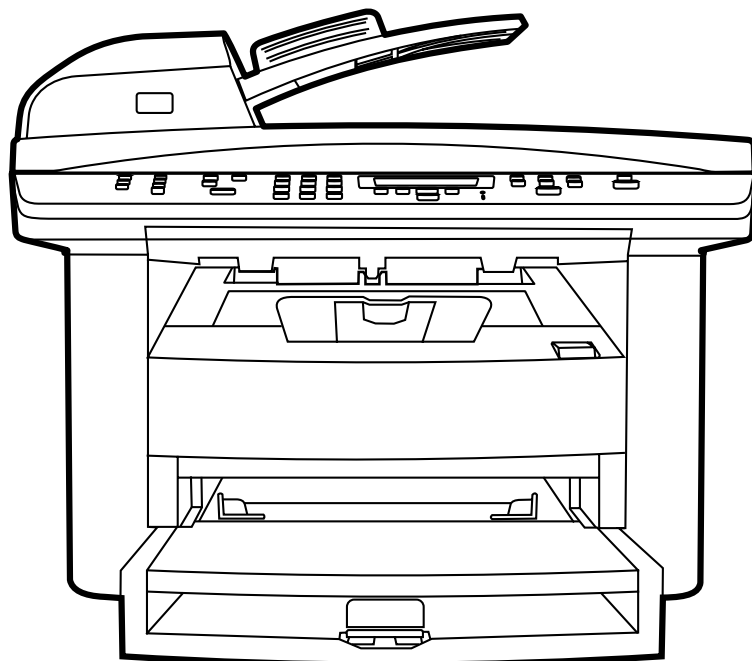


HP LaserJet M1522 MFP Series

Service Manual



TONER

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HP LaserJet M1522 MFP Series

Service Manual



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Table of contents

1 Product information

Quick access to product information	2
Product comparison	3
Product features	4
Product walkaround	5
Front view	5
Back view	5
Interface ports	6
Control-panel	6
Serial number and model number location	7
Software description	8
Supported operating systems	8
Supported printer drivers	8
Software included with the product	8
Recommended installation for Windows	8
Express installation (USB or network)	9
Macintosh software	9
Software for Windows	9
HP ToolboxFX	9
Embedded Web server (EWS)	10
Software for Macintosh	10
HP Director	10
Macintosh Configure Device (Mac OS X v10.3, v10.4, and later)	10
PDEs (Mac OS X v10.3, v10.4, and later)	11
Uninstall software	11
Windows	11
Macintosh	11
Media specifications	12
Supported paper and print media sizes	12
Supported paper types and tray capacity	13

2 Installation

Site preparations	16
Operating environment	16
Minimum system requirements	17
What was in the box	18
Install input devices	19
ADF input tray	19
Priority input tray	20

Tray 1	21
Install supplies	22
Install the print cartridge	22

3 Maintenance

Manage supplies	26
Life expectancies of supplies	26
Check and order supplies	26
Store supplies	26
Replace supplies	27
Print cartridge	27
HP policy on non-HP supplies	28
HP fraud hotline	29
Clean the product	30
Clean the exterior	30
Clean the flatbed scanner glass	30
Clean the scanner-cover backing	31
Clean the ADF pickup-roller assembly	32
Clean the paper path	34
Clean the paper path from HP ToolboxFX	34
Clean the paper path from the product control panel	34
Calibrate the scanner	34
Calibrate the scanner from HP ToolboxFX	35
Calibrate the scanner from the product control panel	35
Management tools	36
Information pages	36
HP ToolboxFX	37
View HP ToolboxFX	37
Status	38
Event log	38
Alerts	38
Set up status alerts	38
Set up e-mail alerts	38
Fax	39
Fax tasks	39
Fax phone book	39
Fax send log	41
Fax receive log	41
Block Faxes	41
Help	41
System Settings	42
Device information	42
Paper handling	43
Print quality	43
Paper types	43
System setup	44
Service	44
Device polling	44
Print Settings	44
Printing	44

PCL 5e	45
PostScript	45
Network Settings	45
Embedded Web server	45
Features	45
Use HP Web Jetadmin software	46

4 Operational theory

Basic operation	48
Sequence of operation for the base unit	48
Scanner and ADF functions and operation	50
Scanner functions	50
Scanner operation	51
ADF operation	51
ADF paper path and ADF sensors	52
ADF jam detection	53
Internal components (base unit)	54
Engine control system	55
Laser/scanner system	57
Pickup/feed/delivery system	58
Image-formation system	59
Fax functions and operation (fax models only)	63
Computer and network security features	63
PSTN operation	63
Receive faxes when you hear fax tones	63
Distinctive ring function	64
Fax by using Voice over IP services	64
The fax subsystem	65
Fax card in the fax subsystem	65
Safety isolation	65
Safety-protection circuitry	65
Data path	66
Hook state	66
Downstream device detection	66
Hook switch control	66
Ring detect	67
Line current control	67
Billing- (metering-) tone filters	67
Fax page storage in flash memory	67
Stored fax pages	67
Advantages of flash memory storage	67

5 Removal and replacement

Removal and replacement strategy	70
Introduction	70
Removal and replacement warnings, cautions, notes and tips	70
Electrostatic discharge	71
Required tools	71
Before performing service	71
After performing service	72

Post-service tests	73
Test 1 (print-quality test)	73
Test 2 (copy-quality test)	73
Test 3 (fax-quality test)	73
Parts removal order	74
Scanner and ADF components	75
ADF input tray	75
Flatbed lid	76
Link assemblies and scanner support-frame springs	79
Control-panel bezel	81
Control-panel assembly	82
ADF separation pad	83
ADF input-tray flag	84
ADF pickup roller assembly	85
ADF scanner glass	88
Scanner assembly	90
Product base	95
Print cartridge	95
Separation pad (product base)	96
Pickup roller (product base)	97
Scanner cushions	100
Media input tray	101
Transfer roller	103
Side covers	104
Print-cartridge door	106
Rear cover and fuser cover	107
Front cover	109
Speaker assembly	111
Formatter and fax card	113
Power supply	114
Scanner support-frame	118
Laser/scanner assembly	121
Main motor	125
Fuser	128
Paper-pickup assembly	132
Drive-gear assembly and drive belt	135

6 Problem solve

Problem-solving checklist	138
Control-panel messages	140
Alert and warning messages	140
Alert and warning message tables	140
Critical error messages	147
Critical error message-tables	147
Clear jams	149
Causes of jams	149
Where to look for jams	150
Clear jams from the ADF	151
Clear jams from the input-tray areas	153
Clear jams from the output bin	155

Clear jams from the print-cartridge area	156
Print problems	157
Print-quality problems	157
Improve print quality	157
Print-quality settings	157
Identify and correct print defects	158
Print-quality checklist	158
General print-quality issues	158
Scan problems	163
Solve scanned-image problems	163
Scan-quality problems	165
Prevent problems	165
Solve scan-quality problems	165
Copy problems	166
Prevent problems	166
Image problems	166
Media-handling problems	167
Performance problems	169
Fax problems (fax models only)	170
General fax problem-solve	170
Problems receiving faxes	171
Problems sending faxes	174
Voice-call problems	175
Media-handling problems	176
Performance problems	177
Functional checks	178
Engine test page	178
Drum rotation test	178
Half self-test functional check	179
Perform a half self-test check	179
Perform other checks	179
Heating element check	180
High-voltage contacts check	180
Check the print-cartridge contacts	180
Check the high-voltage connector assembly	181
Service-mode functions	182
NVRAM initialization	182
Super NVRAM initialization	182
Secondary service menu	182
Problem-solve tools	184
Product information pages and reports	184
Configuration page	184
Supplies Status page	184
PCL, PCL 6, or PS font list	184
Demo page	185
Usage page	185
Menu map	185
Network report	185
Fax reports	186
Fax activity log	186

Fax confirmation report	186
Last call report	186
Phone book report	186
Billing-code report	188
HP ToolboxFX	188
View HP ToolboxFX	188
Troubleshooting tab	188
Service menu	189
Restore the factory-set defaults	189
Clean the paper path	190
T.30 protocol trace	191
Archive print	191
Problem-solve diagrams	192
Repetitive image defects	192
Interface ports	193
ECU connectors	194
Formatter PCA	195
Fax card	196
Solenoid and motor	197
Rollers	198
Sensors	199
Major components	200
PCAs (base unit)	201
Scanner and ADF	202
Circuit diagram	203
Firmware updates	204
Firmware update by using a flash executable file	204

7 Parts

Ordering information	206
Supplies and hinge tool	206
Cable and interface accessories	206
Whole unit replacement	207
Control-panel bezels	211
Supplementary documentation and support	214
Parts lists and diagrams	216
Types of screws	217
ADF and scanner assemblies	218
ADF internal components	220
Assemblies	222
External covers and panels	224
Internal components (1 of 3)	226
Internal components (2 of 3)	228
Internal components (3 of 3)	230
Alphabetical parts list	232
Numerical parts list	235

Appendix A Service and support

Hewlett-Packard limited warranty statement	239
Customer self repair warranty service	240

Print cartridge limited warranty statement	241
Customer support	242
HP maintenance agreements	242
Repacking the device	242
Extended warranty	242

Appendix B Specifications

Physical specifications	244
Electrical specifications	244
Power consumption	244
Environmental specifications	245
Acoustic emissions	245

Appendix C Regulatory information

FCC compliance	248
Environmental product stewardship program	249
Protecting the environment	249
Ozone production	249
Power consumption	249
Toner consumption	249
Paper use	249
Plastics	249
HP LaserJet print supplies	249
Return and recycling instructions	250
United States and Puerto Rico	250
Multiple returns (two to eight cartridges)	250
Single returns	250
Shipping	250
Non-US returns	250
Paper	250
Material restrictions	250
Disposal of waste equipment by users in private households in the European Union ...	251
Material Safety Data Sheet (MSDS)	251
For more information	252
Telephone Consumer Protection Act (United States)	253
IC CS-03 requirements	253
EU statement for telecom operation	254
New Zealand telecom statements	254
Declaration of conformity	255
Declaration of conformity	256
Safety statements	257
Laser safety	257
Canadian DOC regulations	257
EMI statement (Korea)	257
Laser statement for Finland	258
Substances table (China)	259

Index	261
-------------	-----

List of tables

Table 1-1	Product guides	2
Table 1-2	Supported paper and print media sizes	12
Table 1-3	Supported envelopes and postcards	13
Table 4-1	Sequence of operation	48
Table 4-2	Power-on sequence	49
Table 6-1	Alert and warning messages	140
Table 6-2	Critical error messages	147
Table 6-3	Repetitive image defects	192
Table 6-4	ECU connectors	194
Table 6-5	Formatter connectors	195
Table 6-6	Fax card	196
Table 6-7	Solenoid and motor	197
Table 6-8	Rollers	198
Table 6-9	Sensors	199
Table 6-10	Major components	200
Table 6-11	PCAs (base unit)	201
Table 6-12	Scanner and ADF	202
Table 7-1	Whole unit replacement, product bundle CC372A	207
Table 7-2	Whole unit replacement, product bundle CB534A	209
Table 7-3	Control-panel bezels (HP LaserJet M1522n)	211
Table 7-4	Control-panel bezels (HP LaserJet M1522nf)	212
Table 7-5	Documentation	214
Table 7-6	Scanner and ADF assemblies	219
Table 7-7	ADF internal components	221
Table 7-8	Assemblies	223
Table 7-9	External covers and panels	225
Table 7-10	Internal components (1 of 3)	227
Table 7-11	Internal components (2 of 3)	229
Table 7-12	Internal components (3 of 3)	231
Table 7-13	Alphabetical parts list	232
Table 7-14	Numerical parts list	235
Table B-1	Physical specifications	244
Table B-2	Electrical specifications	244
Table B-3	Power consumption (average, in watts)	244
Table B-4	Environmental specifications	245
Table B-5	Acoustic emissions	245

List of figures

Figure 2-1	Operating environment	16
Figure 4-1	System block diagram	48
Figure 4-2	Optical system	50
Figure 4-3	ADF paper path	52
Figure 4-4	Cross-section of printer	54
Figure 4-5	Engine control system	55
Figure 4-6	Engine-control-system circuit diagram	56
Figure 4-7	Laser/scanner system	57
Figure 4-8	Pickup/feed/delivery system	58
Figure 4-9	Image-formation system	59
Figure 4-10	Primary charging	59
Figure 4-11	Developing	60
Figure 4-12	Transfer	61
Figure 4-13	Separation	61
Figure 4-14	Fusing	61
Figure 4-15	Drum cleaning	62
Figure 5-1	Phillips and pozidrive screwdriver comparison	71
Figure 5-2	Parts removal order for the scanner and ADF	74
Figure 5-3	Parts removal order for the product (product base)	74
Figure 5-4	Remove the ADF input tray	75
Figure 5-5	Remove the flatbed lid (1 of 5)	76
Figure 5-6	ADF cover correctly installed	76
Figure 5-7	Remove the flatbed lid (2 of 5)	77
Figure 5-8	Remove the flatbed lid (3 of 5)	77
Figure 5-9	Remove the flatbed lid (4 of 5)	78
Figure 5-10	Remove the flatbed lid (5 of 5)	78
Figure 5-11	Remove the link assemblies and scanner support-frame springs (1 of 4)	79
Figure 5-12	Remove the link assemblies and scanner support-frame springs (2 of 4)	79
Figure 5-13	Remove the link assemblies and scanner support-frame springs (3 of 4)	80
Figure 5-14	Remove the link assemblies and scanner support-frame springs (4 of 4)	80
Figure 5-15	Remove the control-panel bezel	81
Figure 5-16	Remove the control-panel assembly (1 of 2)	82
Figure 5-17	Remove the control-panel assembly (2 of 2)	82
Figure 5-18	Remove the ADF separation pad	83
Figure 5-19	Remove the ADF input-tray flag	84
Figure 5-20	Replacing the ADF pickup roller assembly (1 of 6)	85
Figure 5-21	Replacing the ADF pickup roller assembly (2 of 6)	85
Figure 5-22	Replacing the ADF pickup roller assembly (3 of 6)	86
Figure 5-23	Replacing the ADF pickup roller assembly (4 of 6)	86

Figure 5-24	Replacing the ADF pickup roller assembly (5 of 6)	87
Figure 5-25	Replacing the ADF pickup roller (6 of 6)	87
Figure 5-26	Remove the ADF scanner glass (1 of 3)	88
Figure 5-27	Remove the ADF scanner glass (2 of 3)	88
Figure 5-28	Remove the ADF scanner glass (3 of 3)	89
Figure 5-29	Remove the scanner assembly (1 of 10)	90
Figure 5-30	Remove the scanner assembly (2 of 10)	90
Figure 5-31	Remove the scanner assembly (3 of 10)	91
Figure 5-32	Remove the scanner assembly (4 of 10)	91
Figure 5-33	Remove the scanner assembly (5 of 10)	92
Figure 5-34	Remove the scanner assembly (6 of 10)	92
Figure 5-35	Remove the scanner assembly (7 of 10)	93
Figure 5-36	Remove the scanner assembly (8 of 10)	93
Figure 5-37	Remove the scanner assembly (9 of 10)	94
Figure 5-38	Remove the scanner assembly (10 of 10)	94
Figure 5-39	Remove the print cartridge (1 of 2)	95
Figure 5-40	Remove the print cartridge (2 of 2)	95
Figure 5-41	Remove the product separation pad (1 of 2)	96
Figure 5-42	Remove the product separation pad (2 of 2)	96
Figure 5-43	Remove the product pickup roller (1 of 5)	97
Figure 5-44	Remove the product pickup roller (2 of 5)	97
Figure 5-45	Remove the product pickup roller (3 of 5)	98
Figure 5-46	Remove the product pickup roller (4 of 5)	98
Figure 5-47	Remove the product pickup roller (5 of 5)	99
Figure 5-48	Installing the scanner cushions	100
Figure 5-49	Remove the media input tray (1 of 3)	101
Figure 5-50	Remove the media input tray (2 of 3)	101
Figure 5-51	Remove the media input tray (3 of 3)	102
Figure 5-52	Remove the transfer roller	103
Figure 5-53	Remove the side covers (1 of 4)	104
Figure 5-54	Remove the side covers (2 of 4)	104
Figure 5-55	Remove the side covers (3 of 4)	105
Figure 5-56	Remove the side covers (4 of 4)	105
Figure 5-57	Remove the print-cartridge door (1 of 2)	106
Figure 5-58	Remove the print-cartridge door (2 of 2)	106
Figure 5-59	Remove the rear cover and fuser cover (1 of 3)	107
Figure 5-60	Remove the rear cover and fuser cover (2 of 3)	107
Figure 5-61	Remove the rear cover and fuser cover (3 of 3)	108
Figure 5-62	Remove the front cover (1 of 4)	109
Figure 5-63	Remove the front cover (2 of 4)	109
Figure 5-64	Remove the front cover (3 of 4)	110
Figure 5-65	Remove the front cover (4 of 4)	110
Figure 5-66	Remove the speaker assembly (1 of 2)	111
Figure 5-67	Remove the speaker assembly (2 of 2)	111
Figure 5-68	Remove the formatter	113
Figure 5-69	Remove the power supply (1 of 7)	114
Figure 5-70	Remove the power supply (2 of 7)	115
Figure 5-71	Remove the power supply (3 of 7)	115
Figure 5-72	Remove the power supply (4 of 7)	116
Figure 5-73	Remove the power supply (5 of 7)	116

Figure 5-74	Remove the power supply (7 of 7)	117
Figure 5-75	Remove the power supply (7 of 7)	117
Figure 5-76	Remove the scanner support-frame (1 of 5)	118
Figure 5-77	Remove the scanner support-frame (2 of 5)	119
Figure 5-78	Remove the scanner support-frame (3 of 5)	119
Figure 5-79	Remove the scanner support-frame (4 of 5)	120
Figure 5-80	Remove the scanner support-frame (5 of 5)	120
Figure 5-81	Remove the laser/scanner (1 of 7)	121
Figure 5-82	Remove the laser/scanner (2 of 7)	122
Figure 5-83	Remove the laser/scanner (3 of 7)	122
Figure 5-84	Remove the laser/scanner (4 of 7)	123
Figure 5-85	Remove the laser/scanner assembly (5 of 7)	123
Figure 5-86	Remove the laser/scanner assembly (6 of 7)	124
Figure 5-87	Remove the laser/scanner assembly (7 of 7)Remove the laser/scanner assembly (7 of 7)	124
Figure 5-88	Remove the main motor (1 of 4)	125
Figure 5-89	Remove the main motor (2 of 4)	126
Figure 5-90	Remove the main motor (3 of 4)	126
Figure 5-91	Remove the main motor (4 of 4)	127
Figure 5-92	Remove the fuser (1 of 6)	128
Figure 5-93	Remove the fuser (2 of 6)	129
Figure 5-94	Remove the fuser (3 of 6)	129
Figure 5-95	Remove the fuser (4 of 6)	130
Figure 5-96	Remove the fuser assembly (5 of 6)	130
Figure 5-97	Remove the fuser assembly (6 of 6)	131
Figure 5-98	Remove the paper-pickup assembly (1 of 4)	132
Figure 5-99	Remove the paper-pickup assembly (2 of 4)	133
Figure 5-100	Remove the paper-pickup assembly (3 of 4)	133
Figure 5-101	Remove the paper-pickup assembly (4 of 4)	134
Figure 5-102	Remove the Drive-gear assembly and drive belt (1 of 4).	135
Figure 5-103	Remove the Drive-gear assembly and drive belt (2 of 4).	135
Figure 5-104	Remove the Drive-gear assembly and drive belt (3 of 4).	136
Figure 5-105	Remove the Drive-gear assembly and drive belt (4 of 4).	136
Figure 6-1	Print-cartridge high-voltage connection points (right side)	180
Figure 6-2	Print-cartridge high-voltage connection points (left side)	181
Figure 6-3	ECU connectors	194
Figure 6-4	Formatter connectors	195
Figure 6-5	Fax card connectors	196
Figure 6-6	Solenoid and motor	197
Figure 6-7	Rollers	198
Figure 6-8	Sensors	199
Figure 6-9	Major components	200
Figure 6-10	PCAs (base unit)	201
Figure 6-11	Scanner and ADF	202
Figure 6-12	Circuit diagram	203
Figure 7-1	Scanner and ADF assemblies	218
Figure 7-2	ADF internal components	220
Figure 7-3	Assemblies	222
Figure 7-4	External covers and panels	224
Figure 7-5	Internal components (1 of 3)	226
Figure 7-6	Internal components (2 of 3)	228

Figure 7-7 Internal components (3 of 3) 230

1 Product information

- [Quick access to product information](#)
- [Product comparison](#)
- [Product features](#)
- [Product walkaround](#)
- [Software description](#)
- [Software for Windows](#)
- [Software for Macintosh](#)
- [Uninstall software](#)
- [Media specifications](#)

Quick access to product information

Use the following Web site to find information about the product.

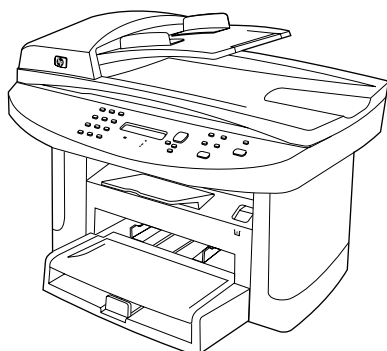
- www.hp.com/support/ljm1522

Table 1-1 Product guides

Guide	Description
HP LaserJet M1522 MFP Getting Started Guide	Provides step-by-step instructions for installing and setting up the product.
HP LaserJet M1522 MFP Series User Guide	Provides detailed information for using the product and problem-solving. Available on the product CD or in Program Group if the software is installed on a computer.
HP ToolboxFX	To check the product status and settings, and to view problem-solving information and online documentation, use the HP ToolboxFX. You must have performed a complete software installation in order to use the HP ToolboxFX. See the user guide for more information about software installation.
Online Help	Provides information about options that are available in the printer drivers. To view a Help file, open the online Help through the printer driver.

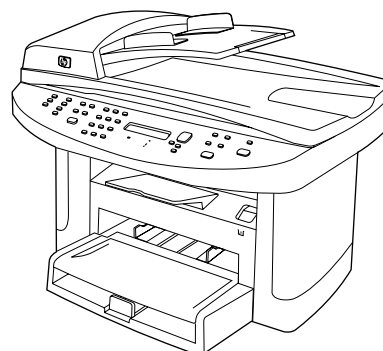
Product comparison

The product is available in the following configurations.



HP LaserJet M1522n MFP

- Prints letter-size pages at speeds up to 24 pages per minute (ppm) and A4-size pages at speeds up to 23 ppm.
- PCL 5 and PCL 6 printer drivers and HP postscript level 3 emulation.
- Priority input tray holds up to 10 sheets of print media.
- Tray 1 holds up to 250 sheets of print media or 10 envelopes.
- Hi-Speed USB 2.0 port and 10/100 Base-T network port.
- 64-MB random-access memory (RAM).
- Flatbed scanner and 50-page automatic document feeder (ADF).



HP LaserJet M1522nf MFP

HP LaserJet M1522n MFP, plus:

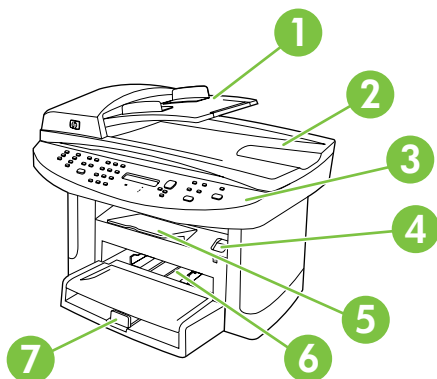
- V.34 fax modem and 4-megabyte (MB) flash fax-storage memory.
- Two RJ-11 fax phone line ports

Product features

Performance	<ul style="list-style-type: none">• Prints up to 24 ppm (letter) or 23 ppm (A4).
Print quality	<ul style="list-style-type: none">• 600 x 2 dots per inch (dpi) with Resolution Enhancement Technology (RET).• Adjustable settings to optimize print quality.• The HP UltraPrecise print cartridge has a finer toner formulation that provides sharper text and graphics.
Fax (fax models only)	<ul style="list-style-type: none">• Full-functionality fax capabilities with a V.34 fax; includes a phone book, fax/tel, and delayed-fax features.
Copy	<ul style="list-style-type: none">• Includes ADF that allows faster, more efficient copy jobs with multiple-page documents.
Scan	<ul style="list-style-type: none">• The product provides 1,200 pixels per inch (ppi), 24-bit full-color scanning from letter/A4-size scanner glass.• The product provides 300 ppi, 24-bit full-color scanning from the automatic document feeder (ADF).• Includes an ADF that allows faster, more efficient scan jobs with multiple-page documents.
Networking	<ul style="list-style-type: none">• TCP/IP<ul style="list-style-type: none">◦ IPv4◦ IPv6
Printer driver features	<ul style="list-style-type: none">• Fast printing performance, built-in Intellifont and TrueType scaling technologies, and advanced imaging capabilities are benefits of the PCL 6 printer language.
Interface connections	<ul style="list-style-type: none">• Hi-Speed USB 2.0 port.• 10/100 Base-T ethernet network port (RJ-45).• RJ-11 fax/phone cable ports (fax models only).
Economical printing	<ul style="list-style-type: none">• N-up printing (printing more than one page on a sheet).• EconoMode setting.
Supplies	<ul style="list-style-type: none">• A supplies status page that displays the amount of life remaining in the print cartridge.• The product ships with a 1,000-page (average yield) starter cartridge. The average yield for replacement cartridges is 2,000 pages.• Authentication for HP print cartridges.• Enabled supplies-ordering capability.
Accessibility	<ul style="list-style-type: none">• Online user guide that is compatible with text screen-readers.• Print cartridges can be installed and removed by using one hand.• All doors and covers can be opened by using one hand.

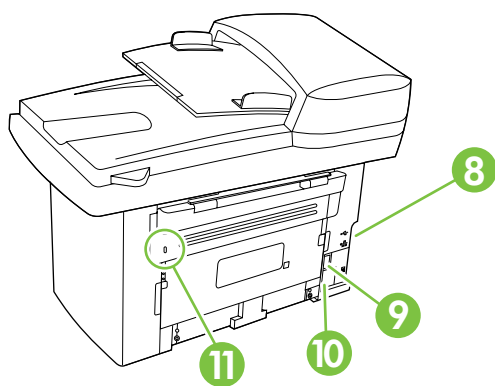
Product walkaround

Front view



1	Automatic document feeder (ADF) input tray
2	Automatic document feeder (ADF) output bin
3	Control panel
4	Print-cartridge door latch
5	Output bin
6	Priority input tray
7	Tray 1

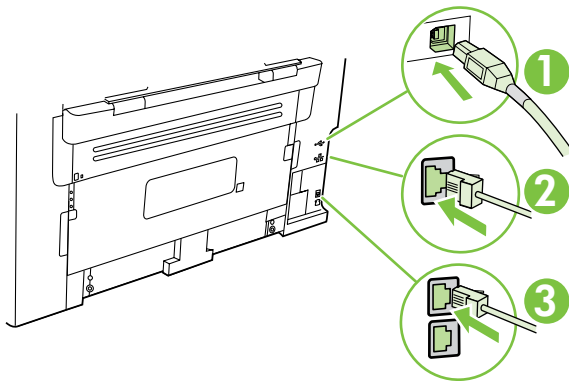
Back view



8	Interface ports
9	Power switch
10	Power connector
11	Kensington lock

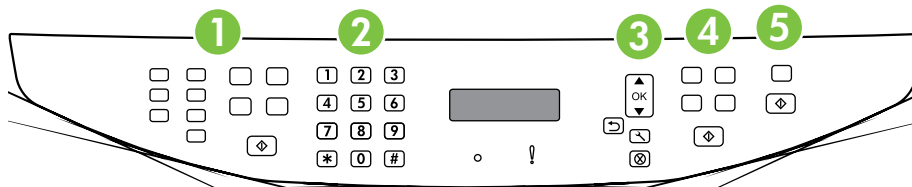
Interface ports

All models have a 10/100 Base-T (RJ-45) network port and a Hi-Speed USB 2.0 port. Fax models have fax ports as well.



- | | |
|---|-----------------------------|
| 1 | Hi-Speed USB 2.0 port |
| 2 | Network port |
| 3 | Fax ports (fax models only) |

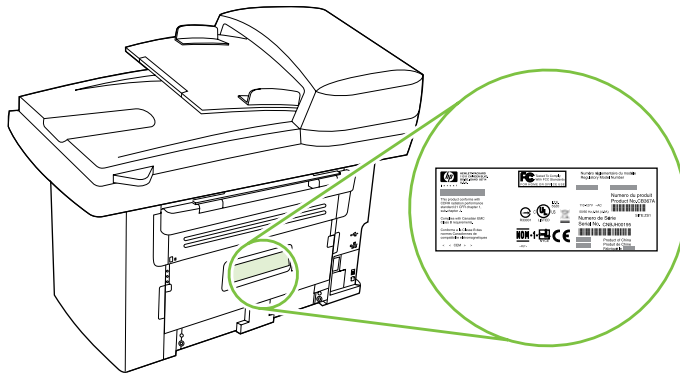
Control-panel



- | | |
|---|--|
| 1 | Fax controls (fax models only). Use the fax controls to change commonly used fax settings. |
| 2 | Alphanumeric buttons. Use the alphanumeric buttons to type data into the product control-panel display and dial telephone numbers for faxing. |
| 3 | Setup and cancel controls. Use these controls to select menu options, determine the product status, and cancel the current job. |
| 4 | Copy controls. Use these controls to change commonly used copy settings and to start copying. |
| 5 | Scan controls. Use these controls to scan to e-mail or to a folder. |

Serial number and model number location

The serial number and product model number label is on the back of the product.



Software description

Supported operating systems

The product supports the following operating systems:

Full software installation

- Windows XP (32-bit and 64-bit)
- Windows Vista (32-bit and 64-bit)
- Mac OS X v10.3, v10.4, and later

Print and scan driver

- Windows 2000
- Windows 2003 Server (32-bit)

Printer driver only

- Linux (Web only)
- UNIX model scripts (Web only)



NOTE: For Mac OS X v10.4 and later, PPC and Intel Core Processor Macs are supported.

Supported printer drivers

Operating system	PCL 5	PCL 6	HP postscript level 3 emulation
Windows	✓ ¹	✓	✓ ¹
Mac OS X v10.3, v10.4, and later			✓
Linux ²			✓

¹ Driver can be installed by using the Microsoft Add Printer wizard, too.

² For Linux, download the HP postscript level 3 emulation driver from www.hp.com/go/linuxprinting.

The printer drivers include online Help that has instructions for common printing tasks and also describes the buttons, checkboxes, and drop-down lists that are in the printer driver.

Software included with the product

There are several options for completing a recommended install. Easy Install will complete the installation with default settings. Advanced Install allows you to select custom settings and choose the components that are installed.

Recommended installation for Windows

- HP drivers
 - PCL 6 printer driver
 - Scan driver
- HP MFP software
 - HP ToolboxFX
 - HP LaserJet Scan program
 - HP Send Fax program and driver

- HP Fax Setup Wizard
- Uninstall program
- HP Update program
- HP Customer Participation Program
- Shop for HP Supplies program
- Other programs
 - Readiris OCR (not installed with other software; separate installation is required)

Express installation (USB or network)

The following software is included with an Express installation:

- PCL 6 printer driver
- Scan driver

 **NOTE:** Express installation supports faxing by using the control panel.

NOTE: PCL 5 and HP postscript level 3 emulation drivers can be installed using the Microsoft Add Printer wizard.

Macintosh software

- HP Product Setup Assistant
- HP Device Configuration
- HP Uninstaller
- HP LaserJet software
 - HP Scan
 - HP Director
 - Fax program
 - Scan to e-mail program
 - HP Photosmart

Software for Windows

When you install the software for Windows, you can directly connect the product to a computer by using a USB cable, or you can connect the product to a network by using the internal print server. See the getting started guide for installation instructions, and see the Readme file for the latest software information.

HP ToolboxFX

Perform a typical installation in order to use HP ToolboxFX.

HP ToolboxFX provides links to product status information and help information, such as the user guide, and tools for product problem-solving.

Embedded Web server (EWS)

The EWS is a Web-based interface that provides simple access to product status and configurations, including network configurations and Smart Printing Supplies (SPS) functionality.

You can gain access to the EWS through the network connection to the product. Type the product IP address in a Web browser to open the product EWS home page in the browser. From the home page, you can use the tabs and left navigation menu to check the status of the product, configure the product, or check the status of the supplies.

The following are supported browsers:

- Internet Explorer 5.0 or later
- Netscape Navigator 4.75 or later
- Opera 6.05 or later
- Safari 1.2 or later

Software for Macintosh

For Mac OS X v10.3, v10.4, and later, use Print Center to print.

 **NOTE:** For Macintosh computers, HP ToolboxFX is *not* supported.

HP Director

HP Director is a software program for working with documents. When the document is loaded into the ADF and the computer is connected directly to the product, HP Director appears on the computer screen to initiate faxing, scanning, or changing settings on the product through Macintosh Configure Device.

Also included is the HP product Setup Assistant, which sets up the fax and print queues.

Macintosh Configure Device (Mac OS X v10.3, v10.4, and later)

Macintosh Configure Device is a Web-based program that provides access to information about the product (or example, information about supplies status and product settings). Use Macintosh Configure Device to monitor and manage the product from the computer.

 **NOTE:** You must perform a complete software installation to use Macintosh Configure Device.

- Check the product status and print information pages.
- Check and change product settings.
- Check default print settings.
- Check and change fax settings, including IP configuration, Advanced, mDNS, SNMP, network configuration, and fax reports.

You can view Macintosh Configure Device when the product is directly connected to a computer or when it is connected to the network.



NOTE: You do not have to have Internet access to open and use Macintosh Configure Device.

View Macintosh Configure Device when the product is connected to the computer

1. Open HP Director by clicking the **HP Director** icon in the dock.
2. In HP Director, click **Settings**.
3. Select **Configure Device** to open the Macintosh Configure Device home page in a browser.

View Macintosh Configure Device when the product is connected to the network

1. Open one of the following browsers:
 - Internet Explorer 5.0 or later
 - Netscape Navigator 4.75 or later
 - Opera 6.05 or later
 - Safari 1.2 or later
2. Type the IP address of the product into the Web browser to open the Macintosh Configure Device home page.

PDEs (Mac OS X v10.3, v10.4, and later)

PDEs are code plug-ins that provide access to product features, such as information about the number of copies, two-sided printing, and quality settings. An installation program for the PDEs and other software is provided on the product CD for Macintosh.

Uninstall software

Windows

Use the **Add or Remove Programs** method in Windows to remove the product software. This method does *not* require you to have the software CD.

1. Click **Start**, point to **Settings**, and then click **Control Panel**.



NOTE: In Windows XP, click **Start**, and then click **Control panel**.

2. Double-click **Add or Remove Programs**.
3. Scroll through the list of software programs and click **HP LaserJet M2727**.
4. Click **Remove**.

Macintosh

To remove the software, drag the PPD files to the trash can.

Media specifications

Supported paper and print media sizes

This product supports a number of paper sizes, and it adapts to various media.


 **NOTE:** To obtain best print results, select the appropriate paper size and type in the print driver before printing.

Table 1-2 Supported paper and print media sizes

Size	Dimensions	Priority input tray	Tray 1
Letter	216 x 279 mm (8.5 x 11 inches)	✓	✓
Legal	216 x 356 mm (8.5 x 14 inches)	✓	✓
A4	210 x 297 mm (8.27 x 11.69 inches)	✓	✓
Executive	184 x 267 mm (7.24 x 10.51 inches)	✓	✓
A3	297 x 420 mm (11.69 x 16.54 inches)		
A5	148 x 210 mm (5.83 x 8.27 inches)	✓	✓
A6 ¹	105 x 148 mm (4.13 x 5.83 inches)	✓	✓
11 x 17	279 x 432 mm (11 x 17 inches)		
B4 (JIS)	257 x 364 mm (10.12 x 14.33 inches)		
B5 (JIS)	182 x 257 mm (7.17 x 10.12 inches)	✓	✓
8k	270 x 390 mm (10.63 x 15.35 inches)		
16k	197 x 273 mm (7.75 x 10.75 inches)	✓	✓
16k	195 x 270 mm (7.7 x 10.6 inches)	✓	✓
16k	184 x 260 mm (7.25 x 10.25 inches)	✓	✓
8.5 x 13	216 x 330 mm (8.5 x 13 inches)	✓	✓
4 x 6 ¹	107 x 152 mm (4 x 6 inches)	✓	✓
5 x 8 ¹	127 x 203 mm (5 x 8 inches)	✓	✓
10 x 15 cm ¹	100 x 150 mm (3.9 x 5.9 inches)	✓	✓
Custom	Minimum—76 x 127 mm (3 x 5 inches); Maximum—216 x 356 mm (8.5 x 14 inches)	✓	✓

¹ These sizes are supported as custom sizes.

Table 1-3 Supported envelopes and postcards

Size	Dimensions	Priority input tray	Tray 1
Envelope #10	105 x 241 mm (4.13 x 9.49 inches)	✓	✓
Envelope DL	110 x 220 mm (4.33 x 8.66 inches)	✓	✓
Envelope C5	162 x 229 mm (6.93 x 9.84 inches)	✓	✓
Envelope B5	176 x 250 mm (6.7 x 9.8 inches)	✓	✓
Envelope Monarch	98 x 191 mm (3.9 x 7.5 inches)	✓	✓
Postcard	100 x 148 mm (3.94 x 5.83 inches)	✓	✓
Double postcard	148 x 200 mm (5.83 x 7.87 inches)	✓	✓

Supported paper types and tray capacity

This product has the following tray priority for feeding print media:

1. Priority input tray
2. Tray 1

Minimum media dimensions are 76 x 127 mm (3 x 5 inches).

Maximum media dimensions are 216 x 356 mm (8.5 x 14 inches).

To obtain the best print results, change the paper size and paper type settings in the printer driver before printing.

Type is	Media specifications	Priority input tray capacity	Tray 1 capacity ¹
Plain	75 g/m ² (20 lb) to 104 g/m ² (27 lb)	Up to 10 sheets	Up to 250 sheets
Color			
Preprinted			
Prepunched			
Recycled			
Light	60 g/m ² (16 lb) to 74 g/m ² (20 lb)	Up to 10 sheets	Up to 260 sheets
Envelopes	Less than 90 g/m ² (24 lb)	1 envelope	Up to 10 envelopes.
Labels	Standard	1 sheet	Not supported.
Bond	75 g/m ² (20 lb) to 104 g/m ² (27 lb)	1 sheet	Up to 250 sheets
Rough	75 g/m ² (20 lb) to 104 g/m ² (27 lb)	1 sheet	Up to 200 sheets
Transparencies	4 mm (0.1 inches) Monochrome Overhead	1 sheet	Up to 200 sheets
Mid weight	96 g/m ² (25 lb) to 110 g/m ² (29 lb)	Up to 10 sheets	Up to 200 sheets

Type is	Media specifications	Priority input tray capacity	Tray 1 capacity ¹
Heavy	111 g/m ² (29 lb) to 130 g/m ² (33 lb)	Up to 10 sheets	Not supported.
Extra heavy	131 g/m ² (33 lb) to 175 g/m ² (47 lb)	Up to 10 sheets	Not supported.
Letterhead	75 g/m ² (20 lb) to 104 g/m ² (27 lb)	Up to 10 sheets	Up to 250 sheets

¹ The maximum stack height for tray 1 is 25 mm (0.9 inches).

2 Installation

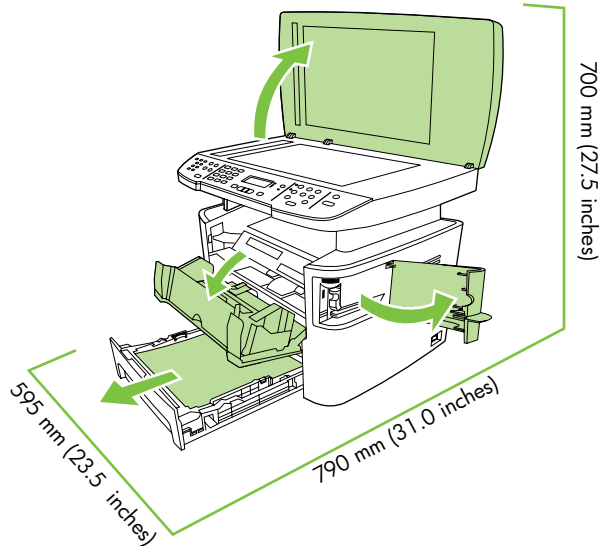
- [Site preparations](#)
- [What was in the box](#)
- [Install input devices](#)
- [Install supplies](#)

Site preparations

Operating environment

Place the product on a sturdy, level surface in a well-ventilated area. Make sure that the air vents are not blocked and that the product is installed away from direct sunlight, open flames, and ammonia fumes.

Figure 2-1 Operating environment



Store or install the product in an area that meets the following requirements:

- Temperature (printer; operating) 15° to 32.5°C (59° to 90.5°F)
- Temperature (printer; storage) -20° to 60°C (-4° to 140°F)
- Humidity (printer; operating) 10 to 80% relative humidity (no condensation)
- Humidity (printer; storage) 10% to 90% relative humidity (no condensation)
- Temperature (toner cartridge; storage) -20° to 40° C (-4 to 104° F)
- Humidity (toner cartridge; storage) 10% to 90% relative humidity (no condensation)

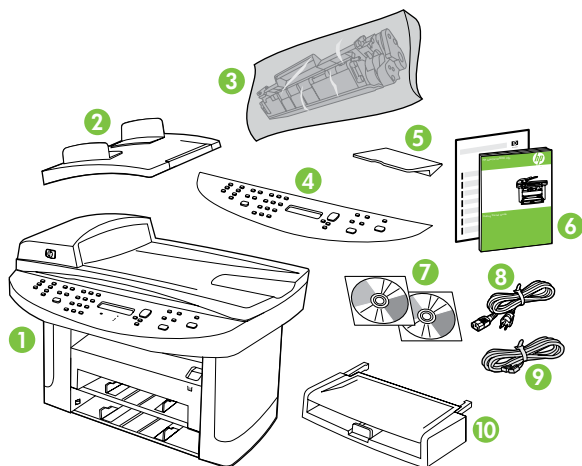
Minimum system requirements

- Windows® 2000
- Windows XP
- Windows Millennium Edition (Me)
- Windows Server 2000
- Windows 98
- Mac OS X v10.3 and later
- 128 MB RAM for Windows operating systems
- 32 MB RAM for Macintosh operating systems
- 250 MB hard-disk space (full installation)
- CD-ROM drive
- USB port

What was in the box

The following components are included in the box.

 **NOTE:** The USB and network cables are not included.

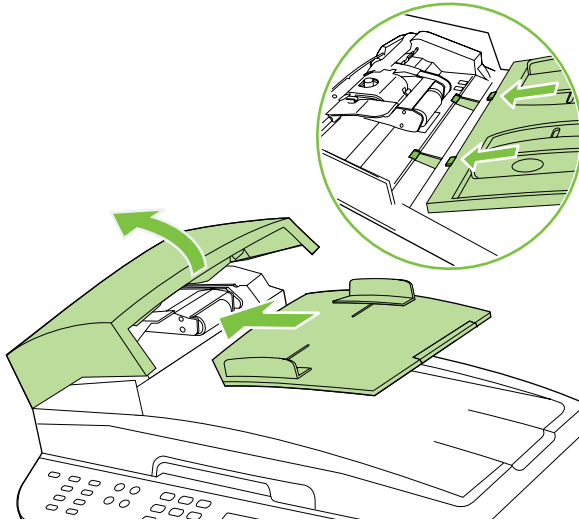


Item	Description
1	HP LaserJet M1522 MFP
2	Automatic document feeder (ADF) input tray
3	Print cartridge
4	Control-panel faceplate (if not already installed)
5	Priority input tray extension
6	Start guide and support flyer
7	CD-ROMs (software and online user guide)
8	Power cord
9	Fax cord
10	Tray 1

Install input devices

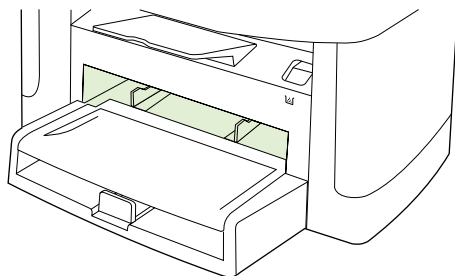
ADF input tray

1. Open the ADF cover.
2. Align the two tabs on the input tray with the grooves in the ADF.
3. Slide the tray into the grooves until the tray snaps into place.
4. Close the ADF cover.

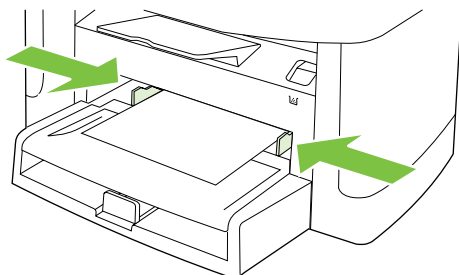


Priority input tray

The priority input tray is accessed from the front of the product. The product prints from the priority input tray before attempting to print from tray 1.

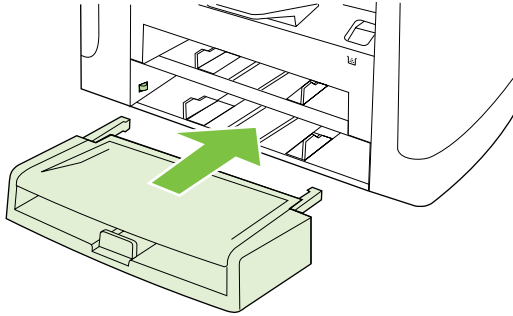


Media guides ensure that the media is correctly fed into the product and that the print is not skewed (crooked on the media). When loading media, adjust the media guides to match the width of the media that you are using.

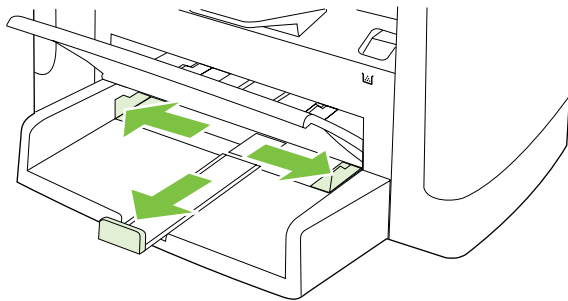


Tray 1

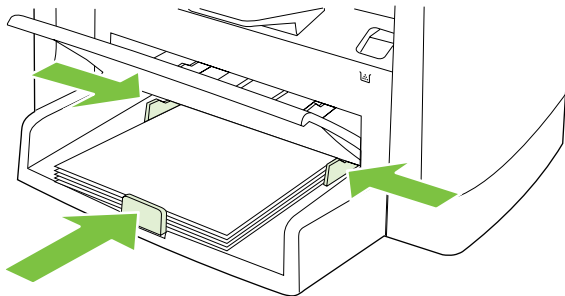
1. Push tray 1 into the product



2. Open the tray cover, and then adjust the media guides out.



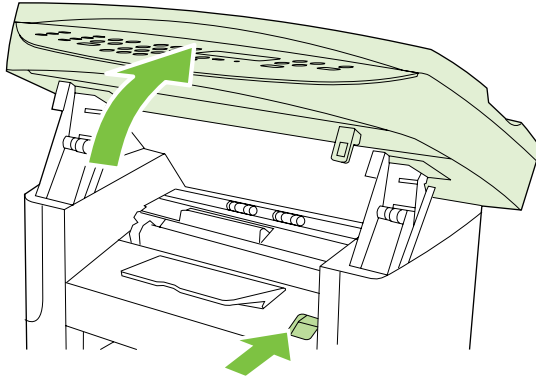
3. Load the paper in the tray, snug the media guides against the stack, and then close the tray cover.



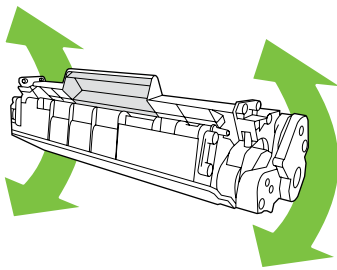
Install supplies

Install the print cartridge

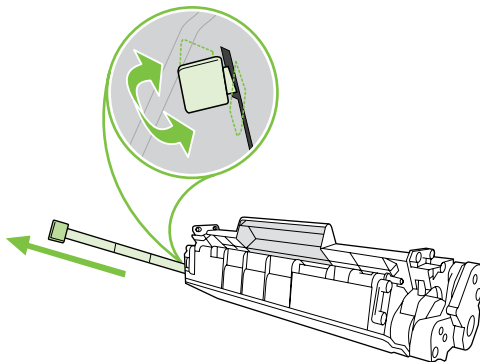
1. Open the print-cartridge door.



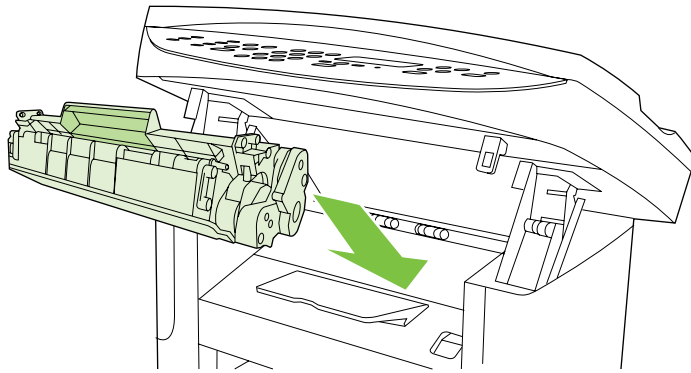
2. Remove the new print cartridge from its packaging, and then rock the print cartridge back and forth.



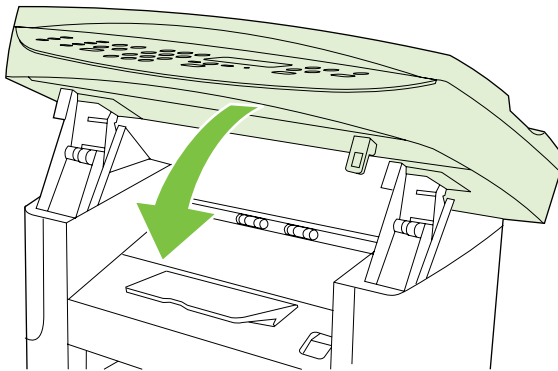
3. Remove the orange cover from the print cartridge, and then pull the orange tab straight out to remove the sealing tape.



4. Insert the cartridge into the product until it is firmly in place.



5. Close the print-cartridge door.



3 Maintenance

- [Manage supplies](#)
- [Clean the product](#)
- [Management tools](#)

Manage supplies

This section describes replacing the print cartridge, the product pickup roller and separation pad, and the ADF pickup roller and separation pad.

Inspect any parts that wear when servicing the product. Replace them as needed, based on failure or wear rather than usage.

The following table lists approximate schedules for replacing consumables.

Life expectancies of supplies


Item	Capacity
HP LaserJet M1522 MFP Series	Recommended maximum of 3,000 pages per month
Print cartridge	2,000 pages ¹ (standard)

¹ For information about the yield for the cartridges, see www.hp.com/go/pageyield. Actual yield depends on specific use.

Check and order supplies

You can check the supplies status by using the product control panel, printing a supplies status page, or viewing HP ToolboxFX. Hewlett-Packard recommends that you place an order for a replacement print cartridge when Low message for a print cartridge first appears. Use a new, authentic HP print cartridge to obtain the following types of supplies information:

- Amount of cartridge life remaining
- Estimated number of pages remaining
- Number of pages printed
- Other supplies information

 **NOTE:** If the product is connected to the network, you can set HP ToolboxFX to notify you by e-mail when a print cartridge is low. If the product is directly connected to a computer, you can set HP ToolboxFX to notify you when supplies are low.

Store supplies

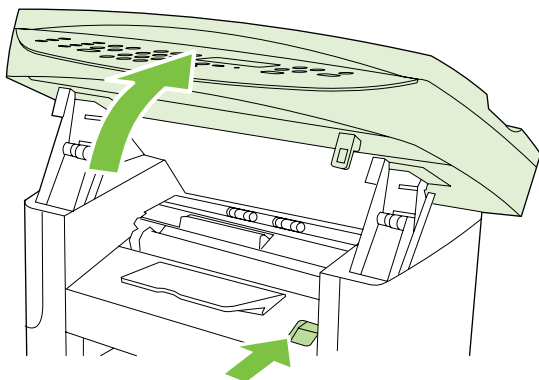
Follow these guidelines for storing print cartridges:

- Do not remove the print cartridge from its package until you are ready to use it.
- △ **CAUTION:** To prevent damage, do not expose the print cartridge to light for more than a few minutes.
- See [Environmental specifications on page 245](#) for operating and storage temperature ranges.
- Store the supply in a horizontal position.
- Store the supply in a dark, dry location away from heat and magnetic sources.

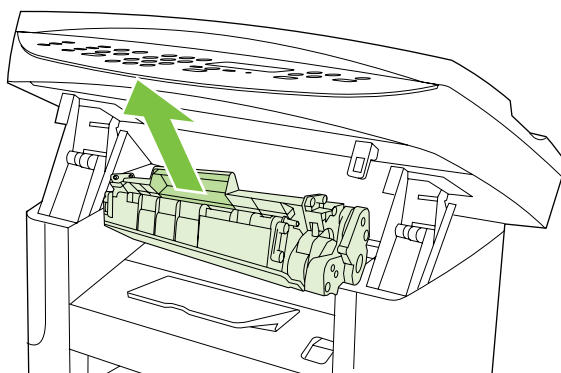
Replace supplies

Print cartridge

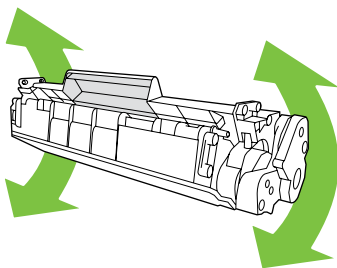
1. Open the print-cartridge door.



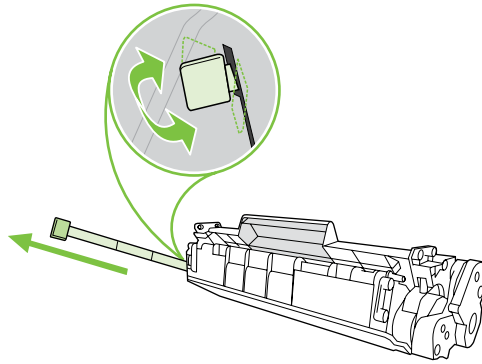
2. Grasp the handle on the print cartridge, and then pull the cartridge straight out to remove it. See the recycling information inside the print cartridge box.



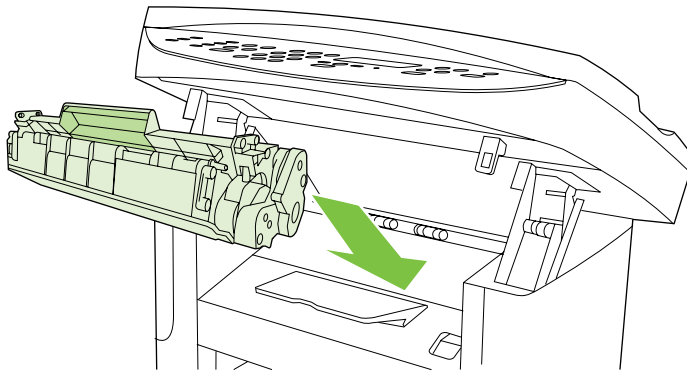
3. Remove the new print cartridge from its packaging, and then rock the print cartridge back and forth.



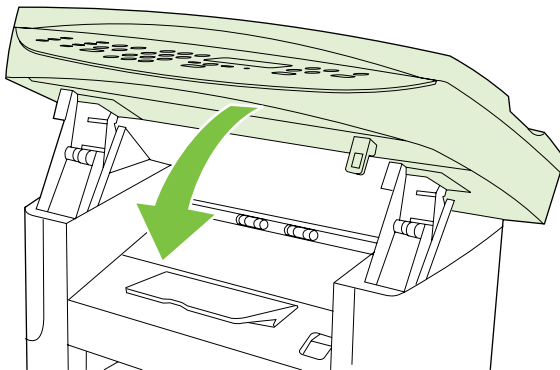
4. Remove the orange cover from the print cartridge, and then pull the orange tab straight out to remove the sealing tape.



5. Insert the cartridge into the product until it is *firmly* in place.



6. Close the print-cartridge door.



△ **CAUTION:** If toner gets on any clothing, wipe it off with a dry cloth and wash the clothing in cold water. *Hot water sets toner into the fabric.*

HP policy on non-HP supplies

Hewlett-Packard Company cannot recommend the use of non-HP supplies, either new or remanufactured. Because they are not HP products, HP cannot influence their design or control their quality. Service or repairs required as a result of using a non-HP supply will *not* be covered under the warranty.

HP fraud hotline

Call the HP fraud hotline if the product or HP ToolboxFX indicates that the print cartridge is not an HP print cartridge and you think that it is genuine. HP will help determine if the product is genuine and take steps to resolve the problem.

The print cartridge might not be a genuine HP one if you notice the following issues:

- You are experiencing a large number of problems with the print cartridge.
- The print cartridge does not look like it usually does (for example, the pull tab or the box is different).

In the United States, call toll-free: 1-877-219-3183.

Outside the United States, you can call collect. Dial the operator and ask to place a collect call to this telephone number: 1-770-263-4745. If you do not speak English, a representative at the HP fraud hotline who speaks your language will assist you. Or, if someone who speaks your language is not available, a language line interpreter will connect approximately one minute after the beginning of the call. The language line interpreter is a service that will translate between you and the representative for the HP fraud hotline.


Clean the product

Clean the exterior

Use a soft, damp, lint-free cloth to wipe dust, smudges, and stains off of the exterior of the product.

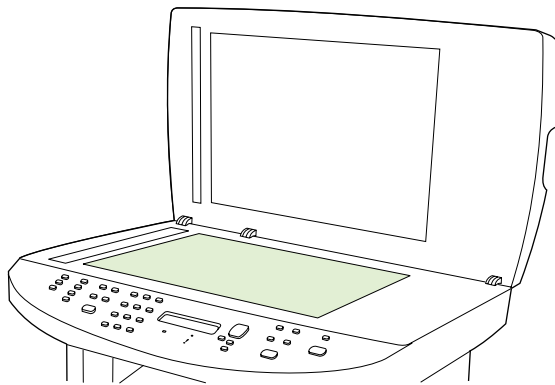
Clean the flatbed scanner glass

Dirty glass, from fingerprints, smudges, hair, and so on, slows down performance and affects the accuracy of special features such as fit-to-page and copy.

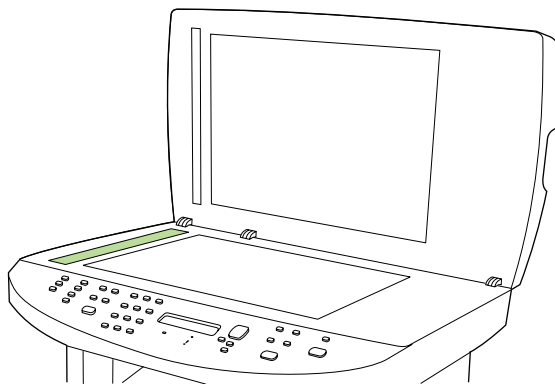
 **NOTE:** If streaks or other defects appear only on copies produced from the ADF, clean the ADF scanner glass (step 3). It is not necessary to clean the flatbed scanner glass.

1. Turn off the product, unplug the power cord from the electrical outlet, and raise the scanner cover.
2. Clean the glass by using a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

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

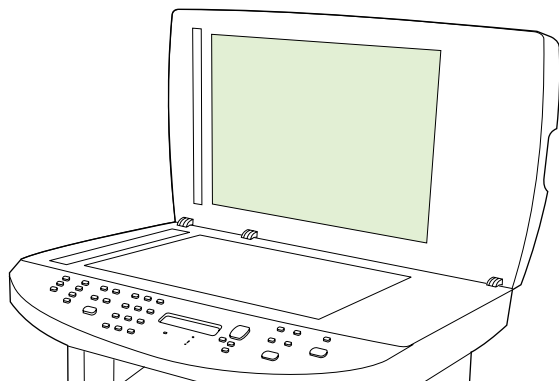


3. Clean the ADF scanner glass by using a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.



Clean the scanner-cover backing

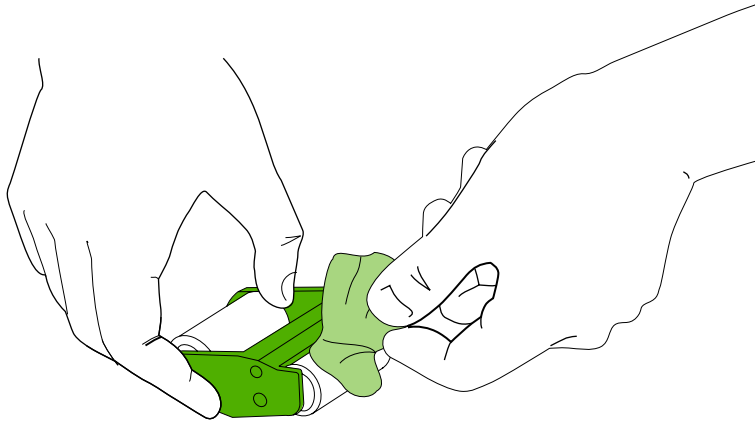
1. Turn off the product, unplug the power cord from the electrical outlet, and raise the scanner cover.
2. Clean the white scanner-cover backing by using a soft cloth or sponge that has been moistened with mild soap and warm water. Also, clean the ADF scanner glass (callout 1) next to the flatbed scanner glass.



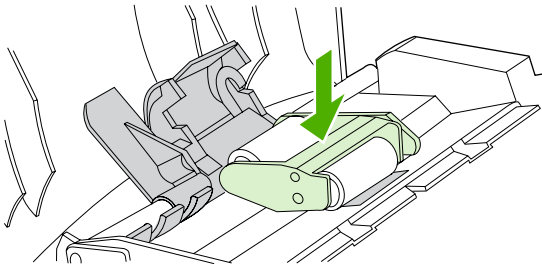
3. Wash the backing gently to loosen debris; do not scrub the backing.
 4. Dry the backing by using a chamois or soft cloth.
- △ **CAUTION:** Do not use paper-based wipes because they might scratch the backing.
5. If this does not clean the backing well enough, repeat the previous steps and use isopropyl alcohol to dampen the cloth or sponge, and then wipe the backing thoroughly with a damp cloth to remove any residual alcohol.

Clean the ADF pickup-roller assembly

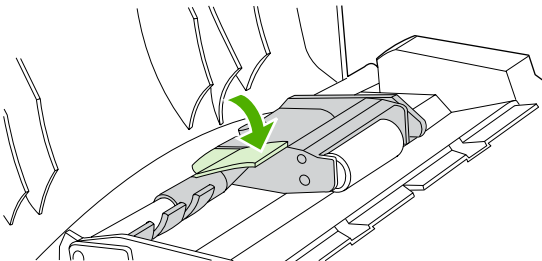
1. Perform the removal steps from [ADF pickup roller assembly on page 85](#).
2. Wipe the assembly with a soft cloth.



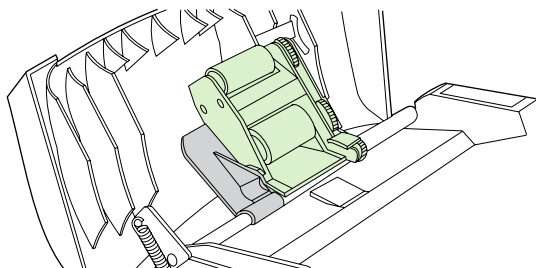
3. Return the assembly to the same place in the ADF. The largest roller goes in back, and the gear side is away from you.



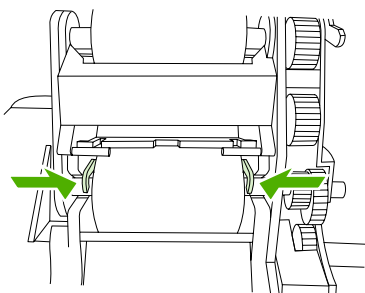
4. Lower the green lever until the flat green part fits between the rollers. Press down on the green lever until you hear a snap.



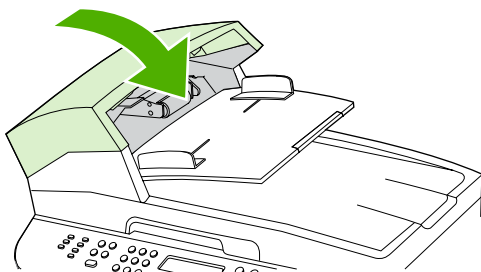
5. To check for correct installation, lift the green lever until it remains open. The pickup-roller assembly should be secured to the lever and should not fall out.



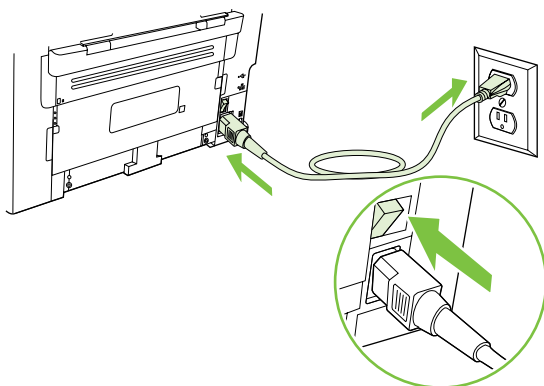
6. Make sure that both sides of the assembly are secured with the green hooks.



7. Lower the green lever and the roller assembly and close the ADF cover.



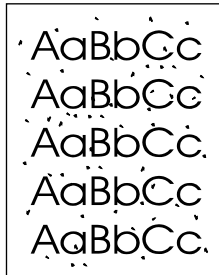
8. Plug in the product, and then turn it on.



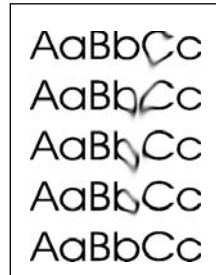
Clean the paper path

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.

Specks



Smearing



Clean the paper path from HP ToolboxFX

Use HP ToolboxFX to clean the paper path. This is the recommended cleaning method. If you do not have access to HP ToolboxFX, use the method in [Clean the paper path from the product control panel on page 34](#).

1. Make sure that the product is turned on and in the Ready state, and that media is loaded in tray 1 or tray 2.
2. Open HP ToolboxFX, click the product, and then click the **System Settings** tab.
3. Click the **Service** tab, and then click **Start**.

A page feeds through the product slowly. Discard the page when the process is completed.

Clean the paper path from the product control panel

If you do not have access to HP ToolboxFX, you can print and use a cleaning page from the product control panel.

1. Press **Setup**.
2. Use the arrow buttons to select the **Service** menu, and then press **OK**.
3. Use the arrow buttons to select **Cleaning mode**, and then press **OK**.
4. Load plain letter or A4 paper when you are prompted.
5. Press **OK** again to confirm and begin the cleaning process.

A page feeds through the product slowly. Discard the page when the process is completed.

Calibrate the scanner

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.

Calibrate the scanner from HP ToolboxFX

1. Open HP ToolboxFX.
2. Click the product, and then click the **Device Settings** folder.
3. Click the **Print Quality** page, and then select **Calibrate now**.
4. Click **Apply** to start the calibration process.

Calibrate the scanner from the product control panel


1. At the control panel, press **Setup** ↵.
2. Open the **Secondary Service** menu by pressing and holding both the down arrow button and the **Cancel** button.
3. Press **Setup** ↵ again.
4. Use the arrow buttons to select **Calibrate**, and then press **OK**.
5. Use the arrow buttons to select the calibration mode, and then press **OK**.






The product scanner calibrates slowly. When the calibration process completes, the product prints a calibration report.




Management tools

Information pages

Information pages reside within the product memory. These pages help diagnose and solve problems with the product.

 **NOTE:** If the product language was not correctly set during installation, you can set the language manually so the information pages print in one of the supported languages. Change the language by using the **System setup** menu on the control panel or the embedded Web server (EWS).

Page description	How to print the page
Configuration page Shows the current settings and product properties.	<ol style="list-style-type: none">1. On the product control panel, press Setup .2. Use the arrow buttons to select Reports, and then press OK.3. Use the arrow buttons to select Config report, and then press OK. <p>A second page also prints. On that page, the Fax Settings section provides details about the product fax settings.</p>
Supplies status page Shows the remaining life of the HP print cartridge, the estimated pages remaining, the number of pages printed, and other supplies information.	<ol style="list-style-type: none">1. On the product control panel, press Setup .2. Use the arrow buttons to select Reports, and then press OK.3. Use the arrow buttons to select Supplies Status, and then press OK.
PCL, PCL 6, or PS font list Shows which fonts are currently installed in the device.	<ol style="list-style-type: none">1. On the product control panel, press Setup .2. Use the arrow buttons to select Reports, and then press OK.3. Use the arrow buttons to select PCL font list, PS font list, or PCL6 font list, and then press OK.
Demo page Contains examples of text and graphics.	<ol style="list-style-type: none">1. On the product control panel, press Setup .2. Use the arrow buttons to select Reports, and then press OK.3. Use the arrow buttons to select Demo page, and then press OK.
Event log	You can print the event log from HP ToolboxFX, the embedded Web server, or HP Web Jetadmin.
Usage page Shows a page count for each size of paper printed, the number of one-sided (simplex) or two-sided (duplexed) pages, and the average percentage of coverage.	<ol style="list-style-type: none">1. On the product control panel, press Setup .2. Use the arrow buttons to select Reports, and then press OK.3. Use the arrow buttons to select Usage page, and then press OK.

Page description	How to print the page
Menu map Shows the control-panel menus and available settings.	<ol style="list-style-type: none"> 1. On the product control panel, press Setup . 2. Use the arrow buttons to select Reports, and then press OK. 3. Use the arrow buttons to select Menu structure, and then press OK.
Network report Shows the product network settings.	<ol style="list-style-type: none"> 1. On the product control panel, press Setup . 2. Use the arrow buttons to select Reports, and then press OK. 3. Use the arrow buttons button to select Network report, and then press OK.
Fax reports	<ol style="list-style-type: none"> 1. On the product control panel, press Setup . 2. Use the arrow buttons to select Reports, and then press OK. 3. Use the arrow buttons button to select Fax reports, and then press OK. 4. Use the arrow buttons button to select the report that you want to print, and then press OK.

HP ToolboxFX

HP ToolboxFX is a program that you can use to complete the following tasks:

- Check the product status.
- Configure the product settings.
- View troubleshooting information.
- View online documentation.

You can view HP ToolboxFX when the product is directly connected to a computer or when it is connected to the network. You must perform the recommended full software installation to use HP ToolboxFX.

View HP ToolboxFX

Open HP ToolboxFX in one of these ways:

- In the Windows system tray or on your desktop, double-click the HP ToolboxFX icon.
- On the Windows **Start** menu, click **Programs** (or **All Programs** in Windows XP), click **HP**, click **HP LaserJet M1522**, and then click **HP ToolboxFX**.

Status

The HP ToolboxFX **Status** tab contains links to the following main pages:

- **Device Status.** View product status information. This page indicates product conditions such as a jam or an empty tray. After you correct a problem with the product, click **Refresh status** to update the product status.
- **Supplies Status.** View detailed supplies information such as the estimated percent of life remaining in the print cartridge and the number of pages that have been printed with the current print cartridge. This page also has links to order supplies and to find recycling information.
- **Device Configuration.** View a detailed description of the current product configuration, including the amount of memory installed and whether optional trays are installed.
- **Network Summary.** View a detailed description of the current network configuration, including the IP address and network status.
- **Print Info Pages.** Print the configuration page and various other information pages that are available for the product, such as the supplies status page and the demo page.
- **Event Log.** View a history of product errors. The most recent error is at the top of the list.

Event log

The event log is a four-column table where the product events are logged for your reference. The log contains codes that correspond to the error messages that appear on the product control-panel display. The number in the Page Count column specifies the total number of pages that the product had printed when the error occurred. The event log also contains a brief description of the error. For more information about error messages, see [Control-panel messages on page 140](#).

Alerts

The HP ToolboxFX **Alerts** tab contains links to the following main pages:

- **Set up Status Alerts .** Set up the product to send you pop-up alerts for certain events, such as low toner levels.
- **Set up E-mail Alerts.** Set up the product to send you e-mail alert messages for certain events, such as low toner levels.

Set up status alerts

Use HP ToolboxFX to set up the product so that it issues pop-up alerts to your computer when certain events occur. Events that trigger alerts include jams, low levels of toner in HP print cartridges, non-HP print cartridge in use, empty input trays, and specific error messages.

Select the pop-up format, the tray icon format, or both for the alerts. The pop-up alerts only appear when the product is printing from the computer on which you set up the alerts.

 **NOTE:** You must click **Apply** before the changes take effect.

Set up e-mail alerts

Use HP ToolboxFX to configure up to two e-mail addresses to receive alerts when certain events occur. You can specify different events, such as a low cartridge or a paper jam, for each e-mail address. Enter the information for the e-mail server that will send out the e-mail alert messages for the product.

 **NOTE:** You must click **Apply** before the changes take effect.

Fax

Use the HP ToolboxFX **Fax** tab to perform fax tasks from your computer. The **Fax** tab contains links to the following main pages:

- **Fax Tasks.** Set the fax receive mode.
- **Fax Phone Book.** Add, edit, or delete entries in the product phone book.
- **Fax Send Log.** View all of the recent faxes that have been sent from the product.
- **Fax Receive Log.** View all of the recent faxes that have been received by the product.
- **Block Faxes.** Add, delete, or view fax numbers that are blocked.
- **Fax Data Properties.** Manage the space used to store faxes on your computer. These settings apply only if you have chosen to send or receive faxes remotely from your computer.

Fax tasks

The following three options are available when receiving a fax:

- Print the fax. You can also select an option to have a message appear on your computer to notifying you when the fax was printed.
- Receive the fax on your computer. You can also select an option to have a message appear on your computer to notifying you when the fax arrives. If the fax machine is connected to multiple computers, only one computer can be designated to receive faxes.
- Forward the fax to another fax machine.

For more information about fax tasks, see the user guide.


 **NOTE:** You must click **Apply** before the changes take effect.

Fax phone book

Use the HP ToolboxFX fax phone book to add and remove individuals or groups on your speed-dial list, import phone books from a variety of sources, and update and maintain the contact list.

- To add an individual contact to the speed-dial list, select the row of the speed dial number that you want to specify. Type the contact name in the **Contact name** window. Type the fax number in the **Fax number** window. Click **Add**.
- To add a group of contacts to the speed-dial list, select the row of the speed-dial number that you want to specify. Click **Add Group**. Double-click a contact name from the list on the left to move it to the group list on the right, or select a name on the left and then click the appropriate arrow to move it to the group list on the right. You can also use those two methods to move names from right to left. When you have created a group, type a name in the **Group name** window, and then click **OK**.
- To edit an existing individual speed-dial entry, click anywhere on the row containing the contact name to select it, and then click **Update**. Type changes in the appropriate windows, and then click **OK**.

- To edit an existing group-speed-dial entry, click anywhere on the row containing the group name to select it, and then click **Update**. Make any required changes, and then click **OK**.
- To delete an entry from the speed-dial list, select the item, and then click **Delete**.
- To move speed dial entries, select the entry and then click **Move**, or select **Move** and then specify the entry in the dialog box. Either select **Next empty row** or specify the number of the row where you want to move the entry.

 **NOTE:** If you specify a row that is occupied, the new entry will overwrite the existing entry.

- To import contacts from a phone book that exists in Lotus Notes, Outlook, or Outlook Express, click **Import/Export Phone Book**. Select the **Import** option, and then click **Next**. Select the appropriate software program, navigate to the appropriate file, and then click **Finish**. To export contacts from a phone book, click **Import/Export Phone Book**. Select the **Export** option, and then click **Next**. Enter the file name or browse to the file to which you want to export contacts, and then click **Finish**. You can also select individual entries from the phone book instead of importing the entire phone book.
- To delete all entries, click **Delete All**, and then click **Yes**.

In addition to numerical digits, the following are valid characters for fax numbers:

- (
-)
- +
- -
- *
- #
- R
- W
- .
- ,
- <space>

 **NOTE:** You must click **Apply** before the changes take effect.

see the user guide.

Fax send log

The HP ToolboxFX fax send log lists all recently sent faxes and information about them, including the date and time sent, job number, fax number, page count, and the results.

Click any column heading in the fax send log to re-sort the information in that column in ascending or descending order.

The **Results** column provides the fax status. If the fax attempt was unsuccessful, this column provides a description of why the fax was not sent.

See the user guide.

Fax receive log

The HP ToolboxFX fax receive log provides a list of all recently received faxes and information about them including the date and time received, job number, fax number, page count, results, and an abbreviated fax image.

The fax receive log can be used to block future faxes. Check the **Block Fax** box next to a received fax listed on the log.

When a computer that is connected to the product receives a fax, the fax contains a **View** link. Clicking this link opens a new page that provides information about the fax.

Click on any column heading in the fax receive log to re-sort the information in that column in ascending or descending order.

The **Results** column provides the fax status. If the fax attempt was unsuccessful, this column provides a description of why the fax was not received.

 **NOTE:** You must click **Apply** before the changes take effect.

See the user guide.

Block Faxes

Block Faxes provides a list of all numbers that are blocked. Add, modify, or delete blocked fax numbers on this tab.

Help


The HP ToolboxFX **Documentation** tab contains links to the following main pages:

- **Troubleshooting**
- **Animated demonstrations**
- **User Guide.** View information about the product usage, warranty, specifications, and support. The user guide is available in both HTML and PDF format.

System Settings

The HP ToolboxFX **System Settings** tab contains links to the following main pages:

- **Device Information.** View information about the product, such as the product description and a contact person.
- **Paper Handling.** Change the product paper-handling settings, such as default paper size and default paper type.
- **Print Quality.** Change the product print-quality settings.
- **Paper Types.** Change the product mode settings for each media type, such as letterhead, prepunched, or glossy paper.
- **System Setup.** Change the product system settings, such as product language and jam recovery.
- **Service.** Gain access to various procedures required to maintain the product.
- **Device Polling.** Change the product polling settings, which determine how often HP ToolboxFX collects data from the product.
- **Save/Restore Settings.** 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.
- **Password.** Set, change, or clear the product security password.

 **NOTE:** A single password can be set from the control panel, HP ToolboxFX, or the embedded Web server (EWS).

Device information

The HP ToolboxFX Device information page stores data about the product for future reference. The information that you type in these fields appears on the Configuration page. You can type any character in each of these fields.

 **NOTE:** You must click **Apply** before the changes take effect.

Paper handling

Use the HP ToolboxFX paper-handling options to configure the default settings. These are the same options that are available on the product control-panel.

Three options are available for handling print jobs when the product is out of media:

- Select **Wait for paper to be loaded**.
- Select **Cancel** from the **Paper out action** drop-down list to cancel the print job.
- Select **Override** from the **Paper out time** drop-down list to send the print job to another paper tray.

The **Paper out time** field specifies how long the product waits before acting on the selections. You can specify from 0 to 3600 seconds.

 **NOTE:** You must click **Apply** before the changes take effect.

Print quality

Use the HP ToolboxFX print-quality options to improve the appearance of print jobs. These are the same options that are available on the product control panel.

The four options provided for controlling print quality are resolution, REt (Resolution Enhancement technology), print density, and EconoMode.

- **Resolution.** Select 600 resolution for average print jobs and Fast Res 1200 for higher-quality print jobs.
- **REt.** You can turn on REt, which HP provides for improved print quality.
- **Print density.** For increased print density, select a higher number. For decreased print density, select a lower number.
- **EconoMode.** Turn EconoMode on when you are printing average print jobs. EconoMode is a feature that allows the product to use less toner per page. Selecting this option might extend the life of the toner supply and might reduce cost per page. However, it will also reduce print quality. The printed image is lighter, but it is adequate for printing drafts or proofs. HP does not recommend full-time use of EconoMode. If EconoMode is used full-time, it is possible that the toner supply will outlast the mechanical parts in the print cartridge. If print quality begins to degrade under these circumstances, you will need to install a new print cartridge, even if there is toner supply remaining in the cartridge.

 **NOTE:** You must click **Apply** before the changes take effect.

Paper types

Use the HP ToolboxFX **Paper types** options to configure print modes that correspond to the various media types. Select **Restore Modes** to reset all modes to the factory settings.

 **NOTE:** You must click **Apply** before the changes take effect.

System setup

Use the HP ToolboxFX system settings options to configure global settings for copy, fax, scan, and print, such as jam recovery and auto-continue.



NOTE: You must click **Apply** before the changes take effect.

Service

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. HP ToolboxFX provides an easy method for cleaning the paper path. For more information, see [Clean the paper path from HP ToolboxFX on page 34](#).

Device polling

You can turn off HP ToolboxFX device polling to reduce network traffic, but doing so also disables some HP ToolboxFX features: pop-up alerts, fax log updates, the ability to receive faxes to this computer, and scanning using the **Scan To** button.



NOTE: You must click **Apply** before the changes take effect.

Print Settings

The HP ToolboxFX **Print Settings** tab contains links to the following main pages:

- **Printing.** Change the default product print settings, such as number of copies and paper orientation.
- **PCL5e.** View and change the PCL5 settings.
- **PostScript.** View and change the PS settings.

Printing

Use the HP ToolboxFX printing settings options to configure the settings for all print functions. These are the same options that are available on the product control panel.



NOTE: You must click **Apply** before the changes take effect.

PCL 5e

Use the PCL 5 options to configure the settings when you are using the PCL 5 print personality. These are the same options that are available on the **PCL5** menu on the control panel.

 **NOTE:** You must click **Apply** before the changes take effect.

PostScript

Use the PostScript option when you are using the HP postscript level 3 emulation print personality. When the **Print PostScript error** option is turned on, the PostScript error page automatically prints when HP postscript level 3 emulation errors occur.

 **NOTE:** You must click **Apply** before the changes take effect.

Network Settings


The network administrator can use the HP ToolboxFX **Network Settings** tab to control the network-related settings for the product when it is connected to an IP-based network.

Embedded Web server

This product is equipped with an embedded Web server (EWS), which provides access to information about product and network activities. A Web server provides an environment in which web programs may run, much in the same way that an operating system, such as Windows, provides an environment for programs to run on a computer. The output from these programs can then be displayed by a Web browser, such as Microsoft Internet Explorer, Safari, or Netscape Navigator.

An “embedded” Web server resides on a hardware device (such as an HP LaserJet product) or in firmware, rather than as software that is loaded on a network server.


The advantage of an EWS is that it provides an interface to the product that anyone with a network-connected product and computer can use. There is no special software to install or configure, but you must have a supported Web browser on the computer. To gain access to the EWS, type the IP address for the product in the address line of the browser. (To find the IP address, print a configuration page. For more information about printing a configuration page, see [Information pages on page 36.](#))

 **NOTE:** For Macintosh operating systems, you can use the EWS over a USB connection after installing the Macintosh software included with the product.

Features

The EWS allows you to view product and network status and manage printing functions from a computer. With the EWS, you can complete the following tasks:

- View product status information
- Determine the remaining life on all supplies and order new ones
- View and change part of the product configuration
- View and print some internal pages
- Select the language in which to display the EWS pages
- View and change network configuration
- Set, change, or clear the product security password.


 **NOTE:** Changing network settings in the EWS might disable some of product software or features.

Use HP Web Jetadmin software

HP Web Jetadmin is a Web-based software solution for remotely installing, monitoring, and troubleshooting network-connected peripherals. The intuitive browser interface simplifies cross-platform management of a wide range of devices, including HP and non-HP devices. Management is proactive, allowing network administrators the ability to resolve issues before users are affected. Download this free, enhanced-management software at www.hp.com/go/webjetadmin_software.

To obtain plug-ins to HP Web Jetadmin, click **plug-ins**, and then click the **download** link that is next to the name of the plug-in that you want. The HP Web Jetadmin software can automatically notify you when new plug-ins are available. On the **Product Update** page, follow the directions to automatically connect to the HP Web site.

If installed on a host server, HP Web Jetadmin is available to any client through a supported Web browser, such as Microsoft Internet Explorer 6.0 for Windows or Netscape Navigator 7.1 for Linux. Browse to the HP Web Jetadmin host.

 **NOTE:** Browsers must be Java-enabled. Browsing from an Apple PC is not supported.

4 Operational theory

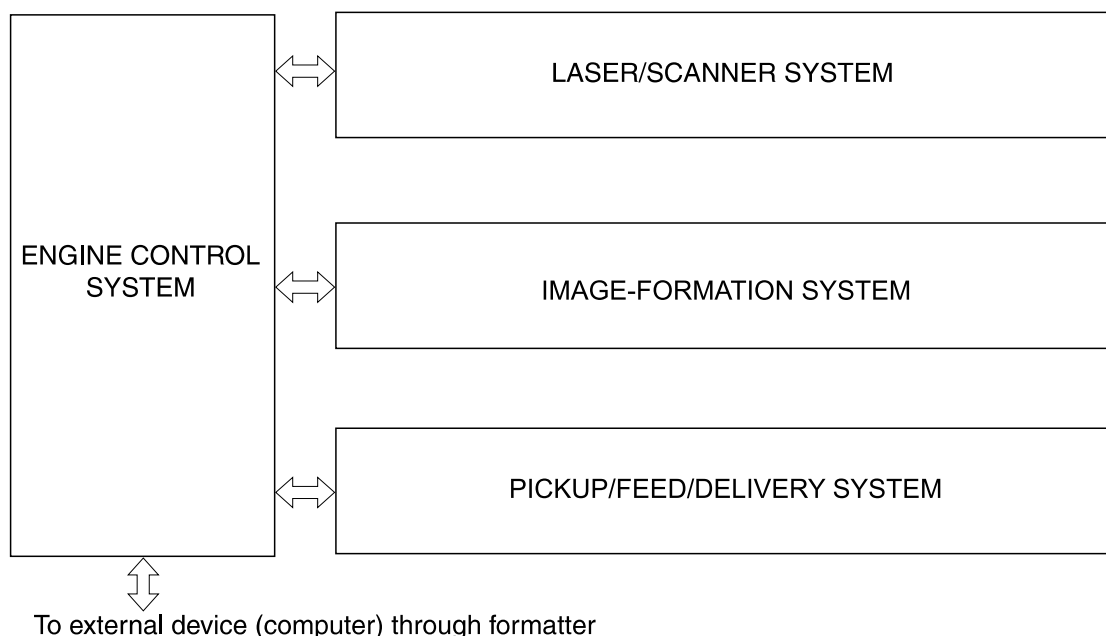
- [Basic operation](#)
- [Scanner and ADF functions and operation](#)
- [Internal components \(base unit\)](#)
- [Engine control system](#)
- [Laser/scanner system](#)
- [Pickup/feed/delivery system](#)
- [Image-formation system](#)
- [Fax functions and operation \(fax models only\)](#)

Basic operation

This chapter presents an overview of the relationships between major components in the product, and includes a detailed discussion of the image-formation system. The following systems are discussed:

- Engine control system
- Laser/scanner system
- Pickup/feed/delivery system
- Image-formation system

Figure 4-1 System block diagram



Sequence of operation for the base unit

Operational sequences are controlled by the microprocessor and the DC controller.

Table 4-1 Sequence of operation

Name	Timing	Purpose
WAIT	From power-on until the end of the main-motor initial drive	Detects the presence of a print cartridge; clears potential from the drum surface and cleans the transfer roller See Table 4-2 Power-on sequence on page 49 for a complete description of the WAIT (power-on) period.
STBY (standby)	From the end of the WAIT or LSTR period until either a print command is sent from the formatter or the power is turned off	Prepares the product to receive print commands
INTR (initial rotation)	From the time of the print command until the pickup solenoid is turned on	Prepares the photosensitive drum for printing

Table 4-1 Sequence of operation (continued)

Name	Timing	Purpose
PRINT	From the end of the INTR period until the primary high-voltage is turned off	Forms the image on the photosensitive drum and transfers the toner image to the media
LSTR (last rotation)	From the end of the PRINT period (when high-voltage is turned off) until the main motor stops rotating	Delivers the last page of a print job After LSTR, the product either returns to STBY or, if another print command was sent from the formatter, enters INTR.

Table 4-2 Power-on sequence

Step	Action
1	Power-on
2	CPU initialization
3	Start video interface communication
4	Check sensors for residual media
5	Main motor initial drive
6	Fuser heater initial drive. The fuser heater reaches a surface temperature of 100° C.
7	Laser/scanner motor initial drive
8	High-voltage control Detect presence of a print cartridge Clean the transfer roller after the primary charging AC bias is turned on
9	Failure/abnormality check: detect laser/scanner failure, fuser failure, and open covers
10	Communication with the memory tag

Scanner and ADF functions and operation

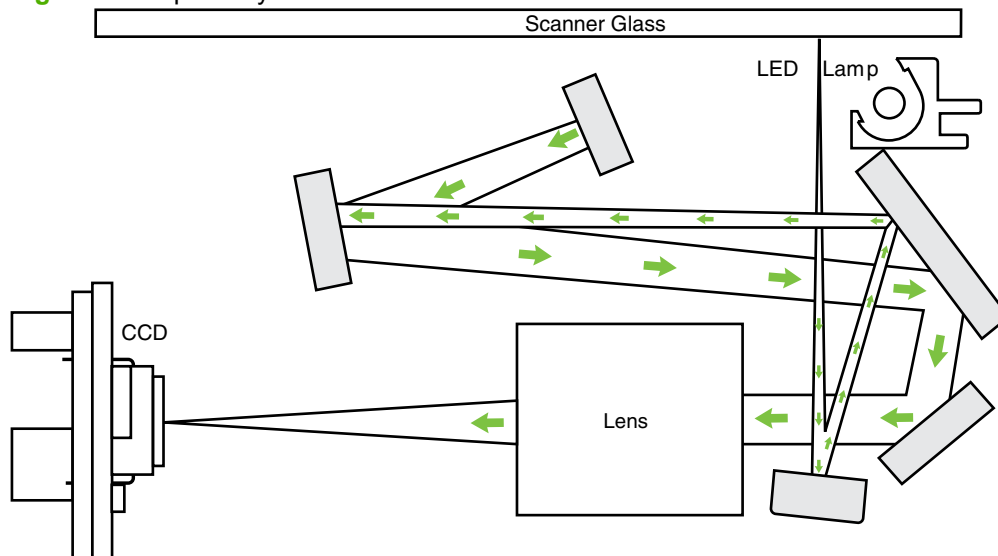
The following sections describe how the document scanner and the automatic document feeder (ADF) function.

Scanner functions

The scanner uses a light source, a color-separation method, and a charge-coupled device array (CCD) to collect optical information about the document and transform that into an image file. The scanner consists of these elements:

- A lamp (LED)
- Five mirrors and a lens
- A CCD

Figure 4-2 Optical system



The scanner lamp illuminates a small strip of the document (called the *raster line*). The mirrors direct the light through the lens to the CCD. The CCD senses and records the light, creating an analog representation of the raster line. If the ADF is being used, the document then advances in the ADF to the next raster line. If the flatbed is being used, the scanner module advances to the next raster line. This advancing and collection process continues to the end of the sheet.

The image data is collected in the motor controller board, where it is processed and sent to the formatter. The formatter then handles the image data, outputting it as a copy, sending it through the fax card as a fax, or directing it to the computer as scanner output.

The resolution of the image data collected depends on the task being performed. Each pixel has 8 bits for each of the three colors (256 gray scale levels for each color), or a total of 24 bits per pixel (24-bit color).

Scanner operation

At power-on and periodically at other times, the scanner assembly moves systematically to locate its home position. It then calibrates to a white strip located under the glass at the right end of the scan tub.

If the product detects a document in the ADF when a copy or scan is initiated (from the software or the control panel), the scan module moves to the left side of the scan tub and stops. The image is acquired as the paper is fed through the ADF past the scanner module.

If no document is detected in the ADF, the scan module acquires the image from the flatbed glass while slowly moving within the scan tub.

ADF operation

Standby (paper-loading) mode: In standby mode, the pickup roller is up and the stack-stop is down, preventing the user from inserting the original document too far. When a document is inserted correctly, the paper-present sensor detects its presence.

The standard operation of the ADF consists of the pick, feed, and lift steps.

Pick: When it receives a copy or scan command, the ADF motor engages the gear train to lower the pickup-roller assembly and raise the stack-stop. The first roller, called the pre-pick roller, moves the top few sheets forward into the ADF. The next roller is the pickup roller. This roller contacts the ADF separation pad, which separates multiple pages into single sheets.

Feed: The single sheet continues through the path. Along the way, the form sensor, which is a set distance from the ADF glass, detects the sheet. This alerts the scanner to start when the page reaches the glass. The scanner acquires the image, one raster line at a time, until it detects the end of the page. The page is then ejected. The pick and feed steps are repeated as long as paper is detected in the ADF input tray.

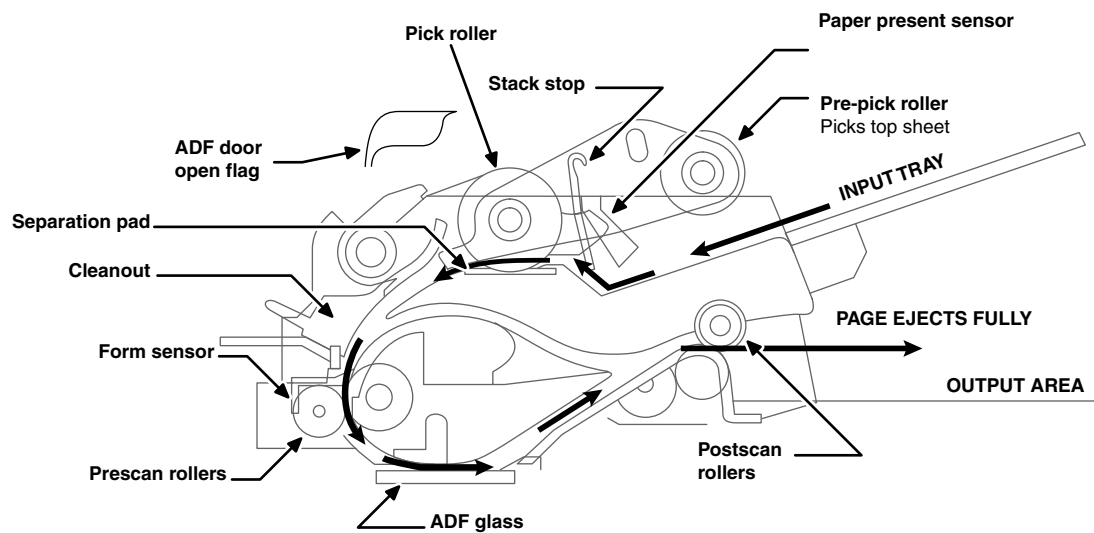
Lift: When no more paper is detected in the ADF input tray and the form sensor detects the trailing edge of the last page, the last sheet is ejected and the motor turns in a sequence that lifts the pick-roller assembly to standby (paper-loading) mode again.

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

ADF paper path and ADF sensors

The following diagram shows the ADF paper path.

Figure 4-3 ADF paper path



The paper-present sensor determines if paper is in the ADF. The form sensor detects the top and bottom edges of the document. One other sensor detects an open ADF door.

ADF jam detection

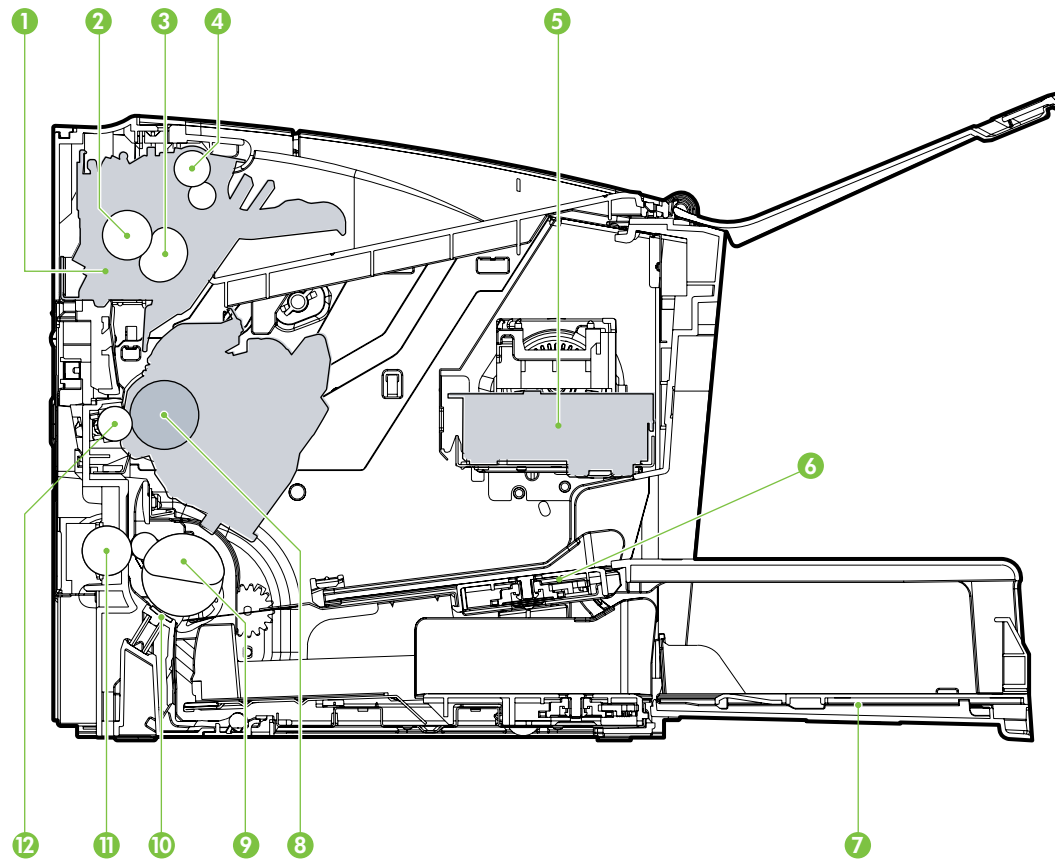
The ADF has two sensors that detect paper. The paper-present sensor detects the presence of media in the ADF input tray. The form sensor detects media moving through the ADF. If a jam is detected, the ADF immediately stops the paper feeding and a jam message appears on the control-panel display.

A jam can be detected under any of the following conditions:

- **Document-feeder jam.** When documents are detected in the ADF input tray, and a command to copy, scan or fax is received, the scan module travels to the left side of the scan assembly and stops beneath the ADF scanner glass. The ADF then attempts three times, or for about ten seconds, to advance the paper to the form sensor. If the paper does not advance, the scan module travels back to the home position on the right side of the scanner assembly. The message **Document feeder mispick. Reload.** appears on the control-panel display.
- **Long-document jam.** If the paper has advanced to trigger the form sensor, but the trailing edge is not detected within the time allowed for a 381-mm (15-inch) document (the maximum allowable page length for the ADF), the scanner returns to the home position on the right side of the scanner assembly. The message **Doc feeder jam. Clear, Reload.** appears on the control-panel display.
- **Stall jam.** When a page that is less than 381 mm (15 inches) long has advanced to the form sensor but has not left it within the expected time, the paper has probably stalled or jammed. The scanner returns to the home position on the right side of the scanner assembly. The message **Doc feeder jam. Clear, Reload.** appears on the control-panel display.
- **Other.** If the paper stops in the ADF and the scan module remains under the ADF scanner glass, an internal firmware error has probably occurred. This is usually remedied by cycling the power.

Internal components (base unit)

Figure 4-4 Cross-section of printer



1	Fuser unit
2	Pressure roller
3	Fuser sleeve
4	Delivery roller
5	Laser/scanner unit
6	Single-sheet-feed slot
7	Multi-purpose tray
8	Photosensitive drum
9	Pickup roller
10	Separation pad
11	Feed roller
12	Transfer roller

Engine control system

The engine control system coordinates all of the product functions, according to commands sent from the formatter. It drives the laser/scanner system, the image-formation system, and the pickup/feed/delivery system.

The engine control system contains the following components:

- Formatter
- High-voltage PCA

Figure 4-5 Engine control system

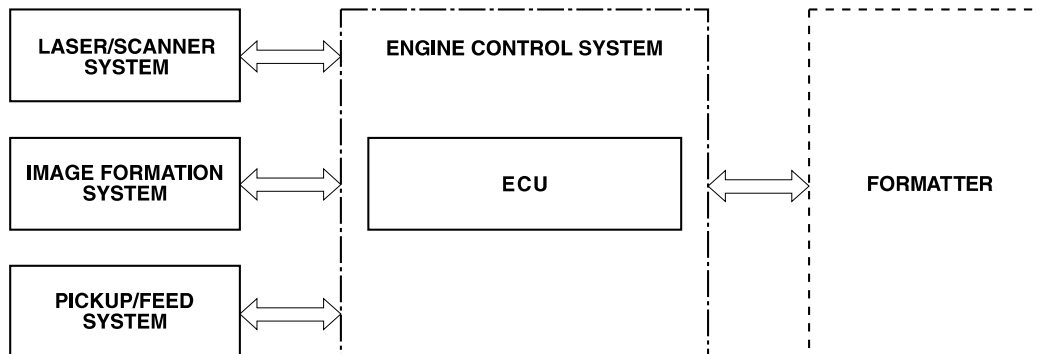
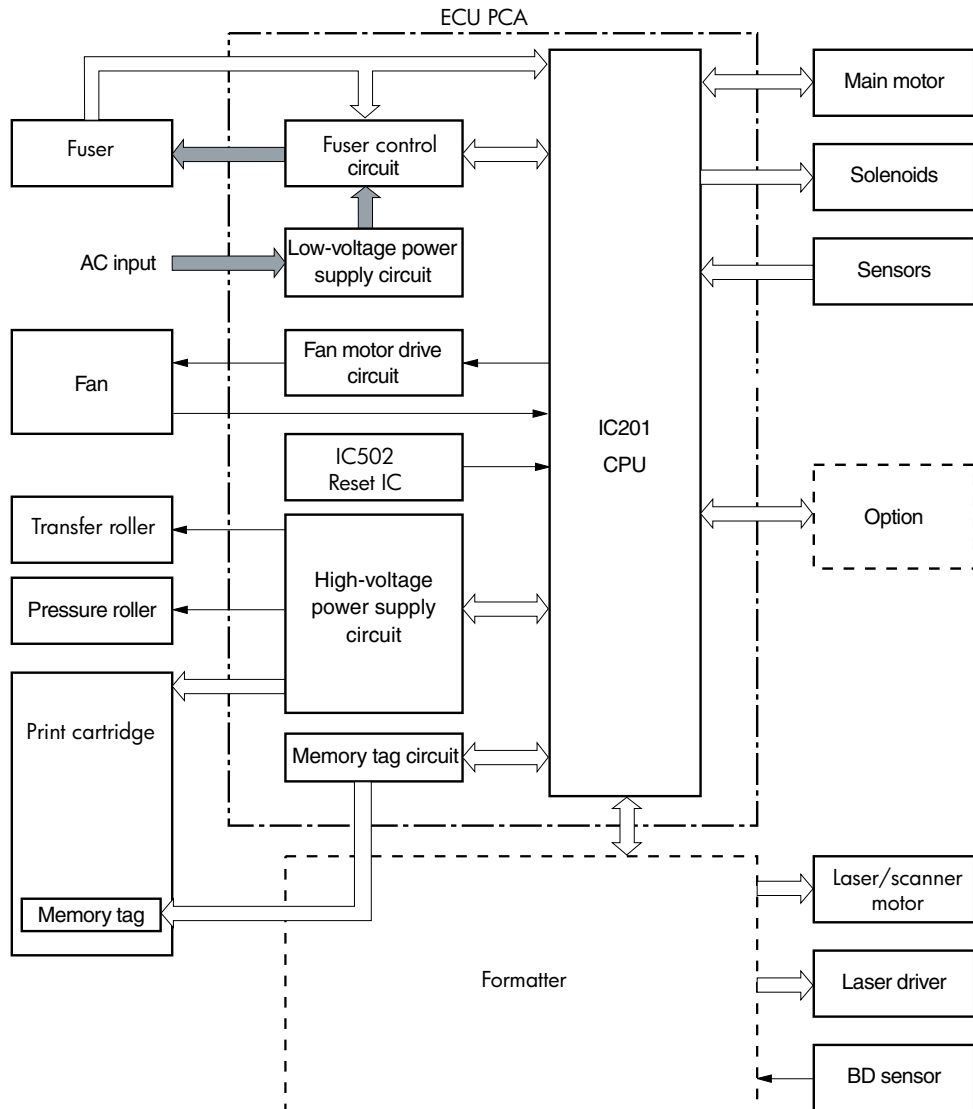


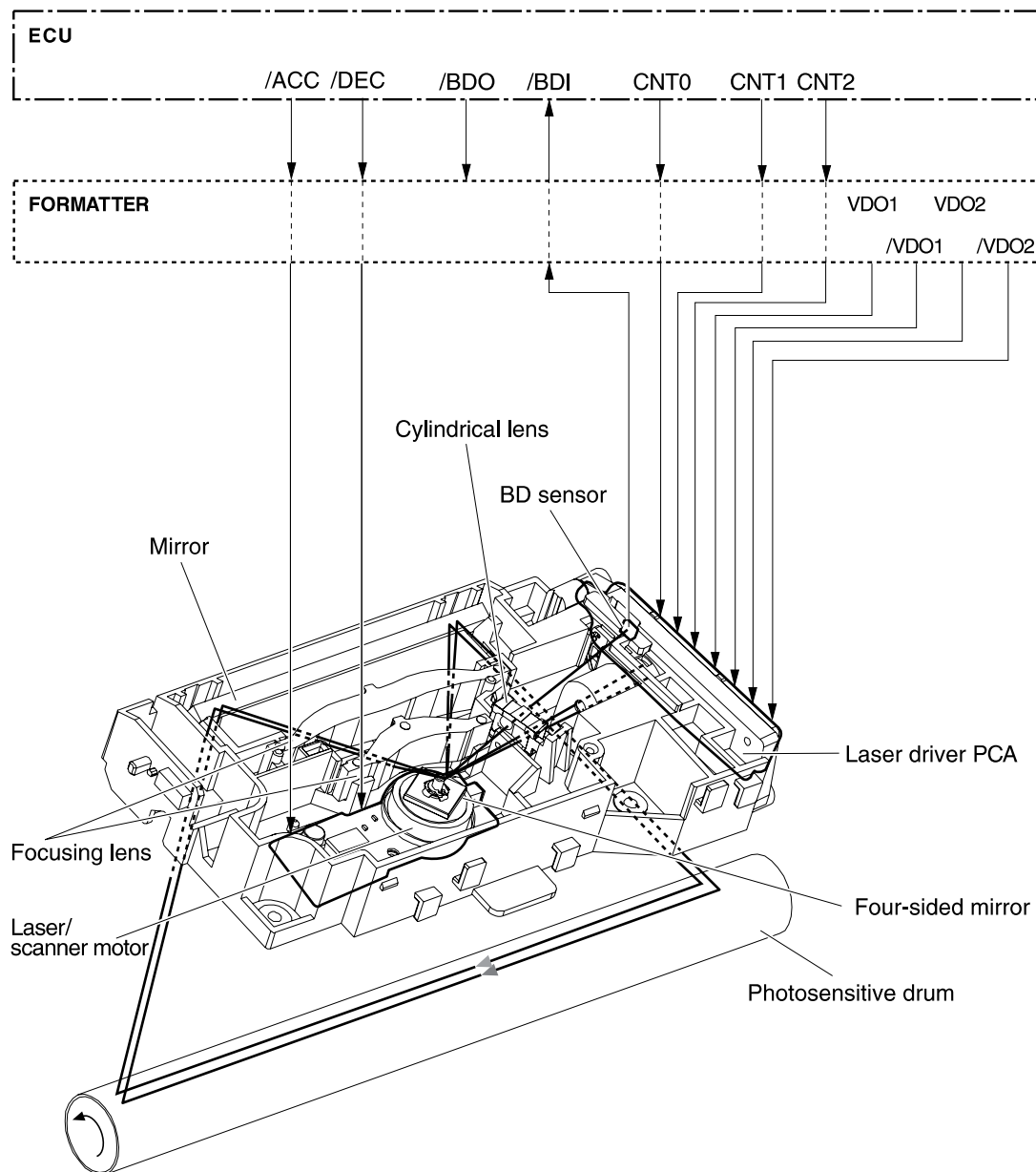
Figure 4-6 Engine-control-system circuit diagram



Laser/scanner system

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

Figure 4-7 Laser/scanner system




Pickup/feed/delivery system

The pickup/feed/delivery system consists of several types of feed rollers and sensors. A motor and solenoid are used to drive the rollers. Three media-detection sensors detect media as it passes through the printer. If media does not reach or pass each sensor within a specified time period, the formatter determines that a jam has occurred.

The following components are identified in [Figure 4-8 Pickup/feed/delivery system on page 58](#):

- M1, main motor
- SL1, pickup solenoid
- PS751, top-of-page sensor
- PS915, fuser-delivery sensor and duplex sensor

 **NOTE:** This sensor has two sensor flags; one flag detects the media when it is delivered from the fuser, and the other flag detects the media when it is reversed for duplexing.

- PS702, media-width sensor

Figure 4-8 Pickup/feed/delivery system

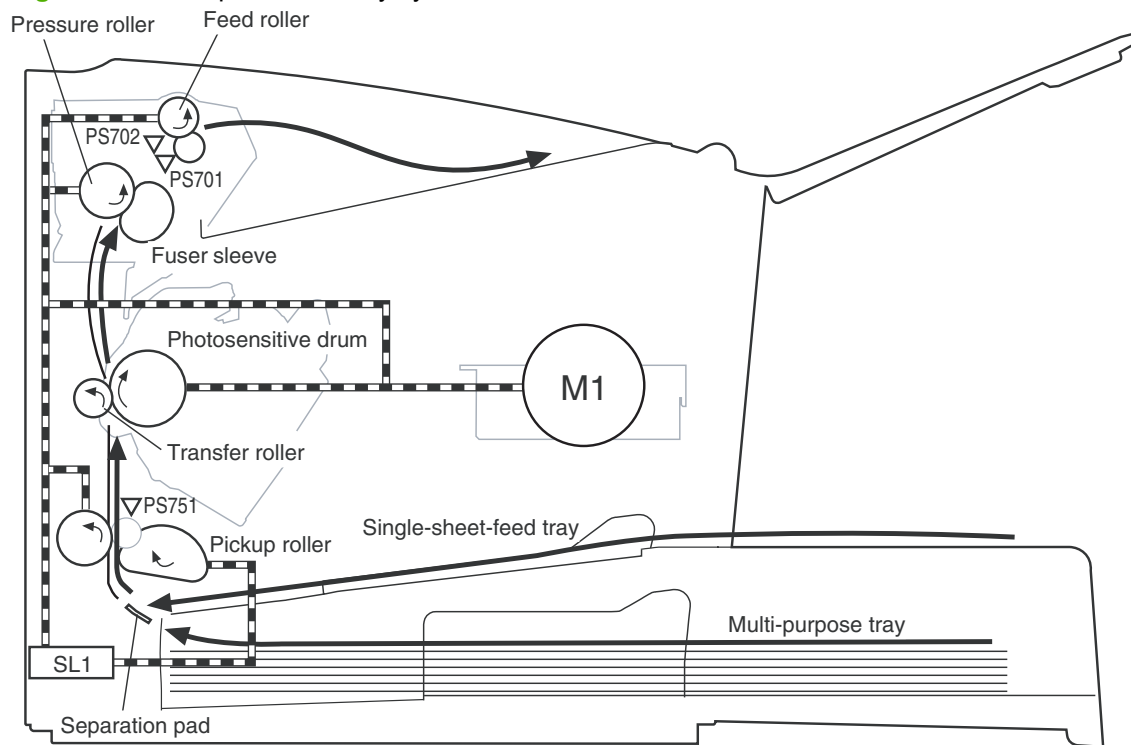


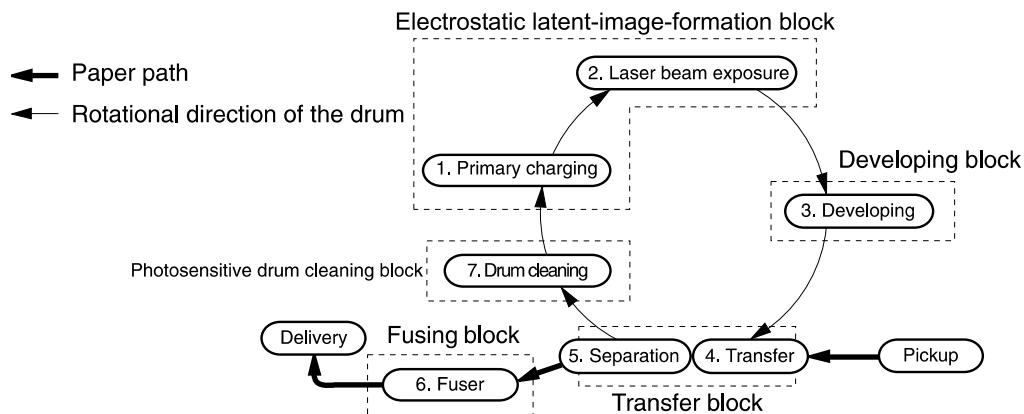
Image-formation system

Laser printing requires the interaction of several technologies, including electronics, optics, and electrophotographics, to produce a printed page. Each process functions independently and must be coordinated with the other product processes. Image formation consists of the following five processes:

- Electrostatic latent-image formation
- Developing
- Transfer
- Fusing
- Drum cleaning

These five processes contain seven steps, which are shown in [Figure 4-9 Image-formation system on page 59](#) and described in the following sections.

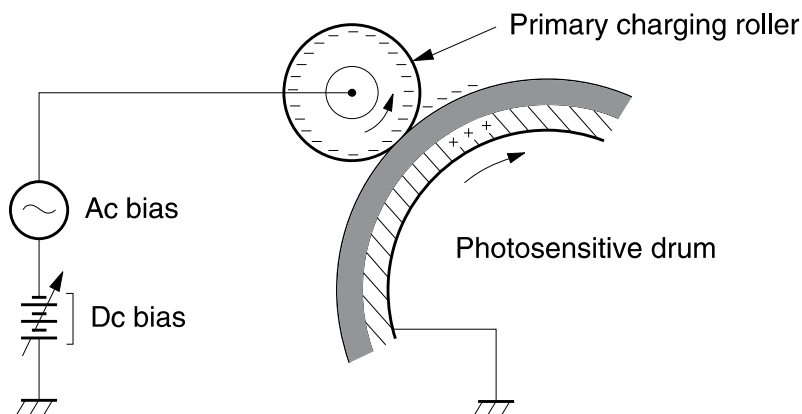
Figure 4-9 Image-formation system



Step 1: Primary charging

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

Figure 4-10 Primary charging



Step 2: Laser beam exposure

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

Step 3: Developing

The developing cylinder comes in contact with the photosensitive drum to deposit toner onto the electrostatic latent image.


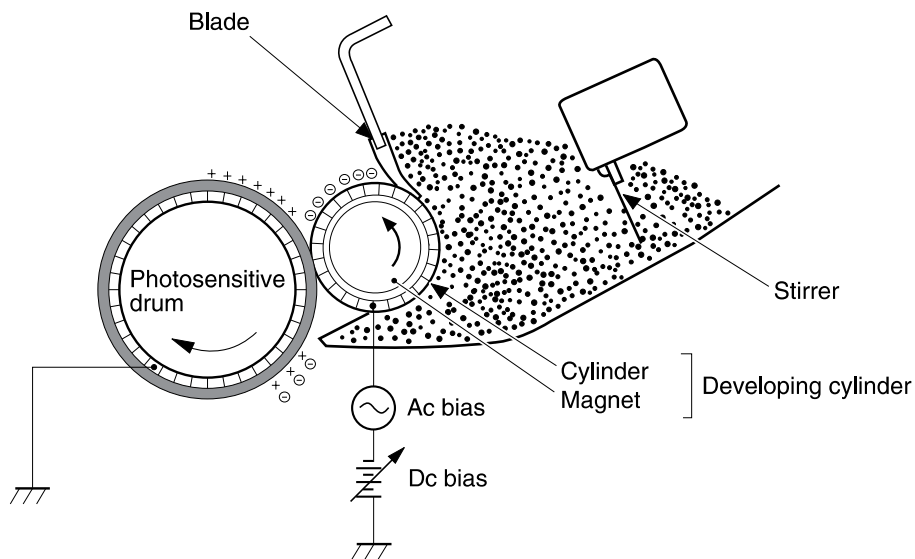
 **NOTE:** The charges on the exposed area of the drum are shown as positive in [Figure 4-11 Developing on page 60](#). The charges are actually negative, but they are more positive than the charges on the developing cylinder.

Figure 4-11 Developing

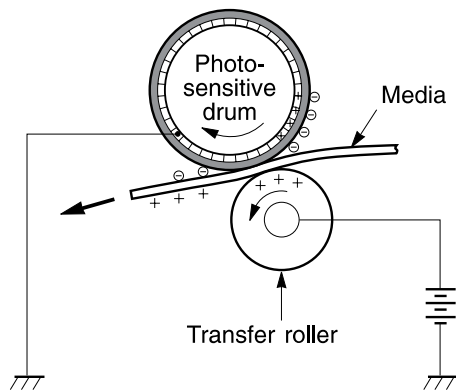


Toner acquires a negative charge through friction from the developing cylinder and the blade. When the negatively charged toner comes in contact with the drum, the toner adheres to the electrostatic latent image. The image on the drum becomes visible because of the toner.

Step 4: Transfer

The transfer charging roller, to which a DC positive bias is applied, imparts a positive charge on the print media. When the print media comes in contact with the photosensitive drum, the toner is transferred to the print media.

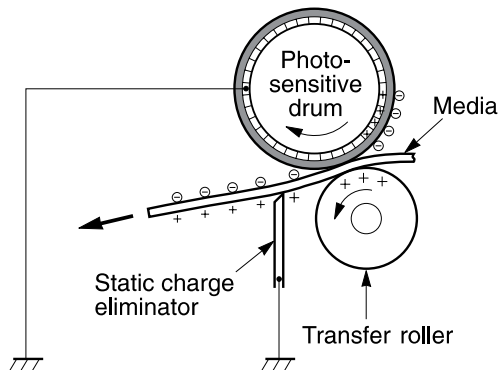
Figure 4-12 Transfer



Step 5: Separation

The elasticity of the print media causes its separation from the photosensitive drum. A static-charge eliminator aids separation by weakening any electrostatic adhesion.

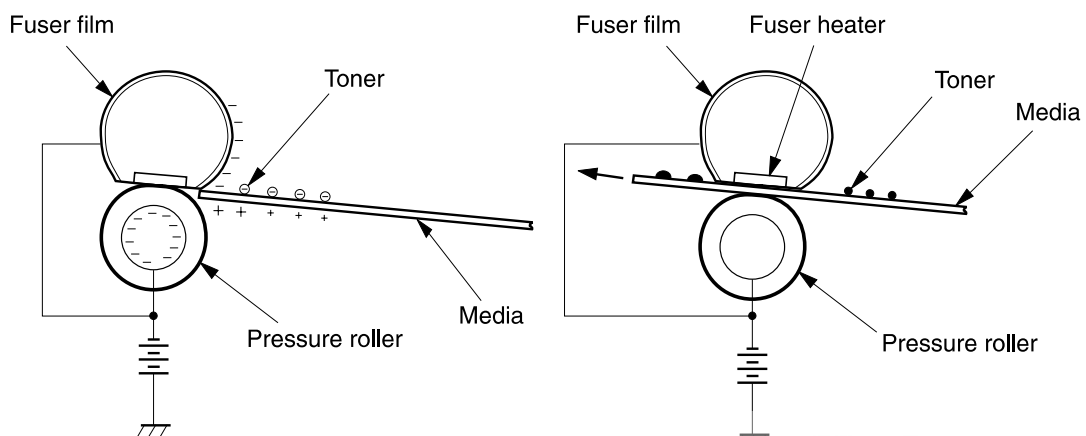
Figure 4-13 Separation



Step 6: Fusing

The DC negative bias applied to the fusing film strengthens the holding force of the toner on the print media and prevents the toner from scattering.

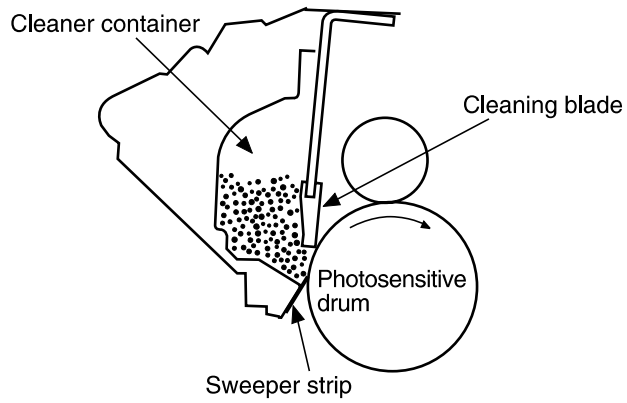
Figure 4-14 Fusing



Step 7: Drum cleaning

The cleaning blade scrapes the residual toner off of the photosensitive drum and deposits it into the waste-toner case.

Figure 4-15 Drum cleaning



Fax functions and operation (fax models only)

The following sections describe the product fax capabilities.

Computer and network security features

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

The following product features prevent virus transmission:

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

PSTN operation

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

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

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


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

Receive faxes when you hear fax tones

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


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

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


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


Distinctive ring function

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

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

Set up the distinctive ring function

1. Press **Setup** . Use the arrow buttons to select **Fax setup**, and then press **OK**.
2. Use the arrow buttons to select **Fax Recv. setup**, and then press **OK**.
3. Use the arrow buttons to select **Answer ring type**, and then press **OK**.
4. Use the arrow buttons to select one of the following options:

 **NOTE:** The control-panel display might show some of these options as abbreviations.

- **All rings** (default setting)
- **Single**
- **Double**
- **Triple**
- **DoubleTriple**

Press **OK** to save the setting.

Fax by using Voice over IP services

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

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

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

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

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

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

The fax subsystem

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

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

Fax card in the fax subsystem

Two versions of the fax card are used in the HP LaserJet M1522 MFP. One is used in the North American, South American, and Asian countries/regions. The other is used primarily in European countries/regions.

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

European products must use the fax cord that is included in the product box. North American and Asian products should be compatible with any phone cord, although users who experience fax errors should try the included fax cord.

Safety isolation

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

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

Safety-protection circuitry

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

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

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

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

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

Data path

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

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

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

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

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

Hook state

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

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

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

Downstream device detection

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

Hook switch control

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

Ring detect

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

Line current control

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

Billing- (metering-) tone filters

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

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

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

Fax page storage in flash memory

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

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

These pages are stored in flash memory, which is the nonvolatile memory that can be repeatedly read from, written to, and erased. The product has 4 MB of flash memory available for fax storage; only a very small amount (several kilobytes) of it is used for the file system and reclamation. Adding RAM does not affect the fax page storage because the product does not use RAM for storing fax pages.

Stored fax pages

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

Advantages of flash memory storage

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

The product also has scan-ahead functionality that makes use of flash memory. Scan-ahead automatically scans pages into flash memory before a fax job is sent. This allows the sender to pick up

the original document immediately after it is scanned, eliminating the need to wait until the fax is transmission is complete.

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

5 Removal and replacement

- [Removal and replacement strategy](#)
- [Scanner and ADF components](#)
- [Product base](#)

Removal and replacement strategy

- [Introduction](#)
- [Before performing service](#)
- [After performing service](#)
- [Post-service tests](#)
- [Parts removal order](#)

Introduction

This chapter documents the removal and replacement of field-replaceable parts (FRUs) only. Replacing FRUs is generally the reverse of removal. Occasionally, notes and tips are included to provide directions for difficult or critical replacement procedures.

HP *does not* support the repairing of individual subassemblies or troubleshooting at the component level.

Note the length, diameter, color, type, and location of each screw. Be sure to return each screw to its original location during reassembly.

Incorrectly routed or loose wire harnesses can interfere with other internal components and can become damaged or broken. Frayed or pinched harness wires can be difficult to locate. When replacing wire harnesses, always use the provided wire loops, lance points, or wire-harness guides.

Removal and replacement warnings, cautions, notes and tips

⚠ **WARNING!** Turn the product off, wait 5 seconds, and then remove the power cord before attempting to service the product. If this warning is not followed, severe injury can result, as well as damage to the product. The power must be on for certain functional checks during problem solving. However, the power supply should be disconnected during parts removal.

Never operate or service the product with the protective cover removed from the laser/scanner assembly. The invisible reflected beam can damage your eyes.

Sheet-metal and plastic edges in the product can be sharp. Use caution when servicing this product.

⚠ **CAUTION:** Do not bend or fold the flat flexible cables (FFCs) during removal or installation. Also, do not straighten pre-folds in the FFCs. You *must* make sure that all FFCs are fully seated in their connectors. Failure to fully seat an FFC into a connector can cause a short circuit in a PCA.

📝 **NOTE:** Your product might not appear exactly as the one shown in the photos in this chapter. For example, the color of the external panels and covers might be different than your product. However, this does not effect the validity of the procedures in this chapter.

💡 **TIP:** To install a self-tapping screw, first turn it counterclockwise to align it with the existing thread pattern, then carefully turn it clockwise to tighten. Do not overtighten.

Electrostatic discharge



CAUTION: The product contains components that are sensitive to electrostatic discharge (ESD). Always perform service work on an ESD-protected workstation. If an ESD-protected workstation is not available, discharge body static by grasping the print engine chassis before touching an ESD-sensitive component. Ground the print engine chassis *before* servicing the product.

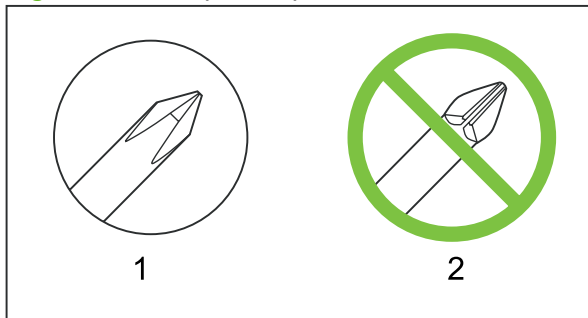
Required tools

- #2 Phillips screwdriver with magnetic tip
- Small flat-blade screwdriver
- Long flat-blade screwdriver
- #8 and #10 torx screwdrivers
- Needle-nose pliers
- ESD mat (if one is available)
- Penlight (optional)

△ **CAUTION:** Always use a Phillips screwdriver (callout 1). Do not use a pozidrive screwdriver (callout 2) or any motorized screwdriver. These can damage screws or screw threads.

Do *not* pull directly on the wires to disconnect them. *Always* pull on the plastic body of a connector to avoid damaging the connector wires.

Figure 5-1 Phillips and pozidrive screwdriver comparison



Before performing service

- If possible, print a configuration page (to record customer settings) and menu structure report.
- Remove all media from the product and remove the input tray.
- Turn off the power by using the power switch.
- Unplug the power and interface cables.

- Place the product on an ESD mat, if one is available. If an ESD-protected workstation is not available, discharge body static and ground the print engine chassis *before* touching an ESD-sensitive part.
- Remove the print cartridge. See [Print cartridge on page 27](#).

After performing service


- Replace the print cartridge and input tray.
- Reload the input tray with media.
- Perform the post-service tests. See [Post-service tests on page 73](#).

Post-service tests

After service has been completed, the following tests can be used to verify that the repair or replacement was successful.

Test 1 (print-quality test)

1. Verify that you have completed the necessary reassembly steps.
2. Ensure that the input tray contains clean, unmarked paper.
3. Attach the power cord and interface cable, and then turn on the product.
4. Verify that the expected start-up sounds occur.
5. Perform a control-panel test from the secondary service menu. On fax models only, verify that the control-panel buttons beep when they are pressed.

 **NOTE:** On fax models only, if the control-panel buttons do not beep, verify that the user did not disable this function on the product control panel.

6. Print a configuration page, and then verify that the expected printing sounds occur.
7. Print a demo page, and then verify that the print quality is as expected.
8. Send a print job from the host computer, and then verify that the output meets expectations.
9. If necessary, restore any customer product settings.
10. Clean the outside of the product with a damp cloth.

Test 2 (copy-quality test)

1. Verify that you have completed the necessary reassembly steps.
2. Ensure that the input tray contains clean, unmarked paper.
3. Attach the power cord and interface cable, and then turn on the product.
4. Verify that the expected start-up sounds occur.
5. Print a configuration page, and then verify that the expected printing sounds occur.
6. Place the configuration page in the ADF.
7. Print a copy job, and then verify the results.
8. Place the configuration page on the scanner glass.
9. Print a copy job, and then verify the results.
10. Clean the outside of the product with a damp cloth.

Test 3 (fax-quality test)

1. Place the configuration page in the ADF.
2. Enter a valid fax number and send the fax job.
3. Verify that the send quality and receive quality meet expectations.

Parts removal order

Use the following diagrams to determine which parts of the product must be removed before servicing.


 **NOTE:** The scanner assembly might be contaminated if it is opened outside of a cleanroom environment. For this reason, the entire scanner assembly is replaceable only as a unit. Replacing the scanner assembly as an entire assembly replaces the scan module, the scan motor, and the cable.

Figure 5-2 Parts removal order for the scanner and ADF

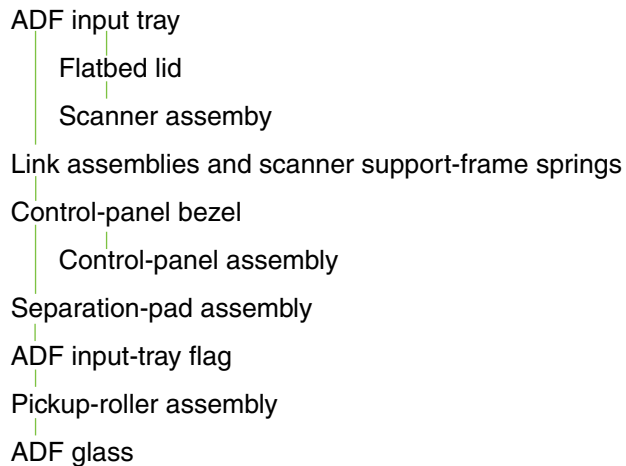
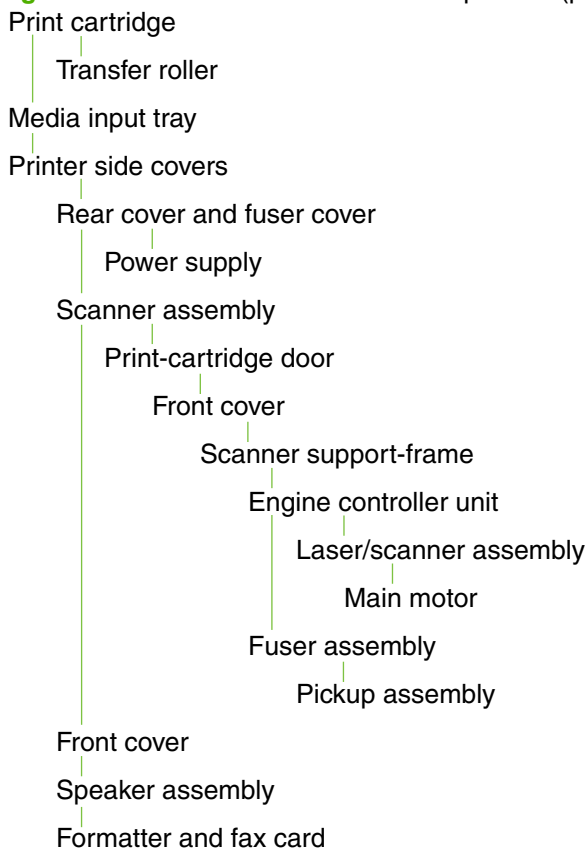



Figure 5-3 Parts removal order for the product (product base)



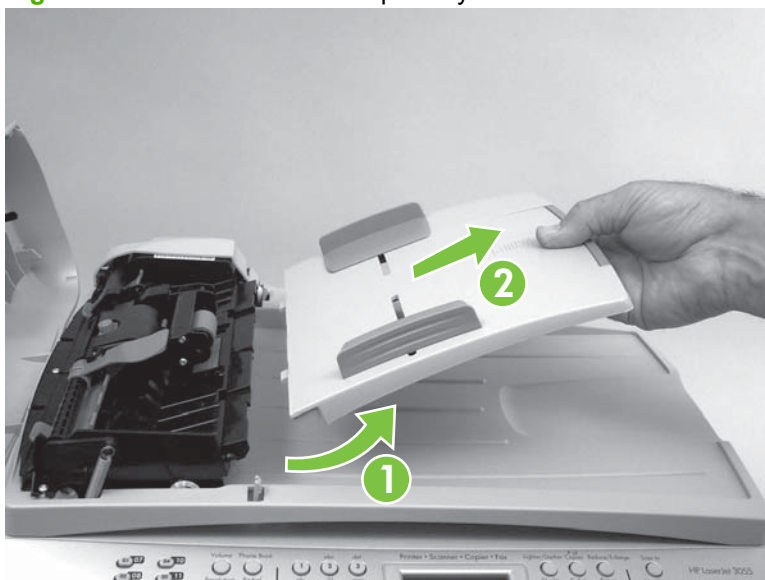
Scanner and ADF components

 **NOTE:** Your product might not appear exactly as the one shown in the photos in this chapter. For example, the color of the external panels and covers might be different than your product. However, this does not effect the validity of the procedures in this chapter.

ADF input tray

Open the ADF lid and grasp the ADF input tray. Rotate the input tray up and pull it away from the ADF.

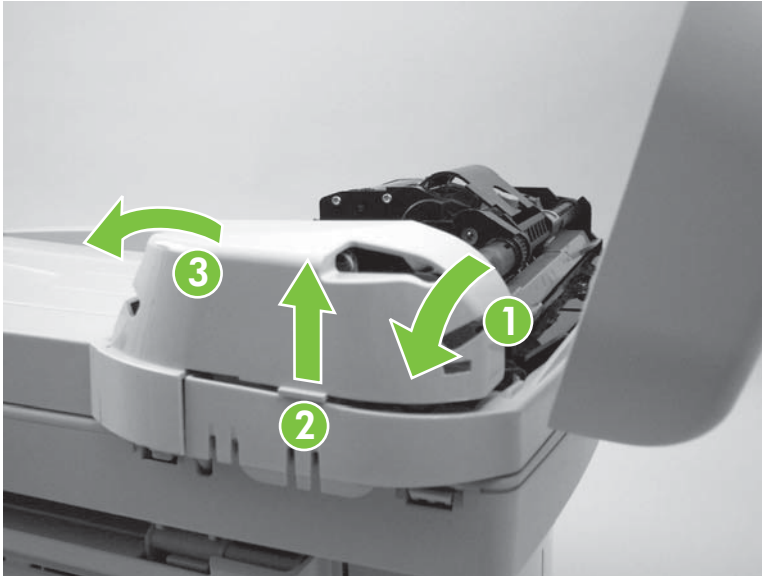
Figure 5-4 Remove the ADF input tray



Flatbed lid

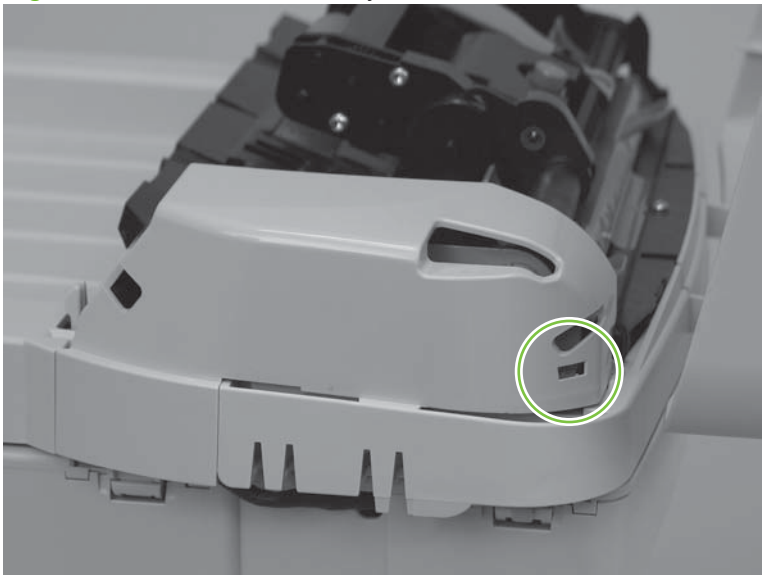
1. Open the ADF cover. Carefully pry the ADF motor cover off (from right to left) and away from the scanner assembly.

Figure 5-5 Remove the flatbed lid (1 of 5)



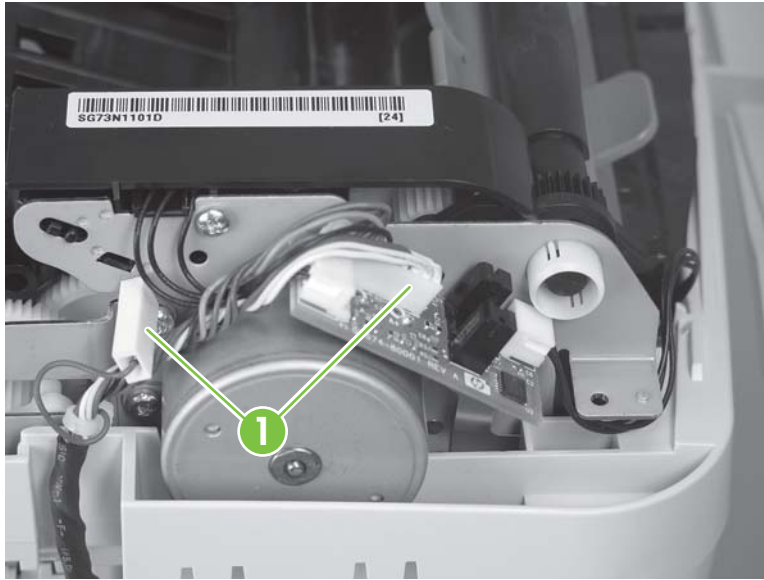
Reinstallation tip When you reinstall the ADF motor cover, make sure that it is positioned correctly. If the motor cover is not installed correctly, the ADF lid will not close correctly, resulting in intermittent ADF errors. Verify that the motor cover snaps over the corner of the sheet metal chassis.

Figure 5-6 ADF cover correctly installed



2. Disconnect two wire connectors (callout 1). Close the ADF cover.

Figure 5-7 Remove the flatbed lid (2 of 5)



3. Locate the hinge-retainer clip at one end of the flatbed.

Figure 5-8 Remove the flatbed lid (3 of 5)



4. Lift up on the retainer-clip locking tab, and pull the clip down and away from the flatbed lid. Repeat this step for the hinge-retainer clip at the other end of the flatbed.

Figure 5-9 Remove the flatbed lid (4 of 5)



5. Raise the flatbed scanner lid until the hinges can clear the hinge posts on the scanner bed, and then remove the flatbed lid from the scanner assembly.

△ **CAUTION:** Avoid touching the flatbed glass or the ADF separation pad. Skin oils and fingerprints can contaminate the glass or pad and cause print-quality problems.

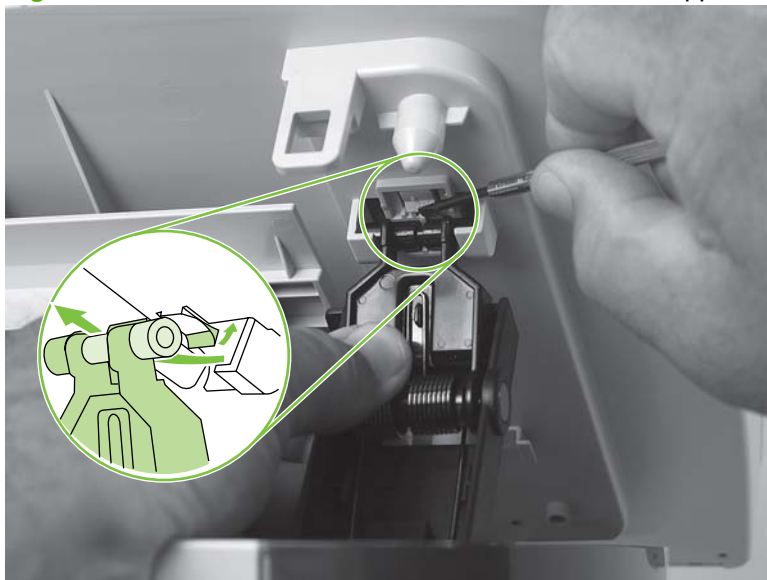
Figure 5-10 Remove the flatbed lid (5 of 5)



Link assemblies and scanner support-frame springs

1. Push the print-cartridge access button and raise the scanner assembly until it is locked open.
 2. Use a small flat-blade screwdriver to release the link tabs on each link assembly.
- ⚠ **WARNING!** When the link assemblies are disengaged, the scanner assembly can easily fall off of the product base if it is rotated too far towards the back of the product.
- ⚠ **CAUTION:** Do not push too hard on the link tabs or the tabs might break.

Figure 5-11 Remove the link assemblies and scanner support-frame springs (1 of 4)



3. Rotate a link assembly toward the front of the product until the link disengages from the scanner support-frame.

Figure 5-12 Remove the link assemblies and scanner support-frame springs (2 of 4)



4. Remove the link assembly. Repeat this step with the remaining link.

Figure 5-13 Remove the link assemblies and scanner support-frame springs (3 of 4)



5. Use needle-nose pliers to remove the scanner support-frame spring. Repeat this step for the other scanner support-frame spring.

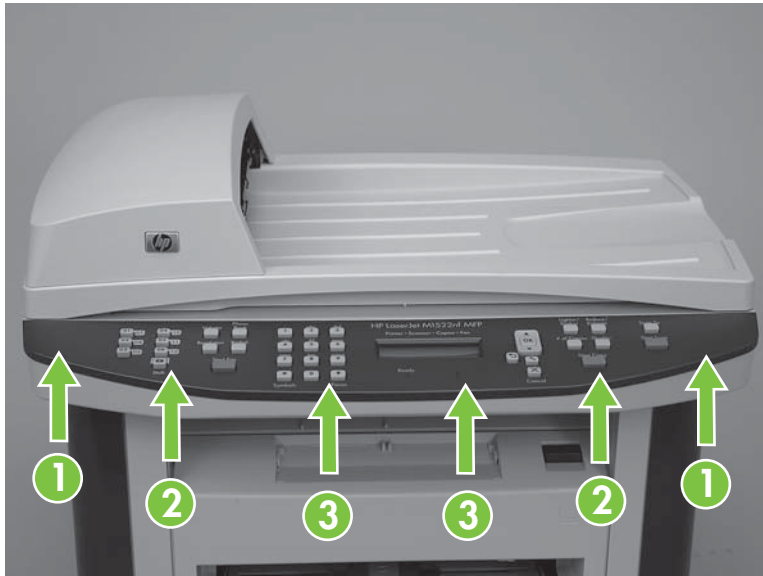
Figure 5-14 Remove the link assemblies and scanner support-frame springs (4 of 4)



Control-panel bezel

Gently pry the outside edges (callout 1) of the control-panel bezel away from the product to release it. Continue to pry up the bezel (callout 2), working toward the center of the bezel (callout 3).

Figure 5-15 Remove the control-panel bezel

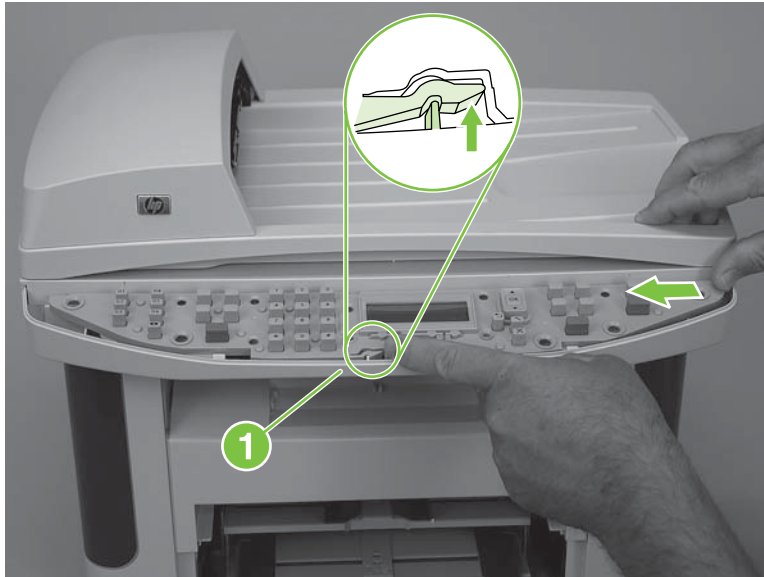


Control-panel assembly

△ **CAUTION:** The control-panel is an ESD-sensitive component.

1. Remove the control-panel bezel. See [Control-panel bezel on page 81](#).
2. Push in on the control-panel assembly latch (callout 1), and then slide the assembly to the left to release it.

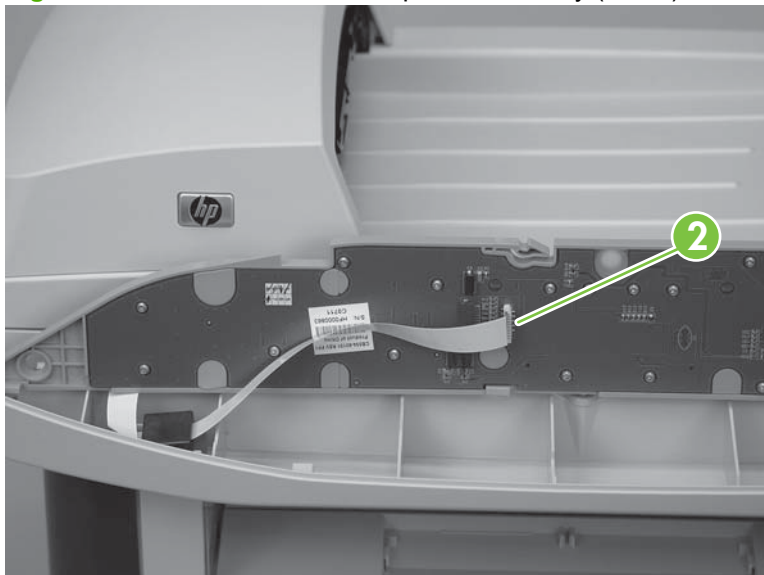
Figure 5-16 Remove the control-panel assembly (1 of 2)



3. Slightly lift up the control panel and disconnect one FFC (callout 2). Remove the control-panel assembly.

△ **CAUTION:** Do not bend or fold the FFCs during the removal or reinstallation process.

Figure 5-17 Remove the control-panel assembly (2 of 2)



ADF separation pad

△ **CAUTION:** Avoid touching the flatbed glass or the ADF separation pad. Skin oils and fingerprints can contaminate the glass or pad and cause print-quality or paper-pickup problems.

1. Open the ADF cover and lift up the ADF pickup-roller assembly.
2. Use a #8 torx screwdriver to remove two torx screws (callout 1) and remove the ADF separation-pad assembly.

📝 **NOTE:** Be careful not to lose the two torx screws. Reuse the screws when installing a new separation pad.

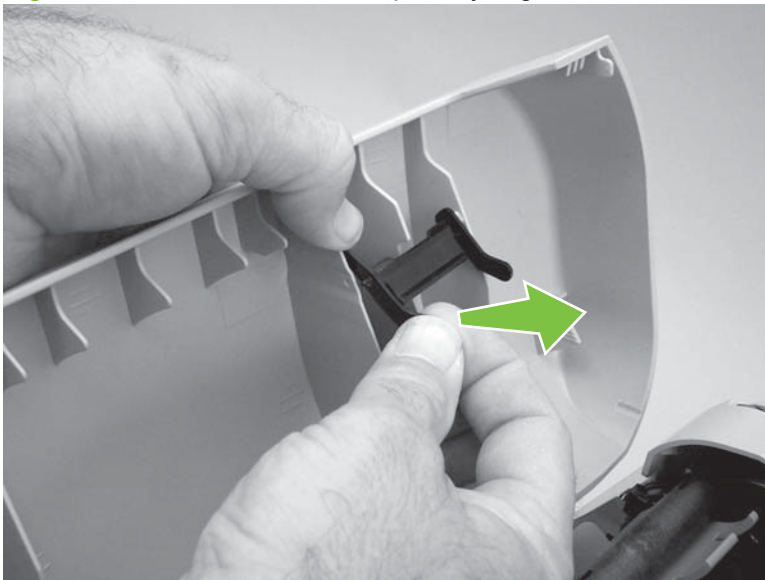
Figure 5-18 Remove the ADF separation pad



ADF input-tray flag

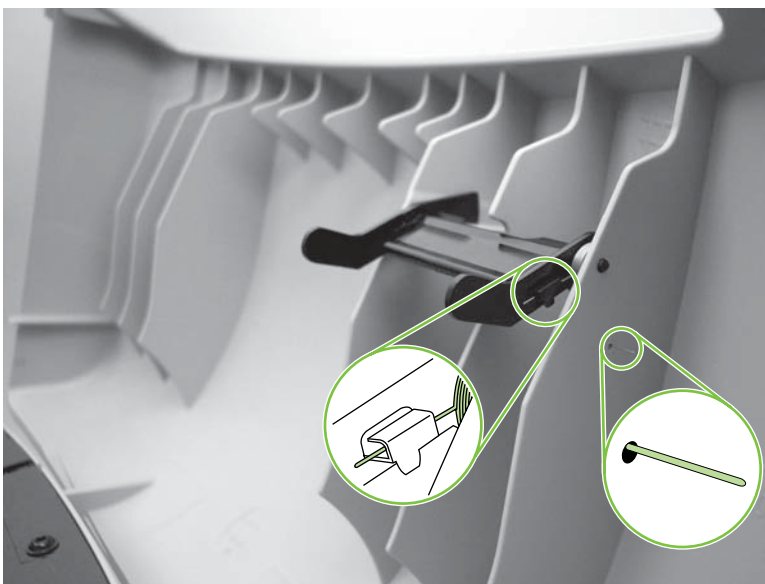
1. Open the ADF cover.
2. Gently flex the plastic rib until the front flag hinge clears the mounting hole. Rotate the ADF input-flag until the hinge pin clears the plastic rib. Pull the flag towards you to release the back hinge.

Figure 5-19 Remove the ADF input-tray flag



TIP: When reinstalling the ADF input-tray flag, make sure that the long, straight end of the spring is tucked under the lip on the flag and that the bent end of the spring threads through the hole in the plastic rib that retains the spring.

Make sure that the ADF input-tray flag can move freely.



ADF pickup roller assembly

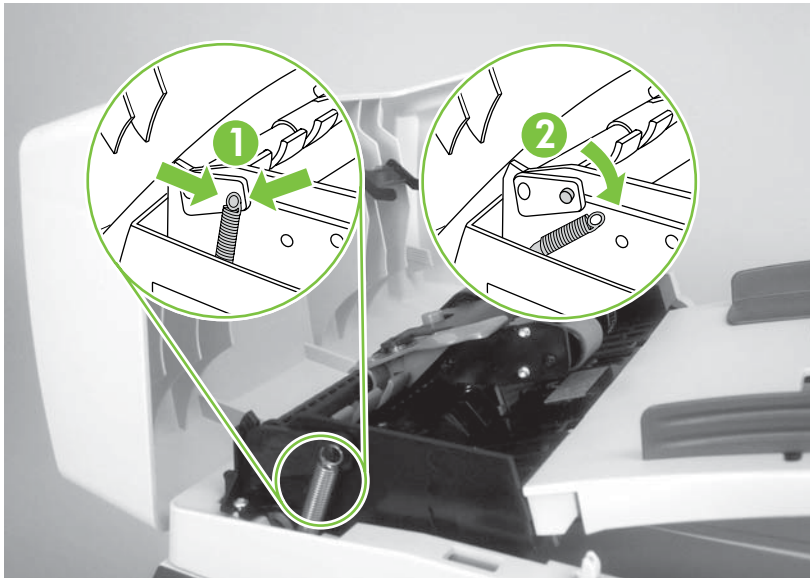
1. Open the ADF cover.

Figure 5-20 Replacing the ADF pickup roller assembly (1 of 6)



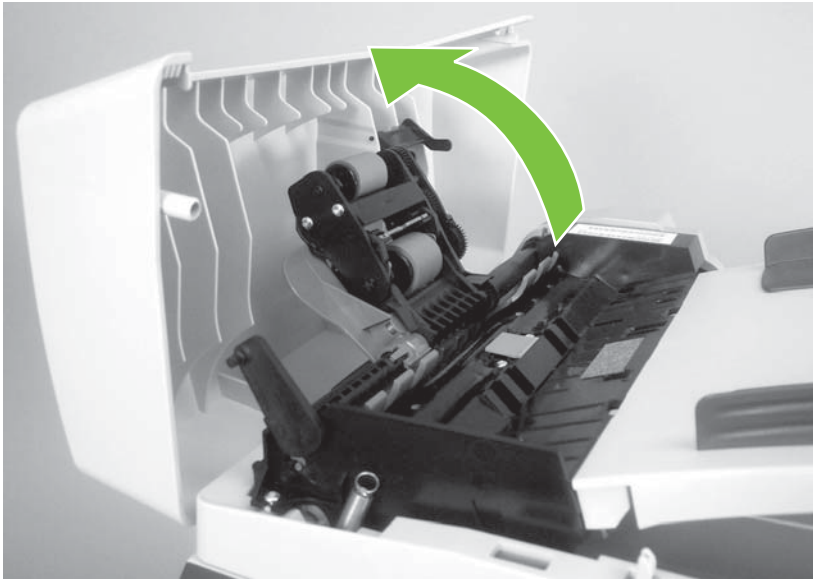
2. Lift the load spring off of the post on the ADF pickup roller assembly.

Figure 5-21 Replacing the ADF pickup roller assembly (2 of 6)



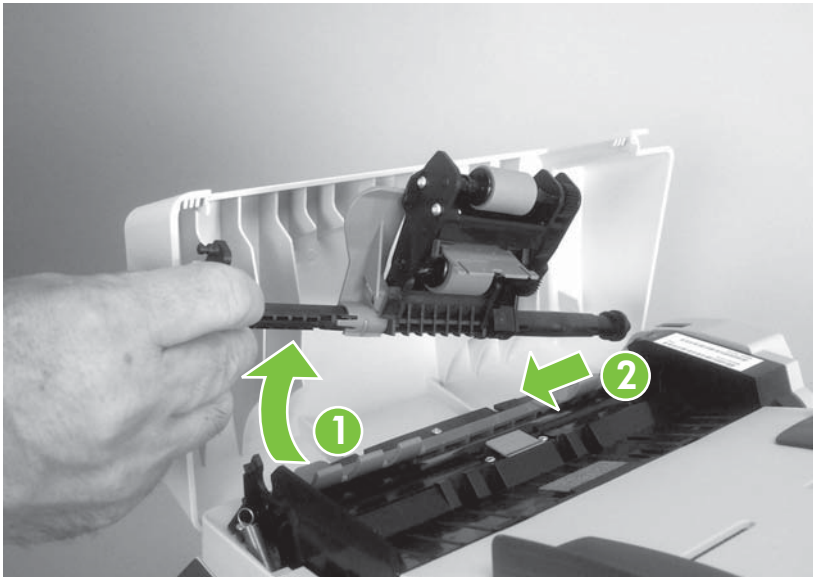
3. Rotate the ADF pickup roller assembly.

Figure 5-22 Replacing the ADF pickup roller assembly (3 of 6)



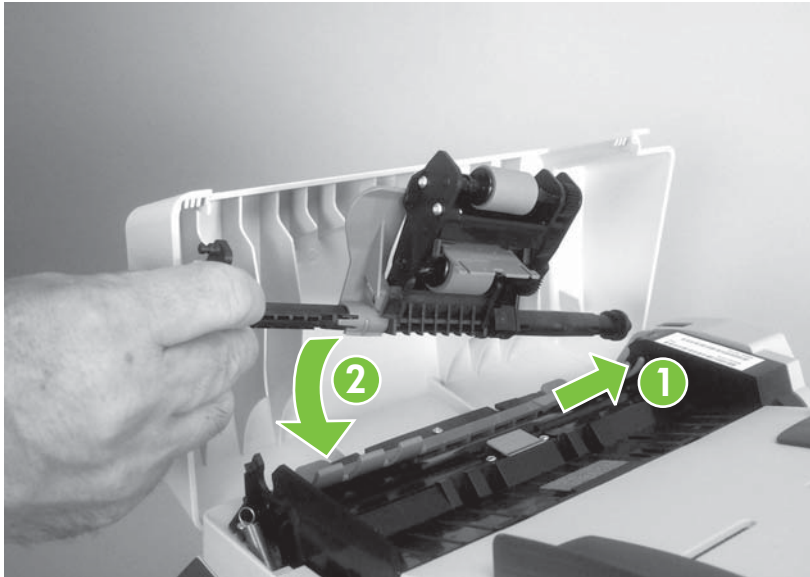
4. Lift the ADF pickup roller assembly, slide the assembly toward the front of the product to disengage the gear-end of the assembly, and then lift the assembly off of the product.

Figure 5-23 Replacing the ADF pickup roller assembly (4 of 6)



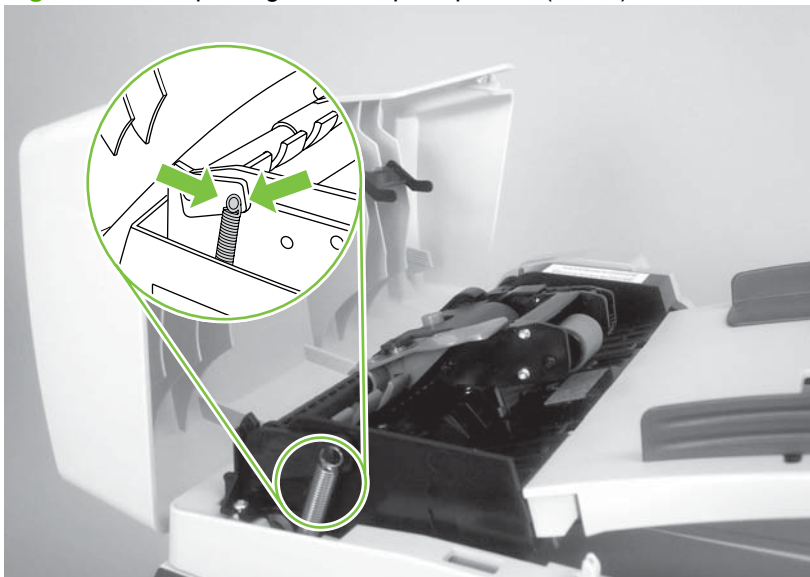
5. Insert the gear-end of the replacement ADF pickup roller assembly into the product and then lower the assembly into place.

Figure 5-24 Replacing the ADF pickup roller assembly (5 of 6)



6. Reattach the load spring and then close the ADF cover.

Figure 5-25 Replacing the ADF pickup roller (6 of 6)

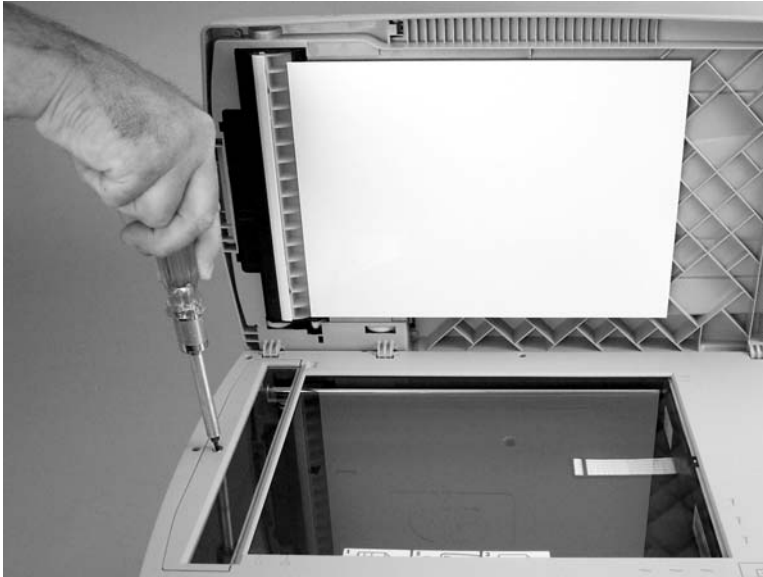


ADF scanner glass

△ **CAUTION:** Avoid touching the flatbed glass or the ADF separation pad. Skin oils and fingerprints can contaminate the glass or pad and cause print-quality or paper-pickup problems.

1. Use a #10 torx screwdriver to remove one torx screw.

Figure 5-26 Remove the ADF scanner glass (1 of 3)



2. Carefully remove the plastic ADF scanner-glass frame.

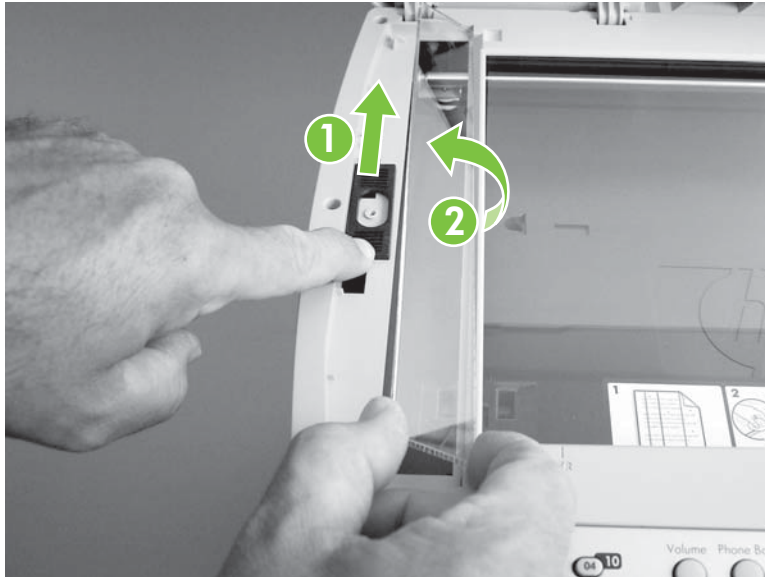
Figure 5-27 Remove the ADF scanner glass (2 of 3)



3. Slide the black glass-locking lever toward the back of the product to release the glass, and then carefully remove the glass.

△ **CAUTION:** Avoid touching the flatbed glass or the ADF separation pad. Skin oils and fingerprints can contaminate the glass or pad and cause print-quality or paper-pickup problems.

Figure 5-28 Remove the ADF scanner glass (3 of 3)



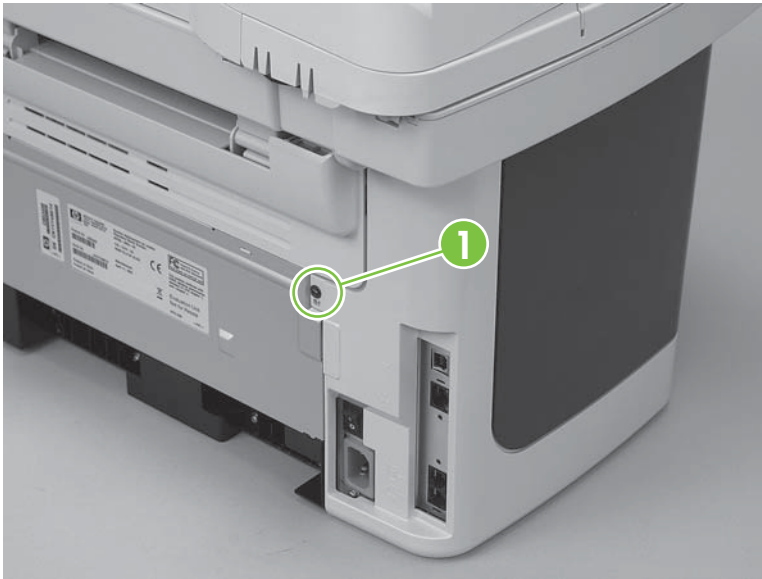
Scanner assembly

△ **CAUTION:** Avoid touching the flatbed glass or the ADF separation pad. Skin oils and fingerprints can contaminate the glass or pad and cause print-quality or paper-pickup problems.

📝 **NOTE:** It is not necessary to remove the flatbed lid before removing the scanner assembly. However, removing the flatbed lid will make the scanner assembly lighter and easier to handle when it is removed. To remove the flatbed lid, see [Flatbed lid on page 76](#).

1. Remove the ADF input tray. See [ADF input tray on page 75](#).
2. Remove one screw (callout 1).

Figure 5-29 Remove the scanner assembly (1 of 10)



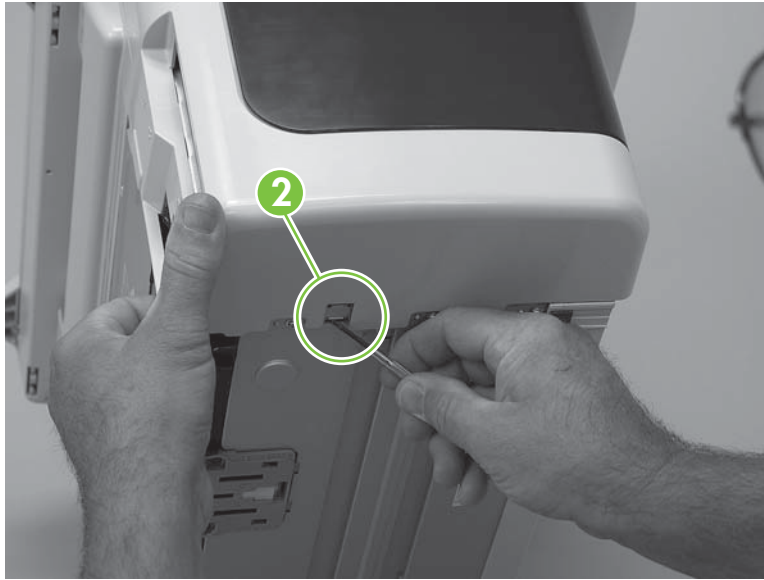
3. Release one tab on the back side of the cover.

Figure 5-30 Remove the scanner assembly (2 of 10)



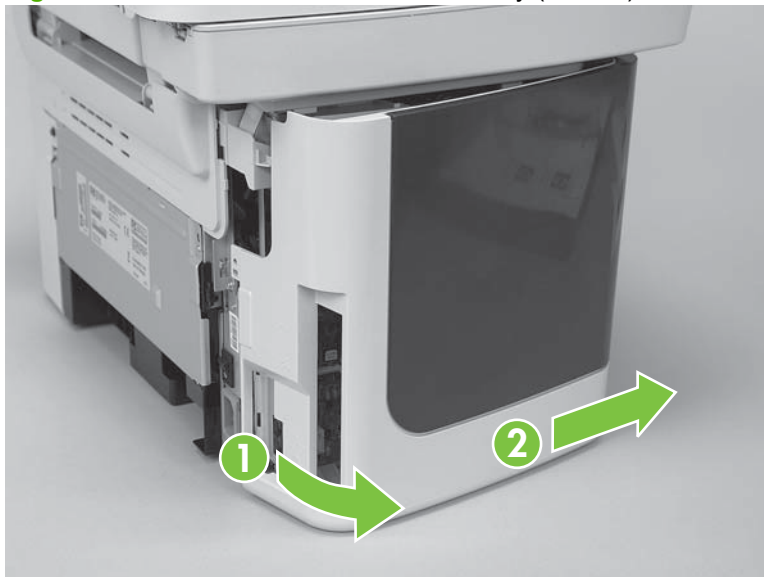
4. Release the bottom tab (callout 2).

Figure 5-31 Remove the scanner assembly (3 of 10)



5. Rotate the back side of the cover away from the product, and then slide the cover toward the front of the product to remove it.

Figure 5-32 Remove the scanner assembly (4 of 10)



6. Push the print-cartridge door button to release the scanner assembly, and then raise the assembly until it locks open.

Figure 5-33 Remove the scanner assembly (5 of 10)



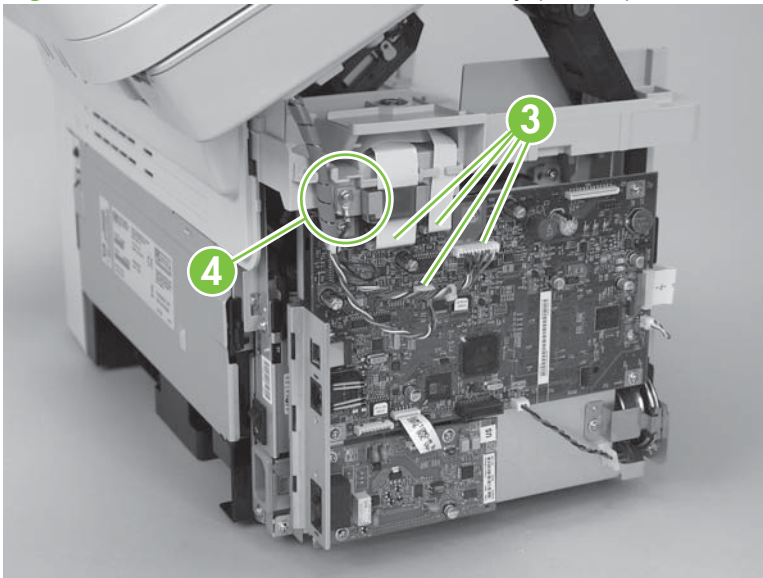
7. Disconnect two wire-harnesses and two FFCs (callout 3; J2, J33, J4, and J27) on the formatter, and then remove the harnesses and FFC from the retainers.

Remove one screw (callout 4) to release the ground wire.

- △ **CAUTION:** The ferrite and bracket are not captive when the ground screw is removed and can be dislodged if the product is tilted or moved.

Do not bend or fold the FFCs during the removal or reinstallation process.

Figure 5-34 Remove the scanner assembly (6 of 10)



8. Grasp the tab on the gear-drive arm bracket and carefully flex it away from the scanner assembly to release the bracket.

Figure 5-35 Remove the scanner assembly (7 of 10)



9. Pull the bracket toward the right side of the product until its mounting tabs clear the holes in the scanner assembly.

Figure 5-36 Remove the scanner assembly (8 of 10)

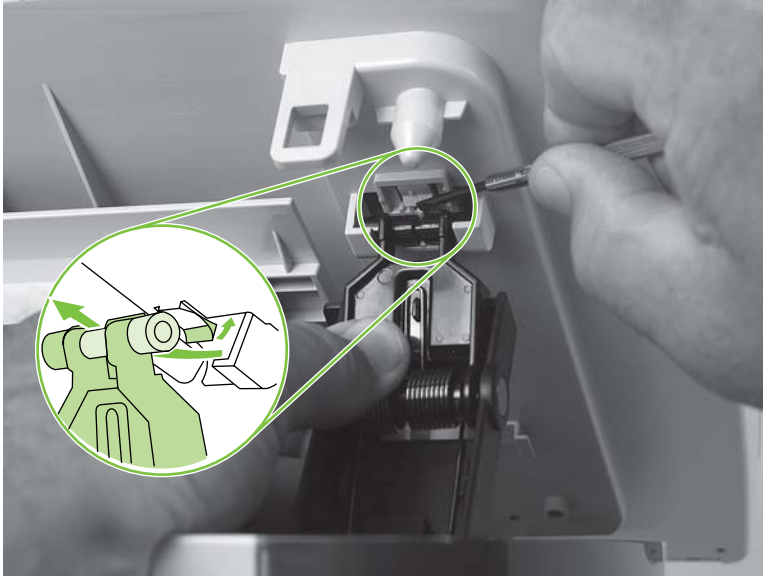


10. Use a small flat-blade screwdriver to release the hinge tabs on each front hinge.

⚠ **WARNING!** When the front hinges are disengaged, the scanner assembly can easily fall off of the product base if it is rotated too far toward the back of the product.

⚠ **CAUTION:** Do not push too hard on the link tabs or the tabs might break.

Figure 5-37 Remove the scanner assembly (9 of 10)

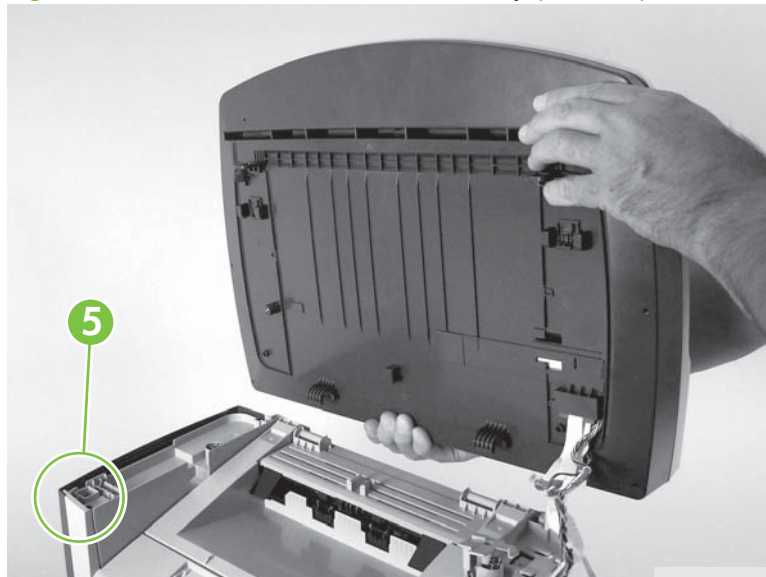


11. Rotate the scanner assembly toward the rear of the product until the rear hinges clear the chassis hinge pins. Lift the scanner assembly off of the product base.


⚠ **CAUTION:** Make sure that the ADF cover and flatbed lid are supported so that they do not swing open when you remove the scanner assembly.

📋 **NOTE:** Do not lose the two scanner cushions in the scanner support-frame corners (one shown; callout 5).

Figure 5-38 Remove the scanner assembly (10 of 10)



Product base

 **NOTE:** Your product might not appear exactly as the one shown in the photos in this chapter. For example, the color of the external panels and covers might be different than your product. However, this does not effect the validity of the procedures in this chapter.

Print cartridge

△ **CAUTION:** To prevent damage, do not expose the print cartridge to direct or bright light. Cover it with a piece of paper.

1. Push the print-cartridge-door release button and raise the scanner assembly until it locks open.

Figure 5-39 Remove the print cartridge (1 of 2)



2. Pull the print cartridge up and out of the product.

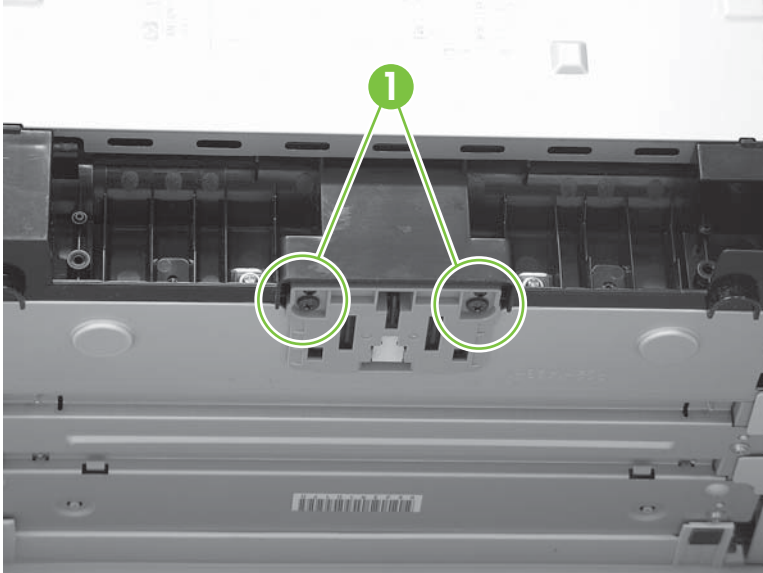
Figure 5-40 Remove the print cartridge (2 of 2)



Separation pad (product base)

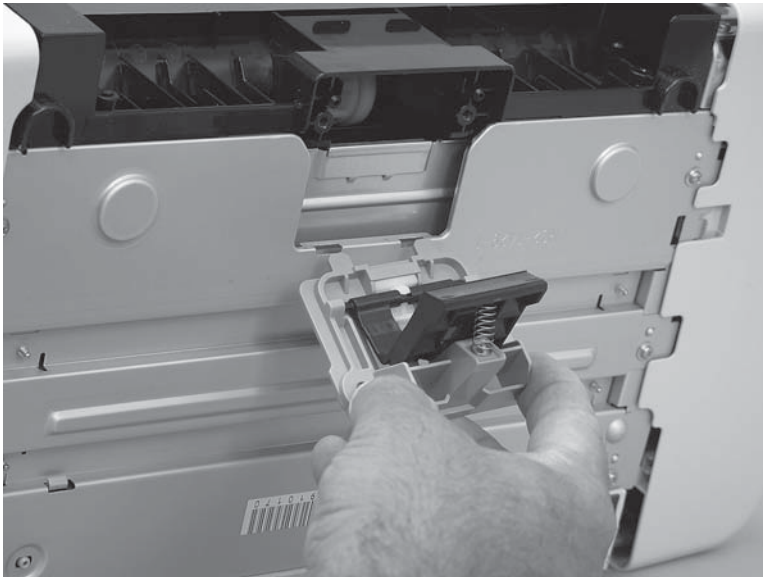
1. Position the product with the rear side facing you.
2. Support the product and tip it forward. Remove two screws (callout 1).

Figure 5-41 Remove the product separation pad (1 of 2)



3. Remove the product separation pad and frame.

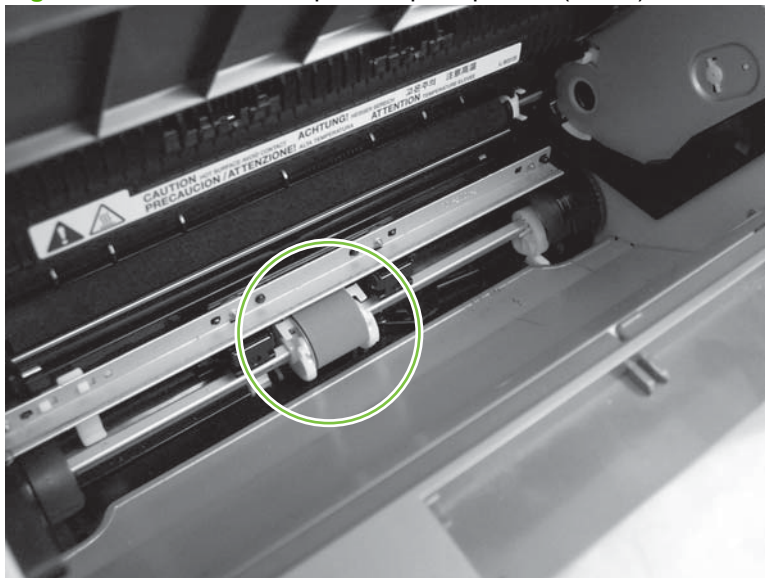
Figure 5-42 Remove the product separation pad (2 of 2)



Pickup roller (product base)

1. Remove the print cartridge and locate the product pickup roller. See [Print cartridge on page 95](#).

Figure 5-43 Remove the product pickup roller (1 of 5)

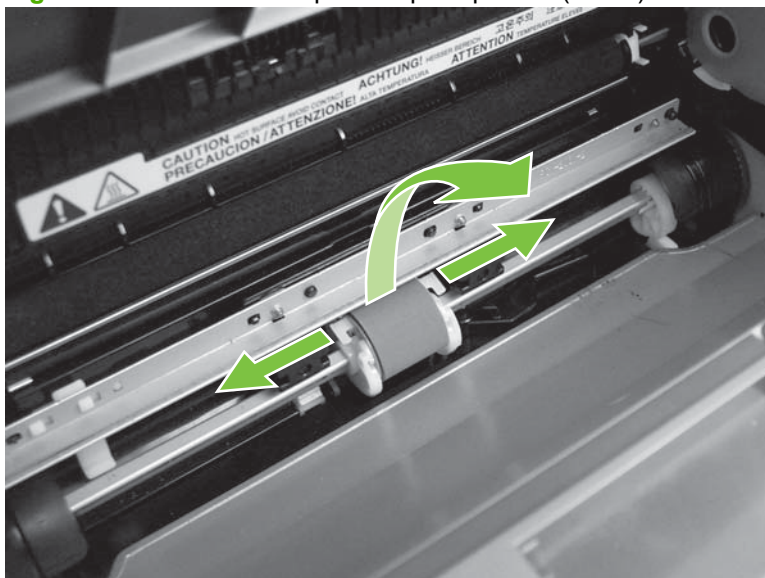


2. Gently release the small, white tabs on each side of the pickup roller by pushing them away from the roller, and then rotate the roller away from the mounting frame.

△ **CAUTION:** Do not touch the black-sponge transfer roller inside the product. Touching the transfer roller can damage the product.

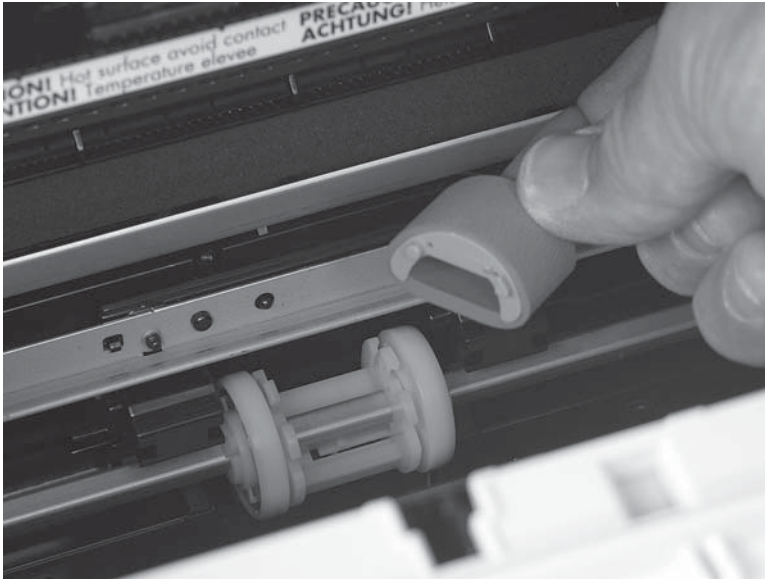
Use gentle pressure to release the small white tabs to avoid breaking them.

Figure 5-44 Remove the product pickup roller (2 of 5)



3. Gently pull the roller up and out of the product.

Figure 5-45 Remove the product pickup roller (3 of 5)



4. Circular and rectangular pegs on each side of the pickup roller fit into corresponding slots on the pickup-roller mounting frame and prevent the roller from being incorrectly installed. Position the replacement pickup roller in the slots on the pickup-roller frame.

Figure 5-46 Remove the product pickup roller (4 of 5)



5. Rotate the top of the pickup roller into position until the white tabs on each side of the roller snap into place.

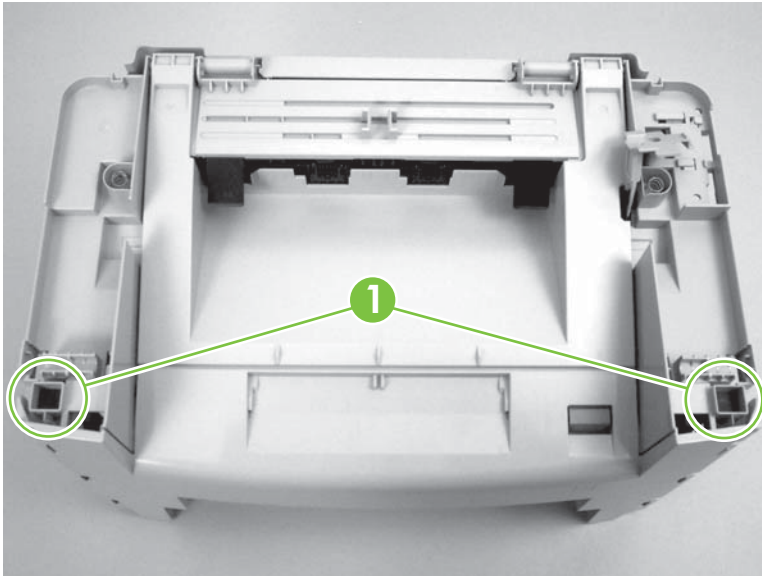
Figure 5-47 Remove the product pickup roller (5 of 5)



Scanner cushions

1. Open the print-cartridge door.
2. Place a scanner cushion in each well on the scanner support-frame (callout 1). Use the eraser-end of a pencil or use an ink pen with the cap on to seat each cushion in its well.

Figure 5-48 Installing the scanner cushions



Media input tray

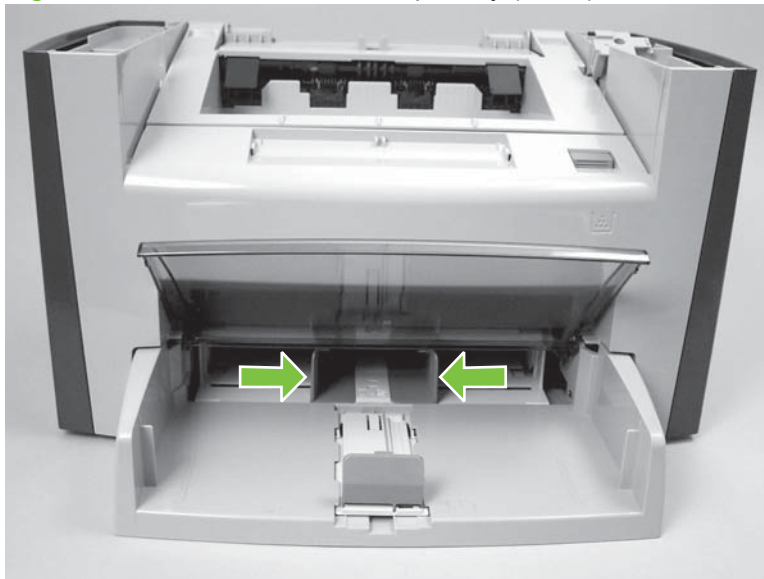
1. Open the media input tray lid.

Figure 5-49 Remove the media input tray (1 of 3)



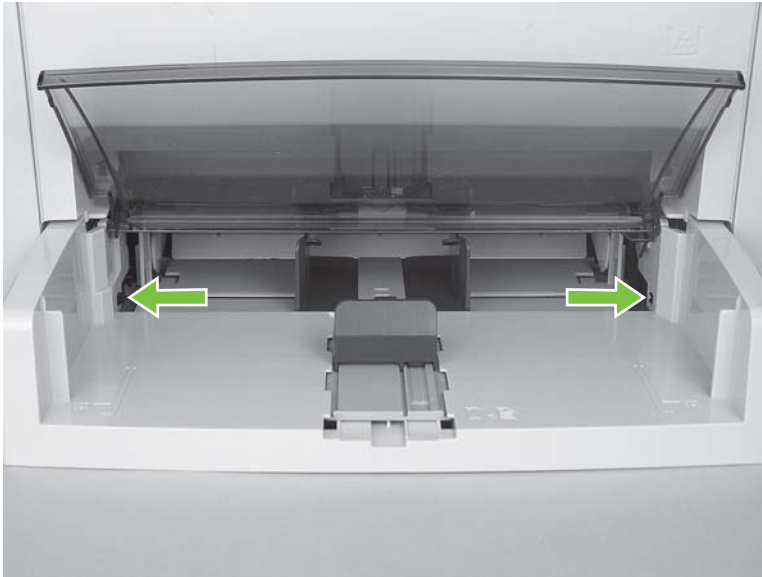
2. Slide the adjustable media guides to the center of the tray.

Figure 5-50 Remove the media input tray (2 of 3)



3. Depress the pickup-tray locking tabs to release the media input tray, and then pull it out and away from the product.

Figure 5-51 Remove the media input tray (3 of 3)

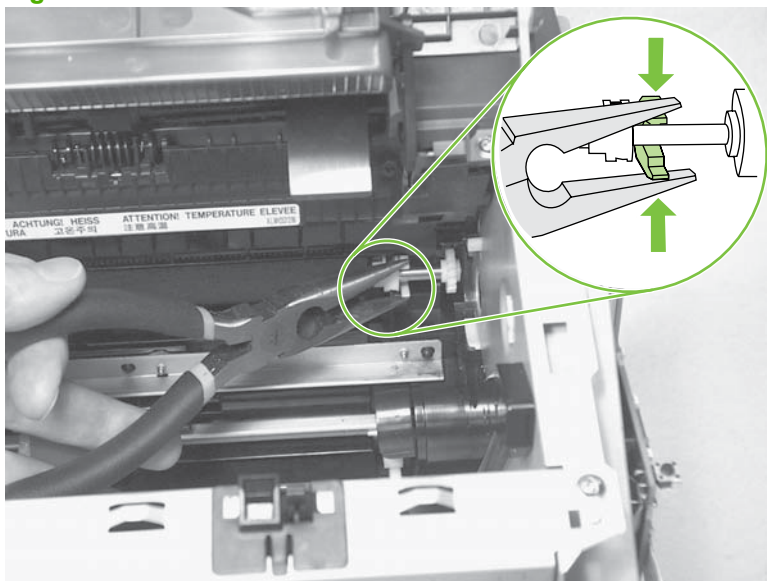


Transfer roller


△ **CAUTION:** Do not touch the black-sponge portion of the transfer roller. Skin oils deposited on the transfer roller might cause print-quality problems.

1. Open the print-cartridge door and remove the print cartridge.
2. Release the two small tabs on the transfer roller and then slide the roller to the right to release the left end of the roller shaft. Remove the transfer roller.

Figure 5-52 Remove the transfer roller

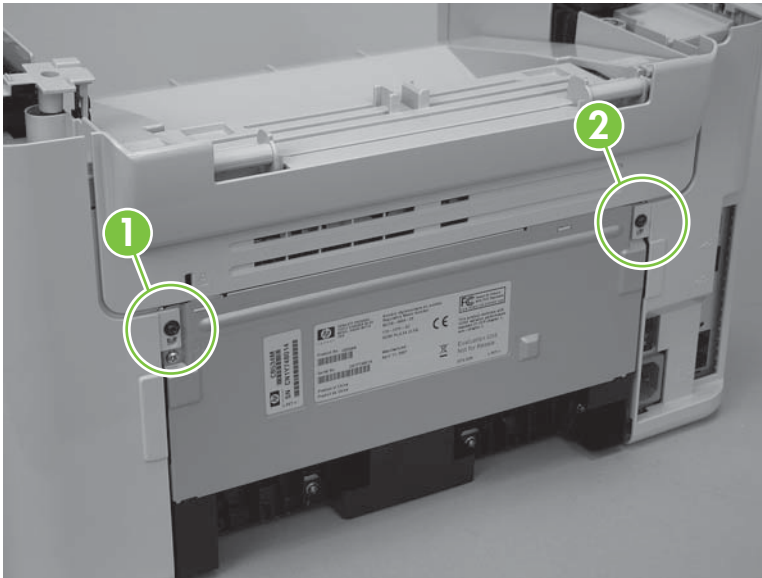


Side covers

 **NOTE:** The procedure for removing the right-side and left-side covers is identical. The right-side cover is shown in the following procedure.

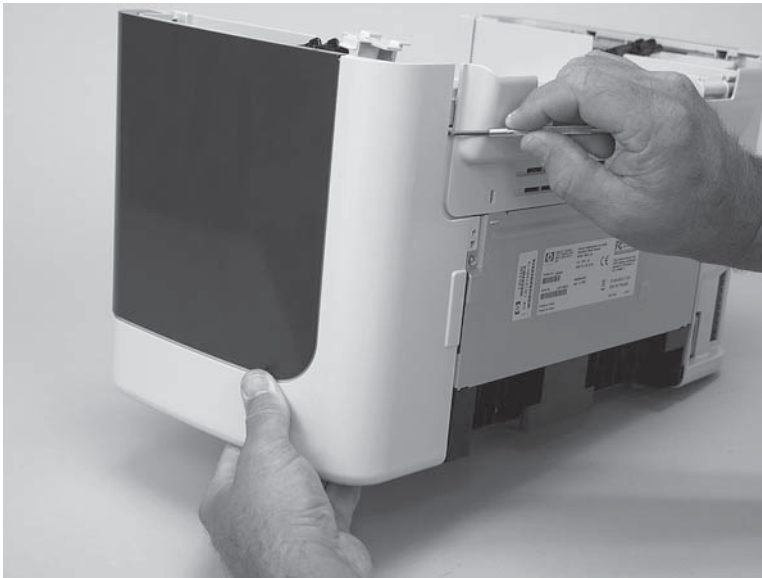
1. Remove one screw (callout 1). Callout 2 is the left-side cover screw.

Figure 5-53 Remove the side covers (1 of 4)



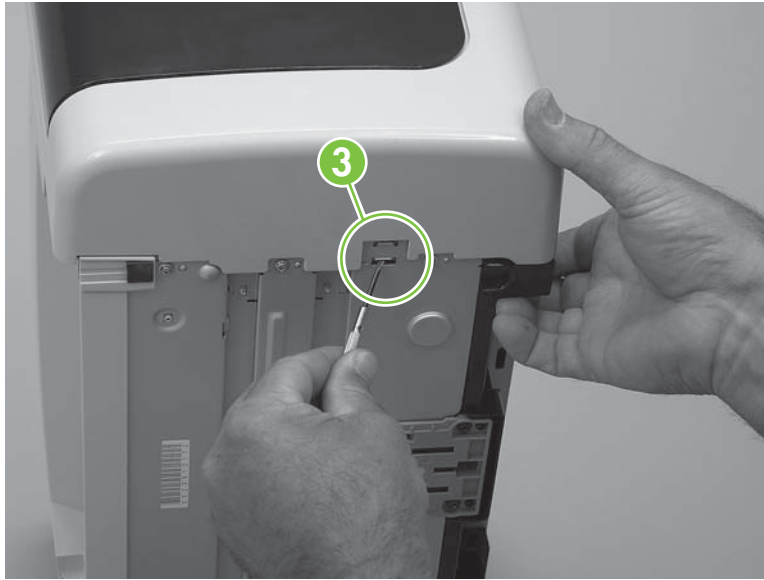
2. Release the locking tab on the back of the cover.

Figure 5-54 Remove the side covers (2 of 4)



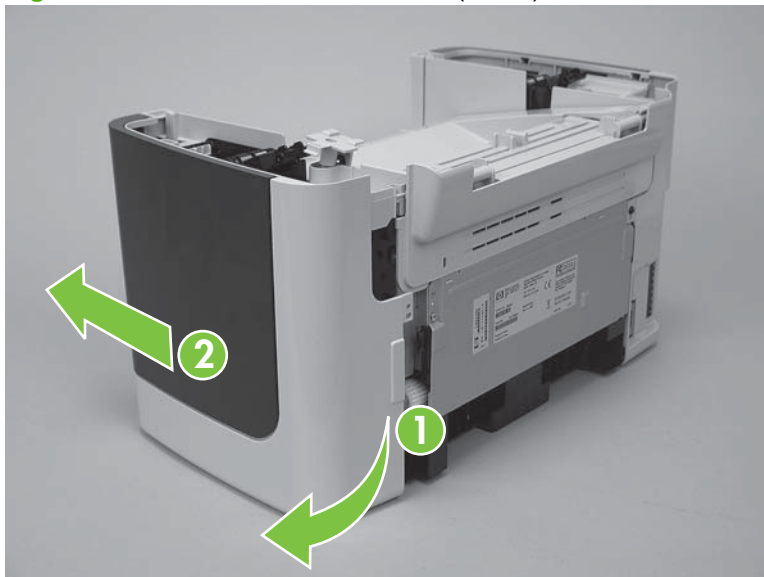
3. Release the bottom tab (callout 3).

Figure 5-55 Remove the side covers (3 of 4)



4. Slightly rotate the back side of the right cover away from the product, and then slide it toward the front of the product to release it.

Figure 5-56 Remove the side covers (4 of 4)



Print-cartridge door

1. Remove the scanner assembly. See [Scanner assembly on page 90](#).
2. Fully open the print-cartridge door and gently pull downward on both print-cartridge swing arms to release them. (In [Figure 5-57 Remove the print-cartridge door \(1 of 2\)](#) on page 106, the left arm is disengaged).

△ **CAUTION:** Be careful when releasing the swing arms. They can easily break.

Figure 5-57 Remove the print-cartridge door (1 of 2)



3. Rotate the door toward the back of the product and then lift it up and off of the product.

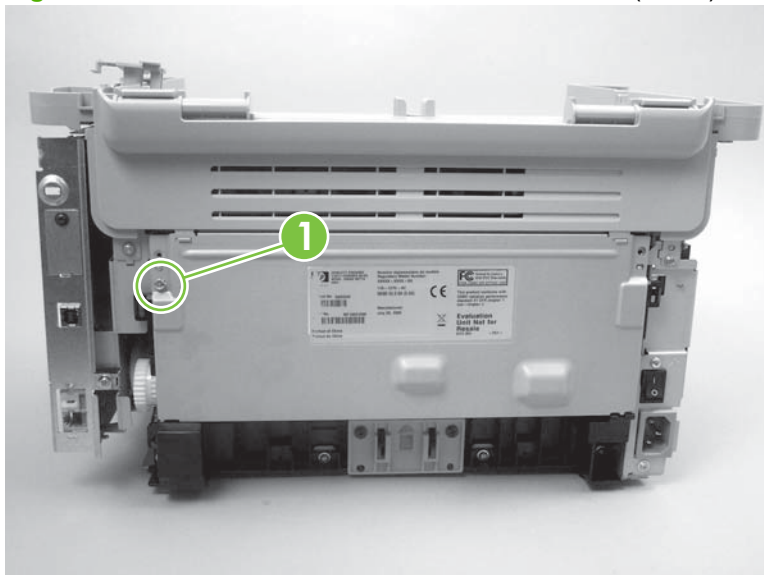
Figure 5-58 Remove the print-cartridge door (2 of 2)



Rear cover and fuser cover

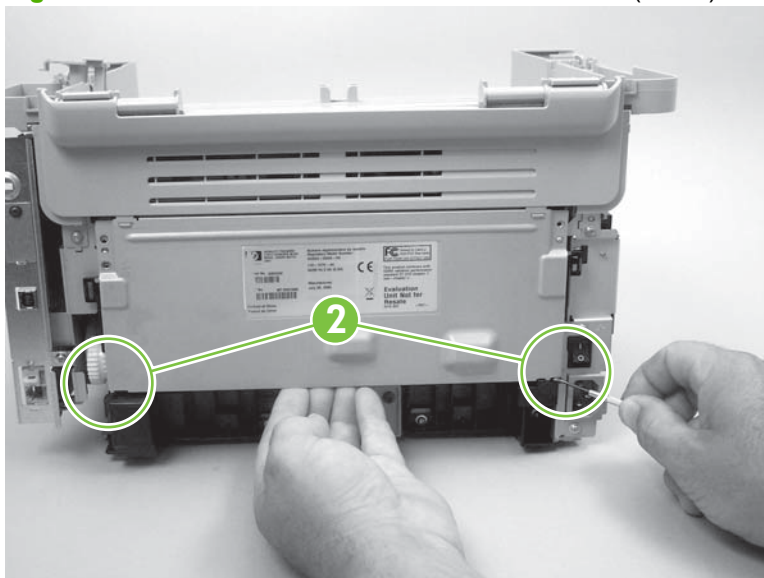
1. Remove the right-side and left-side covers. See [Side covers on page 104](#).
2. Remove one screw (callout 1).

Figure 5-59 Remove the rear cover and fuser cover (1 of 3)



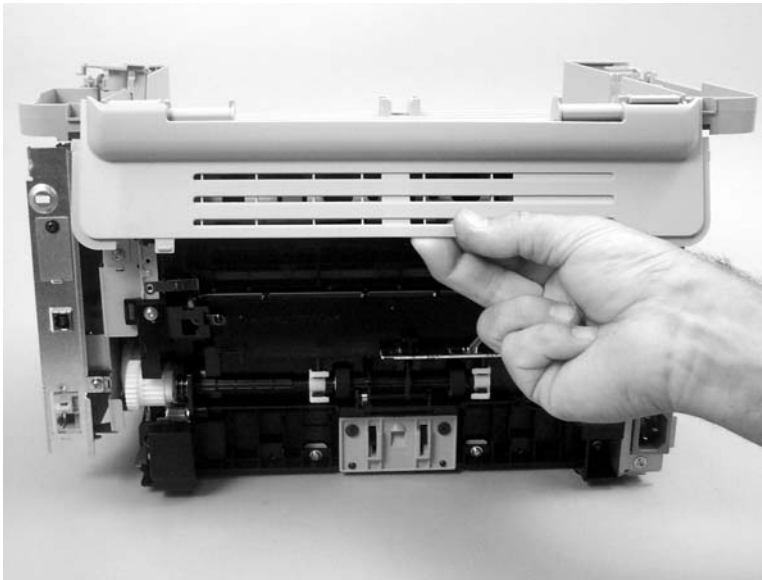
3. Release the two rear-cover locking tabs (callout 2). Rotate the bottom of the rear cover up and away from the product, and remove it.

Figure 5-60 Remove the rear cover and fuser cover (2 of 3)



4. Rotate the bottom of the fuser cover away from the product, and remove the fuser cover.

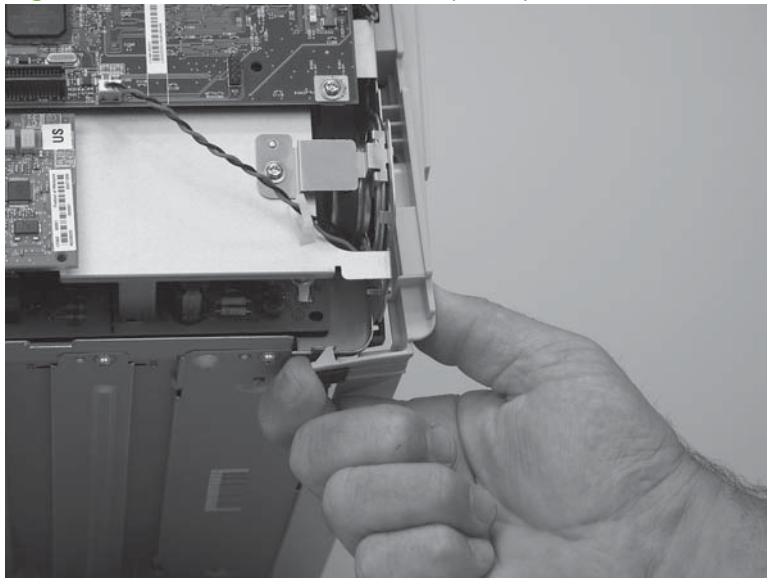
Figure 5-61 Remove the rear cover and fuser cover (3 of 3)



Front cover

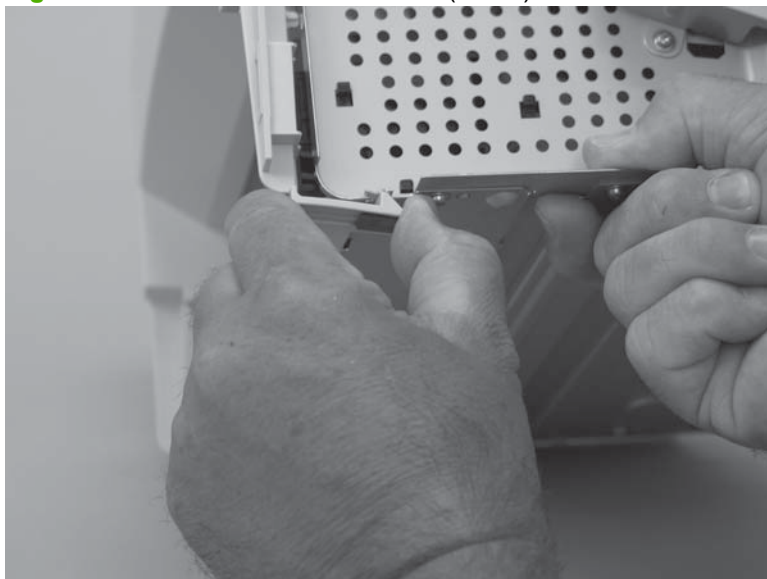
1. Remove the right-side and left-side covers. See [Side covers on page 104](#).
2. Release the lower left-side front-cover locking tab and slightly pry the lower-left corner of the front cover away from the product.

Figure 5-62 Remove the front cover (1 of 4)



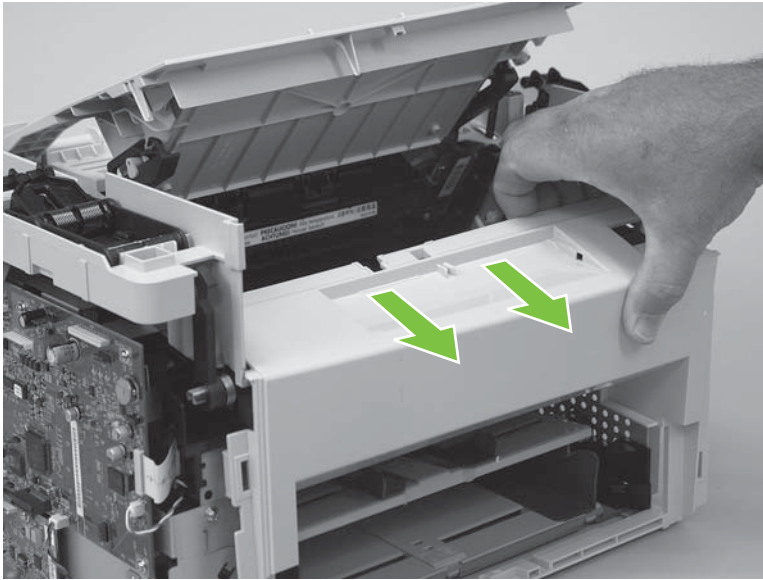
3. Release the lower right-side front-cover locking tab (located near the corner of the power supply) and slightly pry the lower-right corner of the front cover away from the product.

Figure 5-63 Remove the front cover (2 of 4)



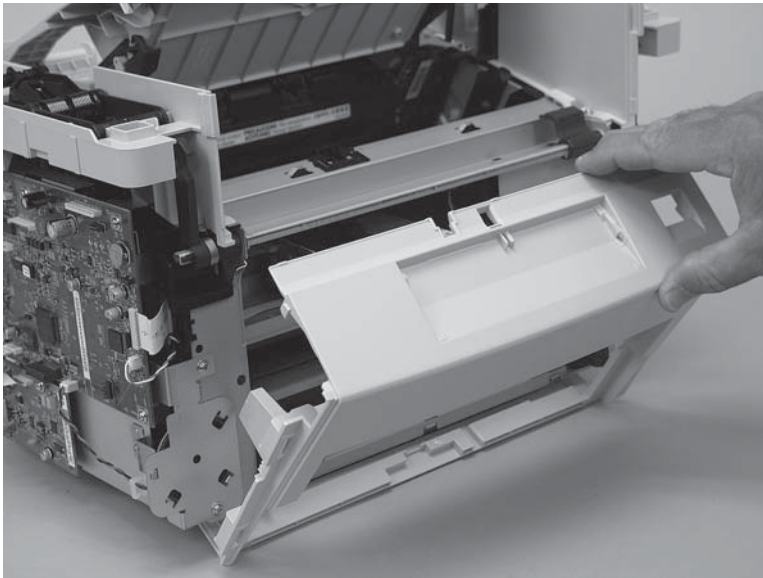
4. Pry up and pull out on the front cover to release it from the product.

Figure 5-64 Remove the front cover (3 of 4)



5. Remove the front cover.

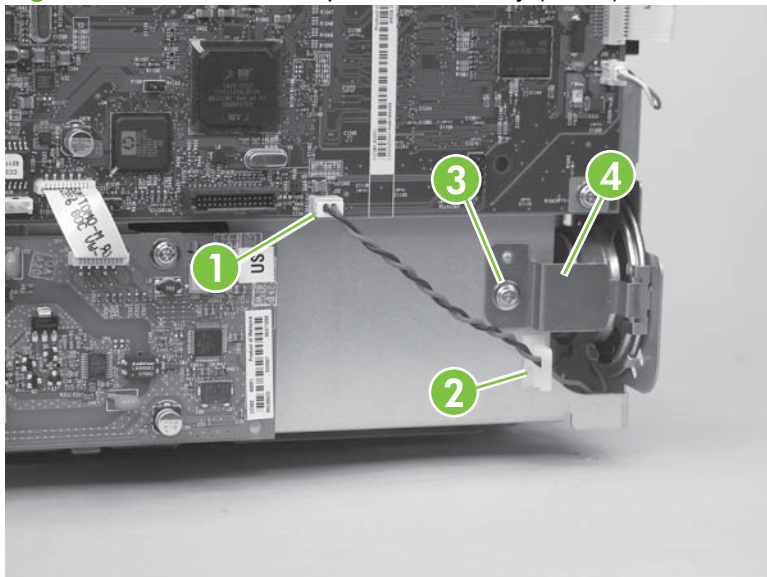
Figure 5-65 Remove the front cover (4 of 4)



Speaker assembly

1. Remove the left cover. See [Side covers on page 104](#).
2. Disconnect one wire-harness connector (callout 1; J32) and remove the wire-harness from one wire retainer (callout 2).
3. Remove one screw (callout 3) and the sheet-metal bracket (callout 4).

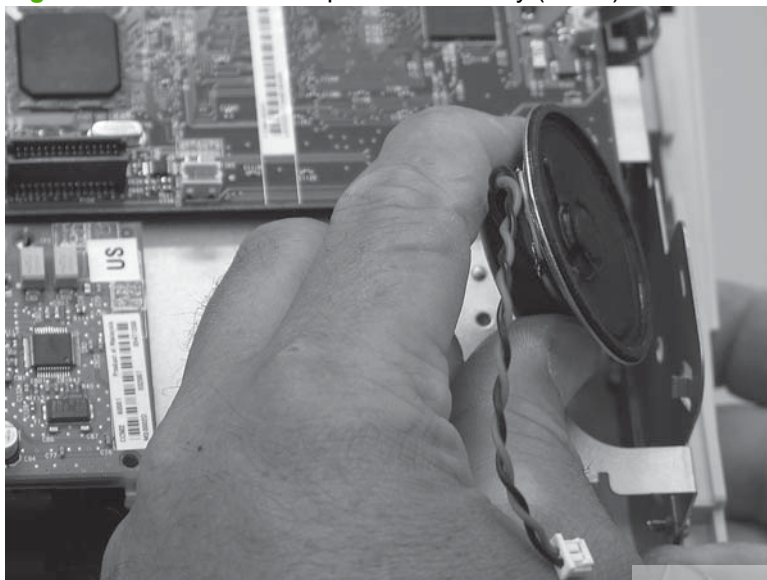
Figure 5-66 Remove the speaker assembly (1 of 2)




4. Release the speaker from the retaining clips and carefully slip the speaker out of the product chassis.

△ **CAUTION:** The speaker will pass through the opening in the product chassis, but it is a tight fit and you must carefully handle the speaker. Do not damage the paper cone of the speaker or pull on the speaker wires.

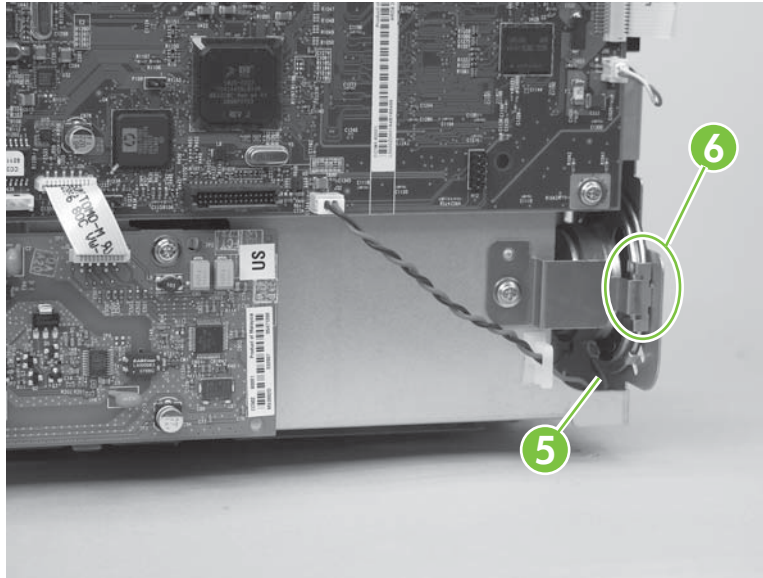
Figure 5-67 Remove the speaker assembly (2 of 2)



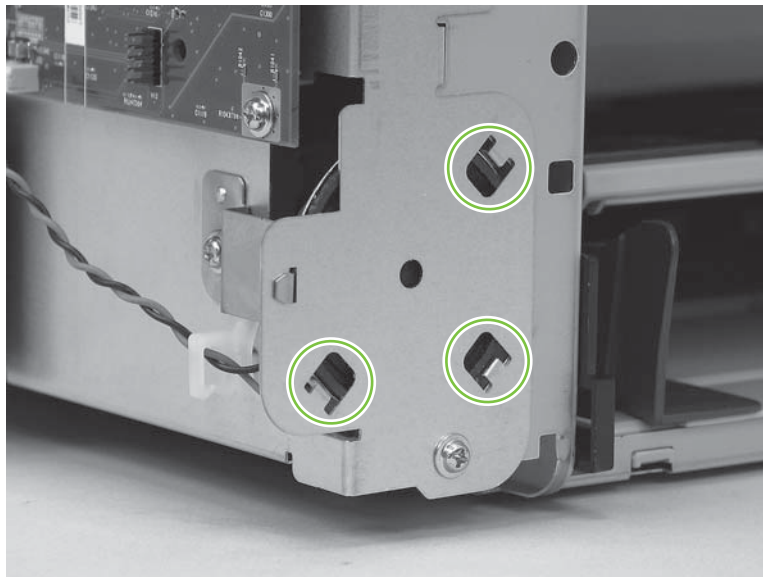
5. Make sure that the replacement speaker is correctly position when it is installed.

 **NOTE:** The front cover is shown off for clarity. You do not need to remove the front cover to remove the speaker.

- Make sure that the speaker electrical wires (callout 5) are positioned at the bottom of the chassis, and that the retainer clip fits over both sides of the speaker frame (callout 6).



- Make sure that the speaker is retained by the clips in the product chassis.



Formatter and fax card

△ **CAUTION:** The formatter and fax card are ESD-sensitive devices.

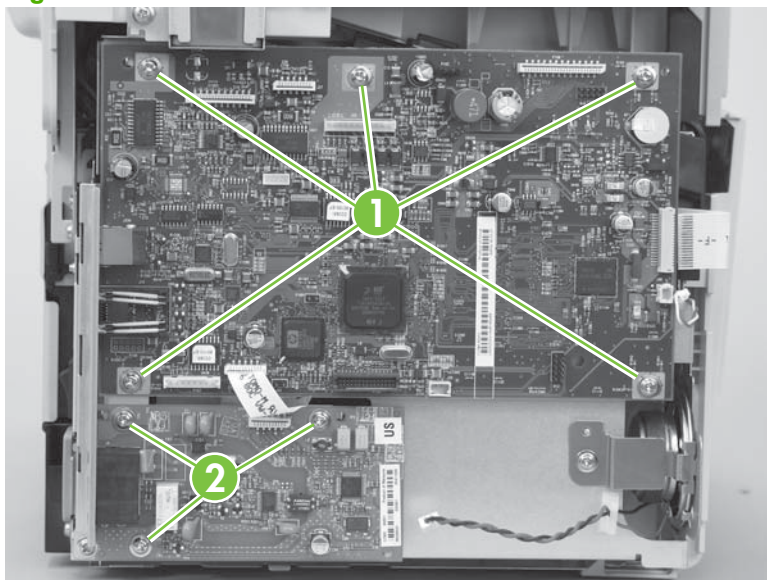
1. Remove the left cover. See [Side covers on page 104](#).
2. Disconnect all FFCs and wire-harness from the formatter and fax card.

△ **CAUTION:** Do not bend or fold the FFCs during the removal or reinstallation process.

📝 **NOTE:** The scanner assembly is shown removed in this procedure. If the scanner assembly is installed, there will be additional FFCs and wire-harness connected to the formatter. You do not need to remove the scanner assembly to remove the formatter and fax card.

3. Remove five screws from the formatter PCA (callout 1). Remove three screws (callout 2) from the fax card. Remove the formatter and fax card.

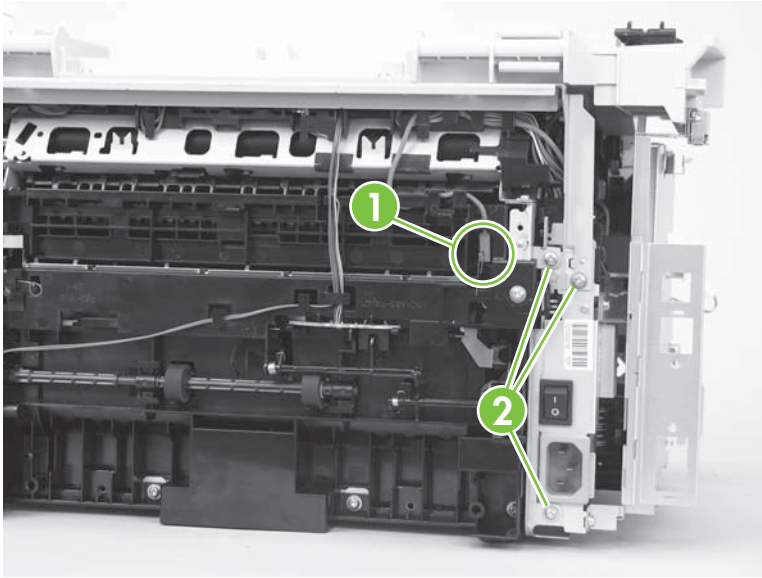
Figure 5-68 Remove the formatter



Power supply

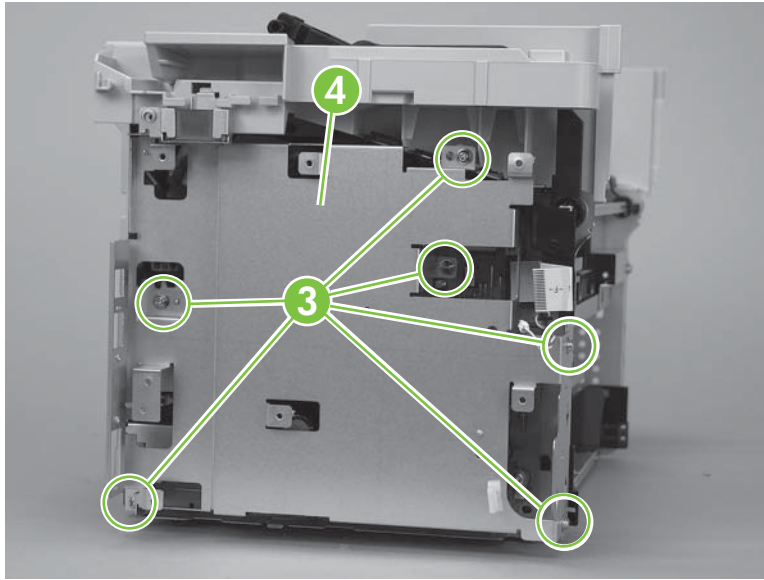
1. Remove the following assemblies:
 - Right and left covers. See [Side covers on page 104](#).
 - Rear cover and fuser cover. See [Rear cover and fuser cover on page 107](#).
 - Front cover. See [Front cover on page 109](#).
 - Speaker assembly. See [Speaker assembly on page 111](#).
 - Formatter and fax card. See [Formatter and fax card on page 113](#).
2. Disconnect one spade connector (callout 1) and remove three screws (callout 2).

Figure 5-69 Remove the power supply (1 of 7)



3. Remove six screws (callout 3) and the sheet-metal plate (callout 4).

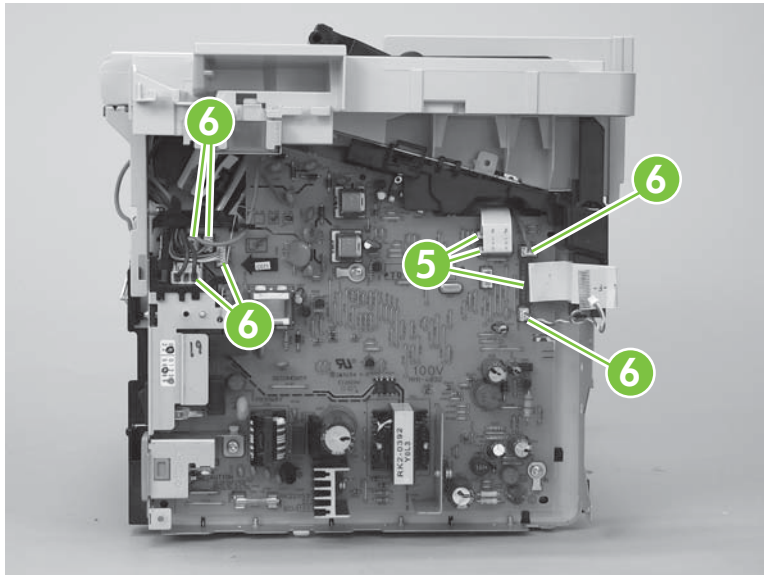
Figure 5-70 Remove the power supply (2 of 7)



4. Disconnect three FFCs (callout 5) and six wire-harness connectors (callout 6).

△ **CAUTION:** Do not bend or fold the FFCs during the removal or reinstallation process.

Figure 5-71 Remove the power supply (3 of 7)



5. Release the ground wire from the retainer (callout 7) on the product chassis.


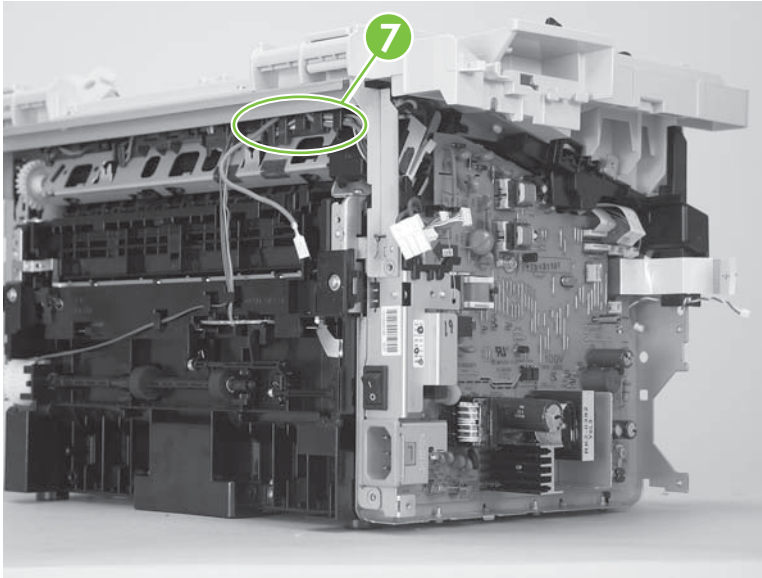
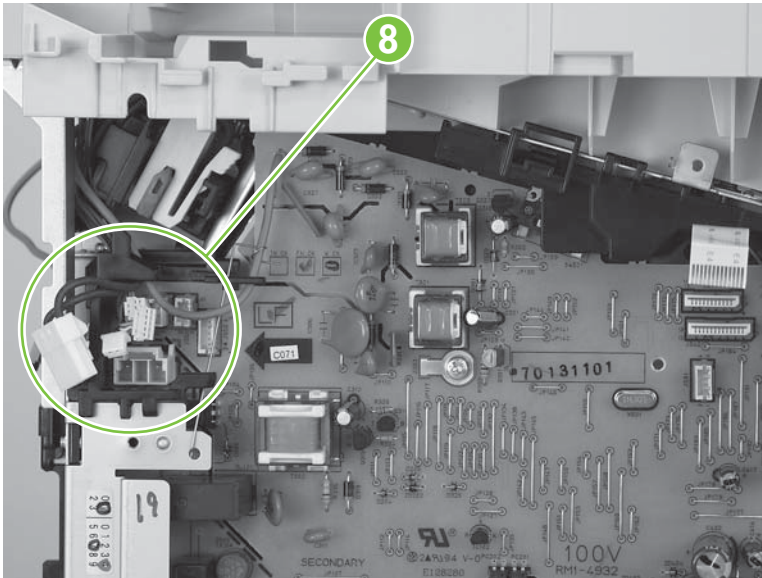
 **NOTE:** You might need to slightly pry up on the scanner support frame to release the wire from the retainer.

Figure 5-72 Remove the power supply (4 of 7)



6. Release the wire-harness from the retainer (callout 8) on the power supply.

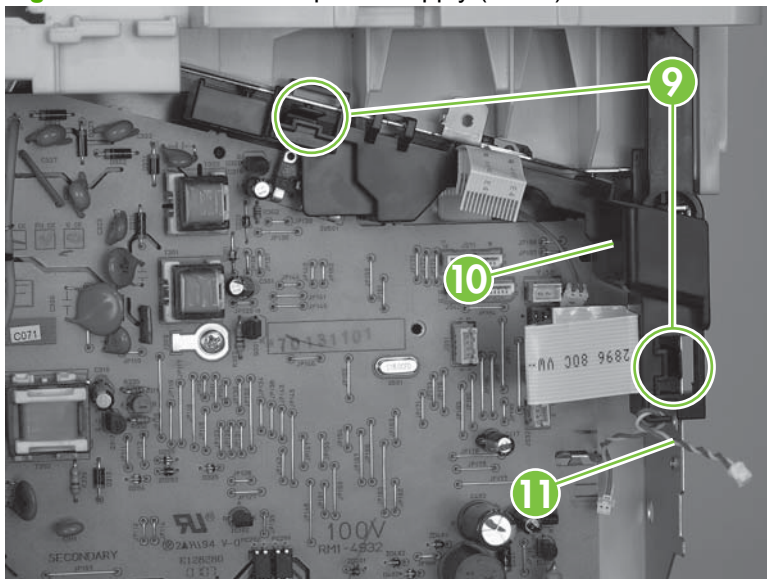
Figure 5-73 Remove the power supply (5 of 7)



7. Unclip two clips (callout 9) and remove one plastic bracket (callout 10).

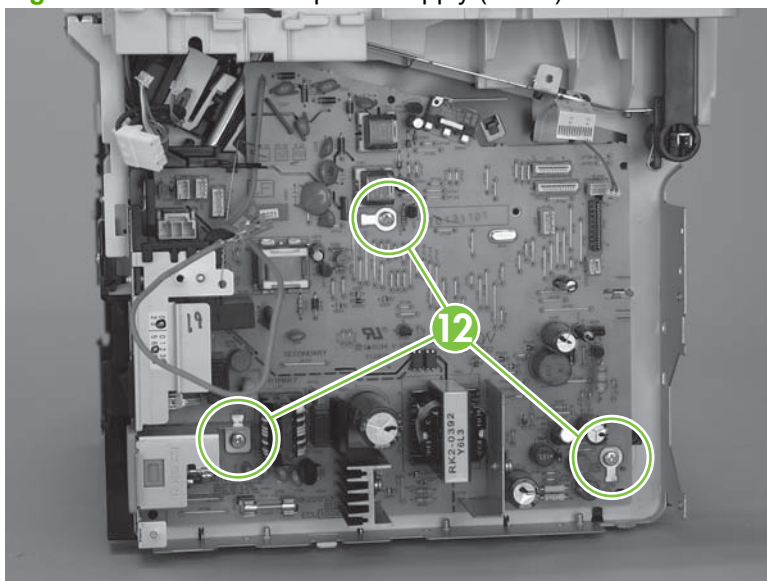
△ **CAUTION:** The wire-harness (callout 11) attached to the bracket is not captive. Do not lose this wire-harness when the bracket is removed.

Figure 5-74 Remove the power supply (7 of 7)



8. Remove three screws (callout 12). Remove the power supply.

Figure 5-75 Remove the power supply (7 of 7)



Scanner support-frame

1. Remove the following assemblies:

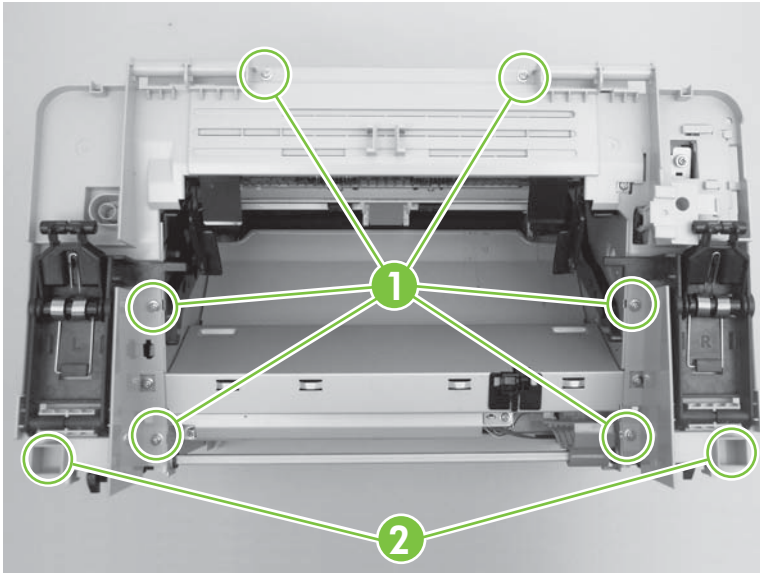
- Scanner assembly. See [Scanner assembly on page 90](#).
- Right and left cover. See [Side covers on page 104](#).
- Print-cartridge door. See [Print-cartridge door on page 106](#).
- Rear cover and fuser cover. See [Rear cover and fuser cover on page 107](#).
- Front cover. See [Front cover on page 109](#).

2. Remove six screws (callout 1).

△ **CAUTION:** Be careful not to drop any screws into the product.

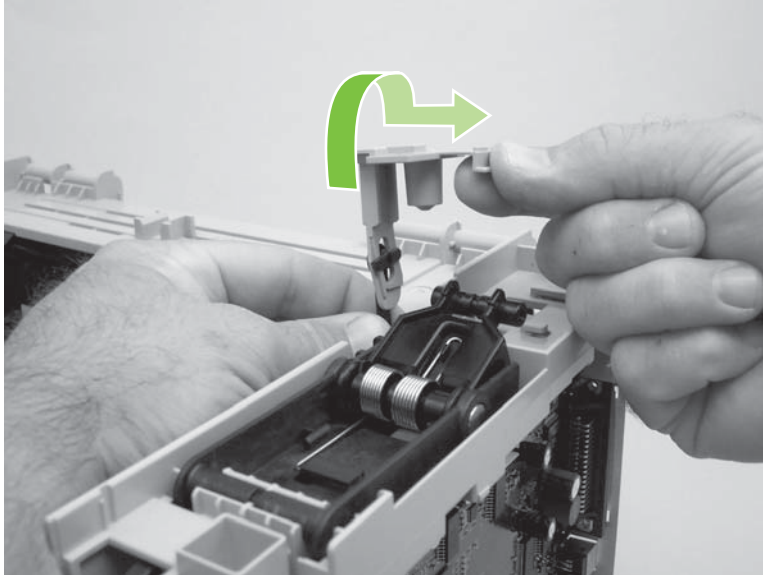
📋 **NOTE:** If you turn over the scanner support-frame after you remove it, the two scanner cushions (callout 2) might fall out and be misplaced.

Figure 5-76 Remove the scanner support-frame (1 of 5)



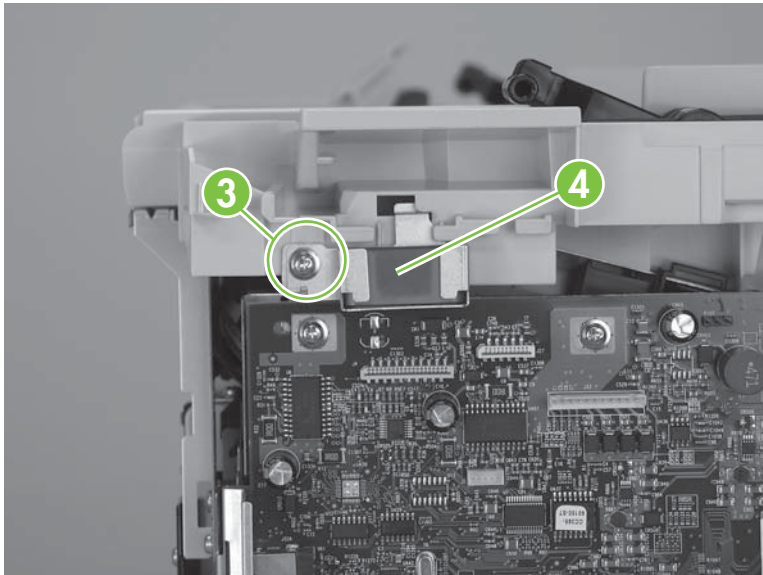
3. Rotate the gear-drive bracket until the retainer on the gear-drive arm aligns with the opening in the bracket, and remove the bracket.

Figure 5-77 Remove the scanner support-frame (2 of 5)



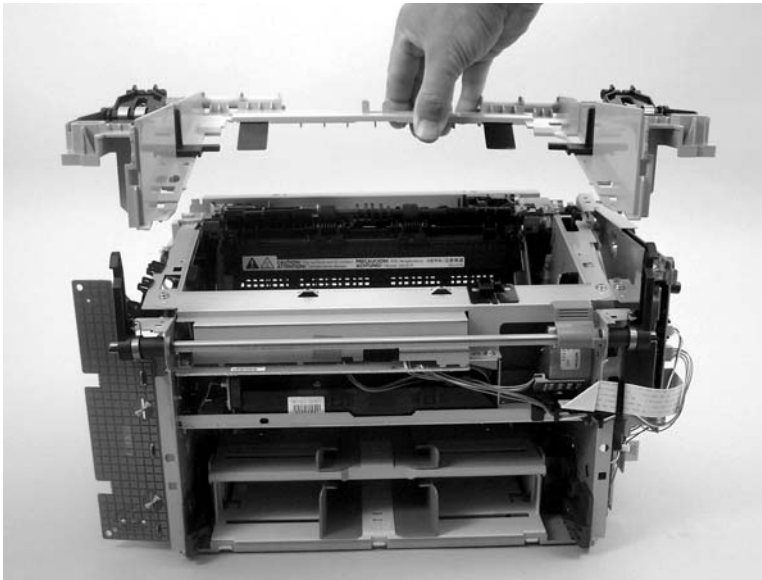
4. Remove one screw (callout 3) and the ferrite and bracket (callout 4).

Figure 5-78 Remove the scanner support-frame (3 of 5)



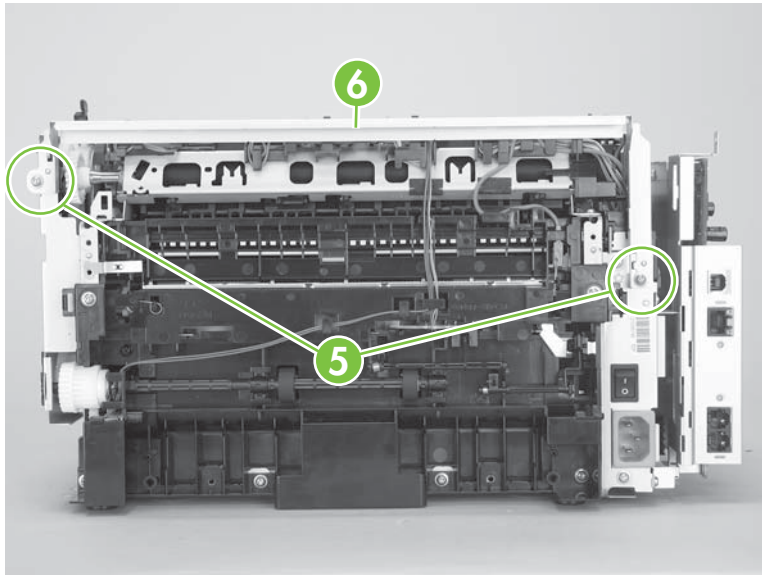
5. Lift the scanner support-frame up and off of the product.

Figure 5-79 Remove the scanner support-frame (4 of 5)



6. If you are removing the scanner support-frame to gain access to the fuser, remove two screws (callout 5) and the chassis reinforcement bracket (callout 6).

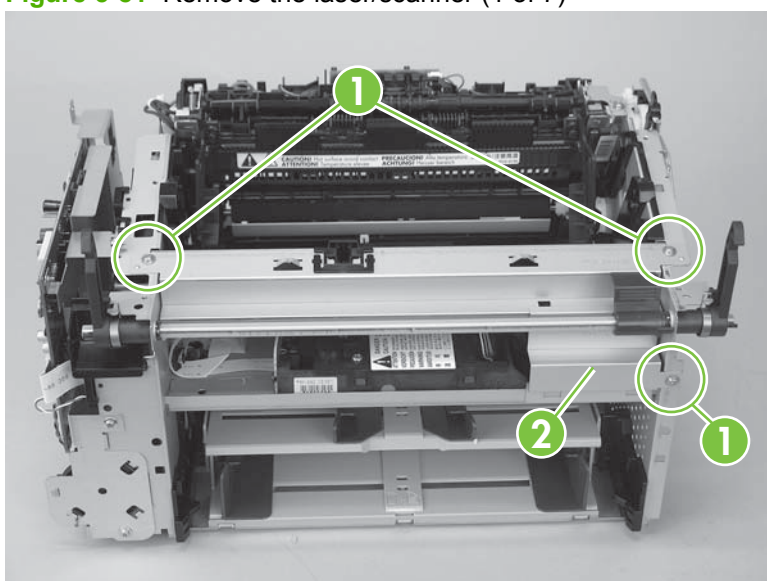
Figure 5-80 Remove the scanner support-frame (5 of 5)



Laser/scanner assembly

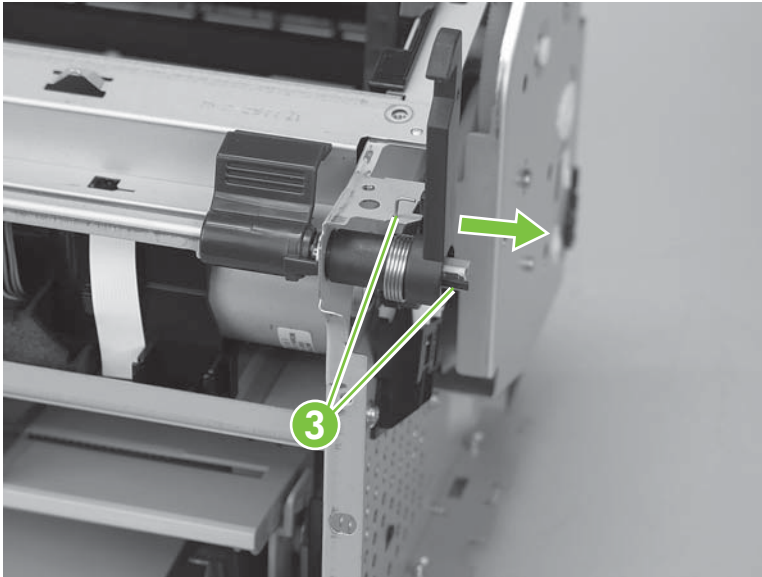
1. Remove the following assemblies:
 - Scanner assembly. See [Scanner assembly on page 90](#).
 - Right and left cover. See [Side covers on page 104](#).
 - Print-cartridge door. See [Print-cartridge door on page 106](#).
 - Rear cover and fuser cover. See [Rear cover and fuser cover on page 107](#).
 - Front cover. See [Front cover on page 109](#).
 - Scanner support-frame. See [Scanner support-frame on page 118](#).
2. Remove three screws (callout 1) and one sheet-metal bracket (callout 2).

Figure 5-81 Remove the laser/scanner (1 of 7)



3. Release one tab and one spring (callout 3) and then remove right-side scanner-assembly locking lever.

Figure 5-82 Remove the laser/scanner (2 of 7)



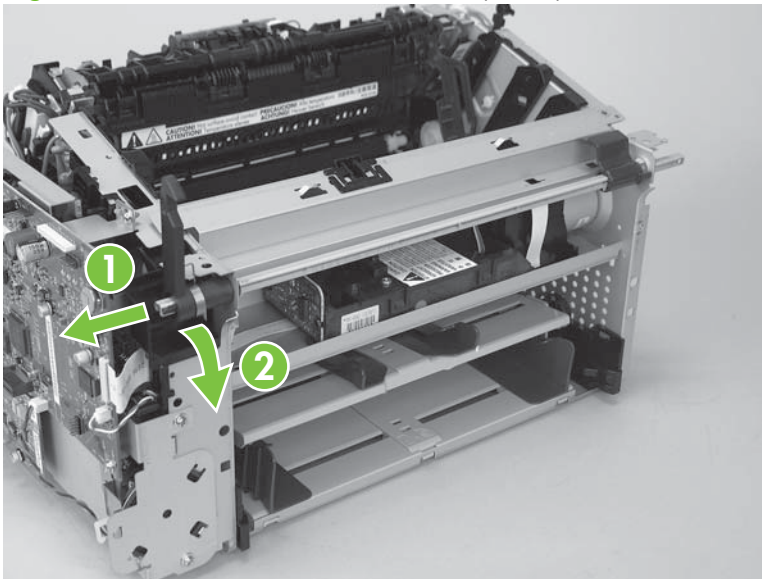
4. Push the shaft to the left to disengage it (you might need to release the left-side locking lever spring), and then rotate the shaft towards the front of the product until the left-side scanner-assembly locking lever is in the down position.



NOTE:

When the shaft is reinstalled, make sure that the locking levers and the cartridge-door button (mounted to the shaft near the right-side locking lever) are correctly positioned. Verify that the locking-lever tension springs are engaged in the slots in the chassis.

Figure 5-83 Remove the laser/scanner (3 of 7)



5. Lift the laser/scanner cover up and out of the product to remove it.


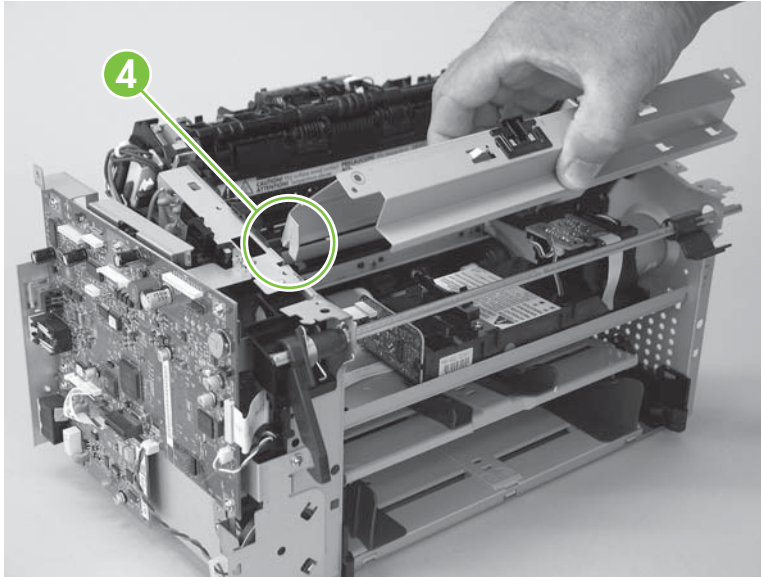
 **NOTE:** When this cover is reinstalled, make sure that the slots (callout 4; one shown) in the lower portion of the cover fit over the edge of the laser/scanner mounting shelf so that the cover is secure and correctly fits inside the product.

Figure 5-84 Remove the laser/scanner (4 of 7)



6. Disconnect one FFC (callout 5).


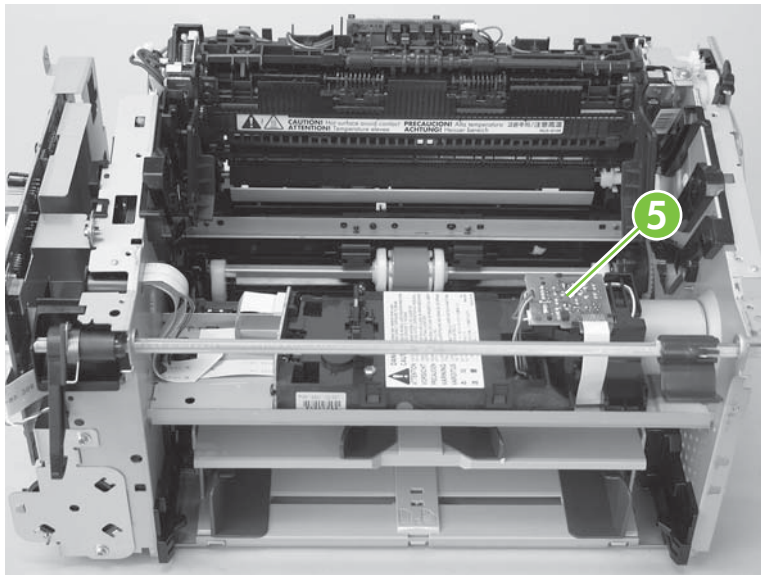
 **CAUTION:** Do not bend or fold the FFCs during the removal or reinstallation process.

Figure 5-85 Remove the laser/scanner assembly (5 of 7)



7. Remove four screws (callout 6).


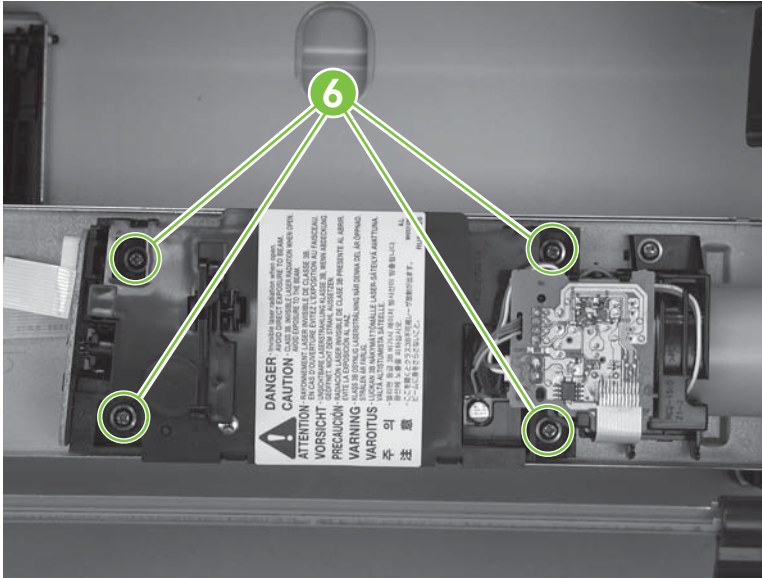
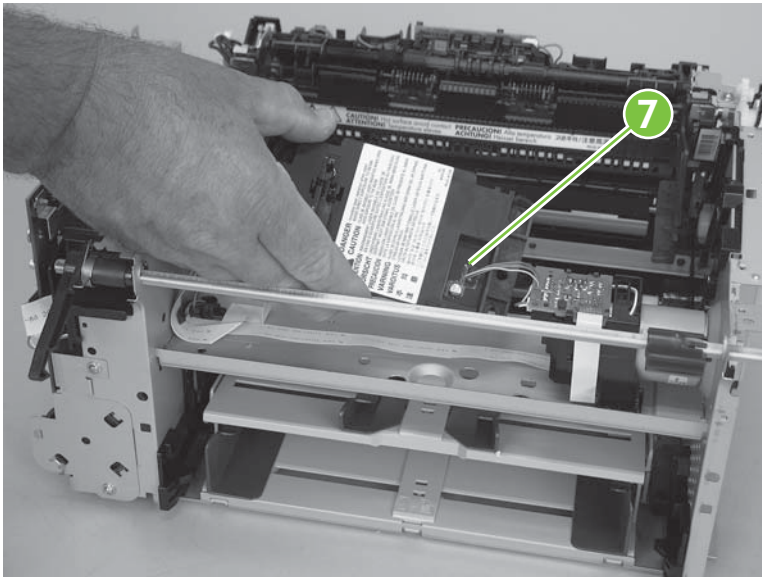
 **NOTE:** These four screws are longer than most of the other screws used in the product. Do not get them mixed up with screws from previously removed components.

Figure 5-86 Remove the laser/scanner assembly (6 of 7)



8. Carefully slide the laser/scanner assembly away from the main-motor PCA bracket and then disconnect one wire-harness connector (callout 7). Remove the laser/scanner assembly.

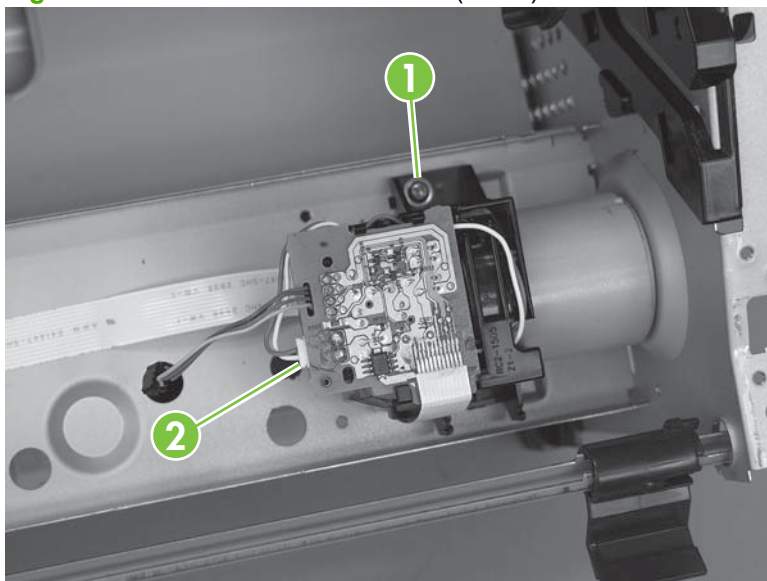
Figure 5-87 Remove the laser/scanner assembly (7 of 7)



Main motor

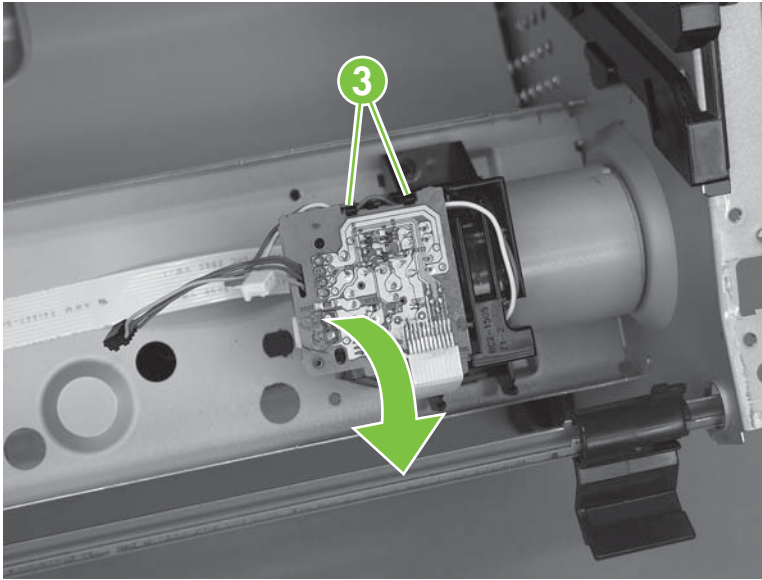
1. Remove the following assemblies:
 - Scanner assembly. See [Scanner assembly on page 90](#).
 - Formatter. See [Formatter and fax card on page 113](#).
 - Right and left cover. See [Side covers on page 104](#).
 - Print-cartridge door. See [Print-cartridge door on page 106](#).
 - Rear cover and fuser cover. See [Rear cover and fuser cover on page 107](#).
 - Front cover. See [Front cover on page 109](#).
 - Scanner support-frame. See [Scanner support-frame on page 118](#).
 - Laser/scanner assembly. See [Laser/scanner assembly on page 121](#).
2. Remove one screw (callout 1) and then carefully disconnect one wire-harness connector (callout 2).

Figure 5-88 Remove the main motor (1 of 4)



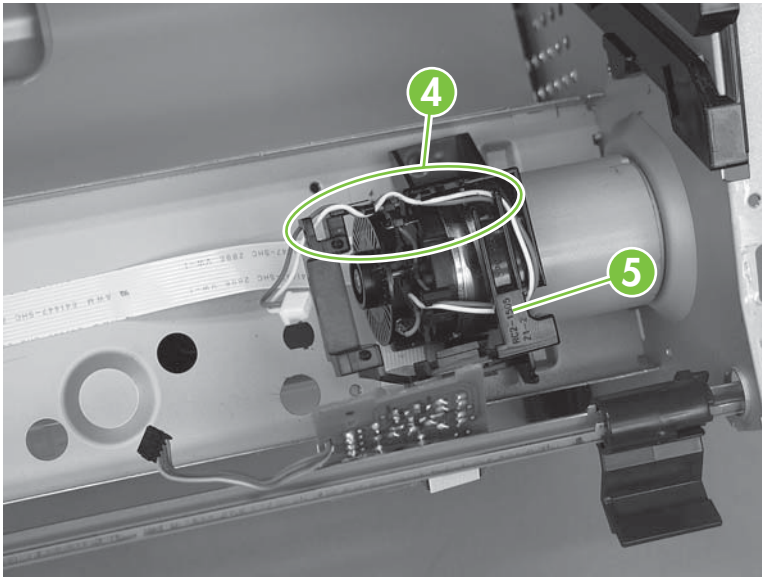
3. Carefully release two tabs (callout 3) and separate the main motor PCA from the mounting bracket.

Figure 5-89 Remove the main motor (2 of 4)



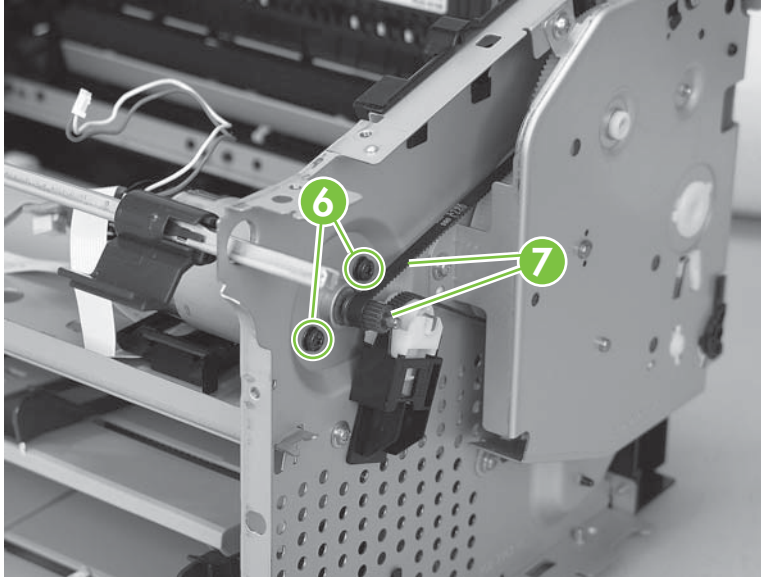
4. Remove the main motor wire-harness from the retainers (callout 4) on the mounting bracket. Remove the bracket (callout 5).


Figure 5-90 Remove the main motor (3 of 4)



5. Remove two screws (callout 6). Carefully slip the main-motor drive belt off of the motor shaft (callout 7), and then remove the main motor.

Figure 5-91 Remove the main motor (4 of 4)



 **TIP:** When the main motor is reinstalled, make sure that the wire-harness is located toward the top of the motor so that the harness can be correctly positioned in the retainers on the motor PCA mounting bracket.

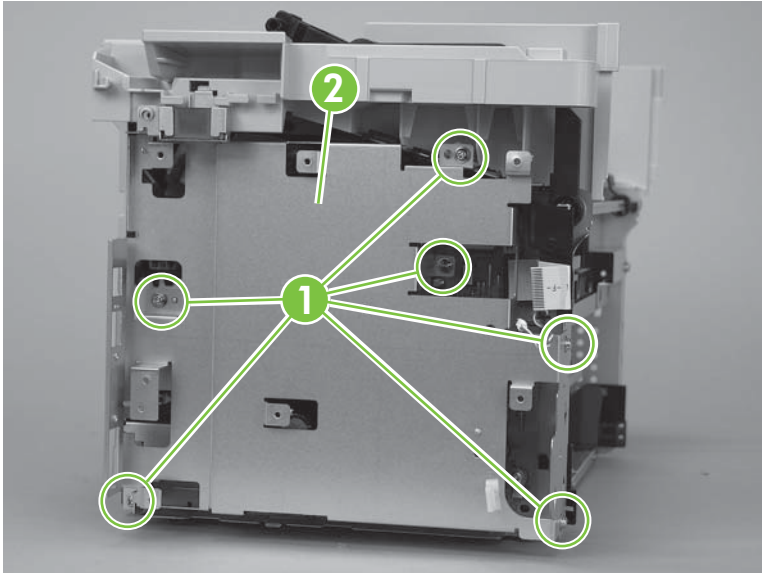
When you reinstall the main-motor drive belt, make sure that it is correctly positioned on top of the spring loaded tension idler and that it is not twisted (the groves in the belt should face inwards when the belt is correctly positioned).

Make sure that the FFC that is attached to the motor PCA is correctly positioned under the lower motor mounting bracket so that it will not interfere with the motor cooling fan blade on the rear of the motor shaft.

Fuser

1. Remove the following assemblies:
 - Scanner assembly. See [Scanner assembly on page 90](#).
 - Right and left covers. See [Side covers on page 104](#).
 - Print-cartridge door. See [Print-cartridge door on page 106](#).
 - Rear cover and fuser cover. See [Rear cover and fuser cover on page 107](#).
 - Front cover. See [Front cover on page 109](#).
 - Formatter and fax card. See [Formatter and fax card on page 113](#).
 - Scanner support-frame and chassis reinforcement plate. See [Scanner support-frame on page 118](#).
2. Remove six screws (callout 1) and the power supply sheet-metal plate (callout 2).

Figure 5-92 Remove the fuser (1 of 6)



3. Disconnect two wire-harness connectors (callout 3; J102, and J552) and remove the harnesses from the retainer (callout 4).


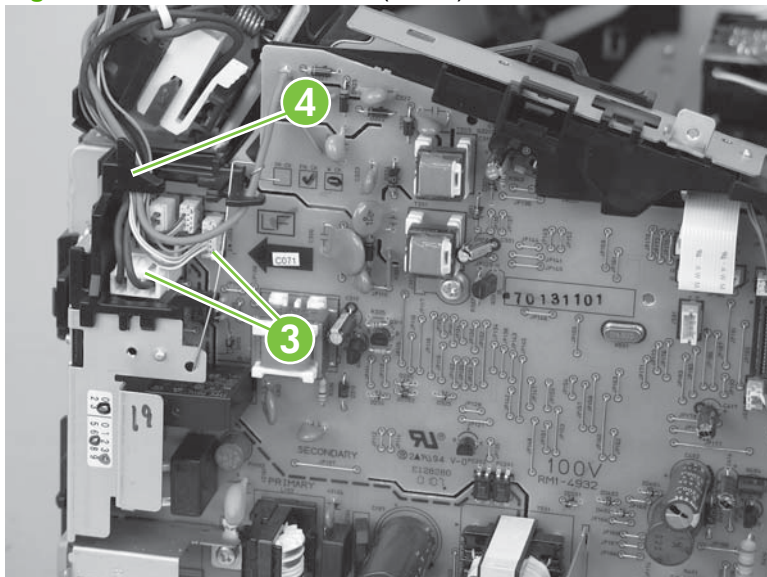
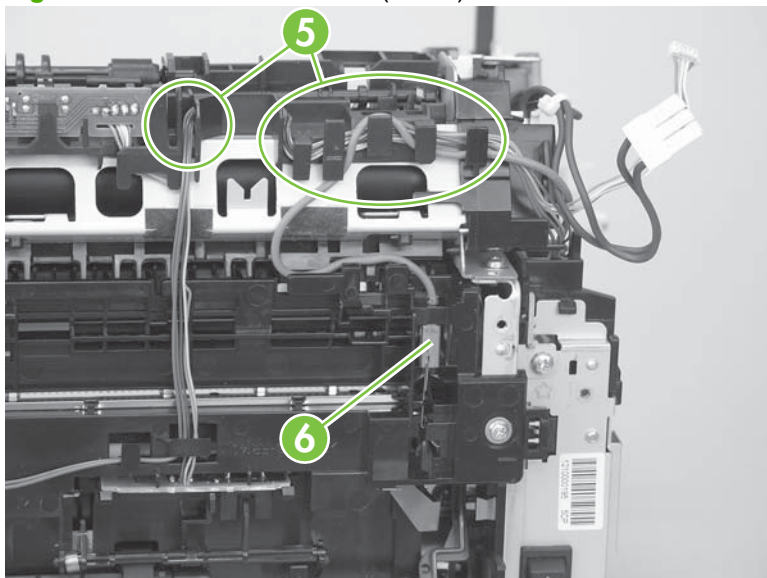
 **NOTE:** You might need to disconnect and remove other wire-harness to remove the required harness from the retainer.

Figure 5-93 Remove the fuser (2 of 6)



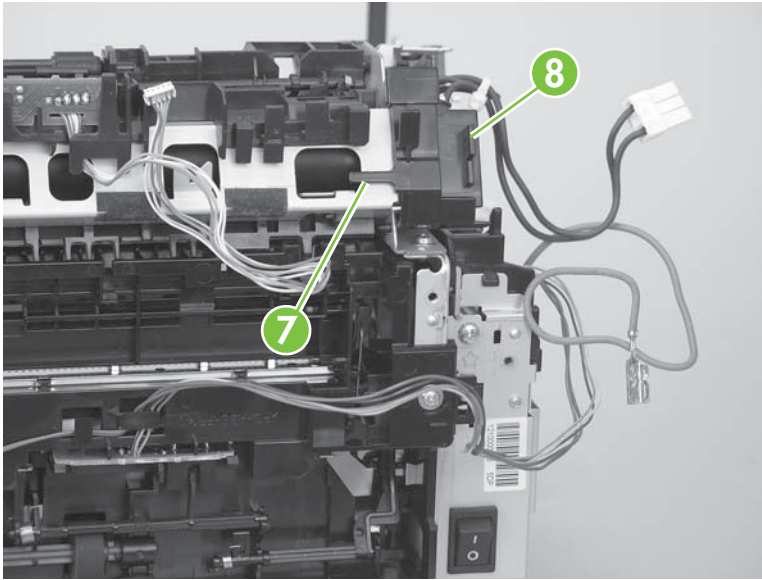
4. Release the wire-harness from the retainer (callout 5) near the top of the fuser and disconnect the ground wire (callout 6) from the back of the product.

Figure 5-94 Remove the fuser (3 of 6)



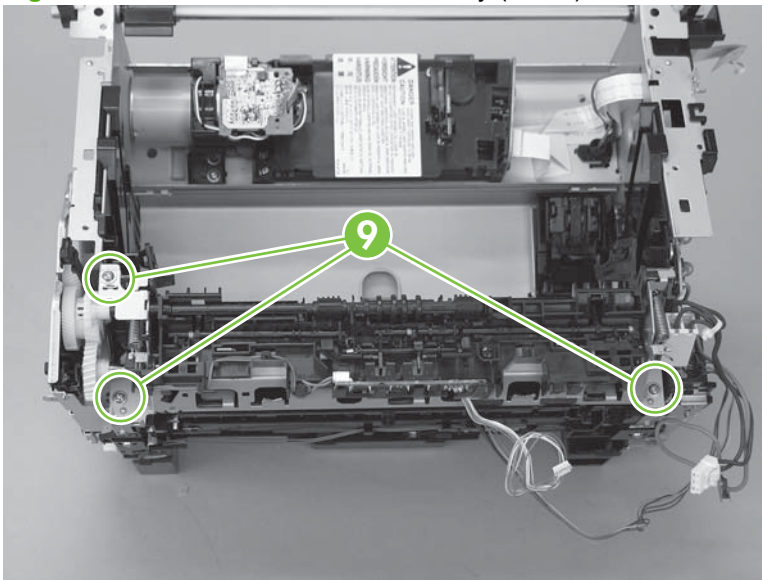
5. Release one tab (callout 7) and then remove the wire-harness retainer (callout 8).

Figure 5-95 Remove the fuser (4 of 6)



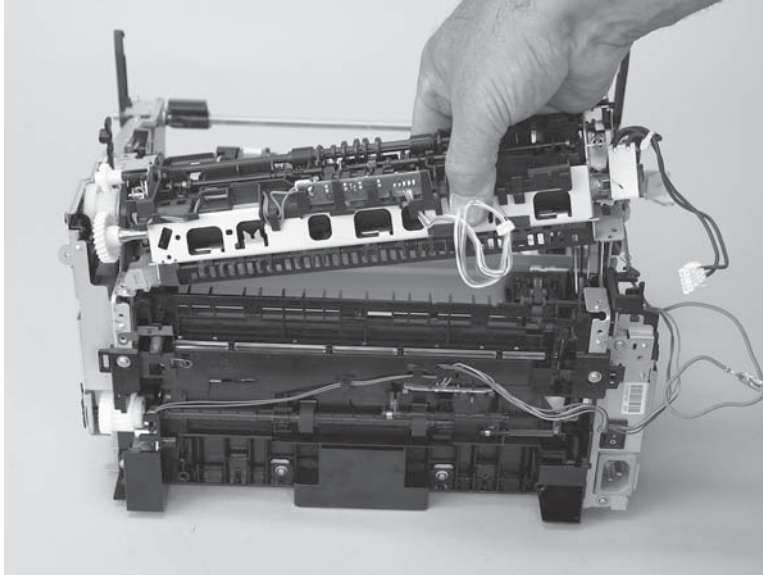
6. Remove three screws (callout 9).


Figure 5-96 Remove the fuser assembly (5 of 6)



7. Lift up the right side of the fuser assembly to release it from the chassis, and then remove the fuser assembly.

Figure 5-97 Remove the fuser assembly (6 of 6)

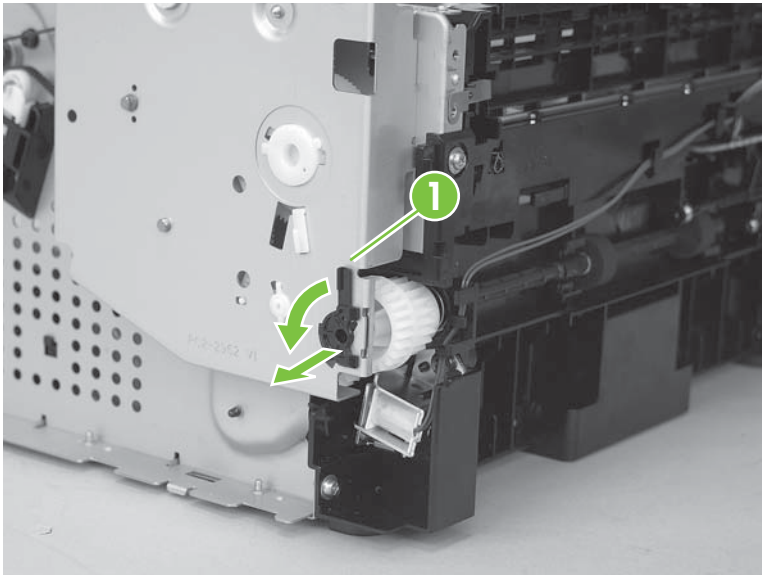


 **NOTE:** When replacing the fuser assembly, be sure to transfer the delivery-sensor PCA from the old fuser to the new one.

Paper-pickup assembly

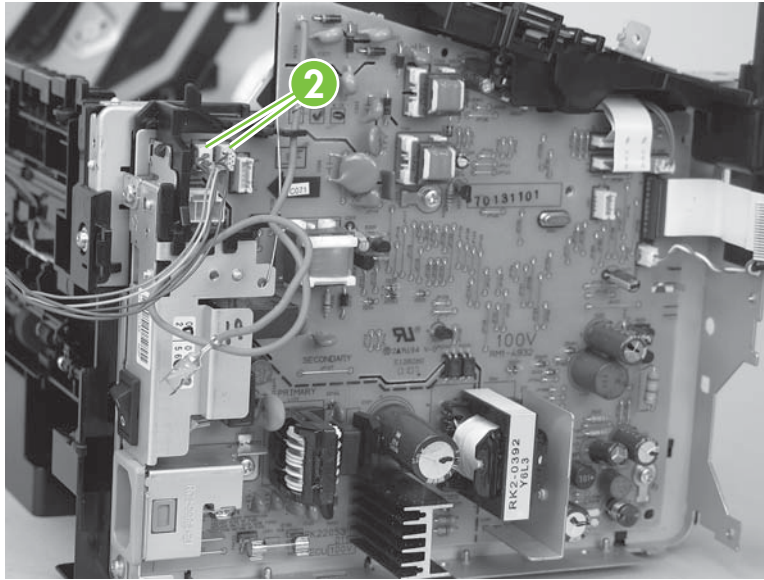
1. Remove the following assemblies:
 - Product base separation pad. See [Separation pad \(product base\) on page 96](#).
 - Scanner assembly. See [Scanner assembly on page 90](#).
 - Transfer roller. See [Transfer roller on page 103](#).
 - Right and left cover. See [Side covers on page 104](#).
 - Print-cartridge door. See [Print-cartridge door on page 106](#).
 - Rear cover and fuser cover. See [Rear cover and fuser cover on page 107](#).
 - Front cover. See [Front cover on page 109](#).
 - Formatter and fax card. See [Formatter and fax card on page 113](#).
 - Fuser. See [Fuser on page 128](#).
2. Release one tab (callout 1). Rotate the paper-pickup drive-shaft locking clip until the clip retainers align with the holes in the chassis, and then remove the clip.

Figure 5-98 Remove the paper-pickup assembly (1 of 4)



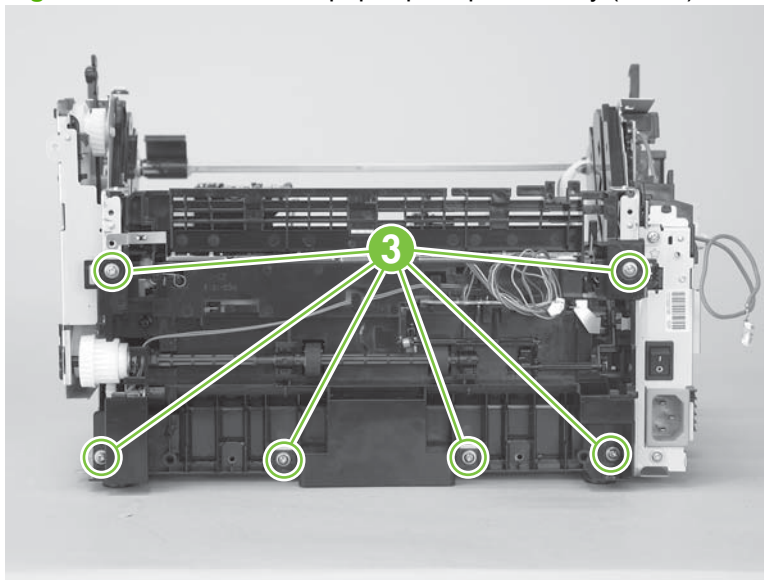
3. Disconnect two wire-harnesses (callout 2; J551 and J556).

Figure 5-99 Remove the paper-pickup assembly (2 of 4)



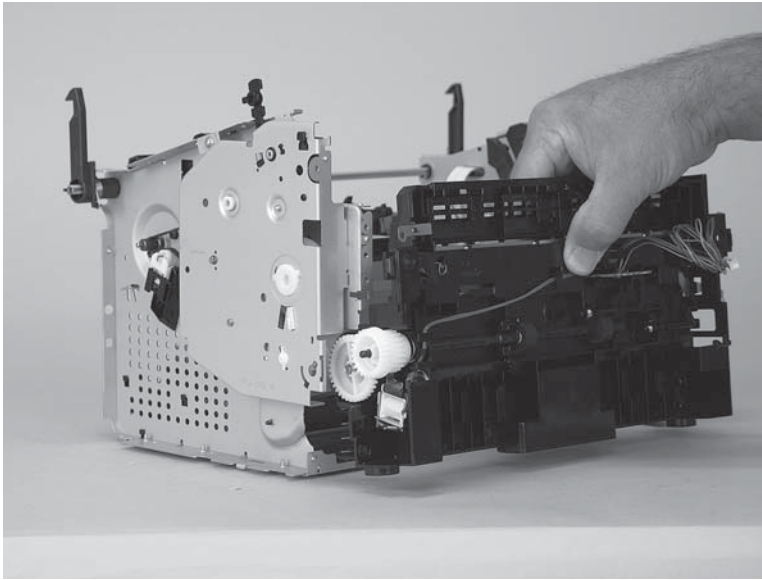
4. Remove six screws (callout 3).

Figure 5-100 Remove the paper-pickup assembly (3 of 4)



5. Separate the assembly from the chassis and remove it.

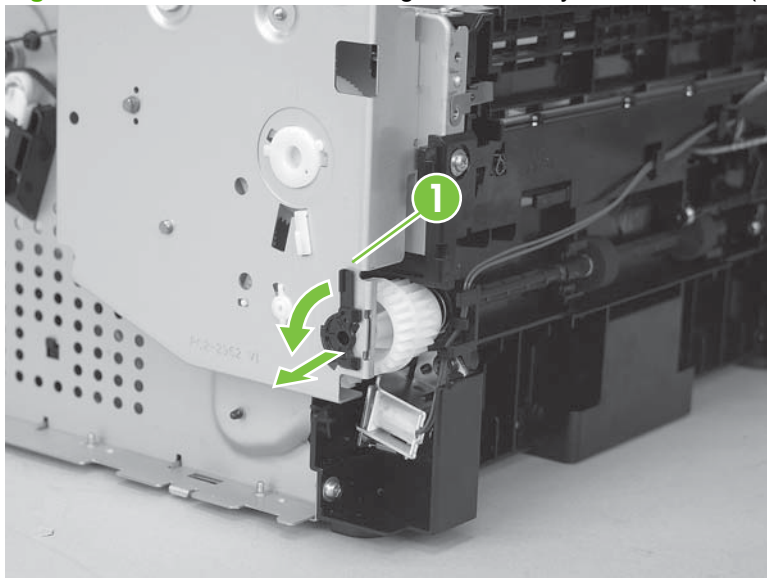
Figure 5-101 Remove the paper-pickup assembly (4 of 4)



Drive-gear assembly and drive belt

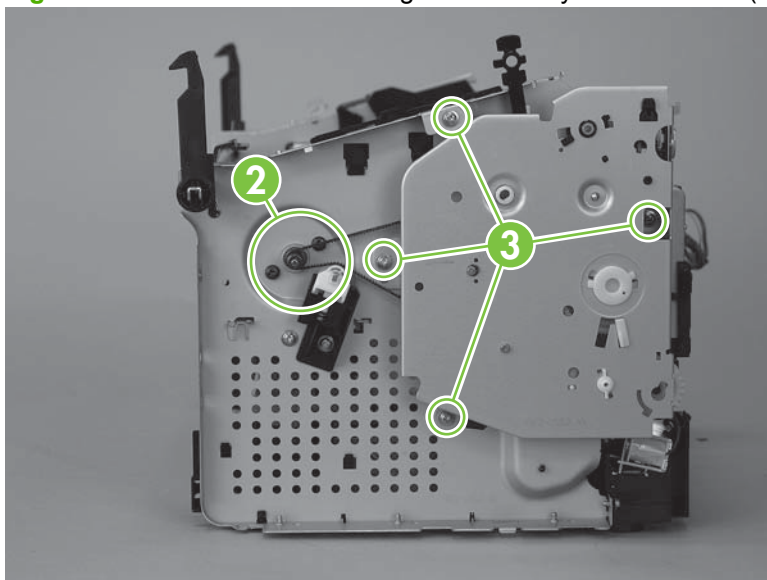
1. Release one tab (callout 1). Rotate the paper-pickup drive shaft locking clip until the clip retainers align with the holes in the chassis, and then remove the clip.

Figure 5-102 Remove the Drive-gear assembly and drive belt (1 of 4).



2. Carefully slip the drive belt off of the motor shaft (callout 2) and then remove four screws (callout 3).

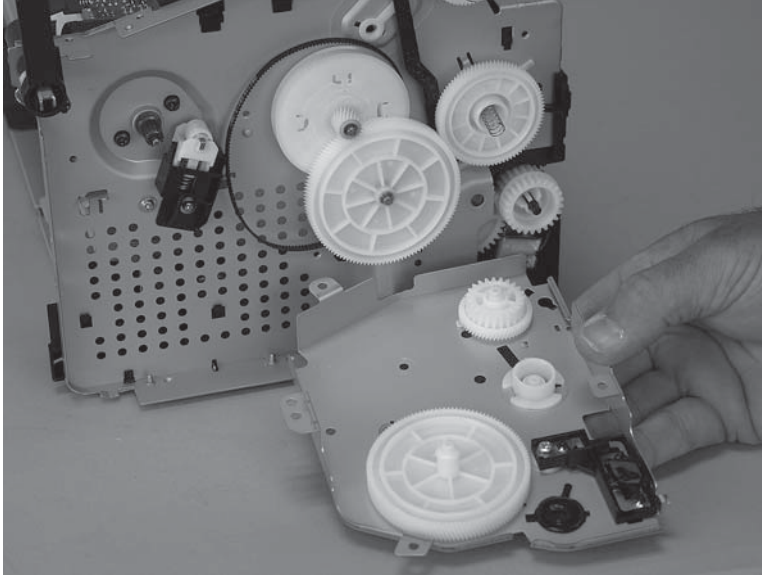
Figure 5-103 Remove the Drive-gear assembly and drive belt (2 of 4).



3. Remove the drive-gear assembly.

- △ **CAUTION:** Not all of the gears and springs are captive when you remove the drive-gear assembly. Make sure that you do not loose any of the springs or gears when the assembly is removed.

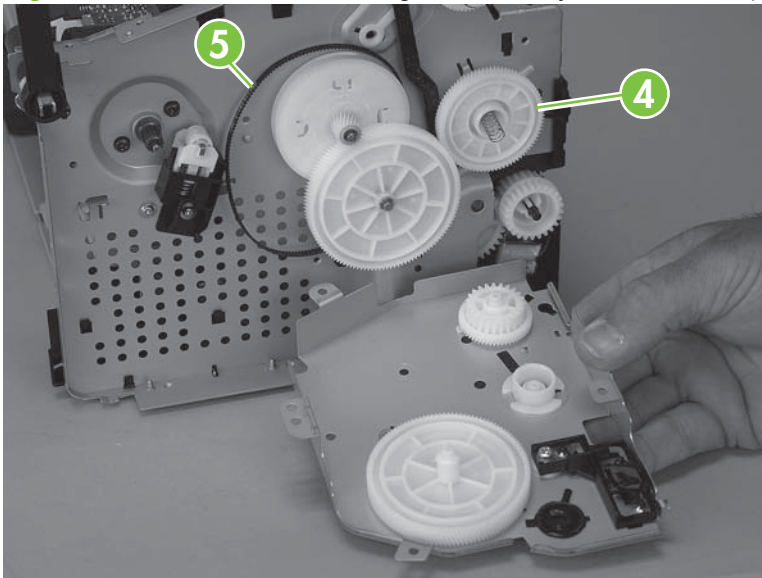
Figure 5-104 Remove the Drive-gear assembly and drive belt (3 of 4).



4. Remove one gear (callout 4) and carefully slip the drive belt (callout 5) off of the drive gear.

- 💡 **TIP:** When you reinstall the main-motor drive belt, make sure that it is correctly positioned on top of the spring loaded tension idler and that it is not twisted (the grooves in the belt should face inwards when the belt is correctly positioned).

Figure 5-105 Remove the Drive-gear assembly and drive belt (4 of 4).



6 Problem solve

- [Problem-solving checklist](#)
- [Control-panel messages](#)
- [Clear jams](#)
- [Print problems](#)
- [Scan problems](#)
- [Copy problems](#)
- [Fax problems \(fax models only\)](#)
- [Functional checks](#)
- [Service-mode functions](#)
- [Problem-solve tools](#)
- [Problem-solve diagrams](#)
- [Firmware updates](#)

Problem-solving checklist

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

Step number	Verification step	Possible problems	Solutions
1	Is the power on?	No power due to failed power source, cable, switch, or fuse.	<ol style="list-style-type: none"> 1. Verify that the product is plugged in. 2. Verify that the power cable is functional and that the power switch is on. 3. Check the power source by plugging the product directly into the wall or into a different outlet.
2	Does Ready appear in the product control panel? The control panel should function without error messages.	Control panel shows an error.	See Control-panel messages on page 140 for a list of common messages that will help you correct the error.
3	Do information pages print? Print a configuration page. See Information pages on page 36 .	An error message appears on the control-panel display. Paper jams when printing.	See Control-panel messages on page 140 for a list of common messages that will help you correct the error. Make sure that media that meets HP specifications. Clean the paper path. See Clean the paper path on page 34 .
4	Does the product copy? Place the configuration page into the ADF and make a copy. The report should feed smoothly through the ADF, and copies should print without print-quality problems. Make a copy from the flatbed as well.	Poor copy quality from the ADF. Paper jams when printing. Poor copy quality from the flatbed.	If the print quality from the internal tests and the copy from the flatbed were acceptable, clean the ADF scanning strip. See Clean the flatbed scanner glass on page 30 . Make sure that media that meets HP specifications. Clean the paper path. See Clean the paper path on page 34 . <ol style="list-style-type: none"> 1. If the print quality from the internal tests and the copy from the ADF were acceptable, clean the flatbed glass. See Clean the flatbed scanner glass on page 30. 2. If, after performing the maintenance, the problem persists, see Copy problems on page 166.
5	Does the product send a fax? (fax models only) Press Start Fax to verify that a dial tone exists (using a hand set, if necessary). Attempt to send a fax.	The telephone line is not operational or the product is not plugged into the telephone line. The telephone cord is faulty or is plugged into the wrong connector.	Verify that the product is plugged into a telephone line that you know works. <ol style="list-style-type: none"> 1. Try plugging the telephone cord into the other connector. 2. Use the telephone cord that came with the product, or try a new telephone cord.

Step number	Verification step	Possible problems	Solutions
6	Does the product receive a fax? (fax models only) Use another fax machine to send a fax to the product, if available.	Too many telephone devices are plugged in, or telephone devices are not connected in the correct order.	Make sure that the HP LaserJet M1522 MFP is the only device on the telephone line and try again to receive the fax.
		The product fax settings are set incorrectly.	Review and reset the product fax settings. See the user guide.
7	Does the product print from the computer? Use a word-processing program to send a print job to the product.	Software is not installed correctly or an error occurred during software installation.	Uninstall and then reinstall the product software. Verify that you are using the correct installation procedure and the correct port setting.
		The cable is not connected correctly.	Reconnect the cable.
		An incorrect driver is selected.	Select the proper driver.
		There is a port driver problem in Microsoft Windows.	Uninstall and then reinstall the product software. Verify that you are using the correct installation procedure and the correct port setting.
8	Does the product scan to the computer? Initiate a scan from the basic desktop software at your computer.	The cable is not connected correctly.	Reconnect the cable.
		Software is not installed correctly or an error occurred during software installation.	Uninstall and then reinstall the product software. Verify that you are using the correct installation procedure and the correct port setting.
		If the error persists, turn off the product and then turn on the product.	

Control-panel messages

The majority of the control-panel messages are intended to guide the user through typical operation. The control-panel messages indicate the status of the current operation, and include a page count on the second line of the display, if appropriate. When the product is receiving fax data, print data, or scanning commands, control-panel messages indicate this status. In addition, alert messages, warning messages, and critical error messages indicate situations that might require some action.

Alert and warning messages

Alert and warning messages appear temporarily and might require the user to acknowledge the message by pressing **OK** to resume or by pressing **Cancel** 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.

Alert and warning message tables

Table 6-1 Alert and warning messages

Control panel message	Description	Recommended action
10.0000 Supply Memory Error	A specific print cartridge has an e-label error.	Reinstall the print cartridge. Turn off and then turn on the product. If the problem is not solved, replace the cartridge.
10.1000 Supply Memory Error	A specific print cartridge has a missing e-label.	Reinstall the print cartridge. Turn off and then turn on the product. If the problem is not solved, replace the cartridge.
ADF door is open	The ADF lid is open or a sensor is malfunctioning.	Make sure that the ADF lid is closed. Remove the ADF and reinstall it. If the message persists, turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize. If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.
Canceled copy. Clear document	The Cancel button was pressed to cancel the current job while pages were feeding from the ADF. The cancel process does not automatically clear the ADF.	Remove the jammed item. See Clear jams from the ADF on page 151 . Then, clear the items in the ADF tray and start over.
Canceled scan. Clear document	The Cancel button was pressed to cancel the current job while pages were feeding from the ADF. The cancel process does not automatically clear the ADF.	Remove the jammed item. See Clear jams from the ADF on page 151 . Then, clear the items in the ADF tray and start over.
Canceled send. Clear document	The Cancel button was pressed to cancel the current job while pages were feeding from the ADF tray. The cancel process does not automatically clear the ADF.	Remove the jammed item. See Clear jams from the ADF on page 151 . Then, clear the items in the ADF tray and start over.

Table 6-1 Alert and warning messages (continued)

Control panel message	Description	Recommended action
Comm. error (fax models only)	A fax communication error occurred between the product and the sender or receiver.	<p>Allow the product to retry sending the fax. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line.</p> <p>Try a different phone cord.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
Comm. error [Receiver CSID]	A fax communication error occurred between the product and the receiver.	<p>Allow the product to retry sending the fax. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line.</p> <p>Try a different phone cord.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
Comm. error [Sender CSID]	A fax communication error occurred between the product and the sender.	<p>Allow the product to retry sending the fax. Unplug the product telephone cord from the wall, plug in a telephone, and try making a call. Plug the product phone cord into a jack for another phone line.</p> <p>Try a different phone cord.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
Device error, press OK	Generic engine error.	This is a warning message only. Job output might be affected.
Device is busy. Try again later	The product is currently in use.	Wait for the product to finish the current job.
Doc feeder jam Clear, Reload	A piece of media is jammed in the ADF tray.	<p>Open the document release door, clear the jam, close the document release door, and reload the paper into the ADF tray.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
Doc feeder jam, DATE/TIME	ADF has not been cleared since previous jam.	Clear the jam.
Document feeder mispick. Reload	Media in the ADF tray was not picked up.	<p>Remove the media from the ADF tray, and then reload it.</p> <p>Clean the ADF pickup roller. See Clean the ADF pickup-roller assembly on page 32.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
Door open	The print-cartridge door is open.	Close the print-cartridge door.

Table 6-1 Alert and warning messages (continued)

Control panel message	Description	Recommended action
Engine comm. error	The product experienced a print engine communication error.	This is a warning message only. Job output might be affected.
Engine error, press OK	The product experienced a print engine error.	This is a warning message only. Job output might be affected.
Fax delayed – Send memory full (fax models only)	Fax memory is full.	Cancel the fax by pressing OK or Cancel . Resend the fax. You might need to send the fax in multiple sections if the error occurs again.
Fax is busy Canceled send (fax models only)	The fax line to which you were sending a fax was busy. The product has canceled sending the fax.	<p>Call the recipient to ensure that the fax machine is on and ready.</p> <p>Check that you are dialing the correct fax number.</p> <p>Check that the Redial if busy option is enabled.</p> <p>Check for a dial tone on the phone line by pressing Start Fax.</p> <p>Make sure that the phone is working by disconnecting the product, plugging in a telephone to the phone line, and making a voice call.</p> <p>Plug the product phone cord into a jack for another phone line, and then try sending the fax again.</p> <p>Try a different phone cord.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
Fax is busy Redial pending (fax models only)	The fax line to which you were sending a fax was busy. The product automatically redials the busy number. See the product user guide.	<p>Allow the product to retry sending the fax.</p> <p>Call the recipient to ensure that the fax machine is on and ready.</p> <p>Check that you are dialing the correct fax number.</p> <p>Check for a dial tone on the phone line by pressing Start Fax.</p> <p>Make sure that the phone is working by disconnecting the product, plugging in a telephone to the phone line, and making a voice call.</p> <p>Plug the product phone cord into a jack for another phone line, and try sending the fax again.</p> <p>Try a different phone cord.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>

Table 6-1 Alert and warning messages (continued)

Control panel message	Description	Recommended action
Fax memory full Canceling recv. (fax models only)	During the fax transmission, the product ran out of memory. Only the pages that fit into memory will be printed.	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 memory full Canceling send (fax models only)	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.	Print all received faxes or wait until all pending faxes are sent. Ask the sender to send the fax again. Cancel all fax jobs or clear the faxes from memory.
Fax recv. error (fax models only)	An error occurred while trying to receive a fax.	Ask the sender to resend the fax. Try faxing back to the sender or another fax machine. Check for a dial tone on the phone line by pressing Start Fax . Check that the telephone cord is securely connected by unplugging and replugging the cord. Make sure that you are using the telephone cord that came with the product. Make sure that the phone is working by disconnecting the product, plugging in a telephone to the phone line, and making a voice call. Decrease the fax speed. Ask the sender to resend the fax. Turn off error-correction mode. Ask the sender to resend the fax. Connect the product to a different phone line. If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.
Fax Send error (fax models only)	An error occurred while trying to send a fax.	Try resending the fax. Try faxing to another fax number. Check for a dial tone on the phone line by pressing Start Fax . Check that the telephone cord is securely connected by unplugging and replugging the cord. Make sure that you are using the telephone cord that came with the product. Make sure that the phone is working by disconnecting the product, plugging in a telephone to the phone line, and making a voice call.

Table 6-1 Alert and warning messages (continued)

Control panel message	Description	Recommended action
		<p>Connect the product to a different phone line.</p> <p>Set the fax resolution to Standard instead of the default of Fine.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
Fit to Page on flatbed only	The copy reduce/enlarge feature (called "Fit to Page") applies only to copies made from the flatbed scanner.	Use the flatbed or select another reduction/enlargement setting.
Group dial not allowed in group (fax models only)	The speed-dial code that you typed is programmed for a group. Adding a group-dial to another group-dial is not allowed.	Add one-touch buttons (programmed as an individual speed dial) or speed-dial codes to a group-dial.
Install black cartridge	No cartridge installed with door closed.	Install print cartridge.
Invalid driver Press OK	You are using the incorrect printer driver.	Select the printer driver that is appropriate for your product.
Invalid entry	Invalid data or response.	Correct the entry.
Jam in (area), Open door and clear jam	Paper jam in one of the following areas: drum area, fuser area, duplex feeding area, duplex receiving area, and duplex pickup area.	Clear the jam from the area indicated on the product control panel, and then follow the control panel instructions. See Clear jams on page 149 .
Jam in Tray #, Clear jam and then press OK	The product has detected a jam in an input tray.	Clear the jam from the area indicated on the product control panel, and then follow the control panel instructions. See Clear jams on page 149 .
Load paper	Out of paper in all available trays.	Load paper in trays.
Load Tray # <TYPE> <SIZE>, Press OK to use available media	Device is processing job, but a matching tray is empty.	Press OK to use existing available media.
Load tray #, Press OK	Manual duplex mode. "#" is the tray number where the first half of the job printed.	Load paper in the correct tray.
Load Tray 1 <TYPE> <SIZE>, Press OK to use available media	Device is processing job, but no trays match.	Press OK to use existing tray settings.
Load Tray 1, <PLAIN> <SIZE> / Cleaning mode, OK to start	Cleaning mode paper prompt.	Press OK to begin the cleaning procedures.
Manual feed <SIZE> <TYPE>, Press OK to use available media	Print Manual Feed mode.	Load paper into the priority input tray.
Memory is low Try again later	The product does not have enough memory to start a new job.	Wait until the current job is finished before starting a new job.
Memory is low. Only 1 copy made Press [OK] to continue	The product completed making one copy. The remaining copies have been canceled because of low memory.	Press OK to clear the error. Break the job into smaller jobs that contain fewer pages.
Memory is low. Press OK	The product memory has been almost completely filled.	Allow the product to finish the job, or press Setup to cancel the job.
Memory low Only 1 copy made	The product does not have enough memory to complete the collated copy job.	Break the job into smaller jobs that contain fewer pages.
Misprint, Press OK	Feed delay misprint.	Reload paper.

Table 6-1 Alert and warning messages (continued)

Control panel message	Description	Recommended action
No Dial Tone (fax models only)	The product could not detect a dial tone.	<p>Check for a dial tone on the phone line by pressing Start Fax.</p> <p>Unplug the telephone cord from both the product and the wall and replug the cord.</p> <p>Make sure that you are using the telephone cord that came with the product.</p> <p>Unplug the product telephone cord from the wall, plug in a telephone, and try making a voice call.</p> <p>Plug the product phone cord into a jack for another phone line.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
No document sent (fax models only)	The product did not scan any pages, or it did not receive any pages from the computer to transmit a fax.	<p>Try sending the fax again.</p>
No fax answer Redial pending (fax models only)	The receiving fax line did not answer. The product attempts to redial after a few minutes.	<p>Allow the product to retry sending the fax.</p> <p>Call the recipient to ensure that the fax machine is on and ready.</p> <p>Check that you are dialing the correct fax number.</p> <p>If the product continues to redial, unplug the product telephone cord from the wall, plug in a telephone, and try making a voice call.</p> <p>Plug the product phone cord into a jack for another phone line.</p> <p>Try a different phone cord.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
No fax answer. Canceled send (fax models only)	Attempts to redial a fax number failed, or the "Redial-no answer" option was turned off.	<p>Call the recipient to ensure that the fax machine is on and ready.</p> <p>Check that you are dialing the correct fax number.</p> <p>Check that the redial option is enabled.</p> <p>Unplug the telephone cord from both the product and the wall and replug the cord.</p> <p>Unplug the product telephone cord from the wall, plug in a telephone, and try making a voice call.</p> <p>Plug the product phone cord into a jack for another phone line.</p>

Table 6-1 Alert and warning messages (continued)

Control panel message	Description	Recommended action
		If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.
No fax detected (fax models only)	The product answered the incoming call but did not detect that a fax machine was calling.	<p>Allow the product to retry receiving the fax.</p> <p>Try a different phone cord.</p> <p>Plug the product phone cord into a jack for another phone line.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
No paper pickup, Press OK	The product has failed to pick up a piece of media.	<p>Verify that the media was inserted far enough into the input tray. In tray 1, verify that the paper-length guide is in the correct position for the media size that you are using.</p> <p>Reload the media in the input tray and press OK to continue the job.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
Non-HP supply Installed	A new supply has been installed that is not made by HP. This message appears for several seconds, and then the product returns to the Ready state.	If you believe you purchased an HP supply, please call the HP fraud hotline at 1-877-219-3183. Service or repairs that are required as a result of using non-HP supplies is not covered under HP warranty.
Order black Cartridge	Print cartridge is low.	Order a new print cartridge.
Page too complex, press OK	The product could not print the current page because of its complexity.	<p>Press OK to clear the message.</p> <p>Allow the product to finish the job, or press Cancel to cancel the job.</p>
Scanner reserved for PC scan	A computer is using the product to create a scan.	Wait until the computer scan has finished, or cancel the scan from the computer software, or press Cancel .
Scanning error Cannot connect	The product cannot transmit scan information to a computer.	Verify that the connection cable is not loose or damaged. Replace the cable if necessary, and try the scan again.
Settings cleared, DATE/TIME	The product has cleared job settings.	Re-enter any appropriate job settings.
Used black cartridge in use alternates with to accept, press OK	A used printer cartridge has been installed or moved.	Press OK to return to the Ready state.

Critical error messages

Critical error messages can indicate some kind of failure. Turning off and then turning on the power might fix the problem. If a critical error persists, the product might require service.

Critical error message-tables

Table 6-2 Critical error messages

Control panel message	Description	Recommended action
49 Error, Turn off then on	The product has experienced an internal embedded software error.	<p>Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
50.x Fuser Error	The product has experienced an internal hardware error.	<ol style="list-style-type: none">1. Turn off the power by using the power switch, and then wait at least 30 seconds.2. If a surge protector is being used, remove it. Plug the product directly into the wall socket.3. Turn on the power and wait for the product to initialize. <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
52 Scanner Error	The product has experienced an internal hardware error.	<p>Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize.</p> <p>If a surge protector is being used, remove it. Plug the product directly into the wall socket. Use the power switch to turn the product on.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
55.4 Error, Turn off then on	The product has experienced an engine communication timeout error.	<p>Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize.</p> <p>If a surge protector is being used, remove it. Plug the product directly into the wall socket. Use the power switch to turn the product on.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>
79 Error Turn off then on	The product has experienced an internal firmware error.	<p>Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize.</p> <p>If a surge protector is being used, remove it. Plug the product directly into the wall socket. Use the power switch to turn the product on.</p>

Table 6-2 Critical error messages (continued)

Control panel message	Description	Recommended action
		If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.
Scanner error #, Turn off then on	The product has experienced an error in the scanner sub-assembly area.	<p>Turn off the power by using the power switch, wait at least 30 seconds, and then turn on the power and wait for the product to initialize.</p> <p>If a surge protector is being used, remove it. Plug the product directly into the wall socket. Use the power switch to turn the product on.</p> <p>If the error persists, contact HP. See www.hp.com/support/ljm1522 or the support flyer that came in the product box.</p>

Clear jams

Causes of jams

Occasionally, paper or other print media can become jammed during a print job. Some causes include the following events:

- The input trays are loaded improperly or overfilled, or the media guides are not set properly.
- Media is added to or removed from an input tray during a print job or an input tray is removed from the product during a print job.
- The cartridge door is opened during a print job.
- Too many sheets have accumulated in an output area, or sheets are blocking an output area.
- The print media that is being used does not meet HP specifications. See [Information pages on page 36](#).
- The media is damaged or has foreign objects attached to it, such as staples or paper clips.
- The environment in which the print media was stored is too humid or too dry. See [Information pages on page 36](#).

Where to look for jams

Jams can occur in these locations:

- In the automatic document feeder (ADF)
- In input areas
- In the output area
- Inside the product

Find and remove the jam by using the instructions on the following pages. If the location of the jam is not obvious, first look inside the product.

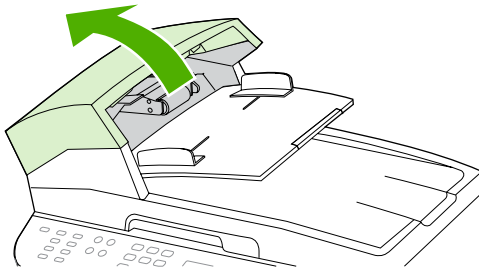
Loose toner might remain in the product after a jam. This problem typically resolves itself after a few sheets have been printed.

Clear jams from the ADF

Occasionally, media becomes jammed during a fax, copy, or scan job.


You are notified of a media jam by the **Doc feeder jam Clear, Reload** message that appears on the product control-panel display.

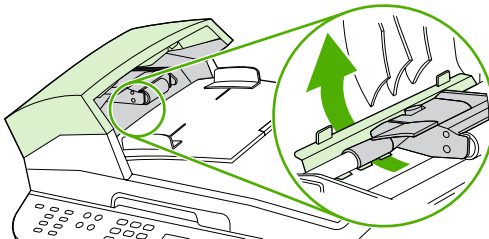
- The ADF input tray is loaded incorrectly or is too full. See [Install input devices on page 19](#) for more information.
 - The media does not meet HP specifications, such as those for size or type. See [Information pages on page 36](#) for more information.
1. Open the ADF cover.



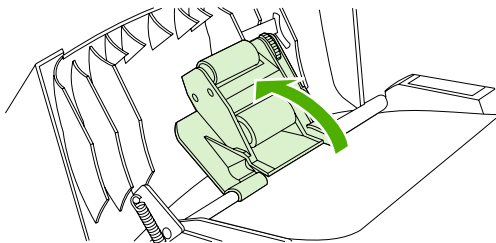
 **NOTE:** Verify that any shipping tape inside the ADF has been removed.

2. Remove the jam cleanout part, if the part is present (see note below). Using both hands, lift up on the two handles until the part unsnaps. Rotate and lift out the cleanout part and set it aside.

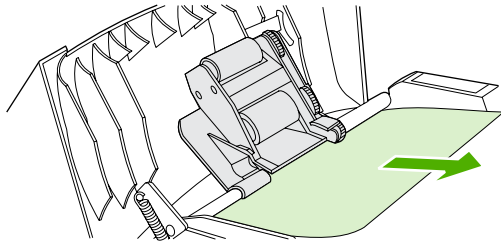
 **NOTE:** In some products, the jam cleanout part is not removable. If this is the case with your product, go to the next step.



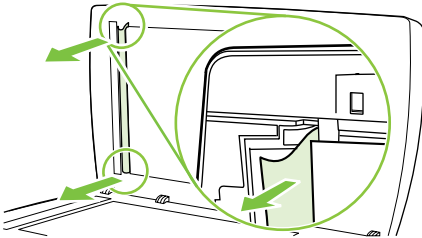
3. Lifting the green lever, rotate the pick mechanism until it stays open.



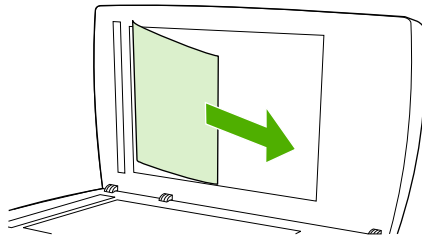
4. Gently try to remove the page without tearing it. If you feel resistance, go to the next step.



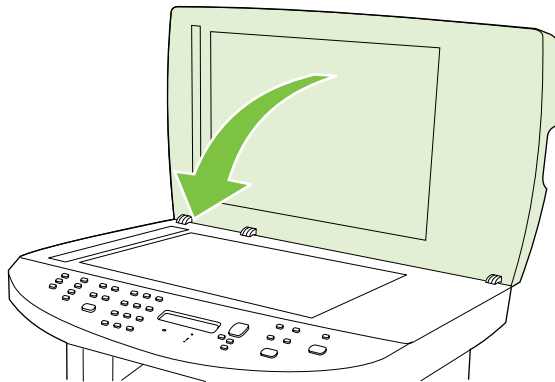
5. Open the ADF lid and gently loosen the media by using both hands.



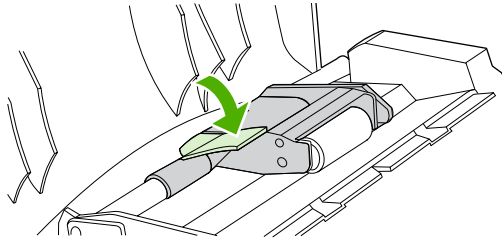
6. When the media is free, gently pull it out in the direction shown.




7. Close the lid to the flatbed scanner.

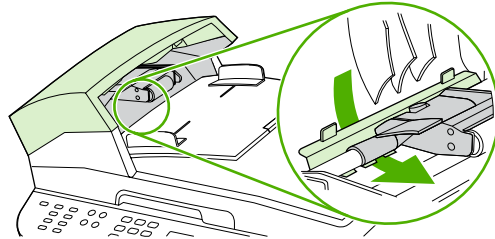


8. Lower the green lever.

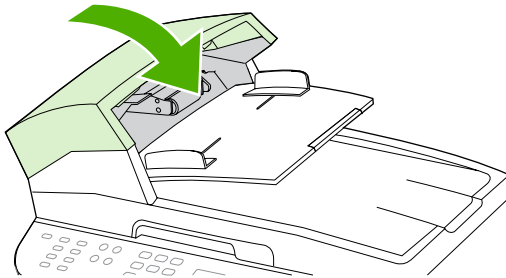


9. Reinstall the cleanout part by inserting it as shown. Push down on the two tabs until the part snaps into place. Install the cleanout part correctly, because future jamming might occur if the cleanout part is not replaced correctly.

 **NOTE:** In some products, the jam cleanout part is not removable. If this is the case with your product, go to the next step.




10. Close the ADF lid.



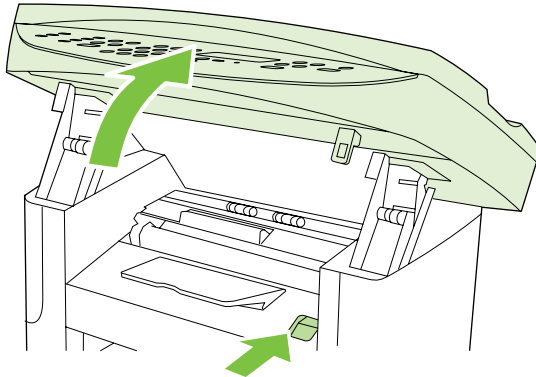
Clear jams from the input-tray areas

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

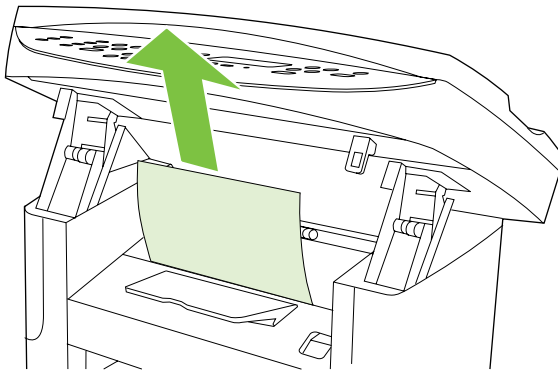
When removing jammed media, pull the jammed media straight away from the product. Pulling jammed media out of the product at an angle can damage the product.

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

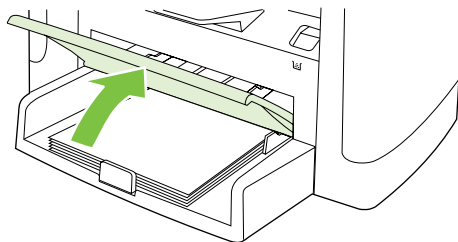
1. Open the print-cartridge door.



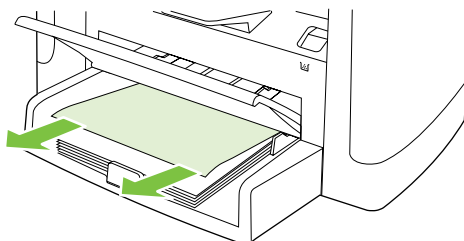
2. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the product.



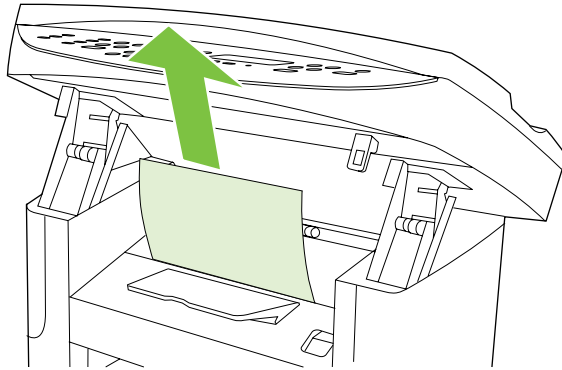
3. Open tray 1.



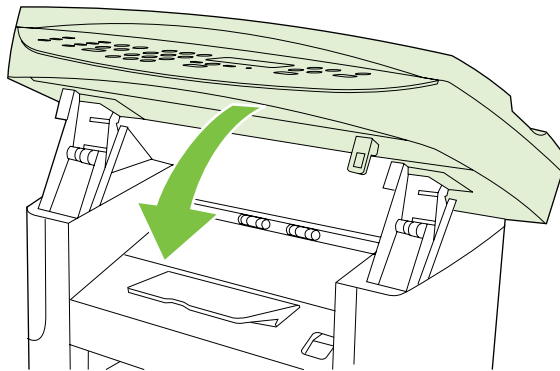
4. With both hands, grasp the side of the media that is most visible (this includes the middle), and carefully pull it free from the product.



5. If no media is visible, open the print-cartridge door, remove the print cartridge, and rotate the upper media guide. Carefully pull the media up and out of the product, and then reinstall the print cartridge.



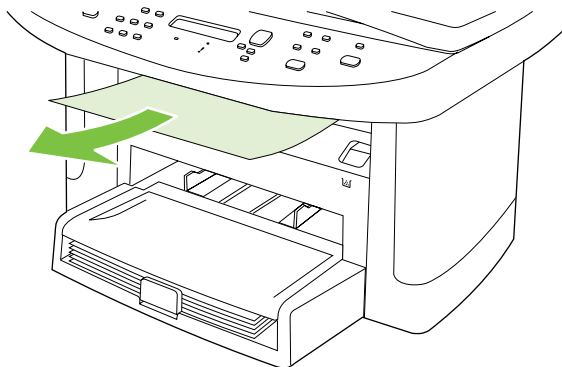
6. Close tray 1 and the print-cartridge door.



Clear jams from the output bin

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

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

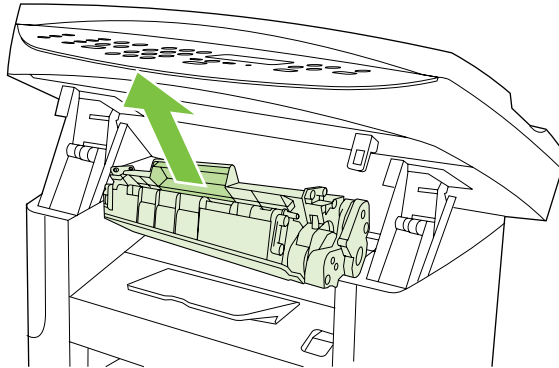


Clear jams from the print-cartridge area

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

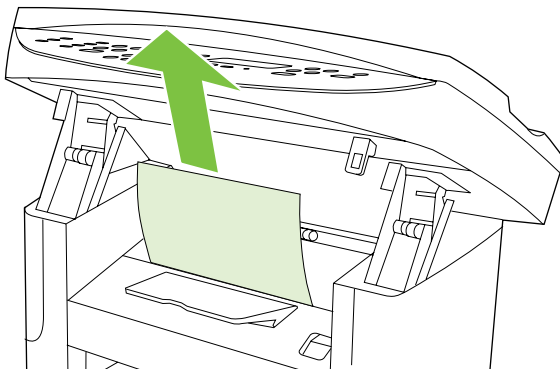
When removing jammed media, pull the jammed media straight away from the product. Pulling jammed media out of the product at an angle can damage the product.

1. Open the print-cartridge door, and remove the print cartridge.

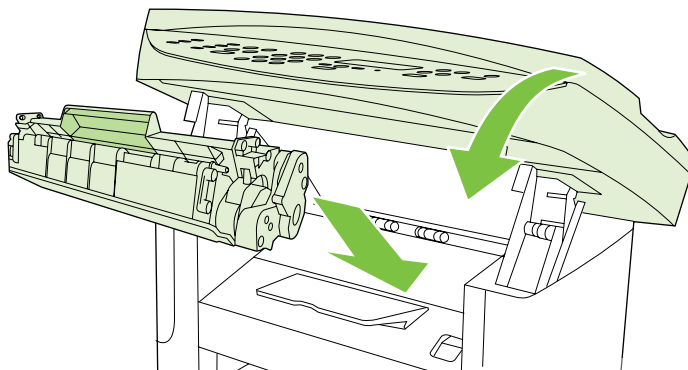


- △ **CAUTION:** To prevent damage to the print cartridge, minimize its exposure to direct light.

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




3. Replace the print cartridge and close the print-cartridge door.



Print problems

Print-quality problems

The information in the following sections helps you identify and resolve print-quality issues.

 **NOTE:** If you are having copy problems, see [Copy problems on page 166](#).

Improve print quality


Use the print-quality settings to prevent print-quality problems.

Print-quality settings

Print-quality settings affect how light or dark the print is on the page and the style in which the graphics are printed. You can also use the print-quality settings to optimize the print quality for a specific media type.

You can change the settings in the product properties to accommodate the types of jobs that you are printing. The following settings are available, depending on the printer driver that you are using:

- **600 dpi**
- **FastRes 1200**

 **NOTE:** Changing the resolution can change the formatting of your text.

Temporarily change print-quality settings

To change the print-quality settings only for the current software program, open the properties through the **Print Setup** menu in the program that you are using to print.

Change print-quality settings for all future jobs

 **NOTE:** For Macintosh instructions, see the user guide.

For Windows 2000:

1. In the Windows system tray, click **Start**, select **Settings**, and then click **Printers**.
2. Right-click the product icon.
3. Click **Properties** (in Windows 2000, you can also click **Printing Preferences**).
4. Change the settings, and then click **OK**.

For Windows XP:

1. In the Windows system tray, click **Start**, click **Control Panel**, and then click **Printers and Faxes**.
2. Right-click the product icon.
3. Click **Properties**, or click **Printing Preferences**.
4. Change the settings, and then click **OK**.

For Windows Vista:

1. In the Windows system tray, click **Start**, click **Control Panel**, and then click **Printer**.
2. Right-click the product icon.
3. Click **Properties**, or click **Printing Preferences**.
4. Change the settings, and then click **OK**.

Identify and correct print defects

Use the checklist and print-quality issues charts in this section to solve print-quality problems.

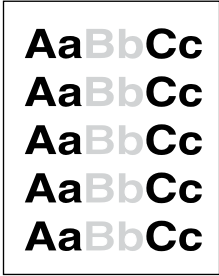
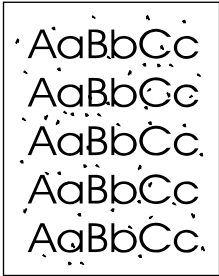
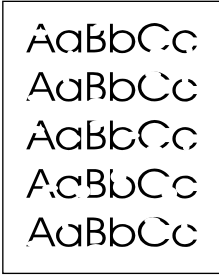
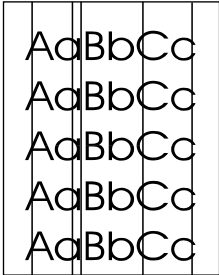
Print-quality checklist

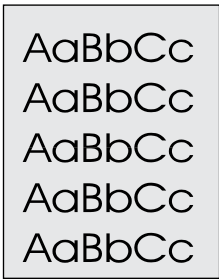
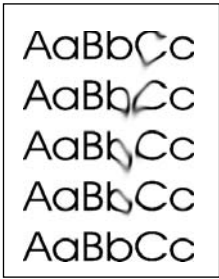
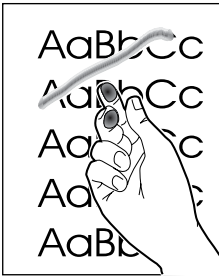
General print-quality problems can be solved by using the following checklist:

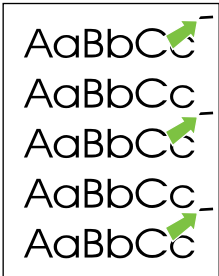
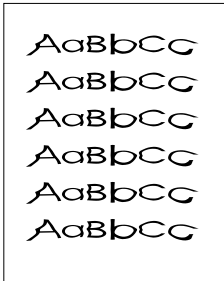
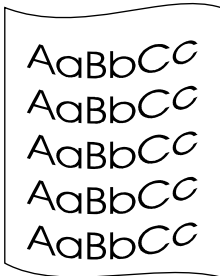
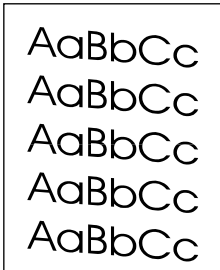
1. Make sure that the paper or print media that you are using meets specifications. Generally, smoother paper provides better results.
2. If you are using a special print media such as labels, transparencies, glossy paper, or letterhead, ensure that you have printed by type.
3. Print a configuration page and supplies status page at the product control panel.
 - Check the supplies status page to see if any supplies are low or empty. No information is provided for non-HP print cartridges.
4. Print a Demo page from the HP ToolboxFX. If the page prints, the problem is with the printer driver. Try printing from another printer driver. For example, if you are using the PCL 6 printer driver, print from the PS printer driver.
 - Use the Add Printer Wizard in the **Printers** (or **Printers and Faxes** in Windows XP) dialog box to install the PS driver.
5. Try printing from a different program. If the page prints correctly, the problem is with the program from which you were printing.
6. Restart the computer and the product and try printing again. If the problem is not resolved, see [General print-quality issues on page 158](#).

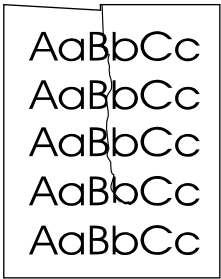
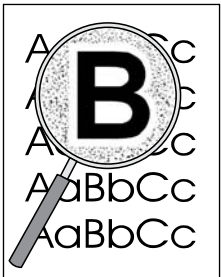

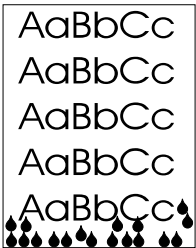
General print-quality issues

The following examples depict letter-size paper that has passed through the product short-edge-first. These examples illustrate problems that would affect all of the pages that you print. The topics that follow list the typical cause and solution for each of these examples.

Problem	Cause	Solution
Print is light or faded. 	The media might not meet HP specifications. The print cartridge might be low. If you use a non-HP print cartridge, no messages appear on the product control panel or in HP ToolboxFX. If the whole page is light, the print density adjustment is too light or EconoMode might be turned on.	Use media that meets HP specifications. Make sure that the media meets specifications in the <i>HP LaserJet Printer Family Print Media Guide</i> . Replace the print cartridge. See Print cartridge on page 27 . If the print cartridge is not low or empty, inspect the transfer roller to see if it is damaged. If it is not, replace the print cartridge. Adjust the print density, and disable EconoMode in the product Properties.
Toner specks appear. 	The media might not meet HP specifications. The paper path might need to be cleaned.	Use media that meets HP specifications. Make sure that the media meets specifications in the <i>HP LaserJet Printer Family Print Media Guide</i> . Clean the paper path. See Clean the paper path on page 34 , or see the HP ToolboxFX online Help.
Dropouts appear. 	A single sheet of print media might be defective. The moisture content of the paper is uneven or the paper has moist spots on its surface. The paper lot is flawed. The manufacturing processes can cause some areas to reject toner. The print cartridge might be defective.	Try reprinting the job. Try different paper, such as high-quality paper that is intended for laser printers. Try different paper, such as high-quality paper that is intended for laser printers. Replace the print cartridge. See Print cartridge on page 27 .
Vertical streaks or bands appear on the page. 	The print cartridge might be low or defective. If you are using a non-HP print cartridge, no messages appear on the product control panel or in HP ToolboxFX.	Replace the print cartridge. See Print cartridge on page 27 .

Problem	Cause	Solution
<p>The amount of background toner shading becomes unacceptable.</p> 	The media might not meet HP specifications.	Use a different paper with a lighter basis weight.
	The single-sheet priority input slot (tray 1) might be installed incorrectly.	Make sure that the single-sheet priority input slot (tray 1) is in place.
	The print-density setting is too high.	Decrease the print-density setting through HP ToolboxFX or the embedded Web server. This decreases the amount of background shading.
	Very dry (low humidity) conditions can increase the amount of background shading.	Check the product environment.
	The print cartridge might be low. If you are using a non-HP print cartridge, no messages appear on the product control panel or in the HP ToolboxFX.	Replace the print cartridge. See Print cartridge on page 27 .
<p>Toner smears appear on the media.</p> 	The media might not meet HP specifications.	Use media that meets HP specifications. Make sure that the media meets specifications in the <i>HP LaserJet Printer Family Print Media Guide</i> .
	If toner smears appear on the leading edge of the paper, the media guides are dirty, or debris has accumulated in the print path.	Clean the media guides and the paper path. See Clean the paper path on page 34 .
	The print cartridge might be low. If you are using a non-HP print cartridge, no messages appear on the product control panel or in the HP ToolboxFX.	Replace the print cartridge. See Print cartridge on page 27 .
	The fuser temperature might be too low.	In the printer driver, make sure the appropriate media type is selected.
<p>The toner smears easily when touched.</p> 	The product is not set to print on the type of media on which you want to print.	In the printer driver, select the Paper tab and set Type is to match the type of media on which you are printing. Print speed might be slower if you are using heavy paper.
	The media might not meet HP specifications.	Use media that meets HP specifications. Make sure that the media meets specifications in the <i>HP LaserJet Printer Family Print Media Guide</i> .
	The paper path might need to be cleaned.	Clean the paper path. See Clean the paper path on page 34 .
	The power source might be defective.	Plug the product directly into an AC outlet instead of into a power strip.
	The print cartridge might be low. If you are using a non-HP print cartridge, no messages appear on the product control panel or in HP ToolboxFX.	Replace the print cartridge. See Print cartridge on page 27 .

Problem	Cause	Solution
<p>Marks repeatedly appear at even intervals on the page.</p> 	<p>The product is not set to print on the type of media on which you want to print.</p> <p>Internal parts might have toner on them.</p> <p>The paper path might need to be cleaned.</p> <p>The print cartridge might be damaged.</p>	<p>In the printer driver, make sure that the appropriate media type is selected. Print speed might be slower if you are using heavy paper.</p> <p>The problem typically corrects itself after a few more pages.</p> <p>Clean the paper path. See Clean the paper path on page 34.</p> <p>If a repetitive mark occurs at the same spot on the page, install a new HP print cartridge. See Print cartridge on page 27.</p>
<p>The printed page contains misformed characters.</p> 	<p>The media might not meet HP specifications.</p> <p>If characters are incorrectly formed so that they produce a wavy effect, the laser scanner might need replacing.</p>	<p>Use a different paper, such as high-quality paper that is intended for laser printers.</p> <p>Verify that the problem also occurs on the configuration page. If so, replace the laser/scanner. See Laser/scanner assembly on page 121.</p>
<p>The printed page is curled or wavy.</p> 	<p>The product is not set to print on the type of media on which you want to print.</p> <p>The media might have been in the input tray too long.</p> <p>The media might not meet HP specifications.</p> <p>Both high temperature and humidity can cause paper curl.</p>	<p>In the printer driver, make sure the appropriate media type is selected.</p> <p>If the problem persists, select a media type that uses a lower fuser temperature, such as transparencies or light media.</p> <p>Turn over the stack of media in the tray. Also, try rotating the media 180° in the input tray.</p> <p>Use a different paper, such as high-quality paper that is intended for laser printers.</p> <p>Check the product environment.</p>
<p>Text or graphics are skewed on the printed page.</p> 	<p>The media might be loaded incorrectly or the input tray might be too full.</p> <p>The media might not meet HP specifications.</p>	<p>Verify that the media is loaded correctly and that the media guides are not too tight or too loose against the stack.</p> <p>Use a different paper, such as high-quality paper that is intended for laser printers.</p>

Problem	Cause	Solution
<p>The printed page contains wrinkles or creases.</p> 	<p>The media might be loaded incorrectly or the input tray might be too full.</p>	<p>Turn over the stack of paper in the input tray, or try rotating the paper 180° in the input tray.</p> <p>Verify that the media is loaded correctly and that the media guides are not too tight or too loose against the stack.</p>
	<p>The media might not meet HP specifications.</p>	<p>Use a different paper, such as high-quality paper that is intended for laser printers.</p>
	<p>Air pockets inside envelopes can cause them to wrinkle.</p>	<p>Remove the envelope, flatten it, and try printing again.</p>
<p>Toner appears around the printed characters.</p> 	<p>The media might be loaded incorrectly.</p> <p>If large amounts of toner have scattered around the characters, the paper might have high resistivity.</p>	<p>Turn over the stack of paper in the tray.</p> <p>Use a different paper, such as high-quality paper that is intended for laser printers.</p>
<p>An image that appears at the top of the page (in solid black) repeats farther down the page (in a gray field).</p> 	<p>Software settings might affect image printing.</p>	<p>In your software program, change the tone (darkness) of the field in which the repeated image appears.</p> <p>In your software program, rotate the whole page 180° to print the lighter image first.</p>
	<p>The order of images printed might affect printing.</p>	<p>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.</p>
	<p>A power surge might have affected the product.</p>	<p>If the defect occurs later in a print job, turn the product off for 10 minutes, and then turn on the product to restart the print job.</p>
<p>Droplets of water are deposited on the trailing edge of the page.</p> 	<p>Moisture in the product is condensing on the fuser assembly. In excessively hot and humid areas, media retains moisture.</p> <p>NOTE: Water droplets do not damage the product.</p>	<p>Try moving the product to a less humid area. Try a different media.</p>

Scan problems

Solve scanned-image problems

Problem	Cause	Solution
The scanned image is of poor quality.	The original might be a second-generation photo or picture.	<ul style="list-style-type: none">• To eliminate the patterns, try reducing the size of the image after scanning.• Print the scanned image to see if the quality is better.• Verify that your resolution and color settings are correct for the type of scan job that you are performing.• For best results, use the flatbed scanner for scanning rather than the automatic document feeder (ADF).
	The image that appears on the screen might not be an accurate representation of the quality of the scan.	<ul style="list-style-type: none">• Try adjusting your computer monitor settings to use more colors (or levels of gray). Typically, you make this adjustment by opening Display in Windows Control Panel.• Try adjusting the resolution and color settings in the scanner software.
	The original might have been loaded incorrectly.	Use the media guides when you load the originals into the ADF.
	The scanner might be dirty.	Clean the scanner glass. See Clean the flatbed scanner glass on page 30 .
	The graphics settings might not be suitable for the type of scan job that you are performing.	Try changing the graphics settings.

Problem	Cause	Solution
Part of the image did not scan.	The original might have been loaded incorrectly.	Use the media guides when you load the originals into the ADF.
	A colored background might be causing images in the foreground to blend into the background.	Try adjusting the settings before you scan the original or enhancing the image after you scan the original.
	The original is longer than 381 mm (15 inches).	The maximum scannable length is 381 mm (15 inches) when you use the automatic document feeder (ADF) input tray. If the page exceeds the maximum length, the scanner stops. (Copies can be longer.) CAUTION: Do not try to pull the original from the ADF; you might damage the scanner or your original. See Clear jams from the ADF on page 151 .
	The original is too small.	The minimum size that the flatbed scanner supports is 25 x 25 mm (1 x 1 inch). The minimum size that the ADF supports is 127 x 127 mm (5 x 5 inches). The original might be jammed. See Clear jams from the ADF on page 151 .
	The media size is incorrect.	In Scan settings, make sure that the input media size is large enough for the document that you are scanning.
The scan takes too long	The resolution or color level is set too high.	Change the resolution and color level settings to the correct settings for your job.
	The software is set to scan in color.	The system default is color, which takes longer to scan even when scanning a monochrome original. If you acquire an image through TWAIN or WIA, you can change the settings so that the original scans in grayscale or black-and-white. See the product software Help for details.
	A print job or copy job was sent before you tried to scan.	If someone sent a print job or copy job before you tried to scan, the scan will start if the scanner is not busy. However, because the product and scanner share memory, the scan might be slower.

Scan-quality problems

Prevent problems

The following are a few simple steps you can take to improve copy and scan quality.

- Use the flatbed scanner, rather than the automatic document feeder (ADF) input tray, to scan.
- Use high-quality originals.
- Load the media correctly. If the media is loaded incorrectly, it might skew, which causes unclear images.
- Adjust the software settings according to how you plan to use the scanned page.
- If your product frequently feeds more than one page at a time, you might need to replace the separation pad.
- Use or make a carrier sheet to protect your originals.

Solve scan-quality problems

Problem	Description	Solution
Blank pages	The original might have been loaded upside down.	In the automatic document feeder (ADF), put the top end of the stack of originals into the ADF input tray, with the media stack face-up and the first page to be scanned on top of the stack. On the flatbed scanner, place the original document face-down with the upper-left corner of the document at the corner indicated by the icon on the product.
Too light or dark	The resolution and color levels might be set incorrectly.	Verify that you have the correct resolution and color settings.
Unwanted lines	Ink, glue, correction fluid, or an unwanted substance might be on the glass.	Clean the flatbed scanner surface. See Clean the flatbed scanner glass on page 30 .
	The ADF scanner strip might be dirty.	Clean the ADF scanner strip. See Clean the flatbed scanner glass on page 30 .
Black dots or streaks	Ink, glue, correction fluid, or an unwanted substance might be on the glass.	Clean the flatbed scanner surface. See Clean the flatbed scanner glass on page 30 .
Unclear text	The resolution and color levels may be set incorrectly.	Verify that you have the correct resolution and color settings.

Copy problems

Prevent problems

The following are a few simple steps you can take to improve copy quality:

- Copy from the flatbed scanner. This will produce a higher quality copy than copying from the automatic document feeder (ADF).
- Use quality originals.
- Load the media correctly. If the media is loaded incorrectly, it might skew, causing unclear images and problems with the OCR program.
- Use or make a carrier sheet to protect your originals.


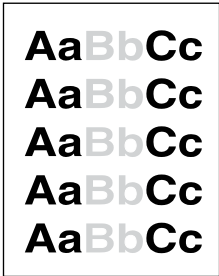
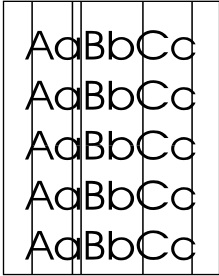
 **NOTE:** Verify that the media meets HP specifications. If the media meets HP specifications, recurring feed problems indicate the pickup roller or separation pad is worn.

Image problems

Problem	Cause	Solution
Images are missing or faded.	The print-cartridge toner-level might be low.	Replace the print cartridge. See Print cartridge on page 27 .
	The original might be of poor quality.	If your original is too light or damaged, the copy might not be able to compensate, even if you adjust the contrast. If possible, find an original document in better condition.
	The original might have a colored background.	Colored backgrounds might cause images in the foreground to blend into the background, or the background might appear in a different shade. If possible, use an original document without a colored background.
Vertical white or faded stripes appear on the copy.	The media might not meet HP specifications.	Use media that meets HP specifications.
	The print-cartridge toner-level might be low.	Replace the print cartridge. See Print cartridge on page 27 .



Problem	Cause	Solution
Unwanted lines appear on the copy.	The flatbed scanner or the ADF glass might be dirty.	Clean the flatbed scanner or the ADF glass. See Clean the flatbed scanner glass on page 30 .
	The photosensitive drum inside the print cartridge might have been scratched.	Install a new HP print cartridge. See Print cartridge on page 27 .
Black dots or streaks appear on the copy.	Ink, glue, correction fluid, or an unwanted substance might be on the automatic document feeder (ADF) or flatbed scanner.	Clean the flatbed scanner or the ADF glass. See Clean the flatbed scanner glass on page 30 .
Copies are too light or dark.	The printer driver or product software settings might be incorrect.	Verify that the quality settings are correct. See the product software Help for more information about changing the settings.
Text is unclear.	The printer driver or product software settings might be incorrect.	Verify that the quality settings are correct. See the product software Help for more information about changing the settings.

Media-handling problems

Problem	Cause	Solution
Poor print quality or toner adhesion	The paper is too moist, too rough, too heavy or too smooth, or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, 4% to 6% moisture content.
Dropouts, jamming, or curl	The paper has been stored incorrectly.	Store paper flat in its moisture-proof wrapping.
	The paper has variability from one side to the other.	Turn the paper over.
Excessive curl	The paper is too moist, has the wrong grain direction, or is of short-grain construction	Use long-grain paper.
	The paper varies from one side to the other.	Turn the stack over.
Jamming, damage to product	The paper has cutouts or perforations.	Use paper that is free of cutouts or perforations.

Problem	Cause	Solution
Problems with feeding	The paper has ragged edges.	Use high-quality paper that is made for laser printers.
	The paper varies from side-to-side.	Turn the paper over.
	The paper is too moist, too rough, too heavy or too smooth, has the wrong grain direction, or is of short-grain construction or it is embossed or from a faulty paper lot.	Try another kind of paper, between 100 and 250 Sheffield, 4% to 6% moisture content. Use long-grain paper.
Print is skewed (crooked).	The media guides might be incorrectly adjusted.	Remove all media from the input tray, straighten the stack, and then load the media in the input tray again. Adjust the media guides to the width and length of the media that you are using and try printing again.
More than one sheet feeds at one time.	The media tray might be overloaded.	Remove some of the media from the tray.
	The media might be wrinkled, folded, or damaged.	Verify that the media is not wrinkled, folded, or damaged. Try printing on media from a new or different package.
The product does not pull media from the media input tray.	The product might be in manual feed mode.	<ul style="list-style-type: none"> • If Manual feed appears on the product control-panel display, press OK to print the job. • Verify that the product is not in manual feed mode and print your job again.
	The pickup roller might be dirty or damaged.	Replace the pickup roller. See Pickup roller (product base) on page 97 .
	The paper-length adjustment control in tray 1 is set at a length that is greater than the media size.	Adjust the paper-length adjustment control to the correct length.

Performance problems

Problem	Cause	Solution
No copy came out.	The input tray might be empty.	Load media in the product.
	The original might have been loaded incorrectly.	<p>In the automatic document feeder (ADF), load the original with the narrow side forward and the side to be scanned facing up.</p> <p>On the flatbed scanner, place the original document face-down with the upper-left corner of the document at the corner indicated by the icon on the product.</p>
Copies are blank.	The sealing tape might not have been removed from the print cartridge.	Remove the print cartridge from the product, pull out the sealing tape, and reinstall the print cartridge.
	The original might have been loaded incorrectly.	<p>In the ADF, load the original with the narrow side forward and the side to be scanned facing up.</p> <p>On the flatbed scanner, make sure that the original document is placed face-down with the upper-left corner of the document at the corner indicated by the icon on the product.</p>
	The media might not meet HP specifications.	Use media that meets HP specifications.
	The print-cartridge toner-level might be low.	Replace the print cartridge. See Print cartridge on page 27 .
The wrong original was copied.	The ADF might be loaded.	Make sure that the ADF is empty.
Copies are reduced in size.	The product software settings might be set to reduce the scanned image.	See the HP ToolboxFX Help for more information about changing the settings.


Fax problems (fax models only)

General fax problem-solve


Verify the following information before problem-solving fax problems.

- Is the fax set up correctly?
 - Make sure that the fax cord that came with the product is the cord that is being used. This cord has been tested and meets the device specifications.
 - Make sure that the fax cord is installed in the correct port. The fax cord must be plugged into the *line* port.
- What type of telephone line is being used?
 - **Dedicated telephone line:** a unique telephone line that is assigned to receive or send a fax. The fax cord must be plugged into the *line* port.
 - **Shared telephone line:** a telephone line that receives or sends voice calls and faxes. A single, shared telephone line can perform only one function at a time. A fax cannot be sent while someone is talking on the telephone or while a computer is connecting to the Internet.
 - **Roll-over lines:** a telephone system feature that allows an incoming call to be forwarded to the next available telephone line (used with multiple-telephone-line systems). Try attaching the device to the first incoming telephone line. The product will answer the telephone after it rings the number of times that is specified in the product rings-to-answer setting.
 - **PBX system:** a business-environment telephone system. Standard home telephones and the HP LaserJet product use an analog telephone signal. Some PBX systems are digital and might be incompatible with standard telephones and with devices such as the HP LaserJet product.
 - **Distinctive ring service:** a telephone system feature that can assign two telephone numbers to one physical line, and assign a distinctive ring pattern to each number. Make sure that the device is set to respond to the correct distinctive ring pattern that the telephone service provider assigned to the fax number. This service is not available in all countries/regions. Make sure that the telephone company provides this service before changing the setting. For more information about distinctive ring service, see [Distinctive ring function on page 64](#).
- Is a telephone-line splitting device installed?
 - A telephone-line splitter is a device that splits two or more telephone lines from the same jack. Not all splitters are compatible with the device, and not all countries/regions support the use of splitters.

Parallel splitters (also called T-splitters) split a single line into two phone jacks so that two devices can share the same line. Line 1/Line 2 splitters provide two unique telephone line outlets from a single jack with two unique telephone numbers (two telephone lines are connected to a single jack). A Line 1/Line 2 splitter *must* be used if both a fax line and a voice line share the same jack.


 **NOTE:** Hewlett-Packard does not recommend using a parallel splitter (T-splitter) with the product because it might degrade the quality of the telephone signal. If a second device must be attached to the telephone line in addition to the product, plug the second device into the telephone port on the product (the port on the back that is marked with a telephone icon).

- Is a surge-protection device installed?
 - A surge-protection device might be installed between the telephone jack and the product to protect the product from electrical power that passes through the telephone lines. These devices might cause some fax communication problems by degrading the quality of the telephone signal. If you are having problems sending or receiving faxes, connect the device directly to the telephone jack to determine if the problem is in the surge-protection device.
- Is a telephone company voice-message service being used?
 - If the messaging service rings-to-answer setting is lower than the product rings-to-answer setting, the messaging service answers the call and the product will not detect incoming faxes. If the product rings-to-answer setting is lower than that of the messaging service, the product answers all calls and no calls will ever be sent to the messaging service. The only voice-messaging system that can be used with the product is a standard telephone-answering machine.
- Is a standard telephone-answering machine installed?
 - An answering machine must be connected to the port that is labeled with the telephone icon (or it can be shared on the same telephone-line extension). Set the product rings-to-answer setting for at least one ring more than the number of rings that prompts the answering machine to answer an incoming call. For example, if the answering machine is set to answer calls after three rings, set the product rings-to-answer setting to four rings.

 **NOTE:** If an answering machine is connected to the same telephone line but is connected to a different jack (for example, in another room), it might interfere with the product to fax reception.

Problems receiving faxes

Use the table in this section to solve problems that might occur when receiving faxes.

 **NOTE:** You must use the fax cord that came with the product in order to ensure that the product functions correctly.

Problem	Cause	Solution
The product cannot receive faxes from an extension telephone.	The extension-telephone setting might be disabled.	Verify that the extension-telephone setting is enabled.
	The fax cord might not be securely connected.	Verify that the fax cord is securely connected between the telephone jack and the product (or another device that is connected to the product). Press 1-2-3 in sequence (tone-dial mode only), wait for three seconds, and then hang up.
	The product dialing mode might be incorrectly set, or the extension phone might be incorrectly set.	Verify that the product dialing mode is set to Tone . Verify that the extension phone is set to On for tone dialing as well.

Problem	Cause	Solution
The product is not answering incoming fax calls.	The answer mode might be set to Manual .	If the answer mode is set to Manual , the product does not answer calls. You have to start the fax-receiving process manually.
	The rings-to-answer setting might not be set correctly.	Check the rings-to-answer setting for your configuration.
	The answer-ring pattern feature might be turned on, but you do not have the service, or you do have the service and the feature is not set correctly.	Check the answer-ring pattern feature to verify that it is set properly.
	The fax cord might not be correctly connected, or the fax cord is not working.	See the Getting Started Guide to check the installation. Verify that you are using the fax cord that came with the product.
	The product might not be able to detect incoming fax tones because the answering machine is playing a voice message.	Re-record your answering machine message, leaving at least two seconds of silence at the beginning of the message.
	Too many devices might be connected to the telephone line.	You should not have more than three devices attached to the line. Try removing the last device that was connected and determine whether the product works. If not, continue removing devices one at a time and retry after removing each one.
	The telephone line might not be working.	Do one of the following: <ul style="list-style-type: none"> ● Increase the volume on the product, and then press Start Fax on the control panel. If you hear a dial tone, the telephone line is working. ● Disconnect the product from the telephone jack, and then connect a telephone. Try to make a telephone call to verify that the telephone line is working.

Problem	Cause	Solution
The product is not answering incoming fax calls.	A voice-messaging service might be interfering with the product as it attempts to answer calls.	<p>Do one of the following:</p> <ul style="list-style-type: none"> • Disable the messaging service. • Get a telephone line that is dedicated to fax calls. • Set the product answer mode to Manual. In manual mode, you must start the fax-receive process yourself. • Leave the product set to automatic mode and lower the rings-to-answer setting for the product to a number less than the rings-to-answer setting for the voice mail. The product will answer all incoming calls.
	The product might be out of paper and the memory is full.	Refill the media input tray. Press OK . The product prints all of the faxes it has saved in memory and then resumes answering fax calls.
Faxes are not printing.	The media input tray is empty.	Load media. Any faxes that are received while the input tray is empty are stored in memory and will print after the tray has been refilled.
	The receive-to-PC option might be selected, and faxes are being received by the computer.	Check to determine whether the computer is receiving faxes.
Faxes are printing on two pages instead of one.	The auto reduction setting might not be set correctly.	Turn on the auto reduction setting.
	The incoming faxes might have been sent on larger media.	Adjust the auto reduction setting to allow larger pages to be printed on one page.
Received faxes are too light or are printing only on half of the page.	The product ran out of toner while printing a fax.	The product stores the most recently printed faxes. (The amount of memory that is available determines the actual number of faxes stored for reprinting.) As soon as possible, replace the print cartridge, and then reprint the fax.
	The fax that was sent was too light.	Contact the sender and have the sender resend the fax after altering the settings.

Problems sending faxes

Problem	Cause	Solution
The document stops feeding in the middle of faxing.	The maximum length of a page that you can load is 381 mm (15 inches). Faxing of a longer page stops at 381 mm (15 inches).	Print the document on shorter media. If no jam exists and less than one minute has elapsed, wait a moment before pressing Cancel . If a jam exists, see Clear jams on page 149 . Then, resend the job.
	If the item is too small, it can jam inside the automatic document feeder (ADF).	Use the flatbed scanner. The minimum page size for the ADF is 127 x 127 mm (5 x 5 inches). If a jam exists, see Clear jams from the ADF on page 151 . Then, resend the job.
Faxes stop during sending.	The fax machine to which you are sending might be malfunctioning.	Try sending to another fax machine.
	Your telephone line might not be working.	Do one of the following: <ul style="list-style-type: none"> • Turn up the volume on the product, and then press Start Fax on the control panel. If you hear a dial tone, the telephone line is working. • Disconnect the product from the jack in the wall, and then connect a telephone to the jack. Try to make a telephone call to verify that the telephone line is working.
	A communication error might be interrupting the fax job.	Change the redial-on-communication-error setting to On .
The product is receiving faxes but is not sending them.	If your product is on a PBX system, the PBX system might be generating a dial tone that the product cannot detect.	Disable the detect-dial-tone setting.
	A poor telephone connection might exist.	Try again later.
	The fax machine to which you are sending might be malfunctioning.	Try sending to another fax machine.
	Your telephone line might not be working.	Do one of the following: <ul style="list-style-type: none"> • Turn up the volume on the product and press Start Fax on the control panel. If you hear a dial tone, the telephone line is working. • Disconnect the product from the telephone jack and connect a telephone. Try to make a telephone call to verify that the telephone line is working.
Outgoing fax calls continue to be dialed.	The product automatically redials a fax number if the redial options are set to On .	To stop the redials while the product is dialing, press Cancel .

Problem	Cause	Solution
Faxes that you send are not arriving at the receiving fax machine.	The receiving fax machine might be off or might have an error condition, such as being out of paper.	Call the recipient to verify that the fax machine is on and ready to receive faxes.
	The originals might be incorrectly loaded.	Verify that the original documents are correctly loaded into the ADF input tray or flatbed scanner.
	A fax might be in memory because it is waiting to redial a busy number, other jobs that are ahead of it are waiting to be sent, or the fax is set up for a delayed send.	If a fax job is in memory for any of these reasons, an entry for the job appears in the fax log. Print the fax activity log and check the Status column for jobs that show a Pending designation.
Faxes you send include a block of gray shading at the end of each page.	You might be sending a fax from the flatbed scanner with the glass-fax size set incorrectly.	Verify that the setting is correct.
Faxes you send have data missing from the end of each page.	You might be sending a fax from the flatbed scanner with the glass-fax size set incorrectly.	Verify that the setting is correct.
You receive a Low Memory error.	You might be sending a fax that is too large, or the resolution might be too high.	<p>Try one of the following:</p> <ul style="list-style-type: none"> • Divide a large fax into smaller sections, and then fax them individually. • Clear stored faxes to make more memory available for outgoing faxes. • Configure the outgoing fax as a delayed fax, and then verify that it will send completely. • Make sure that you are using the lowest resolution setting (Standard).

Voice-call problems

Problem	Cause	Solution
The telephone or answering machine that is connected to the line is not receiving voice calls.	The fax cord might not be correctly connected.	See the Getting Started Guide to check the installation. The product must be the first device connected to the telephone line.
	The answer mode or rings-to-answer settings might not be correctly set.	The rings-to-answer must be set higher than the answering machine setting.
	The answering machine or telephone might not be functioning.	Connect the telephone or answering machine directly to the telephone line and determine if it works by itself.
	The problem persists.	See the Fax chapter in the product user guide.

Media-handling problems



NOTE: For information about removing jams, see [Clear jams on page 149](#).

Problem	Cause	Solution
Print is skewed (crooked).	The media input tray might be overloaded.	Remove some of the media from the input tray.
	The media guides might be incorrectly set, broken, or missing.	Verify that the guides are not adjusted too tightly or too loosely against the paper. Check for broken or missing guides, and replace them if necessary.
	The media might not meet HP specifications.	Use media that meets HP specifications.
Pages are curled or wrinkled.	The media might not meet HP specifications.	Use media that meets HP specifications.
	The media is not stored properly.	When possible, store media in its sealed ream at room temperature.
	The media has been in the input tray too long.	Turn over the stack of media in the tray or rotate the media 180° in the paper tray.

Performance problems

Problem	Cause	Solution
Faxes are transmitting or being received very slowly.	The fax might be very complex, such as one with many graphics.	Complex faxes take longer to be sent or received. Breaking longer faxes into multiple jobs can increase the transmission speed.
	The receiving fax machine might have a slow modem speed.	The product only sends the fax at the fastest modem speed that the receiving fax machine can accept.
	The resolution at which the fax was sent or is being received might be very high.	If you are receiving the fax, call and ask the sender to lower the resolution and resend the fax. If you are sending the fax, lower the resolution and resend the fax.
	Your telephone line might not be working.	Hang up and resend the fax. Have the telephone company check the telephone line.
	You are sending a fax via an international call.	You must allow more time to transmit fax jobs internationally.
The fax activity logs or fax call reports are printing at inappropriate times.	The fax activity log or fax call reports settings are not correct.	Print a configuration page and check when the reports print.
The product sounds are too loud or too soft.	The volume setting might not be adjusted correctly.	Adjust the volume setting.

Functional checks

Engine test page

1. Turn the product power on and wait for the message **Ready** to appear on the control-panel display.
2. Rapidly open and then close the print-cartridge door five times.

△ **CAUTION:** Do not forcibly close the door to prevent damaging the door latches.

💡 **TIP:** Depress and hold down the print-cartridge door button to prevent the door latches from engaging. Open the door far enough to activate the door open sensor, and then fully close the door.
3. An engine test page prints.

Drum rotation test

The photosensitive drum, located in the print cartridge, must rotate in order for the print process to work. The photosensitive drum receives its drive from the main drive assembly.

📝 **NOTE:** This test is especially important if refilled print cartridges have been used.

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

If the mark did not move, inspect the main drive assembly to make sure that it is meshing with the print cartridge gears. If the drive gears appear functional and the drum does not move, replace the print cartridge.

Half self-test functional check

The print process can be subdivided into the following stages:

- Image formation stage (charges the drum and writes a latent image to the drum with the laser)
- Development stage (forms a toner image on the drum)
- Transfer stage (transfers the image to the media)
- Cleaning stage (removes excess toner from the drum)
- Fusing stage (applies heat and pressure to the media to make the image permanent)

Perform a half self-test check

The purpose of the half self-test check is to determine which process is malfunctioning.

1. Print a configuration page.
2. Open the print cartridge access door after the paper advances halfway through the product (approximately five seconds after the motor begins rotating). The leading edge of the paper should have advanced past the print cartridge.
3. Remove the print cartridge.
4. Open the print cartridge drum shield to view the drum surface. If a dark and distinct toner image is present on the drum surface, assume that the first two functions of the electrophotographic process are functioning (image formation and development). Problem solve the failure as a transfer or fusing problem.

Perform other checks


If no image appears on the photosensitive drum, perform these checks:

1. Make sure that you removed the entire length of the sealing tape from the print cartridge before you installed the cartridge.
2. Perform a drum-rotation functional check to ensure that the drum is rotating (see [Drum rotation test on page 178](#)).
3. Perform a high-voltage power-supply check. See [Heating element check on page 180](#).

Heating element check


Media passes between the heating element and a soft pressure roller to fuse toner to the media.

1. Unplug the product for at least ten minutes.
2. Verify that the thermistor connector is seated into both the product chassis and the ECU.
3. Remove the heating element connector from the ECU. To measure the continuity of the heating element, measure the resistance between the two pins at the end of the cable.

 **NOTE:** Normal resistance is 25 ohms +/- 10 ohms for the 110 V product and 80 ohms +/- 20 ohms for the 220 V product.

If no resistance is measured, replace the fuser.

4. Remove the thermistor connector, and then measure the resistance between J206 pins one and two and between J206 pins three and four.

 **NOTE:** Normal resistance between both pairs of pins is 370K ohms +/- 50K ohms at 20°C (68° F).

5. If no resistance is measured, replace the fuser.

High-voltage contacts check

The high-voltage contacts in the product must have a good connection with the contacts on the print cartridge to provide the necessary voltages for the electrophotographic processes.

Check the print-cartridge contacts

Remove the print cartridge and visually inspect the three connection points on the ends of the print cartridge: drum ground (callout 1), charging (callout 2), and developing roller (callout 3). If they are dirty or corroded, clean the connection. If they are damaged, replace the print cartridge.


 **NOTE:** Use only isopropyl alcohol to clean the connections.

Figure 6-1 Print-cartridge high-voltage connection points (right side)

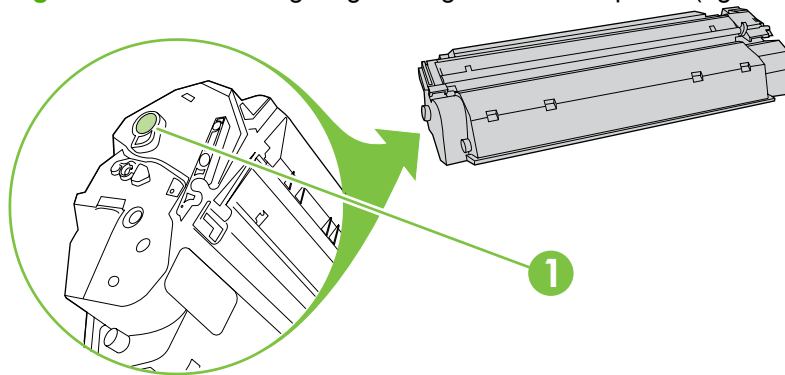
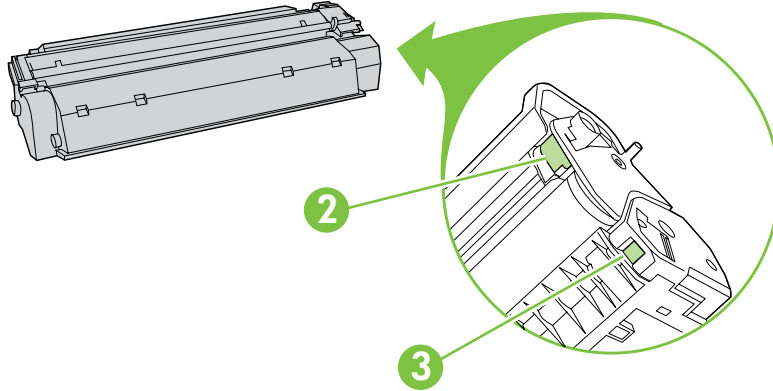


Figure 6-2 Print-cartridge high-voltage connection points (left side)



Check the high-voltage connector assembly

Visually inspect the cartridge connection points inside the product to make sure that they are not dirty or corroded. If the pins are dirty, clean them by using isopropyl alcohol only.

Service-mode functions

NVRAM initialization

An NVRAM initialization will return the following device settings to the factory-set defaults:

- All menu settings, including the fax header and company name
- Fax numbers and names that are associated with one-touch keys and speed-dial codes

Additionally, all faxes stored in memory are cleared.

1. Turn off the product.
2. Press and hold both the down arrow button and the **Cancel** button, and then turn on the product.
3. Wait until the message **Permanent storage init.** appears, and then release the buttons.

When the NVRAM initialization process finishes, the product control panel shows the **Ready** message.

Super NVRAM initialization

The super NVRAM initialization clears all settings affected by a regular NVRAM initialization, and also clears the product language and country/region settings. Both settings must be reset after a super NVRAM initialization.

1. Turn off the product.
2. Press and hold both the down arrow button and the **Cancel** button, and then turn on the product.
3. Wait until the message **Permanent storage init.** appears, and then release the buttons.

When the process finishes, the product control panel shows the **Ready** message.

Secondary service menu

Use this menu to perform various tests and print out special reports.

Open the secondary service menu

1. Press the **Setup** button.
2. Press and hold both the up arrow button and the **Cancel** button.
3. Press the **Setup** button again.
4. Use the arrow buttons to select the desired secondary-service option, and then press the **OK** button.
5. Use the arrow buttons to select the desired submenu option, and then press **OK**.
6. After making the necessary menu item choices, press **Cancel** to close the secondary service menu.


Menu item	Submenu	Description
Service Reports	Cont. Self-Test	The continuous self-test prints the configuration page repeatedly until you press Cancel .
	Extended Keymap	

Menu item	Submenu	Description
	Error Report	<p>Print the extended keypad map to see all the characters associated with the alphanumeric keys.</p> <p>Print the error report to see firmware errors.</p>
Scan Calibration	Calibrate Corrected Tables	<p>Use the Calibrate sub-menu to calibrate the various product scan methods.</p> <p>Use the Corrected sub-menu to identify hardware issues that affect the scanner.</p> <p>Use the Tables sub-menu to turn the debugging function on or off.</p>
Location	Various countries/regions	Use the Location sub-menu to set the country/region in which the product is being used.
Display test		Use the Display test sub-menu to run a test of the control-panel display lights and LCD screen.
Button test		Use the Button test sub-menu to run a test of the control-panel buttons.
Show FW Version		Use the Show FW Version sub-menu to display the firmware version number.

Problem-solve tools

Product information pages and reports

Information pages and reports reside within the product memory. These pages and reports help diagnose and solve problems with the product.

 **NOTE:** If the product language was not correctly set during installation, you can set the language manually so the information pages print in one of the supported languages. Change the language by using the **System setup** menu on the control panel or by using the embedded Web server.

Configuration page

The configuration page shows the current settings and product properties. Print a configuration page from the product or HP ToolboxFX. To print from the product, complete the following steps:

1. On the product control panel, press **Setup** ↘.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Config report**, and then press **OK**.

A second page also prints. On that page, the **Fax Settings** section provides details about the product fax settings.

Supplies Status page

The supplies status page shows the remaining life of the HP print cartridge, the estimated pages remaining, the number of pages printed, and other supplies information. Print a supplies status page from the product or HP ToolboxFX. To print from the product, complete the following steps:

1. On the product control panel, press **Setup** ↘.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Supplies Status**, and then press **OK**.

PCL, PCL 6, or PS font list

The PCL, PCL 6, or PS font list shows which fonts are currently installed in the product. To print the PCL, PCL 6, or PS font list, complete the following steps:

1. On the product control panel, press **Setup** ↘.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **PCL font list**, **PS font list**, or **PCL 6 font list**, and then press **OK**.

Demo page

The demo page contains examples of text and graphics. To print the demo page, complete the following steps:

1. On the product control panel, press **Setup** ↵.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Demo page**, and then press **OK**.

Usage page

The usage page shows a page count for each size of paper printed and the average percentage of coverage. To print the usage page, complete the following steps:

1. On the product control panel, press **Setup** ↵.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Usage page**, and then press **OK**.

Menu map

The menu map shows the control-panel menus and available settings. To print the menu map, complete the following steps:

1. On the product control panel, press **Setup** ↵.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Menu structure**, and then press **OK**.

Network report

The network report shows the product network settings. To print the network report, complete the following steps:

1. On the product control panel, press **Setup** ↵.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Network report**, and then press **OK**.

Fax reports

This section describes the fax reports that help you diagnose and solve problems with the product.

Fax activity log

The fax activity log provides a chronological history of the last 40 faxes that were received, sent, or deleted, and any errors that occurred.

Print the fax activity log

1. On the product control panel, press **Setup** ↵.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Fax Activity log**, and then press **OK**.
4. Press **OK** to select **Print log now**. The product exits the menu settings and prints the log.

Fax confirmation report

The fax confirmation report is a brief report that indicates the status of the last fax that was sent or received.

Set up the fax confirmation report

1. On the product control panel, press **Setup** ↵.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Fax Confirmation report**, and then press **OK**.
4. Use the arrow keys to select one of the report options, and then press **OK** to save the setting.

Last call report

The last call report includes details about the last fax that was sent or received.


Print a last call report

1. On the product control panel, press **Setup** ↵.
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Last Call report**, and then press **OK**. The product exits the menu settings and prints the report.

Phone book report


A phone book report lists the fax numbers that are assigned to the one-touch buttons and speed-dial and group-dial entries.

Print a phone book report


1. On the product control panel, press **Setup** .
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **PhoneBook report**, and then press **OK**. The product exits the menu settings and prints the report.

Billing-code report

The billing-code report is a printed list of all of the fax billing codes and the total number of faxes that have been billed to each code.

 **NOTE:** After this report is printed, all billing data is deleted.

Print a billing-code report

1. On the product control panel, press **Setup** .
2. Use the arrow buttons to select **Reports**, and then press **OK**.
3. Use the arrow buttons to select **Billing report**, and then press **OK**. The product exits the menu settings and prints the report.

HP ToolboxFX

HP ToolboxFX is a Web-based program that you can use for problem-solving tasks.


View HP ToolboxFX

Open HP ToolboxFX in one of these ways:

- On the Windows desktop, double-click the HP ToolboxFX icon.
- On the Windows **Start** menu, click **Programs** (**All Programs** in Windows XP), and then click HP ToolboxFX.

Troubleshooting tab

HP ToolboxFX includes a **Troubleshooting** tab that contain a link to the “Problem solve” chapter in the user guide

 **NOTE:** Other HP ToolboxFX tabs also might be helpful in solving product problems.

Service menu


Use the control-panel **Service** menu to solve product problems.

Service menu item	Submenu option	Description
Print T.30 trace	At end of call* Never Now If error	Use a T.30 trace report to problem solve fax transmission and receive errors.
Archive print	Off* On	The archive print feature produces output that is less susceptible to toner smearing and dusting. Use archive print to create documents that you want to preserve or archive.
IESS PAPER CURL	Off* On	Lowers the fuser temperature.
PowerSave time	2 Hours 4 Hours 8 Hours* 12 Hours	Use this item to set the amount of time before the product enters PowerSave mode.
Cleaning mode	None	Press OK to start the cleaning process. See Clean the paper path on page 34 for more information.
Restore defaults	None	CAUTION: This procedure clears fax numbers and names that are associated with one-touch keys and speed-dial codes, and deletes any pages that are stored in the memory. The procedure then automatically restarts the product. Press OK to restore the product factory settings.

Restore the factory-set defaults

Restoring the factory-set defaults returns all of the settings to the factory defaults, and it also clears the fax header name and phone number.


- △ **CAUTION:** This procedure clears fax numbers and names that are associated with one-touch keys and speed-dial codes, and deletes any pages that are stored in the memory. The procedure then automatically restarts the product.


1. On the product control panel, press **Setup** .
2. Use the arrow buttons to select **Service**, and then press **OK**.
3. Use the arrow buttons to select **Restore defaults**, and then press **OK**.

The product automatically restarts.

Clean the paper path

The product features a special cleaning mode to clean the paper path.

 **NOTE:** If you have access to HP ToolboxFX, HP recommends cleaning the paper path by using HP ToolboxFX.

1. On the product control panel, press **Setup** .
2. Use the arrow buttons to select **Service**, and then press **OK**.
3. Use the arrow buttons to select **Cleaning Mode**, and then press **OK**.

A page feeds through the product slowly. Discard the page when the process is completed.

4. Load plain letter or A4 paper when you are prompted.
5. Press **OK** again to confirm and begin the cleaning process.


A page feeds through the product slowly. Discard the page when the process is completed.

T.30 protocol trace

Use a T.30 protocol trace report to problem-solve fax transmission issues.

Print a T.30 protocol trace report

Send a fax from the product or receive a fax to the product from another fax machine, and then print a T.30 trace report after the fax prints.


1. On the product control panel, press **Setup** .
2. Use the arrow buttons to select **Service**, and then press **OK**.
3. Use the arrow buttons to select **Print T.30**, and then press **OK**.

The product exits the menu settings and prints the reports.

Archive print

Archive print produces output that is less susceptible to toner smearing and dusting. Use archive print to create documents that you want to preserve or archive.

Turn on archive print

1. On the product control panel, press **Setup** .
2. Use the arrow buttons to select **Service**, and then press **OK**.
3. Use the arrow buttons to select **Archive print**, **On**, or **Off**, and then press **OK**.

Problem-solve diagrams

- [Repetitive image defects](#)
- [Interface ports](#)
- [ECU connectors](#)
- [Formatter PCA](#)
- [Fax card](#)
- [Solenoid and motor](#)
- [Rollers](#)
- [Sensors](#)
- [Major components](#)
- [PCAs \(base unit\)](#)
- [Scanner and ADF](#)
- [Circuit diagram](#)

Repetitive image defects

If the product output has a consistent, repetitive defect, then use [Table 6-3 Repetitive image defects on page 192](#) to determine which part needs to be replaced based on the measured distance between the repetitions of the defect.


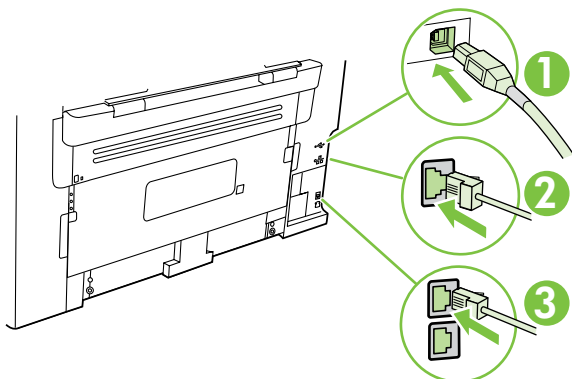
 **NOTE:** The following table replaces the graphical repetitive defect ruler. You can make your own ruler by using these measurements.

Table 6-3 Repetitive image defects

Distance between identical defects	Dirty or damaged roller	Solution
26.7 mm (1.05 inches)	Primary charging roller	Replace the print cartridge.
29.1 mm (1.14 inches)	Developing cylinder	Replace the print cartridge.
39.3 mm (1.55 inches)	Transfer roller	Replace the transfer roller.
56.2 mm (2.21 inches)	Pressure roller	Replace the fuser.
56.5 mm (2.22 inches)	Fuser film (fuser sleeve)	Replace the fuser.

Interface ports

All models have a 10/100 Base-T (RJ-45) network port and a Hi-Speed USB 2.0 port. Fax models have fax ports as well.



- | | |
|---|-----------------------------|
| 1 | Hi-Speed USB 2.0 port |
| 2 | Network port |
| 3 | Fax ports (fax models only) |

ECU connectors

Figure 6-3 ECU connectors

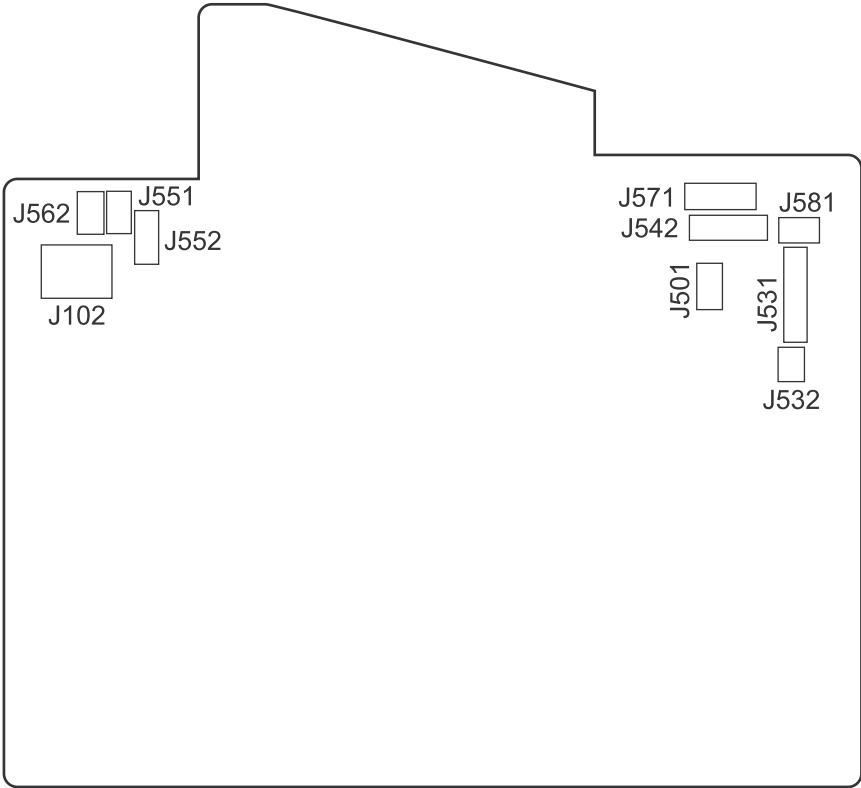


Table 6-4 ECU connectors

Item	Description
J101	Fuser (not shown)
J102	Power switch
J501	Interlock
J531	Formatter PCA (communication, +5v, +3.3v, GND)
J532	Formatter PCA (communication, +24v, GND)
J542	Laser/scanner
J551	Top-of-media sensor (PS751)
J552	Media sensor PCA (fuser delivery sensor PS701 and media width sensor PS702)
J562	Pickup solenoid
J571	Motor drive PCA
J581	TAGIN/TAGOUT PCA

Formatter PCA

Figure 6-4 Formatter connectors

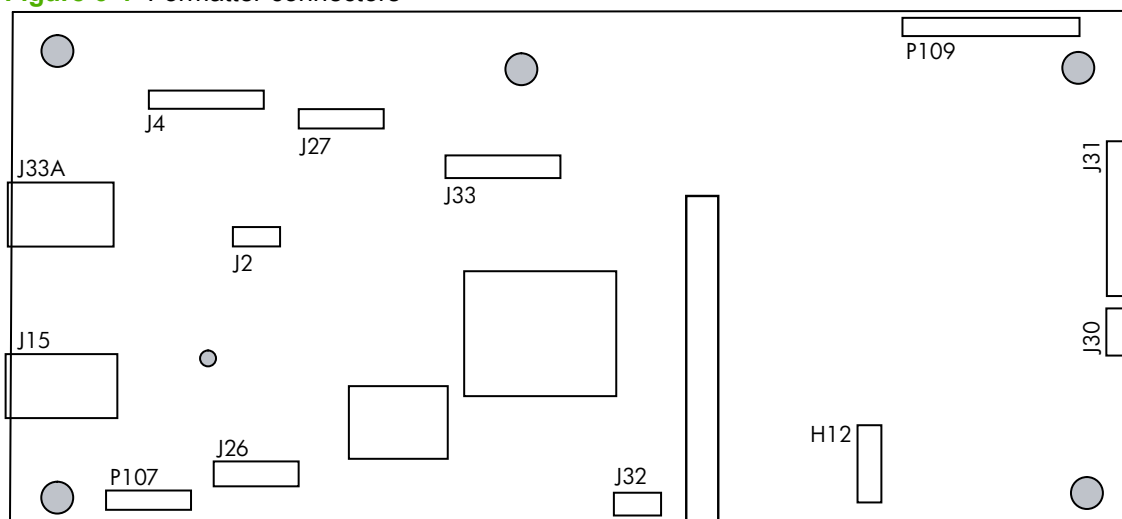


Table 6-5 Formatter connectors

Item	Description
H12	Asian character control panel display PCA NOTE: This PCA is only installed on products that use the Asian fax control panel display. Not all products will have this PCA installed.
J2	Flatbed motor
J4	Scanner
J15	Network port
J26	Fax card PCA
J27	Control panel
J30	+24V (from engine)
J31	ECU PCA
J32	Speaker
J33	ADF motor
J33A	High-speed USB 2.0 port
P107	SPI module
P109	FW code download jumper

Fax card

Figure 6-5 Fax card connectors

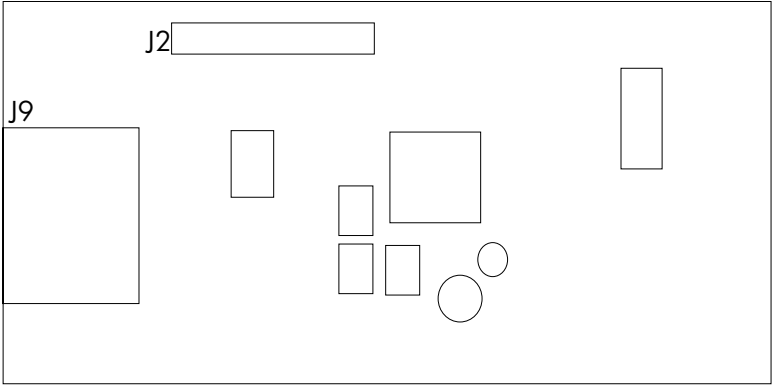


Table 6-6 Fax card

Item	Description
J2	Formatter
J9	Fax ports

Solenoid and motor

Figure 6-6 Solenoid and motor

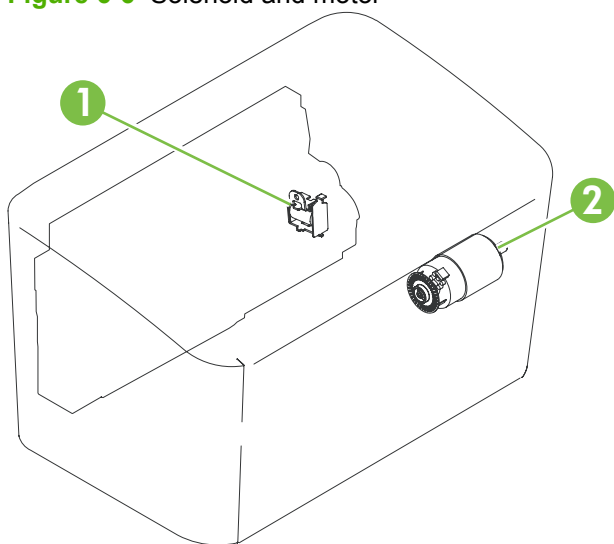


Table 6-7 Solenoid and motor

Item	Description
1	Pickup solenoid
2	Main motor

Rollers

Figure 6-7 Rollers

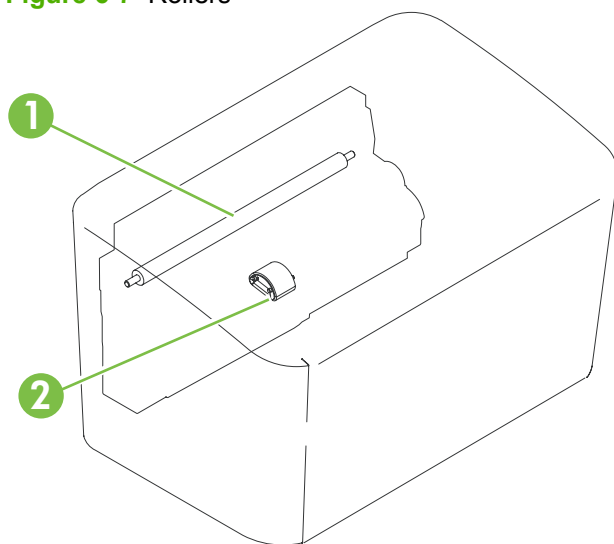


Table 6-8 Rollers

Item	Description
1	Transfer roller (fastened to the rear door)
2	Pickup roller

Sensors

Figure 6-8 Sensors

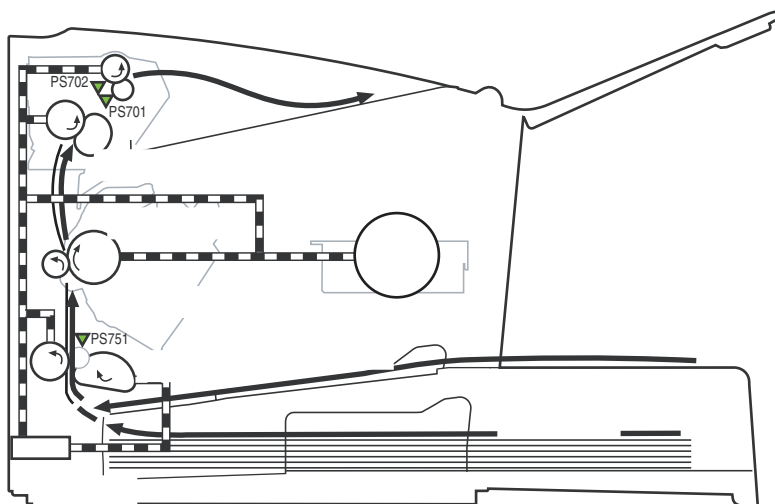


Table 6-9 Sensors

Item	Description
PS701	Fuser delivery sensor
PS702	Media width sensor
PS751	Top-of-page sensor

Major components

Figure 6-9 Major components

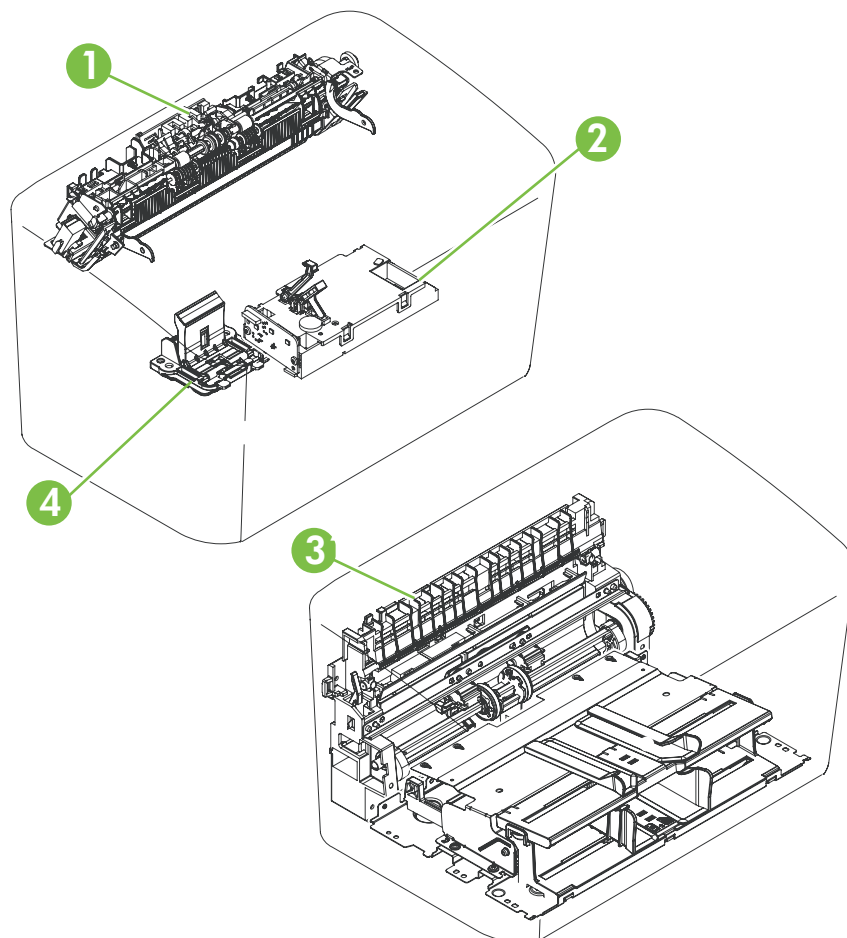


Table 6-10 Major components

Item	Description
1	Fuser assembly
2	Laser/scanner assembly
3	Paper pickup assembly
4	Separation pad assembly

PCAs (base unit)

Figure 6-10 PCAs (base unit)

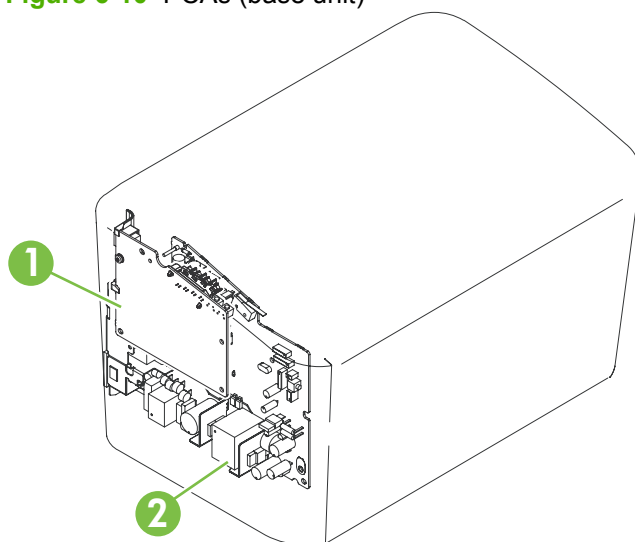


Table 6-11 PCAs (base unit)

Item	Description
1	Formatter PCA
2	Engine controller PCA (ECU)

Scanner and ADF

Figure 6-11 Scanner and ADF

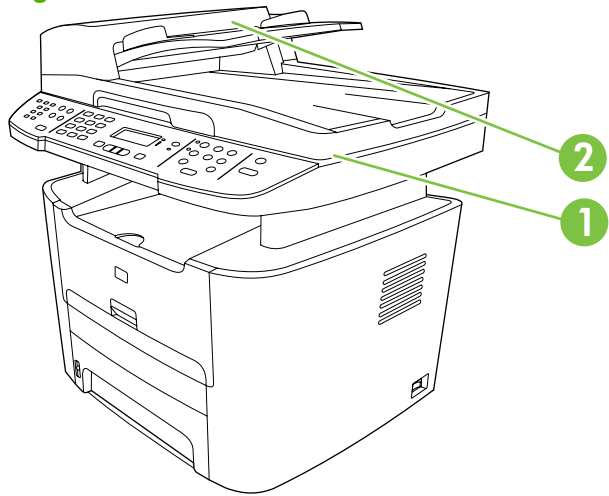


Table 6-12 Scanner and ADF

Item	Description
1	Scanner
2	ADF

ENWW

TONER

Problem-solve diagrams 203



Firmware updates

The product has a flash-memory-based formatter that enables the firmware code to be updated in the event that new firmware is released for the product. Using flash memory also provides a way to recover the firmware in the event of code corruption or failure.

Firmware update by using a flash executable file

The configuration page lists the firmware version of the product. On the product, you can update the firmware code by downloading the latest executable file for the product and running the program according to the readme instructions that come with it (go to www.hp.com/support/ljm1522). Turn the product off and then on before running the executable file.

7 Parts

- [Ordering information](#)
- [Supplies and hinge tool](#)
- [Cable and interface accessories](#)
- [Whole unit replacement](#)
- [Control-panel bezels](#)
- [Supplementary documentation and support](#)
- [Parts lists and diagrams](#)
- [ADF and scanner assemblies](#)
- [ADF internal components](#)
- [Assemblies](#)
- [External covers and panels](#)
- [Internal components \(1 of 3\)](#)
- [Internal components \(2 of 3\)](#)
- [Internal components \(3 of 3\)](#)
- [Alphabetical parts list](#)
- [Numerical parts list](#)

Ordering information

Order replacement parts, supplies, or paper from the following Web sites:

- To order genuine HP parts or accessories, go to www.hp.com/buy/parts.com
- To order supplies and paper, go to www.hp.com/buy/suresupply.com.

Supplies and hinge tool

Product name	Description	Part number
Replacement print cartridge	Average yield for the print cartridge is approximately 2,000 pages. Actual yield depends on use.	CB436A (new)
		CB436-67901 (exchange)
Scanner hinge tool	Use this tool to secure the scanner in the open position when the link assemblies are disengaged.	5185-7441

Cable and interface accessories

Product name	Description	Part number
USB cable	2-meter standard USB-compatible device connector	C6518A
	3-meter standard USB-compatible device connector	C6520A
Fax cord	Product fax cord	8121-0811
Fax Dongle	Fax 2/4 wire adaptor (U.S.)	Q3093-80004
Power cord	U.S. / Canada (1.8 M, 6 ft)	8120-8382
	Europe (1.8 M, 6 ft)	8121-0516
	Switzerland (1.8 M, 6 ft)	8121-0519
	United Kingdom (1.8 M, 6 ft)	8121-0517
	Danish (1.8 M, 6 ft)	8121-0518
	South America (1.8 M, 6 ft)	8121-0520
	Israel (1.8 M, 6 ft)	8121-1004

Whole unit replacement

Use the tables in this section to find the whole unit replacement part number for a specific product bundle and localized configuration.

Table 7-1 Whole unit replacement, product bundle CC372A

Country/region	Localized configuration	Replacement part number
Asia Pacific	AB0 - Taiwan-Traditional Chinese	CC372-67906
	AB1 - Korea-Korean localization	CC372-67907
	AB2 - China-Simplified Chinese	CC372-67908
	AB3 - Thailand-Thai	CC372-67909
	AB4 - Singapore-English	CC372-67910
	BFV - Hong Kong SAR-English/Traditional Chinese	CC372-67911
	ABG - Australia-English	CC372-67912
	A2K - Philippines-English	CC372-67913
	ACJ - India-English	CC372-67914
	AK3 - Indonesia - Indonesia localizaton	CC372-67915
	AR7 - New Zealand-English	CC372-67916
	UUD - Vietnam-Vietnamese localization	CC372-67917
	ARR - Asia Pacific (Euro Cord)-English	CC372-67918
	ARS - Asia Pacific (UK Cord)-English	CC372-67919

Table 7-1 Whole unit replacement, product bundle CC372A (continued)

Country/region	Localized configuration	Replacement part number
Europe, Middle East, and Africa	ABD - Germany-German	CC372-67921
	ABF - France-French	CC372-67922
	ABH - Netherlands-Dutch	CC372-67923
	ABZ - Italy-Italian	CC372-67924
	ABE - Spain - Spanish localization	CC372-67925
	BFY - Spain-Catalan localization	CC372-67926
	ABU - United Kingdom-English	CC372-67927
	B14 - Belgium-Dutch/French	CC372-67928
	AR8 - Switzerland-French/German	CC372-67929
	BB1 - Norway/Finland/Sweden-NO/FI/SV localization	CC372-67930
	ABY - Denmark-Danish	CC372-67931
	ACB - Russia-Cyrillic	CC372-67932
	BCM - Czech Rep/Slovakia - Czech/Slovak localization	CC372-67933
	AKC - Hungary - Hungarian localization	CC372-67934
	AKD - Poland - Polish localization	CC372-67935
	AB9 - Portugal - Portuguese localization	CC372-67936
	ACQ - South Africa-English	CC372-67937
	BCP - Greece/Israel - Greek/Hebrew localization	CC372-67938
	BFQ - Mid East 220V-AR/FR/EN localization	CC372-67939
	BFR - Estonia/Lithuania/Latvia-ET/LT/LV	CC372-67940
	BFS - Slovenia/Croatia/Serbia-SL/HR/SR	CC372-67941
	BFZ - Kazakhstan/Ukraine-Kazakh/Ukrainian localization	CC372-67942
	AB8 - Turkey - Turkish localization	CC372-67943
	BG1 - Romania/Bulgaria-Romanian/Bulgarian localization	CC372-67944
Latin America	AC8 - Argentina-Spanish	CC372-67945
	ABM - Latin Amer - (120v) Spanish localization	CC372-67946
	AC4 - Brazil-Portuguese	CC372-67947
	AKV - South America-Spanish	CC372-67948
North America	ABA - U. S.-English	CC372-67949
	A2L - Canada-FR/EN	CC372-67951

Table 7-2 Whole unit replacement, product bundle CB534A

Country/region	Localized configuration	Replacement part number
Asia Pacific	AB0 - Taiwan-Traditional Chinese	CB534-67901
	AB1 - Korea-Korean localization	CB534-67902
	AB2 - China-Simplified Chinese	CB534-67903
	AB3 - Thailand-Thai	CB534-67904
	AB4 - Singapore-English	CB534-67905
	BFV - Hong Kong SAR-English/Traditional Chinese	CB534-67906
	ABG - Australia-English	CB534-67907
	A2K - Philippines-English	CB534-67908
	ACJ - India-English	CB534-67909
	AK3 - Indonesia - Indonesia localizaton	CB534-67910
	AR7 - New Zealand-English	CB534-67911
	UUD - Vietnam-Vietnamese localization	CB534-67912
	ARR - Asia Pacific (Euro Cord)-English	CB534-67913
	ARS - Asia Pacific (UK Cord)-English	CB534-67914

Table 7-2 Whole unit replacement, product bundle CB534A (continued)

Country/region	Localized configuration	Replacement part number
Europe, Middle East, and Africa	ABD - Germany-German	CB534-67916
	ABF - France-French	CB534-67917
	ABH - Netherlands-Dutch	CB534-67918
	ABZ - Italy-Italian	CB534-67919
	ABE - Spain - Spanish localization	CB534-67920
	BFY - Spain-Catalan localization	CB534-67921
	ABU - United Kingdom-English	CB534-67922
	B14 - Belgium-Dutch/French	CB534-67923
	AR8 - Switzerland-French/German	CB534-67924
	BB1 - Norway/Finland/Sweden-NO/FI/SV localization	CB534-67925
	ABY - Denmark-Danish	CB534-67926
	ACB - Russia-Cyrillic	CB534-67927
	BCM - Czech Rep/Slovakia - Czech/Slovak localization	CB534-67928
	AKC - Hungary - Hungarian localization	CB534-67929
	AKD - Poland - Polish localization	CB534-67930
	AB9 - Portugal - Portuguese localization	CB534-67931
	ACQ - South Africa-English	CB534-67932
	BCP - Greece/Israel - Greek/Hebrew localization	CB534-67933
	BFQ - Mid East 220V-AR/FR/EN localization	CB534-67934
	BFR - Estonia/Lithuania/Latvia-ET/LT/LV	CB534-67935
	BFS - Slovenia/Croatia/Serbia-SL/HR/SR	CB534-67936
	BFZ - Kazakhstan/Ukraine-Kazakh/Ukrainian localization	CB534-67937
	AB8 - Turkey - Turkish localization	CB534-67938
	BG1 - Romania/Bulgaria-Romanian/Bulgarian localization	CB534-67939
Latin America	AC8 - Argentina-Spanish	CB534-67940
	ABM - Latin Amer - (120v) Spanish localization	CB534-67941
	AC4 - Brazil-Portuguese	CB534-67942
	AKV - South America-Spanish	CB534-67943
North America	ABA - U. S.-English	CB534-67944
	A2L - Canada-FR/EN	CB534-67946

Control-panel bezels

Table 7-3 Control-panel bezels (HP LaserJet M1522n)

Item	Language	Part number
	Language	
Control-panel bezel; copy	English (EN)	CC372-40002
Control-panel bezel; copy	Spanish (ES)	CC372-40003
Control-panel bezel; copy	Portuguese (PT)	CC372-40004
Control-panel bezel; copy	German (DE)	CC372-40005
Control-panel bezel; copy	German (unpainted) (DE)	CC372-40028
Control-panel bezel; copy	French (FR)	CC372-40006
Control-panel bezel; copy	Dutch (NL)	CC372-40007
Control-panel bezel; copy	Italian (IT)	CC372-40008
Control-panel bezel; copy	Swedish (SV)	CC372-40009
Control-panel bezel; copy	Norwegian (NO)	CC372-40010
Control-panel bezel; copy	Finnish (FI)	CC372-40011
Control-panel bezel; copy	Danish (DA)	CC372-40011
Control-panel bezel; copy	Russian (RU)	CC372-40013
Control-panel bezel; copy	Czech (CS)	CC372-40014
Control-panel bezel; copy	Hungarian (HU)	CC372-40015
Control-panel bezel; copy	Polish (PL)	CC372-40016
Control-panel bezel; copy	Slovak (SK)	CC372-40017
Control-panel bezel; copy	Turkish (TR)	CC372-40018
Control-panel bezel; copy	Greek (EL)	CC372-40019
Control-panel bezel; copy	Hebrew (HE)	CC372-40020
Control-panel bezel; copy	Arabic (AR)	CC372-40021
Control-panel bezel; copy	Traditional Chinese (ZHTW)	CC372-40022
Control-panel bezel; copy	Korean (KO)	CC372-40023
Control-panel bezel; copy	Simplified Chinese (ZHCN)	CC372-40024
Control-panel bezel; copy	Thai (TH)	CC372-40025
Control-panel bezel; copy	Vietnamese (VI)	CC372-40026
Control-panel bezel; copy	Catalan (CA)	CC372-40029
Control-panel bezel; copy	Romanian (RO)	CC372-40030
Control-panel bezel; copy	Croatian (HR)	CC372-40031
Control-panel bezel; copy	Slovenian (SL)	CC372-40032
Control-panel bezel; copy	Indonesian (ID)	CC372-40033

Table 7-3 Control-panel bezels (HP LaserJet M1522n) (continued)

Item	Language	Part number
	Language	
Control-panel bezel; copy	Kazakh (KK)	CC372-40034
Control-panel bezel; copy	Bulgarian (BG)	CC372-40035
Control-panel bezel; copy	Ukrainian (UK)	CC372-40036
Control-panel bezel; copy	Serbian (SR)	CC372-40037
Control-panel bezel; copy	Lithuanian (LT)	CC372-40038
Control-panel bezel; copy	Estonia (ET)	CC372-40039
Control-panel bezel; copy	Latvian (LV)	CC372-40040

Table 7-4 Control-panel bezels (HP LaserJet M1522nf)

Item	Language	Part number
Control-panel bezel; fax	English (EN)	CB534-40011
Control-panel bezel; fax	Spanish (ES)	CB534-40012
Control-panel bezel; fax	Portuguese (PT)	CB534-40013
Control-panel bezel; fax	German (DE)	CB534-40014
Control-panel bezel; fax	German (unpainted) (DE)	CB534-40047
Control-panel bezel; fax	French (FR)	CB534-40015
Control-panel bezel; fax	Dutch (NL)	CB534-40016
Control-panel bezel; fax	Italian (IT)	CB534-40017
Control-panel bezel; fax	Swedish (SV)	CB534-40018
Control-panel bezel; fax	Norwegian (NO)	CB534-40019
Control-panel bezel; fax	Finnish (FI)	CB534-40020
Control-panel bezel; fax	Danish (DA)	CB534-40021
Control-panel bezel; fax	Russian (RU)	CB534-40022
Control-panel bezel; fax	Czech (CS)	CB534-40023
Control-panel bezel; fax	Hungarian (HU)	CB534-40024
Control-panel bezel; fax	Polish (PL)	CB534-40025
Control-panel bezel; fax	Slovak (SK)	CB534-40026
Control-panel bezel; fax	Turkish (TR)	CB534-40027
Control-panel bezel; fax	Greek (EL)	CB534-40028
Control-panel bezel; fax	Hebrew (HE)	CB534-40029
Control-panel bezel; fax	Arabic (AR)	CB534-40030
Control-panel bezel; fax	Traditional Chinese (ZHTW)	CB534-40031
Control-panel bezel; fax	Korean (KO)	CB534-40032

Table 7-4 Control-panel bezels (HP LaserJet M1522nf) (continued)

Item	Language	Part number
Control-panel bezel; fax	Simplified Chinese (ZHCN)	CB534-40033
Control-panel bezel; fax	Thai (TH)	CB534-40034
Control-panel bezel; fax	Vietnamese (VI)	CB534-40035
Control-panel bezel; fax	Catalan (CA)	CB534-40048
Control-panel bezel; fax	Romanian (RO)	CB534-40049
Control-panel bezel; fax	Croatian (HR)	CB534-40050
Control-panel bezel; fax	Slovenian (SL)	CB534-40051
Control-panel bezel; fax	Indonesian (ID)	CB534-40052
Control-panel bezel; fax	Kazakh (KK)	CB534-40053
Control-panel bezel; fax	Bulgarian (BG)	CB534-40054
Control-panel bezel; fax	Ukrainian (UK)	CB534-40055
Control-panel bezel; fax	Serbian (SR)	CB534-40056
Control-panel bezel; fax	Lithuanian (LT)	CB534-40057
Control-panel bezel; fax	Estonia (ET)	CB534-40058
Control-panel bezel; fax	Latvian (LV)	CB534-40059

Supplementary documentation and support

Table 7-5 Documentation

Description	Languages	Part number
Service manual (this manual)	English only	CB534-90945
Getting started guides	English, Spanish, Portuguese, French	CB534-90938
	English, Spanish, Portuguese, Catalan, Dutch, French, German, Italian	CB534-90939
	English, Danish, Finnish, French, Norwegian, Swedish, Arabic	CB534-90940
	English, Bulgarian, Czech, Hungarian, Polish, Romanian, Russian, Slovak	CB534-90941
	English, Kazakh, Turkish, Ukrainian, Estonian, Latvian, Lithuanian	CB534-90942
	English, Croatian, Greek, Serbian, Slovenian, Hebrew	CB534-90943
	English, Korean, Indonesian, Chinese simplified, Chinese traditional, Thai, Vietnamese	CB534-90944
User guides (print on demand)	English	CB534-90908
	Arabic	CB534-90943
	Bulgarian	CB534-90914
	Chinese simplified	CB534-90915
	Chinese traditional	CB534-90939
	Croatian	CB534-90916
	Czech	CB534-90917

Table 7-5 Documentation (continued)

Description	Languages	Part number
User guides (print on demand), continued	Danish	CB534-90918
	Dutch	CB534-90919
	Estonian	CB534-90920
	Finnish	CB534-90921
	French	CB534-90909
	German	CB534-90910
	Greek	CB534-90922
	Hebrew	CB534-90944
	Hungarian	CB534-90923
	Indonesian	CB534-90924
	Italian	CB534-90911
	Kazakh	CB534-90925
	Korean	CB534-90926
	Latvian	CB534-90927
	Lithuanian	CB534-90928
	Norwegian	CB534-90929
	Polish	CB534-90930
	Portuguese	CB534-90931
	Romanian	CB534-90932
	Russian	CB534-90933
	Serbian	CB534-90934
	Slovak	CB534-90935
	Slovenian	CB534-90936
	Spanish, Catalan	CB534-90913
	Spanish, mid-Atlantic	CB534-90912
	Swedish	CB534-90937
	Thai	CB534-90938
	Turkish	CB534-90940
	Ukrainian	CB534-90941
	Vietnamese	CB534-90942

Parts lists and diagrams

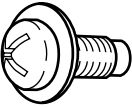

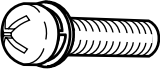

How to use the parts lists and diagrams



The figures in this chapter show the major subassemblies in the product and their component parts. A parts list table follows each exploded view assembly diagram. Each table lists the item number, the associated part number, and the description of each part. If a part is not listed in the table, then it is not a field replaceable unit (FRU).

△ **CAUTION:** Be sure to order the correct part. When looking for part numbers for electrical components, pay careful attention to the voltage that is listed in the description column to ensure that the part number selected is for the correct product model.

📝 **NOTE:** In this manual, the abbreviation “PCA” stands for “printed circuit board assembly.” Components described as a PCA might consist of a single circuit board or a circuit board plus other parts, such as cables and sensors.

Types of screws

Illustration	Description	Size	Part number	Use
	Screw, RS	M3X6	XB2-8300-609CN	Used to secure plastic to metal
		M3X8	XA9-1504-000CN	
		M3X10	XA9-1501-000CN	
	Screw, D	M3X6	XA9-1670-000CN	Used to secure plastic to metal
	Screw w/washer	M3X6	XB2-7300-605CN	Used to secure metal components to metal components
		M3X8	XA9-1420-000CN	
	Screw tapping	M4X10	XB4-5401-009CN	Used to secure anything to plastic

6 mm **8 mm** **10 mm** **12 mm** **M 3** **M 4**



ADF and scanner assemblies

Figure 7-1 Scanner and ADF assemblies

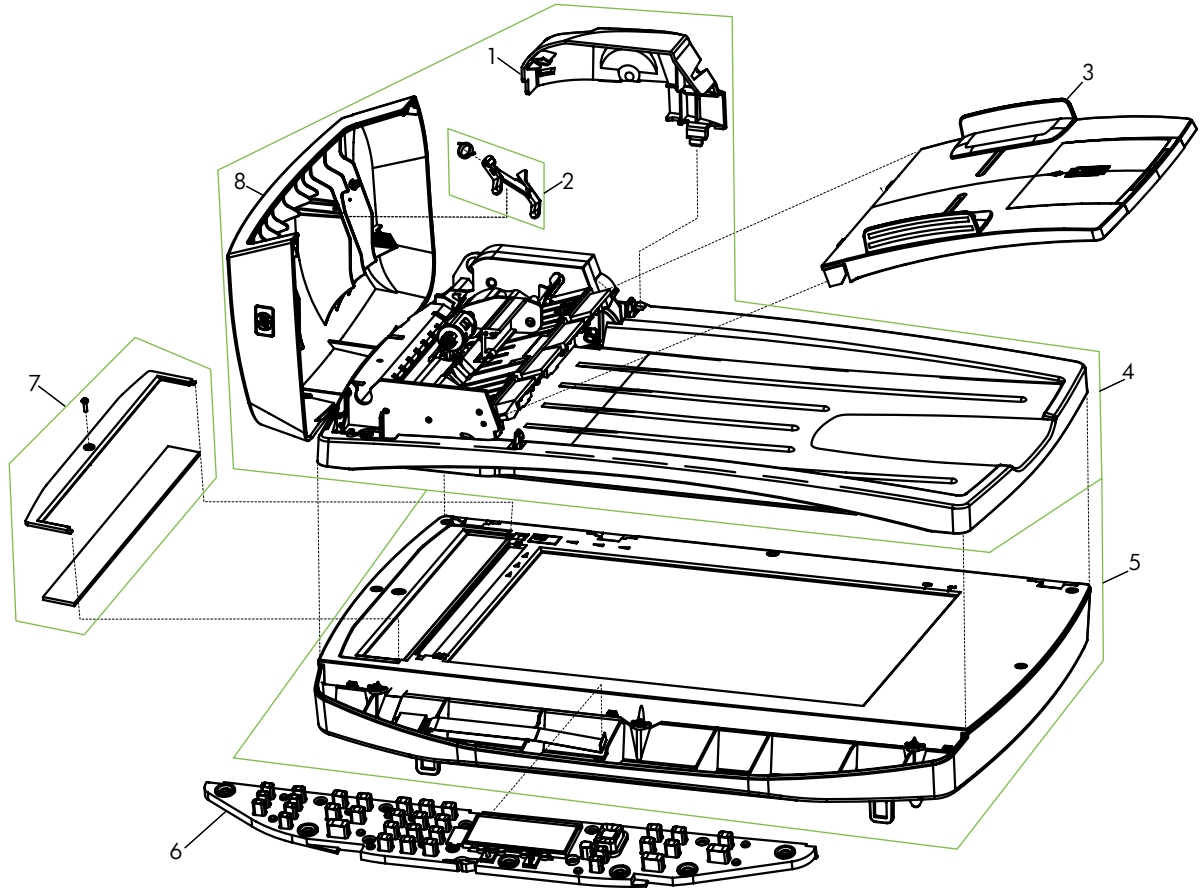



Table 7-6 Scanner and ADF assemblies

Ref	Description	Part number	Qty
1	ADF motor shield	CB534-40037	1
2	ADF flag replacement kit, ADF	Q3948-67902	1
3	ADF input tray assembly	CB534-60112	1
4	ADF PKG FGI ASSY LJm1522 (automatic document feeder)	CB534-67901	1
5	SSA PKG FGI ASSY LJm1522 (scanner flatbed assembly)	CB534-67903	1
6	Control panel assembly, LJm1522 copy (Western)	CB372-60101	1
6	Control panel assembly, LJm1522 fax (Western)	CB534-60101	1
6	Control panel assembly, LJm1522 fax (Asian)	CB534-60102	1
7	ADF Window replacement kit	CB534-67906	1
8	ADF cover replacement kit	CB534-67907	1
Not shown	Control panel jewel, HP	7121-8285	1

 **NOTE:** The Asian character control panel display PCA (see [Assemblies on page 222](#)) must be installed on the formatter to support the Asian fax control panel (CB534-60102).

ADF internal components

Figure 7-2 ADF internal components

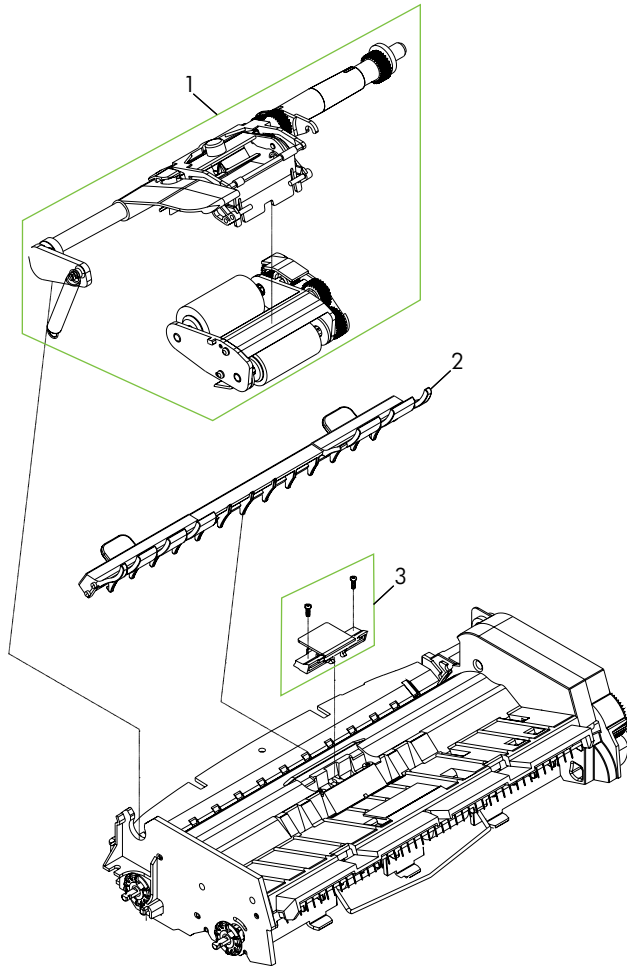


Table 7-7 ADF internal components

Ref	Description	Part number	Qty
1	ADF pickup roller assembly	5851-2559	1
2	ADF cleanout part	5851-2559	1
3	ADF separation pad	Q2665-60125	1

Assemblies

Figure 7-3 Assemblies

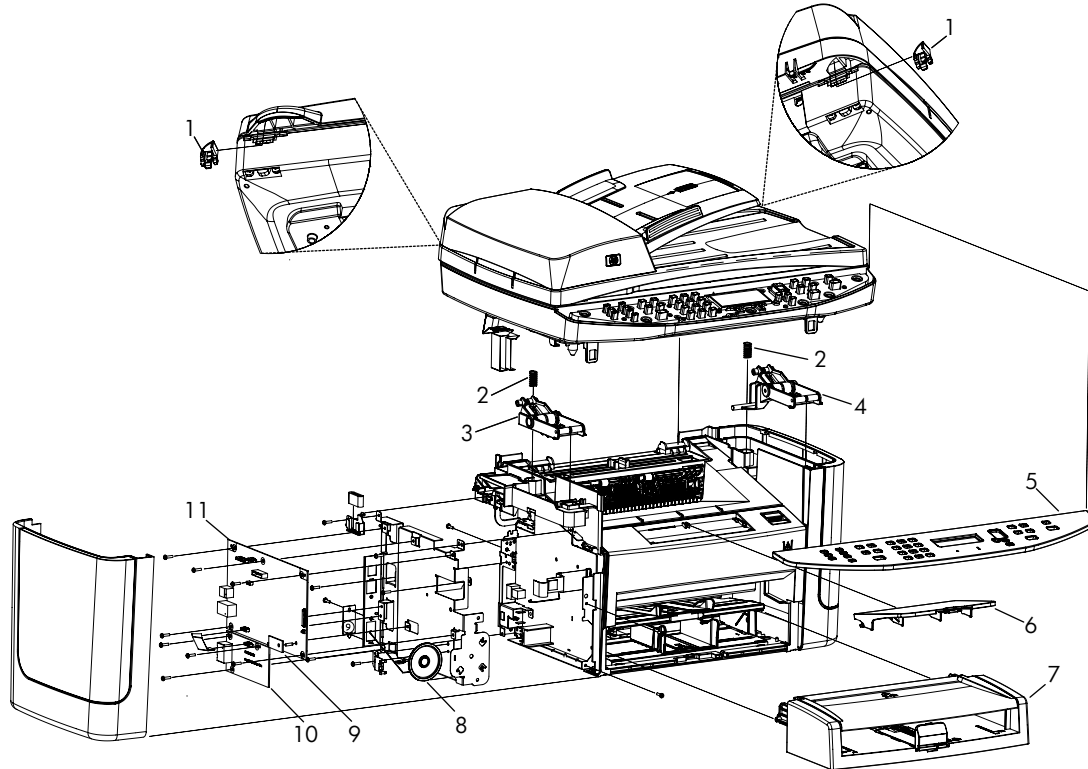


Table 7-8 Assemblies

Ref	Description	Part number	Qty
1	ADF solar lock (clip)	Q1636-40036	2
2	Scanner spring, compression	RU5-2885-000CN	2
3	Scanner link assembly, left	RM1-0898-000CN	1
4	Scanner link assembly, right	RM1-0899-000CN	1
5	Control panel bezel, Western fax	See Control-panel bezels on page 211 .	1
5	Control panel bezel, Asian fax	See Control-panel bezels on page 211 .	1
6	Paper delivery tray assembly	RM1-4725-000CN	1
7	Paper pickup tray assembly	RM1-4722-000CN	1
8	Speaker	Q3948-60113	1
9	PCA, Asian character display control panel (with spacer)	CB532-67904	1
10	Fax card US/WW	CC502-60001	1
10	Fax card EMEA	CC396-60001	1
11	Formatter, copy (HP LaserJet M1522n)	CC396-60001	1
11	Formatter, fax (HP LaserJet M1522nf)	CC368-60001	1

External covers and panels

Figure 7-4 External covers and panels

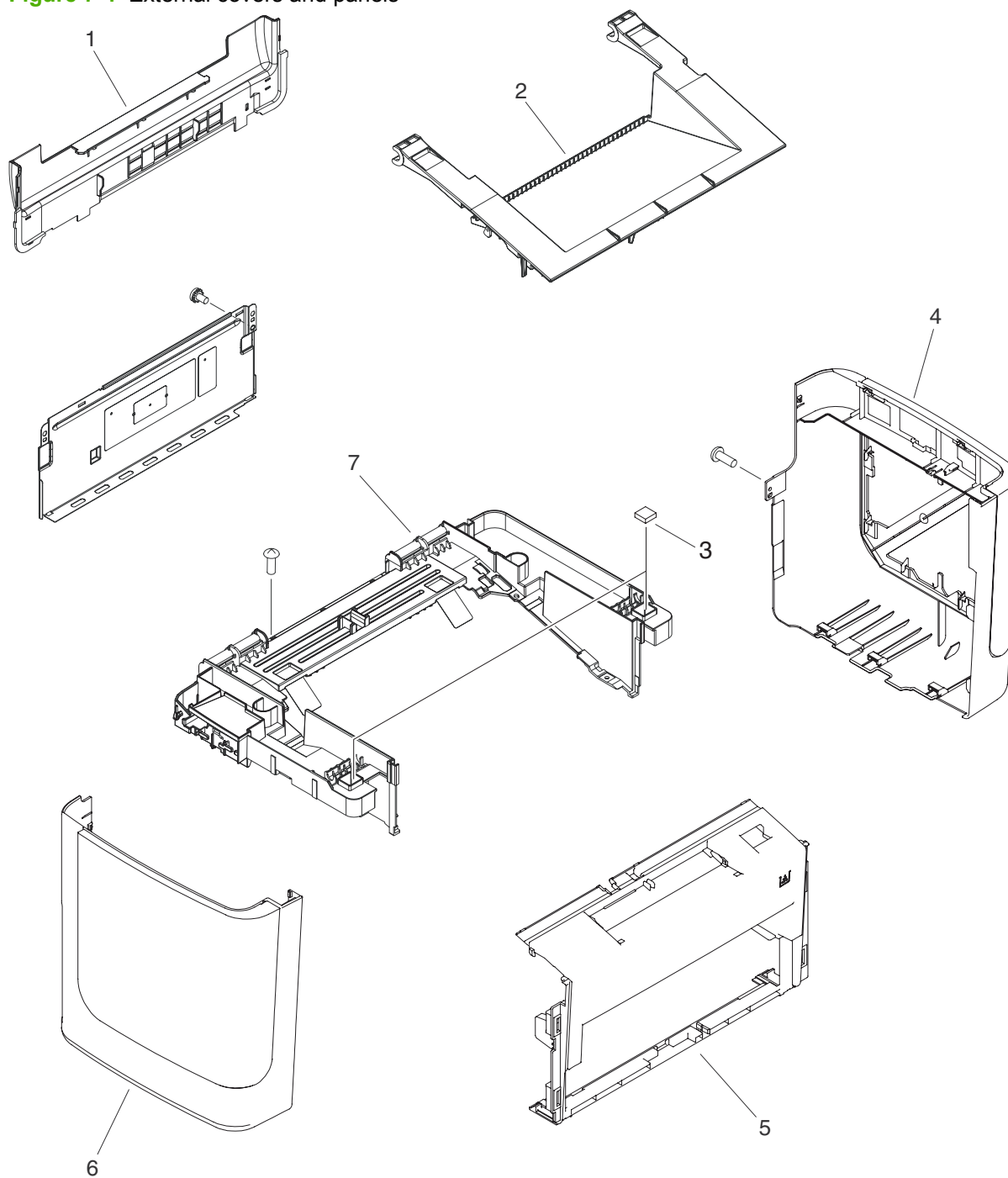


Table 7-9 External covers and panels

Ref	Description	Part number	Qty
1	Cover, rear	RC2-2971-000CN	1
2	Cover, cartridge	RC2-2960-000CN	1
3	Cushion, scanner	RC1-2476-000CN	2
4	Cover, right	RL1-1736-000CN	1
5	Cover, front	RL1-1734-000CN	1
6	Cover, left	RL1-1735-000CN	1
7	Cover, top	RL1-1732-000CN	1

Internal components (1 of 3)

Figure 7-5 Internal components (1 of 3)

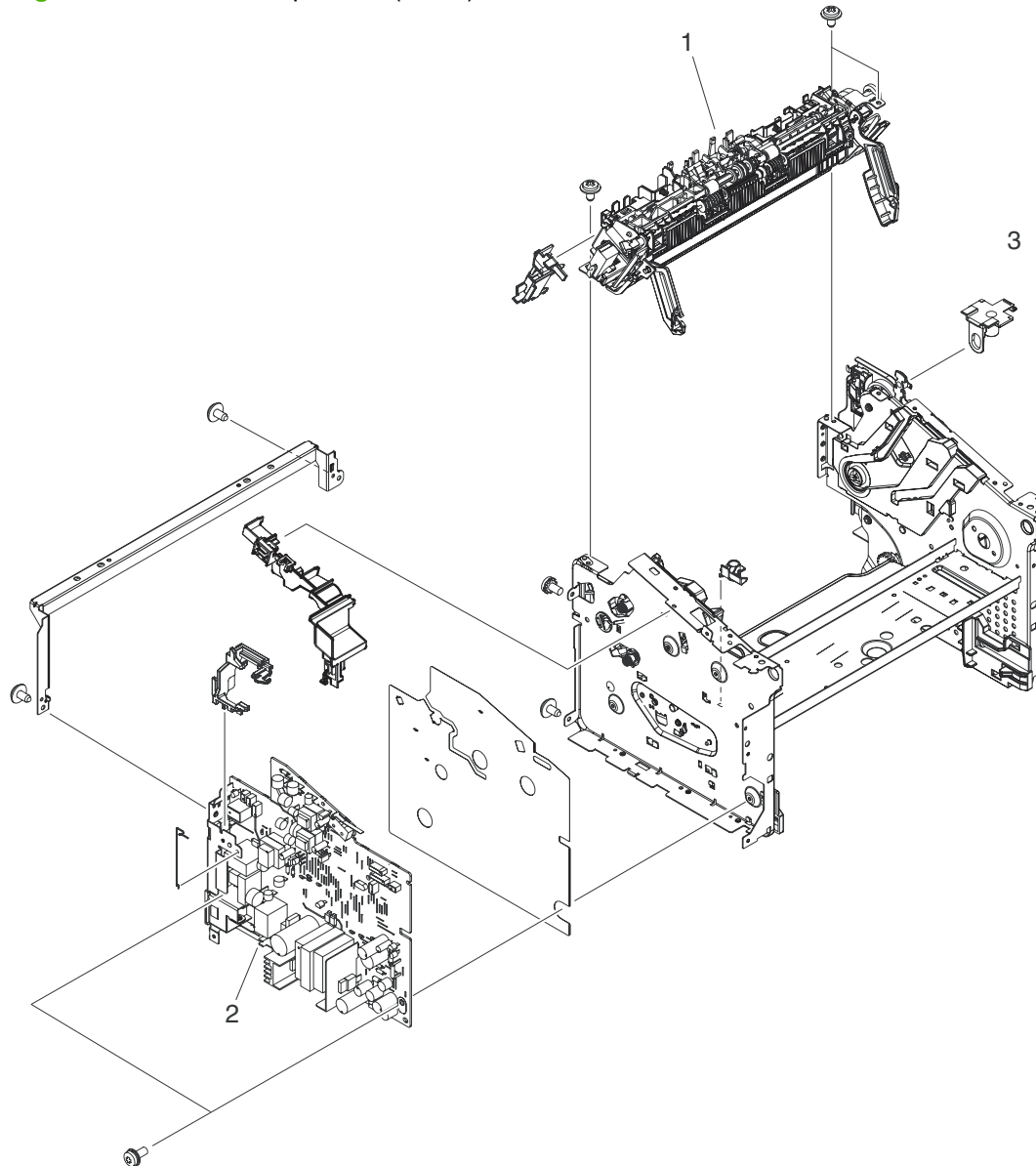


Table 7-10 Internal components (1 of 3)

Ref	Description	Part number	Qty
1	Fuser assembly, 110v-220v	RM1-4721-000CN	1
1	Fuser assembly, 220v-240v	RM1-4726-000CN	1
2	Engine controller PCA (ECU), 110v-220v	RM1-4932-000CN	1
2	Engine controller PCA (ECU), 220v-240v	RM1-4936-000CN	1
3	Link, coupling	RC2-2695-000CN	1

Internal components (2 of 3)

Figure 7-6 Internal components (2 of 3)

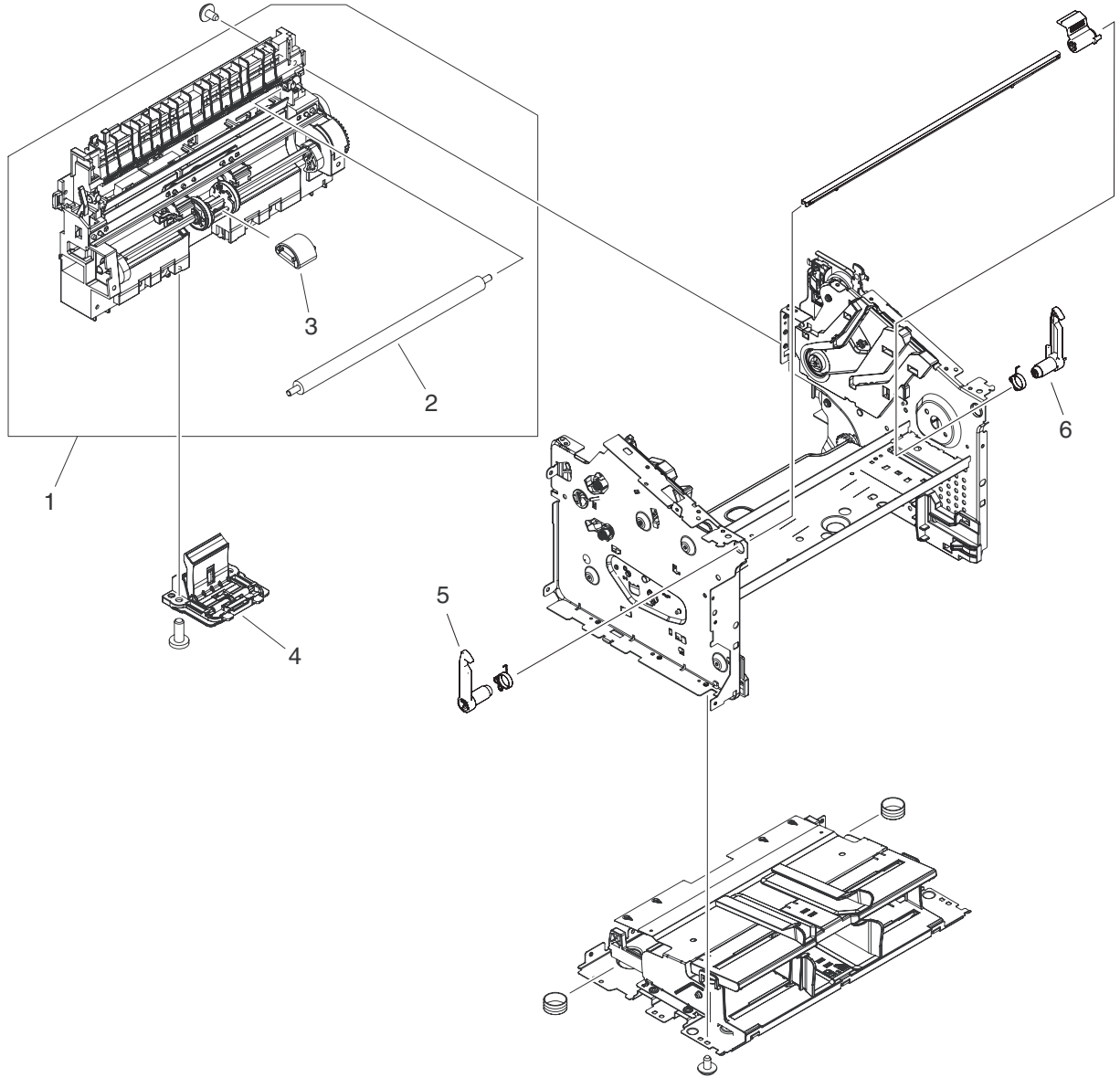


Table 7-11 Internal components (2 of 3)

Ref	Description	Part number	Qty
1	Paper pickup assembly	RM1-4727-000CN	1
2	Roller, transfer	RM1-4234-000CN	1
3	Roller, pickup	RL1-1497-000CN	1
4	Separation pad assembly	RM1-4207-000CN	1
5	Latch, left	RC1-2498-000CN	1
6	Latch, right	RC1-2499-000CN	1

Internal components (3 of 3)

Figure 7-7 Internal components (3 of 3)

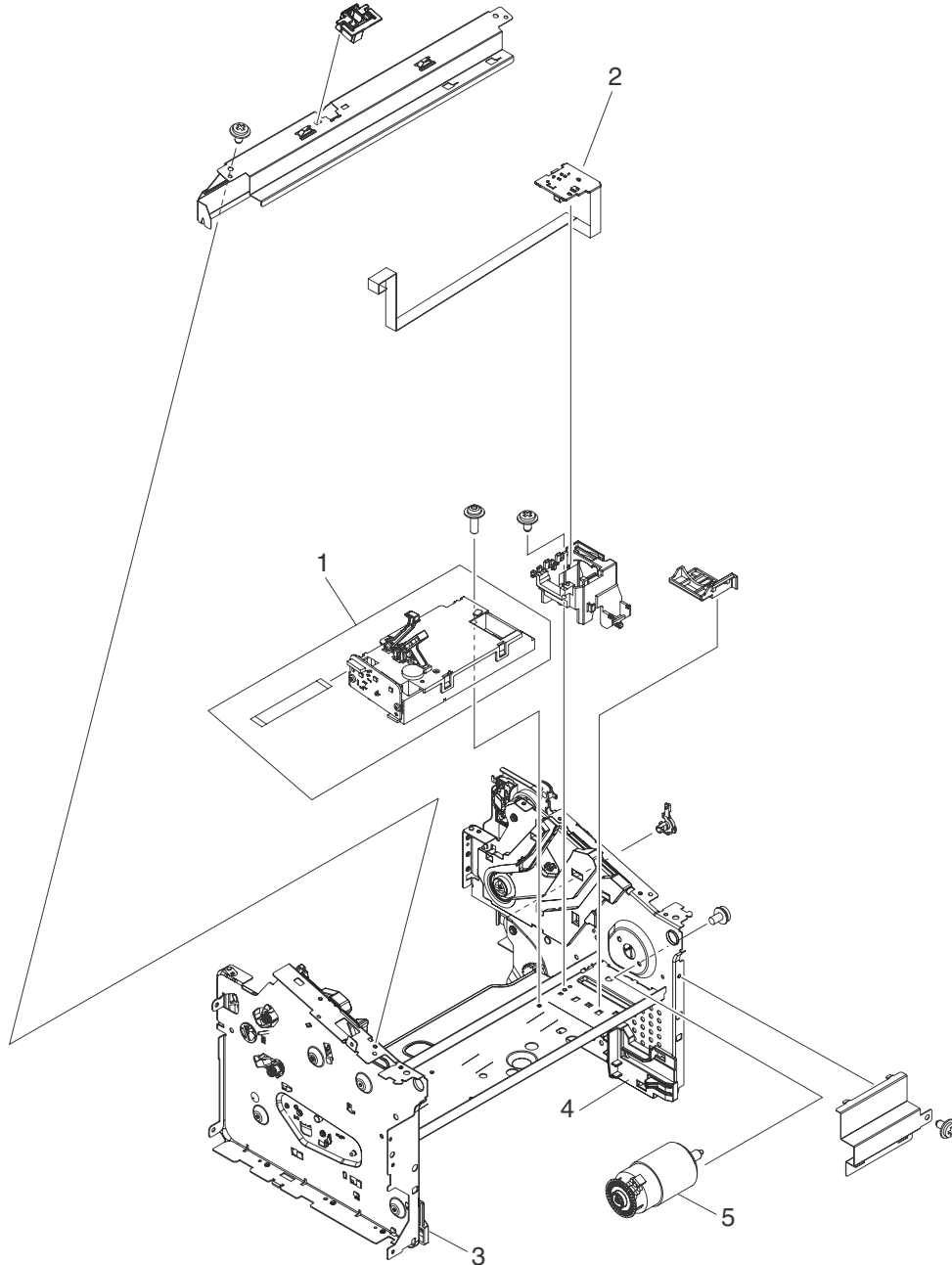


Table 7-12 Internal components (3 of 3)

Ref	Description	Part number	Qty
1	Laser/scanner assembly	RM1-4724-005CN	1
2	Motor controller PCA	RM1-4935-000CN	1
3	Tray guide, left	RC2-2979-000CN	1
4	Tray guide, right	RC2-2980-000CN	1
5	Motor, 24V DC	RM1-4196-000CN	1

Alphabetical parts list

Table 7-13 Alphabetical parts list

Description	Part number	Table and page
ADF cleanout part	5851-2559	ADF internal components on page 221
ADF cover replacement kit	CB534-67907	Scanner and ADF assemblies on page 219
ADF flag replacement kit, ADF	Q3948-67902	Scanner and ADF assemblies on page 219
ADF input tray assembly	CB534-60112	Scanner and ADF assemblies on page 219
ADF motor shield	CB534-40037	Scanner and ADF assemblies on page 219
ADF pickup roller assembly	5851-2559	ADF internal components on page 221
ADF PKG FGI ASSY LJm1522 (automatic document feeder)	CB534-67901	Scanner and ADF assemblies on page 219
ADF separation pad	Q2665-60125	ADF internal components on page 221
ADF solar lock (clip)	Q1636-40036	Assemblies on page 223
ADF Window replacement kit	CB534-67906	Scanner and ADF assemblies on page 219
Control panel assembly, LJm1522 copy (Western)	CB372-60101	Scanner and ADF assemblies on page 219
Control panel assembly, LJm1522 fax (Asian)	CB534-60102	Scanner and ADF assemblies on page 219
Control panel assembly, LJm1522 fax (Western)	CB534-60101	Scanner and ADF assemblies on page 219
Control panel bezel, Asian fax	See Control-panel bezels on page 211 .	Assemblies on page 223
Control panel bezel, Western fax	See Control-panel bezels on page 211 .	Assemblies on page 223
Control panel jewel, HP	7121-8285	Scanner and ADF assemblies on page 219
Cover, cartridge	RC2-2960-000CN	External covers and panels on page 225
Cover, front	RL1-1734-000CN	External covers and panels on page 225
Cover, left	RL1-1735-000CN	External covers and panels on page 225
Cover, rear	RC2-2971-000CN	External covers and panels on page 225
Cover, right	RL1-1736-000CN	External covers and panels on page 225

Table 7-13 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, top	RL1-1732-000CN	External covers and panels on page 225
Cushion, scanner	RC1-2476-000CN	External covers and panels on page 225
Engine controller PCA (ECU), 110v-220v	RM1-4932-000CN	Internal components (1 of 3) on page 227
Engine controller PCA (ECU), 220v-240v	RM1-4936-000CN	Internal components (1 of 3) on page 227
Fax card EMEA	CC396-60001	Assemblies on page 223
Fax card US/WW	CC502-60001	Assemblies on page 223
Formatter, copy (HP LaserJet M1522n)	CC396-60001	Assemblies on page 223
Formatter, fax (HP LaserJet M1522nf)	CC368-60001	Assemblies on page 223
Fuser assembly, 110v-220v	RM1-4721-000CN	Internal components (1 of 3) on page 227
Fuser assembly, 220v-240v	RM1-4726-000CN	Internal components (1 of 3) on page 227
Laser/scanner assembly	RM1-4724-005CN	Internal components (3 of 3) on page 231
Latch, left	RC1-2498-000CN	Internal components (2 of 3) on page 229
Latch, right	RC1-2499-000CN	Internal components (2 of 3) on page 229
Link, coupling	RC2-2695-000CN	Internal components (1 of 3) on page 227
Motor controller PCA	RM1-4935-000CN	Internal components (3 of 3) on page 231
Motor, 24V DC	RM1-4196-000CN	Internal components (3 of 3) on page 231
Paper delivery tray assembly	RM1-4725-000CN	Assemblies on page 223
Paper pickup assembly	RM1-4727-000CN	Internal components (2 of 3) on page 229
Paper pickup tray assembly	RM1-4722-000CN	Assemblies on page 223
PCA, Asian character display control panel (with spacer)	CB532-67904	Assemblies on page 223
Roller, pickup	RL1-1497-000CN	Internal components (2 of 3) on page 229
Roller, transfer	RM1-4234-000CN	Internal components (2 of 3) on page 229
Scanner link assembly, left	RM1-0898-000CN	Assemblies on page 223
Scanner link assembly, right	RM1-0899-000CN	Assemblies on page 223
Scanner spring, compression	RU5-2885-000CN	Assemblies on page 223

Table 7-13 Alphabetical parts list (continued)

Description	Part number	Table and page
Separation pad assembly	RM1-4207-000CN	Internal components (2 of 3) on page 229
Speaker	Q3948-60113	Assemblies on page 223
SSA PKG FGI ASSY LJm1522 (scanner flatbed assembly)	CB534-67903	Scanner and ADF assemblies on page 219
Tray guide, left	RC2-2979-000CN	Internal components (3 of 3) on page 231
Tray guide, right	RC2-2980-000CN	Internal components (3 of 3) on page 231

Numerical parts list

Table 7-14 Numerical parts list

Part number	Description	Table and page
5851-2559	ADF pickup roller assembly	ADF internal components on page 221
5851-2559	ADF cleanout part	ADF internal components on page 221
7121-8285	Control panel jewel, HP	Scanner and ADF assemblies on page 219
CB372-60101	Control panel assembly, LJm1522 copy (Western)	Scanner and ADF assemblies on page 219
CB532-67904	PCA, Asian character display control panel (with spacer)	Assemblies on page 223
CB534-40037	ADF motor shield	Scanner and ADF assemblies on page 219
CB534-60101	Control panel assembly, LJm1522 fax (Western)	Scanner and ADF assemblies on page 219
CB534-60102	Control panel assembly, LJm1522 fax (Asian)	Scanner and ADF assemblies on page 219
CB534-60112	ADF input tray assembly	Scanner and ADF assemblies on page 219
CB534-67901	ADF PKG FGI ASSY LJm1522 (automatic document feeder)	Scanner and ADF assemblies on page 219
CB534-67903	SSA PKG FGI ASSY LJm1522 (scanner flatbed assembly)	Scanner and ADF assemblies on page 219
CB534-67906	ADF Window replacement kit	Scanner and ADF assemblies on page 219
CB534-67907	ADF cover replacement kit	Scanner and ADF assemblies on page 219
CC368-60001	Formatter, fax (HP LaserJet M1522nf)	Assemblies on page 223
CC396-60001	Fax card EMEA	Assemblies on page 223
CC396-60001	Formatter, copy (HP LaserJet M1522n)	Assemblies on page 223
CC502-60001	Fax card US/WW	Assemblies on page 223
Q1636-40036	ADF solar lock (clip)	Assemblies on page 223
Q2665-60125	ADF separation pad	ADF internal components on page 221
Q3948-60113	Speaker	Assemblies on page 223
Q3948-67902	ADF flag replacement kit, ADF	Scanner and ADF assemblies on page 219
RC1-2476-000CN	Cushion, scanner	External covers and panels on page 225
RC1-2498-000CN	Latch, left	Internal components (2 of 3) on page 229

Table 7-14 Numerical parts list (continued)

Part number	Description	Table and page
RC1-2499-000CN	Latch, right	Internal components (2 of 3) on page 229
RC2-2695-000CN	Link, coupling	Internal components (1 of 3) on page 227
RC2-2960-000CN	Cover, cartridge	External covers and panels on page 225
RC2-2971-000CN	Cover, rear	External covers and panels on page 225
RC2-2979-000CN	Tray guide, left	Internal components (3 of 3) on page 231
RC2-2980-000CN	Tray guide, right	Internal components (3 of 3) on page 231
RL1-1497-000CN	Roller, pickup	Internal components (2 of 3) on page 229
RL1-1732-000CN	Cover, top	External covers and panels on page 225
RL1-1734-000CN	Cover, front	External covers and panels on page 225
RL1-1735-000CN	Cover, left	External covers and panels on page 225
RL1-1736-000CN	Cover, right	External covers and panels on page 225
RM1-0898-000CN	Scanner link assembly, left	Assemblies on page 223
RM1-0899-000CN	Scanner link assembly, right	Assemblies on page 223
RM1-4196-000CN	Motor, 24V DC	Internal components (3 of 3) on page 231
RM1-4207-000CN	Separation pad assembly	Internal components (2 of 3) on page 229
RM1-4234-000CN	Roller, transfer	Internal components (2 of 3) on page 229
RM1-4721-000CN	Fuser assembly, 110v-220v	Internal components (1 of 3) on page 227
RM1-4722-000CN	Paper pickup tray assembly	Assemblies on page 223
RM1-4724-005CN	Laser/scanner assembly	Internal components (3 of 3) on page 231
RM1-4725-000CN	Paper delivery tray assembly	Assemblies on page 223
RM1-4726-000CN	Fuser assembly, 220v-240v	Internal components (1 of 3) on page 227
RM1-4727-000CN	Paper pickup assembly	Internal components (2 of 3) on page 229
RM1-4932-000CN	Engine controller PCA (ECU), 110v-220v	Internal components (1 of 3) on page 227

Table 7-14 Numerical parts list (continued)

Part number	Description	Table and page
RM1-4935-000CN	Motor controller PCA	Internal components (3 of 3) on page 231
RM1-4936-000CN	Engine controller PCA (ECU), 220v-240v	Internal components (1 of 3) on page 227
RU5-2885-000CN	Scanner spring, compression	Assemblies on page 223
See Control-panel bezels on page 211 .	Control panel bezel, Western fax	Assemblies on page 223
See Control-panel bezels on page 211 .	Control panel bezel, Asian fax	Assemblies on page 223

A Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT

HP LaserJet M1522n and M1522nf

DURATION OF LIMITED WARRANTY

One-year limited 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.

Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. Some countries/regions, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country/region to country/region, state to state, or province to province. HP's limited warranty is valid in any country/region or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country/region for which it was never intended to function for legal or regulatory reasons.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL

(INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries/regions, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

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.

Print 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 device 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.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTY IS EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE.

TO THE EXTENT ALLOWED BY LOCAL LAW, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Customer support

Get telephone support, free during your warranty period, for your country/region

Country/region phone numbers are on the flyer that was in the box with your product or at www.hp.com/support/.

Have the product name, serial number, date of purchase, and problem description ready.

Get 24-hour Internet support

www.hp.com/support/ljm1522

Get support for products used with a Macintosh computer

www.hp.com/go/macosex

Download software utilities, drivers, and electronic information

www.hp.com/go/ljm1522_software

Order supplies and paper

www.hp.com/buy/suresupply

Order genuine HP parts or accessories

www.hp.com/buy/parts

Order additional HP service or maintenance agreements

www.hp.com/go/carepack

HP maintenance agreements

HP has several types of maintenance agreements that meet a wide range of support needs. Maintenance agreements are not part of the standard warranty. Support services may vary by area. Check with your local HP dealer to determine the services available to you.

Repacking the device

If HP Customer Care determines that your device needs to be returned to HP for repair, follow the steps below to repack the device before shipping it.

△ **CAUTION:** Shipping damage as a result of inadequate packing is the customer's responsibility.

1. Remove and retain the print cartridge.

△ **CAUTION:** It is *extremely important* to remove the print cartridge before shipping the device. A print cartridge that remains in the device during shipping will leak and entirely cover the device engine and other parts with toner.

To prevent damage to the print cartridge, avoid touching the roller on it, and store the print cartridge in its original packing material or so that it is not exposed to light.

2. Remove and retain the power cable, interface cable, and optional accessories.
3. If possible, include print samples and 50 to 100 sheets of paper or other print media that did not print correctly.
4. In the U.S., call HP Customer Care to request new packing material. In other areas, use the original packing material, if possible. Hewlett-Packard recommends insuring the equipment for shipment.

Extended warranty

HP Support provides coverage for the HP hardware product and all HP-supplied internal components. The hardware maintenance covers a 1- to 3-year period from date of the HP product purchase. The customer must purchase HP Support within the stated factory warranty. For more information, contact the HP Customer Care Service and Support group.

B Specifications

This section contains the following information about the product:

- [Physical specifications](#)
- [Electrical specifications](#)
- [Power consumption](#)
- [Environmental specifications](#)
- [Acoustic emissions](#)

Physical specifications

Table B-1 Physical specifications

Product	Height	Depth	Width	Weight
HP LaserJet M1522n	402 mm (15.8 inches)	406 mm (16 inches)	496 mm (19.5 inches)	11 kg (24.2 lb)
HP LaserJet M1522nf	402 mm (15.8 inches)	406 mm (16 inches)	496 mm (19.5 inches)	11 kg (24.2 lb)

Electrical specifications

- △ **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.

Table B-2 Electrical specifications

Item	110-volt models	230-volt models
Power requirements	110 to 127 V (+/- 10%) 50 / 60 Hz (+/- 2 Hz)	220 to 240 V (+/- 10%) 50 / 60 Hz (+/- 2 Hz)
Rated current	4.5 A	2.3 A

Power consumption

Table B-3 Power consumption (average, in watts)¹

Product model	Printing ²	Copying ²	Ready/Sleep ³	Off
HP LaserJet M1522n	420 W	420 W	10 W	<0.1 W
HP LaserJet M1522nf	420 W	420 W	10 W	<0.1 W

¹ Values are based on preliminary data. See www.hp.com/support/ljm1522 for current information.

² Power reported is highest values measured using all standard voltages.

³ Instant on fuser technology.

⁴ Recovery time from Ready/Sleep to start of printing < 6 seconds.

⁵ Maximum heat dissipation for all models in Ready mode = 35 BTU/hour.

Environmental specifications

Table B-4 Environmental specifications¹

	Recommended	Operating	Storage
Temperature	15° to 32.5° C (59° to 90.5° F)	15° to 32.5° C (59° to 90.5° F)	–20° to 40° C (–4° to 104° F)
Relative humidity	10% to 80%	10% to 80%	95% or less

¹ Values are subject to change.

Acoustic emissions

Table B-5 Acoustic emissions

Sound Power Level	Declared per ISO 9296 ¹
Printing (23 ppm)	$L_{WA} = 6.6$ Bels (A) [66 dB (A)]
Ready	Inaudible
Sound Pressure Level - Bystander Position	Declared per ISO 9296 ¹
Printing (23 ppm)	$L_{pA} = 52$ dB(A)
Ready	Inaudible

¹ Values are based on preliminary data. See www.hp.com/support/ljm1522 for current information.

² Configuration tested: HP LaserJet M1522nf printing simplex using A4 paper at 23 ppm.

C Regulatory information


This section contains the following regulatory information:

- [FCC compliance](#)
- [Environmental product stewardship program](#)
- [Telephone Consumer Protection Act \(United States\)](#)
- [IC CS-03 requirements](#)
- [EU statement for telecom operation](#)
- [New Zealand telecom statements](#)
- [Declaration of conformity](#)
- [Declaration of conformity](#)
- [Safety statements](#)

FCC compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.

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

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

This equipment complies with FCC rules, Part 68. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information 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 the front of 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 following repairs can be done by the customer: Replace any original equipment that came with the device. This includes the print 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.

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 (O₃).

Power consumption

Power usage drops significantly while in Ready/Sleep mode, which saves natural resources and saves money without affecting the high performance of this product. To determine the ENERGY STAR® qualification status for this product see the Product Data Sheet or Specifications Sheet. Qualified products are also listed at:

www.hp.com/go/energystar

Toner consumption

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

Paper use

This device's manual 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 empty HP LaserJet print cartridges—free of charge—with HP Planet Partners. Multilingual program information and instructions are included in every new HP LaserJet print 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 print 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 print 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 print cartridges after use. Please follow the applicable instructions below.

Multiple returns (two to eight cartridges)

1. Package each HP LaserJet print cartridge in its original box and bag.
2. Tape up to eight single boxes together using strapping or packaging tape (up to 70 lbs).
3. Use a single pre-paid shipping label.

OR

1. Use your own suitable box, or request a free bulk collection box from the <http://www.hp.com/recycle> or 1-800-340-2445 (holds up to eight HP LaserJet print cartridges).
2. Use a single pre-paid shipping label.

Single returns

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

Shipping

For all HP LaserJet print cartridge recycling returns, give the package to UPS during your next delivery or pickup, or take it to an authorized UPS drop-off center. For the location of your local UPS drop-off center, call 1-800-PICKUPS or visit <http://www.ups.com>. If you are returning via USPS label, give the package to a U.S. Postal Service carrier or drop off at a U.S. Postal Service Office. For more information, or to order additional labels or boxes for bulk returns, visit <http://www.hp.com/recycle> or call 1-800-340-2445. Requested UPS pickup will be charged normal pickup rates. Information subject to change without notice.

Non-US 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 printer supply item) or visit <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:

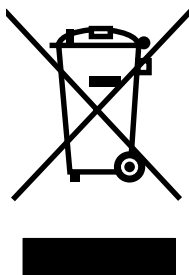
HP LaserJet M1522	
Type	Carbon monofluoride lithium
Weight	0.8 g
Location	On formatter board
User-removable	No



廢電池請回收

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

Disposal of waste equipment by users in private households in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Material Safety Data Sheet (MSDS)

Material Safety Data Sheets (MSDS) for supplies containing chemical substances (for example, toner) can be obtained by contacting the HP Web site at www.hp.com/go/msds or www.hp.com/hpinfo/globalcitizenship/environment.

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 or www.hp.com/hpinfo/globalcitizenship/environment/index.html.

Telephone Consumer Protection Act (United States)

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, 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.)

IC 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.

△ **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 0.7.

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

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.

Declaration of conformity

Declaration of Conformity

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

Manufacturer's Name: Hewlett-Packard Company DoC#: BOISB-0604-01-rel.1.0
Manufacturer's Address: 11311 Chinden Boulevard,
Boise, Idaho 83714-1021, USA

declares, that the product


Product Name: HP LaserJet M1522n
Regulatory Model Number²⁾ BOISB-0604-01
Product Options: ALL
Print Cartridge: CB436A

conforms to the following Product Specifications:

SAFETY: IEC 60950-1:2001 / EN60950-1: 2001 +A11
IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A1 +A2 (Class 1 Laser/LED Product)
GB4943-2001

EMC: CISPR22:2005 / EN55022:2006 – Class B¹⁾
EN 61000-3-2:2000 +A2
EN 61000-3-3:1995 +A1
EN 55024:1998 +A1 +A2
FCC Title 47 CFR, Part 15 Class B / ICES-003, Issue 4
GB9254-1998, GB17625.1-2003

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 2004/108/EC and 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 product name or the product number(s).

Boise, Idaho , USA

September 2007

For regulatory topics only:

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe,, Herrenberger Strasse 140, , D-71034, Böblingen, (FAX: +49-7031-14-3143), <http://www.hp.com/go/certificates>

USA Contact: Product Regulations Manager, Hewlett-Packard Company,, PO Box 15, Mail Stop 160, Boise, ID 83707-0015, , (Phone: 208-396-6000)

Declaration of conformity

Declaration of Conformity

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

Manufacturer's Name: Hewlett-Packard Company DoC#: BOISB-0604-02-rel.1.0
Manufacturer's Address: 11311 Chinden Boulevard,
Boise, Idaho 83714-1021, USA

declares, that the product

Product Name: HP LaserJet M1522nf
Regulatory Model Number²⁾ BOISB-0604-02
Product Options: ALL
Print Cartridge: CB436A

conforms to the following Product Specifications:

SAFETY: IEC 60950-1:2001 / EN60950-1: 2001 +A11
IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A1 +A2 (Class 1 Laser/LED Product)
GB4943-2001

EMC: CISPR22:2005 / EN55022:2006 – Class B¹⁾
EN 61000-3-2:2000 +A2
EN 61000-3-3:1995 +A1
EN 55024:1998 +A1 +A2
FCC Title 47 CFR, Part 15 Class B / ICES-003, Issue 4
GB9254-1998, GB17625.1-2003

TELECOM: ES 203 021; FCC Title 47 CFR, Part 68³⁾

Supplementary Information:

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

Boise, Idaho , USA

September 2007

For regulatory topics only:

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe., Herrenberger Strasse 140, , D-71034, Böblingen, (FAX: +49-7031-14-3143), <http://www.hp.com/go/certificates>

USA Contact: Product Regulations Manager, Hewlett-Packard Company., PO Box 15, Mail Stop 160, Boise, ID 83707-0015, , (Phone: 208-396-6000)

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.

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

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

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

EMI statement (Korea)

B급 기기 (가정용 정보통신기기)

이 기기는 가정용으로 전자파적합등록을 한 기기로서
주거지역에서는 물론 모든지역에서 사용할 수 있습니다.

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP LaserJet M1522n, M1522nf, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) mukaisesti.

VAROITUS !

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

VARNING !

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 M1522n, M1522nf - 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, utsättas användaren för osynlig laserstrålning. Betrakta ej strålen. Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista: Aallonpituus 775-795 nm Teho 5 m W Luokan 3B laser.

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	X	X	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

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。

Index

Symbols/Numerics

600 dpi print-quality setting 157

A

accessibility features 4

accessories

ordering, Web sites 206

part numbers 206

acoustic emissions 245

activity log, fax

printing 186

troubleshooting 177

ADF

functions 51

input tray, install 19

locating 5

operations 51

page sizes supported 174

pickup-roller assembly,

cleaning 32

scanner glass, remove 88

ADF jam detection

document-feeder jam 53

long-document jam 53

stall jam 53

trailing edge detection 53

ADF paper path 52

ADF sensors 52

after service checklist 72

alert messages 140

Alerts tab

HP ToolboxFX 38

alerts, setting up 38

answering machines,

troubleshooting 175

archive print setting 189, 191

assemblies

automatic document feeder

(ADF), part numbers 218

control panel, replacing 82

drive-gear, removing 135

fuser, replacing 128

high-voltage connector,
cleaning 181

laser/scanner, removing 121

link, removing 79

link, replacing 79

load-arm, replacing 85

paper-pickup, replacing 132

part numbers 222

pickup roller, replacing 85

scanner, part numbers 218

scanner, removing 90

separation pad, automatic

document feeder (ADF) 83

speaker, removing 111

assembly

ADF pickup-roller, cleaning 32

fuser, replacing 128

scanner parts, order of

removal 74

automatic document feeder (ADF)

components 75

cover, installing 76

cover, removing 76

detection operations 53

diagrams 202

feeding operation 51

functionality 50

input tray, install 19

input tray, removing 75

input-tray flag, replacing 84

internal components, part

numbers 220

jam detection 53

jams, clearing 151

load-arm assembly,

replacing 85

locating 5

operation 50

paper path 52

part numbers 218

parts, order of removal 74

pickup and feed system 51

pickup-roller assembly,

cleaning 32

pickup-roller assembly,

replacing 85

scanner functions 50

scanner glass, cleaning 30

scanner glass, removing 88

sensors 52

separation pad 78

separation pad, removing 83

standby mode 51

trailing edge detection 53

B

background, gray 160

bands, troubleshooting 159

batteries included 250

before service checklist 71

bezel

control panel, replacing 81

bezels, control panel

part numbers 211

billing (metering) tone filters 67

billing code report, fax 188

billing filters

fax 67

bin, output

jams, clearing 155

blank copies,

troubleshooting 169

blank scans, troubleshooting 165

box, unpack contents 18

buttons

control panel, locating 6

C

- cables
 - flat flexible, remove parts 70
 - part numbers 206
 - USB and network not included 18
- calibrating
 - scanner 34
- calibration report 35
- call report, fax
 - troubleshooting 177
- Canadian DOC regulations 257
- cartridge
 - door, removing 106
 - install 22
 - part number 206
 - replacing 95
- cartridge-door release, locating 5
- cartridges
 - drum rotation test 178
 - high-voltage contacts, cleaning 180
 - HP fraud hotline 29
 - recycling 249
 - replacing 27
 - status page, printing 184
 - status, checking 26
 - status, viewing with HP ToolboxFX 38
 - storing 26
 - warranty 241
- caution
 - toner on clothing 28
- characters, troubleshooting 161
- charge-copled device array (CCD) 50
- checking supplies status, HP ToolboxFX 26
- checklists
 - after service 72
 - before service 71
 - print quality 158
 - problem-solving 138
 - troubleshooting 138
- checks
 - engine test page 178
 - half-self-test 179
 - heating element 180
 - high-voltage power supply 180
- circuit diagram 203
- cleaning
 - ADF pickup-roller assembly 32
 - exterior of product 30
 - flatbed scanner glass 30
 - high-voltage connection points 181
 - paper path 34
 - scanner glass 30
 - scanner-cover backing 31
- cleaning page, printing 190
- CO operations 63
- comparing
 - features 3
- comparison, product models 1
- components
 - automatic document feeder (ADF) 75
 - diagram 200
 - internal, locating 54
 - scanner 75
- computer
 - security features 63
- configuration page
 - printing 36
- confirmation report, fax
 - printing 186
- connectors
 - ECU 194
 - fax card 196
 - formatter 195
- control panel
 - assembly, replacing 82
 - bezel part numbers 211
 - bezel, replacing 81
 - buttons, locating 6
 - cleaning page, printing 34
 - controls, locating 6
 - HP ToolboxFX system settings 44
 - locating 5
 - messages, troubleshooting 140
 - paper path, cleaning 34
 - scanner, calibrating 35
 - secondary service menu 182
 - Service menu 189
- control-panel assembly latch 82

- controls
 - hook switch control 66
- copy quality
 - troubleshooting 166
- copy-quality test 73
- copying
 - media, troubleshooting 167
 - quality, troubleshooting 166
 - size, troubleshooting 169
 - troubleshooting 169
- covers
 - front, removing 109
 - fuser, removing 107
 - part numbers 224
 - rear, removing 107
 - side, removing 104
- creases, troubleshooting 162
- crooked pages 161
- curled media 161, 189
- current control, fax line 67
- current detection, fax 66
- cushions, scanner
 - installing 100
- customer support
 - online 242
 - repacking device 242

D

- dark copies 167
- data path
 - fax 66
- defaults, restoring 189
- defects, repetitive 192
- delivery roller
 - locating 54
- Demo page, printing 185
- demo page, printing 36
- device detection, downstream
 - fax 66
- device information page, HP ToolboxFX
 - 42
- device polling 44
- diagrams
 - troubleshooting 192
- dialing
 - troubleshooting 174
- dialing, pulse 66
- dimensions
 - media 12

- disposal, end-of-life 250
- distinctive ring 64
- documentation 2
- Documentation tab, HP ToolboxFX 41
- documentation, part numbers 214
- doors
 - print cartridge, removing 106
- dots per inch (dpi)
 - print settings 157
 - specifications 4
- dots, troubleshooting 159
- downstream device detection
 - fax 66
- dpi (dots per inch)
 - print settings 157
 - specifications 4
- drive belt, removing 135
- driver-gear assembly, removing 135
- drivers
 - operating systems supported 8
 - specifications 4
- drum
 - photosensitive 54
- drum rotation test 178

E

- e-mail
 - setting alerts in HP ToolboxFX 38
- e-mail alerts, setting up 38
- EconoMode
 - HP ToolboxFX 43
- ECU
 - connectors 194
- electrical specifications 244
- electrostatic discharge (ESD)
 - precautions 71
- embedded Web server (EWS)
 - browsers supported 10
 - features 45
- end-of-life disposal 250
- engine control system 55
- engine test page 178
- environmental specifications 16, 245

- environmental stewardship
 - program 249
- error messages
 - ADF paper jams 53
 - control panel 140
 - critical 147
- ESD (electrostatic discharge). See electrostatic discharge (ESD)
- EU statement for telecom operation 254
- European Union, waste disposal 251
- event log
 - printing 36
- EWS. See embedded Web server (EWS)
- express software installation, USB or network 9
- extended warranty 242

F

- factory-set defaults, restoring 189
- faded print 159
- fax
 - activity log 186
 - billing (metering) tone filters 67
 - billing code report, printing 188
 - confirmation report, printing 186
 - data path 66
 - distinctive ring 64
 - downstream current detection 66
 - error messages 142
 - factory-set defaults, restoring 189
 - fax card 65
 - fax pages, storage 67
 - fax subsystem 65
 - flash memory storage 67
 - functions 63
 - hook state 66
 - hook switch control 66
 - jams, troubleshooting 149, 176
 - last call report, printing 186
 - line current control 67

- operations 63
- operations, PSTN 63
- page storage 67
- phone book, printing 186
- PSTN operations 63
- pulse dialing 66
- receive log 41
- receiving 63
- reports, troubleshooting 177
- ring detect 67
- safety isolation 65
- safety-protection circuitry 65
- security features,
 - computer 63
- security features, network 63
- send log 41
- T.30 protocol trace report 191
- troubleshooting 170
- troubleshooting receiving 171
- troubleshooting sending 174
- voice over IP (VoIP)
 - services 64
- fax card
 - CODEC 65
 - connectors 196
 - DSP 65
 - fax subsystem 65
 - hook switch control 66
 - pulse dialing 66
 - regional versions 65
 - removing 113
 - ring detect 67
 - safety isolation 65
 - safety-protection circuitry 65
- fax page storage
 - flash memory 67
- fax ports, locating 6, 193
- fax report, printing 37
- fax reports 186
- fax subsystem
 - fax card 65
- Fax tab, HP ToolboxFX 39
- fax-quality test 73
- FCC compliance 248
- features
 - product 4
- features, product
 - compare 3
- feed roller, locating 54
- feed system, ADF 51

- Finnish laser safety statement 258
- firmware updates 204
- flash memory
 - advantages, fax storage 67
 - fax pages, storage 67
- flash memory, fax 67
- flatbed lid, removing
 - hinge-retainer clip 78
- flatbed scanner
 - glass, cleaning 30
- font list 184
- fonts
 - font lists, printing 36
- formatter
 - connectors 195
- formatter, removing 113
- fraud hotline 29
- front cover, removing 109
- fuser
 - cover, removing 107
 - deliver-sensor PCA 131
 - error 147
 - replacing 128
 - warranty 241
- fuser assembly
 - diagrams 200
- fuser cover, removing 107
- fuser sleeve
 - locating 54
- fuser unit
 - locating 54

G

- Getting Started Guide 2
- getting started guides, part numbers 214
- glass, cleaning 30
- gray background,
 - troubleshooting 160
- guidelines
 - supplies, storing 26
- guides, documentation 2

H

- half-self-test functional check 179
- heating element check 180
- Help tab, HP ToolboxFX 41
- high-voltage connector assembly,
 - cleaning 181

- high-voltage contacts
 - cleaning 180
- high-voltage PCA 55
- high-voltage power supply,
 - checking 180
- hinge tool
 - part number 206
- hinge-retainer clip, removing 78
- hook state
 - fax 66
- hook switch control 66
- HP Customer Care 242
- HP Director, Macintosh 10
- HP fraud hotline 29
- HP SupportPack 242
- HP ToolboxFX
 - Alerts tab 38
 - device information 42
 - device polling 44
 - Documentation tab 41
 - EconoMode 43
 - factory-set defaults,
 - restoring 189
 - fax receive log 41
 - fax send log 41
 - Fax tab 39
 - Help tab 41
 - Network Settings tab 45
 - opening 9, 37
 - paper path, cleaning 34
 - paper-handling options 43
 - PCL 5e driver settings 45
 - PostScript driver settings 45
 - print settings 44
 - Print Settings tab 44
 - print-quality options 43
 - printing 44
 - scanner, calibrating 35
 - settings 42
 - Status tab 38
 - supplies status, viewing 26, 38
 - System Settings tab 42
 - troubleshooting 188
 - Troubleshooting tab 188
 - using 37
 - viewing 37
- HP Web Jetadmin
 - using 45

- humidity specifications
 - environment 245

I

- IC CS-03 requirements 253
- image quality
 - archive print setting 189, 191
 - cleaning page, printing 190
 - copy, troubleshooting 166
 - HP ToolboxFX settings 43
 - print, troubleshooting 157, 158
 - repetitive image defects 192
 - scans, troubleshooting 163, 165
- image-formation system
 - operations 59
 - testing 179
- information pages
 - configuration 184
 - configuration page 36
 - demo page 36, 185
 - device information, HP ToolboxFX 42
 - event log 36
 - fax report 36
 - fax reports 186
 - font list 36, 184
 - menu map 36, 185
 - network report 36, 185
 - supplies status 184
 - supplies status page 36
 - T.30 protocol trace report 191
 - usage page 36, 185
- input devices
 - installing 19
- input tray
 - jams, clearing 153
 - loading media 20
- input-tray flag, automatic document feeder (ADF) 84
- install
 - ADF input tray 19
 - cartridge 22
 - print cartridge 22
 - supplies 22
 - tray 1 21
- installation, software
 - express 9
 - recommended 8

- installing
 - Windows software 8
- interface ports
 - cables, ordering 206
 - locating 5, 6, 193
 - part numbers 206
 - types included 4
- internal components 54
- internal components, part numbers 226

J

- jam detection
 - ADF 53
 - trailing edge detection, ADF 53
- jams
 - automatic document feeder (ADF), clearing 151
 - causes 149
 - fax 176
 - fax, clearing 151
 - locating 150
 - output-bin, clearing 155
 - print cartridge area, clearing 156
 - trays, clearing 153
- Jetadmin, HP Web 46

K

- Kensington lock
 - locating 5
- Korean EMI statement 257

L

- laser safety statements 257, 258
- laser/scanner assembly
 - diagrams 200
 - protective cover 70
 - removing 121
- laser/scanner system
 - operations 57
- laser/scanner unit
 - locating 54
- last call report, fax
 - printing 186
- life expectancies, supplies 26
- light copies 167
- light print, troubleshooting 159
- line current control, fax 67

- lines, troubleshooting
 - copies 167
 - printed pages 159
 - scans 165
- link assemblies, removing 79
- Linux drivers 8
- load-arm assembly 85
- loading media
 - priority input tray 20
- locating
 - bins 5
 - internal components 54
 - parts 5
 - switches 5
 - trays 5
- logs, fax
 - activity 186
 - billing codes 188
 - confirmation (last fax sent or received) 186
 - last call 186
 - phone book 186
 - troubleshooting 177
- loose toner, troubleshooting 160

M

- Macintosh
 - drivers supported 8
 - HP Director 10
 - Intel Core Processor 8
 - PDEs 11
 - PPC 8
 - software components 10
 - support 242
 - supported operating systems 8
 - system requirements 17
 - uninstall software 11
- Macintosh Configure Device
 - viewing 10
- main motor, replacing 125
- maintenance agreements 242
- manuals 2
- material restrictions 250
- Material Safety Data Sheet (MSDS) 251
- media
 - ADF feeding operations 51
 - ADF, sizes supported 174

- curled, troubleshooting 161, 189
- feeding operations 58
- HP ToolboxFX settings 43
- input tray, removing 101
- jams 149
- ordering, Web sites 206
- pickup/feed/delivery system 58
- supported sizes 12
- wrinkled 162
- media guides
 - adjust 21
- media input tray, removing 101
- media jams
 - locating 150
- memory
 - error messages 144
 - flash, fax 67
 - NVRAM initialization 182
- menu map
 - printing 37
- menus
 - secondary service 182
 - Service 189
- mercury-free product 250
- messages
 - control panel 140
 - critical error 147
- model
 - comparison 1
 - number, locating 7
- moisture on the trailing edge, troubleshooting 162
- motor
 - location 197
- motors
 - main, replacing 125
- multi-purpose tray, locating 54

N

- network
 - device polling 44
 - express software installation 9
 - network report, printing 37
 - Network Settings tab, HP ToolboxFX 45
 - security features 63
- network port
 - locating 6, 193

- network report 185
- network report, printing 37
- Network Settings tab,
 - HP ToolboxFX 45
- networks
 - HP Web Jetadmin 46
- New Zealand telecom
 - statements 254
- noise specifications 245
- non-HP supplies
 - HP policy 28
- NVRAM initialization
 - troubleshooting 182

O

- off-hook 66
- on-hook 66
- on/off switch
 - locating 5
- online support 242
- operating environment,
 - specifications 16, 245
- operating systems supported 8
- operation sequence 48
- operations
 - ADF 51
 - engine control system 55
 - fax 63
 - fax, PSTN 63
 - image-formation system 59
 - laser/scanner system 57
 - pickup/feed/delivery
 - system 58
 - PSTN 63
- optical system operations 50
- ordering supplies and
 - accessories 206
- output bin
 - locating 5
- output quality
 - archive print setting 189, 191
 - cleaning page, printing 190
 - copy, troubleshooting 166
 - HP ToolboxFX settings 43
 - print, troubleshooting 157, 158
 - repetitive image defects 192
 - scans, troubleshooting 163, 165

P

- packaging device 242
- pages
 - skewed 161
- paper
 - ADF feeding operations 51
 - ADF, sizes supported 174
 - curled, troubleshooting 161, 189
 - feeding operations 58
 - HP ToolboxFX settings 43
 - jams 149
 - pickup/feed/delivery
 - system 58
 - supported sizes 12
 - supported types 13
 - wrinkled 162
- paper jams
 - ADF detection operations 53
 - detection operations, pickup/
 - feed/delivery system 58
 - error messages, ADF 53
 - locating 150
 - trailing edge detection,
 - ADF 53
- paper path
 - ADF 52
 - automatic document feeder
 - (ADF), feeding
 - operations 52
 - cleaning 34
 - cleaning page, printing 34
- paper path, cleaning
 - cleaning page 34
 - control panel 34
 - HP ToolboxFX 34
- paper-pickup assembly,
 - replacing 132
- part numbers
 - assemblies 222
 - automatic document feeder
 - (ADF) 218
 - automatic document feeder
 - (ADF), internal
 - components 220
 - cables 206
 - control-panel bezels 211
 - covers 224
 - documentation 214
 - internal components 226

- scanner 218
- screws 217
- supplies 206
- parts
 - about remove and replace 70
 - locating 5
 - order of removal 74
 - order, removing 74
 - ordering, Web sites 206
 - removing 69
 - removing, order 74
 - replacing 69
- parts, removing
 - tools required 71
- PCAs, diagrams 201
- PCL 5e driver, HP ToolboxFX
 - settings 45
- PCL drivers
 - operating systems
 - supported 8
- PDEs, Macintosh 11
- phone book, fax
 - HP ToolboxFX tab 39
 - printing 186
- phone numbers
 - HP fraud hotline 29
- photosensitive drum rotation
 - test 178
- photosensitive drum, locating 54
- physical specifications 244
- pickup
 - solenoid 197
- pickup and feed system
 - ADF 51
- pickup assembly
 - diagrams 200
- pickup roller
 - automatic document feeder
 - (ADF), replacing 85
 - replacing 97
- pickup roller, locating 54
- pickup rollers
 - ADF, cleaning 32
- pickup/feed/delivery system
 - main motor, locating 58
 - operations 58
 - pickup solenoid, locating 58
 - sensors, locating 58
- polling, device 44

- ports
 - cables, ordering 206
 - interface, locating 5
 - locating 6, 193
 - types included 4
 - ports, interface
 - part numbers 206
 - post-service tests 73
 - PostScript driver, HP ToolboxFX
 - settings 45
 - power
 - high-voltage PCA 55
 - high-voltage, testing 180
 - requirements 244
 - sequence of operations 49
 - power connector
 - locating 5
 - power consumption 244
 - power cord, unplugging 70
 - power supplies
 - fax line current control 67
 - unplugging 70
 - power supply
 - high-voltage contacts
 - check 180
 - removing 114
 - replacing 114
 - power switch
 - locating 5
 - PowerSave settings 189
 - pressure roller
 - locating 54
 - print cartridge
 - door latch, locating 5
 - door release, locating 5
 - door, removing 106
 - install 22
 - part number 206
 - replacing 95
 - toner, removing from
 - clothing 28
 - print cartridge area jams,
 - clearing 156
 - print cartridges
 - drum rotation test 178
 - high-voltage contacts 180
 - HP fraud hotline 29
 - recycling 249
 - replacing 27
 - status page, printing 184
 - status, checking 26
 - status, viewing with
 - HP ToolboxFX 38
 - storing 26
 - warranty 241
 - print defects, troubleshooting 158
 - print media
 - supported 12
 - print quality
 - archive print setting 189, 191
 - cleaning page, printing 190
 - HP ToolboxFX settings 43
 - repetitive image defects 192
 - settings 157
 - troubleshooting 157, 158
 - Print Settings tab,
 - HP ToolboxFX 44
 - print-cartridge door,
 - removing 106
 - print-quality test 73
 - printer drivers
 - specifications 4
 - printing
 - configuration page 36
 - demo page 36
 - event log 36
 - fax report 37
 - font lists 36
 - HP ToolboxFX, print
 - settings 44
 - menu map 37
 - network report 37
 - supplies status page 36
 - usage page 36
 - priority input tray
 - jams, clearing 153
 - loading 20
 - locating 5
 - problem-solving checklist 138
 - product
 - ADF functions 50
 - basic operation 48
 - cleaning 30
 - exterior, cleaning 30
 - features 4
 - installing 15
 - internal components 54
 - maintenance 25
 - model comparison 1
 - operation sequence 48
 - scanner functions 50
 - sequence of operations 48
 - serial number, locating 7
 - software 8
 - specifications 4
 - supplies, life expectancies 26
 - supported software 8
 - PSTN operations 63
 - public switch telephone network
 - (PSTN) standards
 - operations 63
 - pulse dialing 66
- Q**
- quality
 - archive print setting 189, 191
 - cleaning page, printing 190
 - copy, troubleshooting 166
 - print settings 157
 - print, troubleshooting 157, 158
 - repetitive image defects 192
 - scans, troubleshooting 163, 165
- R**
- rear cover, removing 107
 - receiving
 - fax 63
 - receiving faxes
 - activity log, printing 186
 - confirmation report,
 - printing 186
 - last call, printing 186
 - log, HP ToolboxFX 41
 - T.30 protocol trace report 191
 - troubleshooting 171
 - recommended software
 - installation 8
 - recycling
 - HP printing supplies returns and
 - environmental program 250
 - regional versions
 - fax card 65
 - regulatory information 248
 - remove
 - ADF scanner glass 88
 - parts 70
 - repacking device 242

- repetitive defects,
 - troubleshooting 162, 192
 - replace
 - ADF scanner glass 88
 - parts 70
 - supplies, life expectancies 26
 - replacing
 - supplies 27
 - reports
 - configuration page 36
 - demo page, printing 36
 - event log, printing 36
 - fax 186
 - fax report, printing 37
 - menu map, printing 37
 - network 185
 - network report, printing 37
 - phone book 186
 - supplies status page 36
 - usage page 36
 - reports, fax
 - activity log 186
 - billing codes 188
 - confirmation (last fax sent or received) 186
 - last call 186
 - troubleshooting 177
 - reports, product
 - configuration page 184
 - Demo page 185
 - supplies status page 184
 - T.30 protocol trace 191
 - resolution
 - print settings 157
 - specifications 4
 - restoring factory-set
 - defaults 189
 - ring detect
 - fax card 67
 - RING operations 63
 - roller
 - delivery roller 54
 - pickup, locating 54
 - rollers
 - ADF pickup, cleaning 32
 - automatic document feeder (ADF) pickup, replacing 85
 - feed, locating 54
 - locating 54, 198
 - pickup, replacing 97
 - pressure roller 54
 - repetitive image defects 192
 - transfer 97
 - transfer, locating 54
 - transfer, removing 103
- S**
- safety isolation
 - fax 65
 - safety statements 257, 258
 - safety-protection circuitry
 - fax 65
 - scan-image quality,
 - troubleshooting 163
 - scanner
 - assembly, removing 90
 - calibrating 34
 - components 75
 - cushions, installing 100
 - diagrams 202
 - flatbed lid, removing 76
 - functions 50
 - glass, cleaning 30
 - glass, removing 88
 - hinge-retainer clip,
 - removing 78
 - operation 51
 - optical system operations 50
 - parts, order of removal 74
 - support-frame springs,
 - removing 79
 - support-frame springs,
 - replacing 79
 - support-frame, removing 118
 - scanner cushions, installing 100
 - scanner flatbed lid, removing 76
 - scanner glass
 - removing 88
 - scanner hinge tool
 - part number 206
 - scanner support-frame springs,
 - removing 79
 - scanner support-frame,
 - removing 118
 - scanner, calibrating
 - control panel 35
 - HP ToolboxFX 35
 - scanner-cover backing,
 - cleaning 31
 - scanning
 - blank pages,
 - troubleshooting 165
 - quality, troubleshooting 163, 165
 - speed, troubleshooting 164
 - scatter, troubleshooting 162
 - screws
 - self-tapping 70
 - types 217
 - screws, replacing 70
 - secondary service menu 182
 - security
 - set password from
 - HP ToolboxFX 42
 - security features
 - computer 63
 - network 63
 - self-tapping screws 70
 - sending faxes
 - activity log, printing 186
 - confirmation report,
 - printing 186
 - last call report, printing 186
 - log, HP ToolboxFX 41
 - T.30 protocol trace report 191
 - troubleshooting 174
 - sensors
 - ADF 53
 - automatic document feeder (ADF) 52
 - form sensor, ADF 53
 - locating 199
 - media detection 58
 - paper-present sensor,
 - ADF 53
 - trailing edge detection,
 - ADF 53
 - separation pad, automatic
 - document feeder (ADF)
 - removing 83
 - separation pad, locating 54
 - separation pads
 - diagrams 200
 - replacing 96
 - sequence of operations 48
 - serial number, locating 7
 - service
 - critical error messages 147
 - HP ToolboxFX settings 44

- part numbers 206
 - repacking device 242
 - secondary menu 182
 - service agreements 242
 - Service menu 189
 - servicing 69
 - servicing product 70
 - settings
 - configuration page 184
 - factory-set defaults, restoring 189
 - NVRAM initialization 182
 - shipping device 242
 - size 244
 - skewed pages 161
 - slow speed, troubleshooting
 - faxing 177
 - scanning 164
 - smeared toner, troubleshooting 160
 - software
 - components 8
 - embedded Web server 45
 - express installation 9
 - HP ToolboxFX 9, 37
 - HP Web Jetadmin 45
 - Macintosh 10
 - recommended installation 8
 - supported operating systems 8
 - system requirements 17
 - uninstall 11
 - Windows 9
 - solar clip, removing 78
 - solenoid 197
 - speaker assembly, removing 111
 - specifications
 - acoustic emissions 245
 - electrical 244
 - environmental 245
 - humidity 16
 - media 12, 13
 - operating environment 16
 - paper 12
 - paper types 13
 - physical 244
 - product features 4
 - temperature 16
 - tray capacity 13
 - specks, troubleshooting 159
 - speed
 - fax, troubleshooting 177
 - scanning, troubleshooting 164
 - spots, troubleshooting 159
 - springs
 - support-frame, scanner 79
 - standby mode
 - automatic document feeder (ADF) 51
 - staple cassette
 - life expectancy 26
 - static, precautions 71
 - status
 - alerts, HP ToolboxFX 38
 - supplies status page, printing 184
 - supplies, checking 26
 - viewing with HP ToolboxFX 38
 - Status tab, HP ToolboxFX 38
 - storing
 - environmental specifications 245
 - print cartridges 26
 - streaks, troubleshooting 159
 - supplies
 - HP fraud hotline 29
 - install 22
 - life expectancies 26
 - manage 26
 - non-HP supplies, HP Policy 28
 - ordering, Web sites 206
 - part numbers 206
 - print cartridges, replacing 27
 - recycling 249
 - replacing 27
 - status page 184
 - status page, printing 36
 - status, checking 26
 - status, viewing with HP ToolboxFX 38
 - storing 26
 - supplies status page 184
 - support
 - online 242
 - repacking device 242
 - support-frame springs, scanner replacing 79
 - supported media 12
 - SupportPack, HP 242
 - switches
 - hook switch control 66
 - system requirements 17
 - System Settings tab, HP ToolboxFX
 - Device Information page 42
 - paper-handling options 43
 - print quality 43
- T**
- T.30 protocol trace report 191
 - technical support
 - online 242
 - repacking device 242
 - Telephone Consumer Protection Act 253
 - telephone numbers
 - HP fraud hotline 29
 - temperature specifications
 - environment 245
 - tests
 - copy-quality 73
 - engine test page 178
 - fax-quality 73
 - half-self functional check 179
 - heating element 180
 - high-voltage power supply 180
 - post-service 73
 - print-quality 73
 - text, troubleshooting 161
 - TIP operations 63
 - toner
 - cleaning page, printing 190
 - loose, troubleshooting 160
 - scatter, troubleshooting 162
 - smeared, troubleshooting 160
 - specks, troubleshooting 159
 - Toolbox. *See* HP ToolboxFX
 - tools
 - required, removing parts 71
 - troubleshooting 184
 - trailing edge detection
 - ADF 53
 - transfer roller
 - removing 103
 - transfer rollers 97
 - transfer rollers, locating 54
 - transfer unit warranty 241

- tray 1
 - install 21
 - jams, clearing 153
 - locating 5
- trays
 - ADF input, install 19
 - capacity 13
 - feeding operations 58
 - flag, automatic document feeder (ADF) input tray 84
 - input tray, automatic document feeder (ADF) 75
 - input tray, media 101
 - jams, clearing 153
 - media input, removing 101
 - multi-purpose, locating 54
 - pickup/feed/delivery system 58
 - priority input, loading 20
 - tray 1, install 21
- troubleshooting
 - blank scans 165
 - checklist 138
 - cleaning page 190
 - configuration page 184
 - control panel messages 140
 - copy quality 166
 - copy size 169
 - copying 169
 - critical error messages 147
 - curled media 161, 189
 - demo page 185
 - diagrams 192
 - dialing 174
 - engine test page 178
 - faded print 159
 - fax jams 176
 - fax quality 170
 - fax reports 177
 - font list 184
 - half self-test 179
 - heating element 180
 - HP ToolboxFX 188
 - image formation 179
 - information pages 184
 - jams 149
 - lines, copies 167
 - lines, printed pages 159
 - lines, scans 165
 - loose toner 160
 - menu map 185
 - moisture on the trailing edge 162
 - network report 185
 - NVRAM initialization 182
 - print defects 158
 - print quality 157
 - receiving faxes 171
 - repetitive defects 162
 - reports 184
 - scan quality 163, 165
 - scan-image quality 163
 - scanning 163
 - sending faxes 174
 - skewed pages 161
 - speed, faxing 177
 - supplies status page 184
 - T.30 protocol trace report 191
 - text 161
 - toner scatter 162
 - toner smear 160
 - toner specks 159
 - tools 184
 - usage page 185
 - wrinkles 162
- Troubleshooting tab, HP ToolboxFX 188
- types, media
 - HP ToolboxFX settings 43
- U**
 - uninstall software
 - Add or Remove Programs 11
 - usage page 185
 - usage page, printing 36
- USB
 - express software installation 9
- USB port
 - locating 6, 193
 - type included 4
- User guide 2
- user guides, part numbers 214
- V**
 - vertical lines,
 - troubleshooting 159
 - vertical white or faded stripes 166
 - voice over IP (VoIP) services 64
 - voltage requirements 244
- W**
 - warning messages 140
 - warranty
 - Customer self repair 240
 - extended 242
 - print cartridge 241
 - transfer unit and fuser 241
 - wavy paper, troubleshooting 161
 - Web sites
 - customer support 242
 - documentation 2
 - HP Web Jetadmin,
 - downloading 46
 - Macintosh customer support 242
 - Material Safety Data Sheet (MSDS) 251
 - ordering supplies, parts, media 206
 - weight 244
 - white or faded stripes 166
 - Windows
 - drivers supported 8
 - software components 9
 - supported operating systems 8
 - system requirements 17
 - uninstall software 11
 - wrinkles, troubleshooting 162

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