed image scanner automatically re-calibrates for the next requested operation. Calibration does not occur for every new copy request.


Normal sequence of operation for a flatbed copy or scan job includes the following.

1. LEDs illuminate.
2. Carriage motion begins moving the CIS scanner toward the right.
3. Image capture continues for the entire page or length requested in a scan operation.
4. Carriage returns to the home position on the left.



---

## 2 Solve problems

 **NOTE:** To perform diagnostic and configuration procedures (for example, resetting page counts) for the product, you must install the CP1210 Service Config Tool (available at your HP authorized repair center).

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- [Solve problems checklist](#)
- [Menu map](#)
- [Troubleshooting process](#)
- [Tools for troubleshooting](#)
- [Clear jams](#)
- [Paper feeds incorrectly or becomes jammed](#)
- [Solve image-quality problems](#)
- [Clean the product](#)
- [Solve performance problems](#)
- [Solve connectivity problems](#)
- [Service mode functions](#)
- [Solve fax problems](#)
- [Product updates](#)

# Solve problems checklist


- 1.** Ensure that the product is set up correctly.
  - a.** Press the power button to turn on the product or to deactivate the Auto-Off mode.
  - b.** Check the power-cable connections.
  - c.** Ensure that the line voltage is correct for the product power configuration. (See the label on the back of the product for voltage requirements.) If you are using a power strip and its voltage is not within specifications, plug the product directly into the wall. If it is already plugged into the wall, try a different outlet.
- 2.** Check the cable connections.
  - a.** Check the cable connection between the product and the computer. Ensure that the connection is secure.
  - b.** Ensure that the cable itself is not faulty by using a different cable if possible.
  - c.** Check the network connection. Ensure the network light is lit. The network light is next to the network port on the back of the product.

If the product remains unable to connect to the network, uninstall and then reinstall the product. If the error persists, contact a network administrator.
- 3.** Check to see if any messages appear on the control panel.
- 4.** Ensure that the paper you are using meets specifications.
- 5.** Ensure that the paper is loaded correctly in the input tray.
- 6.** Ensure that the product software is installed correctly.
- 7.** Verify that you have installed the printer driver for this product, and that you are selecting this product from the list of available printers.
- 8.** Print a configuration page.
  - a.** If the page does not print, verify that the input tray contains paper and that the paper is properly loaded.
  - b.** Ensure that the toner cartridge is installed correctly.

- c.** If the paper jams in the product, clear the jam.
  - d.** If the print quality is unacceptable, complete the following steps:
    - Verify that the print settings are correct for the paper you are using.
    - Solve the print-quality problems.
- 9.** Print a small document from a different program that has printed in the past. If this solution works, then the problem is with the program you are using. If this solution does not work (the document does not print), complete these steps:
  - a.** Try printing the job from another computer that has the product software installed.
  - b.** Check the cable connection. Direct the product to the correct port, or reinstall the software, selecting the connection type you are using.

## Menu map

Use the following procedure to print a control panel menu layout map.

1. From the Home screen, touch the Setup  button.
2. Touch the [Reports](#) button.
3. Touch the [Menu Structure](#) button.

# Troubleshooting process

When the product malfunctions or encounters an unexpected situation, the product control panel alerts you to the situation. This chapter contains information to help diagnose and solve problems.

- Use the pre-troubleshooting checklist to evaluate the source of the problem and to reduce the number of steps that are required to fix the problem.
- Use the troubleshooting flowchart to pinpoint the root cause of hardware malfunctions. The flowchart guides you to the section of this chapter that contains steps for correcting the malfunction.

Before beginning any troubleshooting procedure, check the following issues:

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



**NOTE:** 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	<ul style="list-style-type: none"><li>• Is the product installed on a solid, level surface (<math>\pm 1^\circ</math>)?</li><li>• Is the power-supply voltage within <math>\pm 10</math> volts of the specified power source?</li><li>• Is the power-supply plug inserted in the product and the outlet?</li><li>• Is the operating environment within the specified parameters?</li><li>• Is the product exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials?  <b>NOTE:</b> 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 product components (for example, the toner cartridge OPC).</li><li>• Is the product exposed to direct sunlight?</li></ul>
Paper	<ul style="list-style-type: none"><li>• Does the customer use only supported paper?</li><li>• Is the paper in good condition (no curls, folds, or distortion)?</li><li>• Is the paper stored correctly and within environmental limits?</li></ul>
Input trays	<ul style="list-style-type: none"><li>• Is the amount of paper in the tray within specifications?</li><li>• Is the paper correctly placed in the tray?</li><li>• Are the paper guides aligned with the stack?</li><li>• Is the tray correctly installed in the product?</li></ul>

General topic	Questions
Toner cartridge	<ul style="list-style-type: none"> <li>Is the toner cartridge installed correctly?</li> </ul>
Transfer unit and fuser	<ul style="list-style-type: none"> <li>Are the transfer unit and fuser installed correctly?</li> </ul>
Covers	<ul style="list-style-type: none"> <li>Is the front cover closed?</li> </ul>
Condensation	<ul style="list-style-type: none"> <li>Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe affected parts dry or leave the product on for 10 to 20 minutes.</li> <li>Was a toner cartridge opened soon after being moved from a cold to a warm room? If so, allow the toner cartridge to sit at room temperature for 1 to 2 hours.</li> </ul>
Miscellaneous	<ul style="list-style-type: none"> <li>Check for and remove any non-HP components (toner cartridges, memory modules, and EIO cards) from the product.</li> <li>Remove the product from the network to ensure that the failure is associated with the product before beginning troubleshooting.</li> <li>For any print-quality issues, calibrate the product.</li> </ul>

## Determine the problem source

When the product malfunctions or encounters an unexpected situation, the product control panel alerts you to the situation. The troubleshooting flowchart helps you diagnose the root cause of the problem. The remainder of this chapter provides steps for correcting problems.

## Troubleshooting flowchart

This flowchart highlights the general processes that you can follow to quickly isolate and solve product hardware problems.

Each row depicts a major troubleshooting step. A “yes” answer to a question allows you 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**

<b>1</b> <b>Power on</b>	Is the product on and does a readable message display?		Follow the power-on troubleshooting checks. See <a href="#">Power subsystem on page 53</a> .  After the control panel display is functional, see step 2.
	Yes ↓	No →	
<b>2</b> <b>Control panel messages</b>	Does the message <b>Ready</b> display on the control panel?		<ol style="list-style-type: none"> <li>Follow the control panel message to resolve the problem. Touch the <b>?</b> button to get more information.</li> <li>If more information is required to troubleshoot the problem, refer to the troubleshooting section of the product user guide.</li> </ol> After the errors have been corrected, go to step 3.
	Yes ↓	No →	



**Table 2-1 Troubleshooting flowchart (continued)**

<b>3</b> <b>Event log</b>	Open the <a href="#">Troubleshooting</a> menu and print an event log to see the history of errors with this product.  Does the event log print?		If the event log does not print, check for error messages.  If paper jams inside the product, see the jams section of the product service manual.  If error messages display on the control panel when you try to print an event log, see the control panel message section of the service manual.  After successfully printing and evaluating the event log, see step 4.
	Yes ↓	No →	
<b>4</b> <b>Information pages</b>	Open the <a href="#">Reports</a> menu and print the configuration pages to verify that all the accessories are installed.  Are all the accessories installed?		If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it.  After evaluating the configuration pages, see step 5.
	Yes ↓	No →	
<b>5</b> <b>Image quality</b>	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 product service manual.  After the print quality is acceptable, see step 6.
	Yes ↓	No →	
<b>6</b> <b>Interface</b>	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 Jetdirect configuration page.  If error messages display on the control panel when you try to print an event log, see the control panel message section of the 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

### Power-on checks

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

#### Power-on troubleshooting overview

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

During normal operation, the main cooling fan begins to spin briefly after the product power is turned on. Place your hand over the holes in the right-side cover, near the formatter. If the fan is operating, you will feel air passing out of the product. You can also lean close to the product and hear the fan operating. Place your hand over the hole in the right-front lower corner. If the fan is operating, you should feel air being drawn into the product. When this fan is operational, the DC side of the power supply is functioning correctly.

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

If the fan and main motor are operating correctly, the next troubleshooting step is to isolate print engine, formatter, and control panel problems. Perform an engine test and if the formatter is damaged, it might interfere with the engine test. If the engine-test page does not print, try removing the formatter and then performing the engine test again. If the engine test is then successful, the problem is almost certainly with the formatter, the control panel, or the cable that connects them.

If the control panel is blank when you turn on the product, check the following items.

1. Make sure that the product is connected directly into an active electrical outlet (not a power strip) that delivers the correct voltage.
2. Make sure that the power switch is in the on position.
3. Make sure that the fan runs briefly, which indicates that the power supply is operational.
4. Make sure that the control panel display wire harness is connected.
5. Make sure that the formatter is seated and operating correctly. Turn off the product and remove the formatter. Reinstall the formatter, and then verify that the formatter LED is blinking.
6. Remove any external solutions, and then try to turn the product on again.




**NOTE:** If the control panel display is blank, but the main cooling fan runs briefly after the product power is turned on, try printing an engine-test page to determine whether the problem is with the control-panel display, formatter, or other product assemblies.

## Control-panel checks

Use the product control panel to conduct tests on the control panel LEDs, display, or buttons.








**NOTE:** When the menus are accessed, some of the touchscreen buttons located along the sides of the control-panel display are not illuminated. Use the figure below to locate the Cancel  button and the left arrow button to access the control-panel tests.

**Figure 2-1** Control-panel 2ndary Service test access buttons



**Table 2-2** Control-panel 2ndary Service test access buttons

Item	Description
1	Left arrow button
2	Cancel  button

1. From the Home screen on the product control panel, touch the Setup  button.
2. Touch the left arrow button, and then quickly touch the Cancel  button. The display should return to Ready status.
3. Press the Setup  button again to open the menus. The first menu should be the 2ndary Service menu.
4. Touch the 2ndary Service menu, and then scroll to one of the following menu items.
  - LED Test
  - Display Test
  - Button Test
5. Touch the menu item to begin the test.
6. After completing the test, return the product to the Ready state, and then touch the Cancel  button to remove the 2ndary Service menu from the menu list.

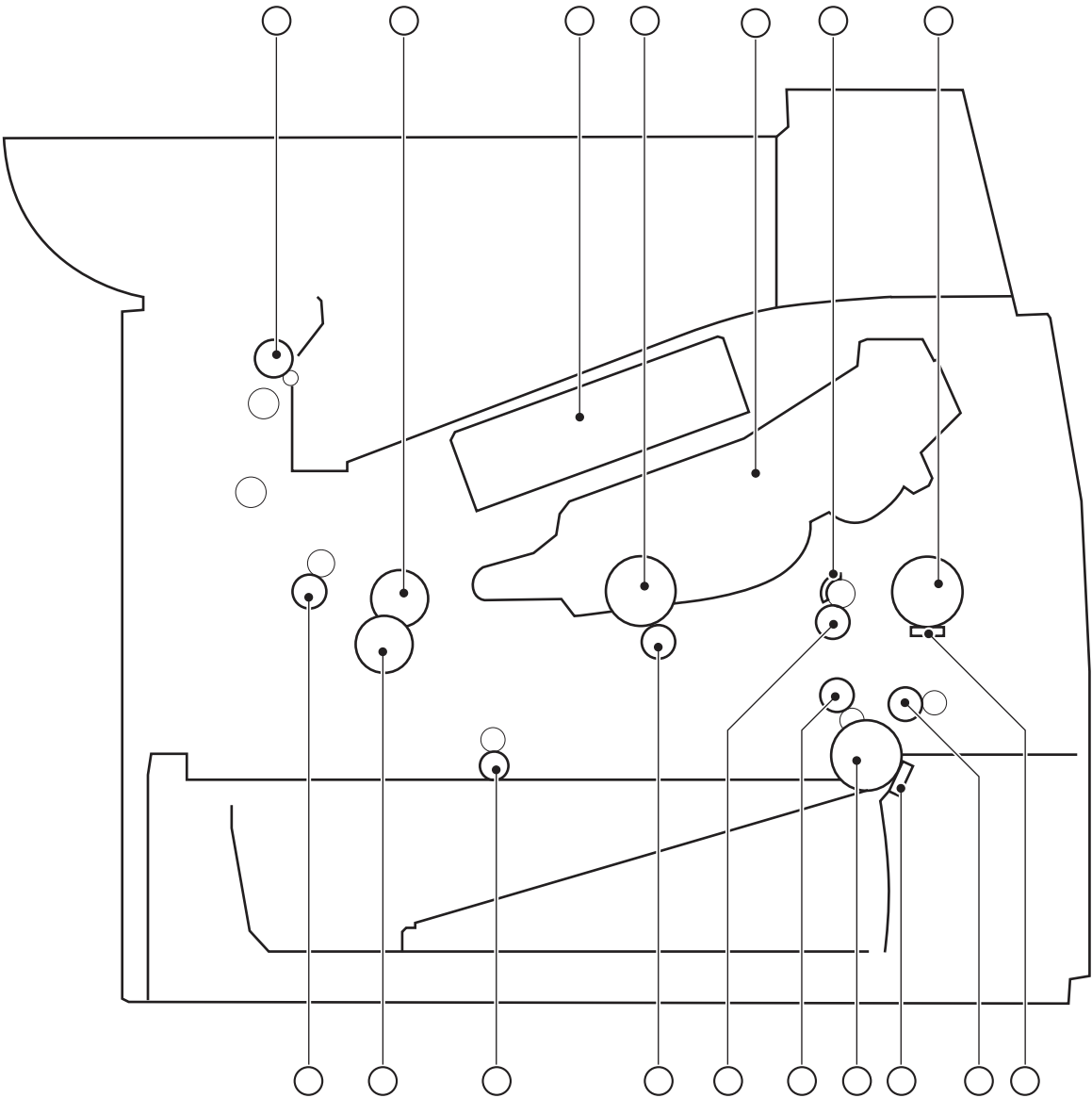
# Tools for troubleshooting

The section describes the tools that can help you solve problems with your product.

## Diagrams

### Block diagrams

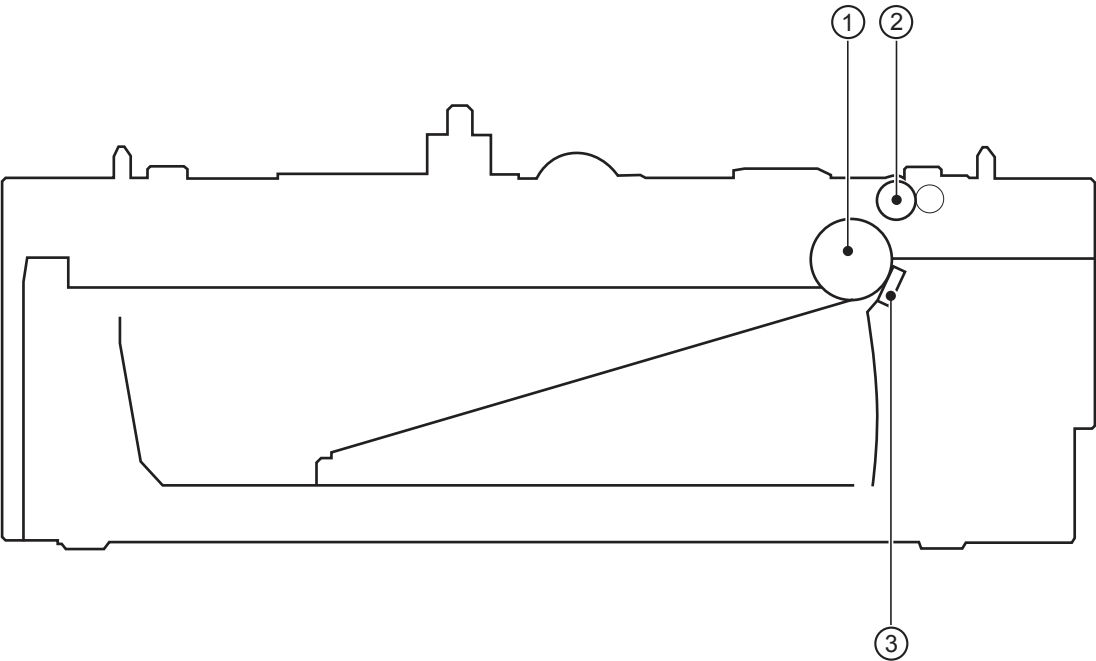
Figure 2-2 Product cross section



Item	Description	Item	Description
1	Face-down delivery roller	10	Cassette (Tray 2) separation pad
2	Fuser film	11	Cassette (Tray 2) pickup roller
3	Laser/scanner	12	Duplex repickup roller

Item	Description	Item	Description
4	Photosensitive drum	13	Registration roller
5	Toner cartridge	14	Transfer roller
6	Registration shutter	15	Duplex-feed roller (duplex models)
7	Tray 1 (multipurpose tray) pickup roller	16	Pressure roller
8	Tray 1 (multipurpose tray) separation pad	17	Fuser output roller
9	Feed roller		

**Figure 2-3** Optional paper feeder (Tray 2 and Tray 3) cross section

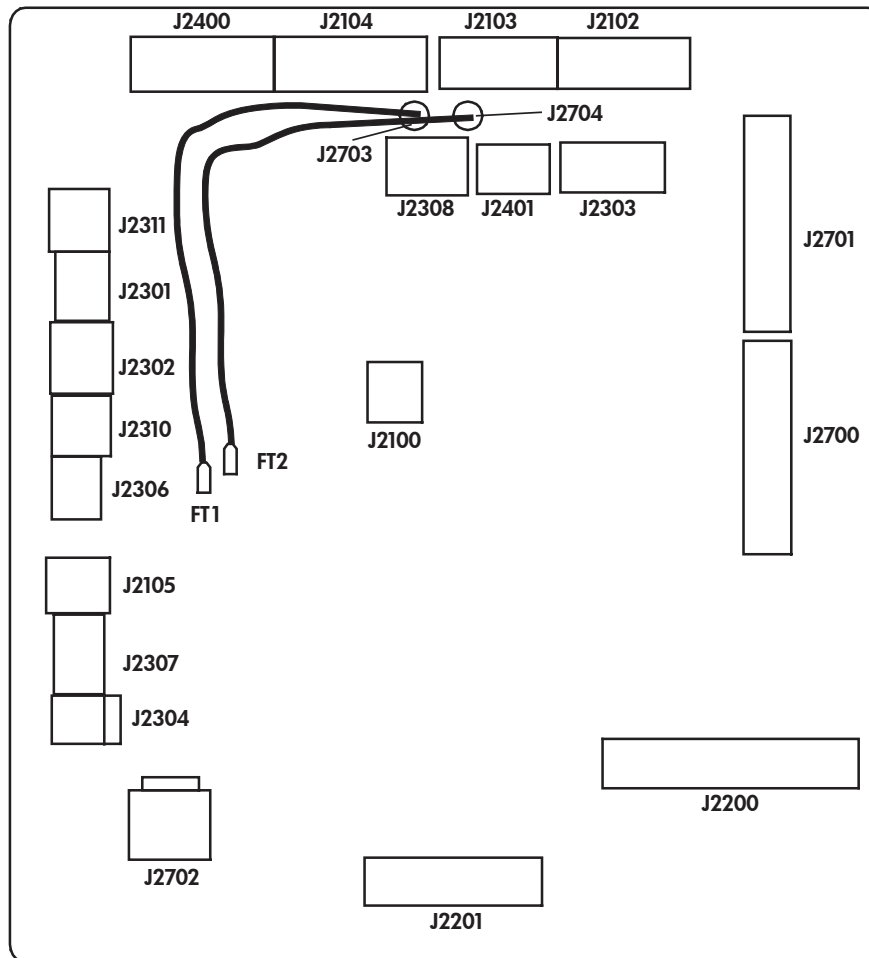


Item	Description
1	Pickup roller
2	Feed roller
3	Separation pad

## Location of connectors

## DC controller connections

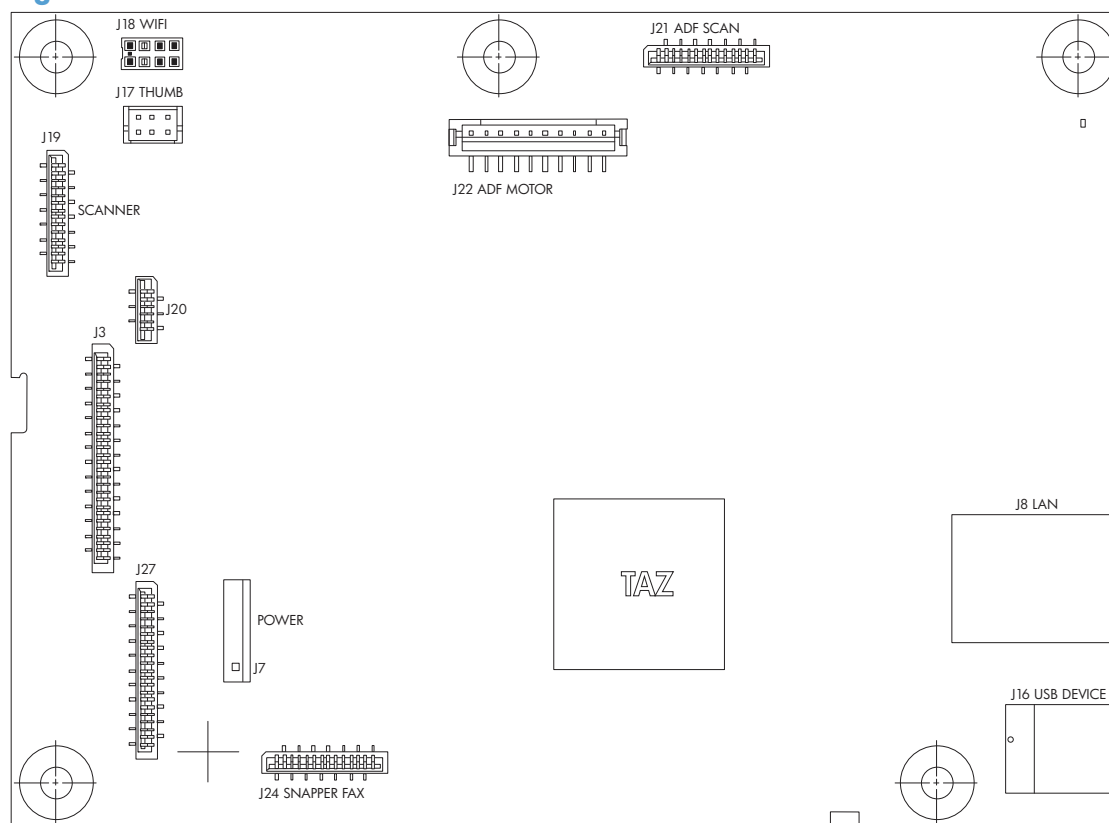
### Figure 2-4 DC controller connections



Item	Description	Item	Description	Item	Description
J2100		J2302		J2400	
J2102		J2303		J2401	
J2103		J2304		J2700	
J2104		J2306		J2701	
J2105		J2307		J2702	
J2200		J2308		J2703	
J2201		J2310		J2704	
J2301		J2311			

## Formatter connections

**Figure 2-5** Formatter connections



Item	Description	Item	Description
J3	Control panel	J19	Flatbed scanner
J7	Power	J20	Flatbed motor
J8	LAN	J21	ADF/Scanner
J16	USB Device	J22	ADF motor
J17	USB	J24	Snapper Fax
J18	Wifi	J27	ICB

## Plug and port locations

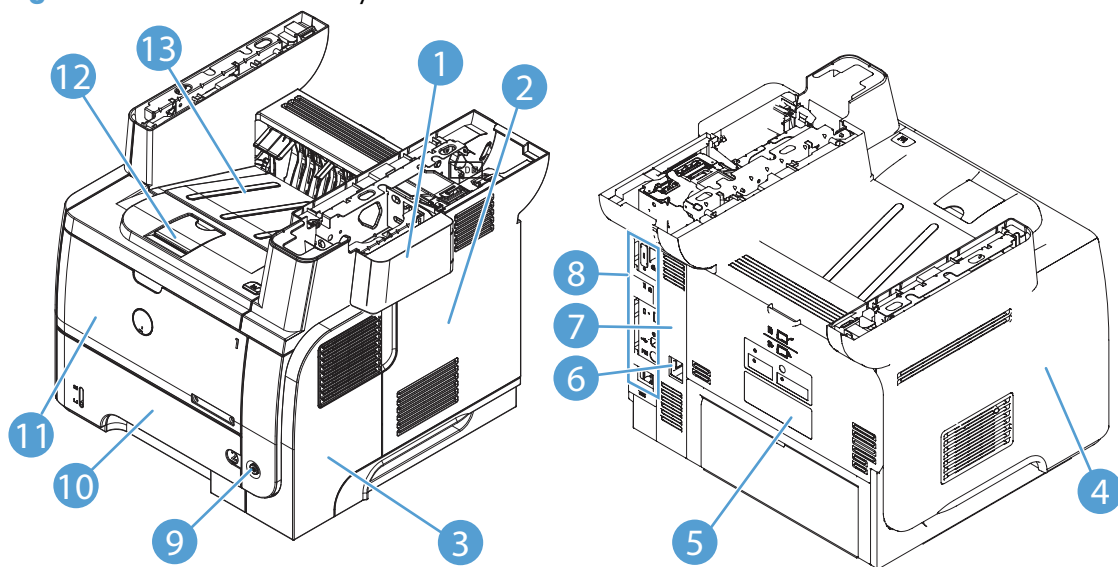


1	Kensington lock
2	Local area network (LAN) Ethernet (RJ-45) network port
3	Hi-Speed USB 2.0 printing port
4	Fax port (to telephone)
5	Fax port (to line)



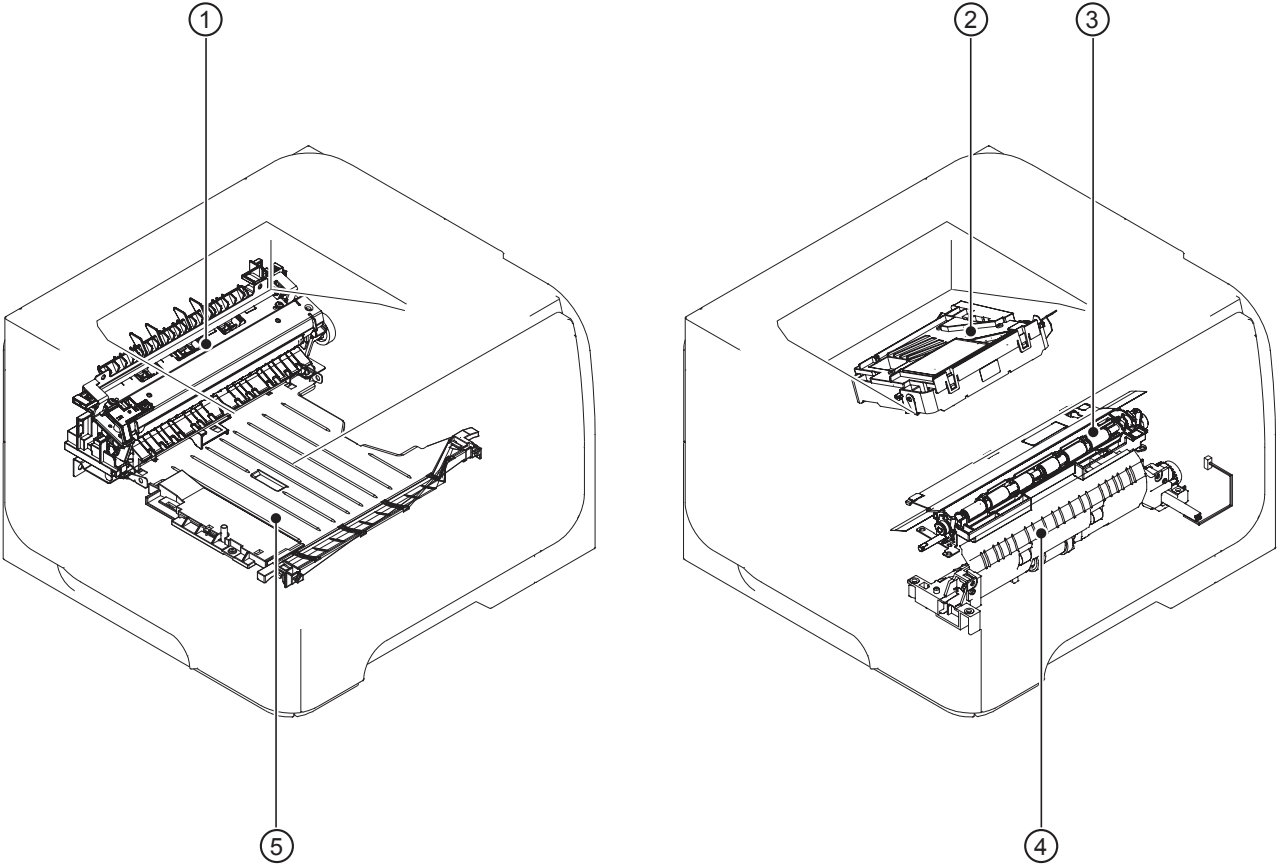
## Locations of major assemblies

**Figure 2-6** External assembly locations



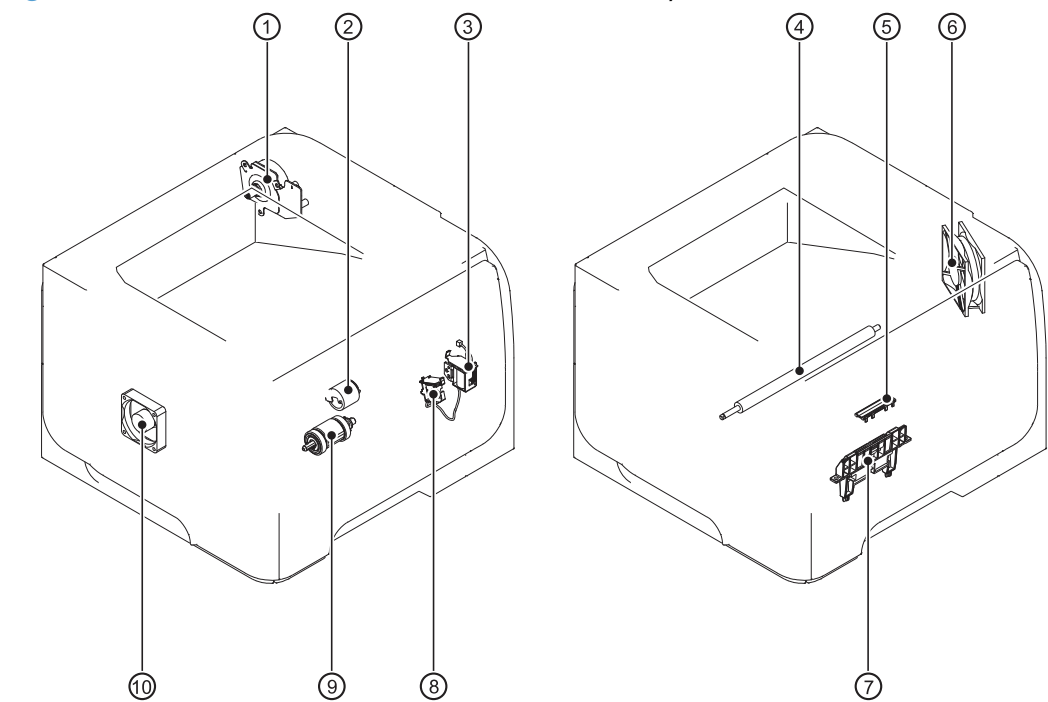
Item	Description	Item	Description
1	Dummy cover	8	I/O plate
2	Formatter cover	9	Power switch
3	Right cover	10	Tray 2
4	Left cover	11	Tray 1/Cartridge drawer door
5	Rear door	12	Output-bin extension for long paper
6	Power port	13	Standard output bin
7	Right-rear cover		

**Figure 2-7** Major assembly locations



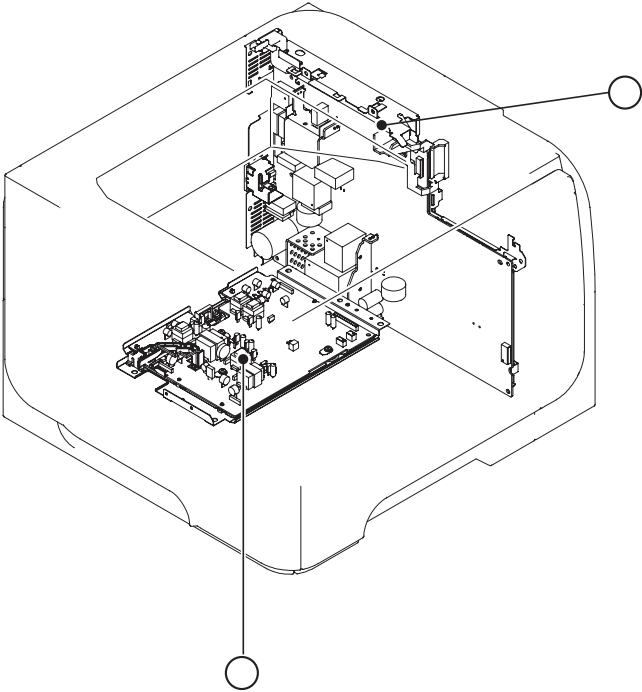
Item	Description
1	Fuser
2	Laser/scanner
3	Registration assembly
4	Pickup assembly
5	Duplex paper-feed assembly

**Figure 2-8** Motors, fans, solenoids, and rollers assembly locations



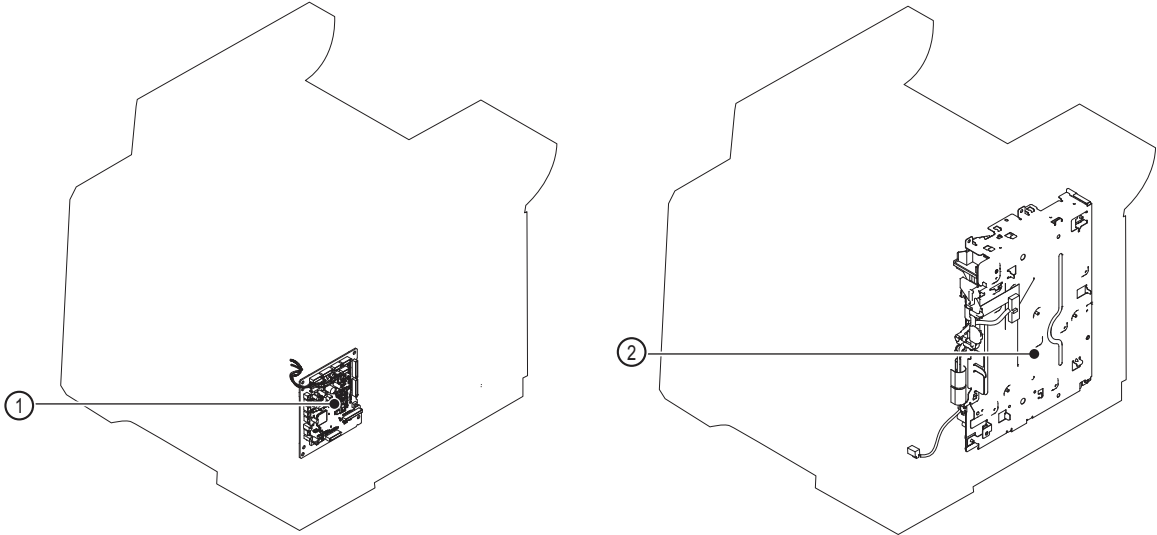
Item	Description	Item	Description
1	Fuser motor	6	Main fan
2	Tray 1 (multipurpose tray) pickup roller	7	Cassette (Tray 2) separation pad
3	Tray 1 (multipurpose tray) pickup solenoid	8	Cassette (Tray 2) pickup solenoid
4	Transfer roller	9	Cassette (Tray 2) pickup roller
5	Tray 1 (multipurpose tray) separation pad	10	Sub fan

Figure 2-9 PCA assembly locations (1 of 2)



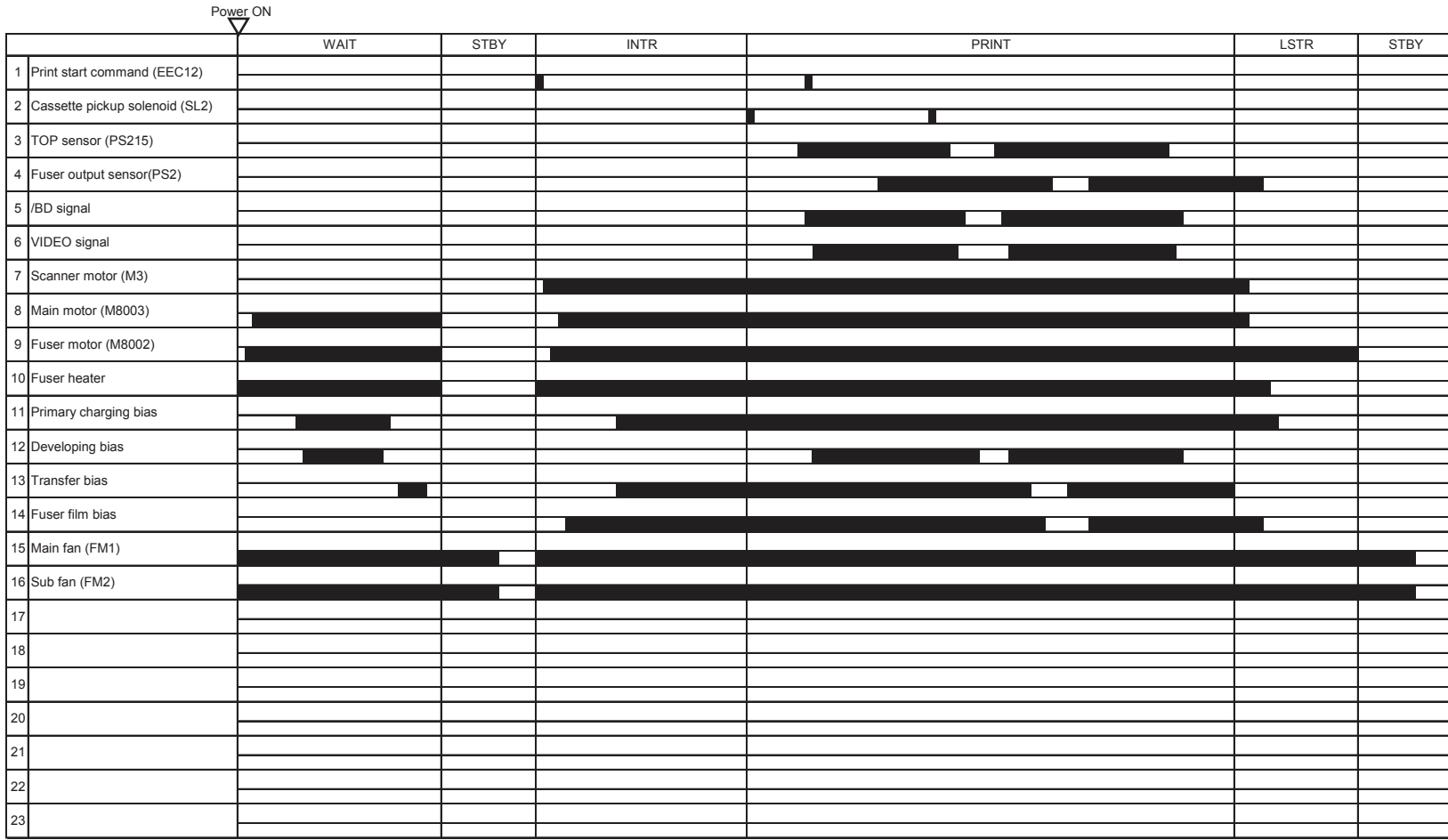
Item	Description
1	High-voltage power supply
2	Formatter

Figure 2-10 PCA assembly locations (2 of 2)



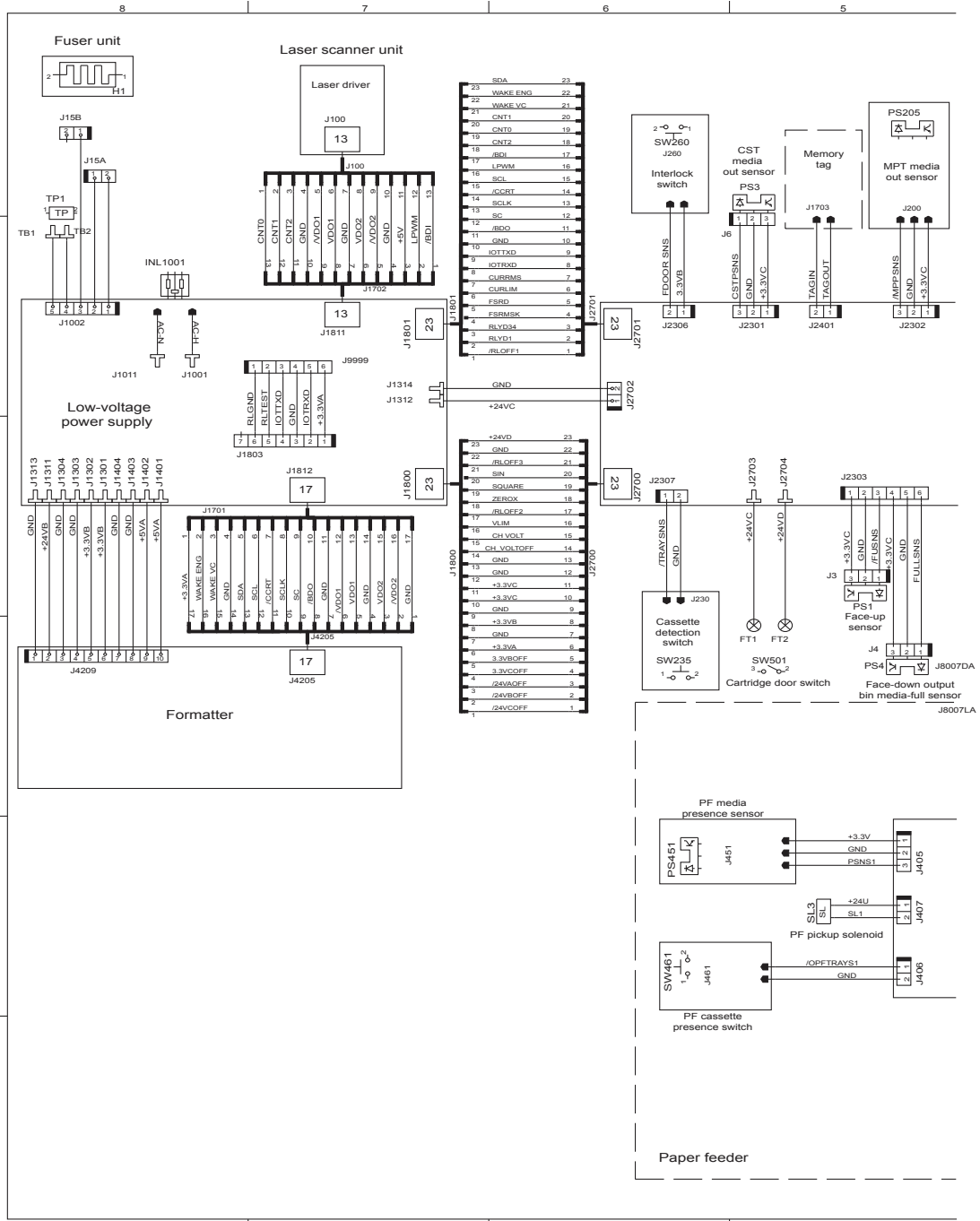
Item	Description
1	DC controller PCA
2	Low-voltage power supply

Figure 2-11 General timing chart



## Circuit diagrams

**Figure 2-12** General circuit diagram (1 of 2)



The diagram illustrates the electrical connections for a DC Controller, organized into several functional sections:

- Fuser unit:** Includes connections for the Fuser output sensor (PS2), Fuser motor (M8002), Main motor (M8003), and various solenoids (SL1, SL2). Connectors J2310, J2311, J2400, J2401, J2402, J2403, J2404, J2405, J2406, J2407, J2408, J2409, J2410, J2411, J2412, J2413, J2414, J2415, J2416, J2417, J2418, J2419, J2420, J2421, J2422, J2423, J2424, J2425, J2426, J2427, J2428, J2429, J2430, J2431, J2432, J2433, J2434, J2435, J2436, J2437, J2438, J2439, J2440, J2441, J2442, J2443, J2444, J2445, J2446, J2447, J2448, J2449, J2450, J2451, J2452, J2453, J2454, J2455, J2456, J2457, J2458, J2459, J2460, J2461, J2462, J2463, J2464, J2465, J2466, J2467, J2468, J2469, J2470, J2471, J2472, J2473, J2474, J2475, J2476, J2477, J2478, J2479, J2480, J2481, J2482, J2483, J2484, J2485, J2486, J2487, J2488, J2489, J2490, J2491, J2492, J2493, J2494, J2495, J2496, J2497, J2498, J2499, J2500, J2501, J2502, J2503, J2504, J2505, J2506, J2507, J2508, J2509, J2510, J2511, J2512, J2513, J2514, J2515, J2516, J2517, J2518, J2519, J2520, J2521, J2522, J2523, J2524, J2525, J2526, J2527, J2528, J2529, J2530, J2531, J2532, J2533, J2534, J2535, J2536, J2537, J2538, J2539, J2540, J2541, J2542, J2543, J2544, J2545, J2546, J2547, J2548, J2549, J2550, J2551, J2552, J2553, J2554, J2555, J2556, J2557, J2558, J2559, J2560, J2561, J2562, J2563, J2564, J2565, J2566, J2567, J2568, J2569, J2570, J2571, J2572, J2573, J2574, J2575, J2576, J2577, J2578, J2579, J2580, J2581, J2582, J2583, J2584, J2585, J2586, J2587, J2588, J2589, J2590, J2591, J2592, J2593, J2594, J2595, J2596, J2597, J2598, J2599, J2600, J2601, J2602, J2603, J2604, J2605, J2606, J2607, J2608, J2609, J2610, J2611, J2612, J2613, J2614, J2615, J2616, J2617, J2618, J2619, J2620, J2621, J2622, J2623, J2624, J2625, J2626, J2627, J2628, J2629, J2630, J2631, J2632, J2633, J2634, J2635, J2636, J2637, J2638, J2639, J2640, J2641, J2642, J2643, J2644, J2645, J2646, J2647, J2648, J2649, J2650, J2651, J2652, J2653, J2654, J2655, J2656, J2657, J2658, J2659, J2660, J2661, J2662, J2663, J2664, J2665, J2666, J2667, J2668, J2669, J2670, J2671, J2672, J2673, J2674, J2675, J2676, J2677, J2678, J2679, J2680, J2681, J2682, J2683, J2684, J2685, J2686, J2687, J2688, J2689, J2690, J2691, J2692, J2693, J2694, J2695, J2696, J2697, J2698, J2699, J2700, J2701, J2702, J2703, J2704, J2705, J2706, J2707, J2708, J2709, J2710, J2711, J2712, J2713, J2714, J2715, J2716, J2717, J2718, J2719, J2720, J2721, J2722, J2723, J2724, J2725, J2726, J2727, J2728, J2729, J2730, J2731, J2732, J2733, J2734, J2735, J2736, J2737, J2738, J2739, J2740, J2741, J2742, J2743, J2744, J2745, J2746, J2747, J2748, J2749, J2750, J2751, J2752, J2753, J2754, J2755, J2756, J2757, J2758, J2759, J2760, J2761, J2762, J2763, J2764, J2765, J2766, J2767, J2768, J2769, J2770, J2771, J2772, J2773, J2774, J2775, J2776, J2777, J2778, J2779, J2780, J2781, J2782, J2783, J2784, J2785, J2786, J2787, J2788, J2789, J2790, J2791, J2792, J2793, J2794, J2795, J2796, J2797, J2798, J2799, J2800, J2801, J2802, J2803, J2804, J2805, J2806, J2807, J2808, J2809, J2810, J2811, J2812, J2813, J2814, J2815, J2816, J2817, J2818, J2819, J2820, J2821, J2822, J2823, J2824, J2825, J2826, J2827, J2828, J2829, J2830, J2831, J2832, J2833, J2834, J2835, J2836, J2837, J2838, J2839, J2840, J2841, J2842, J2843, J2844, J2845, J2846, J2847, J2848, J2849, J2850, J2851, J2852, J2853, J2854, J2855, J2856, J2857, J2858, J2859, J2860, J2861, J2862, J2863, J2864, J2865, J2866, J2867, J2868, J2869, J2870, J2871, J2872, J2873, J2874, J2875, J2876, J2877, J2878, J2879, J2880, J2881, J2882, J2883, J2884, J2885, J2886, J2887, J2888, J2889, J2890, J2891, J2892, J2893, J2894, J2895, J2896, J2897, J2898, J2899, J2900, J2901, J2902, J2903, J2904, J2905, J2906, J2907, J2908, J2909, J2910, J2911, J2912, J2913, J2914, J2915, J2916, J2917, J2918, J2919, J2920, J2921, J2922, J2923, J2924, J2925, J2926, J2927, J2928, J2929, J2930, J2931, J2932, J2933, J2934, J2935, J2936, J2937, J2938, J2939, J2940, J2941, J2942, J2943, J2944, J2945, J2946, J2947, J2948, J2949, J2950, J2951, J2952, J2953, J2954, J2955, J2956, J2957, J2958, J2959, J2960, J2961, J2962, J2963, J2964, J2965, J2966, J2967, J2968, J2969, J2970, J2971, J2972, J2973, J2974, J2975, J2976, J2977, J2978, J2979, J2980, J2981, J2982, J2983, J2984, J2985, J2986, J2987, J2988, J2989, J2990, J2991, J2992, J2993, J2994, J2995, J2996, J2997, J2998, J2999, J3000, J3001, J3002, J3003, J3004, J3005, J3006, J3007, J3008, J3009, J3010, J3011, J3012, J3013, J3014, J3015, J3016, J3017, J3018, J3019, J3020, J3021, J3022, J3023, J3024, J3025, J3026, J3027, J3028, J3029, J3030, J3031, J3032, J3033, J3034, J3035, J3036, J3037, J3038, J3039, J3040, J3041, J3042, J3043, J3044, J

## Use HP Device Toolbox (Windows)

Use the **HP Device Toolbox** for Windows to view or change product settings from your computer. This tool opens the HP Embedded Web Server for the product.



**NOTE:** This tool is available only if you performed a full installation when you installed the product. The HP Embedded Web Server, however, is still available by opening a Web browser and entering the product IP address in the browser address box.

1. Click the **Start** button, and then click the **Programs** item.
2. Click your HP product group, and then click the **HP Device Toolbox** item.

Tab or section	Description
<b>Home</b> tab  Provides product, status, and configuration information.	<ul style="list-style-type: none"><li>• <b>Device Status:</b> Shows the product status and shows the approximate percent life remaining of HP supplies.</li><li>• <b>Supplies Status:</b> 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.</li><li>• <b>Device Configuration:</b> Shows the information found on the product configuration page.</li><li>• <b>Network Summary:</b> Shows the information found on the product network configuration page.</li><li>• <b>Reports:</b> Allows you to print the configuration and supplies status pages that the product generates.</li><li>• <b>Event Log:</b> Shows a list of all product events and errors.</li></ul>
<b>System</b> tab  Provides the ability to configure the product from your computer.	<ul style="list-style-type: none"><li>• <b>Device Information:</b> Provides basic product and company information.</li><li>• <b>Paper Setup:</b> Allows you to change the paper-handling defaults for the product.</li><li>• <b>Print Quality:</b> Allows you to change the print quality defaults for the product, including calibration settings.</li><li>• <b>Paper Types:</b> Allows you to configure print modes that correspond to the paper types that the product accepts.</li><li>• <b>System Setup:</b> Allows you to change the system defaults for the product.</li><li>• <b>Service:</b> Allows you to start the cleaning procedure on the product.</li><li>• <b>Product Security:</b> Allows you to set or change the product password.</li><li>• <b>Save and Restore:</b> Save the current settings for the product to a file on the computer. Use this file to load the same settings onto another product or to restore these settings to this product at a later time.</li></ul> <p><b>NOTE:</b> The <b>System</b> tab can be password-protected. If this product is on a network, always consult with the administrator before changing settings on this tab.</p>




Tab or section	Description
<b>Print tab</b>  Provides the ability to change default print settings from your computer.	<ul style="list-style-type: none"> <li>• <b>Printing:</b> Change the default product print settings, such as number of copies and paper orientation. These are the same options that are available on the control panel.</li> <li>• <b>PCL5c:</b> View and change the PCL5c settings.</li> <li>• <b>PostScript:</b> Turn off or on the <b>Print PS Errors</b> feature.</li> </ul>
<b>Networking tab</b>  Provides the ability to change network settings from your computer.	Network administrators can use this tab to control network-related settings for the product when it is connected to an IP-based network. It also allows the network administrator to set up wireless direct functionality. This tab does not appear if the product is directly connected to a computer.
<b>HP Web Services tab</b>	Use this tab to set up and use various Web tools with the product.
<b>HP Smart Install tab</b>	Use this tab to download and install the print driver.

## Internal print-quality test pages

### Clean the paper path

During the printing process, paper, toner, and dust particles can accumulate inside the product. Over time, this buildup can cause print-quality problems such as toner specks or smearing. This product has a cleaning mode that can correct and prevent these types of problems.

1. From the Home screen on the product control panel, touch the Setup  button.
2. Touch the [Service](#) menu.
3. Touch the [Cleaning Page](#) button.
4. Load plain letter or A4 paper when you are prompted.
5. Touch the [OK](#) button to begin the cleaning process.

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


### Print the configuration page

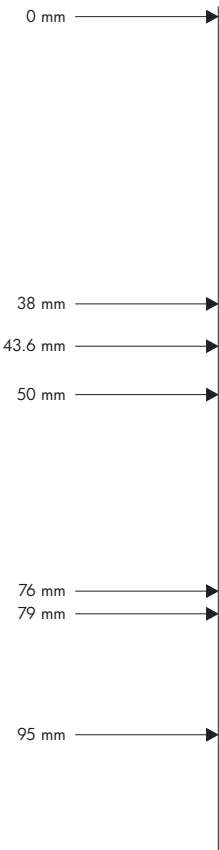
1. From the Home screen on the product control panel, touch the Setup  button.
2. Touch the [Reports](#) menu.
3. Touch the [Configuration Report](#) button to print the report.

# Print quality troubleshooting tools

## Repetitive defects ruler

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

 **NOTE:** When printing this defect ruler, verify that any scaling options in the print driver are disabled.



Distance between defects	Product components that cause the defect
38 mm	Toner cartridge (primary charging roller)
43.6 mm	Print engine (transfer roller)
50 mm	Toner cartridge (developer roller)
76 mm	Fuser (fuser film)
79 mm	Fuser (pressure roller)
95 mm	Toner cartridge (OPC)

## Control-panel menus

### Setup Menu

To open this menu, touch the Setup  button. The following sub menus are available:

- [HP Web Services](#)
- [Reports](#)
- [Self Diagnostics](#)
- [Fax Setup](#)
- [System Setup](#)
- [Service](#)
- [Network Setup](#)
- [Quick Forms](#)

### HP Web Services

Menu item	Description
<a href="#">Enable Web Services</a>	Use <a href="#">Enable Web Services</a> to set up Web Services on the product.  <b>NOTE:</b> You must be connected to a network to enable HP Web Services.
<a href="#">Proxy Settings</a>	The Proxy Settings sub-menu includes the following: <ul style="list-style-type: none"><li>• <a href="#">Proxy Server</a></li><li>• <a href="#">Proxy Port</a></li><li>• <a href="#">Username</a></li><li>• <a href="#">Password</a></li></ul>

## Reports menu

Menu item	Description
Demo Page	Prints a page that demonstrates print quality
Menu Structure	Prints a control-panel menu layout map.
Configuration Report	Prints a list of the product settings
Supplies Status	Prints the toner cartridge status and includes the following information: <ul style="list-style-type: none"><li>• Approximate pages remaining</li><li>• Supply level</li><li>• Serial number</li><li>• Pages printed with this supply</li><li>• First install date</li><li>• Last used date</li></ul>
Network Summary	Prints a list of all product network settings
Usage Page	Displays the number of pages printed, faxed, copied, and scanned by the product
PCL Font List	Prints a list of all installed PCL 5 fonts
PS Font List	Prints a list of all installed PS fonts
PCL6 Font List	Prints a list of all installed PCL 6 fonts
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.
Default Info Page	Prints a list of the default settings on the product.

## Self Diagnostics menu

Menu item	Description
Run Wireless Test	<p>The network test provides information on the following:</p> <ul style="list-style-type: none"> <li>• Diagnostics summary</li> <li>• Troubleshooting</li> <li>• Configuration summary</li> </ul>
Run Fax Test	Test the product's fax capabilities

## Fax Setup menu

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

Menu item	Sub-menu item	Sub-menu item	Description
Fax Set-Up Utility			This is a tool for configuring the fax settings. Follow the on-screen 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 product.
	Fax Header	Enter your fax number.	Sets the identifying information that is sent to the receiving product.
		Enter company name.	Identifies the fax sender (optional)
	Answer Mode	Automatic*	<p>Sets the type of answer mode. The following options are available:</p> <ul style="list-style-type: none"> <li>• <b>Automatic:</b> The product automatically answers an incoming call on the configured number of rings.</li> <li>• <b>Manual:</b> The user must touch the <b>Start Fax</b> button or use an extension telephone number to make the product answer the incoming call.</li> <li>• <b>TAM:</b> A telephone answering machine (TAM) is attached to the Auxiliary telephone port of the product. The product will not pick up any incoming call, but will listen for fax tones after the answering machine has picked up the call.</li> <li>• <b>Fax/Tel:</b> The product 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 product 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.</li> </ul>
		Manual	
		TAM	
		Fax/Tel	

Menu item	Sub-menu item	Sub-menu item	Description
	Rings to Answer		Sets the number of rings that must occur before the fax modem answers. The default setting is 5.
	Distinctive Ring	All Rings* Single Double Triple Double and Triple	<p>If you have distinctive ring telephone service, use this item to configure how the product responds to incoming calls.</p> <ul style="list-style-type: none"> <li>• <b>All Rings:</b> The product answers any calls that come through the telephone line.</li> <li>• <b>Single:</b> The product answers any calls that produce a single-ring pattern.</li> <li>• <b>Double:</b> The product answers any calls that produce a double-ring pattern.</li> <li>• <b>Triple:</b> The product answers any calls that produce a triple-ring pattern.</li> <li>• <b>Double and Triple:</b> The product answers any calls that produce a double-ring or triple-ring pattern.</li> </ul>
	Dial Prefix	On Off*	Specifies a prefix number that must be dialed when sending faxes from the product. If this feature is turned on, the product 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	<p>Sets the default paper size for documents being scanned from the flatbed scanner.</p> <p><b>NOTE:</b> The default setting is determined by the choice of location during the initial product setup.</p>
	Dialing Mode	Tone* Pulse	Sets whether the product should use tone or pulse dialing.
	Redial if Busy	On* Off	Sets whether the product should attempt to redial if the line is busy.
	Redial if No Answer	On Off*	Sets whether the product should attempt to redial if the recipient fax number does not answer.
	Redial if Comm. Error	On* Off	Sets whether the product should attempt to redial the recipient fax number if a communication error occurs.

Menu item	Sub-menu item	Sub-menu item	Description
	Detect Dial Tone	On Off*	Sets whether the product should check for a dial tone before sending a fax.
	Billing Codes	On Off*	Enables the use of billing codes when set to <b>On</b> . A prompt appears for the billing code for an outgoing fax.
	Extension Phone	On* Off	When this feature is enabled, the <b>1-2-3</b> buttons on the extension telephone can be pressed to cause the product to answer an incoming fax call.
	Stamp Faxes	On Off*	Sets the product to print the date, time, sender's telephone number, and page number on each page of incoming faxes.
	Private Receive	On Off*	Setting <b>Private Receive</b> to <b>On</b> requires you to set a product password. After setting the password, the following options are set: <ul style="list-style-type: none"> <li>• <b>Private Receive</b> is turned on.</li> <li>• All old faxes are deleted from memory.</li> <li>• <b>Fax forwarding</b> is set to <b>Off</b> and is not allowed to be changed.</li> <li>• All incoming faxes are stored in memory.</li> </ul>
	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 55	Sets the time, in seconds, after which the product should stop sounding the <b>Fax/Tel</b> audible ring to notify the user of an incoming voice call.
	Print Duplex	On Off	
	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.

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 product reports.
Paper Setup	Default Paper Size	Letter	Sets the size for printing internal reports, faxes, or any print job that does not specify a size.  <b>NOTE:</b> The default setting is determined by the choice of location during the initial product setup.
		A4	
		Legal	
	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	Configures the size and type for the tray.
		Paper Size	
	Tray 2	Paper Type	Configures the size and type for the tray.
		Paper Size	
Paper Out Action		Wait forever*	Determines how the product reacts when a print job requires a paper size or type that is unavailable or when the tray is empty.  <ul style="list-style-type: none"> <li><b>Wait forever:</b> The product waits until you load the correct paper.</li> <li><b>Override:</b> Print on a different size paper after a specified delay.</li> <li><b>Cancel:</b> Automatically cancel the print job after a specified delay.</li> <li>If you select either the <b>Override</b> or <b>Cancel</b> item, the control panel prompts you for the number of seconds to delay.</li> </ul>
		Cancel	
		Override	
Print Quality	Adjust Alignment	Print Test Page	
		Adjust Tray 1	
		Adjust Tray 2	



Menu item	Sub-menu item	Sub-menu item	Description
Energy Settings	Sleep Delay	Off	Specifies the amount of idle time before the product enters sleep mode.
		1 Minute	
		15 Minutes*	
		30 Minutes	
		1 Hour	
		2 Hours	
	Auto Power Down	Power Down Delay	Set the amount of elapsed time before the product turns itself off. The options are: <ul style="list-style-type: none"> <li>Never</li> <li>30 Minutes</li> <li>1 Hour</li> <li>2 Hours</li> <li>4 Hours</li> <li>8 Hours</li> <li>24 Hours</li> </ul>
		Wake Events	Select the events that bring the product out of sleep mode. The following events are available for selection: <ul style="list-style-type: none"> <li>USB Job</li> <li>LAN Job</li> <li>Wireless Job</li> <li>Control Panel Touch</li> <li>Fax Ring</li> <li>Paper in ADF</li> <li>USB Drive Insert</li> </ul>
Supply Settings	Black Cartridge	Very Low Setting	<p><b>Stop:</b> The product stops printing until you replace the toner cartridge.</p> <p><b>Prompt*:</b> The product stops printing and prompts you to replace the toner cartridge. You can acknowledge the prompt and continue printing.</p> <p><b>Continue:</b> The product alerts you that the toner cartridge is very low, but it continues printing.</p>
		Low Threshold	Enter a percentage for the low threshold setting.
	Store Usage Data		Select where to store the product's usage data, either on the supplies or not on the supplies.

Menu item	Sub-menu item	Sub-menu item	Description
Volume Settings	Alarm Volume		Set the volume levels for the product. The following options are available for each volume setting: <ul style="list-style-type: none"><li>Off</li><li>Soft</li><li>Medium*</li><li>Loud</li></ul>
	Ring Volume		
	Key-Press Volume		
	Phone Line Volume		
Time/Date	12 Hour		Sets the time and date setting for the product.
	24 Hour		
Administration	Product Security	On	Sets the product-security feature. If you select the On setting, you must set a password.
		Off	
	USB Flash Drive	On*	Enables or disables the USB flash drive.
		Off	
	Disable Fax	Yes	Enable, or disable, faxing to and from the product.
		No*	
	Scan to Network Folder	On*	Enable, or disable, the product's scan to folder capability.
		Off	
	Scan to E-mail	On*	Enable, or disable, the product's scan to email feature.
		Off	
Courier Font	Regular*		Sets Courier font values.
	Dark		
Quiet Print Mode			

## Service menu

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

Menu item	Sub-menu item	Sub-menu item	Description
Fax Service	Clear Saved Faxes		Clears all faxes in memory.
	Run Fax Test		Performs a fax test to verify that the telephone cable is plugged in the correct outlet and that there is a signal on the telephone line. A fax test report is printed indicating the results.
	Print T.30 Trace	Now	Prints or schedules a report that is used to troubleshoot fax transmission issues.
		Never*	
		If Error	
		At End of Call	
	Error Correction	On*	Allows the sending device to re-transmit data if it detects an error signal.
		Off	
	Fax Service Log		Prints out the last 40 entries in the fax log.
Cleaning Page			<p>Cleans the product when specks or other marks appear on printed output. The cleaning process removes dust and excess toner from the paper path.</p> <p>When selected, the product prompts you to load plain Letter or A4 paper in Tray 1. Touch the <b>OK</b> button to begin the cleaning process. Wait until the process completes. Discard the page that prints.</p>
USB Speed	High*		Sets the USB speed for the USB connection to the computer. For the product to actually operate at high speed, it must have high speed enabled and be connected to an EHCI host controller that is also operating at high speed. This menu item does not reflect the current operating speed of the product.
	Full		
Less Paper Curl	On		When printed pages are consistently curled, this option sets the product to a mode that reduces curl.
	Off*		

Menu item	Sub-menu item	Sub-menu item	Description
Archive Print	On Off*		When printing pages that will be stored for a long time, this option sets the product to a mode that reduces toner smearing and dusting.
Firmware Datecode			Displays the current firmware datecode
Restore Defaults			Sets all settings to the factory default values
Signature Check	Cancel if Invalid* Prompt if Invalid		Validates HP firmware downloads.
HP Smart Install	On* Off		Enable, or disable, the HP Smart Install feature on the product.
LaserJet Update	Check for Updates Now	Install Now Remind Me Later Skip this Update	
	Manage Updates	Allow Downgrade Check Automatically Prompt Before Install Allow Updates	
SMTP Comm. Report			Contains the SMTP communication to and from the device from the last scan to e-mail job.

## Network Setup menu

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

Menu item	Sub-menu item	Description
Wireless Menu (wireless models only)	Wireless Direct Settings	Manages the product's wireless direct settings.
	Wireless Setup Wizard	Guides you through the steps to set up the product on a wireless network
	Wi-Fi Protected Setup	If your wireless router supports this feature, use this method to set up the product 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.
IPv4 Config Method	DHCP	
	BootP	
	Auto IP	
	Manual	
Network Services	IPv4	Enables or disables the IPv4 and IPv6 protocols. By default, each protocol is enabled.
	IPv6	
Link Speed	Automatic*	Sets the link speed manually if needed.
	10T Full	After setting the link speed, the product automatically restarts.
	10T Half	
	100TX Full	
	100TX Half	
	1000T Full	
Security	Product Security	
	HTTPS Enforcement	
	Firewall	
	Access Control List	
	802.1X	
	Reset All Security	
Restore Defaults		Resets all network configurations to their factory defaults.

## 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 product 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.

### USB Flash Drive

The following file types are supported:

- .PDF
- .JPG

Menu item	Description
Print Documents	<p>Prints documents stored on a USB flash drive. Use the arrow buttons to scroll through the documents. Touch the names of documents to print.</p> <p>Touch the summary screen to change settings such as the number of copies, the paper size, or the paper type.</p> <p>Touch the <a href="#">Print</a> button to print the documents.</p>
View and Print Photos	<p>Previews photos on a USB flash drive. Use the arrow buttons to scroll through the photos. Touch the preview image for each photo to print. Adjust the settings and save the changes as the new default settings. To print the photos, touch the <a href="#">Print</a> button.</p>
Scan to USB Drive	<p>Scans a document and stores it as a .PDF file or .JPEG image on a USB flash drive.</p>

### Fax Menu

To open this menu, touch the [Fax](#) button, and then touch the [Fax Menu](#) button.

Menu item	Sub-menu item	Sub-menu item	Description
Fax Reports	Fax Confirmation	On Every Fax	Sets whether the product prints a confirmation report after a successful fax job.
		On Send Fax Only	
		On Receive Fax Only	
		Never*	
	Include First Page	On*	Sets whether the product includes a thumbnail image of the first page of the fax on the report.
		Off	
	Fax Error Report	On Every Error*	Sets whether the product prints a report after a failed fax job.
		On Send Error	
		On Receive Error	
		Never	

Menu item	Sub-menu item	Sub-menu item	Description
	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	<p><b>Print Log Now:</b> Prints a list of the faxes that have been sent from or received by this product.</p> <p><b>Auto Log Print:</b> Automatically prints a report after every fax job.</p>
	Print Phone Book		Prints a list of the speed dials that have been set up for this product.
	Print Junk Fax list		Prints a list of telephone numbers that are blocked from sending faxes to this product.
	Print Billing Report		Prints a list of billing codes that have been used for outgoing faxes. This report shows how many sent faxes were billed to each code. This menu item appears only when the billing codes feature is turned on.
	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.
	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	Print Private Faxes		Prints stored faxes when the private-receive feature is turned on. The product prompts you for the system password.



Menu item	Sub-menu item	Sub-menu item	Description
	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 product 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.
	Reprint Faxes		Prints the received faxes stored in available memory. This item is available only if you have turned on the <a href="#">Allow Fax Reprint</a> feature in the <a href="#">Fax Setup</a> menu.
	Forward Fax	On Off*	Sets product to send all received faxes to another fax machine.
	Polling Receive		Allows the product to call another fax machine that has polling send enabled.
Phone Book Setup	Individual Setup		Edits the fax telephone book speed dials and group-dial entries. The product 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 <a href="#">Fax Setup</a> menu.

## Copy Menu

To open this menu, touch the [Copy](#) button, and then touch the [Settings](#) button.



**NOTE:** Settings that you change with this menu expire two minutes after the last copy completes.

Menu item	Sub-menu item	Sub-menu item	Description
ID Copy			Copies both sides of identification cards, or other small-size documents, onto the same side of one sheet of paper.
<b>NOTE:</b> This item is available from the main <a href="#">Copy</a> screen. You do not need to touch the <a href="#">Settings</a> button to access it.			
Number of Copies	(1–99)		Specifies the number of copies
Reduce/Enlarge	Original=100%		Specifies the size of the copy.
	Legal to Letter=78%		
	Legal to A4=83%		
	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%		
Lighter/Darker			Specifies the contrast of the copy.
Optimize	Describe Original	Auto Select*	Specifies the type of content in the original document, so the copy is the best match for the original.
		Mixed	
		Text	
		Picture	
Paper	Letter*		Specifies the paper size.
	Legal		<b>NOTE:</b> The default paper size setting is determined by the choice of location during the initial product setup.
	A4		
Multi-Page Copy	Off*		When this feature is on, the product prompts you to load another page onto the scanner glass or to indicate that the job is complete.
	On		

Menu item	Sub-menu item	Sub-menu item	Description
Collation	On*		Specifies whether to collate copy jobs.
	Off		
Tray Select	Auto Select		
	Tray 1		
	Tray 2		
Two-Sided	1-Sided to 1-Sided		
	1-Sided to 2-Sided		
	2-Sided to 2-Sided		
	2-Sided to 1-Sided		
Draft Mode	Off*		Specifies whether to use draft-quality printing for copies.
	On		
Set as New Defaults	Yes		Saves any changes you have made to this menu as the new defaults.
	No		
Restore Defaults			Restores the factory defaults for this menu.

## Scan Menu

To open this menu, touch the [Scan](#) button, and then touch the [Settings](#) button.

Menu item	Description
<a href="#">Scan to USB Drive</a>	Scans a document and stores it as a .PDF file or .JPEG image on the USB flash drive.
<a href="#">Scan to Network Folder</a>	Scans a document to a network folder.
<a href="#">Scan to E-mail</a>	Scans a document and sends as an email attachment.

## Apps

Use the [Apps](#) menu to install HP Web Services applications.

## Interpret control-panel messages

### Control panel message types

Alert and warning messages appear temporarily and might require you to acknowledge the message by touching the **OK** button to resume or by touching the **Cancel** **X** button to cancel the job. With certain warnings, the job might not complete or the print quality might be affected. If the alert or warning message is related to printing and the auto-continue feature is on, the product will attempt to resume the printing job after the warning has appeared for 10 seconds without acknowledgement.

Critical error messages can indicate some kind of failure. Turning off and then turning on the power might fix the problem.

### Control panel messages

#### 49 Error, Turn off then on

##### **Description**

The product experienced an internal error.

##### **Recommended action**

Turn the product off, wait at least 30 seconds, and then turn the product on and wait for it to initialize.

If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.

If the message persists, contact HP support.

#### 50.x Fuser Error

##### **Description**

The product has experienced an error with the fuser.

##### **Recommended action**

Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.

Turn off the product, wait at least 25 minutes, and then turn on the product.

If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.

If the message persists, contact HP support.

#### 51.XX Error

##### **Description**

The product has experienced an internal hardware error.

### **Recommended action**

Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.

If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product on.

If the message persists, contact HP support.

## **54.XX Error**

### **Description**

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

### **Recommended action**

Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.

If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.

If the message persists, contact HP support.

## **55.X Error**

### **Description**

The product has experienced an internal error.

### **Recommended action**

Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.

If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.

If the message persists, contact HP support.

## **57 Fan Error, Turn off then on**

### **Description**

The product has experienced a problem with its internal fan.

### **Recommended action**

Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.

If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.

If the message persists, contact HP support.

## 59.X Error

### Description

The product has experienced a problem with one of the motors.

### Recommended action

Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.

If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.

If the message persists, contact HP support.

## 79 Error Turn off then on

### Description

The product has experienced an internal firmware error.

### Recommended action

Turn the product power off, wait at least 30 seconds, and then turn the product power on and wait for it to initialize.

If you are using a surge protector, remove it. Plug the product directly into the wall socket. Turn the product power on.

If the message persists, contact HP support.

## Black Cartridge low

### Description

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

### Recommended action

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

## Black Cartridge very low

### Description

The 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 may vary.

Once an HP toner cartridge has reached very low, HP's Premium Protection Warranty on that toner cartridge has ended. All print defects or cartridge failures incurred when an HP toner cartridge is used in continue at very low mode will not be considered to be defects in materials or workmanship in the toner cartridge 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.

## Communication Error

### Description

A fax communication error occurred between the product and the sender or receiver.

### Recommended action

Allow the product to retry sending the fax. Unplug the product telephone cable from the wall, plug in a telephone, and try making a call. Connect the product telephone cable into a jack for another telephone line.

Try a different telephone cable.

Set the [Fax Speed](#) option to the [Slow\(V.29\)](#) setting or disable the [Fast\(V.34\)](#) setting.

Turn off the [Error Correction](#) feature to prevent automatic error correction.



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**NOTE:** Turning off the [Error Correction](#) feature can reduce image quality.

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Print the [Fax Activity Log](#) report from the control panel to determine if the error occurs with a specific fax number.

If the error persists, contact HP. See [www.hp.com/support/ljmfpM521series](http://www.hp.com/support/ljmfpM521series) or the support flyer that came in the product box.

## Device error, press OK

### Description

An internal error occurred.

### Recommended action

Press the [OK](#) button to resume the job.

### Document feeder door is open. Canceled fax.

#### Description

The cover at the top of the document feeder is open, and the product cannot send the fax.

#### Recommended action

Close the cover, and send the fax again.

### Door open

#### Description

The product front door is open.

#### Recommended action

Close the door.

### 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

Call the recipient to ensure that the fax machine is on and ready.

Check that you are dialing the correct fax number.

Check that the [Redial if Busy](#) option is enabled.

Open the [Service](#) menu, and touch the [Fax Service](#) button. Touch the [Run Fax Test](#) button. This test verifies that the telephone cable is connected to the correct port and that the telephone line has a signal. The product prints a report with the results.

If the error persists, contact HP. See [www.hp.com/support/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product box.

### Fax is busy. Redial pending.

#### Description

The fax line to which you were sending a fax was busy. The product automatically redials the busy number.

#### Recommended action

Allow the product to retry sending the fax.

Call the recipient to ensure that the fax machine is on and ready.

Check that you are dialing the correct fax number.



Open the [Service](#) menu, and touch the [Fax Service](#) button. Touch the [Run Fax Test](#) button. This test verifies that the telephone cable is connected to the correct port and that the telephone line has a signal. The product prints a report with the results.

If the error persists, contact HP. See [www.hp.com/support/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product box.

### **Fax receive error.**

#### **Description**

An error occurred while trying to receive a fax.

#### **Recommended action**

Ask the sender to resend the fax.

Try faxing back to the sender or another fax machine.

Check for a dial tone on the telephone line by touching the [Start Fax](#) button.

Check that the telephone cable is securely connected by unplugging and replugging the cable.

Make sure that you are using the telephone cable that came with the product.

Open the [Service](#) menu, and touch the [Fax Service](#) button. Touch the [Run Fax Test](#) button. This test verifies that the telephone cable is connected to the correct port and that the telephone line has a signal. The product prints a report with the results.

Decrease the fax speed. Ask the sender to resend the fax.

Turn off error-correction mode. Ask the sender to resend the fax.



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

Connect the product to a different telephone line.

If the error persists, contact HP. See [www.hp.com/support/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product box.

### **Fax Send error.**

#### **Description**

An error occurred while trying to send a fax.

#### **Recommended action**

Try resending the fax.

Try faxing to another fax number.

Check for a dial tone on the telephone line by touching the [Start Fax](#) button.

Check that the telephone cable is securely connected by unplugging and replugging the cable.

Make sure that you are using the telephone cable that came with the product.

Make sure that the telephone is working by disconnecting the product, plugging in a telephone to the telephone line, and making a voice call.

Connect the product to a different telephone line.

Set the fax resolution to **Standard** instead of the default of **Fine**.

If the error persists, contact HP. See [www.hp.com/support/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product box.

### **Fax storage is full. Canceling the fax receive.**

#### **Description**

During the fax transmission, the product ran out of memory. Only the pages that fit into memory will be printed.

#### **Recommended action**

Print all of the faxes, and then have the sender resend the fax. Have the sender divide the fax job into multiple jobs before resending. Cancel all fax jobs or clear the faxes from memory.

### **Fax storage is full. Canceling the fax receive.**

#### **Description**

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

#### **Recommended action**

If you are using the **Private Receive** feature, print all received faxes to regain some memory.

If you still need more memory, clear faxes from memory. Open the **Service** menu. In the **Fax Service** menu, select the **Clear Saved Faxes** option.

### **Fax storage is full. Canceling the fax send.**

#### **Description**

During the fax job, the memory filled. All pages of the fax have to be in memory for a fax job to work correctly. Only the pages that fit into memory were sent.

#### **Recommended action**

Cancel the current job. Turn the product off, and then turn it on again. Try sending the job again.

If the error reoccurs, cancel the job and turn the product off and then on a second time. The product might not have enough memory for some jobs.

### **Genuine HP supply installed**

#### **Description**

A genuine HP toner cartridge was installed.

**Recommended action**

No action necessary.

**Incompatible <color>****Description**

You have installed a toner cartridge that is intended for use in a different HP product model. The product might not function correctly with this toner cartridge installed.

**Recommended action**

Install the correct toner cartridge for this product.

**Install <color> cartridge****Description**

The toner cartridge is either not installed or not correctly installed in the product.

**Recommended action**

Install the toner cartridge.

**Invalid driver Press OK****Description**

You are using an incorrect print driver.

**Recommended action**

Select the correct print driver.

**Jam in Tray 1, Clear jam and then press OK****Description**

The product has detected a jam.

**Recommended action**

Clear the jam from the tray, and then press **OK**.

If the message persists, contact HP support.

**Load tray 1 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.

### Load Tray 1 <TYPE> <SIZE>, Press OK to use available media

#### 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. Or press the OK button to use the paper currently in the tray.

### Load Tray 1, <PLAIN> <SIZE> / Cleaning mode, 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 <X>: [Type], [Size]

#### Description

A tray is configured for the paper type and size that the print job is requesting, but that tray is empty.

#### Recommended action

Load the correct paper into the tray, or press the OK button to use paper in a different tray.

### Manual Duplex Load Tray 1, Press OK

#### 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.

### Manual feed <SIZE> <TYPE>, Press OK to use available media

#### Description

The product is set for manual feed mode.

#### Recommended action

Press the OK button to clear the message or load the correct paper into Tray 1.

### Memory is low. Press OK.

#### Description

The product memory is almost full.

#### Recommended action

Press the **OK** button to finish the job, or press the Cancel **X** button to cancel the job.

Break the job into smaller jobs that contain fewer pages.

### Misprint, Press OK

#### 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. Make sure 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.

### No dial tone.

#### Description

The product could not detect a dial tone.


#### Recommended action

Check for a dial tone on the telephone line by touching the **Start Fax** button.

Unplug the telephone cable from both the product and the wall and replug the cable.

Make sure that you are using the telephone cable that came with the product.

Unplug the product telephone cable from the wall, connect a telephone, and try making a voice call.

Make sure that the telephone cable from the wall telephone jack is plugged into the line  port.

Connect the product telephone cable into a jack for another telephone line.

Check the telephone line by using the **Run Fax Test** option from the **Service** menu on the control panel.

If the error persists, contact HP. See [www.hp.com/support/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product box.

## No fax answer. Canceled send.

### Description

Attempts to redial a fax number failed, or the [Redial if No Answer](#) option was turned off.

### Recommended action


Call the recipient to ensure that the fax machine is on and ready.

Check that you are dialing the correct fax number.

Check that the redial option is enabled.

Unplug the telephone cable from both the product and the wall and replug the cable.

Unplug the product telephone cable from the wall, connect a telephone, and try making a voice call.

Make sure that the telephone cable from the wall telephone jack is plugged into the line  port.

Connect the product telephone cable into a jack for another telephone line.

If the error persists, contact HP. See [www.hp.com/support/ljmfpM521series](http://www.hp.com/support/ljmfpM521series) or the support flyer that came in the product box.

## No fax answer. Redial pending.

### Description

The receiving fax line did not answer. The product attempts to redial after a few minutes.


### Recommended action

Allow the product to retry sending the fax.

Call the recipient to ensure that the fax machine is on and ready.

Check that you are dialing the correct fax number.

If the product continues to redial, unplug the product telephone cable from the wall, connect a telephone, and try making a voice call.

Make sure that the telephone cable from the wall telephone jack is plugged into the line  port.

Connect the product telephone cable into a jack for another telephone line.

Try a different telephone cable.

If the error persists, contact HP. See [www.hp.com/support/ljmfpM521series](http://www.hp.com/support/ljmfpM521series) or the support flyer that came in the product box.

## No Fax Detected

### Description

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

**Recommended action**

Allow the product to retry receiving the fax.

Try a different telephone cable.

Connect the product telephone cable into a jack for another telephone line.

If the error persists, contact HP. See [www.hp.com/support/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product box.

**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.

**Remove shipping lock from <color> cartridge****Description**

A toner cartridge shipping lock is installed.

**Recommended action**

Pull the orange tab to remove the shipping lock from the cartridge.

**Replace <color>****Description**

The 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**

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 may vary. Once an HP toner cartridge has reached very low, HP's Premium Protection Warranty on that toner cartridge has ended. All print defects or cartridge failures incurred when an HP toner cartridge is used in Continue at Very Low mode will not be considered to be defects in materials or workmanship in the toner cartridge under the HP Print Cartridge Warranty Statement.

**Unexpected size in tray 1 Load <size> Press OK****Description**

The product has detected paper in the 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.

### Unsupported <color> Press OK to continue

#### Description

The product has detected an installed toner cartridge that was not made by HP.

#### Recommended action

Press the OK button to continue printing.

If you believe you purchased an HP supply, go to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit). Service or repairs that are required as a result of using unsupported supplies are not covered under HP warranty.

### Used <color> cartridge is installed Press OK to continue

#### Description




You are using a toner cartridge that reached the default low threshold while it was installed in a product.

#### Recommended action

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

## Event-log messages

### Print the event log

1. Make sure the product is in the ready state.
2. From the Home screen on the product control panel, touch the Setup  button.
3. Touch the left arrow button, and then quickly touch the Cancel  button.
4. The product returns to the Ready state. touch the Setup  button to reopen the menus.
5. Touch the [Secondary Service](#) menu.
6. Touch the [Service Reports](#) menu.
7. Touch the [Error Report](#) item.

### Show an event log

You can use **HP Device Toolbox** to view the event log from a computer.



 **NOTE:** This tool is available only if you performed a full installation when you installed the product.

1. Click the **Start** button, and then click the **Programs** item.
2. Click your HP product group, and then click the **HP Device Toolbox** item.
3. Click the **Home** tab, and then click the **Event Log** item. The event log shows a list of all product events and errors.

## Event log messages

The following table contains any event log codes for this product that correspond to a control-panel error message. To resolve these events, consult the control panel error message.

**Table 2-3 Event-log messages**

Event code	Description
13.0000	Paper jam
20.0000	Memory out
21.0000	Page misfeed or mispick
41.2000	Beam detect malfunction
41.3000	Unexpected size
50.0000	Fuser error
50.1000	Low fuser temperature error
50.3000	High fuser temperature error
50.4000	Fuser drive circuit error
51.0000	Beam detect or laser error
52.0000	Engine laser scanner error
55.3000	Engine-formatter communication error
55.4000	Engine communication timeout error
57.0000	Fan motor error
57.0600	Fan motor error

Some product events do not produce a message that displays on the control panel. Instead, they are only recorded in the event log.

**Table 2-4 Event-log-only messages**

Event code	Description	Solution
50.2000	Slow fuser error	
50.7000	Fuser open error	
	Low sub-thermistor fuser error	
	High sub-thermistor fuser error	
51.2000	Black scanner laser error (inline devices only)	
54.0100	Environmental sensor error	<p>Verify that the DC controller connectors are firmly connected.</p> <p>If the error persists, replace the temperature/humidity sensor.</p> <p>If the error persists, replace the DC controller.</p>
54.0600	Density sensor error	Verify that the cables between the DC controller is firmly connected.
54.1100	Black density out of range	If the error persists, replace the color misregistration sensor.
54.1200	Black density measurement abnormality	If the error persists, replace the DC controller.
54.1400	Color plane registration sensor error (inline devices only)	<ol style="list-style-type: none"> <li>1. Turn off the power by using the power switch, and then wait at least 30 seconds.</li> <li>2. Turn on the power and wait for the product to initialize.</li> </ol> <p>If the error persists, verify that the cables between the color misregistration sensor and the DC controller are firmly connected.</p> <p>If the error persists, replace the color misregistration sensor.</p> <p>If the error persists, replace the toner cartridge tray.</p> <p>If the error persists, replace the DC controller.</p>
54.1501	Cyan CPR pattern cannot be read	<ol style="list-style-type: none"> <li>1. Turn off the power by using the power switch, and then wait at least 30 seconds.</li> </ol>
54.1502	Magenta CPR pattern cannot be read	<ol style="list-style-type: none"> <li>2. Turn on the power and wait for the product to initialize.</li> </ol>
54.1503	Yellow CPR pattern cannot be read	If the error persists, verify that the cables between the color misregistration sensor and the DC controller are firmly connected.
54.1599	Black CPR pattern cannot be read	<p>If the error persists, replace the color misregistration sensor.</p> <p>If the error persists, replace the toner cartridge tray.</p> <p>If the error persists, replace the DC controller.</p>
54.1800	Black toner level sensor error	<ol style="list-style-type: none"> <li>1. Turn off the power by using the power switch, and then wait at least 30 seconds.</li> <li>2. Turn on the power and wait for the product to initialize.</li> </ol> <p>If the error persists, replace the DC controller.</p>

**Table 2-4 Event-log-only messages (continued)**


Event code	Description	Solution
54.2100	Beam detect (BD) error	If the error persists, replace the DC controller.  If the error persists, replace the product.
54.2500	Top-of-page sensor error	Verify that the DC controller connectors are firmly connected.  If the error persists, replace the DC controller.

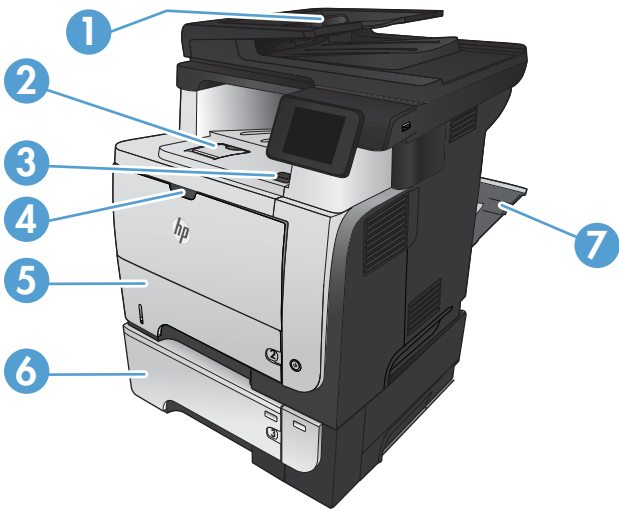
# Clear jams

- [Jam locations](#)
- [Clear jams in the document feeder](#)
- [Clear jams in the output area](#)
- [Clear jams in Tray 1](#)
- [Clear jams in Tray 2 or optional Tray 3](#)
- [Clear jams in the fuser](#)
- [Clear jams in the duplexer](#)

## Jam locations

Use this illustration to identify locations of jams. In addition, instructions display on the control panel to direct you to the location of jammed paper and how to clear it.

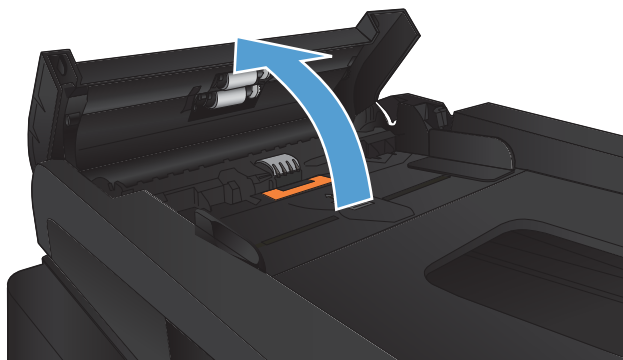
 **NOTE:** Internal areas of the product that might need to be opened to clear jams have green handles or green labels.



1	Document-feeder area
2	Output-bin area
3	Top-cover and toner-cartridge area
4	Tray 1 area
5	Tray 2 pickup area Duplexing area (remove Tray 2 for access)
6	Optional Tray 3
7	Rear door

## Clear jams in the document feeder

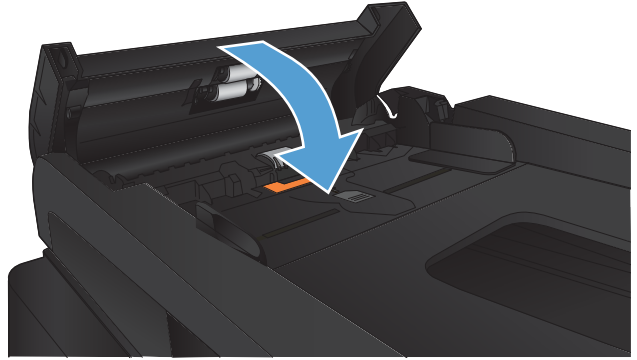
1. Open the document-feeder cover.



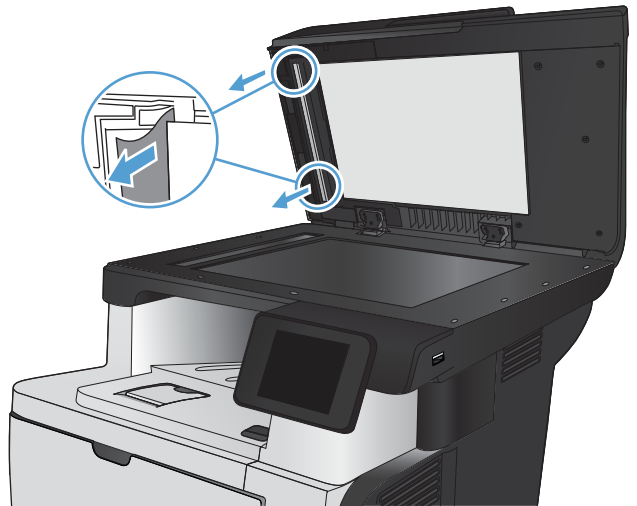
2. Gently pull the jammed paper out.



3. Close the document-feeder cover. Make sure it is completely closed.



4. Open the scanner lid. If paper is jammed in the scanner lid, gently pull it out.



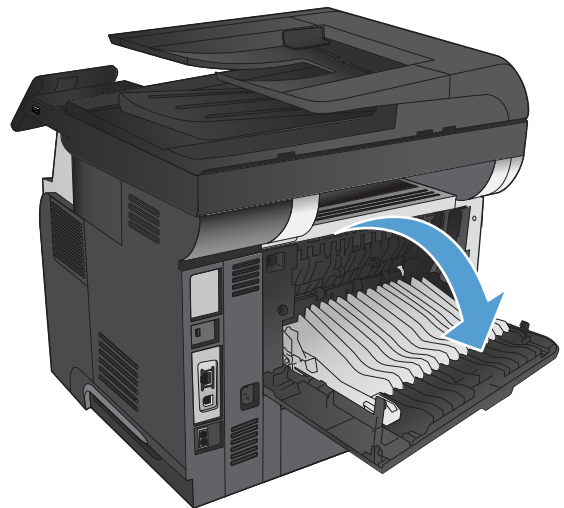
## Clear jams in the output area

1. If paper is visible from the output bin, grasp the leading edge and remove it.



2. Open the rear door, and push down so it is fully opened to a 90° angle.

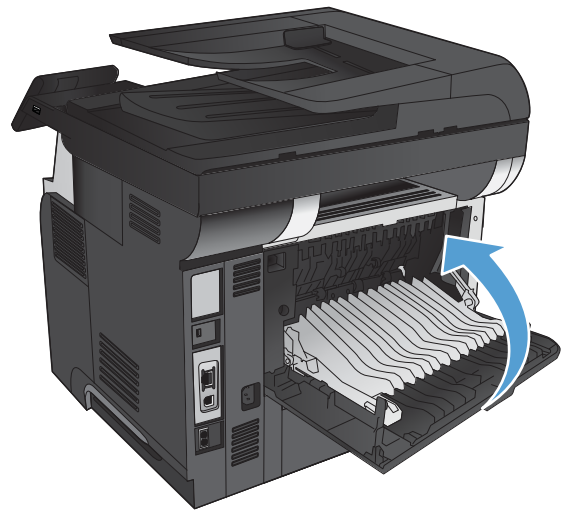
**NOTE:** The rear door has two positions. It opens to a 45° angle for the rear output bin and to a 90° angle for clearing jams.



3. Remove any jammed paper.



4. Close the rear door.

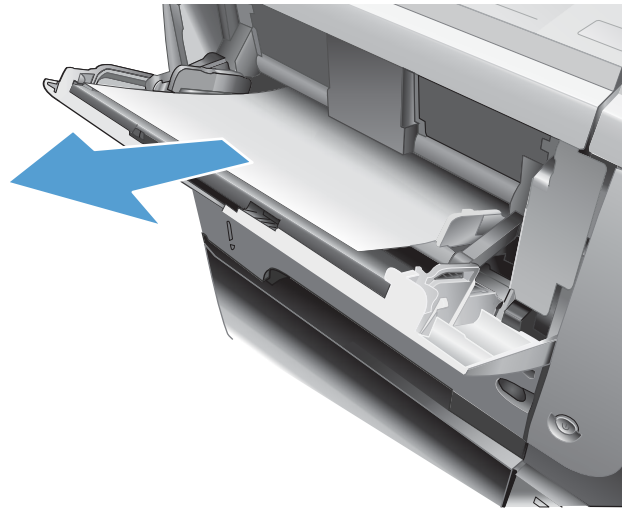




## Clear jams in Tray 1

1. If most of the sheet of paper is visible in the tray, slowly pull the jammed paper out of the product.

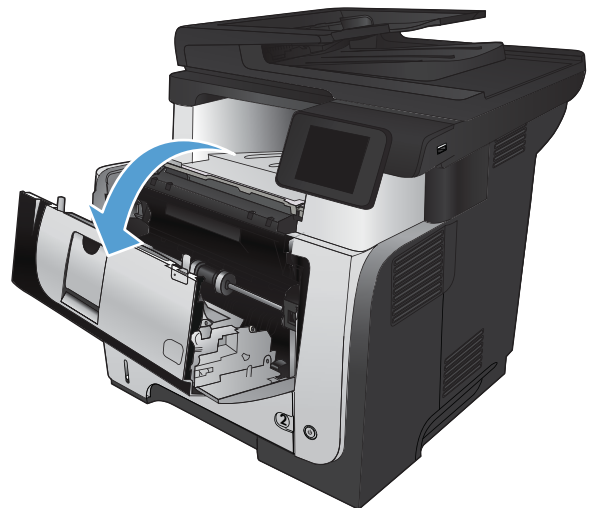
If most of the sheet of paper has been pulled inside the product, continue with the following steps.



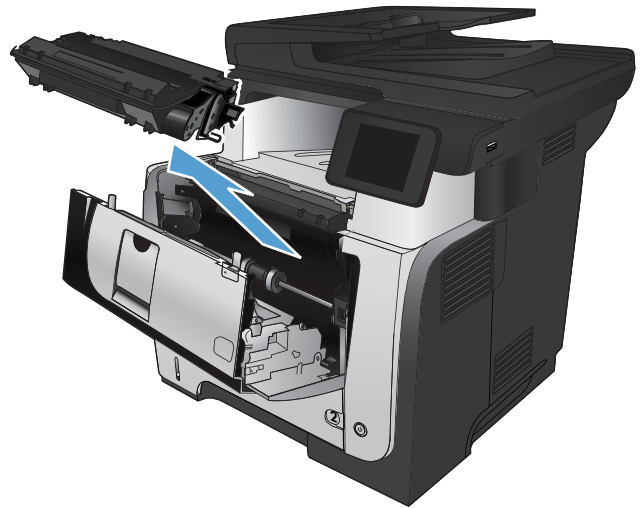
2. Press the front-door-release button.



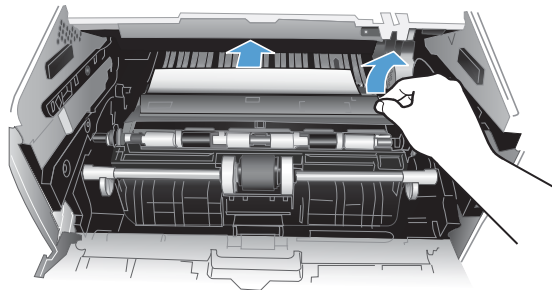
3. Open the front door.



4. Remove the toner cartridge.



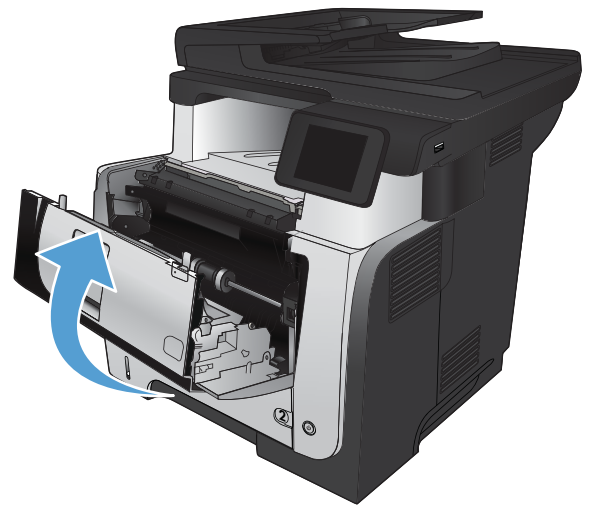
5. Lift the jam-access covers and remove any jammed paper.



6. Reinsert the toner cartridge.

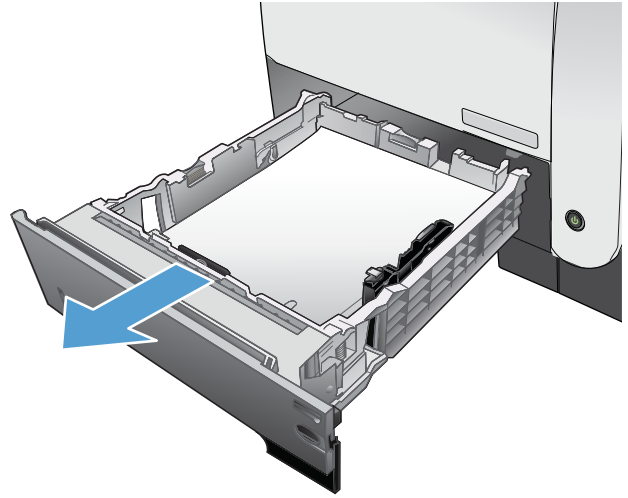


7. Close the front door.

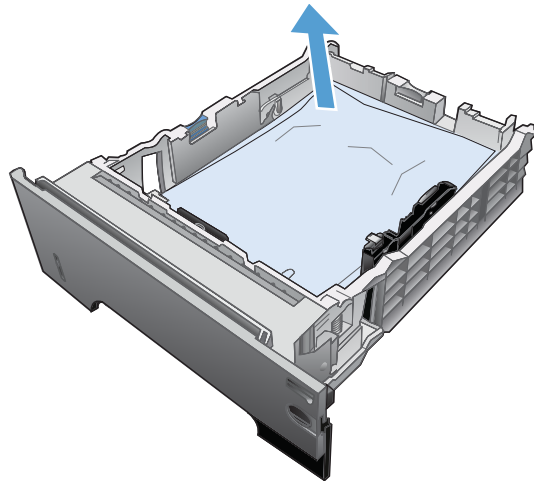


## Clear jams in Tray 2 or optional Tray 3

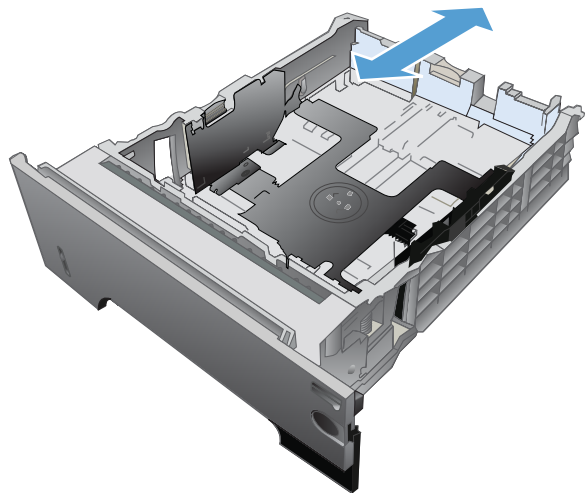
1. Remove the tray from the product.



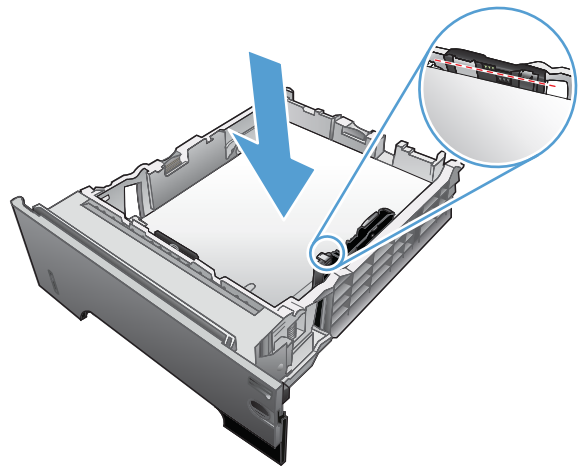
2. Remove the paper from the tray, and discard any damaged paper.



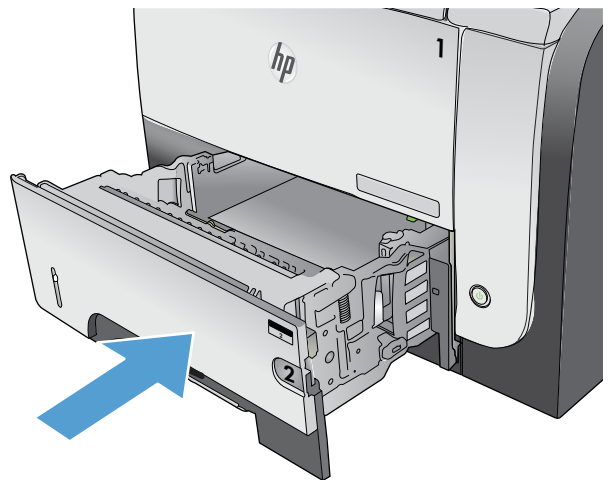
3. Verify that the rear paper guide is adjusted to the indentation for the correct paper size. If necessary, pinch the release and move the rear paper guide to the correct position. It should click into place.



4. Load the paper into the tray. Make sure that the stack is flat at all four corners and that the top of the stack is below the maximum-height indicators.



5. Reinsert and close the tray.



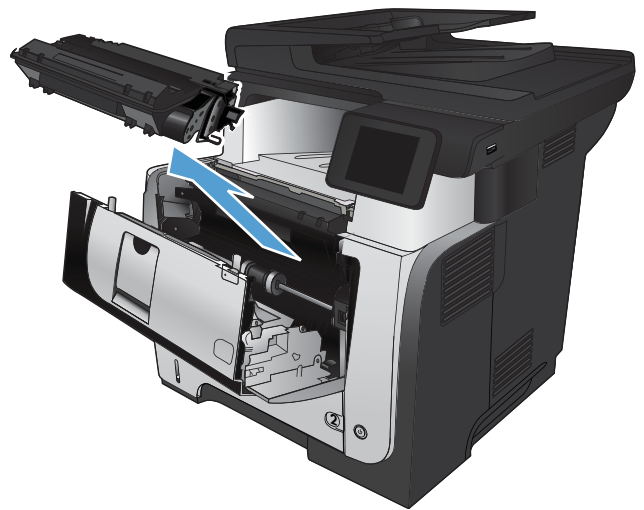
6. Press the front-door-release button.



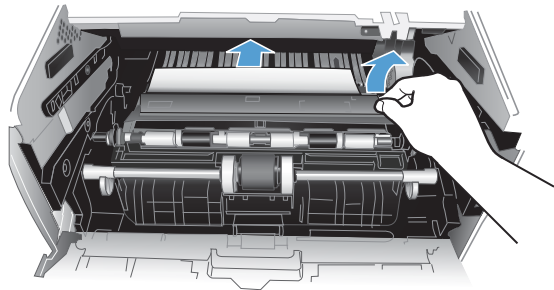
7. Open the front door.



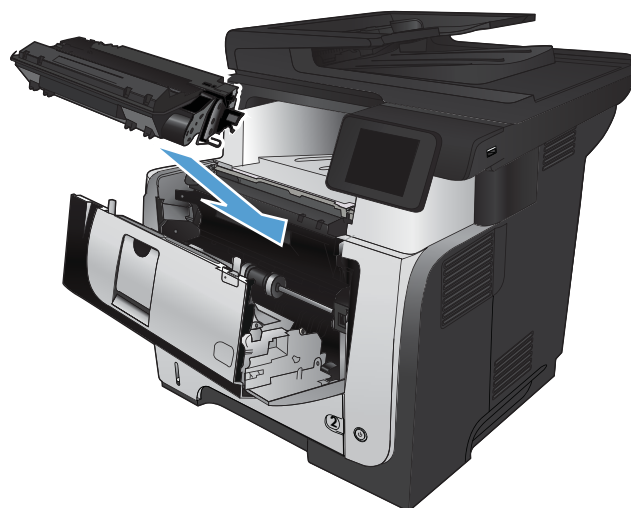
8. Remove the toner cartridge.



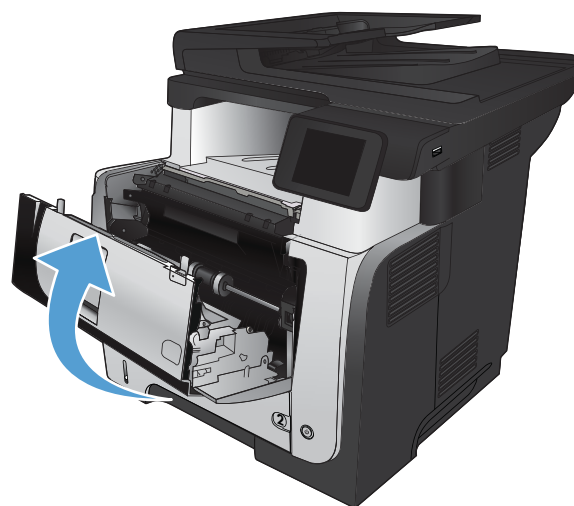
9. Lift the jam-access covers and remove any jammed paper.



**10.** Reinsert the toner cartridge.



**11.** Close the front door.

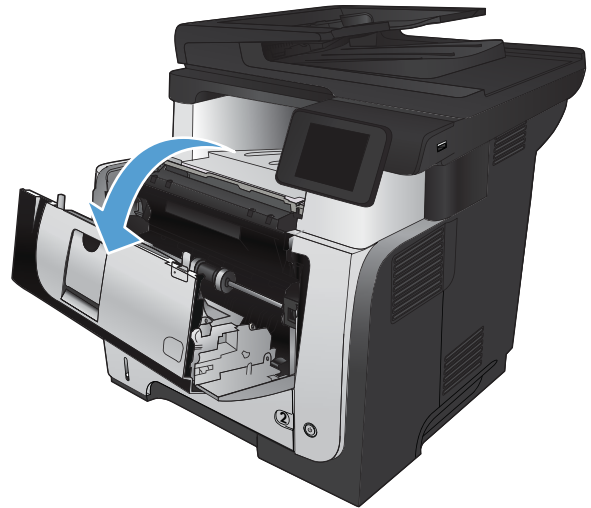


## Clear jams in the fuser

1. Press the front-door-release button.



2. Open the front door.

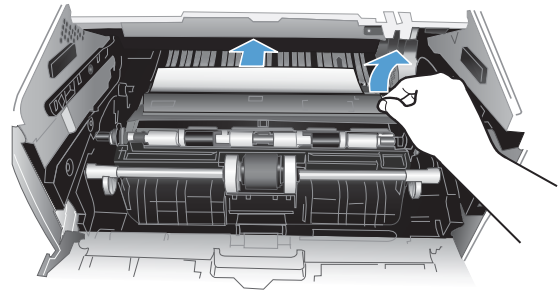


3. Remove the toner cartridge.

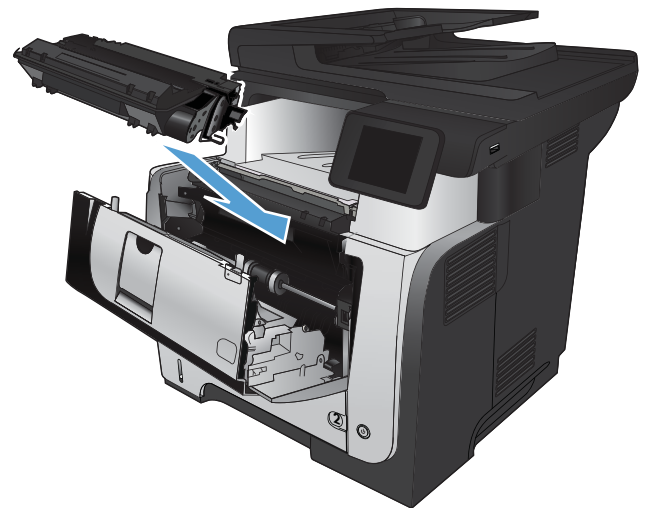




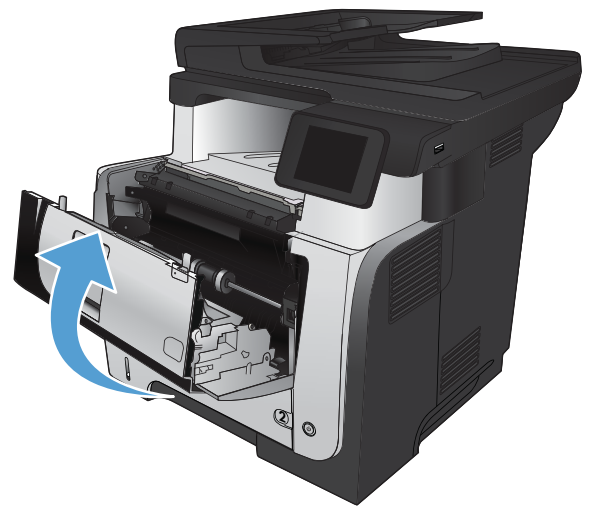
4. Lift the jam-access covers and remove any jammed paper.



5. Reinsert the toner cartridge.

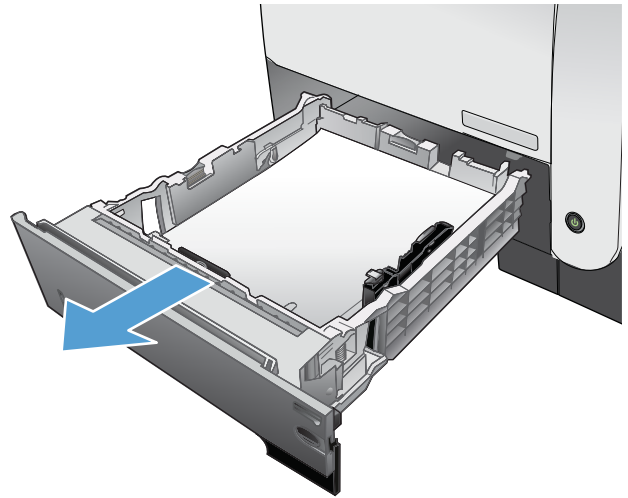


6. Close the front door.

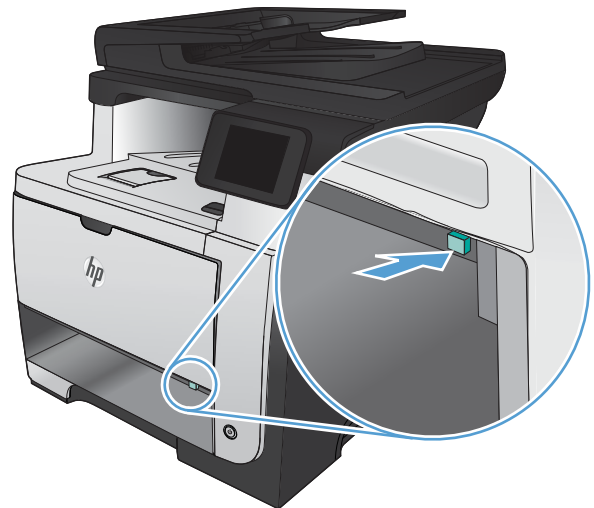


## Clear jams in the duplexer

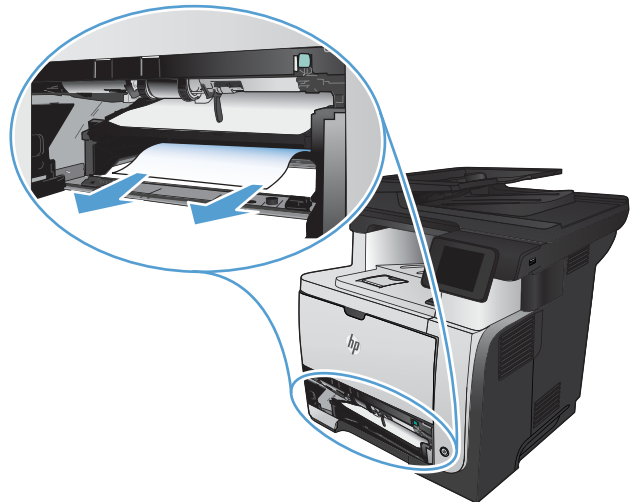
1. Completely remove Tray 2 from the product.



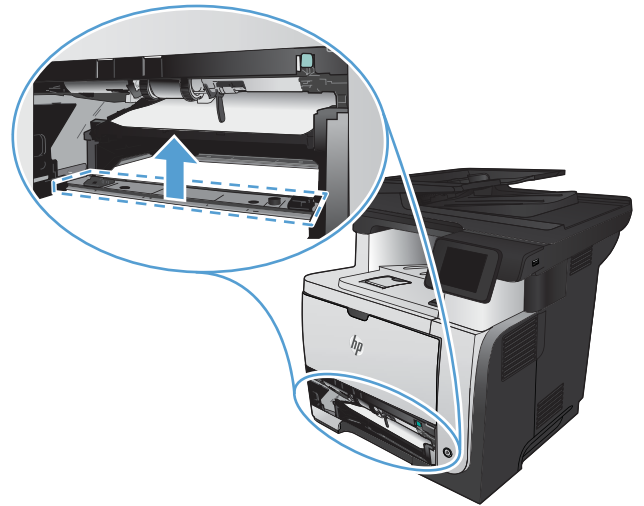
2. Push the green button to release the duplex pan.



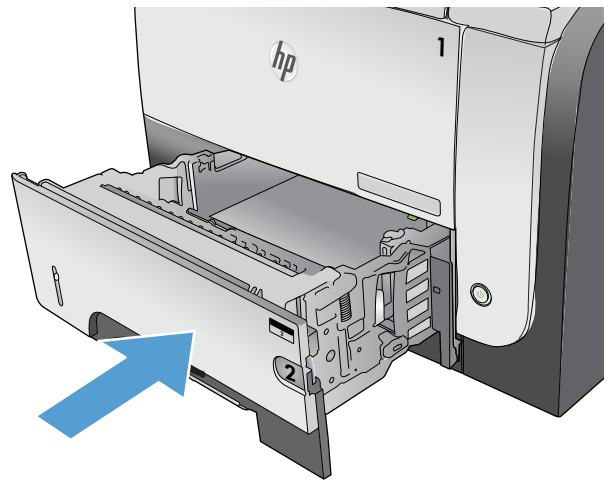
3. Remove any jammed paper.



4. Close the duplex pan.



5. Reinsert Tray 2.



# Paper feeds incorrectly or becomes jammed

This section will discuss the following:

- The product does not pick up paper
- The product picks up multiple sheets of paper
- The document feeder jams, skews, or picks up multiple sheets of paper
- Prevent paper jams from the paper trays

## The product does not pick up paper

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

1. Open the product and remove any jammed sheets of paper.
2. Load the tray with the correct size of paper for your job.
3. Make sure the paper size and type are set correctly on the product control panel.
4. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides to the appropriate indentation in the tray.
5. Check the product control panel to see if the product is waiting for you to acknowledge a prompt to feed the paper manually. Load paper, and continue.
6. The rollers above the tray might be contaminated. Clean the rollers with a lint-free cloth dampened with warm water.

## The product picks up multiple sheets of paper

If the product 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 product.
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

- The original might have something on it, such as staples or self-adhesive notes, that must be removed.
- Make sure that the 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.
- 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.

## Prevent paper jams from the paper trays

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


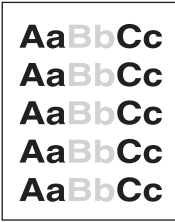

1. Use only paper that meets HP specifications for this product.
2. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
3. Use paper that has not previously been printed or copied on.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides so they are touching the paper stack without bending it.
6. Make sure that the tray is fully inserted in the product.
7. If you are printing on heavy, embossed, or perforated paper, use the manual feed feature and feed sheets one at a time.
8. Verify that the tray is configured correctly for the paper type and size.
9. Make sure the printing environment is within recommended specifications.

# Solve image-quality problems

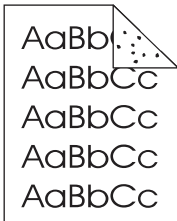
## Image defect examples

These examples identify the most common print-quality problems.

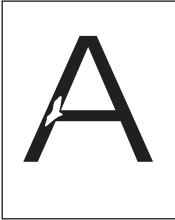
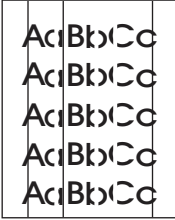
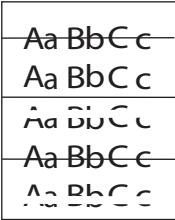
Table 2-5 Image defect examples

Problem	Image example	Solution
Blank page		<ol style="list-style-type: none"><li>1. The laser/scanner shutter on the toner cartridge might be damaged. Replace the toner cartridge.</li><li>2. The laser/scanner shutter on the laser/scanner might be damaged. Replace the laser/scanner.</li><li>3. The laser/scanner might be damaged. Replace the laser/scanner.</li><li>4. Poor developing bias with the cartridge contacts. Clean the contact on the toner cartridge.</li><li>5. The high-voltage power supply might be damaged. Replace the high-voltage power supply.</li></ol>
Light print (partial page)		<ol style="list-style-type: none"><li>1. Make sure that the toner cartridge is fully installed.</li><li>2. The toner cartridge might be almost empty. Check the supplies status, and replace the toner cartridge if necessary.</li><li>3. The paper might not meet HP specifications (for example, the paper is too moist or too rough).</li></ol>
Light print (entire page)		<ol style="list-style-type: none"><li>1. Make sure that the toner cartridge is fully installed.</li><li>2. Make sure that the <a href="#">Economode</a> setting is turned off at the control panel and in the print driver. For more information, see the product user guide.</li><li>3. Open the <a href="#">Administration</a> menu at the product control panel. Open the <a href="#">General Settings</a> menu and then open the <a href="#">Print Quality</a> menu. Increase the <a href="#">Toner density</a> setting.</li><li>4. Try using a different type of paper.</li><li>5. The toner cartridge might be reaching its estimated end of life. Check the supplies status, and replace the toner cartridge if necessary.</li></ol>

**Table 2-5 Image defect examples (continued)**



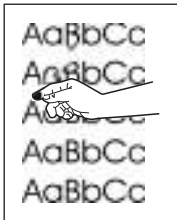
Problem	Image example	Solution
		<p><b>Perform the following test</b></p> <p>Stop a print job during the print operation before it is complete, then remove the toner cartridge. Open the photosensitive drum shield, and look at the toner image on the drum.</p> <ul style="list-style-type: none"> <li>◦ If the image is not fully transferring to the page, replace the transfer roller.</li> <li>◦ If the toner on the drum is faint, replace the laser/scanner.</li> </ul> <ol style="list-style-type: none"> <li>6. The transfer roller shaft might be dirty. Remove the transfer roller and clean the shaft to ensure good contact.</li> <li>7. If the transfer roller is deformed or damaged, replace the roller.</li> <li>8. The high-voltage power supply might be damaged. Replace the high-voltage power supply.</li> <li>9. The laser/scanner might be damaged. Replace the laser/scanner.</li> </ol> <p>If replacing the laser/scanner does not resolve the problem and the high-voltage power supply was not replaced (step 8), replace the high-voltage power supply.</p>
Specks (front or back of the page is dirty)		<p>Specks might appear on a page after a jam has been cleared.</p> <ol style="list-style-type: none"> <li>1. The paper might be dirty. Use a new package of paper. Make sure that the paper is stored correctly. See your product user guide.</li> <li>2. Print a few more pages to see if the problem corrects itself.</li> <li>3. Clean the inside of the product and run a cleaning page to clean the fuser.</li> <li>4. Try using a different type of paper.</li> <li>5. Check the toner cartridge for leaks. If the toner cartridge is leaking, replace it.</li> <li>6. The cassette pickup roller might be dirty. Clean the roller. If it cannot be cleaned, replace the roller.</li> <li>7. Repetitive dirt marks can be caused by the registration roller, transfer roller, or pressure roller. Use the repetitive defects ruler to identify the problem, and then replace the appropriate assembly.</li> <li>8. The paper-feed guide, or the fuser-inlet guide might be dirty. Clean the guide.</li> <li>9. The delivery rollers might be dirty. Clean the rollers.</li> </ol>

**Table 2-5 Image defect examples (continued)**




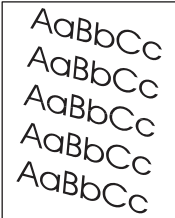
Problem	Image example	Solution
Dropouts		<ol style="list-style-type: none"><li>1. Make sure that the environmental specifications for the product are being met.</li><li>2. Try using a smoother paper.</li><li>3. If the transfer roller is deformed or damaged, replace the roller.</li><li>4. The high-voltage contact of the static eliminator with the toner cartridge might be dirty. Clean the contact.</li><li>5. The photosensitive drum, primary charging roller, or developing roller might be damaged. Replace the toner cartridge.</li><li>6. The fuser film might be scratched or dirty. Replace the fuser.</li><li>7. The high-voltage power supply might be damaged. Replace the high-voltage power supply.</li></ol>
Lines		<ol style="list-style-type: none"><li>1. Print a few more pages to see if the problem corrects itself.</li><li>2. Clean the inside of the product and run a cleaning page to clean the fuser.</li><li>3. The photosensitive drum might be scratched. Replace the toner cartridge.</li><li>4. The fuser-inlet guide might be dirty. Clean the guide.</li><li>5. The fuser film might be scratched. Replace the fuser.</li></ol>
Horizontal lines		<ol style="list-style-type: none"><li>1. The photosensitive drum might be scratched. Replace the toner cartridge.</li><li>2. The fuser film might be dirty or damaged. Replace the fuser.</li></ol>



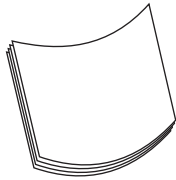
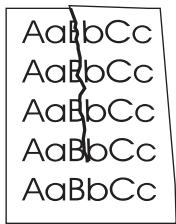

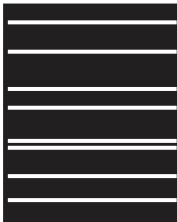
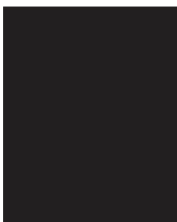
**Table 2-5 Image defect examples (continued)**

Problem	Image example	Solution
Gray background (image is obviously dark)		<ol style="list-style-type: none"> <li>1. Do not use paper that has already been run through the product.</li> <li>2. Try using a different type of paper.</li> <li>3. Print a few more pages to see if the problem corrects itself.</li> <li>4. Turn over the paper in the tray. Also, try rotating the paper 180°.</li> <li>5. Open the <a href="#">Administration</a> menu at the product control panel. Open the <a href="#">General Settings</a> menu and then open the <a href="#">Print Quality</a> menu. Increase the <a href="#">Toner density</a> setting.</li> <li>6. Make sure that the environmental specifications for the product are being met.</li> <li>7. The toner cartridge might need to be replaced.</li> <li>8. The toner-cartridge ground or bias contacts might be dirty. Clean the contacts.</li> <li>9. Stop a print job before it is complete, and then remove the toner cartridge. Open the photosensitive drum shield, and look at the toner image on the drum. <ul style="list-style-type: none"> <li>◦ If the image is not fully transferring to the page, replace the transfer roller.</li> <li>◦ If the toner on the drum is faint, replace the laser/scanner.</li> </ul> </li> <li>10. The high-voltage power supply might be damaged. Replace the high-voltage power supply.</li> </ol>
Toner smear		<ol style="list-style-type: none"> <li>1. Print a few more pages to see if the problem corrects itself.</li> <li>2. Try using a different type of paper.</li> <li>3. Make sure that the environmental specifications for the product are being met.</li> <li>4. Clean the inside of the product and run a cleaning page to clean the fuser.</li> <li>5. The toner cartridge might need to be replaced.</li> </ol>
Loose toner		<p>Loose toner, in this context, is defined as toner that can be rubbed off the page.</p> <ol style="list-style-type: none"> <li>1. If you have observed a rougher texture on one side of your paper, try printing on the smoother side.</li> <li>2. Make sure that the environmental specifications for the product are being met.</li> <li>3. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li> <li>4. The pressure roller is dirty, the fuser film is scratched, or a foreign substance is on the fuser film. Use the <a href="#">Fuser Test Page</a> option in the <a href="#">Troubleshooting</a> menu to test the fuser. If the error persists, replace the fuser.</li> </ol>

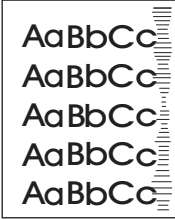
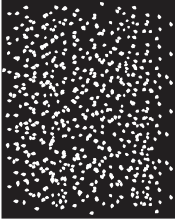

**Table 2-5 Image defect examples (continued)**

Problem	Image example	Solution
Repeat defects		<ol style="list-style-type: none"> <li>1. Print a few more pages to see if the problem corrects itself.</li> <li>2. Clean the inside of the product and run a cleaning page to clean the fuser.</li> <li>3. Use the repetitive defect ruler to determine if the defect is caused by the fuser or the toner cartridge. <ul style="list-style-type: none"> <li>◦ If the toner cartridge is causing the defect, run the print/stop test at the 500 msec setting. If the test shows a defect, replace the toner cartridge.</li> <li>◦ Use the <a href="#">Fuser Test Page</a> option in the <a href="#">Troubleshooting</a> menu to test the fuser. If the error persists, replace the fuser.</li> </ul> </li> </ol>
Repeat image		<p>This type of defect might occur when using preprinted forms or a large quantity of narrow paper. Verify that the preprinted ink used on forms meet HP specifications for use in laser printers.</p> <ol style="list-style-type: none"> <li>1. Print a few more pages to see if the problem corrects itself.</li> <li>2. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li> <li>3. Verify that the product is configured for the correct paper type.</li> <li>4. Use the <a href="#">Fuser Test Page</a> option in the <a href="#">Troubleshooting</a> menu to test the fuser. If the error persists, replace the fuser.</li> </ol>
Misformed characters		<ol style="list-style-type: none"> <li>1. Print a few more pages to see if the problem corrects itself.</li> <li>2. Make sure that the environmental specifications for the product are being met.</li> <li>3. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li> <li>4. The laser/scanner wire connectors might have poor contact. Reconnect the connectors.</li> <li>5. The laser/scanner might be damaged. Replace the laser/scanner.</li> </ol>
Page skew		<ol style="list-style-type: none"> <li>1. Print a few more pages to see if the problem corrects itself.</li> <li>2. Verify that no torn pieces of paper are inside the product.</li> <li>3. Make sure that paper is loaded correctly and that all adjustments have been made. Make sure that the guides in the tray are not too tight or too loose against the paper.</li> <li>4. Turn over the paper in the tray. Also, try rotating the paper 180°.</li> <li>5. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li> <li>6. Make sure that the environmental specifications for the product are being met.</li> </ol>

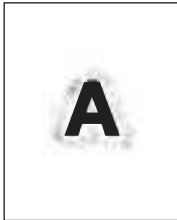

**Table 2-5 Image defect examples (continued)**

Problem	Image example	Solution
Curl or wave		<ol style="list-style-type: none"> <li>1. Turn over the paper in the tray. Also, try rotating the paper 180°.</li> <li>2. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li> <li>3. Make sure that the environmental specifications for the product are being met.</li> <li>4. Try printing to a different output bin.</li> </ol>
Wrinkles or creases		<ol style="list-style-type: none"> <li>1. Print a few more pages to see if the problem corrects itself.</li> <li>2. Make sure that the environmental specifications for the product are being met.</li> <li>3. Turn over the paper in the tray. Also, try rotating the paper 180°.</li> <li>4. Make sure that paper is loaded correctly and all adjustments have been made. For more information, see the product user guide.</li> <li>5. Make sure that the type and quality of the paper you are using meet HP specifications. See the product user guide.</li> <li>6. If envelopes are creasing, try storing envelopes so that they lie flat.</li> </ol>
Vertical white lines		<ol style="list-style-type: none"> <li>1. Print a few more pages to see if the problem corrects itself.</li> <li>2. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li> <li>3. The photosensitive drum might be scratched, or the developing roller might be damaged. Replace the toner cartridge.</li> <li>4. The laser beam window might be dirty. Clean the laser beam window on the laser/scanner.</li> <li>5. The fuser inlet guide might be dirty. Clean the guide.</li> <li>6. The fuser film might be scratched or dirty. Replace the fuser.</li> <li>7. The laser/scanner might be damaged. Replace the laser/scanner.</li> </ol>
Horizontal white lines		<ol style="list-style-type: none"> <li>1. The photosensitive drum might be scratched, or the developing roller might be damaged. Replace the toner cartridge.</li> <li>2. The fuser film might be damaged. Replace the fuser.</li> </ol>
Black page		<ol style="list-style-type: none"> <li>1. The toner-cartridge ground or bias contacts might be dirty. Clean the contacts.</li> <li>2. The primary charging roller might be defective. Replace the toner cartridge.</li> <li>3. The high-voltage power supply might be damaged. Replace the high-voltage power supply.</li> </ol>

**Table 2-5 Image defect examples (continued)**

Problem	Image example	Solution
Tire tracks		<p>This defect typically occurs when the toner cartridge has far exceeded its estimated life. For example, if you are printing a very large quantity of pages with very little toner coverage.</p> <ol style="list-style-type: none"><li>1. The toner cartridge might need to be replaced.</li><li>2. Reduce the number of pages that you print with very low toner coverage.</li></ol>
White spots on black or in the image		<ol style="list-style-type: none"><li>1. Print a few more pages to see if the problem corrects itself.</li><li>2. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li><li>3. Make sure that the environmental specifications for the product are being met.</li><li>4. The toner cartridge might need to be replaced.</li><li>5. If the transfer roller is deformed or damaged, replace the roller.</li><li>6. The transfer roller shaft might be dirty (poor contact). Remove the transfer roller and clean the shaft.</li><li>7. The high-voltage power supply might be damaged. Replace the high-voltage power supply.</li></ol>
Scattered lines		<ol style="list-style-type: none"><li>1. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li><li>2. Make sure that the environmental specifications for the product are being met.</li><li>3. Turn over the paper in the tray. Also, try rotating the paper 180°.</li><li>4. Change the toner density. Open the <a href="#">Administration</a> menu at the product control panel. Open the <a href="#">General Settings</a> menu and then open the <a href="#">Print Quality</a> menu. Change the <a href="#">Toner density</a> setting.</li><li>5. Open the <a href="#">Administration</a> menu at the product control panel. Open the <a href="#">General Settings</a> menu and then open the <a href="#">Print Quality</a> menu. Open the <a href="#">Optimize</a> menu and set the <a href="#">Line Detail</a> setting to <a href="#">Up</a>.</li></ol>

**Table 2-5 Image defect examples (continued)**

Problem	Image example	Solution
Blurred print		<ol style="list-style-type: none"> <li>1. Make sure that the type and quality of the paper you are using meet HP specifications. For more information, see the product user guide.</li> <li>2. Make sure that the environmental specifications for the product are being met.</li> <li>3. Turn over the paper in the tray. Also, try rotating the paper 180°.</li> <li>4. Do not use paper that already has been run through the product.</li> <li>5. Decrease the toner density. Open the <a href="#">Administration</a> menu at the product control panel. Open the <a href="#">General Settings</a> menu and then open the <a href="#">Print Quality</a> menu. Decrease the <a href="#">Toner density</a> setting.</li> </ol>
Random image repetition		<p>If an image that appears at the top of the page (in solid black) repeats further down the page (in a gray field), the toner might not have been completely erased from the last job. (The repeated image might be lighter or darker than the field it appears in.)</p> <ul style="list-style-type: none"> <li>• Change the tone (darkness) of the field that the repeated image appears in.</li> <li>• Change the order in which the images are printed. For example, have the lighter image at the top of the page, and the darker image farther down the page.</li> <li>• From your software program, rotate the whole page 180° to print the lighter image first.</li> <li>• If the defect occurs later in a print job, turn the product off for 10 minutes, and then turn it on to restart the print job.</li> </ul>


# Clean the product

## Clean the pickup and separation rollers

1. Turn off the product, unplug the power cable from the product, and then remove the rollers.
2. Dab a lint-free cloth in glass cleaner, and then scrub the roller.

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**WARNING!** Alcohol is flammable. Keep the alcohol and cloth away from an open flame. Before you close the product 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.

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

## Clean the paper path

During the printing process, paper, toner, and dust particles can accumulate inside the product. Over time, this buildup can cause print-quality problems such as toner specks or smearing. This product has a cleaning mode that can correct and prevent these types of problems.

1. From the Home screen on the product control panel, touch the Setup  button.
2. Touch the [Service](#) menu.
3. Touch the [Cleaning Page](#) button.
4. Load plain letter or A4 paper when you are prompted.
5. Touch the [OK](#) button to begin the cleaning process.

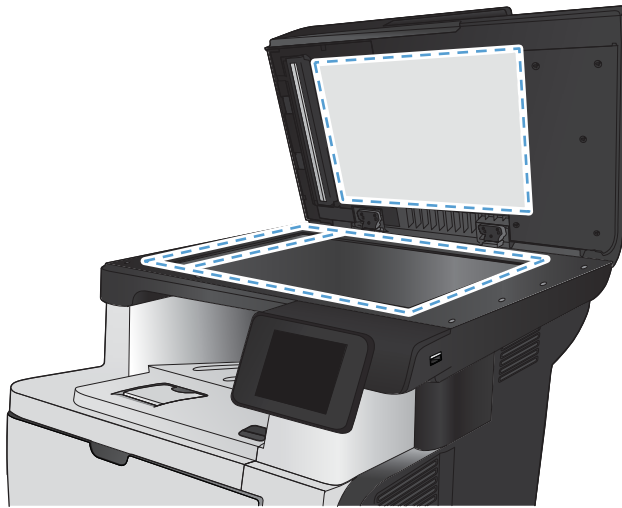
Wait until the process is complete. Discard the page that prints.

## Clean the scanner glass strip and platen

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

1. Use the power switch to turn off the product, and then unplug the power cable from the electrical socket.
2. Open the scanner lid.

3. Clean the scanner glass and the white plastic backing with a soft cloth or sponge that has been moistened with non-abrasive glass cleaner.



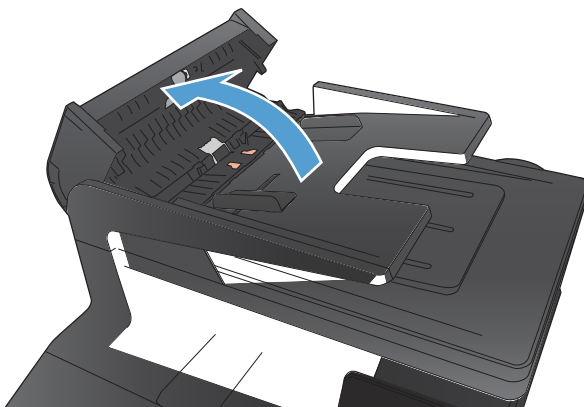
**CAUTION:** Do not use abrasives, acetone, benzene, ammonia, ethyl alcohol, or carbon tetrachloride on any part of the product; these can damage the product. Do not place liquids directly on the glass or platen. They might seep and damage the product.

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

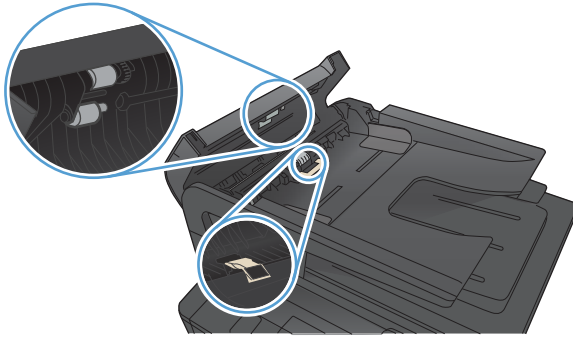
## Clean the document feeder pickup rollers and separation pad

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

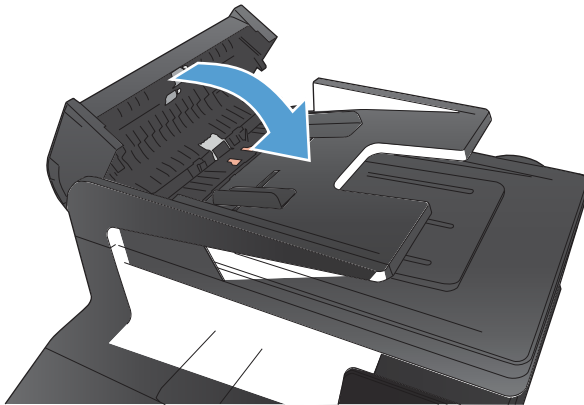
1. Open the document feeder cover.



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



3. Close the document feeder cover.



## 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 touchscreen. Do not pour or spray water directly onto the touchscreen.



# Solve performance problems

**Table 2-6 Solve performance problems**

Problem	Cause	Solution
Pages print but are totally blank.	The document might contain blank pages.	Check the document that you are printing to see if content displays on all of the pages.
	The product might be malfunctioning.	To check the product, print a Configuration page.
Pages print very slowly.	Heavier paper types can slow the print job.	Print on a different type of paper.
	Complex pages can print slowly.	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 product might not be pulling paper correctly.	Make sure paper is loaded in the tray correctly.
	The paper is jamming in the product.	Clear the jam.
	The USB cable might be defective or incorrectly connected.	<ul style="list-style-type: none"><li>• Disconnect the USB cable at both ends and reconnect it.</li><li>• Try printing a job that has printed in the past.</li><li>• Try using a different USB cable.</li></ul>
	Other devices are running on your computer.	The product might not share a USB port. If you have an external hard drive or network switchbox that is connected to the same port as the product, the other device might be interfering. To connect and use the product, you must disconnect the other device or you must use two USB ports on the computer.

# Solve connectivity problems

## Solve USB connection problems

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

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

## Solve wired network problems

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

- [Poor physical connection](#)
- [The computer is using the incorrect IP address for the product](#)
- [The computer is unable to communicate with the product](#)
- [The product is using incorrect link and duplex settings for the network](#)
- [New software programs might be causing compatibility problems](#)
- [The computer or workstation might be set up incorrectly](#)
- [The product 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](http://www.microsoft.com).

## Poor physical connection

1. Verify that the product 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 product, 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 product

1. Open the printer properties and click the **Ports** tab. Verify that the current IP address for the product is selected. The product IP address is listed on the product configuration page.
2. If you installed the product 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 product using a Microsoft standard TCP/IP port, use the hostname instead of the IP address.
4. If the IP address is correct, delete the product and then add it again.

## The computer is unable to communicate with the product

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.
  - b. Type `ping` followed by the IP address for your product.  
  
For Mac OS X, open the Network Utility, and then supply the IP address in the correct field in the **Ping** pane.
  - 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 product, and the computer are all configured for the same network.

## The product is using incorrect link and duplex settings for the network

Hewlett-Packard recommends leaving this setting 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.
2. Verify that the operating system is configured correctly.

## The product 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.

## Solve wireless network problems

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

### Wireless connectivity checklist

- Verify that the network cable is not connected.
- Verify that the product and the wireless router are turned on and have power. Also make sure that the wireless radio in the product is turned on.
- Verify that the service set identifier (SSID) is correct. Print a configuration page to determine the SSID. If you are not sure the SSID is correct, run the wireless setup again.
- With secured networks, verify that the security information is correct. If the security information is incorrect, run the wireless setup again.
- If the wireless network is working correctly, try accessing other computers on the wireless network. If the network has Internet access, try connecting to the Internet over a wireless connection.
- Verify that the encryption method (AES or TKIP) is the same for the product as it is for the wireless access point (on networks using WPA/WPA2 security).
- Verify that the product is within the range of the wireless network. For most networks, the product must be within 30 m (100 ft) of the wireless access point (wireless router).
- Verify that obstacles do not block the wireless signal. Remove any large metal objects between the access point and the product. Make sure poles, walls, or support columns containing metal or concrete do not separate the product and wireless access point.
- Verify that the product is located away from electronic devices that might interfere with the wireless signal. Many devices can interfere with the wireless signal including motors, cordless phones, security system cameras, other wireless networks, and some Bluetooth devices.
- Verify that the print driver is installed on the computer.
- Verify that you have selected the correct printer port.

- Verify that the computer and product connect to the same wireless network.
- For Mac OS X, verify that the wireless router supports Bonjour.

### **The product does not print after the wireless configuration completes**

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

### **The product does not print, and the computer has a third-party firewall installed**

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

### **The wireless connection does not work after moving the wireless router or product**

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

### **Cannot connect more computers to the wireless product**

1. Make sure that the other computers are within the wireless range and that no obstacles block the signal. For most networks, the wireless range is within 30 m (100 ft) of the wireless access point.
2. Make sure that the product is turned on and in the ready state.
3. Turn off any third-party firewalls on your computer.
4. Make sure that the wireless network is working correctly.
5. Make sure that your computer is working correctly. If necessary, restart the computer.

## The wireless product loses communication when connected to a VPN

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

## The network does not appear in the wireless networks list

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


## The wireless network is not functioning

1. Make sure that the network cable is not connected.
2. To verify if the network has lost communication, try connecting other devices to the network.
3. Test network communication by pinging the network.
  - a. Open a command-line prompt on your computer. For Windows, click **Start**, click **Run**, type `cmd`, and then press Enter.
  - b. Type `ping` followed by the router IP address.

For Mac OS X, open the Network Utility, and then supply the IP address in the correct field in the **Ping** pane.
  - c. If the window displays round-trip times, the network is working.
4. Make sure that the router or product connects to the same network that the computer connects to.
  - a. Print a configuration page.
  - b. Compare the service set identifier (SSID) on the configuration report to the SSID in the product configuration for the computer.
  - c. If the numbers are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for the product.

## Perform a wireless network diagnostic test

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

1. From the Home screen on the product control panel, touch the Setup  button.
2. Open the [Self Diagnostics](#) menu.
3. Touch the [Run Wireless Test](#) button to start the test. The product prints a test page that shows test results.

## Reduce interference on a wireless network

The following tips can reduce interference in a wireless network:

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

# Service mode functions

## Service menu

Use the control-panel [Service](#) menu to troubleshoot product problems.

## Service menu settings

The [Service](#) menu is used to adjust print settings, restore factory default settings, and clean the print paper path.

The following [Service](#) menu items are available:


- [Fax Service](#)—used to configure the product fax functionality.
- [Cleaning Page](#)—used to remove dust and toner from the print paper path.
- [USB Speed](#)—used to set the USB speed to high or full.
- [Less Paper Curl](#)—used to put the product into a mode that reduces paper curl.
- [Archive Print](#)—used to put the product into a mode that produces output less susceptible to toner smearing and dusting for preservation and archival.
- [Firmware Date](#)—used to display the product's firmware date code.
- [Restore Defaults](#)—used to reset all customer-accessible menu settings back to the factory default settings (except language) via the control panel or software.



**NOTE:** This [Service](#) menu item does not reset factory-settable settings, including formatter number, page counts, factory paper settings, language, and so on.

- [Signature Check](#)—used to configure how the product proceeds when a firmware update file does not have a valid signature.
- [HP Smart Install](#)—used to enable or disable the HP Smart Install functionality.
- [LaserJet Update](#)—used to manually update the firmware or to set up automatic firmware updates.
- [SMTP Comm. Report](#)—used to print a Standard Message Transfer protocol (SMTP) error report.

## Restore the factory-set defaults

1. From the Home screen on the product control panel, touch the Setup  button.
2. Scroll to and touch the [Service](#) menu.
3. Scroll to and touch the [Restore Defaults](#) button, and then touch the [OK](#) button.



The product automatically restarts.



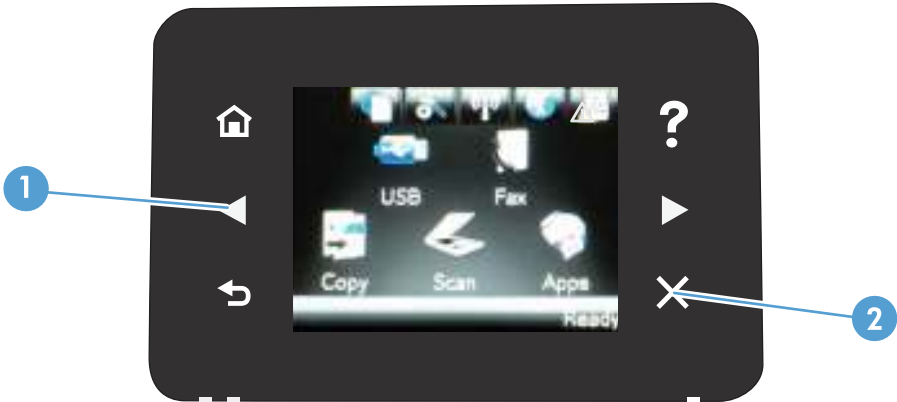
# Secondary service menu

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:** When the menus are accessed, some of the touchscreen buttons located along the sides of the control-panel display are not illuminated. Use the figure below to locate the Cancel  button and the left arrow button to access the control-panel tests.

**Figure 2-14** Control-panel 2ndary Service test access buttons



**Table 2-7** Control-panel 2ndary Service test access buttons

Item	Description
1	Left arrow button
2	Cancel  button

1. Make sure the product is in the Ready state.
2. From the Home screen on the product control panel, touch the Setup  button.
3. Touch the left arrow button, and then quickly touch the Cancel  button.
4. The product returns to the Ready state. touch the Setup  button to reopen the menus.
5. Touch the 2ndary Service menu.
6. Use the scrollbar to navigate the 2ndary Service menu.

## Secondary service menu structure

**Table 2-8** Secondary Service menu

Menu item	Sub-menu item	Description
Default Settings		Default service settings for the product.

**Table 2-8 Secondary Service menu (continued)**

Menu item	Sub-menu item	Description
Location	A list of available locations appears	<p>This item sets certain product parameters that are dependent on the location, such as the default paper size and the symbol set.</p> <p>Scroll to the appropriate location and select the <b>Yes</b> option to set the location. The product automatically restarts after you change the location.</p>
Line Frequency		This item allows the refresh rate of the touchscreen control panel to be changed between 50 and 60 Hz.
LED Test		This item allows the testing of the different LED Displays.
Display Test		<p>Use this test to verify that the LEDs and characters on the control-panel display function correctly.</p> <p>At the beginning of the test, each of the LEDs is turned on one-at-time. Press the <b>OK</b> button to continue to the next LED.</p> <p>After the LED test is complete, the character test begins by testing the pixels on each line. Then, each of the 255 characters is displayed in groups of 16. Press the <b>OK</b> button to continue to the next group of 16 characters. You can cancel the test at any time by pressing the Cancel <b>X</b> button.</p>
Button Test		Use this test to verify that the control-panel buttons function correctly. The display prompts you to press each button.
Calibrate Touch Screen		Use this item to adjust the touchscreen control panel.
CP FW Version		This item shows the current date codFe of the firmware.
NAND Reset		This item allows the NAND to be reset.
eDuplex Calibration		This item allows two pieces of white paper to be loaded in the document feeder.
802.11n		(Wireless models only.) Enable or disable the wireless 802.11n functionality.
Service Reports	Cont Self Test	Print a continuous configuration page.
	PPX Ring	Use this item to toggle between <b>On</b> and <b>Off</b> .
PBX Ring Detect		Use this item to toggle between <b>On</b> and <b>Off</b> .
Speed		

## Product resets

### NVRAM initialization

- CAUTION:** All HP Jetdirect settings are also reset. Be sure to print a configuration page before performing an NVRAM initialization. Make note of the IP address that is listed on the HP Jetdirect configuration page. You need to restore the IP address after performing an NVRAM initialization.

An NVRAM initialization erases all data stored in the unprotected NVRAM sections. 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.

After performing an NVRAM initialization, reconfigure any computers that print to this product so that the computers can recognize the product.

1. Turn the product off.
2. Press and hold the lower right quadrant of the touchscreen. Keep the quadrant depressed as you turn the product on.
3. When the **Permanent Storage Init.** message appears on the display, release the buttons.
4. When the product has finished the NVRAM initialization, it returns to the Ready state.

## Super NVRAM initialization


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

1. Turn the product off.
2. Press and hold the lower left quadrant of the touchscreen. Keep the quadrant depressed as you turn the product on.
3. When the **Permanent Storage Init.** message appears on the display, release the buttons.
4. When the super NVRAM initialization has been completed, the product enters the generic product mode.

# Solve fax problems

- [Checklist for solving fax problems](#)
- [Perform a fax diagnostic test](#)
- [Fax trace report](#)
- [Fax error report printing](#)
- [Set the fax-error-correction mode](#)
- [Change the fax speed](#)
- [Solve problems sending faxes](#)
- [Solve problems receiving faxes](#)
- [Solve general fax problems](#)

## 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 product is connected directly to the wall telephone port. Disconnect all other devices that are connected to the product.
1. Verify that the telephone cable is connected to the correct port on the back of the product.
  2. Check the telephone line by using the fax test:
    - a. From the Home screen on the product control panel, touch the Setup  button, and then touch the [Service](#) menu.
    - b. Select the [Fax Service](#) menu.
    - c. Select the [Run Fax Test](#) option. The product 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 product 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](http://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 product 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 update file and update the firmware on the product following the on-screen instructions.



**NOTE:** The product must be connected to a computer with internet access to update firmware.

- Resend the fax.

4. Verify that the fax was set up when the product 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 telephone-line connection to the product. 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 product control panel, you can run a diagnostic test that provides information about the product fax settings.

1. From the Home screen on the product 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 product prints a test page that shows test results.

## 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 product 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 error report printing

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 product 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 product 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 product 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 product 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 product monitors the signals on the telephone line while it is sending or receiving a fax. If the product detects an error during the transmission and the error-correction setting is **On**, the product 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 product 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 product 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 product 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.

## Solve problems sending faxes


- [An error message displays on the control panel](#)
- [The control panel displays a Ready message with no attempt to send the fax](#)
- [The control panel displays the message "Storing page 1" and does not progress beyond that message](#)
- [Faxes can be received, but not sent](#)
- [Product is password protected](#)
- [Unable to use fax functions from the control panel](#)
- [Unable to use speed dials](#)
- [Unable to use group dials](#)
- [Receive a recorded error message from the telephone company when trying to send a fax](#)
- [Unable to send a fax when a telephone is connected to the product](#)

## An error message displays on the control panel

### The Communication Error message appears

- Allow the product to retry sending the fax. Re-sending temporarily reduces the fax speed.
- Disconnect the product telephone cable from the wall, connect a telephone to the telephone jack on the wall, and try making a call. Connect the product telephone cable to a jack for another telephone line.
- Try a different telephone cable.
- From the control panel, change the [Fax Speed](#) option to the [Medium\(V.17\)](#) setting or [Slow\(V.29\)](#) setting.
  - a. From the Home screen on the product 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** option.
  - a. From the Home screen on the product 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:** Turning off the **Error Correction** option can reduce image quality.

- If the error persists, contact HP. See [www.hp.com/support/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product box.

### No dial tone.



- Make sure that the telephone cable is connected to the correct port on the product.
- Make sure that the telephone cable from the product is connected directly to the wall telephone jack.
- Check for a dial tone on the telephone line by using the **Start Fax** button.
- Disconnect the product telephone cable from the wall, connect a telephone to the telephone jack on the wall, and try making a voice call.
- Disconnect the telephone cable from both the product and the wall and reconnect the cable.
- Make sure that you are using the telephone cable that came with the product.
- Connect the product telephone cable to a jack for another telephone line.
- Check the telephone line by using the **Run Fax Test** option from the **Service** menu on the control panel.
  - a. From the Home screen on the product 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 telephone line by using the [Start Fax](#) button.
- Make sure that the telephone line is working by disconnecting the product, connecting a telephone to the telephone line, and making a voice call.
- Connect the product telephone cable to a jack for another telephone line, and try sending the fax again.
- Try a different telephone cable.
- Send the fax at a later time.
- If the error persists, contact HP. See [www.hp.com/support/ljmfpM521series](http://www.hp.com/support/ljmfpM521series) or the support flyer that came in the product 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 product telephone cable from the wall, connect a telephone to the telephone jack on the wall, and try making a voice call.
- Connect the product telephone cable to a jack for another telephone line.
- Try a different telephone cable.
- Make sure that the telephone cable from the wall telephone jack is connected to the line  port.
- Check the telephone line by using the [Run Fax Test](#) option from the [Service](#) menu on the control panel.
  - a. From the Home screen on the product 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/ljmfpM521series](http://www.hp.com/support/ljmfpM521series) or the support flyer that came in the product box.

### Document feeder paper jam

- Verify that the paper meets product size requirements. The product 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 product off then on.
- Print stored faxes that have not been printed.
  - a. Touch the **Fax** button, and then touch the **Fax Menu** button.
  - b. Open the **Receive Options** menu.
  - c. Select the **Print Private Faxes** item.
  - d. Provide the password when the product prompts you.
- Delete stored faxes from memory.
  - a. From the Home screen on the product 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 product size requirements. The product 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 telephone is connected to the product, make sure that the telephone is hung up.
- Disconnect all other lines between the fax and the product.
- Connect the product 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 product 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 telephone line by using the [Start Fax](#) button.
2. Turn the product 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 product 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 telephone line connection to the product includes a high-pass filter.


## Product is password protected

If a network administrator has set a product password, then you must obtain the password in order to use the product fax features.


## Unable to use fax functions from the control panel

- The product 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 product, 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 product 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 product 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 telephone company when trying to send a fax

- Make sure you dial the fax number correctly, and make sure that the telephone service is not blocked. For example, some telephone 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 product 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.

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- 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 telephone number.
  - c. Wait for pauses as you hear the tones on the telephone.
  - d. Send the fax manually from the control panel.

## Unable to send a fax when a telephone is connected to the product


- 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 telephone from the line, and then try sending the fax.

## Solve problems receiving faxes


- [The fax does not respond](#)
- [An error message displays on the control panel](#)
- [A fax is received but does not print](#)
- [Sender receives a busy signal](#)
- [No dial tone](#)
- [Cannot send or receive a fax on a PBX line](#)



## The fax does not respond

### The fax has a dedicated telephone line

- Set the [Answer Mode](#) option to the [Automatic](#) setting from the control panel.
  - a. From the Home screen on the product 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 [Automatic](#) setting.

## An answering machine is connected to the product



- 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 product 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 product 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 product 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 product generates a ring tone that alerts you to pick up the telephone handset.
  - a. From the Home screen on the product 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.


## The Answer Mode setting is set to the Manual setting

- Touch the **Start Fax** button on the product 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 product to match the ring pattern supplied by the telephone company. Contact your telephone company for information.
  - a. From the Home screen on the product 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 product 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.

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 **NOTE:** You must be present to receive faxes.

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## The product is connected to a DSL telephone service

- Check the installation and features. A DSL modem requires a high-pass filter on the telephone line connection to the product. 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 product uses a fax over IP or VoIP telephone service


- Set the **Fax Speed** option to the **Slow(V.29)** or **Medium(V.17)** setting.
  - a. From the Home screen on the product 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 settings. Some companies might require an adapter.


## An error message displays 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 cable from the product is connected to the wall telephone jack.
- Try a different telephone cable.
- Connect the product telephone cable to a jack for another telephone line.
- Make sure the telephone line and telephone wall jack are active by connecting a telephone and checking for a dial tone.
- Make sure that the telephone cable is connected to the "line" port on the product.
- Check the telephone line by running a fax test from the control panel.
- If the error persists, contact HP. See [www.hp.com/support/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product 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 product telephone cable from the wall, connect a telephone to the telephone jack on the wall, and try making a call. Plug the product telephone cable into a jack for another telephone line.
- Try a different telephone cable.
- Set the [Fax Speed](#) option to the [Slow\(V.29\)](#) or [Medium\(V.17\)](#) setting.
  - a. From the Home screen on the product 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.

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- a. From the Home screen on the product 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.
- 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/ljmfpm521series](http://www.hp.com/support/ljmfpm521series) or the support flyer that came in the product box.

### The Fax storage is full. message appears

- Turn the product off then on.
- Print all of the faxes, and then have the sender resend the fax.
- Ask the sender to divide a large fax job into smaller sections, and then fax them individually.
- Make sure that the resolution of the sending fax machine is not set to the **Photo** setting or the **Superfine** setting.
  - a. From the Home screen on the product 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.
- Cancel all fax jobs or clear the faxes from memory.

### The Fax is busy. message appears

- The product cannot receive a fax while attempting to send one. Cancel the fax send and try sending at a later time.
- Allow the product to try sending the fax again.

## A fax is received but 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 product administrator.



**NOTE:** Memory errors might occur if the faxes are not printed. The product will not answer if the memory is full.

## Sender receives a busy signal

### A handset is connected to the product

- Make sure the telephone is hung up.
- Change the [Answer Mode](#) option to match the product setup.
  - a. From the Home screen on the product 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 product 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 telephone line splitter is being used

- If you are using a telephone line splitter, remove the splitter and set up the telephone as a downstream telephone.
- Make sure the telephone is hung up.
- Make sure the telephone is not being used for a voice call when faxing.

## No dial tone

- If using a telephone line splitter, remove the telephone line splitter and set up the telephone as a downstream telephone.

## Cannot send or receive a fax on a PBX line

- If you are using a PBX telephone line, contact your PBX administrator to configure an analog fax line for your product.

## Solve general fax problems

- [Faxes are sending slowly](#)
- [Fax quality is poor](#)
- [Fax cuts off or prints on two pages](#)

### Faxes are sending slowly

The product is experiencing poor telephone line quality.

- Retry sending the fax when the line conditions have improved.
- Check with the telephone service provider that the line supports fax.
- Turn off the [Error Correction](#) setting.
  - a. Open the [Setup Menu](#) menu.
  - b. Open the [Service](#) menu.
  - c. Open the [Fax Service](#) menu.
  - d. Open the [Error Correction](#) menu.
  - e. Select the [Off](#) setting.



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**NOTE:** This can reduce image quality.

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- Use white paper for the original. Do not use colors such as gray, yellow, or pink.
- Increase the [Fax Speed](#) setting.
  - a. Open the [Setup Menu](#) menu.
  - 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. Open the [Setup Menu](#) menu.
  - b. Open the [Fax Setup](#) menu.
  - c. Open the [Advanced Setup](#) menu.
  - d. Open the [Fax Resolution](#) menu.
  - e. Select the correct setting.

## Fax quality is poor

Fax is blurry or light.

- Increase fax resolution when sending faxes. Resolution does not affect received faxes.
  - a. Open the [Setup Menu](#) menu.
  - 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. Open the [Setup Menu](#) menu.
  - 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.

## Fax cuts off or prints on two pages

- Set the [Default Paper Size](#) setting. Faxes print on a single size of paper based on the [Default Paper Size](#) settings.
  - a. Open the [Setup Menu](#) menu.
  - b. Open the [System Setup](#) menu.
  - c. Open the [Paper Setup](#) menu.
  - d. Open the [Default Paper Size](#) menu.
  - e. Select the correct setting.
- Set the paper type and size for the tray used for faxes.
- Turn on the [Fit to Page](#) setting to print longer length faxes on letter or A4 size paper.
  - a. Open the [Setup Menu](#) menu.
  - b. Open the [Fax Setup](#) menu.

- c. Open the [Advanced Setup](#) menu.
- d. Open the [Fit to Page](#) menu.
- e. Select the [On](#) setting.




**NOTE:** If the [Fit to Page](#) setting is off and the [Default Paper Size](#) setting is set to letter, a legal size original prints on two pages.

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# Product updates

HP offers periodic updates to the product firmware. You can load the firmware updates manually, or you can set the product to automatically load firmware updates.

## Manually update the firmware

1. From the Home screen on the product control panel, touch the Setup  button.
2. Open the following menus:
  - [Service](#)
  - [LaserJet Update](#)
  - [Check For Updates Now](#)
3. Touch the [Yes](#) button to prompt the product to search for firmware updates. If the product detects an update, it will begin the update process.

## Set the product to automatically update the firmware

1. From the Home screen on the product control panel, touch the Setup  button.
2. Open the following menus:
  - [Service](#)
  - [LaserJet Update](#)
  - [Manage Updates](#)
  - [Prompt Before Install](#)
3. Touch the [Install automatically](#) option.





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# A Service and support

- [Hewlett-Packard limited warranty statement](#)
- [HP's Premium Protection Warranty: LaserJet toner cartridge limited warranty statement](#)
- [HP policy on non-HP supplies](#)
- [HP anticounterfeit Web site](#)
- [Data stored on the toner cartridge](#)
- [End User License Agreement](#)
- [OpenSSL](#)
- [Customer self-repair warranty service](#)
- [Customer support](#)

# Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet Pro MFP M521dn, M521dw	One-year on-site warranty

HP warrants to you, the end-user customer, that HP hardware and accessories will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or equivalent in performance to new.

HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified above, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software which does not execute its programming instructions due to such defects.

HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.

HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

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

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

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

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

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## HP policy on non-HP supplies

Hewlett-Packard Company cannot recommend the use of non-HP toner cartridges, either new or remanufactured.

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 **NOTE:** For HP printer products, the use of a non-HP toner cartridge or a refilled toner cartridge does not affect either the warranty to the customer or any HP support contract with the customer. However, if product failure or damage is attributable to the use of a non-HP toner cartridge or refilled toner cartridge, HP will charge its standard time and materials charges to service the product for the particular failure or damage.

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## HP anticounterfeit Web site

Go to [www.hp.com/go/anticounterfeit](http://www.hp.com/go/anticounterfeit) when you install an HP toner cartridge and the control-panel message says the cartridge is non-HP. HP will help determine if the cartridge is genuine and take steps to resolve the problem.

Your toner cartridge might not be a genuine HP toner cartridge if you notice the following:

- The supplies status page indicates that a non-HP supply is installed.
- You are experiencing a high number of problems with the cartridge.
- The cartridge does not look like it usually does (for example, the packaging differs from HP packaging).

## Data stored on the toner cartridge

The HP toner cartridges used with this product contain a memory chip that assists in the operation of the product.

In addition, this memory chip collects a limited set of information about the usage of the product, which might include the following: the date when the toner cartridge was first installed, the date when the toner cartridge was last used, the number of pages printed using the toner cartridge, the page coverage, the printing modes used, any printing errors that might have occurred, and the product model. This information helps HP design future products to meet our customers' printing needs.

The data collected from the toner cartridge memory chip does not contain information that can be used to identify a customer or user of the toner cartridge or their product.

HP collects a sampling of the memory chips from toner cartridges returned to HP's free return and recycling program (HP Planet Partners: [www.hp.com/recycle](http://www.hp.com/recycle)). The memory chips from this sampling are read and studied in order to improve future HP products. HP partners who assist in recycling this toner cartridge might have access to this data, as well.

Any third party possessing the toner cartridge might have access to the anonymous information on the memory chip.

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Rev. 04/09

# OpenSSL

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)

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This product includes cryptographic software written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com)). This product includes software written by Tim Hudson ([tjh@cryptsoft.com](mailto:tjh@cryptsoft.com)).

## Customer self-repair warranty service

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

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

# Customer support

Get telephone support for your country/region	Country/region phone numbers are on the flyer that was in the box with your product or at <a href="http://www.hp.com/support/">www.hp.com/support/</a> .
Have the product name, serial number, date of purchase, and problem description ready.	
Get 24-hour Internet support	<a href="http://www.hp.com/support/ljmfpm521series">www.hp.com/support/ljmfpm521series</a>
Download software utilities, drivers, and electronic information	<a href="http://www.hp.com/go/ljmfpm521series_software">www.hp.com/go/ljmfpm521series_software</a>
Order additional HP service or maintenance agreements	<a href="http://www.hp.com/go/carepack">www.hp.com/go/carepack</a>
Register your product	<a href="http://www.register.hp.com">www.register.hp.com</a>



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## B Product specifications

- [Physical specifications](#)
- [Power consumption, electrical specifications, and acoustic emissions](#)
- [Environmental specifications](#)

# Physical specifications

**Table B-1 Physical specifications**

Product	Height	Depth	Width	Weight
M521dn	508 mm (20.0 in)	465 mm (18.3 in)	465 mm (18.3 in)	24.2 kg (53.4 lb)
M521dw	508 mm (20.0 in)	465 mm (18.3 in)	465 mm (18.3 in)	24.2 kg (53.4 lb)

## Power consumption, electrical specifications, and acoustic emissions

See [www.hp.com/go/lj500mfpM521dn\\_regulatory-environmental](http://www.hp.com/go/lj500mfpM521dn_regulatory-environmental) or [www.hp.com/go/lj500mfpM521dw\\_regulatory-environmental](http://www.hp.com/go/lj500mfpM521dw_regulatory-environmental) for current information.

**CAUTION:** Power requirements are based on the country/region where the product is sold. Do not convert operating voltages. This will damage the product and void the product warranty.

## Environmental specifications

**Table B-2 Operating-environment specifications**

Environment	Recommended	Allowed
Temperature	17° to 25°C (62.6° to 77°F)	15° to 30°C (59° to 86°F)
Relative humidity	30% to 70% relative humidity (RH)	10% to 80% RH
Altitude	Not applicable	0 to 3048 m (0 to 10,000 ft)



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# C Regulatory information

- [FCC regulations](#)
- [Environmental product stewardship program](#)
- [Declaration of conformity \(dn model\)](#)
- [Declaration of conformity \(dw model\)](#)
- [Safety statements](#)
- [Additional statements for telecom \(fax\) products](#)
- [Additional statements for wireless products](#)

## FCC regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



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

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

# Environmental product stewardship program

## Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This product has been designed with several attributes to minimize impacts on our environment.

## Ozone production

This product generates no appreciable ozone gas (O<sub>3</sub>).

## Power consumption

Power usage drops significantly while in Ready or Sleep mode, which saves natural resources and saves money without affecting the high performance of this product. Hewlett-Packard printing and imaging equipment marked with the ENERGY STAR® logo is qualified to the U.S. Environmental Protection Agency's ENERGY STAR specifications for imaging equipment. The following mark will appear on ENERGY STAR qualified imaging products:



Additional ENERGY STAR qualified imaging product model information is listed at:

[www.hp.com/go/energystar](http://www.hp.com/go/energystar)

## Toner consumption

EconoMode uses less toner, which might extend the life of the toner cartridge. 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.

## Paper use

This product's automatic duplex feature (two-sided printing) and N-up printing (multiple pages printed on one page) capability can reduce paper usage and the resulting demands on natural resources.

## Plastics

Plastic parts over 25 grams are marked according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product's life.

## HP LaserJet print supplies

It's easy to return and recycle your HP LaserJet toner cartridges after use—free of charge—with HP Planet Partners. Multilingual program information and instructions are included in every new HP LaserJet toner cartridge and supplies package. You help reduce the toll on the environment further when you return multiple cartridges together rather than separately.

HP is committed to providing inventive, high-quality products and services that are environmentally sound, from product design and manufacturing to distribution, customer use and recycling. When you participate in the HP Planet Partners program, we ensure your HP LaserJet toner cartridges are recycled properly, processing them to recover plastics and metals for new products and diverting millions of tons of waste from landfills. Since this cartridge is being recycled and used in new materials, it will not be returned to you. Thank you for being environmentally responsible!



**NOTE:** Use the return label to return original HP LaserJet toner cartridges only. Please do not use this label for HP inkjet cartridges, non-HP cartridges, refilled or remanufactured cartridges or warranty returns. For information about recycling your HP inkjet cartridges please go to <http://www.hp.com/recycle>.

## Return and recycling instructions

### United States and Puerto Rico

The enclosed label in the HP LaserJet toner cartridge box is for the return and recycling of one or more HP LaserJet toner cartridges after use. Please follow the applicable instructions below.

#### Multiple returns (more than one cartridge)

1. Package each HP LaserJet toner cartridge in its original box and bag.
2. Tape the boxes together using strapping or packaging tape. The package can weigh up to 31 kg (70 lb).
3. Use a single pre-paid shipping label.

#### OR

1. Use your own suitable box, or request a free bulk collection box from [www.hp.com/recycle](http://www.hp.com/recycle) or 1-800-340-2445 (holds up to 31 kg (70 lb) of HP LaserJet toner cartridges).
2. Use a single pre-paid shipping label.

#### Single returns

1. Package the HP LaserJet toner cartridge in its original bag and box.
2. Place the shipping label on the front of the box.

#### Shipping

For US and Puerto Rico HP LaserJet toner cartridge recycling returns, use the pre-paid, pre-addressed shipping label contained in the box. To use the UPS label, give the package to the UPS driver during

your next delivery or pick-up, or take it to an authorized UPS drop-off center. (Requested UPS Ground pickup will be charged normal pick-up rates) For the location of your local UPS drop-off center, call 1-800-PICKUPS or visit [www.ups.com](http://www.ups.com).

If you are returning the package with the FedEx label, give the package to either the U.S. Postal Service carrier or FedEx driver during your next pick-up or delivery. (Requested FedEx Ground pickup will be charged normal pick-up rates). Or, you can drop off your packaged toner cartridge(s) at any U.S. Post Office or any FedEx shipping center or store. For the location of your nearest U.S. Post Office, please call 1-800-ASK-USPS or visit [www.usps.com](http://www.usps.com). For the location of your nearest FedEx shipping center/store, please call 1-800-GOFEDEX or visit [www.fedex.com](http://www.fedex.com).

For more information, or to order additional labels or boxes for bulk returns, visit [www.hp.com/recycle](http://www.hp.com/recycle) or call 1-800-340-2445. Information subject to change without notice.

## Residents of Alaska and Hawaii

Do not use the UPS label. Call 1-800-340-2445 for information and instructions. The U.S. Postal Service provides no-cost cartridge return transportation services under an arrangement with HP for Alaska and Hawaii.

## Non-U.S. returns

To participate in HP Planet Partners return and recycling program, just follow the simple directions in the recycling guide (found inside the packaging of your new product supply item) or visit [www.hp.com/recycle](http://www.hp.com/recycle). Select your country/region for information on how to return your HP LaserJet printing supplies.

## Paper

This product is capable of using recycled papers when the paper meets the guidelines outlined in the *HP LaserJet Printer Family Print Media Guide*. This product is suitable for the use of recycled paper according to EN12281:2002.

## Material restrictions

This HP product does not contain added mercury.

This HP product contains a battery that might require special handling at end-of-life. The batteries contained in or supplied by Hewlett-Packard for this product include the following:

HP LaserJet Pro MFP M521 Printer	
Type	Carbon monofluoride lithium
Weight	0.8 g
Location	On formatter board
User-removable	No



## 廢電池請回收

For recycling information, you can go to [www.hp.com/recycle](http://www.hp.com/recycle), or contact your local authorities or the Electronics Industries Alliance: [www.eiae.org](http://www.eiae.org).

## Disposal of waste equipment by users



This symbol means do not dispose of your product with your other household waste. Instead, you should protect human health and the environment by handing over your waste equipment to a designated collection point for the recycling of waste electrical and electronic equipment. For more information, please contact your household waste disposal service, or go to: [www.hp.com/recycle](http://www.hp.com/recycle).



## Electronic hardware recycling

HP encourages customers to recycle used electronic hardware. For more information about recycling programs go to: [www.hp.com/recycle](http://www.hp.com/recycle).

## Chemical substances

HP is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at: [www.hp.com/go/reach](http://www.hp.com/go/reach).

## Material Safety Data Sheet (MSDS)

Material Safety Data Sheets (MSDS) for supplies containing chemical substances (for example, toner) can be obtained by accessing the HP Web site at [www.hp.com/go/msds](http://www.hp.com/go/msds) or [www.hp.com/hpinfo/community/environment/productinfo/safety](http://www.hp.com/hpinfo/community/environment/productinfo/safety).

## For more information

To obtain information about these environmental topics:

- Product environmental profile sheet for this and many related HP products
- HP's commitment to the environment

- HP's environmental management system
- HP's end-of-life product return and recycling program
- Material Safety Data Sheets

Visit [www.hp.com/go/environment](http://www.hp.com/go/environment) or [www.hp.com/hpinfo/globalcitizenship/environment](http://www.hp.com/hpinfo/globalcitizenship/environment).

# Declaration of conformity (dn model)

## Declaration of Conformity

according to ISO/IEC 17050-1 and EN 17050-1

**Manufacturer's Name:** Hewlett-Packard Information Technology R&D (Shanghai) Co., Ltd. DoC#: SHNGC-1200-00-rel.2.0

**Manufacturer's Address:** Building 6, No. 690 BiBo Road, ZhangJiang, Shanghai, China

**declares, that the product**

**Product Name:** HP LaserJet Pro MFP M521dn

**Regulatory Model:<sup>2)</sup>** SHNGC-1200-00

Including:

BOISB-1102-00 – (US-Fax Module LIU)

BOISB-1102-01 – (EURO-Fax Module LIU)

**Product Options:** All

**Toner Cartridges:** CE255A, CE255X

**conforms to the following Product Specifications:**

**SAFETY:** IEC 60950-1:2005 / EN60950-1: 2006 +A11:2009 +A1:2010 +A12:2011

IEC 60825-1:2007 / EN 60825-1:2007 (Class 1 Laser/LED Product)

IEC 62479:2010/EN 62479:2010

GB4943.1-2011

**EMC:** CISPR22:2005 +A1/ EN55022:2006 +A1- Class A<sup>1), 3)</sup>

EN 61000-3-2:2006+A1:2009+A2:2009

EN 61000-3-3:2008


EN 55024:1998 +A1 +A2

FCC Title 47 CFR, Part 15 Class A / ICES-003, Issue 4

GB9254-2008, GB17625.1-2003

**TELECOM:<sup>5)</sup>** ES 203 021; FCC Title 47 CFR, Part 68<sup>4)</sup>

**Supplementary Information:**

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



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

1. The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.
2. For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing names or the product number(s).
3. The product meets the requirements of EN55022 & CNS13438 Class A in which case the following applies: "Warning – This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures".
4. Telecom approvals and standards appropriate for the target countries/regions have been applied to this product, in addition to those listed above.
5. This product uses an analog fax accessory module which Regulatory Model numbers are: BOISB-1102-00 (US-LIU) or BOISB-1102-01 (EURO LIU), as needed to meet technical regulatory requirements for the countries/regions this product will be sold.

### **Shanghai China**

**Feb. 28, 2012**

#### **For Regulatory Topics only, contact:**

European Contact:	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, HQ-TRE, Herrenberger Straße 140, 71034 Böblingen, Germany <a href="http://www.hp.eu/certificates">www.hp.eu/certificates</a>
USA Contact:	Product Regulations Manager, Hewlett-Packard, 3000 Hanover St., Palo Alto 94304, U.S.A. 1-650-857-1501

# Declaration of conformity (dw model)

## Declaration of Conformity

according to ISO/IEC 17050-1 and EN 17050-1

**Manufacturer's Name:** Hewlett-Packard Information Technology R&D (Shanghai) Co., Ltd. DoC#: SHNGC-1200-01-rel.2.0

**Manufacturer's Address:** Building 6, No. 690 BiBo Road, ZhangJiang, Shanghai, China

**declares, that the product**

**Product Name:** HP LaserJet Pro MFP M521dw

**Regulatory Model:<sup>2)</sup>** SHNGC-1200-01

Including:

BOISB-1102-00 – (US-Fax Module LIU)

BOISB-1102-01 – (EURO-Fax Module LIU)

SDGOB-1191 – (Radio Module)

**Product Options:** All

**Toner Cartridges:** CE255A, CE255X

**conforms to the following Product Specifications:**

**SAFETY:** IEC 60950-1:2005 / EN60950-1: 2006 +A11:2009 +A1:2010 +A12:2011  
IEC 60825-1:2007 / EN 60825-1:2007 (Class 1 Laser/LED Product)  
IEC 62479:2010/EN 62479:2010

GB4943.1-2011

**EMC:** CISPR22:2005 +A1/ EN55022:2006 +A1- Class A<sup>1), 6)</sup>  
EN 61000-3-2:2006 +A1:2009 +A2:2009  
EN 61000-3-3:2008

EN 55024:1998 +A1 +A2

FCC Title 47 CFR, Part 15 Class A / ICES-003, Issue 4

GB9254-2008, GB17625.1-2003


**TELECOM:<sup>4)</sup>** ES 203 021; FCC Title 47 CFR, Part 68<sup>3)</sup>

**Radio:<sup>5)</sup>** EN 301 489-1:V1.8.1 (2008-04)/ EN 301 489-17:V2.1.1 (2009-05)  
EN 300 328: V1.7.1 (2006-10)

FCC Title 47 CFR, Part 15 Subpart C (Section 15.247) / IC: RSS-210

IEC 62311: 2007/ EN62311: 2008

**Supplementary Information:**

The product herewith complies with the requirements of the R&TTE Directive 1999/5/EC, EMC Directive 2004/108/EC, the Low Voltage Directive 2006/95/EC, and carries the CE-Marking  accordingly.

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

1. The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.
2. For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing names or the product number(s).
3. Telecom approvals and standards appropriate for the target countries/regions have been applied to this product, in addition to those listed above.
4. This product uses an analog fax accessory module which Regulatory Model numbers are: BOISB-1102-00 (US-LIU) or BOISB-1102-01 (EURO LIU), as needed to meet technical regulatory requirements for the countries/regions this product will be sold.
5. This product uses a radio module device which Regulatory Model number is SDGOB-1191 as needed to meet technical regulatory requirements for the countries/regions this product will be sold.
6. The product meets the requirements of EN55022 & CNS13438 Class A in which case the following applies: "Warning – This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures".

**Shanghai China**

**May 17, 2012**

**For Regulatory Topics only, contact:**

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, HQ-TRE,  
Herrenberger Straße 140, 71034 Böblingen, Germany [www.hp.eu/certificates](http://www.hp.eu/certificates)

USA Contact: Product Regulations Manager, Hewlett-Packard, 3000 Hanover St., Palo Alto 94304, U.S.A.  
1-650-857-1501

# Safety statements

## Laser safety

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

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

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## Canadian DOC regulations

Complies with Canadian EMC Class A requirements.

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

## VCCI statement (Japan)

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者は適切な対策を講ずるよう要求されることがあります。

VCCI-A

## Power cord instructions

Make sure your power source is adequate for the product voltage rating. The voltage rating is on the product label. The product uses either 100-127 Vac or 220-240 Vac and 50/60 Hz.

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

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

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## Power cord statement (Japan)

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

## EMC statement (China)

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

## EMC statement (Korea)

A급 기기 (업무용 방송통신기기)	이 기기는 업무용(A급)으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.
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## EMI statement (Taiwan)

警告使用者：  
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

## Laser statement for Finland

### Luokan 1 laserlaite

Klass 1 Laser Apparat

HP LaserJet Pro MFP M521dn, M521dw, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytössä kirjoittimen suojakotelointi estää lasersäteiden pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (2007) mukaisesti.

### VAROITUS !

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

### WARNING !

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

### HUOLTO

HP LaserJet Pro MFP M521dn, M521dw - kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän

käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

### **VARO !**

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

### **VARNING !**

Om laserprinterns skyddshölje öppnas då apparaten är i funktion, utsätts användaren för osynlig laserstrålning. Betrakta ej strålen.

Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista: Aallonpituus 775-795 nm Teho 5 m W Luokan 3B laser.

## GS statement (Germany)

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

Das Gerät ist kein Bildschirmarbeitsplatz gemäß BildscharbV. Bei ungünstigen Lichtverhältnissen (z. B. direkte Sonneneinstrahlung) kann es zu Reflexionen auf dem Display und damit zu Einschränkungen der Lesbarkeit der dargestellten Zeichen kommen.

## Substances Table (China)

### 有毒有害物质表

根据中国电子信息产品污染控制管理办法的要求而出台

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

0614

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

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

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

## Restriction on Hazardous Substances statement (Turkey)

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

## Restriction on Hazardous Substances statement (Ukraine)

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

# Additional statements for telecom (fax) products

## EU Statement for Telecom Operation

This product is intended to be connected to the analog Public Switched Telecommunication Networks (PSTN) of European Economic Area (EEA) countries/regions.

It meets requirements of EU R&TTE Directive 1999/5/EC (Annex II) and carries appropriate CE conformity marking.

For more details see Declaration of Conformity issued by the manufacturer in another section of this manual.

However due to differences between individual national PSTNs the product may not guarantee unconditional assurance of successful operation on every PSTN termination point. Network compatibility depends on the correct setting being selected by the customer in preparation of its connection to the PSTN. Please follow the instructions provided in the user manual.

If you experience network compatibility issues, please contact your equipment supplier or Hewlett-Packard help desk in the country/region of operation.

Connecting to a PSTN termination point may be the subject of additional requirements set out by the local PSTN operator.

## New Zealand Telecom Statements

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment may not provide for the effective hand-over of a call to another device connected to the same line.

This equipment shall not be set up to make automatic calls to the Telecom "111" Emergency Service.

This product has not been tested to ensure compatibility with the FaxAbility distinctive ring service for New Zealand.

## Additional FCC statement for telecom products (US)

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the back of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

The REN is used to determine the quantity of devices, which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all, areas, the sum of the RENs should not exceed five (5.0). To be certain of the



number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

This equipment uses the following USOC jacks: RJ11C.

An FCC-compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack, which is Part 68 compliant. This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please see the numbers in this manual for repair and (or) warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

The customer can do the following repairs: Replace any original equipment that came with the device. This includes the toner cartridge, the supports for trays and bins, the power cord, and the telephone cord. It is recommended that the customer install an AC surge arrestor in the AC outlet to which this device is connected. This is to avoid damage to the equipment caused by local lightning strikes and other electrical surges.

## Telephone Consumer Protection Act (US)

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or such business, or other entity, or individual. (The telephone number provided cannot be a 900 number or any other number for which charges exceed local or long distance transmission charges).

## Industry Canada CS-03 requirements

**Notice:** The Industry Canada label identifies certified equipment. This certification means the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirement document(s). The Department does not guarantee the equipment will operate to the user's satisfaction. Before installing this equipment, users should ensure that it is permissible for the equipment to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company

cause to request the user to disconnect the equipment. Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution can be particularly important in rural areas.

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**CAUTION:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate. The Ringer Equivalence Number (REN) of this device is 0.0B.

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This product meets the applicable Industry Canada technical specifications. / Le présent matériel est conforme aux spécifications techniques applicables d'Industrie Canada.

Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Number of all the devices does not exceed five (5.0). / L'indice d'équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas cinq.

The standard connecting arrangement code (telephone jack type) for equipment with direct connections to the telephone network is CA11A.

## Vietnam Telecom wired/wireless marking for ICTQC Type approved products



# Additional statements for wireless products

## FCC compliance statement—United States

### Exposure to radio frequency radiation

**CAUTION:** The radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized.

In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 in) during normal operation.

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

**CAUTION:** Based on Section 15.21 of the FCC rules, changes of modifications to the operation of this product without the express approval by Hewlett-Packard Company may invalidate its authorized use.

## Australia statement

This device incorporates a radio-transmitting (wireless) device. For protection against radio transmission exposure, it is recommended that this device be operated no less than 20 cm from the head, neck, or body.

## Brazil ANATEL statement

Este equipamento opera em caráter secundário, isto é, não tem direito à proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

## Canadian statements

**For Indoor Use.** This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications. The internal wireless radio complies with RSS 210 of Industry Canada.

**Pour l'usage d'intérieur.** Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada. Le composant RF interne est conforme à la norme CNR-210 d'Industrie Canada.

## Products with 5 GHz Operation Industry of Canada

- ! **CAUTION:** When using IEEE 802.11a wireless LAN, this product is restricted to indoor use, due to its operation in the 5.15- to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High-power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65- to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device.

## Exposure to Radio Frequency Radiation (Canada)

- ! **WARNING!** Exposure to Radio Frequency Radiation. The radiated output power of this device is below the Industry Canada radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact is minimized during normal operation.

To avoid the possibility of exceeding the Industry Canada radio frequency exposure limits, human proximity to the antennas should not be less than 20 cm (8 inches).

## European Union regulatory notice

The telecommunications functionality of this product may be used in the following EU and EFTA countries/regions:

Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and United Kingdom.

## Notice for use in France

For 2.4 GHz Wireless LAN operation of this product certain restrictions apply: This equipment may be used indoor for the entire 2400-2483.5 MHz frequency band (channels 1-13). For outdoor use, only 2400-2454 MHz frequency band (channels 1-9) may be used. For the latest requirements, see [www.arcep.fr](http://www.arcep.fr).

L'utilisation de cet équipement (2.4 GHz Wireless LAN) est soumise à certaines restrictions : Cet équipement peut être utilisé à l'intérieur d'un bâtiment en utilisant toutes les fréquences de 2400-2483.5 MHz (Chaîne 1-13). Pour une utilisation en environnement extérieur, vous devez utiliser les fréquences comprises entre 2400-2454 MHz (Chaîne 1-9). Pour les dernières restrictions, voir, [www.arcep.fr](http://www.arcep.fr).

## Notice for use in Russia

Существуют определенные ограничения по использованию беспроводных сетей (стандарта 802.11 b/g) с рабочей частотой 2,4 ГГц: Данное оборудование может использоваться внутри помещений с использованием диапазона частот 2400-2483,5 МГц (каналы 1-13). При использовании внутри помещений максимальная эффективная изотропно-излучаемая мощность (ЭИИМ) должна составлять не более 100мВт.

## Mexico statement

Aviso para los usuarios de México

"La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada."

Para saber el modelo de la tarjeta inalámbrica utilizada, revise la etiqueta regulatoria de la impresora.

## Taiwan statement

低功率電波輻射性電機管理辦法

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。  
前項合法通信，指依電信法規定作業之無線電通信。  
低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## Korean statement

당해 무선설비는 운용 중 전파혼선 가능성이 있음

## Vietnam Telecom wired/wireless marking for ICTQC Type approved products





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# Index

## Symbols/Numerics

2ndary service menu 141

## A

acoustic specifications 180

advanced setup

fax 74

antcounterfeit supplies 170

## B

batteries included 185

black page, problem-solving 127

blank page

problem-solving 122

blank pages

troubleshooting 133

blurred print, problem-solving  
129

## C

cables

USB, troubleshooting 133

calibrating touchscreen 142

Canadian DOC regulations 192

cartridge

memory chip 32

cartridges

non-HP 169

recycling 184

warranty 168

cautions iii

characters, misformed 126

checklist

fax troubleshooting 144

wireless connectivity 136

checklists

pre-troubleshooting 51

checklists, printing 82

circuit diagrams

general 66

clean

touchscreen 132

cleaning

glass 130

mode 140

paper path 69, 130

components

diagrams of 56

configuration page 56, 69

control panel

button test 142

clean touchscreen 132

cleaning page, printing 69,  
130

display test 142

menus 71

message types 88

messages, troubleshooting 88

conventions, document iii

copy menu 86

copying

sequence 45

counterfeit supplies 170

creased paper, problem-solving  
127

crooked pages 126

curled paper, problem-solving  
127

customer support

online 177

## D

default settings, restoring

NVRAM initialization 142

defaults

restoring 140

demo page 56

density

problem-solving 122

developing stage 29

disposal, end-of-life 185

document conventions iii

document feeder

jams 105

paper-feeding problems 121

dots, problem-solving 123, 128

dpi (dots per inch)

faxing 74

dropouts, problem-solving 124

drum cleaning stage 31

duplexer

jams 118

## E

electrical specifications 180

electronic hardware recycling  
186

end-of-life disposal 185

engine-control system 7

envelopes

wrinkled, problem-solving 127

environmental stewardship

program 183

error messages

error report 100

event log 100

error messages, control panel 88

error messages, fax 148, 154

error report, fax

printing 147

error-correction setting, fax 147

event log 56

## F

factory defaults, restoring

NVRAM initialization 142

- fax
  - answer mode 73
  - error report, printing 147
  - error-correction 147
  - reports 83
  - reports, printing all 146
  - ring type 74
  - solve general problems 160
  - unable to receive 154
  - unable to send 148
  - V.34 setting 147
- fax menu 83
- fax reports, printing 83
- fax troubleshooting
  - checklist 144
- FCC regulations 182
- Finnish laser safety statement 193
- firmware version 142
- flowcharts
  - troubleshooting 52
- fraud Web site 170
- fuser
  - jams 116
- fusing stage 30
- G**
  - glass, cleaning 130
  - graph paper, printing 82
  - gray background, problem-solving 125
- H**
  - HP Customer Care 177
  - HP Device Toolbox, using 68
  - HP fraud Web site 170
  - HP Jetdirect print server
    - NVRAM initialization 142
- I**
  - image defects, problem-solving 122
  - image repetition, problem-solving 129
  - information pages
    - configuration page 69
  - initialization
    - NVRAM 142
- J**
  - jams
    - causes of 121
- document feeder, clearing 105
- duplexer 118
- fuser 116
- locations 104
- output bin 107
- Tray 1 109
- Tray 2 112
- Japanese VCCI statement 192
- Jetdirect print server
  - NVRAM initialization 142
- K**
  - Korean EMC statement 193
- L**
  - laser beam exposure stage 28
  - laser safety statements 192, 193
  - laser/scanner
    - operations 24
  - license, software 172
  - light print
    - problem-solving 122
  - lines horizontal, problem-solving 124, 127
  - lines vertical, problem-solving 127
  - lines, problem-solving 124, 128
  - location
    - setting 142
  - logs, fax
    - error 147
    - printing all 146
  - loose toner, problem-solving 125
- M**
  - material restrictions 185
  - Material Safety Data Sheet (MSDS) 186
  - memory
    - NVRAM initialization 142
    - toner cartridge 32
  - memory chip, toner cartridge
    - description 171
  - menu
    - control panel, access 71
    - copy 86
    - fax 83
    - Fax setup 73
    - Network config 81
    - Quick Forms 82
  - Reports 72
  - Service 79
  - System setup 76
  - USB 83
  - menu map, printing 50
  - mercury-free product 185
  - messages, control panel 88
  - misformed characters, problem-solving 126
  - music paper, printing 82
- N**
  - network
    - configuring 81
  - Network config menu 81
  - non-HP supplies 169
  - notebook paper, printing 82
  - notes iii
  - NVRAM initialization 142
- O**
  - online support 177
  - operations
    - engine-control system 7
    - laser/scanner 24
    - scanner system 44
    - toner cartridge memory 32
  - output bin
    - jams 107
- P**
  - pages
    - blank 133
    - not printing 133
    - printing slowly 133
  - paper
    - curled 127
    - jams 121
    - skewed 126
    - wrinkled 127
  - paper pickup problems
    - solving 120
  - physical specifications 180
  - power
    - consumption 180
  - power supply
    - troubleshooting 53
  - power-on
    - scanner sequence 44
  - powersave 140
  - pre-troubleshooting checklist 51



- primary charging stage 28
- print quality
  - black page 127
  - blurred 129
  - dropouts 124
  - gray background 125
  - horizontal lines 124
  - image defects 122
  - light print 122
  - lines 124
  - loose toner 125
  - misformed characters 126
  - repeating defects 126
  - repetitive images 129
  - scattered lines 128
  - smeared toner 125
  - specks 123
  - tire tracks 128
  - white horizontal lines 127
  - white lines vertical 127
  - white spots 128
- printing
  - configuration page 69
  - troubleshooting 133
- problem-solving
  - black page 127
  - blank page 122
  - blurred print 129
  - control-panel messages 88
  - curled paper 127
  - dropouts 124
  - gray background 125
  - image defects 122
  - light print 122
  - lines 124
  - lines horizontal 124, 127
  - lines vertical 127
  - repeating defects 126
  - repetitive images 129
  - scattered lines 128
  - skewed pages 126
  - smeared toner 125
  - specks 123
  - text quality 126, 129
  - tire tracks 128
  - white spots 128
  - wrinkled paper 127
- protocol settings, fax 147

**R**

- receiving faxes
  - error report, printing 147
- recycling 184
  - electronic hardware 186
  - HP printing supplies returns and environmental program 184
- repeating defects, problem-solving 126, 129
- reports
  - configuration page 72
  - demo page 72
  - error 100, 142
  - fax 83
  - menu map 72
  - network report 72
  - PCL 6 font list 72
  - PCL font list 72
  - PS font list 72
  - service 142
  - service page 72
  - supplies status page 72
  - usage page 72
- reports, fax
  - error 147
  - printing all 146
- resets
  - NVRAM initialization 142
- restoring
  - defaults 140
  - factory defaults 140
- restoring default settings
  - NVRAM initialization 142

**S**

- safety statements 192, 193
- scanner
  - glass cleaning 130
- secondary service menu 141
- sending faxes
  - error report, printing 147
- separation stage 30
- Service menu 79
  - secondary 141
- service menu 140
- service menu settings 140
  - cleaning mode 140
  - powersave 140
  - restoring defaults 140
- size specifications, product 180

- skewed pages 126
- smeared toner, problem-solving 125
- software
  - software license agreement 172
- solve
  - fax problems 148
- solve problems 47
  - fax 160
- specifications
  - electrical and acoustic 180
  - physical 180
- specks, problem-solving 123, 128
- spots, problem-solving 123, 128
- status page 56
- supplies
  - counterfeit 170
  - non-HP 169
  - recycling 184
- support
  - online 177
- System setup menu 76

**T**

- Taiwan EMI statement 193
- technical support
  - online 177
- text, problem-solving
  - blurred 129
  - misformed characters 126
- tips iii
- tire tracks, problem-solving 128
- toner
  - output quality, problem-solving 125
- toner cartridge
  - memory chip 32
- toner cartridges
  - memory chips 171
  - non-HP 169
  - recycling 184
  - warranty 168
- touchscreen
  - calibrating 142
- touchscreen, clean 132
- transfer stage 30
- Tray 1
  - jams 109

- Tray 2
  - jams 112
- troubleshooting 47
  - blank pages 133
  - checklist 51
  - configuration page 56
  - control panel messages 88
  - control-panel checks 54
  - demo page 56
  - event log 56
  - fax error-correction setting 147
  - faxes 144
  - flowchart 52
  - jams 121
  - network problems 134
  - NVRAM initialization 142
  - pages not printing 133
  - pages printing slowly 133
  - paper feed problems 120
  - power 53
  - process 51
  - receive fax 154
  - reports and tools 56
  - send fax 148
  - status page 56
  - USB cables 133
  - USB connection 134
  - wired network 134
  - wireless network 136
- wavy paper, problem-solving 127
- Web sites
  - customer support 177
  - fraud reports 170
  - Material Safety Data Sheet (MSDS) 186
- white horizontal lines or spots, problem-solving 127
- white vertical lines or spots, problem-solving 127
- wireless
  - configuring 81
- wireless network
  - troubleshooting 136
- wireless network interference 139
- wrinkled paper, problem-solving 127

## U

- USB connection
  - troubleshooting 134
- USB menu 83
- USB port
  - troubleshooting 133

## V

- V.34 setting 147
- volume
  - settings 78

## W

- warnings iii
- warranty
  - customer self repair 176
  - license 172
  - product 166
  - toner cartridges 168
- waste disposal 186





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