

i n v e n t

service

hp LaserJet
4200/4250/4300/4350
series printers

HP LaserJet 4200, 4250, 4300 and 4350 Series printers

Service Manual



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Table of contents

1 Product information

Chapter contents.....	1
Printer configurations.....	2
Base model.....	2
n model.....	3
tn model.....	4
dtn model.....	5
dtns model.....	6
dtnsl models.....	7
Model and serial numbers	8
Printer overview.....	9
Hardware components	9
Interface ports.....	11
Software components.....	12
Operating systems and printer components	12
Printer drivers.....	13
Drivers included	13
Additional drivers.....	14
Select the correct printer driver for your needs.....	14
Printer driver Help.....	14
Using the printer drivers.....	15
Software for Macintosh computers	17
PPDs.....	17
HP LaserJet Utility.....	17
Specifications.....	18
Hardware specifications	18
Electrical specifications.....	20
Acoustic emissions.....	22
Print speed specifications	24
Operating environment.....	24
Media specifications.....	25
General guidelines	25
Supported media weights and sizes.....	26
Supported-media specifications tables.....	26
Paper and print media.....	30
Printing and storage environment	30
Supported types of media	31
Guidelines for using paper.....	32
Envelopes.....	34
Envelope construction.....	34

Envelopes with double side-seams.....	35
Envelopes that have adhesive strips or flaps.....	35
Envelope margins.....	35
Envelope storage.....	35
Labels	36
Transparencies.....	36
Card stock and heavy paper	37
Card stock construction	37
Card stock guidelines.....	37
Types of media to avoid.....	38
Hewlett-Packard limited warranty statement.....	39
Print Cartridge Limited Warranty Statement.....	41
Service approach	42
Regulatory information.....	43
FCC regulations.....	43
Environmental product stewardship program.....	44
Protecting the environment.....	44
Ozone production.....	44
Energy consumption.....	44
HP LaserJet printing supplies.....	45
Material safety data sheet.....	46
For more information.....	46
Regulatory statements	47
Country-/region-specific safety statements.....	49
Laser safety statement	49
Canadian DOC statement.....	49
Japanese VCCI statement.....	49
Korean EMI statement.....	49
Finnish laser statement.....	50

2 Installation

Chapter contents.....	51
Operating environment	52
Site requirements.....	53
Software installation.....	54

3 Operation

Chapter contents.....	55
Using the control panel.....	56
Control-panel layout.....	56
Control-panel lights.....	57
Control-panel buttons.....	58
Using the printer Help system.....	58
Settings and defaults	59
Setting the control-panel display language.....	59
Control-panel menus	60
Printing control-panel menus.....	60
To print a control-panel menu map.....	60
To change a control-panel setting.....	61
Retrieve Job menu	62

Information menu.....	63
Paper-handling menu.....	64
Configure-device menu	68
Printing submenu	68
Print-quality submenu	71
System Setup submenu	74
Stapler/stacker submenu	77
I/O submenu	77
Resets submenu (HP LaserJet 4250/4350 only).....	78
Diagnostics menu (HP LaserJet 4250/4350 only)	80

4 Maintenance

Chapter contents.....	81
Cleaning the printer and accessories	82
Cleaning the fuser.....	83
Running the cleaning page manually.....	83
To run the cleaning page manually.....	83
Running the cleaning page automatically.....	85
To run the cleaning page automatically.....	85
Cleaning spilled toner	85
Performing preventive maintenance.....	86
Resetting the maintenance-kit counter (LJ 4200/4300).....	86
Resetting the maintenance-kit counter (LJ 4250/4350).....	87
Maintenance kit part numbers	87
Expected life of components	88
Maintaining the stapler unit.....	89
To remove and replace the stapler unit.....	89
Loading staples.....	90
To load staples	90
Downloading a remote firmware update.....	91
Downloading the new firmware to the printer.....	91
Remote firmware update through a local Windows port	92
Windows 95, Windows 98, or Windows Me	92
Windows NT 4.0, Windows 2000, Windows XP, or Windows Server 2003.....	93
Remote firmware update through a Windows network.....	93
Remote firmware update for UNIX systems.....	93
Remote firmware update using FTP on a direct network connection	93
Windows operating systems	94
Mac operating systems.....	95
Remote firmware update using FTP through a browser.....	96
Remote firmware update using Fetch (Mac OS 8.6 and OS 9.x only)	97
Remote firmware update using the HP LaserJet utility (Mac OS 8.6 and OS 9.x only).....	98
Remote firmware update using the LPR command	99
Using HP Web JetAdmin to download the firmware to the printer.....	100
Printer messages during firmware update.....	101
Troubleshooting a firmware update.....	102

5 Theory of operation

Chapter contents.....	103
Introduction	104

Basic operation of the printer.....	105
Printer operating sequence.....	105
Control system overview.....	105
Pickup-and-feed system overview.....	106
Laser/scanner system overview.....	106
Image-formation system overview.....	106
General descriptions	107
Dc controller PCA.....	108
Motor and fan control.....	109
Power supply.....	110
Fuser-control circuit.....	110
Fuser over-temperature protection	111
Overcurrent/overvoltage protection.....	111
Laser/scanner assembly.....	112
Paper-pickup-and-feed system.....	114
Pickup-and-feed block	116
Printing from tray 1	117
Printing from tray 2	119
Tray 2, 500-sheet feeder, and 1,500-sheet feeder media-size detection.....	119
Lifter-driver operation.....	120
Multiple-feed prevention.....	121
Media-skew prevention.....	121
Fuser/delivery block.....	122
Jam detection.....	122
Printer pickup delay jam from tray 1.....	123
Printer pickup delay jam from tray 2.....	123
Printer pickup stationary jam.....	123
Printer-delivery wrap jam when feeding regular media.....	123
Printer delivery wrap-jam when feeding irregular media.....	123
Printer delivery-delay jams.....	124
Printer door-open jam	124
Printer residual-media jam.....	124
Printing from the 500-sheet feeder.....	125
500-sheet feeder pickup and feeding.....	126
Printing from the 1,500-sheet feeder.....	128
1,500-sheet feeder pickup and feeding.....	129
1,500-sheet feeder lifting mechanism.....	131
Envelope feeder.....	132
Envelope-feeder pickup and feeding.....	132
Envelope feeder jam detection	133
Envelope feeder pickup delay jam.....	133
Envelope feeder pickup stationary jam.....	133
Duplexer.....	134
Reversing and duplexer pickup.....	135
Duplexer jam detection	136
Stacker and stapler/stacker	137
Stacker.....	139
Stacker feed and delivery.....	139
Stacker jam detection.....	141
Stacker-feed jam	141

Stacker-feed stationary jam.....	141
Stacker residual-media jam.....	141
Stapler/stacker	142
Stapler/stacker feed and delivery.....	142
Staple-mode feed and delivery.....	144
Stapler unit.....	148
Stapler-unit operation	149
Staple level-detection.....	151
Stack-mode feed and delivery.....	151
Stapler/stacker jam detection	152
Stapler/stacker feed jam	152
Stapler/stacker feed stationary jam.....	152
Stapler/stacker delivery jam.....	152
Stapler/stacker residual media jam.....	152
Image-formation system	153
Electrostatic latent-image formation.....	155
Primary charging	155
Writing the image	155
Developing the image	156
Transferring the image	157
Fusing the image	158
Cleaning the transfer charging roller and photosensitive drum.....	159
Print-cartridge memory chip.....	160
Formatter system.....	161
PowerSave (LJ 4200/4200L/4300) or Sleep (LJ 4250/4350) Mode.....	161
Resolution Enhancement technology	162
EconoMode	162
Input/output.....	162
Parallel interface.....	162
USB (HP LaserJet 4250/4350 Series printers only).....	162
Embedded ethernet print server (HP LaserJet 4250/4350 Series printers only).....	162
Expanded I/O.....	163
Flash (HP LaserJet 4200/4300 Series printers only).....	163
CompactFlash card (HP LaserJet 4250/4350 Series printers only).....	163
Hard-disk accessory.....	163
CPU	163
Printer memory	163
Read-only memory	163
Random-access memory	163
DIMM slots	164
Firmware DIMM (LJ 4200/4200L/4300 only).....	164
Nonvolatile memory.....	164
Memory Enhancement technology	164
PJL overview	164
PML.....	165
Control panel	165

6 Removing and replacing parts

Chapter contents.....	167
-----------------------	-----

Removal and replacement strategy.....	168
Required tools.....	168
Before performing service	169
After completing service	169
Screws used in the printer	170
Parts-removal tree	171
Printer input tray, and cabinet wheel locks.....	172
Dc controller PCA diagram.....	173
User-replaceable parts	175
Print cartridge	175
Transfer roller	177
Fuser.....	178
Tray 1 pickup roller	179
Tray 1 separation pad.....	181
Tray 2 feed rollers.....	182
Covers, tray 1, and the rear output bin.....	186
Accessory covers and the tray 2 extension door	187
Formatter cover.....	191
Top cover.....	192
Right-side cover	195
Left-side cover.....	197
Front cover.....	198
Tray 1.....	200
Rear output bin.....	203
Control-panel display.....	204
Control-panel overlay	204
Control-panel assembly	205
Main assemblies	209
Firmware DIMM (LJ 4200/4300 only).....	210
Formatter assembly	211
Reinstallation notes, formatter	212
Installing a new formatter and a new dc controller (LJ 4250/4350 only).....	213
Output-delivery assembly	214
Duplexing-pendulum assembly.....	217
Laser/scanner assembly.....	219
Paper-pickup drive assembly	222
Tray 2 lifter-drive assembly.....	227
Dc controller PCA.....	230
Reinstallation tip.....	235
Installing a new formatter and a new dc controller (LJ 4250/4350 only).....	235
Power supply.....	236
Paper-feed belt assembly.....	243
Motors and fans.....	245
Main cooling fan (left side)	246
Cooling fan, right side (HP LaserJet 4250/4300/4350 Series printers only)	248
Removing the fan without removing the air duct.....	248
Removing the fan and the air duct together.....	251
Print-cartridge motor (HP LaserJet 4250/4300/4350 series printer only).....	253
Main motor	255
Pickup and feed assemblies	257

Tray 1 paper-pickup assembly	257
Paper-feed assembly.....	261
Reinstallation notes for the paper-feed assembly.....	262
Main drive assembly.....	263
Registration assembly.....	266
Sensors and switches.....	268
Tray 2/500-sheet feeder media-size sensor (PS101).....	269
Tray 2 media-size sensor (PS101)	269
500-sheet feeder media-size sensor.....	270
Tray 1 paper sensor (PS105).....	272
Door switch (SW101).....	273
Solenoids and clutches.....	274
Tray 2 pickup solenoid (SL101).....	275
Tray 1 pickup solenoid (SL102).....	276
Feed-roller clutch (CL101).....	277
Accessories	278
500-sheet feeder assembly.....	278
500-sheet feed rollers.....	278
500-sheet feeder right-side cover.....	278
500-sheet feeder control PCA	281
500-sheet feeder lifter-drive assembly	282
500-sheet feeder paper-pickup drive assembly.....	283
1,500-sheet feeder assembly.....	288
1,500-sheet feeder feed rollers.....	288
1,500-sheet feeder separation roller	288
1,500-sheet feeder door.....	290
1,500-sheet feeder rear cover.....	291
1,500-sheet feeder right-side cover	292
1,500-sheet feeder control PCA	294
1,500-sheet feeder media-size sensor.....	296
1,500-sheet feeder lifter-drive assembly	297
1,500-sheet feeder paper-pickup drive assembly.....	300

7 Troubleshooting

Chapter contents.....	301
Introduction	302
Troubleshooting process.....	303
Initial troubleshooting checklist.....	303
Troubleshooting flowchart	305
Power-on checks.....	306
Overview.....	306
Troubleshooting tools	309
Information pages.....	310
Menu map.....	311
Configuration page	312
Supplies status page	314
Embedded Web server	315
Gaining access to the embedded Web server.....	315
Information tab	315
Settings tab	316

Networking tab	316
Other links	317
Printer Status and Alerts software	317
To select status messages.....	318
To view status messages and information.....	318
Control-panel menus	319
Using control-panel menus.....	319
Resets submenu	320
Diagnostics menu	321
Service menu (service PIN codes).....	323
Service ID	324
Converting the Service ID to an actual date.....	324
Restoring the Service ID	324
Printer resets and power-on modes.....	325
Cold reset	325
To perform a cold reset	325
NVRAM initialization	326
To initialize NVRAM	326
Hard-disk initialization	327
To initialize the hard disk.....	327
Power-on bypass.....	328
Skip disk-load	328
Self-test.....	328
Test pages	329
Engine-test page	329
Formatter test page	330
Interface troubleshooting	331
Communications checks.....	331
Computer direct connect (parallel) test	331
EIO troubleshooting	331
Jetdirect page/Embedded Jetdirect page (HP LaserJet 4250/4350 Series printers).....	332
Display-message troubleshooting	333
Status messages	333
Warning messages	333
Error messages	333
Critical-error messages	333
Alphabetical printer messages	333
Alphabetical printer messages.....	334
Numerical printer messages	348
Numerical printer messages.....	348
Paper-path troubleshooting.....	365
Overview.....	365
Jam recovery	366
To disable the jam recovery.....	366
Avoiding jams	367
Persistent jams	368
Basic troubleshooting for persistent jams.....	368
Data collection	368
General paper-path troubleshooting.....	368

Paper-path checklist.....	369
Paper-path test	369
To perform a paper-path test.....	370
Jams in tray 1	371
Jams in tray 2	372
Jams in tray 3 or tray 4.....	373
Jams in the paper path	374
Jams in the duplex path	374
Media transport problems	375
Multiple pages feed	375
Media is wrinkled or folded.....	375
Media is skewed	376
Image-formation troubleshooting	377
Media-related print-quality problems	377
Overhead transparency defects	378
Print-quality problems that are related to the environment.....	378
Print-quality problems that are related to jams.....	378
Image defects	379
Image quality	379
Check the print cartridge.....	380
EconoMode.....	380
Half self-test functional check	381
Drum-rotation functional check.....	381
Image defect tables.....	382
Repetitive-defects troubleshooting	400
Troubleshooting the stacker and the stapler/stacker.....	402
Initial checks	402
Jam errors	403
Stacker and stapler/stacker paper path.....	403
Stacker paper-path test.....	404
Stapler/stacker paper-path test.....	404
Paper-transport errors.....	406
Malfunction errors.....	406
Component errors.....	407
Printer-component locations.....	409
Main printer parts.....	409
Printer switches and sensors.....	413
Printer motors and fans.....	414
Printer PCAs.....	415
Accessory component locations.....	416
500-sheet feeder main parts.....	416
500-sheet feeder switches, sensors, solenoids, and PCAs.....	417
1,500-sheet feeder main parts.....	418
1,500-sheet feeder switches, sensors, solenoids, and PCAs.....	420
Stapler/stacker stapler assembly.....	421
Stacker and stapler/stacker switches and sensors.....	422
Stacker and stapler/stacker motors and solenoids.....	423
Stacker and stapler/stacker PCAs.....	424
Printer and accessory wiring diagrams.....	425
HP LaserJet 4200 wiring diagram	426

HP LaserJet 4250 wiring diagram	427
HP LaserJet 4300 wiring diagram	428
HP LaserJet 4350 wiring diagram	429
500-sheet feeder wiring diagram.....	430
1,500-sheet feeder wiring diagram.....	431
Duplex accessory wiring diagram.....	432
Envelope-feeder-accessory wiring diagram.....	433
Stacker-accessory wiring diagram.....	434
Stapler/stacker-accessory wiring diagram.....	435
Dc controller connectors diagram.....	436
General timing diagrams.....	437
HP LaserJet 4200 general timing diagram.....	438
HP LaserJet 4250 general timing diagram.....	439
HP LaserJet 4300 general timing diagram.....	440
HP LaserJet 4350 general timing diagram.....	441
Stapler/stacker timing diagram.....	442

8 Parts and diagrams

Chapter contents.....	443
Ordering parts and supplies.....	444
Parts.....	444
Related documentation and software.....	444
HP-authorized resellers and support.....	445
HP service agreements.....	445
HP Partner Portal.....	445
Supplies.....	446
Consumables and accessories.....	447
Consumables.....	447
Accessories.....	448
Memory, fonts, and mass storage	450
Cables and connectivity.....	452
Formatters, laser/scanners, power supplies, and fusers.....	453
Assembly locations (1 of 3)	454
Assembly locations (2 of 3)	455
Assembly locations (3 of 3)	456
Covers.....	458
Internal components.....	462
Accessories.....	484
Alphabetical parts list.....	494
Numerical parts list.....	503

Index.....	513
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1 Product information

Chapter contents


- [Printer configurations](#)
- [Model and serial numbers](#)
- [Printer overview](#)
- [Software components](#)
- [Specifications](#)
- [Media specifications](#)
- [Hewlett-Packard limited warranty statement](#)
- [Print Cartridge Limited Warranty Statement](#)
- [Service approach](#)
- [Regulatory information](#)
- [Regulatory statements](#)
- [Country-/region-specific safety statements](#)

Printer configurations

The HP LaserJet 4200, 4250, 4300 and 4350 Series printers are available in a total of six models.

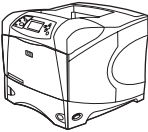
Base model

Table 1-1 Printer descriptions, base models

Base model	Availability	Configuration
	HP LaserJet 4200 printer (Q2425A)	<ul style="list-style-type: none">■ 48 MB RAM, expandable to 416 MB■ One 100-sheet tray and one 500-sheet tray
	HP LaserJet 4200L printer (Q3993A) (This model is not available in all countries/regions.)	<ul style="list-style-type: none">■ 48 MB RAM, expandable to 288 MB■ One 100-sheet tray and one 500-sheet tray
	HP LaserJet 4250 printer (Q5400A)	<ul style="list-style-type: none">■ 48 MB RAM, expandable to 512 MB■ One 100-sheet tray and one 500-sheet tray
	HP LaserJet 4300 printer (Q2431A)	<ul style="list-style-type: none">■ 64 MB RAM, expandable to 416 MB■ One 100-sheet tray and one 500-sheet tray

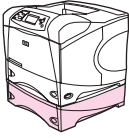
n model

Table 1-2 Printer descriptions, n model

n model	Availability	Configuration
	HP LaserJet 4200n printer (Q2426A)	<ul style="list-style-type: none">■ 64 MB RAM, expandable to 416 MB■ One 100-sheet tray and one 500-sheet tray■ HP Jetdirect 10/100Base-TX print server for network connection
	HP LaserJet 4200Ln printer (Q3994A)	<ul style="list-style-type: none">■ 64 MB RAM, expandable to 416 MB■ One 100-sheet tray and one 500-sheet tray■ HP Jetdirect 10/100Base-TX print server for network connection
	HP LaserJet 4250n printer (Q5401A)	<ul style="list-style-type: none">■ 64 MB RAM, expandable to 512 MB■ One 100-sheet tray and one 500-sheet tray■ HP Jetdirect embedded print server for connecting to a 10/100Base-TX network
	HP LaserJet 4300n printer (Q2432A)	<ul style="list-style-type: none">■ 80 MB RAM, expandable to 416 MB■ One 100-sheet tray and one 500-sheet tray■ HP Jetdirect 10/100Base-TX print server for network connection
	HP LaserJet 4350n printer (Q5407A)	<ul style="list-style-type: none">■ 80 MB RAM, expandable to 512 MB■ One 100-sheet tray and one 500-sheet tray■ HP Jetdirect embedded print server for connecting to a 10/100Base-TX network

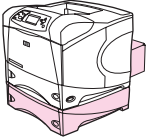
tn model

Table 1-3 Printer descriptions, tn model

tn model	Availability	Configuration
	HP LaserJet 4200tn printer (Q2427A)	<ul style="list-style-type: none">■ 64 MB RAM, expandable to 416 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect 10/100Base-TX print server for network connection
	HP LaserJet 4250tn printer (Q5402A)	<ul style="list-style-type: none">■ 64 MB RAM, expandable to 512 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect embedded print server for connecting to a 10/100Base-TX network
	HP LaserJet 4300tn printer (Q2433A)	<ul style="list-style-type: none">■ 80 MB RAM, expandable to 416 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect 10/100Base-TX print server for network connection
	HP LaserJet 4350tn printer (Q5408A)	<ul style="list-style-type: none">■ 80 MB RAM, expandable to 512 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect embedded print server for connecting to a 10/100Base-TX network


dtn model

Table 1-4 Printer descriptions, dtn model

dtn model	Availability	Configuration
	HP LaserJet 4200dtn printer (Q2428A)	<ul style="list-style-type: none">■ 64 MB RAM, expandable to 416 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect 10/100Base-TX print server for network connection■ Duplexer for automatic two-sided printing
	HP LaserJet 4250dtn printer (Q5403A)	<ul style="list-style-type: none">■ 80 MB RAM, expandable to 512 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect embedded print server for connecting to a 10/100Base-TX network■ Duplexer for automatic two-sided printing
	HP LaserJet 4300dtn printer (Q2434A)	<ul style="list-style-type: none">■ 80 MB RAM, expandable to 416 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect 10/100Base-TX print server for network connection■ Duplexer for automatic two-sided printing
	HP LaserJet 4350dtn printer (Q5409A)	<ul style="list-style-type: none">■ 96 MB RAM, expandable to 512 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect embedded print server for connecting to a 10/100Base-TX network■ Duplexer for automatic two-sided printing

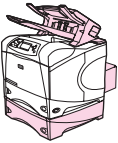
dtns model

Table 1-5 Printer descriptions, dtns model

dtns model	Availability	Configuration
	HP LaserJet 4200dtns printer (Q2446A)	<ul style="list-style-type: none">■ 64 MB RAM, expandable to 416 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect 10/100Base-TX print server for network connection■ Duplexer for automatic two-sided printing■ 500-sheet stacker output accessory
	HP LaserJet 4300dtns printer (Q2435A)	<ul style="list-style-type: none">■ 80 MB RAM, expandable to 416 MB■ One 100-sheet tray and two 500-sheet trays■ HP Jetdirect 10/100Base-TX print server for network connection■ Duplexer for automatic two-sided printing■ 500-sheet stacker output accessory

dtns1 models

Table 1-6 Printer descriptions, dtns1 model

dtns1 model	Availability	Configuration
	HP LaserJet 4200dtns1 printer (Q2447A)	<ul style="list-style-type: none"> ■ 64 MB RAM, expandable to 416 MB ■ One 100-sheet tray and two 500-sheet trays ■ HP Jetdirect 10/100Base-TX print server for network connection ■ Duplexer for automatic two-sided printing ■ 500-sheet stapler/stacker output accessory
	HP LaserJet 4250dtns1 printer (Q5404A)	<ul style="list-style-type: none"> ■ 80 MB RAM, expandable to 512 MB ■ One 100-sheet tray and two 500-sheet trays ■ HP Jetdirect embedded print server for connecting to a 10/100Base-TX network ■ Duplexer for automatic two-sided printing ■ 500-sheet stapler/stacker output accessory
	HP LaserJet 4300dtns1 printer (Q2448A)	<ul style="list-style-type: none"> ■ 80 MB RAM, expandable to 416 MB ■ One 100-sheet tray and two 500-sheet trays ■ HP Jetdirect 10/100Base-TX print server for network connection ■ Duplexer for automatic two-sided printing ■ 500-sheet stapler/stacker output accessory
	HP LaserJet 4350dtns1 printer (Q5410A)	<ul style="list-style-type: none"> ■ 96 MB RAM, expandable to 512 MB ■ One 100-sheet tray and two 500-sheet trays ■ HP Jetdirect embedded print server for connecting to a 10/100Base-TX network ■ Duplexer for automatic two-sided printing ■ 500-sheet stapler/stacker output accessory

Model and serial numbers

The model number and printer serial number are listed on an identification label located under the top cover on the right side of the printer. The model number is alphanumeric, such as Q2431A for the HP LaserJet 4300 product.

The serial number contains information about the country/region of origin, as well as the revision level, the production code, and the production number of the printer. An example of a serial number is USBB123456.

The label also contains power-rating and regulatory information as shown in the following figure.

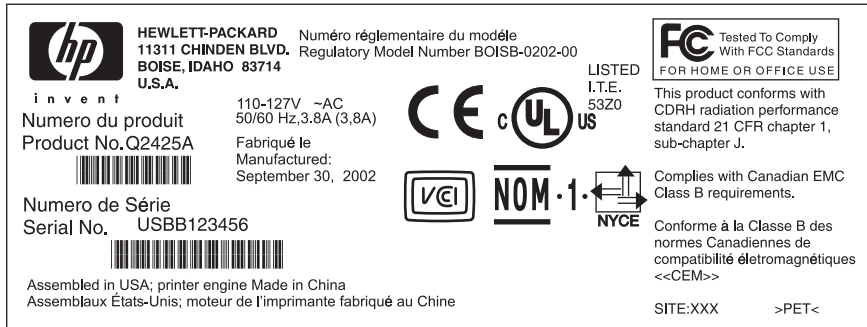


Figure 1-1 Sample model and serial number label, HP LaserJet 4300 printer

Printer overview

Hardware components

Before working with the printer, familiarize yourself with its parts.

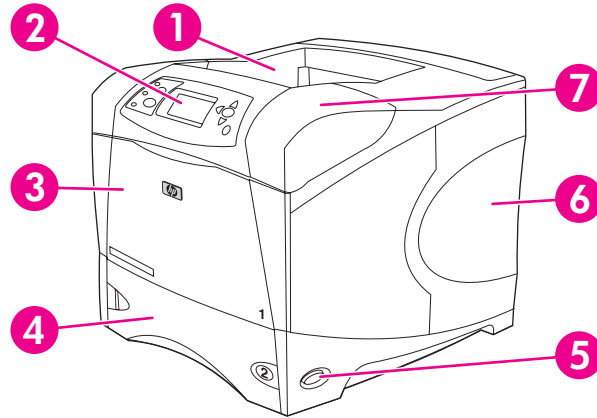


Figure 1-2 Hardware components; front view

1	Top output bin
2	Control panel
3	Tray 1 (pull to open)
4	Tray 2
5	On/off switch
6	Right-side panel (provides access to DIMMs and CompactFlash cards)
7	Top cover/cartridge-access door

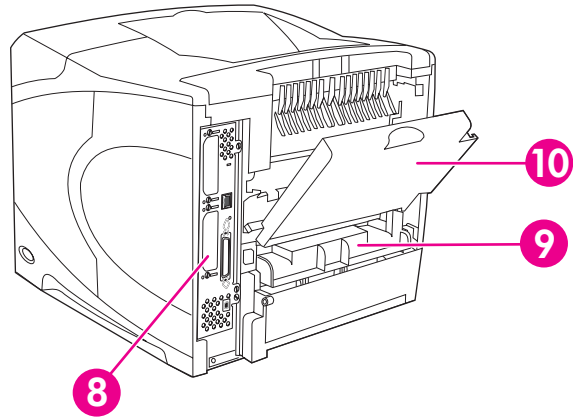


Figure 1-3 Hardware components; rear view

8	Interface ports (see Interface ports)
9	Slot for optional duplexer
10	Rear output bin (pull to open)

Interface ports

The printer has five ports: two EIO slots and three ports for connecting to a computer or a network.

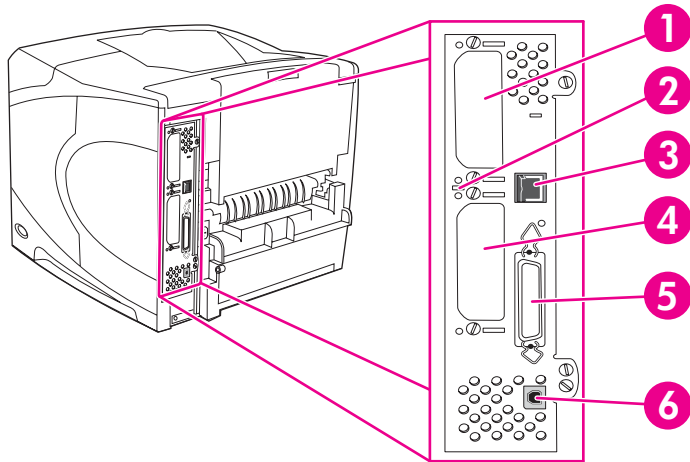


Figure 1-4 Interface ports (HP LaserJet 4250 is shown)

1	EIO slot 2
2	Diagnostic LED
3	Network connection (HP LaserJet 4250/4350 Series printers only)
4	EIO slot 1
5	IEEE 1284B-compliant parallel port
6	USB port (compatible with USB 2.0 full- and high-speed devices; HP LaserJet 4250/4350 Series printers only)

Software components

The printer comes with helpful software, including printer drivers and optional software. For easy printer setup and access to the full range of printer features, HP recommends that the user install the software that is provided.

Check the installation notes and Readme files on the printer CD for additional software and languages. HP software is not available in all languages.

Operating systems and printer components

The printer CD contains the software components and drivers for users and network administrators. The printer drivers that are provided on the CD must be installed in order to take full advantage of printer features. The other programs are recommended, but are not required for operation. Check the installation notes and Readme files on the printer CD for more information.

The CD includes software that is designed for users and network administrators who are operating in the following environments:

- Microsoft® Windows® 98 and Windows Millennium Edition (Me)
- Microsoft Windows NT® 4.0 (parallel and network connections only)
- Microsoft Windows 2000, Windows XP, and Windows Server 2003
- Apple Mac OS version 9.1 and later, and OS X version 10.1 or later

The most recent printer drivers for all supported operating systems are available at www.hp.com/go/lj4200_software, www.hp.com/go/lj4250_software, www.hp.com/go/lj4300_software, or www.hp.com/go/lj4350_software. If you do not have access to the Internet, see the support flyer that came in the printer box for information about obtaining the most recent software.

The following table lists the available software for the printer.

Software	Windows 98/ Me	Windows NT 4.0	Windows 2000/XP/ Server 2003	Mac OS	UNIX®/Linux	OS/2
Windows Installer	x	x	x			
PCL 6	x	x	x			
PCL 5	x	x	x			
PostScript emulation	x	x	x			
HP Web Jetadmin*		x	x		x	
Macintosh Installer				x		
Macintosh PostScript® (PS) Printer Description (PPD) files				x		
IBM drivers*						x
Model scripts*					x	

*Available only on the World Wide Web.

Printer drivers

Drivers included

Printer drivers provide access to the printer features and allow the computer to communicate with the printer (by using a printer language). Check the install notes, Readme, and late-breaking Readme files on the printer CD for additional software and languages.

The following printer drivers are included with the printer. The most recent drivers are available at www.hp.com/go/lj4200_software, www.hp.com/go/lj4250_software, www.hp.com/go/lj4300_software, or www.hp.com/go/lj4350_software. Depending on the configuration of Windows-based computers, the installation program for the printer software automatically checks the computer for Internet access to obtain the latest drivers.

Operating system ¹	PCL 6	PCL 5	PS	PPD ²
Windows 98, Me	x	x	x	x
Windows NT 4.0	x	x	x	x
Windows 2000, XP, Server 2003	x	x	x	x
Macintosh OS			x	x

¹ Not all printer features are available from all drivers or operating systems. See the context-sensitive help in the printer driver for available features.

² PostScript (PS) Printer Description files (PPDs)



NOTE If your system did not automatically check the Internet for the latest drivers during software installation, download them from www.hp.com/go/lj4200_software, www.hp.com/go/lj4250_software, www.hp.com/go/lj4300_software, or www.hp.com/go/lj4350_software. After you are connected, click **Downloads and Drivers** to find the driver that you want to download.

You can obtain Model Scripts for UNIX and Linux by downloading them from the Internet or by requesting them from an HP-authorized service or support provider. For Linux support see <http://www.hp.com/go/linux>. For UNIX support see http://www.hp.com/go/jetdirectunix_software. For additional information see the support flyer that came in the printer box.



NOTE If the printer driver that you want is not on the printer CD or is not listed here, check the install notes, Readme, and late-breaking Readme files to see if the printer driver is supported. If it is not supported, have the end-user contact the manufacturer or distributor of the program that is in use and request a driver for the printer.

Additional drivers

The following drivers are not included on the CD, but are available from the Internet.

- OS/2 PCL 5 or PCL 6 printer driver
- OS/2 PS printer driver
- UNIX model scripts
- Linux drivers
- HP OpenVMS drivers



NOTE The OS/2 drivers are available from IBM and are packaged with OS/2. They are not available for Simplified Chinese, Korean, Japanese, or Traditional Chinese.

Select the correct printer driver for your needs

Select a printer driver based on the way that the printer is used. Certain printer features are available only in the PCL 6 drivers. See the printer driver Help for available features.

- Use the PCL 6 driver to take full advantage of printer features. For general office printing, the PCL 6 driver is recommended to provide optimum performance and print quality.
- Use the PCL 5 driver if backward compatibility with previous PCL printer drivers or older printers is necessary.
- Use the PS driver when printing primarily from PostScript-specific programs such as Adobe® and Corel®, for compatibility with PostScript Level 3 needs, or for PS CompactFlash font support.





NOTE The printer automatically switches between PS and PCL printer languages.

Printer driver Help

Each printer driver has Help screens that can be activated by using the Help button, the **F1** button on the computer keyboard, or a question-mark symbol in the upper-right corner of the printer driver (depending on the Windows operating system that you are using). You can also open printer-driver Help by right-clicking any item in the driver, and then clicking **What's This?** These Help screens give detailed information about the specific driver. Printer driver Help is separate from software-program Help.

Using the printer drivers

Use one of the following methods to open the printer drivers from the computer:

Operating System	To change the settings for all print jobs until the software program is closed	To change the print-job default settings (for example, to turn on Print on Both Sides by default)	To change the configuration settings (for example, to add a physical option such as a tray or to enable or disable a driver feature such as Allow Manual Duplexing)
Windows 98, NT 4.0, and Me	<p>On the File menu in the software program, click Print. Select the printer, and then click Properties.</p> <p>The steps can vary; this procedure is the most common.</p>	<p>Click Start, click Settings, and then click Printers. Right-click the printer icon, and then select Properties (Windows 98 and Me) or Document Defaults (Windows NT 4.0).</p>	<p>Click Start, click Settings, and then click Printers. Right-click the printer icon, and then select Properties. Click the Configure tab.</p>
Windows 2000, XP, and Server 2003	<p>On the File menu in the software program, click Print. Select the printer, and then click Properties or Preferences.</p> <p>The steps can vary; this procedure is the most common.</p>	<p>Click Start, click Settings, and then click Printers or Printers and Faxes. Right-click the printer icon, and then select Printing Preferences.</p>	<p>Click Start, click Settings, and then click Printers or Printers and Faxes. Right-click the printer icon, and then select Properties. Click the Device Settings tab.</p>
Macintosh OS V9.1	<p>On the File menu, click Print. Change the settings that you want on the various pop-up menus.</p>	<p>On the File menu, click Print. As you change settings on the pop-up menu, click Save Settings.</p>	<p>Click the desktop printer icon. From the Printing menu, click Change Setup.</p>
Macintosh OS X V10.1	<p>On the File menu, click Print. Change the settings that you want on the various pop-up menus.</p>	<p>On the File menu, click Print. Change the settings that you want on the various pop-up menus, and then, on the main pop-up menu, click Save Custom Setting. These settings are saved as the Custom option. To use the new settings, you must select the Custom option every time that you open a program and print.</p>	<p>Delete the printer and reinstall it. The driver will be auto-configured with the new options when it is reinstalled.</p> <p> NOTE Use this procedure for AppleTalk connections only. Configuration settings might not be available in Classic mode.</p>
Macintosh OS X V10.2	<p>On the File menu, click Print. Change the settings that you want on the various pop-up menus.</p>	<p>On the File menu, click Print. Change the settings that you want on the various pop-up menus, and then, on the Presets pop-up menu, click Save as and type a name for the preset. These settings are saved in the Presets menu. To use the new settings, you must select the saved preset option every time you open a program and print.</p>	<p>Open Print Center by selecting the hard drive, clicking Applications, clicking Utilities, and then double-clicking Print Center. Click on the print queue. On the Printers menu, click Show Info. Click the Installable Options menu.</p> <p> NOTE Configuration settings might not be available in Classic mode.</p>
Macintosh OS X V10.3	<p>On the File menu, click Print. Change the settings that you</p>	<p>On the File menu, click Print. Change the settings that you</p>	<p>Open Printer Setup Utility by selecting the hard drive,</p>

Operating System	To change the settings for all print jobs until the software program is closed	To change the print-job default settings (for example, to turn on Print on Both Sides by default)	To change the configuration settings (for example, to add a physical option such as a tray or to enable or disable a driver feature such as Allow Manual Duplexing)
	<p>want on the various pop-up menus.</p>	<p>want on the various pop-up menus, and then, on the Presets pop-up menu, click Save as and type a name for the preset. These settings are saved in the Presets menu. To use the new settings, you must select the saved preset option every time that you open a program and print.</p>	<p>clicking Applications, clicking Utilities, and then double-clicking Printer Setup Utility. Click on the print queue. On the Printers menu, click Show Info. Click the Installable Options menu.</p>

Software for Macintosh computers

The HP installer provides PostScript Printer Description (PPD) files, Printer Dialog Extensions (PDEs), and the HP LaserJet Utility for use with Macintosh computers.

The embedded Web server can be used with Macintosh computers if the printer is connected to a network.

PPDs

Use PPDs in combination with the Apple PS drivers to gain access to the printer features and to allow the computer to communicate with the printer. An installation program for the PPDs, PDEs, and other software is provided on the CD. Use the appropriate PS driver that comes with the operating system.

HP LaserJet Utility

Use the HP LaserJet Utility to control features that are not available in the driver. The illustrated screens make selecting printer features easy. Use the HP LaserJet Utility to perform the following tasks:

- Name the printer, assign it to a zone on the network, and download files and fonts.
- Configure and set the printer for Internet protocol (IP) printing.



NOTE The HP LaserJet Utility is not currently supported for OS X, but the utility is supported for the Classic environment.

Specifications

Hardware specifications

Table 1-7 Product dimensions

Printer model	Width	Depth	Height	Weight ¹
HP LaserJet 4200, 4200n, 4200L, 4200Ln, 4300, and 4300n	418 mm (16.5 inches)	451 mm (17.8 inches)	366 mm (14.4 inches)	20 kg (45 lb)
HP LaserJet 4250, 4250n, 4350, and 4350n	418 mm (16.5 inches)	451 mm (17.8 inches)	377 mm (14.8 inches)	20 kg (45 lb)
HP LaserJet 4200tn and 4300tn	418 mm (16.5 inches)	451 mm (17.8 inches)	488 mm (19.2 inches)	27 kg (60 lb)
HP LaserJet 4200dtn and 4300dtn	418 mm (16.5 inches)	533 mm (21.0 inches)	488 mm (19.2 inches)	30 kg (65 lb)
HP LaserJet 4250tn and 4350tn	418 mm (16.5 inches)	451 mm (17.8 inches)	498 mm (19.6 inches)	27 kg (60 lb)
HP LaserJet 4250dtn and 4350dtn	418 mm (16.5 inches)	533 mm (21.0 inches)	498 mm (19.6 inches)	30 kg (65 lb)
HP LaserJet 4200dtns and 4300dtns	418 mm (16.5 inches)	533 mm (21.0 inches)	680 mm (26.8 inches)	33 kg (73 lb)
HP LaserJet 4200dtnsl and 4300dtnsl	418 mm (16.5 inches)	533 mm (21.0 inches)	740 mm (29.1 inches)	34 kg (76 lb)
HP LaserJet 4250dtnsl and 4350dtnsl	418 mm (16.5 inches)	533 mm (21.0 inches)	740 mm (29.1 inches)	34 kg (74 lb)

¹ Without print cartridge

Table 1-8 Product dimensions, with all doors and trays fully opened

Printer model	Width	Depth	Height
HP LaserJet 4200, 4200n, 4200L, 4200Ln, 4300, and 4300n	418 mm (16.5 inches)	1045 mm (41.1 inches)	547 mm (21.5 inches)
HP LaserJet 4250, 4250n, 4350, and 4350n	418 mm (16.5 inches)	936 mm (38.9 inches)	547 mm (21.5 inches)
HP LaserJet 4200tn, 4200dtn, 4300tn, and 4300dtn	418 mm (16.5 inches)	1045 mm (41.1 inches)	670 mm (26.4 inches)
HP LaserJet 4250tn, 4250dtn, 4350tn, and 4350dtn	418 mm (16.5 inches)	936 mm (38.9 inches)	668 mm (26.3 inches)
HP LaserJet 4200dtns, 4200dtnsl, 4300dtns, and 4300dtnsl	418 mm (16.5 inches)	1045 mm (41.1 inches)	740 mm (29.1 inches)
HP LaserJet 4250dtnsl and 4350dtnsl	418 mm (16.5 inches)	936 mm (38.9 inches)	734 mm (28.9 inches)

Table 1-9 Printer accessories

Accessory	Width	Depth	Height	Weight
500-sheet feeder	418 mm (16.5 inches)	451 mm (17.8 inches)	121 mm (4.8 inches)	7 kg (15.4 lb)
1,500-sheet feeder	416 mm (16.4 inches)	514 mm (20.2 inches)	286 mm (11.3 inches)	13 kg (28.7 lb)
Stacker	211 mm (8.3 inches)	427 mm (16.8 inches)	351 mm (13.8 inches)	4.2 kg (9.3 lb)
Stapler/stacker	211 mm (8.3 inches)	427 mm (16.8 inches)	351 mm (13.8 inches)	4.2 kg (9.3 lb)
Printer cabinet/stand	660 mm (26.0 inches)	660 mm (26.0 inches)	381 mm (15.0 inches)	19.8 kg (43.6 lb)
Duplex-printing accessory	332 mm (13.1 inches)	347 mm (13.7 inches)	152 mm (6.0 inches)	2.5 kg (5.5 lb)
Envelope feeder	328 mm (12.9 inches)	354 mm (13.9 inches)	113 mm (4.5 inches)	2.5 kg (5.5 lb)

Table 1-10 Supplies specifications

Part number	Description	Specification
Q5942A	HP LaserJet Smart print cartridge (LJ 4250/4350)	Average yield 10,000 standard pages
Q5942X	HP LaserJet Smart print cartridge (LJ 4250/4350)	Average yield 20,000 standard pages
Q1338A	HP LaserJet Smart print cartridge (LJ 4200/4200L)	Average yield 12,000 standard pages
Q1339A	HP LaserJet Smart print cartridge (LJ 4300)	Average yield 18,000 standard pages

Electrical specifications



WARNING! Power requirements are based on the country/region where the printer is sold. Do not convert operating voltages. This can damage the printer and void the product warranty.

Table 1-11 Power requirements, HP LaserJet 4200, 4250, 4300 and 4350 Series printers

Specification	110-volt models	220-volt models
Power requirements	110 to 127 volts ($\pm 10\%$) 50/60 Hz (± 2 Hz)	220 to 240 volts ($\pm 10\%$) 50/60 Hz (± 2 Hz)
Rated short-term current, HP LaserJet 4200/4200L/4300	8.2 amps	3.3 amps
Rated short-term current, HP LaserJet 4250/4350	10.0 amps	5.0 amps

Table 1-12 Power consumption, HP LaserJet 4200 (average in watts)¹

Product model	Printing ²	Ready	PowerSave ⁴	Off
HP LaserJet 4200 printer	580 W ³	21	20.4	0.07
HP LaserJet 4200n printer	580 W ³	22	20.7	0.07
HP LaserJet 4200tn printer	580 W ³	23	21.8	0.07
HP LaserJet 4200dtn printer	580 W ³	24	24.2	0.07
HP LaserJet 4200dtns printer	580 W ³	26	24.1	0.07
HP LaserJet 4200dtnsL printer	580 W ³	26	at least 24.2	0.07

¹ Values are subject to change. See <http://www.hp.com/support/lj4200> for current information.

² Power numbers are the highest values measured using all standard voltages.

³ HP LaserJet 4200 speed is 35 ppm Letter size and 35 ppm A4 size.

⁴ PowerSave default activation time is 30 minutes.

Table 1-13 Power consumption, HP LaserJet 4200L (average in watts)¹

Product model	Printing ²	Ready	PowerSave ⁴	Off
HP LaserJet 4200L printer	580 W ³	21	20.4	0.07
HP LaserJet 4200Ln printer	580 W ³	22	20.7	0.07

¹ Values are subject to change. See <http://www.hp.com/support/lj4200> for current information.

² Power numbers are the highest values measured using all standard voltages.

³ HP LaserJet 4200L speed is 35 ppm Letter size and 35 ppm A4 size.

⁴ PowerSave default activation time is 30 minutes.

Table 1-14 Power consumption, HP LaserJet 4250 (average, in watts)¹

Product model	Printing ²	Ready	Sleep ⁴	Off
HP LaserJet 4250	675 W ³	20 W	18 W	0.2 W
HP LaserJet 4250n	675 W ³	20 W	18 W	0.2 W
HP LaserJet 4250tn	675 W ³	20 W	18 W	0.2 W
HP LaserJet 4250dtn	675 W ³	21 W	19 W	0.2 W
HP LaserJet 4250dtnsl	750 W ³	22 W	19 W	0.2 W

¹ Values subject to change. See <http://www.hp.com/support/lj4250> for current information.

² Power numbers are the highest values measured using all standard voltages.

³ HP LaserJet 4250 speed is 45 ppm Letter size and 43 ppm A4 size.

⁴ Default time from Ready mode to Sleep = 30 minutes.

Table 1-15 Power consumption, HP LaserJet 4300 (average in watts)¹

Product model	Printing ²	Ready	PowerSave ⁴	Off
HP LaserJet 4300 printer	685 W ³	21	21.0	0.07
HP LaserJet 4300n printer	685 W ³	23	22.7	0.07
HP LaserJet 4300tn printer	685 W ³	24	22.6	0.07
HP LaserJet 4300dtn printer	685 W ³	26	24.0	0.07
HP LaserJet 4300dtns printer	685 W ³	26	24.5	0.07
HP LaserJet 4300dtnsL printer	685 W ³	27	at least 24.9	0.07

¹ Values are subject to change. See <http://www.hp.com/support/lj4300> for current information.

² Power numbers are the highest values measured using all standard voltages.

³ HP LaserJet 4300 speed is 45 ppm Letter size and 45 ppm A4 size.

⁴ PowerSave default activation time is 30 minutes.

Table 1-16 Power consumption HP LaserJet 4350 (average, in watts)¹

Product model	Printing ²	Ready	Sleep ⁴	Off
HP LaserJet 4350	800 W ³	20 W	18 W	0.2 W
HP LaserJet 4350n	800 W ³	20 W	18 W	0.2 W
HP LaserJet 4350tn	800 W ³	20 W	19 W	0.2 W
HP LaserJet 4350dtn	800 W ³	21 W	19 W	0.2 W
HP LaserJet 4350dtnsl	850 W ³	22 W	20 W	0.2 W

¹ Values subject to change. See <http://www.hp.com/support/lj4350> for current information.

² Power numbers are the highest values measured using all standard voltages.

³ HP LaserJet 4350 speed is 55 ppm Letter size and 52 ppm A4 size.

⁴ Default time from Ready mode to Sleep = 30 minutes.

Acoustic emissions

Table 1-17 Sound power and pressure level¹, HP LaserJet 4200²

Sound power level	Declared per ISO 9296
Printing ³ (HP LaserJet 4200)	$L_{wAd} = 6.8$ Bels (A) [69 dB(A)]
Ready (HP LaserJet 4200)	$L_{wAd} = 4.0$ Bels (A) [40 dB(A)]
Sound pressure level	Declared per ISO 9296
Printing ³ (HP LaserJet 4200)	$L_{pAm} = 54$ dB (A)
Ready (HP LaserJet 4200)	$L_{pAm} = 27$ dB (A)

¹ Values subject to change. See <http://www.hp.com/support/lj4200> for current information.

² Configuration tested (HP LaserJet 4200): Base printer, simplex printing with A4 paper size.

³ HP LaserJet 4200 speed is 35 ppm for A4 size.

Table 1-18 Sound power and pressure level¹, HP LaserJet 4200L²

Sound power level	Declared per ISO 9296
Printing ³ (HP LaserJet 4200L)	$L_{wAd} = 6.8$ Bels (A) [69 dB(A)]
Ready (HP LaserJet 4200L)	$L_{wAd} = 4.0$ Bels (A) [40 dB(A)]
Sound pressure level	Declared per ISO 9296
Printing ³ (HP LaserJet 4200L)	$L_{pAm} = 54$ dB (A)
Ready (HP LaserJet 4200L)	$L_{pAm} = 27$ dB (A)

¹ Values subject to change. See <http://www.hp.com/support/lj4200> for current information.

² Configuration tested (HP LaserJet 4200L): Base printer, simplex printing with A4 paper size.

³ HP LaserJet 4200L speed is 30 ppm for A4 size.

Table 1-19 Sound power and pressure level¹, HP LaserJet 4250²

Sound power level	Declared per ISO 9296
Printing ³ (HP LaserJet 4250)	$L_{WA_d} = 6.9$ Bels (A) [69 dB(A)]
Ready (HP LaserJet 4250)	$L_{WA_d} = 4.0$ Bels (A) [40 dB(A)]
Sound pressure level	Declared per ISO 9296
Printing ³ (HP LaserJet 4250)	$L_{pA_m} = 55$ dB (A)
Ready (HP LaserJet 4250)	$L_{pA_m} = 26$ dB (A)

¹ Values subject to change. See <http://www.hp.com/support/jj4250> for current information.

² Configuration tested (HP LaserJet 4250): Base printer, simplex printing with A4 paper size.

³ HP LaserJet 4250 speed is 43 ppm for A4 size.

Table 1-20 Sound power and pressure level¹, HP LaserJet 4300²

Sound power level	Declared per ISO 9296
Printing ³ (HP LaserJet 4300)	$L_{WA_d} = 7.0$ Bels (A) [71 dB(A)]
Ready (HP LaserJet 4300)	$L_{WA_d} = 4$ Bels (A) [38 dB(A)]
Sound pressure level	Declared per ISO 9296
Printing ³ (HP LaserJet 4300)	$L_{pA_m} = 56$ dB (A)
Ready (HP LaserJet 4300)	$L_{pA_m} = 27$ dB (A)

¹ Values subject to change. See <http://www.hp.com/support/jj4300> for current information.

² Configuration tested (HP LaserJet 4300): Base printer, simplex printing with A4 paper size.

³ HP LaserJet 4300 speed is 45 ppm for A4 size.

Table 1-21 Sound power and pressure level¹, HP LaserJet 4350²

Sound power level	Declared per ISO 9296
Printing ³ (HP LaserJet 4350)	$L_{WA_d} = 7.1$ Bels (A) [71 dB(A)]
Ready (HP LaserJet 4350)	$L_{WA_d} = 3.8$ Bels (A) [38 dB(A)]
Sound pressure level	Declared per ISO 9296
Printing ³ (HP LaserJet 4350)	$L_{pA_m} = 57$ dB (A)
Ready (HP LaserJet 4350)	$L_{pA_m} = 26$ dB (A)

¹ Values subject to change. See <http://www.hp.com/support/jj4350> for current information.

² Configuration tested (HP LaserJet 4350): Base printer, simplex printing with A4 paper size.

³ HP LaserJet 4350 speed is 52 ppm for A4 size.

Print speed specifications

Table 1-22 Print speed specifications

Printer model	Letter	A4
HP LaserJet 4200	35 ppm	33 ppm
HP LaserJet 4200L	30 ppm	33 ppm
HP LaserJet 4250	45 ppm	43 ppm
HP LaserJet 4300	45 ppm	43 ppm
HP LaserJet 4350	55 ppm	52 ppm

Operating environment

Table 1-23 Temperature and humidity

Environmental condition	HP LaserJet 4200	HP LaserJet 4200L	HP LaserJet 4250	HP LaserJet 4300	HP LaserJet 4350
Printing temperature (printer and print cartridge)	10° to 32°C (50° to 90°F)	10° to 32°C (50° to 90°F)	15° to 32.5°C (59° to 89°F)	10° to 32°C (50° to 90°F)	15° to 32.5°C (59° to 89°F)
Storage/standby temperature (printer and print cartridge)	10° to 32°C (50° to 90°F)	10° to 32°C (50° to 90°F)	-20° to 40°C (-4° to 104°F)	10° to 32°C (50° to 90°F)	-20° to 40°C (-4° to 104°F)
Printing relative humidity	20% to 80%	20% to 80%	10% to 80%	20% to 80%	10% to 80%
Storage/standby relative humidity	20% to 80%	20% to 80%	10% to 90%	20% to 80%	10% to 90%

Media specifications

This section contains information about the sizes, weights, and amount of media that each tray supports.

General guidelines

Some print media might meet all of the guidelines in this manual and still not produce satisfactory results. This problem might be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which HP has no control.

Before purchasing large quantities of print media, always test a sample and make sure that the print media meets the requirements specified in the electronic user guide on the device installation CD and in the *HP LaserJet Printer Family Print Media Guide*. For ordering information, see [Ordering parts and supplies](#).



CAUTION Using print media that does not meet HP specifications can cause problems for the printer, requiring repair. This repair is not covered by the HP warranty or service agreements.

This printer accepts a variety of media, such as cut-sheet paper (including up to 100% recycled-fiber-content paper), envelopes, labels, transparencies, HP LaserJet Tough paper, and custom-size paper. Properties such as weight, composition, grain, and moisture content are important factors affecting printer performance and output quality. Print media that does not meet the guidelines outlined in this manual can cause the following problems:

- Poor print quality
- Increased jams
- Premature wear on the printer, requiring repair



NOTE For best results, use only high-quality media, such as HP-brand paper and print media. Hewlett-Packard Company cannot recommend the use of other brands. Because they are not HP products, HP cannot influence or control their quality. To order HP-quality papers and supplies, go to <http://www.hp.com> or visit your local HP authorized reseller. It is possible for paper to meet all of the guidelines specified here and still not produce satisfactory results. This might be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which Hewlett-Packard has no control.

Before purchasing a large quantity of media, make sure that it meets the requirements specified here and in the *HP LaserJet Printer Family Print Media Guide*. Go to <http://www.hp.com/support/ljpaperguide> for more information. Always test media before purchasing a large quantity.



CAUTION Using media that is outside HP specifications can cause problems for the printer, requiring repair. This repair is not covered by the Hewlett-Packard warranty or service agreements.

This section provides the following information about media:

- Supported sizes and weights of media
- Supported types of paper

- Guidelines for using paper
- Paper weight equivalents
 - Labels
 - Overhead transparencies
 - Envelopes
 - Card stock and heavy paper

Supported media weights and sizes

This section contains information about the sizes, weights, and amount of paper and other print media that each tray supports.

Supported-media specifications tables

Table 1-24 Tray 1 supported sizes and weights (all models)


Size	Dimensions ¹	Weight	Capacity ²
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 200 g/m ² (16 to 53 lb)	100 sheets of 75 g/m ² (20 lb) paper
A4	210 x 297 mm (8.3 x 11.7 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
Executive	184 x 267 mm (7.3 x 10.5 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
8.5 x 13	216 x 330 mm (8.5 x 13 inches)		
B5 (JIS)	182 x 257 mm (7.2 x 10.1 inches)		
Executive (JIS)	216 x 330 mm (8.5 x 13 inches)		
Double postcard (JIS)	148 x 200 mm (5.8 x 7.9 inches)		
16K	197 x 273 mm (7.8 x 10.8 inches)		
Custom	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)		NOTE For best results with custom media, use heavier-weight media. Lighter basis weights yield less consistent results. For additional information about using custom media, see Media specifications .
Envelope, Commercial #10	105 x 241 mm (4.1 x 9.5 inches)	75 to 105 g/m ² (20 to 28 lb)	10 envelopes

Table 1-24 Tray 1 supported sizes and weights (all models) (continued)

Size	Dimensions ¹	Weight	Capacity ²
Envelope, DL ISO	110 x 220 mm (4.3 x 8.7 inches)		
Envelope, C5 ISO	162 x 229 mm (6.4 x 9.0 inches)		
Envelope, B5 ISO	176 x 250 mm (6.9 x 9.8 inches)		
Envelope, Monarch #7-3/4	98 x 191 mm (3.9 x 7.5 inches)		
Transparencies (only use transparencies that are designed for monochrome HP LaserJet printers)	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)	Thickness:0.099 to 0.114 mm (0.0039 to 0.0045 inch)	50 transparencies
Labels	Minimum: 76 x 127 mm (3 x 5 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)	Thickness:0.127 to 0.229 mm (0.005 to 0.009 inch)	50 labels


¹ The printer supports a wide range of sizes. Check the printer software for supported sizes.

² Capacity can vary depending on the media weight and thickness, as well as the environmental conditions.

Table 1-25 Tray 2 and optional 500-sheet tray supported sizes and weights (all models)

Size	Dimensions ¹	Weight	Capacity ²
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m ² (16 to 32 lb)	500 sheets of 75 g/m ² (20 lb) paper
A4	210 x 297 mm (8.3 x 11.7 inches)		
Executive	184 x 267 mm (7.3 x 10.5 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
8.5 x 13	216 x 330 mm (8.5 x 13 inches)		
Executive (JIS)	216 x 330 mm (8.5 x 13 inches)		
B5 (JIS)	182 x 257 mm (7.2 x 10.1 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
16K	197 x 273 mm (7.8 x 10.8 inches)		

Table 1-25 Tray 2 and optional 500-sheet tray supported sizes and weights (all models) (continued)

Size	Dimensions ¹	Weight	Capacity ²
Custom	Minimum: 148 x 210 mm (5.8 x 8.3 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)		NOTE For additional information about using custom media, see the notes under Media specifications .

¹ The printer supports a wide range of sizes. Check the printer software for supported sizes.

² Capacity can vary depending on the media weight and thickness, as well as the environmental conditions.

Table 1-26 Optional 1,500-sheet tray supported sizes and weights

Size	Dimensions	Weight	Capacity ¹
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m ² (16 to 32 lb)	1,500 sheets of 75 g/m ² (20 lb) paper
A4	210 x 297 mm (8.3 x 11.7 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		

¹ Capacity can vary depending on paper weight and thickness, as well as the environmental conditions.


Table 1-27 Optional duplexer supported sizes and weights

Size	Dimensions	Weight
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m ² (16 to 32 lb)
A4	210 x 297 mm (8.3 x 11.7 inches)	
Executive	184 x 267 mm (7.3 x 10.5 inches)	
Legal	216 x 356 mm (8.5 x 14 inches)	
B5 (JIS)	182 x 257 mm (7.2 x 10.1 inches)	
A5	148 x 210 mm (5.8 x 8.3 inches)	

Table 1-28 Optional envelope feeder supported sizes and weights

Size	Dimensions	Weight	Capacity
Monarch #7-3/4	98 x 191 mm (3.9 x 7.5 inches)	75 to 105 g/m ² (20 to 28 lb)	Up to 75 envelopes
Commercial #10	105 x 241 mm (4.1 x 9.5 inches)		
DL ISO	110 x 220 mm (4.3 x 8.7 inches)		
C5 ISO	162 x 229 mm (6.4 x 9.0 inches)		

Table 1-29 Optional stacker or stapler/stacker supported sizes and weights

Size	Dimensions ¹	Weight	Capacity ²
Stacker or stacker part of stapler/stacker only			
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m ² (16 to 32 lb)	500 sheets of 75 g/m ² (20 lb) paper
A4	210 x 297 mm (8.3 x 11.7 inches)		
Executive	184 x 267 mm (7.3 x 10.5 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
B5 (JIS)	182 x 257 mm (7.2 x 10.1 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
Custom	Minimum: 148 x 210 mm (5.8 x 8.3 inches) Maximum: 216 x 356 mm (8.5 x 14 inches)		NOTE For additional information about using custom media refer to the note available in General guidelines .
Stapler part of stapler/stacker only ³			
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m ² (16 to 32 lb)	15 sheets of 75 g/m ² (20 lb) paper
A4	210 x 297 mm (8.3 x 11.7 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		

¹ The printer supports a wide range of sizes. Check the printer software for supported sizes.

² Capacity can vary depending on the paper weight and thickness, as well as the environmental conditions.

³ All sizes can be stacked, but only letter, legal, and A4 can be stapled.

Paper and print media

Category	Specifications
Acid content	5.5 pH to 8.0 pH
Caliper	0.094 to 0.18 mm (3.0 to 7.0 mils)
Curl in ream	Flat within 5 mm (0.02 inch)
Cut-edge conditions	Cut with sharp blades, leaving no visible fray
Fusing compatibility	Must not scorch, melt, offset, or release hazardous emissions when heated to 200° C (392° F) for 0.1 second
Grain	Long grain
Moisture content	4% to 6% by weight
Smoothness	100 to 250 Sheffield

For complete print-media specifications for all HP LaserJet printers, see the *HP LaserJet Printer Family Print Media Guide*. To download the guide in PDF format, go to www.hp.com/support/ljpaperguide.

Printing and storage environment

Ideally, the printing and paper-storage environment should be at or near room temperature, and not too dry or too humid. Remember that paper is hygroscopic: it absorbs and loses moisture rapidly.

Heat works with humidity to damage paper. Heat causes the moisture in paper to evaporate, while cold causes it to condense on the sheets. Heating systems and air conditioners remove most of the humidity from a room. As paper is opened and used, it loses moisture, causing streaks and smudging. Humid weather or water coolers can cause the humidity to increase in a room. As paper is opened and used it absorbs any excess moisture, causing light print and dropouts. Also, as paper loses and gains moisture it can distort. This can cause jams.

As a result, paper storage and handling are as important as the paper-making process itself. Paper-storage environmental conditions directly affect the feed operation.

Care should be taken not to purchase more paper than can be easily used in a short time (about 3 months). Paper stored for long periods might experience heat and moisture extremes, which can cause damage. Planning is important to prevent damage to a large supply of paper.

Unopened paper in sealed reams can remain stable for several months before use. Opened packages of paper have more potential for environmental damage, especially if they are not wrapped with a moisture-proof barrier.

The paper storage environment should be properly maintained to ensure optimum printer performance. The required condition is 20° to 24°C (68° to 75°F), with a relative humidity of

45% to 55%. The following guidelines should be helpful when evaluating the paper-storage environment:

- Paper should be stored at or near room temperature.
- The air should not be too dry or too humid (because of the hygroscopic properties of paper).
- The best way to store an opened ream of paper is to rewrap it tightly in its moisture-proof wrapping. If the printer environment is subject to extremes, unwrap only the amount of paper that is to be used during the day to prevent unwanted moisture changes.

Supported types of media

The printer supports the following types of paper and other print media:

- Plain
- Letterhead
- Prepunched
- Bond
- Color
- Rough
- Preprinted
- Transparency
- Labels
- Recycled
- Card stock
- Envelopes

Guidelines for using paper

For best results, use conventional 75- to 90-g/m² (20- to 24-lb) paper. Make sure that the paper is of good quality, and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, and curled or bent edges. If you are unsure what type of paper you are loading (such as bond or recycled), check the label on the package of paper.



CAUTION Some paper might cause print-quality problems, jamming, or damage to the printer.

Symptom	Problem with paper	Solution
Poor print quality or toner adhesion	<ul style="list-style-type: none"> ■ Too moist, too rough, too smooth, or embossed ■ Ragged edges ■ Faulty paper lot 	<ul style="list-style-type: none"> ■ Try another kind of paper, one that is between 100 to 250 Sheffield, with 4 to 6% moisture content. ■ Change the fuser mode. See Print-quality submenu.
Dropouts, jamming, curl	<ul style="list-style-type: none"> ■ Stored improperly 	<ul style="list-style-type: none"> ■ Store paper flat in its moisture-proof wrapping.
Increased gray background shading	<ul style="list-style-type: none"> ■ Too heavy 	<ul style="list-style-type: none"> ■ Use lighter paper. ■ Use a higher toner-density setting. See Print-quality submenu.
	<ul style="list-style-type: none"> ■ Too smooth 	<ul style="list-style-type: none"> ■ Use less-smooth, rougher paper.
Excessive curl, problems with feeding	<ul style="list-style-type: none"> ■ Too moist, wrong grain direction, or short-grain construction 	<ul style="list-style-type: none"> ■ Use the rear output bin. ■ Turn the paper stack over in the tray. ■ Use long-grain paper. ■ Store paper in a drier environment. ■ Change the fuser mode. See Print-quality submenu.



NOTE Do not use letterhead paper that is printed with low-temperature inks, such as those used in some types of thermography. Do not use raised letterhead. The printer uses heat and pressure to fuse toner to the paper. Make sure that any colored media or preprinted forms use inks that are compatible with the printer's temperature of 230°C (446°F) for 0.05 second. Avoid using media that has been damaged from being previously used in a printer or copier. (Do not print on both sides of envelopes, transparencies, or labels.)

Paper weight equivalence table

Use the following table to determine approximate equivalent points in weight specifications other than U.S. bond weight. For example, to determine the equivalent of 20-lb U.S. bond weight paper in U.S. cover weight, locate the bond weight (in row 3, second column) and scan across the row to the cover weight (in the fourth column). The equivalent is 28 lb.

Table 1-30 Paper weight equivalents

U.S. postcard ¹ thickness (mm)	U.S. bond weight (lb)	U.S. text/ book weight ² (lb)	U.S. cover weight (lb)	U.S. Bristol weight (lb)	U.S. index weight (lb)	U.S. tag weight (lb)	Metric weight (g/ m ²)
	16 ³	41	22	27	33	37	60 ³
	17	43	24	29	35	39	64 ³
	20 ³	50 ²³	28	34	42	46	75 ³
	21	54	30	36	44	49	80 ³
	24 ³	60 ²³	33	41	50	55	90 ³
	27	68	37	45	55	61	100 ³
	28 ³	70 ²³	39	49	58	65	105
	29	74	41	50	61	68	110 ³
	32 ³	80 ²³	44	55	67	74	120 ³
	36 ³	90	50 ³	62	75	83	135 ³
0.18	39	100 ³	55	67 ³	82	91	148
	40	101	55	68	83	92	150 ³
0.20	43	110	60 ³	74	90 ³	100 ³	163
	45	115	63	77	94	104	170 ³
0.23	47	119	65 ³	80	97	108	176
	51	128	70	86	105	117	190 ³
	53	134	74	90	110 ³	122	200
	54	137	75	93	113	125 ³	203
	58	146	80 ³	98	120	133	216
	65	165	90	111	135	150	244
	66	169	92	114	138	154	250
	67	171	94	115	140 ³	155	253
	70	178	98	120 ³	146	162	264
	72	183	100 ³	123	150	166	271

¹ U.S. postcard measurements are approximate. Use for reference only.

² Text and book grades actually calculate out to 51, 61, 71, and 81, but are standardized to book/text weights of 50, 60, 70, and 80.

³ Standard weight for the grade.

Envelopes

If you do not have an optional envelope feeder, always print on envelopes from tray 1. If envelopes curl or jam, try opening the rear output bin.



CAUTION Do not use the duplexer to print on envelopes. Damage to the printer might result. Do not send envelopes to the stacker or stapler/stacker. Damage to the stacker or stapler/stacker might result.

Envelope construction

Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers but also within a box from the same manufacturer. Successful printing on envelopes depends upon the quality of the envelopes. When selecting envelopes, consider the following components:

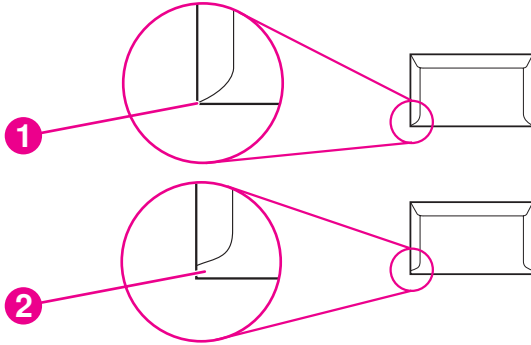
- **Weight:** The weight of the envelope paper should not exceed 105 g/m² (28 lb) or jamming might occur.
- **Construction:** Before printing, envelopes should lie flat with less than 6 mm (0.25 inch) curl, and should not contain air.
- **Condition:** Envelopes should not be wrinkled, nicked, or otherwise damaged.
- **Temperature:** You should use envelopes that are compatible with the heat and pressure of the printer.
- **Size:** You should use only envelopes within the following size ranges.
 - **Minimum:** 76 x 127 mm (3 x 5 inches)
 - **Maximum:** 216 x 356 mm (8.5 x 14 inches)



NOTE Use only tray 1 or the optional envelope feeder to print on envelopes. You might experience some jams when using any media that has a length less than 178 mm (7 inches). This might be caused by paper that has been affected by environmental conditions. For optimum performance, make sure that you are storing and handling the paper correctly (see [Printing and storage environment](#)). Choose envelopes in the printer driver.

Envelopes with double side-seams

Double side-seam construction has vertical seams at both ends of the envelope rather than diagonal seams. This style might be more likely to wrinkle. Make sure that the seam extends all the way to the corner of the envelope, as illustrated.



1	Acceptable envelope construction
2	Unacceptable envelope construction

Envelopes that have adhesive strips or flaps

Envelopes that have a peel-off adhesive strip or more than one flap that folds over to seal must contain adhesives that are compatible with the heat and pressure in the printer. The extra flaps and strips might cause wrinkling, creasing, or jams and might even damage the fuser.

Envelope margins

The following are typical address margins for a commercial #10 or DL envelope.

Type of address	Top margin	Left margin
Return address	15 mm (0.6 inch)	15 mm (0.6 inch)
Delivery address	51 mm (2.0 inches)	89 mm (3.5 inches)



NOTE For the best print quality, position margins no closer than 15 mm (0.6 inch) from the edges of the envelope. Avoid printing over the area where the envelope seams meet.

Envelope storage

Appropriate envelope storage helps contribute to good print quality. Envelopes should be stored flat. If air is trapped in an envelope, creating an air bubble, then the envelope might wrinkle during printing.

Labels

Use tray 1 to print on labels. Labels are multiple-layer media that typically consists of a face sheet (the printable surface), pressure-sensitive adhesive, and a liner (a carrier sheet coated with a release agent). Labels that are used in the HP LaserJet printer must be specifically designed for laser printers. If other labels are used, you risk labels peeling or adhesive contamination that can severely damage the printer. All materials in the laser-label stock must be compatible with the heat and pressure of the fusing process.



CAUTION To avoid damaging the printer, use only labels that are recommended for use in laser printers. To prevent serious jams, always use tray 1 to print on labels and always use the rear output bin. Do not use the duplexer to print on labels and do not leave the printer default set to **duplex=on**. Do not staple labels in the stapler/stacker. Never print on the same sheet of labels more than once or print on a partial sheet of labels.

When selecting labels, consider the quality of each component:

- **Adhesives:** The adhesive material should be stable at 200°C (392°F), the printer fusing temperature.
- **Arrangement:** Only use labels that have no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams.
- **Curl:** Before printing, labels must lie flat with no more than 13 mm (0.5 inch) of curl in any direction.
- **Condition:** Do not use labels that contain wrinkles, bubbles, or other indications of separation.



NOTE Choose labels in the printer driver.

Transparencies

Use tray 1 to print on overhead transparencies. The overhead transparency film must be designed specifically for use with monochrome laser printers. Photocopy transparency film might not be compatible with laser printers because of higher temperature and stiffness requirements.

Overhead transparency film is very smooth and must contain a topcoat that provides the correct electrical and toner-adhesion properties. A transparency that is made of poor materials or that is too thin can easily melt in the fuser and damage the printer.

Overhead transparency materials must be compatible with the heat and pressure of the fusing process.



CAUTION To avoid damaging the printer, use only transparencies that are recommended for use in monochrome laser printers. Do not attempt to duplex or print on overhead transparencies or leave the printer default set to **duplex=on**. Damage to the printer might result. Do not staple transparencies in the stapler/stacker.

Transparencies that are used in the printer must be able to withstand the printer's maximum temperature of 230°C (446°F) for 0.05 seconds. Close the rear output bin to send transparencies to the top output bin. If you have problems printing on transparencies, use tray 1 and send printed transparencies to the top output bin. Be sure to remove each transparency from the output bin as it is printed to keep the transparencies from sticking together.

Card stock and heavy paper

Many types of card stock can be printed on from tray 1, including index cards and postcards. Some card stock performs well because its construction is better suited for feeding through a laser printer.

For optimum printer performance, do not use media that is heavier than 200 g/m² (53 lb) in tray 1 or 120 g/m² (32 lb) in other trays. Paper that is too heavy might cause misfeeds, stacking problems, jams, poor toner fusing, poor print quality, or excessive mechanical wear.

The stacker and stapler/stacker do not support card stock.



CAUTION Do not use the duplexer to print on card stock or paper heavier than 120 g/m² (35 lb), or leave the printer default set to **duplex=on**. Damage to the printer might result. Do not attempt to use the stacker or stapler/stacker with card stock.



NOTE Printing on heavier paper might be possible if the tray is not filled to capacity, and if short-grain paper that has a smoothness rating of 100 to 180 Sheffield is used.

Card stock construction

Card stock construction

- **Smoothness:** Card stock should have smoothness in the range of 100 to 180 Sheffield.
- **Construction:** Card stock should lie flat with less than 5 mm (0.2 inch) of curl. It should be short-grain paper to improve feeding and reduce wear on the printer.
- **Condition:** Make sure that card stock is not wrinkled, nicked, or otherwise damaged.
- **Sizes:** Use only card stock within the following size ranges:
 - Minimum: 76 x 127 mm (3 x 5 inches)
 - Maximum: 216 x 356 mm (8.5 x 14 inches)

Before loading card stock in tray 1, make sure that it is regular in shape and not damaged. Also, make sure that the cards are not stuck together.

Card stock guidelines

- If cards curl or jam, try printing from tray 1 and opening the rear output bin.
- Set margins at least 6 mm (0.24 inch) away from the edges of the stock.

Types of media to avoid

The following characteristics can affect the performance of the HP LaserJet 4200, 4250, 4300 and 4350 Series printers unless the paper or other print media that is used is specifically designed to work with HP LaserJet printers.

- Print media that is very rough, highly textured, or heavily embossed.
- Multipart forms.
- Print media that offsets materials or discolors.
- Print media that is damaged, curled, wrinkled, or irregularly shaped.
- Paper that is extremely shiny or glossy.
- Paper, labels, envelopes, or transparencies that produce emissions or melt when exposed to a fusing temperature of 230°C (446°F) for 0.05 second.
- Media coatings, dyes, or inks that produce emissions or melt when exposed to a fusing temperature of 230°C (446°F) for 0.05 second.
- Envelopes that have an open flap with exposed adhesive that seals the envelope when the flap is closed.
- Envelopes that contain clasps, snaps, tie strings, windows, or synthetic materials. These materials can severely damage the printer.
- Envelopes that are not square, straight, or constructed correctly.
- Envelopes that have a basis weight less than 60 g/m² (16 lb) or greater than 105 g/m² (28 lb).
- Envelopes that have baggy construction or folds that are not sharply creased.



NOTE Some media types might not work in the printer because of differences in manufacturer specifications or environmental conditions.

Hewlett-Packard limited warranty statement

PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet 4200, 4200n, 4200tn, 4200dtn, 4200dtns, 4200dtnsL, 4200L, 4200Ln, 4250, 4250n, 4250tn, 4250dtn, 4250dtnsl, 4300, 4300n, 4300tn, 4300dtn, 4300dtns, 4300dtnsL, 4350, 4350n, 4350tn, 4350dtn, and 4350dtnsl	One-year

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.

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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.

Print Cartridge Limited Warranty Statement

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

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

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

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.

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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.

Service approach

Repair of the printer normally begins by using the printer's internal diagnostics in conjunction with the troubleshooting procedures that are described in chapter 6. When a faulty part is located, repair is generally accomplished by assembly-level replacement of field-replaceable units (FRUs) (listed in chapter 7). Some mechanical assemblies might be repaired at the subassembly level. Hewlett-Packard Company does not support replacement of components on printed circuit boards.

Regulatory information

This section contains regulatory statements for this product.

FCC regulations

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 this equipment 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; the presence of interference can be determined by turning the equipment off and on. If this equipment does cause harmful interference to radio or television communications, 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 distance 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/television technician.



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

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

Environmental product stewardship program

This section explains HP's environmental stewardship initiatives.

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).

Energy consumption

Power usage drops significantly while in PowerSave mode, which saves natural resources and saves money without affecting the high performance of this product. This product qualifies for ENERGY STAR® (Printers, Version 3.0), which is a voluntary program to encourage the development of energy-efficient office products.



ENERGY STAR® is a U.S. registered service mark owned by the U.S. government. As an ENERGY STAR partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR Guidelines for energy efficiency. For more information, see <http://www.energystar.gov>.

Toner consumption

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

Paper use

This product's automatic duplex feature (two-sided printing) and n-up printing (multiple pages printed on one page) capabilities can reduce media usage and the resulting demands on natural resources. (The automatic duplex feature is available only for models that include a built-in duplexer. Manual duplexing is available for all models.)

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 printing supplies

In many countries/regions, the printing supplies (for example, print cartridge and fuser) can be returned to HP through the HP Printing Supplies Environmental Program. This easy-to-use and free take-back program is available in more than 30 countries/regions. Multilingual program information and instructions are included in every new HP LaserJet print cartridge and supplies package.

HP Printing Supplies Returns and Recycling Program Information

Since 1992, HP has offered HP LaserJet supplies return and recycling free of charge in 86% of the world market where HP LaserJet supplies are sold. Postage-paid and pre-addressed labels are included within the instruction guide in most HP LaserJet print cartridge boxes. Labels and bulk boxes are also available through the Web site at <http://www.hp.com/recycle>. More than 10 million HP LaserJet print cartridges were recycled globally in 2002 through the HP Planet Partners supplies recycling program. This record number represents 26 million pounds of print cartridge materials that were diverted from landfills. Worldwide, HP recycled an average of 80% of the print cartridge by weight, consisting primarily of plastic and metals. Recycled plastics and metals are used to make new products, such as HP products, plastic trays, and spools. The remaining materials are disposed of in an environmentally responsible manner.

- **U.S. returns** For a more environmentally responsible return of used cartridges and supplies, HP encourages the use of bulk returns. Simply bundle two or more cartridges together and use the single, prepaid, preaddressed UPS label that is supplied in the package. For more information in the U.S., call 800-340-2445 or visit the HP LaserJet Supplies Web site at <http://www.hp.com/recycle>.
- **Non-U.S. returns** Non-U.S. customers should call the local HP Sales and Service Office or visit the <http://www.hp.com/recycle> Web site for more information about the availability of the HP Supplies Returns and Recycling Program.

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*. Go to <http://www.hp.com/support/ljpaperguide> to download this guide in .PDF format. This product is suitable for the use of recycled media according to EN12281:2002.

Material restrictions

This HP product does not contain added mercury.

This HP product might initially contain lead in solder that might require special handling at end-of-life. This product will eventually switch to lead-free construction in compliance with the European Waste from Electrical and Electronic Equipment (WEEE) law.

This HP product contains a battery that might require special handling at end-of-life.

Type	Lithium Carbon Monofluoride (BR1632), 3 Volt, button-style battery, 1.5 grams
Materials	Mercury-free, cadmium-free
Location	On printed circuit board
User removable	No

For recycling information, you can contact <http://www.hp.com/recycle> or contact your local authorities or the Electronics Industry Alliance: <http://www.eiae.org>.

Material safety data sheet

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

For more information

To obtain information about the following environmental topics, visit <http://www.hp.com/go/environment> or <http://www.hp.com/hpinfo/community/environment/productinfo/safety>.

- 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 (MSDS)

Regulatory statements

Declaration of Conformity

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Hewlett-Packard Company
Manufacturer's Address: 11311 Chinden Boulevard,
Boise, Idaho 83714-1021, USA

declares, that the product

Product Name: HP LaserJet 4200 Series, HP LaserJet 4200L Series, and HP LaserJet 4300 Series printer
Regulatory Model Number³⁾: BOISB-0202-00, BOISB-0204-00
Model Number: Q2425A, Q3993A, Q2431A
Product Options: All

conforms to the following Product Specifications:

Safety: IEC 60950:1999 / EN60950: 2000
IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A11 +A2 (Class 1 Laser/LED Product)
GB4943-2001
EMC: CISPR 22:1997 / EN 55022:1998 Class B¹⁾
EN 61000-3-2:1995 + A14
EN 61000-3-3:1995
EN 55024:1998
FCC Title 47 CFR, Part 15 Class B²⁾ / ICES-003, Issue 3
GB9254-1998, GB17625.1-1998

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC, and carries the CE-Marking accordingly.

- 1) The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.
- 2) 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.
- 3) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing name or the product number(s).

Boise, Idaho , USA

17 April 2002

For regulatory topics only:

Australia Contact: Product Regulations Manager, Hewlett-Packard Australia Ltd.,, 31-41 Joseph Street, Blackburn, Victoria 3130, Australia,
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),
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

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Hewlett-Packard Company

Declaration of Conformity

Manufacturer's Address: 11311 Chinden Boulevard,
Boise, Idaho 83714-1021, USA

declares, that the product

Product Name: HP LaserJet 4250 and LaserJet 4350 printer

Regulatory Model Number³⁾: BOISB-0309-00

Model Number: Q5400A, Q5407A

Including optional duplex accessory (Q2439B), optional 500-sheet input tray (Q2440B), optional 1500-Sheet Input Tray (Q2440B), and optional 500-sheet stapler/stacker accessory (Q2443B)

Product Options: ALL

conforms to the following Product Specifications:

Safety: IEC 60950:1999 / EN60950: 2000

IEC 60825-1:1993 +A1 +A2 / EN 60825-1:1994 +A11 +A2 (Class 1 Laser/LED Product)

GB4943-2001

EMC: CISPR 22:1997 / EN 55022:1998 Class B¹⁾

EN 61000-3-2:1995 + A14

EN 61000-3-3:1995 + A1

EN 55024:1998

FCC Title 47 CFR, Part 15 Class B²⁾ / ICES-003, Issue 4

GB9254-1998, GB17625.1-1998

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC, and carries the CE-Marking accordingly.

1) The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.

2) 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.

3) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing name or the product number(s).

Boise, Idaho , USA

March 12, 2004

For regulatory topics only:

Australia Contact: Product Regulations Manager, Hewlett-Packard Australia Ltd.,, 31-41 Joseph Street, Blackburn, Victoria 3130, Australia,

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),

USA Contact: Product Regulations Manager, Hewlett-Packard Company,, PO Box 15, Mail Stop 160, Boise, ID 83707-0015, , (Phone: 208-396-6000),

Country-/region-specific safety statements

Laser safety statement

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 printer 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 printer 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 statement

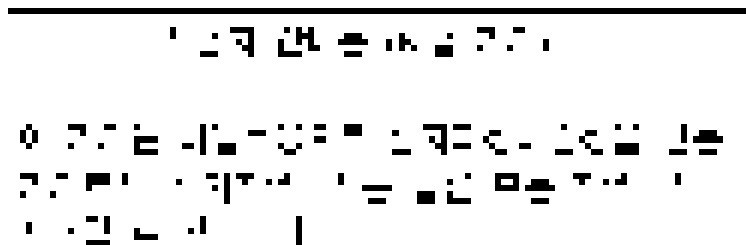
Complies with Canadian EMC Class B requirements.

«Conforme à la classe B des normes canadiennes de compatibilité électromagnétiques (CEM).»

Japanese VCCI statement



Korean EMI statement



Finnish laser statement

LASERTURVALLISUUS

LUOKAN 1 LASERLAITE

KLASS 1 LASER APPARAT

HP LaserJet 4200, 4200n, 4200tn, 4200dtn, 4200dtns, 4200dtnsL, 4200L, 4200Ln, 4250, 4250n, 4250tn, 4250dtn, 4250dtnsl, 4300, 4300n, 4300tn, 4300dtn, 4300dtns, 4300dtnsL, 4350, 4350n, 4350tn, 4350dtn, and 4350dtnsl -laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytöissä kirjoittimen suojakotelointi estää lasersäteiden pääsyn laitteen ulkopuolelle.

Laitteen turvallisuusluokka on määritetty standardin EN60825-1 (1994) mukaisesti.

VAROITUS!

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

WARNING!

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

HUOLTO

HP LaserJet 4200, 4200n, 4200tn, 4200dtn, 4200dtns, 4200dtnsL, 4200L, 4200Ln, 4250, 4250n, 4250tn, 4250dtn, 4250dtnsl, 4300, 4300n, 4300tn, 4300dtn, 4300dtns, 4300dtnsL, 4350, 4350n, 4350tn, 4350dtn, and 4350dtnsl -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.

WARNING!

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

Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista:

Aallonpituus 770-800 nm

Teho 5 mW

Luokan 3B laser

2 Installation

Chapter contents

- [Operating environment](#)
- [Site requirements](#)
- [Software installation](#)

Operating environment

Place the printer on a sturdy, level surface in a well-ventilated area that meets the following environmental requirements:

- Temperature: 15° to 32.5°C (59° to 90.5°F)
- Humidity: 10% to 80% relative humidity (no condensation)
- Away from direct sunlight, open flames, and ammonia fumes
- With sufficient space around the printer for access and ventilation (see [Table 1-7 Product dimensions](#) for a complete list of product measurements)

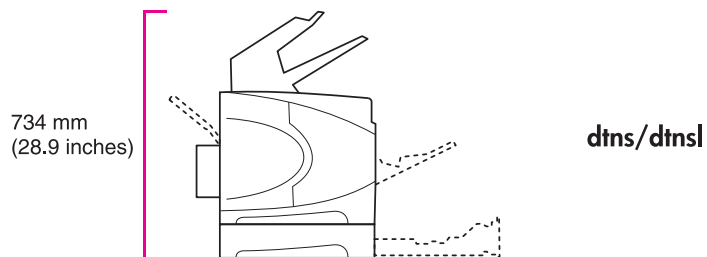
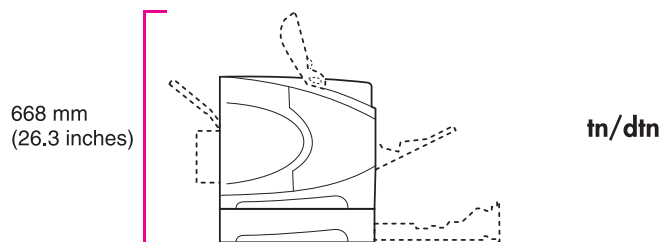
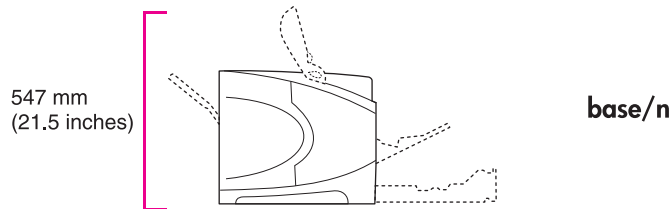
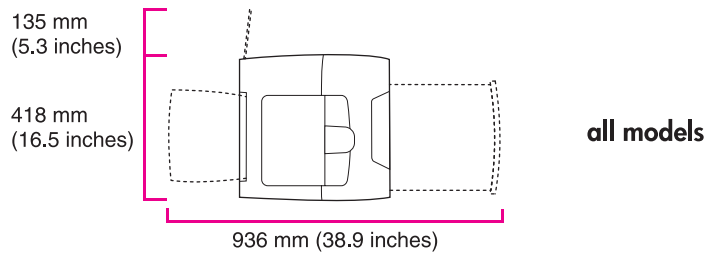


Figure 2-1 Printer measurements

Site requirements

The following environmental specifications must be maintained to ensure the correct operation of the printer. Consider the following points before installing the printer:

- Install in a well-ventilated, dust-free area.
- Install on a hard, flat, continuous surface, with all four printer feet level. Do not install on carpet or other soft surfaces.
- Make sure that adequate power is supplied. Uninterruptible power supplies (UPSs) are not recommended.
- Install where temperature and humidity are stable, away from water sources, humidifiers, air conditioners, refrigerators, or other major appliances. See [Operating environment](#) for temperature and humidity ranges.
- Install away from direct sunlight, open flames, or ammonia fumes. If the printer is placed near a window, make sure that the window has a curtain or blind to block direct sunlight.
- Install with enough space around the printer for access and ventilation.
- Install away from the direct flow of exhaust from air-ventilation systems.

Install the printer with enough space around it to open trays and bins, install print cartridges, and perform maintenance. The printer needs 101 mm (4 inches) of ventilation space on the left side (fan side) and at the rear of the printer.

Software installation

Information about installing and uninstalling the printing system software is available in chapter one of the electronic user guide on the installation cd.

3 Operation

Chapter contents

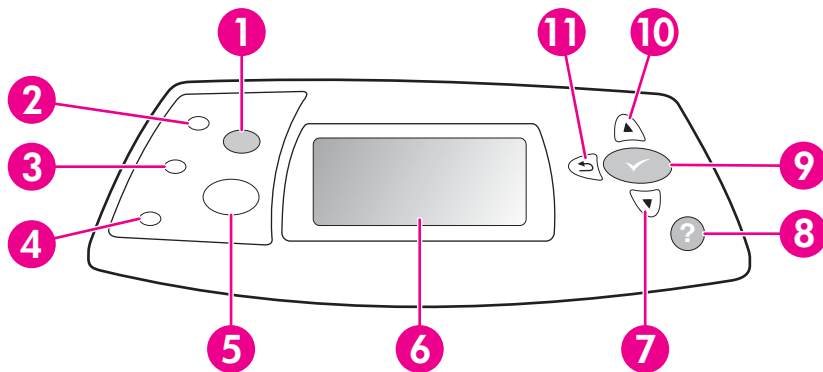
- [Using the control panel](#)
- [Control-panel menus](#)

Using the control panel

The following sections describe the use and layout of the printer control panel.

Control-panel layout

The printer contains the following lights and buttons on the control panel:




1	CANCEL JOB button (HP 4200/4300 Series printers) or STOP button (HP 4250/4350 Series printers)
2	Ready light
3	Data light
4	Attention light
5	PAUSE/RESUME button (HP 4200/4300 Series printers) or MENU button (HP 4250/4350 Series printers)
6	Graphical display
7	DOWN ARROW button
8	HELP button
9	SELECT button
10	UP ARROW button
11	BACK ARROW button

Control-panel lights

The control-panel lights provide information about printer status.

Light	State	Indication
Ready	On	The printer is online and ready to accept data to print.
	Off	The printer cannot accept data because it is offline (paused) or has experienced an error.
	Blinking	The printer is going offline. The printer stops processing the current print job and expels all of the active pages from the paper path.
Data	On	The printer has data to print, but is waiting to receive all of the data.
	Off	The printer has no data to print.
	Blinking	The printer is processing or printing the data.
Attention	On	The printer has experienced a problem. Note the message on the control-panel display, and then turn the printer off and on. See Display-message troubleshooting for help in resolving problems.
	Off	The printer is functioning without error.
	Blinking	Action is required. See the control-panel display.

Control-panel buttons

Button	Function
CANCEL JOB (HP LaserJet 4200/4300 Series printers)	<ul style="list-style-type: none"> ■ Cancels the current print job in process and expels all of the active pages from the paper path. The time that it takes to cancel the job depends on the size of the print job. (Press the button only once.) Also clears continuable errors that are associated with the canceled job.
STOP (HP LaserJet 4250/4350 Series printers)	<div style="display: flex; align-items: center;">  <div> <p>NOTE The control-panel lights cycle while the print job is cleared from both the printer and the computer, and then the printer returns to the ready state (Ready light on).</p> </div> </div>
PAUSE/RESUME (HP LaserJet 4200/4300 Series printers)	<ul style="list-style-type: none"> ■ The PAUSE/RESUME button on HP LaserJet 4200/4300 Series printers pauses and resumes printing of print jobs in process. It also closes menus or closes Help.
MENU (HP LaserJet 4250/4350 Series printers)	<ul style="list-style-type: none"> ■ The MENU button on HP LaserJet 4250/4350 Series printers opens and exits the menus
✓ (SELECT)	<ul style="list-style-type: none"> ■ Clears an error condition when the condition can be cleared ■ Saves the selected value for an item ■ Performs the action that is associated with the item that is highlighted on the graphical display ■ On HP LaserJet 4200/4300 Series printers, the SELECT button also opens menus.
⇨ (BACK ARROW)	<ul style="list-style-type: none"> ■ Backs up one level in the menu tree or backs up one numeric entry ■ Exits menus if held down for more than one second
▲ (UP ARROW)	<ul style="list-style-type: none"> ■ Navigates to the previous item in the list, or increases the value of numerical items
▼ (DOWN ARROW)	<ul style="list-style-type: none"> ■ Navigates to the next item in the list, or decreases the value of numerical items
? (HELP)	<ul style="list-style-type: none"> ■ Provides information about the message on the graphical display

Using the printer Help system

This printer features a Help system at the control panel that provides instructions for resolving most printer errors. Some Help topics include animations that appear on the printer control-panel display to show you how to resolve an error.

To view Help for a message (if one is available), press ? (**HELP** button). If the Help topic is longer than four lines, use ▲ (**UP ARROW** button) or ▼ (**DOWN ARROW** button) to scroll through the entire topic.

To close the Help system, press ? (**HELP** button) again.

Settings and defaults

The printer makes most printing decisions based on either temporary settings or permanent defaults.



NOTE Settings that are sent from software programs override printer defaults.

Table 3-1 Settings and defaults


Setting or default	Explanation
Temporary setting	A value that is set in the software program for the current print job. For example, a request from the software to print three copies instead of the control-panel default value of one copy is a temporary setting. The printer continues to use the temporary setting until it receives another software request or until it is reset.
Control-panel default	A value that is set at the control panel when you select a menu item. An asterisk appears next to the setting, indicating that it is the default setting. The printer retains this default when power to the printer is turned off.
Factory default	The value that is set for each menu item at the factory. Factory defaults are listed in the item column of the menu tables, starting with Retrieve Job menu .









NOTE For information about the resets submenu, the diagnostics menu, and the service menu, see [Resets submenu \(HP LaserJet 4250/4350 only\)](#), [Diagnostics menu \(HP LaserJet 4250/4350 only\)](#), and [Service menu \(service PIN codes\)](#).

Setting the control-panel display language

The control-panel display can be set to show messages in different languages. The default setting is English.

- 1 Turn the printer power off.
- 2 For HP Laserjet 4200/4300 Series printers: Hold down  (**SELECT** button), and then turn the printer power on.

For HP Laserjet 4250/4350 Series printers: Turn the printer power on, and then hold down  (**SELECT** button) when the memory count begins.
- 3 Continue holding down  until all three printer control-panel lights flash once and then remain on. This might take up to 10 seconds.
- 4 Release .
- 5 The message **Select language** appears on the display. Use the  (**UP ARROW** button) or  (**DOWN ARROW** button) to scroll to the language that you want to see on the display.
- 6 Press  to save your choice. An asterisk (*) appears next to the selected language.

Control-panel menus

Most routine printing tasks that the printer performs originate from a computer software program or a printer driver. These two methods are the most convenient way to control the printer, and they override the printer control-panel settings. See the Help file for your program for more information.

Printer settings can also be changed by using the printer control panel. Use the control panel to gain access to printer features that are not supported by the software program or the printer driver.

The following control panel menus are available.

- Retrieve-job menu
- Information menu
- Paper-handling menu
- Configure-device menu
 - Printing submenu
 - Print quality submenu
 - System setup submenu
 - Stapler/stacker submenu
 - I/O submenu
 - Resets menu ([Resets submenu \(HP LaserJet 4250/4350 only\)](#))
- Diagnostics menu ([Diagnostics menu \(HP LaserJet 4250/4350 only\)](#))
- Service menu ([Service menu \(service PIN codes\)](#))

Printing control-panel menus

To see the current settings for the menus and items that are available at the control panel, print a control-panel menu map. You might want to store the menu map near the printer for reference.



NOTE For a complete list of the items that are available in the control-panel menus, see the following sections.

To print a control-panel menu map

- 1 Press **✓** (**SELECT** button) or the **MENU** button to open the menus.
- 2 Use **▲** (**UP ARROW** button) or **▼** (**DOWN ARROW** button) to scroll to **INFORMATION**, and then press **✓**.
- 3 Use **▲** or **▼** to scroll to **PRINT MENU MAP**, and then press **✓**.

To change a control-panel setting

- 1 Press ✓ (SELECT button) or the MENU button to open the menus.
- 2 Use ▲ (UP ARROW button) or ▼ (DOWN ARROW button) to scroll to the menu that you want, and then press ✓ .
- 3 Some menus might have several submenus. Use ▲ or ▼ to scroll to the submenu item that you want, and then press ✓ .
- 4 Use ▲ or ▼ to scroll to the setting, and then press ✓ . Some settings change rapidly if ▲ or ▼ is held down. An asterisk (*) appears next to the selection on the display, indicating that it is now the default.
- 5 Press the PAUSE/RESUME button or the MENU button to close the menu.



NOTE Settings that are established in the printer driver and software program override control-panel settings, and software-program settings override printer-driver settings. If you cannot gain access to a menu or item, it is either not an option for the printer or you have not enabled the associated higher-level option. See the network administrator if a function has been locked. (**ACCESS DENIED MENUS LOCKED** appears on the printer control-panel display.)

Retrieve Job menu

This menu provides a list of the stored jobs in the printer and access to all of the job-storage features. You can print or delete these jobs at the printer control panel.




NOTE If you turn the printer power off, all stored jobs are deleted unless an optional hard disk is installed.

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one that has an asterisk (*) next to it.

Item	Values	Explanation
PRINT STORED JOB LIST	There is no value to select.	Use this item to print a page showing all jobs stored on the device.
[USERNAME]	[JOBNAME]	The [USERNAME] is the name of the person who sent the job.
	ALL PRIVATE JOBS	The [JOBNAME] is the name of the job stored in the printer. Select one of your jobs or all of your private jobs (those that were assigned a PIN in the printer driver).
	NO STORED JOBS	<ul style="list-style-type: none">■ Print: Prints the selected job. PIN REQUIRED TO PRINT: A prompt that appears for jobs that were assigned a personal identification number (PIN) in the printer driver. You must type the PIN to print the job. COPIES: You can select the number of copies that you want to print (1 to 32000).■ Delete: Deletes the selected job from the printer. PIN REQUIRED TO DELETE: A prompt that appears for jobs that were assigned a PIN in the printer driver. You must type the PIN to delete the job. <p>ALL PRIVATE JOBS: Appears if two or more private jobs are stored in the printer. Selecting this item prints all of the private jobs that are stored in the printer for that user, after the correct PIN is typed.</p> <p>NO STORED JOBS: Indicates that no stored jobs are available to print or delete.</p>

Information menu

The **Information** menu contains printer information pages that give details about the printer and its configuration. Scroll to the information page that you want, and then press ✓ (**SELECT** button).

Item	Explanation
PRINT MENU MAP	The menu map shows the layout and current settings of the printer-control-panel menu items. For more information, see Printing control-panel menus .
PRINT CONFIGURATION	The configuration page shows the current printer configuration. If an HP Jetdirect print server is installed, an HP Jetdirect configuration page will print out as well. For more information, see Configuration page .
PRINT SUPPLIES STATUS PAGE	The supplies status page shows the levels of the supplies for the printer, calculation of the number of pages remaining, and cartridge-usage information. This page is available only if you are using genuine HP supplies. For more information, see Supplies status page .
PRINT USAGE (HP LaserJet 4250/4350 only)	The usage page shows the quantity of pages printed, as well as the paper source used. It also shows the number of one-sided versus two-sided pages that have been printed.  NOTE This item appears only if a mass-storage device that contains a recognized file system is installed in the printer, such as an optional CompactFlash card. This item generates a page containing information that can be used for accounting purposes.
PRINT FILE DIRECTORY	This item appears only if a mass-storage device that contains a recognized file system is installed in the printer, such as an optional CompactFlash card. The file directory shows information for all installed mass-storage devices.
PRINT PCL FONT LIST	The PCL font list shows all the PCL fonts that are currently available to the printer.
PRINT PS FONT LIST	The PS font list shows all the PS fonts that are currently available to the printer.

Paper-handling menu

If paper-handling settings are correctly configured at the printer control panel, you can print by selecting the type and size of media in the program or the printer driver. For more information about supported media types and sizes, see [Supported media weights and sizes](#) and [Paper and print media](#).

Some items on this menu (such as duplex and manual feed) are available in the program or the printer driver (if the appropriate driver is installed). Program and printer-driver settings override control-panel settings.

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one that has an asterisk (*) next to it.

Item	Values	Explanation
ENVELOPE FEEDER SIZE (HP LaserJet 4250/4350 only)	*COM10	This item appears only if the optional envelope feeder is installed. Set the value to correspond with the envelope size that is currently loaded in the optional envelope feeder.
	MONARCH	
	C5 ENVELOPE	
	DL ENVELOPE	
	B5 ENVELOPE	
ENVELOPE FEEDER TYPE (HP LaserJet 4250/4350 only)	*ANY TYPE	This item appears only if the optional envelope feeder is installed. Set the value to correspond with the envelope type that is currently loaded in the optional envelope feeder.
	PLAIN	
	PREPRINTED	
	LETTERHEAD	
	PREPUNCHED	
	LABELS	
	BOND	
	RECYCLED	
	COLOR	
	CARDSTOCK	
	>164 G/M2	
TRAY 1 SIZE	*ANY SIZE	Use this item to set the value to correspond with the media size that is currently loaded in tray 1.
	LETTER	
	LEGAL	ANY: If both the type and size for tray 1 are set to ANY , the printer will pull media from tray 1 first if media is loaded in the tray.
	EXECUTIVE	
	A4	
	A5	A size other than ANY: The printer does not pull from this tray unless the type or size of the print job matches the type or size that is loaded in this tray.
	STATEMENT	
8.5 x 13		

Item	Values	Explanation
	B5 (JIS)	
	EXECUTIVE (JIS)	
	D POSTCARD (JIS)	
	16K	
	ENVELOPE 10	
	ENVELOPE MONARCH	
	ENVELOPE C5	
	ENVELOPE DL	
	ENVELOPE B5	
	CUSTOM	
TRAY 1 TYPE	*ANY	Use this item to set the value to correspond with the type of media that is currently loaded in tray 1.
	PLAIN	
	PREPRINTED	ANY: If both the type and size for tray 1 are set to ANY , the printer will pull media from tray 1 first if media is loaded in the tray.
	LETTERHEAD	
	TRANSPARENCY	
	PREPUNCHED	A type other than ANY: The printer does not pull from this tray unless the type or size of the print job matches the type or size that is loaded in this tray.
	LABELS	
	BOND	
	RECYCLED	
	COLOR	
	LIGHT 60-75 G/M2	
	CARDSTOCK 164-200 G/M2	
	ROUGH	
	ENVELOPE	
TRAY 2 SIZE	*LETTER	Use this item to set the value to correspond with the media size that is currently loaded in tray 2.
	LEGAL	
	A4	
	EXECUTIVE	
	A5	
	B5 (ISO)	
	CUSTOM	
TRAY 2 TYPE	ANY	Use this item to set the value to correspond with the type of media that is currently loaded in tray 2.

Item	Values	Explanation
	*PLAIN PREPRINTED LETTERHEAD TRANSPARENCY PREPUNCHED LABELS BOND RECYCLED COLOR CARDSTOCK > 64 g/m2 ROUGH	
TRAY [N] TYPE	ANY *PLAIN PREPRINTED LETTERHEAD TRANSPARENCY PREPUNCHED LABELS BOND RECYCLED COLOR CARDSTOCK > 64 g/m2 ROUGH	Use this item to set the value to correspond to the type of media currently that is loaded in the specified tray, where [N] is the number of the tray. This item appears only if an optional tray is installed.
TRAY [N] SIZE	*LETTER LEGAL A4	Use this item to set the value to correspond with the media size that is currently loaded in the specified tray, where [N] is the number of the tray. This item appears only if an optional tray is installed. The available sizes might vary depending upon the optional feeder device that is installed.
Tray [N] Custom	UNIT OF MEASURE X DIMENSION	This item appears only if a tray is set to a custom size.

Item	Values	Explanation
	Y DIMENSION	<p>UNIT OF MEASURE: Use this option to select the unit of measure to use when you set custom paper sizes for the specified tray.</p> <p>X DIMENSION: Use this item to set the measurement of the width of the paper (measurement from side to side in the tray). The options are 3.0 to 8.50 INCHES or 76 to 216 MM.</p> <p>Y DIMENSION: Sets the measurement of the length of the paper (measurement from front to back in the tray). The options are 5.0 to 14.00 INCHES or 127 to 356 MM.</p> <p>After the Y DIMENSION value is selected, a summary screen appears. This screen contains feedback that summarizes all the information that was specified on the previous three screens, such as TRAY 1 SIZE= 8.50 x 14 INCHES, Setting saved.</p>

Configure-device menu

This menu contains administrative functions.

[Printing submenu](#)

[Print-quality submenu](#)

[System Setup submenu](#)

[Stapler/stacker submenu](#)


[I/O submenu](#)

[Resets submenu \(HP LaserJet 4250/4350 only\)](#)

Printing submenu

Some items on this menu are available in the program or printer driver (if the appropriate driver is installed). Program and printer-driver settings override control-panel settings. In general, it is better to change these settings in the printer driver, if applicable.

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one that has an asterisk (*) next to it.

Item	Values	Explanation
COPIES	*1 to 32000	<p>Use this item to set the default number of copies by selecting any number from 1 to 32000. Use ▲ (UP ARROW button) or ▼ (DOWN ARROW button) to select the number of copies, or use the numeric keypad, if available, to specify the number of copies.</p> <p>Use ✓ (SELECT button) after specifying the number of copies. The Setting saved message appears.</p> <p>This setting applies only to print jobs that do not have the number of copies specified in the program or printer driver, such as an MS-DOS, UNIX, or Linux program.</p> <p> NOTE It is best to set the number of copies in the program or printer driver. (Program and printer-driver settings override control-panel settings.)</p>
DEFAULT PAPER SIZE	*LETTER LEGAL EXECUTIVE STATEMENT 8.5 x 13 A4 A5 B5 (JIS)	<p>Use this item to set the default image size for paper and envelopes. (The item name changes from paper to envelope as you scroll through the available sizes.) This setting applies only to print jobs that do not have the paper size specified in the program or printer driver.</p>

Item	Values	Explanation
	EXECUTIVE (JIS) DPOSTCARD (JIS) 16K ENVELOPE 10 ENVELOPE MONARCH ENVELOPE C5 ENVELOPE DL ENVELOPE B5 CUSTOM	
DEFAULT CUSTOM PAPER SIZE	UNIT OF MEASURE X DIMENSION Y DIMENSION	Use this item to set a default custom paper size for tray 1 or any 500-sheet tray. This menu appears only if the Custom-Standard switch in the selected tray is set to Custom.
PAPER DESTINATION	*STANDARD TOP BIN REAR BIN STACKER BIN	Use this item to configure the output bin destination. Only the optional bins that are installed appear on the menu.
DUPLEX	*OFF ON	This item appears only if an optional duplex-printing accessory is installed. Select ON to print on both sides (duplex) or OFF to print on one side (simplex) of a sheet of paper.
DUPLEX BINDING (HP LaserJet 4250/4350 only)	*LONG EDGE SHORT EDGE	Use this item to change the binding edge for duplex printing. The menu item appears if an optional duplex-printing accessory is installed in the printer and DUPLEX=ON .
OVERRIDE A4/LETTER	NO *YES	Use this item to allow the printer to print an A4-size job on letter-size paper if A4-size paper is not loaded in the printer (or vice versa).
MANUAL FEED	*OFF ON	Use this item to feed the paper manually from tray 1, rather than automatically from a tray. If MANUAL FEED=ON and tray 1 is empty, the printer goes offline when it receives a print job. MANUALLY FEED [PAPER SIZE] appears on the printer control-panel display.
EDGE-TO-EDGE OVERRIDE	*NO YES	Use this item to turn the edge-to-edge mode on or off for all print jobs.
COURIER FONT	*REGULAR DARK	Use this item to select the version of Courier font to use: REGULAR: The internal Courier font available on the HP LaserJet 4 Series printers DARK: The internal Courier font that is available on the HP LaserJet III Series printers
WIDE A4	*NO	Use this item to change the number of characters that can be printed on a single line of A4-size paper.





Item	Values	Explanation
	YES	NO: Up to 78 10-pitch characters can be printed on one line YES: Up to 80 10-pitch characters can be printed on one line
PRINT PS ERRORS	*OFF ON	Use this item to select whether or not a PS error page prints or not. OFF: PS error page never prints ON: PS error page prints when PS errors occur
PRINT PDF ERRORS (HP LaserJet 4250/4350 only)	*OFF ON	Use this item to select whether or not a PDF error page prints or not. OFF: PDF error page never prints ON: PDF error page prints when PDF errors occur
PCL	FORM LENGTH ORIENTATION FONT SOURCE FONT NUMBER FONT PITCH FONT POINT SIZE (HP LaserJet 4250/4350 only) SYMBOL SET APPEND CR TO LF SUPPRESS BLANK PAGES MEDIA SOURCE MAPPING	FORM LENGTH: Use this option to set vertical spacing from 5 to 128 lines for default paper size. ORIENTATION: Use this option to select default page orientation to portrait or landscape. FONT SOURCE: Allows you to select the font source as *Internal, CARD SLOT 1, 2, or 3, Internal disk, or EIO disk. FONT NUMBER: The printer assigns a number to each font and lists the numbers on the PCL Font List. The range is 0 to 999. FONT PITCH: Use this option to select the font pitch. This item might not appear, depending on the font selected. The range is 0.44 to 99.99. FONT POINT SIZE: Use this option to select the font point size. This appears only if a font with a scalable point size is selected as the default font. The range is 4.00 to 999.75. SYMBOL SET: Use this option to select any one of several available symbol sets at the printer control panel. A symbol set is a unique grouping of all the characters in a font. PC-8 or PC-850 is recommended for line-draw characters. APPEND CR TO LF: Select YES to append a carriage return to each line feed encountered in backward-compatible PCL jobs (pure text, no job control). Some environments, such as UNIX, indicate a new line by using only the line-feed control code. Use this option to append the required carriage return to each line feed. SUPPRESS BLANK PAGES: When generating your own PCL, extra form feeds are included that would cause a blank page(s) to be printed. Select YES for form feeds to be ignored if the page is blank. MEDIA SOURCE MAPPING: Use this element to select between classic or standard media source mapping.





Print-quality submenu

Some items on this menu are available in the program or printer driver (if the appropriate driver is installed). Program and printer-driver settings override control-panel settings. In general, it is best to change these settings in the printer driver, if applicable.

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one with an asterisk (*) next to it.

Item	Values	Explanation
SET	PRINT TEST PAGE	Use this item to shift the margin alignment to center the image on the page from top to bottom, and left to right. You can also align the image that is printed on the front with the image that is printed on the back.
	REGISTRATION	
	SOURCE	PRINT TEST PAGE: Use this option to print a test page that shows the current registration settings.
	ADJUST TRAY [N]	SOURCE: Use this option to select the tray for which you want to print the test page. If installed, optional trays appear as selections, where [N] is the number of the tray. ADJUST TRAY N: Use this option to set the registration for the specified tray, where [N] is the number of the tray. A selection appears for each tray that is installed, and registration must be set for each tray.
		<ul style="list-style-type: none"> ■ X1 SHIFT: Registration of the image on the paper from side to side, as the paper lies in the tray. For duplexing, this side is the second side (back) of the paper. ■ X2 SHIFT: Registration of the image on the paper from side to side, as the paper lies in the tray, for the first side (front) of a duplexed page. This item appears only if an optional duplexer is installed and enabled. Set the X1 SHIFT first. ■ Y SHIFT: Registration of the image on the paper from top to bottom as the paper lies in the tray.
FUSER MODES	PLAIN	Use this item to configure the fuser mode associated with each paper type.
	PREPRINTED	
	LETTERHEAD	Change the fuser mode only if you are experiencing problems printing on certain media types. After you select a type of media, you can select a fuser mode that is available for that type. The printer supports the following modes:
	TRANSPARENCY	
	PREPUNCHED	NORMAL: Used for most types of paper.
	LABELS	HIGH 2: Used for textured paper that has a special or rough finish.
	BOND	HIGH 1: Used for rough paper.
	RECYCLED	LOW (LJ 4200/4300) or LOW 1 (LJ 4250/4350): Used for lightweight media. Use this mode if you are having problems with curled paper.
	COLOR	
	LIGHT 60-75 G/M2	LOW 2 (LJ 4250/4350 <i>only</i>): Used for transparencies.
	CARDSTOCK	

Item	Values	Explanation
	ROUGH ENVELOPE	 <p>CAUTION Do not change the fuser mode for transparencies. Failure to use the LOW 2 setting while printing transparencies can result in permanent damage to the printer and fuser. Always select Transparencies as the Type in the printer driver and set the tray type at the printer control panel to TRANSPARENCY.</p> <hr/> <p>When selected, RESTORE MODES resets the fuser mode for each media type to its default setting.</p>
OPTIMIZE	HIGH TRANSFER LINE DETAIL RESTORE OPTIMIZE	<p>HIGH TRANSFER: Set to ON if you are using highly resistive, lower-quality papers. HP recommends using only HP paper and print media.</p> <p>LINE DETAIL: Set to ON to improve the appearance of lines if scattered lines are appearing.</p> <p>RESTORE OPTIMIZE: Returns to the defaults for the Optimize settings.</p>
RESOLUTION	300 600 *FASTRES 1200 PRORES 1200	<p>Use this item to select the resolution. All values print at the same speed.</p> <p>300: Produces draft print quality and can be used for compatibility with the HP LaserJet III family of printers.</p> <p>600: Produces high-quality print for text and can be used for compatibility with the HP LaserJet 4 family of printers.</p> <p>FASTRES 1200: Produces 1200-dpi print quality for fast, high-quality printing of business text and graphics.</p> <p>PRORES 1200: Produces 1200-dpi printing for the best quality in line art and graphic images.</p> <hr/> <p> NOTE It is best to change the resolution in the program or printer driver. (Program and printer-driver settings override control-panel settings.)</p>
RET	OFF LIGHT *MEDIUM DARK	<p>Use the Resolution Enhancement technology (REt) setting to produce print with smooth angles, curves, and edges.</p> <p>REt does not affect print quality if the print resolution is set to FastRes 1200. All other print resolutions benefit from REt.</p> <hr/> <p> NOTE It is best to change the REt setting in the program or printer driver. (Program and printer driver-settings override control-panel settings.)</p>
ECONOMODE	*OFF ON	<p>Use this item to turn EconoMode ON (to save toner) or OFF (for high quality).</p> <p>EconoMode creates draft-quality printing by reducing the amount of toner on the printed page.</p> <hr/> <p> NOTE It is best to turn EconoMode on or off in the program or printer driver. (Program and printer-driver settings override control-panel settings.)</p>

Item	Values	Explanation
		 CAUTION 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.
TONER DENSITY	1 to 5 (*3)	Lighten or darken the print on the page by setting the toner density. Select a setting ranging from 1 (light) to 5 (dark). The default setting of 3 usually produces the best results.
		 NOTE It is best to change the toner density in the program or printer driver. (Program and printer driver settings override control-panel settings.)
SMALL PAPER MODE (HP LaserJet 4250/4350 only)	*NORMAL SLOW	Select SLOW to prevent jams when printing on narrow media, as the part of the fuser rollers that do not make contact with the media swell up, which can cause wrinkles.
AUTO (HP LaserJet 4250/4350 only)	*OFF ON	Clean the fuser automatically by using this feature. This setting is unavailable if an optional duplexer is installed. If a duplexer is installed, run the cleaning page manually. See CREATE CLEANING PAGE below and Cleaning the fuser .
CLEANING INTERVAL (HP LaserJet 4250/4350 only)	1000* 2000 5000 10000 20000	If auto cleaning is on, set how often it runs. The intervals correspond to the number of pages that the printer has printed. This setting is unavailable if an optional duplexer is installed.
AUTO CLEANING SIZE (HP LaserJet 4250/4350 only)	*LETTER A4	If auto cleaning is on, set the size of paper that the printer should use when it is cleaning the printer automatically. This setting is unavailable if an optional duplexer is installed.
CREATE CLEANING PAGE (HP LaserJet 4200/4300 only)	There is no value to select.	Press  (SELECT button) to print a cleaning page manually (for cleaning toner from the fuser). Open the rear output bin. Follow the instructions on the cleaning page. For more information, see Cleaning the fuser .
PROCESS CLEANING_PAGE (HP LaserJet 4250/4350 only)	There is no value to select.	Press  (SELECT button) to print a cleaning page manually (for cleaning toner from the fuser). The cleaning process might take up to 2.5 minutes.


System Setup submenu

Items on this menu affect printer behavior. Configure the printer according to your printing needs.

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one with an asterisk (*) next to it.

Item	Values	Explanation
DATE/TIME (HP LaserJet 4250/4350 only)	DATE	Use this item to set the date and time settings.
	DATE FORMAT	
	TIME	
	TIME FORMAT	
JOB STORAGE LIMIT	1 to 100 (*32)	Use this item to specify the number of quick copy jobs that can be stored on the printer. This item appears only if an optional hard-disk accessory is installed.
JOB HELD TIMEOUT	*OFF	Use this item to set the amount of time that held jobs are kept before being automatically deleted from the queue.
	1 HOUR	
	4 HOURS	
	1 DAY	
SHOW ADDRESS (HP LaserJet 4250/4350 only)	AUTO	Use this item to define whether or not the printer address will be shown on the display with the Ready message if the device is connected to a network.
	*OFF	
TRAY BEHAVIOR	USE REQUESTED TRAY	Use this item to specify how the printer responds to jobs that request certain trays.
	MANUAL FEED PROMPT	<p>USE REQUESTED TRAY: Use this item to specify whether the printer tries to pull paper from a tray that is different than the one that you selected in the printer driver.</p> <ul style="list-style-type: none"> ■ EXCLUSIVELY: Use this option to set the printer to pull paper only from the tray that you selected and not pull from another tray, even if the tray that you selected is empty. ■ FIRST: Use this option to set the printer to pull from the tray that you selected first, but allows the printer to pull from another tray automatically if the tray that you selected is empty. <p>MANUAL FEED PROMPT: Use this item to specify when the printer shows a prompt regarding pulling from tray 1 if your print job does not match the type or size that is loaded in any other tray.</p> <ul style="list-style-type: none"> ■ ALWAYS: Select this option if you always want to be prompted before the printer pulls from tray 1. ■ UNLESS LOADED: The printer prompts you only if tray 1 is empty.
	PS DEFER MEDIA (HP LaserJet 4250/4350 only)	
	SIZE/TYPE PROMPT (HP LaserJet 4250/4350 only)	

Item	Values	Explanation
		<p>PS DEFER MEDIA: Use this item to control whether the PostScript (PS) or HP paper-handling model is used to print jobs. ENABLED causes PS to defer to the HP paper-handling model. DISABLED uses the PS paper-handling model.</p> <p>SIZE/TYPE PROMPT: Use this item to control whether the tray configuration message and its prompts are shown whenever a tray is opened and closed. These prompts instruct you to set the type or size if the tray is configured for a type or size other than the type or size that is loaded in the tray.</p>
SLEEP DELAY (HP LaserJet 4250/4350 only)	15 MINUTES *30 MINUTES	Use this item to set how long the printer remains idle before it enters Sleep mode.
POWERSAVE TIME (HP LaserJet 4200/4200L/4300 only)	60 MINUTES 90 MINUTES 2 HOURS 4 HOURS	<p>Sleep mode offers the following advantages:</p> <ul style="list-style-type: none"> ■ Minimizes the amount of power consumed by the printer when it is idle ■ Reduces wear on electronic components in the printer (turns off the display backlight, but the display is still readable) <p>The printer automatically comes out of Sleep mode when you send a print job, press a printer control panel button, open a tray, or open the top cover.</p> <p>To turn sleep mode on and off, see Sleep Mode in the Resets submenu (HP LaserJet 4250/4350 only).</p>
PERSONALITY	*AUTO PDF (HP LaserJet 4250/4350 only) PS PCL	<p>Use this item to select the default printer language (personality). The possible values are determined by which valid languages are installed in the printer.</p> <p>Normally, you should not change the printer language. If you change it to a specific printer language, the printer will not switch automatically from one language to another unless specific software commands are sent to the printer.</p>
CLEARABLE	*JOB	Use this item to set the amount of time that a clearable warning appears on the printer control-panel display.
WARNINGS	ON	<p>JOB: The clearable warning message appears until the end of the job that generated the message.</p> <p>ON: The clearable warning message appears until you press ✓ (SELECT button).</p>
AUTO	OFF	Use this item to specify how the printer reacts to errors. If the printer is on a network, you probably want to turn AUTO CONTINUE to ON .
CONTINUE	*ON	
		<p>ON: If an error occurs that prevents printing, the message appears on the printer control-panel display, and the printer goes offline for 10 seconds before returning online.</p> <p>OFF: If an error occurs that prevents printing, the message remains on the printer control-panel display, and the printer remains offline until you press ✓ (SELECT button).</p>


Item	Values	Explanation
CARTRIDGE	STOP	<p>Use this item to specify how the printer behaves if the print cartridge is low. For the HP LaserJet 4250 Series printer, the message first appears when about 15% (10,000-page cartridge) or about 8% (20,000-page cartridge) of the life remains in the print cartridge. For the HP LaserJet 4350 Series printer, the message first appears when about 25% (10,000-page cartridge) or about 15% (20,000-page cartridge) of the life remains in the print cartridge. Print quality is not guaranteed if you print after receiving this message.</p> <p>STOP: The printer pauses printing until you replace the print cartridge or press ✓ (SELECT button) each time you turn the printer on. The message appears until you replace the print cartridge.</p> <p>CONTINUE: The printer continues to print, and the message appears until you replace the print cartridge.</p>
LOW	*CONTINUE	
CARTRIDGE	STOP	<p>Use this item to specify how the printer reacts if the print cartridge is empty.</p> <p>STOP: The printer stops printing until you replace the print cartridge.</p> <p>CONTINUE: The printer continues to print, and the REPLACE CARTRIDGE message appears until you replace the print cartridge. HP does not guarantee print quality if you select CONTINUE after a REPLACE CARTRIDGE condition. Replace the print cartridge as soon as possible to ensure good print quality.</p> <p>If the end of drum life is reached, the printer stops, regardless of the CARTRIDGE OUT setting.</p>
OUT	*CONTINUE	
JAM RECOVERY	*AUTO	<p>Use this item to specify how the printer behaves if a jam occurs.</p> <p>AUTO: The printer automatically selects the best mode for printer jam recovery (usually ON).</p> <p>OFF: The printer does not reprint pages following a jam. Printing performance might be increased with this setting.</p> <p>ON: The printer automatically reprints pages after a jam is cleared.</p>
	OFF	
	ON	
RAM DISK	*AUTO	<p>Use this item to specify how the RAM disk is configured. This item appears only if no optional hard-disk accessory is installed.</p> <p>AUTO: The printer determines the optimal RAM-disk size based on the amount of available memory.</p> <p>OFF: The RAM disk is not available.</p>
	OFF	
		<p> NOTE If you change the setting from OFF to AUTO, the printer automatically reinitializes when it becomes idle.</p>
LANGUAGE	*ENGLISH	<p>Selects the language for the messages that appear on the printer control-panel display.</p>
	Several	

Stapler/stacker submenu

Use this submenu to select settings for the optional stapler/stacker, if it is installed.

Some items on this menu are available in the program or printer driver (if the appropriate driver is installed).

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one that has an asterisk (*) next to it.

Item	Values	Explanation
STAPLES	*NONE	Use this item to specify whether print jobs are stapled or not.
	ONE	NONE: Turns off stapling ONE: Turns on stapling
 NOTE Selecting the stapler at the printer control panel changes the default setting to staple. It is possible that all print jobs will be stapled.		
STAPLES OUT	*STOP	Use this item to specify how the printer behaves if the stapler runs out of staples, as indicated by the REPLACE STAPLE CARTRIDGE message on the printer control-panel display.
	CONTINUE	STOP: The printer stops printing until you refill the stapler. CONTINUE: The stapler accepts print jobs if it is out of staples, but the pages are not stapled. For information about ordering a new staple cartridge, see Ordering parts and supplies . For information about refilling the stapler, see Loading staples .

I/O submenu

Items on the I/O (input/output) menu affect the communication between the printer and the computer. The contents of the I/O submenu depend on which EIO card is installed.

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one that has an asterisk (*) next to it.


Item	Values	Explanation
I/O TIMEOUT	5 to 300 (*15) SECONDS	Use this item to select the I/O timeout period in seconds. Use this setting to adjust timeout for the best performance. If data from other ports appear in the middle of your print job, increase the timeout value.
PARALLEL INPUT	HIGH SPEED ADVANCED FUNCTIONS	Use this item to configure the parallel features. HIGH SPEED: Select YES to enable the printer to accept the faster parallel communications that are used for connections with newer computers.

Item	Values	Explanation
		<p>ADVANCED FUNCTIONS: Turn the bidirectional parallel communication on or off. The default is set for a bidirectional parallel port (IEEE-1284).</p> <p>The function allows the printer to send status readback messages to the computer. (Turning the parallel advanced functions on might slow language switching.)</p>
EMBEDDED JETDIRECT MENU (HP LaserJet 4250/4350 only)	TCP/IP	Use this item to select features in the embedded Jetdirect.
	IPX/SPX	TCP/IP: Select whether the TCP/IP protocol stack is enabled or disabled. You can set several TCP/IP parameters.
	APPLETALK	Select the TCP/IP CONFIGURE METHOD to configure the EIO card. For the MANUAL option, set the values for IP ADDRESS , SUBNET MASK , LOCAL GATEWAY , and DEFAULT GATEWAY .
	DLC/LLC	IPX/SPX: Select whether the IPX/SPX protocol stack (in Novell NetWare networks, for example) is enabled or disabled.
	SECURE WEB (HP LaserJet 4250 and 4350 only)	APPLETALK: Enable or disable an AppleTalk network.
DIAGNOSTICS (HP LaserJet 4250 and 4350 only)	DLC/LLC: Select whether the DLC/LLC protocol stack is enabled or disabled.	
		SECURE WEB: Specify whether the embedded Web server accepts communications by using only secure HTTP (HTTPS) or by using both HTTP and HTTPS.
		DIAGNOSTICS: Provides tests to help diagnose network hardware or TCP/IP network connection problems.

Resets submenu (HP LaserJet 4250/4350 only)

Items on the Resets submenu relate to returning settings to the defaults and changing settings such as Sleep Mode.

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one that has an asterisk (*) next to it.

Item	Values	Explanation
RESTORE	There is no value to select.	Use this item to perform a simple reset and restore most of the factory (default) settings. This item also clears the input buffer for the active I/O.
FACTORY		
SETTINGS		 CAUTION Restoring memory during a print job cancels the print job.
CLEAR	There is no value to select.	This item appears after the PERFORM PRINTER MAINTENANCE message. The PERFORM PRINTER MAINTENANCE message can be temporarily cleared for approximately 10,000 pages, and then the message appears again. When the PERFORM PRINTER MAINTENANCE message first appears, a new maintenance
MAINTENANCE		
MESSAGE		

kit should be installed to maintain optimum print quality and feed performance.

For more information, see [Performing preventive maintenance](#). To order the printer maintenance kit, see [Ordering parts and supplies](#).

SLEEP MODE

***ON**

OFF

Turns Sleep Mode on or off. Using Sleep mode offers the following advantages:

- Minimizes the amount of power that the printer consumes when it is idle
- Reduces wear on electronic components in the printer (turns off the display backlight, but the display is still readable)

The printer automatically comes out of Sleep mode when you send a print job, press a printer control-panel button, open a tray, or open the top cover.

You can set how long the printer remains idle before it enters sleep mode. See the **SLEEP DELAY** information in the [System Setup submenu](#).

Diagnostics menu (HP LaserJet 4250/4350 only)

Administrators can use this submenu to isolate parts and to troubleshoot jam and print-quality issues.

The section that follows lists the settings and possible values. In the Values column, the default value for each setting is the one that has an asterisk (*) next to it.

Item	Values	Explanation
PRINT EVENT LOG	There is no value to select.	Press ✓ (SELECT button) to generate a list of the 50 most recent entries in the event log. The printed event log shows error number, error code, page count, and description or personality.
SHOW EVENT LOG	There is no value to select.	Press ✓ (SELECT button) to scroll through the contents of the event log at the printer control panel, which lists up to the 50 most recent events. Use ▲ (UP ARROW button) or ▼ (DOWN ARROW button) to scroll through the event log contents.
PAPER PATH TEST	PRINT TEST PAGE SOURCE DESTINATION DUPLEX COPIES	<p>Use this item to generate a test page that is useful for testing the paper-handling features of the printer.</p> <p>PRINT TEST PAGE: Press ✓ (SELECT button) to start the paper-path test that uses the source (tray), destination (output bin), duplex, and number of copies settings that you set in the other items on the Paper Path Test menu. Set the other items before selecting PRINT TEST PAGE.</p> <p>SOURCE: Select the tray that uses the paper path that you want to test. You can select any tray that is installed. Select ALL TRAYS to test all tray paper paths. Paper must be loaded in the selected trays.</p> <p>DESTINATION: Select the output bin that uses the paper path that you want to test. You can select any output bin that is installed. Optional bins (stacker or stapler/stacker bin) must also be correctly configured in the printer driver. Select ALL BINS to test all paper paths.</p> <p>DUPLEX: Determine whether the paper goes through the duplexer during the paper-path test. This item is available only if the duplexer is installed.</p> <p>COPIES: Set how many sheets of paper are used from each tray during the paper-path test. If you are testing the optional stapler/stacker (DESTINATION item), select 10 or more sheets.</p>

4 Maintenance

Chapter contents

- [Cleaning the printer and accessories](#)
- [Performing preventive maintenance](#)
- [Maintaining the stapler unit](#)
- [Downloading a remote firmware update](#)
- [Remote firmware update using FTP through a browser](#)
- [Remote firmware update using Fetch \(Mac OS 8.6 and OS 9.x only\)](#)
- [Remote firmware update using the HP LaserJet utility \(Mac OS 8.6 and OS 9.x only\)](#)
- [Remote firmware update using the LPR command](#)
- [Using HP Web JetAdmin to download the firmware to the printer](#)
- [Printer messages during firmware update](#)
- [Troubleshooting a firmware update](#)

Cleaning the printer and accessories

To maintain superior print quality and performance, thoroughly clean the printer and the paper-handling accessories at the following times:

- Every time you change the print cartridge.
- After printing approximately 10,000 pages.
- Whenever print-quality problems occur.

Clean the outside surfaces of the printer and accessories by using a water-dampened cloth. Clean the inside parts as indicated, see [Table 4-1 Cleaning the printer](#). Observe the following warning and caution when cleaning the printer accessories.



WARNING! Before beginning the cleaning steps, turn the printer off and unplug all power cords to avoid shock hazard.

Be careful when cleaning around the fusing assembly area. It might be hot.



CAUTION To prevent permanent damage to the print cartridge, do not use ammonia-based cleaners on or around the printer.

Do not touch the transfer roller (callout 1). Skin oils on the roller can cause print-quality defects. If toner gets on clothing, wipe it off with a dry cloth and wash the clothes in cold water. Hot water sets toner into fabric.

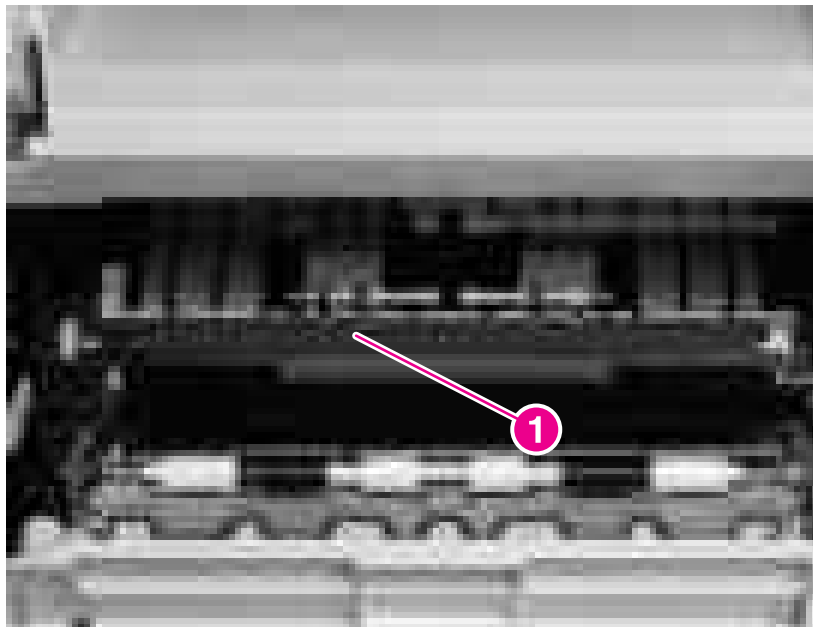


Figure 4-1 Location of the transfer roller - *do not touch!*

Table 4-1 Cleaning the printer

Component	Cleaning method/notes
Outside covers	Use a water-dampened cloth. Do not use solvents or ammonia-based cleaners.

Table 4-1 Cleaning the printer (continued)

Component	Cleaning method/notes
Inside	With a dry, lint-free cloth, wipe any dust, spilled toner, and paper particles from the paper-path area, the registration roller, and the print-cartridge cavity. Do not touch the transfer roller with bare hands.
Paper-pickup, feed, and separation rollers	Use a water-dampened, lint-free cloth.
Tray 1 separation pad	Use a dry, lint-free cloth.
Registration roller	Use a dry, lint-free cloth.
Transfer roller	Use a dry, lint-free cloth. <i>Do not touch</i> the transfer roller.
Fuser	Use a water-dampened, lint-free cloth.

Cleaning the fuser

Run the printer cleaning page to keep the fuser free of toner and paper particles that can sometimes accumulate. Accumulation of toner and particles can cause specks to appear on the front or back side of print jobs. See [Table 7-22 Specks or dots](#).

To ensure optimum print quality, HP recommends using the cleaning page every time the print cartridge is replaced or at an automatic interval that the user establishes. If an optional duplexer is installed, then run the cleaning page manually.

The cleaning procedure takes about 2.5 minutes to complete. A message (either **CREATING CLEANING PAGE** or **CLEANING**) appears on the printer control-panel display during the cleaning processes.

- See [Running the cleaning page manually](#).
- See [Running the cleaning page automatically](#).

Running the cleaning page manually

In order for the cleaning page to work properly, print the page on copier-grade paper (not bond, heavy, or rough paper).



NOTE If an optional duplexer is installed, this cleaning method is the only one that can be used. Make sure that automatic cleaning option is not selected. To ensure good print quality, run the cleaning page every time the print cartridge is replaced. If the cleaning page is needed frequently, then use a different type of paper for everyday printing.

To run the cleaning page manually

- 1 If a duplexer is installed, open the rear output bin.
- 2 Press ✓ (SELECT button) or the MENU button to open the menus.
- 3 Use ▲ (UP ARROW button) or ▼ (DOWN ARROW button) to scroll to **CONFIGURE DEVICE**, and then press ✓.
- 4 Use ▲ or ▼ to scroll to **PRINT QUALITY**, and then press ✓.

- 5 Use ▲ or ▼ to scroll to **CREATE CLEANING PAGE** (LJ 4200/4300) or **PROCESS CLEANING PAGE** (LJ 4250/4350), and then press ✓ .
- 6 Follow the instructions on the cleaning page to complete the cleaning process (LJ 4200/4300 only).
- 7 If a duplexer is installed, close the rear output bin.

You might need to create and process a cleaning page more than once. When toner has been cleaned from the fuser assembly, shiny black spots appear on the page's black strip. If white spots appear on the black strip, create and process another cleaning page.



Figure 4-2 Sample cleaning page (LJ 4200/4300 only)

Running the cleaning page automatically

Use the following procedure to set the printer to print cleaning pages automatically at a specified interval. In order for the cleaning page to run without intervention, the selected size and the plain paper type must be available in the printer. The printer will not interrupt a printing job in-process to run a cleaning page.



NOTE HP recommends that the cleaning-page interval be set at 2,000 pages (or fewer) to make sure that excess toner is removed from the printer. This ensures good print quality.

If an optional duplexer is installed, make sure that automatic cleaning option is not selected. Only run cleaning pages manually. See [Running the cleaning page manually](#).

To run the cleaning page automatically

- 1 If a duplexer is installed, remove the duplexer from the printer.
- 2 Press **✓** (**SELECT** button) or the **MENU** button to open the menus.
- 3 Use **▲** (**UP ARROW** button) or **▼** (**DOWN ARROW** button) to scroll to **CONFIGURE DEVICE**, and then press **✓**.
- 4 Use **▲** or **▼** to scroll to **PRINT QUALITY**, and then press **✓**.
- 5 Use **▲** or **▼** to scroll to **AUTO CLEANING**, and then press **✓**.
- 6 Use **▲** or **▼** to scroll to **ON**, and then press **✓**.
- 7 Use **▲** or **▼** to scroll to **CLEANING INTERVAL**, and then press **✓**.
- 8 Use **▲** or **▼** to scroll to an interval from 1,000 to 20,000 pages that is appropriate for the printer's use cycle, and then press **✓** to save the selection.
- 9 Use **▲** or **▼** to scroll to **AUTO CLEANING SIZE**, and then press **✓**.
- 10 Use **▲** or **▼** to scroll to the paper size that the printer uses for cleaning pages (**A4** or **LETTER**), and then press **✓** to save the selection.

The printer automatically prints a cleaning page at the interval and on the page size that are selected. Discard the output page that the cleaning process creates.

- 11 Reinstall the duplexer, if applicable.

The printer will not interrupt a printing job in progress to automatically run the cleaning page. The printer will run the cleaning page immediately after completing the job in which the selected cleaning interval occurred.

Cleaning spilled toner

Defective or worn print cartridges can develop leaks. Also, after a jam has occurred, some toner might remain on the rollers and guides inside the printer. The pages that print immediately after the jam might pick up this toner.

Clean spilled toner with a cloth that has been dampened with cold water. Do not touch the transfer roller with the damp cloth or with your fingers. Do not use a vacuum cleaner unless it is equipped with a micro-fine particle filter.

Performing preventive maintenance

Replace specific parts when the **PERFORM PRINTER MAINTENANCE** message appears on the printer control-panel display. This helps the printer maintain optimum performance.

The maintenance message appears every 200,000 pages on HP LaserJet 4200/4300 Series printers or every 225,000 pages on HP LaserJet 4250/4350 Series printers. The message can be temporarily cleared for approximately 10,000 pages by using the **CLEAR MAINTENANCE MESSAGE** item on the **Resets** submenu (see [Control-panel menus](#)). To check the number of pages that the printer has printed since new maintenance-kit components were installed, print either a configuration page (see [Configuration page](#)) or a supplies status page (see [Supplies status page](#)).

To order the printer maintenance kit, see [Parts and diagrams](#). The kit includes the following components:

- Fuser
- Printer rollers (transfer, feed, and separation, and tray 1 pickup)
- Tray 1 rollers
- Rollers for optional 500-sheet feeders
- Rollers for optional 1,500-sheet feeder
- Installation instructions



NOTE The printer maintenance kit components are consumable items that are not typically covered under the original printer warranty or under most extended warranties.

Resetting the maintenance-kit counter (LJ 4200/4300)

After a maintenance kit is installed, the maintenance-kit counter must be reset by using the following procedure.

- 1 Turn the printer power off.
- 2 Hold down **✓** (**SELECT** button), and then turn on the printer power. Continue holding down **✓** until all three printer control-panel lights flash once and then remain on. This might take up to 10 seconds.
- 3 Press **▲** (**UP ARROW** button) to scroll to **NEW MAINTENANCE KIT**.
- 4 Press **✓** to reset the maintenance-kit counter.



NOTE Perform this procedure only after a maintenance kit has been installed. Do not use this procedure to clear the **PERFORM PRINTER MAINTENANCE** message temporarily.

Resetting the maintenance-kit counter (LJ 4250/4350)

After a maintenance kit is installed, the maintenance-kit counter must be reset by using the following procedure.

- 1 Turn the printer off and then on.
- 2 When **000MB** (the beginning of the memory-count) appears on the control-panel display, press and hold down **✓** (**SELECT** button). Continue holding down **✓** until all three printer control panel lights flash once, and then stay on. This might take up to 10 seconds.
- 3 Release **✓** and press **▲** (**UP ARROW** button) to scroll to **NEW MAINTENANCE KIT**.
- 4 Press **✓** to reset the maintenance-kit counter.



NOTE Perform this procedure only after a maintenance kit has been installed. Do not use this procedure to temporarily clear the **PERFORM PRINTER MAINTENANCE** message.

Maintenance kit part numbers

Table 4-2 Maintenance kit part numbers

Part name	Part number	Description
110 V maintenance kit (LJ 4200/4200L)	Q2429-67904	The maintenance kit contains user-replaceable parts and instructions for printer maintenance.
110 V maintenance kit (LJ 4300)	Q2436-67905	The printer maintenance kit components are consumable items. (Typically, the associated components are not covered under the original warranty or most extended-warranty options.)
110 V maintenance kit (LJ 4250/4350)	Q5421-67901	
220 V maintenance kit (LJ 4200/4200L)	Q2430-67904	
220 V maintenance kit (LJ 4300)	Q2437-67905	
220 V maintenance kit (LJ 4250/4350)	Q5422-67901	

Expected life of components

The following table shows the expected life of certain components in the printer. To order parts, see [Ordering parts and supplies](#).

Table 4-3 Component life expectancies and part numbers

Part name	Part number	Expected life
Tray 1 pickup roller	RL1-0019-000CN	100,000 pages
Tray 1 separation pad	RL1-0007-000CN	200,000 pages
Tray 1 pickup solenoid, LJ 4200/4300	RH7-5357-000CN	200,000 pages
Tray 1 pickup solenoid, LJ 4250/4350	RK2-0276-000CN	200,000 pages
Tray 2 pickup solenoid, LJ 4200/4300	RH7-5355-000CN	200,000 pages
Tray 2 pickup solenoid, LJ 4250/4350	RK2-0269-000CN	200,000 pages
Pickup roller	RM1-0036-000CN	225,000 pages
Feed roller	RM1-0037-020CN	225,000 pages
Fuser, LJ 4200/4200L, 110 V	RM1-0013-140CN	200,000 pages
Fuser, LJ 4300, 110 V	RM1-0101-200CN	200,000 pages
Fuser, LJ 4250/4350, 110 V	RM1-1082-000CN	225,000 pages
Fuser, LJ 4200/4200L, 220 V	RM1-0014-140CN	200,000 pages
Fuser, LJ 4300, 220 V	RM1-0102-200CN	200,000 pages
Fuser, LJ 4250/4350, 220 V	RM1-1083-000CN	225,000 pages
Transfer roller, LJ 4200/4300	RM1-0699-020CN	200,000 pages
Transfer roller, LJ 4250/4350	RM1-1110-000CN	225,000 pages
Main cooling fan (left side; LJ 4200/4300)	RH7-1573-000CN	40,000 hours
Main cooling fan (left side; LJ 4250/4350)	RK2-0278-000CN	40,000 hours
Cooling fan (right side; LJ 4300)	RH7-1577-000CN	40,000 hours
Cooling fan (right side; LJ 4250/4350)	RK2-0280-000CN	40,000 hours
Stapler unit	RM1-0235-000CN	50,000 staple operations



NOTE If a printer component is not listed in the preceding table, the component should last for the life of the printer.

Maintaining the stapler unit

Follow these instructions to maintain the stapler unit.

To remove and replace the stapler unit

- 1 Locate the stapler unit on the right side of the stapler/stacker.
- 2 Rotate the stapler unit toward the front of the printer until the unit clicks. Hold the stapler unit in this open position.
- 3 Push down on the tab at the top of the stapler unit.
- 4 Hold the tab down and pull the stapler unit up and out of the stapler/stacker.
- 5 Disconnect the cable that connects the stapler unit to the stapler/stacker. (Only the blue part detaches.)

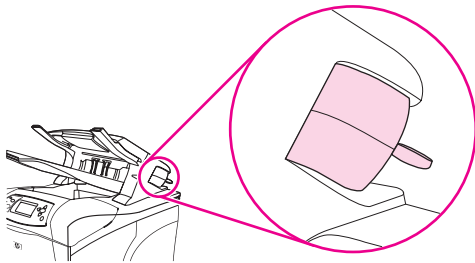


Figure 4-3 Replacing the stapler unit (1 of 2)

- 6 Remove the new stapler unit from its packaging.
- 7 Connect the cable on the new stapler unit to the stapler/stacker.
- 8 Place the pivot pin that is located on the bottom of the new stapler unit into the hole in the stapler/stacker (located in the cavity that was created when the staple unit was removed earlier in this procedure).
- 9 Press down on the tab at the top of the stapler unit and push the unit into the stapler/stacker.
- 10 Rotate the stapler unit toward the rear of the printer until the unit clicks into place.
- 11 If the stapler cartridge is not installed in the stapler unit, install it now. (See [To load staples.](#))

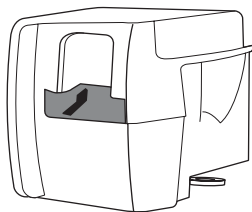


Figure 4-4 Replacing the stapler unit (2 of 2)

Loading staples

Load staples if the printer control-panel display prompts you with a **STAPLER LOW ON STAPLES** message (the staple cartridge contains fewer than 70 staples) or a **STAPLER OUT OF STAPLES** message (the staple cartridge contains 15 or fewer staples). For more information see [Staple level-detection](#). When the stapler runs out of staples, jobs can be delivered to the stapler/stacker (if **STAPLES OUT = CONTINUE**), but they will not be stapled. For more information see [Stapler/stacker submenu](#).

To load staples

- 1 Turn the stapler unit on the right side of the stapler/stacker toward the front of the printer until the unit clicks into the open position. Grasp the blue staple-cartridge handle and pull the cartridge out of the stapler unit.
- 2 Insert the new staple cartridge into the stapler unit and rotate the stapler unit toward the rear of the printer until the unit snaps into place.

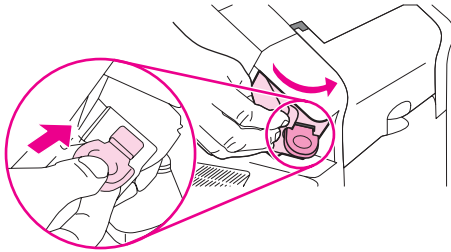


Figure 4-5 Loading staples in the staple cartridge (stapler/stacker only)

Downloading a remote firmware update

A remote firmware update (RFU) can be downloaded from the following Web sites:

http://www.hp.com/go/lj4200_firmware, http://www.hp.com/go/lj4250_firmware, http://www.hp.com/go/lj4300_firmware, or http://www.hp.com/go/lj4350_firmware.

Downloading the new firmware to the printer

The printer can receive an RFU update to a printer as long as it is in a Ready state. The printer waits for all of the I/O channels to become idle before performing the update.



NOTE The firmware update involves a change in the format of nonvolatile random-access memory (NVRAM). Any menu settings that are changed from the default settings return to default settings and must be changed again if you want settings that are different from the defaults. Examples of settings that are affected in this way are tray types, default symbol sets, and Web access alerts.

The elapsed time for an update depends on the I/O transfer time, as well as the time that it takes for the printer to reinitialize. The I/O transfer time depends on a number of things, including the speed of the host computer that is sending the update and the I/O method (parallel or network). The reinitialization time depends on the specific hardware configuration of the printer, such as the number of EIO devices installed, the presence of external paper-handling devices, and the amount of memory installed.

If the remote firmware update process is interrupted before the firmware is downloaded (when **RECEIVING UPGRADE** appears on the control panel), the firmware file must be sent again. If power is lost during the remote firmware update process (when **UPGRADING PRINTER** appears on the control panel), the update is interrupted and the message **Resend upgrade** appears (in English only) on the control panel. The update must be sent only by a computer that is attached to the parallel port of the printer.

Finally, any print jobs ahead of the RFU job in the queue are printed before the update is processed.



NOTE The printer automatically turns off and then on again after processing the update.

Remote firmware update through a local Windows port

If the printer is connected through a local port (USB or parallel), then you can send the RFU file directly to the printer by using a **Copy** command from a command prompt or an MS-DOS window. At the command prompt, perform the following steps for your operating system.

Windows 95, Windows 98, or Windows Me

- 1 From a command prompt or in an MS-DOS window, type: Mode lpt1 :.,p



NOTE If the printer is attached to a parallel port other than LPT1, then substitute the correct LPT port number in the mode command.

- 2 Press **Enter**.
- 3 The response you receive should be similar to these examples:
 - LPT1 Not Rerouted
 - Resident portion of MODE loaded
 - Infinite retry on parallel printer time-out
- 4 At a command prompt, type: copy /b <FILENAME> <PORTNAME> where <FILENAME> is the name of the RFU file (including the path) and <PORTNAME> is the name of the appropriate printer port (such as LPT1). For example, C:\>copy /b c:\4250fw.rfu lpt1



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type C:\>copy /b "c:\My Documents\4250fw.rfu" lpt1

- 5 Press **Enter**. A message appears on the control panel. See [Printer messages during firmware update](#). At the end of the upgrade process, Ready appears on the printer-control panel.
- 6 Print a configuration page and verify that the firmware revision number matches the revision of the current upgrade.
- 7 Type the word "exit" at the command prompt to close the command window.

Windows NT 4.0, Windows 2000, Windows XP, or Windows Server 2003

The .rfu file can be sent directly to the printer by typing a copy command at a command prompt or in an MS-DOS window.

- 1 At a command prompt, type: `copy /b <FILENAME> <PORTNAME>` where <FILENAME> is the name of the .rfu file, including the path, and <PORTNAME> is the name of the appropriate printer port, such as LPT1. For example, `C:\>copy /b c:\4250fw.rfu lpt1`.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type: `C:\>copy /b "c:\My Documents\4250fw.rfu" lpt1`

- 2 Press **Enter**. A message appears on the control panel. See [Printer messages during firmware update](#). At the end of the upgrade process, Ready appears on the printer-control panel.
- 3 At the command prompt, type the word “exit” to close the command window.

Remote firmware update through a Windows network

If the printer is shared on a Windows network, follow these instructions.

- 1 From a command prompt or in an MS-DOS window, type: `copy /B <FILENAME> \\
<COMPUTERNAME>\<SHARENAME>` where <FILENAME> is the name of the RFU file (including the path), <COMPUTERNAME> is the name of the computer from which the printer is being shared, and <SHARENAME> is the printer share name. For example, `C:\>copy /B c:\4250fw.rfu \\your_server\your_computer`.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type: `C:\>copy /b "c:\My Documents\4250fw.rfu" \\your_server\your_computer`

- 2 Press **Enter**. A message appears on the control panel. See [Printer messages during firmware update](#). At the end of the upgrade process, Ready appears on the printer-control panel. The message “**1 file(s) copied**” appears on the computer screen.

Remote firmware update for UNIX systems

For UNIX systems, any command method that delivers the RFU file to the printer is acceptable, including the following:

At the command prompt, type: `$cp /yourmachine/FILENAME/dev/parallel>` where /yourmachine/FILENAME> contains the RFU file.

Remote firmware update using FTP on a direct network connection

If the HP LaserJet 4200/4250/4300/4350 series printer uses a direct network connection, use file transfer protocol (FTP) to update the HP LaserJet firmware. Complete the following steps for the operating system that is in use.

Windows operating systems

- 1 Take note of the TCP/IP address on the EIO Jetdirect page. The HP Jetdirect page is the second page of the configuration page printout.



NOTE Before connecting to the printer, make sure that the printer is not in PowerSave or Sleep mode. Also, make sure that any error messages are cleared from the control panel.

- 2 Open a command window on your computer.
- 3 Type: ftp <TCP/IP PRINTER ADDRESS> For example, if the TCP/IP address is 192.168.0.90, type: ftp 192.168.0.90
- 4 Press **Enter**.
- 5 When prompted for the user name, press **Enter**.
- 6 When prompted for the password, press **Enter**.
- 7 Type the word “bin” at the command prompt.
- 8 Press **Enter**. The message “**200 Types set to I, Using binary mode to transfer files**” appears in the command window.
- 9 Type:put <FILENAME> where<FILENAME> is the name of the RFU file that was downloaded from the Web, including the path.

For example, type: put C:\LJ\4250FW.RFU and then press **Enter**.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type put "c:\My Documents\LJ\4250fw.rfu".

- 10 The following series of messages appears in the command window:

- 200 PORT command successful
- 150 Opening BINARY mode data connection
- 226 Ready
- 226 Processing Job
- 226 Transfer complete

A message containing transfer speed information appears.

- 11 The download process begins and the firmware is updated on the printer. This can take about five minutes. Let the process finish without further interaction with the printer or computer.



NOTE The printer automatically turns off and then on again after processing the upgrade.

- 12 At the command prompt, type the word “bye” to exit the FTP command.
- 13 At the command prompt, type the word “exit” to return to the Windows interface.

Mac operating systems

- 1 Take note of the TCP/IP address on the EIO Jetdirect page. The Jetdirect page is the second page of the configuration page printout.
- 2 Open a Terminal window on the Macintosh. You can find the Terminal Program on the computer hard drive in the Applications/Utilities folder.
- 3 Type: FTP <TCP/IP PRINTER ADDRESS> For example, if the TCP/IP address is 192.168.0.90, type: FTP 192.168.0.90.
- 4 Press **Enter**.
- 5 When prompted for a user name and password, press **Enter**.
- 6 Type: put <path> where <path> is the location where the RFU file was downloaded from the Web, including the path. For example type: put C:\LJ\4250FW.RFU, and then press **Enter**.



NOTE If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type: put "c:\My Documents\LJFW.RFU"

NOTE To ensure that the entire proper path to the RFU file is placed in the Put command, type the word "put", type a space, and then click and drag the RFU file on to the Terminal window. The complete path to the file will be automatically placed after the Put command.

- 7 The download process begins and the firmware is updated on the printer. This can take about five minutes. Let the process finish without further interaction with the printer or computer.



NOTE The printer automatically turns off and then turns on again to activate the update.

Remote firmware update using FTP through a browser

Follow these instructions to use FTP through a browser to update the printer firmware remotely.



NOTE The following instructions can be used on Windows or Macintosh operating systems.

- 1 Open a browser window.
- 2 In the address line of the browser, type: ftp://<IPADDRESS> where <IPADDRESS> is the TCP/IP address of your printer. For example, if the TCP/IP address is 192.168.0.90, type: FTP 192.168.0.90
- 3 Locate the RFU file for the printer.
- 4 Drag and drop the RFU file onto the **PORT1** icon in the browser window.

Remote firmware update using Fetch (Mac OS 8.6 and OS 9.x only)

For Mac OS 8.6 through 9.x, a shareware program called Fetch provides FTP control for a Put command. Download and install the program from <http://download.cnet.com/downloads/0-10207-100-5250613.html>.

Follow these instructions to use Fetch.

- 1 Start the program by clicking the **Fetch** icon.
- 2 Type the IP address of the printer in the **Host:** box.
- 3 Click the **Put Files** button and browse to the location of the RFU file.
- 4 Double-click the file to select it and download it to the printer. A confirmation message appears in the main window.
- 5 Click **OK**.

Remote firmware update using the HP LaserJet utility (Mac OS 8.6 and OS 9.x only)

Follow these instructions to update the firmware by using the HP LaserJet utility.

- 1 The first step is to make sure that you have the tools and files that are necessary for the update. You will need the HP LaserJet utility and the RFU file, which is the firmware file for the printer. The HP LaserJet utility is on the HP LaserJet 4200/4250/4300/4350 printing-system software CD that came with the printer. If you do not have the software CD, you can obtain the HP LaserJet utility by downloading the latest printer installer from <http://www.hp.com>.

The firmware file can be downloaded from http://www.hp.com/go/lj4200_firmware

When you have the firmware file and the HP LaserJet utility, you are ready to begin the upgrade process.

- 2 Start the HP LaserJet utility.
- 3 Click **Select Printer** and locate the printer that you want to upgrade on the network.
- 4 Select the printer on the right side of the dialog box, and click **OK**. An information dialog box for the printer appears.
- 5 On the left side of the information dialog box, click **Files**. A dialog box appears that you can use to select a file to be downloaded to the printer.
- 6 Click **Select File**.
- 7 Locate the RFU file on the hard disk, and click the file name to highlight it. Then click **Select**. The **Files** dialog box updates showing the RFU file under **File to download**.
- 8 Click **Download**. The HP LaserJet utility starts downloading the file to the printer. A progress bar keeps you updated on how much of the file has been downloaded. When the file is downloading, RECEIVING UPGRADE appears on the control panel. After the file downloads to the printer, Performing upgrade appears on the control panel.



NOTE The printer automatically turns off and then turns on again after processing the upgrade.

- 9 After the printer turns on again and finishes initializing, print a configuration page to make sure that the new firmware is installed. Press **22** on the control panel to print a configuration page.

Remote firmware update using the LPR command



NOTE This remote firmware update method is for use in Windows NT 4.0, Windows 2000, Windows XP, and Windows Server 2003.

Follow these instructions to update the printer software remotely by using the LPR command.

- 1 From a command window, type: `lpr -P <IPADDRESS> -S <IPADDRESS> -o l <FILENAME>` or `lpr -S <IPADDRESS> -Pbinps <FILENAME>` where `<IPADDRESS>` can be either the TCP/IP address or the hostname of the printer, and where `<FILENAME>` is the filename of the RFU file.



NOTE The parameter `(-o l)` consists of a lowercase "O", not a zero, and a lowercase "L", not the numeral 1. This parameter sets the transport protocol to binary mode.

- 2 Press **Enter**. A message appears on the control panel. See [Printer messages during firmware update](#). At the end of the upgrade process, Ready appears on the control panel.
- 3 Type the word "exit" at the command prompt to close the command window.

Using HP Web JetAdmin to download the firmware to the printer

The following procedure requires that you install HP Web JetAdmin version 7.0 or later on your computer. Complete the following steps to update a single printer through HP Web JetAdmin after downloading the RFU file from the HP Web site.

- 1 Start HP Web JetAdmin.
- 2 Type the TCP/IP address or IP host name of the printer in the **Quick Device Find** field, and then click **Go**. The printer Status window appears.
- 3 Open the Device Management folder in the drop-down list in the Navigation panel. Navigate to the Device Lists folder.
- 4 Expand the Device Lists folder and select **All Devices**. Locate the printer that you want to update in the list of printer and click the file to select it.
- 5 Locate the drop-down box for Device Tools in the upper-right corner of the window. Select **Update Printer Firmware** from the Choose Action list.
- 6 If the name of the RFU file is not listed in the All Available Images box, click **Browse** in the **Upload New Firmware Image** dialog box and navigate to the location of the RFU file that you downloaded from the Web at the start of this procedure. If the filename is listed, select it.
- 7 Click **Upload** to move the RFU file from your hard drive to the HP Web JetAdmin server.
- 8 Refresh the browser.
- 9 Select the RFU file from the Printer Firmware Update drop-down menu.
- 10 Click **Update Firmware**. HP Web JetAdmin sends the selected RFU file to the printer. A message appears on the control panel. See [Printer messages during firmware update](#). At the end of the upgrade process, Ready appears on the control panel.

Use HP Web Jetadmin 6.5 to perform multiple or unattended installations.

- 1 Start HP Web Jetadmin.
- 2 Create a device group. A simple way to do this is to follow these steps:
 - a) Click **Device Management**, and then click **All Devices**.
 - b) Hold down the **Shift** key and then click to select printers that you want to be included in the group, and then click **OK**.
 - c) When prompted, type a name for the new device group, and then click **OK**.
- 3 To modify several printers in a group, click the group name, and then click **Open**.
- 4 The drop-down menu for Device Group Tools appears on the right side of the window. Scroll if necessary to view it.
- 5 In the Device Group Tools drop-down box, select an action. Type in the appropriate information, and then click **Return to Device Group** when you are finished.

Printer messages during firmware update

The printer shows three messages that appear during a normal update process.

Table 4-4 Update messages

Printer message	Explanation
RECEIVING UPGRADE	Appears when the printer recognizes the start of an RFU update and remains until the printer verifies the validity and integrity of the RFU update.
UPGRADING PRINTER	Appears when the printer is reprogramming the firmware.
WAIT FOR PRINTER TO REINITIALIZE	On HP LaserJet 4200/4300 Series printers, appears from when the printer finishes reprogramming the DIMM until the printer reinitializes.



NOTE To verify that the firmware update succeeded, print a new configuration page from the control panel and make sure that the firmware date code on the configuration page has changed.

Troubleshooting a firmware update

The following table lists the causes and results of possible interruptions to the firmware update.

Table 4-5 Troubleshooting a firmware update

Cause	Result
The control panel cancelled a job.	No update occurred.
A break in the I/O stream occurred during a send.	No update occurred.
A power cycle occurred during RECEIVING UPGRADE .	No update occurred.
A power cycle occurred during UPGRADING PRINTER .	No update occurred. Resend the update through a parallel port.
A power cycle occurred during WAIT FOR PRINTER TO REINITIALIZE.	The update is complete.



NOTE Print jobs that are sent to the printer while an update is in process do not interrupt the update.

The following table lists possible reasons for the failure of a remote firmware update and the corrective action required for each situation.

Table 4-6 Troubleshooting a firmware update failure

Cause	Action
The RFU file is corrupted.	The printer recognizes that the file is corrupted and rejects the update. Download the file again and send the new file to the printer. Download the file from: http://www.hp.com/go/lj4200_firmware , http://www.hp.com/go/lj4250_firmware , http://www.hp.com/go/lj4300_firmware , or http://www.hp.com/go/lj4350_firmware .
The RFU file contains the wrong printer model.	The printer recognizes the model mismatch and rejects the update. Download the correct file and send it to the printer. Download the file from: http://www.hp.com/go/lj4200_firmware , http://www.hp.com/go/lj4250_firmware , http://www.hp.com/go/lj4300_firmware , or http://www.hp.com/go/lj4350_firmware .
The upgrade is interrupted.	See Troubleshooting a firmware update .
A flash hardware failure occurred.	The device might have a hardware failure.

5 Theory of operation

Chapter contents

- [Introduction](#)
- [General descriptions](#)
- [Paper-pickup-and-feed system](#)
- [Stacker and stapler/stacker](#)
- [Image-formation system](#)
- [Formatter system](#)

Introduction

This chapter presents an overview of the relationships among major components in the printer. It also provides a general description of the following topics:

- Basic operation of the printer
- Power supply
- Laser/scanner assembly
- Image formation
- Paper pickup and feeding
- 500-sheet feeder operation
- 1,500-sheet feeder operation
- Envelope feeder
- Duplexer
- Stacker and stapler/stacker

Basic operation of the printer

Printer operation can be divided into four systems: the control system (which includes the power supply and dc controller PCA), the pickup and feed system (which consists of various rollers and transports the media through the printer), the laser/scanner system (which forms the latent image on a photosensitive drum), and the image formation system (which transfers a toner image onto the print media).

Printer operating sequence

A microprocessor on the dc controller PCA controls the printer operating sequence. The table [Table 5-1 Basic printer operating sequence](#) describes the basic operating sequence from when the printer power is turned on until the final printed page is delivered to an output bin. For information about the timing of the basic operating sequence, see [General timing diagrams](#).

Table 5-1 Basic printer operating sequence

Period (sequence)	Description
Waiting	The period of time from when the printer power is turned on until the main motor (or the drum motor in the HP LaserJet 4250/4300/4350 only) begins to rotate. During this time the transfer roller is cleaned and the microprocessor on the dc controller PCA checks to determine if a print cartridge is installed in the printer.
Standby	The period of time from the end of the waiting sequence <i>or</i> from the end of the last rotation until a print command is received from the host computer <i>or</i> until the printer power is turned off. The message Ready appears on the control-panel display.
Initial rotation	The period of time when the photosensitive drum is stabilized to prepare for printing.
Print	The period of time from the initial rotation until the control system detects a page entering the printer (the top of page sensor [PS103] detects the page).
Last rotation	The period of time from the completion of the print job until the main motor (or drum motor, in an HP LaserJet 4250/4300/4350) stops. The final page of the job is delivered to an output bin and the transfer roller is cleaned. If another print job is immediately detected, then the printer returns to the initial rotation period. If no print jobs are waiting, then the printer returns to the standby period.

Control system overview

The control system consists of the power supply and the dc controller PCA. It controls the pickup-and-feed, laser/scanner, and image-formation systems. The microprocessor on the dc controller PCA controls the printer operating sequence.

When the printer power is in the standby sequence (see [Table 5-1 Basic printer operating sequence](#)), the power supply supplies direct current power (dc voltage) to the dc controller PCA. When the printer is in the standby sequence (see [Table 5-1 Basic printer operating sequence](#)) the microprocessor on the dc controller PCA sends signals to turn on and off various solenoids, motors, and other printer components that process and print the image data that the host computer sends.

Pickup-and-feed system overview

The pickup-and-feed system consists of a motor, various rollers, and sensors that detect the presence of media, transport the media into and through the printer, and deliver the media to an output bin.

During the transport process, if the media does not reach specific sensors in a specified time, the microprocessor on the dc controller PCA halts the motor and a jam message appears on the control-panel display.

Laser/scanner system overview

The laser/scanner system forms a latent (or potential) image on a photosensitive drum according to signals that the microprocessor on the dc controller PCA sends.

The main components of the laser/scanner assembly are the laser-driver PCA, the scanner motor, and a six-sided mirror. The dc controller PCA sends image data signals to the laser/scanner assembly. The laser/scanner PCA converts these data signals into a laser beam that strikes a six-sided mirror. The mirror reflects the light onto a photosensitive drum (in the print cartridge), creating a latent image on the drum.

Image-formation system overview

The image-formation system uses toner in the print cartridge to transfer the latent image on the the photosensitive drum to the media. Heat and pressure (from the fuser) are used to permanently bond the toner image to the media.

The photosensitive drum (in the print cartridge) receives a uniform negative primary charge. The laser beam neutralizes areas of the drum surface to create the latent image. When the areas that are exposed to the laser beam come in contact with toner, the toner is attracted to them

The transfer roller applies a positive charge to the back of the media. The positive charge attracts the toner image from the photosensitive drum and transfers the image from the drum to the media.

The media then passes through the fuser, where heat and pressure are applied to permanently bond the toner to the media.

General descriptions

This section describes the following printer components.

- Dc controller PCA
- Power-supply assembly
- Pickup-and-feed assembly
- Laser/scanner assembly
- Image-formation system
- 500-sheet feeder
- 1,500-sheet feeder
- Envelope feeder
- Duplexer
- Stacker and stapler/stacker

Dc controller PCA

The dc controller PCA controls the operation of the printer and its components. The dc controller PCA starts printer operation when the printer power is turned on and the power supply sends dc voltage to the dc controller PCA. After the printer enters the standby sequence (see [Table 5-1 Basic printer operating sequence](#)), the dc controller PCA sends out various signals to operate motors, solenoids, and other printer components based on the print command and image data that the host computer sends. For a list of dc controller PCA connectors, see [Dc controller connectors diagram](#).

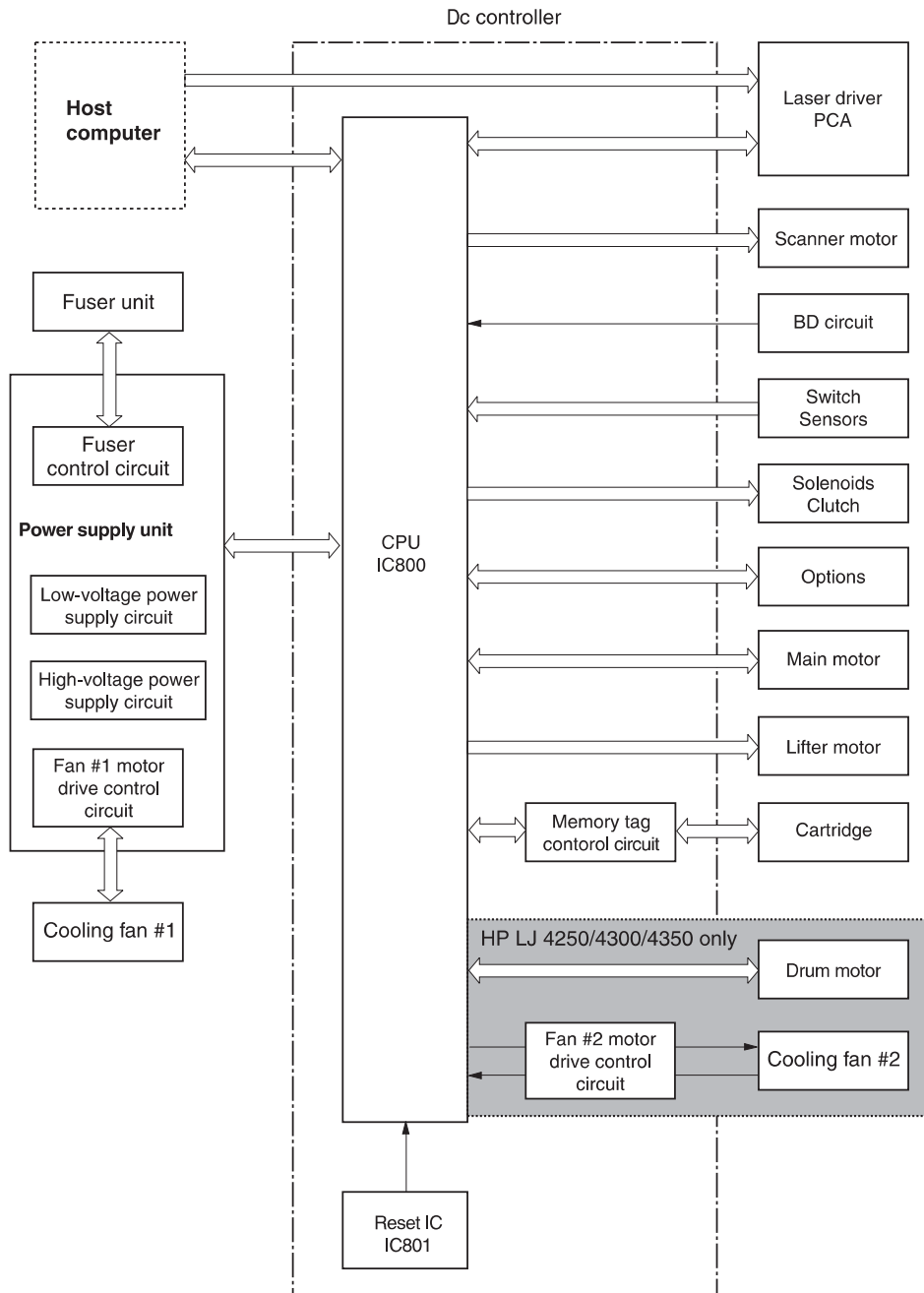


Figure 5-1 Dc controller, control chart

Motor and fan control

The HP LaserJet 4200 Series printers contain three dc brushless motors: the main motor, the lifter-driver motor (inside of the lifter-driver assembly), and a fan motor. The main motor is used for image formation (rotating the photosensitive drum in the print cartridge) and paper pickup and feed. The lifter motor raises the plate in the tray cassette. The fan motor rotates the fan blades.

The HP LaserJet 4250, 4300, and 4350 Series printers contain five dc brushless motors: the main motor, the print cartridge motor, the lifter motor, and two fan motors. The main motor is used for paper pickup and feed. The print cartridge motor rotates the photosensitive drum. The lifter motor raises the plate in the tray cassette. Two fan motors rotate the left- and right-side fans.

Table 5-2 Printer fans and motors

Component	Purpose	Type	Rotation	Speed
Main motor (M101), HP LaserJet 4200 and 4200L Series printers	Drives the tray cassette pickup roller, feed/separation roller, tray 1 pickup roller, pre-transfer roller, photosensitive drum, developing cylinder, pressure roller, and output delivery roller	Dc	Counterclockwise	Two-speed (full- and half-speed)
Main motor (M101), HP LaserJet 4250, 4300, and 4350 Series printers	Drives the tray cassette pickup roller, feed/separation roller, tray 1 pickup roller pre-transfer roller, pressure roller, and output delivery roller.	Dc	Counterclockwise	Two-speed (full- and half-speed)
Print cartridge motor (M102), HP LaserJet 4250, 4300, and 4350 Series printers	Drives the transfer charging roller, photosensitive drum, and developing cylinder.	Dc	Counterclockwise	Two-speed (full- and half-speed)
Lifter motor (M103), all printer models	Moves the tray cassette lifting plate up and down.	Dc	Counterclockwise	Single-speed
Left-side cooling fan (FN101), all printer models	Cools the inside of the printer	Dc	NA	Two-speed (full- and half-speed)
Right-side cooling fan (FN102), HP LaserJet 4250, 4300, and 4350 Series printers	Cools the inside of the printer.	Dc	NA	Single-speed

Power supply

The power supply consists of the fuser-control circuit, the high-voltage circuit, and the low-voltage circuit. The fuser-control and high-voltage circuits control the temperature of the fuser and generate high-voltage according to signals from the dc controller PCA. The low-voltage circuit generates the dc voltages that other components in the printer use (for example the dc controller PCA, the motors, and fans).

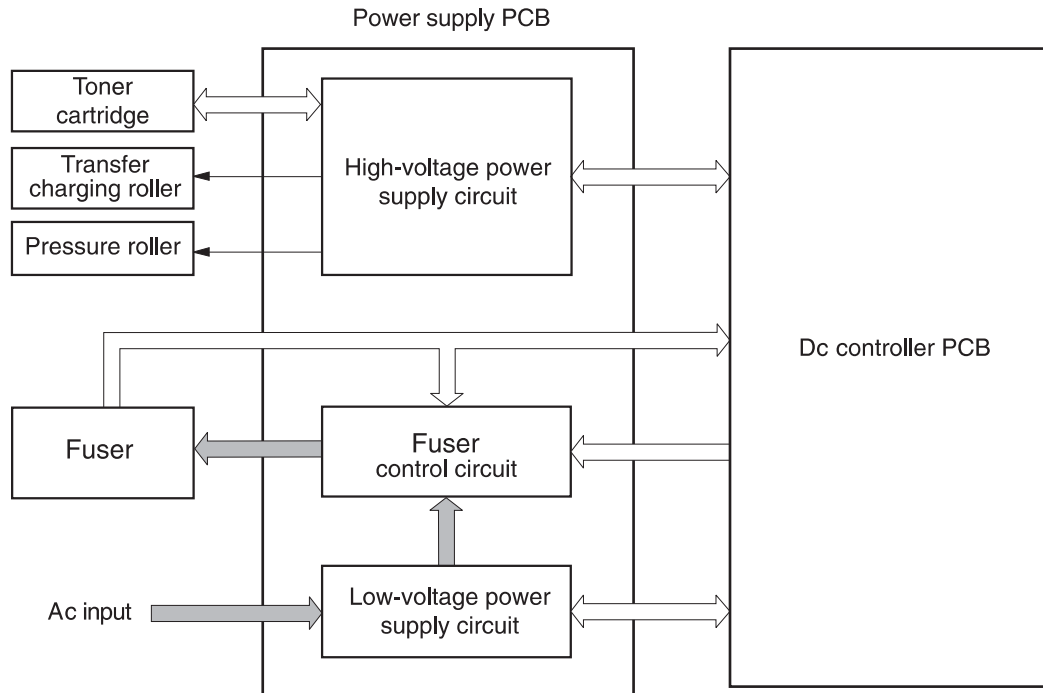


Figure 5-2 Power-supply block diagram

Fuser-control circuit

The fuser-control circuit controls the fuser components. The two fuser heaters provide the high temperatures that cause the toner to permanently bond to the media. The fuser thermistor monitors the fuser temperatures. The thermal switch detects abnormally high fuser temperatures and interrupts the supply of voltage to the fuser if the temperature is too high.

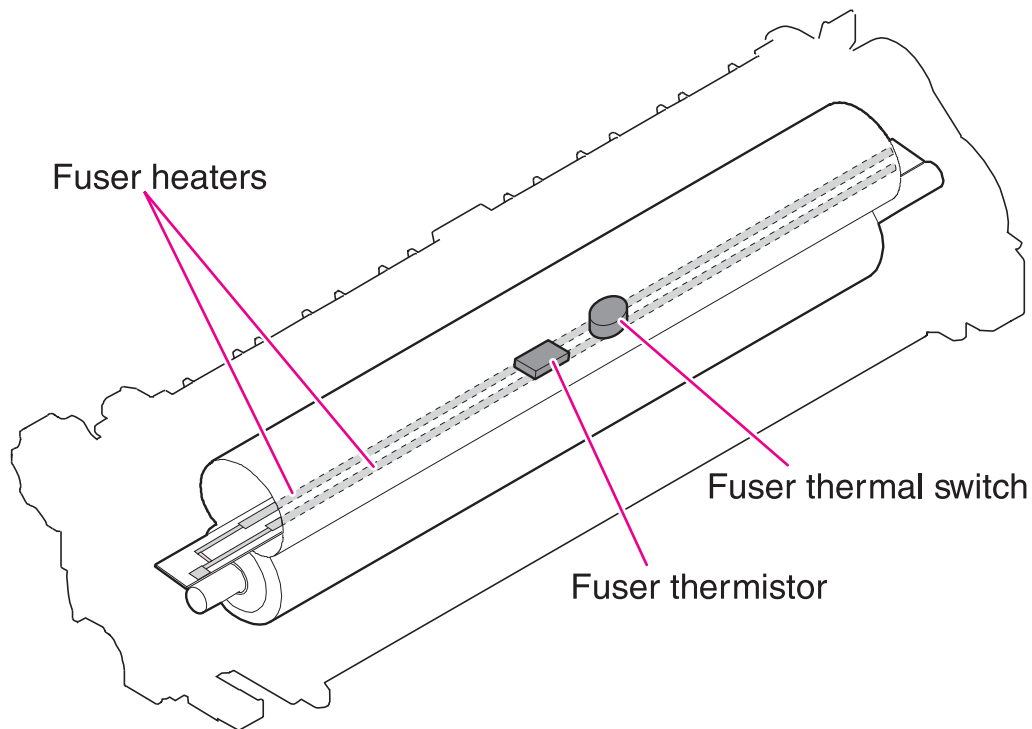


Figure 5-3 Fuser components

Fuser over-temperature protection

The fusing heater safety circuit is located on the power supply and constantly monitors the fusing temperature.

To protect the fuser from excessive temperatures, the printer has the following three protective functions:

- The CPU monitors the voltage of the thermistor. If the fuser temperature reaches 240°C (464°F) or higher, the CPU turns off the relay (RL101) to interrupt the power to the fusing heater.
- If the temperature of the fusing heater continues to rise abnormally and the temperature of the thermistor (TH1) exceeds about 250°C (482°F), the relay 1 (RL101) opens up to cut off the power supply to the fusing heater.
- When the temperature of the heater exceeds about 250°C (482°F), the thermal switch (TP1) turns off to cut off the power supply to the fusing heater.

Overcurrent/overvoltage protection

If a short-circuit or other problem on the load side causes an excessive current flow or generates abnormal voltage, the overcurrent/overvoltage protection systems automatically cut off the output voltage to protect the power-supply circuit.

If the overcurrent or overvoltage protection system are activated and the power-supply circuit does not generate dc voltage, turn the power off, correct the problem, and then turn the printer on again.

The circuit has two fuses (FU1, FU2), which break and cut off the output voltage if overcurrent flows through the alternating current (ac) line.

Laser/scanner assembly

The laser/scanner produces the latent electrostatic image on the photosensitive drum in the print cartridge. The main components of the laser/scanner assembly are the laser driver PCA, the scanner motor, various mirrors, and the focusing lenses.

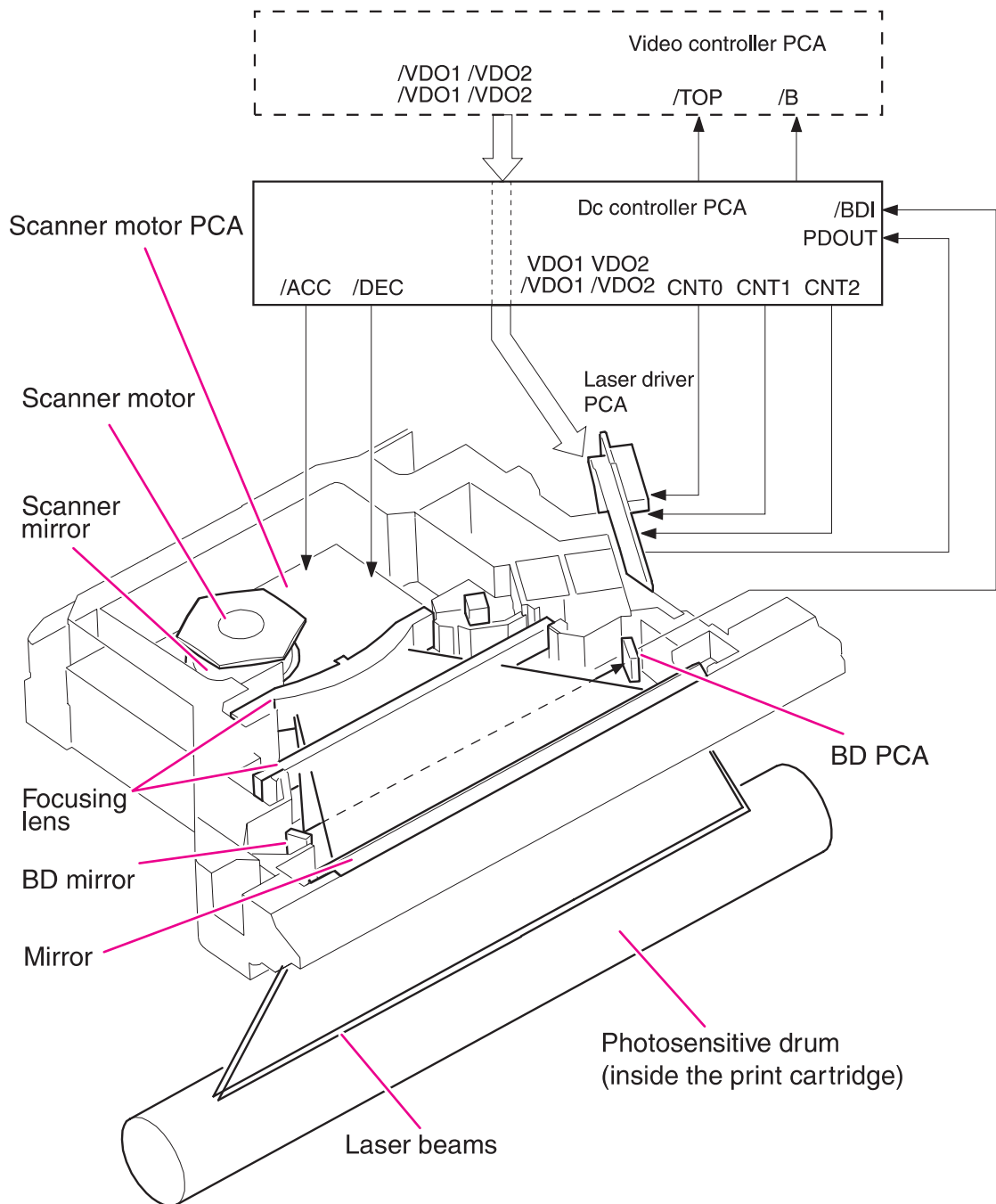


Figure 5-4 Laser/scanner assembly

The laser scanner uses two laser diodes to scan two lines simultaneously, producing high-speed laser scanning. After receiving the print command from the host computer, the dc controller PCA activates the scanner motor, which rotates the six-sided scanner mirror. The laser-driver PCA emits light from the two laser diodes according to signals from the dc controller PCA. The two laser beams

strike the six-sided scanning mirror and are directed through the focusing lenses and onto the photosensitive drum. The modulated laser beams generate the latent electrostatic image on the photosensitive drum according to the image data signals that the dc controller PCA sends.

- 1 As it receives a print command from the formatter, the dc controller outputs the SCANNER MOTOR SPEED CONTROL signal (/ACC) and rotates the scanner motor in order to rotate the six-sided mirror.
- 2 As the scanner motor starts rotating, the dc controller uses a LASER CONTROL signal (CNT0, CNT1, CNT2) to receive the /BD INPUT signal (/BDI) and force the laser to emit light . The dc controller detects the rotational speed of the scanner motor based on the timing the /BD1 signal is input and controls the speed to keep it constant.
- 3 While the scanner motor rotates at a constant speed, the dc controller passes the VIDEO signals from the formatter on to the laser driver PCA. The laser driver PCA emits light from the two laser diodes according to these signals: VDO1, /VDO1, VDO2, /VDO2.
- 4 The two laser beams pass through the collimator lens and cylindrical lens and strike the six-sided mirror that is rotating at a constant speed.
- 5 The laser beams, that are reflected off of the six-sided mirror pass through the focus lens and reflective mirror and focus on the photosensitive drum. The laser beams scan the drum surface at a constant speed.
- 6 As the six-sided mirror rotates and the laser beam scans the drum surface at a constant speed, a latent image forms on the drum surface.

Paper-pickup-and-feed system

The pickup-and-feed system consists of various rollers that the printer motors drive. The printer uses tray 1 (the manual feeding tray) and a cassette in tray 2 as media sources. The printed media is delivered to either the rear output bin (straight-through printing) or the top output bin (the default destination). One 500-sheet feeder and one 1,500-sheet feeder can be added to HP LaserJet 4200/4300 Series printers. Two additional 500-sheet feeders and one 1,500-sheet feeder can be added to HP LaserJet 4250/4350 Series printers. These accessories are discussed later in this chapter.

The tray 1 paper sensor (on the tray 1 pickup assembly; PS105) detects media in tray 1. The tray 2 paper sensor (PS101) detects media in tray 2. The paper-size sensor (PS106) and the paper-size switch (SW102) detect the media that is loaded in the tray 2 cassette.

Two motors, a clutch, and a solenoid that are controlled by the dc controller PCA drive all of the rollers in the HP LaserJet 4200 Series printers. The HP LaserJet 4250, 4300, and 4350 Series printers use three motors, a clutch, and a solenoid. See [Motor and fan control](#).

The pre-feed, top-of-page, and fuser-assembly delivery sensors (PS102, PS103, PS108) detect media arriving and passing along the paper path. If the media does not reach or pass these sensors within a specific amount of time, the microprocessor on the dc controller PCA halts the printer functions and a jam error message appears on the control-panel display. See [Alphabetical printer messages](#) and [Numerical printer messages](#).

For information about the location of printer switches, sensors, and motors see [Printer switches and sensors](#) and [Printer motors and fans](#).

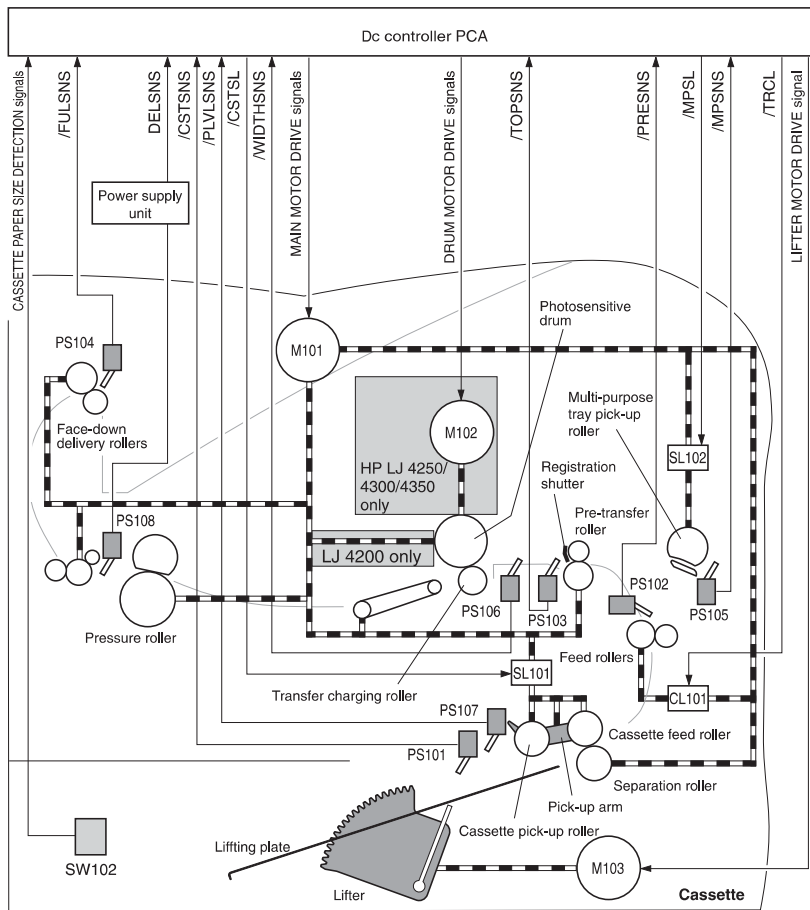


Figure 5-5 Printer paper-pickup-and-feed block diagram

Pickup-and-feed block

The pickup-and-feed system is divided into two blocks: The pickup-and-feed block and the fuser/delivery block.

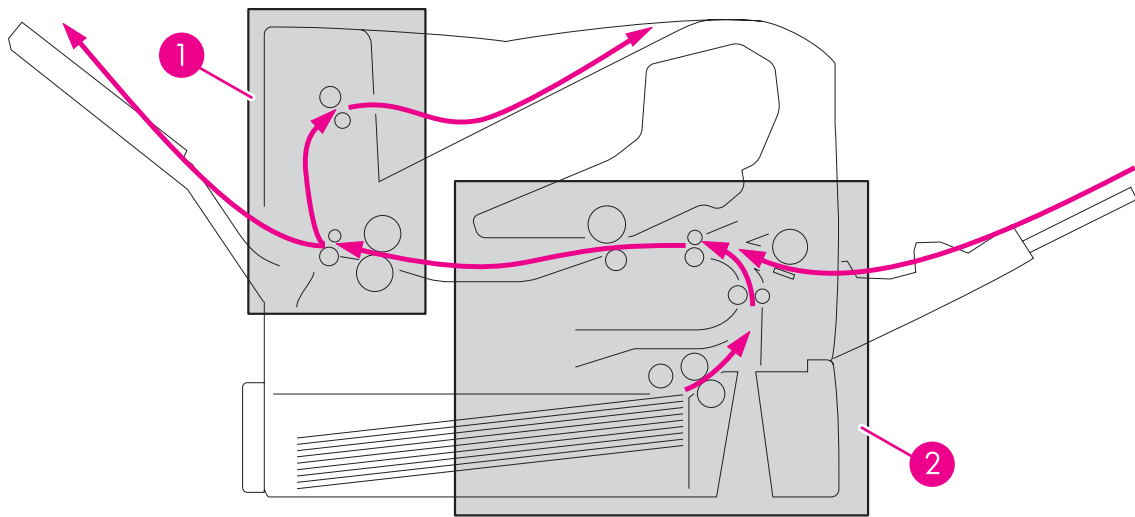


Figure 5-6 Pickup-and-feed and fuser/delivery block diagram

1	Fuser/delivery block
2	Pick-up and feed block

The following printer functions take place in the pickup-and-feed block:

- Detection of media
- Detection of media-size
- Detection of media entering the paper path from tray 1 or tray 2
- Lifting of the tray 2 paper plate
- Prevention of multiple-feeds
- Correction of page skew

For information about the locations of switches, sensors, and motors in the pickup-and-feed block, see [Printer switches and sensors](#) and [Printer motors and fans](#).

When it receives a print command from the host computer, the dc controller PCA turns on the main motor (M101) power. The motor drives the tray 2 pickup, feed, and separation rollers. In HP LaserJet 4300 and 4350 Series printers, the print cartridge motor power also turns on. The laser/scanner motor power turns on.

The dc controller PCA then activates the feed clutch (CL101) to rotate the feed roller. The tray 2 pickup solenoid is activated (SL101) and the pickup arm descends. The pickup roller touches the media and a sheet is fed into the printer. The separation roller prevents multiple sheets of media from being fed at one time.

As the pre-feed sensor (PS102) detects the media, the dc controller PCA turns off the clutch, which stops the media. When the dc controller PCA detects that the laser/scanner is ready it activates the feed clutch again. The feed roller moves the media farther into the printer. The registration shutter corrects page skew and the media is transported to the fuser/delivery block.

For information about the timing of these operations, see [General timing diagrams](#).

Printing from tray 1

The tray 1 paper sensor (PS105) detects the presence of media in tray 1.

When the dc controller PCA receives the print command, the printer starts the initial rotation phase, which consists of main motor warm-up, scanner motor warm-up, high-voltage control sequence, and fuser warm-up. When the initial rotation phase ends, the tray 1 pickup solenoid (SL102) is activated.

The cam rotates, the paper-tray lifter rises, and the media comes in contact with the tray 1 pickup roller. At the same time, the tray 1 pickup roller rotates twice and picks up a sheet of media from tray 1. The separation pad prevents additional sheets from feeding with the first sheet.

The sheet then reaches the registration assembly, where its skew is corrected. The sheet then passes through the transfer, separation, and fusing stages; through the delivery unit; and is to the output bin.



NOTE If media is removed from tray 1 after the initial rotation phase, but before the pickup roller pulls the media from the tray, the tray 1 pickup roller might continue to rotate up to six times, after which a jam detected.

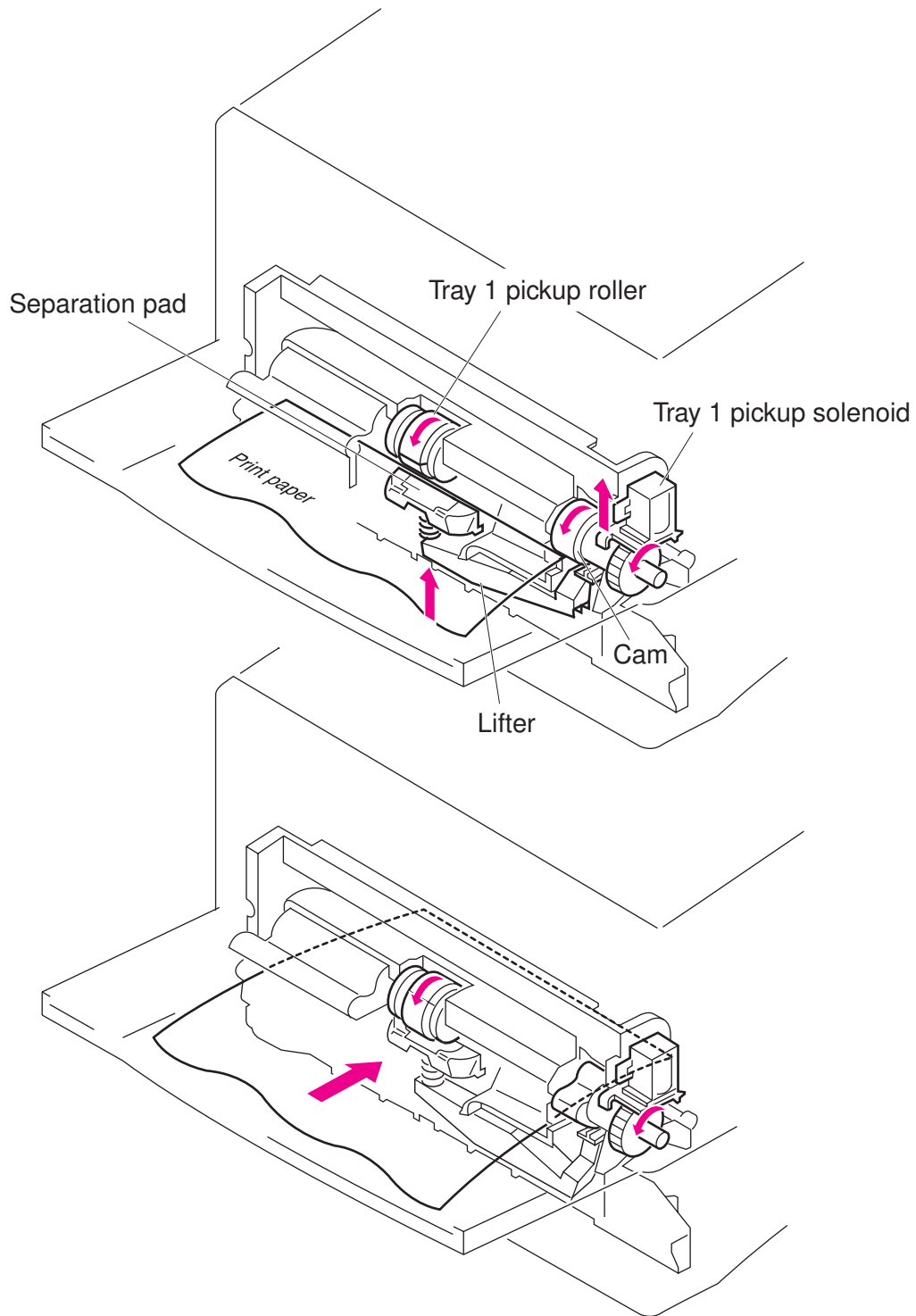


Figure 5-7 Tray 1 pickup

Printing from tray 2

When the dc controller PCA receives the print command, the main motor (M101) and scanner motor start their rotation. When the main motor reaches its prescribed speed, the feed roller clutch (CL101) and tray 2 pickup solenoid (SL101) are activated. (The main motor rotation drives the tray 2 pickup roller, tray 2 feed roller, tray 2 separation roller, and paper-feed rollers.)

The tray 2 pickup roller, which the pickup solenoid activates, rotates once and picks up the media in the tray. The separation roller prevents additional sheets from feeding with the first sheet, and the media is fed to the pre-feed sensor (PS102).

The sheet then reaches the registration assembly, where its skew is corrected. The sheet then passes through the transfer, separation, and fusing stages; through the delivery unit; and to the output bin.

Tray 2, 500-sheet feeder, and 1,500-sheet feeder media-size detection

Three switches detect the size of media in the cassette. The switches are active when the cassette is placed in the tray 2 feeder, 500-sheet feeder, or 1,500-sheet feeder. The dc controller PCA microprocessor detects the size and presence of the media by reading the combinations of the switches.

Table 5-3 Tray 2 and 500-sheet feeder media-size-switch settings

Paper size	Media-size-switch setting		
	Upper	Center	Lower
No cassette installed	Off	Off	Off
A4	Off	Off	On
LTR	Off	On	Off
B5	Off	On	On
A5	On	Off	Off
EXE	On	Off	On
LGL	On	On	Off
UNV	On	On	On

Table 5-4 1,500-sheet feeder media-size-switch settings

Paper size	Media-size-switch setting		
	Upper	Center	Lower
No cassette installed	Off	Off	Off
A4	On	Off	On
LTR	Off	On	On
LGL	On	On	Off

The tray 2 cassette can detect the media size by using the switches described; however, the user can define the media size for the tray by using the control panel (see [Paper-handling menu](#)). In this case, the printer might not detect the media size correctly if the size that the user defined does not match the tray settings.

To prevent a false size-detection, the printer measures the time it takes for the media to pass through the printer and determines the size of media that was fed from the tray. When the measured size differs from the user defined size or from the media size-switches, a message appears on the control-panel display (see [Alphabetical printer messages](#)).

Lifter-driver operation

The lifter driver keeps the tray 2 media-stack surface at a specific level in order to have a stabilized pickup operation regardless of the size of the media in the tray 2 cassette. The dc controller PCA operates the lifter-driver motor (M103) for 50 seconds. The motor stops when the paper-stack-position sensor (PS107) detects the media. If the paper-stack-position sensor does not detect any media within 8 seconds after the lifting operation has begun, the dc controller PCA determines that a lifter-driver motor failure has occurred, and a message appears on the control-panel display (see [Alphabetical printer messages](#) or [Numerical printer messages](#)). The dc controller PCA stops the lifting operation if the paper-stack-position sensor detects that the tray 2 cassette is missing.

Multiple-feed prevention

The printer uses the separation roller in tray 2 to prevent multiple-feeding. Normally, the separation roller rotates in the same direction as the feed roller. The separation roller is equipped with a torque limiter, but because the force of the feed roller exceeds that of the torque limiter, the separation roller is actually driven by the feed roller.

If multiple sheets of media are picked up, however, the low friction force between the sheets weakens the rotational force from the feed roller to the separation roller. Consequently, the torque limiter takes control of the separation roller and rotates the separation roller in the reverse direction, which removes the extra sheets.

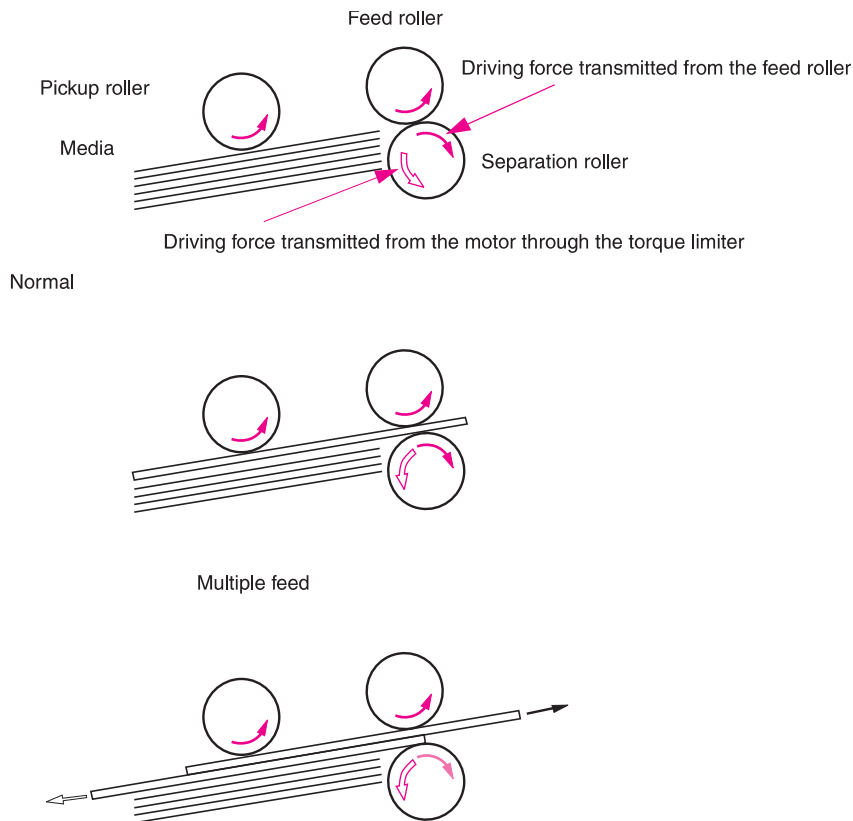


Figure 5-8 Multiple-feed prevention

Media-skew prevention

The printer uses a registration shutter on the registration assembly to prevent media from entering the printer skewed, without decreasing the throughput speed. When the leading edge of the media contacts the registration shutter, the shutter does not open. The feed roller continues to rotate and the media begins to sag. When the entire leading edge comes in full contact with the shutter, the media skew is corrected and registration shutter opens. When the shutter opens, the media can continue into the printer paper path.

Fuser/delivery block

The pickup-and-feed system is divided into two blocks: the pickup-and-feed block and the fuser/delivery block.

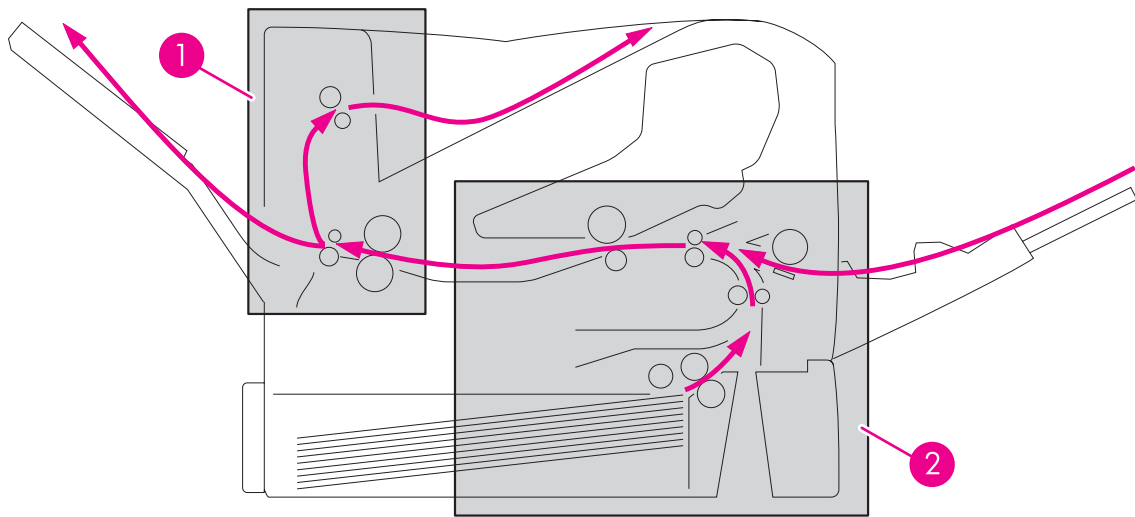


Figure 5-9 Pickup-and-feed and fuser/delivery block diagram

1	Fuser/delivery block
2	Pickup-and-feed block

The fuser/delivery block consists of rollers, sensors, the fuser, and the output delivery assembly. The rollers transport the media through the fuser/delivery block paper path. The fuser applies heat and pressure to the media to permanently bond the toner image to the media. The output delivery assembly sends the printed media either to the rear output bin (if the rear output door is open) or to the top output bin (the default output delivery bin). Sensors along the paper path detect media movement, jams, and the top output-bin capacity.

Jam detection

The printer uses the following sensors to detect the presence of media and to verify whether media is being fed correctly or has jammed. For information about the location of these sensors, see [Printer switches and sensors](#).

- Pre-feed sensor (PS102)
- Top-of-page sensor (PS103)
- Fuser-delivery sensor (PS108)

The microprocessor on the dc controller PCA checks for jams by timing the media as it moves past these sensors. If the media does not pass the sensor in a specific period of time, the transport process is stopped (motors are turned off and the rollers do not rotate) and a jam message appears on the control-panel display.

Printer pickup delay jam from tray 1

If the top-of-page sensor (PS103) does not detect the *leading* edge of the media within a specific period of time after the media is picked up, the microprocessor on the dc controller PCA determines that a pickup jam has occurred.



NOTE The printer attempts to pick up the media several times before determining that a pickup jam exists. The number of pickup attempts depends on the source (for example, four attempts occur if tray 1 is the source).

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) or [Numerical printer messages](#).

Printer pickup delay jam from tray 2

If the pre-feed sensor (PS102) does not detect the *leading* edge of the media within a specific period of time after the media is picked up, the microprocessor on the dc controller PCA determines that a pickup jam has occurred.



NOTE The printer attempts to pick up the media several times before determining that a pickup jam exists. The number of pickup attempts depends on the source (for example, four attempts occur if tray 1 is the source).

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) or [Numerical printer messages](#).

Printer pickup stationary jam

If the top-of-page sensor (PS103) does not detect the *trailing* edge of the media within a specific period of time after the media is picked up, the microprocessor on the dc controller PCA determines that a pickup jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) or [Numerical printer messages](#).

Printer-delivery wrap jam when feeding regular media



NOTE Regular-size media is defined as A4, Letter, Legal, B5, Executive or A5.

If the fuser delivery sensor (PS108) does not detect the *trailing* edge of the media after a specified fusing time, the microprocessor on the dc controller PCA determines that a printer delivery-wrap jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) or [Numerical printer messages](#).

Printer delivery wrap-jam when feeding irregular media



NOTE Irregular media is defined as media that is less than 200 mm (7.9 inches) in length.

If the fuser delivery sensor (PS108) does not detect the *trailing* edge of the media within a specified period of time after a printer delivery wrap jam is detected, or if the fuser delivery sensor (PS108) does not detect the *trailing* edge of the media within a specified period of time after it has detected the *leading* edge of the media, the microprocessor on the dc controller PCA determines that a printer delivery wrap jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) or [Numerical printer messages](#).

Printer delivery-delay jams

If the fuser delivery sensor (PS108) does not detect the *trailing* edge of the media within a specified period of time after detecting the *leading* edge of the media, the microprocessor on the dc controller PCA determines that a fuser stationary jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) or [Numerical printer messages](#).

If the fuser delivery sensor (PS108) detects the *trailing* edge (paper out) of the media within a specified period of time after it has detected the leading edge of the media, the microprocessor on the dc controller PCA determines that a delivery jam has occurred.

However, if the paper-length that the top-of-page sensor (PS103) detects does not match the media size that the printer expects from the pickup source, this jam is ignored. The top-of-page sensor (PS103) determines the length of the page by measuring the time it takes between when the leading and trailing edges of the page pass the sensor.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) or [Numerical printer messages](#).



NOTE This jam cannot be detected for pages that are less than 200 mm (7.9 inches) in length.

Printer door-open jam

If the top door is opened during printing, the top-door-open switch (SW101) is activated and the microprocessor on the dc controller PCA determines that a door-open jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) or [Numerical printer messages](#).

Printer residual-media jam

If neither the top-of-page sensor (PS103) nor the fuser-delivery sensor (PS108) detects the *leading* edge of the media at the start of initial rotation (see [Table 5-1 Basic printer operating sequence](#)), the microprocessor on the dc controller PCA identifies a residual-media jam.

Printing from the 500-sheet feeder



NOTE HP LaserJet 4200/4300 Series printers support up to two optional 500-sheet feeders.

HP LaserJet 4250/4350 Series printers support up to three optional 500-sheet feeders.

The paper-feeder driver controls the 500-sheet feeder operation sequences. An 8-bit microprocessor in the paper-feeder driver controls the 500-sheet feeder sequences and the communication with the dc controller PCA.

The paper-feeder driver drives the solenoid in response to the pickup command. The paper-feeder driver also reports the paper-feeder status to the dc controller PCA.

The printer delivers a charge of +24 Vdc to the paper feeder, which then generates 5 V for the integrated circuits.

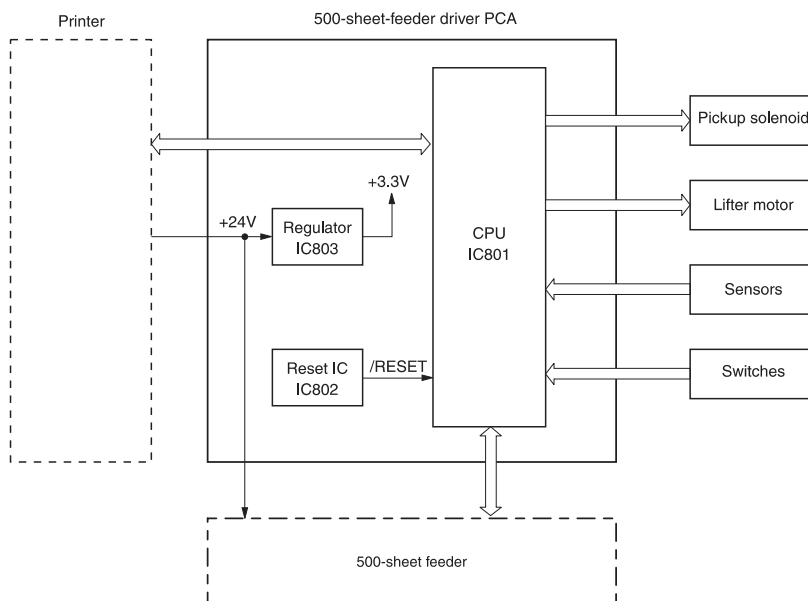


Figure 5-10 500-sheet feeder I/O block diagram

500-sheet feeder pickup and feeding

Three switches on the paper-feeder driver detect the media size and the presence of the 500-sheet tray. The relationship between the switch combinations and the paper sizes is the same as for the printer.

The main motor (M101) drives the paper feeder. When the dc controller PCA sends a print command, the main motor begins to rotate. When the scanner motor reaches its prescribed speed, the paper-feeder driver receives the pickup command from the dc controller PCA and activates the paper-feeder pickup solenoid. (The main motor drives the pickup roller, feed roller, and separation roller.)

The pickup roller, when the solenoid activates it, rotates once and picks up the media in the tray. The separation roller removes any additional sheets and the media travels to the pre-feed sensor (PS102).

The sheet then reaches the registration assembly, where its skew is corrected. The sheet advances through transfer, separation, and fusing stages; passes through the delivery unit; and is delivered to the output bin.



NOTE The 500-sheet feeder detects pickup-and-feed jams the same way the printer does. See [Jam detection](#).

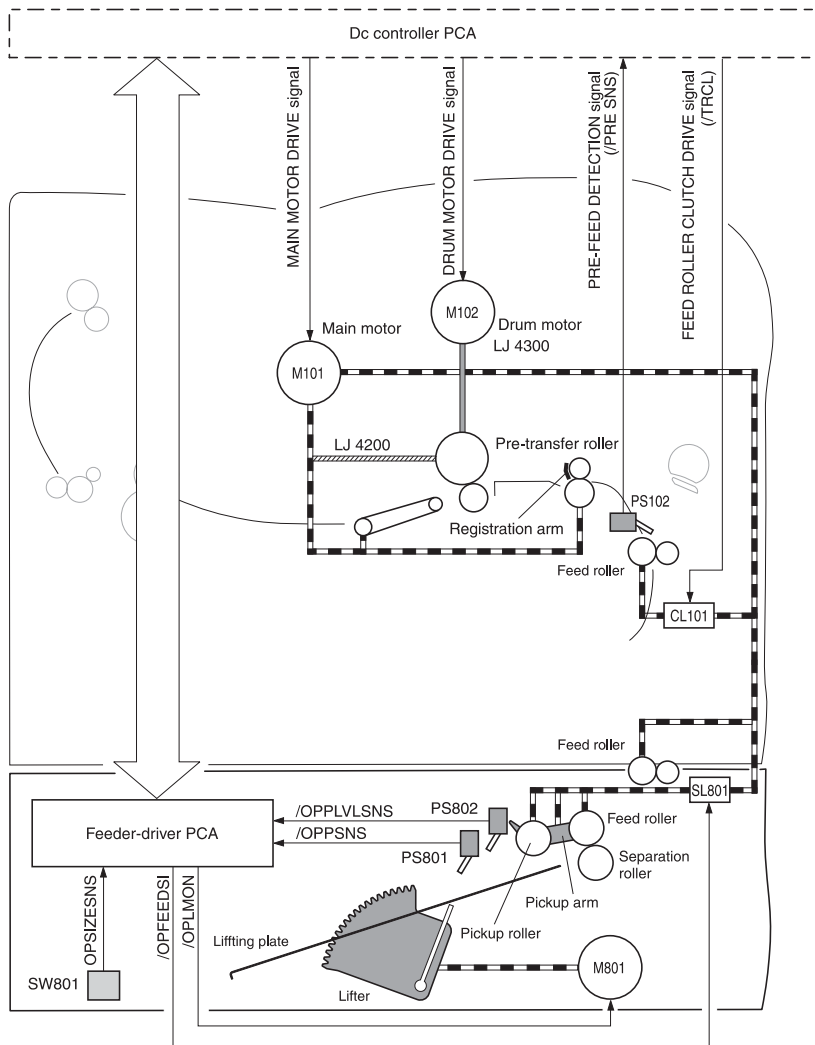


Figure 5-11 500-sheet feeder pickup-and-feed diagram

Printing from the 1,500-sheet feeder

The paper-feeder driver controls the 1,500-sheet feeder operation sequences. An 8-bit microprocessor in the paper-feeder driver controls the 1,500-sheet feeder sequences and the communication with the dc controller PCA.

The paper-feeder driver drives the solenoid in response to the pickup command. The paper-feeder driver also reports the paper-feeder status to the dc controller PCA.

The printer delivers a charge of +24 Vdc to the 1,500-sheet feeder, which then generates +3.3 V for the integrated circuits.

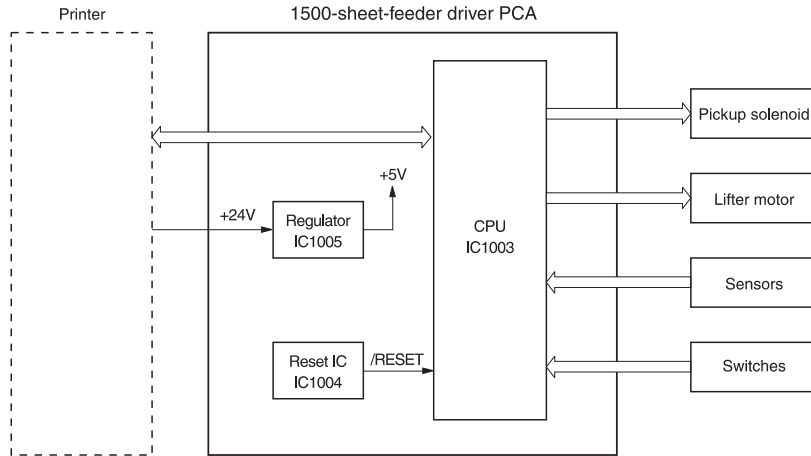


Figure 5-12 1,500-sheet feeder I/O block diagram

1,500-sheet feeder pickup and feeding

Three switches on the paper-feeder driver detect the media size and the presence of the 1,500-sheet tray. The relationship between the switch combinations and the paper sizes is the same as for the printer.

The main motor (M101) drives the paper feeder. When the dc controller PCA sends a print command, the main motor begins to rotate. When the scanner motor reaches its prescribed speed, the paper-feeder driver receives the pickup command from the dc controller PCA and activates the paper pick-up solenoid. (The main motor drives the pick-up roller, feed roller, and separation roller.)

The pick-up roller, when the solenoid activates it, rotates once and picks up the media in the tray. The separation roller removes any additional sheets and the media travels to the pre-feed sensor (PS102).

The sheet then reaches the registration assembly, where its skew is corrected. The sheet advances through transfer, separation, and fusing stages; passes through the delivery unit; and is delivered to the output bin.



NOTE The 1,500-sheet feeder detects pickup-and-feed jams the same way the printer does. See [Jam detection](#).

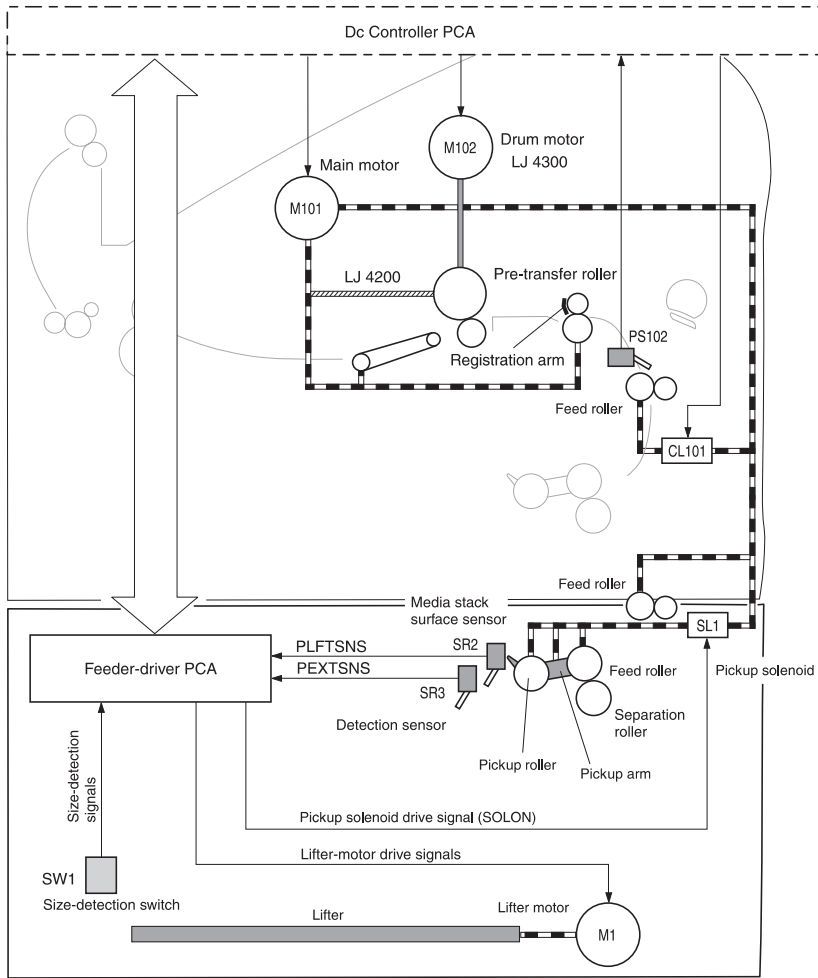


Figure 5-13 1,500-sheet feeder pickup-and-feed diagram

1,500-sheet feeder lifting mechanism

The lifting mechanism maintains the media-stack surface at a specific position inside the 1,500-sheet feeder. So that the feeder can perform a stabilized pickup operation regardless of the size of the media in the feeder. Two wire cables lift the lift plate inside of the feeder. A motor (M1) uses pulleys in the feeder to wind the wires. When the front door of the feeder is opened, the pulley gears and the motor gear are disengaged and the lift plate lowers under its own weight. The lifting mechanism is active (the plate is in the raised position) when the dc controller PCA sends a signal, when the front door is closed, or during the print operation. The 1,500-sheet feeder control PCA driver stops the motor (M1) when the 1,500-sheet feeder paper-stack-position sensor (SR2) detects media.

If the 1,500-sheet feeder paper-stack-position sensor (SR2) does not detect media within approximately 30 seconds after the start of the lift operation, the paper-deck driver PCA detects a lifter motor failure and sends a signal to the dc controller PCA. An error message appears on the control-panel display.

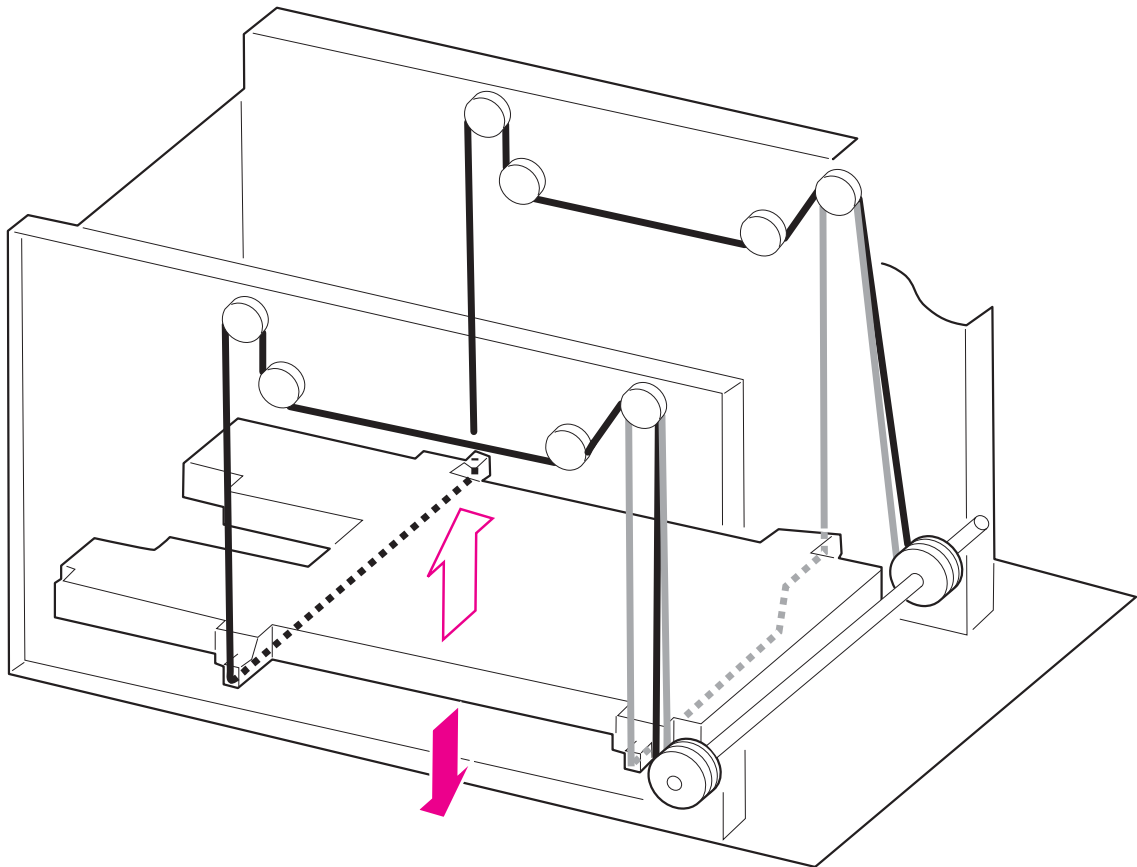


Figure 5-14 1,500-sheet feeder lifting mechanism

Envelope feeder

The envelope-feeder driver controls the envelope feeder operation sequences. An 8-bit microprocessor in the envelope feeder driver controls the envelope-feeder sequence and the communication with the dc controller PCA.

The dc controller PCA sends the pickup command to the envelope-feeder driver with the necessary timing. The envelope-feeder driver activates the solenoid in response to the command.

The printer delivers a charge of +24 Vdc to the envelope feeder, which then generates +5V for the integrated circuits.

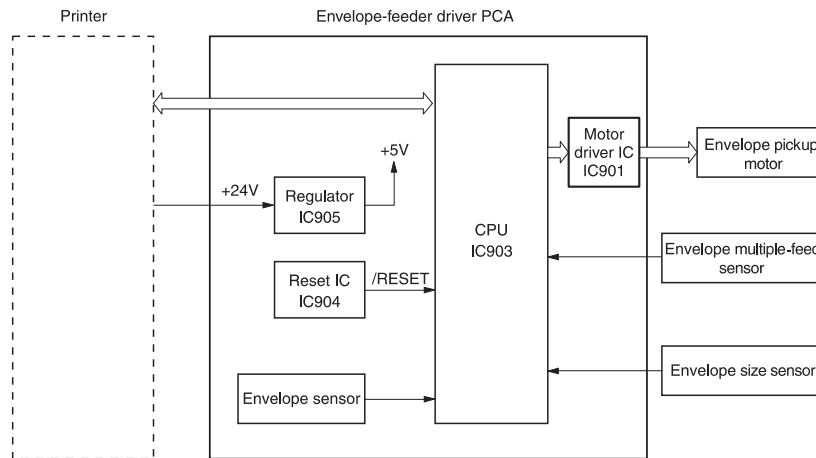


Figure 5-15 Envelope-feeder I/O block diagram

Envelope-feeder pickup and feeding

In the envelope feeder, the envelope sensor (PS901) detects the presence of envelopes and the envelope-size sensor (PS903) detects the width of the envelopes. The envelope pick-up motor (M901) drives all of the rollers in the envelope feeder.

When the dc controller PCA sends a print command, the main motor (M101) begins to rotate. After the main motor initial rotation phase is completed, the scanner motor begins to rotate. As the scanner motor rotates, the envelope pick-up motor (M901) begins to rotate to drive the pickup roller, feed roller, and separation roller, and an envelope is picked up.

The separation roller removes any additional envelopes and a single envelope travels to the printer. The registration assembly corrects any skew. The envelope travels through the printer paper path and is delivered to the output bin.

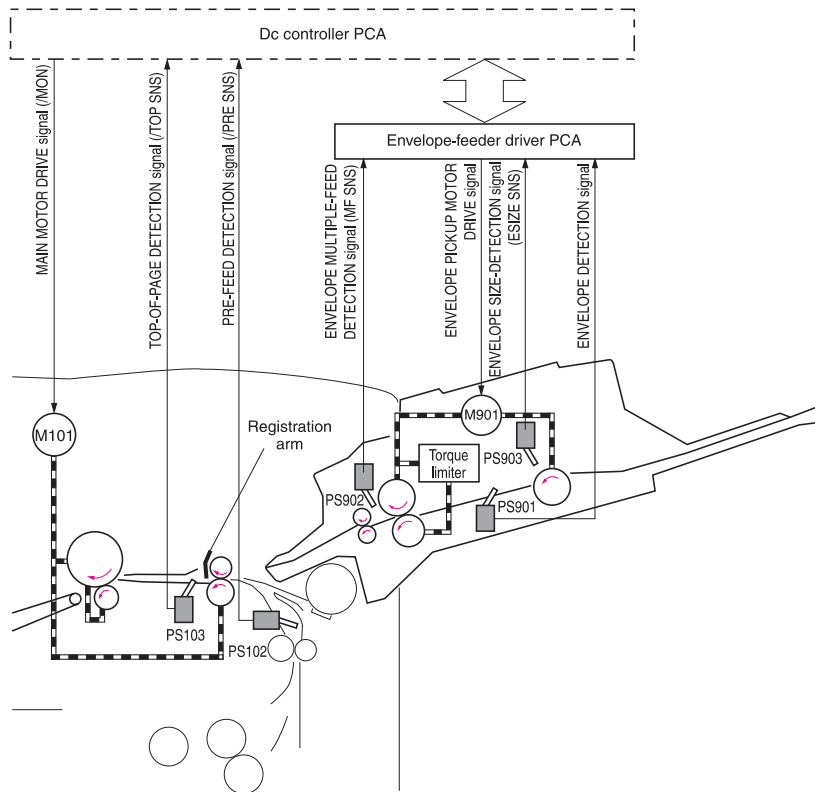


Figure 5-16 Envelope-feeder pickup-and-feed diagram

Envelope feeder jam detection

The envelope feeder uses the envelope multiple-feed sensor (PS902) along with sensors in the printer to detect the presence of media and to determine whether the media is feeding correctly or is jamming.

If a jam occurs in the envelope feeder, the error message **13.xx.yy** appears on the control-panel display. For more information see [Numerical printer messages](#).

Envelope feeder pickup delay jam

If the pick-up sensor (PS103) does not detect the *leading* edge of the envelope within a specified period of time after the envelope is picked up, it attempts to pick up the media several times before determining that a pickup jam has occurred.

If the pre-feed sensor inside of the printer (PS102) does not detect the *leading* edge of the envelope within a specific amount of time after the re-pick operation stops, the microprocessor on the dc controller PCA determines that a jam has occurred.

The transport process stops and a **13.xx.yy** message appears on the control-panel display. For more information about jam messages, see [Numerical printer messages](#).

Envelope feeder pickup stationary jam

If the envelope multiple-feed sensor (PS902) detects multiple envelopes after the pickup operation begins, the transport process stops and a **13.xx.yy** message appears on the control-panel display. For more information about jam messages, see [Numerical printer messages](#).

Duplexer

The duplexer driver controls the duplexer operation. An 8-bit microprocessor in the duplexer driver controls the duplexer sequence and the communication with the dc controller PCA.

The duplexer driver drives the solenoid, motors, and fan according to commands that the dc controller PCA sends to the duplexer. The duplexer also communicates its status to the dc controller PCA.

The printer delivers a charge of +24 Vdc to the duplexer, which then generates +5 V for the integrated circuits.

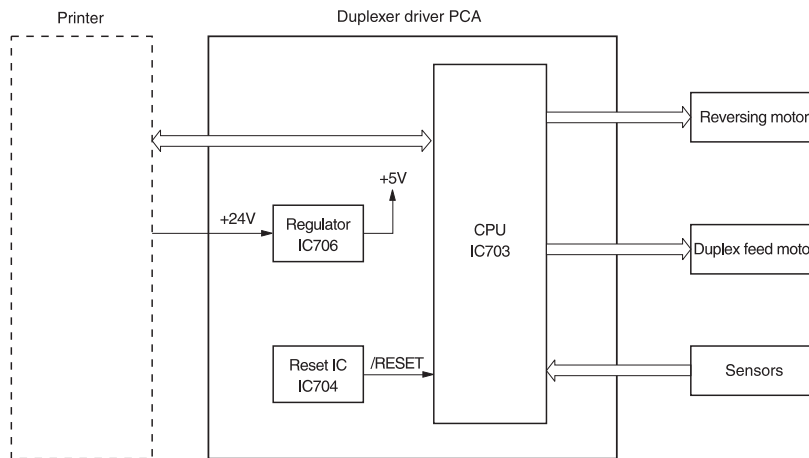


Figure 5-17 Duplexer I/O block diagram

Reversing and duplex pickup

The duplexer has two stepping motors: the reversing motor (M701) and the duplex-feed motor (M702). The duplexer driver controls forward and reverse motor rotations.

The duplexer solenoid controls the face-up output tray diverter, which feeds paper to the duplexer.



NOTE The duplexer cannot be used if the face-up tray is open.

When the trailing edge of the media passes the reverse sensor (PS703), the reversing motor changes direction. The oblique roller and feed roller then move the media so that its edge makes contact with the left panel to correct skew.

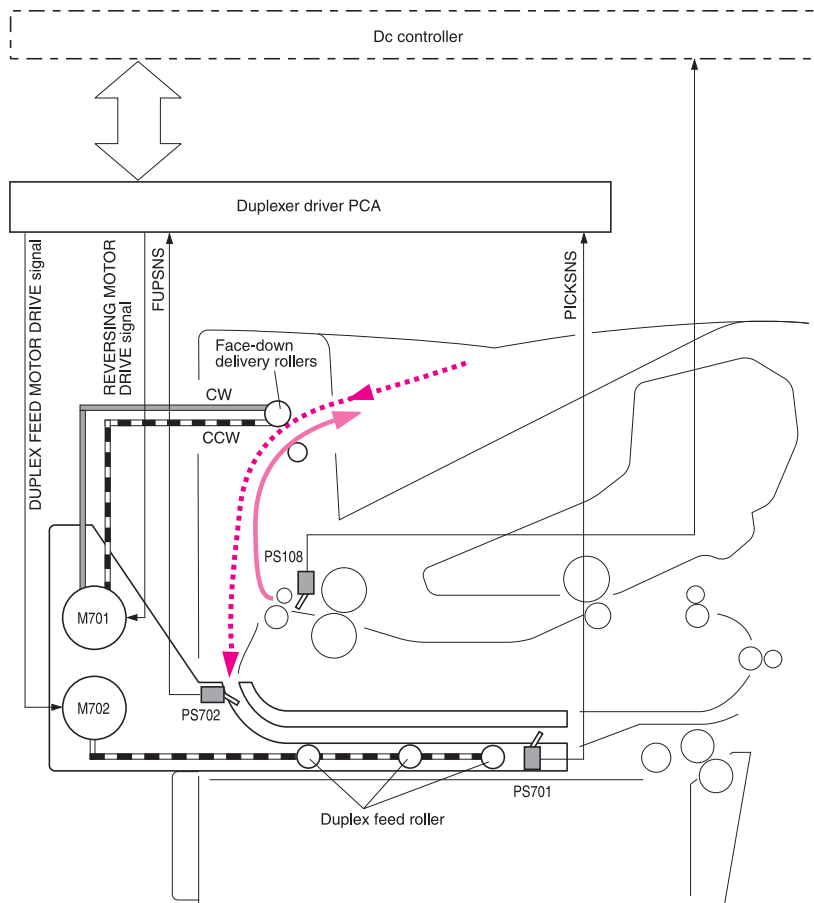


Figure 5-18 Duplexer pickup and reversing diagram

Duplexer jam detection

The following sensors detect whether or not the print media is present and is feeding normally.

- Tray 2 paper sensor (PS101)
- Pre-feed sensor (PS102)
- Top-of-page sensor (PS103)
- Face-down tray paper-full sensor (PS104)
- Tray 1 (multipurpose tray) paper sensor (PS105)
- Paper-width sensor (PS106)
- Fuser-delivery sensor 1 (PS108)

The microprocessor on the dc controller PCA detects a jam by using the sensor to check for media presence at a specific timing that is stored in the memory.

If the dc controller PCA detects that a jam has occurred, it stops the print operation and an error message appears on the control-panel display. See [Alphabetical printer messages](#) and [Numerical printer messages](#).

Stacker and stapler/stacker

The stacker delivers media from the printer to the stacker delivery bin. The stapler/stacker also delivers media from the printer to the stacker delivery bin, but can staple the media together before delivering it to the stapler/stacker delivery bin. The dc controller PCA controls the stacker and stapler/stacker. When the stacker or stapler/stacker is in use, the dc controller PCA sends page information (for example, the paper size or whether the page is the first or last page of the job) to the stacker or stapler/stacker.

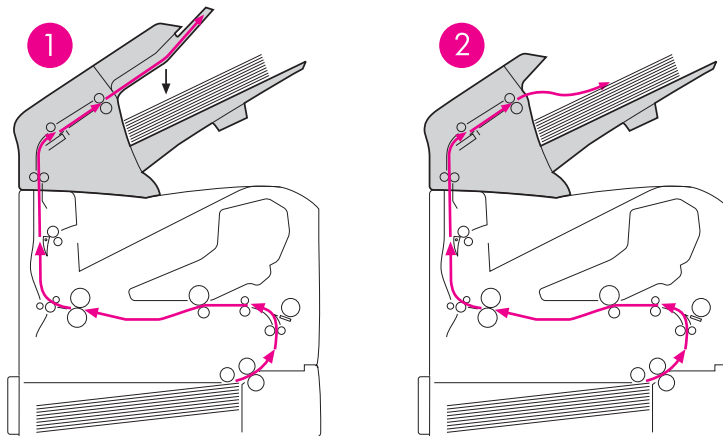


Figure 5-19 Stacker and stapler/stacker paper path

1	Stapler/stacker
2	Stacker

[Figure 5-20 Power-on sequence for the stacker and stapler/stacker](#) illustrates the power-on sequence for the stacker and stapler/stacker.

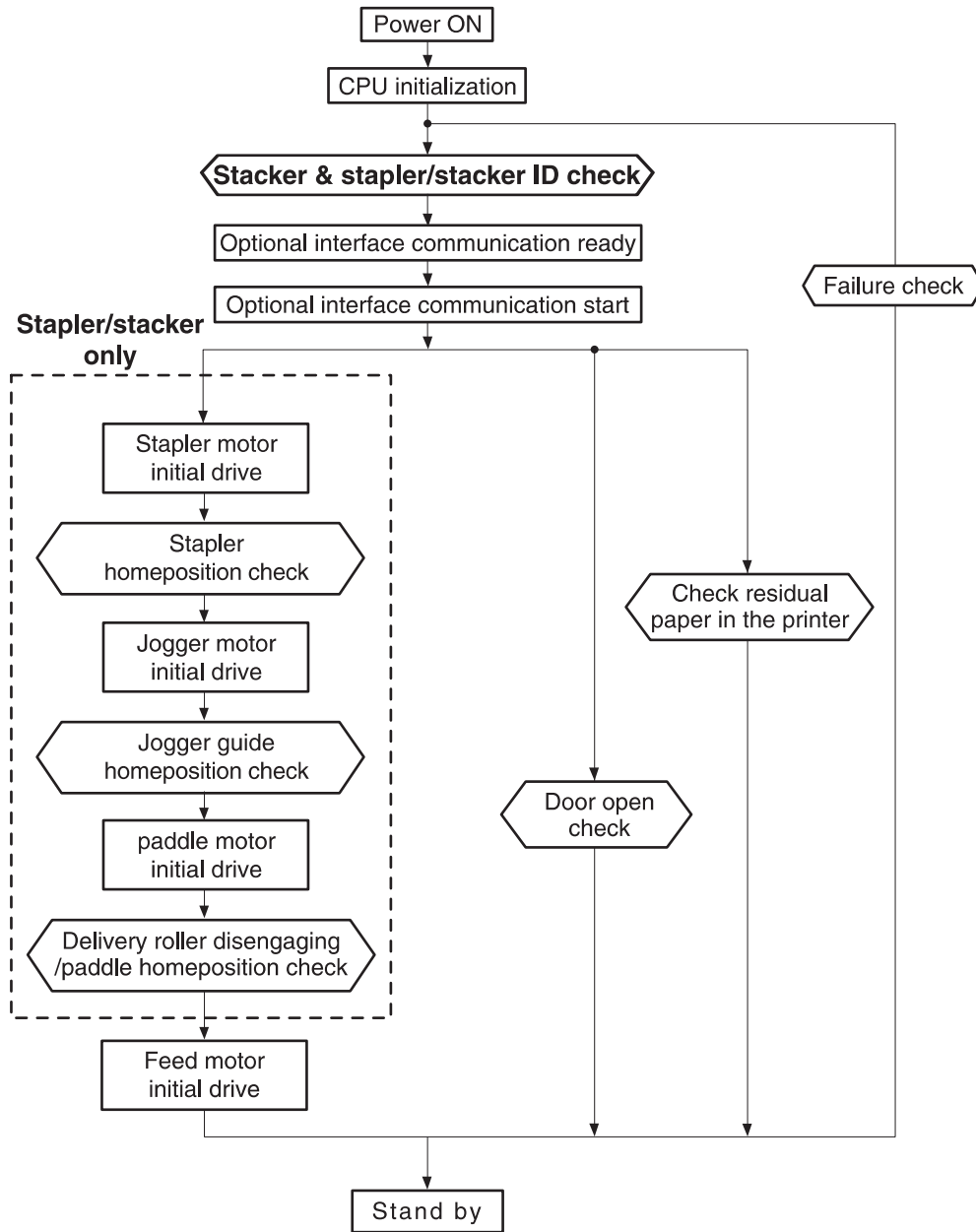


Figure 5-20 Power-on sequence for the stacker and stapler/stacker

Stacker

The dc controller PCA controls the stacker and sends signals to the stacker-driver PCA. The stacker-driver PCA then controls the operation of the stacker components such as the stacker motor, solenoid, and sensors. When the printer power is turned on, dc power from the printer low-voltage supply circuit is supplied to the stacker. The stacker performs the power-on sequence and enters the standby mode. When it receives a signal from the dc controller PCA, the stacker-driver PCA activates the motors and solenoids as needed to perform the stack operation.

Stacker feed and delivery

The stacker feed-and-delivery system consists of several feed rollers and guides that the stacker motor and solenoids drive. Sensors along the stacker paper path detect the arrival and passing of media and confirm the position of the jogger guide. The jogger guide helps to align the pages before placing them in the delivery bin.

Table 5-5 Stacker components

Component		Purpose
Motor	Feed motor (M103)	Rotates the feed and delivery roller
Solenoid	Deflector solenoid (SL1101)	Operates the delivery deflector
Sensor	Paper-inlet sensor (PS1101)	Detects jams
	Paper-delivery sensor (PS1102)	Detects jams
	Delivery paper-full sensor (PS1106)	Detects that the delivery bin is full
Switch	Door-open switch (SW1101)	Detects an open door

After the *leading* edge of the media reaches the fuser delivery sensor (PS108) in the printer, the dc controller PCA sends a signal to the stacker-driver PCA. The stacker-driver PCA activates the deflector solenoid (SL101) for a specific amount of time to move the delivery deflector into place to route the media to the stacker rather than to the top output bin. The stacker-driver PCA also activates the stacker motor (which rotates at the same speed as the printer main motor) to rotate the feed and delivery rollers.

The feed roller moves the media into the stacker. If the dc controller PCA sends a following-page signal (which indicates that the job contains another page), the stacker-driver PCA activates the deflector solenoid (SL101) again. The delivery roller moves the media into the delivery bin.

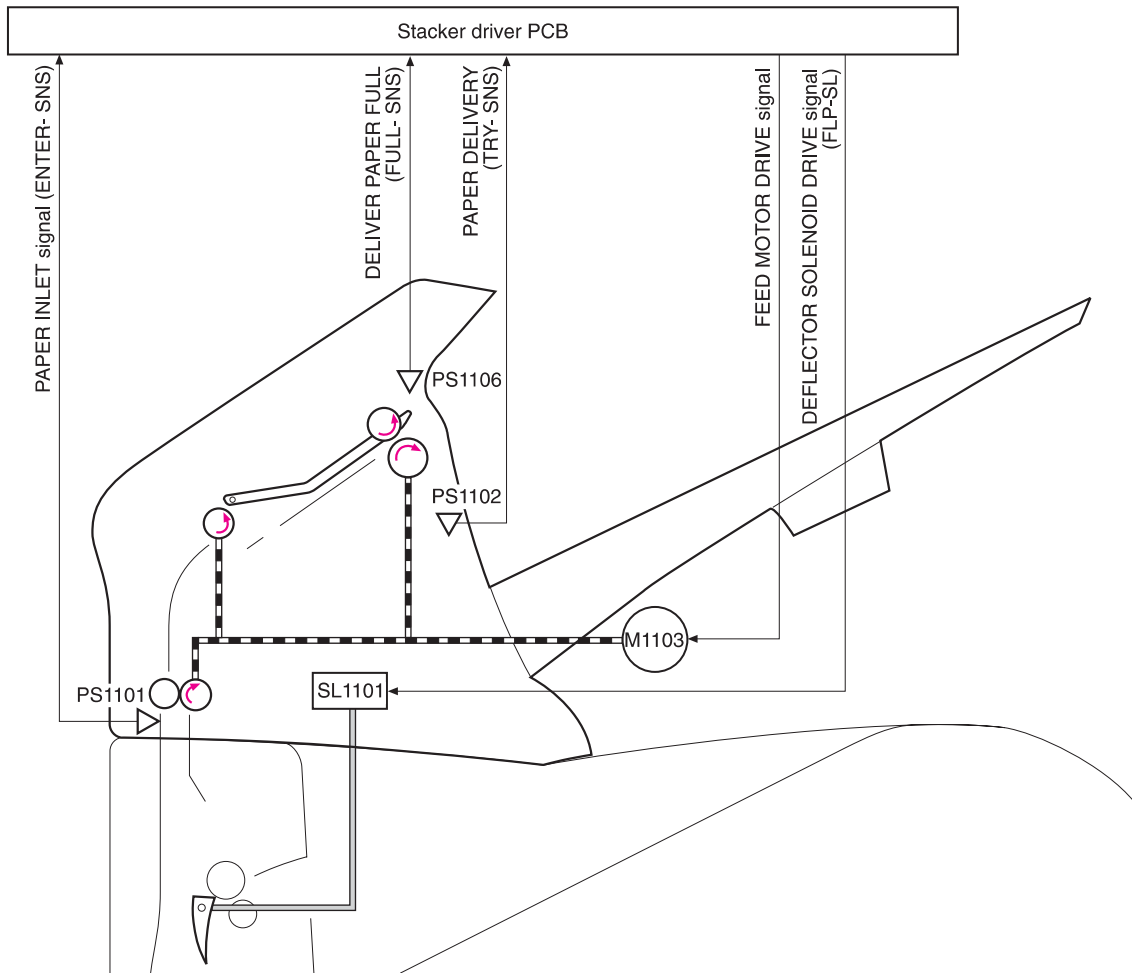


Figure 5-21 Stacker-feed delivery diagram

Stacker jam detection

The stacker uses the following sensors to detect the presence of media and to verify whether the media is feeding correctly or is jamming. For information about the location of these sensors, see [Stacker and stapler/stacker switches and sensors](#).

- Paper-inlet sensor (PS1101)
- Paper-delivery sensor (PS102)

Stacker-feed jam

If the paper-inlet sensor (PS1101) does not detect the *leading* edge of the media within a specified period of time after the stacker driver has received the paper-delivery signal, the dc controller PCA determines that a stacker-feed delay jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).

Stacker-feed stationary jam

If the paper-inlet sensor (PS1101) does not detect the *trailing* edge of the media within a specified period of time after the paper-inlet sensor (PS1101) detected the *leading* edge of the media, the dc controller PCA determines that a stacker feed-delay jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).

Stacker residual-media jam

If the paper-inlet sensor (PS1101) or the paper delivery sensor (PS1102) detects media during the initial drive period, the dc controller PCA determines that a stacker residual-media jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).



NOTE This jam message *only* appears if the paper-delivery sensor (PS1102) detects media at the *start* of the initial drive.

Stapler/stacker

The dc controller PCA controls the stapler stacker by sending signals to the stapler/stacker PCA. The stapler/stacker PCA controls the stapler/stacker motor, solenoids, sensors, and the stapler unit. When the printer power is turned on, the printer low-voltage supply circuit supplies dc power to the stapler/stacker. The stapler/stacker performs the power-on sequence and enters the standby mode. When the dc controller PCA sends a signal, the stapler/stacker-driver PCA activates the motors and solenoids as needed to perform the staple-and-stack operation.

Stapler/stacker feed and delivery

The stapler/stacker feed and delivery system consists of several feed rollers and guides that the stapler/stacker motors and solenoids drive. Sensors along the stapler/stacker paper path detect the arrival and passage of media and confirm the position of the jogger guide. The jogger guide helps to align the pages before stapling and dropping them into the delivery bin.

The stapler/stacker has two modes. The staple mode staples sheets together and drops them into the delivery bin. The stack mode drops the sheets directly into the delivery bin without stapling them together.

Table 5-6 Stapler/stacker components

Component		Purpose
Motor	Paddle motor (M1101)	<ul style="list-style-type: none"> ■ Rotates the paddle (clockwise) ■ Disengages the delivery roller (counterclockwise)
	Jogger motor (M1102)	Shifts the jogger guide. <ul style="list-style-type: none"> ■ Widens the jogger guide (clockwise) ■ Narrows the jogger guide (counterclockwise)
	Feed motor (M103)	Rotates the feed and delivery rollers
	Stapler motor (M1104)	Rotates the staple cam
Solenoid	Deflector solenoid (SL1101)	Operates the delivery deflector
	Clamp solenoid (SL1102)	Operates the stapler clamp
Sensor	Paper-inlet sensor (PS1101)	Detects jams
	Paper-delivery sensor (PS1102)	Detects jams
	Paddle home-position sensor (PS1103)	Detects whether the paddle is in the home position
	Delivery-roller disengaging sensor (PS1104)	Detects the disengaging the delivery roller
	Jogger home-position sensor (PS1105)	Determines whether the jogger guide is in the home position
	Delivery paper-full sensor (PS1106)	Detects a full delivery bin
Switch	Door-open switch (SW1101)	Detects an open door

Table 5-6 Stapler/stacker components (continued)

Component	Purpose
Staple-presence switch (SW1102)	Detects the presence of staples in the stapler cartridge
Staple home-position switch (SW1103)	Determines whether the stapler cam is in the home position

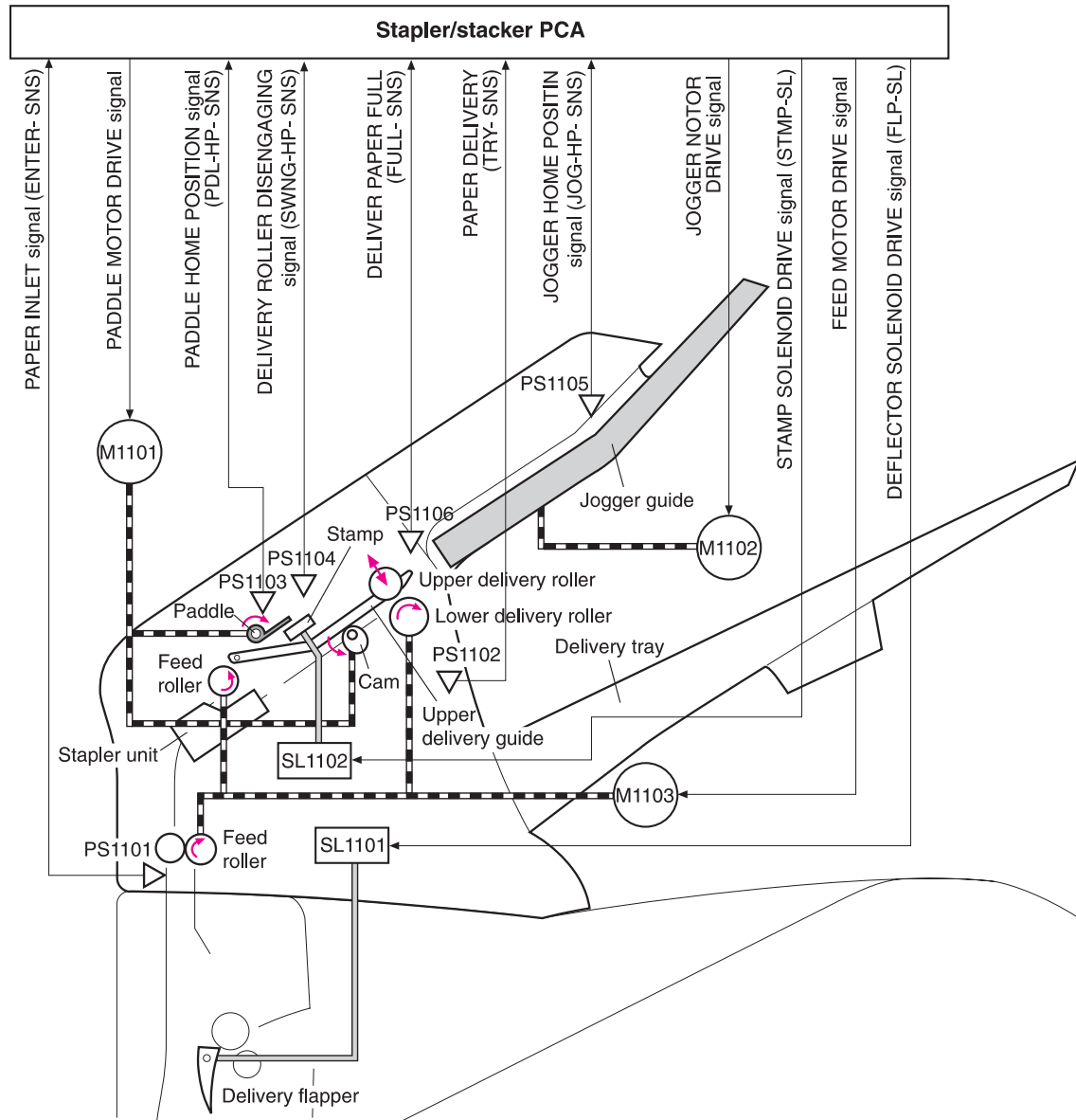


Figure 5-22 Stapler/stacker motors, solenoids, and sensors block diagram

Staple-mode feed and delivery

In this mode, 2 to 15 pages of media are stapled into one set and the stacks are then delivered to the delivery bin.

After the leading edge of the media reaches the fuser-delivery sensor (PS108) in the printer, the dc controller PCA sends a signal to the stapler/stacker-driver PCA. The stapler/stacker-driver PCA activates the deflector solenoid (SL101) for a specific amount of time to move the delivery deflector into place, which routes the media to the stapler/stacker rather than to the top output bin.

The stapler/stacker-driver PCA activates the paddle motor (M1101) to rotate (counterclockwise) the upper and lower delivery rollers to disengage them. It also activates the stacker motor (which rotates at the same speed as the printer main motor) to rotate the feed and delivery rollers.

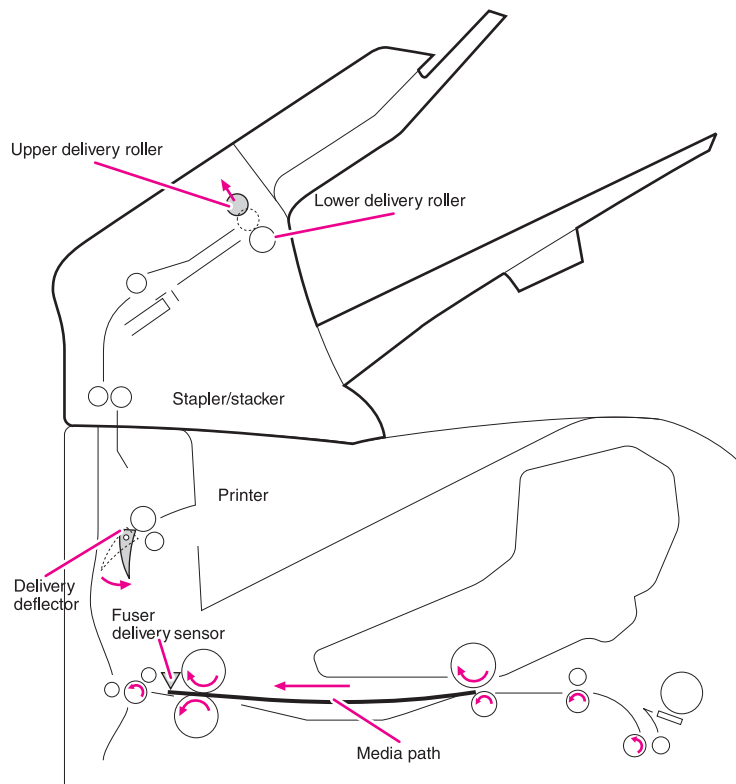


Figure 5-23 Staple-mode feed and delivery diagram (1 of 6)

The jogger guide motor (M1101) moves the jogger guides to the waiting position, and the stapler/stacker-driver PCA again activates the paddle motor (M1101) counterclockwise to engage the upper and lower delivery rollers.

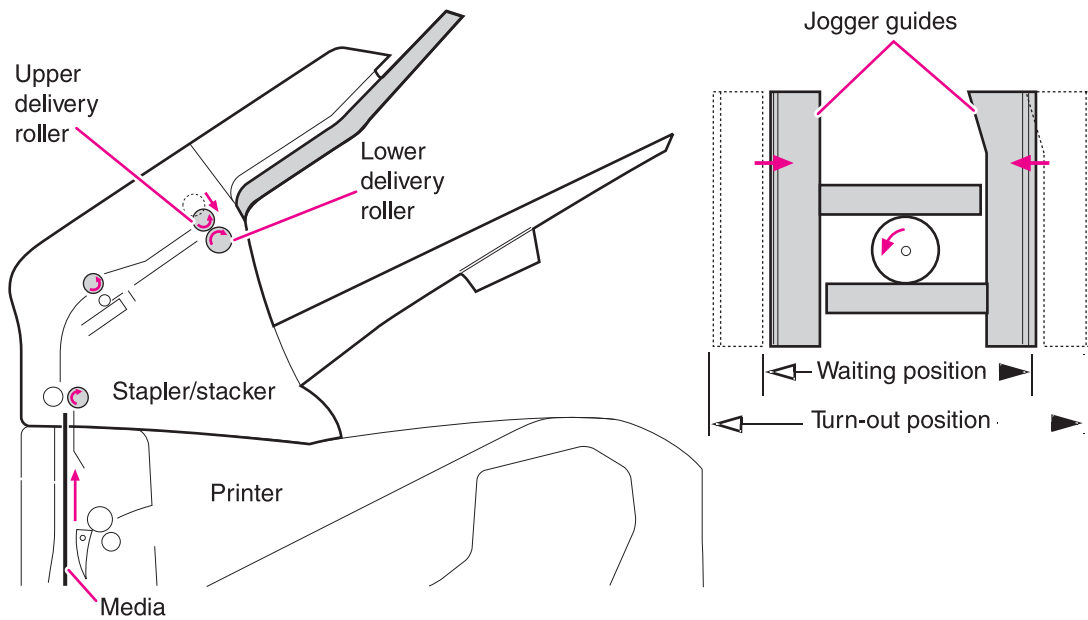


Figure 5-24 Staple-mode feed and delivery diagram (2 of 6)

At a specific time after the paper-inlet sensor (PS1101) detects the *leading* edge of the media, the stapler/stacker PCA changes the speed of the feed motor (M1103) to synchronize the feed rollers with the speeds of the other stapler/stacker motors and rollers. The stapler/stacker PCA then activates the paddle motor (M1101) counterclockwise to again disengage the upper and lower delivery rollers. The delivery deflector returns to its normal position.

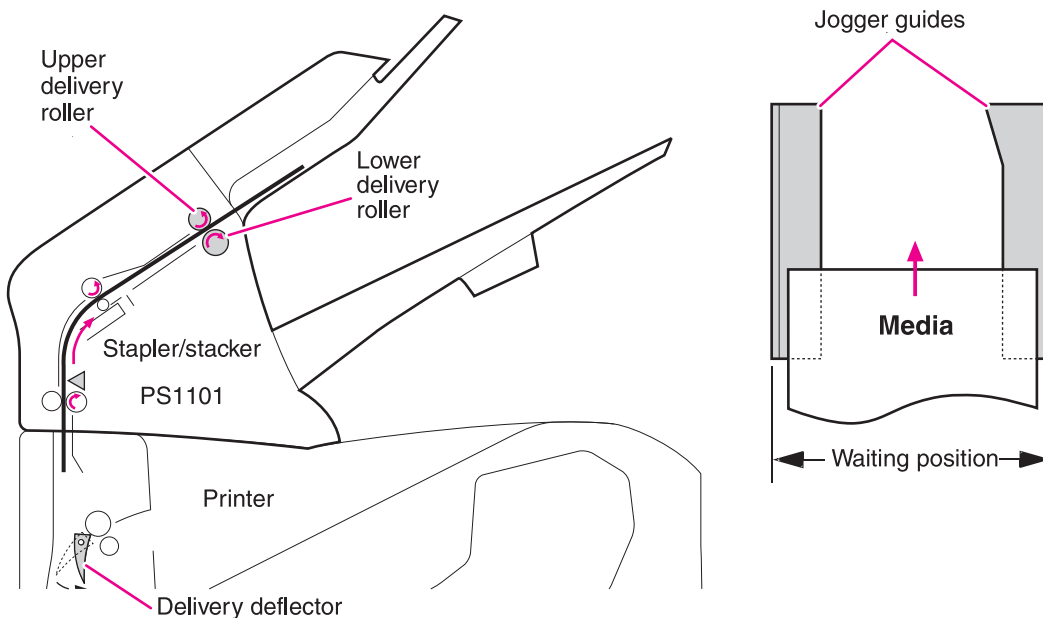


Figure 5-25 Staple-mode feed and delivery diagram (3 of 6)

At a specific time after the paper-inlet sensor (PS1101) detects the *trailing* edge of the media, the stapler/stacker-driver PCA activates the clamp solenoid (SL1102). The clamp keeps the page from being pushed out of position by the pages that follow.

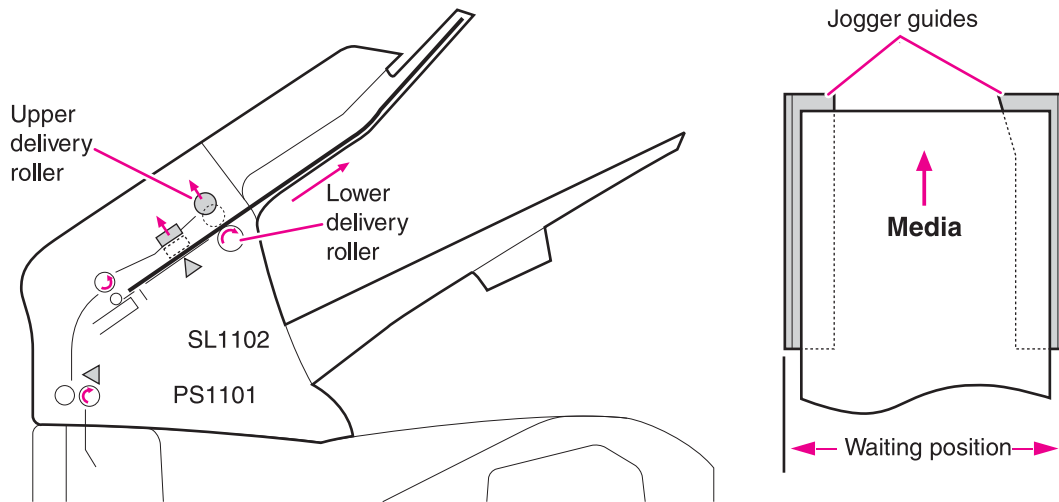


Figure 5-26 Staple-mode feed and delivery diagram (4 of 6)

Stapler/stacker operation depends on whether the device detects the final page in the staple job.

- **No.** The feed motor (M1101) changes speed and another page enters the stapler/stacker. The stapler/stacker-driver PCA activates the jogger motor and the jogger guide moves to align the media stack horizontally. The stapler/stacker-driver PCA activates the paddle motor and the paddle pushes the page up against a guide to align the media stack vertically. The delivery deflector moves into position to allow the next page to enter the stapler/stacker.
- **Yes.** The feed motor (M1101) turns off. The stapler/stacker-driver PCA activates the jogger motor and the jogger guides move inward to align the media stack horizontally. The stapler/stacker-driver PCA activates the paddle motor and the paddle pushes the page up against a guide to align the media stack vertically. Then the pages are stapled.

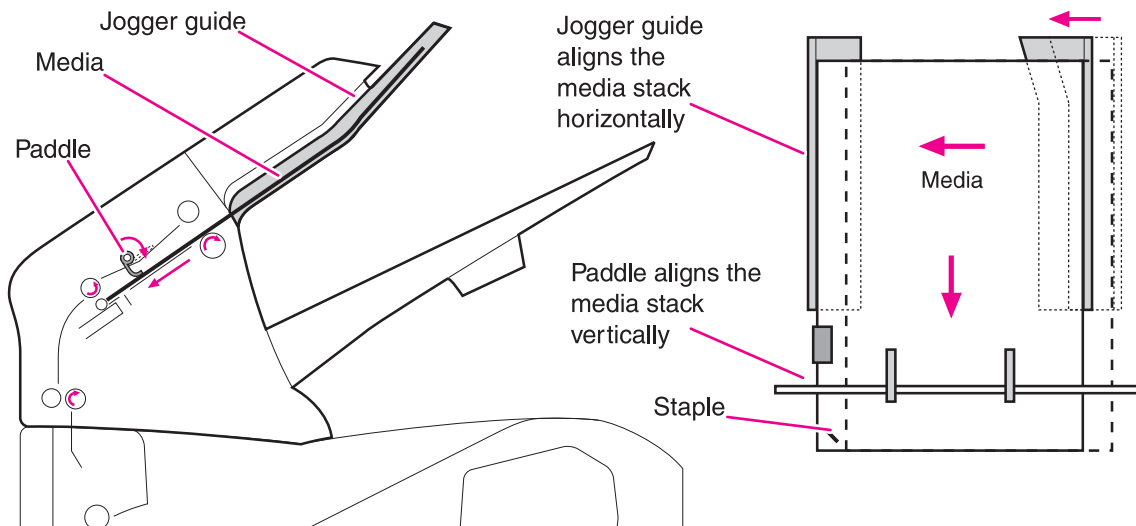


Figure 5-27 Staple-mode feed and delivery diagram (5 of 6)

After the pages are stapled, the stapler/stacker-driver PCA activates the feed motor (M1103; counterclockwise) to again engage the upper and lower delivery rollers. The stapled stack is moved all of the way out onto the jogger guides. The stapler/stacker-driver PCA activates the jogger motor

(M1102) to move the jogger guide into the turn-out position and allow the stack to drop into the delivery bin.

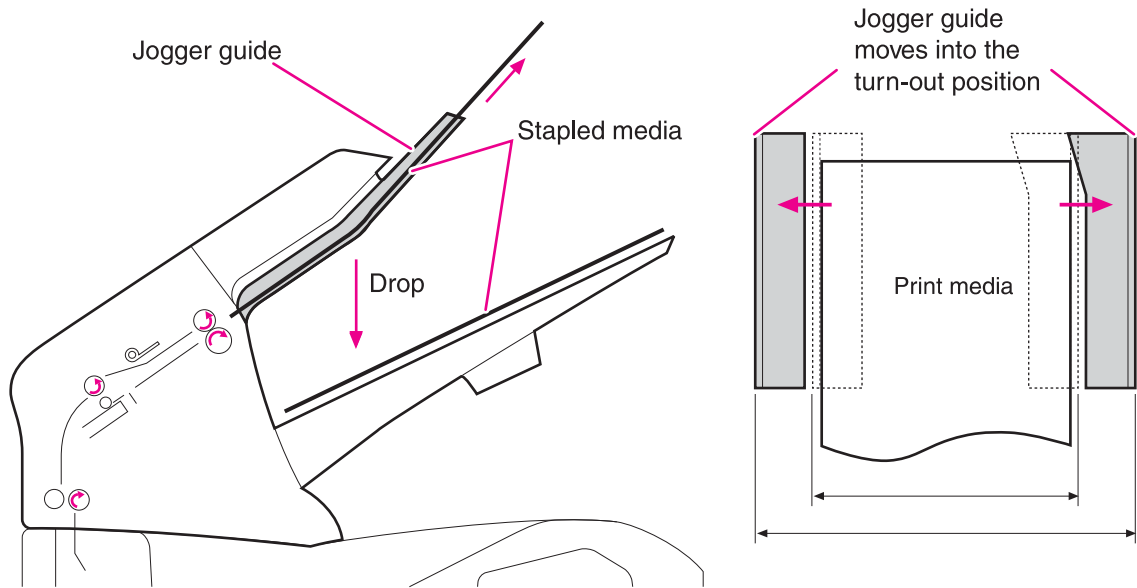


Figure 5-28 Staple-mode feed and delivery diagram (6 of 6)

(Unit: second)

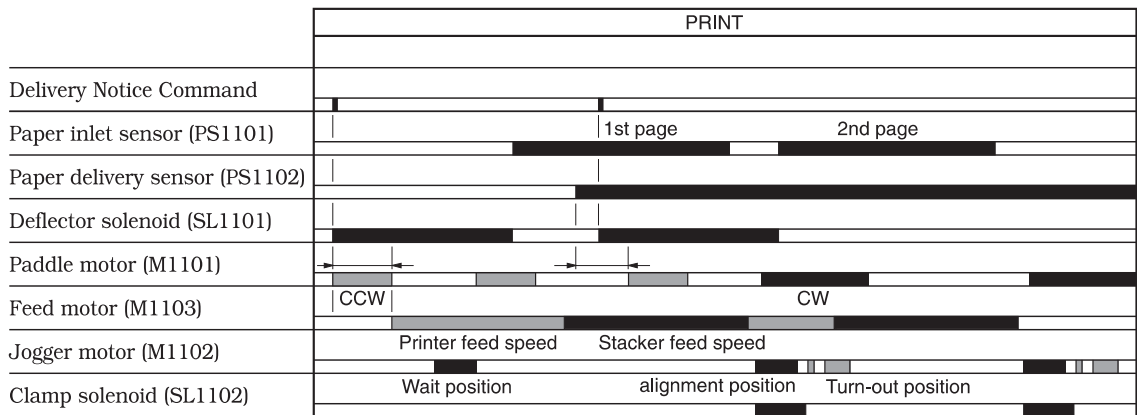


Figure 5-29 Staple-mode timing diagram

Stapler unit

The major components of the stapler unit are the stapler motor (M104), the staple cartridge, the staple-detection switch, and the staple-module home-position switch. The stapler/stacker-driver PCA controls the stapler unit.

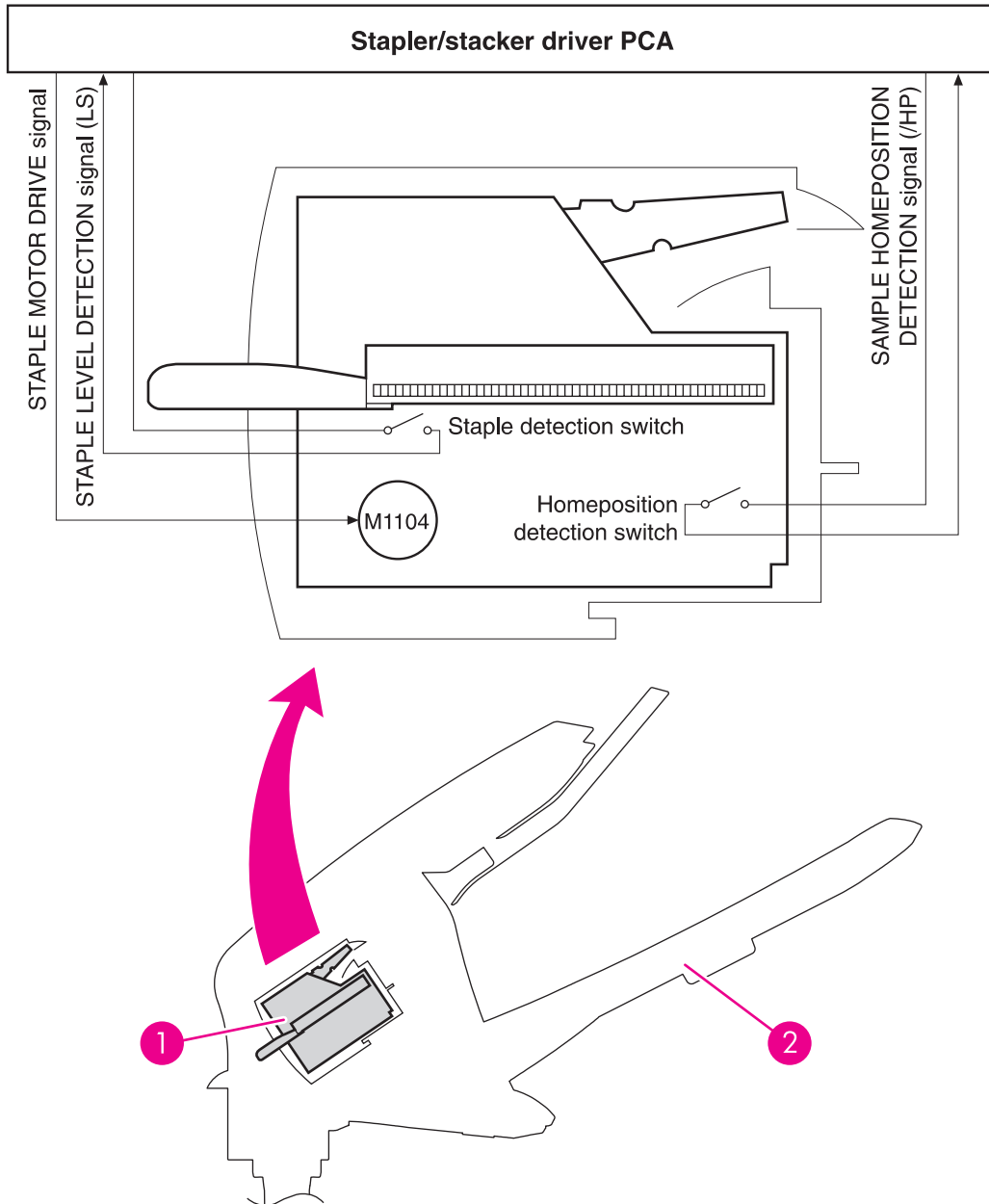


Figure 5-30 Stapler-unit I/O block diagram

1	Stapler unit
2	Stapler/stacker

Stapler-unit operation

The stapler unit uses the stapler unit motor (M104), staple cam, staple-press head-plates, staple arm, and support base to staple media together. Use the printer settings to turn on the staple mode (see [Stapler/stacker submenu](#)). The stapling procedure begins when media enters the staple guide and the dc controller PCA sends the end-of-job signal to the stapler/stacker-driver PCA.

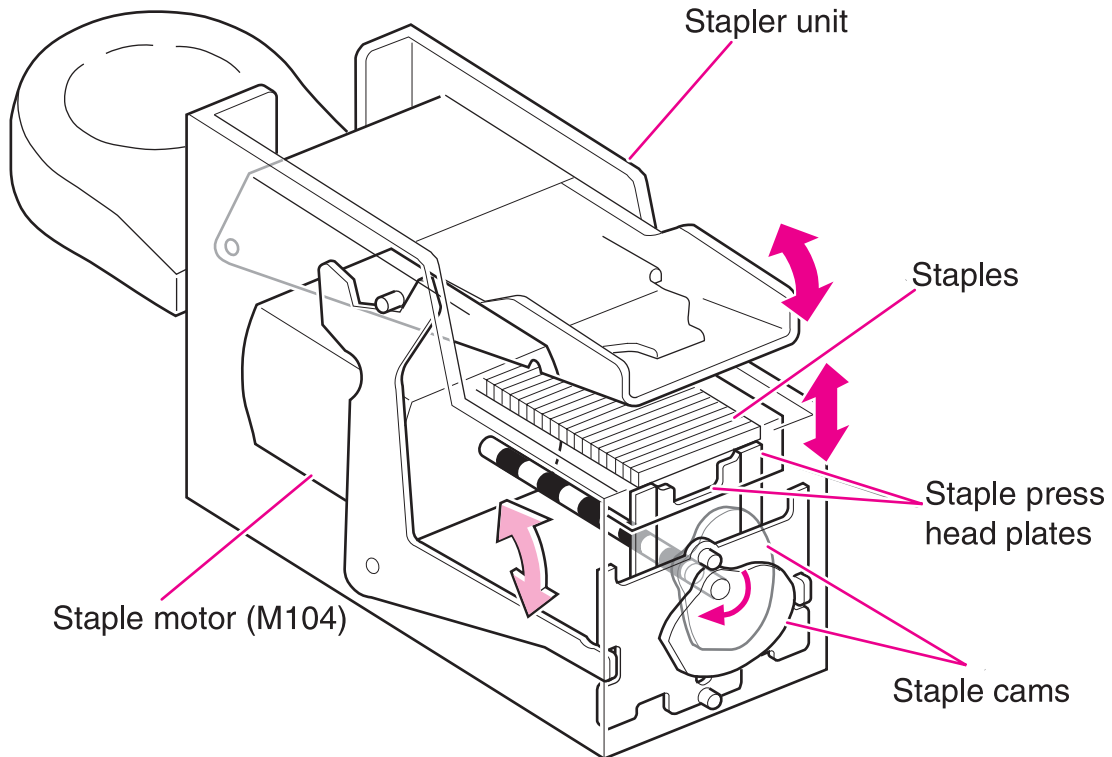


Figure 5-31 Stapler unit

After the paddle and jogger guides align the edges of the media, the stapler/stacker PCA activates the stapler unit motor (M104). The two staple cams begin to rotate.

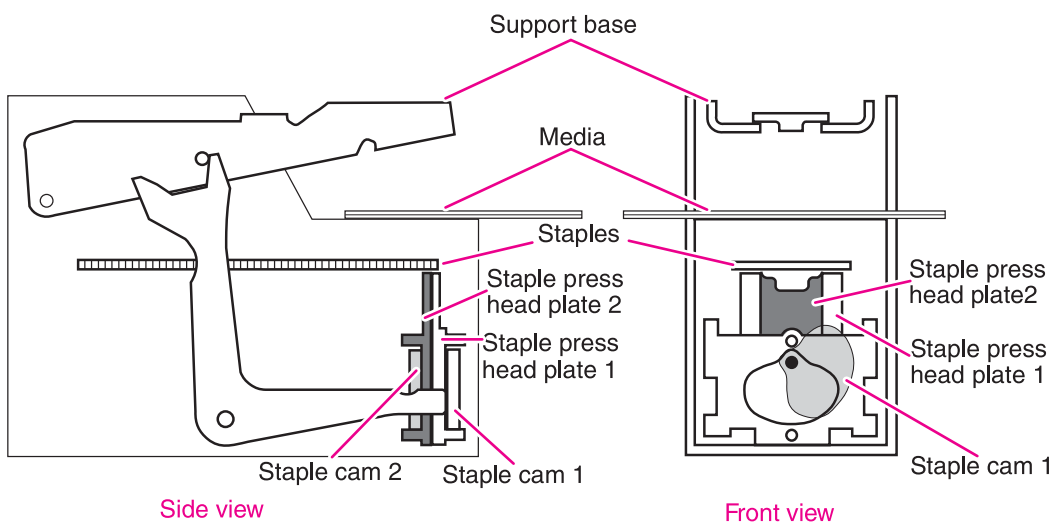


Figure 5-32 Staple operation (1 of 3)

As staple cam 1 rotates, it raises the staple-press head-plate 1. This forms the flat staple into a "u" shape. While this is happening, the staple arm raises the swing guide.

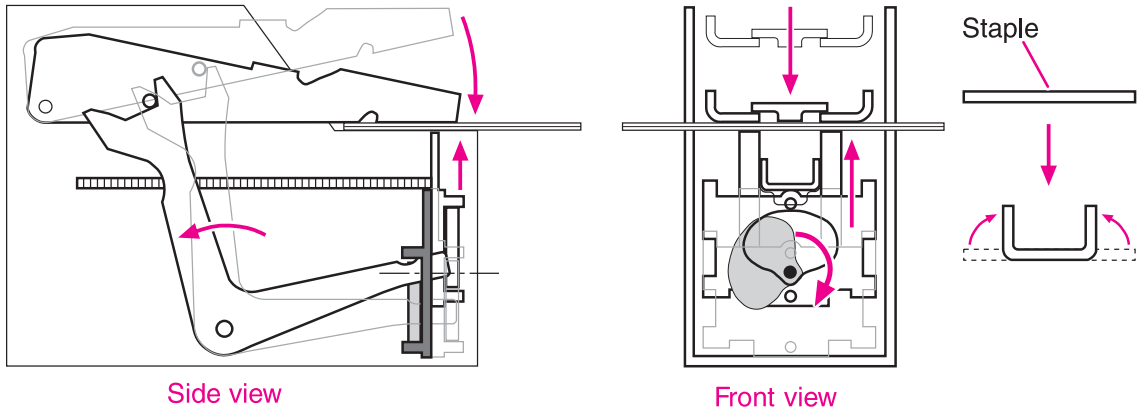


Figure 5-33 Staple operation (2 of 3)

As staple cam 2 rotates, it raises staple-press head-plate 2. This pushes the staple up and through the media. The staple arm raises the back end of the support base, bringing its front end in contact with the staple legs that protrude through the media and folding the staple legs to complete the staple operation.

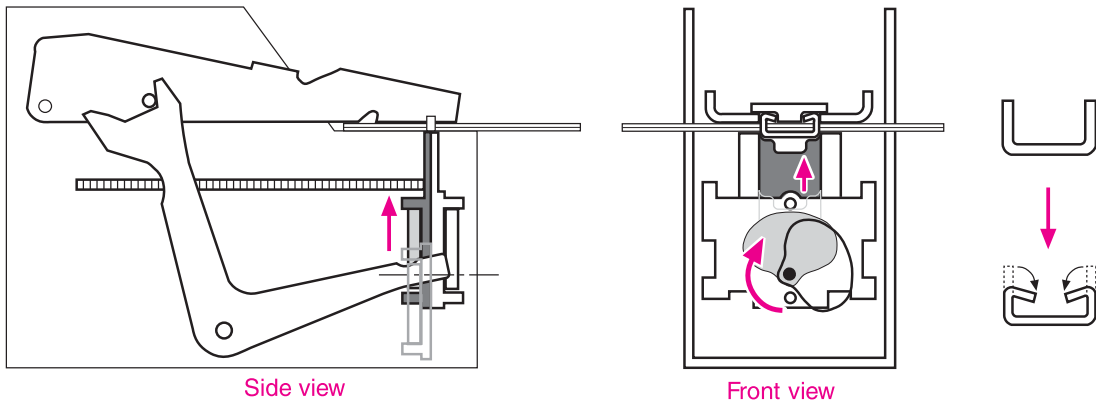


Figure 5-34 Staple operation (3 of 3)

Staple level-detection

The stapler/stacker-driver PCA uses the staple-detection switch to detect the presence and number of staples in the stapler unit. A spring on the staple-detection flag holds the staple-detection flag in the raised position. When this flag is fully raised, the switch is open.

A slot is cut into the bottom of the staple cartridge. If the staple cartridge is mostly full of staples, the staples block the staple-detection flag movement so that it cannot move to its raised position. The staple-detection switch is closed, and the stapler/stacker-driver PCA determines that at least 70 staples remain in the cartridge. When fewer than 70 staples remain in the cartridge, the staple-detection flag is no longer blocked, and it moves to the raised position. The staple-detection switch opens, and the stapler/stacker-driver PCA identifies a low-staple condition.

A low-staple message appears on the control-panel display. After the stapler/stacker PCA sends the staple command 70 more times, a staple-out message appears on the control-panel display. See [Alphabetical printer messages](#).

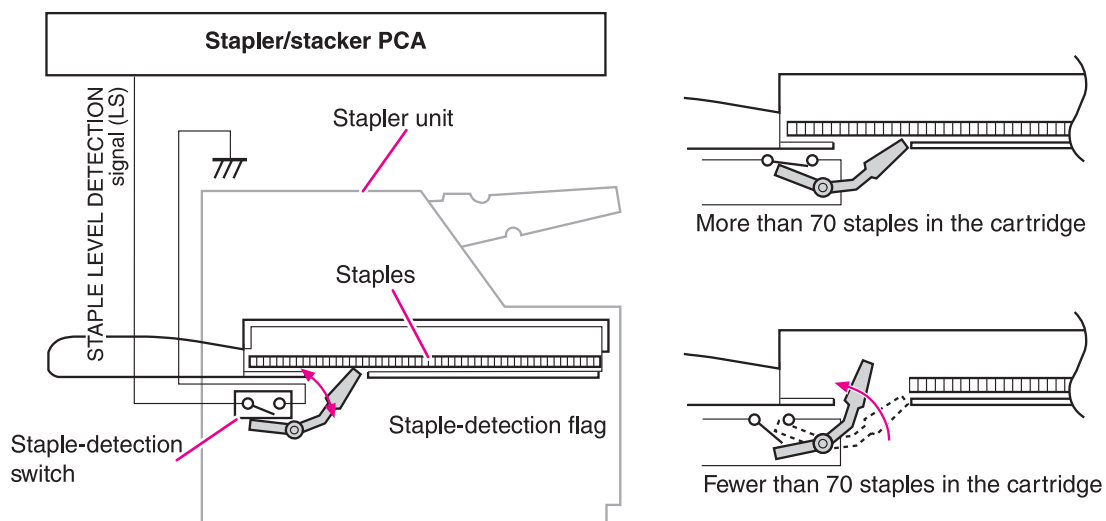


Figure 5-35 Staple-level detection

Stack-mode feed and delivery

In this mode, media is stacked in the delivery bin without being stapled.

After the *leading* edge of the media reaches the fuser-delivery sensor (PS108), the dc controller PCA sends a signal to the stacker-driver PCA. The stacker-driver PCA activates the deflector solenoid (SL101) for a specific amount to move the delivery deflector into place, which routes the media to the stacker rather than to the top output bin. The stacker-driver PCA also activates the stacker motor (which rotates at the same speed as the printer main motor) to rotate the feed and delivery rollers.

The feed roller moves the media into the stacker. If the dc controller PCA sends a following-page signal (indicating that the job contains another page), the stacker-driver PCA again activates the deflector solenoid (SL101). The delivery rollers move the media to the delivery bin.

Stapler/stacker jam detection

The following sensors detect the presence of media in the stapler/stacker and determine whether the media is feeding correctly or jamming. For information about the location of these sensors, see [Stacker and stapler/stacker switches and sensors](#).

- Paper-inlet sensor (PS1101)
- Paper-delivery sensor (PS102)

Stapler/stacker feed jam

If the paper-inlet sensor (PS1101) does not detect the *leading* edge of the media within a specified period of time after the stacker driver has received the paper-delivery signal, the dc controller PCA determines that a stapler/stacker feed-delay jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).

Stapler/stacker feed stationary jam

If the paper-inlet sensor (PS1101) does not detect the *trailing* edge of the media within a specified period of time after the paper inlet-sensor (PS1101) detected the *leading* edge of the media, the dc controller PCA determines that a stapler/stacker feed-delay jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).

Stapler/stacker delivery jam

If the paper-delivery sensor (PS1102) does not detect the *trailing* edge of the media within a specified period of time after the feed motor has been activated following the completion of the stapling operation, the dc controller PCA determines that a stapler/stacker feed-delay jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).

Stapler/stacker residual media jam

If the paper-inlet sensor (PS1101) or the paper-delivery sensor (PS1102) detects media during the initial drive period, the dc controller PCA determines that a stapler/stacker-feed delay jam has occurred.

The transport process stops and a **13.XX.YY JAM** message appears on the control-panel display. For more information about jam messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).



NOTE This jam message *only* appears if the paper-delivery sensor (PS1102) detects media at the *start* of the initial drive.

Image-formation system

The image-formation system is the main system in the printer. It consists of five stages:

- **Electrostatic latent (potential) image formation**

During this operation, a uniform negative charge is applied to the surface of the photosensitive drum in the print cartridge. The drum is then exposed to the laser beam from the laser/scanner, which neutralizes portions of the drum to create an invisible electrostatic latent image.

- **Developing the image**

Toner from the print cartridge is applied to the drum. The image is now visible.

- **Transferring the image**

The toner is transferred to the media and the media is separated from the photosensitive drum.

- **Fusing the image**

Heat and pressure are applied to the media to permanently bond the toner to the media.

- **Cleaning the transfer charging roller and photosensitive drum**

Residual (left over) toner is cleaned off of the transfer charging roller (this toner is transferred to the photosensitive drum) and then off of the photosensitive drum.

When the dc controller PCA receives the print signal, it drives the main motor, which rotates the photosensitive drum (the HP LaserJet 4250, 4300, and 4350 use a separate print cartridge motor to rotate the drum), the developing cylinder, the primary charging roller, the transfer charging roller, and the fuser pressure roller.

The primary charging roller places a uniform negative charge on the surface of the photosensitive drum. Modulated laser beams strike the drum to form an electrostatic latent image.

The latent image that is formed on the photosensitive drum changes to a visual image when toner on the developing cylinder is transferred to the drum. The transfer charging roller transfers the image to the media. The fuser applies heat and pressure to permanently bond the image on the media. Then, residual toner on the photosensitive drum surface is scraped off with the cleaning blade.

The cartridge has a toner sensor that detects the presence of the cartridge and the remaining toner level.

If the toner in the cartridge is depleted to a specific level, or if the printer contains no print cartridge, an error message appears on the control-panel display. See [Alphabetical printer messages](#) and [Numerical printer messages](#).

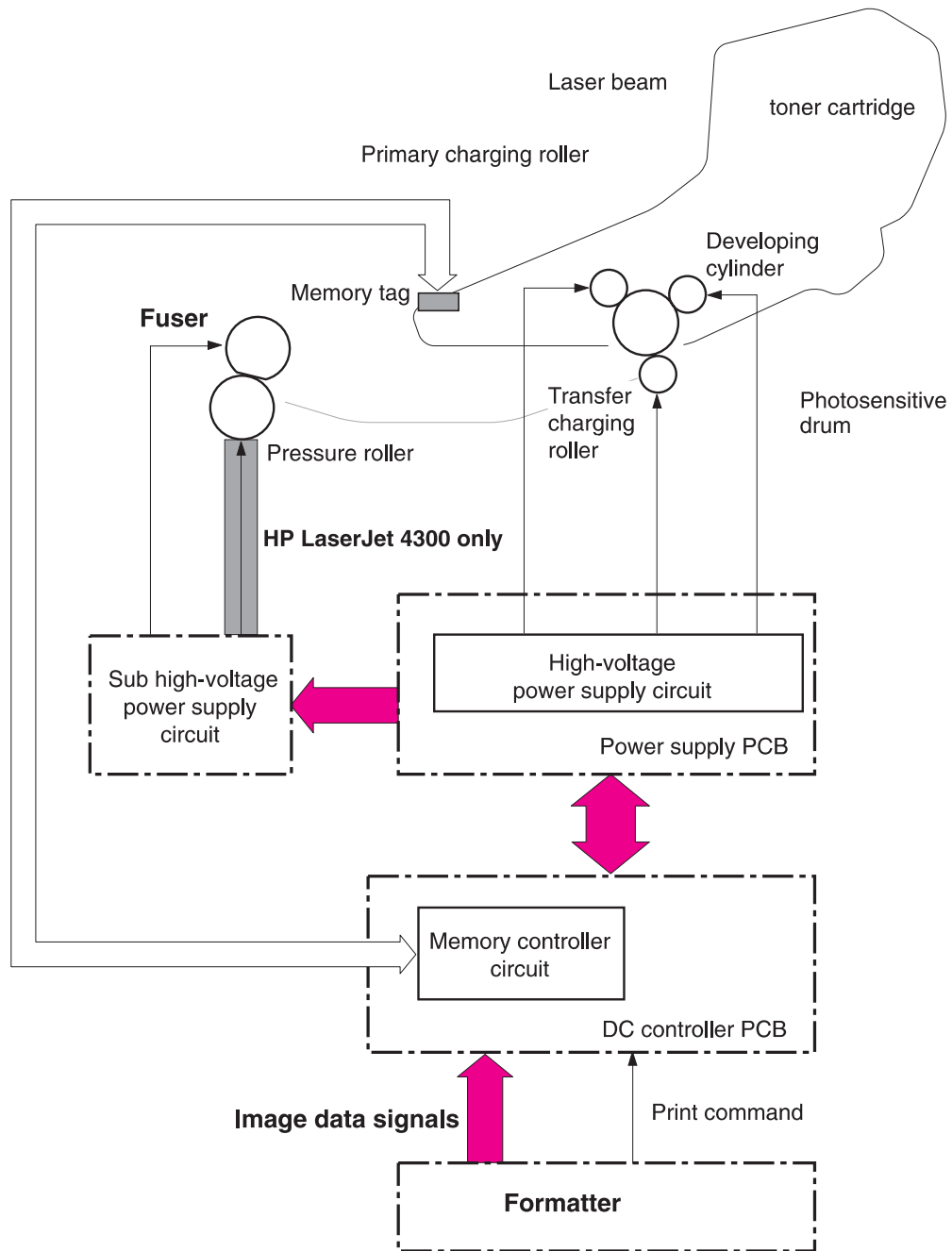


Figure 5-36 Image-formation block diagram

Electrostatic latent-image formation

Forming the electrostatic latent image on the photosensitive drum requires applying a uniform negative charge (bias) to the surface of the drum and then exposing it to the laser beam. The laser beam neutralizes the section of the drum that will attract toner during the developing operation.

Primary charging

The conditioning process consists of the primary charging roller applying a uniform negative charge to the surface of the drum. The primary charging roller is coated with conductive rubber. An ac bias is applied to erase any residual charges and maintain a constant drum-surface charge. The print-density setting modifies the amount of dc voltage.

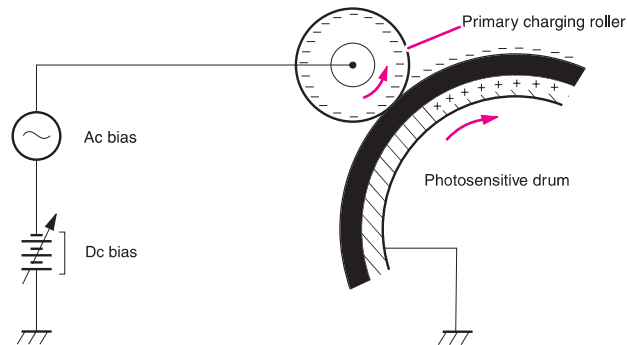


Figure 5-37 Primary charging of the photosensitive drum

Writing the image

The laser/scanner contains two diodes in the laser unit. During the writing process, the modulated laser diodes project two beams onto the rotating six-sided scanning mirror. As the mirror rotates, the beams reflect off the mirror, through a set of focusing lenses, through a slot in the top of the toner cartridge, and onto the photosensitive drum. The beams sweep the drum from left to right, discharging the negative potential wherever the beams strike the surface. This creates a latent electrostatic image, which later is developed into a visible image.

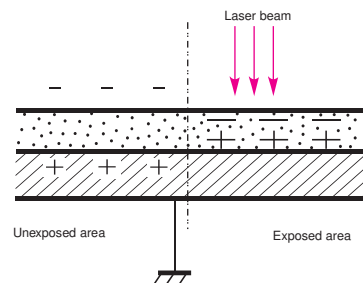


Figure 5-38 Writing the image to the photosensitive drum

Because the beams are sweeping the entire length of the drum and the drum is rotating, the entire surface area of the drum can be covered. The speed of the scanner motor (which turns the scanning mirror) and the speed of the main motor (which turns the drum) are synchronized, and each successive sweep of a beam is offset by 1/1200th of an inch. The beams can be turned on and off to place a dot of light every 1/1200th of an inch. This is how the printer achieves its true 1200-by-1200-dpi resolution. After the writing process, the drum surface holds an invisible (latent) electrostatic image.

At the beginning of each sweep, the beams strike the beam-detect mirror and, generating the beam-detect (BD) signal. The BD signal is sent to the dc controller PCA, where it is converted to an electrical signal that synchronizes the video data output for one sweep (two scan lines) and diagnoses problems that exist in the laser diode or scanner motor.

Developing the image

The developing process makes the latent electrostatic image a visible image on the drum. The developing unit consists of a metallic cylinder that rotates around a fixed magnetic core inside the toner cavity. Toner is a powdery substance made of black plastic resin bound to iron particles, which is uniformly attracted to the magnetic core of the cylinder.

The toner particles obtain a negative surface charge by rubbing against the developing cylinder, which is connected to a negative dc supply. The negatively charged toner is attracted to the discharged (exposed, grounded) areas on the drum. An ac potential is applied to the developing cylinder to decrease the attraction between the toner and the magnetic core of the cylinder, and to increase the repelling action of the toner against the areas of the drum that have not been exposed to the laser beam. This ac potential improves density and contrast.

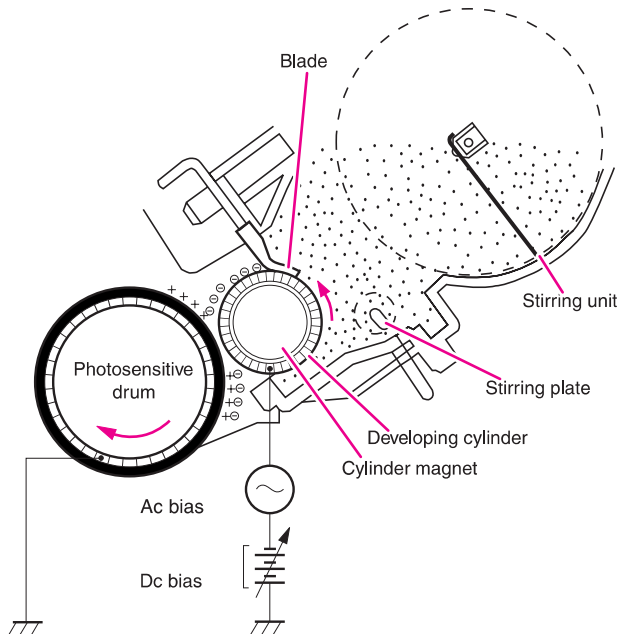


Figure 5-39 Developing the image

The print-density control in the print-quality menu adjusts the dc bias of the developing cylinder by changing the force of attraction between the toner and drum. A change in the dc bias causes either more or less toner to be attracted to the drum, which in turn either increases or decreases the print density. Both the primary and developer dc-bias voltages change in response to the density setting.

Transferring the image

During the transferring process, the toner image on the drum surface is transferred to the print media. A positive charge that the transfer roller applies to the back of the media causes the negatively charged toner on the drum surface to be attracted to the sheet of media.

The small diameter of the drum, combined with the stiffness of the paper, causes the paper to peel away from the drum. The static-eliminator teeth also help separate the paper from the drum by weakening the attractive forces between the negatively charged drum surface and the paper.

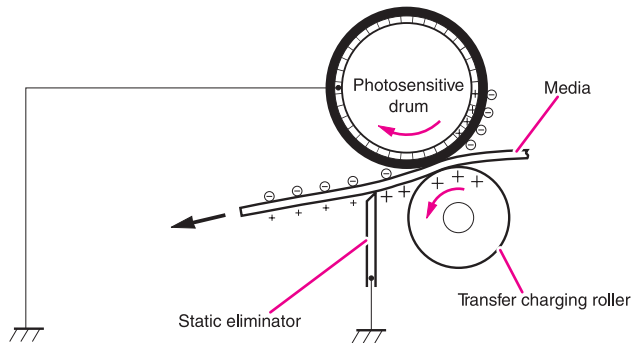


Figure 5-40 Transferring the image

Fusing the image

The image is held in place only by electrostatic attraction when it is transferred from the drum to the media. The lightest touch will smear it. During the fusing process, heat and pressure fuse the image to the media to produce a permanent image. The media passes between a heated fusing roller and a soft pressure roller. This melts the toner and presses it into the media.

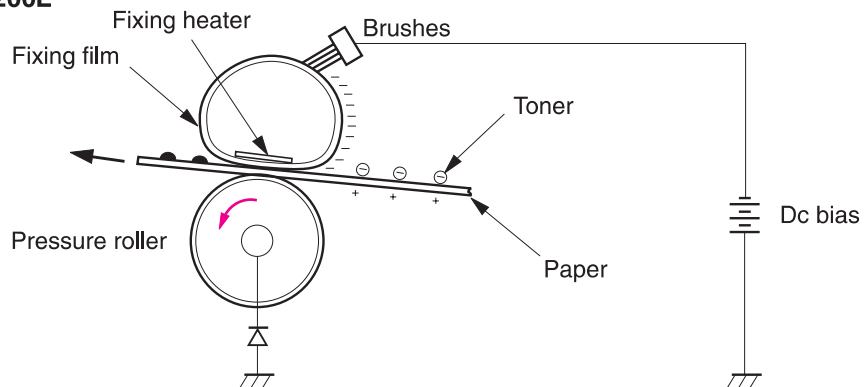
This printer utilizes an on-demand fusing method. This method has fast temperature-rising time, which shortens the wait time (the time it takes to heat the fuser to its operating temperature). No power is supplied to the fuser heater during the standby mode, which conserves energy.

For the HP LaserJet 4200 and 4200L Series printers, a dc negative bias (charge) is applied to the fuser film. This stabilizes the toner so that it does not scatter over the media and produce a blurred image.

For the HP LaserJet 4250, 4300, and 4350 Series printers, a dc negative bias is applied to the fuser film and a dc positive bias (charge) is applied to the pressure roller. This stabilizes the toner so that it does not scatter over the media and produce a blurred image.

To prevent offset images, the surface of the fuser film is coated with fluorine.

HP LaserJet 4200/4200L



HP LaserJet 4250/4300/4350

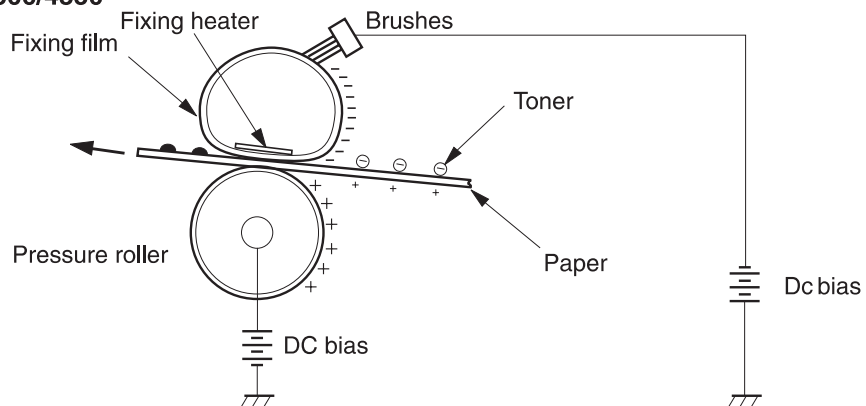


Figure 5-41 Fusing the image

Cleaning the transfer charging roller and photosensitive drum

Residual (leftover) toner is cleaned off of the transfer charging roller and photosensitive drum so that subsequent images are crisp and clear. Because not all of the toner is attracted to the media when the image is transferred from the drum, some toner remains on the drum. Toner can also remain on the transfer roller if a jam occurs and the transfer of toner to the media is not completed.

A dc negative bias (charge) is applied to the transfer charging roller that is opposite the photosensitive drum, which causes the residual toner to be attracted to the drum.

A cleaning blade is in contact with the surface of the drum at all times. As the drum rotates during printing, excess toner from the transfer charging roller and drum are scraped off and stored in the waste-toner receptacle.

Cleaning the transfer charging roller

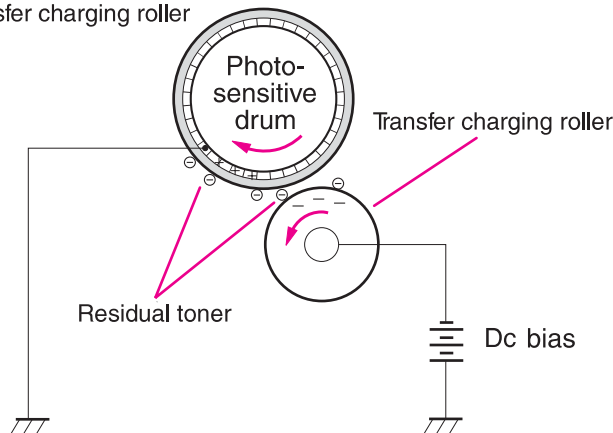


Figure 5-42 Cleaning the transfer charging roller

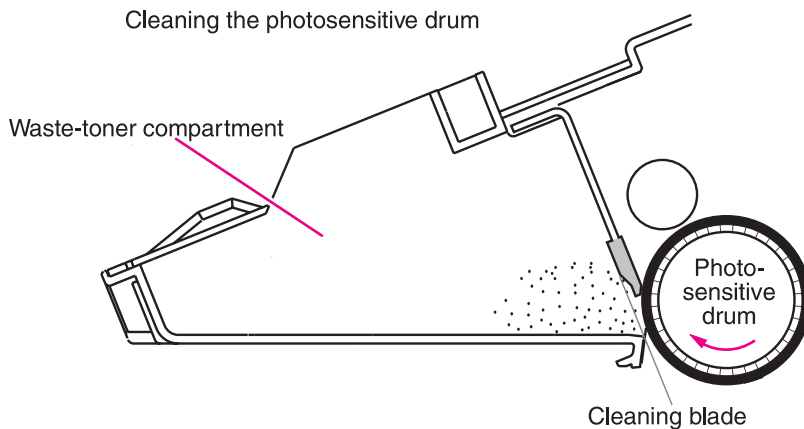


Figure 5-43 Cleaning the photosensitive drum

Print-cartridge memory chip

The print-cartridge memory chip is a non-volatile memory (NVRAM) device that is built into the print cartridge. It stores information about the cartridge. The dc controller PCA reads and writes memory data to the memory chip at specific times to monitor the print cartridge usage and condition. If the read-write process fails four times in a row, the dc controller PCA detects a print-cartridge memory failure and a **10.00.00 SUPPLIES MEMORY ERROR** error message appears on the control-panel display (see [Numerical printer messages](#)).

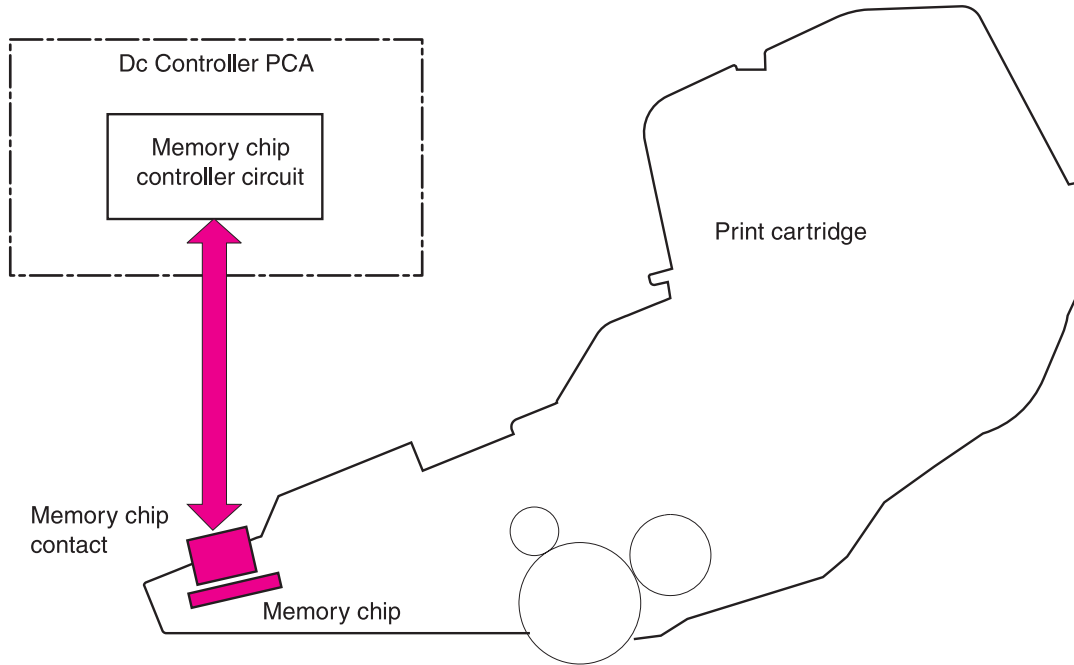


Figure 5-44 Print-cartridge memory chip

Formatter system

The formatter is involved in the following procedures:

- Controlling the PowerSave/Sleep mode
- Receiving and processing print data from the various printer I/Os
- Monitoring control-panel functions and relaying printer-status information (through the control panel and the bidirectional I/O)
- Developing and coordinating data placement and timing with the dc controller PCA
- Storing font information
- Communicating with the host computer through the bidirectional interface

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

The formatter also provides the electrical interface and mounting locations for two EIO cards, additional memory DIMMs, the hard-disk accessory, and the optional HP Fast Infrared Receiver.

PowerSave (LJ 4200/4200L/4300) or Sleep (LJ 4250/4350) Mode

This feature on the configuration menu conserves power after the printer has been idle for a specific period of time. When the printer is in PowerSave or Sleep mode, the control-panel backlight is turned off, but the printer retains all printer settings, downloaded fonts, and macros. The default setting is **POWERSAVE=ON**, or **SLEEP=ON**, with a 30-minute idle time. PowerSave/Sleep can also be turned off from the resets menu on the control panel.

The printer exits PowerSave or Sleep mode and enters the warm-up cycle when any of the following occurs:

- A print job, valid data, or a PML or PJL command is received at the parallel port, serial port, or EIO card.
- A control panel key is pressed.
- The top cover is opened.
- A tray is opened.
- The engine-test button is pressed.



NOTE Printer error messages override the PowerSave or Sleep message. The printer enters PowerSave or Sleep mode at the appropriate time, but the error message continues to appear.

Resolution Enhancement technology

The formatter contains circuitry for Resolution Enhancement technology (REt), which modifies the standard video dot data on its way to the dc controller PCA to produce "smoothed" line edges. The REt can be turned on or off from the control panel or from some software programs. The default setting is medium.



NOTE The REt settings that are sent from software programs or printer drivers override the control-panel settings.

EconoMode

The EconoMode setting uses up to 50% less toner than standard mode printing by reducing the dot density. However, EconoMode does not extend the life of print-cartridge components. EconoMode, which can be thought of as "draft mode," can be selected from the control panel (print-quality menu) and through some software programs and printer drivers. The default setting is **OFF**.



CAUTION 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.



NOTE EconoMode does not affect print speed or memory usage, or extend the life of the print cartridge.

Input/output

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

Parallel interface

The formatter receives incoming data through its bidirectional interface (IEEE-1284). The I/O provides high-speed and two-way communication between the printer and the host, allowing the user to change printer settings and monitor printer status from the host computer. The user can configure the **HIGH SPEED** item on the control panel. The default setting (**YES**) makes it possible for the I/O to run at the higher speeds that are supported by most newer computers. When set to **NO**, the parallel interface runs at the slower mode that is compatible with older computers. The user can also configure the **ADVANCED FUNCTIONS** item. The default setting (**ON**) accommodates two-way parallel communications. The **OFF** mode disables the advanced functionality. The I/O is compatible with the bidirectional parallel interface standard.

USB (HP LaserJet 4250/4350 Series printers only)

HP LaserJet 4250/4350 Series printers include a universal serial bus (USB) 2.0 connection

Embedded ethernet print server (HP LaserJet 4250/4350 Series printers only)

HP LaserJet 4250/4350 n, tn, dtn, and dtntl models include an HP Jetdirect embedded print server for connecting to a 10/100Base-TX network.

Expanded I/O

The optional expanded I/O (EIO) card can be installed in the designated slots on the formatter. It provides automatic I/O switching between multiple computers or networks that are connected to the printer.



NOTE Only one slot is available on HP LaserJet 4200L printers.

Flash (HP LaserJet 4200/4300 Series printers only)

Optional flash is available in 2 MB and 4 MB flash memory DIMMs for storing forms, fonts, and signatures.

CompactFlash card (HP LaserJet 4250/4350 Series printers only)

Optional CompactFlash cards can be used to permanently store downloaded items, such as fonts and forms, even when the printer is off. These cards can also be used to enable the printer to print non-Roman characters.

Hard-disk accessory

The optional hard-disk accessory can be mounted in one of the EIO slots on the rear of the formatter. The optional EIO-based hard disk is used for creating multiple original prints (mopies) and storing forms, fonts, and signatures.

CPU

HP LaserJet 4200/4200Lseries printer formatters incorporate a 300 MHz RISC processor.

HP LaserJet 4300 series printer formatters incorporate a 350 MHz RISC processor.

HP LaserJet 4250/4350 series printer formatters incorporate a 460 MHz RISC processor.

Printer memory

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

Some printer messages are affected by the auto-continue and clearable warning settings on the printer control-panel configuration menu. If **CLEARABLE WARNING=JOB** is set on the control panel, warning messages appear on the control panel until the end of the job from which they were generated. If **CLEARABLE WARNING=ON** is set, warning messages appear on the control panel until **Go** is pressed. If an error occurs that prevents printing and **AUTO CONTINUE=ON** is set, the printer goes offline for 10 seconds before it returns online. If **AUTO CONTINUE=OFF** is set, the message appears until **Go** is pressed.

Read-only memory

Besides storing microprocessor control programs, the read-only memory (ROM) stores dot patterns of internal character sets (fonts).

Random-access memory

The random-access memory (RAM) contains the page, I/O buffers, and the font storage area. It stores printing and font information received from the host system, and can also serve to temporarily

store a full page of print-image data before the data is sent to the print engine. Memory capacity can be increased by adding DIMMs to the formatter. Note that adding memory (DIMMs) might also increase the print speed for complex graphics.

DIMM slots

The DIMM slots can be used to add memory. In HP LaserJet 4200/4300 Series printers DIMM slots can also be used to add fonts or firmware upgrades.

Firmware DIMM (LJ 4200/4200L/4300 only)

To replace the printer firmware DIMM, insert a new firmware DIMM in DIMM slot 1 (the uppermost slot) inside the formatter assembly. See [Firmware DIMM \(LJ 4200/4300 only\)](#).



CAUTION The firmware DIMM must be installed in slot 1 (formatter PCA location J1; topmost slot)

Firmware can also be updated by downloading a remote firmware update (RFU). For more information about RFUs, see [Downloading a remote firmware update](#).

Nonvolatile memory

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

Memory Enhancement technology

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



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

PJL overview

Printer job language (PJL) is an integral part of configuration, in addition to the standard printer command language (PCL). With standard cabling, use PJL to perform a variety of functions, such as the following:

- Two-way communication with the host computer through a bidirectional parallel connection. The printer can send the host computer information about such things as the control panel settings, and the control panel settings can be changed from the host through two-way communication.
- Dynamic I/O switching. The printer can be configured with a host on each I/O by using dynamic I/O switching. Even when the printer is offline it can receive data from more than one I/O simultaneously, until the I/O buffer is full.
- Context-sensitive switching. The printer can automatically recognize the personality (PS or PCL) of each job and configure itself in that personality.
- Isolation of print environment settings from one print job to the next. For example, if a print job is sent to the printer in landscape mode, the subsequent print jobs are printed in landscape mode only if they are formatted for it.

PML

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

Control panel

The formatter sends and receives printer status and command data to and from a control-panel PCA.

6 Removing and replacing parts

Chapter contents

- [Removal and replacement strategy](#)
- [User-replaceable parts](#)
- [Covers, tray 1, and the rear output bin](#)
- [Control-panel display](#)
- [Main assemblies](#)
- [Motors and fans](#)
- [Pickup and feed assemblies](#)
- [Sensors and switches](#)
- [Solenoids and clutches](#)
- [Accessories](#)

Removal and replacement strategy

This chapter describes how to remove, replace, and reassemble the major assemblies of the printer. Replacement is generally the reverse of removal. To identify the left side and right side of the printer, face tray 1 on the front of the unit.



WARNING! Unplug the power cord from the power outlet (at the wall receptacle) before attempting to service the product. If you do not follow this warning, severe injury can result. Certain functional checks during troubleshooting might require that power is supplied to the product. However, all power should be turned off and the product should be unplugged when you remove any product assemblies or components. Never operate or service the printer when the protective cover is removed from the laser/scanner assembly. The reflected beams, although invisible, can damage your eyes.



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



Required tools

- #2 Phillips screwdriver
- Small flat-blade screwdriver
- Needle-nose pliers
- ESD mat (if available; see the ESD caution above)
- Penlight (optional)
- Tape (optional)
- Transfer-roller removal hook



CAUTION Using a pozidriv screwdriver will damage screw heads on the product. Use a #2 Phillips screwdriver.

Before performing service

- If possible, print a menu map and configuration page. See [Menu map](#) and [Configuration page](#).
- Remove all of the accessories and print media, the print cartridge, and tray 2 from the product.
- Unplug the power cord from the power outlet at the wall receptacle.
- Place the product on an ESD mat, if one is available. If an ESD-protected workstation is not available, discharge body static by grasping the printer chassis before touching an ESD-sensitive component. Ground the printer chassis before servicing the product

After completing service

- Reinstall the print cartridge (remove the print cartridge before returning the printer to the customer).
- Reconnect all cables to the product.
- Replace all of the accessories and load the media.
- Print a configuration page and verify that the latest firmware is installed on the printer. See [Downloading a remote firmware update](#).

Screws used in the printer

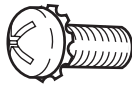
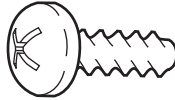
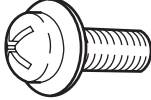
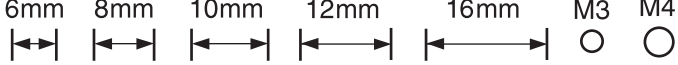
This table describes the screws that are used in the printer and provides guidelines to help determine where each type of screw is used. The screws can vary in length depending on the thickness of the material that is being fastened.

Always note where each type of screw is located and replace each one in its original location.



NOTE When you are disassembling the product, place the screws into the chassis holes from which they were removed. This prevents their loss, and ensures that the proper type and length of screw for each location is used when the product is reassembled.

Table 6-1 Common fasteners used in this product

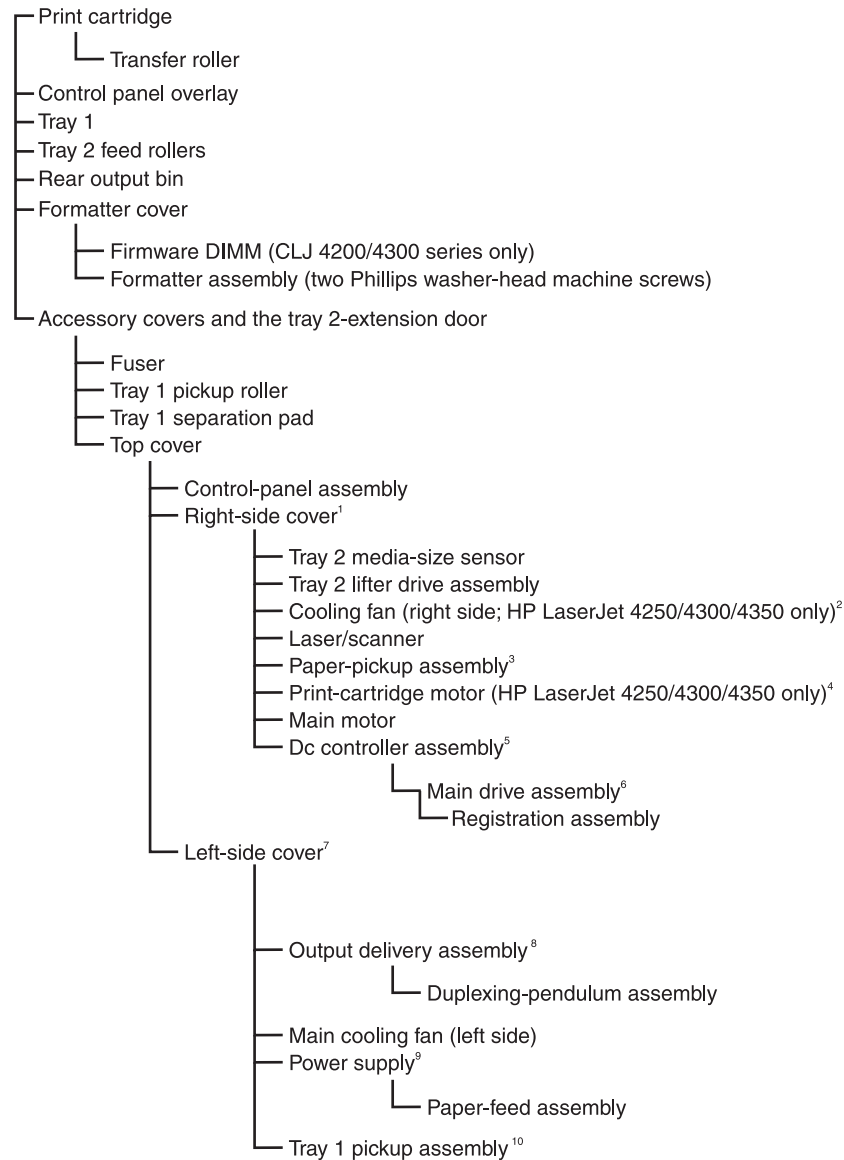
Drawing and description	Purpose
 <p>Phillips-head machine screw with captive star washer</p>	<p>This screw is used to fasten metal to metal when good electrical contact is needed. This screw also provides high resistance to loosening.</p>
 <p>Phillips-head screw with self-tapping threads</p>	<p>This screw is used to fasten sheet metal or plastic to plastic frames (the deep, coarsely spaced threads provide an increased holding capability while decreasing the possibility of stripping the target hole).</p>
<p>Reinstallation note: To install a self-tapping screw, first turn it counterclockwise to align it with the existing thread pattern, and then carefully turn it clockwise to tighten it. You will feel resistance and hear the screw click when it engages the existing threads in the hole. Do not overtighten the screw. If a self-tapping screw-hole becomes stripped, repair the screw-hole or replace the affected assembly.</p>	
 <p>Phillips washer-head machine screw with a broad, flat washer attached to the screw head</p>	<p>This screw is used to fasten sheet metal parts to the sheet-metal chassis. It spans large clearance holes and distributes the load by increasing the bearing surface.</p>
<p>6mm 8mm 10mm 12mm 16mm M3 M4</p>  <p>Screw measurement guide</p>	

Parts-removal tree

Use the following diagram to determine the order in which parts must be removed.



NOTE Some components in the parts-removal tree have a superscript *number* listed next to the component name (for example, "Right-side cover¹"). The superscript indicates that this component must be removed before you can gain access to the registration-roller assembly.



NOTE The formatter assembly and fuser are only listed once, but they must be removed before you can gain access to some of the other components.

Printer input tray, and cabinet wheel locks

When the printer and input trays are placed on the cabinet stand, the printer and trays must be locked together to prevent them from tipping over. This is not necessary (but it is recommended) if the printer and trays are placed on a level work surface. When servicing the printer and accessories, unlatch the locking mechanism and separate the printer and its accessory components.

The cabinet stand includes locks for the wheels at its base. Make sure that the wheels are locked when the printer is in place. The wheels should be unlocked *only* when the printer is being moved.

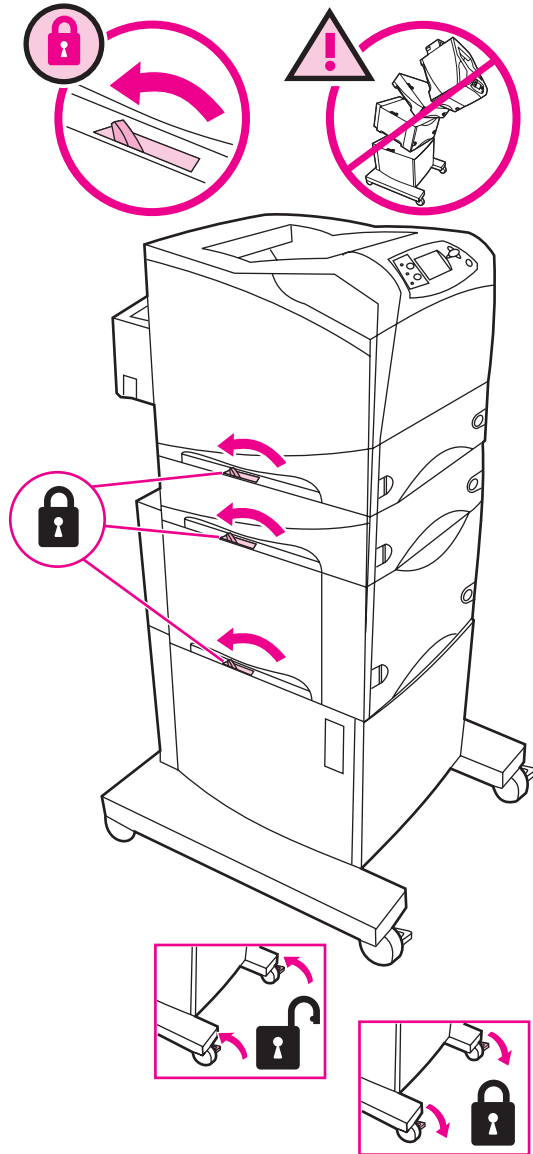


Figure 6-1 Location of printer, input trays, and cabinet-wheel locks

Dc controller PCA diagram

You must disconnect wires or cables from the dc controller PCA before you can remove or replace many of the printer components. Use the following diagram to assist with disconnecting the cables and wires from the dc controller PCA.

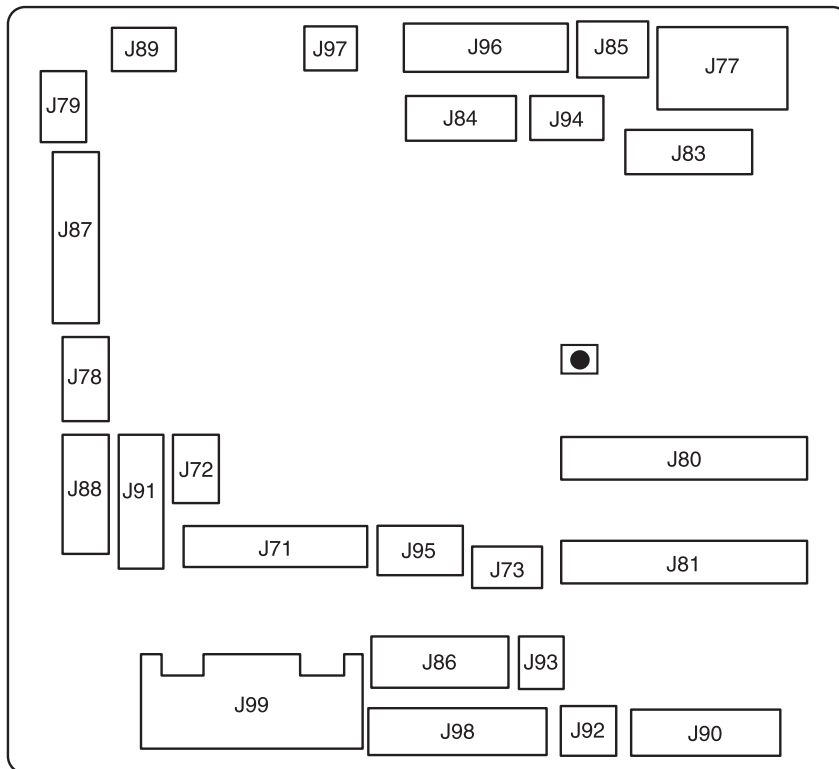


Figure 6-2 Connector locations on the dc controller PCA

J71		J88	6-Pin connector; Envelope feeder
J72		J89	3-Pin connector; Paper-feed clutch
J73		J90	10-Pin connector; Tray 2 media size sensor, Tray 2 paper sensor
J77	8-Pin connector; Control panel	J91	7-Pin connector; Accessory tray power connector
J78	3-Pin connector; Right side fan (HP LJ 4250/4300/4350 only)	J92	2-Pin connector; Tray 2 pickup solenoid
J79	2-Pin connector; Tray 1 pickup solenoid	J93	2-Pin connector; Tray 2 lifter motor
J80	Power-supply ribbon cable	J94	4-Pin connector
J81	Power-supply ribbon cable	J95	3-Pin connector; Top-cover sensor
J83	12-Pin connector; Scanner PCA	J96	8-Pin connector; Paper-handling power connector
J84	7-Pin connector; Laser/scanner PCA	J97	2-Pin connector; Print cartridge memory-chip sensor
J85	3-Pin connector; Output-bin full sensor	J98	9-Pin connector; Main motor
J86	7-Pin connector; print cartridge motor (HP LJ 4250/4300/4350 only)	J99	6-Pin connector; Power supply
J87	12-Pin connector; Tray 1 paper sensor, Narrow-media sensor, Top-of-page sensor, Paper-feed sensor		

User-replaceable parts

The following sections discuss user-replaceable parts.

Print cartridge

- 1 Open the control-panel door.



Figure 6-3 Print cartridge (1 of 2)

- 2 Firmly grasp the print cartridge and pull it up and out of the printer.



CAUTION Do not expose the print cartridge to bright light or direct sunlight for long periods of time. This can damage the cartridge, which will result in print-quality defects. If the cartridge must be removed from the printer for an extended amount of time, cover it and keep it out of bright light or direct sunlight.



Figure 6-4 Print cartridge (2 of 2)

Transfer roller

- 1 Open the control-panel door and tray 1.



CAUTION Do not touch the black rubber on the roller. Skin oils on the roller can cause print-quality problems. The use of disposable gloves is recommended when you remove the transfer roller.

- 2 Use a transfer-roller removal hook (callout 1) to lift the left end of the metal shaft out of place near the blue gear (callout 2). If a removal hook is not available use a flat-blade screwdriver. Slide the transfer roller to the left to remove it.



CAUTION Be careful to release and lift the left side of the roller *first*, and then slide the roller out.

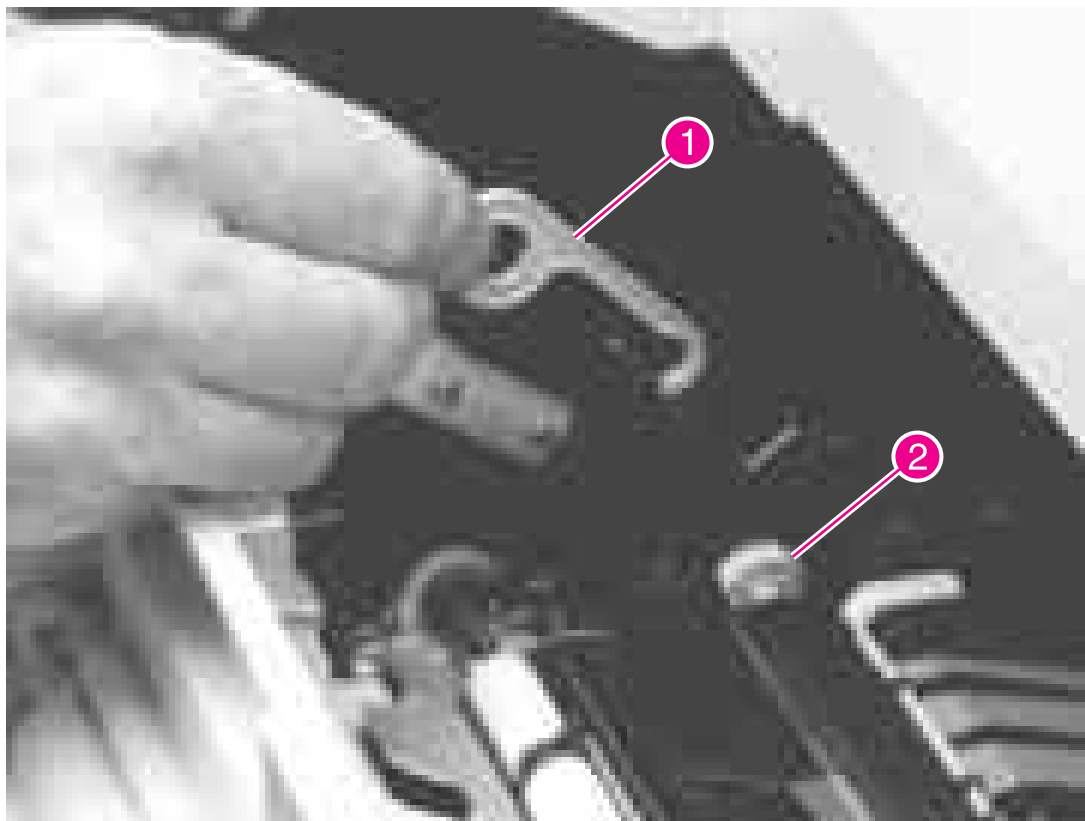


Figure 6-5 Transfer roller



Reinstallation tip When you install the transfer roller, make sure that the black collar on the left side is oriented correctly, with the open end face-down (the solid end is face-up).

Fuser

! **WARNING!** The fuser might be very hot. After turning off the printer power, allow the fuser to cool for at least 30 minutes before removing it.

- 1 Remove the rear output bin. See [Rear output bin](#).
- 2 Squeeze the blue fuser-release tabs (callout 1).
- 3 Pull the fuser (callout 2) straight back and out of the printer.

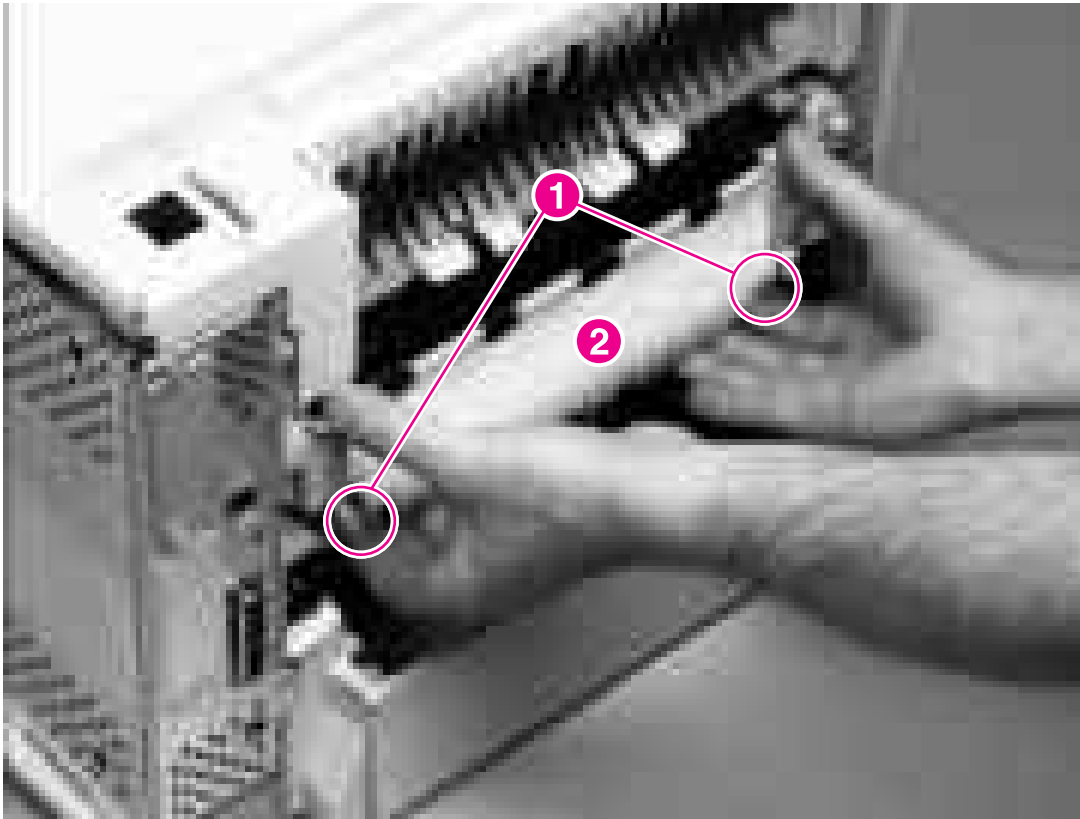


Figure 6-6 Fuser

△ **CAUTION** Do not drop or jar the fuser. It can easily be damaged if it is mishandled.

💡 **Hint** When you replace the fuser, make sure that it is fully seated into the printer. You should hear both sides snap into place.

Tray 1 pickup roller



NOTE If the optional envelope feeder is installed, press the release button on its left side and remove the feeder. Then proceed to step 2.

- 1 Remove the front accessory cover (callout 1).



NOTE If the printer has an envelope feeder installed, this cover will *not* be in place.



Figure 6-7 Tray 1 pickup roller (1 of 2)

- 2 Release the pickup roller by sliding apart the latches that are located on each side at the top of the roller. Lift the roller (callout 3) out of the opening.

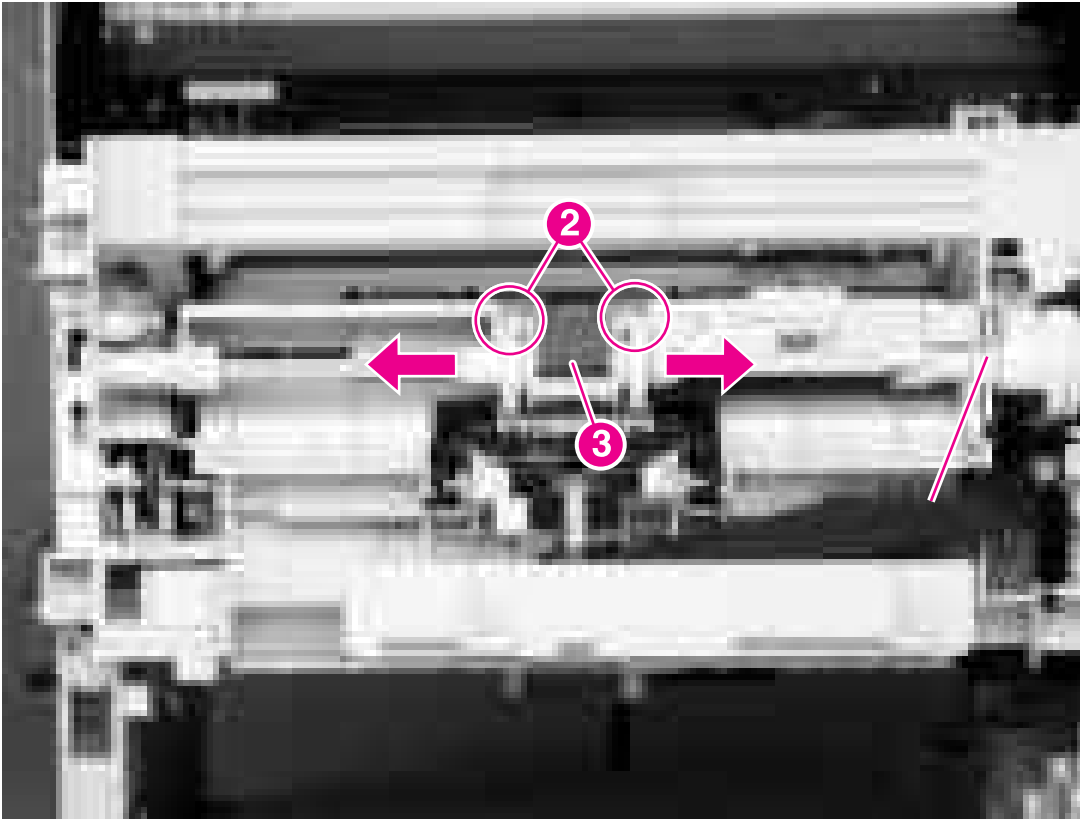


Figure 6-8 Tray 1 pickup roller (2 of 2)



Reinstallation tip When you install the pickup roller, place the two pivot pins in the lower mounting slots (callout 2) and rotate the roller into the printer until it snaps into place.

Tray 1 separation pad



NOTE If the optional envelope feeder is installed, press the release button on its left side and remove the feeder. Then proceed to step 2.

- 1 Remove the front accessory cover (not shown). See [Accessory covers and the tray 2 extension door](#).
- 2 Insert the tip of a small flat-blade screwdriver under the tray 1 separation pad.
- 3 Carefully twist the screwdriver to dislodge the separation pad. Remove the tray 1 separation pad.



Figure 6-9 Tray 1 separation pad

Tray 2 feed rollers

- 1 Remove tray 2 and place it on a level work surface. Locate and open the cover (arrow) that is next to the roller in tray 2.

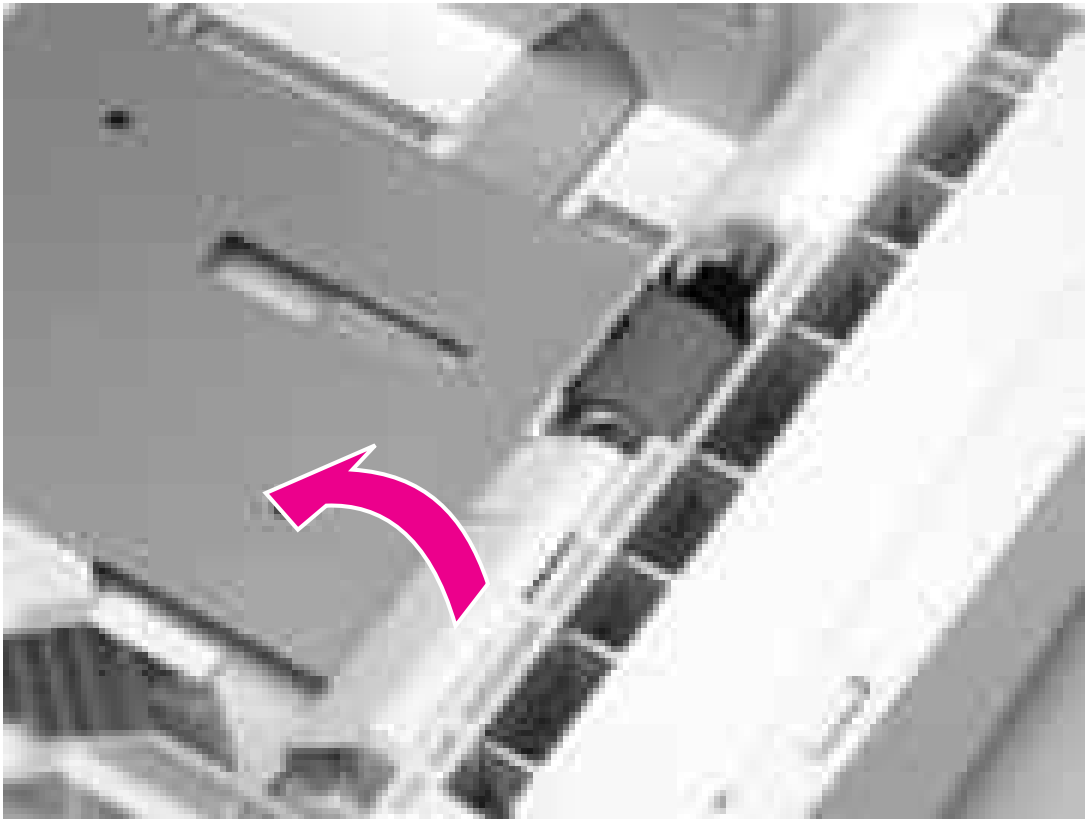


Figure 6-10 Tray 2 feed rollers (1 of 4)

- 2 Pinch the blue latch that is on the left side of the roller. Slide the roller off of the shaft (arrows).

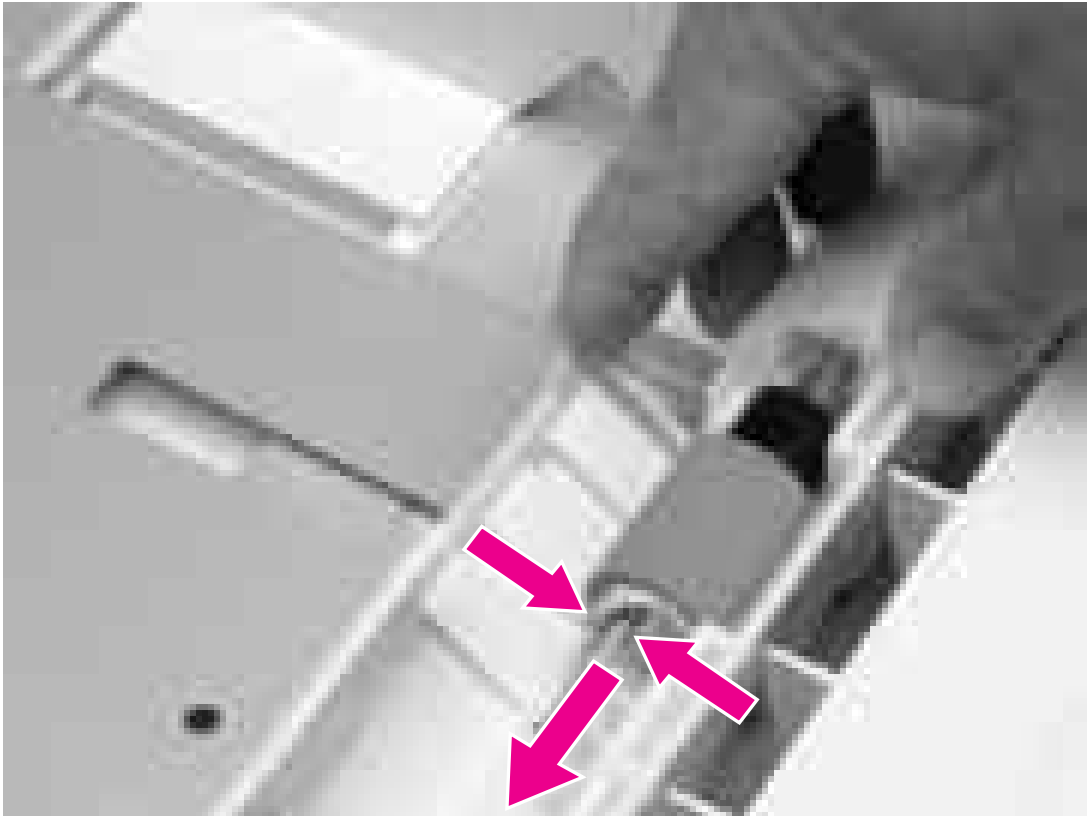




Figure 6-11 Tray 2 feed rollers (2 of 4)

 **CAUTION** When you install this roller, make sure that it locks into place. Verify that the roller is correctly oriented, and that the round, black spacer next to the roller is correctly positioned against the locking pin on the shaft.

 **WARNING!** Do not allow the front of the printer to extend beyond the edge of the work surface. The printer can become unbalanced and fall, which can cause damage to the printer or personal injury to the service technician.

- 3 Move the front of the printer to the edge of the work surface for better access to the remaining feed rollers. To find the rollers, look up into the inside of the opening that was created when you removed tray 2.



Figure 6-12 Tray 2 feed rollers (3 of 4)

- 4 Pinch the blue latch on the left side of the feed roller (two rollers are installed here). Slide the roller off of the shaft. You might need to rotate the roller in order to pinch the latch.

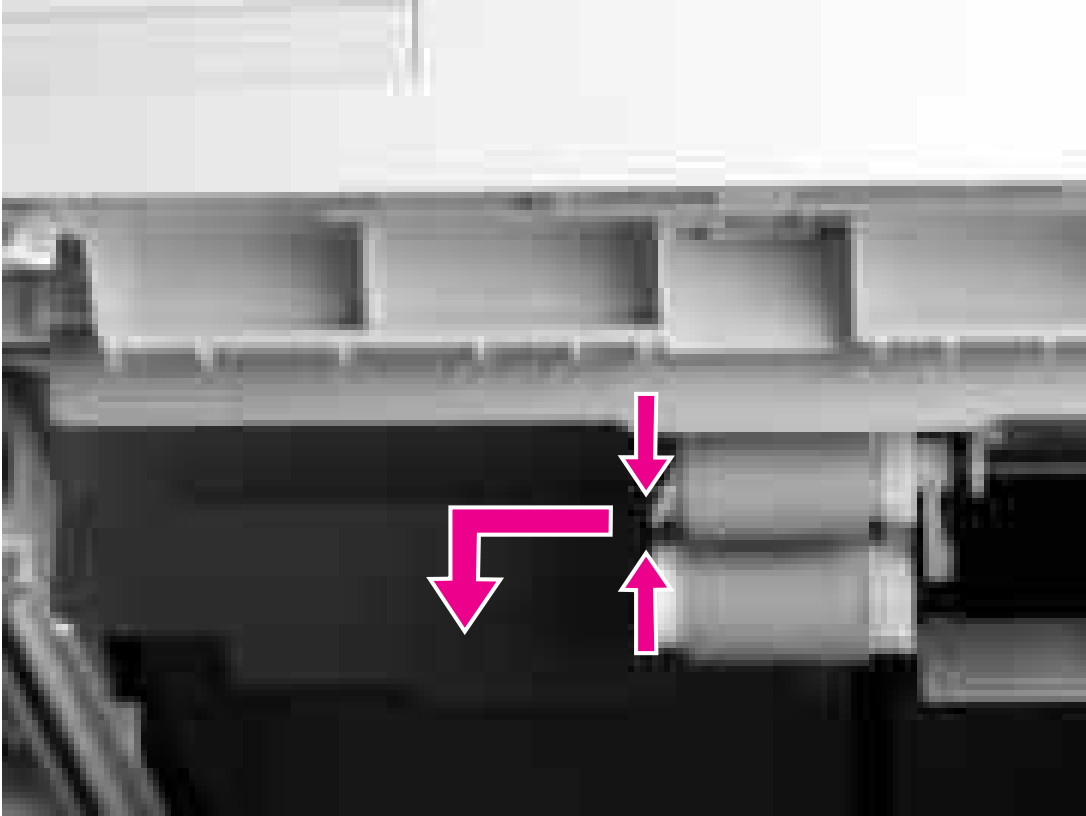


Figure 6-13 Tray 2 feed rollers (4 of 4)

- 5 Repeat the previous step for the remaining pickup roller.



Reinstallation tip When you install each of the rollers that you removed in steps 4 and 5, make sure that it locks into place on the tabs that are on the drive gear.

Covers, tray 1, and the rear output bin

The following sections describe removal and replacement of the printer covers, tray 1, and the rear output bin.

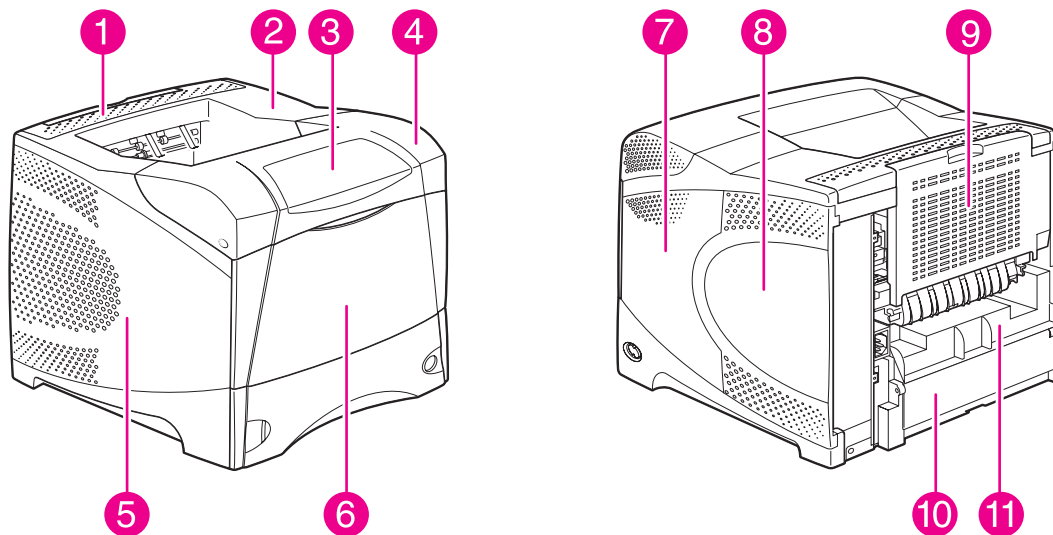


Figure 6-14 External components

1	Rear accessory cover
2	Top cover
3	Control panel
4	Cartridge door
5	Left-side cover
6	Front cover
7	Right-side cover
8	Formatter cover
9	Rear output bin
10	Tray 2 extension cover
11	Duplexing accessory cover

Accessory covers and the tray 2 extension door



NOTE Accessory covers will not be in place if any installed accessories (for example, the optional stapler/stacker) have been removed to service the printer.

- 1 Grasp the rear accessory cover (the mounting position for the optional stapler/stacker or stacker). Rotate the cover toward the front of the printer to release it, and then lift it up to remove it.



Figure 6-15 Accessory covers (1 of 3)

- 2 Open tray 1. Grasp the front accessory cover (the mounting position for the optional envelope feeder) and pull it straight out of the printer.

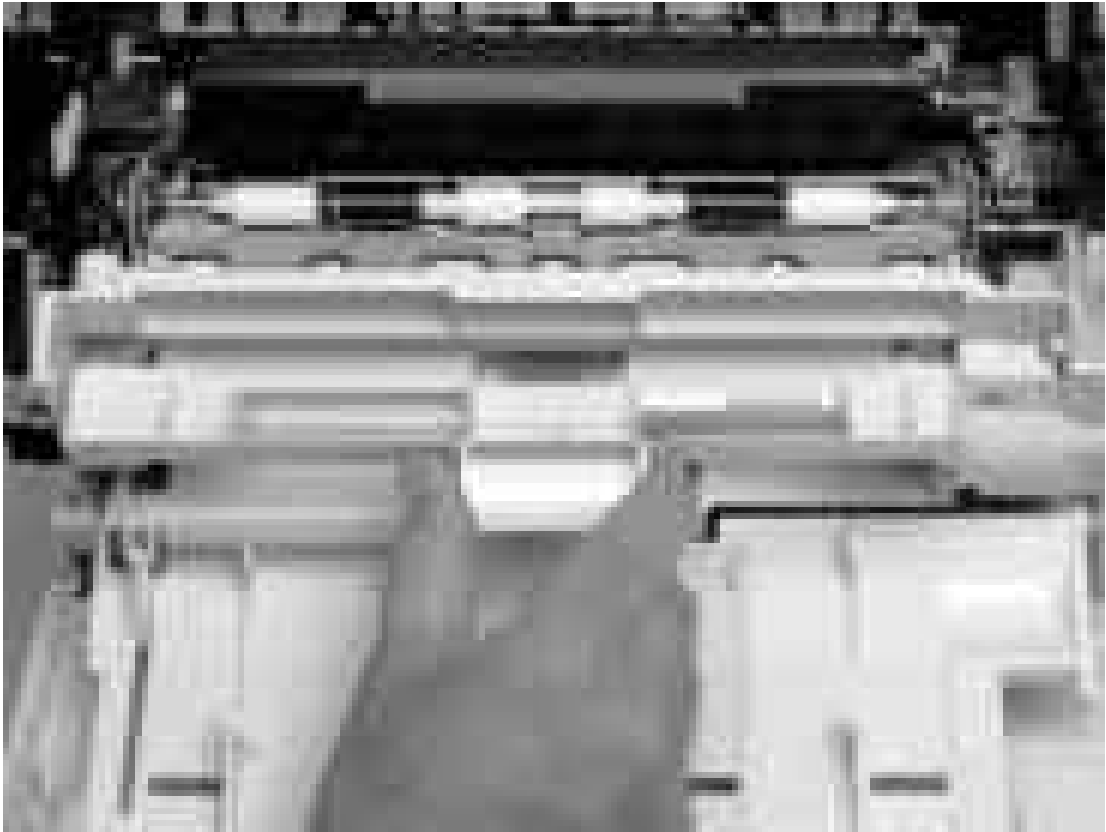


Figure 6-16 Accessory covers (2 of 3)

- 3 Grasp the duplexing accessory cover (the mounting position for the optional duplexer) and pull it straight out of the printer.



Figure 6-17 Accessory covers (3 of 3)

- 4 Rotate the tray 2 extension cover to the horizontal position, and then lift up the right side of the cover to unlock its pivot bar.

- 5 Slide the left-side pivot pin out of its retainer to remove the cover.



Figure 6-18 Tray 2 extension cover

Formatter cover

- 1 Grasp the formatter cover.
- 2 Pull the cover straight back and away from the printer.



Figure 6-19 Formatter cover

Top cover



NOTE If the optional stapler/stacker or stacker accessory is installed, lift it straight up and off of the printer to remove it. Then proceed to step 2.

- 1 Remove the following:
 - Top accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Formatter cover. See [Formatter cover](#).
- 2 Open the rear output bin, the print-cartridge door, and the front cover.
- 3 Use needle-nose pliers to release the print-cartridge drive-arm tab (callout 1).



Hint Push the print-cartridge drive-arm (callout 2) back into the printer to avoid damaging it when you remove the top cover.

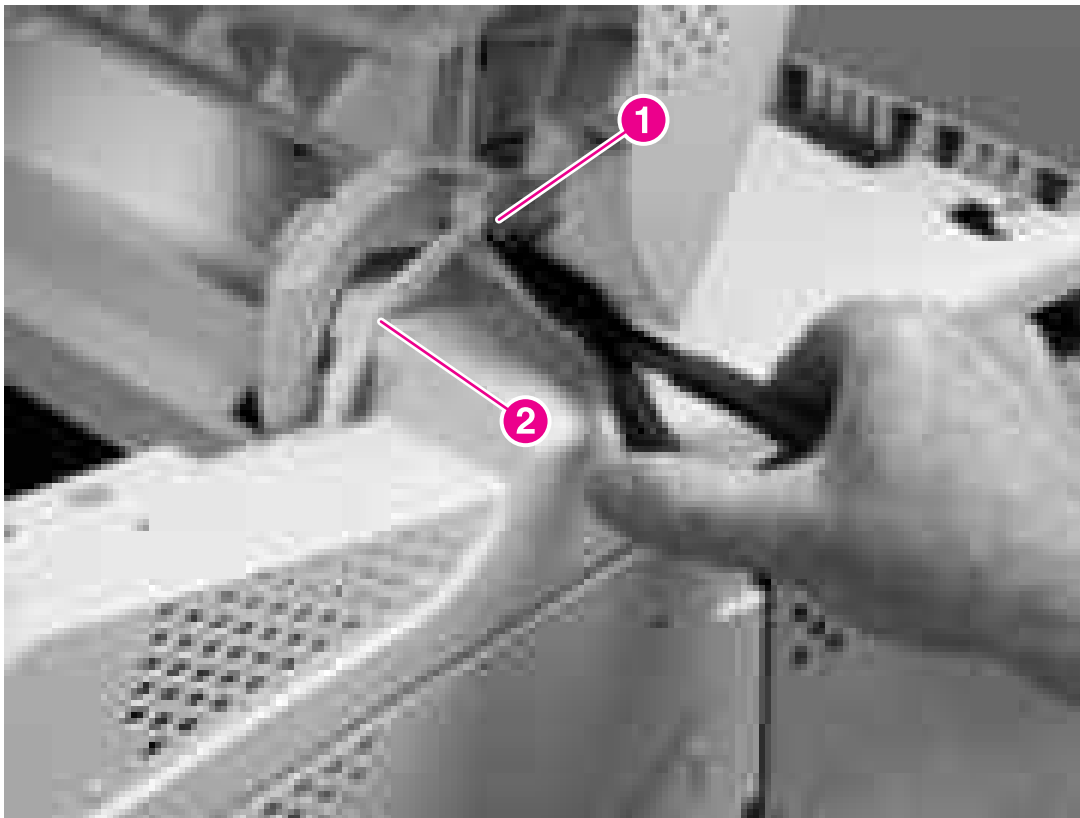


Figure 6-20 Top cover (1 of 3)

- 4 Remove four mounting screws (callout 3).

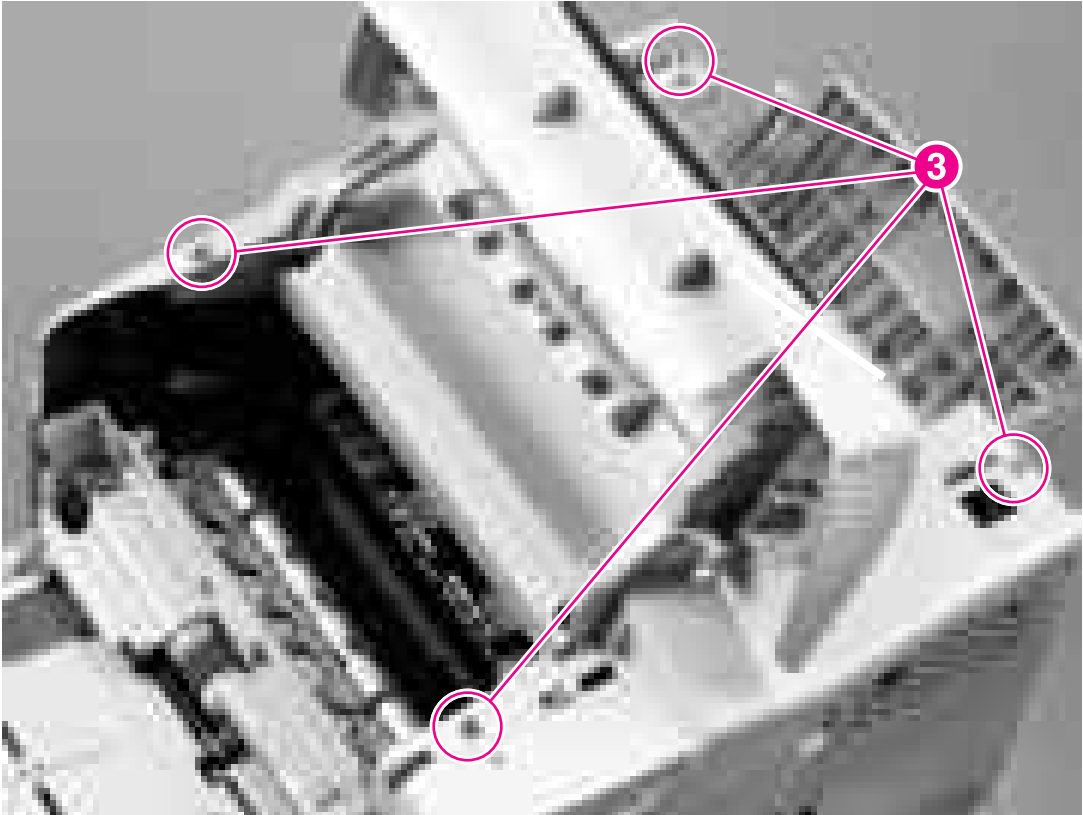


Figure 6-21 Top cover (2 of 3)

- 5 Grasp the top cover and carefully rotate the left edge up and away from the printer. Do not apply stress to the control-panel wire-harness (callout 4) when rotating the top cover away from the printer.



CAUTION The accessory pin (callout 5) is not captive. Do not lose the pin.

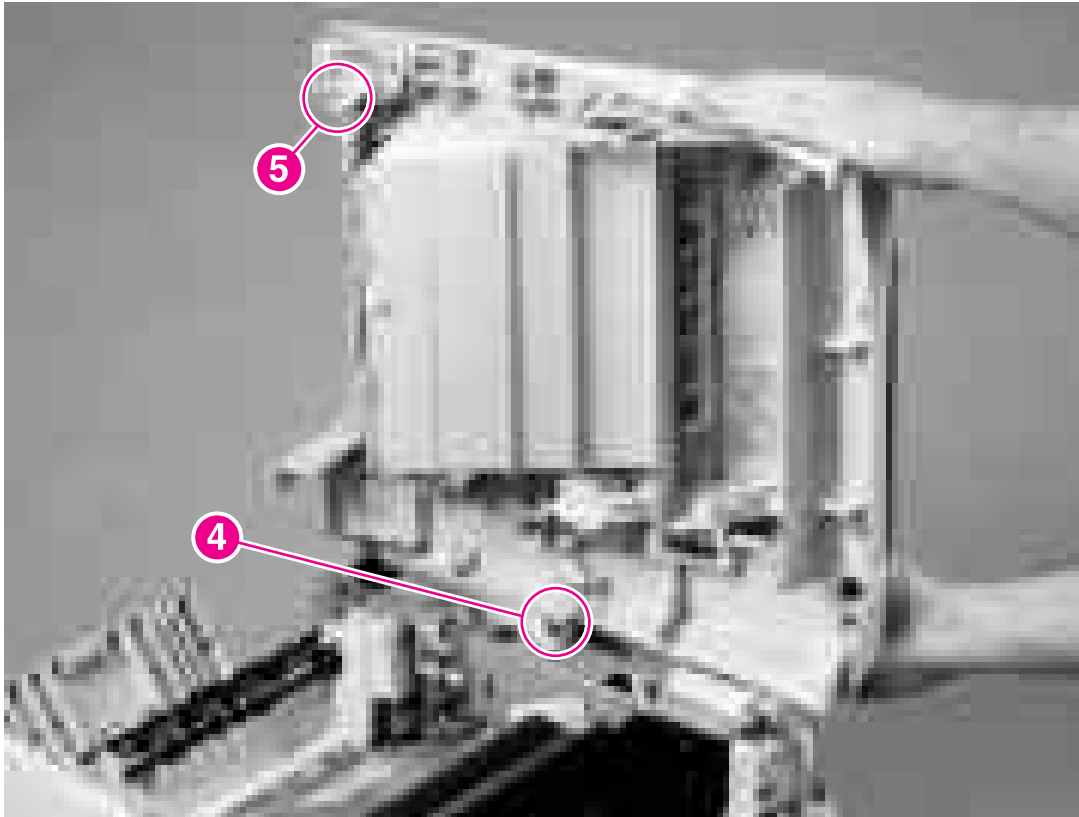


Figure 6-22 Top cover (3 of 3)

- 6 Disconnect the control-panel wire-harness (callout 4) from the dc controller PCA. Remove the top cover.



CAUTION When the top cover is reinstalled, make sure that the wire-harnesses are correctly routed through the cable guides. If the wire-harnesses are not routed correctly, they can be damaged when the top cover is reinstalled.



Hint The control-panel wire-harness connector can become disconnected when you reinstall the top cover. If the control panel does not work after the top cover is reinstalled, verify that the wire-harness connector is fully seated into its dc controller PCA connector.

Right-side cover

- 1 Remove the following assemblies:
 - Top cover. See [Top cover](#).
 - Formatter cover. See [Formatter cover](#).
 - Tray 2.
- 2 Open the formatter door.
- 3 Use a small flat-blade screw driver to push in the locking tab at the front of the printer, and then release two additional locking tabs (callout 1).

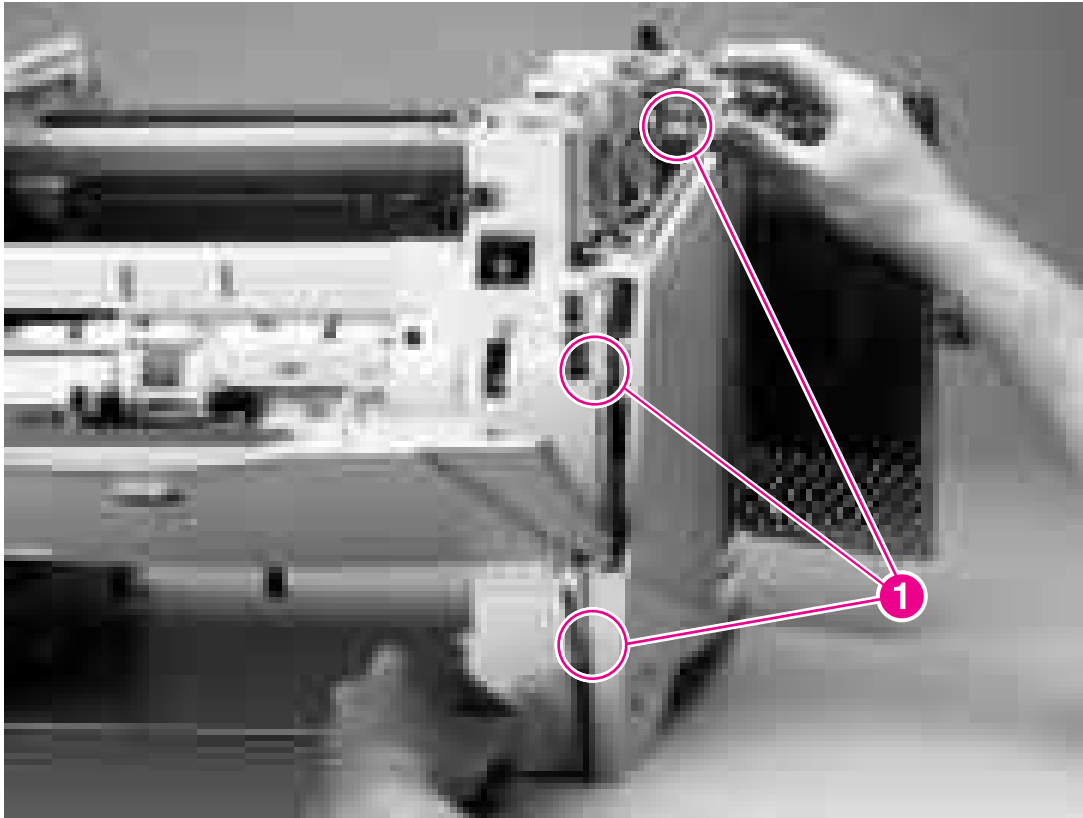


Figure 6-23 Right-side cover (1 of 2)

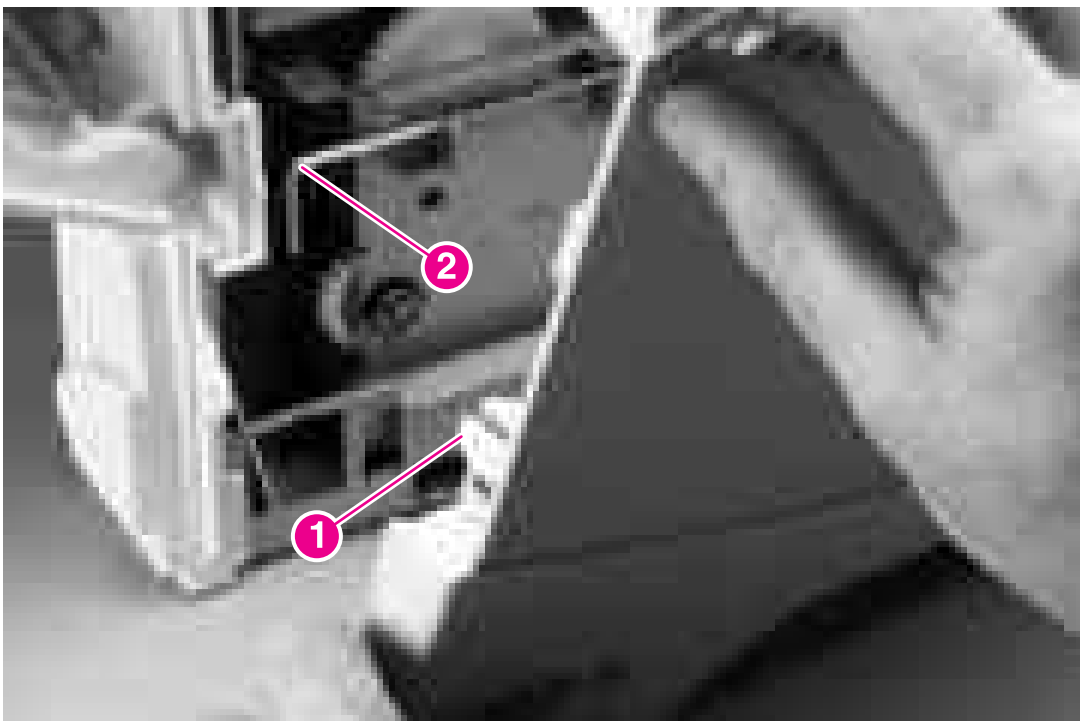
- 4 Rotate the right-side cover away from the printer and lift it up to remove it.



Figure 6-24 Right-side cover (2 of 2)



Reinstallation tip When you reinstall the right-side cover, verify that the power-switch arm (callout 1) locks onto the switch connecting rod (callout 2).



Left-side cover

- 1 Remove the top cover. See [Top cover](#).
- 2 Release two locking tabs (callout 1).

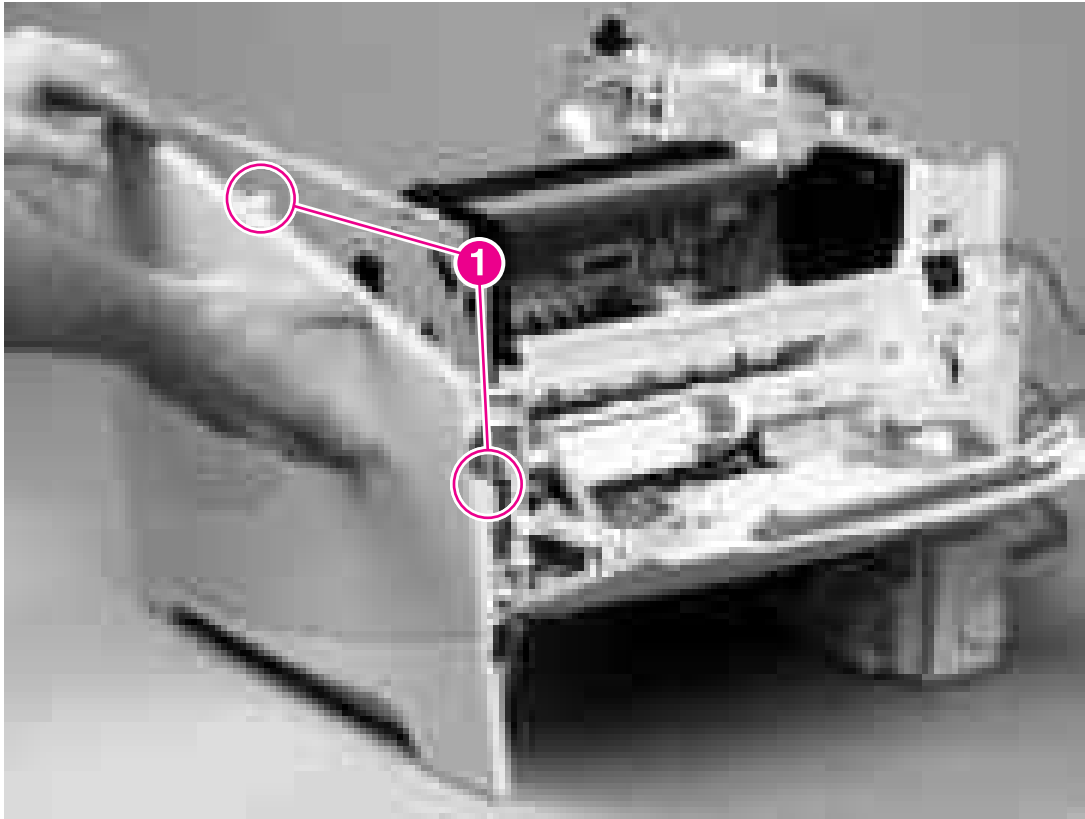


Figure 6-25 Left-side cover

- 3 Rotate the top of the cover away from the printer and lift the cover up to remove it.



Reinstallation tip When reinstalling the left-side cover, make sure to hook the bottom of the cover first.

Front cover

- 1 Open the front cover.
- 2 Remove the tray 1 pins (callout 1) from the hinges on the front cover. Use your fingers to gently pry the paper-guide slide-pin hinges out of the hinge slots on the front cover to release the pins.

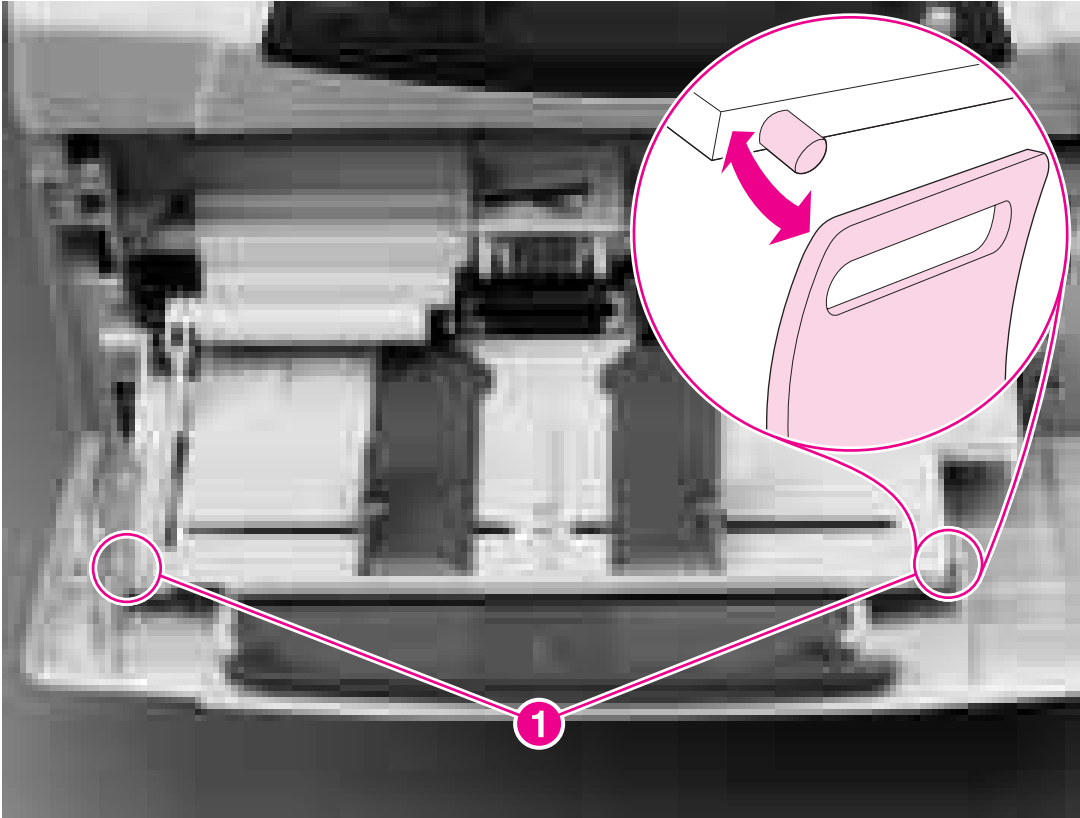


Figure 6-26 Front cover (1 of 2)

- 3 Slide the front cover toward the right side of the printer to remove it.

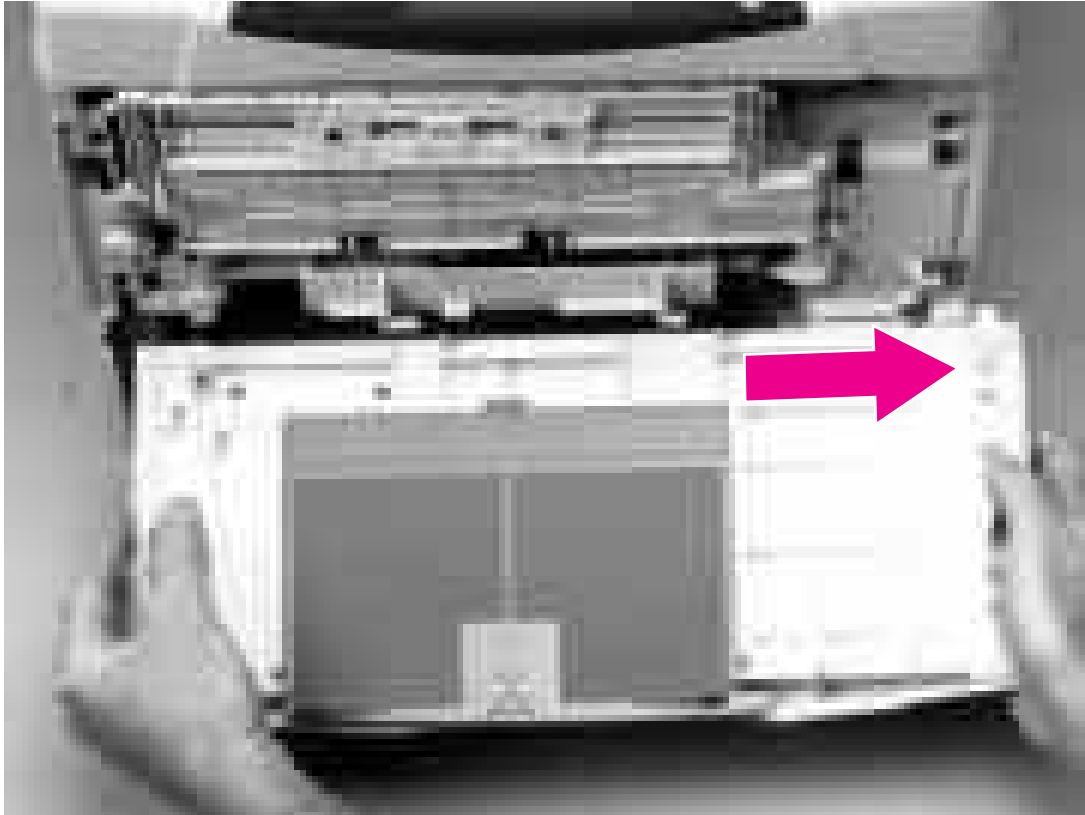


Figure 6-27 Front cover (2 of 2)



Reinstallation tip When you reinstall the front cover, the door-stop pin must be installed in the stop receptacle on the door so that the door opens and closes correctly.

Tray 1

- 1 Remove the front cover. See [Front cover](#).
- 2 Open tray 1.
- 3 Firmly pull both sides of the tray 1 sensor-arm cover down to release it from the shaft.



Figure 6-28 Tray 1 (1 of 3)



Reinstallation tip After reinstalling the tray 1 sensor-arm cover, verify that the sensor arms move freely.

Hint Before you complete step 4, examine the position of the return-spring at the right side of the tray. The return-spring must be positioned correctly upon reinstallation. When reinstalling the tray 1 paper guide, hook the short end of the return-spring in the small notch located below the right-side hinge-pin receptacle.

- 4 While holding the return-spring (callout 1), rotate the paper guide down to release the left paper-guide hinge (callout 2).

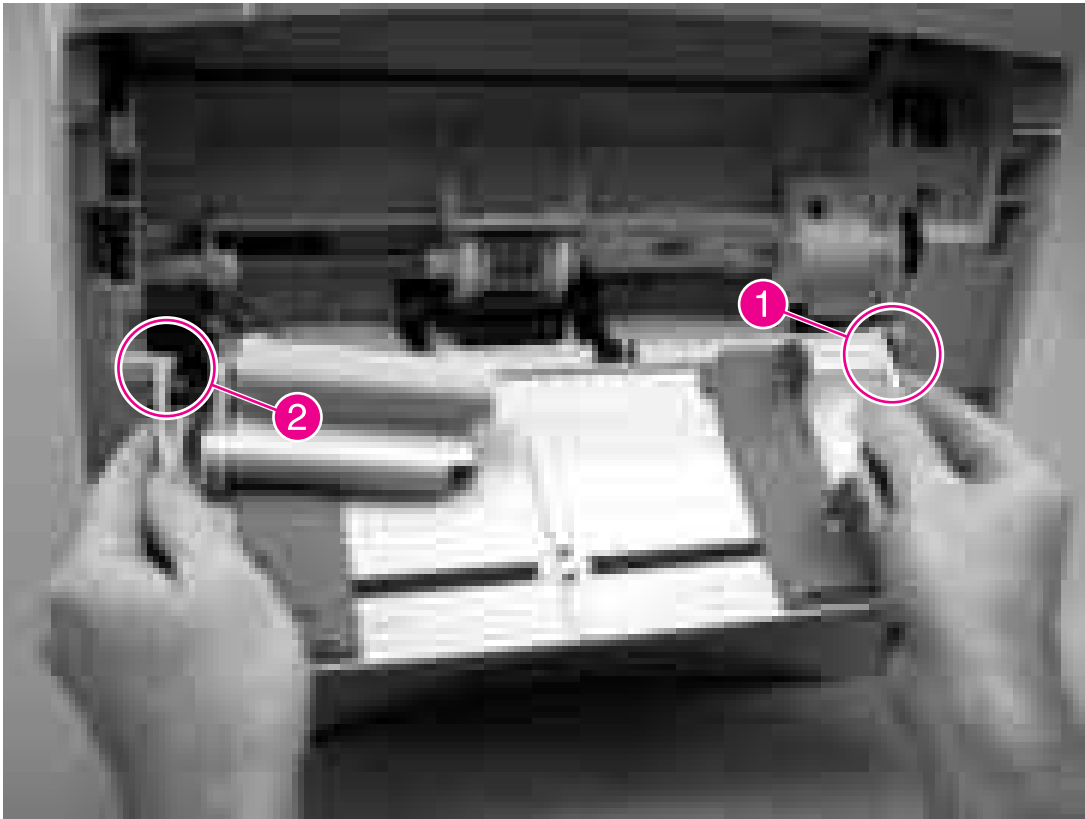


Figure 6-29 Tray 1 (2 of 3)



Hint Tape the return-spring in place on tray 1 so that you will not lose it.

- 5 Slide the paper guide to the left to remove it.

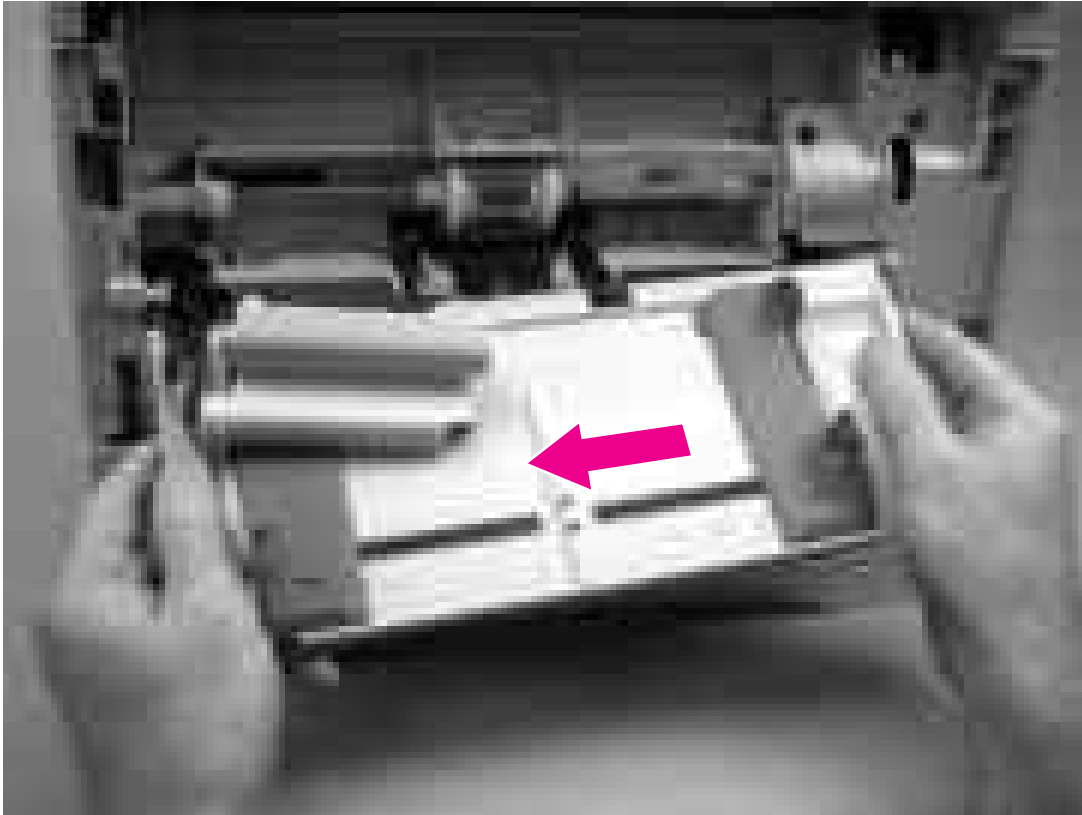


Figure 6-30 Tray 1 (3 of 3)

Rear output bin



NOTE If the duplexer is installed, lift it up slightly and pull it away from the printer to remove it.

- 1 Open the rear output bin (callout 1).
- 2 Squeeze the hinge pin (callout 2) out of its mounting hole.

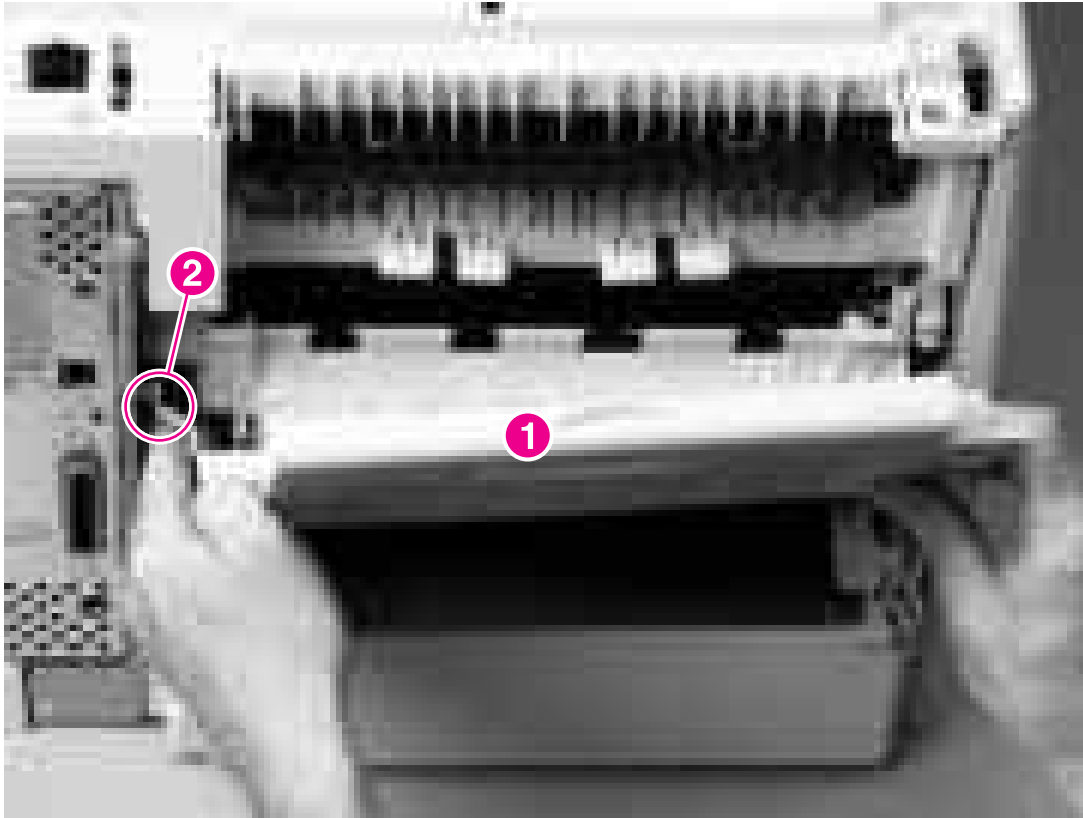


Figure 6-31 Rear output bin

- 3 Rotate the output bin away from the printer until the right hinge pin is released, and then remove the output bin.

Control-panel display

The following sections describe removing and replacing parts of the control-panel display.

Control-panel overlay

- 1 Use a small flat-blade screwdriver to carefully pry the top of the control-panel overlay away from the printer.



Figure 6-32 Control-panel overlay

- 2 Lift the overlay off of the control panel.

Control-panel assembly



CAUTION The product contains components that are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation.



CAUTION Always remove the top cover before removing the control panel. If you drop any of the control-panel mounting screws into the printer when you remove the control panel, they might be difficult to recover. Severe damage to the printer can result if the power is turned on when loose screws are inside the printer.

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
- 2 Place the top cover upside-down on a padded work surface.

- 3 Remove four screws (callout 1), and then lift the control-panel cover (callout 2) out of the top cover.



NOTE Some models have six screws.

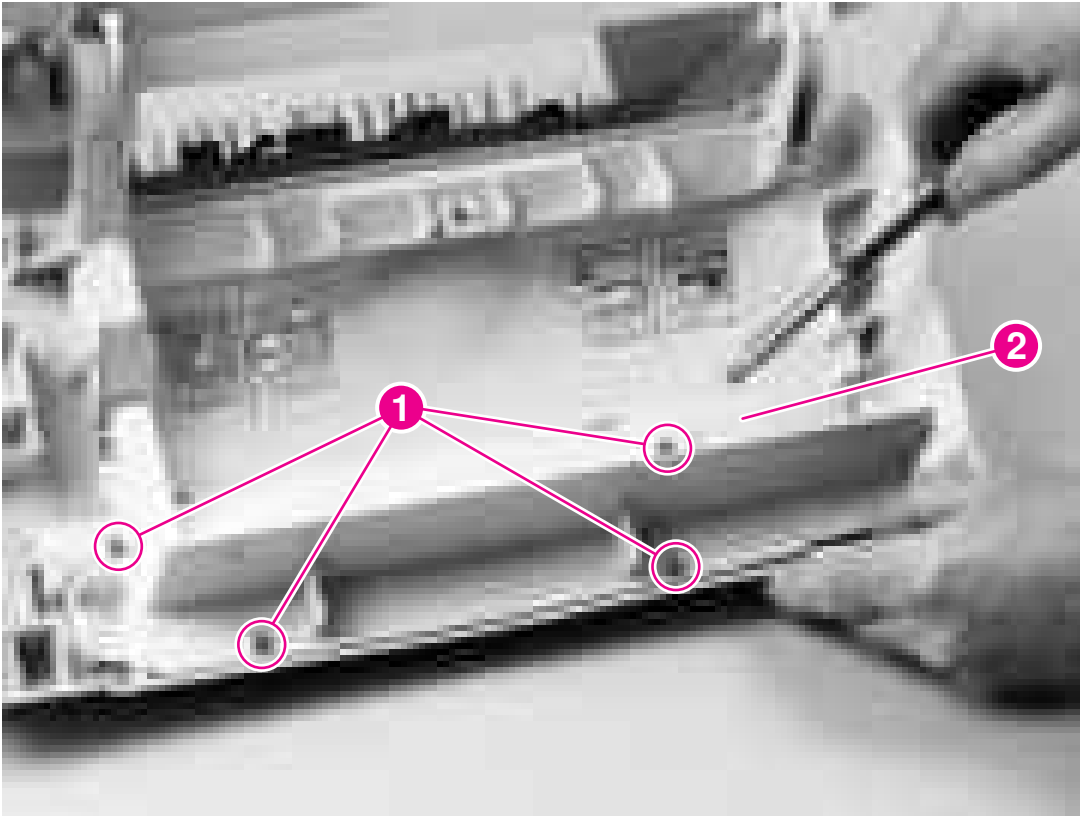


Figure 6-33 Control-panel assembly (1 of 2)

- 4 Remove the grounding-strip screw (callout 3) and the spacer (callout 4).

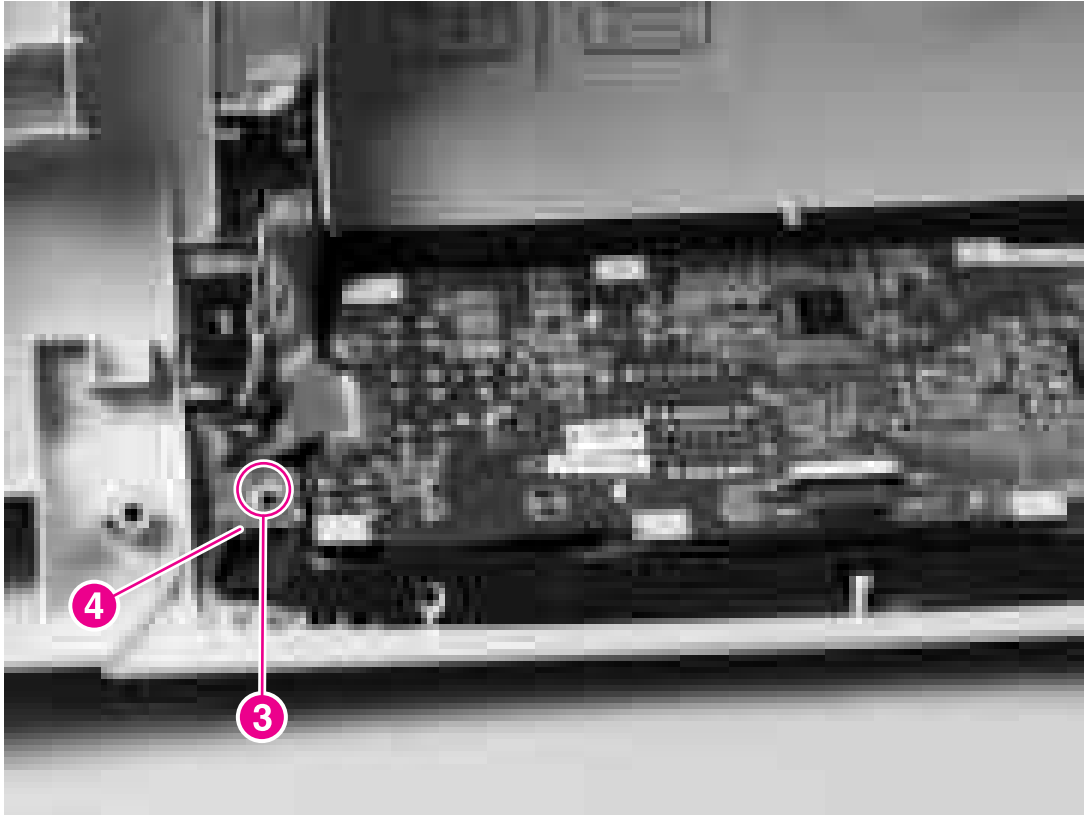
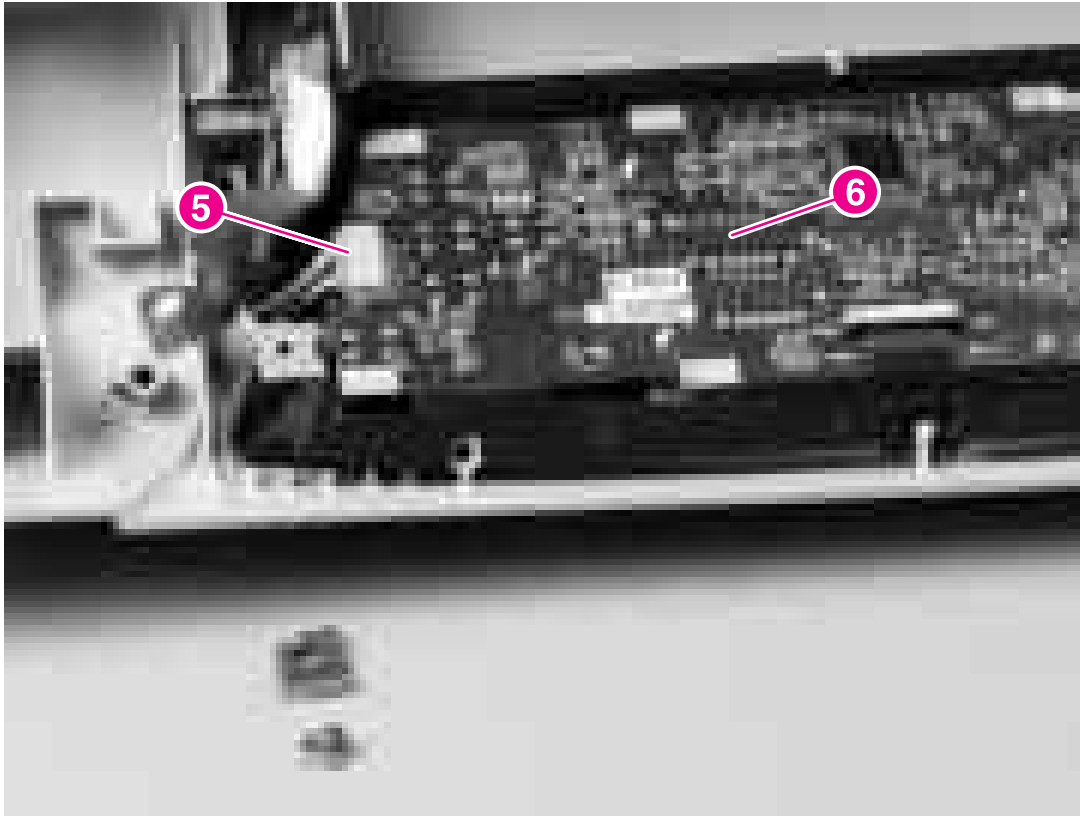


Figure 6-34 Control-panel assembly (2 of 2)

- 5 Unplug the control-panel wire-harness (callout 5), gently pry the front of the print-cartridge door away from the control-panel display to release the retainer clip, and then lift the control panel (callout 6) out of the top cover.



Reinstallation tip When you reinstall the control-panel display, verify that the wire-harness is placed in the cable guide under the grounding strip.

Reinstallation tip When you reinstall the grounding strip (callout 5), do not forget to replace the protective clip. If the grounding strip is installed without the clip, tightening the screw will damage the grounding strip.

Main assemblies

The following sections describe the removal and repair of internal printer components.

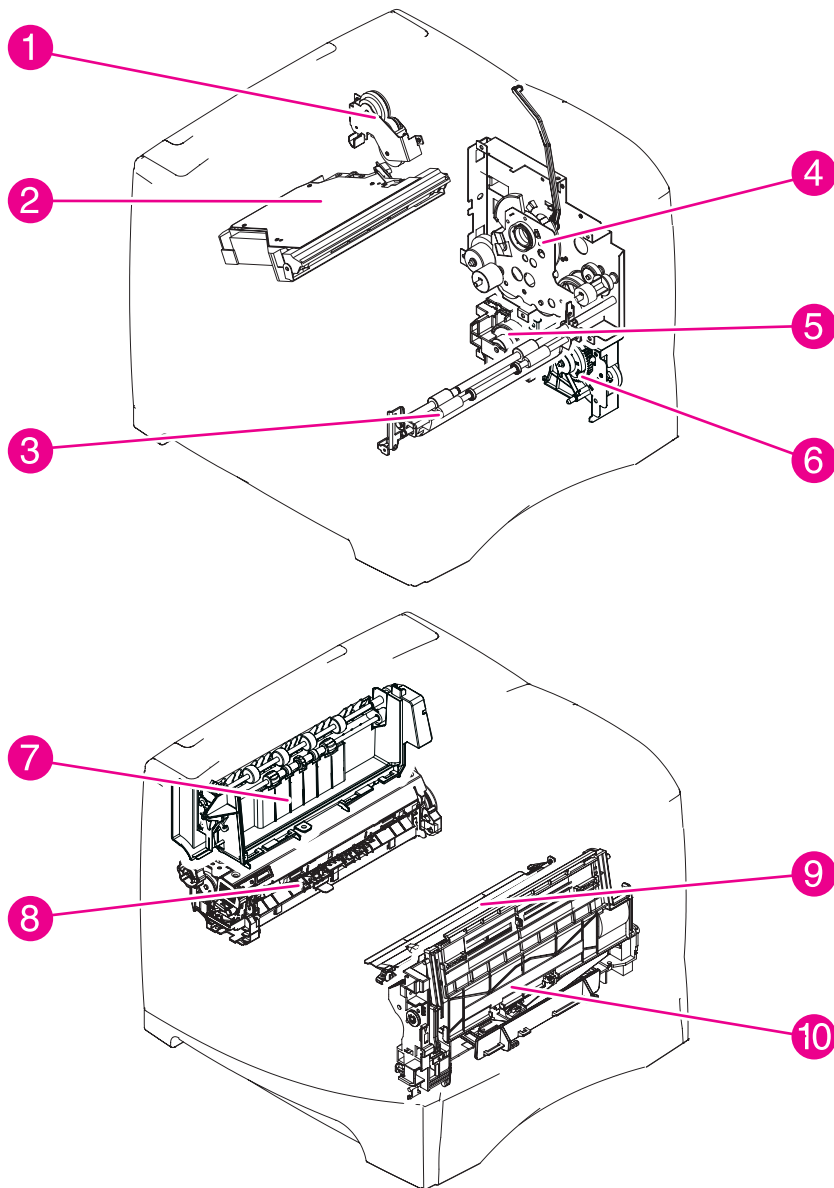


Figure 6-35 Main assemblies

1	Duplexing pendulum assembly	6	Pickup-drive assembly
2	Laser/scanner assembly	7	Delivery assembly
3	Feed-roller assembly	8	Fuser assembly
4	Drive assembly	9	Registration assembly
5	Lifter-drive assembly	10	Tray 1 pickup assembly

Firmware DIMM (LJ 4200/4300 only)



NOTE The HP LaserJet 4250/4350 Series printers do not use firmware DIMMs. Instead a firmware chip is soldered directly to the formatter in those printers. Firmware upgrades may be performed via an RFU, see [Downloading a remote firmware update](#)



CAUTION The product contains components that are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation.



- 1 Remove the formatter cover. See [Formatter cover](#).



NOTE If possible, print a menu map and a configuration page. See [Menu map](#) and [Configuration page](#). Use the information on these pages to restore any user-set printer configuration options after you install the replacement DIMMs.

- 2 Open the formatter door.
- 3 Push the DIMM-locking arms away from the DIMM to release it, and then pull the DIMM out of the DIMM slot.

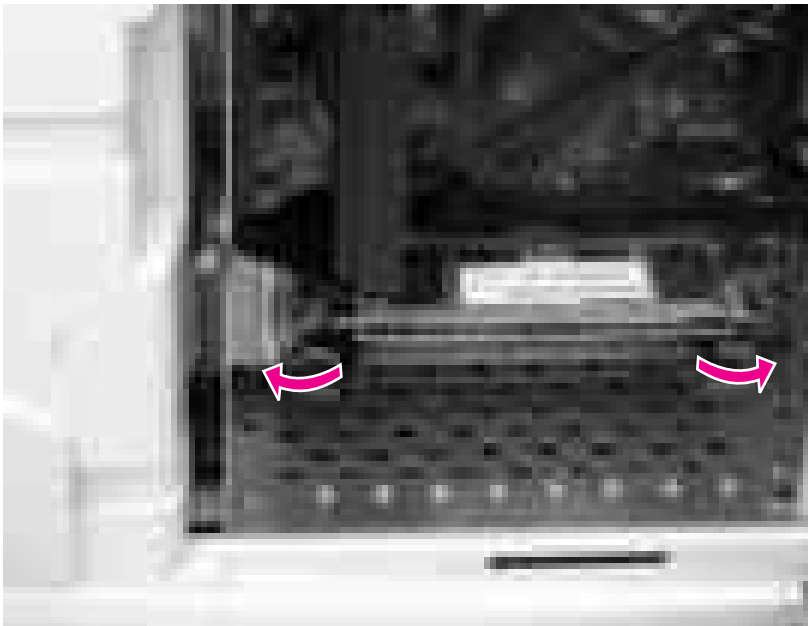


Figure 6-36 Firmware DIMM



Reinstallation tip The firmware DIMM must be installed in slot 1 (formatter PCA location J1; topmost slot).

If you are installing additional DIMMs, the second DIMM must be installed in slot 2 (formatter location J2; second slot down from the top). If another DIMM is installed, the third DIMM must be installed in slot 3 (formatter location J3; third slot down from the top). If another DIMM is installed, the fourth DIMM must be installed in slot 4 (formatter location J4; bottom slot). The printer will not recognize DIMMs if they are not installed in the correct order.

Formatter assembly



NOTE Print a menu map and a configuration page. See [Configuration page](#). Use the information on the configuration page to restore any user-set product configuration options after you install a replacement formatter. If you cannot print a configuration page, ask the customer for a recent configuration page.

- 1 Remove the formatter cover. See [Formatter cover](#).
- 2 Remove two screws (callout 1).

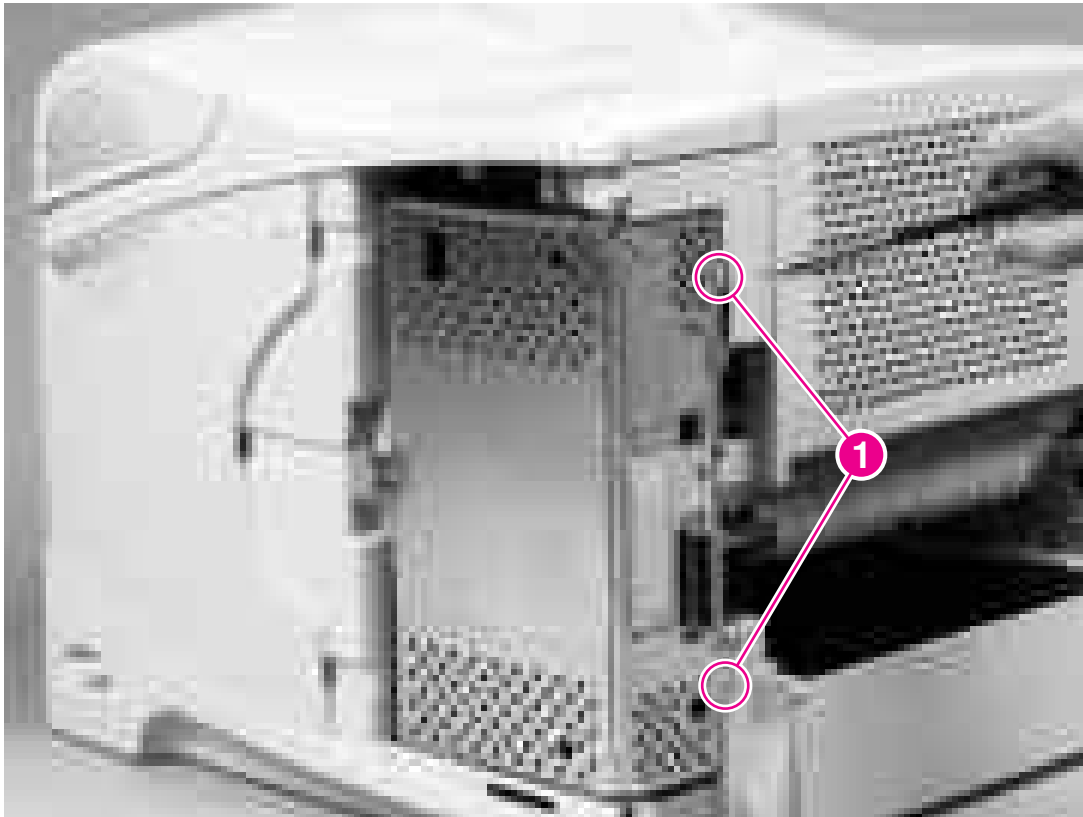


Figure 6-37 Formatter assembly (1 of 2)

- 3 Slide the formatter assembly toward the rear of the printer to remove it.

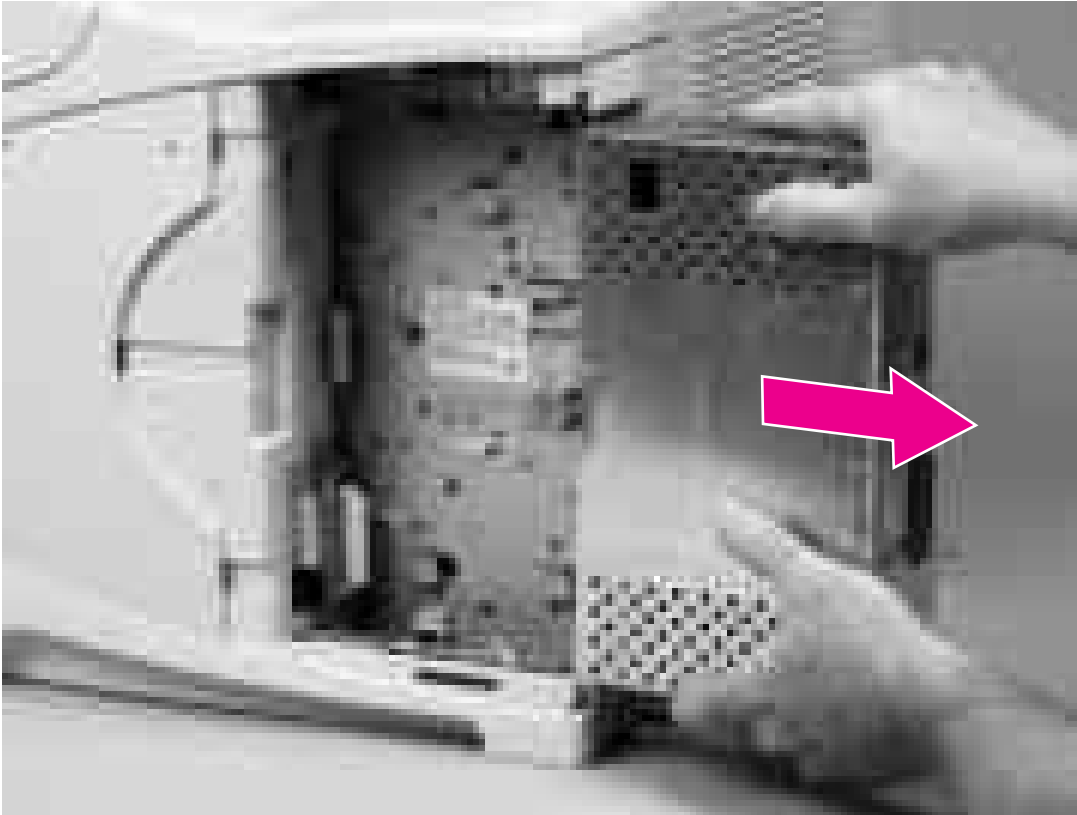


Figure 6-38 Formatter assembly (2 of 2)

CAUTION Correct reinstallation of the formatter is critical to correct operation of the printer. If you are installing a *new* formatter, follow instructions in the reinstallation tips. If you are installing a *new formatter and a new dc controller* in an HP LaserJet 4250 or 4350 Series printer, see the special section that follows this formatter section—[Installing a new formatter and a new dc controller \(LJ 4250/4350 only\)](#).

Failure to follow these instructions can result in a printer-configuration downgrade. For example, an HP LaserJet 4350 printer could perform as an HP LaserJet 4250.

Reinstallation notes, formatter

If you install a *replacement* formatter, complete the following steps:

- 1 Perform an NVRAM initialization (see [To initialize NVRAM](#)).
- 2 Use the control-panel display to open the service menu and specify the total page count, the maintenance count, the service ID, the cold reset paper size, and the serial number (see [Service menu \(service PIN codes\)](#)).
- 3 Reset the printer display language to the customer's choice (see [Setting the control-panel display language](#)).

After installing a *new* formatter, complete the following steps:

- 1 Turn the printer on and then wait for five minutes after the printer reaches the Ready state.



NOTE Five minutes is required to allow for NVRAM settings to be written.

- 2 Turn the printer off.
- 3 Turn the printer on again, and then wait five minutes after the printer reaches the **Ready** state.
- 4 Print a configuration page to verify against original settings.

Installing a new formatter and a new dc controller (LJ 4250/4350 only)



CAUTION If you are installing a *new formatter and a new dc controller* on an HP LaserJet 4250 or 4350 Series printer, follow the instructions in this section.

Failure to follow these instructions can result in a printer-configuration downgrade. For example, an HP LaserJet 4350 printer could perform as an HP LaserJet 4250.

- 1 Turn the printer off.
- 2 Remove the formatter (see [Formatter assembly](#)) and replace it with the new formatter.
- 3 Turn the printer on and then wait for five minutes after the printer reaches the **Ready** state.




NOTE Five minutes is required to allow for NVRAM settings to be written. The same five-minute wait is required several times during this procedure.

- 4 Turn the printer off.
- 5 Turn the printer on again, and then wait five minutes after the printer reaches the Ready state.
- 6 Turn the printer off.
- 7 Remove the dc controller (see [Dc controller PCA](#)) and replace it with the new dc controller.
- 8 Turn the printer on and wait for five minutes after the printer reaches the **Ready** state.
- 9 Turn the printer off.
- 10 Turn the printer on again, and then wait five minutes after the printer reaches the Ready state.
- 11 Print a configuration page to verify against original settings.
- 12 Verify the printer series (4250/4350).

Output-delivery assembly

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Formatter cover. See [Formatter cover](#)
- 2 Use a small flat-blade screwdriver to release the locking pin on the shaft lock (callout 1), and then rotate the lock toward the rear of the printer until the inner retaining tab (gear side) aligns with the hole in the output delivery assembly frame.

- 3 Slide the shaft lock to the right and remove it to release the gear shaft from the output-delivery assembly (callout 2).

 **CAUTION** Do not break the shaft lock. A replacement is not provided with a new output-delivery assembly.

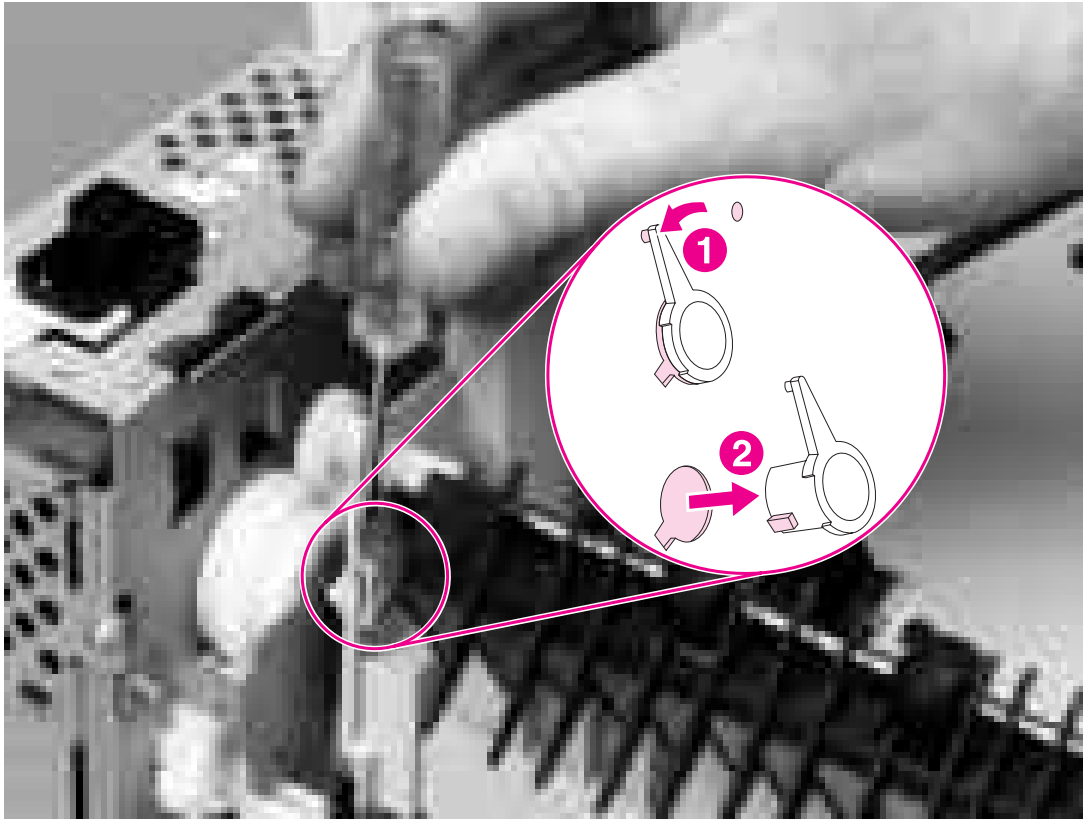




Figure 6-39 Output-delivery assembly (1 of 2)

 **Hint** Snap the shaft lock back into place on the assembly so that you will not lose it. Remove the shaft lock when you reinstall the output-delivery assembly. When the output-delivery assembly is installed, verify that the locking pin on the shaft lock is fully seated in the hole on the output-delivery assembly.

 **CAUTION** The rear face-down output-bin-sensor cable (callout 3) is routed through a notch (callout 4) on the output delivery system at the gear end of the assembly. When you remove the assembly, carefully remove the cable from the notch to avoid damage to the cable.

- 4 Lift up the gear end of the output-delivery assembly (callout 5) slightly and slide the assembly toward the formatter assembly to remove it.

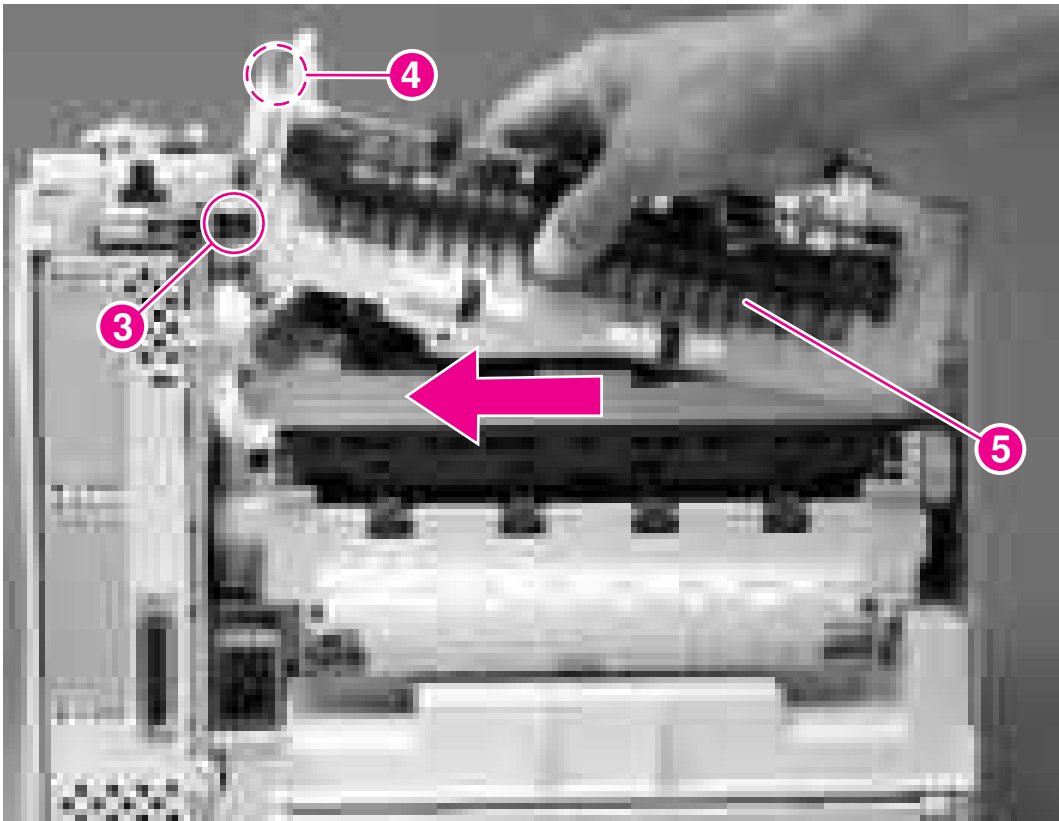


Figure 6-40 Output delivery assembly (2 of 2)

Duplexing-pendulum assembly



NOTE The duplexing-pendulum assembly is part of the paper-path switching mechanism when the duplexer is installed.

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Formatter assembly. See [Formatter assembly](#).
 - Output-delivery assembly. See [Output-delivery assembly](#).
- 2 Remove two screws (callout 1).

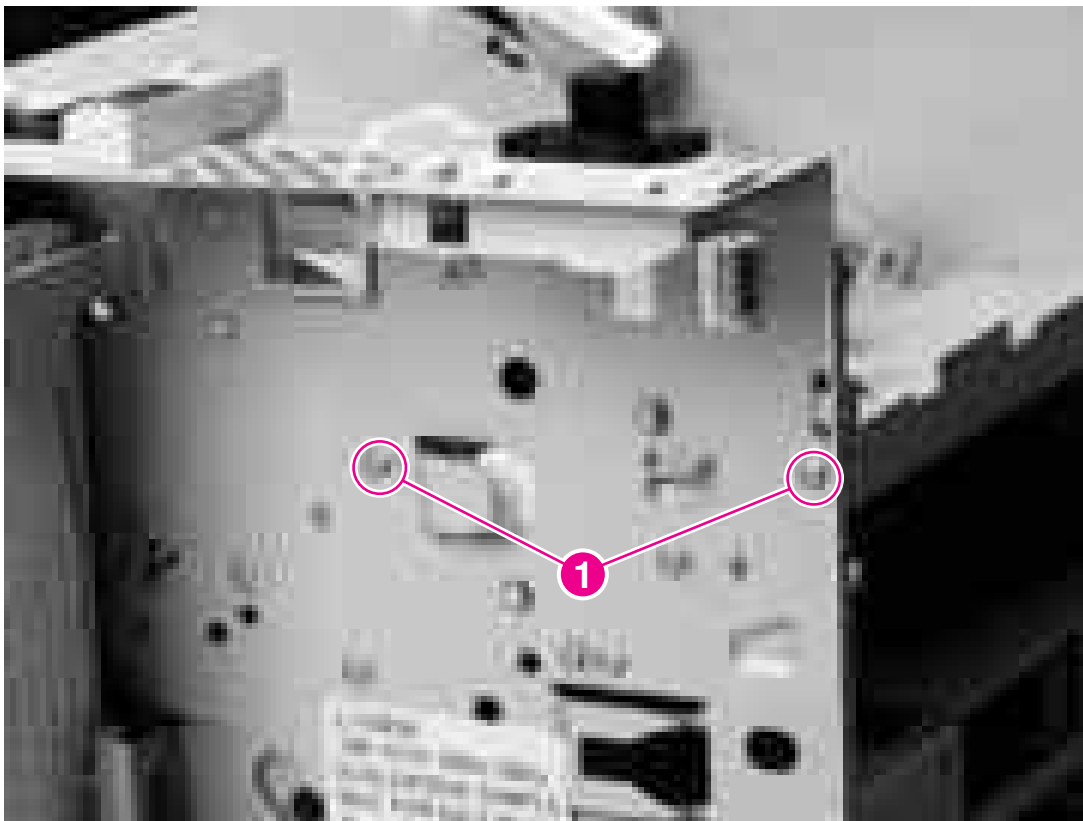


Figure 6-41 Duplexing pendulum assembly (1 of 2)

- 3 Pull the duplexing-pendulum assembly toward the laser/scanner until the upper gear-drive shaft clears the hole in the chassis, and then remove the assembly.



CAUTION The gears in this assembly are not captive and can easily slide off of the shafts. Handle the assembly carefully and place it gear-side-up on your workstation to prevent the gears from sliding off of the shafts.

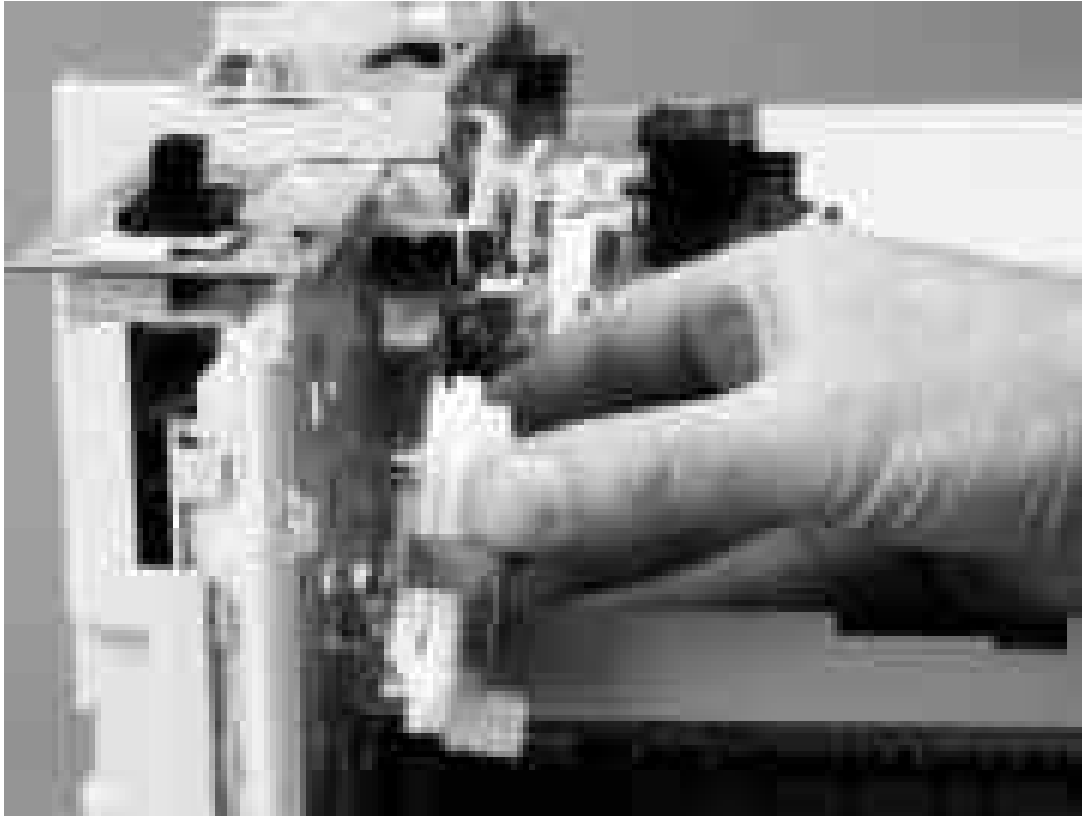


Figure 6-42 Duplexing-pendulum assembly (2 of 2)

Laser/scanner assembly

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter cover. See [Formatter cover](#).
- 2 Unplug the laser/scanner wire-harness connector (callout 1) from the dc controller PCA (location J84; callout 1).
- 3 Remove the laser/scanner wire-harness from the wire guide (callout 2).

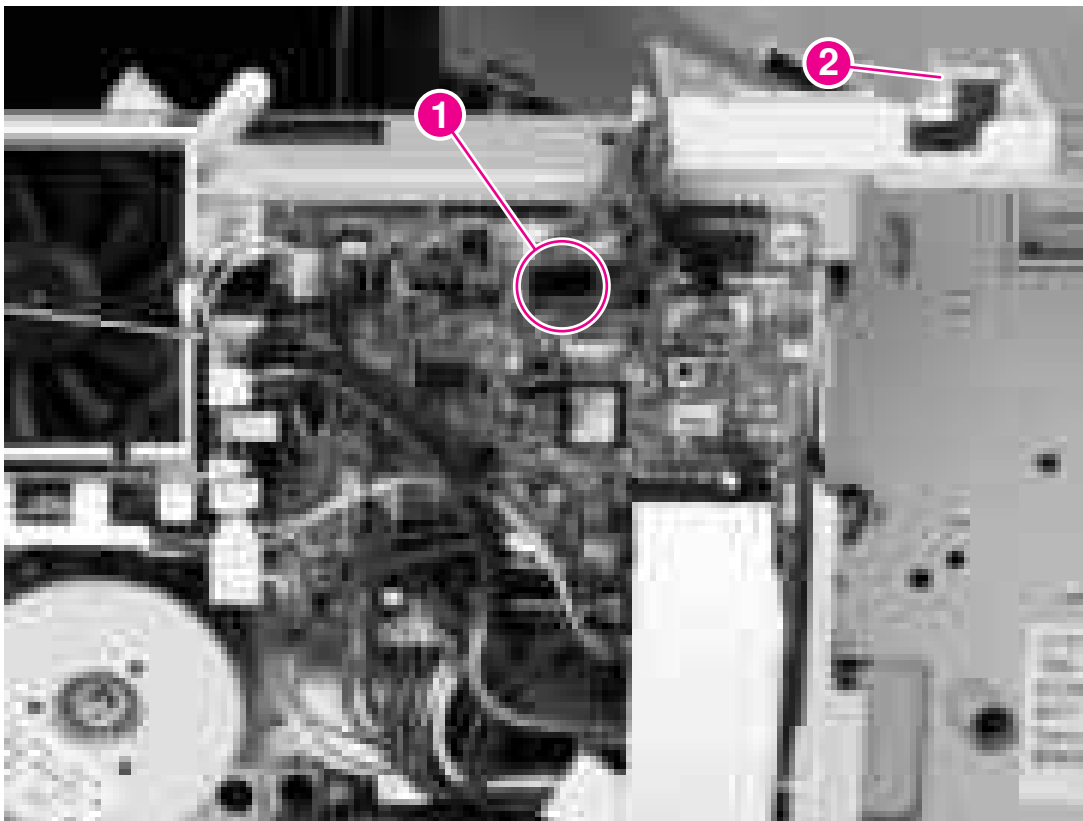


Figure 6-43 Laser/scanner (1 of 3)

- 4 Remove three screws (callout 3) and their grounding clips.

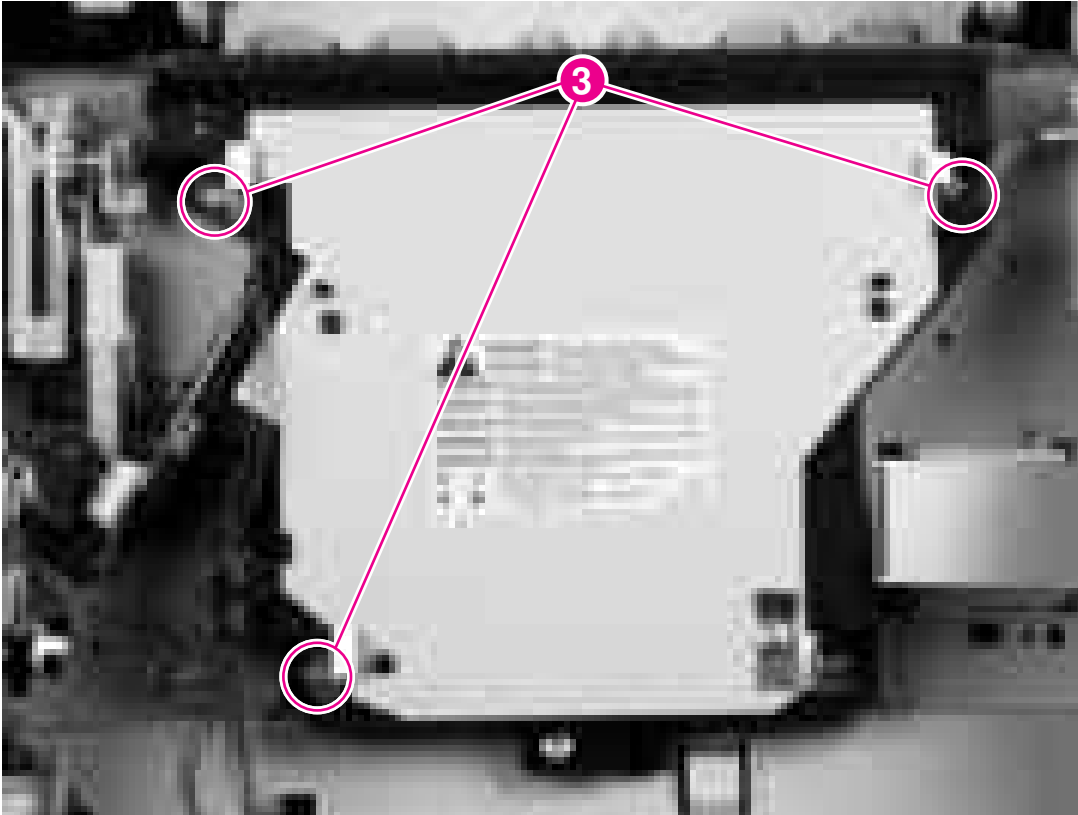


Figure 6-44 Laser/scanner (2 of 3)



Reinstallation tip The grounding clips are not captive. Make sure that you replace the grounding clips when you reinstall the laser/scanner.



NOTE The HP LaserJet 4200/4300 Series printers might have fewer than three grounding clips.

- 5 Remove a fourth screw (callout 4), and then unplug the laser/scanner wire-harness (callout 5) from the laser/scanner PCA.

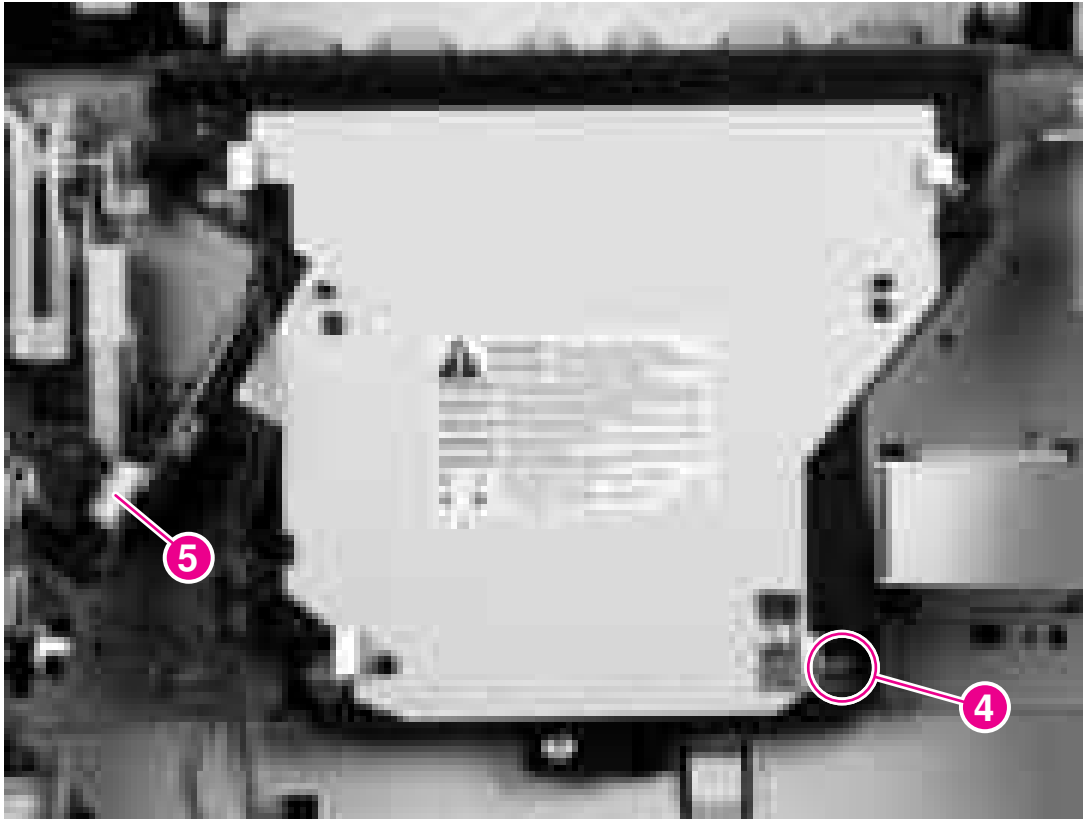


Figure 6-45 Laser/scanner (3 of 3)

- 6 Carefully lift the laser/scanner up and out of the printer. Make sure that the laser/scanner assembly does not catch or snag the wires along the bottom of the assembly when you remove the assembly.



CAUTION When you reinstall the laser/scanner assembly, make sure that the wire-harnesses are correctly routed through the cable guides. If the wire-harnesses are not correctly routed, they can be damaged when the top cover is installed.

Paper-pickup drive assembly

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter cover. See [Formatter cover](#)
 - Formatter. See [Formatter assembly](#).
 - Tray 2 extension cover and duplexer accessory cover. See [Accessory covers and the tray 2 extension door](#)
- 2 Remove two screws (callout 1).
- 3 Slide the power-supply PCA guide (callout 2) towards the rear of the printer and remove it.

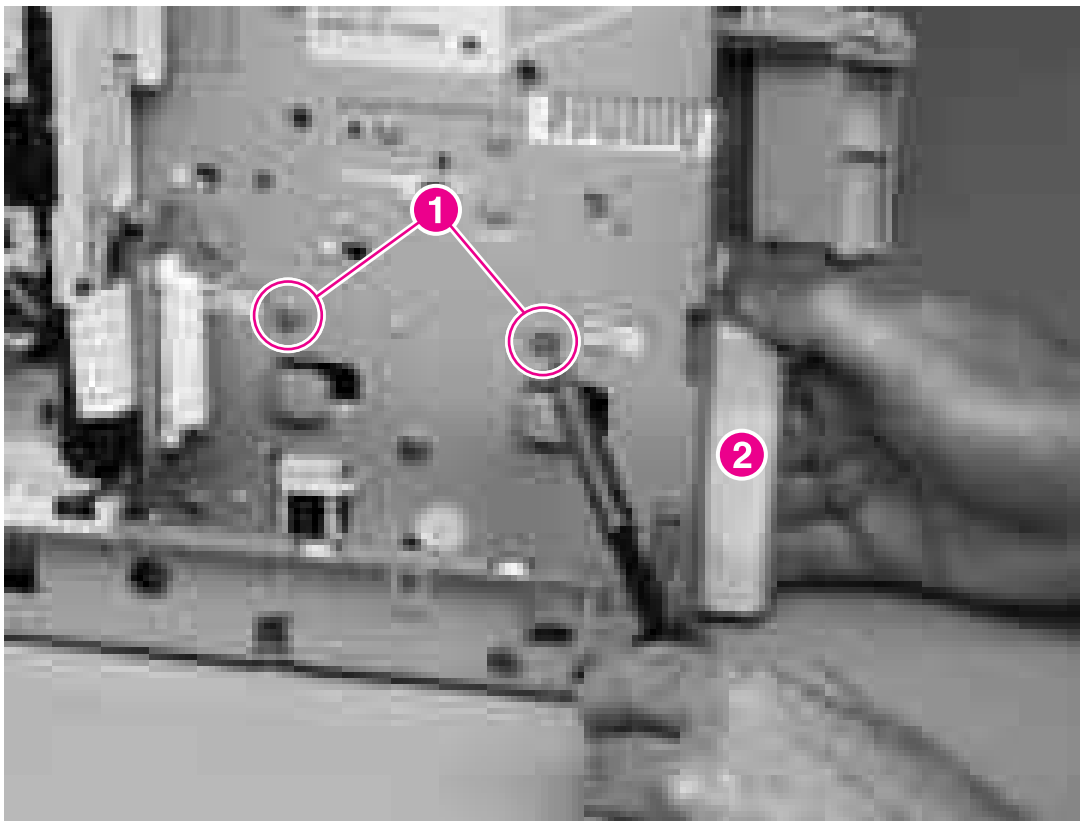


Figure 6-46 Paper pickup-drive assembly (1 of 5)

- 4 Lift up the power-switch connector-bar (callout 3) and swing it away from the paper-pickup gear assembly.

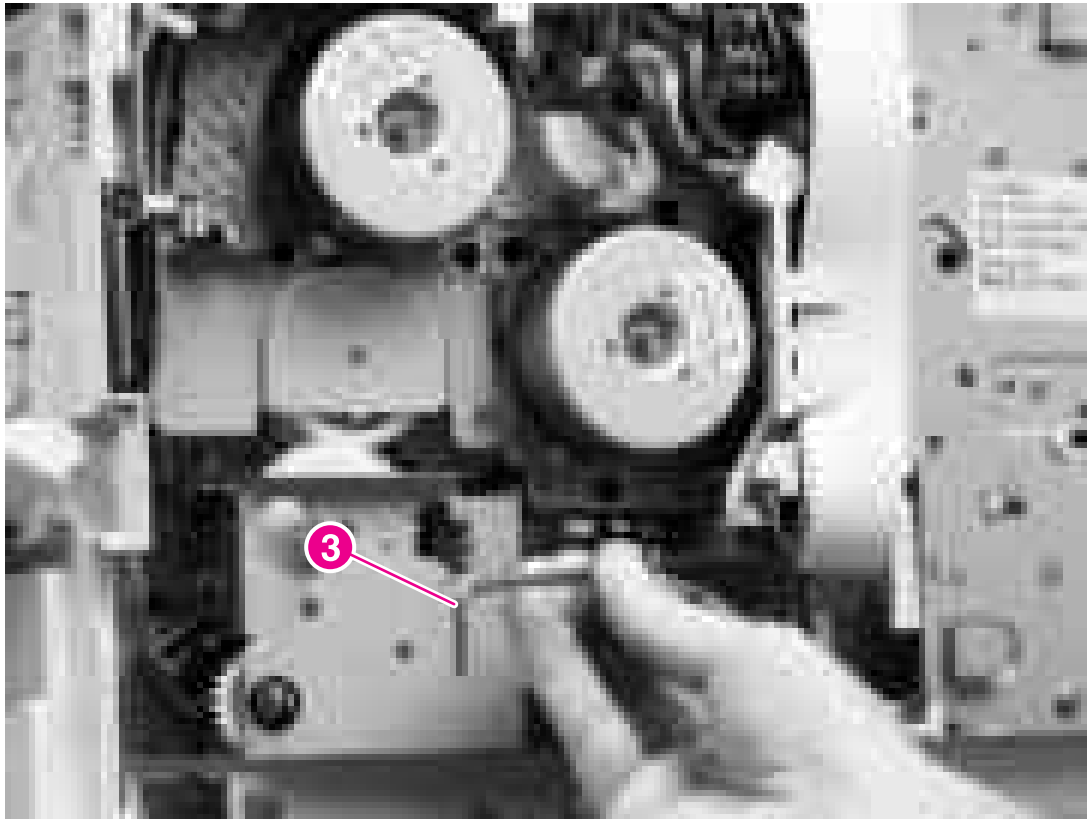


Figure 6-47 Paper pickup-drive assembly (2 of 5)

- 5 Unplug the solenoid connector from the dc controller PCA (location J92). Unweave the solenoid wire-harness from the wire guide and the cable clips.



Hint You might have to remove additional wire-harnesses from the wire guide to gain access to the solenoid wire-harness.

- 6 Remove one e-clip (callout 4) and the shaft collar (callout 5), and then push the tray drive-gear/shaft (callout 6) into the tray 2 cavity.



NOTE The large gear inside of the paper-pickup drive assembly is not captive and will slide off of the shaft and be loose inside the paper-pickup drive assembly (see [Table 6-2 Tray 2 drive gear and shaft](#)).

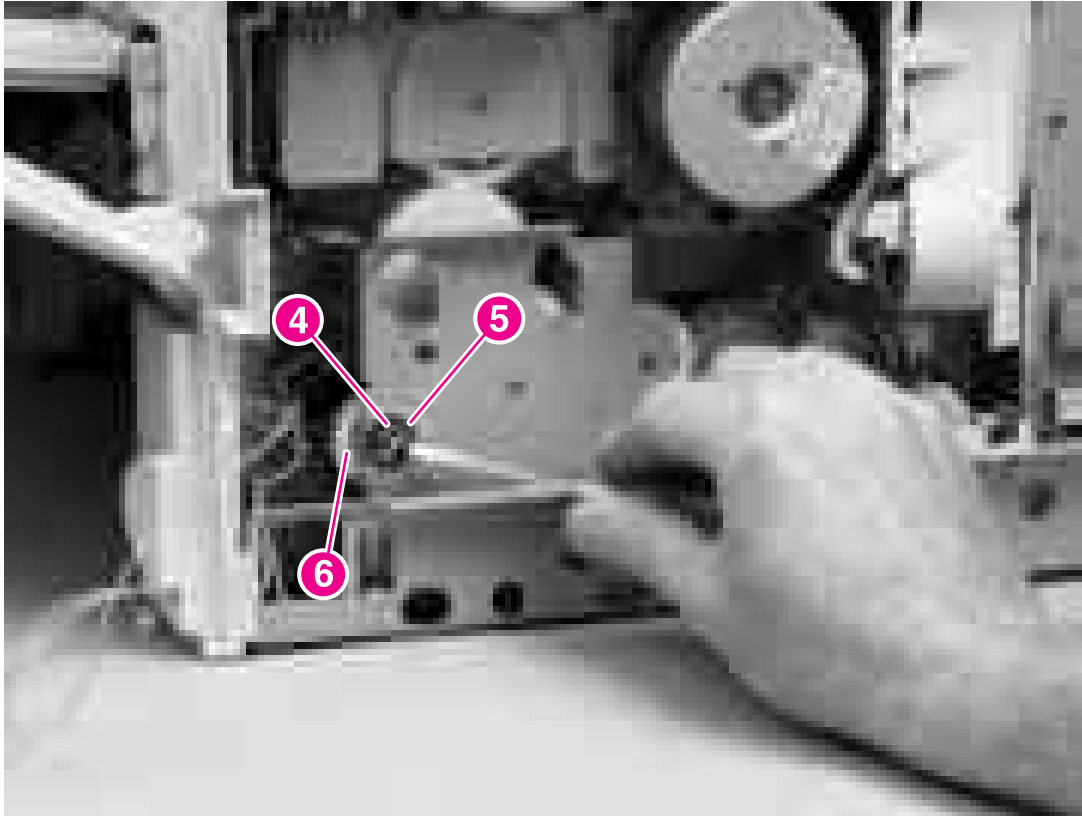


Figure 6-48 Paper pickup-drive assembly (3 of 5)

- 7 Lift the tray drive-gear/shaft out of the tray 2 cavity.

- 8 Remove four screws (callout 7). Reach inside the printer and push the rear tray 2 feed roller up into its raised position (see [Tray 2 feed rollers](#)). This disengages the roller-lifting arm from the clutch gear.

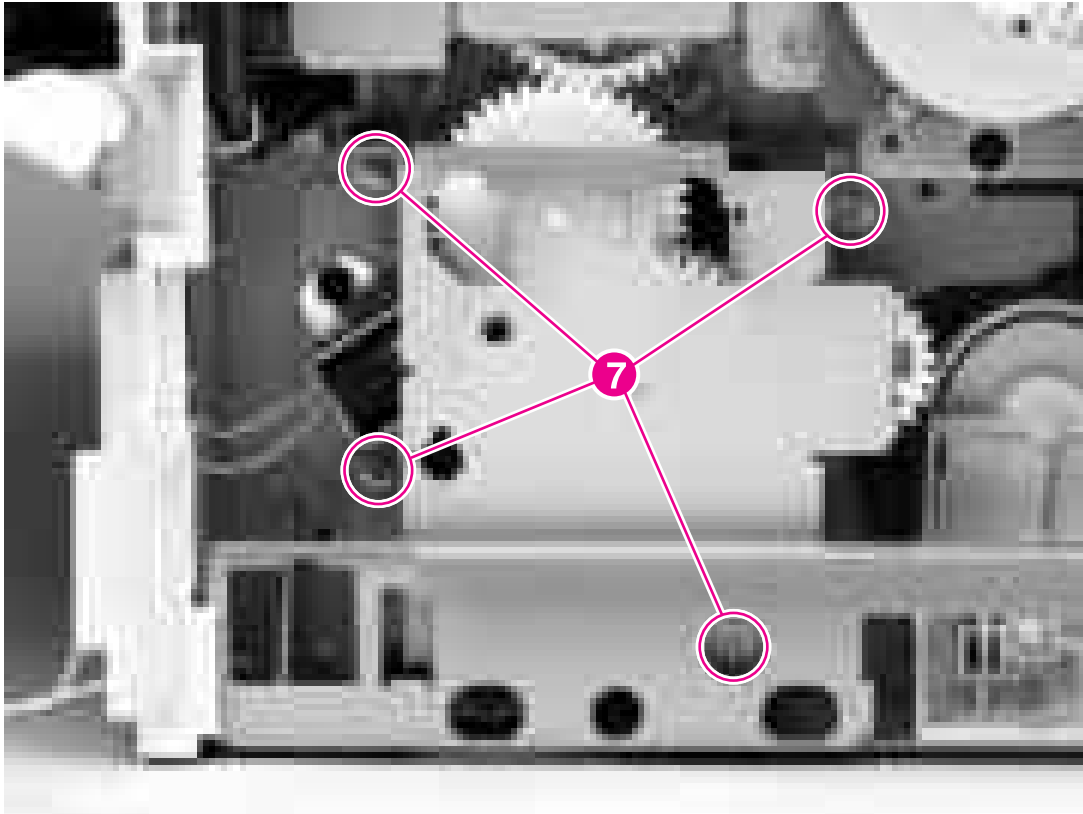


Figure 6-49 Paper pickup-drive assembly (4 of 5)

- 9 Rotate the top of the paper-pickup drive-gear assembly away from the printer, and then lift the assembly out of the printer.

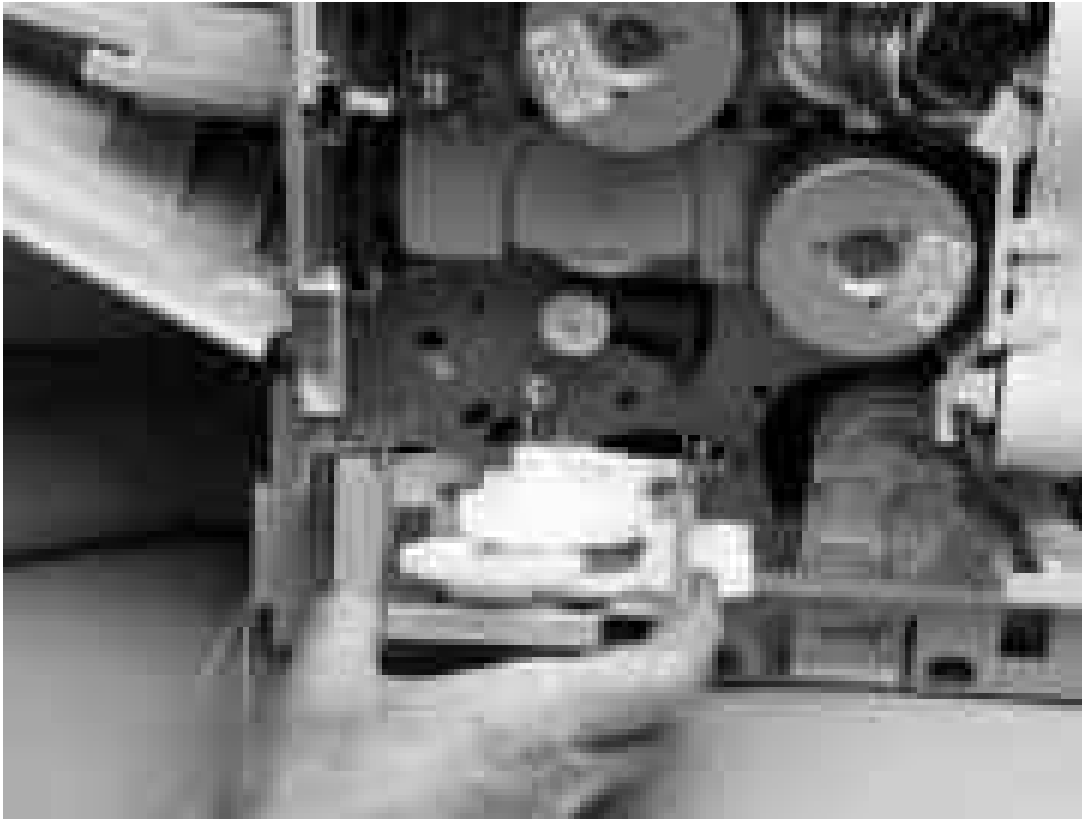


Figure 6-50 Paper pickup-drive assembly (5 of 5)


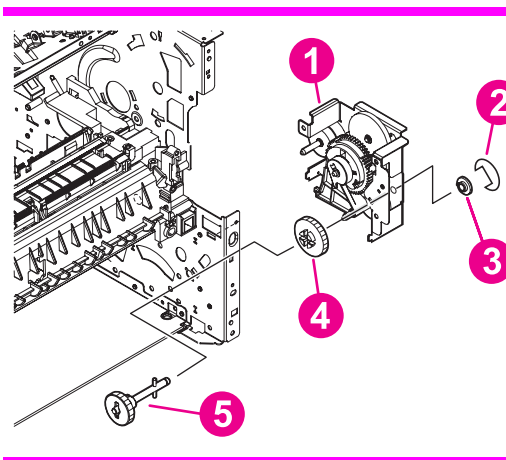



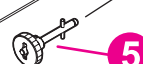
 **Reinstallation tip** When you reinstall the tray 2 drive gears and shaft, verify that the gears are seated on the shaft-locking bars and that the shaft collars are correctly positioned in the paper-pickup drive-gear assembly mounting bracket and printer chassis.

Table 6-2 Tray 2 drive gear and shaft

	1	Pickup drive unit
	2	E-ring
	3	Bushing
	4	23T gear
	5	Retard roller drive shaft

Tray 2 lifter-drive assembly

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter cover. See [Formatter cover](#).
 - Formatter. See [Formatter assembly](#).
 - Paper-pickup drive assembly. See [Paper-pickup drive assembly](#).
- 2 Unplug the tray 2 lifter-drive assembly connector from the dc controller PCA (location J93) and the two flat cables (callout 1, locations J80, J81). Unweave the wire-harness from the cable guide (callout 2).



NOTE You might have to remove additional wire-harnesses from the cable guide to gain access to the lifter-drive assembly wire-harness.

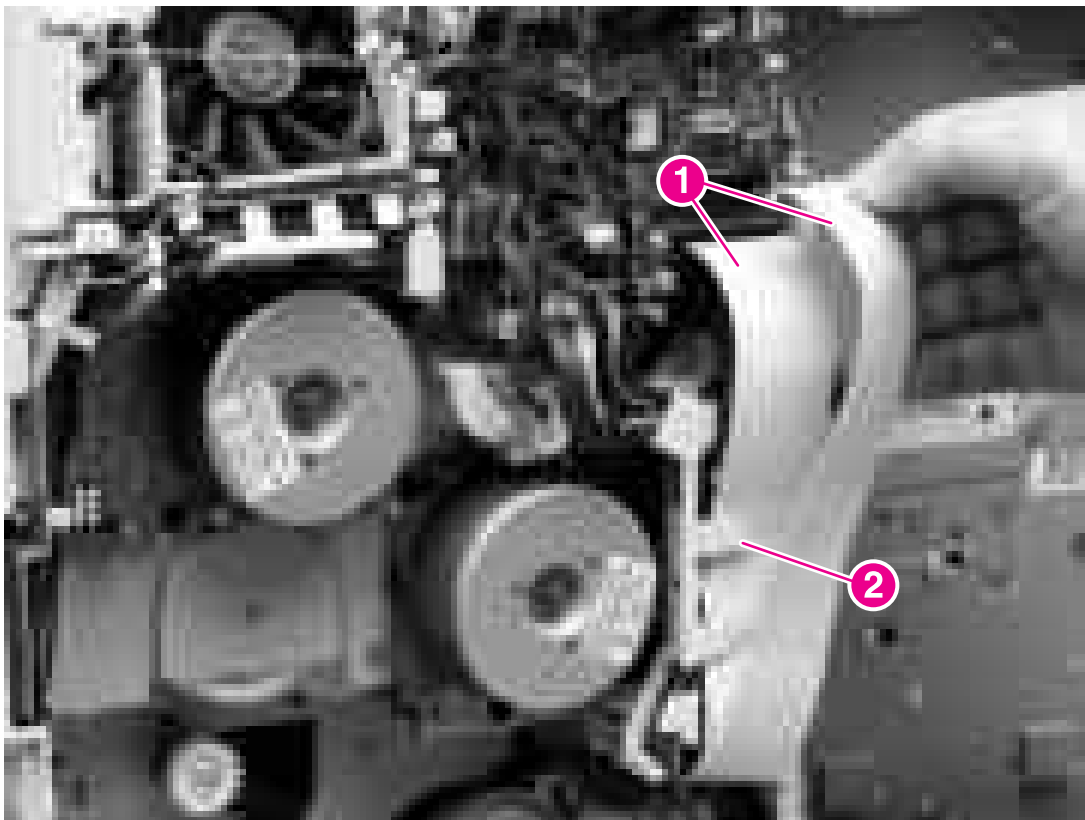


Figure 6-51 Tray 2 lifter-drive assembly (1 of 3)

- Unhook the tension spring (callout 3) at the lifter-drive assembly, remove one screw (callout 4), and then slide the support plate (callout 5) out of the printer.

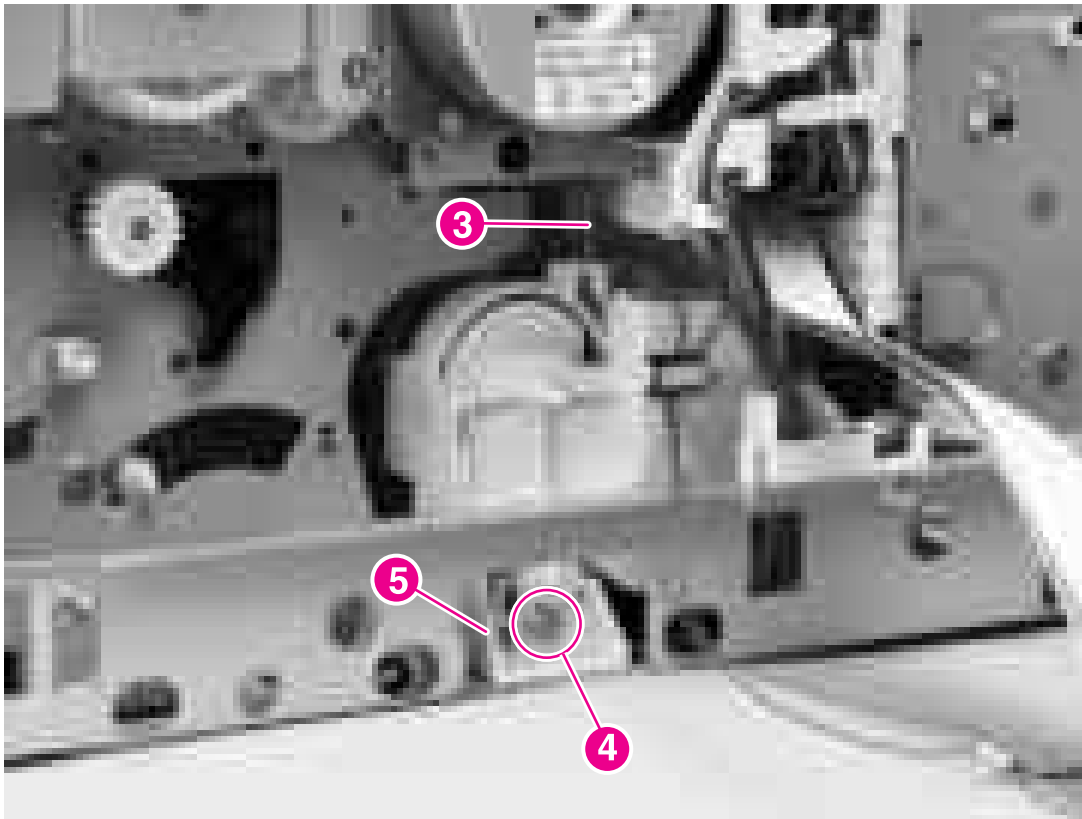


Figure 6-52 Tray 2 lifter-drive assembly (2 of 3)

- 4 Rotate the top of the lifter-drive assembly away from the printer to remove it from the printer.



NOTE You might have to remove some cable guides to easily remove the lifter-driver assembly.



Figure 6-53 Tray 2 lifter-drive assembly (3 of 3)

Dc controller PCA

1 Remove the following assemblies:

- Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
- Top cover. See [Top cover](#).
- Right-side cover. See [Right-side cover](#).
- Formatter cover. See [Formatter cover](#)
- Formatter. See [Formatter assembly](#)



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



CAUTION The yellow and blue heavy-gauge wires that are connected to dc controller PCA locations TB85 and TB86 (callout 3) are *not* terminal lug connectors. These terminals are soldered to the dc controller PCA. Do *not* attempt to unplug these connectors.

2 Unplug all of the wire and cable connectors from the dc controller PCA.

- 3 Unweave the flat cables (callout 1) and all other cables (callout 2) from the cable guide (callout 3).

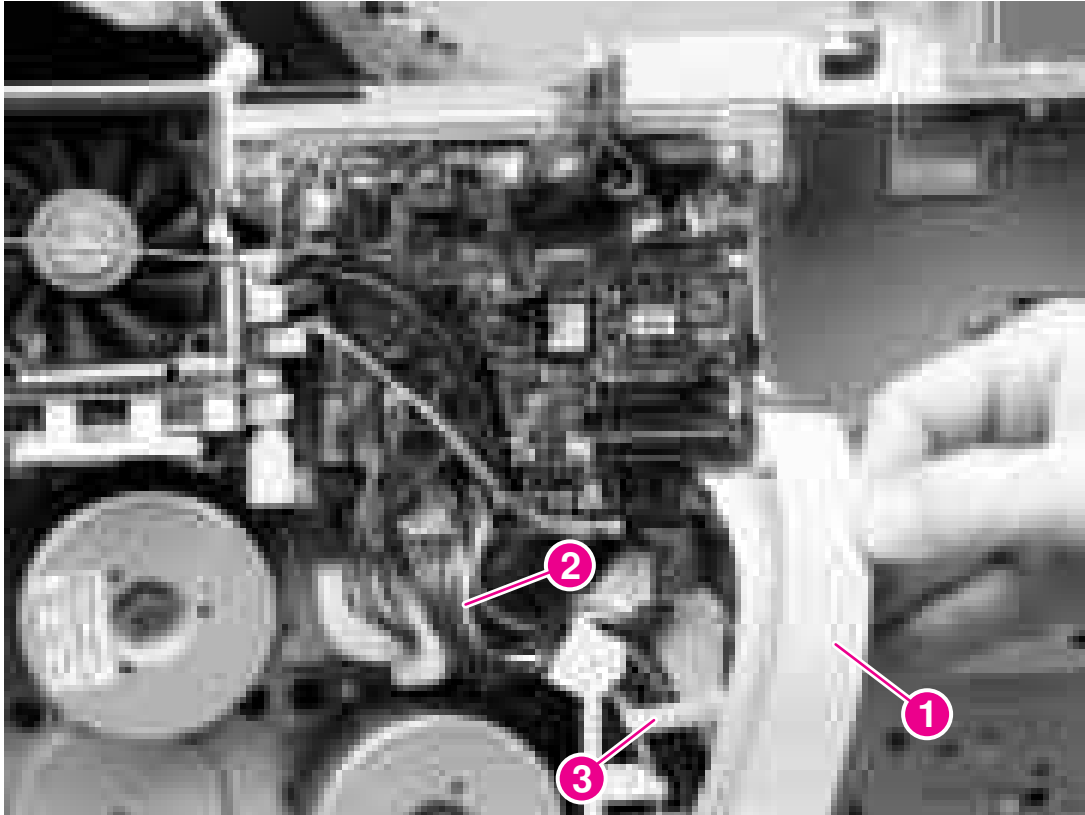


Figure 6-54 Dc controller PCA (1 of 5)



Reinstallation tip When replacing the cables to the dc controller PCA, replace the wire cables first, and then replace the flat cables.

- 4 Remove the two screws (callout 4) that secure the formatter connector bracket to the chassis. Unweave the formatter connector wire-harness from the cable guides (callout 5).



NOTE You might have to remove additional wire-harnesses from the wire guide to gain access to the formatter-connector harness.

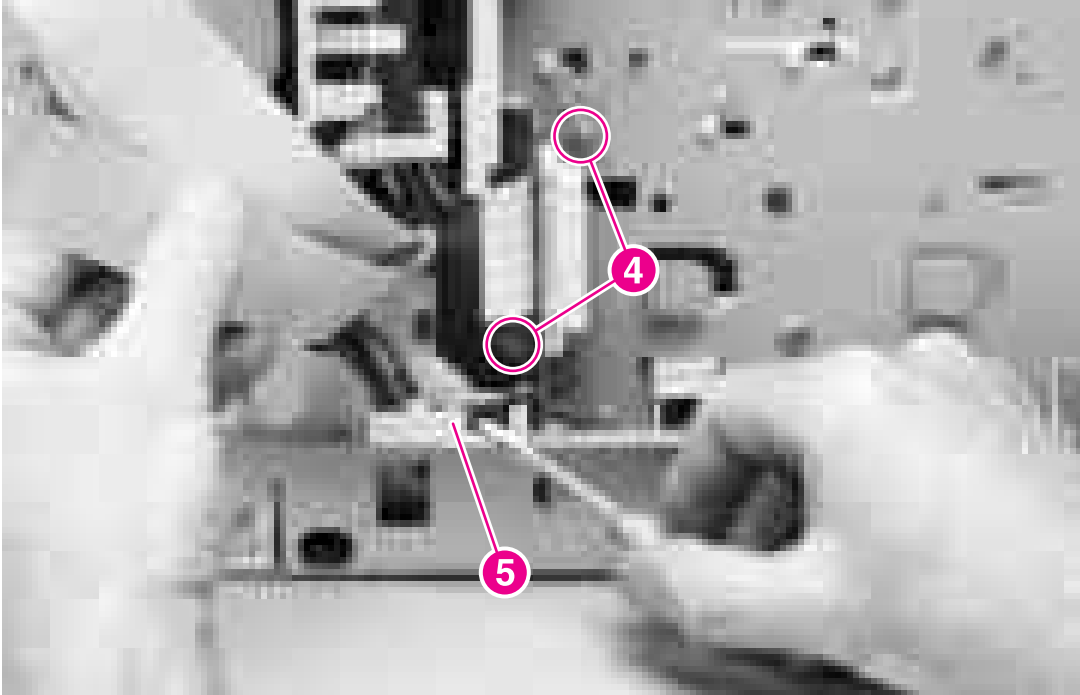


Figure 6-55 Dc controller PCA (2 of 5)



CAUTION Do *not* remove the screws (callout 6) on the interface connector.

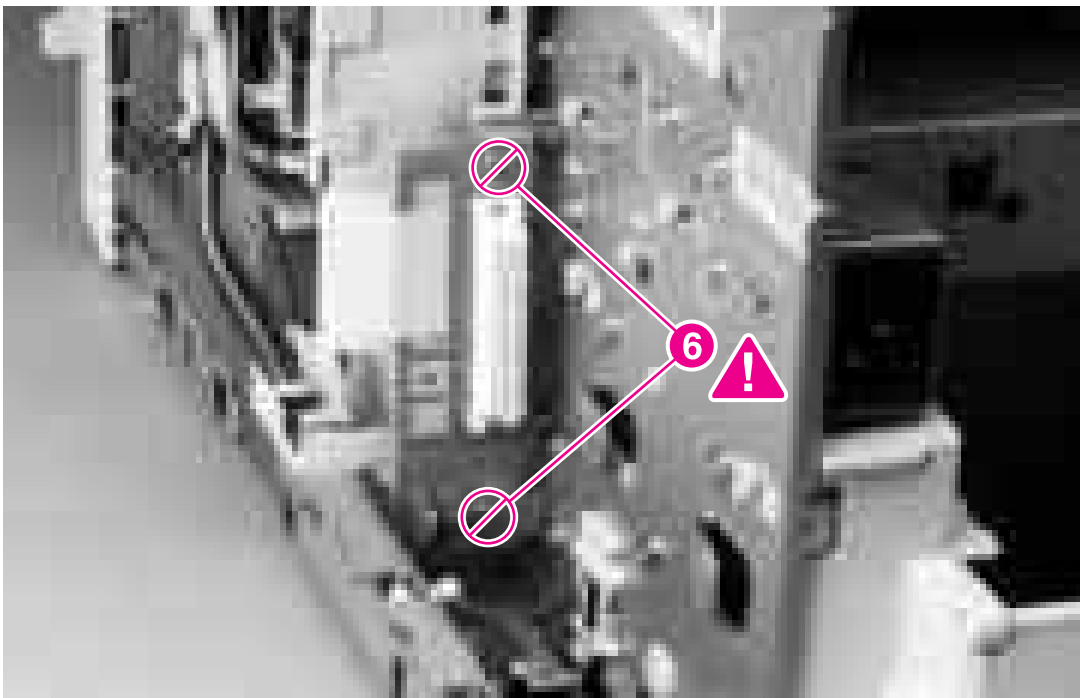


Figure 6-56 Dc controller PCA (3 of 5)

- 5 Remove the flat cable (callout 7) from the flat-cable guide (callout 8).

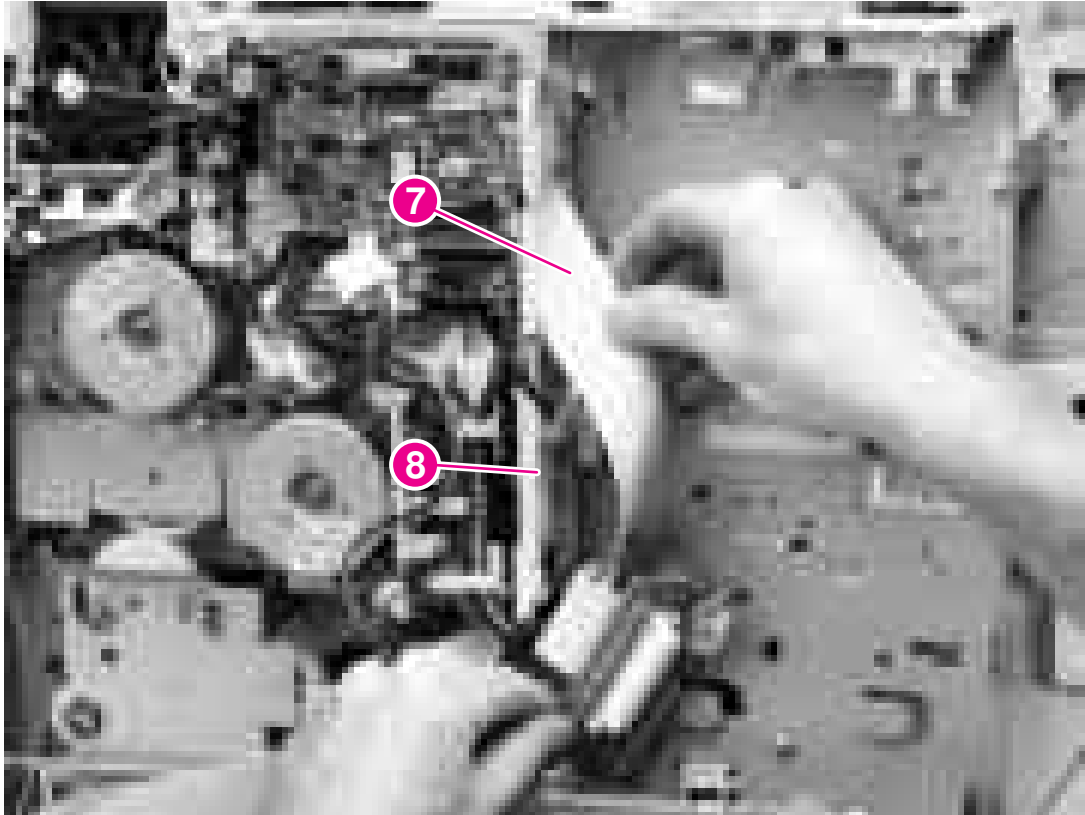


Figure 6-57 Dc controller PCA (4 of 5)

- 6 Remove two screws (callout 9) and then lift the dc controller PCA away from the printer.

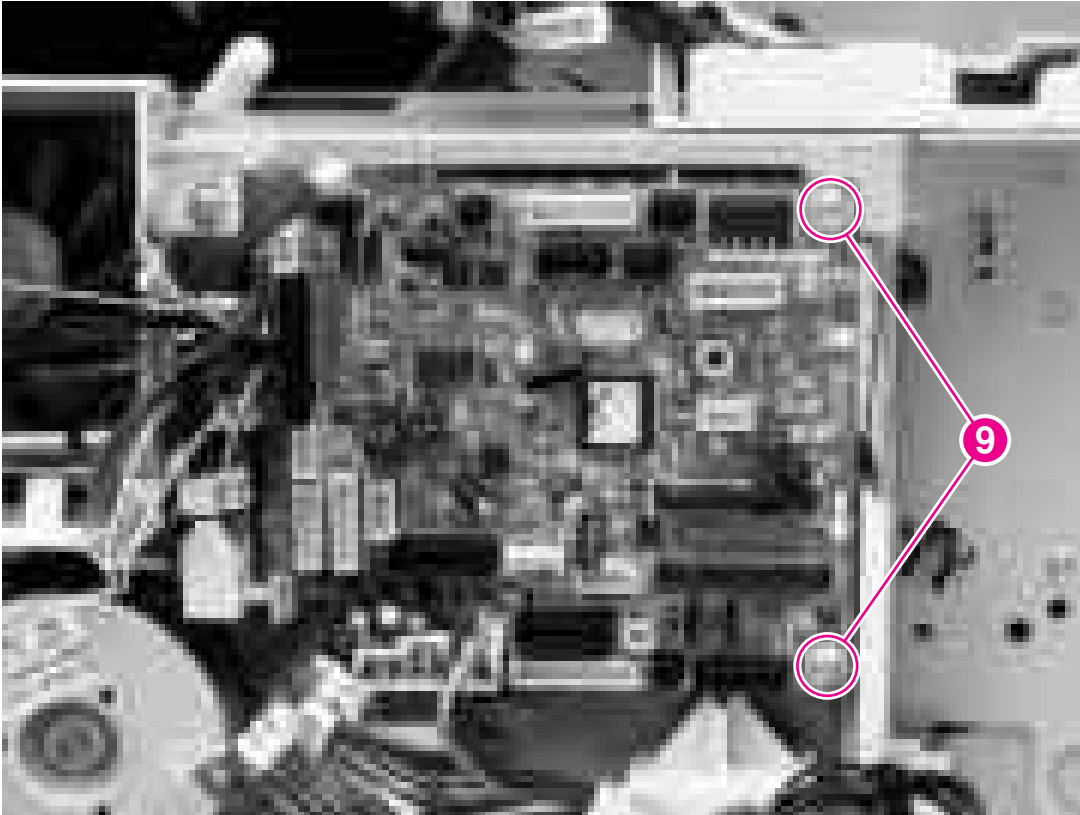


Figure 6-58 Dc controller PCA (5 of 5)



CAUTION Correct reinstallation of the dc controller is critical to correct operation of the printer. If you are installing a *new* dc controller, follow the instructions in the reinstallation tips. If you are installing a *new formatter and a new dc controller*, see the special section that follows this dc controller section—[Installing a new formatter and a new dc controller \(LJ 4250/4350 only\)](#).

Failure to follow these instructions can result in a printer-configuration downgrade. For example, an HP LaserJet 4350 printer could perform as an HP LaserJet 4250.

Reinstallation tip

Dc controller reinstallation for LJ 4250/4350 only

- 1 After installing a *new* dc controller, turn the printer on and wait for five minutes after the printer reaches the **Ready** state.



NOTE Five minutes is required to allow for NVRAM settings to be written.

- 2 Turn the printer off.
- 3 Turn the printer on again, and then wait five minutes after the printer reaches the Ready state.
- 4 Print a configuration page to verify against original settings.

Installing a new formatter and a new dc controller (LJ 4250/4350 only)



CAUTION If you are installing a *new formatter and a new dc controller* on an HP LaserJet 4250 or 4350 Series printer, follow the instructions in this section.

Failure to follow these instructions can result in a printer-configuration downgrade. For example, an HP LaserJet 4350 printer could perform as an HP LaserJet 4250.

- 1 Turn the printer off.
- 2 Remove the formatter (see [Formatter assembly](#)) and replace it with the new formatter.
- 3 Turn the printer on and then wait for five minutes after the printer reaches the **Ready** state.



NOTE Five minutes is required to allow for NVRAM settings to be written. The same five-minute wait is required several times during this procedure.

- 4 Turn the printer off.
- 5 Turn the printer on again, and then wait five minutes after the printer reaches the Ready state.
- 6 Turn the printer off.
- 7 Remove the dc controller (see [Dc controller PCA](#)) and replace it with the new dc controller.
- 8 Turn the printer on and wait for five minutes after the printer reaches the **Ready** state.
- 9 Turn the printer off.
- 10 Turn the printer on again, and then wait five minutes after the printer reaches the Ready state.
- 11 Print a configuration page to verify against original settings.
- 12 Verify the printer series (4250/4350).

Power supply

- 1 Remove the following assemblies:
 - Rear output bin. See [Rear output bin](#).
 - Rear accessory cover and tray 2 extension door. See [Accessory covers and the tray 2 extension door](#).
 - Top, right-side, and left-side covers. See [Top cover](#) through [Left-side cover](#).
 - Fuser. See [Fuser](#).
 - Formatter assembly. See [Formatter assembly](#).
- 2 Remove two screws (callout 1) and then slide the PCA guide (callout 2) toward the rear of the printer to remove it.
- 3 Remove the three machine screws (callout 3) and one grounding screw (callout 4).

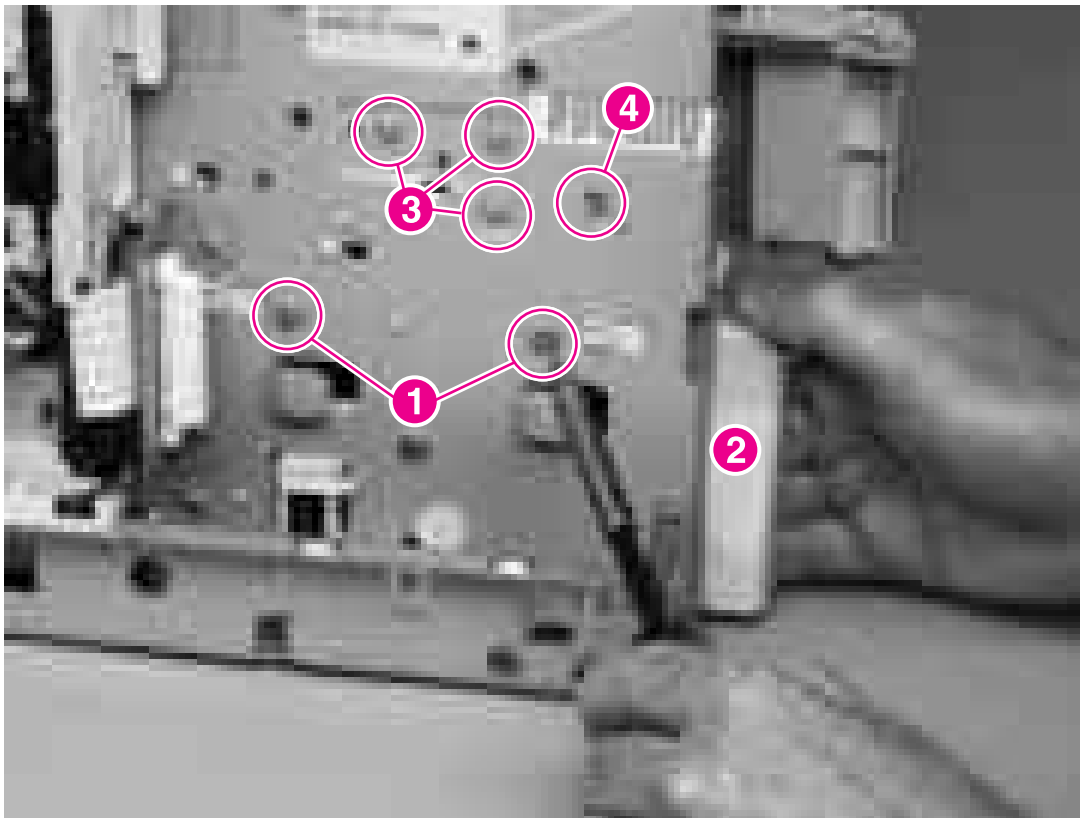


Figure 6-59 Power-supply assembly (1 of 7)



WARNING! When reinstalling the power supply, you must use a grounding screw to secure the ac outlet to the printer chassis.

- 4 Remove the power-switch arm (callout 5).

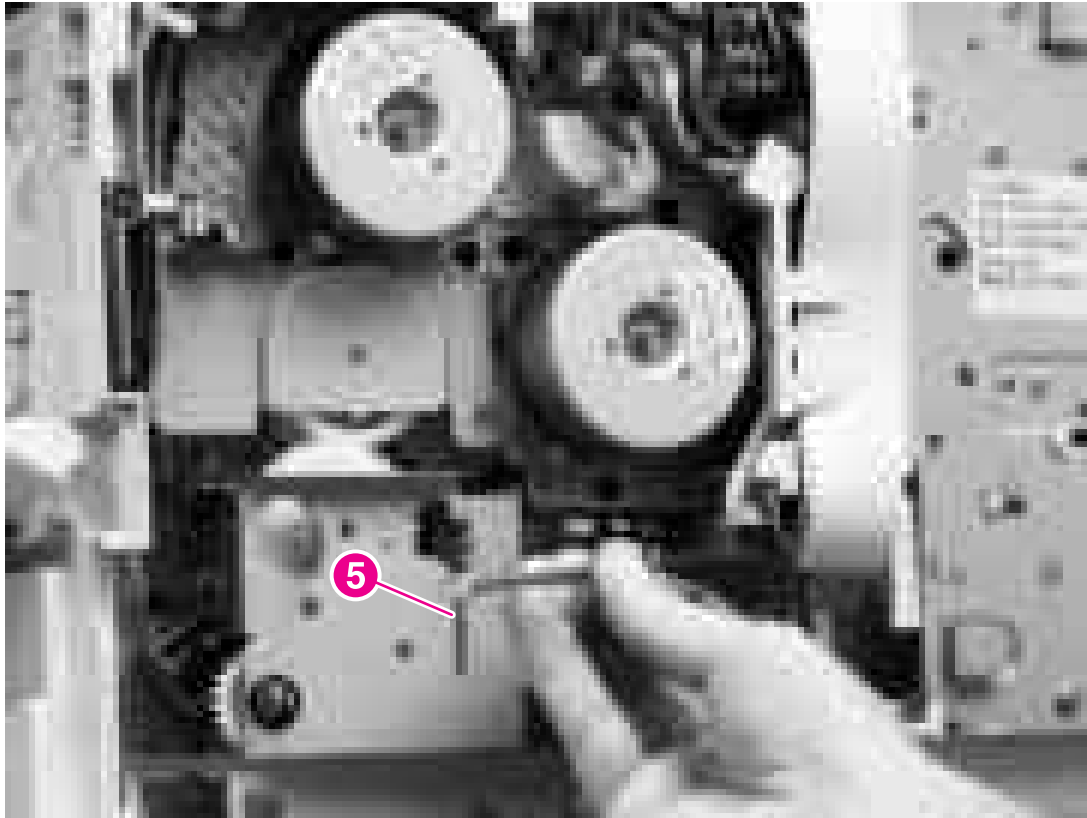


Figure 6-60 Power-supply assembly (2 of 7)

- 5 Unplug the two power-supply flat cables and the dc controller power connector from the dc controller (locations J80, J81, and J99). Unweave the wire-harness and cables from the cable guide.



Hint You might have to remove additional wire-harnesses from the cable guide to gain access to the power-supply harness.



CAUTION Note the position of the flat cables and power cables through the bottom of the cable guide. Failure to route these cables correctly through the bottom of the cable guide might result in interference with the tray 2 lifter-driver assembly, and the cables might be damaged during printer operation.

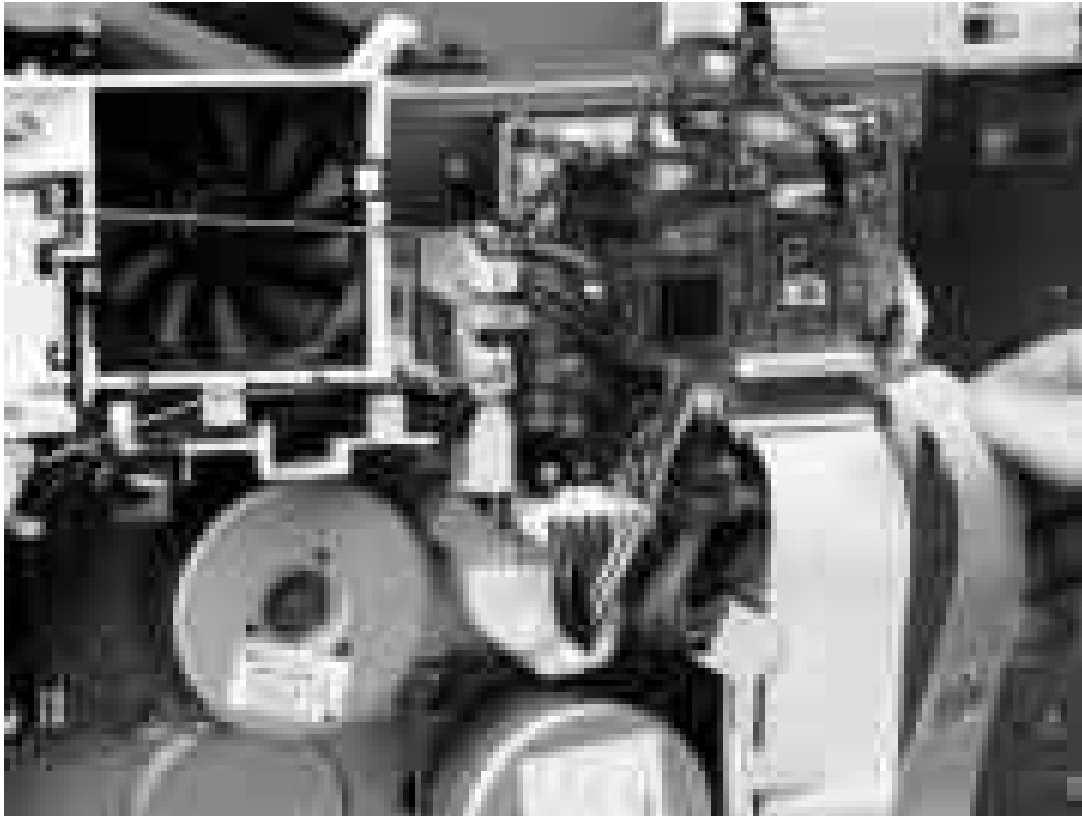


Figure 6-61 Power-supply assembly (3 of 7)

- 6 Remove two screws (callout 6) and then remove the fan-cover plate (callout 7).

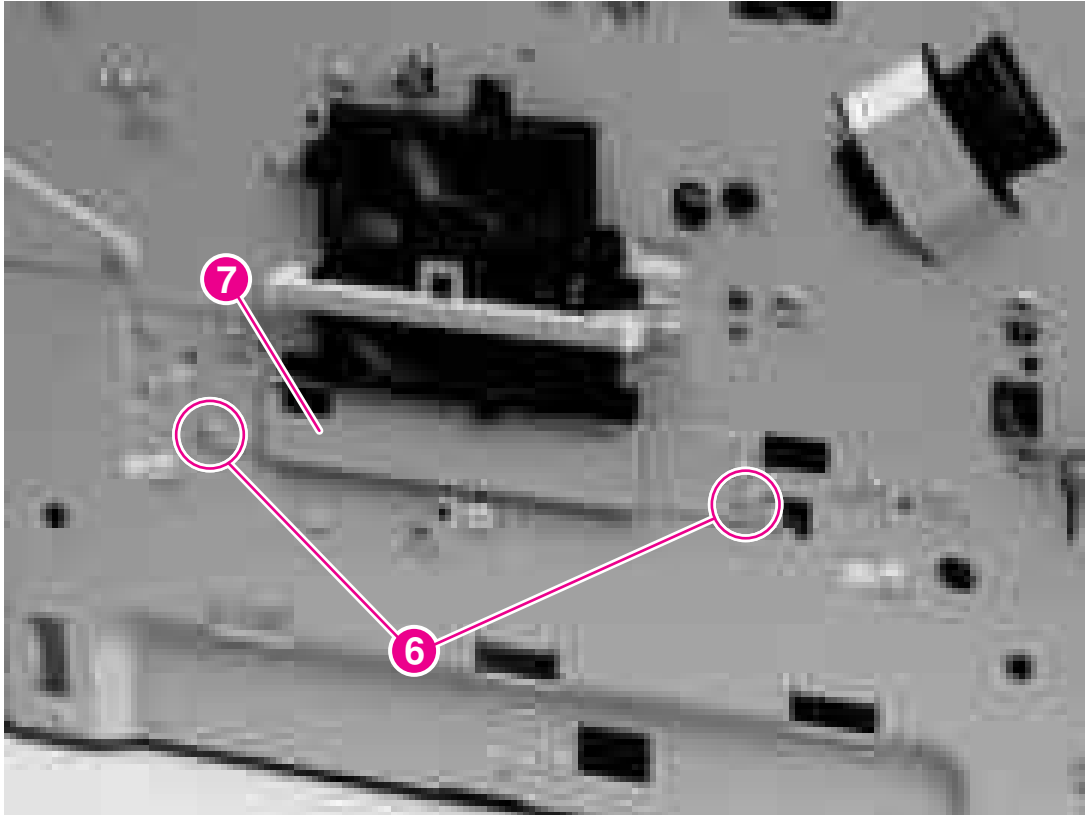


Figure 6-62 Power-supply assembly (4 of 7)

- 7 Unplug the left-side fan and thermistor-sensor connectors on the power-supply PCA (callout 8), and then remove three screws (callout 9).

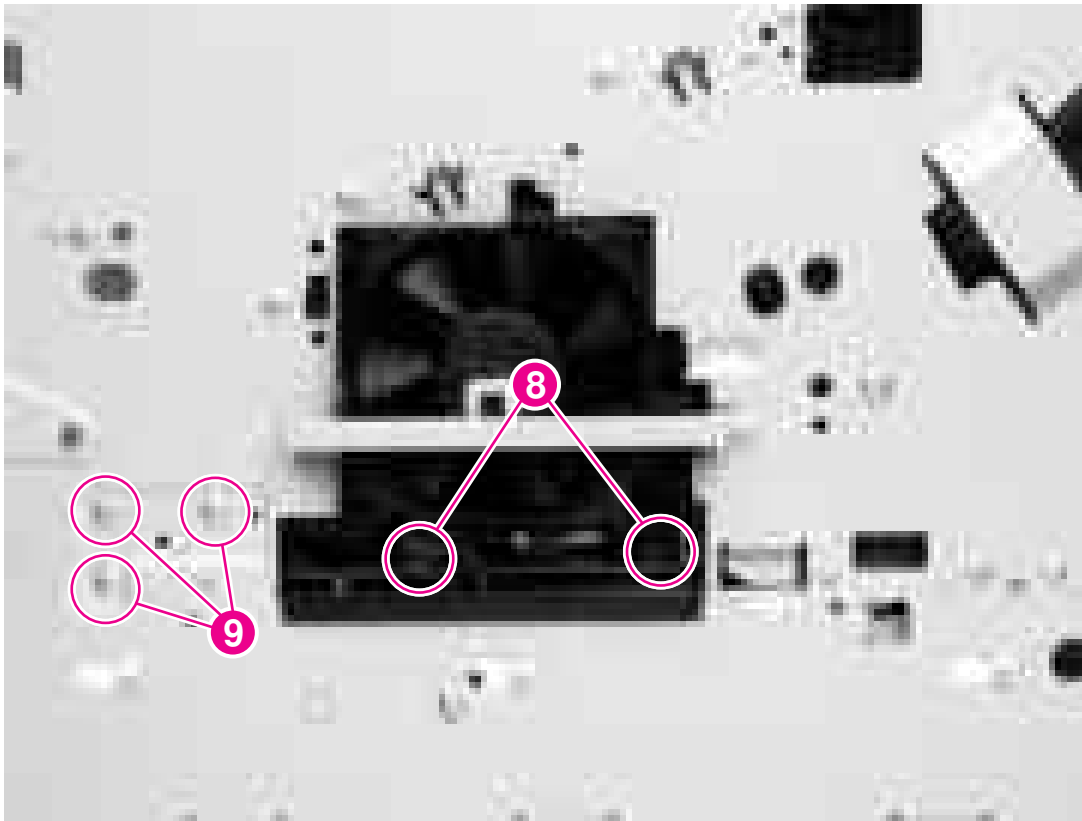


Figure 6-63 Power-supply assembly (5 of 7)

- 8 Feed the two ribbon cables and the wire-harness through the hole in the right side of the chassis under the power-supply assembly. Pull down on the power-switch connector bar to slide it out of its mounting bracket, and remove it.



Figure 6-64 Power-supply assembly (6 of 7)



CAUTION Make sure that the four rubber belts and plastic rollers (see [Paper-feed belt assembly](#)) remain in place. These belts and rollers can easily become dislodged and you might lose them.

- 9 Grasp the power-supply assembly (callout 10) and lift it up slightly. Pull it straight out of the chassis.

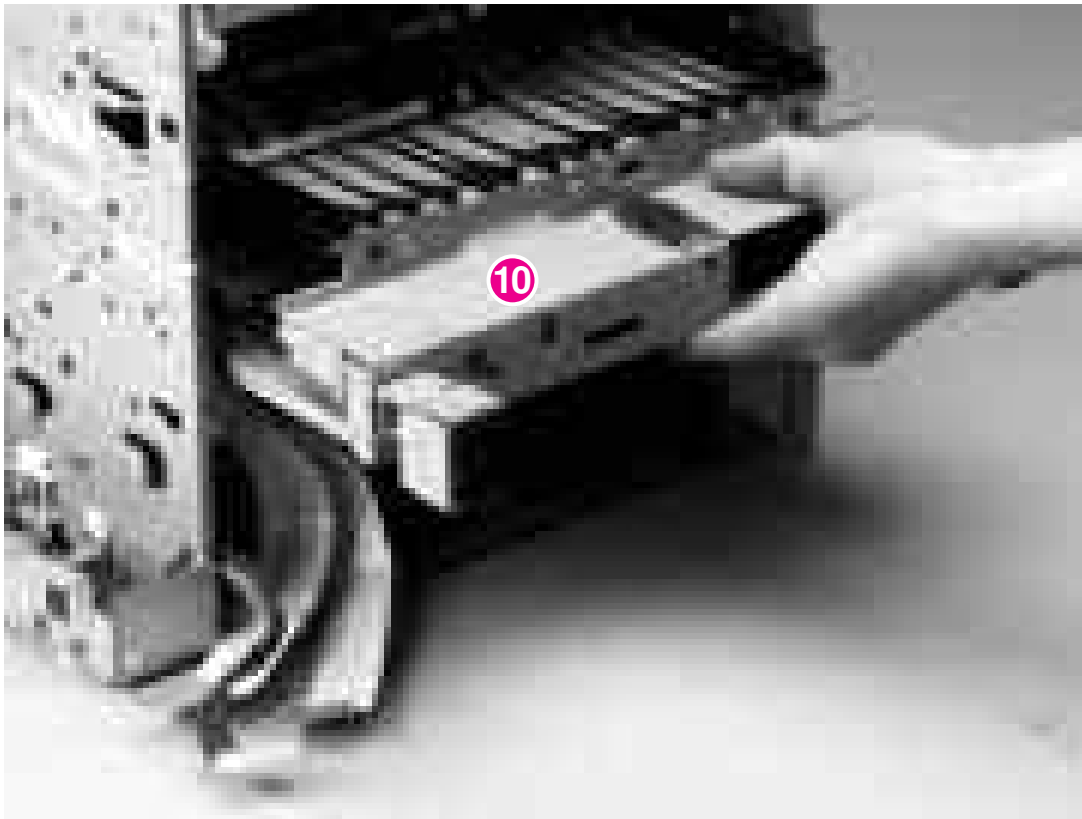


Figure 6-65 Power-supply assembly (7 of 7)



Reinstallation tip When you reinstall the power supply, thread the heavy-gauge wire-harness through the hole in the chassis first, and then thread the two ribbon cables through the hole. This prevents the harness and cables from crossing over each other when they are placed in the wire guide. Make sure that you install the power-switch connector bar when you install the power supply.

Paper-feed belt assembly

- 1 Remove the power-supply assembly. See [Power supply](#).
- 2 Remove three screws (callout 1) at the back of the assembly.

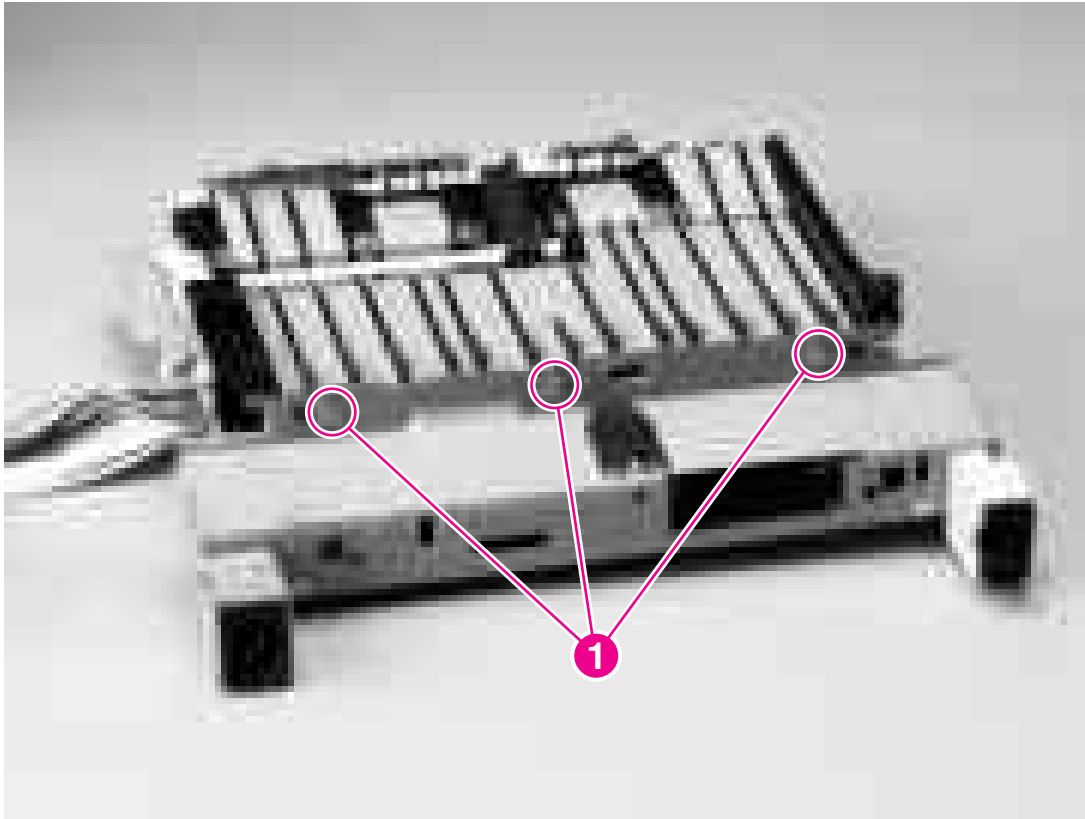


Figure 6-66 Paper-feed belt assembly (1 of 2)



CAUTION Make sure that the four rubber belts and plastic rollers remain in place. These belts and rollers can easily become dislodged and you might lose them.

- 3 Release the paper-feed belt assembly alignment pins (callout 2). Rotate the assembly toward the back of the power supply and remove it.

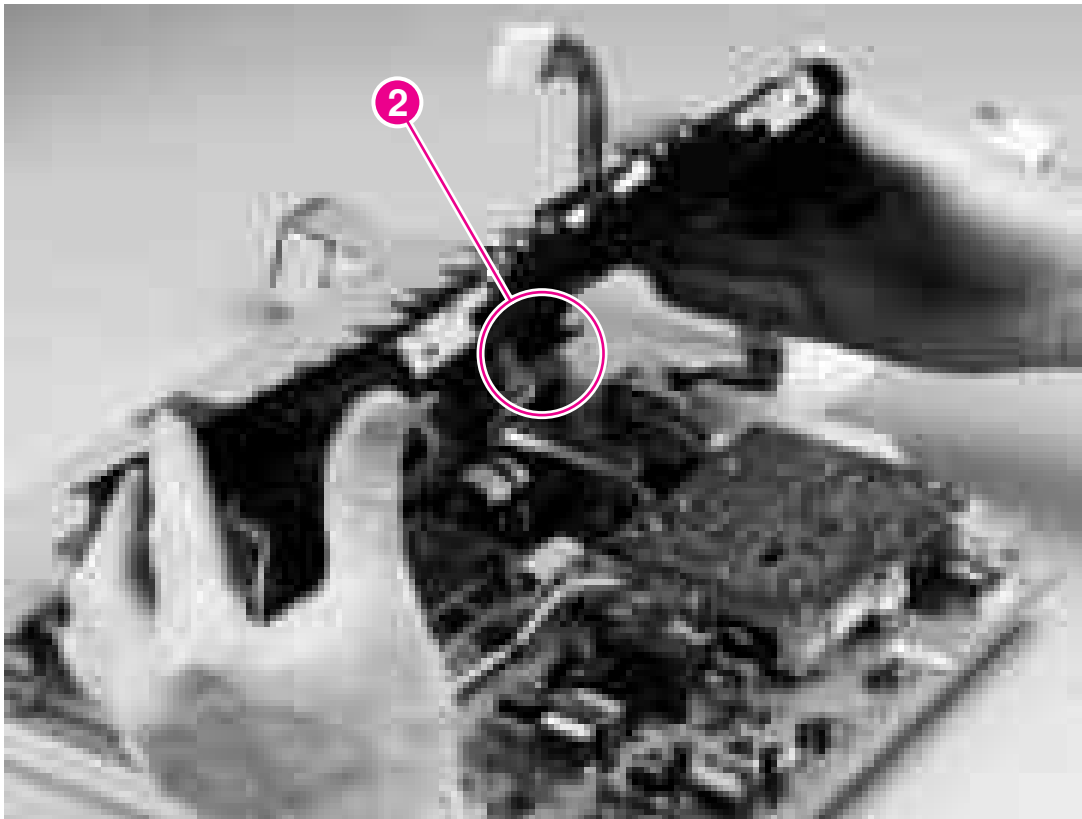


Figure 6-67 Paper-feed belt assembly (2 of 2)



Reinstallation tip When you reinstall the paper-feed belt assembly, make sure that the alignment pins (on the power-supply side; callout 2) are correctly hooked under the support leg on the power supply.

Motors and fans

This section provides instructions for removing and replacing motors and fans.

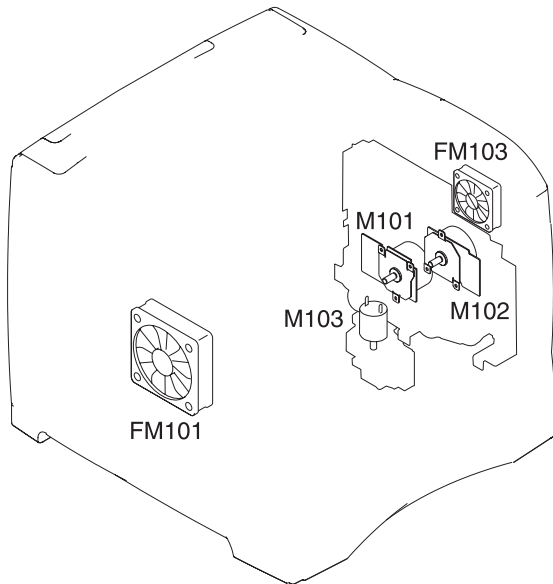


Figure 6-68 Motors and fans

FM101	Main fan
FM103	Cooling fan (HP LaserJet 4250/4300/4350 only)
M101	Main motor
M102	Print cartridge motor (HP LaserJet 4250/4300/4350 only)

Main cooling fan (left side)

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Left-side cover. See [Left-side cover](#).
- 2 Remove two screws (callout 1), and then remove the power-supply shield (callout 2).

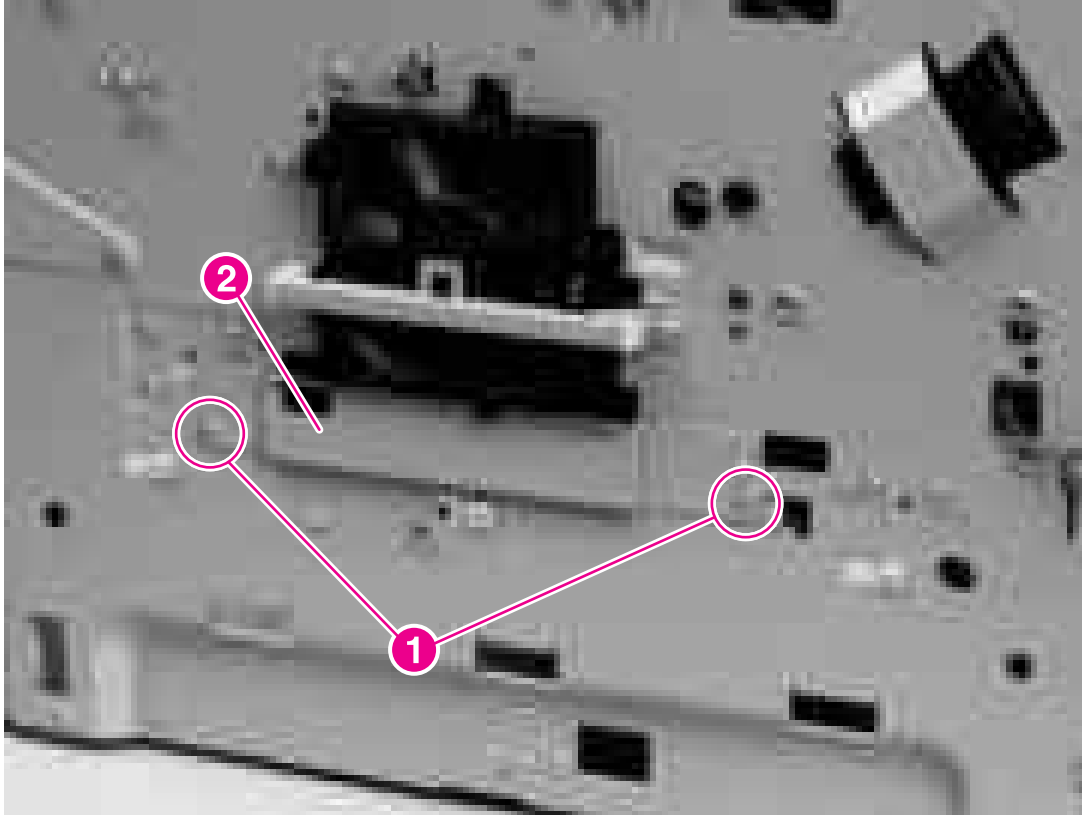


Figure 6-69 Main cooling fan (1 of 2)

3 After removing the power-supply shield:

- Unplug two cables (callout 3).
- Remove one screw (callout 4).
- Slide the thermistor sensor bar (callout 5) to the right to release it, and then lift the thermistor sensor bar away from the printer.
- Release the two fan-locking tabs, and then slide the fan out of its mounting bracket.

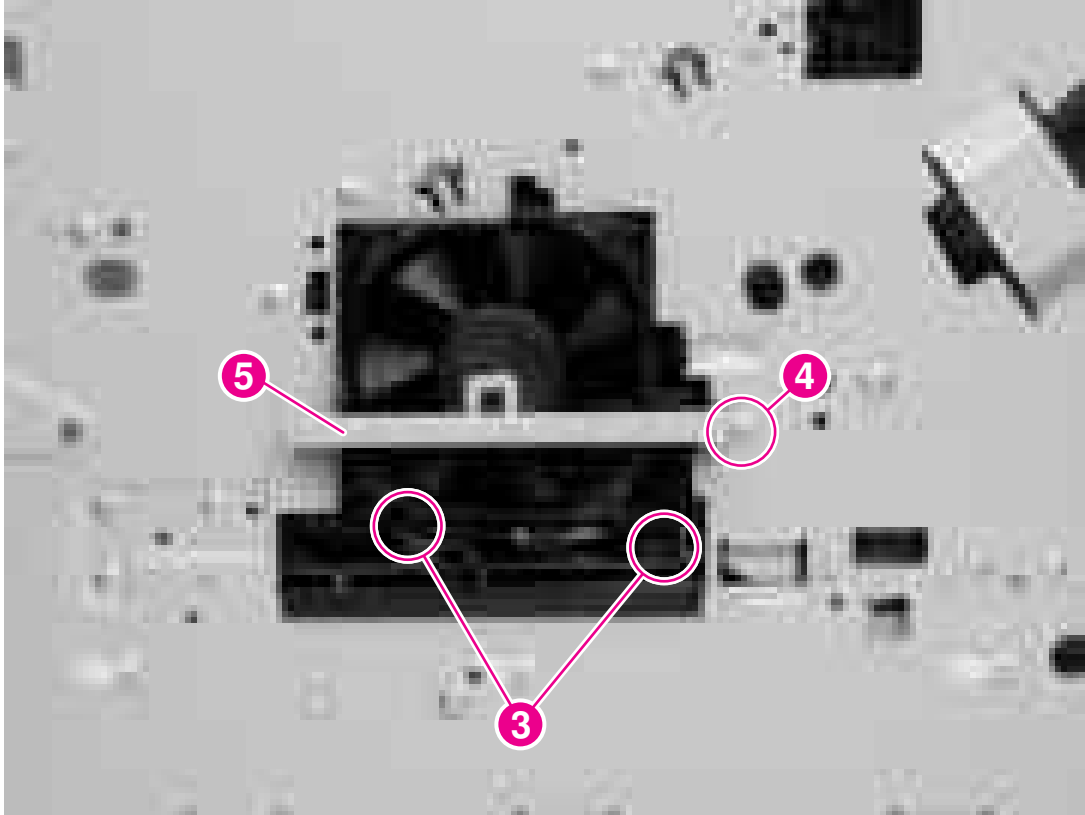


Figure 6-70 Main cooling fan (2 of 2)



Reinstallation tip When you reinstall the fan, the air must flow into the printer. Verify that the airflow arrows that are embossed on the fan body point *into* the printer.



CAUTION When you reinstall the fan, do not apply too much pressure to the wire-harness connectors when they are connected to the power supply. Applying too much pressure might snap off the soldered connectors on the power supply.

Cooling fan, right side (HP LaserJet 4250/4300/4350 Series printers only)



NOTE This fan is not installed in HP LaserJet 4200/4200L Series printers.

To remove the fan *from* the air duct, complete the following steps. To remove the fan and the air duct together, see [Removing the fan and the air duct together](#).

Removing the fan without removing the air duct

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter cover. See [Formatter cover](#)
- 2 Gently pry back the two retaining tabs (callout 1) and slip the anti-static bar (callout 2) off of them. Rotate the anti-static bar away from the printer remove it from the printer.
- 3 Unplug the fan cable from location J78 on the dc controller PCA.

- 4 Unweave the cable from the cable guide (callout 3).



Hint You might have to unplug connectors or release some wire-harness retainer clips to provide enough slack in the fan cable to remove it from the cable guide.

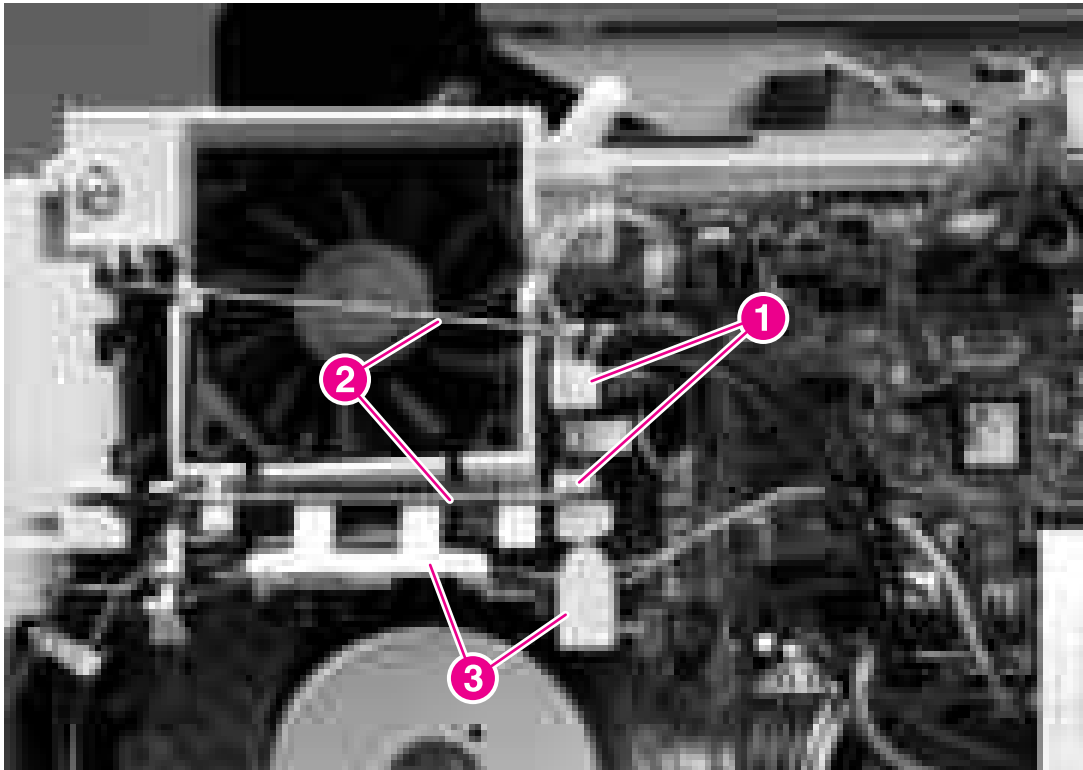


Figure 6-71 Cooling fan (HP LaserJet 4250/4300/4350 series only; 1 of 2)

- 5 Release the two retaining tabs one at a time (callout 4) and pull the fan out of the duct bracket by rocking it from side to side until it comes free.

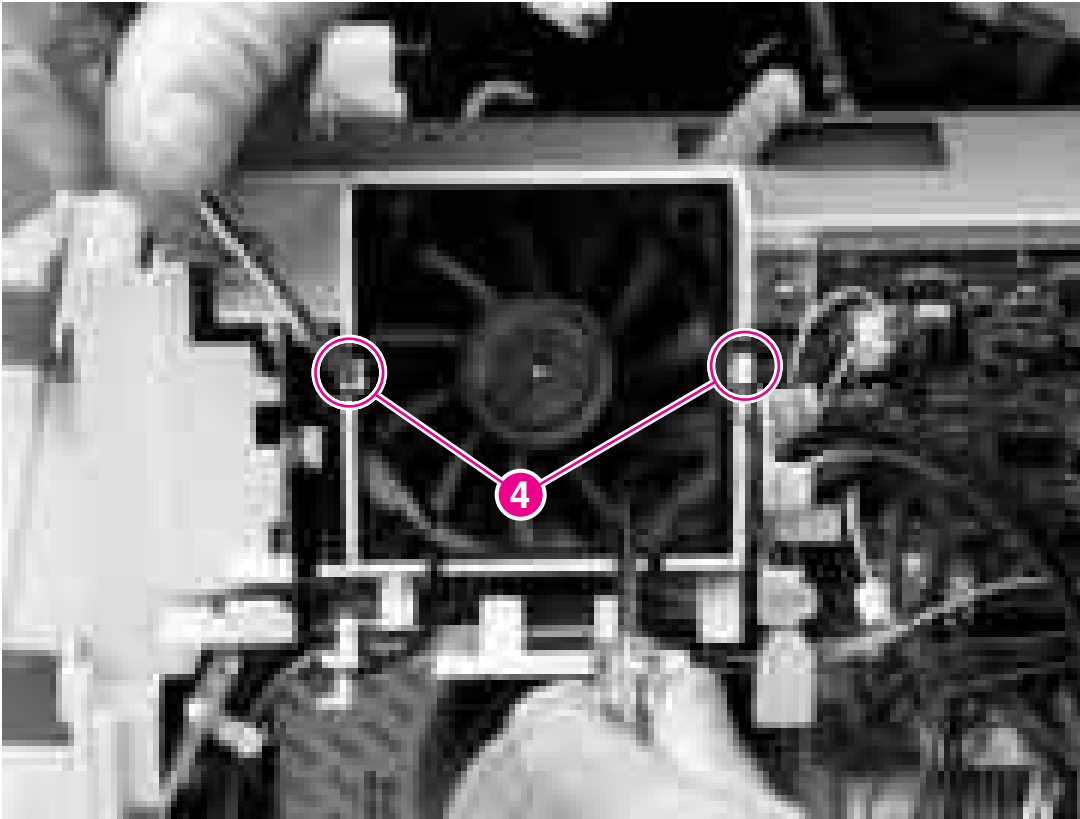


Figure 6-72 Cooling fan (HP LaserJet 4250/4300/4350 series only; 2 of 2)



Reinstallation tip When you reinstall the fan, the air must flow into the printer. Verify that the airflow arrows that are embossed on the fan body point into the printer. Verify that each harness connector on the dc controller PCA is fully seated. These connectors can become partially unplugged when the harnesses are unwoven from the guide on the fan duct.

Removing the fan and the air duct together

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter cover. See [Formatter cover](#).
- 2 Gently pry back the two retaining tabs (callout 1) and slip the anti-static bar (callout 2) off of them. Rotate the anti-static bar away from the printer remove it from the printer.
- 3 Unplug the fan cable from location J78 on the dc controller PCA, and also unplug cables from locations J71, J72, J79, J87, J88, J89, and J91 on the dc controller PCA.
- 4 Unweave all of the cables from the cable guide (callout 3).



Hint You might have to unplug connectors or release some wire-harness retainer clips to provide enough slack in the wire-harnesses to unweave them easily from the harness guide.

- 5 Remove two screws (callout 4).

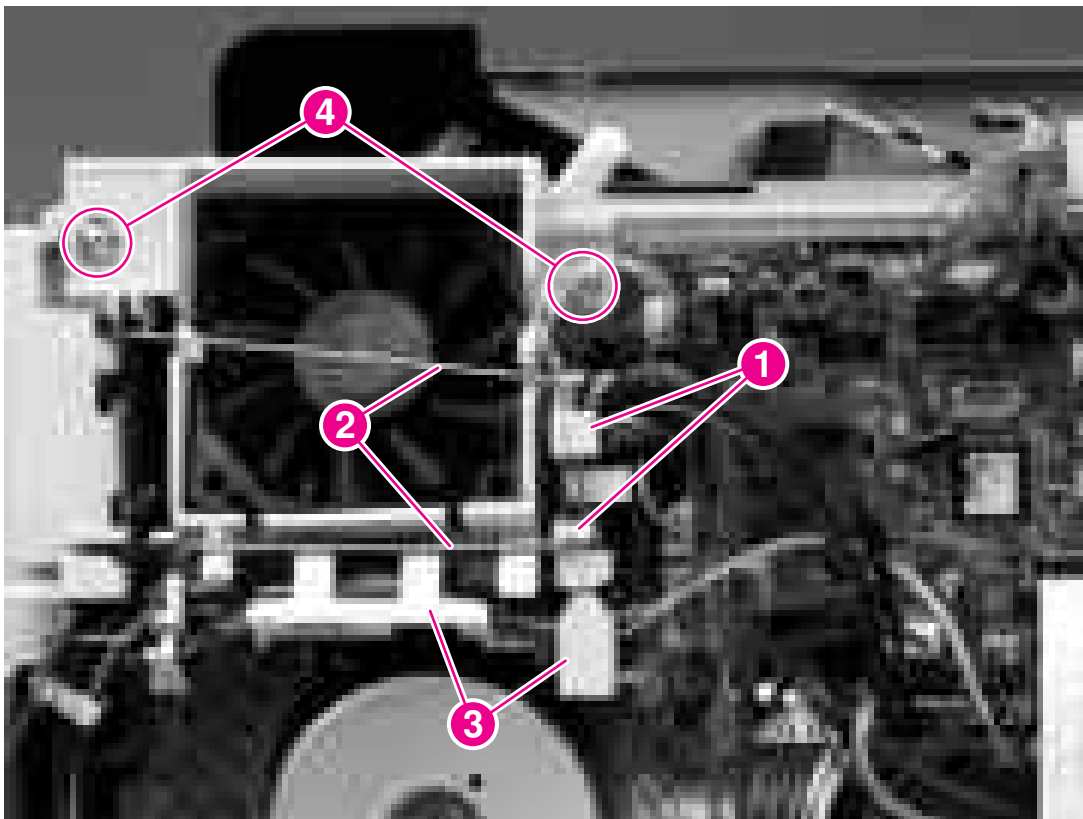


Figure 6-73 Cooling fan and air duct (HP LaserJet 4250/4300/4350 series only; 1 of 2)

- 6 Lift the fan duct (callout 5) while rotating the top of the fan duct away from the printer to remove it.

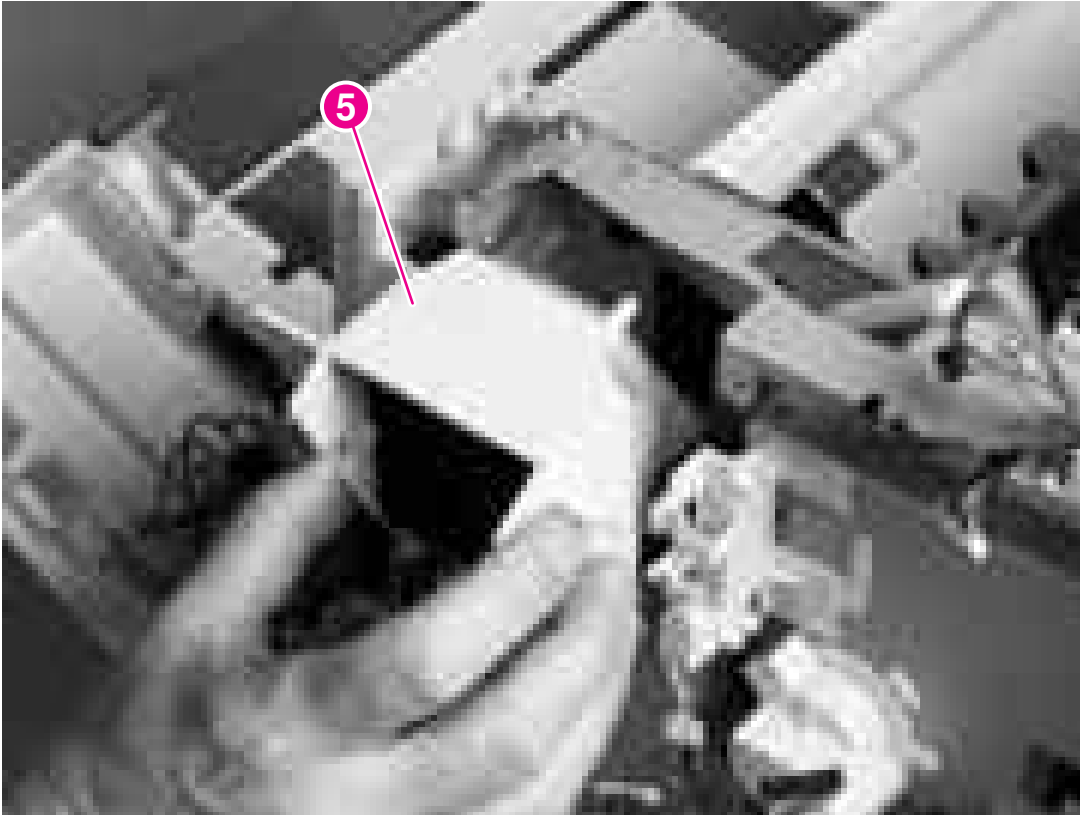


Figure 6-74 Cooling fan and air duct (HP LaserJet 4250/4300/4350 series only; 2 of 2)



Reinstallation tip When you reinstall the fan, the air must flow into the printer. Verify that the airflow arrows that are embossed on the fan body point into the printer. Verify that each harness connector on the dc controller PCA is fully seated. These connectors can become partially unplugged when the harnesses are unwoven from the guide on the fan duct.

Print-cartridge motor (HP LaserJet 4250/4300/4350 series printer only)



NOTE This motor is not installed on the HP LaserJet 4200/4200L Series printers.

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter cover. See [Formatter cover](#).
- 2 Gently pry back the two retaining tabs (callout 1) and slip the anti-static bar (callout 2) off of them. Rotate the anti-static bar away from the printer to release it. Remove the anti-static bar.
- 3 Unplug the print-cartridge motor wire-harness connector from the dc controller PCA (location J86). Unweave the harness from the wire guide (callout 3).



NOTE You might have to remove additional wire-harnesses from the wire guide to gain access to the print-cartridge motor wire-harness.

- Support the motor (callout 4) while removing three screws (callout 5), and then lift the motor away from the printer.



NOTE If the mechanism includes a toroid, remove the toroid from its retainer clip before removing the print-cartridge motor.

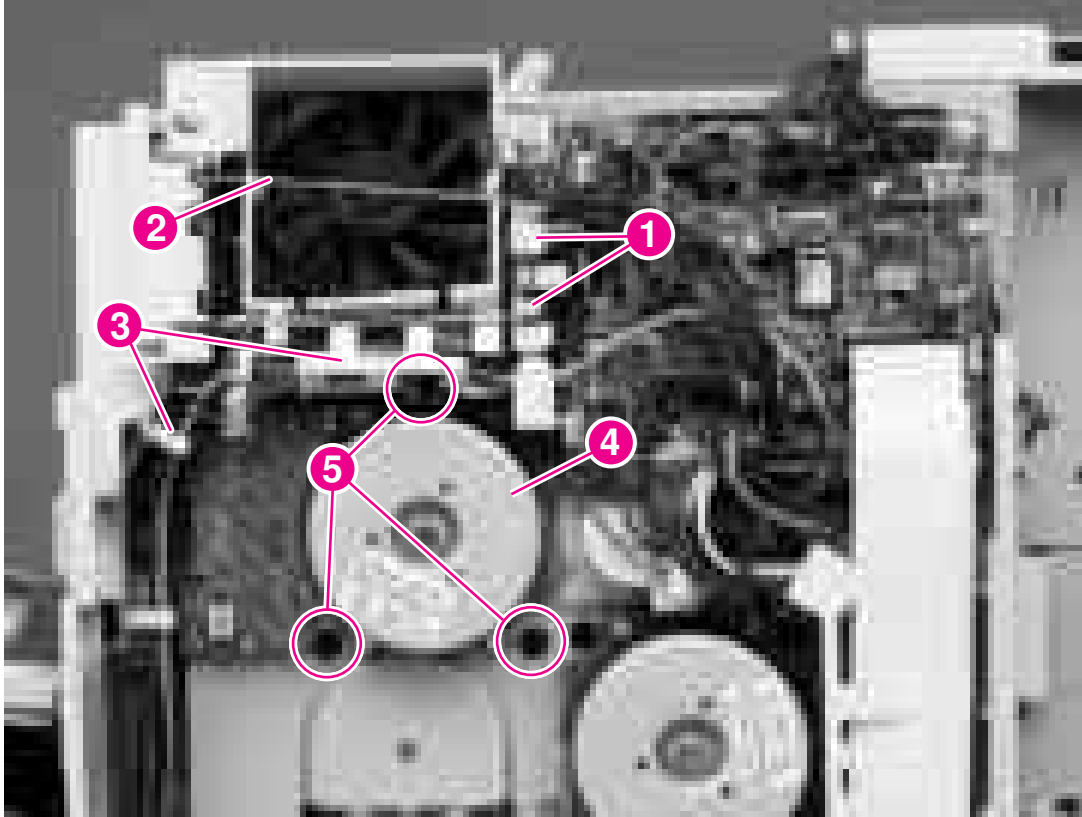


Figure 6-75 Print-cartridge motor (HP LaserJet 4250/4300/4350 series only)

Main motor

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter cover. See [Formatter cover](#).
- 2 Unplug two flat cables (callout 1) and the main motor-harness connector from the dc controller PCA (locations J80, J81, and J98).
- 3 Remove the cables from the cable guide (callout 2).

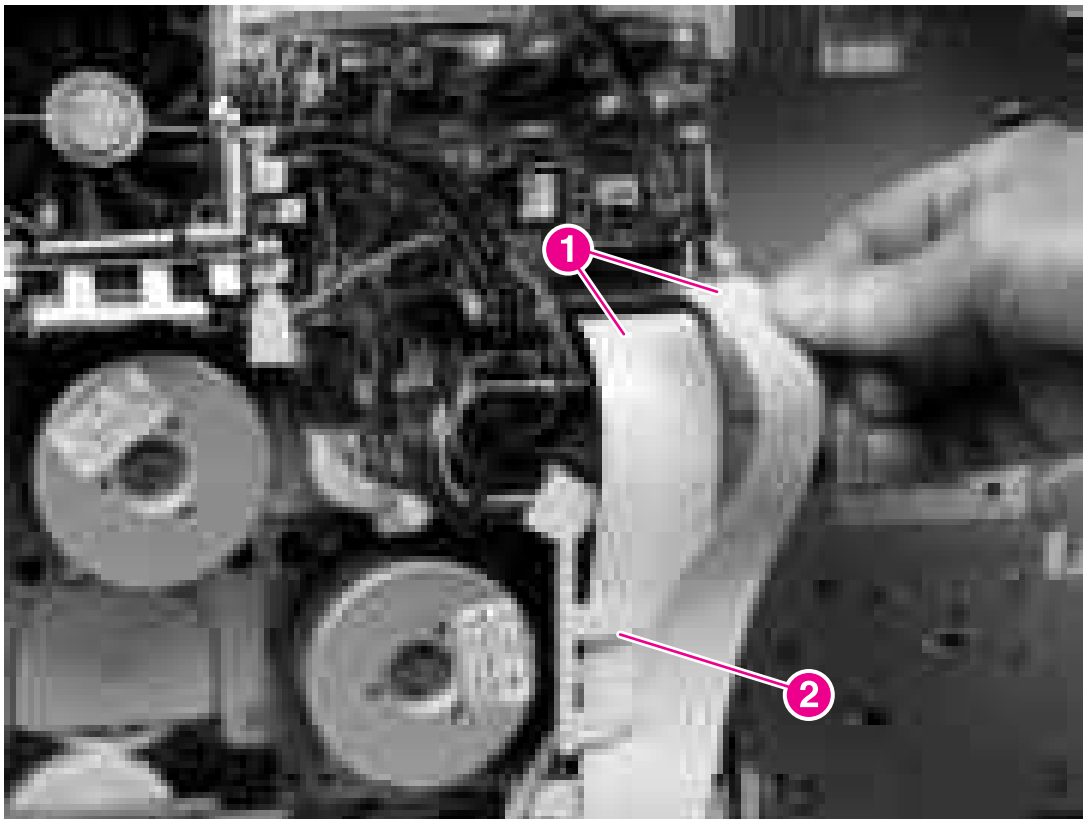


Figure 6-76 Main motor (1 of 2)

- Support the main motor (callout 3) while removing three screws (callout 4), and then lift the motor away from the printer.

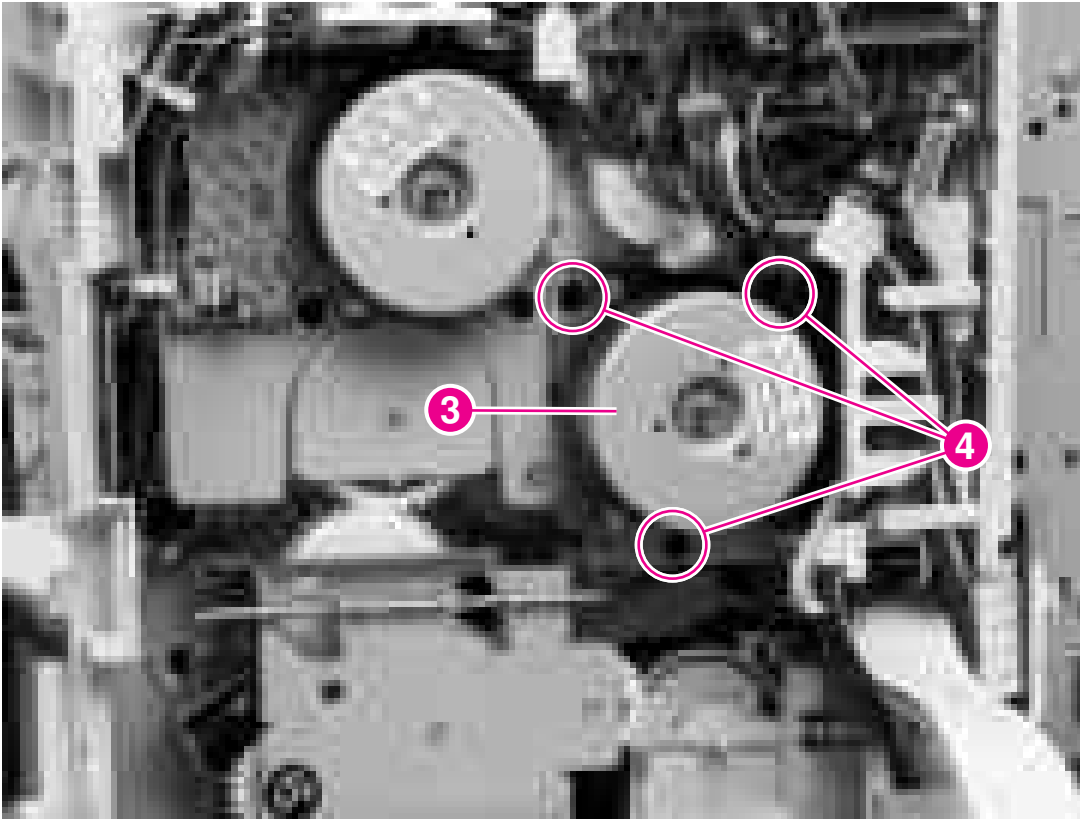


Figure 6-77 Main motor (2 of 2)

Pickup and feed assemblies

Tray 1 paper-pickup assembly

- 1 Remove the following assemblies:
 - Rear accessory cover. See [Accessory covers and the tray 2 extension door](#).
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter cover. See [Formatter cover](#).
 - Left-side cover. See [Left-side cover](#).
 - Tray 1. See [Tray 1](#).
- 2 Gently pry back the two retaining tabs (callout 1) and slip the anti-static bar (callout 2) off of them. Rotate the anti-static bar away from the printer to release it. Remove the anti-static bar.
- 3 Unplug the tray 1 pickup solenoid connector and the top-cover sensor connector from the dc controller PCA (locations J79 and J95). Unweave the harnesses from the wire guide (callout 3).



Hint You might have to remove additional wire-harnesses from the wire guide to gain access to the solenoid and sensor harnesses.

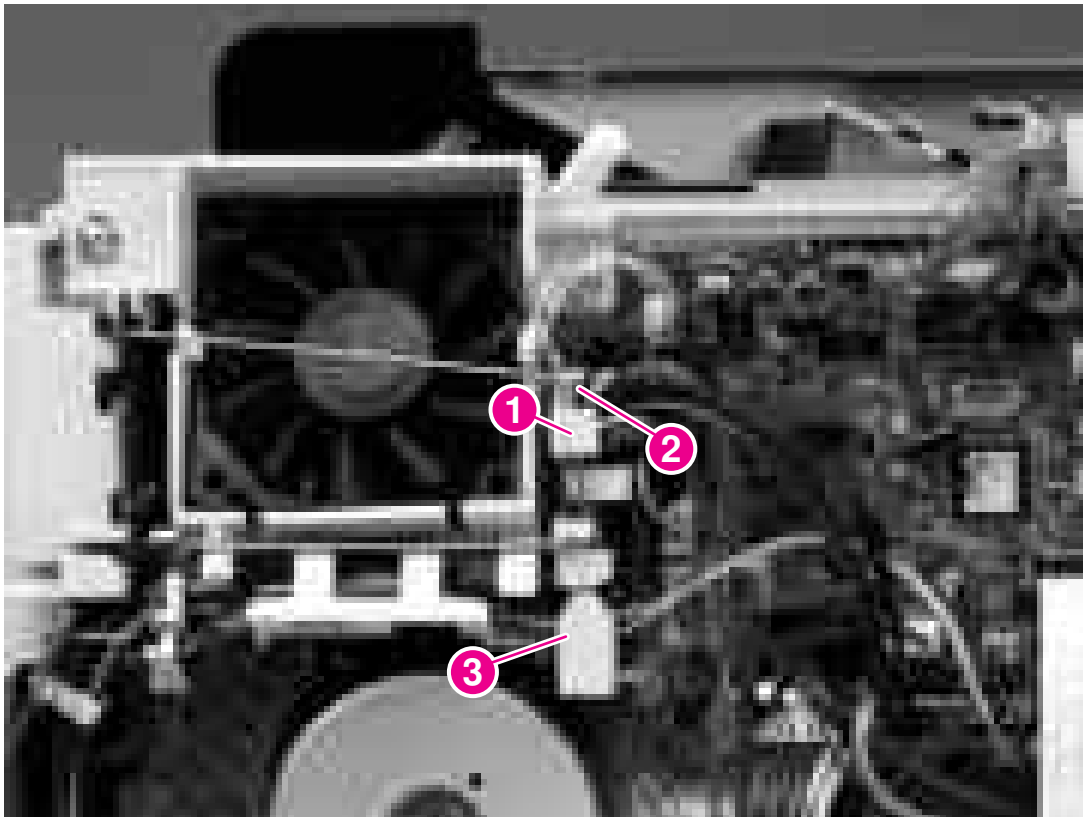


Figure 6-78 Tray 1 paper-pickup assembly (1 of 4)

- 4 Remove three screws (callout 4).
- 5 Press the upper retainer tab (callout 5) to release the assembly.
- 6 Lift up the cover to release the lower retaining tab and remove the cover.

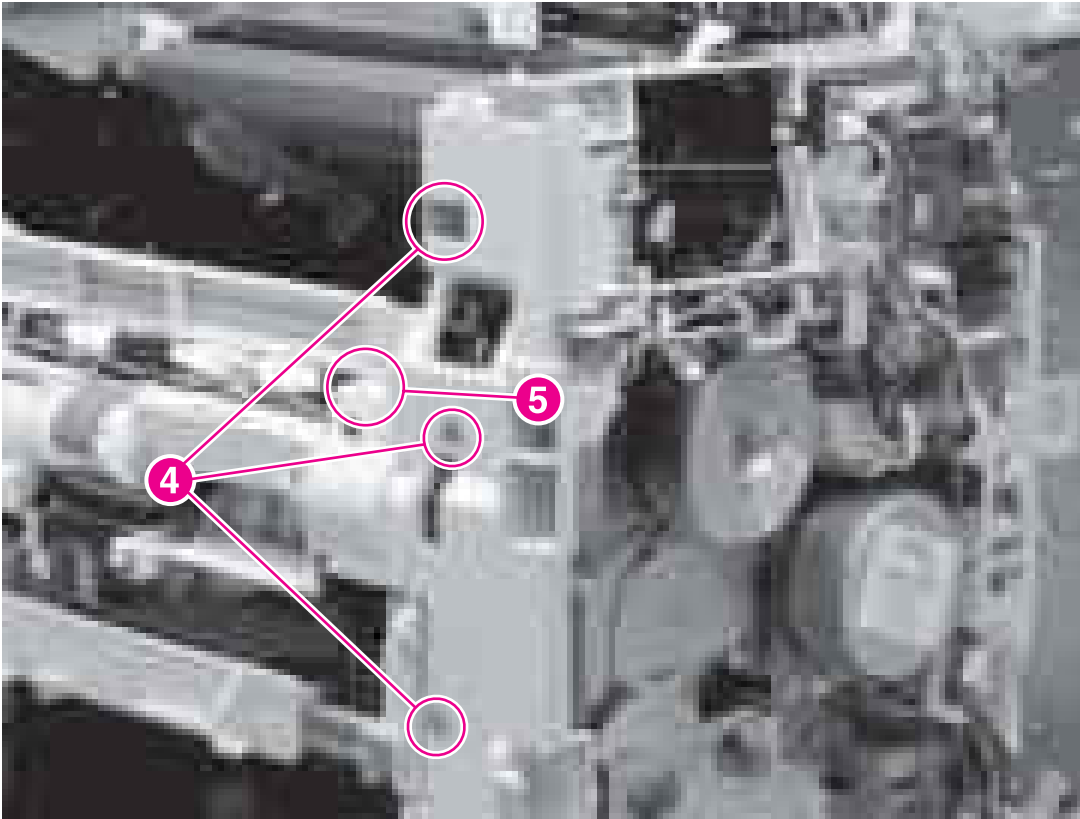


Figure 6-79 Tray 1 paper-pickup assembly (2 of 4)

- 7 Unplug the pickup-sensor connector (callout 6), and then remove six screws (callout 7)..

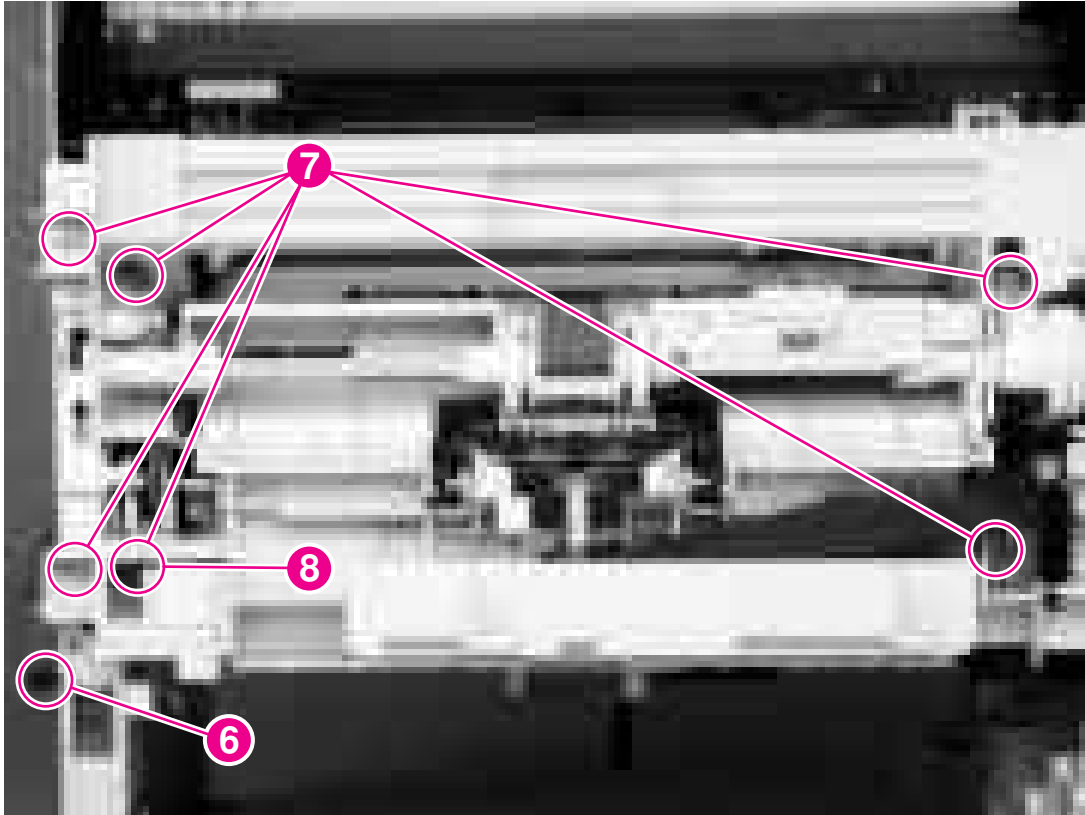


Figure 6-80 Tray 1 pickup assembly (3 of 4)



Reinstallation tip One of the screws on the left side (callout 7 in [Figure 6-80 Tray 1 pickup assembly \(3 of 4\)](#)) is longer than the other screws. Make sure that this screw is replaced in the hole from which it was removed.



CAUTION Carefully thread the solenoid wire-harness through the hole in the chassis. When you remove the pickup assembly, avoid pinching the pickup solenoid wire-harness between the assembly and the chassis.

- 8 Rotate the left side of the assembly away from the chassis, and then slide the assembly to the left to remove it. Carefully feed the pickup-assembly-solenoid wire-harness through the opening in the chassis as you remove the assembly.

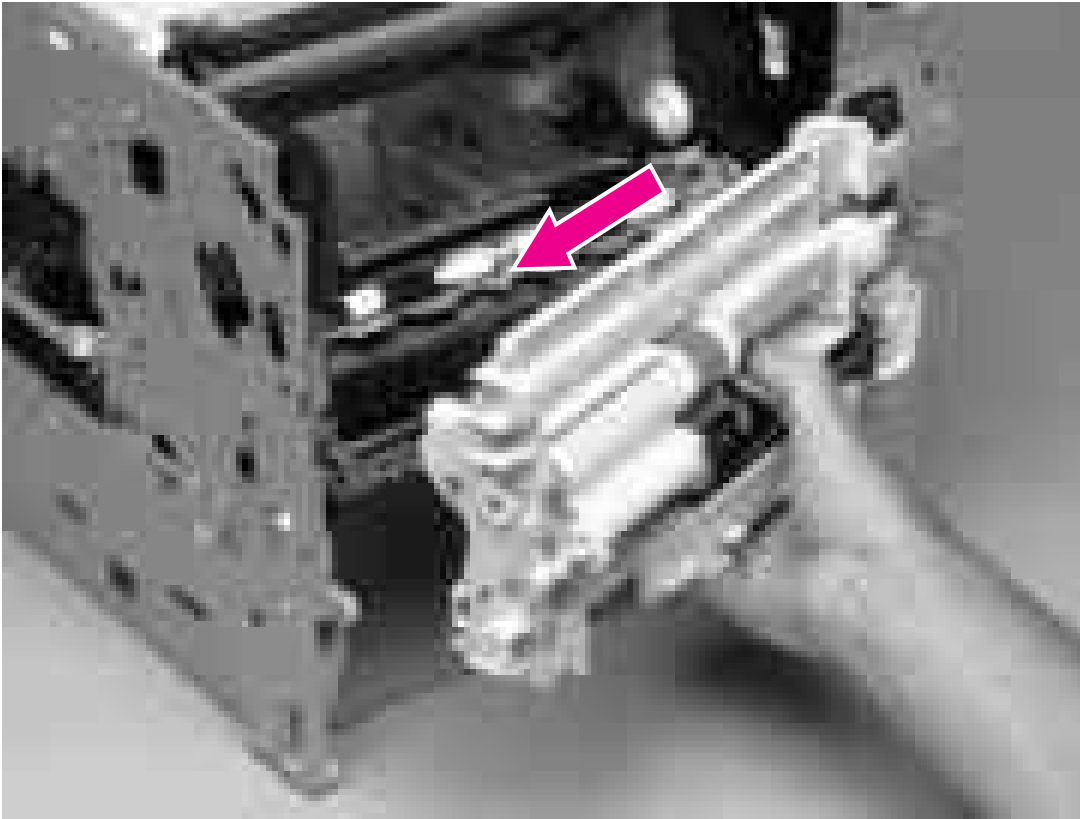


Figure 6-81 Tray 1 pickup assembly (4 of 4)



Reinstallation tip Reroute the solenoid wire-harness through the opening in the chassis.

Reinstallation tip When you install the pickup assembly, verify that the grounding spring (located on the right-side of the assembly near the drive gear) is correctly positioned against the dimple in the chassis.

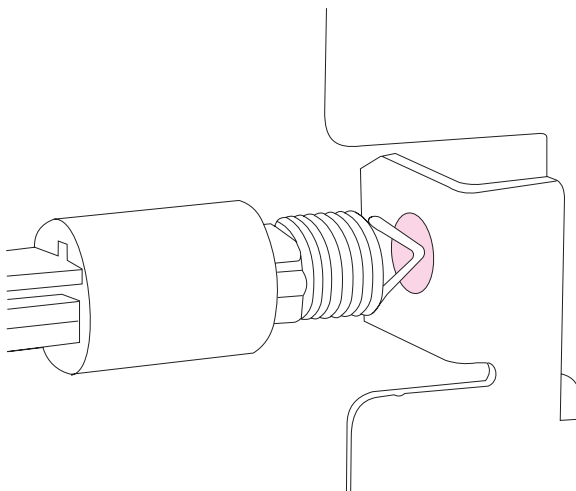


Figure 6-82 Correct position of the tray 1 pickup assembly grounding spring

Paper-feed assembly

- 1 Remove the following assemblies:
 - Tray 1. See [Tray 1](#).
 - Tray 1 pickup assembly. See [Tray 1 paper-pickup assembly](#).
- 2 Unplug the paper-feed assembly wire-harness connector from the dc controller PCA (location J89), and then unweave the wire-harness from the cable guide.



Hint You might have to remove additional wire-harnesses from the wire guides to gain access to the paper-feed assembly wire-harness.

- 3 Feed the paper-feed assembly wire-harness through the hole in the chassis (callout 1).
- 4 Remove three screws (callout 2).

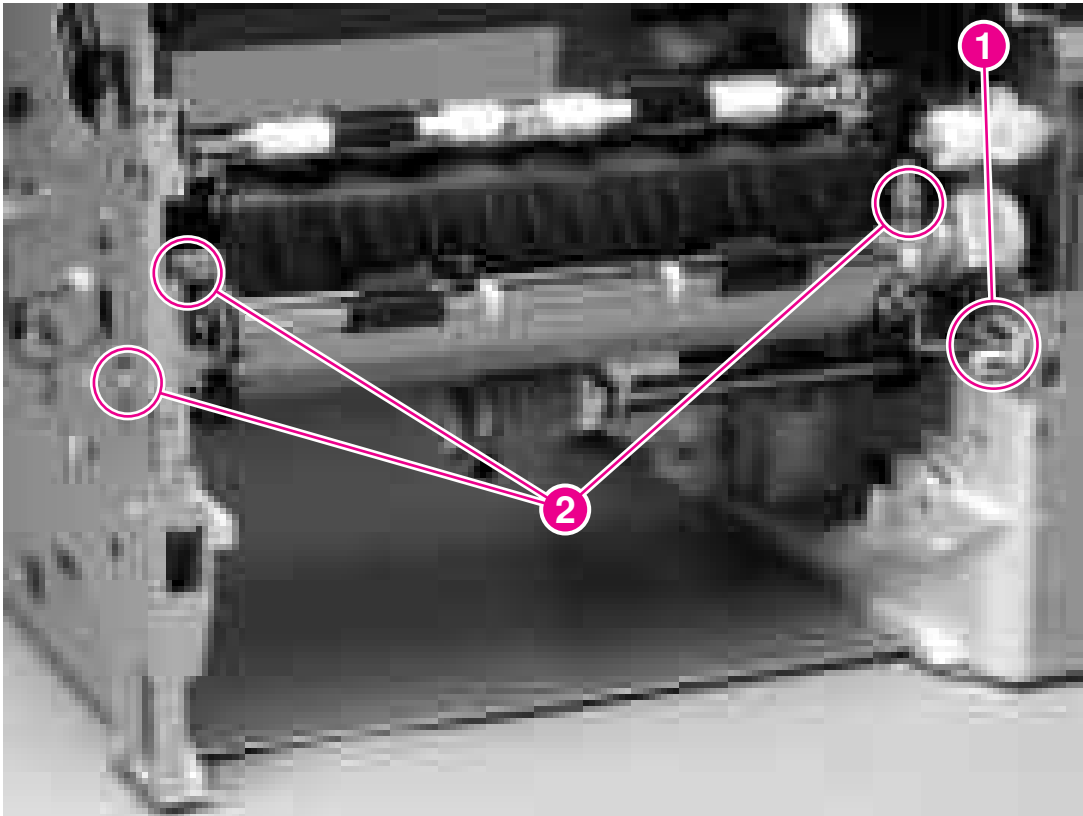


Figure 6-83 Paper-feed assembly

- 5 Lift the paper-feed assembly out of the printer.

Reinstallation notes for the paper-feed assembly

Make sure that the clutch tab on the right side of the paper-feed assembly is inserted into the hole in the plastic frame.

Make sure that the wire-harnesses are fed through the hole in the plastic frame.

When the paper-feed assembly is installed, the sensor-flag spring must be correctly positioned so that the flag can operate. If a paper-jam error message (**13.20.00 JAM**) appears on the control-panel display after you replace the paper-feed assembly, verify that this sensor-flag spring is installed correctly. Use the antistatic bar (see [Cooling fan, right side \(HP LaserJet 4250/4300/4350 Series printers only\)](#)) to release the sensor spring.

Hook the spring over the flag tab (callout 1 in [Figure 6-84 Correctly install the paper-feed assembly sensor flag](#)). Fasten the paper-feed assembly to the chassis with the flag spring positioned in the hole in the transfer assembly. Release the spring from the tab on the flag (callout 2 in [Figure 6-84 Correctly install the paper-feed assembly sensor flag](#)).

Verify that the flag is held in the upright position, can freely move, and always returns to the upright position. If the flag does not move freely, or does not return to the upright position, an error message (**13.20.00 JAM**) will appear on the control-panel display when you turn on the printer power.

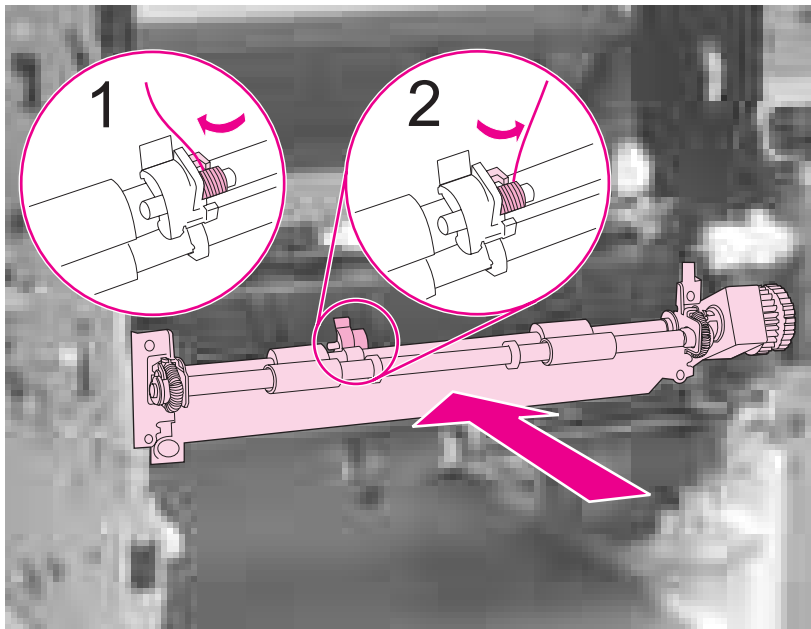


Figure 6-84 Correctly install the paper-feed assembly sensor flag

Main drive assembly

- 1 Remove the following assemblies:
 - Top and right-side covers. See [Top cover](#) and [Right-side cover](#).
 - Right-side fan and fan duct (HP LaserJet 4250/4300/4350 Series printers only). See [Cooling fan, right side \(HP LaserJet 4250/4300/4350 Series printers only\)](#).
 - Print-cartridge motor (HP LaserJet 4250/4300/4350 Series printers only). See steps 1 through 6 of [Print-cartridge motor \(HP LaserJet 4250/4300/4350 series printer only\)](#).
 - Main motor. See [Main motor](#)
 - Dc controller PCA. See [Dc controller PCA](#).
- 2 Release two tabs (callout 1) that secure the cable guide to the chassis and then lift the cable guide off of the printer.

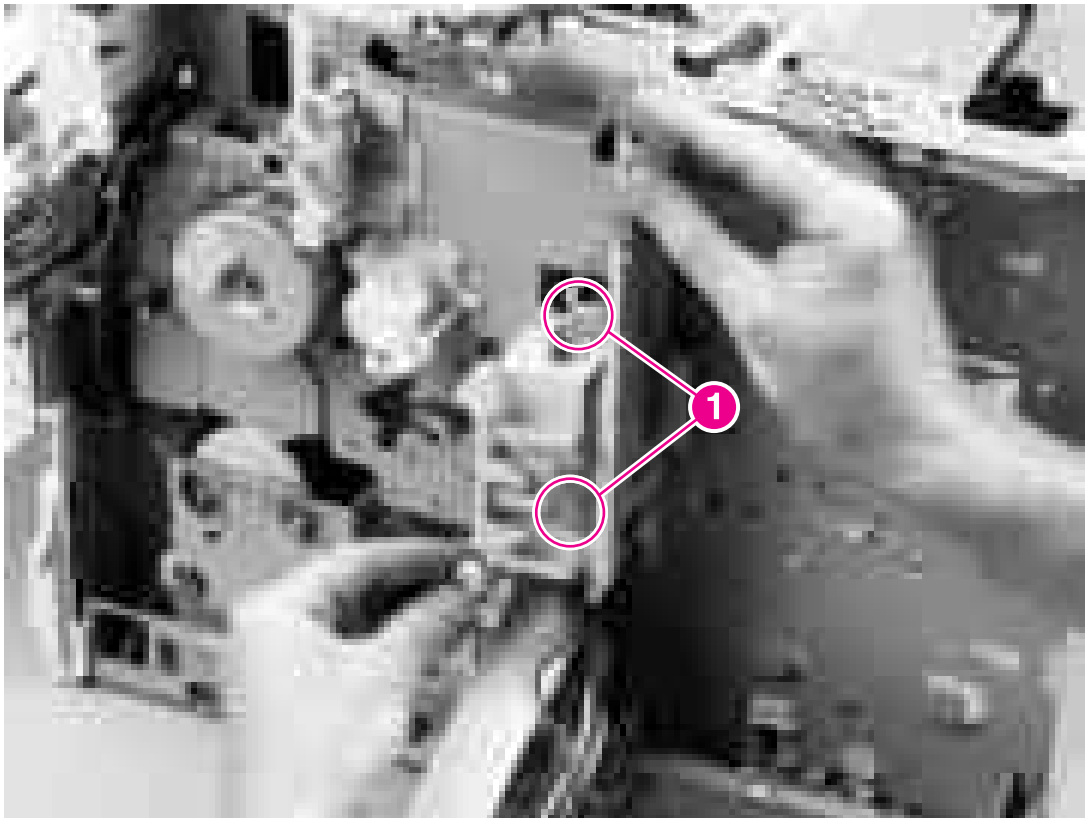


Figure 6-85 Main drive assembly (1 of 3)

- 3 Use a flat-blade screwdriver to release the flat-cable-guide tab (callout 2), and then slide the guide upward to remove it.

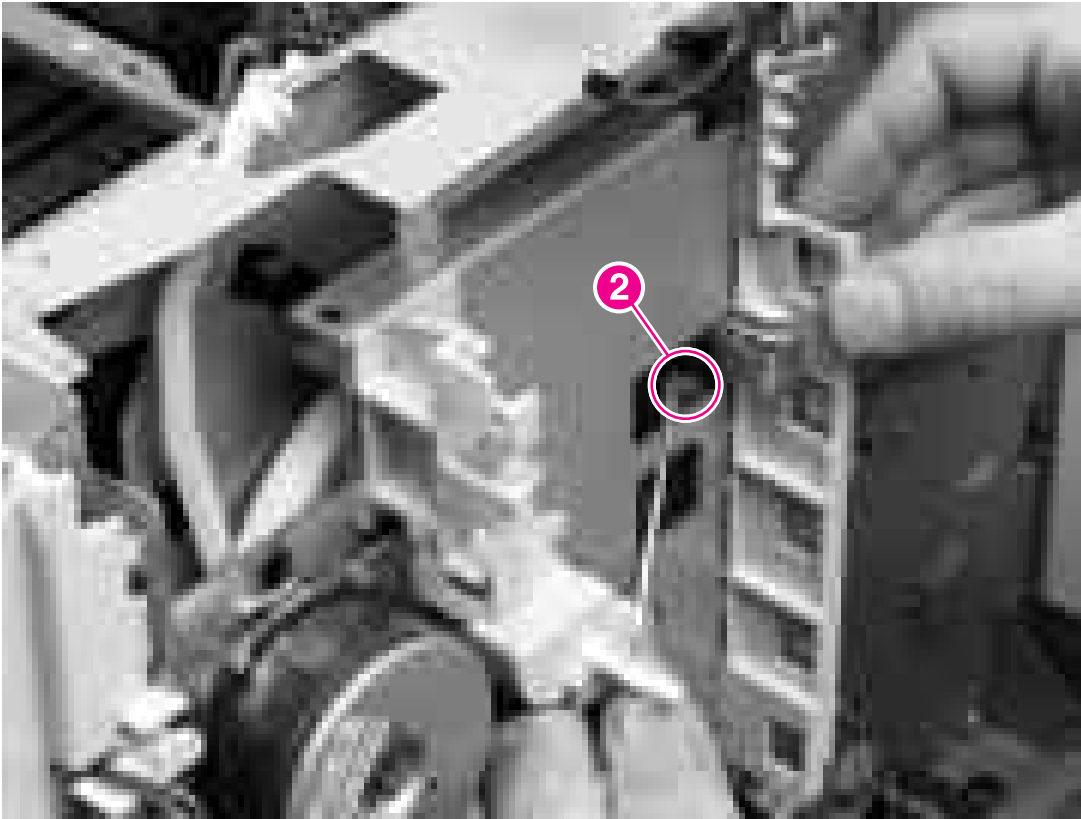


Figure 6-86 Main drive assembly (2 of 3)

- 4 Use needle-nose pliers to release the lifting-assembly spring (callout 3), lift up the power switch rod and rotate it away from the chassis, and then remove five screws (callout 4).

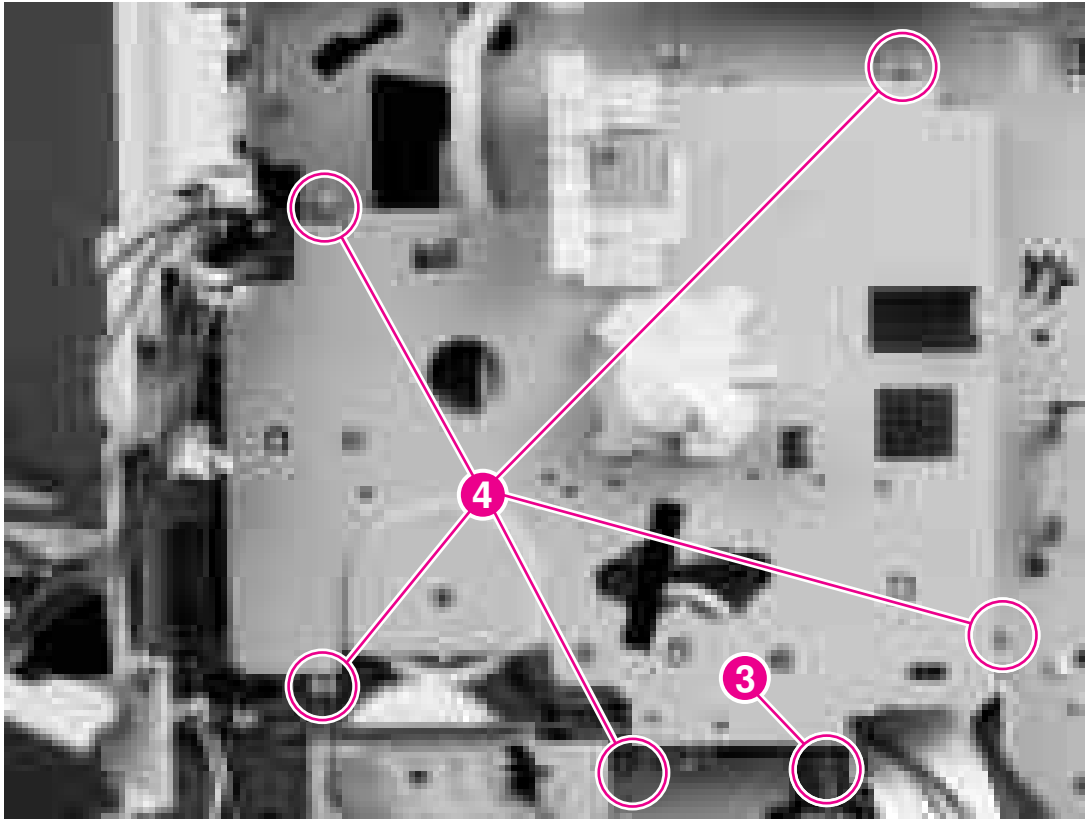


Figure 6-87 Main drive assembly (3 of 3)

- 5 Grasp the main drive assembly and gently slide it straight away from the printer.

Registration assembly

- 1 Remove the following items:
 - Main drive assembly. See [Main drive assembly](#).
 - Tray 1 paper-pickup assembly. See [Tray 1 paper-pickup assembly](#).
- 2 Remove one e-clip retainer (callout 1), and then slide the registration-roller drive gear (callout 2) off of the shaft.
- 3 Remove one screw (callout 3).

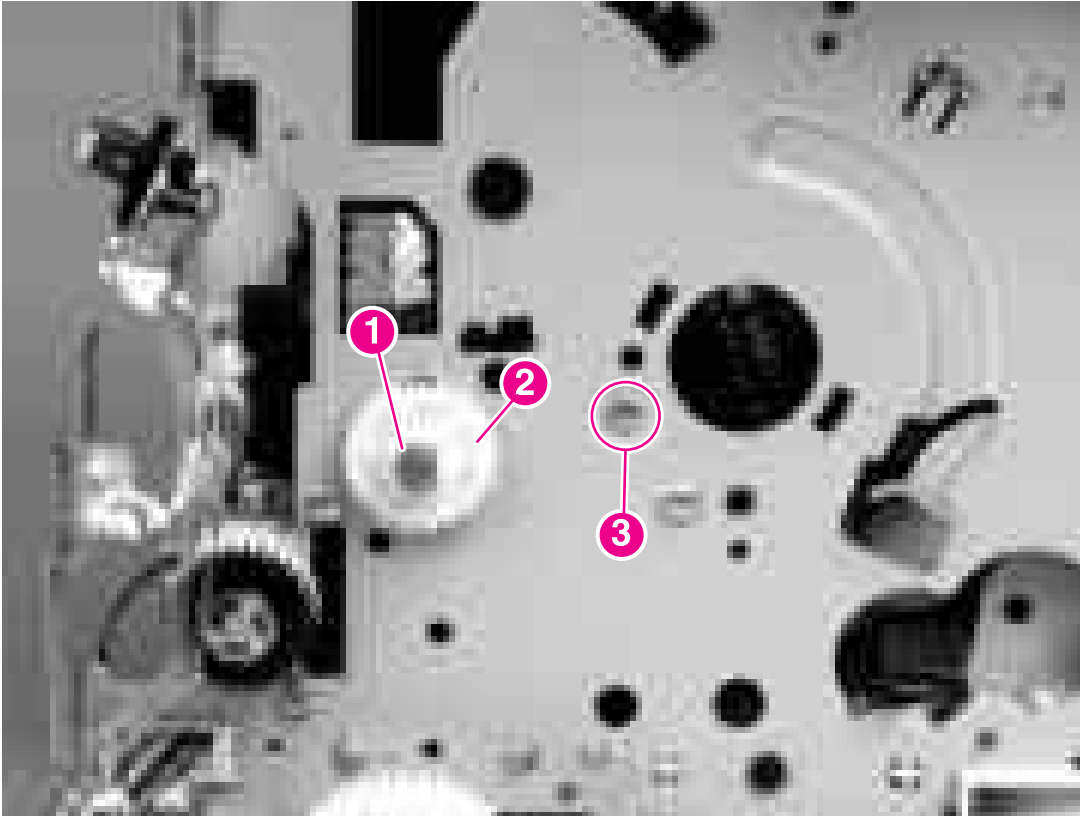


Figure 6-88 Registration assembly (1 of 2)

- 4 Use the green handle (located at the right edge of the registration plate) to raise the registration-roller plate, and then remove five screws (callout 4).



NOTE Do not remove the screw shown in callout 5.

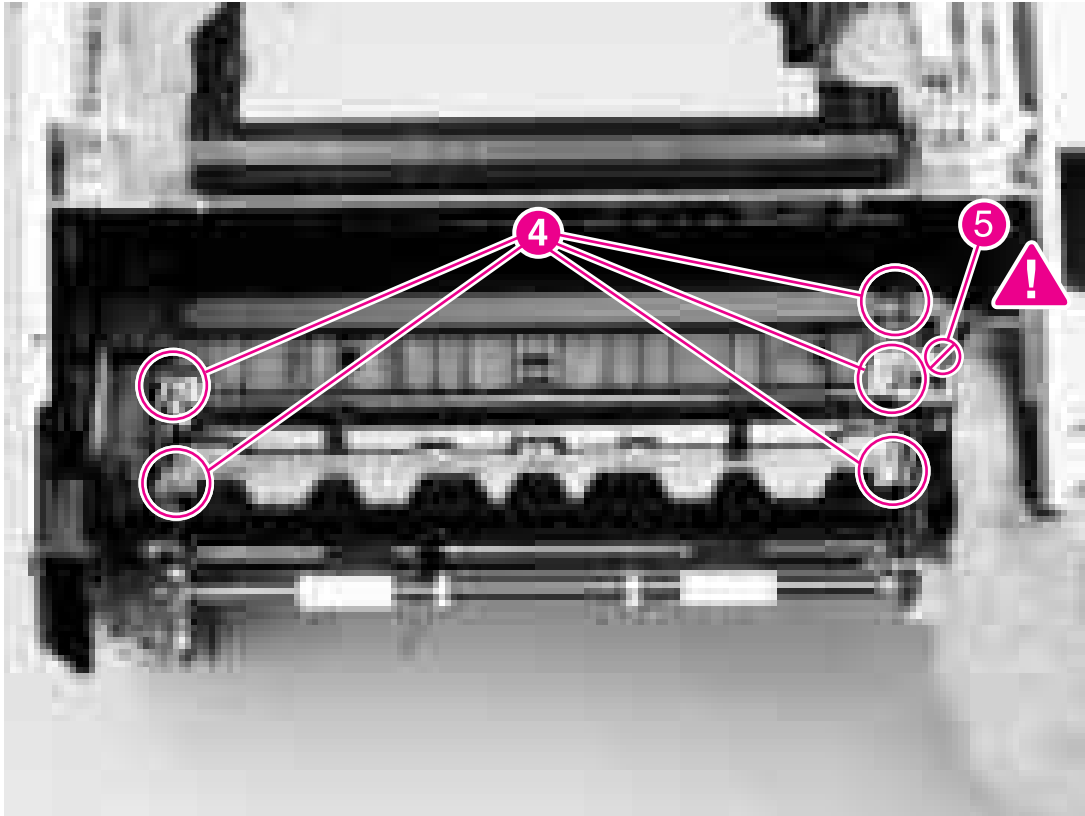


Figure 6-89 Registration assembly (2 of 2)

- 5 Lift the registration assembly out of the printer.

Sensors and switches

This section provides instructions for removing and replacing FRU sensors and switches.

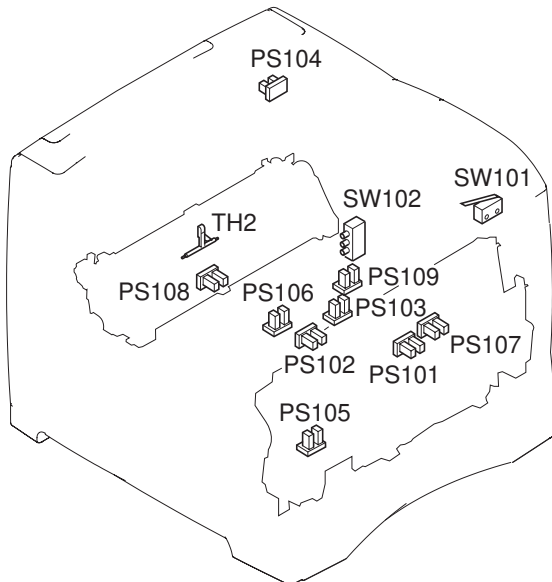


Figure 6-90 Sensors and switches

SW101	Top-cover-open switch
SW102	Paper-size switch
PS101	Tray 2 paper sensor
PS102	Pre-feed sensor
PS103	Top-of-page sensor
PS104	Output-bin-full sensor
PS105	Tray 1 paper sensor (on the tray 1 pickup assembly)
PS106	Paper-width sensor #1
PS107	Paper-stack-position sensor
PS108	Fuser-assembly-delivery sensor
PS109	Paper-width sensor #2 (LJ 4250/4350 only)
TH2	Fuser temperature sensor (LJ 4250/4350 only)

Tray 2/500-sheet feeder media-size sensor (PS101)

Tray 2 and the 500-sheet feeder each contain a media-size sensor.

Tray 2 media-size sensor (PS101)

- 1 Remove the following assemblies:
 - Top cover. See [Top cover](#).
 - Right-side cover. See [Right-side cover](#).
 - Formatter assembly. See [Formatter assembly](#).
- 2 Unplug the sensor cable (callout 1).
- 3 Remove two screws (callout 2).
- 4 Press the locking tab (callout 3), and then slide the sensor toward the front of the printer to release it.

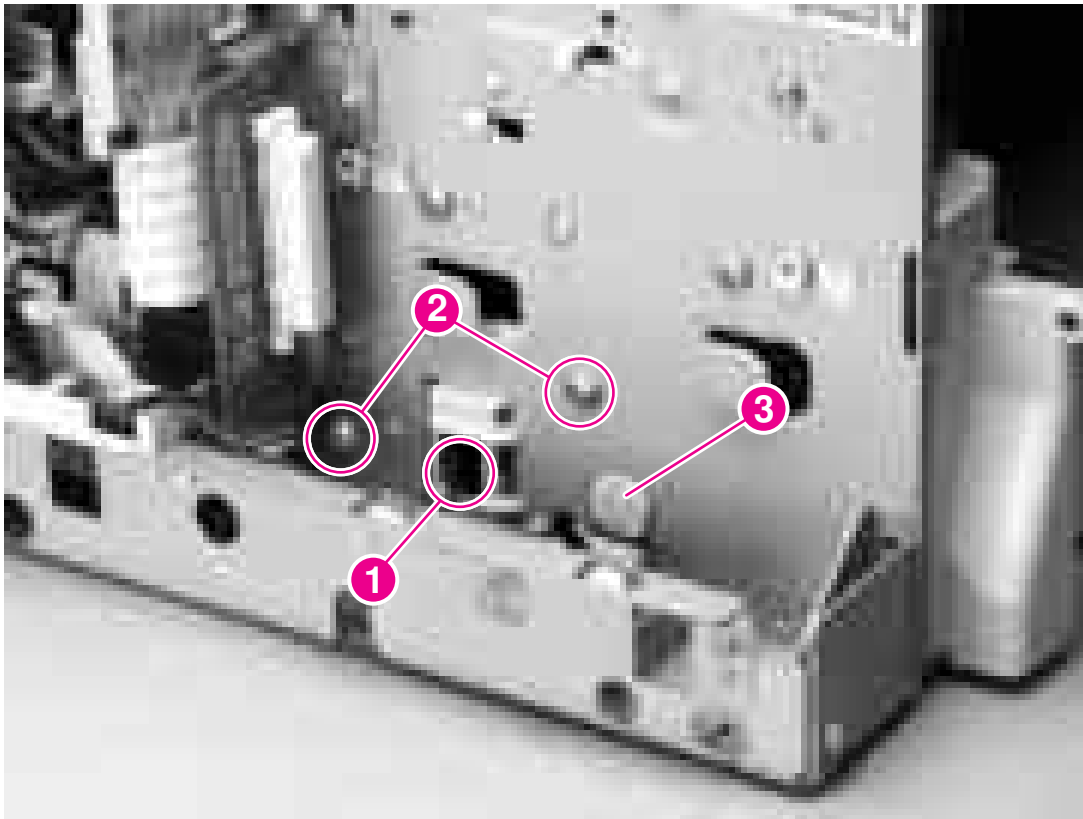


Figure 6-91 Tray 2 media-size sensor

- 5 Lift the sensor away from the printer.

500-sheet feeder media-size sensor

- 1 Remove the 500-sheet feeder right-side cover. See [500-sheet feeder right-side cover](#)
- 2 Remove the 500-sheet feeder PCA. See [500-sheet feeder control PCA](#).
- 3 Remove two screws (callout 1).
- 4 Push the locking tab (callout 2) and slide the sensor toward the front of the feeder to release it.

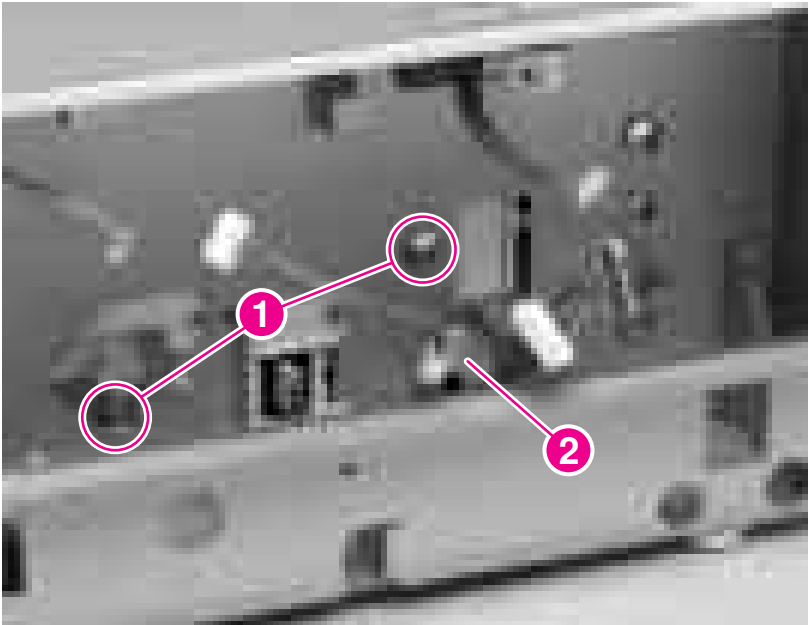


Figure 6-92 500-sheet feeder media-size sensor (1 of 2)

- 5 Lift the sensor out of the 500-sheet feeder.



Figure 6-93 500-sheet feeder media-size sensor (2 of 2)



NOTE When you install the media-size sensor, verify that the locator pins are correctly positioned in the corresponding holes in the chassis.

Tray 1 paper sensor (PS105)

- 1 Remove the tray 1 pickup assembly. See [Tray 1 paper-pickup assembly](#).
- 2 Remove the grounding plate (callout 1).
- 3 Lift the tray 1 paper sensor (callout 2) away from the printer.

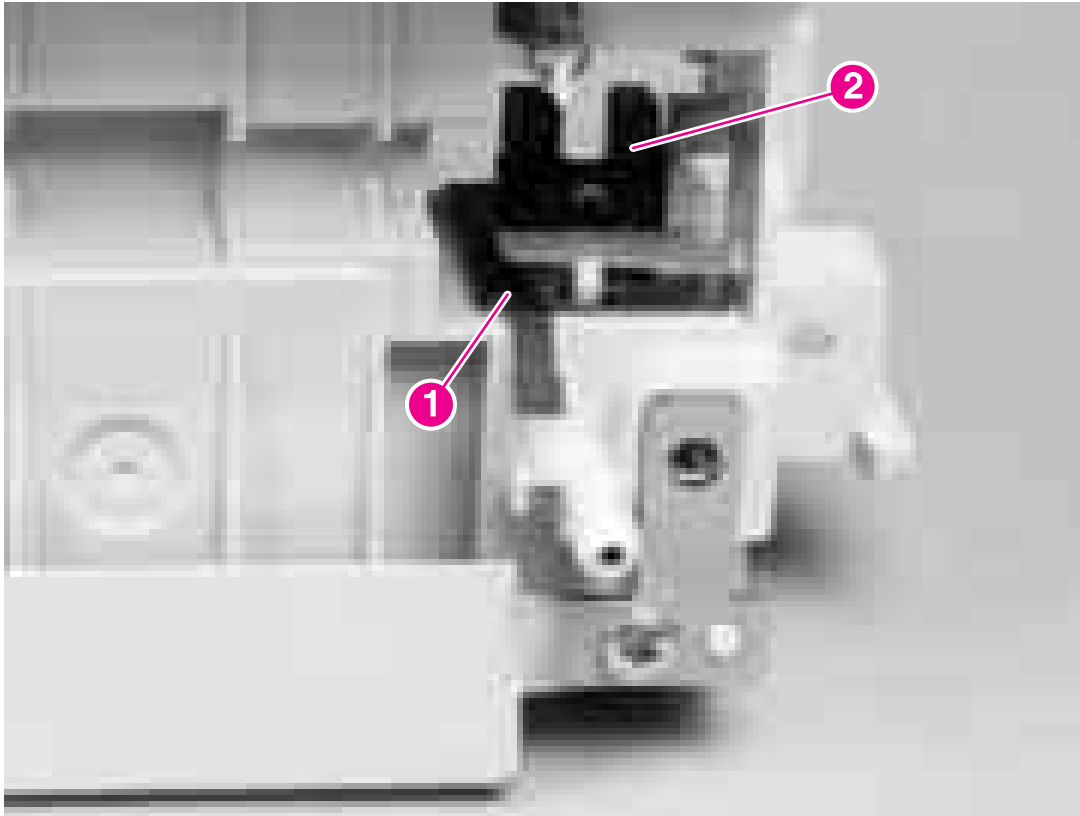


Figure 6-94 Tray 1 paper sensor

Door switch (SW101)

- 1 Remove the inner-front right cover according to the tray 1 paper-pickup assembly removal procedures. See [Tray 1 paper-pickup assembly](#).
- 2 Release two tabs (callout 1) that secure the door switch (callout 2).

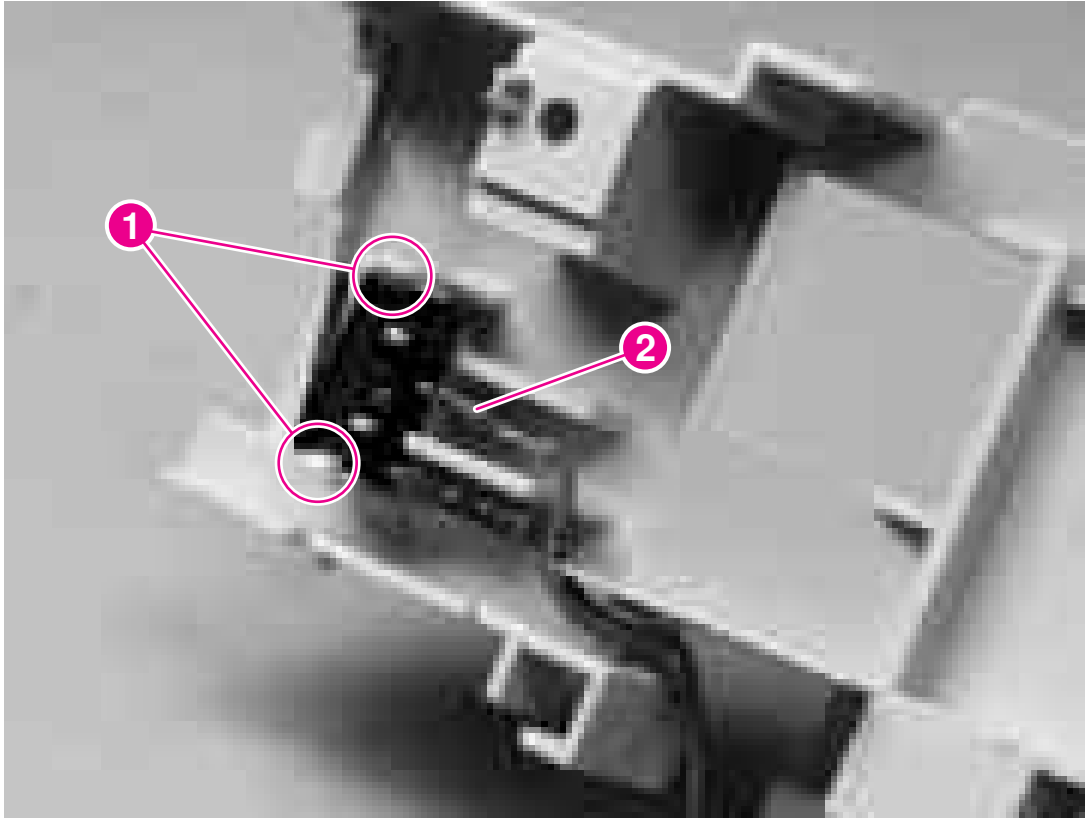
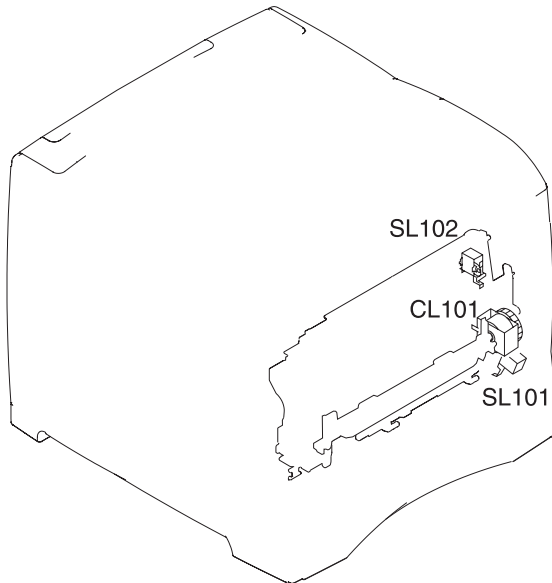


Figure 6-95 Door switch

- 3 Lift the door switch out of the cover.

Solenoids and clutches

This section provides instructions for removing and replacing orderable solenoids and clutches.



SL 101	Tray 2 pickup solenoid
SL 102	Tray 1 pickup solenoid
CL 101	Feed-roller clutch

Tray 2 pickup solenoid (SL101)

- 1 Remove the paper-pickup drive assembly. See [Paper-pickup drive assembly](#)
- 2 Remove one screw (callout 1) that secures the tray 2 pickup solenoid (callout 2) to the paper-pickup drive assembly.

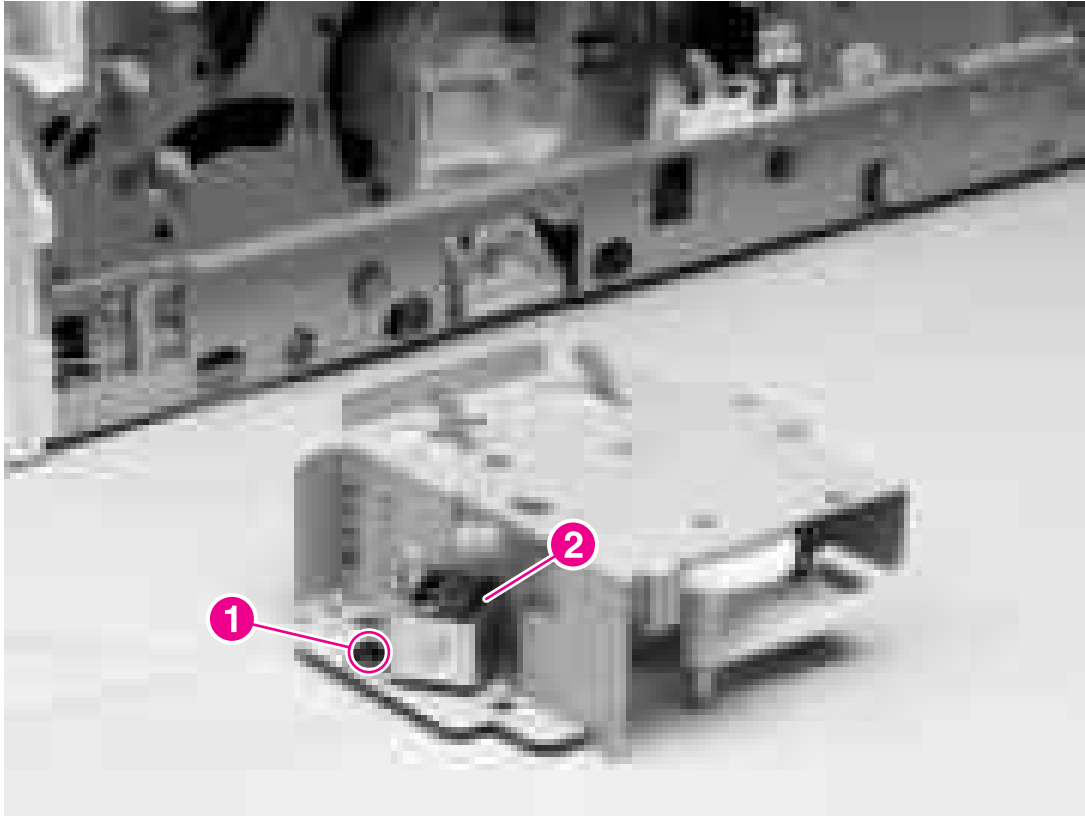


Figure 6-96 Tray 2 pickup solenoid

- 3 Lift tray 2 pickup solenoid off of the paper-pickup drive assembly.

Tray 1 pickup solenoid (SL102)

- 1 Remove the tray 1 paper-pickup assembly. See [Tray 1 paper-pickup assembly](#).
- 2 Remove one screw (callout 1) that secures the tray 1 pickup solenoid (callout 2) to the tray 1 paper-pickup assembly.

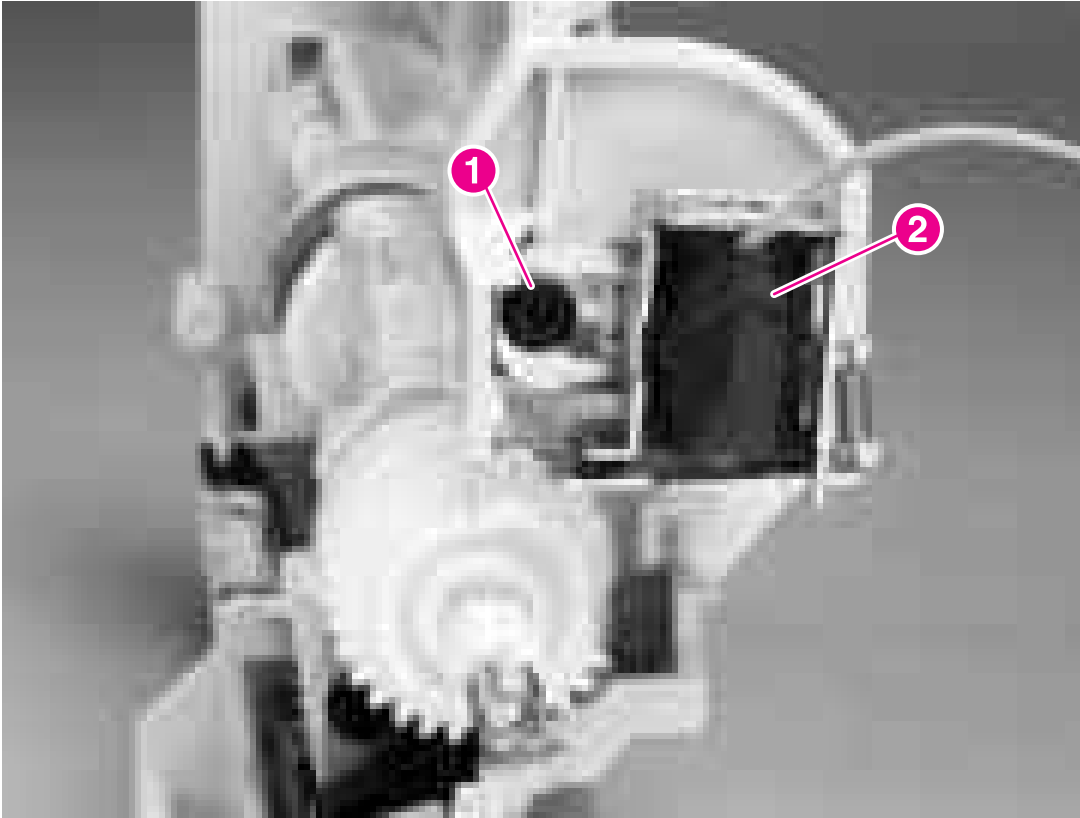


Figure 6-97 Tray 1 pickup solenoid

- 3 Lift the tray 1 pickup solenoid off of the tray 1 paper-pickup assembly.

Feed-roller clutch (CL101)

- 1 Remove the paper-feed assembly. See [Paper-feed assembly](#)
- 2 Remove one e-ring (callout 1) and slide the gear (callout 2) off of the shaft.
- 3 Slide the feed-roller clutch (callout 3) off of the shaft.

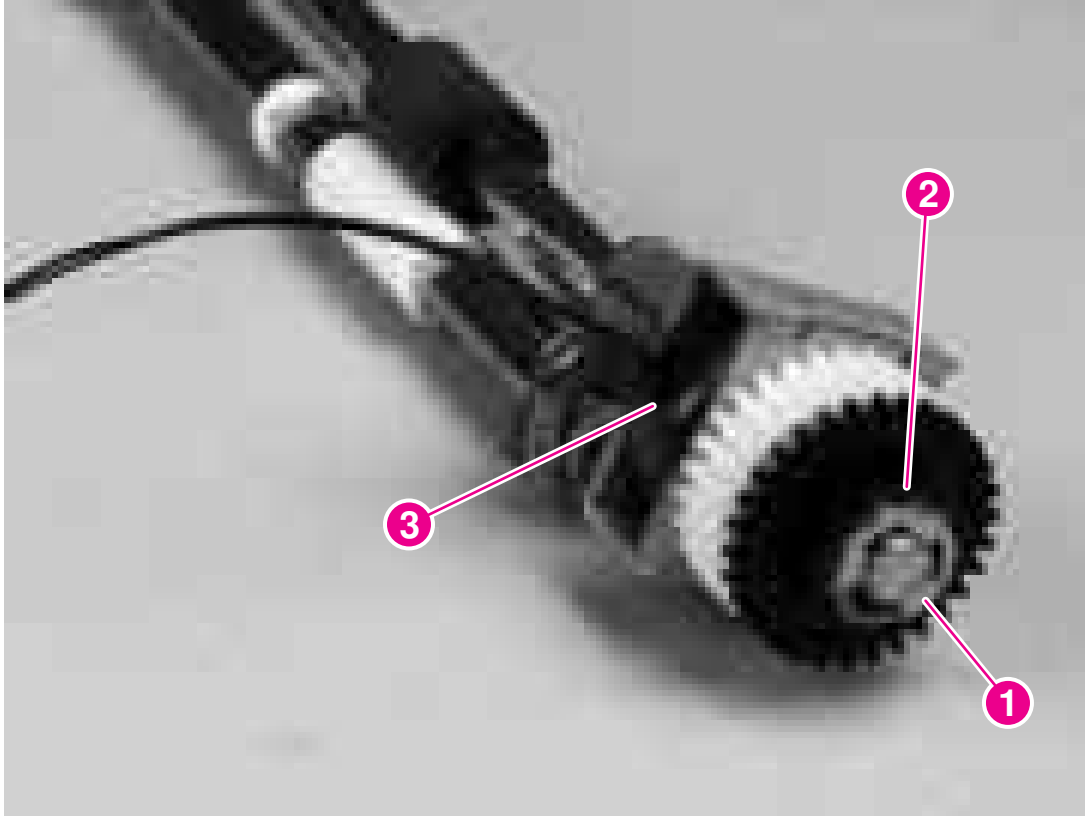


Figure 6-98 Feed roller clutch

Accessories

The following sections describe the printer accessories.

500-sheet feeder assembly

The following sections describe the parts of the 500-sheet feeder assembly.

500-sheet feed rollers



NOTE The removal procedure for the two feed rollers in the 500-sheet feeder is the same as the procedure for the tray 2 feed rollers. See [Tray 2 feed rollers](#).

500-sheet feeder right-side cover

- 1 Remove two screws (callout 1) and the front cover (callout 2).

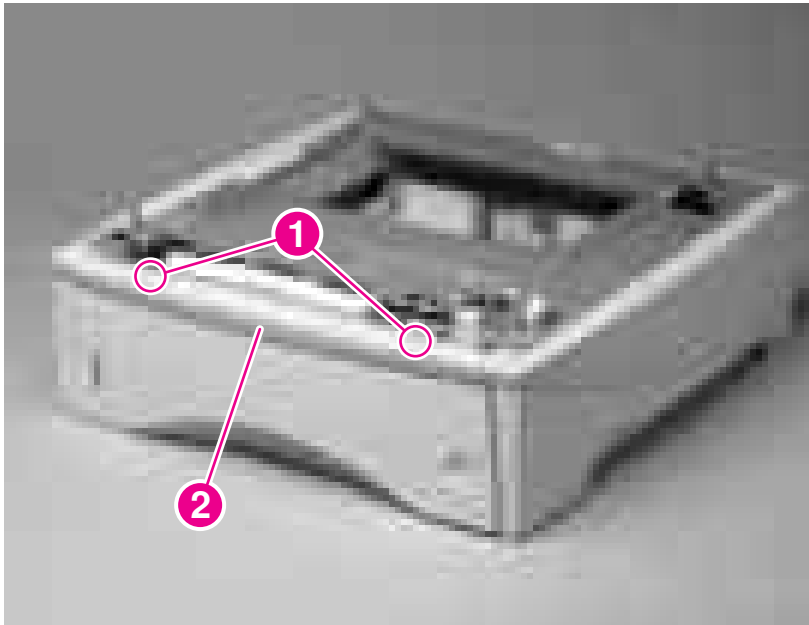


Figure 6-99 500-sheet feeder right-side cover (1 of 5)

- 2 Use a flat-blade screwdriver to release the right-side cover front locking tab.

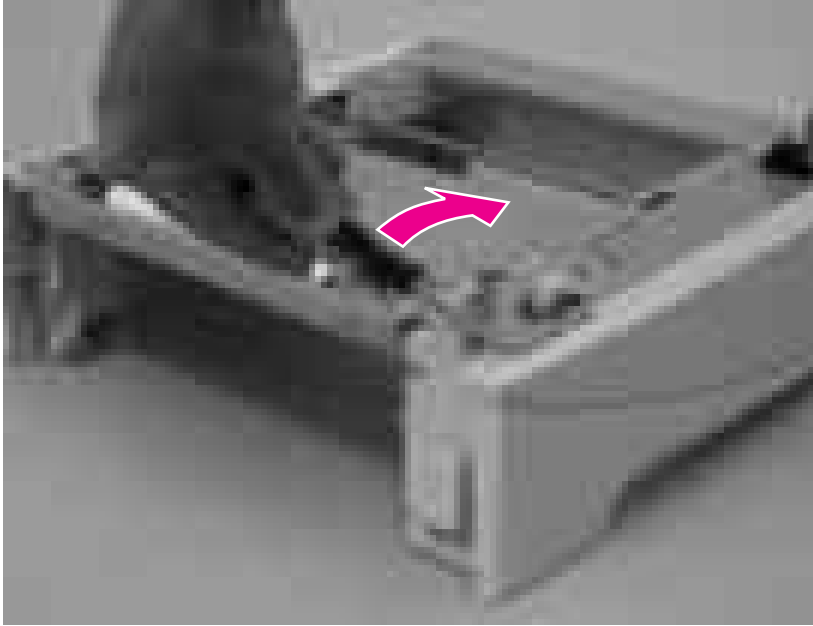


Figure 6-100 500-sheet feeder right-side cover (2 of 5)

- 3 Depress the edge of the cover and release the three center locking tabs.

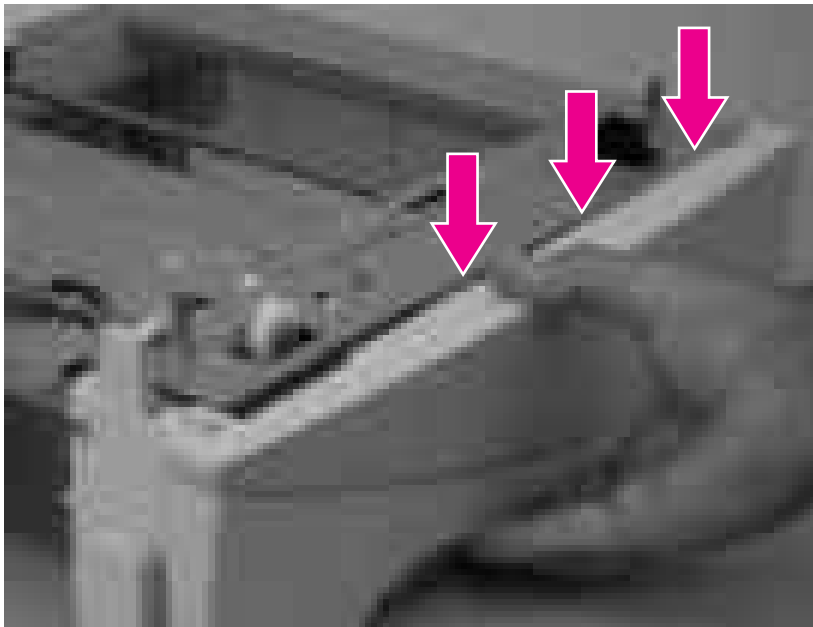


Figure 6-101 500-sheet feeder right-side cover (3 of 5)

- 4 Use flat-blade screwdriver to release the rear locking tab.

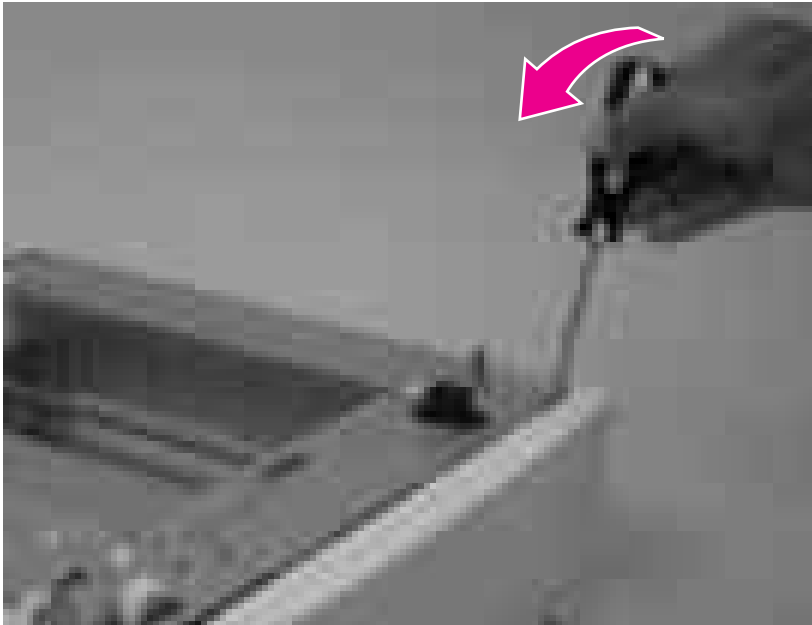


Figure 6-102 500-sheet feeder right-side cover (4 of 5)

- 5 Rotate the top of the cover away from the tray assembly and lift it up to remove it.

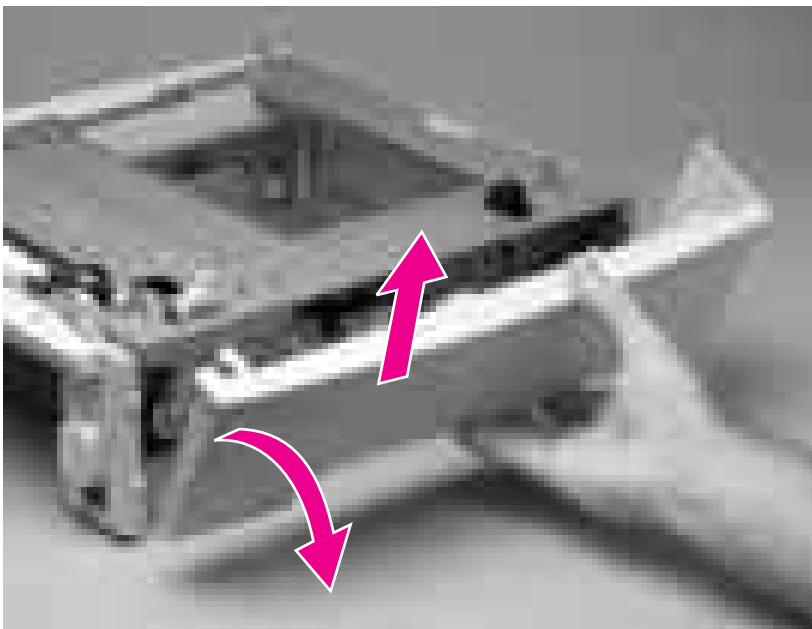


Figure 6-103 500-sheet feeder right-side cover (5 of 5)

500-sheet feeder control PCA



CAUTION The product contains components that are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation. If an ESD-protected workstation is not available, discharge body static by grasping the 500-sheet feeder chassis before touching an ESD-sensitive component. Ground the 500-sheet feeder chassis before servicing the product.



- 1 Remove the 500-sheet feeder right-side cover. See [500-sheet feeder right-side cover](#).
- 2 Unplug six wire-harness connectors (callout 1).
- 3 Remove two screws (callout 2).
- 4 Remove the PCA.

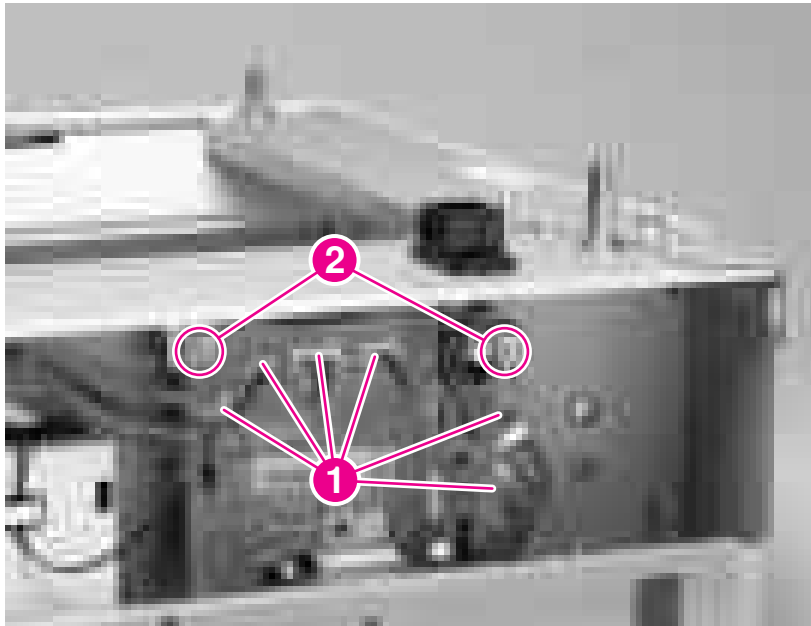


Figure 6-104 500-sheet feeder control PCA

500-sheet feeder lifter-drive assembly

- 1 Remove the 500-sheet feeder right-side cover. See [500-sheet feeder right-side cover](#).
- 2 Unplug the lifter-drive harness connector from the assembly PCA (location J803; callout 1). Disconnect the tension spring (callout 2) and remove one screw (callout 3).

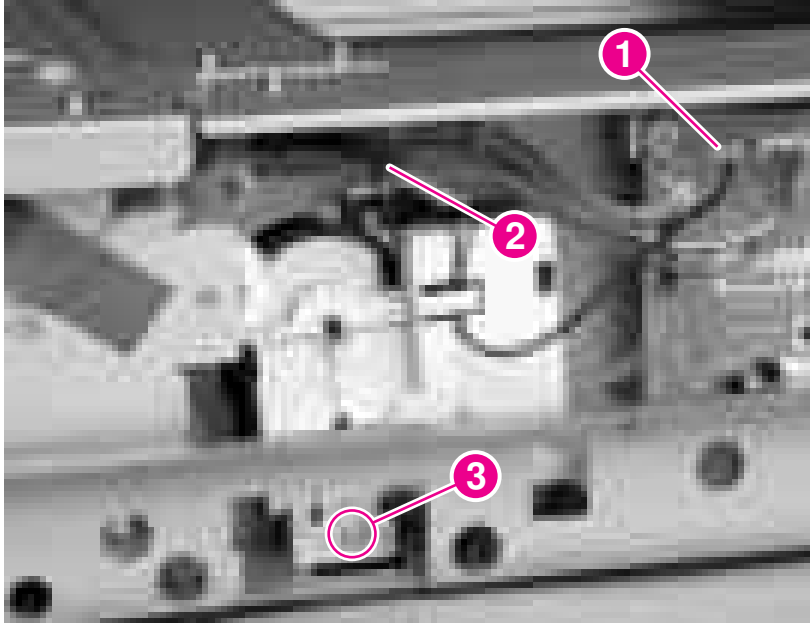


Figure 6-105 500-sheet feeder lifter-drive assembly (1 of 2)

- 3 Pull the tray lifter-drive assembly out towards the right side of the chassis until its pivot shaft clears the tray guide. Rotate the lifter-drive assembly up and out of the chassis to remove it.



Figure 6-106 500-sheet feeder lifter-drive assembly (2 of 2)

500-sheet feeder paper-pickup drive assembly

- 1 Remove the following assemblies:
 - 500-sheet feeder right-side cover. See [500-sheet feeder right-side cover](#).
 - 500-sheet feeder tray lifter-drive assembly. See [500-sheet feeder lifter-drive assembly](#).
- 2 Unplug the main drive solenoid harness connector (callout 1) from the PCA (location J802). Remove the harness from the harness clip (callout 2).

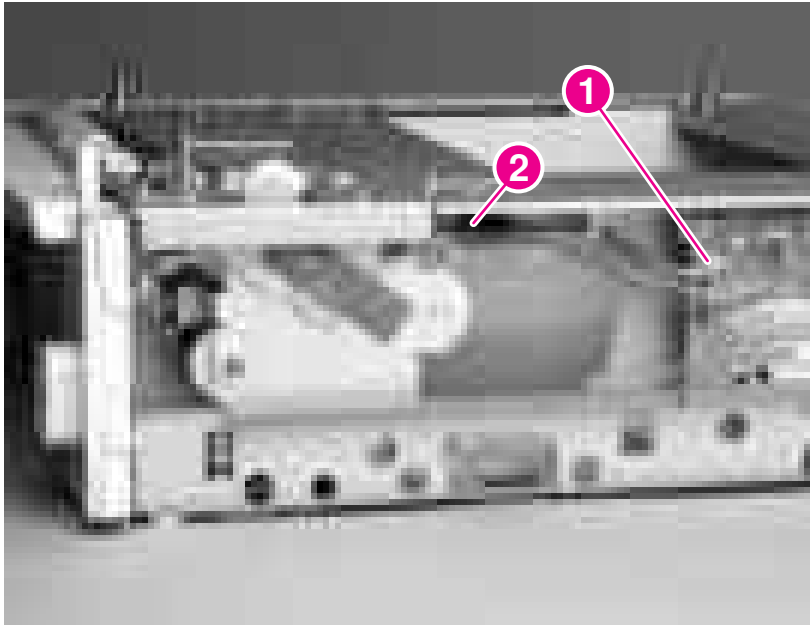


Figure 6-107 500-sheet feeder paper-pickup drive assembly (1 of 7)

- 3 Remove two screws (callout 3). Remove the tray-number indicator.

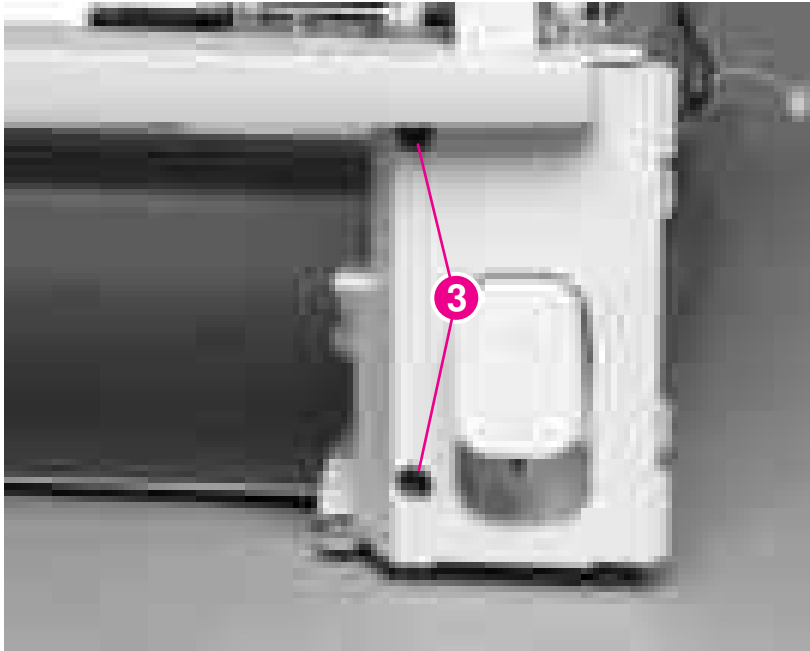


Figure 6-108 500-sheet feeder paper-pickup drive assembly (2 of 7)

- 4 Unplug the accessory-connector wire-harness from the PCA (callout 4).

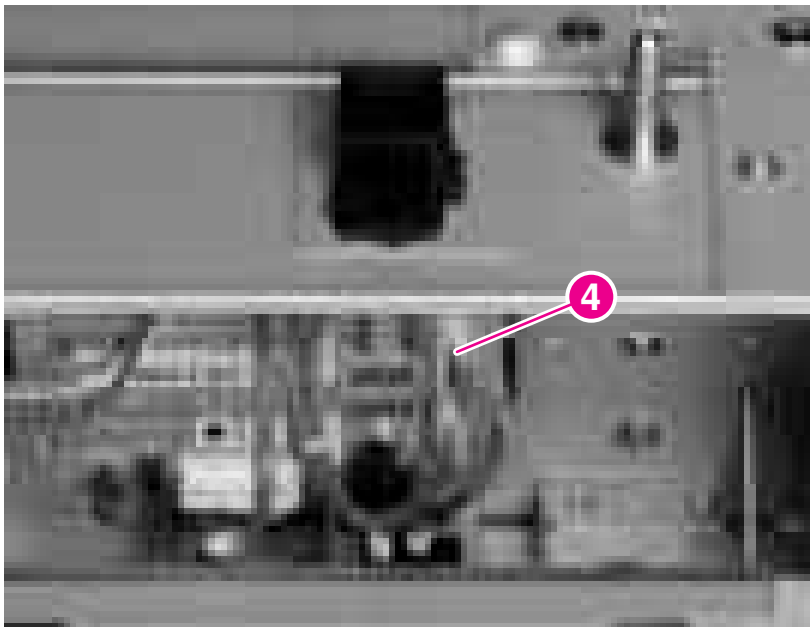


Figure 6-109 500-sheet feeder paper-pickup drive assembly (3 of 7)

- 5 Remove 8 screws (callouts 5, 6, and 7). Remove the chassis gutter (callout 8).

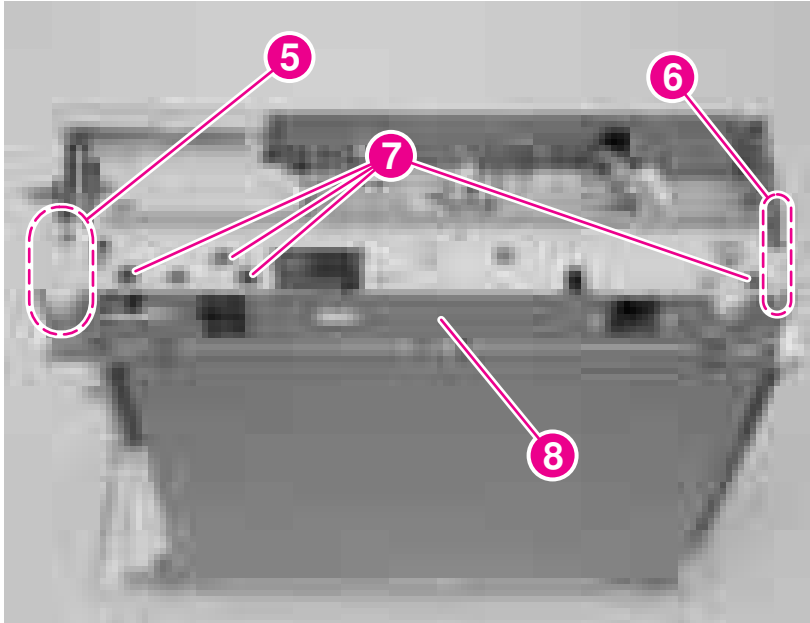


Figure 6-110 500-sheet feeder paper-pickup drive assembly (4 of 7)

- 6 Remove one e-clip and the shaft collar (callout 9).

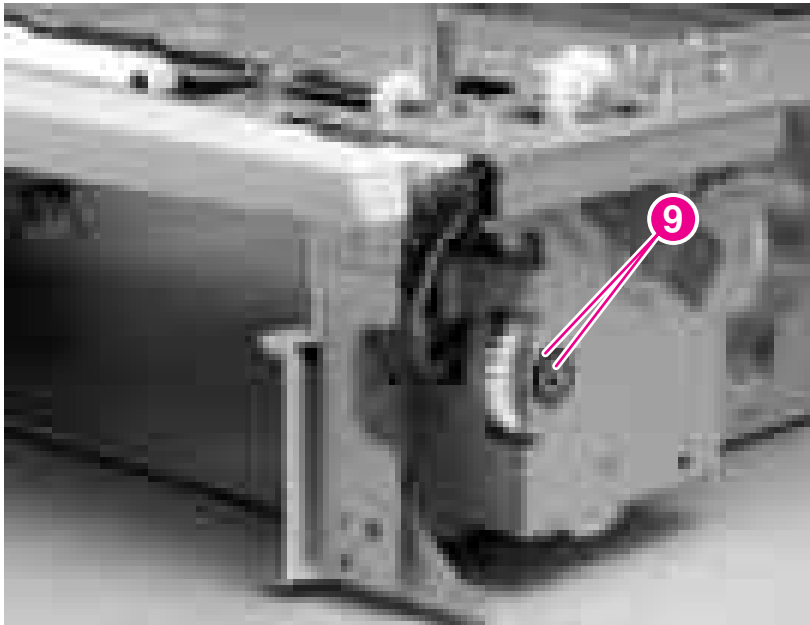


Figure 6-111 500-sheet feeder paper-pickup drive assembly (5 of 7)

- 7 Push the shaft into the paper-pickup drive assembly. Grasp the tray drive gear inside the tray cavity and pull the gear and shaft assembly out of the paper-pickup gear assembly.



Figure 6-112 500-sheet feeder paper-pickup drive assembly (6 of 7)



CAUTION Some gears are not captive when the paper-pickup assembly is removed. Be careful not to lose these unattached parts. Also, the solenoid is not captive when the paper-pickup assembly is removed.

- 8 Remove five screws (callout 10). Pull the paper-pickup gear assembly away from the chassis and remove it.

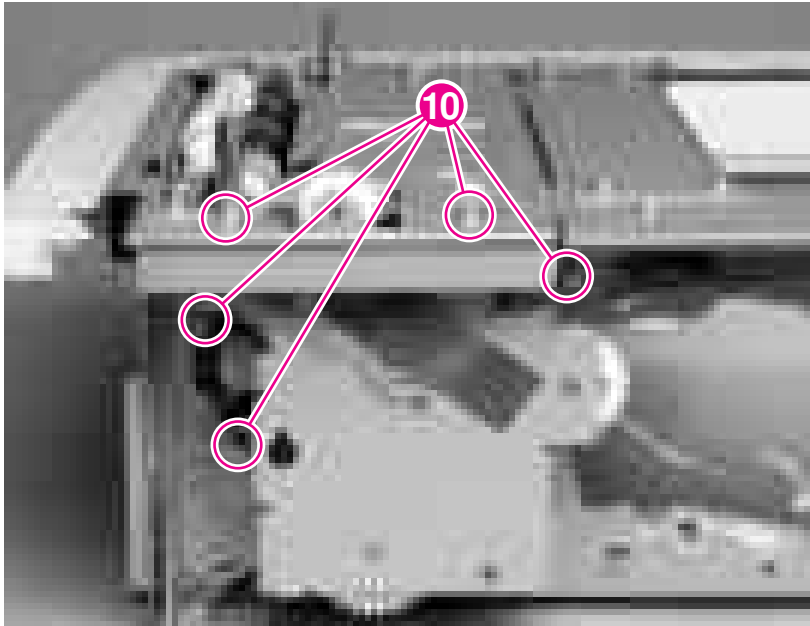


Figure 6-113 500-sheet feeder paper-pickup drive assembly (7 of 7)



NOTE When you install the tray drive gears and shaft, verify that the gears are seated on the shaft locking bars and that the shaft collars are positioned correctly in the lower-gear assembly mounting bracket and 500-sheet feeder chassis.

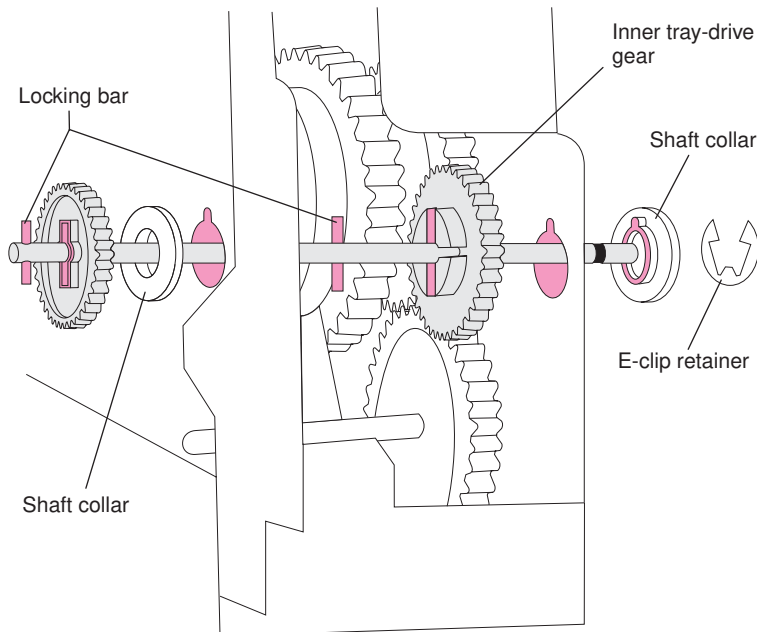


Figure 6-114 500-sheet feeder paper-pickup drive gear

1,500-sheet feeder assembly

The following sections describe the parts of the 1,500-sheet feeder assembly.

1,500-sheet feeder feed rollers



NOTE The removal procedure for the two feed rollers in the 1,500-sheet feeder is the same as the procedure for the tray 2 feed rollers. See [Tray 2 feed rollers](#).

1,500-sheet feeder separation roller

- 1 Open the 1,500-sheet feeder door. Open the feed-roller cover.

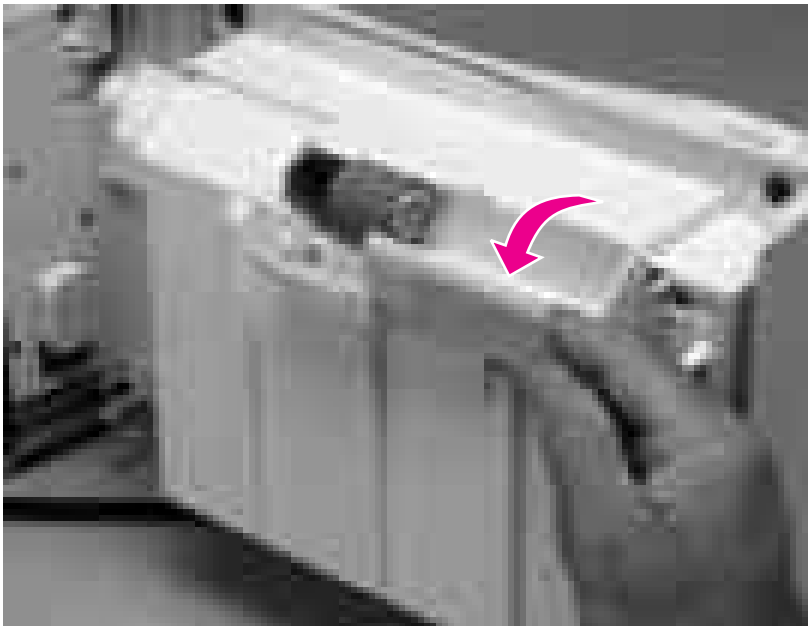


Figure 6-115 1,500-sheet feeder roller (1 of 2)

- 2 Pinch the blue latch that is on the side of the feed roller and slide the roller off of the shaft.

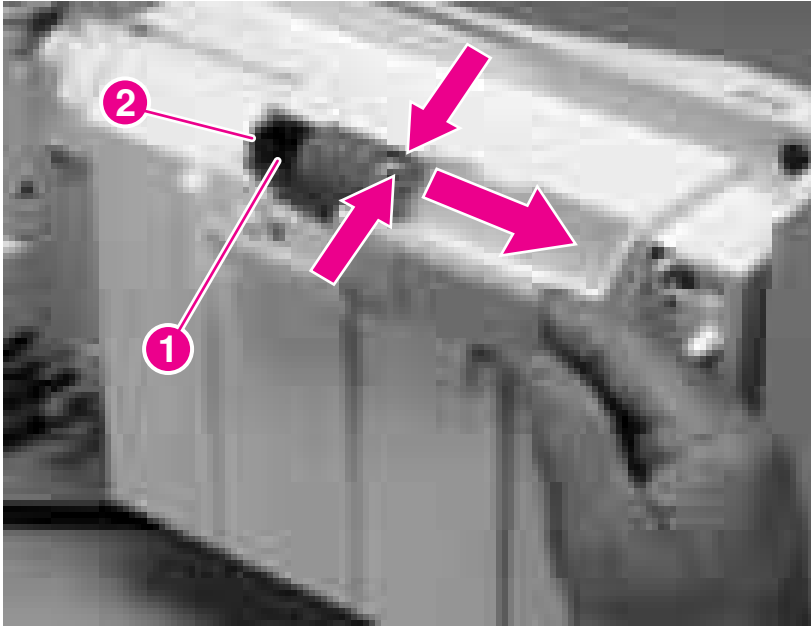


Figure 6-116 1,500-sheet feeder roller (2 of 2)



Reinstallation tip This roller must lock into place. Verify that the roller is seated on the locking bars that are located on the round black spacer and that the spacer is seated on the shaft-locking pin (callouts 1 and 2).

1,500-sheet feeder door

- 1 Remove one screw (callout 1) and remove the door-stop plate (callout 2).

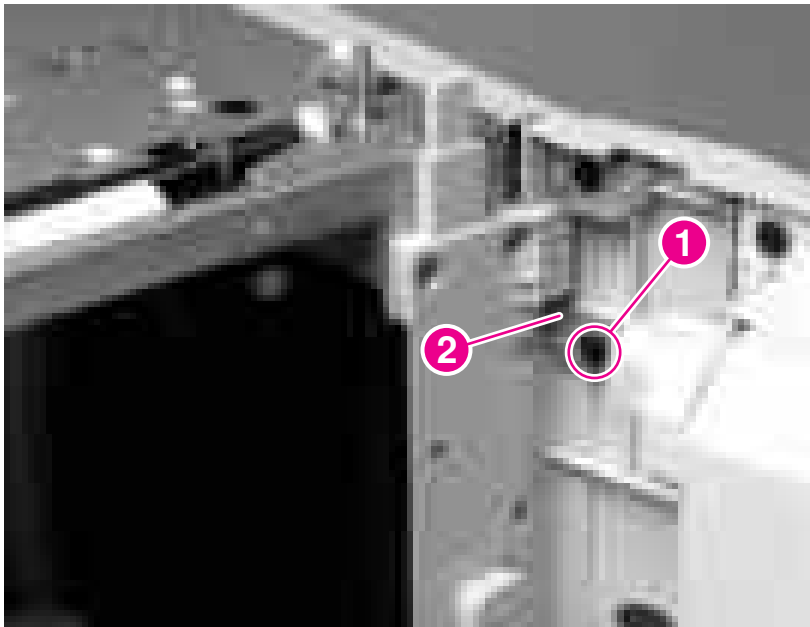


Figure 6-117 1,500-sheet feeder door (1 of 3)

- 2 Open the 1,500-sheet feeder door about halfway. Gently pry open the door slide-bar slot and disengage the door slide-bar from the feeder.

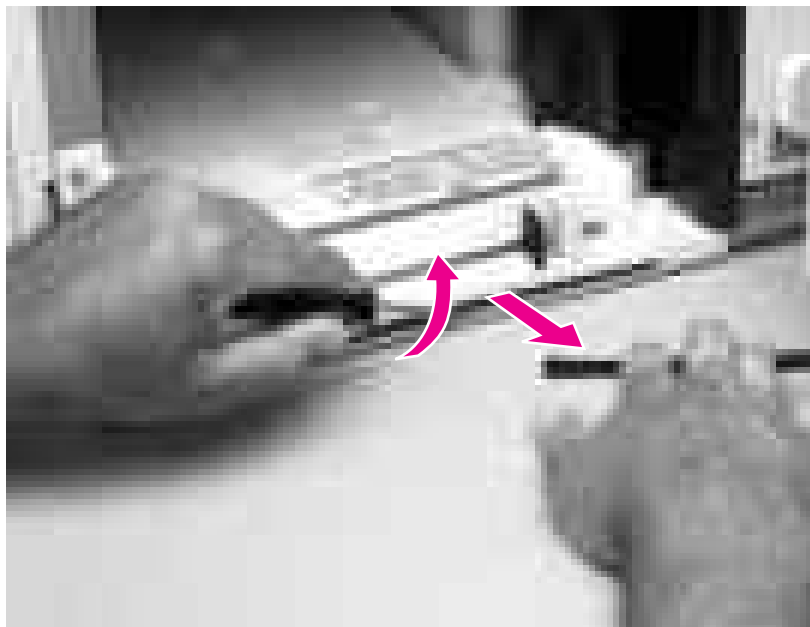


Figure 6-118 1,500-sheet feeder door (2 of 3)

- 3 Lift the door straight up and off of the door hinge pins.

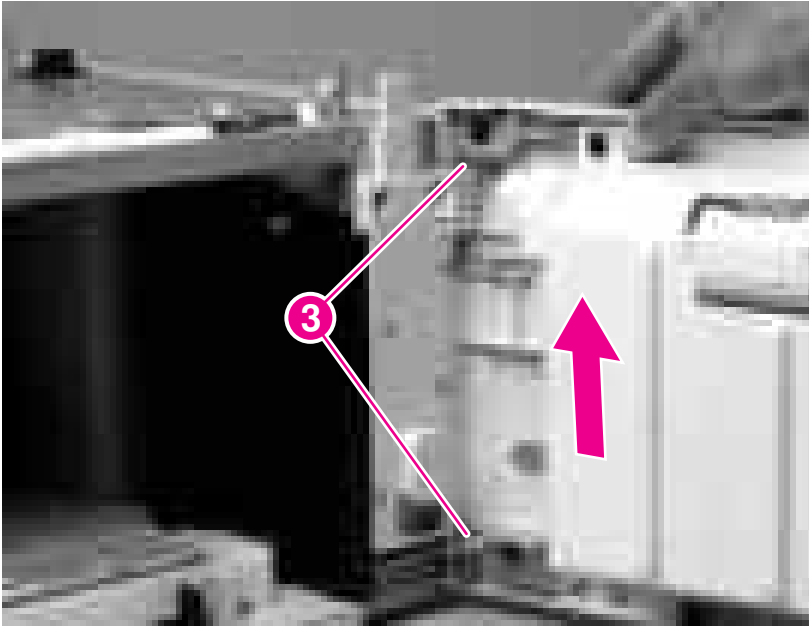


Figure 6-119 1,500-sheet feeder door (3 of 3)



NOTE The door hinge pins are not captive when the door is removed. If the feeder must be turned on its side or placed upside down, remove the hinge pins and the door spring (callout 2). Place the pins and the spring where you will not lose them.

1,500-sheet feeder rear cover

- 1 Locate the upper rear-cover locking tabs (callout 1) on each side of the rear cover. Use a flat-blade screwdriver to release these tabs.

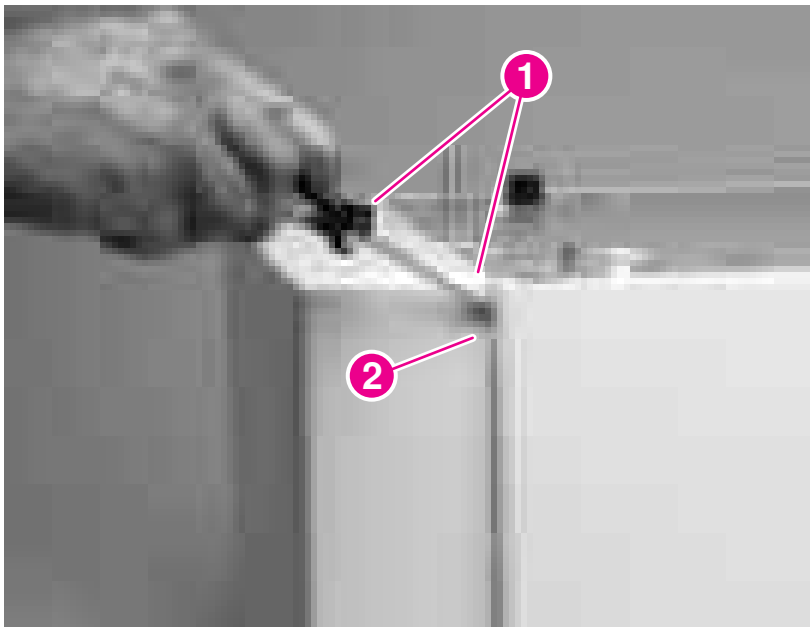


Figure 6-120 1,500-sheet feeder rear cover (1 of 2)

- 2 Rotate the top of the cover away from the feeder. Lift up on the cover to release it.

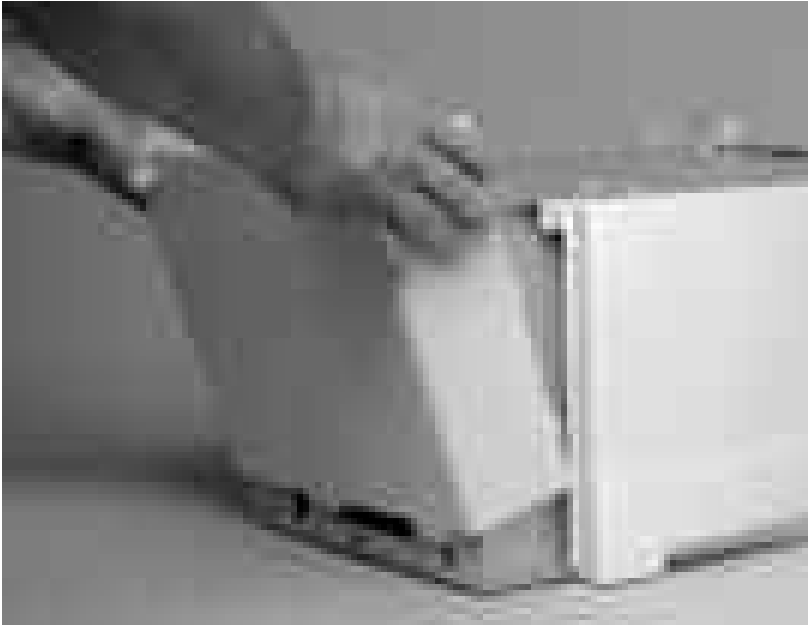


Figure 6-121 1,500-sheet feeder rear cover (2 of 2)

1,500-sheet feeder right-side cover

- 1 Remove the following assemblies:
 - Door. See [1,500-sheet feeder door](#).
 - Rear cover. See [1,500-sheet feeder rear cover](#).
- 2 Remove one screw (callout 1).

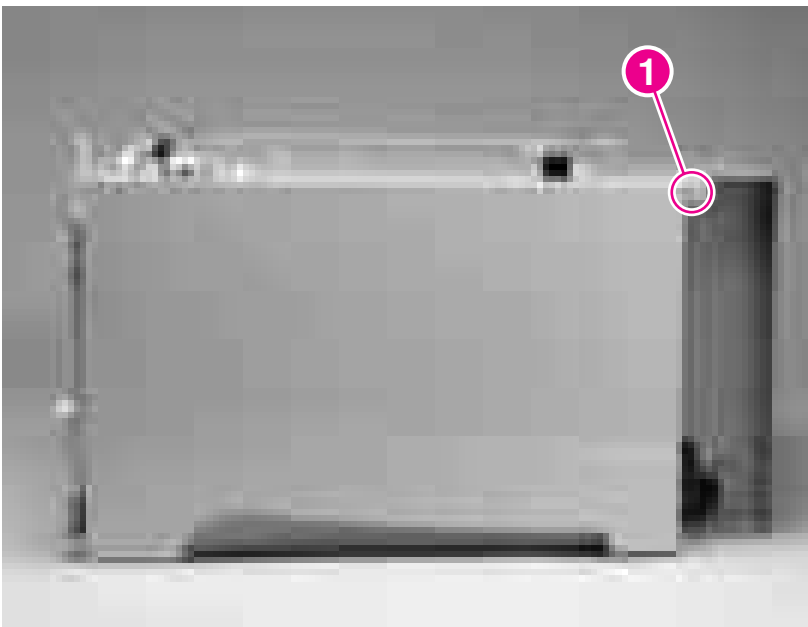


Figure 6-122 1,500-sheet feeder right-side cover (1 of 3)

- 3 Use a flat-blade screwdriver to release the cover-locking tab (on the door-hinge side; callout 2).

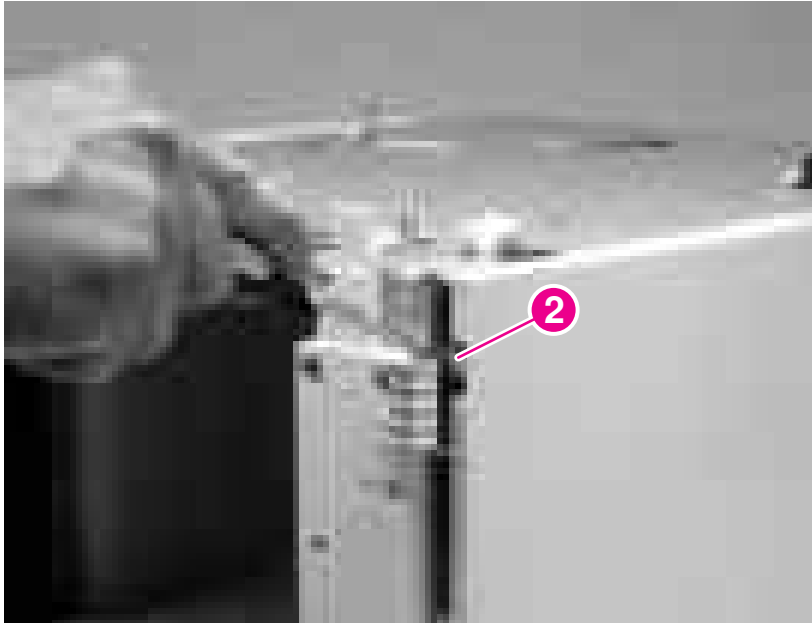


Figure 6-123 1,500-sheet feeder right-side cover (2 of 3)

- 4 Rotate the top of the cover away from the chassis and then lift it up and remove it.

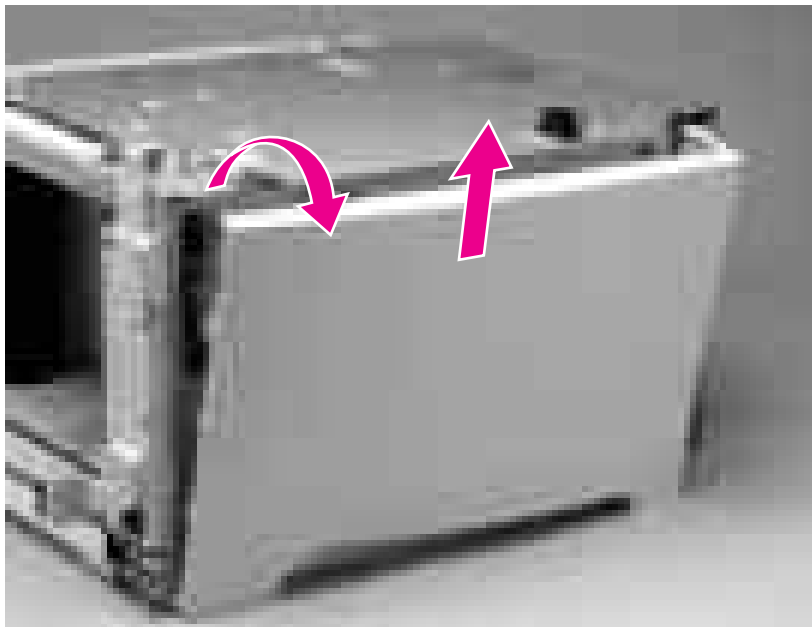


Figure 6-124 1,500-sheet feeder right-side cover (3 of 3)

1,500-sheet feeder control PCA

1 Remove the following assemblies:

- Door. See [1,500-sheet feeder door](#).
- Rear and right-side covers. See [1,500-sheet feeder rear cover](#) and [1,500-sheet feeder right-side cover](#).

2 Unplug six wire-harness connectors (callout 1).

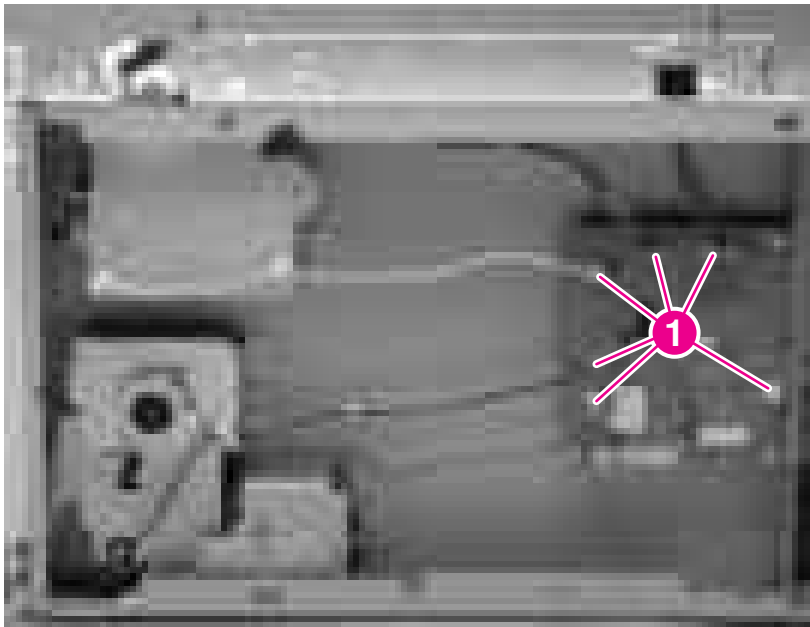


Figure 6-125 1,500-sheet feeder control PCA (1 of 2)

- 3 Remove two screws (callout 2). Use needle-nose pliers to squeeze the top of one of the nylon PCA tabs (callout 3). Gently pop the PCA off of the tab. Repeat the procedure on the remaining tab. Remove the PCA.

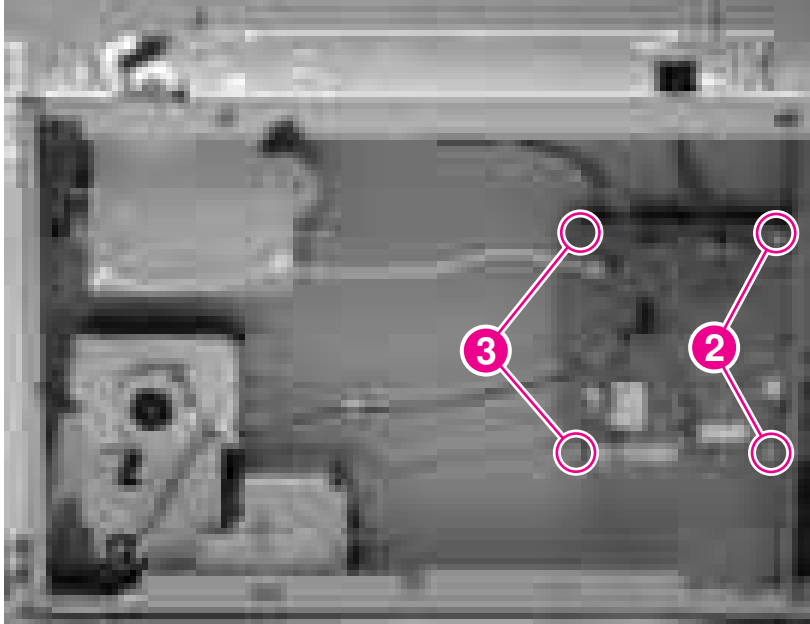


Figure 6-126 1,500-sheet feeder control PCA (2 of 2)

1,500-sheet feeder media-size sensor

1 Remove the following assemblies:

- Door. See [1,500-sheet feeder door](#).
- Rear and right-side covers. See [1,500-sheet feeder rear cover](#) and [1,500-sheet feeder right-side cover](#).

2 Unplug the sensor wire-harness at the sensor (callout 1).

3 Remove one screw (callout 2).

4 Remove the sensor.



CAUTION Two plastic locator pins are on the back of the sensor. Be careful not to break them when you remove the sensor.

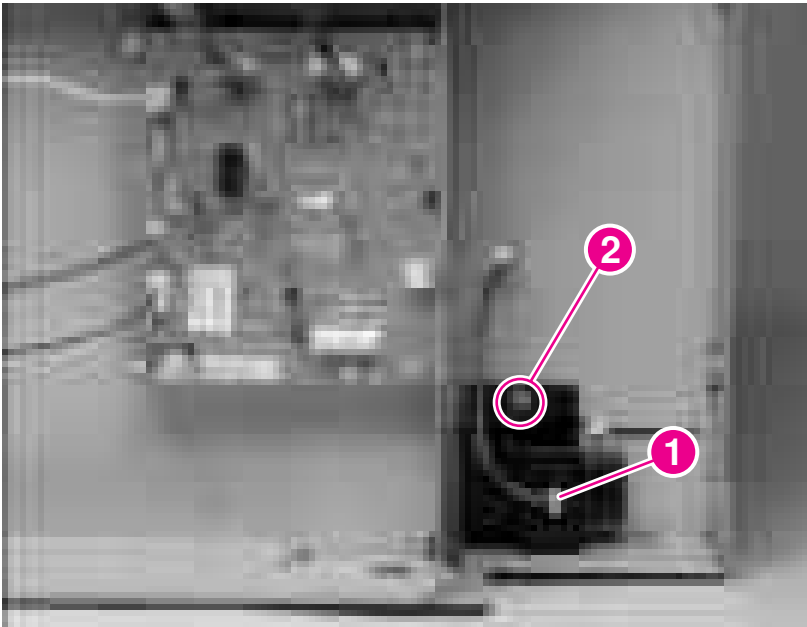


Figure 6-127 1,500-sheet feeder media-size sensor



Reinstallation tip When you reinstall the sensor, verify that the sensor body is flush with the chassis.

1,500-sheet feeder lifter-drive assembly

- 1 Remove the following assemblies:
 - Door. See [1,500-sheet feeder door](#).
 - Rear and right-side covers. See [1,500-sheet feeder rear cover](#) and [1,500-sheet feeder right-side cover](#).
- 2 Unplug the lifter-drive harness connector from the PCA (location J1003; callout 1).
- 3 Unplug the lifter-drive sensor-harness from the sensor (callout 2) and remove the sensor harness from the wire clip (callout 3).

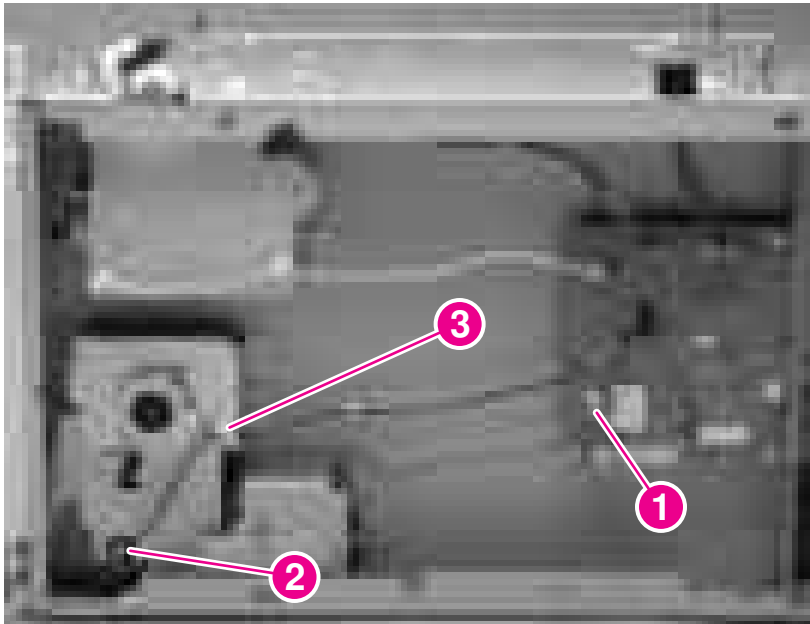


Figure 6-128 1,500-sheet feeder lifter-drive assembly (1 of 4)

- 4 Remove seven screws (callout 4) and then remove the bracket (callout 5). Slide the spring-gear assembly (callout 6) away from the chassis until the gear shaft clears the hole in the chassis, and then slide the assembly towards the rear of the feeder to remove it.

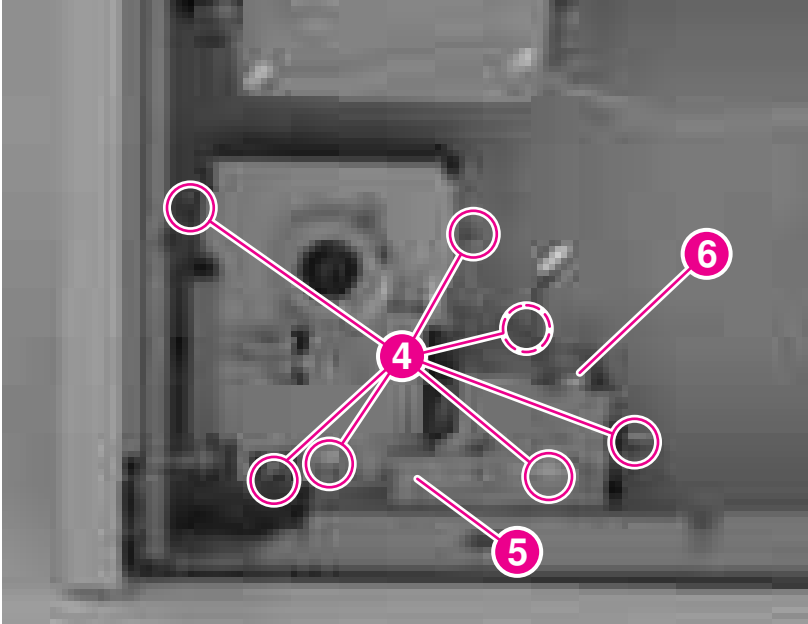


Figure 6-129 1,500-sheet feeder lifter-drive assembly (2 of 4)

- 5 Release the lifter-gear shaft-collar locking pin and rotate the collar until the inner locking tabs align with the corresponding holes in the bracket. Slide the collar off of the shaft.

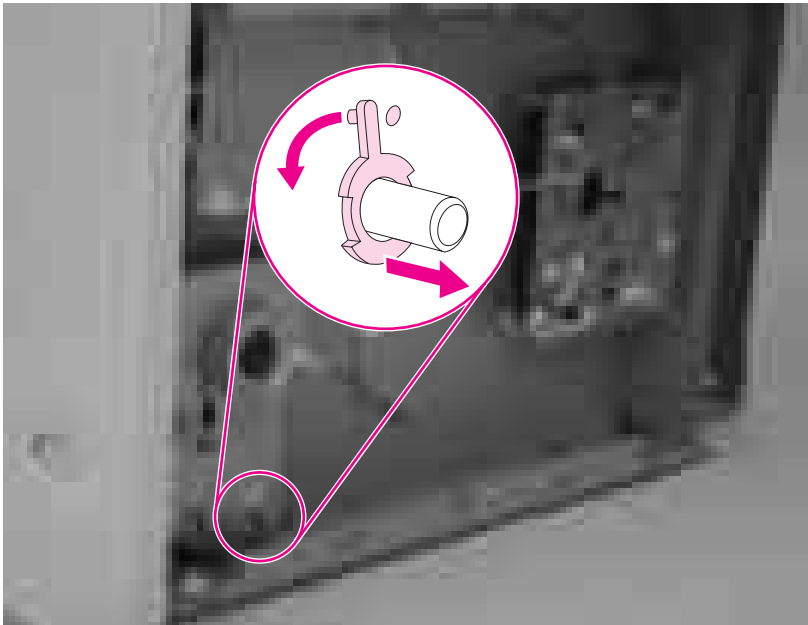


Figure 6-130 1,500-sheet feeder lifter-drive assembly (3 of 4)

- 6 Slide the lifter-drive assembly away from the chassis until the lifter-drive gear-shaft clears the corresponding hole in the bracket. Remove the assembly.

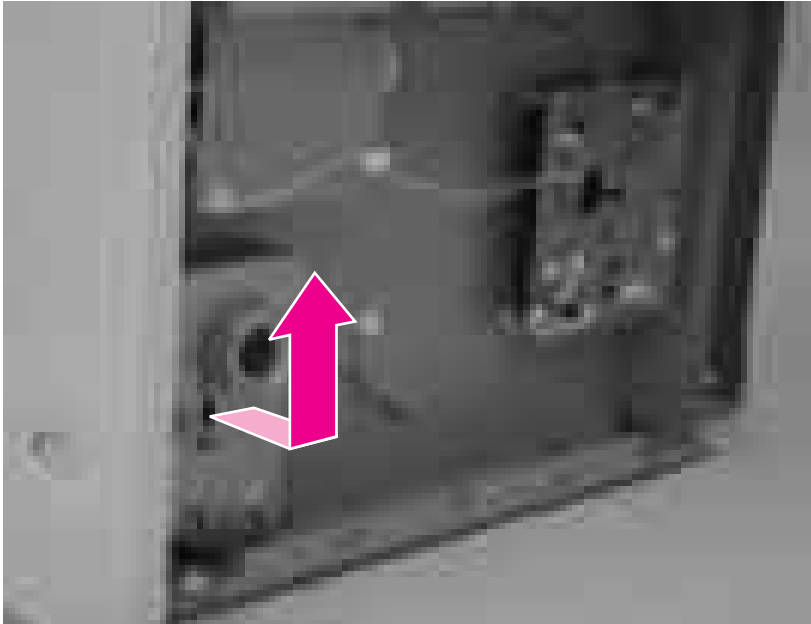


Figure 6-131 1,500-sheet feeder lifter-drive assembly (4 of 4)

1,500-sheet feeder paper-pickup drive assembly

- 1 Remove the following assemblies:
 - Door. See [1,500-sheet feeder door](#).
 - Rear and right-side covers. See [1,500-sheet feeder rear cover](#) and [1,500-sheet feeder right-side cover](#).
- 2 Unplug the paper-pickup drive-solenoid harness connector from the assembly PCA (location J1005; callout 1). Remove four screws (callout 2).
- 3 Reach inside the 1,500-sheet feeder and push the rear feed roller up into its raised position to disengage the roller lifting arm from the clutch gear.
- 4 Remove the paper-pickup drive assembly.



NOTE The top gear (callout 3) is not captive when the paper-pickup gear assembly is removed. It can easily slide off of the shaft and be lost.

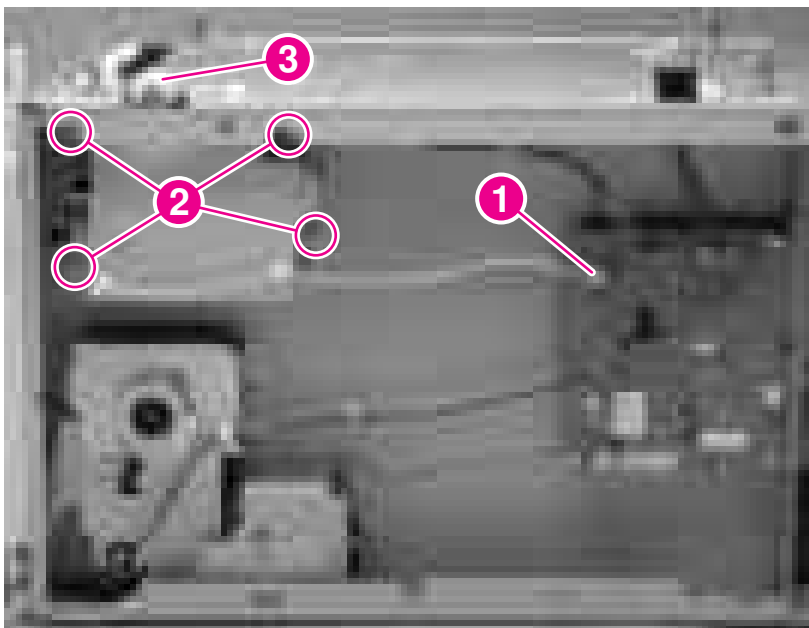


Figure 6-132 1,500-sheet feeder paper-pickup drive assembly



Reinstallation tip When you reinstall the paper-pickup drive assembly, reach up inside the 1,500-sheet feeder and push the rear feeder roller up into its raised position. Position the paper-pickup drive assembly onto the chassis (it should sit flush against the chassis) and then lower the roller into its resting position. This ensures that the feeder lever rests correctly on the clutched gear in the paper-pickup drive assembly.

7 Troubleshooting

Chapter contents

- [Introduction](#)
- [Troubleshooting process](#)
- [Troubleshooting tools](#)
- [Control-panel menus](#)
- [Printer resets and power-on modes](#)
- [Test pages](#)
- [Interface troubleshooting](#)
- [Display-message troubleshooting](#)
- [Paper-path troubleshooting](#)
- [Media transport problems](#)
- [Image-formation troubleshooting](#)
- [Troubleshooting the stacker and the stapler/stacker](#)
- [Printer-component locations](#)
- [Accessory component locations](#)
- [Printer and accessory wiring diagrams](#)
- [General timing diagrams](#)

Introduction

In order to use the information in this chapter, you should have a basic understanding of the laserjet printing process. Explanations of each mechanical assembly, the printer systems, and the basic theory of operation are contained in chapter 5 of this manual. Do not perform any of these troubleshooting processes unless you understand the function of each printer component.

This chapter contains the following sections:

- **Troubleshooting process** This section includes an initial troubleshooting checklist and a troubleshooting flowchart. These contain information about common printer errors that can inhibit operation or create print-quality problems. They also include recommendations for resolving the cause of the problem. See [Troubleshooting process](#).
- **Troubleshooting tools** This section contains information that helps to isolate the cause of printer failures. This section contains information about printing information and test pages, resetting printer options, using the diagnostics and service menus, and using the embedded Web server. See [Troubleshooting tools](#).
- **Interface troubleshooting** This section provides techniques for isolating the source of communication problems to the printer hardware, the printer configuration, the network configuration, or the software program. See [Interface troubleshooting](#).
- **Display-message troubleshooting** This section explains each control-panel-display message and suggests recommendations for resolving the cause of each message. When the printer message indicates a failure for which the root cause is not obvious, use the troubleshooting process section and the troubleshooting tools section in this chapter to solve the problem. See [Display-message troubleshooting](#).
- **Paper-path troubleshooting** This section provides information to help solve feed problems, including print media checks, jam troubleshooting checks, and information about media-caused and printer-caused jams. See [Paper-path troubleshooting](#).
- **Image-formation troubleshooting** This section explains methods for solving print-quality problems. See [Image-formation troubleshooting](#).
- **Stacker and stapler/stacker troubleshooting** This section provides information about solving stacker and stapler/stacker problems. See [Troubleshooting the stacker and the stapler/stacker](#).
- **Printer and accessory components** This section contains illustrations and tables that list the printer and accessory internal components. See [Printer-component locations](#) and [Accessory component locations](#).
- **Printer and accessory wiring diagrams** This section contains wiring diagrams for the printers and accessories. See [Printer and accessory wiring diagrams](#).
- **General timing diagrams** This section contains timing diagrams for the printer. See [General timing diagrams](#).

Troubleshooting process

When the printer malfunctions or encounters an unexpected situation, information on the printer control panel alerts you to the situation. This section contains an initial troubleshooting checklist that helps to eliminate many possible causes of the problem. The subsequent troubleshooting flowchart helps you to diagnose the cause of the problem. The remainder of the chapter provides steps for correcting the problems that have been identified.

- Use the initial troubleshooting checklist to evaluate the source of the problem and to reduce the number of steps that are required to fix the problem.
- Use the troubleshooting flowchart to pinpoint the cause of malfunctions. The flowchart lists the section within this chapter that provides steps for correcting the malfunction.

Before beginning any troubleshooting procedure, check the following:

- Are supply items (for example, the print cartridge, fuser, and rollers) within their rated life?
- Does the configuration page reveal any configuration problems? See [Configuration page](#).



NOTE The customer is responsible for checking and maintaining supplies, and for using supplies that are in good condition. The customer is responsible for media and print-cartridge supplies. The customer is also responsible for replacing the fuser, transfer roller, and all paper pickup, feed, and separation rollers (tray 1 has a separation pad instead of a roller) that are at or near the end of their 200,000-page rated life.

Initial troubleshooting checklist

The following checklist contains basic questions that you can ask the customer in order to help define the problem(s) quickly. For more information about printer and media specifications, see [Model and serial numbers](#) and [Media specifications](#).

Table 7-1 Initial troubleshooting checklist

Environment	<ul style="list-style-type: none">■ Is the printer installed in a suitable environment? See Model and serial numbers.■ Is the printer installed on a solid, level surface?■ Is the supply voltage (from the wall receptacle) within $\pm 10\%$ of the printer's rated voltage (see Model and serial numbers)?■ Is the power cord fully seated into both the printer and the electrical receptacle in the wall?■ Is the operating environment (for example, the temperature and humidity levels) within the specified parameters that are listed in chapter 1 (see Model and serial numbers)?■ Is the printer exposed to ammonia gas, such as that produced by diazo copiers or office-cleaning materials?■ Is the printer exposed to direct sunlight?
Media	<ul style="list-style-type: none">■ Is suitable media being used in the printer? See Supported media weights and sizes and Paper and print media.■ Does the customer use only supported print media?■ Is the media in good condition (no curl, folds, or other flaws)?

Table 7-1 Initial troubleshooting checklist (continued)

	<ul style="list-style-type: none">■ Is the media stored correctly and within environmental limits?■ Is the correct side of the page printed on first?■ Is long-grain paper being used?
Input trays	<ul style="list-style-type: none">■ Is the correct amount of media loaded in the tray (not stacked above the arrows embossed in the tray)?■ Is the media placed in the tray correctly?■ Are the paper guides aligned with the stack?■ Is the tray cassette installed correctly in the printer?
Print cartridge	<ul style="list-style-type: none">■ Is the print cartridge installed correctly?
Fuser	<ul style="list-style-type: none">■ Is the fuser installed correctly? See Fuser.
Covers	<ul style="list-style-type: none">■ Is the top cover closed?
Condensation	<ul style="list-style-type: none">■ Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe off the affected parts or leave the printer on for 10 to 20 minutes and then attempt to resume printing.■ Was a print cartridge opened soon after it was moved from a cold room to a warm one? If so, allow the print cartridge and the printer to acclimate to room temperature for one to two hours.
Miscellaneous	<ul style="list-style-type: none">■ Are any non-HP components installed? Check for any non-HP components (print cartridges, memory modules, and EIO cards) installed in the printer and remove them. Hewlett-Packard recommends the use of HP components in its printers.■ Remove the printer from the network, and make sure that the failure is associated with the printer before beginning troubleshooting.

Troubleshooting flowchart

The flowchart highlights the general processes that you can use to isolate and solve printer hardware problems quickly. Each heading depicts a major troubleshooting step. Proceed to the next major step or perform additional testing depending on "yes" or "no" answers.

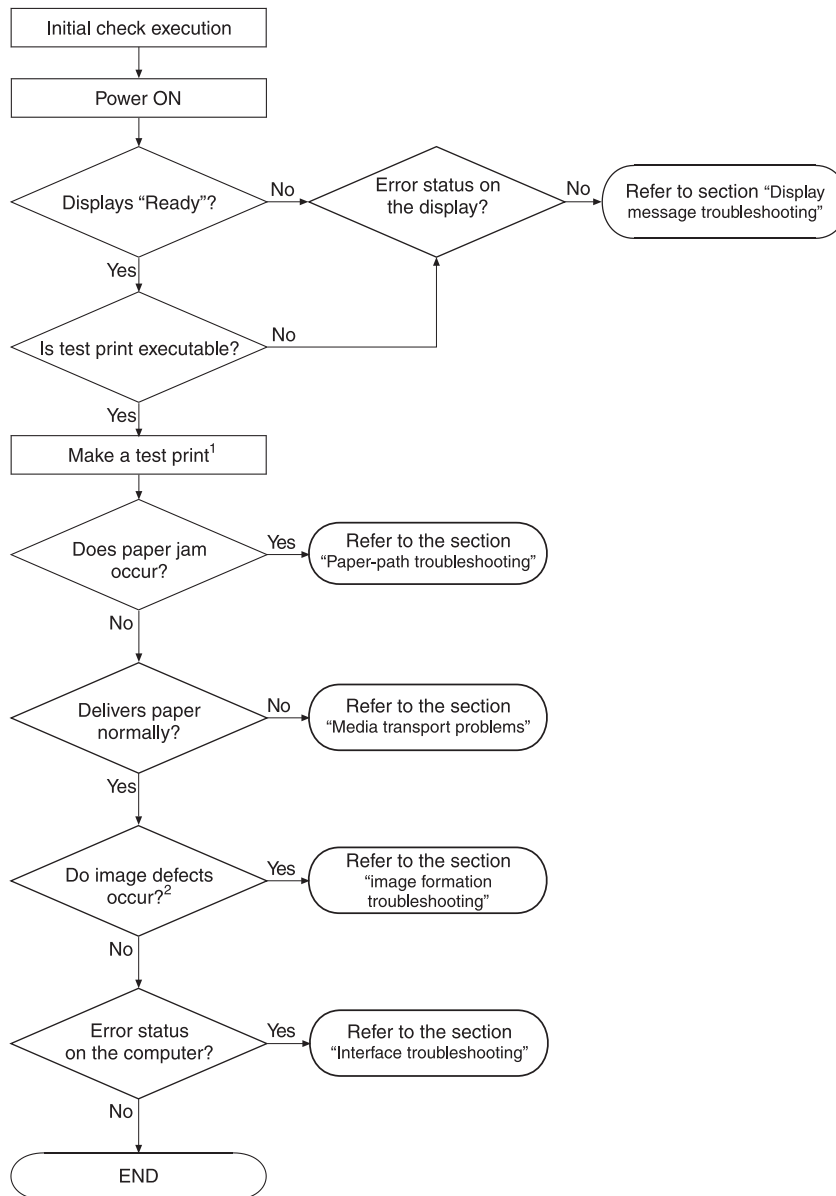


Figure 7-1 Troubleshooting flowchart

- 1 When you perform a test print, select the same input tray and delivery method that were used when the malfunction occurred. If you don't know which trays and bins were used when the malfunction occurred, then perform several test prints using all combinations of tray and delivery method.
- 2 Image defects that occurred at the user site might not re-occur in test prints. Try printing from a computer to replicate the image defect.

Power-on checks

The basic printer functions should start up as soon as the printer is plugged into an electrical receptacle and the power switch is pushed to the *on* position.

Overview

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

During normal printer operation, the main cooling fan begins to spin briefly after the printer power is turned on. Place your hand over the holes in the left-side cover. If the fan is operating, you will feel a slight vibration and feel air passing into the printer. You can also lean close to the printer and hear the fan operating. When this fan is operational, the dc side of the power supply is functioning correctly.

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

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

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

- 1 Make sure that the printer is plugged into an active electrical outlet receptacle that delivers the correct voltage.
- 2 Make sure that the on/off switch is in the *on* position.
- 3 Make sure that the fan runs briefly, which indicates that the power supply is operational.
- 4 Make sure that the control-panel display wire-harness is connected. See the hint in the procedure for [Top cover](#).
- 5 (HP LaserJet 4200 and 4300 Series printers only) Make sure that the firmware DIMM and the formatter are seated and operating correctly. See [Firmware DIMM \(LJ 4200/4300 only\)](#).
- 6 Remove any HP Jetdirect or other EIO cards, and then try to turn the printer on again.



NOTE If the printer control-panel display is blank, but the main cooling fan runs briefly after the printer power is turned on, try printing an engine test page to determine whether the problem is with the control-panel display, formatter, or other printer components. See [Engine-test page](#).

If the main cooling fan is not operating, check the following items.

- 1 Check the fuse on the power supply (location FU2; near the power switch) to make sure that it is not open.
- 2 If necessary, replace the power-supply assembly. See [Power supply](#).
- 3 If necessary, replace the dc controller PCA. See [Dc controller PCA](#).



NOTE It is important to have the printer control panel functional as soon as possible in the troubleshooting process so that the control-panel display can be used to help locate printer errors.

If problems with the power-on check persist refer to table [Table 7-2 Power-on defect or blank display](#).

Table 7-2 Power-on defect or blank display

Problem	Action
The power cord is not plugged into the wall receptacle and connected to the printer.	Make sure that the power cord is firmly plugged into the wall receptacle and connected to the printer.
The correct voltage (power) is not available.	Measure the voltage at the outlet. If necessary, plug the power cord into another circuit outlet.
The power switch is off.	<p>Set the switch to the <i>on</i> position. You should hear the switch toggle. If the front right-side cover has been removed recently, make sure that the rod connecting the power-supply switch moves as you toggle the switch. See the reinstall note in Right-side cover.</p> <p>If the printer still does not turn on, the power switch might be defective.</p> <ol style="list-style-type: none">1 Remove the power supply.2 Measure the resistance between the two terminals of the power switch (SW1) by applying the tester probes to the terminals. The resistance must be low (under 1 KW) when the power is turned on, and high (over 6 MW) when the switch is turned off.3 Replace the power-supply assembly, if necessary.
The overcurrent/overvoltage detection circuit is activated.	Wait for more than two minutes before turning the printer back on.
A fuse is blown.	<ol style="list-style-type: none">1 Check the fuses (FU1 and FU2) on the power supply.2 Replace the power-supply assembly if necessary.
The main cooling fan (located on the left side of the printer) does not turn on when the printer is started.	<p>An operational fan indicates the following conditions:</p> <ul style="list-style-type: none">■ The ac power is present in the printer.■ The dc power supply is functional (24 V, 5 V, and 3.3 V are being generated).■ The dc controller's microprocessor is functional. <p>If the fan is not working:</p> <ol style="list-style-type: none">1 Turn the printer off and remove the formatter. Disconnect the optional accessories.2 Turn the printer on and check the fan again. <p>If the fan is still not working:</p> <ol style="list-style-type: none">1 Verify that the fan is connected to the power supply.2 Replace the fan. See Main cooling fan (left side).

Table 7-2 Power-on defect or blank display (continued)

Problem	Action
	<ol style="list-style-type: none">3 Replace the power-supply assembly. See Power supply.4 Replace the dc controller. See Dc controller PCA.
	<p>Note:</p> <p>The fan only operates during the initial startup and while printing, and when the temperature inside the printer is too high. If the temperature is too high, the fan turns on to cool the inside of the printer.</p>
The fan works, but the control-panel display is blank.	<ol style="list-style-type: none">1 Print an engine test. Engine-test page.2 If the engine test is successful, perform the following steps, in order.<ul style="list-style-type: none">• Reseat the control panel and formatter connector. See Control-panel assembly and Formatter assembly.• Replace the control-panel cable. See Control-panel assembly.• Replace the control-panel assembly. See Control-panel assembly.• (HP Laserjet 4200 and 4300 Series printers only) Replace the firmware DIMM. See Firmware DIMM (LJ 4200/4300 only).• Replace the formatter. See Formatter assembly.3 If the engine test is not successful, remove the formatter and attempt to perform the engine test again. If the engine test is successful with the formatter removed, replace the formatter. See Formatter assembly. If the test is not successful with the formatter removed, replace the dc controller PCA. See Dc controller PCA.

Troubleshooting tools

Press **✓** (**SELECT** button) or the **MENU** button to open the menus. Use **▲** (**UP ARROW** button) or **▼** (**DOWN ARROW** button) to scroll through the menus that appear. For more information about control-panel menus, see [Control-panel menus](#). The high-level menus appear in the following order:

- **RETRIEVE JOB**
- **INFORMATION**
- **PAPER HANDLING**
- **CONFIGURE DEVICE**
- **DIAGNOSTICS**
- **SERVICE**

Information pages

- 1 Press ✓ (SELECT button) or the MENU button to open the menus.
- 2 Press ▼ (DOWN ARROW button) to scroll to **INFORMATION**.
- 3 Press ✓ to select **INFORMATION**.
- 4 Press ▼ to scroll to a listed information page. The following pages are available:

-
- | | |
|-------------------|-----------------|
| • Menu map | • Usage page |
| • Configuration | • PCL font list |
| • Supplies status | • PS font list |
| • File directory | |
-

- 5 Press ✓ to select and print the selected information page.

The informational pages for the printer are also available in the embedded Web server. Not all information pages are discussed in detail in this manual. For more information, see the *HP LaserJet 4200/4300 Use Guide* or the *HP LaserJet 4250/4350 Use Guide*. The following are the information pages.

- **Menu map:** A menu map shows how individual items are configured within the high-level (user-set values) menus. The last page of the menu map series contains instructions about how to use the control-panel buttons. *Print a menu map before changing printer settings or before replacing the formatter assembly.*
- **Configuration page:** The configuration page lists printer configuration information. For example, the printer serial number and tray size settings appear on the configuration page. *Print a configuration page before servicing the printer to help restore values after servicing the printer.*
- **Supplies status:** This page shows the levels of the printer supplies, a calculation of the number of pages that can be printed before the supplies are replaced, and cartridge-usage information.
- **File directory:** This page provides information about files on the RAM disk or installed EIO disk drives and flash DIMMs if those memory accessories are installed.
- **Usage page:** The usage page is only available if an optional hard disk is installed. It provides useful accounting information (for example, the number of pages of various paper sizes that have been used and data that can be used to calculate toner usage).
- **PCL font list:** This page lists the PCL fonts that are installed in the printer memory. This page also lists fonts on an optional hard-disk accessory or flash DIMM if those memory accessories are installed.
- **PS font list:** This page lists the PS fonts that are installed in the printer memory. This page also lists fonts on an optional hard-disk accessory or flash DIMM if those memory accessories are installed.

Menu map

Use the menu map to help navigate the printer submenus and select configuration settings. Printing a menu map is very helpful when you are changing numerous printer settings.

- 1 Press ✓ (SELECT button) or the MENU button to open the menus.
- 2 Use ▲ (UP ARROW button) or ▼ (DOWN ARROW button) to scroll to **INFORMATION**, and then press ✓.
- 3 Use ▲ or ▼ to scroll to **MENU MAP**, and then press ✓.

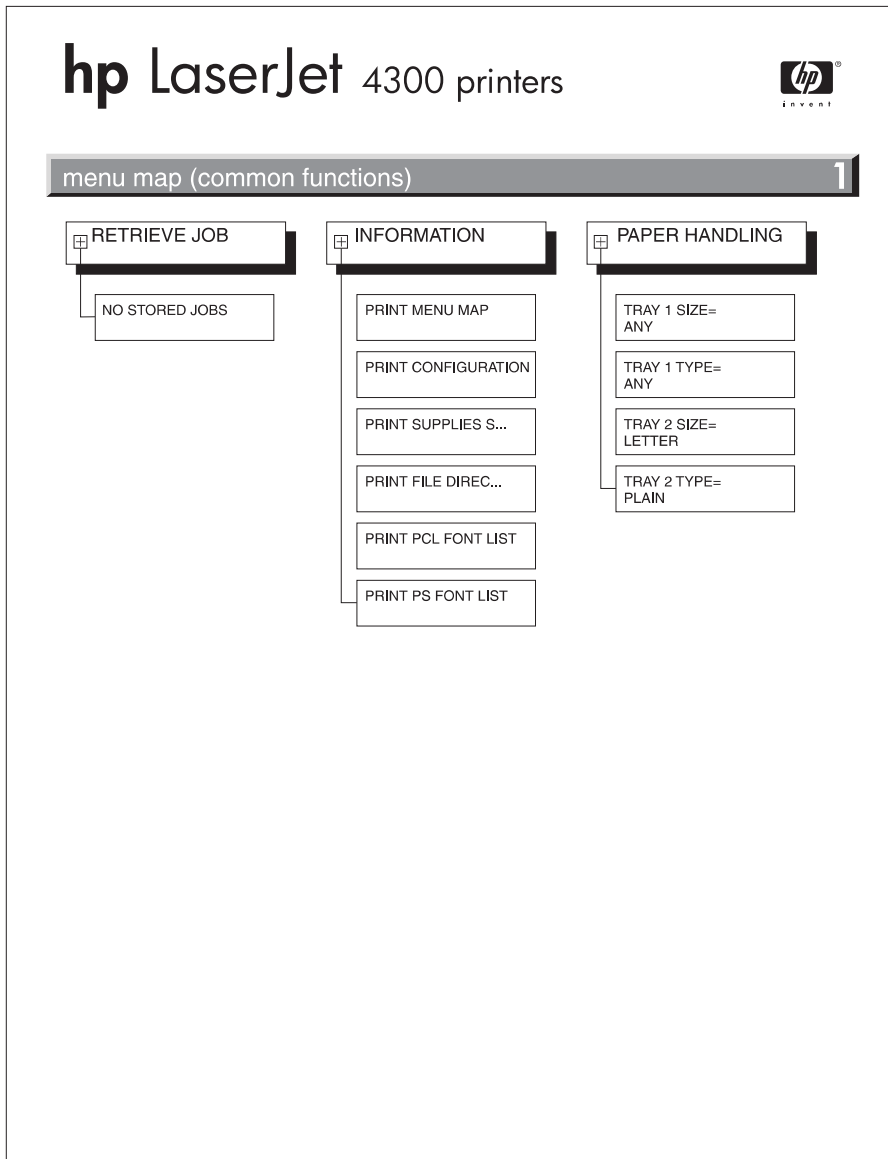


Figure 7-2 Sample menu map page (HP LaserJet 4300 Series printer menu map page is shown)

Configuration page

Use the configuration page to view current printer settings, to help troubleshoot printer problems, or to verify installation of optional accessories, such as memory (DIMMs), trays, and printer languages. The content of the configuration page varies, depending on the options currently installed in the printer. To decode the service identification information on the configuration page, see [Converting the Service ID to an actual date](#).



NOTE If an HP Jetdirect print server is installed, a network configuration page also prints. HP LaserJet 4200n/tn/dtn/dtns/dtnsL, 4250n/tn/dtn/dtnd/dtnsL, 4300n/tn/dtn/dtns/dtnsL, and 4350n/tn/dtn/dtns/dtnsL printers come with a print server installed.

- 1 Press \checkmark (**SELECT** button) or the **MENU** button to open the menus.
- 2 Use \blacktriangle (**UP ARROW** button) or \blacktriangledown (**DOWN ARROW** button) to scroll to **INFORMATION**, and then press \checkmark .
- 3 Use \blacktriangle or \blacktriangledown to scroll to **PRINT CONFIGURATION**, and then press \checkmark .

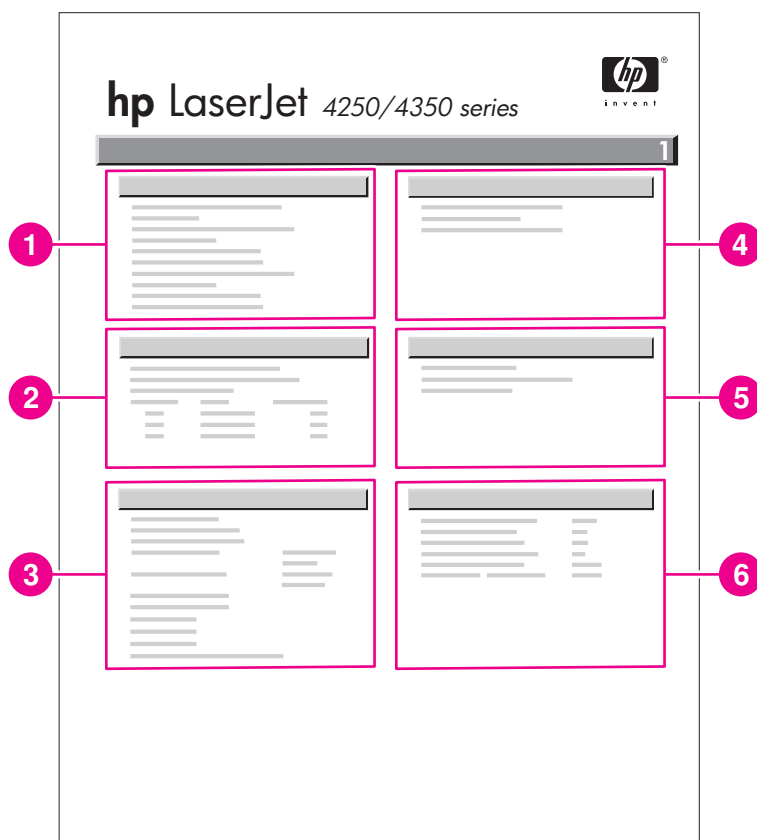


Figure 7-3 Configuration page (HP LaserJet 4250/4350 Series printer configuration page is shown)

1	Printer Information Lists the serial number, page counts, printer number (dc controller revision), service ID (see Service ID), and other printer information
2	Event log Lists the three most recent event log entries (numeric codes for printer events)
3	Personalities and options Lists installed personalities and options (such as PS and PCL languages) and installed optional DIMM(s) or EIO accessories

4	Memory Lists the printer memory and I/O buffering and resource saving information
5	Security Lists the status of the control-panel lock, control-panel password, and any disk drives
6	Paper trays and options Lists the size and type settings for all trays and lists optional paper-handling accessories that are installed

Supplies status page

Use the supplies status page to obtain information about the print cartridge that is installed in the printer, the amount of life left in the print cartridge, and the number of pages and jobs that have been processed. The page also lets you know when you should perform the next preventive maintenance.

- 1 Press \checkmark (**SELECT** button) or the **MENU** button to open the menus.
- 2 Use \blacktriangle (**UP ARROW** button) or \blacktriangledown (**DOWN ARROW** button) to scroll to **INFORMATION**, and then press \checkmark .
- 3 Use \blacktriangle or \blacktriangledown to scroll to **PRINT SUPPLIES STATUS PAGE**, and then press \checkmark .

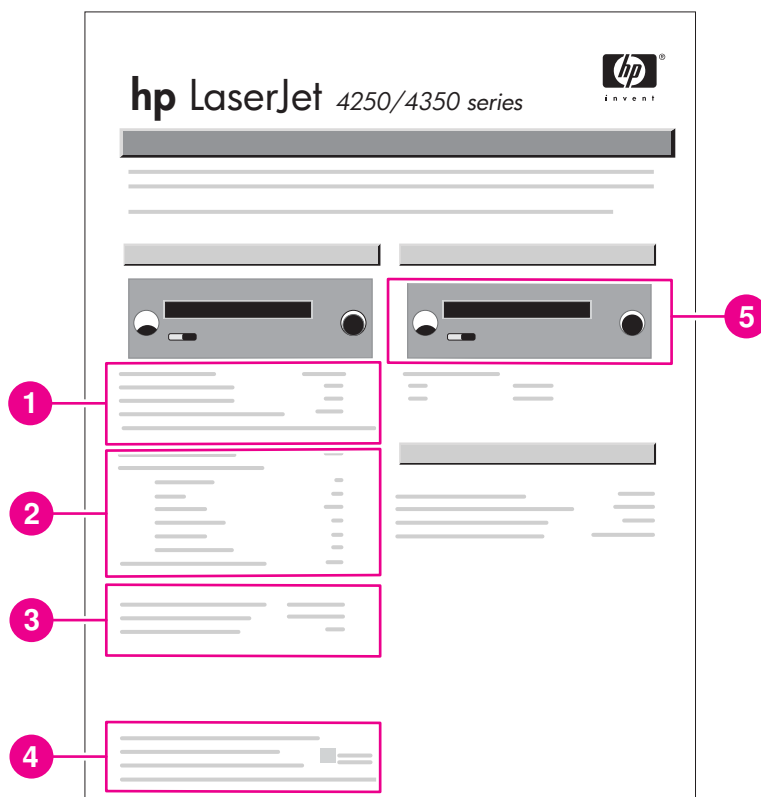


Figure 7-4 Supplies status page (HP LaserJet 4200/4300 supplies status page is shown)

1	Supplies Web site Lists the Web site for ordering supplies over the Internet
2	Cartridge information Provides information about the amount of toner available in the print cartridge, and shows the print-cartridge part number and estimated pages that can be printed for the amount of toner in the cartridge
3	Printing statistics Lists statistics about the total number of pages and jobs that have been processed using this print cartridge, the first and last use date for the cartridge, and the print cartridge serial number
4	Recycle Web site Lists the Web site for information about returning used HP print cartridges
5	Maintenance kit gauge Shows a gauge to let you know the remaining life of the maintenance kit components

Embedded Web server

When the printer is directly connected to a computer, the embedded Web server is supported for Windows 95 and later. In order to use the embedded Web server with a direct connection, you must select the Custom installation option when you install the printer driver. Select the option to load Printer Status and Alerts. The proxy server is installed as part of the Printer Status and Alerts software.

When the printer is connected to the network (by using a HP Jetdirect print server EIO card), the embedded Web server is automatically available.

Use the embedded Web server to view printer and network status and to manage printing functions from your computer instead of from the printer control panel. The following are examples of what you can do through the embedded Web server:

- View printer status information.
- Specify the type of media that is loaded in each tray.
- Determine the remaining life for all supplies and order new supplies.
- View and change tray configurations.
- View and change the printer control-panel menu configurations.
- View and print internal pages.
- Receive notification of printer and supplies events.
- View and change the network configuration.

To use the embedded Web server, you must have Microsoft Internet Explorer 4 or later or Netscape Navigator 4 or later. The embedded Web server works when the printer is connected to an IP-based network. The embedded Web server does not support IPX-based printer connections. You do not have to have Internet access to open and use the embedded Web server.

Gaining access to the embedded Web server

In a supported Web browser on your computer, type the IP address for the printer. (To find the IP address, print a configuration page.)



NOTE After you navigate to the URL, you can bookmark it so that you can return to it quickly in the future.

The embedded Web server has three tabs that contain settings for and information about the printer: the **Information** tab, the **Settings** tab, and the **Network** tab. Click the tab that you want to view. See the following sections for more information about each tab.

Information tab

The **Information** tab contains the following pages:

- **Device Status.** Shows the printer status and the life that remains in HP supplies (0% represents that a supply is empty). This page also shows the type and size of print media set for each tray. To change the default settings, click **Change Settings**.
- **Configuration page.** Shows the information that is contained on the printer Configuration page.

- **Supplies Status.** Shows the life that remains in HP supplies (0% represents that a supply is empty). This page also provides supplies part numbers. To order new supplies, click **Order Supplies** in the **Other Links** area on the left side of the window. To visit this or any Web site, you must have Internet access.
- **Event log.** Shows a list of all printer events and errors.
- **Usage page.** Shows a summary of the number of pages the printer has printed, grouped by size and type (this page is only available if an optional hard disk is installed).
- **Device Information.** Shows the printer network name, address, and model information. To change these entries, click **Device Information** on the **Settings** tab.

Settings tab

Use the **Settings** tab to configure the printer from your computer. The **Settings** tab can be password protected. If the printer is on a network, always consult with the network administrator before changing settings on this tab.

The **Settings** tab contains the following pages.

- **Configure Device.** Use this page to configure all of the printer settings. This page contains the traditional printer menus: **Information**, **Paper Handling**, **Configure Device**, and **Diagnostics**.
- **Alerts.** (On networks only.) Use this page to establish e-mail alerts for various printer and supplies events.
- **E-mail.** (On networks only.) Use this page in conjunction with the Alerts page to set up incoming and outgoing e-mail, as well as to establish e-mail alerts.
- **Security.** Use this page to set a password that must be typed to gain access to the **Settings** and **Networking** tabs. Also use it to enable and disable certain features of the embedded Web server.
- **Other Links.** Use this page to add or customize a link to another Web site. The link you establish appears in the **Other Links** area on all embedded Web server pages. The following permanent links always appear in the **Other Links** area: HP Instant Support, Order Supplies, and Product Support.
- **Device Information.** Use this page to name the printer and assign an asset number to it. Use the name and e-mail address for the primary contact who will receive information about the printer.
- **Language.** Use this page to specify the language in which the embedded Web server information appears.

Networking tab

The network administrator uses this tab to control network-related settings for the printer when it is connected to an IP-based network. This tab does not appear if the printer is directly connected to a computer, or if the printer is connected to a network with anything other than an HP Jetdirect print server.

Other links

This section of the embedded Web server contains links that connect you to the Internet. You must have Internet access in order to use any of these links. If you use a dial-up connection and did not connect when you first opened the embedded Web server, you must connect before you can visit these Web sites. Connecting to the Internet might require that you close your Web browser and reopen it.

- **HP Instant Support** connects to the HP Web site to help you find solutions. This service analyzes your printer error log and configuration information to provide diagnostic and support information that is specific to your printer.
- **Order Supplies** connects to the HP Web site so you can order genuine HP supplies, such as print cartridges and paper.
- **Product Support** connects to the support site for the HP LaserJet 4200/4250/4300/4350 printer, where you can search for help regarding general topics.

Printer Status and Alerts software

Printer Status and Alerts is supported only for Windows 95 and later versions.

The Printer Status and Alerts software is available to users of both networked and directly connected printers. To use Printer Status and Alerts software with a directly connected computer, you must select the Custom installation option when you install the printer driver, and then select the option to install Printer Status and Alerts. For network connections, Printer Status and Alerts is installed automatically with the Typical software installation option.

Use this software to view the embedded Web server information for a particular printer. Printer Status and Alerts also generates messages on the computer that explain the status of the printer and print jobs. Depending on how the printer is connected, you can receive different messages.

- **Networked printers.** You can receive regular job-status messages that appear every time a print job is sent to the printer or every time the print job is complete. You can also receive alert messages. These messages appear when you are printing to a particular printer if that printer experiences a problem. In some cases, the printer can continue to print (such as when a tray that is not being used is open, or a print cartridge is low). In other cases, a problem might prevent the printer from printing (such as when paper is out, or a print cartridge is empty).
- **Directly connected printers.** You can receive alert messages that appear when the printer experiences a problem but can continue printing or a problem that prevents it from printing. You can also receive messages that indicate that the print cartridge is low.

You can set alert options for a single printer that supports Printer Status and Alerts, or you can set alert options for all printers that support Printer Status and Alerts. For networked printers, these alerts only appear for your jobs.

Even if you set alert options for all printers, not all of the selected options will apply to all printers. For example, when you select the option to notify you when the print cartridges are low, directly connected printers that support Printer Status and Alerts generate a message when the print cartridges are low. However, none of the networked printers generate this message unless the alert affects a user-specific job.

To select status messages

- 1 Open Printer Status and Alerts in one of these ways:
 - Double-click the **Printer Status and Alerts** tray icon, which is near the clock in the Tray Manager.
 - On the **Start** menu, click **Programs**, click **Printer Status and Alerts**, and then click **Printer Status and Alerts**.
- 2 Click the **Options** icon on the left side of the window.
- 3 In the **For** field, select the printer driver for this printer, or select **All Printers**.
- 4 Clear the options for the messages that you do not want to appear, and select the options for the messages that you do want to appear.
- 5 In **Status check rate**, select how frequently you want the software to update the printer-status information that the software uses to generate the messages. The status check rate might not be available if the network administrator has restricted the rights to this function.

To view status messages and information

On the left side of the window, select the printer for which you want to see information. The information that is provided includes status messages, supplies status, and printer capabilities. You can also click the job history (clock) icon at the top of the window to view a list of previous jobs that were sent to the printer from your computer.

Control-panel menus

Use the control-panel menus to control various printer functions. For example, you can use the **RESETS** submenu to quickly reset and restore most of the factory default printer settings. Not all of the available menus are described in this manual. For more information about control-panel menus, see [Control-panel menus](#).

Using control-panel menus


- 1 Press ✓ (SELECT button) or the MENU button to open the menus.
- 2 Use ▲ (UP ARROW button) or ▼ (DOWN ARROW button) to scroll to the menu that you want, and then press ✓.
- 3 Some menus might have several submenus. Use ▲ or ▼ to scroll to the submenu item that you want, and then press ✓.
- 4 Use ▲ or ▼ to scroll to the setting, and then press ✓. An asterisk (*) appears next to the selection on the display, indicating that it is now the default. Some settings change rapidly if ▲ or ▼ is held down.
- 5 Press PAUSE/RESUME to close the menu.

Resets submenu

To find the **RESETS** submenu, use the control panel to open the **CONFIGURE DEVICE** menu (see [Using the control panel](#)). Items on the Resets submenu are used to return settings to the defaults and to change settings such as **PowerSave/Sleep**.

The following section lists the settings and their possible values in the **RESETS** submenu. The default value for each setting is the one that has an asterisk (*) next to it.

Table 7-3 Resets submenu

Item	Values	Explanation
RESTORE FACTORY SETTINGS	No values available	Performs a simple reset and restores most of the factory (default) settings. This item also clears the input buffer for the active I/O. Restoring factory settings does not affect the network parameter settings on the optional HP Jetdirect print server.  CAUTION Restoring memory during a print job cancels the print job.
POWERSAVE (HP LaserJet 4200/4200L/4300 only)	OFF* ON	Turns the PowerSave/Sleep mode on or off. The PowerSave/Sleep mode affects the printer in two ways: <ul style="list-style-type: none">■ Minimizes the amount of power that the printer consumes when it is idle.■ Reduces wear on the electronic components in the printer (for example, it turns off the display backlight, although the display can still be read). The printer automatically leaves the PowerSave/Sleep mode when you send a print job, press a printer control panel button, open a tray, or open the top cover. You can set the amount of time that the printer remains idle before it enters the PowerSave/Sleep mode. For more information see System Setup submenu .
SLEEP (HP LaserJet 4250/4350 only)		

Diagnostics menu

Administrators can use this menu to isolate parts and to troubleshoot jam and print-quality issues.

The following section lists the settings and their possible values in the **DIAGNOSTICS** menu. The default value for each setting is the one that has an asterisk (*) next to it.

Table 7-4 Diagnostics menu

Item	Values	Explanation
PRINT EVENT LOG	No values available	Press ✓ (SELECT button) to generate a list of the 50 most recent entries in the event log. The printed event log shows the error number, page count, error code, and description or personality that was in use when the event occurred.
SHOW EVENT LOG	No values available	Use ▲ (UP ARROW button) or ▼ (DOWN ARROW button) to scroll through the event log contents.
PAPER PATH TEST	No values available	Generate a test page, which is useful for testing the paper-handling features of the printer.
<ul style="list-style-type: none"> ■ PRINT TEST PAGE ■ SOURCE ■ DESTINATION ■ DUPLEX ■ COPIES 	<ul style="list-style-type: none"> ■ PRINT TEST PAGE ■ SOURCE <ul style="list-style-type: none"> ■ ALL_TRAYS ■ TRAY 1 ■ *TRAY 2 ■ TRAY <N> ■ DESTINATION <ul style="list-style-type: none"> ■ ALL BINS ■ *STANDARD ■ OUTPUT ■ OPTIONAL BIN 1 	<p>Press ✓ (the SELECT button) to start the paper-path test that uses the source (tray), destination (output bin), duplex, and number of copies settings that you set in the other items on the Paper Path Test menu. Set the other items before selecting PRINT TEST PAGE.</p> <p>Select the tray for the paper path that you want to test. You can select any tray that is installed. Select ALL_TRAYS to test the paper path for every tray. (Paper must be loaded in the selected trays.)</p> <p>Select the output bin for the paper path that you want to test. You can select any output bin that is installed. Optional bins (stacker or stapler/stacker bin) must also be correctly configured. Select ALL BINS to test the paper path for every bin.</p>

Table 7-4 Diagnostics menu (continued)

Item	Values	Explanation
	<ul style="list-style-type: none">■ DUPLEX<ul style="list-style-type: none">■ *OFF■ ON	Determine whether or not the paper goes through the duplexer during the paper path test. This item is available only if the duplexer is installed.
	<ul style="list-style-type: none">■ COPIES<ul style="list-style-type: none">■ *1■ 10■ 50■ 100■ 500	Set how many sheets of paper are used from each tray during the paper-path test. If you are testing the stapling function of the optional stapler/stacker (DESTINATION item OPTIONAL BIN 1), you must select 10 copies.

Service menu (service PIN codes)

Authorized HP service technicians can use this menu to gain access to printer settings that are reserved for service personnel. The service menu is protected by use of a personal identification number (PIN). When you select **SERVICE** from the list of menus, you are prompted to type an eight-digit PIN code.



NOTE The printer automatically exits the service menu after about one minute if no menu items are selected or changed.

Use the PIN codes provided in the table [Table 7-5 Service PIN codes](#)

Table 7-5 Service PIN codes

Printer model	PIN code
HP LaserJet 4200 Series printer	11420002
HP LaserJet 4250 Series printer	09425004
HP LaserJet 4300 Series printer	11430002
HP LaserJet 4350 Series printer	09435004

- 1 Press **✓** (**SELECT** button) or the **MENU** button to open the menus.
 - 2 Use **▲** (**UP ARROW** button) or **▼** (**DOWN ARROW** button) to scroll to **SERVICE**, and then press **✓**.
 - 3 Press **▲** or **▼** until the first digit of the PIN code appears. Press **✓** to save that digit. Repeat this selection procedure until you have typed the entire eight-digit PIN code. You can use **↶** (**BACK ARROW** button) to return to a PIN digit. When the last digit is saved, the service submenu appears on the control-panel display.
 - 4 Use **▲** or **▼** to scroll to the service-menu item that you want, and then press **✓**.
- **Clear event log.** Select this item to clear (reset to zero) the internal event log.
 - **Total page count.** Select this item to set the total number of pages that have been printed to-date. Typically this is only required when a new formatter is installed.
 - **Maintenance count.** Select this item to set the number of pages that have been printed since the last maintenance kit was installed or the total number of pages that have been printed on this printer if a maintenance kit has not yet been installed (during the first 200,000 pages).
 - **Maintenance interval.** Select this item to specify the number of pages that can be printed before a maintenance-kit-required message appears on the control-panel display to indicate that a maintenance kit is required.
 - **Serial number.** Select this item to update the serial number if you replace the formatter.
 - **Service ID.** Select this item to specify the date when the printer was first used, rather than the date that a replacement formatter is installed. See [Restoring the Service ID](#).
 - **Cold reset.** Select this item to reset the default paper size when you replace the formatter or restore factory settings (see [Resets submenu](#)). When you replace a formatter or restore factory settings in a country/region that uses A4 as the standard paper size, use this item to reset the default paper size to A4 (see [Cold reset](#)). Letter and A4 are the only cold-reset values available.

Service ID

When printing from an HP LaserJet 4200 and 4300 Series printer this information appears on the configuration page (see [Configuration page](#)), which eliminates the need for customers to keep paper receipts for proof of the warranty. Because the printer does not have an internal clock, the availability of the service ID date depends on the printer being connected to a source that can provide the date, in this case a time server on the same network as the printer. When the printer is not connected to a date source, the service ID is not available, and **00000** appears on the configuration page.

Converting the Service ID to an actual date

You can use the printer Service ID number to determine whether the printer is still under warranty. Use the following procedure to convert the Service ID into the installation date.

- 1 Add 1990 to YY to determine the actual year that the printer was installed.
- 2 Divide DDD by 30 (and, if there is a remainder, add 1 to the quotient) to determine the month the printer was installed.
- 3 The remainder from the calculation in step 2 is the day of the month. If there was no remainder from the calculation in step 2, then the day of the month is the 30th.

Using the Service ID 12287 as an example, the date conversion is as follows:

- $12 + 1990 = 2002$, so the year is 2002.
- $287 \text{ divided by } 30 = 9 \text{ with a remainder of } 17$. Add 1 to 9 to get 10, so the month is October.
- The remainder (from the above calculation) is 17, so that is the day of the month.
- The complete date is 17-October-2002.

A 6-day grace period is built into the date system.

Restoring the Service ID

If you replace the formatter, the Service ID is lost and must be restored. Use this menu item to reset the Service ID, which is calculated based on the date the printer was first used. The date format is YYDDD. Use the following procedure to calculate the Service ID.

- 1 To calculate YY, subtract 1990 from the calendar year.
- 2 To calculate DDD, use the following formula: $30 * (\text{calendar month} - 1) + \text{calendar day} = \text{DDD}$. (If the calendar day is 31, use 30 instead.)

Using October 17, 2002, as the date the printer was first used, the service ID conversion is as follows:

- $2002 \text{ minus } 1990 = 12$, so YY = 12.
- $10 \text{ minus } 1 \text{ (calendar month minus } 1) = 9$.
- $9 \text{ times } 30 = 270$
- $270 \text{ plus } 17 \text{ (the calendar day)} = 287$, so DDD = 287.
- The complete service ID number is 12287.

Printer resets and power-on modes

The following sections describe the types of printer resets and power-on modes.

Cold reset

A cold reset unlocks menus that have been previously locked and returns all of the control panel menu items (including EIO settings) to the factory defaults. However, it *does not* clear the values in the service menu (such as the serial number and page counts).



NOTE Before performing a cold reset, print a menu map and a configuration page (see [Menu map](#) and [Configuration page](#)). Use the information on the configuration page to reset any customer-set printer configuration values that the cold reset procedure changes.

To perform a cold reset

- 1 Turn the printer power off.
- 2 **For HP Laserjet 4200/4300 Series printers:** Hold down \checkmark (**SELECT** button), and then turn the printer power on.
For HP Laserjet 4250/4350 Series printers: Turn the printer power on, and then hold down \checkmark (**SELECT** button) when the memory count begins.
- 3 Continue holding down \checkmark until all three printer control-panel lights flash once and then remain on. This might take up to 10 seconds.
- 4 After the message **SELECT LANGUAGE** appears on the display, press \blacktriangle (**UP ARROW** button) or \blacktriangledown (**DOWN ARROW** button) until **COLD RESET** is highlighted.
- 5 Press \checkmark . The printer performs a cold reset and then continues its power-on sequence.
- 6 Check all I/O settings and reset any customer-set printer configuration values.

NVRAM initialization









CAUTION Initializing the NVRAM resets the serial number, the event log, the page counts, the EIO card, and the embedded print server. Initializing the NVRAM also resets service-menu values to factory defaults. Use the service menu to restore the serial number and page counts. Also reconfigure any computers that print to this printer so that the computers can recognize the printer. Initialize the NVRAM only when absolutely necessary. In most situations, use a cold reset rather than a NVRAM initialization to reset printer settings (this will retain the values in the service menu).



NOTE Before performing a NVRAM initialization, print a menu map and a configuration page (see [Menu map](#) and [Configuration page](#)). Use the information on the configuration page to reset any customer-set printer configuration values that the NVRAM initialization procedure changes. Make note of the *total page count*, *maintenance count*, and the *serial number*.

To initialize NVRAM

- 1 Turn the printer power off.
- 2 Remove any installed accessories (for example, a stapler/stacker).
- 3 **For HP Laserjet 4200/4300 Series printers:** Hold down  (**SELECT** button), and then turn the printer power on.
For HP Laserjet 4250/4350 Series printers: Turn the printer power on, and then hold down  (**SELECT** button) when the memory count begins.
- 4 Continue holding down  until all three printer control-panel lights flash once and then remain on. This might take up to 10 seconds.
- 5 Press  (**UP ARROW** button).
- 6 Press the **PAUSE/RESUME** button (LJ 4200/4300) or the **MENU** button (LJ 4250/4350). The display should show **SKIP DISK LOAD**.
- 7 Press  until **NVRAM INIT** is highlighted.
- 8 Press . The printer initializes NVRAM and then continues its power-on sequence.

Hard-disk initialization



CAUTION A hard-disk initialization erases and reformats the printer hard disk. Perform a hard-disk initialization only if an error code on the control panel indicates an EIO disk error. Always try initializing the hard disk before replacing it.



NOTE Before performing a hard-disk initialization, print a menu map and a configuration page (see [Menu map](#) and [Configuration page](#)). Use the information on the configuration page to reset any customer-set printer configuration values that the hard-disk initialization procedure changes.

To initialize the hard disk

- 1 Turn the printer power off.
- 2 **For HP Laserjet 4200/4300 Series printers:** Hold down the **PAUSE/RESUME** button, and then turn the printer power on.
For HP Laserjet 4250/4350 Series printers: Turn the printer power on, and then hold down the **MENU** button when the memory count begins.
- 3 Continue holding down the button until all three printer control-panel lights flash once and then remain on. This might take up to 10 seconds.
- 4 Press **↩** (**BACK ARROW** button). The display should show **INITIALIZE DISK**.
- 5 Press **✓**. The printer initializes the hard disk and continues its power-on sequence.

Power-on bypass

When the power is turned on the printer begins the power-on sequence. By performing a power-on bypass, you can cause the printer to resume the power-on sequence but not to recognize any installed EIO hard disk (skip-disk load procedure). This can be helpful in isolating EIO hard-disk errors.

When using the HP LaserJet 4200 and 4300 Series printers you can also resume the power-on sequence but make the printer continuously print configuration pages until the **PAUSE/RESUME** button is pressed (self-test procedure). This can be helpful if you need to verify the printer components that are installed by reviewing the information on the configuration page, but you cannot open the menus to print a configuration page.

Skip disk-load

- 1 Turn the printer power off.
- 2 **For HP LaserJet 4200/4300 Series printers:** Hold down **✓** (**SELECT** button), and then turn the printer power on.
For HP LaserJet 4250/4350 Series printers: Turn the printer power on, and then hold down **✓** (**SELECT** button) when the memory count begins.
- 3 Continue holding down **✓** until all three printer control-panel lights flash once and then remain on. This might take up to 10 seconds.
- 4 Press **▲** (**UP ARROW** button) followed by the **PAUSE/RESUME** button.
- 5 Press **▲** or **▼** until **SKIP DISK LOAD** is highlighted.
- 6 Press **✓**. The printer continues the power-on sequence but ignores an installed EIO hard disk.

Self-test

- 1 Turn the printer power off.
- 2 **For HP LaserJet 4200/4300 Series printers:** Hold down **✓** (**SELECT** button), and then turn the printer power on.
For HP LaserJet 4250/4350 Series printers: Turn the printer power on, and then hold down **✓** (**SELECT** button) when the memory count begins.
- 3 Continue holding down **✓** until all three printer control-panel lights flash once and then remain on. This might take up to 10 seconds.
- 4 Press **▲** (**UP ARROW** button) or **▼** (**DOWN ARROW** button) until **SELF TEST** is highlighted.
- 5 Press **✓**. The printer continues the power-on sequence and begins to continuously printing configuration pages.
- 6 Press the **PAUSE/RESUME** button (LJ 4200/4300) or the **MENU** button (LJ 4250/4350) to exit the self-test.

Test pages

Printing test pages helps you determine whether or not the printer engine and the formatter are functioning.

Engine-test page

To verify that the printer engine (all printer components *except* the formatter, formatter DIMMs, EIO products, and the stacker or stapler/stacker) is functioning, print an engine-test page. Use a small, non-metallic, pointed object to depress the test-page switch, which is located on the right side of the printer (callout 1).

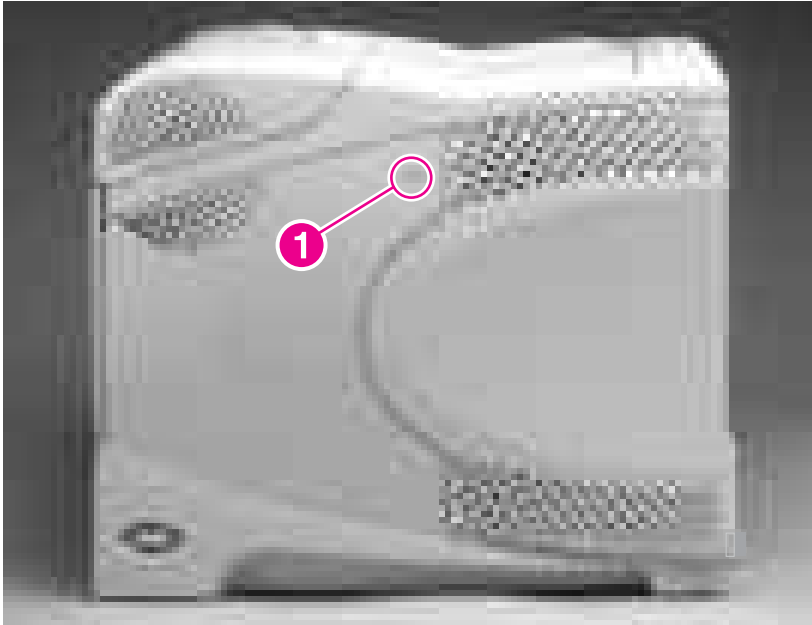


Figure 7-5 Engine-test-page switch

The test page should have a series of vertical lines. The test page prints from the last tray that you printed from. However, if the printer has been turned off and then on again since the most recent print job, the page will print from tray 2. The printer will continuously print test pages as long as the test-page switch is depressed. The printer will not print a test page if it is in PowerSave or Sleep mode.



NOTE A damaged formatter might interfere with the engine test. If the engine-test page does not print, try removing the formatter and performing the engine test again. If the engine test is then successful, the problem is almost certainly with the formatter, the control panel, or the cable that connects them.

Formatter test page

To verify that the formatter is functioning, print a configuration.

- 1 Press ✓ (**SELECT** button) or the **MENU** button to open the menus.
- 2 Press ▼ (**DOWN ARROW** button) to scroll to **INFORMATION**.
- 3 Press ✓ to select **INFORMATION**.
- 4 Press ▼ to scroll to **PRINT CONFIGURATION**.
- 5 Press ✓ to select **PRINT CONFIGURATION**.

Interface troubleshooting

The following sections provide instructions for interface troubleshooting.

Communications checks



NOTE Communication problems are normally the customer's responsibility. Time spent attempting to resolve these problems might not be covered by the Hewlett-Packard product warranty. Refer the customer to the network administrator for assistance in troubleshooting network problems.

If the printer is not connected directly to a Windows or MS-DOS-based host, see [EIO troubleshooting](#).



CAUTION HP LaserJet printers are not designed to work with mechanical switch-box products that do not have the correct surge protection. These devices generate high transient voltages that cause permanent damage to the formatter PCA. This circumstance is not covered by the HP product warranty.

Computer direct connect (parallel) test

After the printer is installed, verify communications by bypassing the Windows driver between the printer and the IBM-compatible computer. Type the following information at the MS-DOS prompt:

```
C:\DIR>LPT1 Enter (for printing to parallel port #1)
```

The printer should print a directory listing of the C:\ directory. You might need to press \checkmark (**SELECT** or **MENU** button) on the control panel to print the data that is in the buffer.

EIO troubleshooting

If the printer contains an optional HP Jetdirect print server, and you cannot communicate with the printer over the network, verify that the print server is operating. Print a configuration page (see [Configuration page](#)). If the Jetdirect card does not appear under "Installed personalities and options" on the configuration page, reseal or replace the Jetdirect EIO card. See the troubleshooting section of the *HP Jetdirect Print Server Software Administrators Guide*.

When the HP Jetdirect print server is installed correctly, print a Jetdirect page (this page automatically prints when a Jetdirect print server is installed and a configuration page is printed). See [Jetdirect page/Embedded Jetdirect page \(HP LaserJet 4250/4350 Series printers\)](#). The Jetdirect page contains valuable network-related information about the printer.

If the host system and printer are still not communicating, replace the formatter and/or the EIO card and reconfigure the printer. If the host system and printer continue to not communicate replace the entire formatter.

The following illustration shows the contents of the Jetdirect page.

Jetdirect page/Embedded Jetdirect page (HP LaserJet 4250/4350 Series printers)

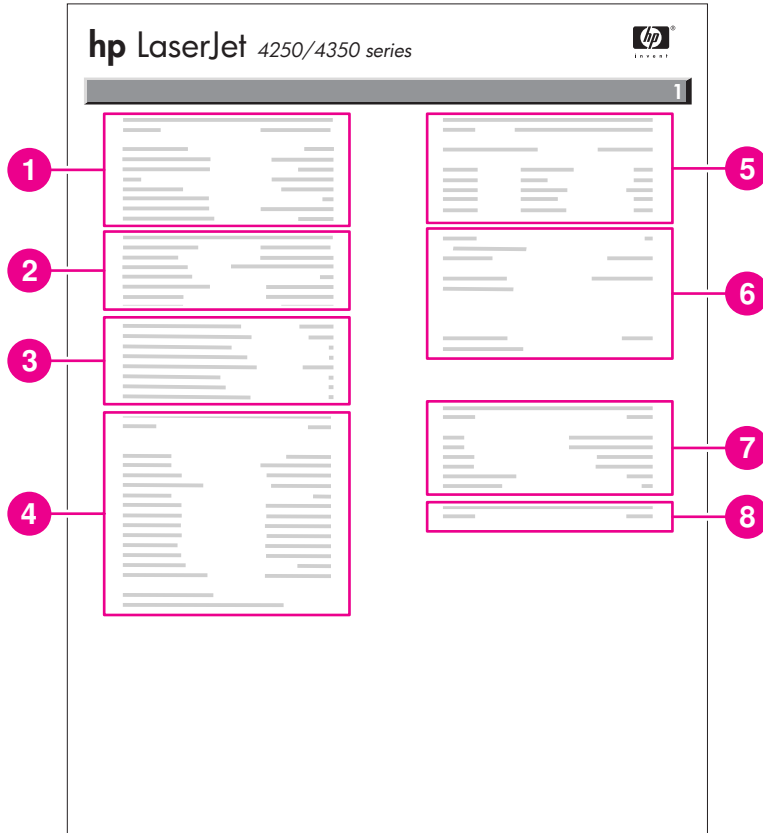


Figure 7-6 Jetdirect page/Embedded Jetdirect page (HP LaserJet 4250/4350 Series printers)

1	HP Jetdirect Configuration indicates I/O card status status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
2	Security Settings information
3	Network Statistics indicates the total packets received, unicast packets received, bad packets received, framing errors received, total packets transmitted, unsendable packets, transmit collisions, and transmit late collisions.
4	TCP/IP information, including the IP address
5	IPX/SPX information
6	Novell/NetWare information
7	Appletalk information
8	DLC/LLC information

Display-message troubleshooting

The following tables explain the messages that might appear on the control-panel display or in the event log. Alphabetical printer messages and their meanings are listed in [Alphabetical printer messages](#), and numerical printer messages are listed in [Numerical printer messages](#).



NOTE Not all messages are described in the tables; the messages that are not listed are self-explanatory.

Status messages

Status messages reflect the current state of the printer. They inform you of normal printer operation and require no interaction to clear them. They change as the state of the printer changes. Whenever the printer is ready, is not busy, and has no pending warning messages, the status message **Ready** appears if the printer is online.

Warning messages

Warning messages inform you of data and print errors. These messages typically alternate with **Ready** or with status messages and continue to appear until ✓ (**SELECT** button) is pressed. If **CLEARABLE WARNINGS** is set to **JOB** in the configuration menu, these messages are cleared when the next print job is sent to the printer.

Error messages

Error messages inform you that an action must be performed, such as adding paper or clearing a paper jam.

Some error messages are auto-continuable (these are not critical errors and the printer will continue to function). If the printer setting **AUTO CONTINUE** is used, the error message will continue to appear for about 10 seconds and then the printer will resume printing.



NOTE Pressing any button while an auto-continuable error message appears on the control-panel display overrides the auto-continue feature, and the button function takes precedence. For example, pressing the **CANCEL JOB** button cancels the job.

Critical-error messages

Critical-error messages inform you of a device failure. Some of these messages can be cleared by turning the printer off and then on. These messages are not affected by the auto-continue setting. If a critical error persists, then service is required.

Alphabetical printer messages

When resolving printer messages, perform all listed actions in the order until the message is resolved.



NOTE Not all messages are described in the tables; the messages that are not listed are self-explanatory.

Alphabetical printer messages

Table 7-6 Alphabetical printer messages

Control panel message	Description	Recommended action
Access denied MENUS LOCKED	An attempt has been made to modify a printer menu item, but the network systems administrator has enabled the control-panel security mechanism. The message will disappear shortly, and the printer will return to the ready state.	Contact the network system administrator to change settings.
BAD DUPLEXER CONNECTION	The duplexer is not functioning.	<ol style="list-style-type: none"> 1 Turn off the printer. 2 Remove and then reinstall the accessory. 3 Turn on the printer. 4 Check the rear accessory power connector. 5 If the error persists, replace the duplexer.
BAD ENV FEEDER CONNECTION	The envelope feeder is not functioning.	<ol style="list-style-type: none"> 1 Turn off the printer. 2 Remove and then reinstall the accessory. 3 Turn on the printer. 4 Check the front accessory power connector. 5 If the problem persists, replace the envelope feeder.
CANNOT DUPLEX Check rear bin or CANNOT DUPLEX Check paper	The printer cannot perform the duplexing function.	<ol style="list-style-type: none"> 1 Close the face-up bin before sending a duplex print job. 2 Replace the duplexer. 3 Replace the dc controller PCA. See Dc controller PCA.
CARTRIDGE FAILURE For help press ? alternates with RETURN FOR REPLACEMENT For help press ?	The print cartridge contains part of the sealing tape.	<ol style="list-style-type: none"> 1 Try to remove the sealing tape. 2 If the sealing tape cannot be removed, insert a new print cartridge and return the faulty print cartridge for replacement.

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
CHOSEN PERSONALITY NOT AVAILABLE For help press ? alternates with CHOSEN PERSONALITY NOT AVAILABLE To continue press ✓	The printer job language (PJL) encountered a request for a personality that did not exist in the printer. The job is aborted and no pages print.	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions.
CLOSE TOP COVER For help press ?	The top cover is open or the top-cover switch (SW101) is defective.	<ol style="list-style-type: none"> 1 Press ? (HELP button) for information. 2 Close the top cover. 3 Replace the top-cover switch (SW101). See Printer switches and sensors.
DATA RECEIVED To print last page press ✓	The printer received data and is waiting for a form feed. When the printer receives another file, the message should disappear.	Press ✓ (SELECT button) to continue.
DETECTABLE SIZE IN TRAY XX For help press ? alternates with DETECTABLE SIZE IN TRAY XX Recommend move switch to STANDARD	A tray has been loaded with media that is a standard size and the switch in the tray is set to "custom."	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions.
DISK DEVICE FAILURE alternates with Ready For menus press ✓	A device failure has occurred on the specified drive.	<ol style="list-style-type: none"> 1 Printing can continue for jobs that do not require access to the disk drive. 2 Press ✓ (SELECT button) to continue. 3 If the message persists, remove and reinstall the EIO disk drive. 4 Reinitialize the EIO disk. 5 If the message persists, replace the EIO disk drive.
DISK FILE OPERATION FAILED	The printer received a PJL file system command that attempted to perform an illogical operation (for example, a command to download a file to a nonexistent directory).	<ol style="list-style-type: none"> 1 Printing can continue. 2 Press ✓ (SELECT button) to continue. 3 If the message reappears, then a problem might exist with the software application.

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
alternates with		
Ready		
For menus press ✓		
DISK FILE SYSTEM IS FULL	The printer received a PJL file system command that attempted to store something on the file system. The attempt was unsuccessful because the file system is full.	<ol style="list-style-type: none"> 1 Use the device storage manager in the HP Web Jetadmin software to delete files from the EIO disk drive and then try again. 2 Press ✓ (SELECT button) to continue.
alternates with		
Ready		
For menus press ✓		
DISK IS WRITE PROTECTED	The file system device is protected and no new files can be written to it.	<ol style="list-style-type: none"> 1 To enable writing to the disk, turn off the write protection by using the device storage manager in HP Web Jetadmin. 2 Press ✓ (SELECT or MENU button) to continue.
alternates with		
Ready		
For menus press ✓		
EIO X DISK NOT FUNCTIONAL	The EIO disk in slot X is not working correctly.	<ol style="list-style-type: none"> 1 Remove the EIO disk from the indicated slot and reinstall it. 2 If the error persists, replace the EIO disk drive
For help press ?		
ENVELOPE FEEDER EMPTY	The envelope feeder is empty.	<ol style="list-style-type: none"> 1 Refill the envelope feeder. 2 Turn off the printer. 3 Remove and then reinstall the accessory. Turn the printer on. 4 If the error persists, replace the envelope feeder.
FLASH DEVICE FAILURE	A flash DIMM is installed in one of the formatter slots.	<ol style="list-style-type: none"> 1 Printing can continue for jobs that do not require the flash DIMM. 2 Press ✓ (SELECT button) to continue. 3 If the message persists, remove and reinstall the flash DIMM. See Firmware DIMM (LJ 4200/4300 only). 4 If the message persists, replace the flash DIMM. See Firmware DIMM (LJ 4200/4300 only).
alternates with		
Ready		
For menus press ✓		

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
FLASH FILE OPERATION FAILED alternates with Ready For menus press ✓	The printer received a PJL file system command that attempted to perform an illogical operation (for example, a command to download a file to a non-existent directory).	<ol style="list-style-type: none"> 1 Printing can continue. 2 Turn the printer off and then on to delete the message from the display. 3 If the message reappears, a problem might exist with the software program.
FLASH FILE SYSTEM IS FULL alternates with Ready For menus press ✓	The printer received a PJL file system command that attempted to store something on the file system. The attempt was unsuccessful because the file system is full.	<ol style="list-style-type: none"> 1 Use HP Web Jetadmin Device Storage Manager software to delete files from the flash memory, and then try again. 2 Press ✓ (SELECT button) to continue.
FLASH IS WRITE PROTECTED alternates with Ready For menus press ✓	The file-system device is protected and no new files can be written to it.	<ol style="list-style-type: none"> 1 To enable writing to the flash memory, turn off the write protection by using the device storage manager in HP Web Jetadmin. 2 Press ✓ (SELECT button) to continue.
Incorrect	The wrong personal identification number (PIN) was typed.	Type the correct PIN code. After three incorrect PIN entries, the printer returns to the Ready state.
INSERT OR CLOSE TRAY XX For help press ?	Tray XX must be inserted or closed before the current job can be printed.	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 If the error persists, verify that the media-size sensor (PS102, SW801, or SW1) is operating correctly for the indicated tray. See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs. Verify that the sensor "fingers" inside the tray are engaging the tray sensor correctly. 4 Print a configuration page. See Configuration page.

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
		5 If the tray settings on the configuration page are correct, verify that the tray paper-out sensor is operating. See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs or 1,500-sheet feeder switches, sensors, solenoids, and PCAs .
INSTALL CARTRIDGE	The cartridge is either not installed or not correctly installed in the printer.	1 Insert the cartridge, or make sure that the cartridge is fully seated.
alternates with		2 Press ? (HELP button) for detailed information.
For help press ?		3 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions.
		4 If the error persists, replace the cartridge.
		5 Verify that the connectors between the power supply and transfer assembly are not damaged.
		6 Replace the power-supply assembly. See Power supply .
INSTALL FUSER	The fuser is either not installed or not correctly installed in the printer.	1 The fuser is not fully seated or has been removed and must be reinstalled for printing to continue. See Fuser .
For help press ?		<ul style="list-style-type: none"> • If the fuser is in the printer, remove and reinstall it. • If the fuser is not in the printer, install it.
		2 Push the fuser firmly into the printer until the blue levers on both sides click into place.
		3 Press ? (HELP button) for detailed information.
		4 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions.
		5 If the error persists, replace the fuser assembly. See Fuser .
		6 Replace the dc controller PCA. See Dc controller PCA .
		7 Replace the power-supply assembly. See Power supply .

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
<p>LOAD TRAY XX <TYPE> <SIZE> For help press ?</p> <p>alternates with</p> <p>LOAD TRAY XX <TYPE> <SIZE> To use another tray press ✓</p>	<p>Tray XX is either empty (based on the operation of the paper sensor) or configured for a type and size other than that specified in the job.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Print a configuration page and verify that the tray settings are correctly set. See Configuration page. 4 If the tray settings on the configuration page do not match the actual tray setting, verify that the paper width switch (SW102, SW801, or SW1) is operating correctly for the indicated tray. See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs.
<p>LOAD TRAY XX <TYPE> <SIZE> For help press ?</p>	<p>Tray XX is either empty (based on the operation of the paper sensor) or configured for a type and size other than that specified in the job. No other tray is available.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Print a configuration page and verify that the tray settings are correctly set. See Configuration page. 4 If the tray settings on the configuration page do not match the actual tray setting, verify that the paper width switch (PS106, SW801, or SW1) is operating correctly for the indicated tray. See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs.
<p>Lower the optional bin Note: The stacker or stapler/stacker LED blinks in amber.</p>	<p>The stacker or stapler/stacker output bin is in the raised position.</p>	<ol style="list-style-type: none"> 1 Lower the output bin. 2 If this error persists, replace the stacker or stapler/stacker.
<p>MANUALLY FEED <TYPE> <SIZE> For help press ?</p> <p>alternates with</p>	<p>A job was sent that requires a specific paper type and size that is not currently available.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 If the requested paper size and type is installed in one of the trays, print a

Table 7-6 Alphabetical printer messages (continued)


Control panel message	Description	Recommended action
<p>MANUALLY FEED</p> <p><TYPE> <SIZE></p> <p>To continue press ✓</p>		<p>configuration page (see Configuration page) to see if the printer tray setting differs from the paper size and type in the tray.</p> <p>4 Check the tray size sensor switches if the configuration page indicates a different size than that in the tray. Verify that the sensor "fingers" inside the tray are engaging the tray sensor correctly. See Tray 2, 500-sheet feeder, and 1,500-sheet feeder media-size detection.</p>
<p>NON HP CARTRIDGE DETECTED</p>	<p>The printer has detected that a non-HP print cartridge is currently installed.</p> <p>(If a new HP cartridge has been installed, this message appears for about 20 seconds and then is replaced by the Ready message.)</p>	<p>1 If the print cartridge appears to be an authentic HP cartridge, try installing another HP print cartridge that has the same shipment lot number. If this clears the error message, return the print cartridge that you removed to the supplier as defective.</p> <p>2 If the error message persists, the print cartridge might be a fraudulent cartridge.</p> <p>3 If the error message persists, the memory chip on the print cartridge (location J600) might be defective or the connector might be defective.</p> <p>4 The dc controller PCA might be defective. Replace the dc controller PCA. See Dc controller PCA.</p> <p> NOTE Printer repairs that are required as a result of using non-HP print cartridges are <i>not</i> covered under the HP warranty.</p>
<p>NON HP CARTRIDGE DETECTED</p> <p>alternates with</p> <p>Ready</p> <p>For menus press ✓</p>	<p>The printer has detected that a non-HP print cartridge is currently installed.</p>	<p>1 If the print cartridge appears to be an authentic HP cartridge, try installing another HP print cartridge that has the same shipment lot number. If this clears the error message, return the print cartridge that you removed to the supplier and report that it is defective.</p> <p>2 If the error message persists, the print cartridge might be a fraudulent cartridge.</p> <p>3 If the error message persists, the memory chip on the print cartridge or the connector (location J600) might be defective.</p> <p>4 The dc controller PCA might be defective. Replace the dc controller PCA. See Dc controller PCA.</p>

Table 7-6 Alphabetical printer messages (continued)



Control panel message	Description	Recommended action
		 NOTE Printer repairs that are required as a result of using non-HP print cartridges are <i>not</i> covered under the HP warranty.
OUTPUT BIN 1 FULL Remove all paper from bin NOTE: The stacker or stapler/stacker LED blinks in amber.	The stacker or stapler/stacker output bin is full and must be emptied in order to continue printing.	<ol style="list-style-type: none"> 1 Remove the media from the output bin. 2 If the error persists, verify that the output bin flapper (the four plastic paddles hanging down in front of the output bin rollers) can move freely. 3 Replace the stacker or stapler/stacker.
OUTPUT PAPER PATH OPEN NOTE: The stacker or stapler/stacker LED blinks in amber.	The jam-access door or the staple-cartridge door is open.	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Close the open door. 4 If this message persists, replace the stacker or stapler/stacker.
PERFORM PRINTER MAINTENANCE alternates with Ready For menus press ✓	To ensure optimum print quality, the printer prompts you to perform routine maintenance every 200,000 pages (default setting).	Install an HP LaserJet 4200/4250/4300/4350 printer maintenance kit. See the instructions that come with the kit. -or- Continue printing and order a printer maintenance kit. For information about how to order a maintenance kit, see Parts and diagrams .
Performing upgrade	A firmware upgrade is in progress.	 CAUTION Do not turn the printer off until the printer returns to the Ready state. The printer will be damaged if the power is turned off during a firmware upgrade.
Printing... REGISTRATION PAGE	The printer is generating the registration page. The printer will return to the Ready state when the page is completed.	Follow the instructions on the printed pages.
RAM DISK DEVICE FAILURE alternates with Ready For menus press ✓	The RAM disk had a critical failure and can no longer be used.	<ol style="list-style-type: none"> 1 Turn the printer power off, and then on again. 2 If this error persists, a defective memory DIMM might be installed in the printer (on the formatter). Replace the memory DIMM. The procedure for replacing a memory DIMM is the same as replacing a firmware DIMM. See Firmware DIMM (LJ 4200/4300 only).

Table 7-6 Alphabetical printer messages (continued)


Control panel message	Description	Recommended action
RAM DISK FILE OPERATION FAILED alternates with Ready For menus press ✓	The printer received a PJL file system command that attempted to perform an illogical operation (for example, a command to download a file to a nonexistent directory).	<ol style="list-style-type: none"> 1 Printing can continue. 2 Turn the printer off and then on to delete the message from the display. 3 If this error persists, a problem might exist with the software program.
RAM DISK FILE SYSTEM IS FULL alternates with Ready For menus press ✓	The RAM disk is full.	<ol style="list-style-type: none"> 1 Delete files and then try again, or turn the printer off and then on to delete all the files on the RAM disk. 2 If the message persists, increase the size of the RAM disk by adding additional memory DIMMs.
RAM DISK IS WRITE PROTECTED alternates with Ready For menus press ✓	The file system device is protected and no new files can be written to it.	To enable writing to the RAM disk, turn off the write protection by using the device storage manager in the HP Web Jetadmin software.
RECEIVING UPGRADE	A firmware upgrade is in progress.	 CAUTION Do not turn the printer off until the printer returns to the ready state. The printer will be damaged if the power is turned off during a firmware upgrade.
REINSERT DUPLEXER	The duplexer is not functioning.	<ol style="list-style-type: none"> 1 Turn off the printer. 2 Remove and then reinstall the accessory. 3 Turn on the printer. 4 Check the rear accessory power connector. 5 If the error persists, replace the duplexer.
REPLACE CARTRIDGE alternates with For help press ?	The print cartridge is almost empty. Printing can continue until the toner supply is depleted.	<ol style="list-style-type: none"> 1 Replace the print cartridge to continue printing. 2 Press ? (HELP button) for detailed information.

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
		<ol style="list-style-type: none"> Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. Supplies-ordering information is also available from the embedded Web server. If this error persists, replace the power-supply assembly. See Power supply.
Resend upgrade	The firmware upgrade was not completed successfully.	Attempt the upgrade again.
SIZE MISMATCH IN TRAY XX For help press ? alternates with Ready For menus press ✓	The tray is loaded with media that is longer or shorter in the feed direction than the size setting for the tray.	<ol style="list-style-type: none"> Adjust the side and rear paper guides against the stack. From the control panel, set the tray 1 paper size to the media size that is in tray 1. If the media being used is Letter, A4, Executive, B5 JIS, A5, or Legal size, the tray switch should be set to standard. Set the tray switch to custom for all other media sizes. The custom size switch must be set before the size can be selected at the control panel. Print a configuration page and verify that the tray size settings match the actual tray settings. If the settings do not match, verify that the tray size sensors are correctly functioning. If they are not, replace the media-size sensors (SW102, SW801, or SW1). See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs. . Verify that the sensor "fingers" inside the tray are engaging the tray sensor correctly. See Tray 2, 500-sheet feeder, and 1,500-sheet feeder media-size detection. Replace the indicated feeder-control PCA. For the 500-sheet feeder, see 500-sheet feeder control PCA. For the 1,500-sheet feeder, see 1,500-sheet feeder control PCA. Replace the dc controller PCA. See Dc controller PCA.
Standard output bin full Remove all paper from bin	The top (standard) output bin is full and must be emptied.	<ol style="list-style-type: none"> Empty the top output bin. If the error persists, verify that the output-bin sensor (PS104) is operating and that the sensor arm can freely move. See Printer switches and sensors.

Table 7-6 Alphabetical printer messages (continued)


Control panel message	Description	Recommended action
<p>STAPLER LOW ON STAPLES</p> <p>For help press ?</p> <p>NOTE: The stapler/stacker LED is continuously illuminated green (this error applies to the stapler/stacker only).</p>	<p>Fewer than 70 staples remain in the optional stapler/stacker staple cartridge. Printing will continue until the STAPLER OUT OF STAPLES message appears on the printer control-panel display.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 If, after following these instructions, this error persists, replace the staple unit. See To remove and replace the stapler unit. <p> NOTE The customer is responsible for ordering replacement staple cartridges.</p>
<p>STAPLER OUT OF STAPLES</p> <p>For help press ?</p> <p>NOTE: The stapler/stacker LED blinks in amber (this error applies to the stapler/stacker only).</p>	<p>Fewer than 15 staples remain in the optional stapler/stacker. The printer behavior depends on how the STAPLES OUT setting is configured.</p> <p>If STAPLES OUT=STOP, the printer stops printing until you refill the stapler or press ✓ (SELECT button). This is the default setting.</p> <p>If STAPLES OUT=CONTINUE, printing continues but the jobs will not be stapled.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Replace the staple cartridge. 4 If this error persists, Replace the stapler unit (see To remove and replace the stapler unit) followed by the stapler/stacker if necessary.
<p>TOO MANY PAGES IN JOB TO STAPLE</p> <p>NOTE: The stapler/stacker LED is continuously illuminated in green (this error applies to the stapler/stacker only).</p>	<p>The maximum number of sheets the stapler can staple is 15. The print job finishes printing but is not stapled.</p>	<p>Reduce the number of pages in the print job, or print and staple in batches of 15 or fewer pages.</p>
<p>TOO MANY INSTALLED</p> <p>Turn power off and unistall a tray.</p>	<p>Too many optional input trays are installed. The printer accommodates a maximum of two optional trays.</p>	<p>Turn off the printer power and remove a tray.</p>
<p>TRAY XX CONTAINS UNKNOWN MEDIA</p>	<p>The printer cannot determine the media type or size in the specified tray.</p>	<ol style="list-style-type: none"> 1 To change the media type, press ✓ (SELECT button). Use ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to scroll to the type, and then press ✓ to select it. 2 To change the media size to Letter, A4, Executive, B5 JIS, A5, or Legal, leave the tray switch in the Standard position. 3 To change the media size to other sizes, move the tray switch to Custom, adjust the paper guides against the paper, and close the tray. Use ▲ and ▼ to scroll to the media size, and then press ✓ to select it.

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
<p>TRAY XX EMPTY</p> <p><TYPE> <SIZE></p> <p>alternates with</p> <p>Ready</p> <p>For help press ✓</p>	<p>The specified tray is empty, but the current job does not require this tray in order to print correctly.</p>	<ol style="list-style-type: none"> 1 Refill the indicated tray. 2 If the error persists, verify that the paper-out sensor (PS105,PS101, PS801, or SR3) for the indicated tray is functioning correctly. See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs.
<p>TRAY XX OPEN</p> <p>For help press ?</p> <p>alternates with</p> <p>Ready</p> <p>For menus press ✓</p>	<p>The specified tray is open or not closed completely.</p>	<ol style="list-style-type: none"> 1 Close the tray. 2 If this error persists, verify that the media-size sensors (SW102, SW801, or SW1) for the indicated tray is functioning correctly. See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs. . Verify that the sensor "fingers" inside the tray are engaging the tray sensor correctly. See Tray 2, 500-sheet feeder, and 1,500-sheet feeder media-size detection.
<p>TRAY XX SIZE=</p> <p><XXXX SIZE></p> <p>For help press ?</p>	<p>A tray was installed with the standard/ custom switch set to Custom, or with the paper guides in a non-standard configuration. The printer is prompting you to use the control panel to specify a predefined non-standard paper size, a "custom" paper size, or an "any custom" or an "any" size setting. (The user's software program defines the "any custom" and "any" size settings.)</p>	<ol style="list-style-type: none"> 1 Use the control panel to select the appropriate custom paper size. Press ✓ (SELECT button). 2 If the media used is Letter, A4, Executive, B5 JIS, A5, or Legal sized, the tray switch should be set to Standard. Set the tray switch to Custom for all other media sizes. The tray switch must be set to custom before the size can be selected at the control panel. 3 Print a configuration page and verify that the tray size settings match the actual tray settings. If the settings do not match, verify that the tray size sensors are functioning correctly. If they are not, replace the media-size sensors (SW102, SW801, or SW1). See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs. Verify that the sensor "fingers" inside the tray are engaging the tray sensor correctly. See Tray 2, 500-sheet feeder, and 1,500-sheet feeder media-size detection.

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
<p>TRAY XX</p> <p><TYPE> <SIZE></p> <p>To change type</p> <p>press ✓</p> <p>alternates with</p> <p>TRAY XX</p> <p><TYPE> <SIZE></p> <p>Size detected by tray</p>	<p>The printer is reporting the current configuration of tray XX. The tray switch is in the Standard position.</p>	<ol style="list-style-type: none"> 1 To change the media type, press ✓ (SELECT button). Use ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to scroll to the type, and then press ✓ to select it. 2 To change the media size to Letter, A4, Executive, B5 JIS, A5, or Legal, leave the tray switch in the Standard position and adjust the media guides to the correct positions. 3 To change the media size to other sizes, move the tray switch to Custom, adjust the paper guides against the stack, and close the tray. 4 Use ▲ and ▼ to scroll to the media size, and then press ✓ to select it. Repeat this procedure to select the media type. 5 If the size that appears on the control-panel display is incorrect and the tray paper guides are correctly adjusted, verify that the media-size sensor (SW102, SW801, or SW1) for the indicated tray is operating. See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs. Verify that the sensor "fingers" inside the tray are engaging the tray sensor correctly. See Tray 2, 500-sheet feeder, and 1,500-sheet feeder media-size detection.
<p>TRAY XX</p> <p><TYPE> <SIZE></p> <p>Size specified by user</p> <p>alternates with</p> <p>TRAY XX</p> <p><TYPE> <SIZE></p> <p>To change type</p> <p>press ✓</p>	<p>The printer is reporting the current configuration of tray XX. The tray switch is in the Custom position.</p>	<ol style="list-style-type: none"> 1 To change the media type, press ✓ (SELECT button). Use ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to scroll to the type, and then press ✓ to select it. 2 To change the media size to Letter, A4, Executive, B5 JIS, A5, or Legal, set the tray switch to the Standard position and adjust the media guides to the correct positions. 3 To change the media size to other sizes, leave the tray switch in the Custom position, adjust the media guides against the stack, and close the tray. 4 Select the Paper Handling menu from the control panel. Configure the size and media type for the tray.

Table 7-6 Alphabetical printer messages (continued)

Control panel message	Description	Recommended action
Unable to store job <JOBNAME>	A job cannot be stored because of a memory, disk, or configuration problem.	<ol style="list-style-type: none">1 Install additional memory in the printer, or install a disk drive in the printer. See Firmware DIMM (LJ 4200/4300 only).2 If a disk drive is installed, delete the previously stored print jobs to increase the disk storage space.3 If this error persists, check the printer driver and program settings.
USE INSTEAD? TRAY X: <TYPE> <SIZE>	The printer is offering an alternative for the print job.	To use the alternative, press ✓ (SELECT button). Or use ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to scroll to any alternative selection, and then press ✓ to select it.

Numerical printer messages

When resolving printer messages, perform all listed actions in the order until the message is resolved.

Numerical printer messages

Table 7-7 Numerical printer messages


Control panel message	Description	Recommended action
10.XX.YY SUPPLY 10.XX.YY SUPPLY MEMORY ERROR or 10.XX.YY SUPPLY MEMORY ERROR For help press ?	The printer cannot read the electronic information (e-label) on the print cartridge in order to keep track of the page count for the print cartridge. XX Description 00 memory error on the cartridge 10 memory device not found YY Description 00 black print cartridge	<ol style="list-style-type: none"> 1 Open the top cover, remove the print cartridge, and then reinstall it. See Print cartridge. 2 Install a new HP print cartridge. 3 Check the connection between the dc controller PCA (location J97) and the memory chip on the print cartridge (location J600). 4 Replace the memory chip cable and contact assembly. 5 Replace the dc controller PCA. See Dc controller PCA.
13.XX.YY DUPLEX JOB INTERRUPTED For help press ? alternates with 13.XX.YY DUPLEX JOB INTERRUPTED Discard top sheet and press ✓ or 13.XX.YY DUPLEX JOB INTERRUPTED Discard top two sheets and press ✓	A duplex job was physically interrupted as the paper was momentarily routed to the output bin during duplexing. This error is usually caused by a user who is attempting to grasp the edge of the page as it exits the top output bin during the duplexing process.	<ol style="list-style-type: none"> 1 Press ? (HELP button) for more information. 2 Remove the specified number of pages from the output bin. 3 Press ✓ (SELECT button) to continue printing. 4 Replace the duplexer. 5 Replace the dc controller PCA. See Dc controller PCA.
13.XX.YY DUPLEX JOB INTERRUPTED Discard top two sheets and press ✓	A jam exists in the media path.	 <p>NOTE If JAM RECOVERY = OFF some pages will not be reprinted. Resend the missing pages.</p> <ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information about clearing the jam. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 If the media is folding into an accordion shape, make sure that the shutter on

Table 7-7 Numerical printer messages (continued)


Control panel message	Description	Recommended action
		<p>the print cartridge opens as you insert the cartridge. Replace any defective print cartridge.</p> <p>4 For information about how to resolve a jam, see the specific numerical error codes in this table.</p> <p>5 See Paper-path troubleshooting in this chapter.</p>
<p>13.01.00. or 13.03.00JAM IN TRAY x</p> <p>For help press ?</p> <p>or</p> <p>13.03.00</p> <p>Paper JAM open input trays then open and close top cover</p>	<p>A page is jammed in tray X.</p> <p>A 13.01.00 error message indicates that the media did not arrive at the pre-feed sensor (PS102) within the specified time.</p> <p>A 13.03.00 error message indicates that the media did not arrive at the top-of-page sensor (PS103) within the specified time.</p> <p> NOTE The 13.01.00 error can also be caused by the failure of the paper-level sensor (PS107). If this sensor fails, the lifter motor does not rotate to lift the paper tray plate.</p> <p>This error can also be caused when the printer attempts to pick up media from a tray that is empty, but the paper-out sensing mechanism for that tray has failed and the printer senses that the tray appears to be loaded.</p>	<p>1 Press ? (HELP button) for detailed information about clearing the jam.</p> <p>2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions.</p> <p>3 Check that the paper-out sensor in the specified tray is functioning correctly.</p> <p>4 Clean the pickup roller. If it is worn or damaged, replace it.</p> <p>5 Clean the feed and separation rollers. If any of the rollers are worn or damaged, replace them (always replace both rollers at the same time).</p> <p>6 Verify that the pre-feed sensor (PS102) is installed correctly. See Paper-feed assembly.</p>
<p>13.01.00. or 13.03.00JAM IN TRAY x</p> <p>For help press ?</p> <p>or</p> <p>13.03.00</p> <p>Paper JAM open input trays then open and close top cover</p>	<p>A page is jammed in tray X.</p> <p>A 13.01.00 error message indicates that the media did not arrive at the pre-feed sensor (PS102) within the specified time.</p> <p>A 13.03.00 error message indicates that the media did not arrive at the top-of-page sensor (PS103) within the specified time.</p>	<p>If the actions listed above do not resolve the issue, continue with the following:</p> <p>1 Open and close the specified tray while watching the control-panel display. A short delay should occur between when the tray closes and the tray-size message appears on the control-panel display. If there is no delay and you do not hear the tray-lift motor lift the tray plate into place, replace the stack position sensor (PS107, PS802, or SR2) in the tray. See Printer switches and sensors, 500-sheet feeder switches, sensors, solenoids, and PCAs, or 1,500-sheet feeder switches, sensors, solenoids, and PCAs.</p> <p>2 Replace the tray X pickup solenoid.</p> <p>3 Replace the tray 1 paper-pickup assembly. See Tray 1 paper-pickup assembly.</p>

Table 7-7 Numerical printer messages (continued)


Control panel message	Description	Recommended action
	 <p>NOTE The 13.01.00 error can also be caused by the failure of the paper-level sensor (PS107). If this sensor fails, the lifter motor does not rotate to lift the paper tray plate.</p> <p>This error can also be caused when the printer attempts to pick up media from a tray that is empty, but the paper-out sensing mechanism for that tray has failed and the printer senses that the tray appears to be loaded.</p>	<ol style="list-style-type: none"> 4 Replace the paper-feed assembly. See Paper-feed assembly. 5 Verify that the top-of-page sensor (PS103) is operating correctly and that the sensor flag can freely move. Replace the sensor if it is not operating correctly. See Printer switches and sensors. 6 Replace the dc controller PCA. See Dc controller PCA.
<p>13.02.00 or 13.05.00 or 13.20.00 or 13.21.00JAM IN TOP COVER AREA</p> <p>For help press ?</p>	<p>A jam exists in the top-cover area.</p> <p>A 13.02.00 error message indicates that the media did not pass the top-of-page sensor (PS103) within the specified time.</p> <p>A 13.05.00 error message indicates that the media did not arrive at the fuser delivery sensor (PS108) within the specified time.</p> <p>A 13.20.00 error message indicates that the printer power was turned on or that the printer attempted to initialize while the pre-feed sensor (PS102), the top-of-page sensor (PS103) or the fuser delivery sensor (PS108) was detecting media.</p> <p>A 13.21.00 error message indicates that the top-cover-open switch (SW101) was activated while a print job was printing (the top cover was opened or the switch is defective).</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information about clearing the jam. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Check the pre-feed, top-of-page, and fuser assembly sensors (PS102, PS103, and PS 108) and verify that the sensor arms move freely. (See Printer switches and sensors.) 4 If the paper-feed assembly has been replaced, verify that the pre-feed sensor (PS102) is installed correctly. See Paper-feed assembly. 5 Replace the top-of-page sensor (PS103). See Printer switches and sensors. 6 Replace the top-cover-open switch (SW101). See Printer switches and sensors. 7 Replace the fuser. See Fuser. 8 Replace the dc controller PCA. See Dc controller PCA. 9 If this error message appears frequently, see Paper-path troubleshooting.
<p>13.06.00 and 13.12.00 JAM INSIDE REAR DOOR</p> <p>For help press ?</p>	<p>A page is jammed near the rear output door.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information about clearing the jam. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Check the paper-width and fuser delivery sensors (PS106, PS108) and

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
		<p>verify that the sensor arms move freely. (See Printer switches and sensors.)</p> <p>4 Check the inside of the duplexer for scraps of media that might have torn off when a jam was cleared.</p> <p>5 Replace the media-size sensor (PS106) and fuser. See Printer switches and sensors and Fuser.</p> <p>6 Turn the power off. Remove the duplexer and turn the power on. If the error message persists, replace the dc controller PCA. See Dc controller PCA.</p> <p>7 If the error message appears frequently, see Paper-path troubleshooting.</p>
<p>13.12.07</p> <p>jam in stapler</p> <p>NOTE: The stapler/stacker LED blinks in amber (this error applies to the stapler/stacker only).</p>	<p>A jam exists in the staple cartridge (the stapler did not finish stapling but was able to return to its home position).</p>	<p>1 Press ? (HELP button for detailed information.</p> <p>2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions.</p> <p>3 Remove any jammed paper from the stapler/stacker.</p> <p>4 Remove the staple cartridge from the stapler unit.</p> <p>5 Push the green door on the end of the staple cartridge up (in the direction of the arrows).</p> <p>6 Remove the jammed staple.</p> <p>7 Close the staple cartridge door. Replace the cartridge in the stapler unit.</p> <p>8 Close the staple unit.</p> <p>9 If the error persists, replace the staple cartridge.</p> <p>10 If the error persists, replace the stapler unit. See To remove and replace the stapler unit.</p>
<p>13.12.08</p> <p>jam in output device</p> <p>NOTE: The stapler/stacker LED blinks in amber (this error applies to the stapler/stacker only).</p>	<p>The output bin page-detection sensor has been active for longer than the specified time.</p>	<p>1 Press ? (HELP button) for detailed information.</p> <p>2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions.</p>

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
		<ol style="list-style-type: none"> 3 Remove all of the pages from the output bin. 4 Open the jam-access door and remove all of the pages. Close the access door. 5 If this error message persists, replace the stapler/stacker.
<p>13.12.09</p> <p>jam in output device</p> <p>For help press ?</p> <p>NOTE: The stacker or stapler/stacker LED blinks in amber.</p>	<p>The stacker or stapler/stacker paper-inlet sensor has been active for longer than a specified time.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Open the jam-access door and remove all of the pages. Close the access door. 4 If this error message persists, replace the stacker or stapler/stacker.
<p>13.12.10</p> <p>jam in output device</p> <p>For help press ?</p> <p>NOTE: The event log records this error message as 13.12.0A.</p> <p>NOTE: The stacker or stapler/stacker LED blinks in amber.</p>	<p>A page did not arrive at the stacker or stapler/stacker paper-inlet sensor in the specified time.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Open the jam-access door and remove all of the pages. Close the access door. 4 Verify that the output bin deflector (in the printer) is operating correctly. 5 If this error message persists, replace the stacker or stapler/stacker.
<p>13.12.11</p> <p>jam in output device</p> <p>For help press ?</p> <p>NOTE: The event log records this error message as 13.12.0B.</p> <p>NOTE: The stacker or stapler/stacker LED blinks in amber.</p>	<p>A jam was detected when the stacker or stapler/stacker power was turned on.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Remove all of the pages from the output bin. 4 Open the jam-access door and remove all of the pages. Close the access door. 5 If this error persists, replace the stacker or the stapler/stacker.

Table 7-7 Numerical printer messages (continued)


Control panel message	Description	Recommended action
<p>13.13.00</p> <p>JAM INSIDE DUPLEXER</p> <p>For help press ?</p>	<p>A page is jammed inside of the duplexer.</p>	<ol style="list-style-type: none"> 1 Press ? (HELP button) for detailed information about clearing the jam. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Check the inside of the duplexer for scraps of media that might have been torn off when a jam was cleared. 4 Turn the power off. Remove the duplexer and turn the power on. If this error persists, replace the dc controller PCA. See Dc controller PCA. 5 Replace the duplexer.
<p>13.1C.00</p> <p>FUSER JAM</p> <p>For help press ?</p>	<p>A jam exists in the fuser area. The media is probably wrapped around the fuser roller.</p>	<ol style="list-style-type: none"> 1 Remove the fuser. 2 Turn the blue knob to remove the jammed media. 3 If necessary, replace the fuser. See Fuser.
<p>13.98.00 open input trays then open and close top cover</p>	<p>The face-up tray was opened when the printer was attempting to send a page to the duplexer.</p> <p>A page shorter than 200 mm (7.87 inches) was sent to the duplexer.</p> <p>A page less than 120 mm (4.72 inches) in width was sent to the duplexer.</p> <p>A multi-feed paper jam has occurred.</p>	<ol style="list-style-type: none"> 1 Remove any jammed media from the paper path. 2 Open and close the top cover. 3 Disconnect all optional paper-handling accessories. 4 Replace the feed and separation rollers. See Tray 2 feed rollers (this procedure includes the separation roller). 5 Replace the dc controller PCA. See Dc controller PCA.
<p>20</p> <p>INSUFFICIENT MEMORY</p> <p>For help press ?</p> <p>alternates with</p> <p>20 INSUFFICIENT MEMORY</p> <p>To continue press ✓</p>	<p>The printer has received more data from the computer than fits in the available memory.</p>	<ol style="list-style-type: none"> 1 Press ✓ (SELECT button) to resume printing. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">  NOTE A loss of data will occur. </div> <ol style="list-style-type: none"> 2 Reduce the complexity of the print job to avoid this error. 3 You might be able to print pages that are more complex if you add memory to the printer.

Table 7-7 Numerical printer messages (continued)





Control panel message	Description	Recommended action
<p>21 PAGE TOO COMPLEX</p> <p>For help press ?</p> <p>alternates with</p> <p>21 PAGE TOO COMPLEX</p> <p>To continue press ✓</p>	<p>The printer cannot process the page quickly enough.</p>	<p>1 Press ✓ (SELECT button) to process the page.</p> <p> NOTE A loss of data will occur.</p> <p>2 Make the page contents less complex and re-send the print job.</p>
<p>22 EIO X</p> <p>BUFFER OVERFLOW</p> <p>To continue press ✓</p>	<p>The printer's EIO card in slot X has overflowed its I/O buffer during a busy state.</p>	<p>1 Press ✓ (SELECT button) to resume printing.</p> <p> NOTE A loss of data will occur.</p> <p>2 Check the configuration of the EIO card and the host computer.</p> <p>3 If this error message persists, replace the EIO card.</p>
<p>22 PARALLEL I/O</p> <p>BUFFER OVERFLOW</p> <p>For help press ?</p> <p>alternates with</p> <p>22 PARALLEL I/O</p> <p>BUFFER OVERFLOW</p> <p>To continue press ✓</p>	<p>The parallel buffer has overflowed during a busy state.</p>	<p>1 Press ✓ (SELECT button) to resume printing.</p> <p> NOTE A loss of data will occur.</p> <p>2 Check the parallel I/O configuration. Set HIGH SPEED to NO and ADVANCED FUNCTIONS to OFF.</p> <p>3 Replace the formatter PCA. See Formatter assembly.</p>
<p>40 EIO X BAD</p> <p>TRANSMISSION</p> <p>To continue press ✓</p>	<p>A connection with the card in EIO slot X has been broken abnormally.</p>	<p>1 Press ✓ (SELECT button) to resume printing.</p> <p> NOTE A loss of data will occur.</p> <p>2 Check that all of the cables are connected to the EIO ports and that the EIO board is seated properly.</p> <p>3 If possible, print to another network printer to verify that the network is working properly.</p> <p>4 Check the configuration of the EIO card.</p> <p>5 If this error message persists, replace the EIO card.</p>

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
<p>41.3 UNEXPECTED</p> <p>SIZE IN TRAY XX</p> <p>For help press ?</p> <p>alternates with</p> <p>41.3 UNEXPECTED</p> <p>SIZE IN TRAY XX: [TYPE] [SIZE]</p> <p>For help press ?</p>	<p>The media that is loaded is longer or shorter in the feed direction than the size that is configured for the tray.</p>	<ol style="list-style-type: none"> 1 If the incorrect size was selected, cancel the job or press ? (HELP button) to gain access to help. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Print a configuration page and verify that the tray settings match the media in the tray. See Configuration page. 4 Verify that the pre-feed, top-of-page, and fuser delivery sensors (PS102, PS103, PS108) are operating and the sensor flags can move freely. See Printer switches and sensors. 5 Replace the dc controller PCA. See Dc controller PCA.
<p>41.X</p> <p>PRINTER ERROR</p> <p>For help press ?</p> <p>alternates with</p> <p>41.X</p> <p>PRINTER ERROR</p> <p>To continue press ✓</p>	<p>A printer error has occurred.</p> <p>X Description</p> <ol style="list-style-type: none"> 1 unknown misprint error 2 beam-detect misprint error 4 no VSYNC error 7 feed-delay error 9 signal-noise error 	<ol style="list-style-type: none"> 1 Press ✓ (SELECT button) to continue or press ? (HELP button) for more information. 2 If the message persists, turn the printer power off and then on again. 3 If these errors becomes a frequent problem, replace the dc controller PCA. See Dc controller PCA.
<p>49.XXXX</p> <p>PRINTER ERROR</p> <p>To continue turn off then on</p>	<p>A critical firmware error has occurred that caused the processor on the formatter to abort the operation.</p> <p>This type of error can be caused by invalid print commands, corrupt data, or invalid operations.</p> <p>In some instances, electrical noise in the cable can corrupt data during transmission to the printer. Other causes include poor-quality parallel cables, poor connections, or specific software programs.</p> <p>Sometimes, the formatter itself is at fault, which is usually indicated by a 79 Service Error.</p>	<ol style="list-style-type: none"> 1 Press CANCEL JOB to clear the print job from the printer memory. 2 Turn the printer off and then on. 3 Go to www.hp.com/go/lj4200_software, www.hp.com/go/lj4250_software, www.hp.com/go/lj4300_software, or www.hp.com/go/lj4350_software. Select Download Drivers and Software. Check for the latest firmware image version at the bottom of the page. If this firmware image is newer than the one installed on the printer and the printer can receive a firmware update, download the newer firmware upgrade. Not all HP LaserJet 4200/4300 printers can receive firmware upgrades. 4 Try printing a job from a different software program. If the job prints, go back to the first program and try printing a different file. If the message

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
		<p>appears only with a certain software program or print job, contact the software vendor for assistance.</p> <ol style="list-style-type: none"> If the message persists when using different software programs and attempting specific print jobs, disconnect all cables that connect the printer to the network or a computer. Turn the printer off. Remove all memory DIMMs or third-party DIMMs from the printer. (Do not remove the firmware DIMM in slot J1.) See Firmware DIMM (LJ 4200/4300 only). Remove all of the EIO devices from the printer.
<p>49.XXXX PRINTER ERROR To continue turn off then on</p>	<p>A critical firmware error has occurred that caused the processor on the formatter to abort the operation.</p> <p>This type of error can be caused by invalid print commands, corrupt data, or invalid operations.</p> <p>In some instances, electrical noise in the cable can corrupt data during transmission to the printer. Other causes include poor-quality parallel cables, poor connections, or specific software programs.</p> <p>Sometimes, the formatter itself is at fault, which is usually indicated by a 79 Service Error.</p>	<p>After performing the actions above, proceed with the following:</p> <ol style="list-style-type: none"> Turn the printer on. If the error message disappears, reinstall each DIMM and EIO device individually, making sure to turn the printer power off and then on again as you install each device. To replace a DIMM, see Firmware DIMM (LJ 4200/4300 only). Replace the DIMM or EIO device that caused the error message. Remember to reconnect all of the cables that connect the printer to the network or computer. If this error message persists, replace the firmware DIMM. See Firmware DIMM (LJ 4200/4300 only). Replace the formatter assembly. See Formatter assembly.
<p>49.24.02 printer error</p>	<p>The printer has experienced a critical error.</p>	<ol style="list-style-type: none"> Verify that the ribbon cables are fully seated in the connectors on the dc controller PCA. Replace the power-supply assembly. See Power supply. Replace the dc controller PCA. See Dc controller PCA. Replace the formatter assembly. See Formatter assembly.

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
50.X FUSER ERROR For help press ?	A fuser error has occurred. X Description 1 low fuser temperature 2 fuser warmup service 3 fuser over temperature 4 faulty fuser 5 incorrect fuser is installed 6 open fuser circuit	1 Turn the printer off and allow it to cool down. 2 Verify that the correct model of fuser is installed. 3 Verify that the correct voltage fuser is installed. 4 Reinstall the fuser, and check the connection between the fuser and the printer. Replace the connector if it is damaged. 5 Replace the fuser. 6 Replace the dc controller PCA. See Dc controller PCA . 7 Replace the power-supply assembly. See Power supply .
51.XY PRINTER ERROR For help press ? alternates with 51.XY PRINTER ERROR To continue turn off then on	A printer error has occurred. X Description 1 beam-detect error 2 laser error	1 Press ✓ (SELECT button) to continue. 2 Turn the printer off and then on. 3 Reseat the connectors between the laser/scanner and dc controller PCA (J83 and J84). 4 Replace the laser/scanner assembly. See Laser/scanner assembly . 5 Replace the dc controller PCA. See Dc controller PCA .
52.XY PRINTER ERROR For help press ? alternates with 52.XY PRINTER ERROR To continue turn off then on	A printer error has occurred. X Description 0 scanner error 1 scanner startup error 2 scanner rotation error	1 Press ✓ (SELECT button) to continue. 2 Turn the printer off and then on. 3 Reseat the connectors between the laser/scanner and dc controller PCA (J83 and J84). 4 Replace the laser/scanner assembly. See Laser/scanner assembly . 5 Replace the dc controller PCA. See Dc controller PCA .
53.XY.ZZ PRINTER ERROR To continue press cancel job	An error occurred in the printer memory. X DIMM Type 0 ROM (firmware DIMM) 1 RAM	Press CANCEL JOB . If the problem persists, replace the DIMM card in the specific slot. See Firmware DIMM (LJ 4200/4300 only) .

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
	Y Device Location	
	1 DIMM Slot 1	
	2 DIMM Slot 2	
	3 DIMM Slot 3	
	4 DIMM Slot 4	
	ZZ Error Number	
	0 unsupported memory	
	1 unrecognized memory	
	2 unsupported memory size	
	3 failed RAM test	
	4 exceeded maximum RAM size	
	6 invalid DIMM speed	
54.1 Remove the sealing tape from toner cartridge	The print cartridge was installed with the sealing tape in place.	<ol style="list-style-type: none"> 1 Remove the sealing tape from the print cartridge. 2 Replace the print cartridge.
55.X PRINTER ERROR For help press ? alternates with 55.X PRINTER ERROR To continue press ✓	The dc controller is not communicating with the formatter. The problem could be caused by a timing error or an intermittent connection.	<ol style="list-style-type: none"> 1 Press ✓ (SELECT button) to continue. 2 Turn the printer off and then on. 3 Reseat the connectors between the dc controller PCA and the formatter. 4 If the problem persists, replace the dc controller PCA. See Dc controller PCA. 5 Replace the formatter. See Formatter assembly.
56.1 printer error To continue turn off then on	An unknown input device is installed.	<ol style="list-style-type: none"> 1 Turn the power off and then on. 2 Reinstall all input trays. 3 Remove all non-HP paper-handling devices.
56.2 printer error To continue turn off then on	An unknown output device is installed.	<ol style="list-style-type: none"> 1 Turn the power off and then on. 2 Reinstall the stacker or stapler/stacker. 3 Remove all non-HP paper-handling devices.
57.X	A printer fan is not functioning.	Turn the printer off and then on.

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
PRINTER ERROR	X Description	57.3 Cartridge fan error (F2)
To continue turn off then on	3 Cooling fan, right side (LJ 4250/4300/4350 only)	1 Reconnect the connector between the fan and the dc controller PCA (location J78).
or	4 Main cooling fan, left side	2 Replace the fan. See Cooling fan, right side (HP LaserJet 4250/4300/4350 Series printers only) .
57.3 EP fan failure		3 Replace the dc controller PCA. See Dc controller PCA .
or		57.4 Main fan error (F1)
57.4 main fan failure		1 Reconnect the connector between the fan and the power supply.
		2 Verify that the ribbon cables are fully seated in the connectors on the dc controller PCA.
		3 Replace the fan. See Main cooling fan (left side) .
		4 Replace the power-supply assembly. See Power supply .
		5 Replace the dc controller PCA. See Dc controller PCA .
57.7 duplex fan failure	The cooling fan in the optional duplexer is not functioning.	1 Turn the printer off and then on.
		2 Replace the duplexer.
58.X	A memory error has been detected.	Turn the printer off and then on.
PRINTER ERROR	X Description	58.2 Air-temperature sensor
For help press ?	2 air-temperature sensor	1 Turn the printer off and then on.
alternates with	3 Dc controller	2 Reconnect the connector between the air-temperature sensor (the bar mounted across the main cooling fan on the left side of the printer) and the power supply (location J63).
58.X	4 power supply	3 Replace the air-temperature sensor. See Main cooling fan (left side) .
PRINTER ERROR		4 Replace the power-supply assembly. See Power supply .
To continue turn off then on		58.3 Dc controller
		1 Replace the dc controller PCA. See Dc controller PCA .
		58.4 Power supply
		1 Replace the power-supply assembly. See Power supply .

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
59.XY PRINTER ERROR For help press ? alternates with 59.XY PRINTER ERROR To continue turn off then on	A printer-motor error has occurred. X Description 0 main-motor error 1 motor startup error 2 motor rotation error 4 print-cartridge-motor error (LJ 4250, 4300, 4350 only) A print-cartridge-motor error (LJ 4250, 4300, 4350 only) Y Description Y = 0	59.00, 59.10, 59.20 Motor failure 1 Turn the printer off and then on. 2 Reconnect the main-motor wire-harness on the dc controller PCA (location J98) 3 Replace the main motor. See Main motor . 4 Replace the dc controller PCA. See Dc controller PCA . 59.A or 59.4 print-cartridge-motor failure (LJ 4250, 4300, 4350 only) 1 Turn the printer off and then on. 2 Reconnect the print-cartridge-motor wire-harness on the dc controller PCA (location J86). 3 Replace the print-cartridge motor. See Print-cartridge motor (HP LaserJet 4250/4300/4350 series printer only) . 4 Replace the dc controller PCA. See Dc controller PCA .
59.2 Main motor Rotation error	The main motor is not functioning correctly.	1 Turn the printer off and then on. 2 Reconnect the main-motor wire-harness on the dc controller PCA (location J98) 3 Replace the main motor. See Main motor . 4 Replace the dc controller PCA. See Dc controller PCA .
59.4 Print-cartridge-motor rotation error (LJ 4250, 4300, 4350 only)	The print-cartridge drive motor (LJ 4250, 4300, 4350 only) is not functioning properly.	1 Turn the printer off and then on. 2 Replace the print cartridge. 3 Reconnect the print-cartridge-motor wire-harness on the dc controller PCA (location J86). 4 Replace the print-cartridge-motor. See Print-cartridge motor (HP LaserJet 4250/4300/4350 series printer only) . 5 Replace the dc controller PCA. See Dc controller PCA .

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
60.2 printer error	The tray 2 lifter-motor is not functioning.	<ol style="list-style-type: none"> 1 Turn the printer off and then on. 2 If the error persists, turn the printer off. 3 Verify that the tray 2 lifter wire-harness is full seated in its connector on the dc controller PCA (location J93). 4 Replace the tray 2 lifter-driver assembly. See Tray 2 lifter-drive assembly. 5 Replace the dc controller PCA. See Dc controller PCA.
60.3 Tray 3 lifter motor failure	The tray 3 lifter-motor is not functioning. Tray 3 can be a 500-sheet feeder or 1,500-sheet feeder accessory.	<ol style="list-style-type: none"> 1 Turn the printer off and then on. 2 If the error persists, turn the printer off. 3 Verify that the tray 3 lifter wire-harness is fully seated in its connector on the sheet feeder PCA. 4 Replace the tray 3 lifter-driver assembly. See 500-sheet feeder lifter-drive assembly or 1,500-sheet feeder lifter-drive assembly. 5 Replace the tray 3 feeder controller PCA. See 500-sheet feeder control PCA or 1,500-sheet feeder control PCA.
60.4 Tray 4 lifter motor failure	The tray 4 lifter-motor is not functioning. Tray 4 can be a 500-sheet feeder or 1,500-sheet feeder accessory.	<ol style="list-style-type: none"> 1 Turn the printer off and then on. 2 If the error persists, turn the printer off. 3 Verify that the tray 4 lifter wire-harness is fully seated in its connector on the sheet feeder PCA. 4 Replace the tray 4 lifter assembly. See 500-sheet feeder lifter-drive assembly or 1,500-sheet feeder lifter-drive assembly. 5 Replace the tray 4 feeder controller PCA. See 500-sheet feeder control PCA or 1,500-sheet feeder control PCA.
62 NO SYSTEM To continue turn off then on	No system (firmware image) was found.	<ol style="list-style-type: none"> 1 Turn the printer off and then on. 2 Reseat the firmware DIMM, in slot J1. See Firmware DIMM (LJ 4200/4300 only). 3 Replace the firmware DIMM. See Firmware DIMM (LJ 4200/4300 only).

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
		4 Replace the formatter assembly. See Formatter assembly .
64 PRINTER ERROR For help press ? alternates with	A scan-buffer error has occurred.	1 Turn the printer off and then on. 2 If the message persists, replace the formatter assembly. See Formatter assembly .
64 PRINTER ERROR To continue turn off then on		
66.00.15 EXTERNAL DEVICE FAILURE NOTE: The stacker or stapler/stacker LED is off.	The stacker or stapler/stacker was removed and then replaced while the printer power was on.	1 Turn the printer power off. 2 Verify that the stacker or stapler/stacker is installed correctly. 3 Turn the printer power on.
66.12.XX output device failure For help press ? NOTE: The stacker or stapler/stacker LED is continuously illuminated in amber.	A stacker or stapler/stacker error has occurred. XX Description 01 output-lift roller or paddle motor error 02 jogger-motor error 03 stapler-motor error	1 Press ? (HELP button) for detailed information. 2 Press ▲ (UP ARROW button) and ▼ (DOWN ARROW button) to step through the instructions. 3 Turn the power off. 4 Verify that the stapler/stacker is installed correctly and that its electrical connector is seated in the connector on the printer. 5 Turn the power on. 6 If the error 66.12.03 persists, replace the stapler unit. See To remove and replace the stapler unit . 7 If other errors messages persist, replace the stacker or stapler/stacker.
68.X PERMANENT STORAGE ERROR For help press ? alternates with	One or more printer settings that were saved in the nonvolatile storage device are invalid and have been reset to the factory default. Pressing ✓ (SELECT button) should clear the message. Printing can continue, but the printer might behave unexpectedly in response to the changed settings.	1 Press ✓ (SELECT button) to continue. 2 Turn the printer off and then on. 3 Check the printer settings to determine which settings have been changed. See Settings and defaults and Control-panel menus . 4 Perform a NVRAM initialization. See NVRAM initialization .
68.X	X Description	

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
PERMANENT STORAGE ERROR	0 onboard NVRAM	5 Replace the formatter assembly. See Formatter assembly .
To continue press ✓	1 flash DIMM or hard drive	
68.X PERMANENT STORAGE FULL	A nonvolatile storage device is full. Pressing ✓ (SELECT button) should clear the message. Printing can continue, but the printer might behave unexpectedly in response to the changed settings.	1 Press ✓ (SELECT button) to continue.
For help press ?		2 For 68.0 errors, turn the printer off and then on.
alternates with	X Description	3 If a 68.0 error persists, Initialize NVRAM. See the caution and note in To initialize NVRAM .
68.X PERMANENT STORAGE FULL	0 onboard NVRAM	4 For 68.1 errors, use the HP Web Jetadmin software to delete files from the disk drive.
To continue press ✓	1 flash DIMM or hard drive	5 If this error message persists, replace the formatter assembly. See Formatter assembly .
		6 If the 68.1 error persists, reinitialize the hard disk. See the caution and note in To initialize the hard disk .
		7 If the 68.1 error persists, replace the disk.
68.X PERMANENT STORAGE WRITE FAIL	A nonvolatile storage device is failing to write. Pressing ✓ (SELECT button) should clear the message. Printing can continue, but the printer might behave unexpectedly in response to the changed settings.	1 Press ✓ (the SELECT button) to continue.
To continue press ✓	X Description	2 Turn the printer off and then on.
	0 onboard NVRAM	3 If the 68.0 error persists, initialize the NVRAM. See the caution and note in To initialize NVRAM .
	1 removable disk (flash or hard)	4 If this error message persists, replace the formatter assembly. See Formatter assembly .
		5 For a 68.1 error message, reinitialize the hard disk. See the caution and note in To initialize the hard disk .
		6 If the 68.1 error persists, replace the disk.
69.X printer error	The optional duplexer is not functioning.	1 Remove the duplexer.
To continue turn off then on		2 Turn the printer off and then on.
		3 Replace the duplexer.
		4 If the message persists, replace the duplexer.
79.XXXX PRINTER ERROR	A critical hardware error has occurred.	1 Turn the printer off and then on.
		2 If the problem persists, reseal the firmware DIMM.

Table 7-7 Numerical printer messages (continued)

Control panel message	Description	Recommended action
To continue turn off then on		<ol style="list-style-type: none"> 3 Reseat the formatter. 4 Go to www.hp.com/go/lj4200_software, www.hp.com/go/lj4250_software, www.hp.com/go/lj4300_software, or www.hp.com/go/lj4350_software. Select Download Drivers and Software. Check for the latest firmware image version at the bottom of the page. If this firmware image is newer than the one installed on the printer and the printer can receive a firmware update, download the newer firmware upgrade. Not all HP LaserJet 4200/4300 printers can receive firmware upgrades. 5 Replace the formatter. See Formatter assembly. 6 Replace the firmware DIMM. See Firmware DIMM (LJ 4200/4300 only).
8X.YYYY EIO ERROR	The EIO accessory card in slot X has encountered a critical error.	<ol style="list-style-type: none"> 1 Turn the printer off and then on. 2 If the problem persists, reseat the EIO card. 3 Replace the EIO card. 4 Replace the formatter assembly. See Formatter assembly.

Paper-path troubleshooting

The following sections describe how to troubleshoot problems in the paper path.

Overview

If a jam message appears on the printer control-panel display, look for jammed paper or other print media in the locations that are indicated in the following figure. Then see the tables in this section for information about clearing the jam. You might need to look for media in locations other than those specified in the jam message. If the location of the jam is not obvious, look first in the top-cover area underneath the print cartridge.

When clearing jams, be very careful not to tear the jammed media. If a small piece of media is left in the printer, it could cause additional jams. If jams are a recurring problem, see [Persistent jams](#).



NOTE After you have cleared the jammed media, you must open and then close the top cover to clear a jam message.

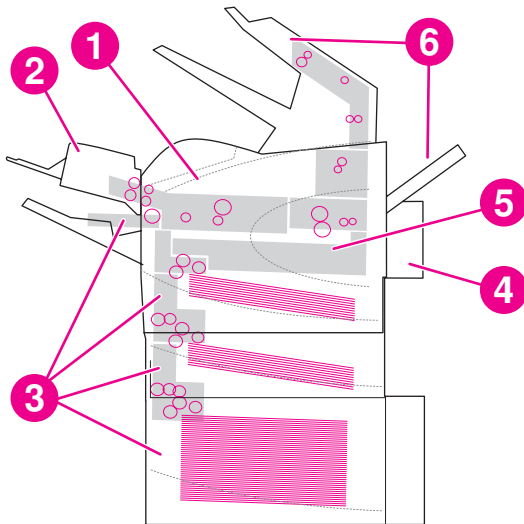


Figure 7-7 Jam locations

1	Top-cover and print-cartridge areas
2	Optional envelope feeder
3	Tray areas (tray 1, tray 2, and optional trays)
4	Optional duplexer
5	Fuser area
6	Output areas (top, rear, and optional stacker or stapler/stacker)
7	Optional stacker or stapler/stacker



NOTE Loose toner might remain in the printer after a jam and cause poor print quality. Print quality will improve after a few pages are printed.

Jam recovery

This printer can automatically provide jam recovery. You can use the jam-recovery to automatically reprint jammed pages.

Select whether or not you want the printer to attempt to reprint jammed pages.

- **AUTO** Printer will attempt to reprint jammed pages.
- **OFF** Printer will not attempt to reprint jammed pages.



NOTE To improve print speed and increase memory resources, you might want to disable the jam recovery. If jam recovery is disabled, the printer will not attempt to reprint the jammed pages.

NOTE During the recovery process, the printer might reprint several pages that were printed correctly before the jam occurred. Be sure to remove any duplicated pages.

To disable the jam recovery

- 1 Press ✓ (**SELECT** button) or the **MENU** button to open the menus.
- 2 Press ▼ (**DOWN ARROW** button) to scroll to **CONFIGURE DEVICE**.
- 3 Press ✓ to select **CONFIGURE DEVICE**.
- 4 Press ▼ to scroll to **SYSTEM SETUP**.
- 5 Press ✓ to select **SYSTEM SETUP**.
- 6 Press ▼ to scroll to **JAM RECOVERY**.
- 7 Press ✓ to select **JAM RECOVERY**.
- 8 Press ▼ to scroll to **OFF**.
- 9 Press ✓ to select **OFF**.
- 10 Press the **PAUSE/RESUME** button to return to the **READY** state.

Avoiding jams

Use this table to help avoid specific types of jams.

Table 7-8 Common causes of paper jams

Cause	Solution
The print media does not meet HP recommended media storage and use specifications.	Use only media that meets HP specifications. See chapter 1 in this manual or the <i>HP print media guide</i> (available at http://www.hp.com/support/ljpaperguide) for media recommendations.
A supply item is installed incorrectly, which causes repeated jams.	Verify that the print cartridge and the fuser are correctly installed.
You are reloading paper that has already passed through a printer or copier.	Do not use media that has been used previously in a printer or copier.
An input tray is loaded incorrectly.	Remove any excess media from the input tray. Make sure that the stack of media fits below the indicators inside of the tray.
The print media is skewed.	The tray guides are not adjusted correctly. Adjust the guides to hold the media firmly in place without bending it. If media heavier than 120 g/m ² (32 lb) is loaded into tray 2, tray 3, or tray 4, the media might skew.
The print media is binding or sticking together.	Remove the media and flex it, rotate it 180°, or flip it over. Reload the media into the tray. Do not fan media.
The print media is removed before it settles into the output bin.	Wait until the page completely exits the output delivery assembly before you attempt to remove the it.
When you are using the duplex print feature, the print media is removed before the second side of the document is printed.	Print the document again. During the duplex operation, the page will partially protrude from the output delivery assembly (when the page is being reversed). Do not attempt to grab or remove the page. Wait until the page completely exits the output delivery assembly before you attempt to remove the it.
The print media is in poor condition.	Replace the print media.
The print media is not picked up by the internal rollers from Trays 2, 3 or 4.	Remove the top sheet of media. If the media is heavier than 120 g/m ² (32 lb), it might not be picked up properly from the tray.
The print media has rough or jagged edges.	Replace the media.
The print media is perforated or embossed.	If the media does not separate easily, you might need to feed single sheets from tray 1.
The printer supply items have reached the end of their useful life.	Check the printer control panel for messages that prompt you to replace supplies, or print a supplies status page to verify the remaining life of the supplies.
The print media was not stored correctly.	Replace the print media. The media should be stored in its original packaging and in a controlled environment.

Persistent jams

If jams occur repeatedly, use the information in this section to diagnose the root cause of the problem. The tables in this section list possible causes and recommended solutions for jams in each area of the paper path. The information is listed in the order in which you conduct the investigation. In general, items at the beginning of the list are relatively minor repairs. Items at the end of the list are more significant repairs.

Basic troubleshooting for persistent jams

The basic troubleshooting process for jams consists of the following steps:

- 1 Gather data.
- 2 Identify the cause of the problem.
- 3 Fix the problem.

Data collection

To troubleshoot jams, gather the following information:

- The exact error code that appears on the control panel
- The location of the leading edge of all of the media that is in the paper path
- The location of the media when the jam occurs: in the paper path or at the input tray
- The timing of the jam: at power-up or while paper is moving
- The location of any damage that occurs on the media and the location in the paper path where the damaged media stops
- The relationship to a particular tray
- The relationship to duplex printing
- The relationship to the type of paper
- The use of any non-HP supplies (non-HP supplies are known to cause jams)
- Paper-handling conditions, including storage conditions, overloading trays, damaging media during loading, fanning of the paper ream, or use of paper that has already been fed through this printer, another printer, or a copier

General paper-path troubleshooting

Use the following information to isolate the cause of the problem. When you have identified the cause, use the tables that follow to find a recommended solution.

- View or print the event log to determine if a particular jam error occurs more often than others. Try to identify a pattern.
- View or print the event log to determine the frequency of a particular jam. If a jam occurs repeatedly at a particular page count, consider this event to be a single jam that the customer tried to clear.

- Try printing from all of the available input trays and to all of the available output bins to identify whether the problem is isolated to one tray.
- Print the job in both the simplex and duplex mode to identify whether the problem occurs only in one mode or the other.
- Try printing on paper from an unopened ream that has been stored correctly. If the jam does not occur with this media, then the customer's media might be causing the problem.
- If the jam occurs when the printer is first turned on, check the paper path for small, torn pieces of media. Also check for broken sensors or flags, and check for loose or defective connections.
- If the media is torn, folded, or wrinkled (typically along the leading edge), inspect the paper path for items that might be causing the damage.
- If the customer is using non-HP supplies, try replacing those supplies with genuine HP supplies to see if the problem is resolved.
- If necessary, explain the correct methods of media storage, media loading, and printer operation to the customer. Make sure that the customer knows not to remove media from the output bin (especially during duplex printing) until it completely exits the output delivery assembly.

Paper-path checklist

- Verify that the media is correctly loaded in the input trays and that all length and width guides are set correctly.
- Clean the printer. Toner and paper dust in the paper path can inhibit free movement of the media through the printer and can block the sensors.
- Use the paper-path test on the **Diagnostic** menu to select various printer input and output options to determine if the problem is associated with a particular area of the printer.
- Worn rollers or separation pads can cause multifeeds. Check the condition of the rollers and separation pads.
- Defective paper-tray switches can cause jams by communicating the wrong paper size to the formatter.
- Defective paper sensors along the paper path might signal a false jam.
- Scraps of media that remain in the paper path can cause intermittent jams. Always check that the paper path is clear after cleaning the printer or clearing jams. Also, remove the fuser and carefully check it for debris.

Paper-path test

This test generates one or more test pages that can be used to isolate the cause of jams.

To isolate a jam, you can specify which input tray to use, which output bin to use, whether to use the duplex path, and the number of pages to print. Printing multiple pages helps to isolate intermittent jam problems. The following options are available for this test.

- **Print test page.** This option uses factory default settings to run the paper path test. The page starts from tray 2, does not use the duplex path, and prints a single page. The user can specify the number of pages to be printed.
- **Source.** Use this option to select tray 1, tray 2, or tray X (if optional tray feeders are installed) as the page source.
- **Destination.** Use this option to send the test page to the optional stacker or stapler/stacker if this accessory is installed.
- **Duplex.** Use this option to send the test page through the duplex path.
- **Page count.** Use this option to sets the number of test page copies to be printed. The choices are 1, 10, 50, 100, and 500.

To perform a paper-path test

- 1 Press ✓ (**SELECT** button) or the **MENU** button to open the menus.
- 2 Use ▲ (**UP ARROW** button) or ▼ (**DOWN ARROW** button) to scroll to **DIAGNOSTICS**, and then press ✓.
- 3 Use ▲ or ▼ to scroll to **PAPER PATH TEST**, and then press ✓.
- 4 Use ▲ or ▼ to scroll through the available test options, and then press ✓.
- 5 After the test options are selected, use ▲ or ▼ to scroll to **PRINT TEST PAGE**, and then press ✓ to start the test.



NOTE To test the stacker and stacker/stapler paper path, see [Stacker paper-path test](#) and [Stapler/stacker paper-path test](#).

Jams in tray 1

Table 7-9 Causes of tray 1 jams

Cause	Solution
The pickup roller is dirty, worn, or damaged.	Clean the pickup roller. If it is dirty after cleaning, or if it is worn or damaged, replace the pickup roller.
The separation pad is dirty, worn, or damaged.	Clean the separation pad. If it is dirty after cleaning, or if it is worn or damaged, replace the separation pad.
The drive gears are damaged.	Check the drive gears in the tray 1 pickup assembly. Replace the pickup assembly if the gears are damaged.
The tray 1 pickup solenoid (SL102) is defective.	<ol style="list-style-type: none">1 Disconnect the connector for the tray 1 pickup solenoid from the dc controller PCA (location J79).2 Measure the resistance between the cable connectors.3 If the measured resistance is <i>not</i> approximately 160 ohms for the HP LaserJet 4200/4300, or 110 ohms for the HP LaserJet 4250/4350, replace the tray 1 pickup solenoid.
The tray 1 pickup assembly is defective.	Replace the tray 1 paper-pickup assembly. See Tray 1 paper-pickup assembly .
The dc controller PCA is defective.	Replace the dc controller PCA. See Dc controller PCA .
Damaged gears in the cassette pick-up drive unit.	Move the gears in the cassette pick up drive unit. If the gears are not rotating correctly, or are damaged or worn replace the cassette pick-up drive unit.
Dirty, worn, or deformed feed roller.	Clean the feed roller. If it is dirty after cleaning, or if it is worn or damaged, replace the pickup roller.
Defective feed roller clutch.	Disconnect the connector J89. Measure the resistance between the cable side connectors J89-1 and J89-3. If it is not about 145 ohms, replace the feed roller clutch.

Jams in tray 2

Table 7-10 Causes of tray 2 jams

Cause	Solution
The feed or separation rollers are dirty, worn, or damaged.	Clean the rollers. If they are dirty after cleaning, or if they are worn or damaged, replace the rollers.
The pickup roller is worn or damaged.	Replace the pickup roller.
The tray 2 paper pickup assembly drive gears are damaged or the assembly is defective.	Check the drive gears in the paper pickup drive assembly. Replace the pickup drive assembly if the gears are damaged. See Paper-pickup drive assembly .
The tray 2 pickup solenoid (SL101) is damaged.	<ol style="list-style-type: none">1 Disconnect the connector for the tray pickup solenoid from the dc controller PCA (location J92).2 Measure the resistance between the cable connectors.3 If the measured resistance is <i>not</i> approximately 160 ohms for the HP LaserJet 4200/4300, or 110 ohms for the HP LaserJet 4250/4350, replace the tray 2 pickup solenoid.
The tray 2 lifter-drive assembly or the stack position sensor (PS107) is defective.	Replace the lifter-drive assembly. See Tray 2 lifter-drive assembly and/or Printer switches and sensors .
The dc controller PCA is defective.	Replace the dc controller PCA. See Dc controller PCA .
Dirty, worn, or deformed pick-up roller, cassette separation roller, and cassette feed roller.	Clean the rollers if they are dirty. Replace any worn or deformed rollers. The cassette separation roller and the cassette feed rollers are to be replaced together.
Damaged gears in the cassette pick-up drive unit.	Move the gears in the cassette pick up drive unit. If the gears are not rotating correctly, or are damaged or worn, replace the cassette pick-up drive unit.

Jams in tray 3 or tray 4

Table 7-11 Causes of tray 3 and or tray 4 jams

Cause	Solution
The feed or separation rollers are dirty, worn, or damaged.	Clean the rollers. If they are dirty after cleaning, or if they are worn or damaged, replace the rollers. See 500-sheet feed rollers or 1,500-sheet feeder feed rollers , or 1,500-sheet feeder separation roller .
The pickup roller is worn or damaged.	Replace the pickup roller.
The drive transmission gear is damaged.	Check the gears, and replace any damaged or worn parts.
The tray 3 or tray 4 paper pickup drive gears are damaged, or the assembly is defective.	Check the drive gears in the paper-pickup unit. Replace the pickup drive assembly if the gears are damaged. See 500-sheet feeder paper-pickup drive assembly or 1,500-sheet feeder paper-pickup drive assembly .
The connector to the printer has poor contact.	Inspect the connector to the printer. Replace any damaged connectors.
The paper-feeder pickup solenoid is damaged.	<ol style="list-style-type: none">1 Disconnect the connector for the paper-feeder solenoid from the feeder control PCA.2 Measure the resistance between the cable connectors.3 If the measured resistance is <i>not</i> approximately 160 ohms for the HP LaserJet 4200/4300, or 110 ohms for the HP LaserJet 4250/4350, replace the paper-feeder pickup solenoid. See 500-sheet feeder switches, sensors, solenoids, and PCAs or 1,500-sheet feeder switches, sensors, solenoids, and PCAs.
The tray 3 or tray 4 lifter assembly or stack-position sensor (PS802 or SR2) is defective.	Replace the lifter-drive assembly (500-sheet feeder) or the lifter-drive assembly (1,500-sheet feeder). See 500-sheet feeder lifter-drive assembly or 1,500-sheet feeder lifter-drive assembly . Replace the surface stack sensor (PS802 for the 500-sheet feeder, or SR2 for the 1,500-sheet feeder). See 500-sheet feeder switches, sensors, solenoids, and PCAs or 1,500-sheet feeder switches, sensors, solenoids, and PCAs .
The paper-feeder control PCA is defective.	Replace the paper-feeder control PCA. See 500-sheet feeder control PCA and 1,500-sheet feeder control PCA .
The dc controller PCA is defective.	Replace the dc controller PCA. See Dc controller PCA .

Jams in the paper path



NOTE Avoid using odd-sized media. Odd-sized media might not travel between the transfer roller and the fuser without getting jammed.

Avoid using short-grain paper. Short-grain paper might curl excessively and become jammed. This type of jam is often found between the fuser and the output destination or in the duplexer.

Table 7-12 Causes of paper-path jams

Cause	Solution
The cartridge shutter open/close mechanism is damaged.	The shutter in the print cartridge should open as you insert the print cartridge. If the shutter does not open, replace the print cartridge.
The registration roller is dirty, worn, or damaged. (This applies to jams that occur before the media reaches the registration rollers.)	Clean the registration roller assembly if it is dirty. If it is dirty after cleaning, or if it is worn or damaged, replace the registration assembly. See Registration assembly .
The paper-feed assembly (including clutch CL101) might be damaged. (This applies to jams that occur before the media reaches the registration rollers.)	Replace the paper-feed assembly. See Paper-feed assembly .
The drive gears are damaged. (This can cause jams that occur before the media reaches the registration rollers.)	Check the drive gears in the paper pickup and main drive assemblies. Replace the pickup or main drive assemblies if the gears are damaged. See Paper-pickup drive assembly or Main drive assembly .
The pre-feed (PS102), top-of-page (PS103), or fuser-assembly (PS108) sensor is defective.	Replace any defective sensors. See Printer switches and sensors .
The dc controller PCA is defective.	Replace the dc controller PCA. See Dc controller PCA .

Jams in the duplex path

Table 7-13 Causes of duplex path jams

Cause	Solution
The oblique rollers are worn or damaged.	Replace the duplexer.
The oblique roller drive gears are worn or damaged.	Replace the duplexer.
The reversing motor is defective.	Replace the reversing motor.
The duplex feed guide is damaged.	Replace the duplexer.
The duplexing unit feed belt is cut or sagged.	If the duplexing-unit feed belt is cut or sagging, replace the belt.
The duplex sensors are defective.	Replace the duplexer.
Foreign materials or burrs are present on the reversing or feed guide.	If foreign materials are present on the reversing or feed guide, remove them. Replace the guide if it has burrs.
The dc controller PCA is defective.	Replace the dc controller PCA. See Dc controller PCA .

Media transport problems

If media is feeding incorrectly, use the information in this section to identify and resolve the problem.

Multiple pages feed

Table 7-14 Causes for multiple pages feeding

Cause	Solution
The tray 1 separation pad is worn.	Replace the separation-pad assembly.
Too much media (particularly envelopes) is loaded in tray 1.	Remove some of the media and resend the print job.
The separation rollers in the tray are worn or damaged	Replace the rollers. See Tray 2 feed rollers for tray 2, 500-sheet feed rollers for a 500-sheet feeder, or 1,500-sheet feeder feed rollers for a 1,500-sheet feeder.
The media edges are locked together.	Flex the media stack before loading it into the printer. <i>Do not</i> fan the media.
The cassette claw is deformed.	Replace the cassette claw.
The torque limiter is defective.	Replace the torque limiter.
The spring that pushes the separation roller or pad is defective.	Replace the spring.

Media is wrinkled or folded

Table 7-15 Causes for wrinkled or folded media at the paper-path entrance

Cause	Solution
The feed rollers or registration rollers are dirty or defective.	Replace the affected rollers.
The paper path contains foreign substances or dirt.	Remove any foreign substances or dirt from the paper path.
The cartridge shutter open/close mechanism is damaged. (This can cause jams in which the media is crumpled into an accordion fold under the print cartridge.)	The shutter in the print cartridge should open as you insert the cartridge. If a shutter does not open, replace the print cartridge.
The registration unit is defective.	Of the registration arm is dirty, clean it. If the arm is scarred or worn, replace the registration unit.

Table 7-16 Causes for wrinkled or folded media at the media-path exit

Cause	Solution
The fuser inlet guide is dirty.	Replace the fuser. See Fuser .
The fuser pressure roller is dirty or damaged.	Run several cleaning pages through the printer. See Running the cleaning page manually . If the problem persists, replace the fuser. See Fuser .

Media is skewed

Table 7-17 Causes for skewed media

Cause	Solution
Paper dust or dirt has accumulated on the tray feed roller or separation roller.	Clean or replace the rollers.
The tray feed roller and separation roller are worn irregularly.	Replace the affected roller.
The registration assembly is defective.	Replace the registration assembly. See Registration assembly .
The cassette separation claw does not move smoothly or is deformed.	Replace the side guide plate.

Image-formation troubleshooting

The image-formation system is the central hub of the printer. During image formation, an image is formed with toner and then fused onto the paper. The image-formation system consists of the following physical components:

- Laser/scanner
- Print cartridge
- Fuser
- Transfer roller
- Supporting circuitry (power supply and dc controller PCA)

Before beginning the image-formation troubleshooting, check that the media meets the specifications listed in chapter 1 and the *HP LaserJet Printer Family Print Media Guide*. See [Supported media weights and sizes](#) and [Paper and print media](#).

Media-related print-quality problems

Some print-quality problems occur when inappropriate media is used.

- Use media that meets HP specifications. See the specifications listed in the *HP LaserJet Printer Family Print Media Guide*.
- The surface of the media is too smooth. Use media that meets HP specifications. See the specifications listed in the *HP LaserJet Printer Family Print Media Guide*.
- The printer driver is set incorrectly. Change the paper-type setting.
- The media is too heavy for the printer, and the toner is not fusing to the media.
- The transparencies are not designed for adequate toner adhesion or high fusing temperatures. Use only transparencies that are designed for monochrome HP LaserJet printers.
- The moisture content of the paper is uneven, too high, or too low. Use paper from a different source or from an unopened ream of paper.
- Some areas of the paper reject toner. Use paper from a different source or from an unopened ream of paper. Make sure that the paper has not been previously used.
- The letterhead is printed on rough paper. Use a smoother, photocopy-grade paper. If this solves the problem, consult with the letterhead supplier to verify that the paper used for the letterhead meets the specifications for this printer.
- The paper is excessively rough. Use a smoother, photocopy-grade paper.
- The paper has a coating that is not compatible with the electrophotographic process.
- The letterhead or other preprinted media was printed with inks or other materials that can contaminate the fuser, which causes offset or repeated images.
- The use of some carbonless papers contaminates the printer and can cause printer damage if used repeatedly.

Overhead transparency defects

Overhead transparencies can show any of the image-quality problems that appear in other types of media in addition to defects that are specific to transparencies. Also, because transparencies are pliable, they can be affected by the media-handling components in the paper path.



NOTE Allow transparencies to cool at least 30 seconds before handling them.

- On the printer driver **Paper** tab, select **Transparency** as the media type. Also, make sure that the tray is correctly configured for transparencies.
- Make sure that the transparencies meet the specifications for this monochrome laserjet printer. For more information, consult the *HP LaserJet Printer Family Print Media Guide*.
- Handle transparencies by the edges. Skin oil on the surface of transparencies can cause spots and smudges.
- Small, random dark areas on the trailing edge of solid fill pages might be caused by transparencies sticking together in the output bin. Try printing the job in smaller batches.
- To show the printed transparency, use a standard overhead projector instead of a reflective overhead projector

Print-quality problems that are related to the environment

- The printer is operating in excessively humid or dry conditions. Verify that the printing environment is within specifications. See [Operating environment](#).

Print-quality problems that are related to jams

- Make sure that all media is cleared from the paper path.
- If the printer recently jammed, print two or three pages to clean the printer.
- Repeated jams might require that you use the printer-cleaning procedures in chapter 3. It might be necessary to process several cleaning pages through the printer. See [Running the cleaning page manually](#).

Image defects

This section helps you define print-quality problems and solutions. Often, print-quality problems can be resolved by making sure that the printer is correctly maintained, using print media that meets HP specifications, or running a cleaning page.



NOTE Do not use letterhead paper that is printed with low-temperature inks, such as those that are used in some types of thermography.

Do not use raised letterhead.

The printer uses heat and pressure to fuse toner to the media. Make sure that any colored paper or preprinted forms use inks that are compatible with the printer's temperature of 230°C (446°F) for 0.05 second.

Avoid using paper that has already been used in a printer or copier. Also, do not print on both sides of envelopes, transparencies, or labels.

Image quality

When you are working with customers, obtain a print sample before you begin troubleshooting their printer. Ask the customer to explain the quality that is expected from the printer. The print sample will also help clarify the image-quality issue.

Table 7-18 Image-quality checks

Image-quality check	Action
Does the problem repeat on the page?	Use the repetitive defect table to determine the cause of the repeating defect. See Repetitive-defects troubleshooting .
Is the print cartridge full and is it manufactured by HP?	Check the print cartridge as described in this chapter and verify that you are not using the EconoMode setting when sending the print job. See Check the print cartridge and EconoMode .
Is the customer using print media that meets all HP standards?	For more information about HP's media specification standards, see chapter 1 or the <i>HP LaserJet Printer Family Print Media Guide</i> . See Supported media weights and sizes and Paper and print media .
Is the print sample similar to one in the print-quality tables? (See Image defect tables .)	Compare the sample to the print-quality tables in this chapter and perform the corresponding procedures that are recommended. See Image defect tables .
Is the problem in the print cartridge, the transfer roller, or the fuser?	Perform the half self-test functional check and the drum-rotation functional check to determine the location of the defect. See Half self-test functional check and Drum-rotation functional check . If the toner image is present on the drum surface, assume that the first four functions of the electrophotographic process are functioning, and troubleshoot the failure as a transfer or fusing problem. If the image on the media is correct before it enters the fuser, then the problem exists in the fuser.

Check the print cartridge

Image-formation defects are often the result of problems with the print cartridge. If you suspect that the print cartridge is the source of the problem, replace the print cartridge before troubleshooting image defects.

Use the following list to make sure that the print cartridge is still operable.

- Check the print cartridge to see if it has been disassembled or refilled.
- Inspect the cartridge for toner leaking through worn seals. (If the drum has been manually rotated, it might have caused internal damage, and toner spills can result.)



NOTE Print cartridges are rated for 10,000 (LaserJet 4250/4350), 12,000 (LaserJet 4200), 18,000 (LaserJet 4300), and 20,000 (LaserJet 4250/4350) images at 5% coverage. It is possible to wear out the photoconductive drum gears and the cartridge seals before **TONER LOW** appears on the control panel if average toner coverage is less than 5%. See [EconoMode](#).

- Check the surface of the photosensitive drum in the cartridge to see if it has been damaged or scratched. Touching the drum contaminates the photosensitive surface and can cause spotting and defects during printing.
- Dark areas on the page might indicate that the drum has been exposed to light for too long. If dark areas appear, stop the printer and wait a few minutes. This should eliminate most defective images. If not, placing the print cartridge in a dark environment for several days can restore some life to the drum.

EconoMode

EconoMode creates draft-quality printing by reducing the amount of toner on the printed page by up to 50%. Advise the customer to turn EconoMode on or off from the printer driver or software program, because those settings override the control-panel settings. EconoMode settings can also be changed from the print-quality menu on the control panel.



CAUTION Hewlett-Packard does not recommend full-time use of EconoMode. If EconoMode is always used, the toner supply will probably outlast the mechanical parts in the print cartridge.

Half self-test functional check

The electrophotographic process can be subdivided into the following stages:

- Cleaning (removes excess toner from the drum surface)
- Conditioning (places a uniform electrical charge on the drum)
- Writing (the laser strikes the surface of the drum to create an electrostatic image)
- Developing (forms the toner image on the drum)
- Transferring (charges transfer the image to the print media)
- Fusing (heat and pressure produces a permanent image)

The purpose of the half self-test check is to determine which process is malfunctioning. Use this procedure to perform the test:

- 1 Print a configuration page from the control panel **INFORMATION** menu.
- 2 Open the top cover after the paper advances half-way through the printer (about 3 to 5 seconds after the main motor begins rotation). 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 four functions of the electrophotographic process are functioning (cleaning, conditioning, writing, and developing), and troubleshoot the failure as a transfer or fusing problem.

If no image is present on the photosensitive drum, perform the following check.

Drum-rotation functional check

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 gear assembly. Use this procedure to determine whether the drum is rotating:

- 1 Open the top cover.
- 2 Remove the print cartridge.
- 3 Mark the cartridge drive gear with a felt-tipped marker. Note the position of the mark.
- 4 Install the print cartridge and close the top cover. The start-up sequence should rotate the drum enough to move the mark on the gear.
- 5 Open the printer and inspect the gear that was marked in step 3. Verify that the mark moved. If the mark did not move, inspect the main gear assembly to make sure that it meshes with the print-cartridge gears. If the drive gears function but the drum does not move, replace the print cartridge.

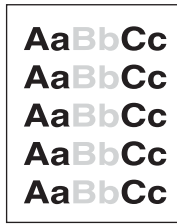


NOTE This test is especially important if refilled print cartridges are in use.

Image defect tables

Compare a printed sample of the image quality to these defect tables in order to determine a remedy.

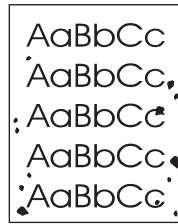
Table 7-19 Print-quality image defects



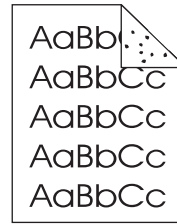
See [Table 7-20 Light print \(partial page\)](#).



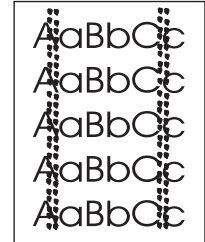
See [Table 7-21 Light print \(entire page\)](#).



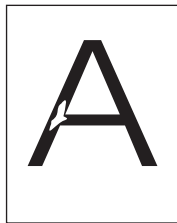
See [Table 7-22 Specks or dots](#).



See [Table 7-22 Specks or dots](#).



See [Table 7-22 Specks or dots](#).



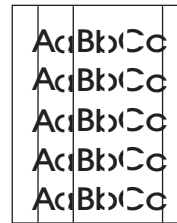
See [Table 7-23 Drop outs and character voids](#).



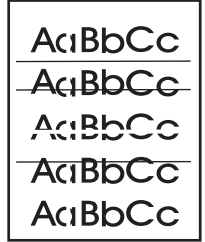
See [Table 7-23 Drop outs and character voids](#).



See [Table 7-23 Drop outs and character voids](#).



See [Table 7-24 Lines](#).



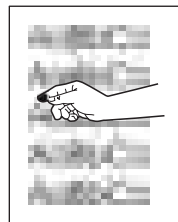
See [Table 7-24 Lines](#).



See [Table 7-25 Grey background](#).



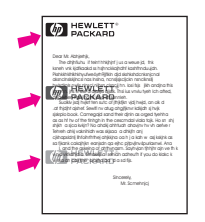
See [Table 7-26 Loose toner or toner smear](#).



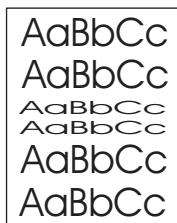
See [Table 7-26 Loose toner or toner smear](#).



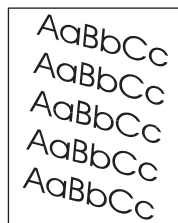
See [Table 7-27 Repeating defects and repeating images](#).



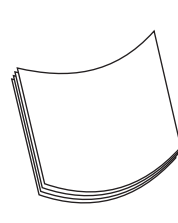
See [Table 7-27 Repeating defects and repeating images](#).



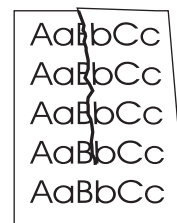
See [Table 7-28 Distorted images](#).



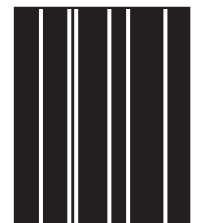
See [Table 7-29 Skew](#).



See [Table 7-30 Curl or wave](#).



See [Table 7-31 Creases](#).



See [Table 7-32 White lines](#).

Table 7-19 Print-quality image defects (continued)


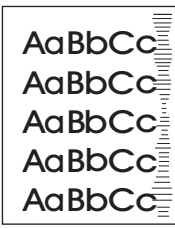
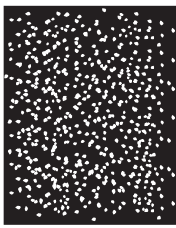
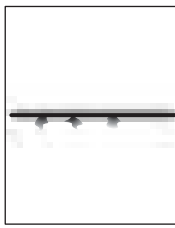
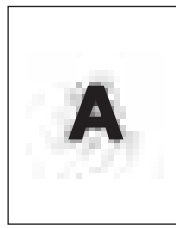



				
<p>See Table 7-32 White lines.</p>	<p>See Table 7-33 Smudged lines (either direction).</p>	<p>See Table 7-34 White spots on black.</p>	<p>See Table 7-35 Scattered lines.</p>	<p>See Table 7-36 Blurred print.</p>
			<p>See Table 7-39 Dark print.</p>	
<p>See Table 7-37 Black page.</p>	<p>See Table 7-38 Blank page.</p>			

Table 7-20 Light print (partial page)

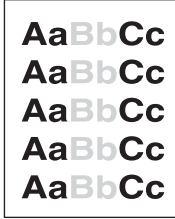
	Possible cause	Recommended action(s)
	<p>The print cartridge is not installed correctly.</p>	<p>Remove the print cartridge and then reinstall it. The top cover should close completely when the cartridge is fully seated.</p>
	<p>The toner supply is low or the print cartridge developer is defective.</p>	<ol style="list-style-type: none"> 1 Shake the print cartridge gently to redistribute the toner. 2 Replace the cartridge.
	<p>The transfer roller is worn or contaminated or maintenance might be due.</p>	<p>Print a supplies status page (see Supplies status page) and look at the maintenance-kit gauge. If maintenance is due, install a maintenance kit. For information about ordering a maintenance kit, see chapter 8.</p>

Table 7-21 Light print (entire page)


	Possible cause	Recommended action
	<p>Begin by performing the half self-test functional check (see Half self-test functional check). If the image on the print drum is light, proceed with actions 1, 2, 3, 6, and 7. If the drum image is normal, proceed with actions 5, 6, and 8.</p>	
	<p>The toner supply is low.</p>	<p>Shake the print cartridge gently to redistribute the toner, or replace the cartridge.</p>
	<p>EconoMode is on. EconoMode saves toner by reducing the dot density. The effect might appear to be a print-quality problem.)</p>	<p>Turn EconoMode off.</p>
	<p>The print density is set incorrectly</p>	<p>Change the toner density (see Print-quality submenu) to a darker setting and try to print the job again.</p>
	<p>The media does not meet specifications. The moisture content, conductivity, or surface finish might not work correctly with the electrophotographic process.</p>	<p>Try a different media type.</p>
	<p>The transfer roller is defective or not installed correctly. If the transfer roller loses conductivity, it cannot pull toner from the drum effectively.</p>	<p>Verify that the transfer roller is installed correctly. If the transfer roller is damaged, replace it. See Transfer roller.</p>
	<p>The high-voltage connector springs are dirty or damaged.</p>	<p>The high-voltage connector springs protrude into the print cartridge cavity. Clean the springs if they are dirty. Replace the springs if they are damaged or missing.</p>
	<p>The laser/scanner shutter door is not opening correctly.</p>	<ol style="list-style-type: none"> 1 Remove and reseal the print cartridge. 2 Verify that the laser/scanner shutter door can open correctly. If necessary, replace the laser/scanner assembly. See Laser/scanner assembly.
	<p>The power supply is defective. (The power supply contains the high-voltage circuit.)</p>	<p>Replace the power-supply assembly. See Power supply.</p>

Table 7-22 Specks or dots

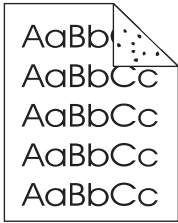

	Possible cause	Recommended action
	<p>Specks</p> <p>The interior of the printer is dirty.</p>	<ol style="list-style-type: none"> 1 Print a few more pages and see if the problem corrects itself. 2 Clean the inside of the printer (see chapter 3). 3 Process a printer cleaning page. See Running the cleaning page manually.
 <p>NOTE Specks might appear on the page after a jam has been cleared. Print two or three more pages and see if the specks disappear.</p>	<p>The print cartridge is damaged.</p> <p>The media does not meet specifications or is not stored correctly.</p>	<p>Replace the print cartridge.</p> <ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	<p>The fuser rollers are worn.</p>	<p>Replace the fuser. See Fuser.</p>
	<p>Dots (in the paper-path direction)</p>	
	<p>The static-eliminator teeth are dirty.</p>	<p>Clean the static-eliminator teeth by using a small brush or compressed air.</p>
	<p>Poor contact exists between the static-eliminator teeth and the power supply.</p>	<p>Clean the contacts, if they are dirty. If the problem persists after cleaning, or the contacts are damaged or deformed, replace them.</p>
	<p>The transfer roller is deformed or has deteriorated.</p>	<p>Replace the transfer roller. See Transfer roller.</p>
	<p>The power supply is defective.</p>	<p>Replace the power-supply assembly. See Power supply.</p>

Table 7-23 Drop outs and character voids



	Possible cause	Recommended action(s)
	<p>The user is printing on the wrong side of the paper. The label on the ream of paper indicates which side to print on. The different surface properties of some papers might cause problems if the paper is loaded incorrectly.</p>	<ol style="list-style-type: none"> 1 Check the arrow on the paper wrapper. From tray 1, the printer prints on the side of the paper that faces up. From the other trays, the printer prints on the side of the paper that faces down. 2 Turn over the stack of paper in the tray. Also try rotating the stack 180°. <i>Do not</i> fan the stack. 3 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	<p>The media surface is too smooth or too rough for adequate toner adhesion.</p>	<p>Use media that meets HP specifications (see the <i>HP LaserJet Printer Family Paper Specification Guide</i>).</p>
	<p>The transparencies do not meet HP specifications.</p>	<p>Use HP-approved transparencies for monochrome laserjet printers (see the <i>HP LaserJet Printer Family Paper Specification Guide</i>).</p>
	<p>The operating environment does not meet specifications.</p>	<p>Make sure that the printer is installed in an area that meets the environmental specifications. See Operating environment.</p>
	<p>The fuser roller is dirty and is lifting part of the image off of the paper.</p>	<p>Process a cleaning page (see chapter 4). Several pages might be required if the fuser is very dirty.</p>
	<p>The print cartridge is defective or nearly empty.</p>	<p>Replace the print cartridge.</p>
	<p>The toner-density setting is incorrect.</p>	<p>Open the print-quality menu at the control panel and adjust the toner-density setting. See Print-quality submenu. Make sure that <i>EconoMode</i> is off.</p>

Table 7-23 Drop outs and character voids (continued)

	Possible cause	Recommended action(s)
	The fuser setting is incorrect for the media type.	Open the configure-device menu at the control panel and change the fuser-mode setting or select another media type. See Configure-device menu .
	The transfer roller is damaged, has finger oils on its surface, or is dirty or worn.	Clean the transfer roller by using a dry, lint-free cloth. Do not touch the transfer roller with your fingers. If the problem persists, replace the transfer roller. See Transfer roller .
	Poor high-voltage contact exists between the power supply and the print cartridge or transfer roller.	Inspect the contacts and clean them if they are dirty. Replace them if they are damaged.
	The power supply is defective (the transfer voltage is low).	Replace the power-supply assembly. See Power supply .

(Continued)

Table 7-24 Lines

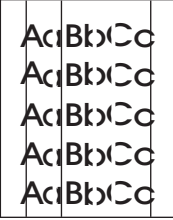
	Possible cause	Recommended action(s)
	Vertical lines (in the paper-path direction)	
	Circumferential scars appear on the photosensitive drum.	Replace the print cartridge.
	Foreign materials are deposited on the laser outlet of the printer or the laser inlet of the cartridge.	Remove the foreign materials.
	The print cartridge is not installed correctly.	Remove the print cartridge and then reinstall it. The top cover should close completely when the print cartridge is fully seated.
	The print cartridge is defective.	Replace the print cartridge.
	The fuser roller is worn or dirty.	Process a printer cleaning page. See Running the cleaning page manually . Several pages might be required if the fuser is very dirty. If the problem persists, replace the fuser. See Fuser .
	The static-eliminator teeth (just beyond the transfer roller) are contaminated or defective.	Clean the static-eliminator teeth by using a small brush or compressed air. Replace the assembly if it is damaged.
	Light is leaking into the printer.	Make sure that all of the covers are in place. Move the printer away from windows that face the outdoors.

Table 7-24 Lines (continued)

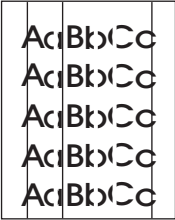
	Possible cause	Recommended action(s)
	Horizontal lines (parallel to the paper-path direction)	
(Continued)	If the lines are repeated at a consistent interval down the page, a repetitive defect exists.	Use the repetitive defect ruler to determine the cause of this defect. See Repetitive-defects troubleshooting .
	Sharp, random lines indicate a problem with the laser/scanner control circuitry.	<ol style="list-style-type: none"> 1 Check the cables between the dc controller and the laser/scanner assembly. 2 If the cables are not connected, connect the cables. 3 If, after checking the cables between the dc controller and the laser/scanner, the problem persists, replace the laser/scanner assembly. See Laser/scanner assembly. 4 If, after replacing the laser/scanner, the problem persists, replace the dc controller PCA. See Dc controller PCA. 5 If, after replacing the dc controller PCA, the problem persists, replace the Formatter assembly. See Formatter assembly.
	Horizontal scars on the photosensitive drum.	Replace the print cartridge.
	Defective fuser film.	Replace the fuser.

Table 7-25 Grey background


	Possible cause	Recommended action(s)
	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	The inside of the printer is dirty (toner leaked out of the print cartridge).	Clean the inside of the printer (see chapter 3), and install a new print cartridge.
	The operating environment does not meet specifications.	Make sure that the printer is installed in an area that meets the environmental specifications. See Operating environment .

Table 7-25 Grey background (continued)

Possible cause	Recommended action(s)
The customer is printing on the envelope seams. (Printing on an envelope seam can cause a background-scatter problem.)	Move the text to an area that has no seams.
The toner-density setting is wrong.	Open the print-quality menu at the control panel and adjust the toner-density setting. See Print-quality submenu . Make sure that EconoMode is off.
The high-transfer setting is turned off.	Open the print-quality menu at the control panel (see Print-quality submenu). Select OPTIMIZE and set HIGH TRANSFER=ON .
The print cartridge is defective.	Replace the print cartridge.
The high-voltage connector springs are dirty or damaged.	The high-voltage connector springs protrude into the print cartridge cavity. Clean the springs if they are dirty. Replace the springs if they are damaged or missing.
The power supply is defective.	Replace the power-supply assembly. See Power supply .

Table 7-26 Loose toner or toner smear


Possible cause	Recommended action(s)
 <p>The interior of the printer is dirty.</p>	<ol style="list-style-type: none"> 1 Print a few more pages and see if the problem corrects itself. 2 Clean the inside of the printer (see chapter 4) 3 Process a printer cleaning page. See Running the cleaning page manually.
The fuser roller is dirty.	Process a cleaning page (see Running the cleaning page manually). Several pages might be required if the fuser is very dirty.
The media surface is too smooth or too rough for toner adhesion.	Use media that meets HP specifications (see the <i>HP LaserJet Printer Family Paper Specification Guide</i>).
The static-eliminator teeth (just beyond the transfer roller) are contaminated or are not grounded, which allows a static charge to remain on the page.	Clean the static-eliminator teeth by using a small brush or compressed air. Replace the assembly if it is damaged.

Table 7-26 Loose toner or toner smear (continued)

Possible cause	Recommended action(s)
The fuser is defective. The print will smear if the fuser does not heat sufficiently to bond the toner to the paper.	Replace the fuser. See Fuser .
The dc controller PCA is defective. The dc controller PCA regulates the fuser roller temperature.	Replace the dc controller PCA. See Dc controller PCA .

Table 7-27 Repeating defects and repeating images

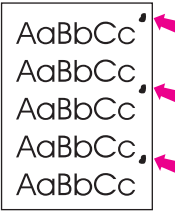
Possible cause	Recommended action(s)
 <p>The print cartridge or fuser is damaged. The circumference of the photoconductive drum inside of the print cartridge is 94.2 mm (3.7 inches). If the defect repeats at this interval, the defect is associated with the drum. Repetitive defects caused by the LJ 4300 fuser roller repeat at 94.0 mm (about 3.7 inches). Because the LJ 4300 fuser roller is only 2 mm (.07 inch) smaller than the photoconductive drum, distinguishing defects that are caused by the photoconductive drum from those that are caused by the LJ 4300 fuser roller can be difficult.</p>	<ol style="list-style-type: none"> 1 Inspect the drum for scratches or other damage. Replace the print cartridge for defects that repeat at 37.7 mm (1.5 inches), 62.8 mm (2.5 inches), 54.0 mm (2.1 inches), or 94.2 mm (3.7 inches). 2 Process a printer cleaning page. See Running the cleaning page manually. 3 If the problem persists, and the defect repeats at 75.0 mm (2.95 inches) or 94.0 mm (about 3.7 inches), replace the fuser (see Fuser). <p>For more information about troubleshooting repeating defects, see Repetitive-defects troubleshooting.</p>
The rollers are dirty. A dirty roller in the paper path can cause a repetitive defect.	Examine and clean (or replace) the rollers in the paper path.
The media does not meet specifications.	Try a different media type or quality.
Preprinted form paper is used.	Some preprinted forms (for example, letterheads) use an ink that cannot stand up to the high temperatures in the fuser. Check the media for type and quality. Replace the media, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications .

Table 7-28 Distorted images

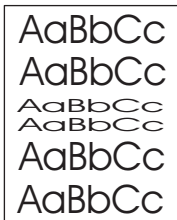
	Possible cause	Recommended action(s)
	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	The operating environment does not meet specifications.	Make sure that the printer is installed in an area that meets the environmental specifications. See Operating environment .
	The cables are not securely connected to the laser/scanner assembly.	Reseat the cables that are connected to the laser/scanner assembly.
	The cables are not securely connected to the dc controller PCA.	Reseat the cables that are connected to the dc controller PCA.
	The laser/scanner assembly is defective.	Replace the laser/scanner. See Laser/scanner assembly .
	The gears are worn.	Inspect the gears that drive the print cartridge and fuser. Replace the main drive assembly. See Main drive assembly .
	The print-cartridge motor is defective. (HP LaserJet 4250/4300/4350 only)	Replace the print-cartridge motor (HP LaserJet 4250/4300/4350 only). See Print-cartridge motor (HP LaserJet 4250/4300/4350 series printer only) .
	The dc controller PCA is defective.	Replace the dc controller PCA. See Dc controller PCA .

Table 7-29 Skew

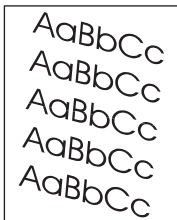
	Possible cause	Recommended action(s)
	The media does not meet specifications or is not stored properly.	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180 degrees. 2 Check the media for type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.

Table 7-29 Skew (continued)

Possible cause	Recommended action(s)
The media is not loaded correctly or the trays are not adjusted correctly.	Make sure that the media is loaded correctly and that the guides fit snugly against the stack.
The registration assembly is not installed correctly or is damaged.	Make sure that the registration assembly is installed correctly. If necessary, replace the registration assembly. See Registration assembly .

Table 7-30 Curl or wave

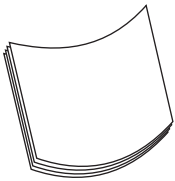
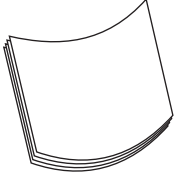
	Possible cause	Recommended action(s)
	<p>The media does not meet specifications or is not stored correctly.</p>	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media for type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	<p>The operating environment does not meet specifications.</p>	<p>Make sure that the printer is installed in an area that meets the environmental specifications. See Operating environment.</p>
	<p>The wrong output bin is in use.</p>	<p>Print to a different output bin (top or rear output bin).</p>
	<p>The fuser setting is incorrect for the media type.</p>	<p>Open the configure-device menu at the control panel, and change the fuser-mode setting or select another media type. See Configure-device menu.</p>
<p>(Continued)</p>		<ol style="list-style-type: none"> 1 Press ✓ (SELECT button) or the MENU button to open the menus. 2 Use ▲ (UP ARROW button) or ▼ (DOWN ARROW button) to scroll to CONFIGURATION, and then press ✓. 3 Use ▲ or ▼ to scroll to PRINT QUALITY, and then press ✓. 4 Use ▲ or ▼ to scroll to FUSER MODES, and then press ✓. 5 Use ▲ or ▼ to scroll to the submenu item that you want, and then press ✓. 6 Press the PAUSE/RESUME button or the MENU button to close the menu.

Table 7-31 Creases

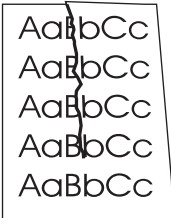
	Possible cause	Recommended action(s)
	<p>The media does not meet specifications or is not stored correctly.</p>	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media for type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	<p>The operating environment does not meet specifications.</p>	<p>Make sure that the printer is installed in an area that meets the environmental specifications. See Operating environment.</p>
	<p>The media is not loaded correctly or the trays are not adjusted correctly.</p>	<p>Make sure that the media is loaded correctly and that the guides fit snugly against the stack.</p>
	<p>The wrong tray is in use.</p>	<p>Print from tray 1 when you use a media that can cause image-formation or paper-path problems.</p>
	<p>The wrong output bin is in use.</p>	<p>Print to a different output bin (top or rear output bin).</p>
	<p>An obstruction exists in the paper path.</p>	<ol style="list-style-type: none"> 1 Check the paper path for debris. 2 Check for damaged components that might be creasing the paper.

Table 7-32 White lines

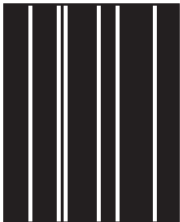
	Possible cause	Recommended action(s)
	<p>White lines in the direction of the paper path</p> <p>The toner supply is low or the print cartridge is defective.</p> <p>The laser path is dirty.</p> <p>The fuser is defective.</p> <p>The mirror in the laser/scanner is dirty.</p>	<ol style="list-style-type: none"> 1 Shake the print cartridge gently to redistribute the toner. 2 Replace the cartridge. <p>Clean the laser path. Remove the laser/scanner assembly (see Laser/scanner assembly) and check for dirt or other obstructions in the beam path.</p> <p>Replace the fuser. See Fuser.</p> <p>Replace the laser/scanner assembly. See Laser/scanner assembly.</p>
	<p>White lines in the opposite direction of the paper path</p> <p>The print drum is damaged.</p>	<p>Replace the print cartridge.</p>

Table 7-32 White lines (continued)

Possible cause	Recommended action(s)
The fuser roller is damaged.	<ul style="list-style-type: none">■ Process a printer cleaning page. See Running the cleaning page manually.■ If the problem persists, replace the fuser. See Fuser.
The laser beam or beam circuitry is unstable.	<ol style="list-style-type: none">1 Check the cables between the dc controller and the laser/scanner assembly.2 If the cables are not connected, connect the cables.3 If, after checking the cables between the dc controller and the laser/scanner, the problem persists, replace the laser/scanner assembly. See Laser/scanner assembly.4 If, after replacing the laser/scanner, the problem persists, replace the dc controller PCA. See Dc controller PCA.5 If, after replacing the dc controller PCA, the problem persists, replace the Formatter assembly. See Formatter assembly.

Table 7-33 Smudged lines (either direction)

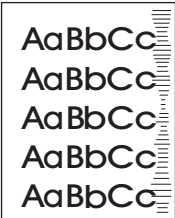
	Possible cause	Recommended action(s)
	<p>The paper path is contaminated or damaged.</p>	<ol style="list-style-type: none"> 1 Perform the half self-test functional check. See Half self-test functional check. If the drum is damaged, replace the print cartridge. 2 Process a printer cleaning page. See Running the cleaning page manually. If the problem persists, replace the fuser. See Fuser. 3 Check the tray 1 feed roller and the rollers in the other trays. Clean or replace the rollers as necessary. 4 Check for other sources of contamination or damage in the paper path and clean or replace parts as necessary. <p>This type of defect might also be a repetitive defect. See Repetitive-defects troubleshooting.</p>
	<p>The print cartridge has passed its life expectancy.</p>	<p>The print cartridge has an expected life of 12,000 pages for the HP LaserJet 4200 printer and 18,000 pages for the HP LaserJet 4300 printer. Replace the print cartridge.</p>

Table 7-34 White spots on black

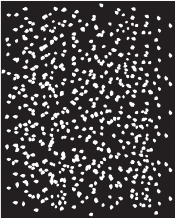
	Possible cause	Recommended action(s)
	<p>The media does not meet specifications or is not stored correctly.</p>	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media for type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	<p>The operating environment does not meet specifications.</p>	<p>Make sure that the printer is installed in an area that meets the environmental specifications. See Operating environment.</p>
	<p>The print cartridge is defective.</p>	<p>Replace the print cartridge.</p>

Table 7-35 Scattered lines

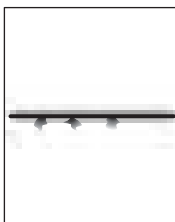
	Possible cause	Recommended action(s)
	<p>The media does not meet specifications or is not stored correctly.</p>	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media for type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	<p>The operating environment does not meet specifications.</p>	<p>Make sure that the printer is installed in an area that meets the environmental specifications. See Operating environment.</p>
	<p>The toner-density setting is incorrect.</p>	<p>Open the print-quality menu at the control panel and adjust the toner-density setting. See Print-quality submenu.</p>
	<p>The high-transfer setting is turned off.</p>	<p>Open the print-quality menu at the control panel (see Print-quality submenu). Select OPTIMIZE and set HIGH TRANSFER=ON.</p>
	<p>The line-detail setting is turned off.</p>	<p>Open the print-quality menu at the control panel (see Print-quality submenu). Select OPTIMIZE and set LINE DETAIL=ON.</p>

Table 7-36 Blurred print

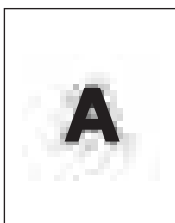
	Possible cause	Recommended action(s)
	<p>The media does not meet specifications or is not stored correctly.</p>	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media for type and quality. Replace the media if it does not meet specifications, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	<p>The operating environment does not meet specifications.</p>	<p>Make sure that the printer is installed in an area that meets the environmental specifications. See Operating environment.</p>
	<p>The toner-density setting is incorrect.</p>	<p>Open the print-quality menu at the control panel and adjust the toner-density setting. See Print-quality submenu.</p>

Table 7-36 Blurred print (continued)

Possible cause	Recommended action(s)
The high-transfer setting is turned off.	Open the print-quality menu at the control panel (see Print-quality submenu). Select OPTIMIZE and set HIGH TRANSFER=ON .
The line-detail setting is turned off.	Open the print-quality menu at the control panel (see Print-quality submenu). Select OPTIMIZE and set LINE DETAIL=ON .

Table 7-37 Black page





Possible cause	Recommended action(s)
 The print cartridge is defective.	Replace the print cartridge.
The high-voltage connector springs are dirty or damaged.	The high-voltage connector springs protrude into the print cartridge cavity. Clean the springs if they are dirty. Replace the springs if they are damaged or missing.
The laser-beam drive circuit or high-voltage circuit is defective (not supplying the correct voltage).	<ol style="list-style-type: none"> 1 Check the cables between the dc controller PCA and the high-voltage circuitry (part of the power-supply). 2 If the cables are not connected, connect the cables. 3 If the cables are connected, but the problem persists, replace the power supply. See Power supply. 4 If, after replacing the power supply, the problem persists, replace the dc controller PCA. See Dc controller PCA.
The laser/scanner assembly is defective.	Replace the laser/scanner assembly. See Laser/scanner assembly .
The cables between the laser/scanner assembly and the dc controller PCA are not seated correctly or are defective.	Inspect and reseat the connectors. If necessary, replace the cables.

Table 7-38 Blank page

	Possible cause	Recommended action(s)
	The software configuration is incorrect (intermittent problem).	Make sure that the software program is not sending incorrect page-length requests or extra page-eject commands.
	The network configuration is incorrect. Some sharing devices on networks might generate a blank page as a print-job separator.	Check with the network administrator.
	Multiple feeds are occurring. The printer might be feeding two or more pages at on time (intermittent problem).	Remove the media from the tray and flex the stack in one direction and then the other to separate the pages. <i>Do not</i> fan the stack. Replace the stack in the tray.
	The sealing tape was left in the print cartridge.	Remove the sealing tape.
	The print cartridge is empty or defective.	Replace the print cartridge.
	The laser/scanner shutter door is not opening correctly.	<ol style="list-style-type: none"> 1 Remove and reseal the print cartridge. 2 Verify that the laser/scanner shutter door can open correctly. If necessary, replace the laser/scanner assembly. See Laser/scanner assembly.
	No transfer-roller voltage is being generated.	Without transfer-roller voltage, toner does not transfer correctly from the surface of the drum to the paper. Perform the half self-test functional check (see Half self-test functional check) to check the electrophotographic process. If necessary, replace the transfer roller. See Transfer roller .
	The high-voltage connector springs are dirty or damaged.	The high-voltage connector springs protrude into the print cartridge cavity. Clean the springs if they are dirty. Replace the springs if they are damaged or missing.
	No drum ground path exists.	When no drum ground path exists, the drum cannot discharge. The negative charge on the drum repels toner, and leaves a nearly-white page (possibly with bubbled print). Check the drum ground that runs from the contact point in the center of the print drum.
	The high-voltage circuit is defective.	Replace the power-supply assembly. See Power supply .
	The laser/scanner cable is defective.	Low-level signals that are exchanged between the laser/scanner assembly and the dc controller PCA might be affecting the laser output. Replace the laser/scanner cables.

(Continued)

Table 7-39 Dark print

	Possible cause	Recommended action(s)
	The toner-density setting is incorrect.	Open the print-quality menu at the control panel and adjust the toner-density setting. See Print-quality submenu .
	The print cartridge drum is close to the end of its expected life.	Replace the print cartridge.
	The media does not meet specifications or is not stored correctly.	<ol style="list-style-type: none"> 1 Turn over the stack of media in the tray. Also try rotating the media 180°. 2 Check the media for type and quality. Replace the media, and advise the customer to use the HP-recommended media and to store it correctly. See Media specifications.
	The high-voltage contact to the power supply is poor.	Clean the contacts if they are dirty. If the problem persists after cleaning, or if the contacts are damaged or deformed, replace the contacts.
	The laser/scanner assembly is defective.	Replace the laser/scanner assembly. See Laser/scanner assembly .
	The high-voltage circuit is defective.	Replace the power-supply assembly. See Power supply .

Repetitive-defects troubleshooting

Defects on printer rollers can cause image defects to appear at regular intervals on the page, corresponding to the circumference of the roller that is causing the defect. Measure the distance between defects that recur on a page. Use the following table or the repetitive-defect ruler to determine which roller is causing the defect. To resolve the problem, try cleaning the roller first. If the roller remains dirty after cleaning or if it is damaged, replace the part that is indicated in [Table 7-40 Repetitive defects](#).



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

Table 7-40 Repetitive defects

Roller	Distance between defects	Replacement part
Primary charging roller	37.7 mm (1.5 inches)	Print cartridge
Developer roller*	62.8 mm (2.5 inches)	Print cartridge
Fuser	75.0 mm (2.95 inches)	Fuser
	94.0 mm (3.75 inches)	

Table 7-40 Repetitive defects (continued)

Roller	Distance between defects	Replacement part
Photosensitive drum	94.2 mm (3.75 inches)	Print cartridge

*The developer-roller circumference is 62.8 mm (2.5 inches). A defect that is related to the developing roller will most likely repeat at intervals of 54.0 mm (2.125 inches) because of the way the roller is geared.



NOTE Defects on the tray pickup rollers or the tray 1 pickup roller do not cause a repetitive defect. Defects on these rollers cause a defect to appear only on the leading edge of the image.

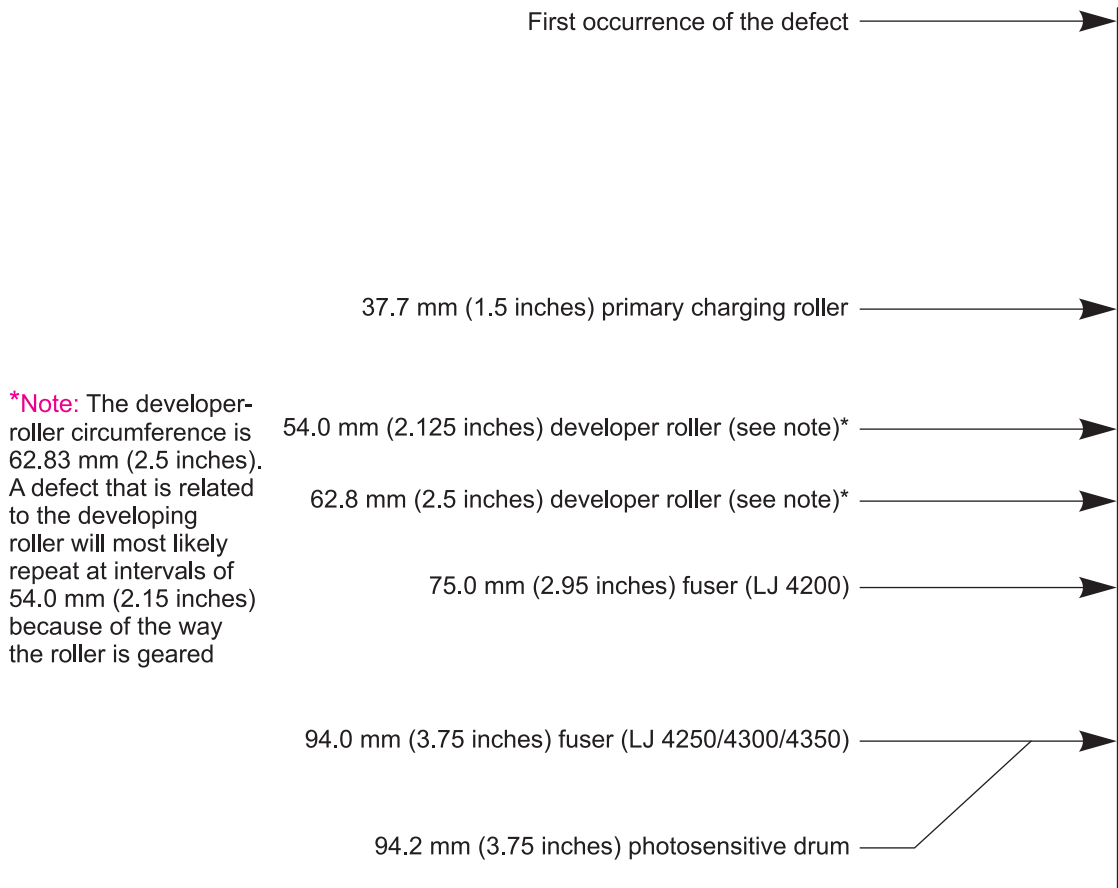


Figure 7-8 Repetitive-defect ruler

Troubleshooting the stacker and the stapler/stacker

When troubleshooting problems are related to the stacker or stapler/stacker, you might find that it is difficult to distinguish whether the malfunction relates to the stacker, the stapler/stacker, or the printer. The troubleshooting procedures in this section assume that the stacker or stapler/stacker is installed on a printer that is working normally. Always correct any printer errors *before* attempting to troubleshoot the stacker or stapler/stacker.

Stacker and stapler/stacker errors fall into four groups:

- Jam errors
- Paper-transport errors
- Malfunction errors
- Component errors

Jam and transport errors result when media does not move successfully from the printer through to the stacker or stapler/stacker. Malfunction errors cause the stacker or stapler/stacker to stop or to operate incorrectly. Component errors that are the result of an internal component failure and generate errors messages that appear on the control-panel display. For more information about control-panel messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).

Initial checks

- Before troubleshooting the stacker or stapler/stacker, verify that any printer errors have been corrected. The printer must be operating normally before you can troubleshoot the stacker or stapler/stacker. See [Alphabetical printer messages](#) and [Numerical printer messages](#).
- Inspect the stacker or stapler/stacker connectors on the unit and on the printer. Verify that the connectors are not damaged, and that the stacker or stapler/stacker is installed correctly. If the stacker or stapler/stacker was installed while the printer power was on, turn the power off and then on again.
- Verify that the environmental specifications are met. The specifications for the stacker and stapler/stacker are the same as for the printer. See [Operating environment](#).
- Verify that the media being used meets HP specifications. See [Supported media weights and sizes](#) and [Paper and print media](#).
- If the stacker or stapler/stacker was recently moved from a cold environment (for example, a warehouse) into a warm room, condensation within the device might be causing the problem. If condensation occurs, either wipe the parts with a dry, lint-free cloth, or leave the stacker or stapler/stacker turned on for 10 to 20 minutes.

Jam errors

The following sections describe stacker and stapler/stacker jam errors.

Stacker and stapler/stacker paper path

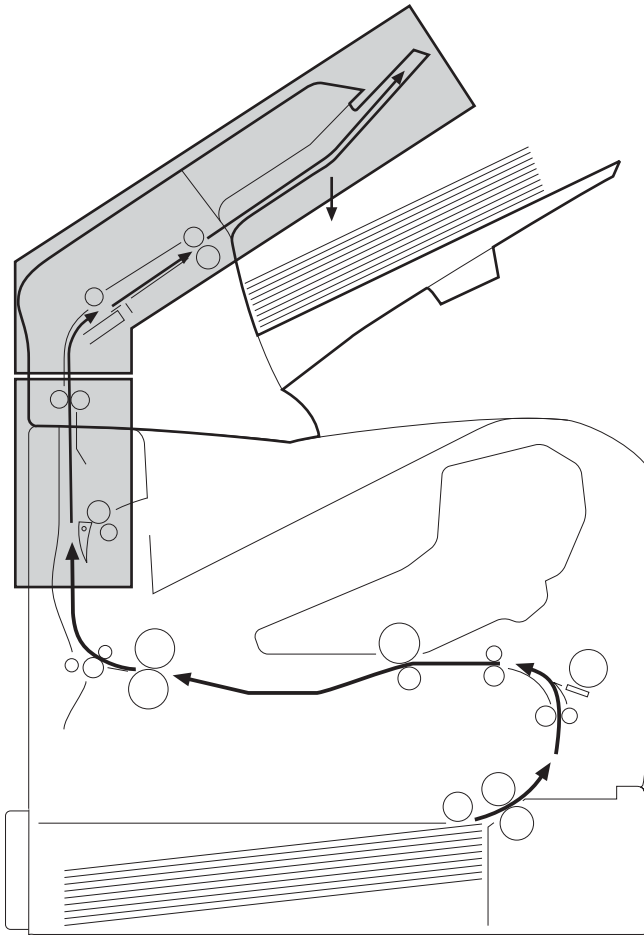


Figure 7-9 Stacker and stapler/stacker paper path

Stacker paper-path test

Use the following procedure to perform a stacker paper-path test.

- 1 Press **✓** (**SELECT** button) or the **MENU** button to open the menus.
- 2 Use **▲** (**UP ARROW** button) or **▼** (**DOWN ARROW** button) to scroll to **DIAGNOSTICS**, and then press **✓**.
- 3 Use **▲** or **▼** to scroll to **PAPER PATH TEST**, and then press **✓**.
- 4 Use **▲** or **▼** to scroll to **DESTINATION**, and then press **✓**. Scroll to **OPTIONAL BIN 1**, and then press **✓**.
- 5 Use **▲** or **▼** to scroll to **COPIES** then press **✓**. Scroll to the appropriate number of test pages, and then press **✓**.
- 6 Use **▲** or **▼** to scroll to **PRINT TEST PAGE**, and then press **✓**. The printer will print the selected number of pages and send them to the stacker.

Stapler/stacker paper-path test

Use the following procedure to perform a stapler/stacker paper-path test.

- 1 Press **✓** (**SELECT** button) or the **MENU** button to open the menus.
- 2 Use **▲** (**UP ARROW** button) or **▼** (**DOWN ARROW** button) to scroll to **CONFIGURE DEVICE**, and then press **✓**.
- 3 Use **▲** or **▼** to scroll to **STAPLER STACKER**, and then press **✓**.
- 4 Use **▲** or **▼** to scroll to **STAPLES**, and then press **✓**. Scroll to **ONE**, and then press **✓**.
- 5 Press the **PAUSE/RESUME** button or the **MENU** button to exit the submenus.
- 6 Press **✓** or **THE MENU** button to open the menus.
- 7 Use **▲** or **▼** to scroll to **DIAGNOSTICS**, and then press **✓**.
- 8 Use **▲** or **▼** to scroll to **PAPER PATH TEST**, and then press **✓**.
- 9 Use **▲** or **▼** to scroll to **DESTINATION**, and then press **✓**. Scroll to **OPTIONAL BIN 1**, and then press **✓**.
- 10 Use **▲** or **▼** to scroll to **COPIES**, and then press **✓**. Scroll to **10**, and then press **✓**.
- 11 Use **▲** or **▼** to scroll to **PRINT TEST PAGE**, and then press **✓**. The printer will print 10 test pages and send them to the stapler/stacker where they are stapled.

Table 7-41 Printer-connection-area jam troubleshooting

Possible cause	Recommended action(s)
The leading edge of the media has emerged from the top of the printer.	
The feed-motor is defective.	Turn the printer off and then on. Verify that the feed rollers rotate correctly. If the rollers do not rotate, replace the stacker or stapler/stacker.
The feed rollers are worn or defective.	Clean the rollers if they are dirty. If necessary, replace the stacker or stapler/stacker.

Table 7-41 Printer-connection-area jam troubleshooting (continued)

Possible cause	Recommended action(s)
The inlet-sensor (PS1101) arm cannot move freely or is damaged.	Inspect the inlet sensor (PS1101). See Stacker and stapler/stapler switches and sensors . Verify that the sensor arm can move freely. If necessary, replace the stacker or stapler/stapler.
The inlet-sensor (PS1101) spring is defective or damaged.	Reseat the inlet-sensor (PS1101) spring. See Stacker and stapler/stapler switches and sensors . If necessary, replace the stacker or stapler/stapler.
The stacker or stapler/stapler PCA is defective.	Replace the stacker or stapler/stapler.
The leading edge of the media has not emerged from the top of the printer.	
The deflector cannot move freely or is defective.	Inspect the deflector. Verify that it can move freely and is not damaged. If necessary, replace the stacker or stapler/stapler.
The deflector solenoid (SL1101) is damaged.	If necessary, replace the deflector mechanism in the printer.
The stacker or stapler/stapler PCA is defective.	Replace the stacker or stapler/stapler.

Table 7-42 Delivery area jam troubleshooting

Possible cause	Recommended action(s)
The leading edge of the media has passed the stapler or stapler/stapler delivery rollers.	
The staples are deformed (stapler/stapler only).	Replace the stapler unit. See Maintaining the stapler unit .
The paper-delivery-sensor (PS1102) arm cannot move freely or is damaged.	Inspect the paper-delivery sensor (PS1102). See Stacker and stapler/stapler switches and sensors . Verify that the sensor arm can move freely. If necessary, replace the stacker or stapler/stapler.
The paper-delivery-sensor (PS1102) spring is defective or damaged.	Reseat the paper-delivery sensor (PS1102) spring. See Stacker and stapler/stapler switches and sensors . If necessary, replace the stacker or stapler/stapler.
The paper-delivery sensor (PS1102) is defective.	Replace the stacker or stapler/stapler.

Paper-transport errors

Table 7-43 Paper-transport-error troubleshooting

Possible cause	Recommended action(s)
The rollers are worn, dirty, or defective.	Inspect all of the stacker or stapler/stacker rollers. Clean any dirty rollers. If necessary, replace the stacker or stapler/stacker.
The feed guide is damaged, causing the leading edge of the media to bend	Inspect the feed guide. If, necessary, replace the stacker or stapler/stacker.
An obstruction in the paper path causes skewed print.	<ul style="list-style-type: none">■ The paper path is contaminated. Clean the paper path. See Stacker and stapler/stacker paper path.■ The rollers are worn, dirty or defective. Inspect all of the stacker or stapler/stacker rollers. Clean any dirty rollers. If necessary, replace the stacker or stapler/stacker.

Malfunction errors

Table 7-44 Malfunction-error troubleshooting

Possible cause	Recommended action(s)
No power	
The stacker or stapler/stacker connector is not fully seated or is damaged.	<ul style="list-style-type: none">■ Inspect the stacker or stapler/stacker connectors on the unit and on the printer. Verify that these connectors are not damaged, and that the stacker or stapler/stacker is installed correctly and fully seated. If the stacker or stapler/stacker was installed when the printer power was on, turn the power off and then on again.■ Turn the printer power off. Remove and reinstall the stacker or stapler/stacker. Turn the printer power on again.
The stacker or stapler/stacker PCA is defective.	Replace the stacker or stapler/stacker.
No stapling (stapler/stacker only)	
The staple cartridge contains no staples.	Replace the stapler-unit staple cartridge. See Stapler/stacker stapler assembly .
The stapler unit is defective.	Replace the stapler unit. See Stapler/stacker stapler assembly .
The print job contains more than one paper size.	When using the stapler/stacker, limit the print job to a single page size.
The stapler/stacker PCA is defective.	Replace the stapler/stacker.

Component errors



NOTE When component errors occur, a control-panel message appears on the control-panel display. For more information about these messages, see [Alphabetical printer messages](#) and [Numerical printer messages](#).

Table 7-45 Component-error troubleshooting

Possible cause	Recommended action(s)
The jogger mechanism or motor (M1102) is defective (stapler/stacker only).	Inspect the jogger mechanism. See Stacker and stapler/stacker motors and solenoids . If necessary, replace the stapler/stacker.
The paddle mechanism or motor (M1101) is defective (stapler/stacker only).	<ul style="list-style-type: none"> ■ Inspect the paddle mechanism. See Stacker and stapler/stacker motors and solenoids. If necessary, replace the stapler/stacker. ■ The stapler/stacker PCA is defective. Replace the stapler/stacker.
The stapler mechanism or motor (M1104) is defective (stapler/stacker only).	<ul style="list-style-type: none"> ■ The stapler unit has failed. Replace the stapler unit. See Maintaining the stapler unit. ■ The stapler/stacker PCA is defective. Replace the stapler/stacker.
The 13.12.07 JAM IN THE STAPLER message appears on the control-panel display, but no jam is present in the stapler unit (stapler/stacker only).	<ul style="list-style-type: none"> ■ The staples are defective. Replace the staple cartridge. ■ The stapler unit is defective. Replace the stapler unit. See Maintaining the stapler unit. ■ The stapler/stacker PCA is defective. Replace the stapler/stacker.
The STAPLER LOW ON STAPLES or STAPLER OUT OF STAPLES message appears on the control-panel display, but the stapler unit contains a staple cartridge (stapler/stacker only).	<ul style="list-style-type: none"> ■ The staple cartridge contains no staples. Replace the staple cartridge. See Loading staples. ■ Replace the stapler unit. See To remove and replace the stapler unit. ■ The stapler/stacker PCA is defective. Replace the stapler/stacker.
A 13.XX.YY JAM message appears on the control-panel display, but no jam is visible in the stacker or stapler/stacker.	<ul style="list-style-type: none"> ■ The inlet-sensor (PS1101) lever does not move smoothly or is damaged. See Stacker and stapler/stacker switches and sensors. Inspect the inlet sensor. Verify that the sensor lever can move freely. ■ The delivery sensor (PS1102) lever does not move smoothly or is damaged. See Stacker and stapler/stacker switches and sensors. Inspect the delivery sensor. Verify that the sensor lever can move freely. ■ If necessary, replace the stacker or stapler/stacker.

Table 7-45 Component-error troubleshooting (continued)

Possible cause	Recommended action(s)
The OUTPUT PAPER PATH OPEN message appears on the control-panel display, but the jam access and stapler unit doors are closed.	<ul style="list-style-type: none">■ The door-open switch (SW1101) is damaged or defective. See Stacker and stapler/stacker switches and sensors. Replace the stacker or stapler/stacker.■ The stapler/stacker PCA is defective. Replace the stacker or stapler/stacker.
The optional bin 1 full message appears on the control-panel display, but bin 1 is empty or not full.	<ul style="list-style-type: none">■ The paper-full sensor (PS1106) is damaged or defective. See Stacker and stapler/stacker switches and sensors. Replace the stacker or stapler/stacker.■ The stapler/stacker PCA is defective. Replace the stacker or stapler/stacker.

Printer-component locations

The following sections describe the printer-component locations.

Main printer parts

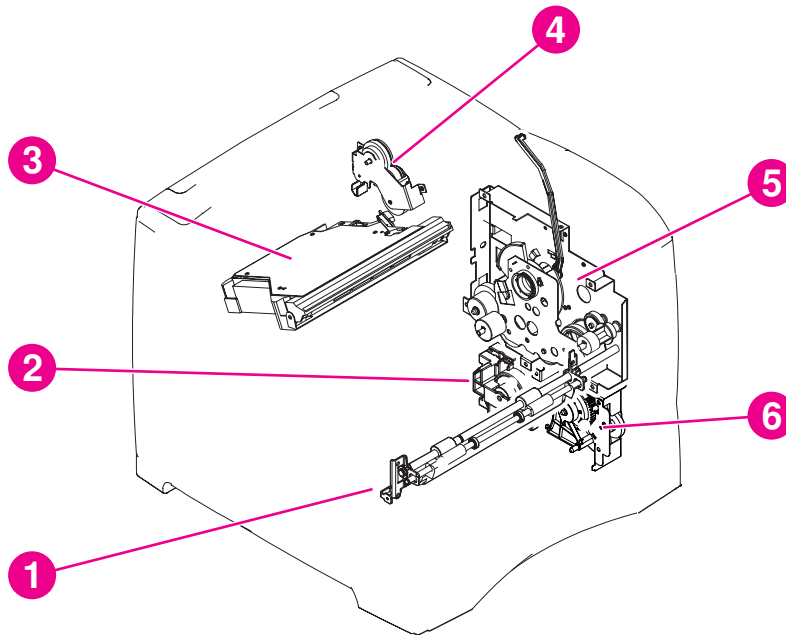


Figure 7-10 Location of the main printer parts (1 of 4)

1	Feed roller assembly
2	Lifter-drive assembly
3	Laser/scanner assembly
4	Duplexing-pendulum assembly
5	Main-drive assembly
6	Paper-pickup-drive assembly

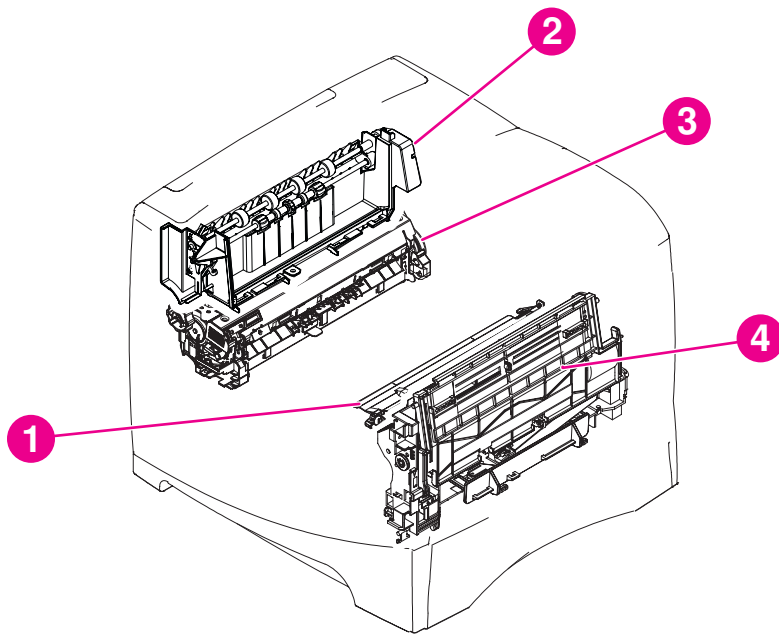


Figure 7-11 Location of the main printer parts (2 of 4)

1	Registration assembly
2	Delivery assembly
3	Fuser assembly
4	Tray 1 pickup assembly

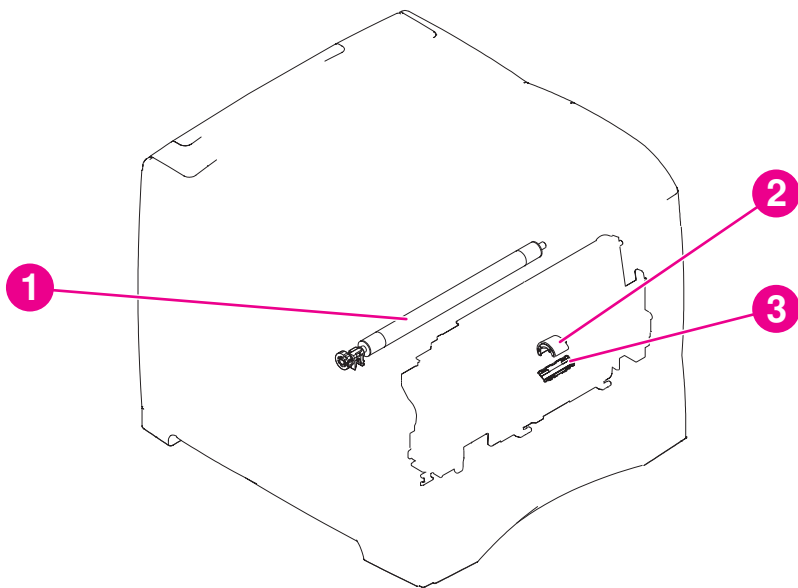


Figure 7-12 Location of the main printer parts (3 of 4)

1	Transfer roller
2	Tray 1 pickup roller
3	Separation pad

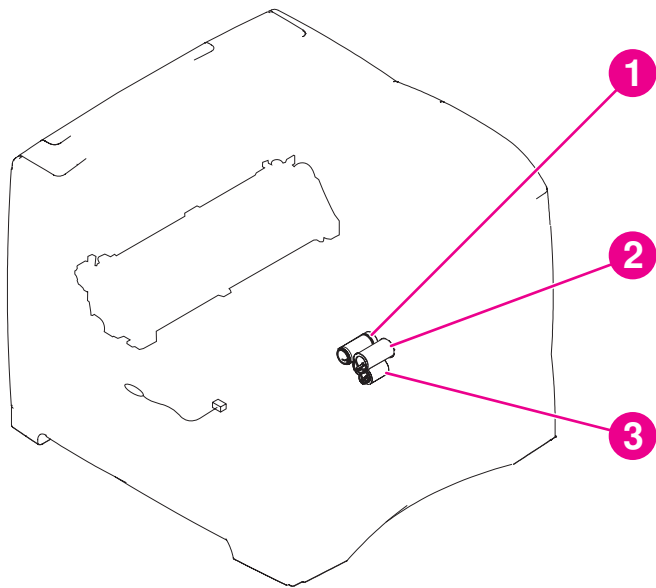


Figure 7-13 Location of the main printer parts (4 of 4)

1	Pickup roller
2	Feed roller
3	Separation roller (in the tray)

Printer switches and sensors

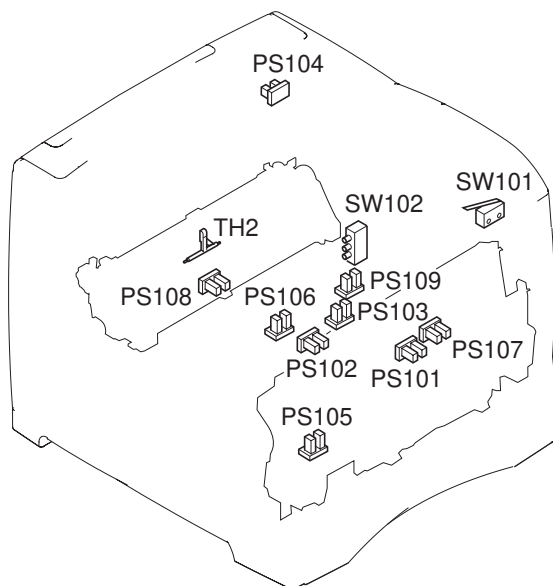


Figure 7-14 Location of the printer switches and sensors

SW101	Top-cover-open switch
SW102	Paper-size switch
PS101	Tray 2 paper sensor
PS102	Pre-feed sensor
PS103	Top-of-page sensor
PS104	Output-bin-full sensor
PS105	Tray 1 paper sensor (on the tray 1 pickup assembly)
PS106	Paper-width sensor #1
PS107	Paper-stack-position sensor
PS108	Fuser-assembly-delivery sensor
PS109	Paper-width sensor #2 (LJ 4250/4350 only)
TH2	Fuser temperature sensor (LJ 4250/4350 only)

Printer motors and fans

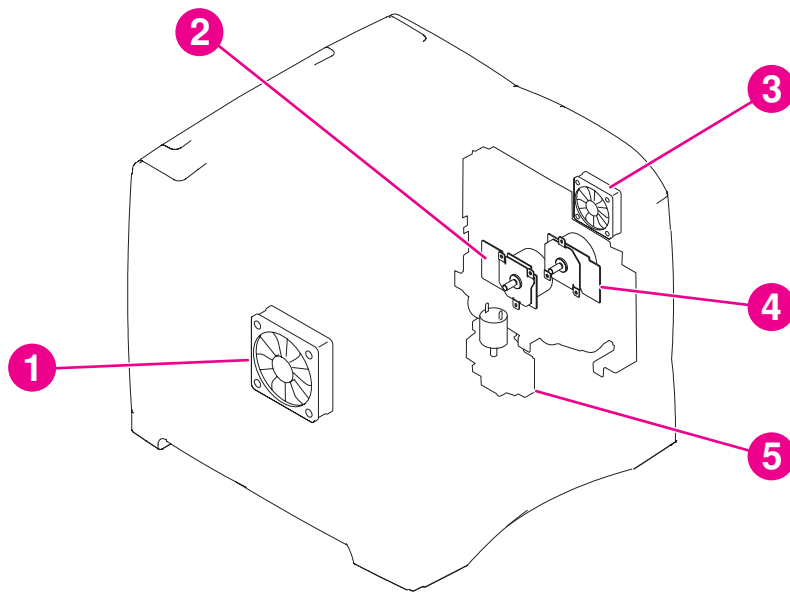


Figure 7-15 Location of the printer motors and fans

1	Main cooling fan
2	Main drive motor
3	Right-side cooling fan (HP LaserJet 4250/4300/4350 only)
4	Print-cartridge motor (HP LaserJet 4250/4300/4350 only)
5	Lifter-drive motor

Printer PCAs

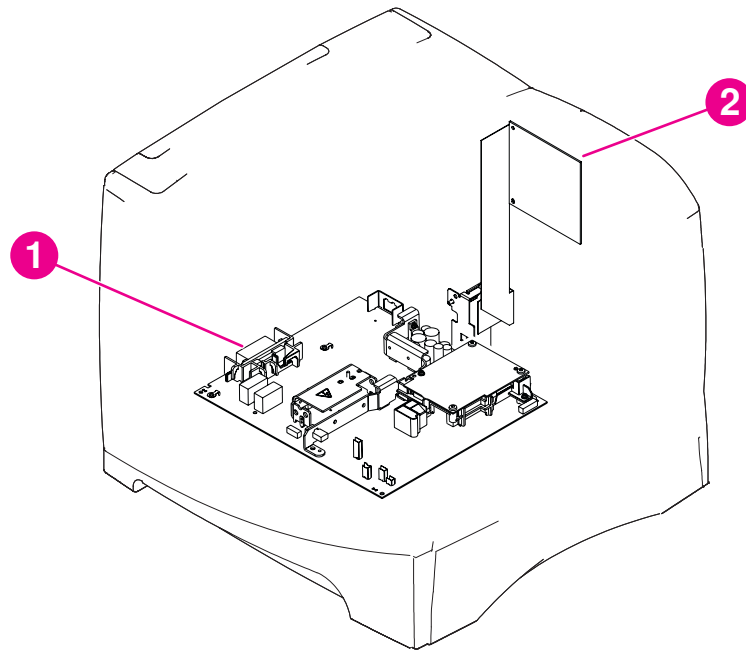


Figure 7-16 Location of the printer PCAs

1	Power-supply assembly (high-voltage and low-voltage circuits)
2	Dc controller PCA

Accessory component locations

The following sections describe the component locations within the printer accessories.

500-sheet feeder main parts

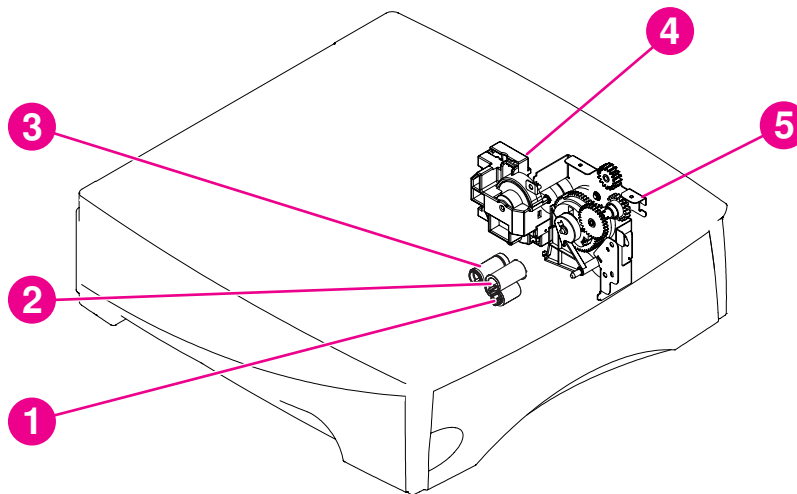


Figure 7-17 Location of the 500-sheet paper-feeder main parts

1	500-sheet feeder separation roller (in the tray)
2	500-sheet feeder feed roller
3	500-sheet feeder pickup roller
4	500-sheet feeder lifter-drive assembly
5	500-sheet feeder pickup-gear assembly

500-sheet feeder switches, sensors, solenoids, and PCAs

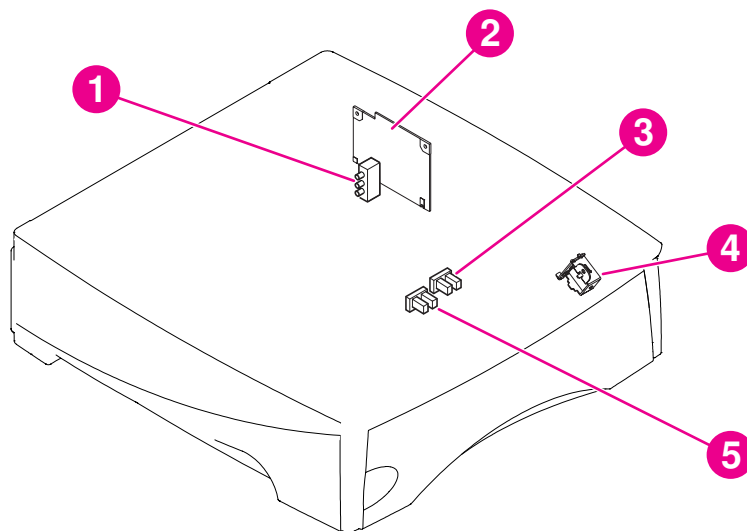


Figure 7-18 Location of the 500-sheet paper feeder switches, sensors, solenoids, and PCAs

1	500-sheet feeder paper-size switch (SW801)
2	500-sheet feeder control PCA
3	500-sheet feeder paper-stack-position sensor (PS802)
4	500-sheet feeder paper-pickup solenoid (SL801)
5	500-sheet feeder paper sensor (PS801)

1,500-sheet feeder main parts

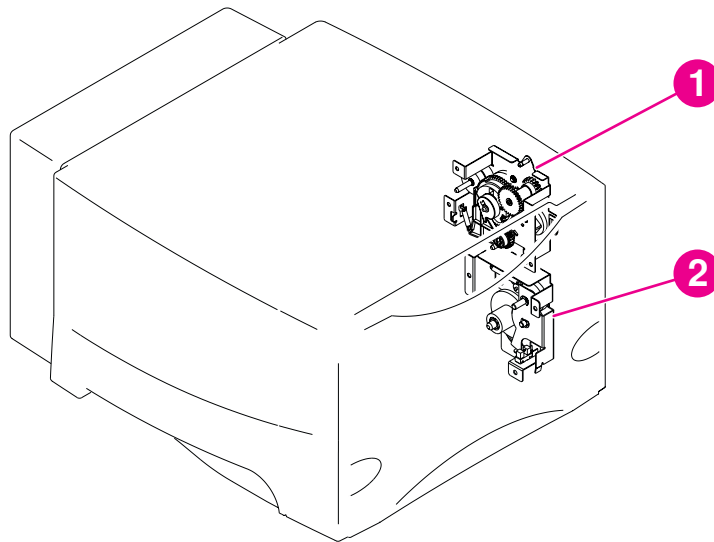


Figure 7-19 Location of the 1,500-sheet paper feeder main parts (1 of 2)

1	1,500-sheet feeder lifter-drive assembly
2	1,500-sheet feeder pickup-gear assembly

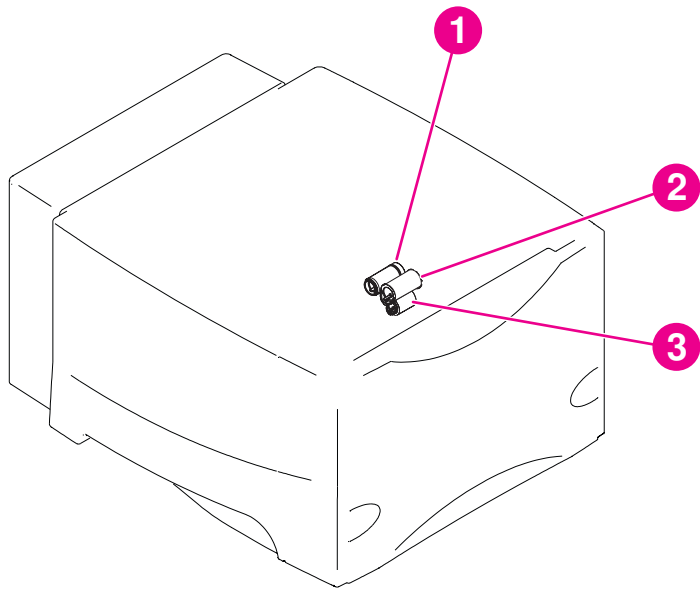


Figure 7-20 Location of the 1,500-sheet paper feeder main parts (2 of 2)

1	1,500-sheet feeder feed roller
2	1,500-sheet feeder pickup roller
3	1,500-sheet feeder separation roller (in the door)

1,500-sheet feeder switches, sensors, solenoids, and PCAs

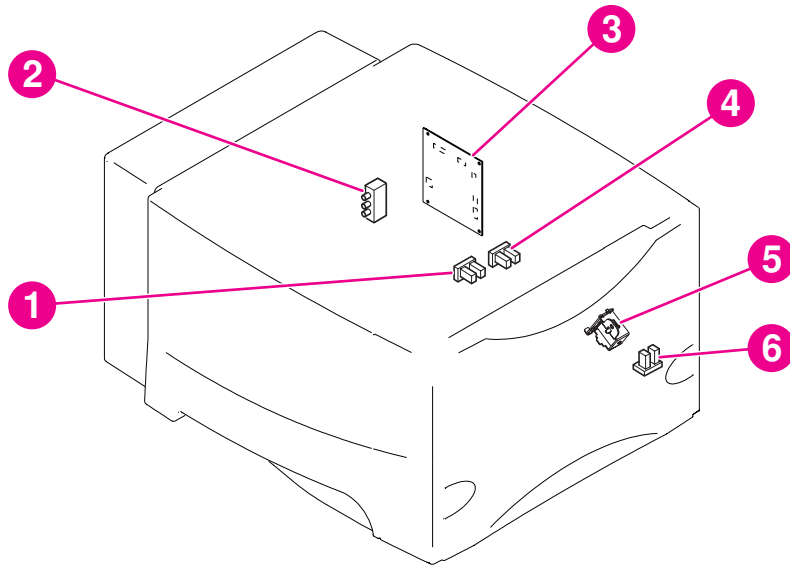


Figure 7-21 Location of the 1,500-sheet switches, sensors, solenoids, and PCAs

1	1,500-sheet feeder paper-stack-position sensor (SR2)
2	1,500-sheet feeder paper-size sensor (SW1)
3	1,500-sheet feeder control PCA
4	1,500-sheet feeder paper sensor (SR3)
5	1,500-sheet feeder paper-pickup solenoid (SL1)
6	1,500-sheet feeder door sensor (SR1)

Stapler/stacker stapler assembly

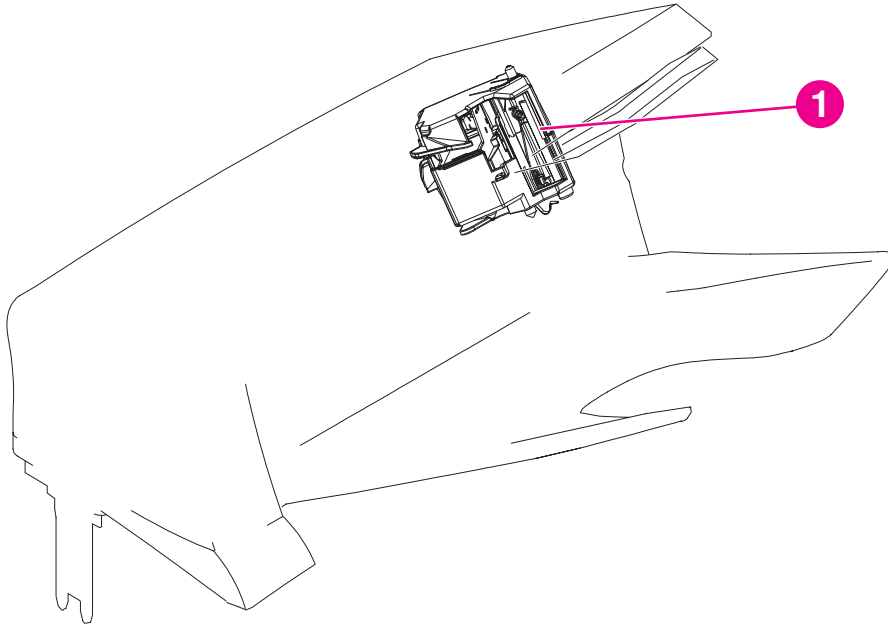


Figure 7-22 Location of the stapler/stacker stapler unit

1	Stapler unit (stapler/stacker accessory only)
---	---

Stacker and stapler/stacker switches and sensors

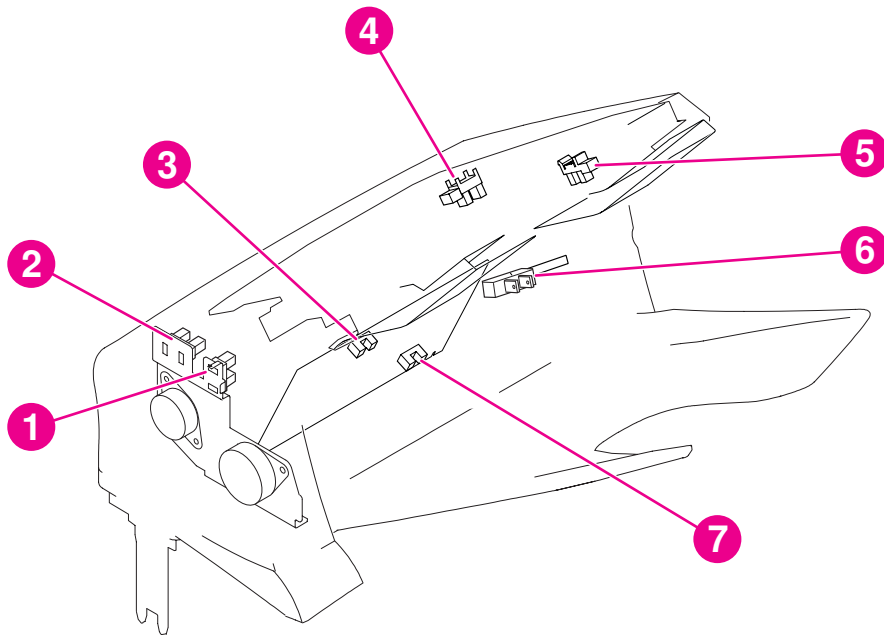


Figure 7-23 Location of the stacker and stapler/stacker switches and sensors

1	Delivery-roller disengaging sensor (stapler/stacker only; PS1104)
2	Paddle home-position sensor (stapler/stacker only; PS1103)
3	Paper-delivery sensor (PS1102)
4	Paper-full sensor (PS1106)
5	Jogger home-position sensor (stapler/stacker only; PS1105)
6	Door-open switch (SW1101)
7	Paper-inlet sensor (PS1101)

Stacker and stapler/stacker motors and solenoids

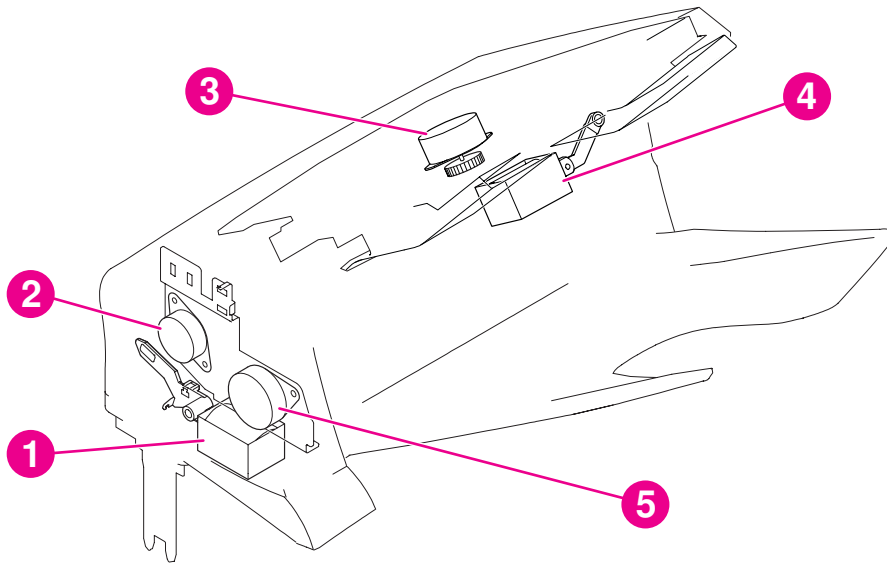


Figure 7-24 Location of the stacker and stapler/stacker motors and solenoids

1	Deflector solenoid (SL1101)
2	Paddle mechanism and motor (stapler/stacker only; M1101)
3	Jogger mechanism and motor (stapler/stacker only; M1102)
4	Clamp solenoid (stapler/stacker only; SL1102)
5	Feed mechanism and motor (M1103)

Stacker and stapler/stacker PCAs

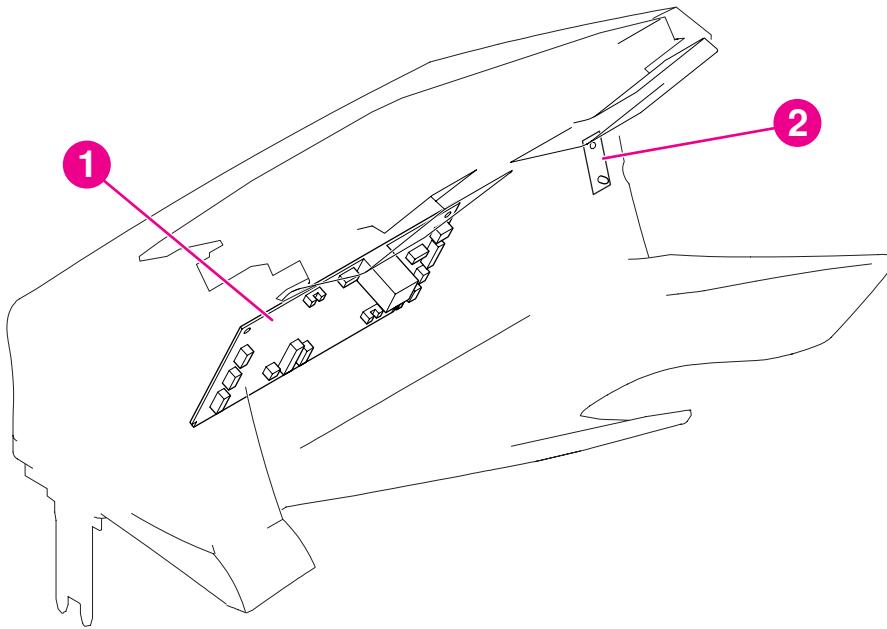


Figure 7-25 Location of the stacker and stapler/stacker PCAs

1	Stacker or stapler/stacker driver PCA
2	Stacker or stapler/stacker LED PCA

Printer and accessory wiring diagrams

The following sections contain wiring diagrams for the printer and its accessories.

HP LaserJet 4200 wiring diagram

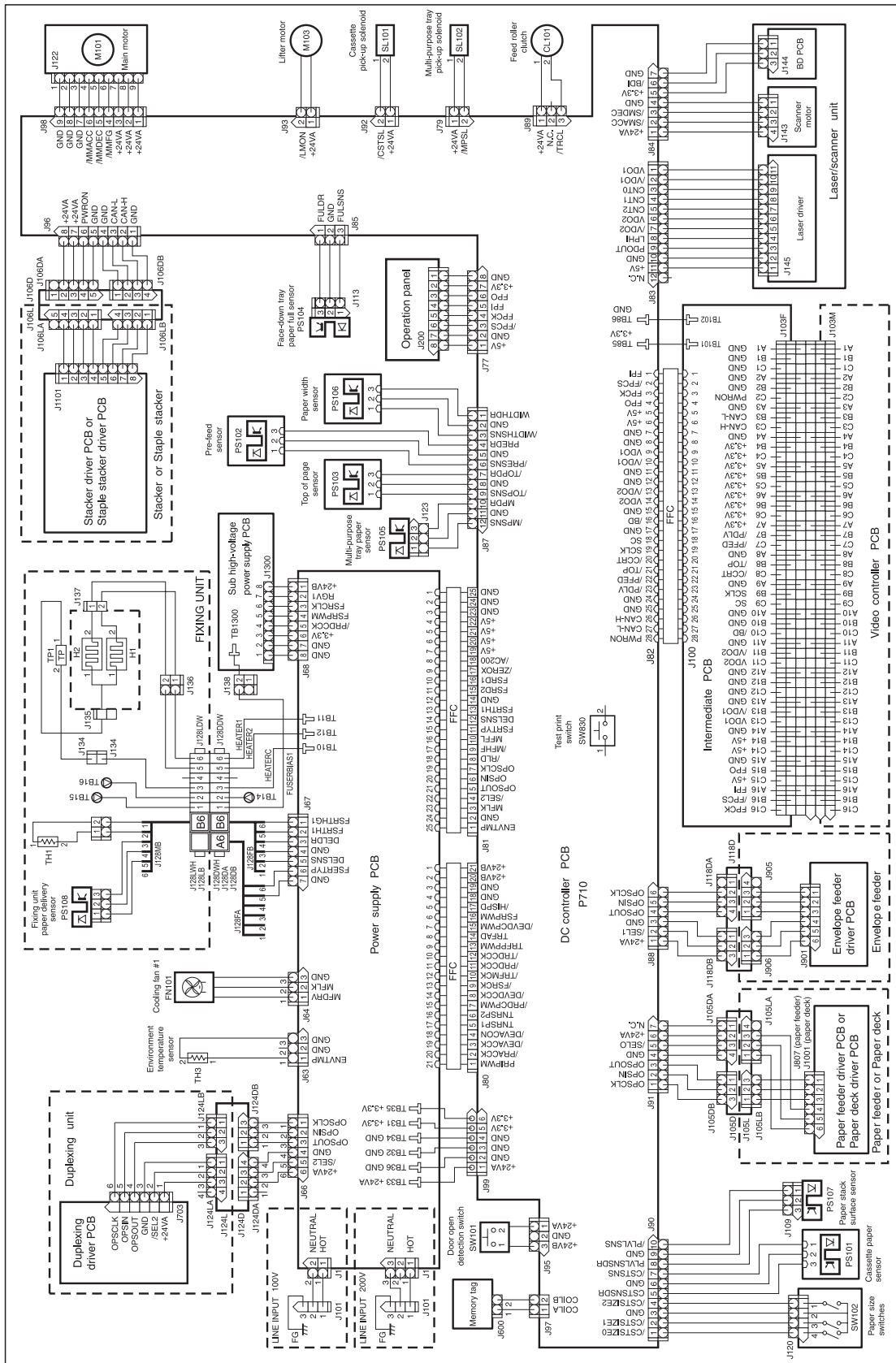


Figure 7-26 HP LaserJet 4200 wiring diagram

HP LaserJet 4350 wiring diagram

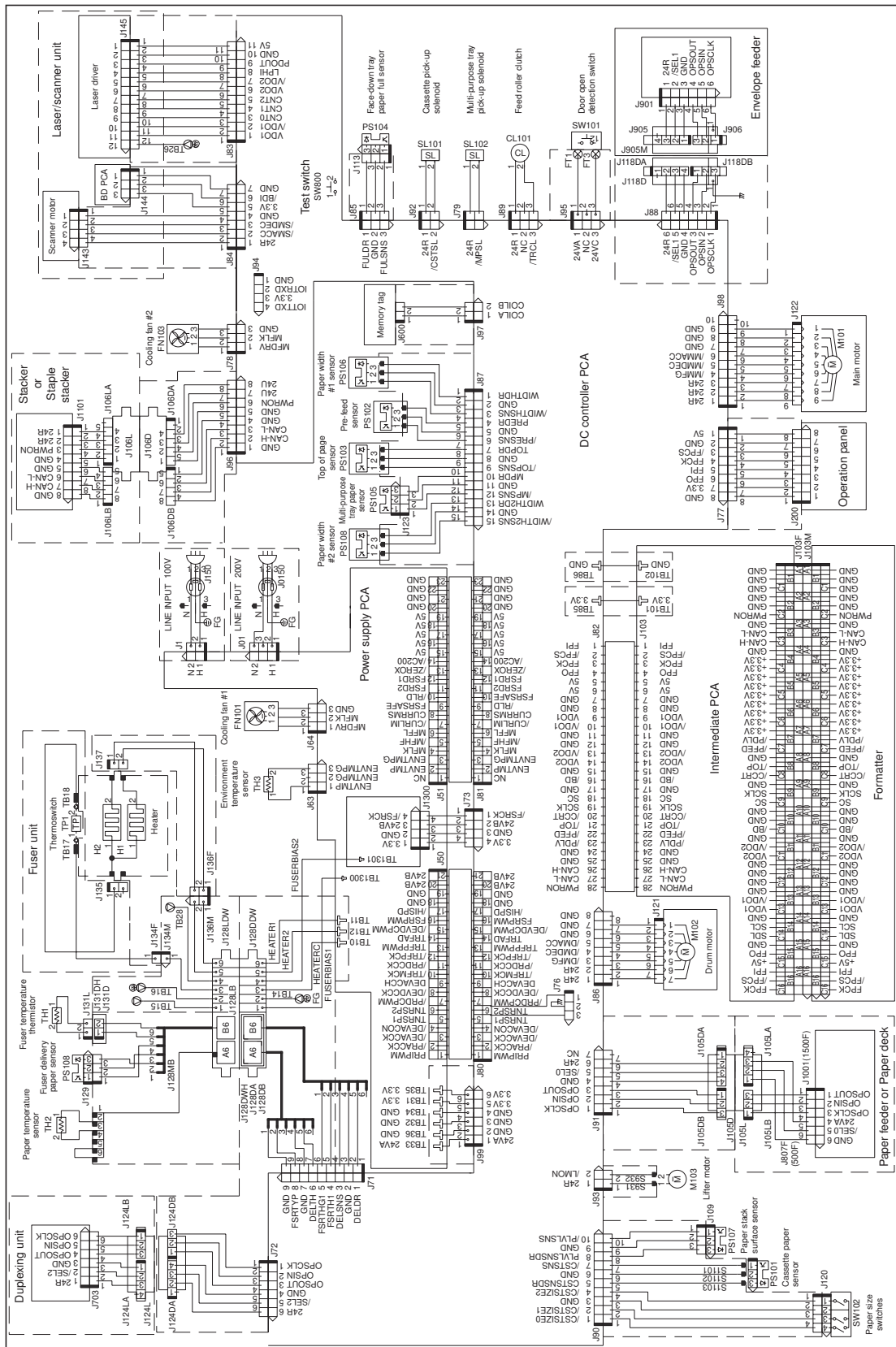


Figure 7-29 HP LaserJet 4350 wiring diagram

500-sheet feeder wiring diagram

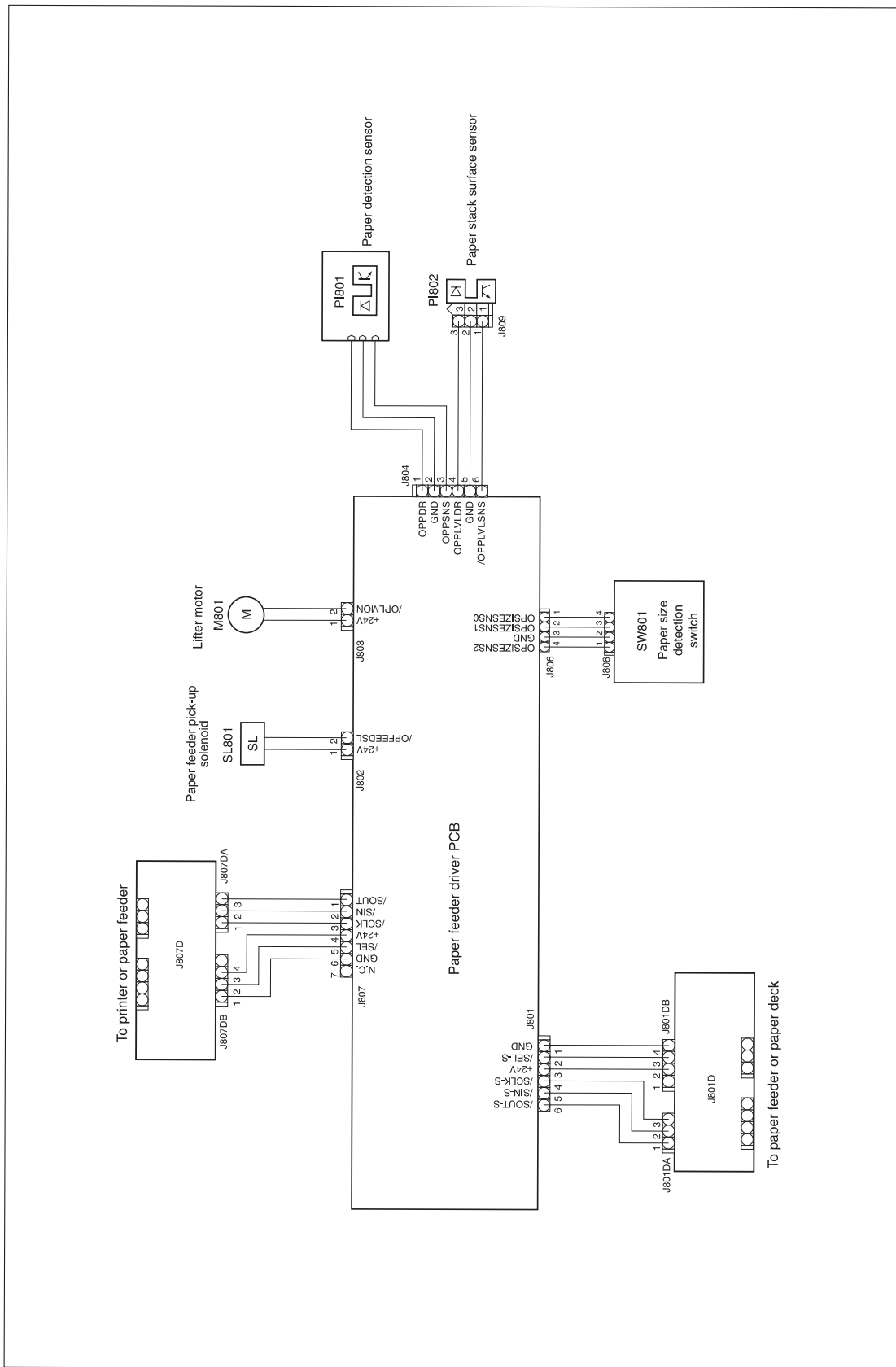


Figure 7-30 500-sheet feeder wiring diagram

1,500-sheet feeder wiring diagram

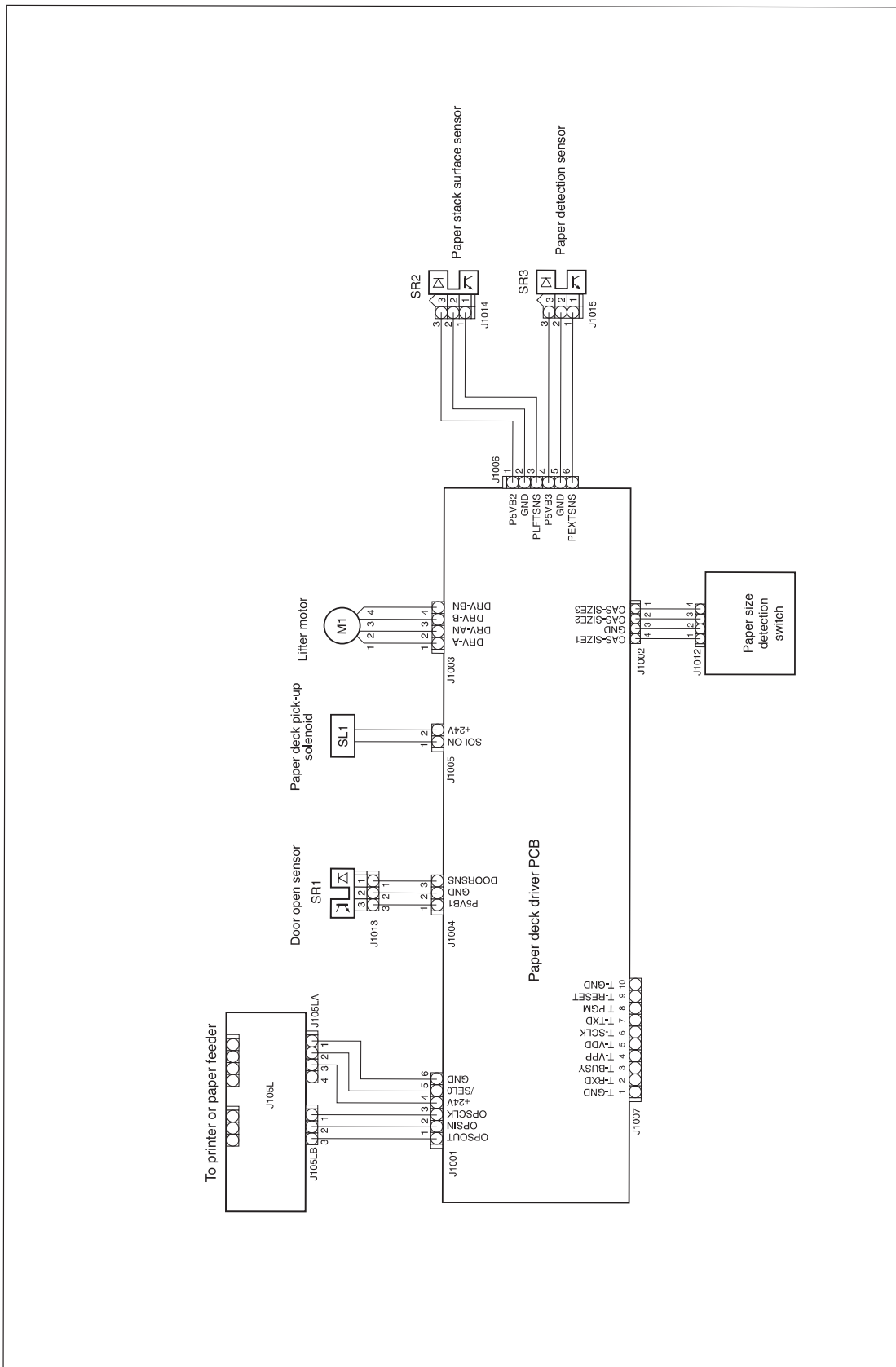


Figure 7-31 1,500-sheet feeder wiring diagram

Duplex accessory wiring diagram

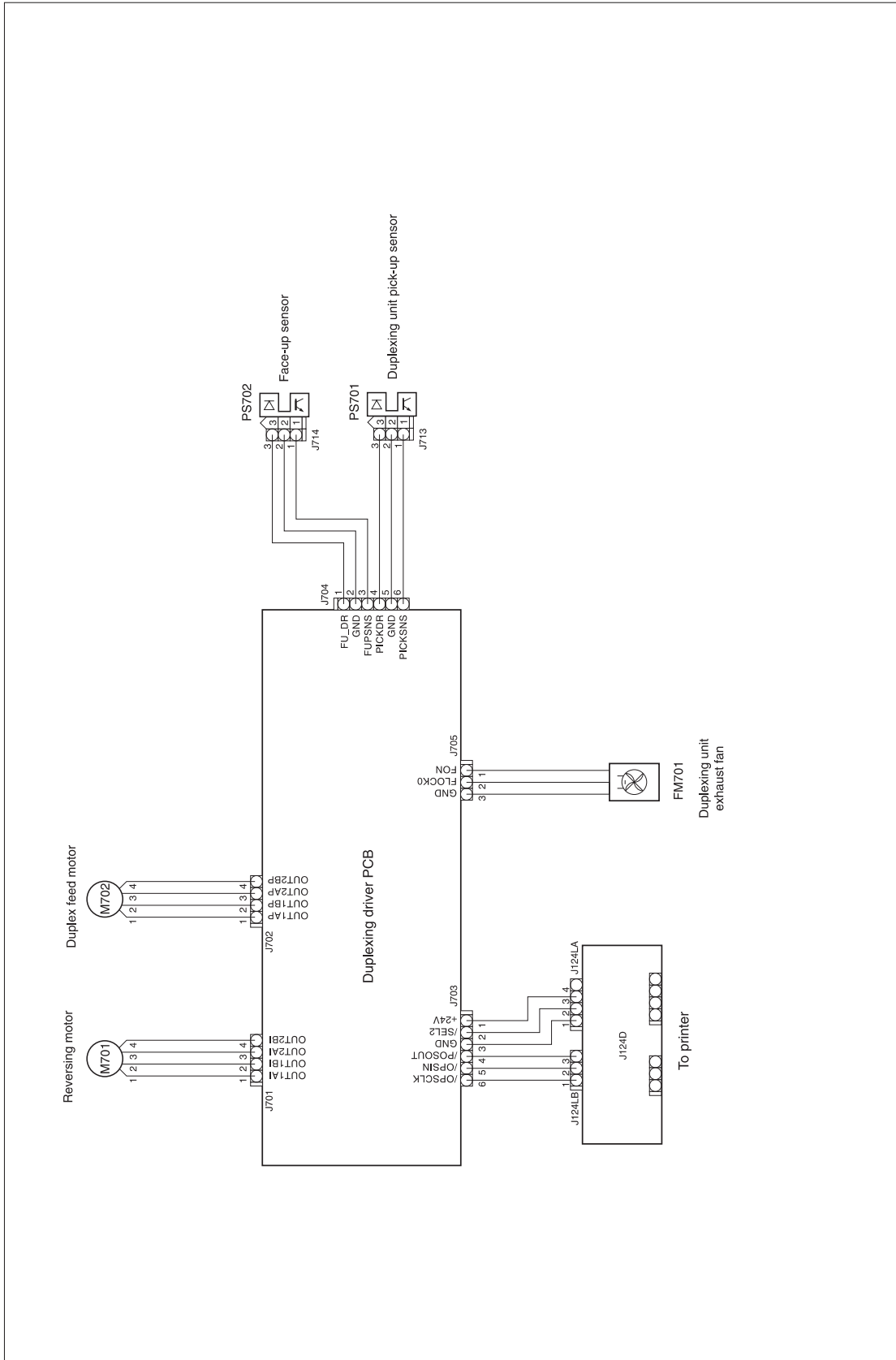


Figure 7-32 Duplex-accessory wiring diagram

Envelope-feeder-accessory wiring diagram

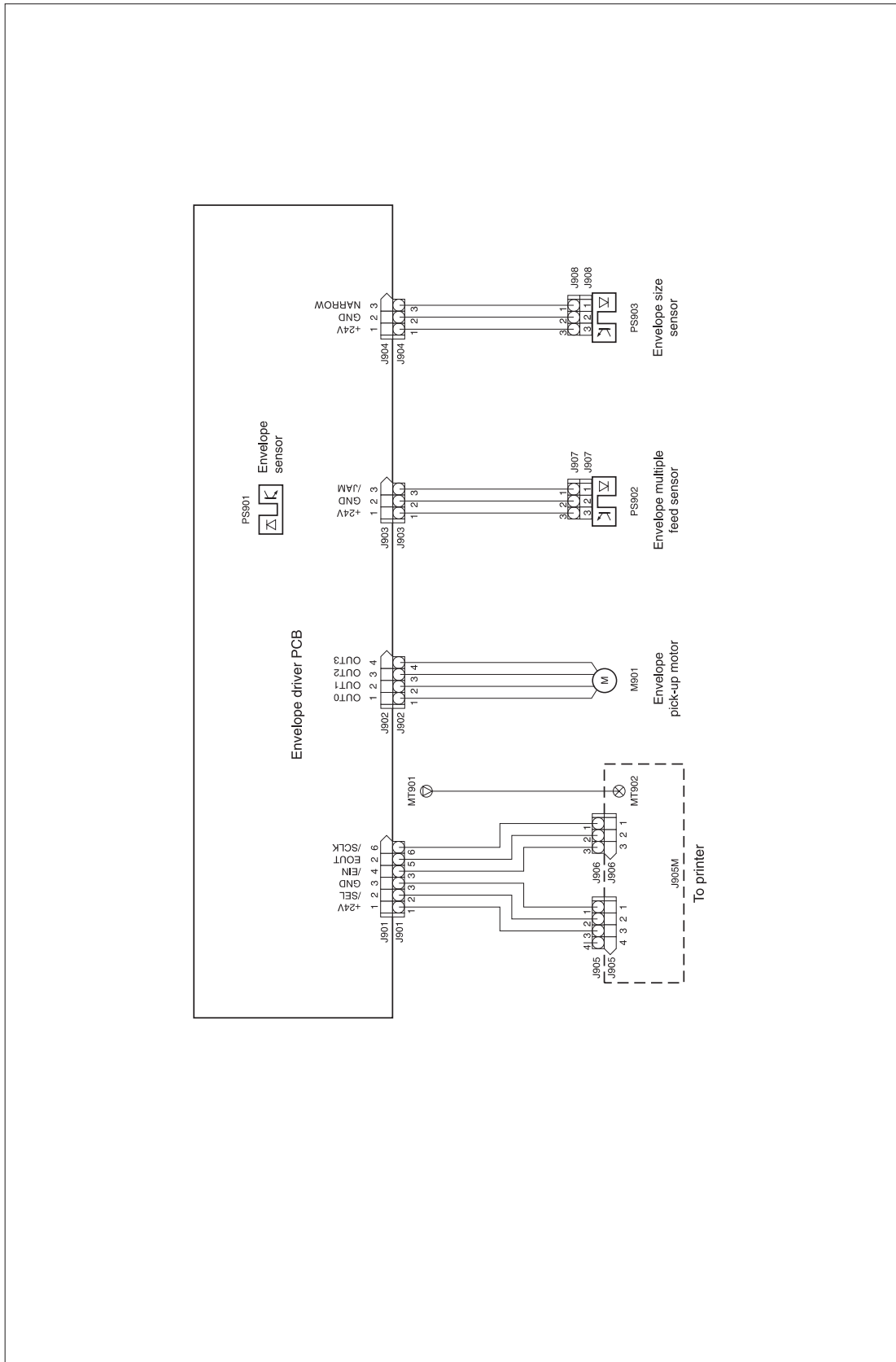


Figure 7-33 Envelope-feeder-accessory wiring diagram

Stacker-accessory wiring diagram

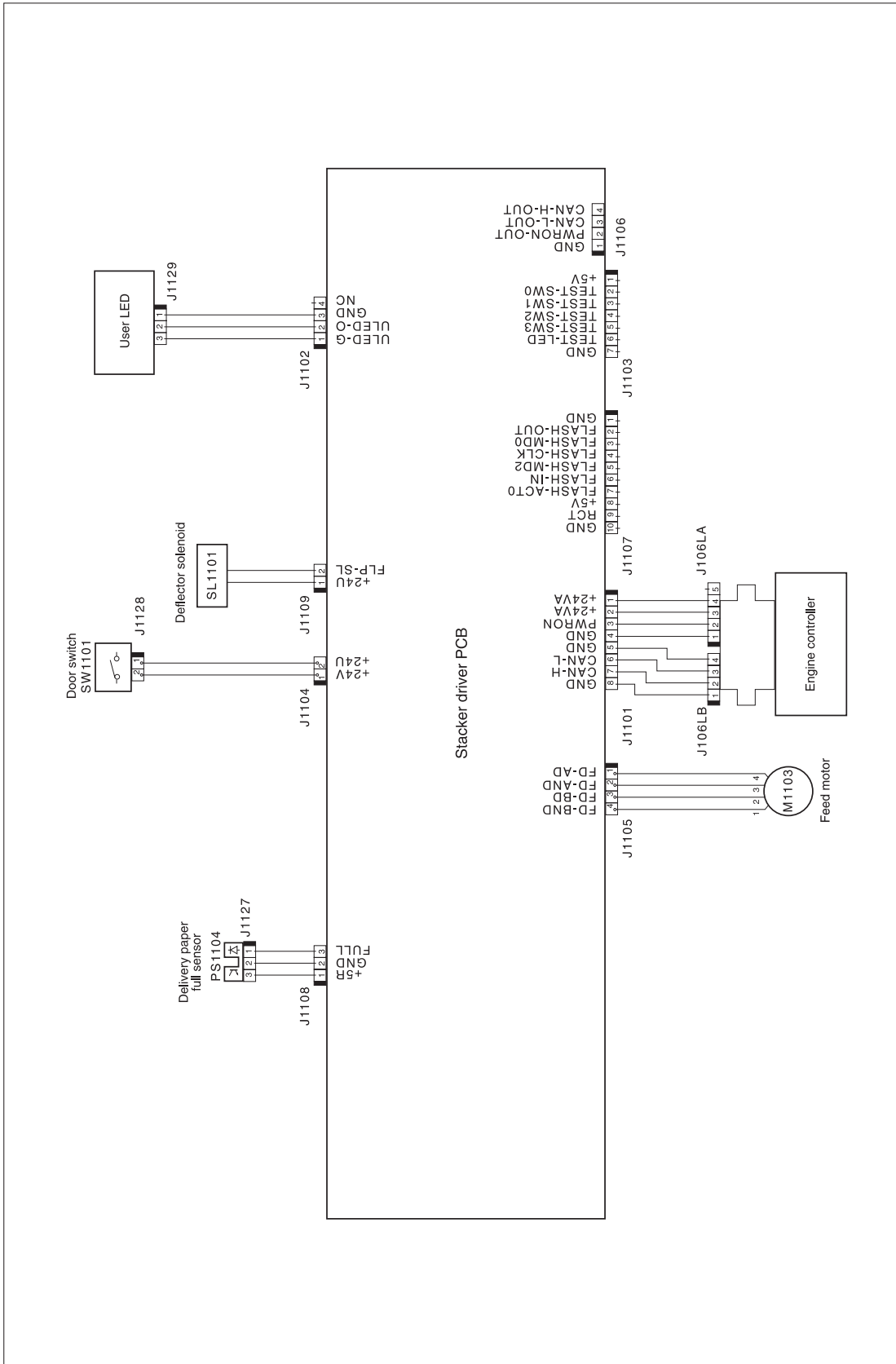


Figure 7-34 Stacker-accessory wiring diagram

Stapler/stacker-accessory wiring diagram

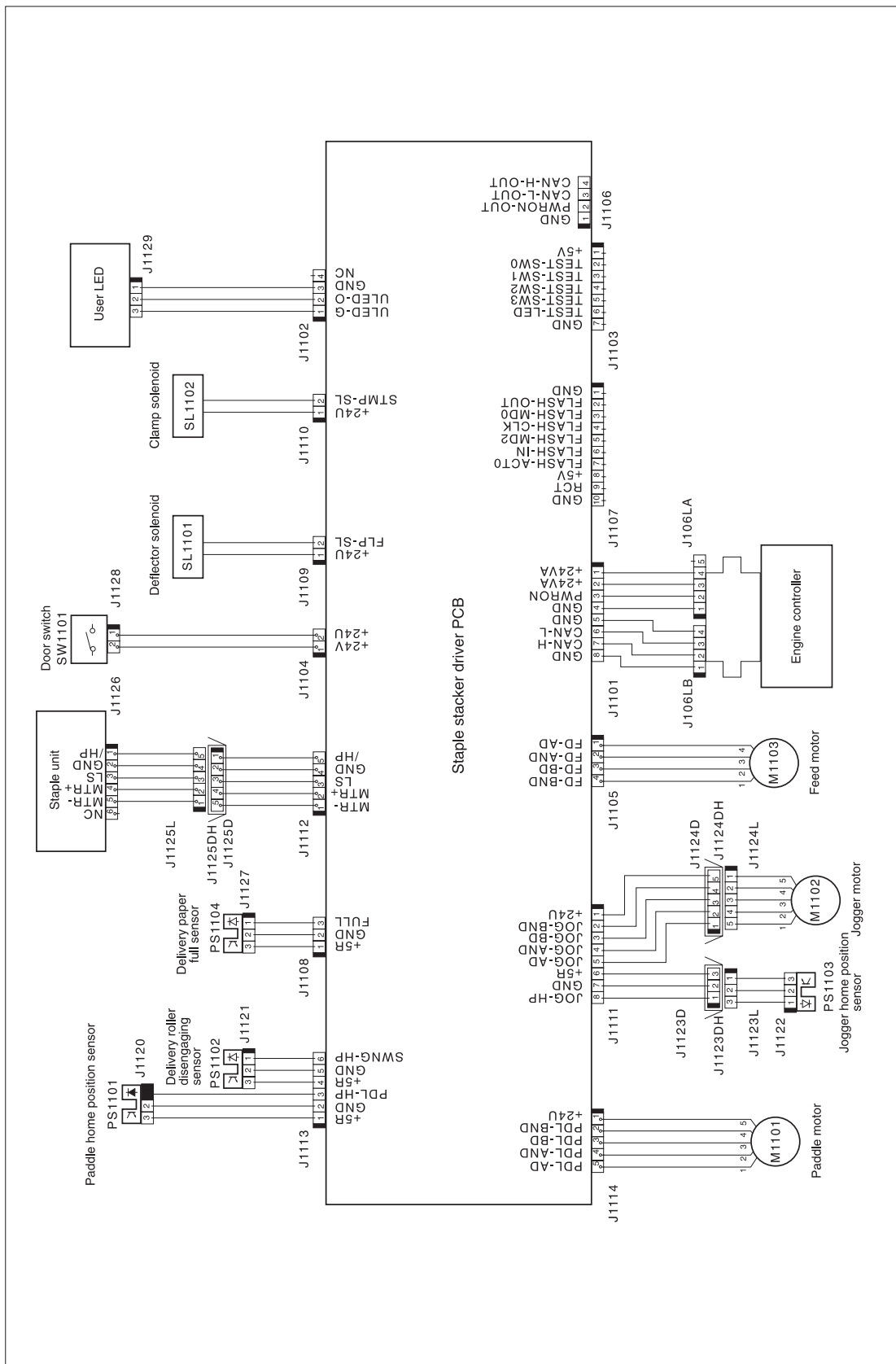


Figure 7-35 Stapler/stacker-accessory wiring diagram

Dc controller connectors diagram

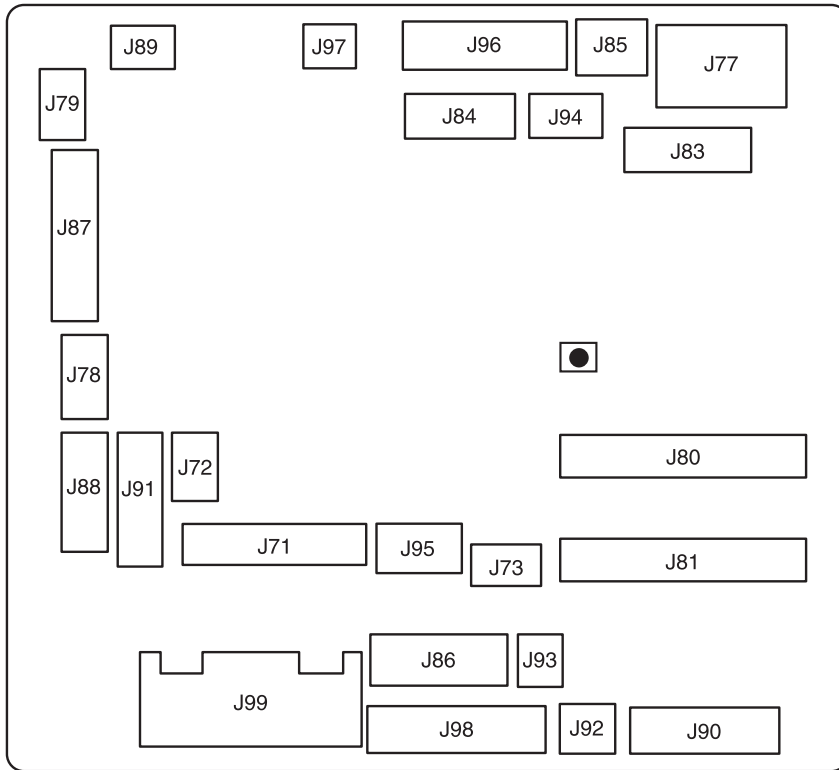


Figure 7-36 Dc controller connectors diagram

General timing diagrams

The following sections contain timing diagrams for the printer.

HP LaserJet 4200 general timing diagram

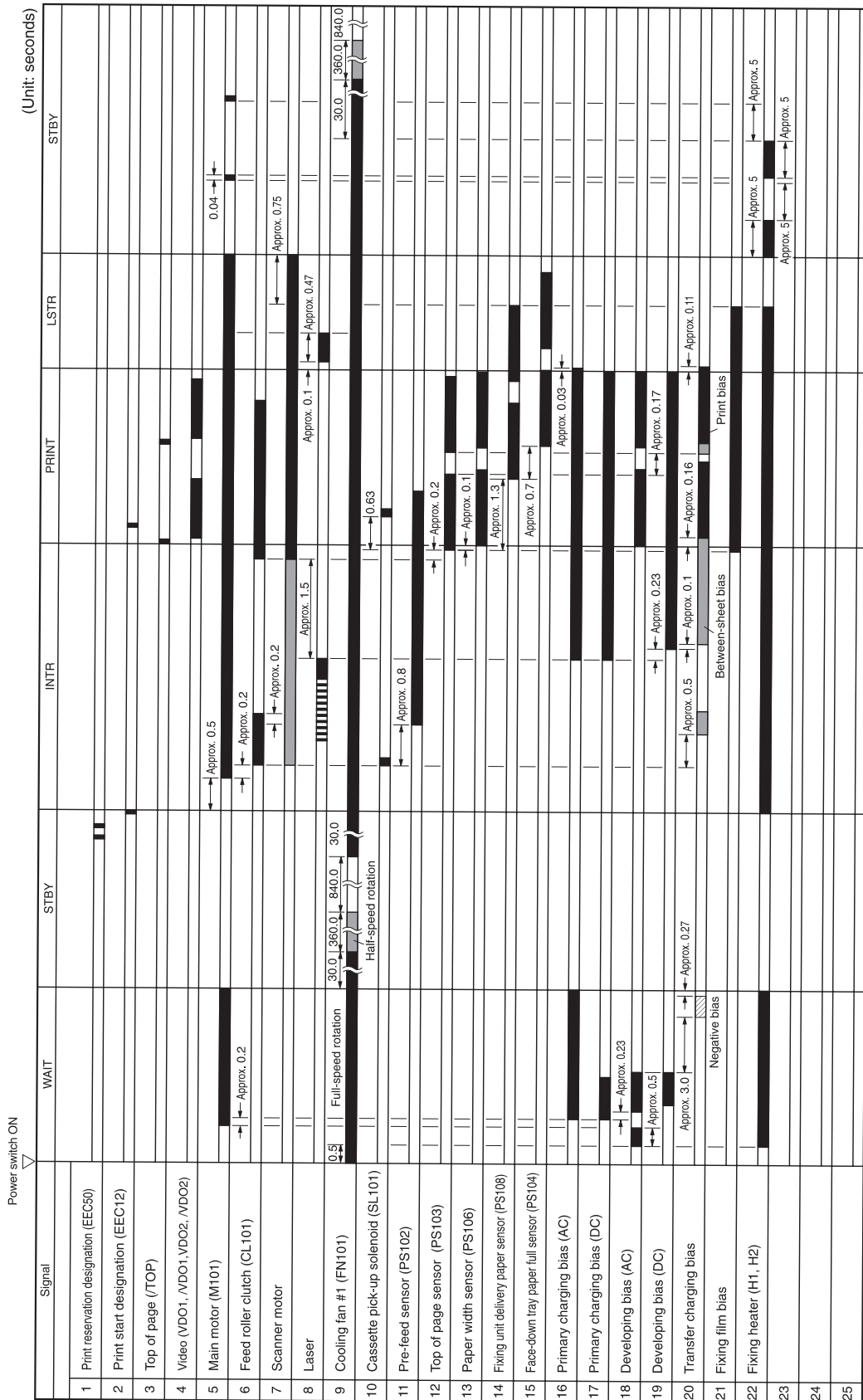


Figure 7-37 HP LaserJet 4200 general timing diagram

HP LaserJet 4250 general timing diagram

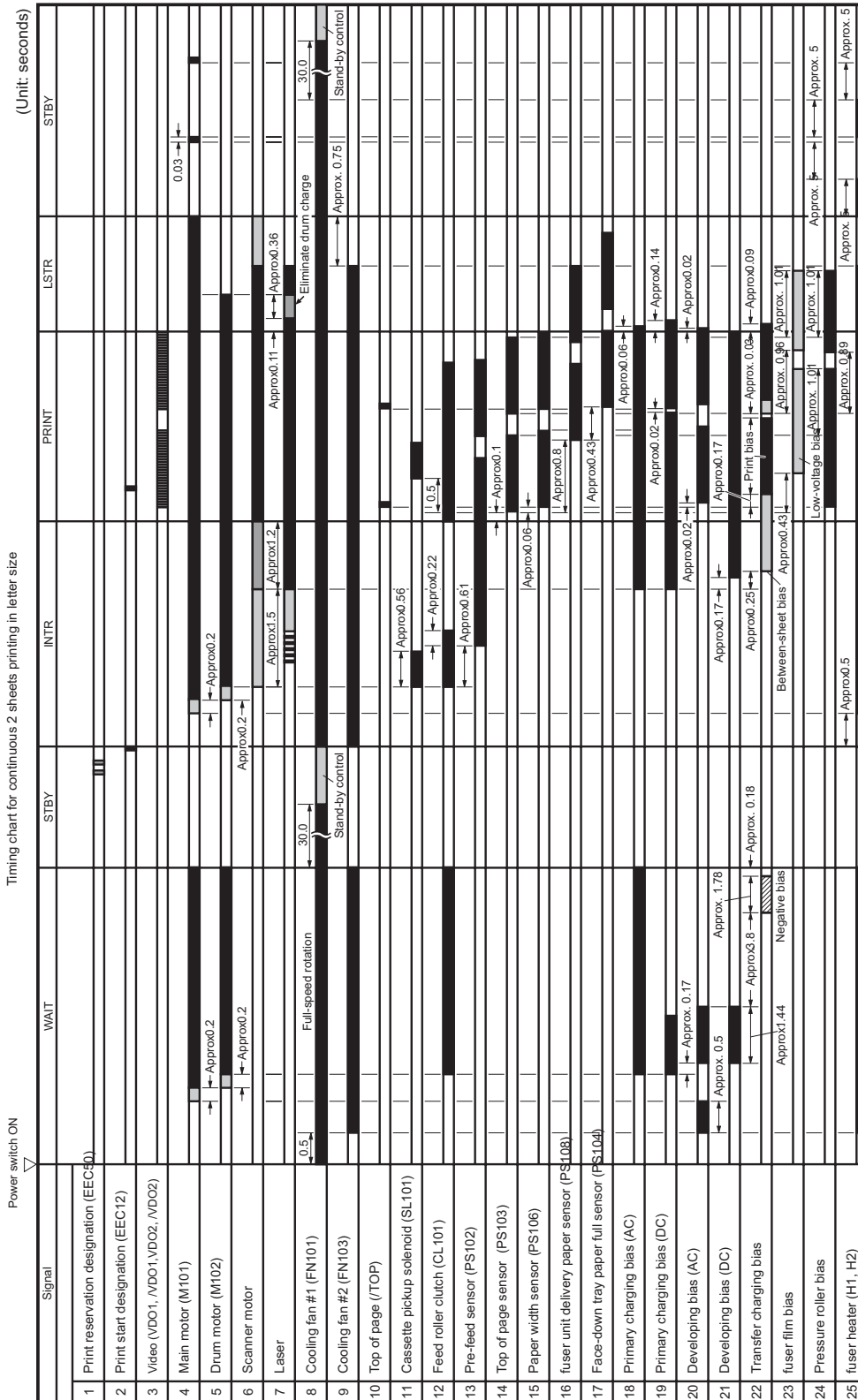


Figure 7-38 HP LaserJet 4250 general timing diagram

HP LaserJet 4300 general timing diagram

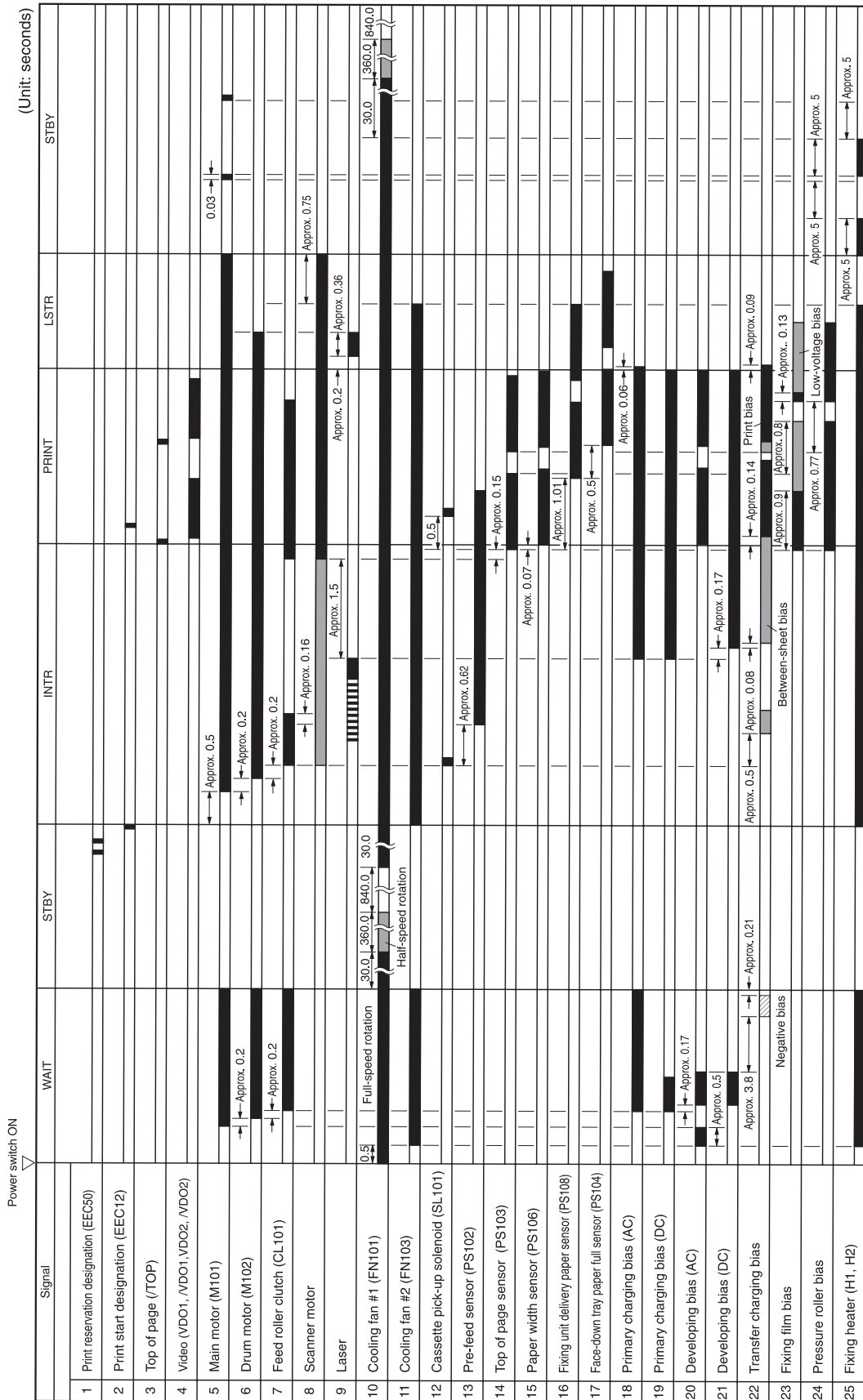


Figure 7-39 HP LaserJet 4300 general timing diagram

HP LaserJet 4350 general timing diagram

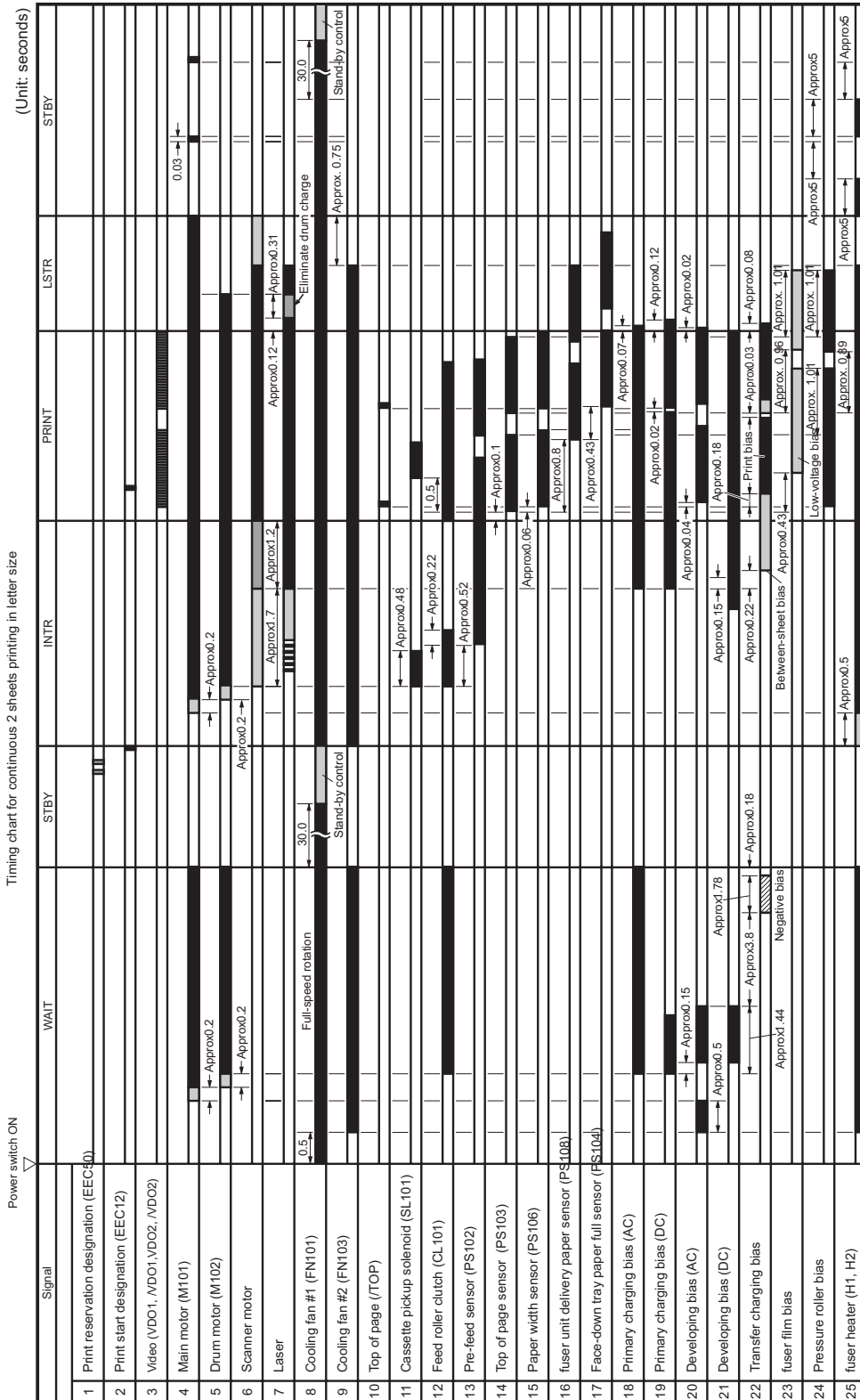


Figure 7-40 HP LaserJet 4350 general timing diagram

Stapler/stacker timing diagram

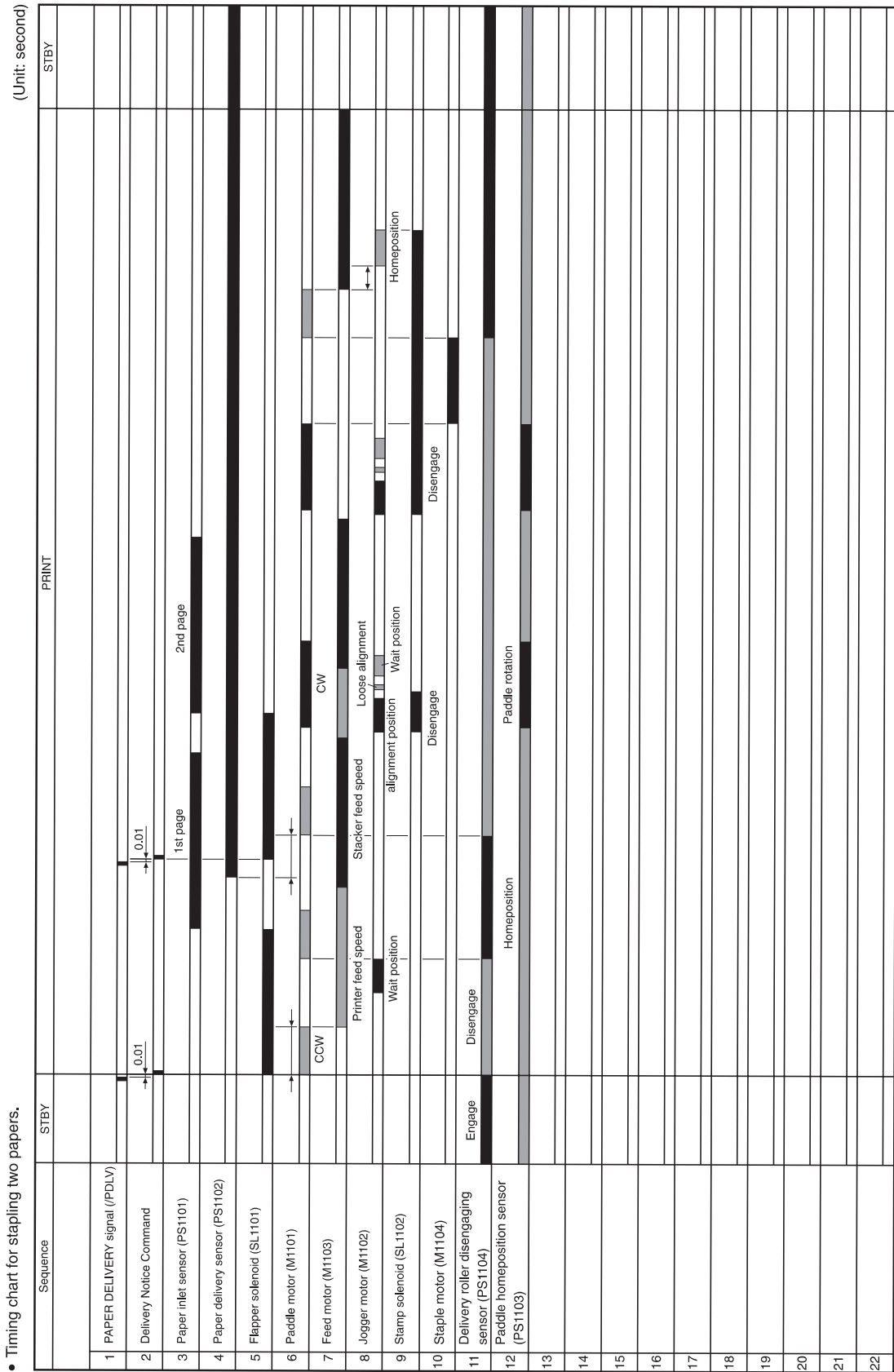


Figure 7-41 Stapler/stacker timing diagram

8 Parts and diagrams

Chapter contents

- [Ordering parts and supplies](#)
- [Consumables and accessories](#)
- [Covers](#)
- [Internal components](#)
- [Accessories](#)
- [Alphabetical parts list](#)
- [Numerical parts list](#)

Ordering parts and supplies

This section contains information about how to order parts and supplies for this device.

Parts

This chapter contains field replaceable unit (FRU) and accessory part numbers. Replacement parts can be ordered from the HP Services. Go to <http://www.hp.com/go/parts/> for information about ordering service parts in your area. Go to <http://www.hp.com/go/partsinfo/> for the online HP service parts identification tool (HP PartSurfer).



CAUTION Use only the parts and accessories that have been specifically designed for this printer. Order accessories from an authorized HP service or support provider, or online at <http://www.hp.com>.



NOTE Parts that have no item number or part number listed are not field replacement parts and cannot be ordered.

Related documentation and software

Order documentation and software from the companies that are listed in the following table; some documentation and software is available at the following Web sites.

Table 8-1 Technical support Web sites

HP Channel Services Network (CSN) (for HP partners)	http://www.hp.com/partners/csn HP CSN is an Internet site that is created exclusively for our partners. You can easily find all the HP information that you need for your daily business. And you can get it earlier than from any other site.
HP Customer Care Online Software drivers, support documentation, and answers to frequently asked questions	http://www.hp.com/support Select your country/region in the Select a country or region field located on the Web page. Select the support block.
HP Technical Training Classes and schedules	USA: http://www.hp.com/go/onlinelearning Canada: http://www.canada.hp.com Asia: http://partnercare.asiapac.hp.com Latin America: http://www.conecta.latinamerica.hp.com
Parts Parts information	http://www.hp.com/go/parts/ http://www.hp.com/go/partners/csn http://www.partsurfer.hp.com
Supplies/paper Ordering information for supplies and media	USA: http://www.hp.com/go/ordersupplies-na Canada: http://www.hp.ca/catalog/supplies Europe: http://www.hp.com/go/supplies Asia Pacific: http://www.hp.com/paper

HP provides free telephone support during the product warranty period. When you call, you will be connected to a responsive team waiting to help you. For the number you should call in your country/region, see the support sheet that came in the box with your printer. Before calling have the following information available:

- Product name (for example, HP LaserJet 4350dtns printer)
- Product serial number (found on the underside of the cartridge door)
- The date of printer purchase and a description of the problem

Test the software installation. Attempt to print a test page from the software program. Try reinstalling the software. If reinstalling the software does not correct the problem, see the Readme file on the CD that came with the printer, or call the phone number for the country/region (phone numbers are listed on the support sheet that came in the box with the printer). You can also find answers to frequently asked questions at the following Web sites:

- <http://www.hp.com/support/lj4200>
- <http://www.hp.com/support/lj4250>
- <http://www.hp.com/support/lj4300>
- <http://www.hp.com/support/lj4350>

HP-authorized resellers and support

To locate HP-authorized resellers and support, call 800-243-9816 in the U.S. or 800-387-3867 in Canada.

HP service agreements

For information about HP service agreements, call 800-386-1115 in the U.S. or 800-268-1221 in Canada.

HP Partner Portal

You can use the following information to contact HP Partner Portal:

- For Partner Portal, <http://www.hp.com/partners>
- For Connect Online, <http://www.connect-online.hp.com>
- For Asia Pacific countries/regions, <http://partnercare.asiapac.hp.com>
- For Canada Partner, <http://www.canada.hp.com>
- For Latin America, <http://www.conecta.latinamerica.hp.com>

Supplies

See [Ordering parts and supplies](#). Consumables are available directly from HP at the following numbers:

- US: 1-800-HPINVENT
- Canada: 1-800-474-6836
- United Kingdom: 0734-441212
- Germany: 0130-3322

Contact your local HP Parts Coordinator for other local phone numbers.

Consumables and accessories

Consumables

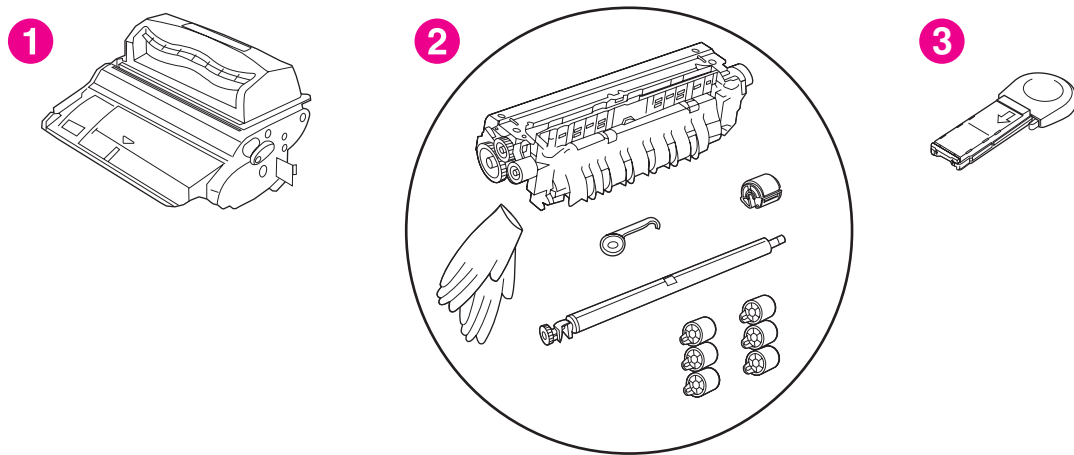


Figure 8-1 Consumables

Table 8-2 Consumables

Ref	Item	Product number	Service/exchange number
1	10,000-page print cartridge, LJ 4250/4350 printers	Q5942A	Q5942-67901
1	12,000-page print cartridge, LJ 4200/4200L printers	Q1338A	Q1338-67901
1	18,000-page print cartridge, LJ 4300 printers	Q1339A	Q1339-67901
1	20,000-page cartridge, LJ 4250/4350 printers	Q5942X	Q5492-67902
2	Preventive maintenance kit, LJ 4200/4200L printers, 110-127 V	Q2429A	Q2429-67904
2	Preventive maintenance kit, LJ 4200/4200L printers, 220-240 V	Q2430A	Q2430-67904
2	Preventive maintenance kit, LJ 4250/4350 printers, 110-127 V	Q5421A	Q5421-67901
2	Preventive maintenance kit, LJ 4250/4350 printers, 220-240 V	Q5422A	Q5422-67901
2	Preventive maintenance kit, LJ 4300 printers, 110-127 V	Q2436A	Q2436-67905
2	Preventive maintenance kit, LJ 4300 printers, 220-240 V	Q2437A	Q2437-67905
3	1,000-staple cartridge (3-pack)	Q3216A	Q3216-60500

Accessories

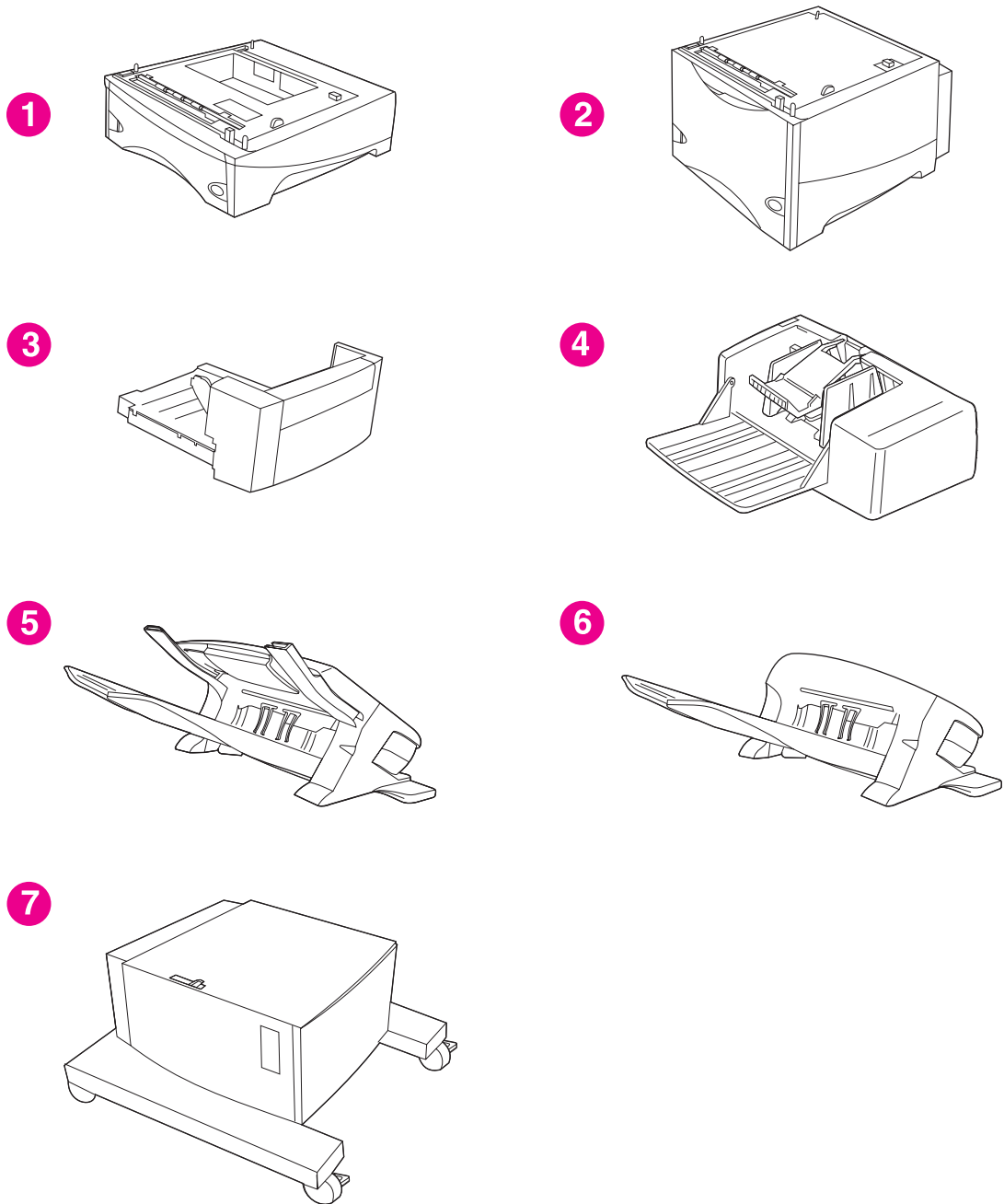


Figure 8-2 Accessories

Table 8-3 Accessories

Ref	Accessory	Product number	Service/exchange number
1	500-sheet tray and feeder	Q2240B	Q2440-67903
2	1,500-sheet tray and feeder	Q2444B	Q2444-67902
3	Duplexer	Q2439B	Q2439-67902
4	75-sheet envelope feeder	Q2438B	Q2438-67902
5	500-sheet stapler/stacker	Q2443B	Q2443-67908
6	500-sheet stacker	Q2442B	Q2442-67902
7	Printer stand	Q2445B	Q2445-60102

Memory, fonts, and mass storage

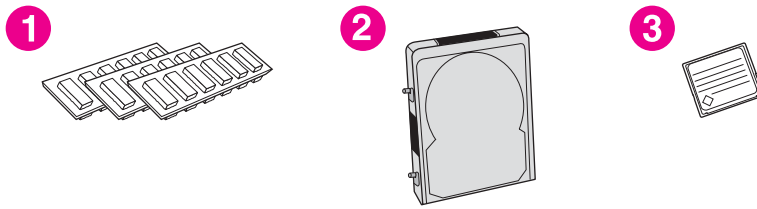


Figure 8-3 Memory, fonts, and mass storage

Table 8-4 Memory, fonts, and mass storage

Ref	Item	Product number	Service/exchange number
1	Firmware DIMM (LJ 4200, base model)		Q2453-67925
1	Firmware DIMM (LJ 4200, all models except for base model)		Q2453-67906
1	Firmware DIMM (LJ 4200L)		Q2453-67932
1	Firmware DIMM (LJ 4300)		Q2453-67915
1	SDRAM DIMM, 8 MB (LJ 4200/4300)		C7842-67901
1	SDRAM DIMM, 16 MB (LJ 4200/4300)		C7843-67901
1	SDRAM DIMM, 32 MB (LJ 4200/4300)		C7845-67901
1	SDRAM DIMM, 64 MB (LJ 4200/4300)		Q1887-67901
1	SDRAM DIMM, 128 MB (LJ 4200/4300)		C9121-67901
1	100-pin DDR DIMM, 48 MB (LJ 4250/4350)		Q6007-67951
1	100-pin DDR DIMM, 64 MB (LJ 4250/4350)		Q2625-67951
1	100-pin DDR DIMM, 80 MB (LJ 4250/4350)		Q6008-67951
1	100-pin DDR DIMM, 96 MB (LJ 4250/4350)		Q6009-67951
1	100-pin DDR DIMM, 128 MB (LJ 4250/4350)	Q2626A	Q2626-67951
1	100-pin DDR DIMM, 256 MB (LJ 4250/4350)	Q2627A	Q2627-67951
1	100-pin DDR DIMM, 512 MB (LJ 4250/4350)	Q2628A	Q2628-67951
1	Font DIMM, Korean language (LJ 4200/4300)	D4838A	
1	Font DIMM, Simplified Chinese language (LJ 4200/4300)	C4293A	
1	Font DIMM, Traditional Chinese language (LJ 4200/4300)	C4292A	
2	EIO hard disk, 20 GB		J6073-61001
			J6073-69001

Table 8-4 Memory, fonts, and mass storage (continued)

Ref	Item	Product number	Service/exchange number
3	Flash DIMM, 8 MB (LJ 4200/4300)	C8530A	
3	Flash DIMM, 12 MB (LJ 4200/4300)	C7867A	

Cables and connectivity

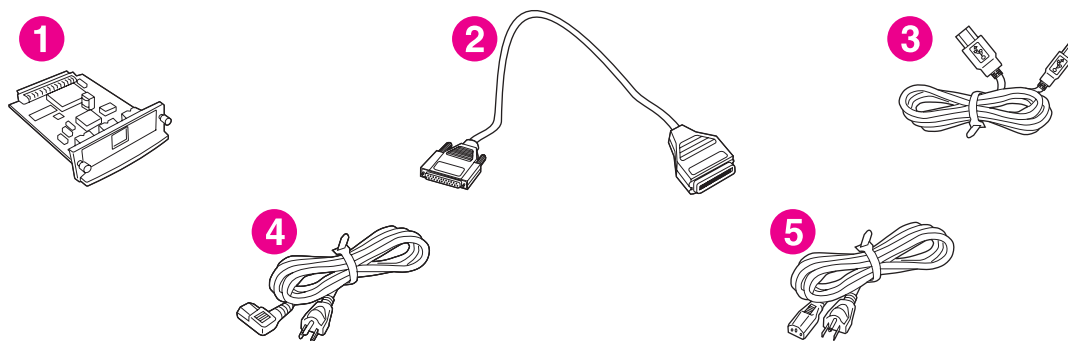


Figure 8-4 Cables and connectivity

Table 8-5 Cables and connectivity

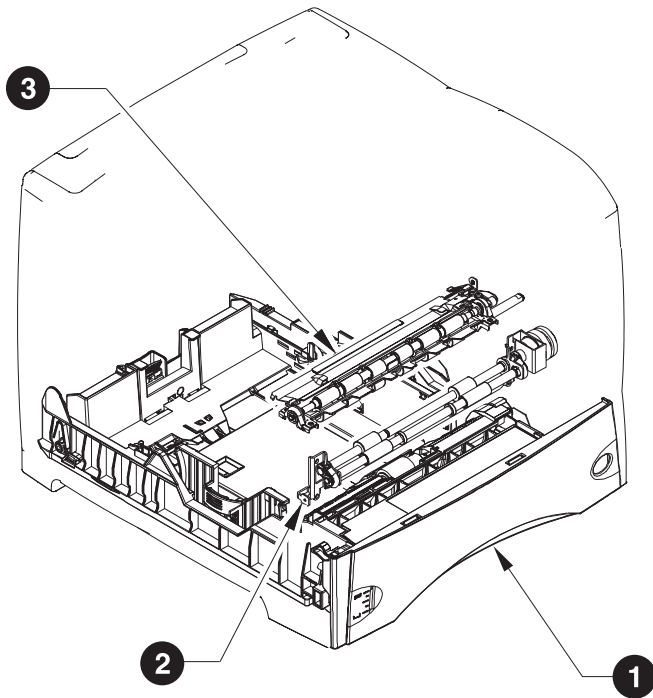
Ref	Item	Product number	Service/exchange number
1	HP Jetdirect 615n Fast Ethernet internal print server (for HP LaserJet 4200/4300 printers only)	J6057A	J6057-69001
1	HP Jetdirect 620n Fast Ethernet internal print server for HP LaserJet 4250/4350 printers	J7934A	J7934-61001/J7934-69001
1	HP Jetdirect 625n Gigabit internal print server for HP LaserJet 4250/4350 printers	J7960A	J7960-61001
1	HP Jetdirect 680n 802.11b wireless Ethernet internal print server for HP LaserJet 4250/4350 printers	J6058A	J6058-61201
1	HP bt1300 Bluetooth wireless printer adapter	J6072A	J6072-61001/J6072-69001
	Connectivity card for USB, serial, and Local Talk	J4135A	J4135-61001
2	IEEE_1284 parallel cable, 2-meter (6.6 feet)	C2950A	5063-1256
2	IEEE_1284 parallel cable, 3-meter (9.9 feet)	C2951A	5063-1257
3	USB cable, 2-meter (6.6 feet)	C6518A	
4	Power cord, 2-meter (6.6 feet), with 90-degree C13 receptacle (For 120 Vac in the United States, Canada, Latin America, Korea, Taiwan, and Thailand)		8120-5301
5	Power cord, 2-meter (6.6 feet), with straight C13 receptacle (For 120 Vac in the United States, Canada, Latin America, Korea, Taiwan, and Thailand)		8121-0740

Formatters, laser/scanners, power supplies, and fusers

Table 8-6 Formatters, laser/scanners, power supplies, and fusers

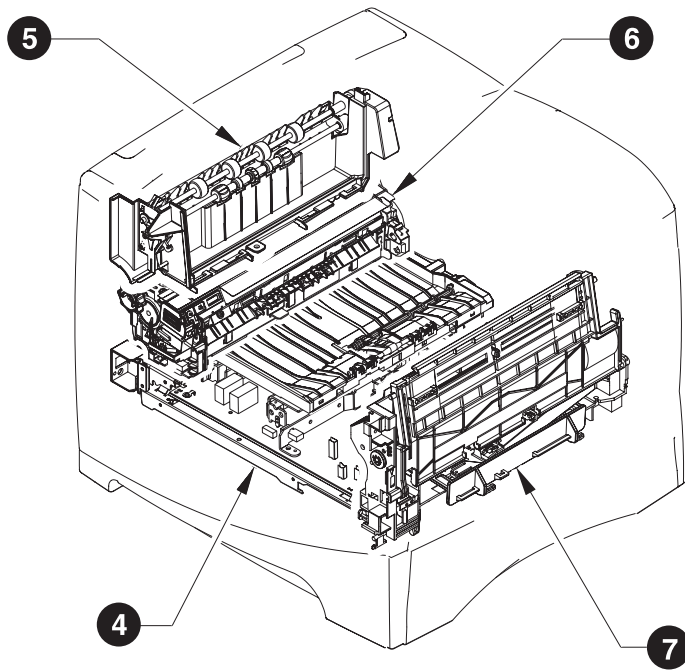
Item	Product number	Service/exchange number
Formatters		
Formatter, LJ 4200	Q9652A	C9652-67902/C9652-69001
Formatter, LJ 4200L		C9652-67903/C9652-69003
Formatter, LJ 4300	Q9651A	C9651-67901/C9651-69001
Formatter, LJ 4250/4350 (base models)	Q3653A	Q3653-67901/Q3653-69001
Formatter, LJ 4250/4350 (network models)	Q3652A	Q3652-67901/Q3652-69001
Laser/scanners		
Laser/scanner, LJ 4200		RM1-0045-000CN
Laser/scanner, LJ 4250/4350		RM1-1067-000CN
Laser/scanner, LJ 4300		RM1-0113-000CN
Power-supply assemblies		
Power-supply assembly, LJ 4200, 110-127 V		RM1-0019-050CN
Power-supply assembly, LJ 4300, 110-127 V		RM1-0107-000CN
Power-supply assembly, LJ 4250/4350, 110-127 V		RM1-1070-000CN
Power-supply assembly, LJ 4200, 220-240 V		RM1-0020-000CN
Power-supply assembly, LJ 4300, 220-240 V		RM1-0108-000CN
Power-supply assembly, LJ 4250/4350, 220-240 V		RM1-1071-000CN
Fusers		
Fuser, LJ 4200, 110 V		RM1-0013-140CN
Fuser, LJ 4300, 110 V		RM1-0101-200CN
Fuser, LJ 4250/4350, 110 V		RM1-1082-000CN
Fuser, LJ 4200, 220 V		RM1-0014-140CN
Fuser, LJ 4300, 220 V		RM1-0102-200CN
Fuser, LJ 4250/4350, 220 V		RM1-1083-000CN

Assembly locations (1 of 3)



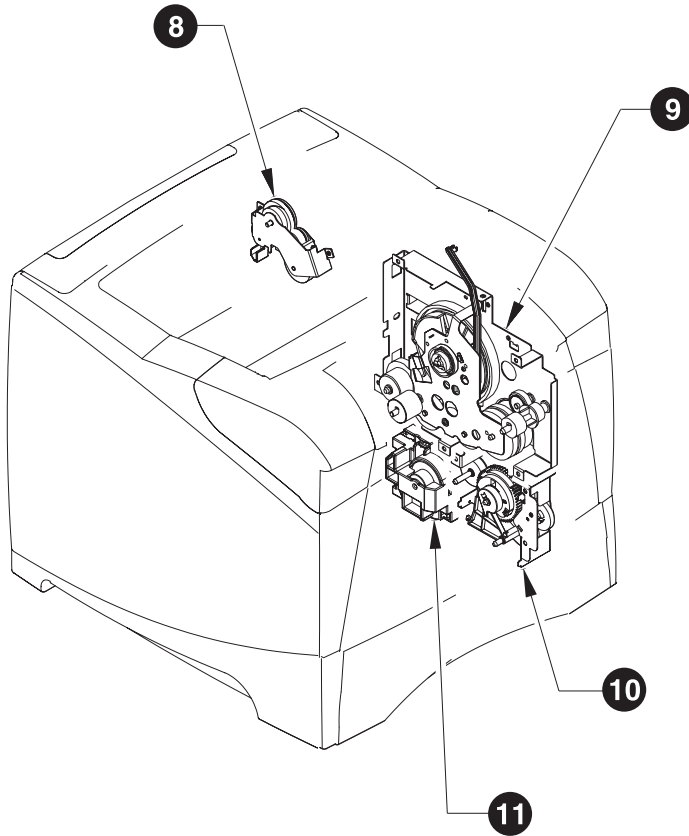
Ref.	Description	Details
1	500-sheet universal replacement tray	See Figure 8-14 500-sheet feeder (1 of 2) .
2	Feed roller assembly	See Figure 8-11 Feed roller assembly .
3	Registration assembly	See Figure 8-6 Internal components (1 of 3) .

Assembly locations (2 of 3)



Ref.	Description	Details
4	Power-supply assembly	See Figure 8-9 Electrical components .
5	Delivery assembly	See Figure 8-8 Internal components (3 of 3) .
6	Fuser assembly	See Figure 8-8 Internal components (3 of 3) .
7	Tray 1 pickup assembly	See Figure 8-12 Tray 1 pickup assembly .

Assembly locations (3 of 3)



Ref.	Description	Details
8	Duplexing-pendulum assembly	See Figure 8-8 Internal components (3 of 3) .
9	Main-drive assembly	See Figure 8-10 Main drive assembly
10	Paper-pickup-drive assembly	See Figure 8-7 Internal components (2 of 3) .
11	Lifter-drive assembly	See Figure 8-8 Internal components (3 of 3) .

Covers

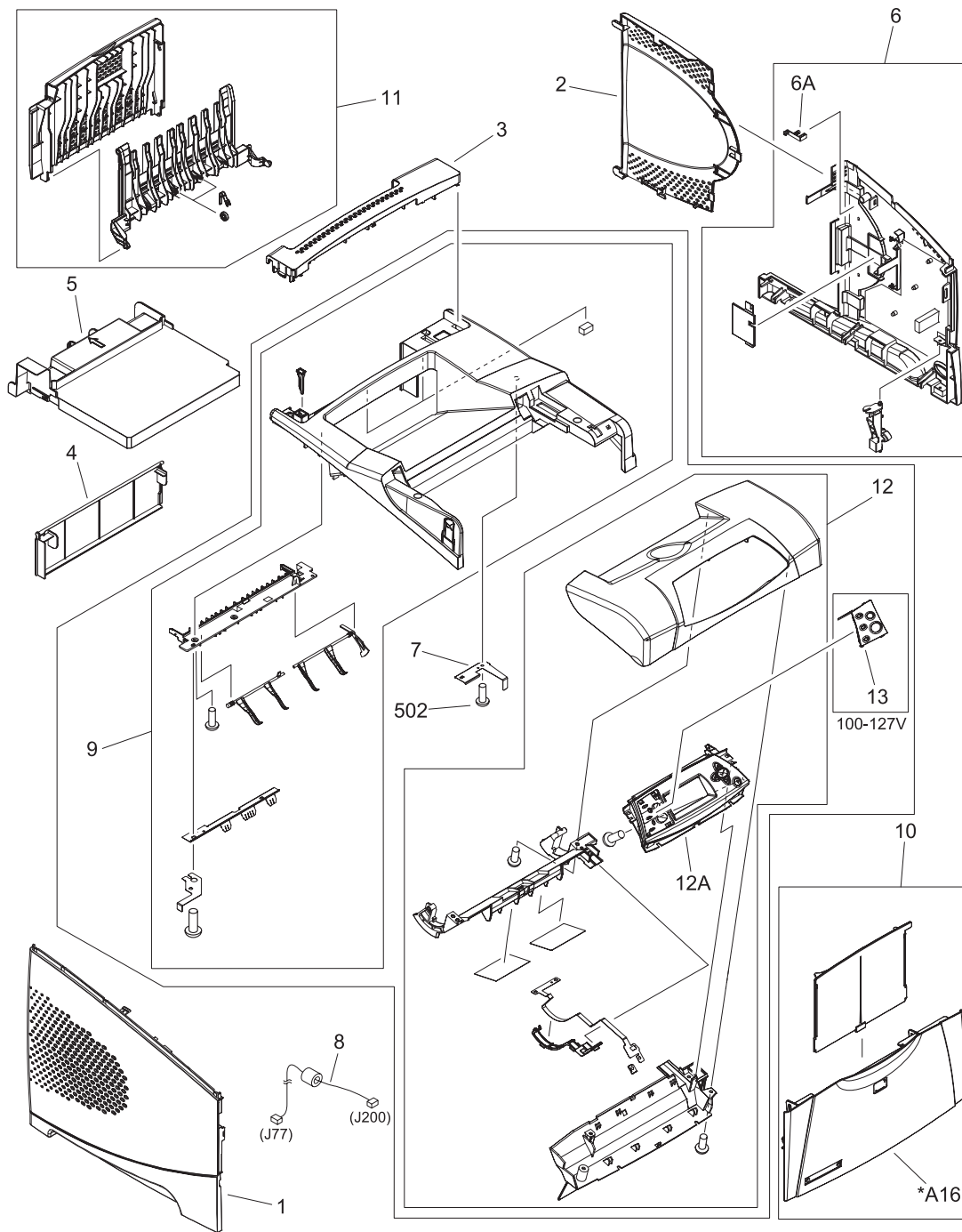


Figure 8-5 Covers

Table 8-7 Covers

Ref	Description	Part number	Qty
1	Cover, left (LJ 4200/4300)	RC1-0287-020CN	1
1	Cover, left (LJ 4250/4350)	RM1-1077-000CN	1
2	Cover, formatter	RC1-0288-000CN	1
3	Cover, paper-handling	RC1-0289-000CN	1
4	Cover, legal (LJ 4200/4300)	RC1-0290-000CN	1
4	Cover, legal (LJ 4250/4350)	RC1-3282-000CN	1
5	Cover, duplexing (LJ 4200/4300)	RC1-0291-000CN	1
5	Cover, duplexing (LJ 4250/4350)	RC1-3280-000CN	1
6	Cover assembly, right (LJ 4200/4300)	RM1-0046-000CN	1
6	Cover assembly, right (LJ 4250/4350)	RM1-1076-000CN	1
7	Spring, leaf grounding, top Cover (LJ 4250/4350 only)	RC1-0307-000CN	1
8	Cable, control panel (LJ 4200/4300)	RG1-4215-000CN	1
8	Cable, control panel (LJ 4250/4350)	RM1-1190-000CN	1
9	Cover assembly, top(LJ 4200/4300)	RM1-0049-000CN	1
9	Cover assembly, top (LJ 4250/4350)	RM1-1081-000CN	1
10	Cover assembly, front	RM1-0050-030CN	1
11	Cover, rear output bin	RM1-0027-020CN	1
12	Cover, cartridge door (LJ 4200)	RM1-0047-020CN	1
12	Cover, cartridge door (LJ 4300)	RM1-0114-020CN	1
12	Cover, cartridge door (LJ 4250/4350)	RM1-1080-000CN	1
12A	Control-panel assembly (LJ 4200/4300)	RG1-4276-020CN	1
12A	Control-panel assembly (LJ 4250/4350)	RM1-1195-000CN	1
13	Overlay, control panel, Turkish (LJ 4200/4300)	Q2431-40021	1
13	Overlay, control panel, Hebrew (LJ 4200/4300)	Q2431-40022	1
13	Overlay, control panel, Greek (LJ 4200/4300)	Q2431-40023	1
13	Overlay, control panel, EN/FR/DE/IT (LJ 4200/4300)	Q2431-60107	1
13	Overlay, control panel, EN/CS/HU/PL (LJ 4200/4300)	Q2431-60108	1
13	Overlay, control panel, NO/SW/FI (LJ 4200/4300)	Q2431-60109	1
13	Overlay, control panel, IT/ES/PT/SP (LJ 4200/4300)	Q2431-60110	1
13	Overlay, control panel, EN/RU (LJ 4200/4300)	Q2431-60111	1
13	Overlay, control panel, EN/AR (LJ 4200/4300)	Q2431-60112	1
13	Overlay, control panel, EN/FR/DE/NL (LJ 4200/4300)	Q2431-60113	1
13	Overlay, control panel, EN (LJ 4250/4350)	RC1-3356-000CN	1
13	Overlay, control panel, EN/FR/DE/IT (LJ 4250/4350)	Q5400-60102	1

Ref	Description	Part number	Qty
13	Overlay, control panel, CS/HU/PL/EL (LJ 4250/4350)	Q5400-60103	1
13	Overlay, control panel, NO/SV/FI (LJ 4250/4350)	Q5400-60104	1
13	Overlay, control panel, ES/PT/IT (LJ 4250/4350)	Q5400-60105	1
13	Overlay, control panel, EN/RU/TR (LJ 4250/4350)	Q5400-60106	1
13	Overlay, control panel, EN/AR (LJ 4250/4350)	Q5400-60107	1
13	Overlay, control panel, EN/DE/FR/NL (LJ 4250/4350)	Q5400-60108	1
13	Overlay, control panel, FR (LJ 4250/4350)	Q5400-60109	1
13	Overlay, control panel, AR (LJ 4250/4350)	Q5400-60111	1
(not shown)	Name plate kit, LJ 4200	Q2425-67901	1
(not shown)	Name plate kit, LJ 4300	Q2431-67908	1
(not shown)	Name plate kit, LJ 4200L	Q3993-40001	1
(not shown)	Name plate kit, LJ 4200Ln	Q3994-40004	1
(not shown)	Name plate kit, LJ 4250	Q5400-67911	1
(not shown)	Name plate kit, LJ 4350	Q5406-67912	1
502	Screw, tapping, pan head, m4x10	XB4-7401-007CN	n

Internal components

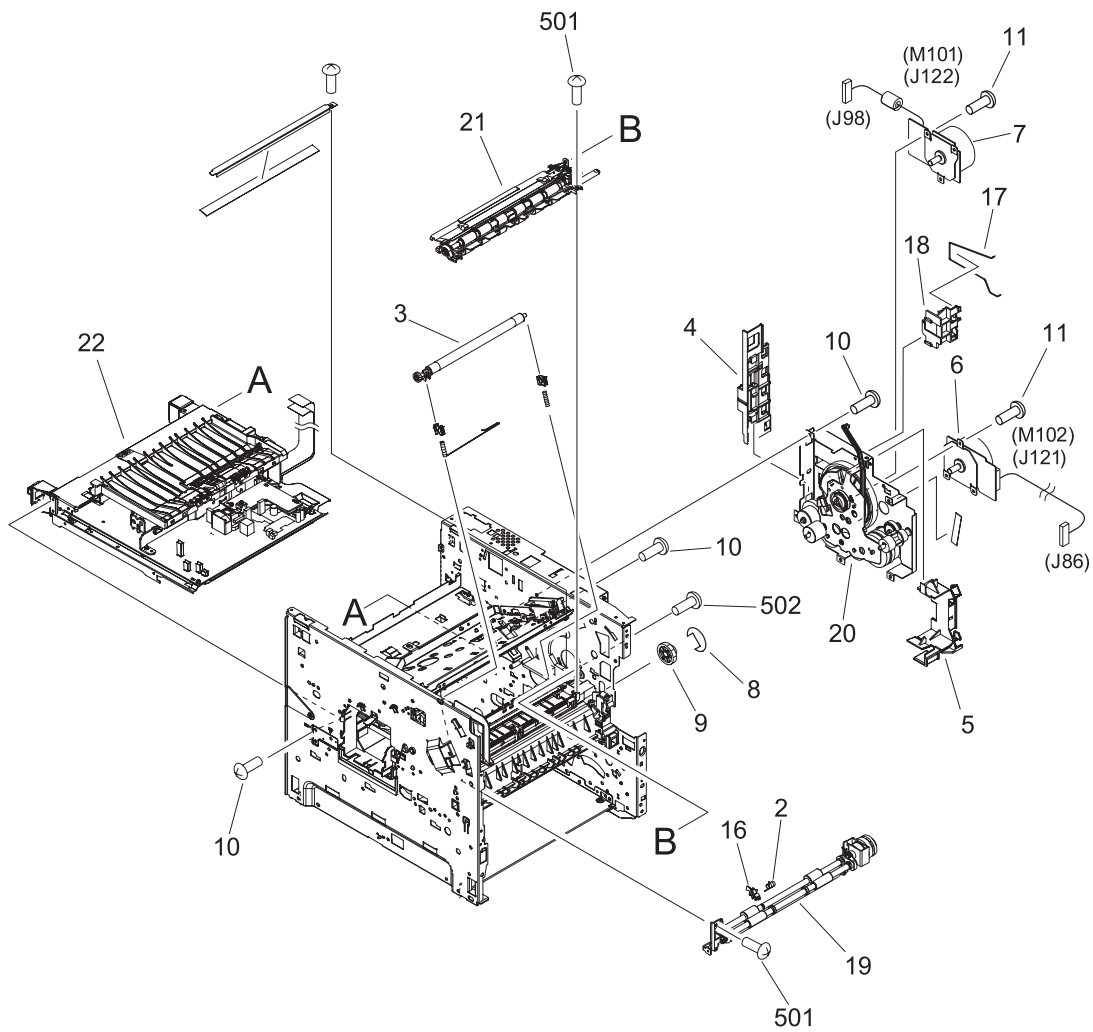


Figure 8-6 Internal components (1 of 3)

Table 8-8 Internal components (1 of 3)

Ref	Description	Part number	Qty
2	Spring, torsion	RC1-0061-000CN	1
3	Transfer roller, LJ 4200/4300	RM1-0699-020CN	1
3	Transfer roller, LJ 4250/4350	RM1-1110-000CN	1
4	Guide, flat cable	RC1-0269-020CN	1
5	Guide, flat cable	RC1-0270-020CN	1
6	Motor, print cartridge (M102), 8-pin (LJ 4250/4350)	RK2-0274-000CN	1
6	Motor, print cartridge (M102), 8-pin (LJ 4300)	RH7-1576-020CN	1
7	Motor, main (M101), 10-pin (LJ4200/4300)	RH7-1570-000CN	1
7	Motor, main (M101), 10-pin (LJ4250/4350)	RK2-0272-000CN	1
8	E-ring	XD9-0232-000CN	1
9	Gear, 14t/30t	RU5-0015-000CN	1
10	Screw, s, m3x8	XA9-1500-000CN	17
11	Screw, tapping, m3x6	XA9-1503-000CN	6
16	Flag, paper feed sensor	RC1-0060-000CN	1
17	Rod, fan 2 (LJ 4300)	RC1-0341-000CN	1
17	Rod, fan 2 (LJ 4250/4350)	RC1-3339-000CN	1
18	Guide, dc controller (LJ 4200/4300)	RC1-0271-000CN	1
18	Guide, dc controller (LJ 4250/4350)	RC1-3340-000CN	1
19	Feed roller assembly (also see Figure 8-11 Feed roller assembly)	RM1-0012-020CN	1
20	Main drive assembly (LJ 4200/4300) (also see Figure 8-10 Main drive assembly)	RM1-0001-030CN	1
20	Main drive assembly (LJ 4250/4350) (also see Figure 8-10 Main drive assembly)	RM1-1066-000CN	1
21	Registration assembly	RM1-0011-060CN	1
22	Power-supply assembly, 110-127 V (LJ 4200) (also see Figure 8-9 Electrical components)	RM1-0019-050CN	1
22	Power-supply assembly, 220-240 V (LJ 4200) (also see Figure 8-9 Electrical components)	RM1-0020-000CN	1
22	Power-supply assembly, 110-127 V (LJ 4250/4350) (also see Figure 8-9 Electrical components)	RM1-1070-000CN	1
22	Power-supply assembly, 220-240 V (LJ 4250/4350) (also see Figure 8-9 Electrical components)	RM1-1071-000CN	1
22	Power-supply assembly, 110-127 V (LJ 4300) (also see Figure 8-9 Electrical components)	RM1-0107-000CN	1
22	Power-supply assembly, 220-240 V (LJ 4300) (also see Figure 8-9 Electrical components)	RM1-0108-000CN	1

Ref	Description	Part number	Qty
501	Screw, tapping, pan head, m4x10	XB4-7401-007CN	14
502	Screw, w/washer, m3x6	XB2-7300-607CN	2

Table 8-9 Internal components (2 of 3)

Ref	Description	Part number	Qty
1	Rod, switch	RC1-0268-000CN	1
2	Guide, scanner cable	RC1-0340-020CN	1
3	Guide, scanner cable	RC1-0385-000CN	1
4	Gear, 18t	RU5-0045-020CN	1
5	Shaft, retard drive	RL1-0264-000CN	1
6	Sensor, top-bin-full/stack (PS 104/PS 107), LJ 4200/4300	WG8-5362-000CN	1
6	Sensor, stack (PS 107), LJ 4250/4350	WG8-5624-000CN	1
7	Gear, 23t	RU5-0040-000CN	1
8	Bushing	RC1-0206-000CN	1
9	Laser/scanner assembly (LJ 4200)	RM1-0045-000CN	1
9	Laser/scanner assembly (LJ 4250/4350)	RM1-1067-000CN	1
9	Laser/scanner assembly (LJ 4300)	RM1-0113-000CN	1
10	Bushing, feed shaft	RC1-0264-000CN	1
12	Cable, laser (LJ 4200/4300)	RG1-4212-000CN	1
12	Cable, laser (LJ 4250/4350)	RM1-1198-000CN	1
13	Screw, s, m3x8	XA9-1500-000CN	20
14	E-ring	XD9-0232-000CN	1
15	Screw, rs, m3x10	XA9-1559-000CN	6
16	Solenoid, tray 2 pickup (LJ 4200/4300)	RH7-5355-000CN	1
16	Solenoid, tray 2 pickup (LJ 4250/4350)	RK2-0269-000CN	1
17	Pickup-sensor cable assembly (LJ4200/4300)	RG1-4221-000CN	1
17	Pickup-sensor cable assembly (LJ4250/4350)	RM1-1181-000CN	1
18	Roller, paper-pickup	RM1-0036-000CN	1
19	Roller, paper-feed	RM1-0037-020CN	1
20	Holder, paper sensing	RC1-0208-030CN	1
21	Flag, paper sensing	RC1-0209-000CN	1
22	Guide, power-supply, front	RC1-0243-000CN	1
23	Arm, paper pickup (LJ 4200/4300)	RC1-0211-000CN	1
23	Arm, paper pickup (LJ 4250/4350)	RC1-3352-000CN	1
24	Holder, paper pickup arm	RC1-0212-000CN	1
25	Gear, 23t	RC1-0371-000CN	1
26	Plate, swing	RL1-0013-000CN	1
27	Spring, compression	RC1-0213-000CN	1
29	Guide, tray 2	RC1-0153-030CN	1

Ref	Description	Part number	Qty
31	Sheet, solenoid damper	RC1-0330-020CN	1
32A	Cable, feeder connector (LJ 4200/4300)	RG1-4223-000CN	1
32A	Cable, feeder connector (LJ 4250/4350)	RM1-1192-000CN	1
33	Kicker assembly	RL1-0015-000CN	1
35	Size-sensing assembly, tray 2	RM1-0041-020CN	1
36	Foot	RB1-8107-000CN	2
37	Guard, right-edge	RC1-0242-000CN	1
38	Guide, ECU, rear	RC1-0244-000CN	1
39	Guard, left-edge	RC1-0247-000CN	1
41	Screw, tapping, m3x6	XA9-1503-000CN	3
42	Cable, accessory interface	RM1-0042-000CN	1
43	Swing plate assembly	RM1-0043-020CN	1
44	Cable, sensor, top-bin-full (LJ 4200/4300)	RG1-4214-000CN	1
44	Cable, sensor, top-bin-full (LJ 4250/4350)	RM1-1189-000CN	1
45	Cable, envelope-feeder-connecting (LJ 4200/4300)	RG1-4224-000CN	1
45	Cable, envelope-feeder-connecting (LJ 4250/4350)	RM1-1193-000CN	1
49	Spring, torsion	RC1-0254-000CN	1
50	Spring, torsion	RC1-1923-000CN	1
51	Sensor, top-bin-full (PS104) (LJ 4200/4300)	WG8-5362-000CN	1
51	Sensor, stack (PS104) (LJ 4250/4350)	WG8-5624-000CN	1
52	Pickup drive assembly	RM1-0034-040CN	1
501	Screw, tapping, pan head, m4x10	XB4-7401-007CN	2
502	Screw, tapping, truss head, m3x8	XB4-7300-809CN	1
503	Screw, tapping, truss head, m4x8	XB4-7400-809CN	2

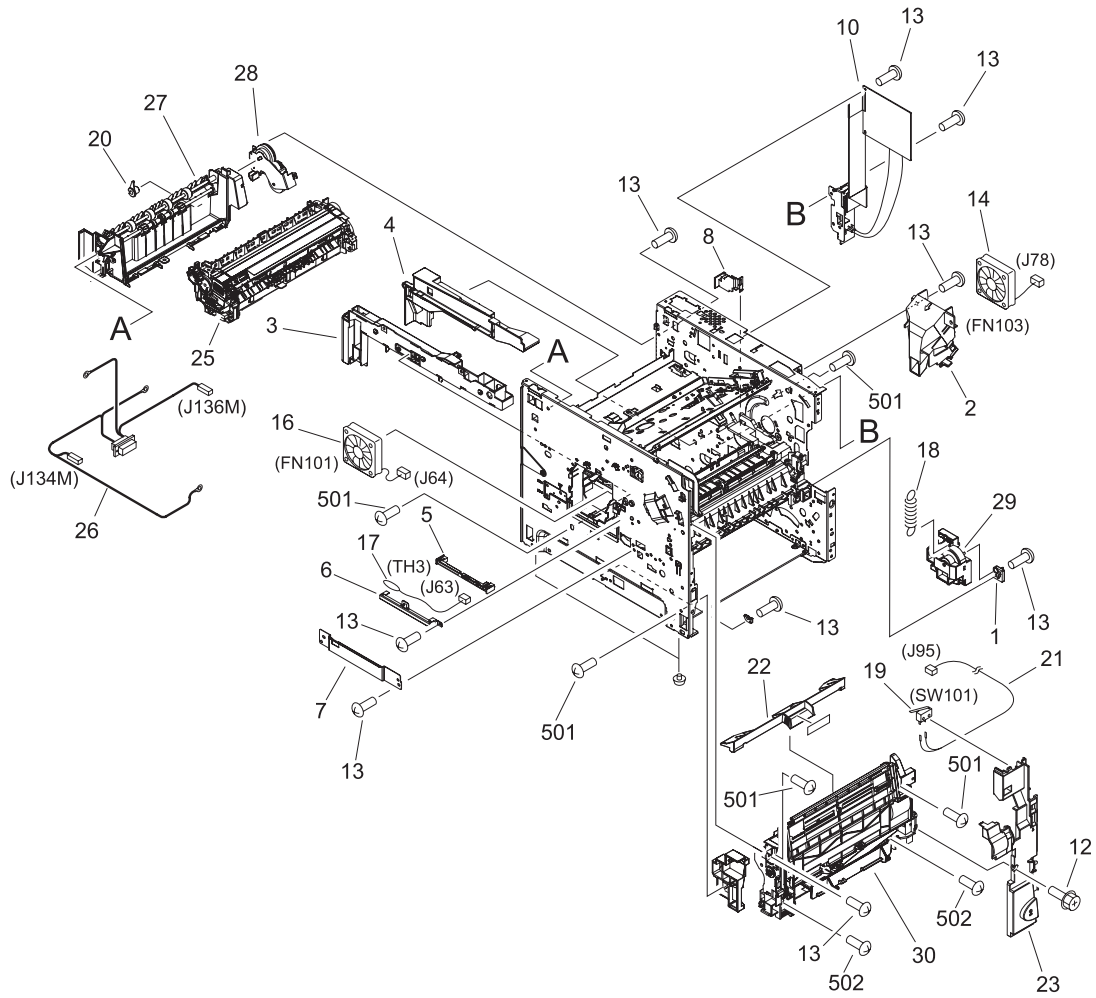


Figure 8-8 Internal components (3 of 3)

Table 8-10 Internal components (3 of 3)

Ref	Description	Part number	Qty
1	Support, lifter-drive assembly	RC1-0200-020CN	1
2	Duct, fan 2 (right side) (LJ 4300)	RC1-0272-000CN	1
2	Duct, fan 2 (right side) (LJ 4250/4350)	RC1-3338-000CN	1
3	Guide, left	RC1-0273-000CN	1
4	Guide, right	RC1-0274-020CN	1
5	Holder, thermistor (plastic)	RC1-0342-020CN	1
6	Holder, thermistor (metal)	RC1-0343-020CN	1
7	Cover, fan connector	RC1-0344-020CN	1
8	Guide, connecting cable	RC1-0386-000CN	1
10	Dc controller (LJ 4200)	RG1-4236-040CN	1
10	Dc controller (LJ 4250/4350)	RM1-1108-000CN	1
10	Dc controller (LJ 4300)	RG1-4237-040CN	1
12	Screw, rs, m3x10	XA9-1559-000CN	1
13	Screw, s, m3x8	XA9-1500-000CN	16
14	Fan, right (LJ 4300)	RH7-1577-000CN	1
14	Fan, right (LJ 4250/4350)	RK2-0280-000CN	1
16	Fan, left (LJ 4200/4300)	RH7-1573-000CN	1
16	Fan, left (LJ 4250/4350)	RK2-0278-000CN	1
17	Thermistor (LJ 4200/4300)	RH7-7116-000CN	1
17	Thermistor (LJ 4250/4350)	RK2-0359-000CN	1
18	Spring, tension	RC1-0198-000CN	1
19	Microswitch, top cover	WC4-5139-000CN	1
20	Bushing, paper delivery	RC1-0136-000CN	1
21	Cable, door switch	RG1-4213-000CN	1
22	Cover, envelope	RC1-0320-000CN	1
23	Cover, inner front, right	RC1-0019-000CN	1
25	Fuser, 110-127 V (LJ 4200)	RM1-0013-140CN	1
25	Fuser, 110-127 V (LJ 4300)	RM1-0101-200CN	1
25	Fuser, 110-127 V (LJ 4250/4350)	RM1-1082-000CN	1
25	Fuser, 220-240 V (LJ 4200)	RM1-0014-140CN	1
25	Fuser, 220-240 V (LJ 4300)	RM1-0102-200CN	1
25	Fuser, 220-240 V (LJ 4250/4350)	RM1-1083-000CN	1
26	Cable, fuser (LJ 4200/4200L)	RG1-4205-000CN	1
26	Cable, fuser (LJ 4250/4350)	RM1-1216-000CN	1

Ref	Description	Part number	Qty
26	Cable, fuser (LJ 4300)	RG1-4231-000CN	1
27	Paper-delivery assembly	RM1-0026-040CN	1
28	Duplexing-pendulum assembly	RM1-0002-020CN	1
29	Lifter-drive assembly (LJ 4200/4300)	RM1-0033-020CN	1
29	Lifter-drive assembly (LJ 4250/4350)	RM1-1074-000CN	1
30	Tray 1 pickup assembly (LJ 4200/4300) (also see Figure 8-12 Tray 1 pickup assembly)	RM1-0004-060CN	1
30	Tray 1 pickup assembly (LJ 4250/4350) (also see Figure 8-12 Tray 1 pickup assembly)	RM1-1097-000CN	1
501	Screw, tapping, pan head, m4x10	XB4-7401-007CN	4
502	Screw, tapping, truss head, m4x16	XB4-7401-605CN	2

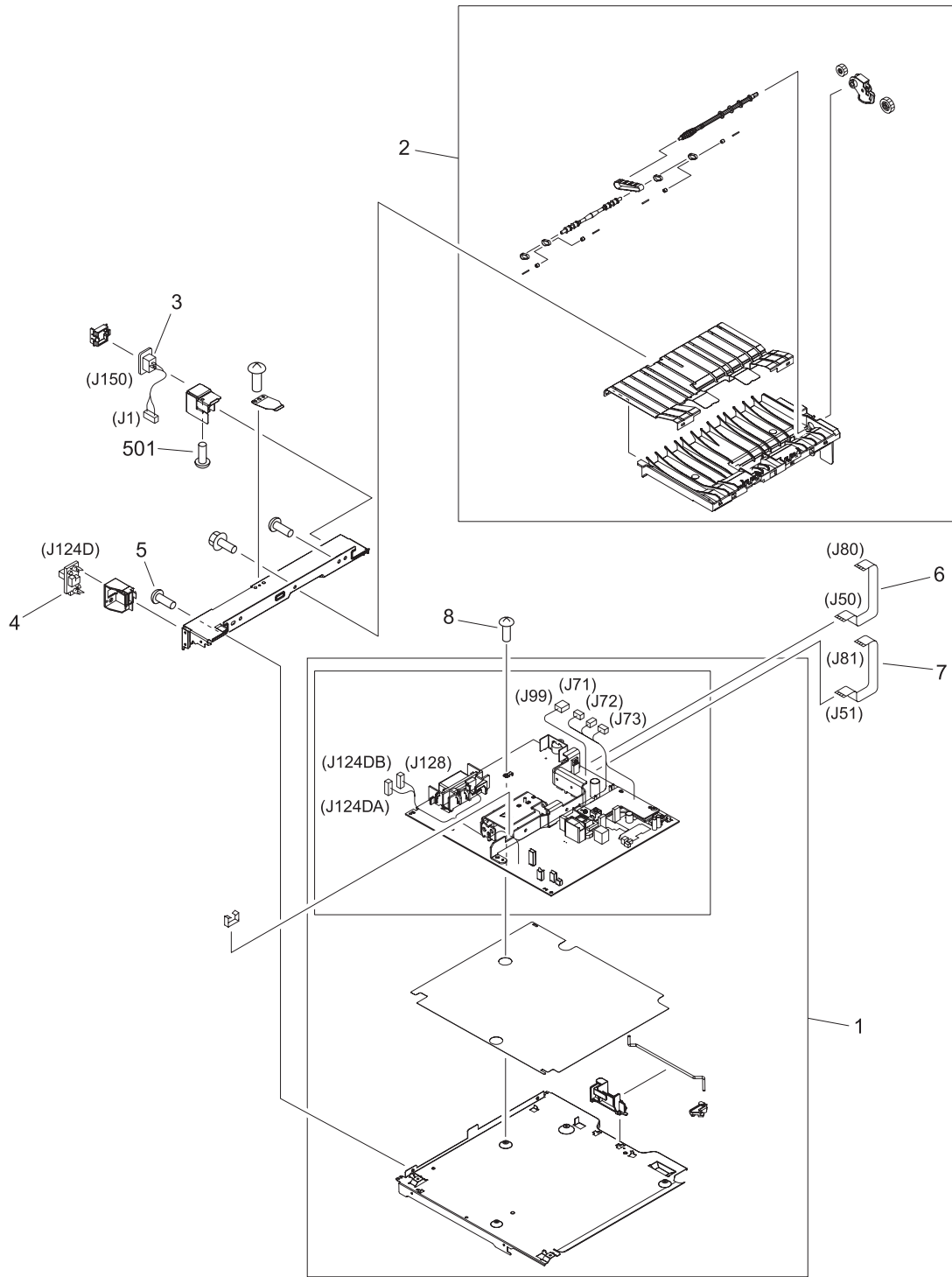


Figure 8-9 Electrical components

Table 8-11 Electrical components

Ref	Description	Part number	Qty
1	Power-supply assembly, 110-127 V (LJ 4200)	RM1-0019-050CN	1
1	Power-supply assembly, 220-240 V (LJ 4200)	RM1-0020-000CN	1
1	Power-supply assembly, 110-127 V (LJ 4250/4350)	RM1-1070-000CN	1
1	Power-supply assembly, 220-240 V (LJ 4250/4350)	RM1-1071-000CN	1
1	Power-supply assembly, 110-127 V (LJ 4300)	RM1-0107-000CN	1
1	Power-supply assembly, 220-240 V (LJ 4300)	RM1-0108-000CN	1
2	Feed assembly	RM1-0025-040CN	1
3	Cable, power-supply inlet, 110-127 V (LJ 4200/4300)	RG1-4209-000CN	1
3	Cable, power-supply inlet, 110-127 V (LJ 4250/4350)	RM1-1218-000CN	1
3	Cable, power-supply inlet, 220-240 V (LJ 4200/4300)	RG1-4230-000CN	1
3	Cable, power-supply inlet, 220-240 V (LJ 4250/4350)	RM1-1219-000CN	1
4	Connector, duplexer (LJ 4200/4300)	RG1-4222-000CN	1
4	Connector, duplexer (LJ 4250/4350)	VS1-7333-006CN	1
5	Screw, s, m3x8	XA9-1500-000CN	2
6	Cable, flat (J80-J50) (LJ 4250/4350)	RK2-0290-000CN	1
7	Cable, flat (J81-J51) (LJ 4250/4350)	RK2-0288-000CN	1
8	Screw, w/washer, m3x8	XA9-1420-000CN	7
501	Screw, w/washer, m4x6	XB2-7400-606CN	1



NOTE Flat cables for LJ 4200/4300 are wired to the power-supply assembly and are not available separately.

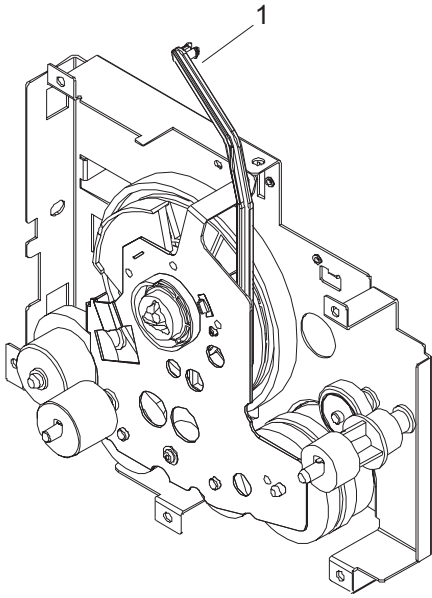


Figure 8-10 Main drive assembly

Table 8-12 Main drive assembly

Ref	Description	Part number	Qty
	Main drive assembly (LJ 4200/4300)	RM1-0001-030CN	1
	Main drive assembly (LJ 4250/4350)	RM1-1066-000CN	1
1	Arm, cartridge-release	RC1-0003-000CN	1

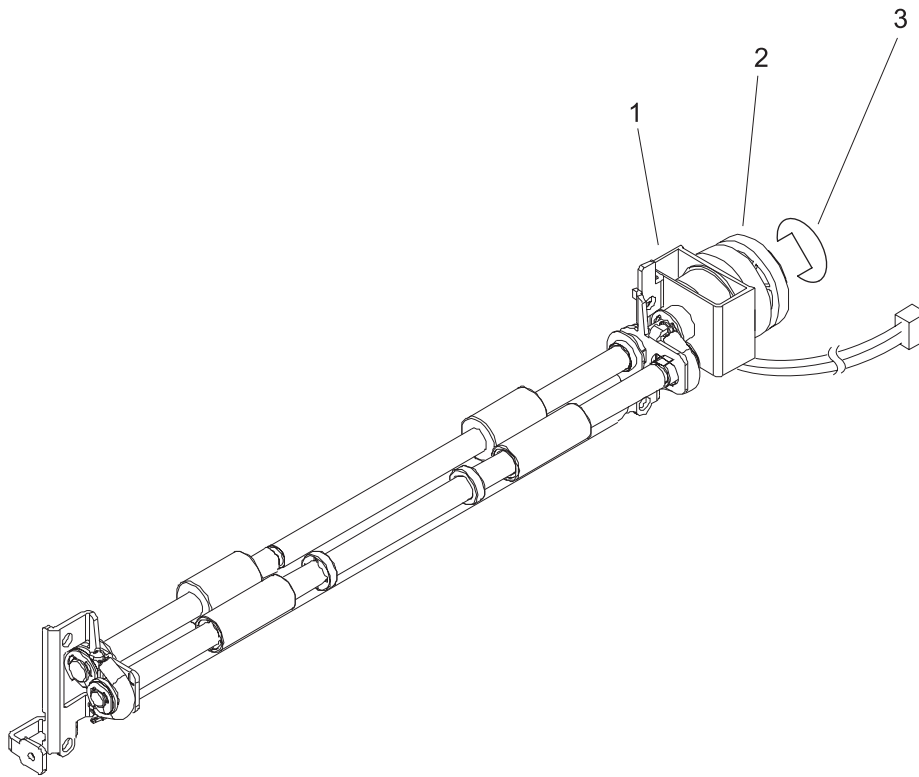


Figure 8-11 Feed roller assembly

Table 8-13 Feed roller assembly

Ref	Description	Part number	Qty
	Feed-roller assembly	RM1-0012-020CN	1
1	Clutch (CL101) (LJ 4200/4300)	RH7-5358-000CN	1
1	Clutch (CL101) (LJ 4250/4350)	RK2-0349-000CN	1
2	Gear, 30t	RU5-0050-000CN	1
3	E-ring (LJ4200/4300)	XD9-0137-000CN	1
3	E-ring (LJ4250/4350)	XD9-0234-010CN	1

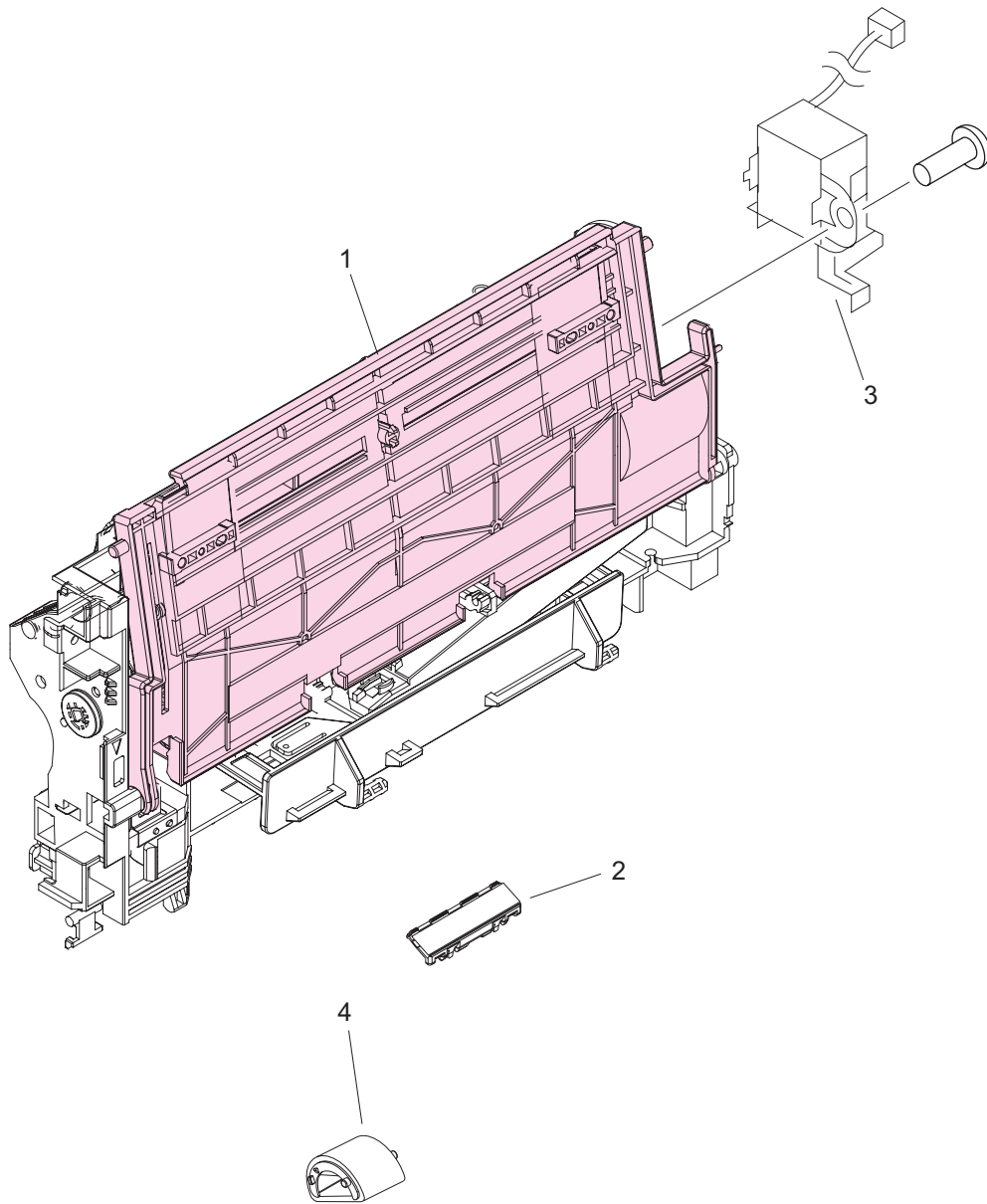


Figure 8-12 Tray 1 pickup assembly

Table 8-14 Tray 1 pickup assembly

Ref	Description	Part number	Qty
	Tray 1 pickup assembly (LJ 4200/4300)	RM1-0004-060CN	1
	Tray 1 pickup assembly (LJ 4250/4350)	RM1-1097-000CN	1
1	Tray 1	RM1-0005-020CN	1
2	Separation pad	RL1-0007-000CN	1
3	Solenoid, tray 1 pickup (LJ 4200/4300)	RH7-5357-000CN	1
3	Solenoid, tray 1 pickup (LJ 4250/4350)	RK2-0276-000CN	1
4	Roller, pickup	RL1-0019-000CN	1

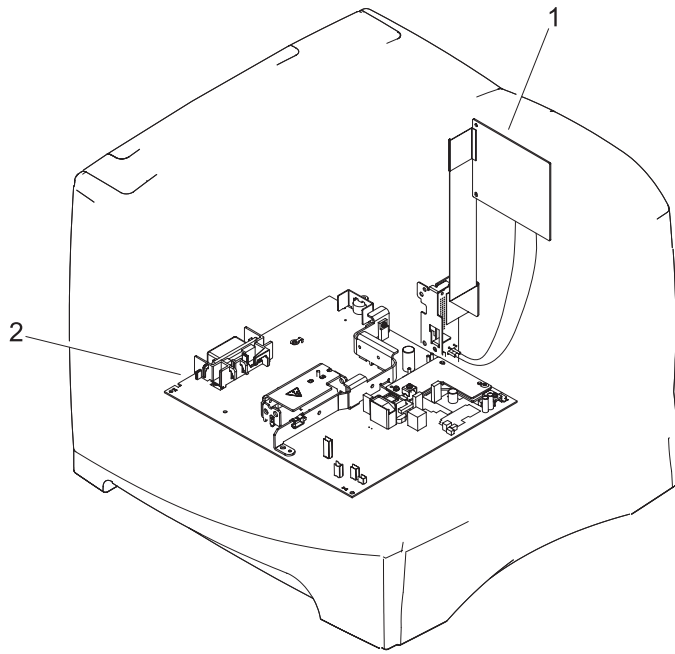


Figure 8-13 PCAs

Table 8-15 PCAs

Ref	Description	Part number	Qty
1	Dc controller (LJ 4200)	RG1-4236-040CN	1
1	Dc controller (LJ 4250/4350)	RM1-1108-000CN	1
1	Dc controller (LJ 4300)	RG1-4237-040CN	1
(not shown)	Formatter assembly (LJ 4200 printer)	C9652-67902	1
(not shown)	Formatter assembly (LJ 4200L printer)	C9652-67903	1
(not shown)	Formatter assembly (LJ 4250/4350 printer, base model)	Q3653-67901	1
(not shown)	Formatter assembly (LJ 4250/4350 printer, network models)	Q3652-67901	1
(not shown)	Formatter assembly (LJ 4300 printer)	C9651-67901	1



NOTE Callout 2 indicates the electrical components assemblies. See [Figure 8-9 Electrical components](#) for components and part numbers.

Accessories

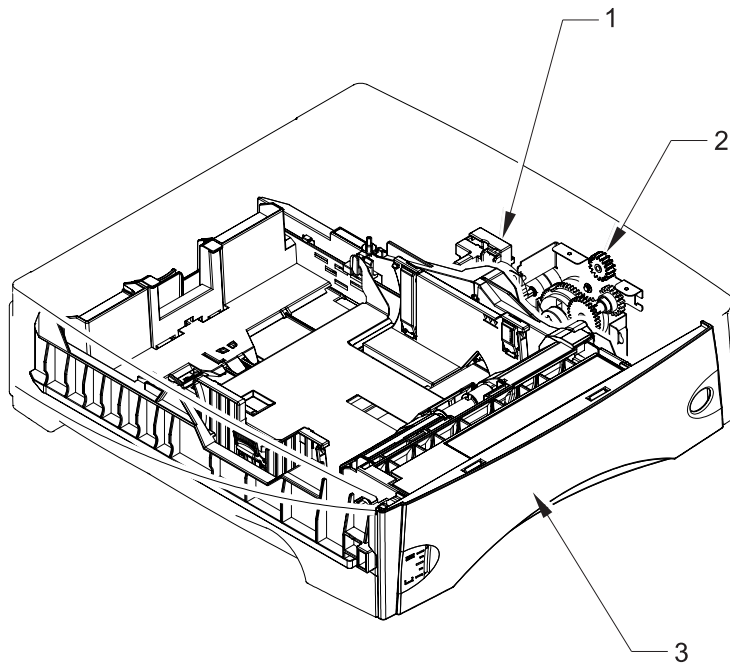


Figure 8-14 500-sheet feeder (1 of 2)

Table 8-16 500-sheet feeder (1 of 2)

Ref	Description	Part number	Qty
	500-sheet feeder and tray	Q2440-67903	1
1	Lifter-drive assembly, 500-sheet feeder	RM1-1094-000CN	1
2	Paper-pickup-drive assembly, 500-sheet feeder	RM1-0056-000CN	1
3	500-sheet universal replacement tray (LJ 4200/4300)	RM1-0028-060CN	1
3	500-sheet universal replacement tray (LJ 4250/4350)	RM1-1088-000CN	1
(not shown)	Stop, detent	RC1-3303-000CN	1
(not shown)	Limiters, torque	RC1-3335-000CN	1

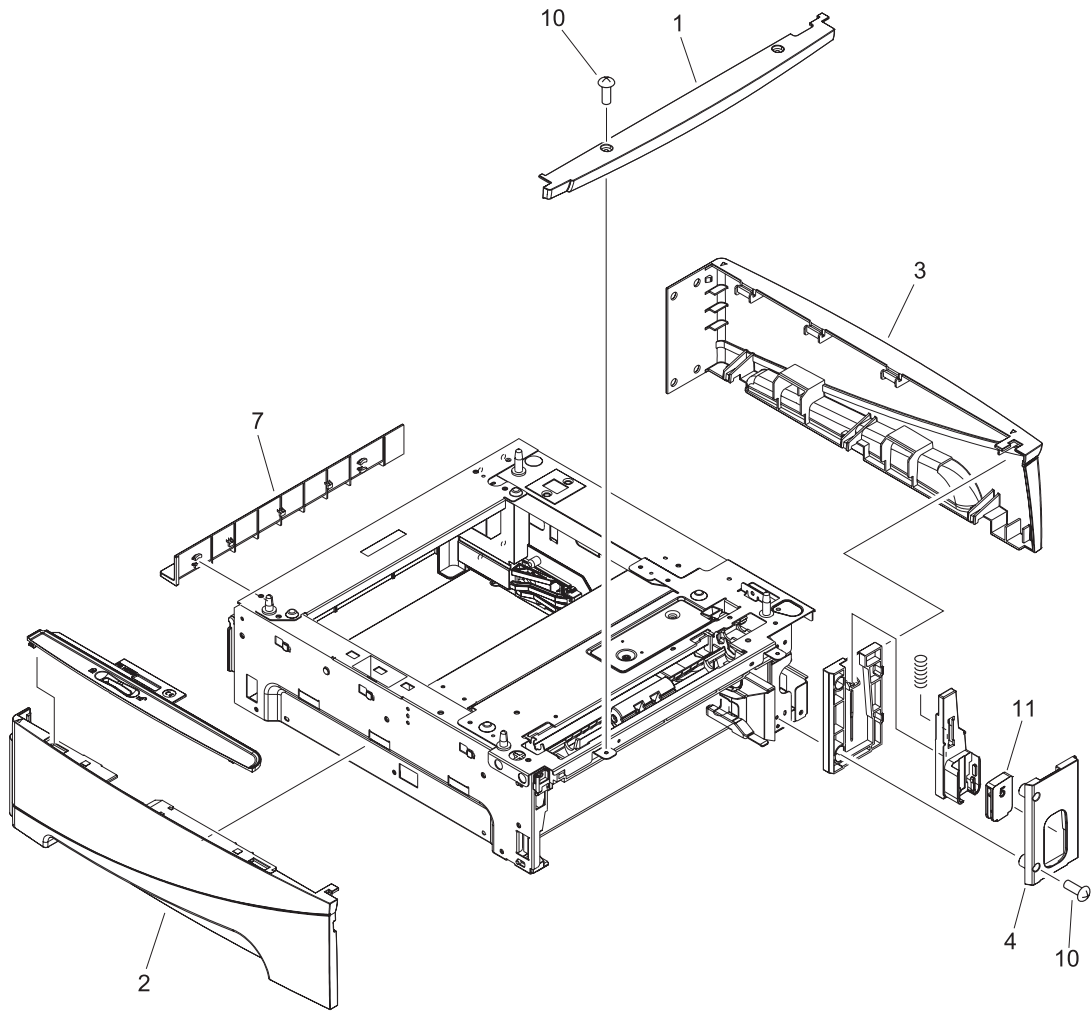


Figure 8-15 500-sheet feeder (2 of 2)

Table 8-17 500-sheet feeder (2 of 2)

Ref	Description	Part number	Qty
1	Cover, front upper, 500-sheet feeder	RC1-0486-020CN	1
2	Cover, left, 500-sheet tray	RC1-0487-020CN	1
3	Cover, right, 500-sheet tray	RC1-0488-020CN	1
4	Cover, number-display plate, 500-sheet tray	RC1-0500-000CN	1
7	Cover, legal	RC1-0509-000CN	1
11	Number, display, optional feeder (LJ 4250/4350)	RC1-3304-000CN	1
(not shown)	PCA, 500-sheet feeder	RM1-1122-000CN	1
(not shown)	Cable, interface, upper, 500-sheet feeder (LJ 4200/4300)	RG1-4201-000CN	1
(not shown)	Cable, interface, upper, 500-sheet feeder (LJ 4250/4350)	RM1-1236-000CN	1
(not shown)	Cable, interface, lower, 500-sheet feeder (LJ 4200/4300)	RG1-4202-000CN	1
(not shown)	Cable, interface, lower, 500-sheet feeder (LJ 4250/4350)	RM1-1237-000CN	1
(not shown)	Cable, size-sensor, 500-sheet feeder	RG1-4204-000CN	1
(not shown)	Cable, sensor assembly, 500-sheet feeder	RM1-1238-000CN	1
(not shown)	Media-size sensor assembly, 500-sheet feeder	RM1-0041-000CN	1
(not shown)	Gear, 18T, 500-sheet feeder	RU5-0088-000CN	1

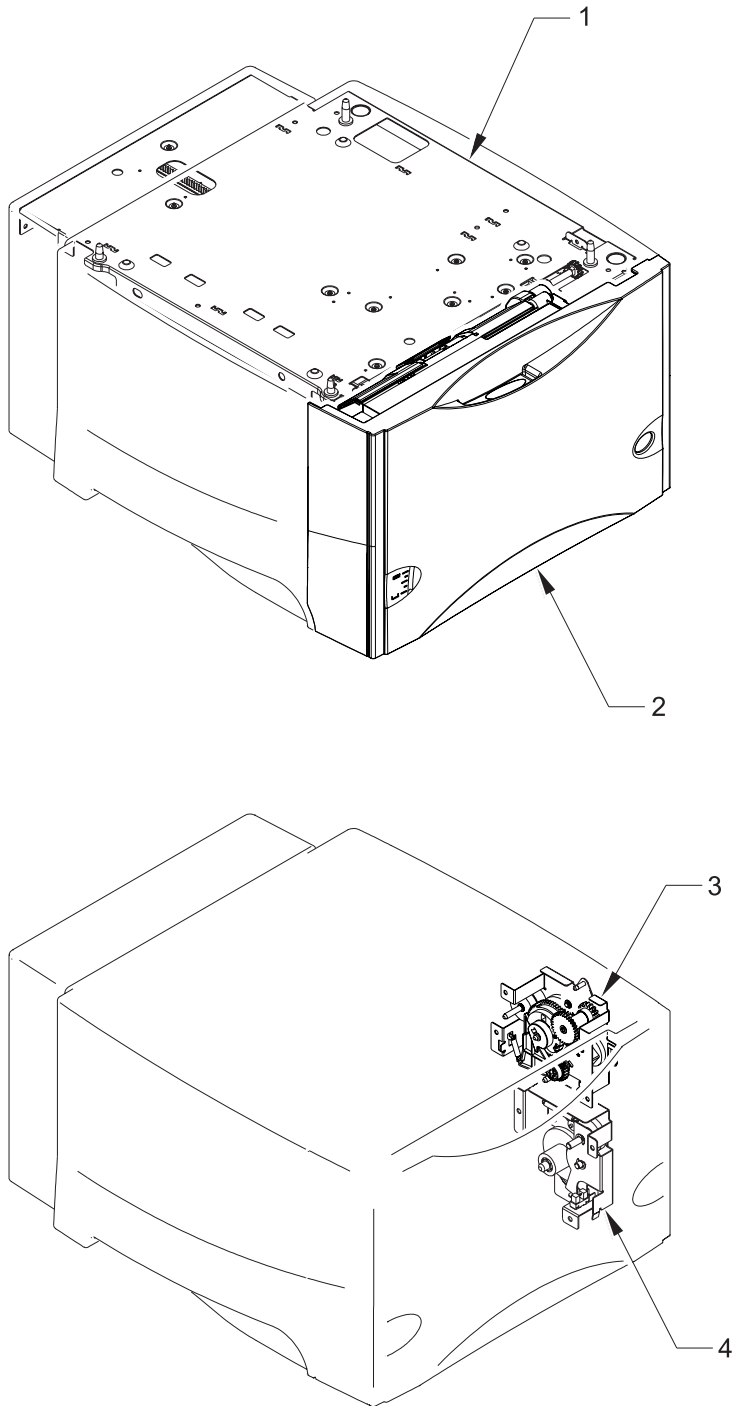


Figure 8-16 1,500-sheet feeder (1 of 2)

Table 8-18 1,500-sheet feeder (1 of 2)

Ref	Description	Part number	Qty
	1,500-sheet feeder	Q2444-67902	1
1	Paper-pickup assembly, 1,500-sheet feeder	RM1-1134-000CN	1
2	Cover assembly, front, 1,500-sheet feeder	RM1-0273-070CN	1
3	Pickup drive assembly, 1,500-sheet feeder	RM1-1133-000CN	1
4	Lifter-drive assembly, 1,500-sheet feeder	RM1-1136-000CN	1

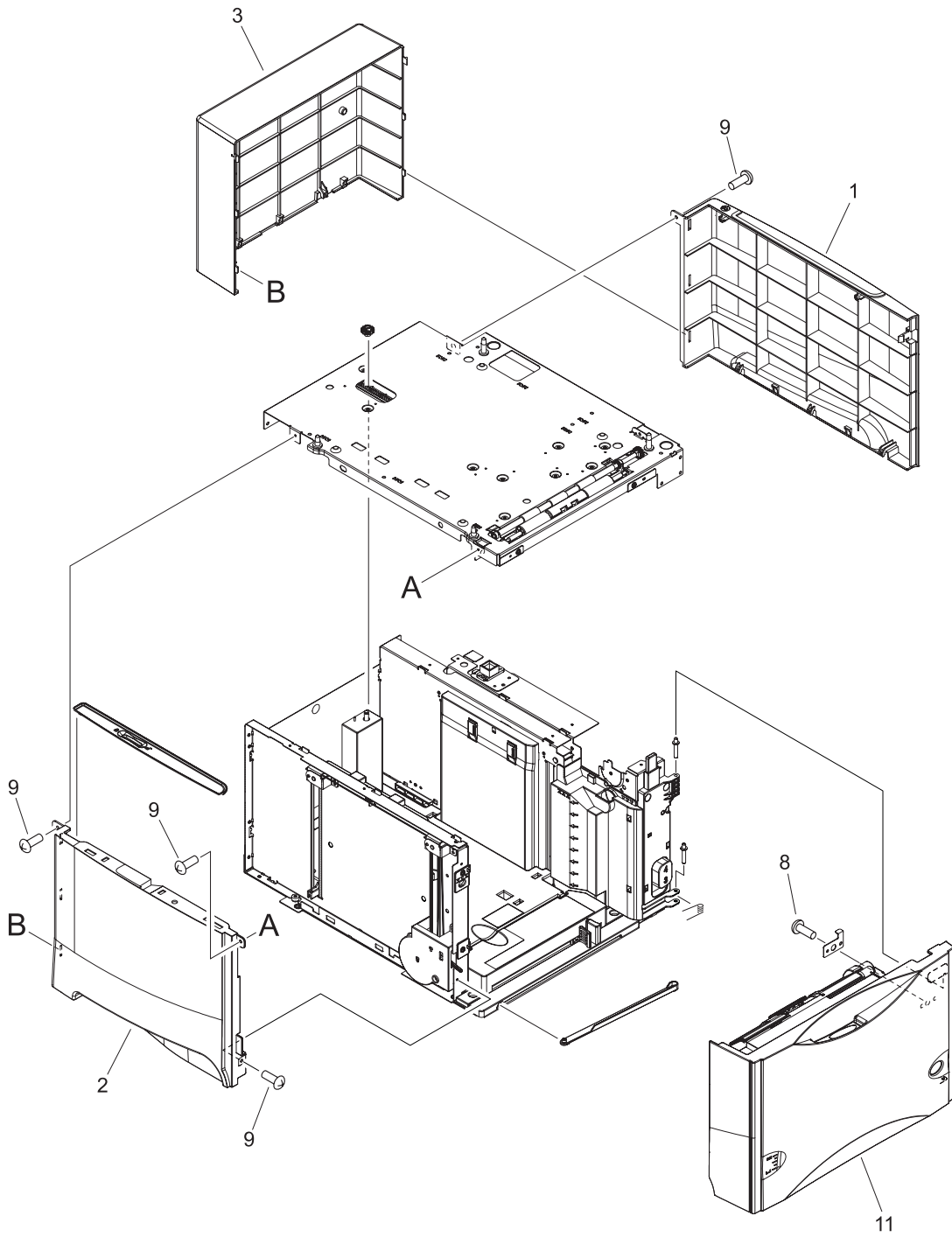


Figure 8-17 1,500-sheet feeder (2 of 2)

Table 8-19 1,500-sheet feeder (2 of 2)

Ref	Description	Part number	Qty
1	Cover, right, 1,500-sheet feeder	RC1-0661-000CN	1
2	Cover, left, 1,500-sheet feeder	RC1-0662-000CN	1
3	Cover, rear, 1,500-sheet feeder	RC1-0663-000CN	1
8	Screw, B, M4X8	XA9-1523-010CN	1
9	Screw, w/washer, M3X8	XA9-1420-010CN	4
11	Cover assembly, front, 1,500-sheet feeder	RM1-0273-070CN	1
(not shown)	PCA, 1,500-sheet feeder	RG1-4374-000CN	1
(not shown)	Cable, interface, 1,500-sheet feeder	RG1-4239-000CN	1
(not shown)	Cable, door sensor, 1,500-sheet feeder	RG1-4241-000CN	1
(not shown)	Cable, media-size sensor, 1,500-sheet feeder	RG1-4240-000CN	1
(not shown)	Motor, stepping, 1,500-sheet feeder	RH7-1603-000CN	1
(not shown)	Sensor, size (inside), 1,500-sheet feeder	RC1-0748-000CN	1
(not shown)	Sensor gear assembly, 1,500-sheet feeder	RM1-0286-000CN	1
(not shown)	Sensor, size (outside), 1,500-sheet feeder	RM1-0294-000CN	1
(not shown)	Connector, 6-point, 1,500-sheet feeder	VS1-7334-006CN	1
(not shown)	Sensor assembly	RM1-1135-000CN	1

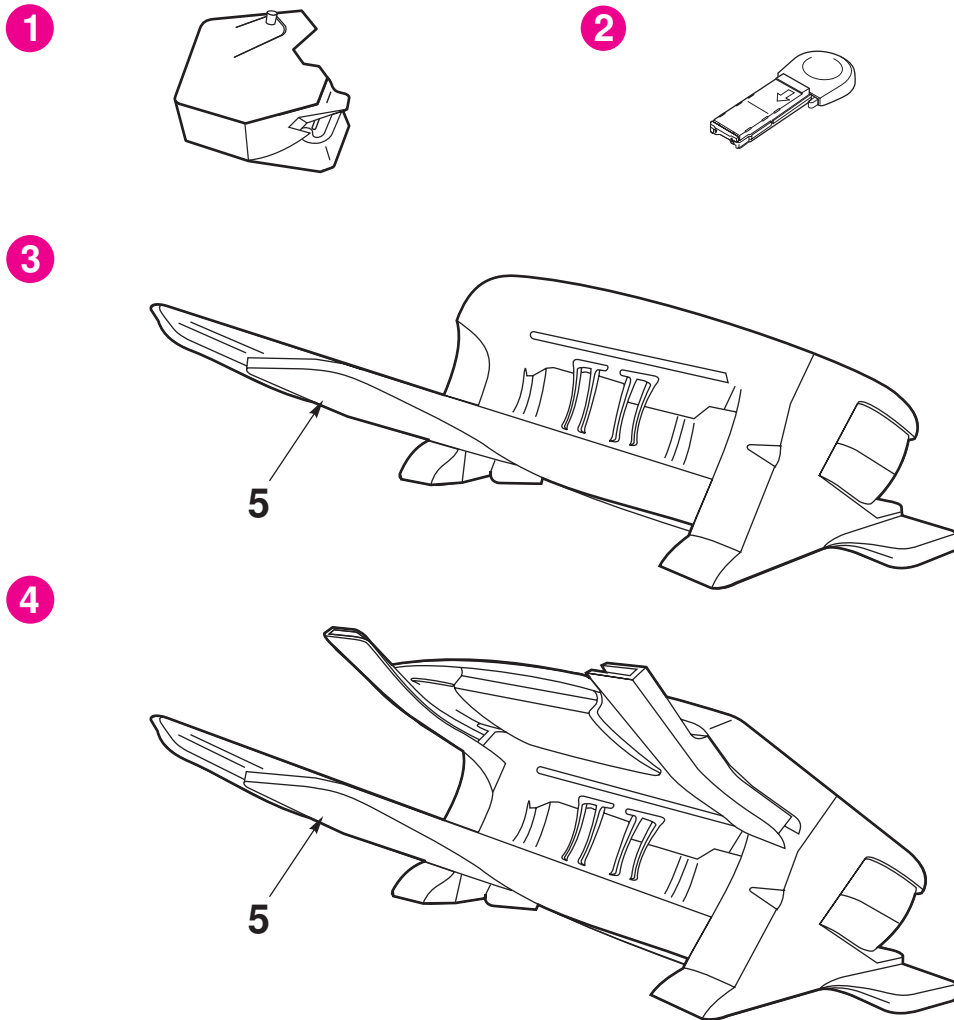


Figure 8-18 Stapler/stapler, stapler, and stapler

Table 8-20 Stapler/stacker, stacker, and stapler

Ref	Description	Part number	Qty
1	Stapler unit only	RM1-1164-000CN	1
2	1,000-staple cartridge (3-pack)	Q3216-60500	1
3	Stacker	Q2442-67902	1
4	Stapler/stacker	Q2443-67908	1
5	Output bin (fits stapler, stapler/stacker, or stacker)	RM1-0248-000CN	1
(not shown)	Cover, rear assembly, stacker	RM1-0237-000CN	1

Alphabetical parts list

Table 8-21 Alphabetical parts list

Description	Part number	Table and page
1,000-staple cartridge (3-pack)	Q3216-60500	Stapler/stacker, stacker, and stapler
1,500-sheet feeder	Q2444-67902	1,500-sheet feeder (1 of 2)
500-sheet feeder and tray	Q2440-67903	500-sheet feeder (1 of 2)
500-sheet universal replacement tray (LJ 4200/4300)	RM1-0028-060CN	500-sheet feeder (1 of 2)
500-sheet universal replacement tray (LJ 4250/4350)	RM1-1088-000CN	500-sheet feeder (1 of 2)
Arm, cartridge-release	RC1-0003-000CN	Main drive assembly
Arm, paper pickup (LJ 4200/4300)	RC1-0211-000CN	Internal components (2 of 3)
Arm, paper pickup (LJ 4250/4350)	RC1-3352-000CN	Internal components (2 of 3)
Bushing	RC1-0206-000CN	Internal components (2 of 3)
Bushing, feed shaft	RC1-0264-000CN	Internal components (2 of 3)
Bushing, paper delivery	RC1-0136-000CN	Internal components (3 of 3)
Cable, accessory interface	RM1-0042-000CN	Internal components (2 of 3)
Cable, control panel (LJ 4200/4300)	RG1-4215-000CN	Covers
Cable, control panel (LJ 4250/4350)	RM1-1190-000CN	Covers
Cable, door sensor, 1,500-sheet feeder	RG1-4241-000CN	1,500-sheet feeder (2 of 2)
Cable, door switch	RG1-4213-000CN	Internal components (3 of 3)
Cable, envelope- feeder-connecting (LJ 4200/4300)	RG1-4224-000CN	Internal components (2 of 3)
Cable, envelope-feeder-connecting (LJ 4250/4350)	RM1-1193-000CN	Internal components (2 of 3)
Cable, feeder connector (LJ 4200/4300)	RG1-4223-000CN	Internal components (2 of 3)
Cable, feeder connector (LJ 4250/4350)	RM1-1192-000CN	Internal components (2 of 3)
Cable, flat (J80-J50) (LJ 4250/4350)	RK2-0290-000CN	Electrical components
Cable, flat (J81-J51) (LJ 4250/4350)	RK2-0288-000CN	Electrical components
Cable, fuser (LJ 4200/4200L)	RG1-4205-000CN	Internal components (3 of 3)
Cable, fuser (LJ 4250/4350)	RM1-1216-000CN	Internal components (3 of 3)
Cable, fuser (LJ 4300)	RG1-4231-000CN	Internal components (3 of 3)
Cable, interface, 1,500-sheet feeder	RG1-4239-000CN	1,500-sheet feeder (2 of 2)
Cable, interface, lower, 500-sheet feeder (LJ 4200/4300)	RG1-4202-000CN	500-sheet feeder (2 of 2)
Cable, interface, lower, 500-sheet feeder (LJ 4250/4350)	RM1-1237-000CN	500-sheet feeder (2 of 2)
Cable, interface, upper, 500-sheet feeder (LJ 4200/4300)	RG1-4201-000CN	500-sheet feeder (2 of 2)
Cable, interface, upper, 500-sheet feeder (LJ 4250/4350)	RM1-1236-000CN	500-sheet feeder (2 of 2)
Cable, laser (LJ 4200/4300)	RG1-4212-000CN	Internal components (2 of 3)

Table 8-21 Alphabetical parts list (continued)

Description	Part number	Table and page
Cable, laser (LJ 4250/4350)	RM1-1198-000CN	Internal components (2 of 3)
Cable, media-size sensor, 1,500-sheet feeder	RG1-4240-000CN	1,500-sheet feeder (2 of 2)
Cable, power-supply inlet, 110-127 V (LJ 4200/4300)	RG1-4209-000CN	Electrical components
Cable, power-supply inlet, 110-127 V (LJ 4250/4350)	RM1-1218-000CN	Electrical components
Cable, power-supply inlet, 220-240 V (LJ 4200/4300)	RG1-4230-000CN	Electrical components
Cable, power-supply inlet, 220-240 V (LJ 4250/4350)	RM1-1219-000CN	Electrical components
Cable, sensor assembly, 500-sheet feeder	RM1-1238-000CN	500-sheet feeder (2 of 2)
Cable, sensor, top-bin-full (LJ 4200/4300)	RG1-4214-000CN	Internal components (2 of 3)
Cable, sensor, top-bin-full (LJ 4250/4350)	RM1-1189-000CN	Internal components (2 of 3)
Cable, size-sensor, 500-sheet feeder	RG1-4204-000CN	500-sheet feeder (2 of 2)
Clutch (CL101) (LJ 4200/4300)	RH7-5358-000CN	Feed roller assembly
Clutch (CL101) (LJ 4250/4350)	RK2-0349-000CN	Feed roller assembly
Connector, 6-point, 1,500-sheet feeder	VS1-7334-006CN	1,500-sheet feeder (2 of 2)
Connector, duplexer (LJ 4200/4300)	RG1-4222-000CN	Electrical components
Connector, duplexer (LJ 4250/4350)	VS1-7333-006CN	Electrical components
Control-panel assembly (LJ 4200/4300)	RG1-4276-020CN	Covers
Control-panel assembly (LJ 4250/4350)	RM1-1195-000CN	Covers
Cover assembly, front	RM1-0050-030CN	Covers
Cover assembly, front, 1,500-sheet feeder	RM1-0273-070CN	1,500-sheet feeder (1 of 2)
Cover assembly, front, 1,500-sheet feeder	RM1-0273-070CN	1,500-sheet feeder (2 of 2)
Cover assembly, right (LJ 4200/4300)	RM1-0046-000CN	Covers
Cover assembly, right (LJ 4250/4350)	RM1-1076-000CN	Covers
Cover assembly, top (LJ 4250/4350)	RM1-1081-000CN	Covers
Cover assembly, top(LJ 4200/4300)	RM1-0049-000CN	Covers
Cover, cartridge door (LJ 4200)	RM1-0047-020CN	Covers
Cover, cartridge door (LJ 4250/4350)	RM1-1080-000CN	Covers
Cover, cartridge door (LJ 4300)	RM1-0114-020CN	Covers
Cover, duplexing (LJ 4200/4300)	RC1-0291-000CN	Covers
Cover, duplexing (LJ 4250/4350)	RC1-3280-000CN	Covers
Cover, envelope	RC1-0320-000CN	Internal components (3 of 3)
Cover, fan connector	RC1-0344-020CN	Internal components (3 of 3)
Cover, formatter	RC1-0288-000CN	Covers
Cover, front upper, 500-sheet feeder	RC1-0486-020CN	500-sheet feeder (2 of 2)
Cover, inner front, right	RC1-0019-000CN	Internal components (3 of 3)

Table 8-21 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, left (LJ 4200/4300)	RC1-0287-020CN	Covers
Cover, left (LJ 4250/4350)	RM1-1077-000CN	Covers
Cover, left, 1,500-sheet feeder	RC1-0662-000CN	1,500-sheet feeder (2 of 2)
Cover, left, 500-sheet tray	RC1-0487-020CN	500-sheet feeder (2 of 2)
Cover, legal	RC1-0509-000CN	500-sheet feeder (2 of 2)
Cover, legal (LJ 4200/4300)	RC1-0290-000CN	Covers
Cover, legal (LJ 4250/4350)	RC1-3282-000CN	Covers
Cover, number-display plate, 500-sheet tray	RC1-0500-000CN	500-sheet feeder (2 of 2)
Cover, paper-handling	RC1-0289-000CN	Covers
Cover, rear assembly, stacker	RM1-0237-000CN	Stapler/stacker, stacker, and stapler
Cover, rear output bin	RM1-0027-020CN	Covers
Cover, rear, 1,500-sheet feeder	RC1-0663-000CN	1,500-sheet feeder (2 of 2)
Cover, right, 1,500-sheet feeder	RC1-0661-000CN	1,500-sheet feeder (2 of 2)
Cover, right, 500-sheet tray	RC1-0488-020CN	500-sheet feeder (2 of 2)
Dc controller (LJ 4200)	RG1-4236-040CN	Internal components (3 of 3)
Dc controller (LJ 4200)	RG1-4236-040CN	PCAs
Dc controller (LJ 4250/4350)	RM1-1108-000CN	Internal components (3 of 3)
Dc controller (LJ 4250/4350)	RM1-1108-000CN	PCAs
Dc controller (LJ 4300)	RG1-4237-040CN	Internal components (3 of 3)
Dc controller (LJ 4300)	RG1-4237-040CN	PCAs
Duct, fan 2 (right side) (LJ 4250/4350)	RC1-3338-000CN	Internal components (3 of 3)
Duct, fan 2 (right side) (LJ 4300)	RC1-0272-000CN	Internal components (3 of 3)
Duplexing-pendulum assembly	RM1-0002-020CN	Internal components (3 of 3)
E-ring	XD9-0232-000CN	Internal components (1 of 3)
E-ring	XD9-0232-000CN	Internal components (2 of 3)
E-ring (LJ4200/4300)	XD9-0137-000CN	Feed roller assembly
E-ring (LJ4250/4350)	XD9-0234-010CN	Feed roller assembly
Fan, left (LJ 4200/4300)	RH7-1573-000CN	Internal components (3 of 3)
Fan, left (LJ 4250/4350)	RK2-0278-000CN	Internal components (3 of 3)
Fan, right (LJ 4250/4350)	RK2-0280-000CN	Internal components (3 of 3)
Fan, right (LJ 4300)	RH7-1577-000CN	Internal components (3 of 3)
Feed assembly	RM1-0025-040CN	Electrical components
Feed roller assembly (also see Figure 8-11 Feed roller assembly)	RM1-0012-020CN	Internal components (1 of 3)

Table 8-21 Alphabetical parts list (continued)

Description	Part number	Table and page
Feed-roller assembly	RM1-0012-020CN	Feed roller assembly
Flag, paper feed sensor	RC1-0060-000CN	Internal components (1 of 3)
Flag, paper sensing	RC1-0209-000CN	Internal components (2 of 3)
Foot	RB1-8107-000CN	Internal components (2 of 3)
Formatter assembly (LJ 4200 printer)	C9652-67902	PCAs
Formatter assembly (LJ 4200L printer)	C9652-67903	PCAs
Formatter assembly (LJ 4250/4350 printer, base model)	Q3653-67901	PCAs
Formatter assembly (LJ 4250/4350 printer, network models)	Q3652-67901	PCAs
Formatter assembly (LJ 4300 printer)	C9651-67901	PCAs
Fuser, 110-127 V (LJ 4200)	RM1-0013-140CN	Internal components (3 of 3)
Fuser, 110-127 V (LJ 4250/4350)	RM1-1082-000CN	Internal components (3 of 3)
Fuser, 110-127 V (LJ 4300)	RM1-0101-200CN	Internal components (3 of 3)
Fuser, 220-240 V (LJ 4200)	RM1-0014-140CN	Internal components (3 of 3)
Fuser, 220-240 V (LJ 4250/4350)	RM1-1083-000CN	Internal components (3 of 3)
Fuser, 220-240 V (LJ 4300)	RM1-0102-200CN	Internal components (3 of 3)
Gear, 14t/30t	RU5-0015-000CN	Internal components (1 of 3)
Gear, 18t	RU5-0045-020CN	Internal components (2 of 3)
Gear, 18T, 500-sheet feeder	RU5-0088-000CN	500-sheet feeder (2 of 2)
Gear, 23t	RU5-0040-000CN	Internal components (2 of 3)
Gear, 23t	RC1-0371-000CN	Internal components (2 of 3)
Gear, 30t	RU5-0050-000CN	Feed roller assembly
Guard, left-edge	RC1-0247-000CN	Internal components (2 of 3)
Guard, right-edge	RC1-0242-000CN	Internal components (2 of 3)
Guide, connecting cable	RC1-0386-000CN	Internal components (3 of 3)
Guide, dc controller (LJ 4200/4300)	RC1-0271-000CN	Internal components (1 of 3)
Guide, dc controller (LJ 4250/4350)	RC1-3340-000CN	Internal components (1 of 3)
Guide, ECU, rear	RC1-0244-000CN	Internal components (2 of 3)
Guide, flat cable	RC1-0269-020CN	Internal components (1 of 3)
Guide, flat cable	RC1-0270-020CN	Internal components (1 of 3)
Guide, left	RC1-0273-000CN	Internal components (3 of 3)
Guide, power-supply, front	RC1-0243-000CN	Internal components (2 of 3)
Guide, right	RC1-0274-020CN	Internal components (3 of 3)
Guide, scanner cable	RC1-0340-020CN	Internal components (2 of 3)
Guide, scanner cable	RC1-0385-000CN	Internal components (2 of 3)

Table 8-21 Alphabetical parts list (continued)

Description	Part number	Table and page
Guide, tray 2	RC1-0153-030CN	Internal components (2 of 3)
Holder, paper pickup arm	RC1-0212-000CN	Internal components (2 of 3)
Holder, paper sensing	RC1-0208-030CN	Internal components (2 of 3)
Holder, thermistor (metal)	RC1-0343-020CN	Internal components (3 of 3)
Holder, thermistor (plastic)	RC1-0342-020CN	Internal components (3 of 3)
Kicker assembly	RL1-0015-000CN	Internal components (2 of 3)
Laser/scanner assembly (LJ 4200)	RM1-0045-000CN	Internal components (2 of 3)
Laser/scanner assembly (LJ 4250/4350)	RM1-1067-000CN	Internal components (2 of 3)
Laser/scanner assembly (LJ 4300)	RM1-0113-000CN	Internal components (2 of 3)
Lifter-drive assembly (LJ 4200/4300)	RM1-0033-020CN	Internal components (3 of 3)
Lifter-drive assembly (LJ 4250/4350)	RM1-1074-000CN	Internal components (3 of 3)
Lifter-drive assembly, 1,500-sheet feeder	RM1-1136-000CN	1,500-sheet feeder (1 of 2)
Lifter-drive assembly, 500-sheet feeder	RM1-1094-000CN	500-sheet feeder (1 of 2)
Limiters, torque	RC1-3335-000CN	500-sheet feeder (1 of 2)
Main drive assembly (LJ 4200/4300)	RM1-0001-030CN	Main drive assembly
Main drive assembly (LJ 4200/4300) (also see Figure 8-10 Main drive assembly)	RM1-0001-030CN	Internal components (1 of 3)
Main drive assembly (LJ 4250/4350)	RM1-1066-000CN	Main drive assembly
Main drive assembly (LJ 4250/4350) (also see Figure 8-10 Main drive assembly)	RM1-1066-000CN	Internal components (1 of 3)
Media-size sensor assembly, 500-sheet feeder	RM1-0041-000CN	500-sheet feeder (2 of 2)
Microswitch, top cover	WC4-5139-000CN	Internal components (3 of 3)
Motor, main (M101), 10-pin (LJ4200/4300)	RH7-1570-000CN	Internal components (1 of 3)
Motor, main (M101), 10-pin (LJ4250/4350)	RK2-0272-000CN	Internal components (1 of 3)
Motor, print cartridge (M102), 8-pin (LJ 4250/4350)	RK2-0274-000CN	Internal components (1 of 3)
Motor, print cartridge (M102), 8-pin (LJ 4300)	RH7-1576-020CN	Internal components (1 of 3)
Motor, stepping, 1,500-sheet feeder	RH7-1603-000CN	1,500-sheet feeder (2 of 2)
Name plate kit, LJ 4200	Q2425-67901	Covers
Name plate kit, LJ 4200L	Q3993-40001	Covers
Name plate kit, LJ 4200Ln	Q3994-40004	Covers
Name plate kit, LJ 4250	Q5400-67911	Covers
Name plate kit, LJ 4300	Q2431-67908	Covers
Name plate kit, LJ 4350	Q5406-67912	Covers
Number, display, optional feeder (LJ 4250/4350)	RC1-3304-000CN	500-sheet feeder (2 of 2)

Table 8-21 Alphabetical parts list (continued)

Description	Part number	Table and page
Output bin (fits stapler, stapler/stacker, or stacker)	RM1-0248-000CN	Stapler/stacker, stacker, and stapler
Overlay, control panel, AR (LJ 4250/4350)	Q5400-60111	Covers
Overlay, control panel, CS/HU/PL/EL (LJ 4250/4350)	Q5400-60103	Covers
Overlay, control panel, EN (LJ 4250/4350)	RC1-3356-000CN	Covers
Overlay, control panel, EN/AR (LJ 4200/4300)	Q2431-60112	Covers
Overlay, control panel, EN/AR (LJ 4250/4350)	Q5400-60107	Covers
Overlay, control panel, EN/CS/HU/PL (LJ 4200/4300)	Q2431-60108	Covers
Overlay, control panel, EN/DE/FR/NL (LJ 4250/4350)	Q5400-60108	Covers
Overlay, control panel, EN/FR/DE/IT (LJ 4200/4300)	Q2431-60107	Covers
Overlay, control panel, EN/FR/DE/IT (LJ 4250/4350)	Q5400-60102	Covers
Overlay, control panel, EN/FR/DE/NL (LJ 4200/4300)	Q2431-60113	Covers
Overlay, control panel, EN/RU (LJ 4200/4300)	Q2431-60111	Covers
Overlay, control panel, EN/RU/TR (LJ 4250/4350)	Q5400-60106	Covers
Overlay, control panel, ES/PT/IT (LJ 4250/4350)	Q5400-60105	Covers
Overlay, control panel, FR (LJ 4250/4350)	Q5400-60109	Covers
Overlay, control panel, Greek (LJ 4200/4300)	Q2431-40023	Covers
Overlay, control panel, Hebrew (LJ 4200/4300)	Q2431-40022	Covers
Overlay, control panel, IT/ES/PT/SP (LJ 4200/4300)	Q2431-60110	Covers
Overlay, control panel, NO/SV/FI (LJ 4250/4350)	Q5400-60104	Covers
Overlay, control panel, NO/SW/FI (LJ 4200/4300)	Q2431-60109	Covers
Overlay, control panel, Turkish (LJ 4200/4300)	Q2431-40021	Covers
Paper-delivery assembly	RM1-0026-040CN	Internal components (3 of 3)
Paper-pickup assembly, 1,500-sheet feeder	RM1-1134-000CN	1,500-sheet feeder (1 of 2)
Paper-pickup-drive assembly, 500-sheet feeder	RM1-0056-000CN	500-sheet feeder (1 of 2)
PCA, 1,500-sheet feeder	RG1-4374-000CN	1,500-sheet feeder (2 of 2)
PCA, 500-sheet feeder	RM1-1122-000CN	500-sheet feeder (2 of 2)
Pickup drive assembly	RM1-0034-040CN	Internal components (2 of 3)
Pickup drive assembly, 1,500-sheet feeder	RM1-1133-000CN	1,500-sheet feeder (1 of 2)
Pickup-sensor cable assembly (LJ4200/4300)	RG1-4221-000CN	Internal components (2 of 3)
Pickup-sensor cable assembly (LJ4250/4350)	RM1-1181-000CN	Internal components (2 of 3)
Plate, swing	RL1-0013-000CN	Internal components (2 of 3)
Power-supply assembly, 110-127 V (LJ 4200)	RM1-0019-050CN	Electrical components
Power-supply assembly, 110-127 V (LJ 4200) (also see Figure 8-9 Electrical components)	RM1-0019-050CN	Internal components (1 of 3)

Table 8-21 Alphabetical parts list (continued)

Description	Part number	Table and page
Power-supply assembly, 110-127 V (LJ 4250/4350)	RM1-1070-000CN	Electrical components
Power-supply assembly, 110-127 V (LJ 4250/4350) (also see Figure 8-9 Electrical components)	RM1-1070-000CN	Internal components (1 of 3)
Power-supply assembly, 110-127 V (LJ 4300)	RM1-0107-000CN	Electrical components
Power-supply assembly, 110-127 V (LJ 4300) (also see Figure 8-9 Electrical components)	RM1-0107-000CN	Internal components (1 of 3)
Power-supply assembly, 220-240 V (LJ 4200)	RM1-0020-000CN	Electrical components
Power-supply assembly, 220-240 V (LJ 4200) (also see Figure 8-9 Electrical components)	RM1-0020-000CN	Internal components (1 of 3)
Power-supply assembly, 220-240 V (LJ 4250/4350)	RM1-1071-000CN	Electrical components
Power-supply assembly, 220-240 V (LJ 4250/4350) (also see Figure 8-9 Electrical components)	RM1-1071-000CN	Internal components (1 of 3)
Power-supply assembly, 220-240 V (LJ 4300)	RM1-0108-000CN	Electrical components
Power-supply assembly, 220-240 V (LJ 4300) (also see Figure 8-9 Electrical components)	RM1-0108-000CN	Internal components (1 of 3)
Registration assembly	RM1-0011-060CN	Internal components (1 of 3)
Rod, fan 2 (LJ 4250/4350)	RC1-3339-000CN	Internal components (1 of 3)
Rod, fan 2 (LJ 4300)	RC1-0341-000CN	Internal components (1 of 3)
Rod, switch	RC1-0268-000CN	Internal components (2 of 3)
Roller, paper-feed	RM1-0037-020CN	Internal components (2 of 3)
Roller, paper-pickup	RM1-0036-000CN	Internal components (2 of 3)
Roller, pickup	RL1-0019-000CN	Tray 1 pickup assembly
Screw, B, M4X8	XA9-1523-010CN	1,500-sheet feeder (2 of 2)
Screw, rs, m3x10	XA9-1559-000CN	Internal components (2 of 3)
Screw, rs, m3x10	XA9-1559-000CN	Internal components (3 of 3)
Screw, s, m3x8	XA9-1500-000CN	Internal components (1 of 3)
Screw, s, m3x8	XA9-1500-000CN	Internal components (2 of 3)
Screw, s, m3x8	XA9-1500-000CN	Internal components (3 of 3)
Screw, s, m3x8	XA9-1500-000CN	Electrical components
Screw, tapping, m3x6	XA9-1503-000CN	Internal components (1 of 3)
Screw, tapping, m3x6	XA9-1503-000CN	Internal components (2 of 3)
Screw, tapping, pan head, m4x10	XB4-7401-007CN	Covers
Screw, tapping, pan head, m4x10	XB4-7401-007CN	Internal components (1 of 3)
Screw, tapping, pan head, m4x10	XB4-7401-007CN	Internal components (2 of 3)
Screw, tapping, pan head, m4x10	XB4-7401-007CN	Internal components (3 of 3)
Screw, tapping, truss head, m3x8	XB4-7300-809CN	Internal components (2 of 3)

Table 8-21 Alphabetical parts list (continued)

Description	Part number	Table and page
Screw, tapping, truss head, m4x16	XB4-7401-605CN	Internal components (3 of 3)
Screw, tapping, truss head, m4x8	XB4-7400-809CN	Internal components (2 of 3)
Screw, w/washer, m3x6	XB2-7300-607CN	Internal components (1 of 3)
Screw, w/washer, M3X8	XA9-1420-010CN	1,500-sheet feeder (2 of 2)
Screw, w/washer, m3x8	XA9-1420-000CN	Electrical components
Screw, w/washer, m4x6	XB2-7400-606CN	Electrical components
Sensor assembly	RM1-1135-000CN	1,500-sheet feeder (2 of 2)
Sensor gear assembly, 1,500-sheet feeder	RM1-0286-000CN	1,500-sheet feeder (2 of 2)
Sensor, size (inside), 1,500-sheet feeder	RC1-0748-000CN	1,500-sheet feeder (2 of 2)
Sensor, size (outside), 1,500-sheet feeder	RM1-0294-000CN	1,500-sheet feeder (2 of 2)
Sensor, stack (PS 107), LJ 4250/4350	WG8-5624-000CN	Internal components (2 of 3)
Sensor, stack (PS104) (LJ 4250/4350)	WG8-5624-000CN	Internal components (2 of 3)
Sensor, top-bin-full (PS104) (LJ 4200/4300)	WG8-5362-000CN	Internal components (2 of 3)
Sensor, top-bin-full/stack (PS 104/PS 107), LJ 4200/4300	WG8-5362-000CN	Internal components (2 of 3)
Separation pad	RL1-0007-000CN	Tray 1 pickup assembly
Shaft, retard drive	RL1-0264-000CN	Internal components (2 of 3)
Sheet, solenoid damper	RC1-0330-020CN	Internal components (2 of 3)
Size-sensing assembly, tray 2	RM1-0041-020CN	Internal components (2 of 3)
Solenoid, tray 1 pickup (LJ 4200/4300)	RH7-5357-000CN	Tray 1 pickup assembly
Solenoid, tray 1 pickup (LJ 4250/4350)	RK2-0276-000CN	Tray 1 pickup assembly
Solenoid, tray 2 pickup (LJ 4200/4300)	RH7-5355-000CN	Internal components (2 of 3)
Solenoid, tray 2 pickup (LJ 4250/4350)	RK2-0269-000CN	Internal components (2 of 3)
Spring, compression	RC1-0213-000CN	Internal components (2 of 3)
Spring, leaf grounding, top Cover (LJ 4250/4350 only)	RC1-0307-000CN	Covers
Spring, tension	RC1-0198-000CN	Internal components (3 of 3)
Spring, torsion	RC1-0061-000CN	Internal components (1 of 3)
Spring, torsion	RC1-0254-000CN	Internal components (2 of 3)
Spring, torsion	RC1-1923-000CN	Internal components (2 of 3)
Stacker	Q2442-67902	Stapler/stacker, stacker, and stapler
Stapler unit only	RM1-1164-000CN	Stapler/stacker, stacker, and stapler
Stapler/stacker	Q2443-67908	Stapler/stacker, stacker, and stapler
Stop, detent	RC1-3303-000CN	500-sheet feeder (1 of 2)

Table 8-21 Alphabetical parts list (continued)

Description	Part number	Table and page
Support, lifter-drive assembly	RC1-0200-020CN	Internal components (3 of 3)
Swing plate assembly	RM1-0043-020CN	Internal components (2 of 3)
Thermistor (LJ 4200/4300)	RH7-7116-000CN	Internal components (3 of 3)
Thermistor (LJ 4250/4350)	RK2-0359-000CN	Internal components (3 of 3)
Transfer roller, LJ 4200/4300	RM1-0699-020CN	Internal components (1 of 3)
Transfer roller, LJ 4250/4350	RM1-1110-000CN	Internal components (1 of 3)
Tray 1	RM1-0005-020CN	Tray 1 pickup assembly
Tray 1 pickup assembly (LJ 4200/4300)	RM1-0004-060CN	Tray 1 pickup assembly
Tray 1 pickup assembly (LJ 4200/4300) (also see Figure 8-12 Tray 1 pickup assembly)	RM1-0004-060CN	Internal components (3 of 3)
Tray 1 pickup assembly (LJ 4250/4350)	RM1-1097-000CN	Tray 1 pickup assembly
Tray 1 pickup assembly (LJ 4250/4350) (also see Figure 8-12 Tray 1 pickup assembly)	RM1-1097-000CN	Internal components (3 of 3)

Numerical parts list

Table 8-22 Numerical parts list

Part number	Description	Table and page
C9651-67901	Formatter assembly (LJ 4300 printer)	PCAs
C9652-67902	Formatter assembly (LJ 4200 printer)	PCAs
C9652-67903	Formatter assembly (LJ 4200L printer)	PCAs
Q2425-67901	Name plate kit, LJ 4200	Covers
Q2431-40021	Overlay, control panel, Turkish (LJ 4200/4300)	Covers
Q2431-40022	Overlay, control panel, Hebrew (LJ 4200/4300)	Covers
Q2431-40023	Overlay, control panel, Greek (LJ 4200/4300)	Covers
Q2431-60107	Overlay, control panel, EN/FR/DE/IT (LJ 4200/4300)	Covers
Q2431-60108	Overlay, control panel, EN/CS/HU/PL (LJ 4200/4300)	Covers
Q2431-60109	Overlay, control panel, NO/SW/FI (LJ 4200/4300)	Covers
Q2431-60110	Overlay, control panel, IT/ES/PT/SP (LJ 4200/4300)	Covers
Q2431-60111	Overlay, control panel, EN/RU (LJ 4200/4300)	Covers
Q2431-60112	Overlay, control panel, EN/AR (LJ 4200/4300)	Covers
Q2431-60113	Overlay, control panel, EN/FR/DE/NL (LJ 4200/4300)	Covers
Q2431-67908	Name plate kit, LJ 4300	Covers
Q2440-67903	500-sheet feeder and tray	500-sheet feeder (1 of 2)
Q2442-67902	Stacker	Stapler/stacker, stacker, and stapler
Q2443-67908	Stapler/stacker	Stapler/stacker, stacker, and stapler
Q2444-67902	1,500-sheet feeder	1,500-sheet feeder (1 of 2)
Q3216-60500	1,000-staple cartridge (3-pack)	Stapler/stacker, stacker, and stapler
Q3652-67901	Formatter assembly (LJ 4250/4350 printer, network models)	PCAs
Q3653-67901	Formatter assembly (LJ 4250/4350 printer, base model)	PCAs
Q3993-40001	Name plate kit, LJ 4200L	Covers
Q3994-40004	Name plate kit, LJ 4200Ln	Covers
Q5400-60102	Overlay, control panel, EN/FR/DE/IT (LJ 4250/4350)	Covers
Q5400-60103	Overlay, control panel, CS/HU/PL/EL (LJ 4250/4350)	Covers
Q5400-60104	Overlay, control panel, NO/SV/FI (LJ 4250/4350)	Covers
Q5400-60105	Overlay, control panel, ES/PT/IT (LJ 4250/4350)	Covers
Q5400-60106	Overlay, control panel, EN/RU/TR (LJ 4250/4350)	Covers
Q5400-60107	Overlay, control panel, EN/AR (LJ 4250/4350)	Covers

Table 8-22 Numerical parts list (continued)

Part number	Description	Table and page
Q5400-60108	Overlay, control panel, EN/DE/FR/NL (LJ 4250/4350)	Covers
Q5400-60109	Overlay, control panel, FR (LJ 4250/4350)	Covers
Q5400-60111	Overlay, control panel, AR (LJ 4250/4350)	Covers
Q5400-67911	Name plate kit, LJ 4250	Covers
Q5406-67912	Name plate kit, LJ 4350	Covers
RB1-8107-000CN	Foot	Internal components (2 of 3)
RC1-0003-000CN	Arm, cartridge-release	Main drive assembly
RC1-0019-000CN	Cover, inner front, right	Internal components (3 of 3)
RC1-0060-000CN	Flag, paper feed sensor	Internal components (1 of 3)
RC1-0061-000CN	Spring, torsion	Internal components (1 of 3)
RC1-0136-000CN	Bushing, paper delivery	Internal components (3 of 3)
RC1-0153-030CN	Guide, tray 2	Internal components (2 of 3)
RC1-0198-000CN	Spring, tension	Internal components (3 of 3)
RC1-0200-020CN	Support, lifter-drive assembly	Internal components (3 of 3)
RC1-0206-000CN	Bushing	Internal components (2 of 3)
RC1-0208-030CN	Holder, paper sensing	Internal components (2 of 3)
RC1-0209-000CN	Flag, paper sensing	Internal components (2 of 3)
RC1-0211-000CN	Arm, paper pickup (LJ 4200/4300)	Internal components (2 of 3)
RC1-0212-000CN	Holder, paper pickup arm	Internal components (2 of 3)
RC1-0213-000CN	Spring, compression	Internal components (2 of 3)
RC1-0242-000CN	Guard, right-edge	Internal components (2 of 3)
RC1-0243-000CN	Guide, power-supply, front	Internal components (2 of 3)
RC1-0244-000CN	Guide, ECU, rear	Internal components (2 of 3)
RC1-0247-000CN	Guard, left-edge	Internal components (2 of 3)
RC1-0254-000CN	Spring, torsion	Internal components (2 of 3)
RC1-0264-000CN	Bushing, feed shaft	Internal components (2 of 3)
RC1-0268-000CN	Rod, switch	Internal components (2 of 3)
RC1-0269-020CN	Guide, flat cable	Internal components (1 of 3)
RC1-0270-020CN	Guide, flat cable	Internal components (1 of 3)
RC1-0271-000CN	Guide, dc controller (LJ 4200/4300)	Internal components (1 of 3)
RC1-0272-000CN	Duct, fan 2 (right side) (LJ 4300)	Internal components (3 of 3)
RC1-0273-000CN	Guide, left	Internal components (3 of 3)
RC1-0274-020CN	Guide, right	Internal components (3 of 3)
RC1-0287-020CN	Cover, left (LJ 4200/4300)	Covers

Table 8-22 Numerical parts list (continued)

Part number	Description	Table and page
RC1-0288-000CN	Cover, formatter	Covers
RC1-0289-000CN	Cover, paper-handling	Covers
RC1-0290-000CN	Cover, legal (LJ 4200/4300)	Covers
RC1-0291-000CN	Cover, duplexing (LJ 4200/4300)	Covers
RC1-0307-000CN	Spring, leaf grounding, top Cover (LJ 4250/4350 only)	Covers
RC1-0320-000CN	Cover, envelope	Internal components (3 of 3)
RC1-0330-020CN	Sheet, solenoid damper	Internal components (2 of 3)
RC1-0340-020CN	Guide, scanner cable	Internal components (2 of 3)
RC1-0341-000CN	Rod, fan 2 (LJ 4300)	Internal components (1 of 3)
RC1-0342-020CN	Holder, thermistor (plastic)	Internal components (3 of 3)
RC1-0343-020CN	Holder, thermistor (metal)	Internal components (3 of 3)
RC1-0344-020CN	Cover, fan connector	Internal components (3 of 3)
RC1-0371-000CN	Gear, 23t	Internal components (2 of 3)
RC1-0385-000CN	Guide, scanner cable	Internal components (2 of 3)
RC1-0386-000CN	Guide, connecting cable	Internal components (3 of 3)
RC1-0486-020CN	Cover, front upper, 500-sheet feeder	500-sheet feeder (2 of 2)
RC1-0487-020CN	Cover, left, 500-sheet tray	500-sheet feeder (2 of 2)
RC1-0488-020CN	Cover, right, 500-sheet tray	500-sheet feeder (2 of 2)
RC1-0500-000CN	Cover, number-display plate, 500-sheet tray	500-sheet feeder (2 of 2)
RC1-0509-000CN	Cover, legal	500-sheet feeder (2 of 2)
RC1-0661-000CN	Cover, right, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RC1-0662-000CN	Cover, left, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RC1-0663-000CN	Cover, rear, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RC1-0748-000CN	Sensor, size (inside), 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RC1-1923-000CN	Spring, torsion	Internal components (2 of 3)
RC1-3280-000CN	Cover, duplexing (LJ 4250/4350)	Covers
RC1-3282-000CN	Cover, legal (LJ 4250/4350)	Covers
RC1-3303-000CN	Stop, detent	500-sheet feeder (1 of 2)
RC1-3304-000CN	Number, display, optional feeder (LJ 4250/4350)	500-sheet feeder (2 of 2)
RC1-3335-000CN	Limiter, torque	500-sheet feeder (1 of 2)
RC1-3338-000CN	Duct, fan 2 (right side) (LJ 4250/4350)	Internal components (3 of 3)
RC1-3339-000CN	Rod, fan 2 (LJ 4250/4350)	Internal components (1 of 3)
RC1-3340-000CN	Guide, dc controller (LJ 4250/4350)	Internal components (1 of 3)
RC1-3352-000CN	Arm, paper pickup (LJ 4250/4350)	Internal components (2 of 3)

Table 8-22 Numerical parts list (continued)

Part number	Description	Table and page
RC1-3356-000CN	Overlay, control panel, EN (LJ 4250/4350)	Covers
RG1-4201-000CN	Cable, interface, upper, 500-sheet feeder (LJ 4200/4300)	500-sheet feeder (2 of 2)
RG1-4202-000CN	Cable, interface, lower, 500-sheet feeder (LJ 4200/4300)	500-sheet feeder (2 of 2)
RG1-4204-000CN	Cable, size-sensor, 500-sheet feeder	500-sheet feeder (2 of 2)
RG1-4205-000CN	Cable, fuser (LJ 4200/4200L)	Internal components (3 of 3)
RG1-4209-000CN	Cable, power-supply inlet, 110-127 V (LJ 4200/4300)	Electrical components
RG1-4212-000CN	Cable, laser (LJ 4200/4300)	Internal components (2 of 3)
RG1-4213-000CN	Cable, door switch	Internal components (3 of 3)
RG1-4214-000CN	Cable, sensor, top-bin-full (LJ 4200/4300)	Internal components (2 of 3)
RG1-4215-000CN	Cable, control panel (LJ 4200/4300)	Covers
RG1-4221-000CN	Pickup-sensor cable assembly (LJ4200/4300)	Internal components (2 of 3)
RG1-4222-000CN	Connector, duplexer (LJ 4200/4300)	Electrical components
RG1-4223-000CN	Cable, feeder connector (LJ 4200/4300)	Internal components (2 of 3)
RG1-4224-000CN	Cable, envelope- feeder-connecting (LJ 4200/4300)	Internal components (2 of 3)
RG1-4230-000CN	Cable, power-supply inlet, 220-240 V (LJ 4200/4300)	Electrical components
RG1-4231-000CN	Cable, fuser (LJ 4300)	Internal components (3 of 3)
RG1-4236-040CN	Dc controller (LJ 4200)	Internal components (3 of 3)
RG1-4236-040CN	Dc controller (LJ 4200)	PCAs
RG1-4237-040CN	Dc controller (LJ 4300)	Internal components (3 of 3)
RG1-4237-040CN	Dc controller (LJ 4300)	PCAs
RG1-4239-000CN	Cable, interface, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RG1-4240-000CN	Cable, media-size sensor, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RG1-4241-000CN	Cable, door sensor, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RG1-4276-020CN	Control-panel assembly (LJ 4200/4300)	Covers
RG1-4374-000CN	PCA, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RH7-1570-000CN	Motor, main (M101), 10-pin (LJ4200/4300)	Internal components (1 of 3)
RH7-1573-000CN	Fan, left (LJ 4200/4300)	Internal components (3 of 3)
RH7-1576-020CN	Motor, print cartridge (M102), 8-pin (LJ 4300)	Internal components (1 of 3)
RH7-1577-000CN	Fan, right (LJ 4300)	Internal components (3 of 3)
RH7-1603-000CN	Motor, stepping, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RH7-5355-000CN	Solenoid, tray 2 pickup (LJ 4200/4300)	Internal components (2 of 3)
RH7-5357-000CN	Solenoid, tray 1 pickup (LJ 4200/4300)	Tray 1 pickup assembly
RH7-5358-000CN	Clutch (CL101) (LJ 4200/4300)	Feed roller assembly
RH7-7116-000CN	Thermistor (LJ 4200/4300)	Internal components (3 of 3)

Table 8-22 Numerical parts list (continued)

Part number	Description	Table and page
RK2-0269-000CN	Solenoid, tray 2 pickup (LJ 4250/4350)	Internal components (2 of 3)
RK2-0272-000CN	Motor, main (M101), 10-pin (LJ4250/4350)	Internal components (1 of 3)
RK2-0274-000CN	Motor, print cartridge (M102), 8-pin (LJ 4250/4350)	Internal components (1 of 3)
RK2-0276-000CN	Solenoid, tray 1 pickup (LJ 4250/4350)	Tray 1 pickup assembly
RK2-0278-000CN	Fan, left (LJ 4250/4350)	Internal components (3 of 3)
RK2-0280-000CN	Fan, right (LJ 4250/4350)	Internal components (3 of 3)
RK2-0288-000CN	Cable, flat (J81-J51) (LJ 4250/4350)	Electrical components
RK2-0290-000CN	Cable, flat (J80-J50) (LJ 4250/4350)	Electrical components
RK2-0349-000CN	Clutch (CL101) (LJ 4250/4350)	Feed roller assembly
RK2-0359-000CN	Thermistor (LJ 4250/4350)	Internal components (3 of 3)
RL1-0007-000CN	Separation pad	Tray 1 pickup assembly
RL1-0013-000CN	Plate, swing	Internal components (2 of 3)
RL1-0015-000CN	Kicker assembly	Internal components (2 of 3)
RL1-0019-000CN	Roller, pickup	Tray 1 pickup assembly
RL1-0264-000CN	Shaft, retard drive	Internal components (2 of 3)
RM1-0001-030CN	Main drive assembly (LJ 4200/4300) (also see Figure 8-10 Main drive assembly)	Internal components (1 of 3)
RM1-0001-030CN	Main drive assembly (LJ 4200/4300)	Main drive assembly
RM1-0002-020CN	Duplexing-pendulum assembly	Internal components (3 of 3)
RM1-0004-060CN	Tray 1 pickup assembly (LJ 4200/4300) (also see Figure 8-12 Tray 1 pickup assembly)	Internal components (3 of 3)
RM1-0004-060CN	Tray 1 pickup assembly (LJ 4200/4300)	Tray 1 pickup assembly
RM1-0005-020CN	Tray 1	Tray 1 pickup assembly
RM1-0011-060CN	Registration assembly	Internal components (1 of 3)
RM1-0012-020CN	Feed roller assembly (also see Figure 8-11 Feed roller assembly)	Internal components (1 of 3)
RM1-0012-020CN	Feed-roller assembly	Feed roller assembly
RM1-0013-140CN	Fuser, 110-127 V (LJ 4200)	Internal components (3 of 3)
RM1-0014-140CN	Fuser, 220-240 V (LJ 4200)	Internal components (3 of 3)
RM1-0019-050CN	Power-supply assembly, 110-127 V (LJ 4200) (also see Figure 8-9 Electrical components)	Internal components (1 of 3)
RM1-0019-050CN	Power-supply assembly, 110-127 V (LJ 4200)	Electrical components
RM1-0020-000CN	Power-supply assembly, 220-240 V (LJ 4200) (also see Figure 8-9 Electrical components)	Internal components (1 of 3)
RM1-0020-000CN	Power-supply assembly, 220-240 V (LJ 4200)	Electrical components
RM1-0025-040CN	Feed assembly	Electrical components
RM1-0026-040CN	Paper-delivery assembly	Internal components (3 of 3)

Table 8-22 Numerical parts list (continued)

Part number	Description	Table and page
RM1-0027-020CN	Cover, rear output bin	Covers
RM1-0028-060CN	500-sheet universal replacement tray (LJ 4200/4300)	500-sheet feeder (1 of 2)
RM1-0033-020CN	Lifter-drive assembly (LJ 4200/4300)	Internal components (3 of 3)
RM1-0034-040CN	Pickup drive assembly	Internal components (2 of 3)
RM1-0036-000CN	Roller, paper-pickup	Internal components (2 of 3)
RM1-0037-020CN	Roller, paper-feed	Internal components (2 of 3)
RM1-0041-000CN	Media-size sensor assembly, 500-sheet feeder	500-sheet feeder (2 of 2)
RM1-0041-020CN	Size-sensing assembly, tray 2	Internal components (2 of 3)
RM1-0042-000CN	Cable, accessory interface	Internal components (2 of 3)
RM1-0043-020CN	Swing plate assembly	Internal components (2 of 3)
RM1-0045-000CN	Laser/scanner assembly (LJ 4200)	Internal components (2 of 3)
RM1-0046-000CN	Cover assembly, right (LJ 4200/4300)	Covers
RM1-0047-020CN	Cover, cartridge door (LJ 4200)	Covers
RM1-0049-000CN	Cover assembly, top(LJ 4200/4300)	Covers
RM1-0050-030CN	Cover assembly, front	Covers
RM1-0056-000CN	Paper-pickup-drive assembly, 500-sheet feeder	500-sheet feeder (1 of 2)
RM1-0101-200CN	Fuser, 110-127 V (LJ 4300)	Internal components (3 of 3)
RM1-0102-200CN	Fuser, 220-240 V (LJ 4300)	Internal components (3 of 3)
RM1-0107-000CN	Power-supply assembly, 110-127 V (LJ 4300) (also see Figure 8-9 Electrical components)	Internal components (1 of 3)
RM1-0107-000CN	Power-supply assembly, 110-127 V (LJ 4300)	Electrical components
RM1-0108-000CN	Power-supply assembly, 220-240 V (LJ 4300) (also see Figure 8-9 Electrical components)	Internal components (1 of 3)
RM1-0108-000CN	Power-supply assembly, 220-240 V (LJ 4300)	Electrical components
RM1-0113-000CN	Laser/scanner assembly (LJ 4300)	Internal components (2 of 3)
RM1-0114-020CN	Cover, cartridge door (LJ 4300)	Covers
RM1-0237-000CN	Cover, rear assembly, stacker	Stapler/stacker, stacker, and stapler
RM1-0248-000CN	Output bin (fits stapler, stapler/stacker, or stacker)	Stapler/stacker, stacker, and stapler
RM1-0273-070CN	Cover assembly, front, 1,500-sheet feeder	1,500-sheet feeder (1 of 2)
RM1-0273-070CN	Cover assembly, front, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RM1-0286-000CN	Sensor gear assembly, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RM1-0294-000CN	Sensor, size (outside), 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
RM1-0699-020CN	Transfer roller, LJ 4200/4300	Internal components (1 of 3)

Table 8-22 Numerical parts list (continued)

Part number	Description	Table and page
RM1-1066-000CN	Main drive assembly (LJ 4250/4350) (also see Figure 8-10 Main drive assembly)	Internal components (1 of 3)
RM1-1066-000CN	Main drive assembly (LJ 4250/4350)	Main drive assembly
RM1-1067-000CN	Laser/scanner assembly (LJ 4250/4350)	Internal components (2 of 3)
RM1-1070-000CN	Power-supply assembly, 110-127 V (LJ 4250/4350) (also see Figure 8-9 Electrical components)	Internal components (1 of 3)
RM1-1070-000CN	Power-supply assembly, 110-127 V (LJ 4250/4350)	Electrical components
RM1-1071-000CN	Power-supply assembly, 220-240 V (LJ 4250/4350) (also see Figure 8-9 Electrical components)	Internal components (1 of 3)
RM1-1071-000CN	Power-supply assembly, 220-240 V (LJ 4250/4350)	Electrical components
RM1-1074-000CN	Lifter-drive assembly (LJ 4250/4350)	Internal components (3 of 3)
RM1-1076-000CN	Cover assembly, right (LJ 4250/4350)	Covers
RM1-1077-000CN	Cover, left (LJ 4250/4350)	Covers
RM1-1080-000CN	Cover, cartridge door (LJ 4250/4350)	Covers
RM1-1081-000CN	Cover assembly, top (LJ 4250/4350)	Covers
RM1-1082-000CN	Fuser, 110-127 V (LJ 4250/4350)	Internal components (3 of 3)
RM1-1083-000CN	Fuser, 220-240 V (LJ 4250/4350)	Internal components (3 of 3)
RM1-1088-000CN	500-sheet universal replacement tray (LJ 4250/4350)	500-sheet feeder (1 of 2)
RM1-1094-000CN	Lifter-drive assembly, 500-sheet feeder	500-sheet feeder (1 of 2)
RM1-1097-000CN	Tray 1 pickup assembly (LJ 4250/4350) (also see Figure 8-12 Tray 1 pickup assembly)	Internal components (3 of 3)
RM1-1097-000CN	Tray 1 pickup assembly (LJ 4250/4350)	Tray 1 pickup assembly
RM1-1108-000CN	Dc controller (LJ 4250/4350)	Internal components (3 of 3)
RM1-1108-000CN	Dc controller (LJ 4250/4350)	PCAs
RM1-1110-000CN	Transfer roller, LJ 4250/4350	Internal components (1 of 3)
RM1-1122-000CN	PCA, 500-sheet feeder	500-sheet feeder (2 of 2)
RM1-1133-000CN	Pickup drive assembly, 1,500-sheet feeder	1,500-sheet feeder (1 of 2)
RM1-1134-000CN	Paper-pickup assembly, 1,500-sheet feeder	1,500-sheet feeder (1 of 2)
RM1-1135-000CN	Sensor assembly	1,500-sheet feeder (2 of 2)
RM1-1136-000CN	Lifter-drive assembly, 1,500-sheet feeder	1,500-sheet feeder (1 of 2)
RM1-1164-000CN	Stapler unit only	Stapler/stacker, stacker, and stapler
RM1-1181-000CN	Pickup-sensor cable assembly (LJ4250/4350)	Internal components (2 of 3)
RM1-1189-000CN	Cable, sensor, top-bin-full (LJ 4250/4350)	Internal components (2 of 3)
RM1-1190-000CN	Cable, control panel (LJ 4250/4350)	Covers
RM1-1192-000CN	Cable, feeder connector (LJ 4250/4350)	Internal components (2 of 3)

Table 8-22 Numerical parts list (continued)

Part number	Description	Table and page
RM1-1193-000CN	Cable, envelope-feeder-connecting (LJ 4250/4350)	Internal components (2 of 3)
RM1-1195-000CN	Control-panel assembly (LJ 4250/4350)	Covers
RM1-1198-000CN	Cable, laser (LJ 4250/4350)	Internal components (2 of 3)
RM1-1216-000CN	Cable, fuser (LJ 4250/4350)	Internal components (3 of 3)
RM1-1218-000CN	Cable, power-supply inlet, 110-127 V (LJ 4250/4350)	Electrical components
RM1-1219-000CN	Cable, power-supply inlet, 220-240 V (LJ 4250/4350)	Electrical components
RM1-1236-000CN	Cable, interface, upper, 500-sheet feeder (LJ 4250/4350)	500-sheet feeder (2 of 2)
RM1-1237-000CN	Cable, interface, lower, 500-sheet feeder (LJ 4250/4350)	500-sheet feeder (2 of 2)
RM1-1238-000CN	Cable, sensor assembly, 500-sheet feeder	500-sheet feeder (2 of 2)
RU5-0015-000CN	Gear, 14t/30t	Internal components (1 of 3)
RU5-0040-000CN	Gear, 23t	Internal components (2 of 3)
RU5-0045-020CN	Gear, 18t	Internal components (2 of 3)
RU5-0050-000CN	Gear, 30t	Feed roller assembly
RU5-0088-000CN	Gear, 18T, 500-sheet feeder	500-sheet feeder (2 of 2)
VS1-7333-006CN	Connector, duplexer (LJ 4250/4350)	Electrical components
VS1-7334-006CN	Connector, 6-point, 1,500-sheet feeder	1,500-sheet feeder (2 of 2)
WC4-5139-000CN	Microswitch, top cover	Internal components (3 of 3)
WG8-5362-000CN	Sensor, top-bin-full/stack (PS 104/PS 107), LJ 4200/4300	Internal components (2 of 3)
WG8-5362-000CN	Sensor, top-bin-full (PS104) (LJ 4200/4300)	Internal components (2 of 3)
WG8-5624-000CN	Sensor, stack (PS 107), LJ 4250/4350	Internal components (2 of 3)
WG8-5624-000CN	Sensor, stack (PS104) (LJ 4250/4350)	Internal components (2 of 3)
XA9-1420-000CN	Screw, w/washer, m3x8	Electrical components
XA9-1420-010CN	Screw, w/washer, M3X8	1,500-sheet feeder (2 of 2)
XA9-1500-000CN	Screw, s, m3x8	Internal components (1 of 3)
XA9-1500-000CN	Screw, s, m3x8	Internal components (2 of 3)
XA9-1500-000CN	Screw, s, m3x8	Internal components (3 of 3)
XA9-1500-000CN	Screw, s, m3x8	Electrical components
XA9-1503-000CN	Screw, tapping, m3x6	Internal components (1 of 3)
XA9-1503-000CN	Screw, tapping, m3x6	Internal components (2 of 3)
XA9-1523-010CN	Screw, B, M4X8	1,500-sheet feeder (2 of 2)
XA9-1559-000CN	Screw, rs, m3x10	Internal components (2 of 3)
XA9-1559-000CN	Screw, rs, m3x10	Internal components (3 of 3)
XB2-7300-607CN	Screw, w/washer, m3x6	Internal components (1 of 3)
XB2-7400-606CN	Screw, w/washer, m4x6	Electrical components

Table 8-22 Numerical parts list (continued)

Part number	Description	Table and page
XB4-7300-809CN	Screw, tapping, truss head, m3x8	Internal components (2 of 3)
XB4-7400-809CN	Screw, tapping, truss head, m4x8	Internal components (2 of 3)
XB4-7401-007CN	Screw, tapping, pan head, m4x10	Covers
XB4-7401-007CN	Screw, tapping, pan head, m4x10	Internal components (1 of 3)
XB4-7401-007CN	Screw, tapping, pan head, m4x10	Internal components (2 of 3)
XB4-7401-007CN	Screw, tapping, pan head, m4x10	Internal components (3 of 3)
XB4-7401-605CN	Screw, tapping, truss head, m4x16	Internal components (3 of 3)
XD9-0137-000CN	E-ring (LJ4200/4300)	Feed roller assembly
XD9-0232-000CN	E-ring	Internal components (1 of 3)
XD9-0232-000CN	E-ring	Internal components (2 of 3)
XD9-0234-010CN	E-ring (LJ4250/4350)	Feed roller assembly

Index

Symbols/Numerics

- 1,500-sheet feeder
 - registration settings 71
 - 1,500-sheet tray
 - component locations 418
 - control PCA, removing 294
 - door, removing 290
 - feed rollers, removing 288
 - jams 373
 - lifter-drive assembly, removing 297
 - media size detection 119
 - media-size sensor, removing 296
 - paper-pickup drive assembly, removing 300
 - part numbers 489
 - pickup and feed operations 114, 128
 - printing from 74
 - rear cover, removing 291
 - right-side cover, removing 292
 - separation roller, removing 288
 - wiring diagram 431
 - 1200 dpi resolution 72
 - 300 dpi resolution 72
 - 500-sheet feeder
 - component locations 416
 - control PCA, removing 281
 - custom-size settings 69
 - jams 373
 - lifter-drive assembly, removing 282
 - media size detection 119
 - media-size sensor (PS101), removing 269
 - models including 2
 - paper-pickup drive assembly, removing 283
 - part numbers 484
 - pickup and feed operations 114, 125
 - printing from 74
 - registration settings 71
 - right-side cover, removing 278
 - rollers, removing 278
 - wiring diagram 430
 - 600 dpi resolution 72
- A**
- A4 paper settings 69
 - accessories
 - covers, removing 187
 - part numbers 449
 - specifications 19
 - acoustic emissions specifications 22
 - adhesive labels. *See* labels
 - alerts 315, 317
 - Apple Macintosh. *See* Macintosh
 - AppleTalk setting 78
 - assembly locations 454
 - Attention light 57
 - Auto Cleaning Page 73, 85
 - auto continue setting 75
- B**
- base model, features 2
 - battery specifications 45
 - bidirectional communication
 - operations 162
 - settings 77
 - troubleshooting 331
 - bins, output
 - locating 9
 - paper path test 80, 369
 - removing rear 203
 - settings 69
 - black pages, troubleshooting 398
 - blank pages, troubleshooting 399
 - blurred print, troubleshooting 397
 - buttons, control panel 56, 58
- C**
- cabinet stand, unlocking 172
 - cables, part numbers 452
 - capacities, trays 26
 - capacity
 - 1,500-sheet tray 28
 - envelope feeder 28
 - stapler/stacker 29
 - tray 1 26
 - tray 2 27
 - card stock
 - fuser modes 71
 - specifications 37
 - carriage returns, settings 70
 - cartridge-motor, removing 253
 - cartridges, print
 - EconoMode 72
 - image-formation operations 153
 - low 76
 - memory chip 160
 - out 76
 - part numbers 447
 - recycling 45
 - replacing 175
 - supplies status page 314
 - troubleshooting 380
 - warranty 41
 - cartridges, staple
 - level-detection operations 151
 - loading 90
 - part numbers 447
 - settings 77
 - characters
 - misprinted, troubleshooting 386
 - symbol sets 70
 - circuits, fuser 110

- classes 444
- cleaning page
 - automatic 73, 85
 - manual 83
- cleaning stage, image-formation operations 159
- cleaning the printer 82
- clearable warnings setting 75
- clutches
 - pickup and feed operations 116
 - removing 277
 - tray 2 operations 119
- cold reset 325
- communication 162
- communications
 - troubleshooting 331
- communications settings 77
- CompactFlash cards
 - accessing 9
 - models supporting 163
- component locations 409, 454, 462
- configuration page 63, 312
- Configure Device menu 68
- consumables. See supplies
- control panel
 - blank, troubleshooting 306
 - buttons 56, 58
 - clearable warning settings 75
 - Configure Device menu 68
 - date/time settings 74
 - default settings 59
 - Diagnostics menu 80
 - Help system 58
 - I/O menu 77
 - Information menu 63
 - information pages 310
 - language, selecting 59, 76
 - lights 56, 57
 - locating 9
 - menu map, printing 60, 311
 - messages, troubleshooting 333
 - operations 165
 - Paper Handling menu 64
 - Print Quality menu 71
 - Printing menu 68
 - removing 204
 - Resets menu 78
 - Retrieve Job menu 62
 - Service menu 323
 - settings, changing 61
 - Stapler/stacker menu 77
 - System Setup menu 74
- control system operations 105
- cooling fan, replacing 246
- copies, setting default number of 68
- Courier font 69
- covers
 - 1,500-sheet tray, removing 291
 - 500-sheet feeder, removing 278
 - accessory, removing 187
 - cleaning 82
 - formatter, removing 191
 - front, removing 198
 - left-side, removing 197
 - part numbers 458, 459
 - right-side, removing 195
 - top, removing 192
- CPU operations 163
- curled media, troubleshooting 393
- custom-size paper
 - 500-sheet tray specifications 28, 29
 - settings 66
 - tray 1 specifications 26
 - tray settings 69
 - tray specifications 26
- customer support 444

D

- dark print, troubleshooting 400
- darkness, setting 73
- Data light 57
- data transmission settings 77
- date settings 74, 324
- dc controller
 - connectors diagram 436
 - locating 415
 - operations 105, 108
 - PCA diagram 173
 - removing 230
 - replacing 213
- Declaration of Conformity 47
- default settings
 - cold reset 325
 - control panel 59
 - restoring 78
- defects
 - examples of 382
 - repeating 390, 400
- Diagnostics menu 80
- DIMMs
 - accessing 9
 - configuration page 312
 - firmware 164, 210
 - part numbers 450
 - slots 163
- disk
 - file directory, printing 63
 - initialization 327
 - operations 163
 - skip disk-load 328
- distorted images, troubleshooting 391
- DLC/LLC setting 78
- door switch (SW101), removing 273
- dots, troubleshooting 385
- downloading firmware updates 91
- draft quality printing 72, 162, 380
- drivers
 - help 14
 - Linux 13
 - operating systems supported 13
 - OS/2 14
 - selecting 14
 - settings 15
- dropouts, troubleshooting 386
- drum
 - image-formation operations 106, 153
 - troubleshooting 380
- drum-rotation functional check 381
- duplex printing accessory
 - jams 374
 - models including 5
 - paper path test 80, 369
 - paper specifications 28
 - pickup and feed operations 134
 - settings 69
 - usage page 63
 - wiring diagram 432
- duplexing-pendulum assembly
 - locating 409
 - removing 217

E

- e-mail alerts 315, 317
- EconoMode 162, 380
- EconoMode setting 72
- EIO cards
 - configuration page 312
 - operations 163
 - part numbers 452
 - settings 77
- EIO slots 163
- electrical specifications 20
- electrostatic discharge (ESD) 168
- embedded Web server 315
- energy specifications 20
- ENERGY STAR compliance 44
- engine-test page 329
- envelope feeder
 - envelope specifications 28
 - jam detection operations 133
 - pickup and feed operations 132
 - settings 64
 - wiring diagram 433
- envelopes
 - default size, setting 68
 - margins 35
 - specifications 26, 34
 - storing 35
- environmental features 44
- environmental specifications
 - paper 30
 - printer 24, 52
- error messages
 - alphabetical 333
 - event log 80
 - numerical 348
 - settings 75
 - troubleshooting 333
- event log 80

F

- factory defaults
 - cold reset 325
 - control panel 59
 - restoring 78
- faded print, troubleshooting 383
- fans
 - life expectancies 88
 - locating 414
 - operations 109
 - removing 245

- troubleshooting 306
- fasteners, types of 170
- FastRes resolution 72
- FCC statements 43
- features, models 2
- feed roller assembly, diagrams
 - and part numbers 478
- feed rollers, replacing tray 2 182
- feed-roller clutch (CL101) removing 277
- feeding operations
 - 1,500-sheet tray 128
 - 500-sheet feeder 125
 - about 106, 114
 - duplexer 134
 - envelope feeder 132
 - fuser/delivery block 122
 - jam detection, duplexer 136
 - jam detection, envelope feeder 133
 - jam detection, stacker 141
 - jam detection, stapler/stacker 152
 - jam detection, trays 122
 - multiple-feed prevention 121
 - skew prevention 121
 - stacker 137
 - stapler/stacker 142
 - tray 1 117
 - tray 2 119
- file directory, printing 63
- firmware updates
 - DIMMs 164, 210
 - downloading 91
 - FTP 93
 - HP LaserJet Utility 98
 - HP Web JetAdmin 100
 - LPR command 99
 - messages 101
 - troubleshooting 102
 - UNIX 93
 - Windows local port 92
 - Windows network 93
- fonts
 - list, printing 63
 - settings 70
- form length, settings 70
- formatter
 - operations 161
 - part numbers 453

- removing 211
- replacing 213
- testing 329

- formatter cover, removing 191
- front cover, removing 198
- FTP firmware updates 93
- fuser
 - circuit operations 110
 - cleaning 83
 - image-formation operations 106, 153
 - life expectancies 88
 - locating 410
 - modes 71
 - part numbers 453
 - pickup and feeding operations 122
 - replacing 178

G

- grey background, troubleshooting 388

H

- half self-test functional check 381
- hard disk
 - file directory, printing 63
 - initialization 327
 - operations 163
 - skip disk-load 328
- heavy paper
 - fuser modes 71
 - specifications 37
- held jobs
 - Retrieve Job control panel menu 62
 - settings 74
- help
 - control panel 58
 - drivers 14
- HP Customer Care Online 444
- HP Jetdirect print server
 - configuration page 331
 - models including 2
 - part numbers 452
 - settings 78
- HP LaserJet Utility, Macintosh 17, 98
- HP OpenVMS drivers 14
- HP Partner Portal 445

HP Printing Supplies Returns and Recycling Program 45
HP Technical Training 444
HP Web JetAdmin firmware updates 100
HP-authorized resellers and support 445
humidity specifications
 paper, storing 30
 printer requirements 24

I

I/O menu 77
IBM OS/2 drivers 14
image quality. See print quality
image-formation operations 106
image-formation system operations 153
Information menu 63
information pages 310
input trays. See trays
input/output operations 162
installing printer 52
interface ports. See ports
internal components 462
IPX/SPX settings 78

J

jams
 1,500-sheet tray 373
 500-sheet feeder 373
 avoiding 367
 detection operations, duplexer 136
 detection operations, stacker 141
 detection operations, stapler/stacker 152
 detection operations, trays 122
 duplexer 374
 envelope feeder 133
 locations 365
 paper path 374
 persistent 368
 print quality 378
 recovery setting 76, 366
 stacker or stapler/stacker 404
 tray 1 371
 tray 2 372
JetAdmin firmware updates 100

Jetdirect print server
 configuration page 331
 models including 2
 part numbers 452
 settings 78
jobs
 retention 74
 Retrieve Job menu 62

K

keys, control panel 56, 58
kit, printer maintenance
 message, clearing 78
 replacing 86
 supplies status page 314

L

labels
 fuser modes 71
 specifications 36
language, control panel 59, 76
languages, printer
 configuration page 312
 settings 75
laser safety statements 49
laser/scanner
 locating 409
 operations 106, 112
 part numbers 453
 removing 219
LaserJet Utility, Macintosh 17, 98
left-side cover, removing 197
letter paper, override A4 settings 69
letterhead
 fuser modes 71
 specifications 32
life expectancies, parts 88
lifter-drive assembly
 500-sheet feeder, removing 282
 locating 409
 operations 120
 removing tray 2 227
light print
 setting toner density 73
 troubleshooting 383
lights, control panel
 locating 56
line feed settings 70

lines, troubleshooting 72, 387, 394, 396, 397
Linux driver support 13
loose toner 389
low toner 76
LPR command firmware updates 99

M

Macintosh
 AppleTalk settings 78
 downloading firmware 91
 drivers supported 13
 FTP firmware updates 93
 HP LaserJet Utility 17, 98
 operating systems supported 12
 PPDs 17
 software included 17
main cooling fan, removing 246
main drive assembly
 locating 409
 part numbers 476
 removing 263
maintenance kit
 contents 86
 message, clearing 78
 replacing 86
 supplies status page 314
manual feed 69, 74
map, menu 60, 311
margins
 envelopes 35
 registration settings 71
Material Safety Data Sheets (MSDS) 46
media
 card stock 37
 curled, troubleshooting 393
 duplexer feeding operations 134
 envelopes 34
 jam detection operations, duplexer 136
 jam detection operations, envelope feeder 133
 jam detection operations, stacker 141
 jam detection operations, stapler/stacker 152

- jam detection operations, trays 122
- labels 36
- letterhead 32
- lifter-driver operations 120
- multiple pages feeding, troubleshooting 375
- pickup and feed operations 114
- print quality, troubleshooting 377
- selecting 25
- size detection operations 119
- sizes supported 26
- skew prevention operations 121
- skew, troubleshooting 376, 391
- specifications 25, 30
- stacker operations 137
- stapler/stacker operations 142
- storing 30
- transparencies 36
- tray 1 feeding operations 117
- tray 1, types supported 26
- tray 2 feeding operations 119
- tray settings 64
- troubleshooting 32
- types not supported 38
- types supported 31
- usage page 63
- weight equivalence table 32
- wrinkled, troubleshooting 375, 394
- memory
 - base 2
 - configuration page 312
 - NVRAM initialization 326
 - operations 163
 - part numbers 450
 - print-cartridge 160
 - slots 163
- Memory Enhancement technology (MEt) 164
- menus, control panel
 - accessing 58
 - Configure Device 68
 - Diagnostics 80
 - I/O 77
 - Information 63
 - map, printing 60, 311
 - Paper Handling 64
- Print Quality 71
- Printing 68
- Resets 78
- Retrieve Job 62
- Service 323
- settings, changing 61
- Stapler/stacker 77
- System Setup 74
- mercury specifications 45
- messages
 - alphabetical 333
 - event log 80
 - firmware updates 101
 - numerical 348
 - settings 75
 - troubleshooting 333
- Microsoft Windows. *See* Windows
- model number 8
- models, features 2
- motors
 - 1,500-sheet tray operations 128
 - 500-sheet feeder operations 125
 - duplexer operations 134
 - envelope feeder operations 132
 - locating 414
 - main 414
 - operations 109
 - pickup and feed operations 116
 - print-cartridge 414
 - removing 245
 - stacker and stapler/stacker 423
 - stacker operations 137
 - stapler/stacker operations 142
 - tray 2 operations 119
 - troubleshooting 306
- multiple pages feeding
 - prevention operations 121
 - troubleshooting 375
- N**
- networks
 - embedded Web server 315
 - part numbers 452
 - Printer Status and Alerts 317
 - settings 78
 - troubleshooting 331
 - Windows firmware updates 93
- noise specifications 22
- Novell NetWare settings 78
- number of copies, setting default 68
- NVRAM
 - initialization 326
 - operations 164
 - print-cartridge 160
- O**
- on/off switch, locating 9
- online help
 - control panel 58
 - drivers 14
- online support 444
- OpenVMS drivers 14
- operating environment
 - specifications 24, 52
- operating systems supported 12, 13
- operations
 - 1,500-sheet tray 128
 - 500-sheet feeder 125
 - control system 105
 - dc controller 108
 - duplexer 134
 - envelope feeder 132
 - formatter 161
 - fuser circuits 110
 - image-formation 106, 153
 - jam detection, duplexer 136
 - jam detection, envelope feeder 133
 - jam detection, stacker 141
 - jam detection, stapler/stacker 152
 - jam detection, trays 122
 - laser/scanner 112
 - memory 163
 - motors and fans 109
 - ports 162
 - power supply 110
 - sequence of 105
 - stacker 137
 - stapler/stacker 142
- ordering
 - parts 444
 - supplies 446
- orientation, setting default 70
- OS/2 drivers 14

- out of toner 76
- output bins
 - locating 9
 - paper path test 80, 369
 - removing rear 203
 - settings 69
- output quality
 - black pages 398
 - blank pages 399
 - blurred print 397
 - cleaning page 83
 - dark print 400
 - defect examples 382
 - distorted images 391
 - dots 385
 - dropouts 386
 - grey background 388
 - jams 378
 - light print 383
 - line 387, 396, 397
 - media problems 377, 379
 - print cartridge checks 380
 - repeating defects 390, 400
 - settings 72
 - toner smear 389
 - transparencies 378
 - troubleshooting 379
 - white lines 394
 - white spots 396
- output-delivery assembly
 - locating 410
 - removing 214
- over-temperature protection
 - circuit, fuser 111
- overcurrent/overvoltage protection 111
- overlay, control panel 204
- override A4/letter 69
- ozone specifications 44

P

- page orientation, setting default 70
- paper
 - 1,500-sheet tray specifications 28
 - 500-sheet tray specifications 27
 - curled, troubleshooting 393
 - custom-size 69
 - default size, setting 68
- duplexer feeding operations 134
- duplexer specifications 28
- fuser modes 71
- heavy 37
- jam detection operations,
 - duplexer 136
- jam detection operations,
 - stacker 141
- jam detection operations,
 - stapler/stacker 152
- jam detection operations, trays 122
- letterhead 32
- lifter-driver operations 120
- multiple pages feeding,
 - troubleshooting 375
- override A4/letter setting 69
- pickup and feed operations 114
- print quality, troubleshooting 377
 - selecting 25
- size detection operations 119
- sizes supported 26
- skew prevention operations 121
- skew, troubleshooting 376, 391
- specifications 25, 30
- stacker operations 137
- stapler/stacker operations 142
- stapler/stacker specifications 29
- storing 30
- tray 1 feeding operations 117
- tray 1, types supported 26
- tray 2 feeding operations 119
- tray 2 specifications 27
- tray selection 64, 74
- tray settings 64
- troubleshooting 32
- types not supported 38
- types supported 31
- usage page 63
- weight equivalence table 32
- wrinkled, troubleshooting 375, 394
- Paper Handling menu 64
- paper jams. See jams
- paper path
 - jams 374
 - stacker and stapler/stacker 403
 - test 80, 369
 - troubleshooting 365, 369
- paper-feed assembly
 - locating 409
 - removing 261
- paper-feed belt assembly,
 - removing 243
- paper-pickup drive assembly
 - locating 409
 - removing 222
- parallel communications
 - settings 77
- parallel port
 - locating 11
 - operations 162
 - troubleshooting 331
- part numbers
 - 1,500-sheet tray 489
 - 500-sheet feeder 484
 - accessories 449
 - assemblies 454
 - cables 452
 - covers 458
 - internal components 462
 - maintenance kits 87
 - print cartridges 447
- Partner Portal 445
- parts
 - ordering 444
 - replacing 168
- PCAs
 - diagrams and part numbers 482
 - locating 415
 - stacker and stapler/stacker 424
- PCL drivers
 - features 14
 - operating systems supported 13
- PCL font list, printing 63
- PCL, setting as printer language 75
- PDEs, Macintosh 17
- perform printer maintenance
 - message 78, 86
- personalities
 - configuration page 312
 - settings 75
- phone numbers

- HP-authorized resellers and support 445
- service agreements 445
- supplies ordering 446
- photosensitive drum
 - image-formation operations 106, 153
 - troubleshooting 380
- physical specifications 18, 52
- pickup roller, replacing tray 1 179
- pickup-and-feed system operations
 - 1,500-sheet tray 128
 - 500-sheet feeder 125
 - about 106, 114
 - duplexer 134
 - envelope feeder 132
 - fuser/delivery block 122
 - jam detection, duplexer 136
 - jam detection, envelope feeder 133
 - jam detection, stacker 141
 - jam detection, stapler/stacker 152
 - jam detection, trays 122
 - multiple-feed prevention 121
 - skew prevention 121
 - stacker 137
 - stapler/stacker 142
 - tray 1 117
 - tray 2 119
- PINs, Service menu 323
- PJL (printer job language) 164
- platforms supported 12, 13
- PML (printer management language) 165
- ports
 - cables 452
 - locating 11
 - operations 162
 - troubleshooting 331
- postcards 26
- PostScript error pages 70
- PostScript Printer Description (PPD) files 17
- PostScript, setting as printer language 75
- power
 - specifications 20
 - troubleshooting 306
- power supply
 - locating 415
 - operations 105, 110
 - part numbers 453
 - removing 236
- power switch, locating 9
- power-on bypass 328
- PowerSave. See Sleep mode
- PPDs, included 17
- preprinted paper
 - fuser modes 71
- primary charging roller operations 153
- print cartridges
 - EconoMode 72
 - image-formation operations 153
 - low 76
 - memory chip 160
 - out 76
 - part numbers 447
 - recycling 45
 - replacing 175
 - supplies status page 314
 - troubleshooting 380
 - warranty 41
- print quality
 - black pages 398
 - blank pages 399
 - blurred print 397
 - cleaning page 83
 - dark print 400
 - defect examples 382
 - distorted images 391
 - dots 385
 - dropouts 386
 - grey background 388
 - jams 378
 - light print 383
 - lines 387, 396, 397
 - media problems 377, 379
 - print cartridge checks 380
 - repeating defects 390, 400
 - settings 72
 - toner smear 389
 - transparencies 378
 - troubleshooting 379
 - white lines 394
 - white spots 396
- Print Quality menu 71
- print-cartridge motor, removing 253
- Printer Dialog Extensions (PDEs), Macintosh 17
- printer drivers. See drivers
- printer job language (PJL) 164
- printer maintenance kit
 - message, clearing 78
 - replacing 86
 - supplies status page 314
- printer management language (PML) 165
- Printer Status and Alerts 317
- Printing menu 68
- processor operations 163
- ProRes resolution 72
- PS driver
 - features 14
 - operating system supported 13
- PS error pages 70
- PS font list, printing 63
- PS, setting as printer language 75

Q

- quality
 - black pages 398
 - blank pages 399
 - blurred print 397
 - cleaning page 83
 - dark print 400
 - defect examples 382
 - distorted images 391
 - dots 385
 - dropouts 386
 - grey background 388
 - jams 378
 - light print 383
 - lines 387, 396, 397
 - media problems 377, 379
 - print cartridge checks 380
 - repeating defects 390, 400
 - settings 72
 - toner smear 389
 - transparencies 378
 - troubleshooting 379
 - white lines 394
 - white spots 396
- quick copy jobs 74

- R**
- RAM disk settings 76
- Ready light 57
- rear output bin
 - locating 9
 - removing 203
 - settings 69
- recovery, jam 76, 366
- recycling 45
- registration assembly
 - operations 121
 - removing 266
- registration settings 71
- registration-roller assembly,
 - locating 410
- regulatory statements
 - Canadian DOC statement 49
 - Declaration of Conformity 47
 - FCC 43
 - Finnish laser statement 50
 - Japanese VCCI statement 49
 - Korean EMI statement 49
 - laser safety 49
- remote firmware updates
 - downloading 91
 - FTP 93
 - HP LaserJet Utility 98
 - HP Web JetAdmin 100
 - LPR command 99
 - messages 101
 - troubleshooting 102
 - UNIX 93
 - Windows local port 92
 - Windows network 93
- removing parts 168
- repeating defects 390, 400
- replacement intervals, parts 88
- replacing
 - maintenance kit 86
 - parts 168
 - stapler unit 89
- Resets menu 78
- resolution 72
- Resolution Enhancement
 - technology (REt) 72, 162
- restoring default settings 78, 325
- retention, job
 - Retrieve Job menu 62
 - settings 74
- Retrieve Job menu 62
- right-side cover
 - locating 9
 - removing 195
- rollers
 - 1,500-sheet tray 418
 - 1,500-sheet tray operations 128
 - 1,500-sheet tray, removing 288
 - 500-sheet feeder 416
 - 500-sheet feeder operations 125
 - 500-sheet feeder, removing 278
 - cleaning 82
 - duplexer operations 134
 - envelope feeder operations 132
 - feeding operations 116
 - image-formation operations 106, 153
 - life expectancies 88
 - locating 411, 412
 - repetitive defects 400
 - replacing maintenance kit 86
 - transfer, replacing 177
 - tray 1 pickup, replacing 179
 - tray 2 feed, replacing 182
 - tray 2 operations 119
- S**
- screwdrivers, required 168
- screws, types of 170
- self-test 328
- sensors
 - 1,500-sheet tray 420
 - 1,500-sheet tray operations 128
 - 500-sheet feeder 417
 - 500-sheet feeder operations 125
 - duplexer operations 134
 - envelope feeder operations 132
 - jam detection, duplexer 136
 - jam detection, envelope feeder 133
 - jam detection, stacker 141
 - jam detection, stapler/stacker 152
 - jam detection, trays 122
- locating 413
- pickup and feed operations
 - 114, 116
 - removing 268, 296
 - stacker and stapler/stacker 422
 - stacker operations 137
 - stapler/stacker operations 142
- separation pad
 - locating 411
 - replacing 181
- sequence of operations 105
- serial number 8
- service agreements 445
- service approach 168
- service ID 324
- Service menu 323
- setting up printer 52
- settings
 - cold reset 325
 - control panel, changing 61
 - default, control panel 59
 - drivers 15
 - restoring defaults 78
- size specifications, printer 18, 52
- size, paper
 - 1,500-sheet tray specifications 28
 - 500-sheet tray specifications 27
 - duplexer specifications 28
 - envelope feeder specifications 28
 - stapler/stacker specifications 29
 - tray 1 specifications 26
 - tray 2 specifications 27
- skew
 - prevention operations 121
 - troubleshooting 376, 391
- skip disk-load 328
- Sleep mode
 - formatter operations 161
 - power specifications 20
 - settings 75
- smear toner 389
- software
 - installing 54
 - Linux 13
 - Macintosh 17
 - Macintosh, included 17

- operating systems supported 12
- solenoids
 - 1,500-sheet tray 420
 - 500-sheet feeder 417
 - removing 274
 - stacker and stapler/stacker 423
 - stacker operations 137
 - tray 2 operations 119
- space requirements 18, 52
- special media
 - envelopes 34
 - labels 36
 - transparencies 36
- specifications
 - 1,500-sheet tray 28
 - accessories 19
 - acoustic emissions 22
 - card stock 37
 - electrical 20
 - envelope feeder 28
 - envelopes 34
 - environmental 52
 - labels 36
 - media 25
 - operating environment 24
 - paper 30
 - physical 18
 - speed 24
 - transparencies 36
 - trays, media supported 26
- specks, troubleshooting 385
- speed
 - data transmission settings 77
 - resolution settings 72
 - specifications 24
- stacker
 - component errors 407
 - component locations 422
 - feeding operations 137
 - jams 404
 - malfunction errors 406
 - models including 6
 - paper path 403
 - paper specifications 29
 - paper-transport errors 406
 - troubleshooting 402
 - wiring diagram 434
- stand, unlocking 172
- staple cartridges
 - level-detection operations 151
 - loading 90
 - part numbers 447
- stapler unit
 - life expectancy 88
 - locating 421
 - operations 148
 - replacing 89
- stapler/stacker
 - component errors 407
 - component locations 422
 - jams 404
 - loading staples 90
 - malfunction errors 406
 - models including 7
 - operations 142
 - paper path 403, 404
 - paper specifications 29
 - paper-path test 80
 - paper-transport errors 406
 - replacing stapler unit 89
 - settings 77
 - timing diagram 442
 - troubleshooting 402
 - wiring diagram 435
- Stapler/stacker menu 77
- static, precautions for 168
- status
 - embedded Web server 315
 - lights, control panel 56, 57
 - Printer Status and Alerts 317
 - supplies page, printing 63, 314
- storage, job
 - Retrieve Job menu 62
 - settings 74
- storing
 - envelopes 35
 - paper 30
- supplies
 - life expectancies 88
 - ordering 446
 - part numbers 447
 - recycling 45
 - specifications 19
 - status page, printing 63, 314
- support 444
- switches
 - 1,500-sheet tray 420
 - 500-sheet feeder 417
 - locating 413
- media-size detection 119
- stacker and stapler/stacker 422
- stacker operations 137
- stapler/stacker operations 142
- symbol sets, selecting 70
- system requirements
 - drivers 13
 - printing software 12
- System Setup menu 74

T

- technical support 444
- Technical Training, HP 444
- telephone numbers
 - HP-authorized resellers and support 445
 - service agreements 445
 - supplies ordering 446
- temperature protection circuit, fuser 111
- temperature specifications
 - fusing 36
 - paper, storing 30
 - printer requirements 24
- tests
 - Diagnostics menu 80
 - drum-rotation functional check 381
 - engine 329
 - formatter 330
 - half self-test functional check 381
 - paper-path 369
 - power-on bypass 328
 - stacker 404
 - stapler/stacker 404
- time settings 74, 324
- timeouts, I/O settings 77
- timing diagrams 437
- toner
 - cleaning 82, 85
 - density setting 73
 - EconoMode 72
 - image-formation operations 153
 - low 76
 - out 76
 - smear 389
- tools, required 168
- top cover, removing 192

- top output bin
 - locating 9
 - settings 69
 - transfer roller
 - image-formation operations 153
 - locating 411
 - operations 106
 - replacing 177
 - transparencies
 - fuser modes 71
 - print quality, troubleshooting 378
 - specifications 36
 - tray 1
 - custom-size settings 69
 - jam detection operations 123
 - jams 371
 - locating 9
 - paper sensor (PS105), removing 272
 - paper supported 26
 - paper-pickup assembly, removing 257
 - pickup and feed operations 114, 117
 - pickup assembly 410
 - pickup assembly, diagrams and part numbers 480
 - pickup roller, locating 411
 - pickup roller, replacing 179
 - pickup solenoid (SL102), removing 276
 - printing from 74
 - registration settings 71
 - removing 200
 - separation pad, replacing 181
 - setting size 64
 - settings 64
 - tray 2
 - custom-size settings 69
 - extension door, removing 187
 - feed rollers, replacing 182
 - jam detection operations 123
 - jams 372
 - lifter-drive assembly, removing 227
 - media size detection 119
 - media-size sensor (PS101), removing 269
 - paper specifications 27
 - pickup and feed operations 114, 119
 - pickup solenoid (SL101) removing 275
 - printing from 74
 - registration settings 71
 - settings 65
 - trays
 - cabinet stand, unlocking 172
 - configuration page 312
 - custom-size settings 69
 - included 2
 - locating 9
 - media supported 26
 - paper path test 80, 369
 - paper specifications 27, 28
 - pickup and feed operations 114, 125
 - registration settings 71
 - selecting 74
 - settings 64
 - specifications 25
 - troubleshooting
 - about 302
 - black pages 398
 - blank pages 399
 - blurred print 397
 - checklist 303
 - communications 331
 - curled media 393
 - dark print 400
 - distorted images 391
 - dots 385
 - dropouts 386
 - engine-test 329
 - error messages 333
 - event log 80
 - firmware updates 102
 - flowchart 305
 - formatter test 330
 - grey background 388
 - information pages 310
 - jams 365
 - light print 383
 - lines 72, 387, 396, 397
 - multiple pages feeding 375
 - paper 32, 38
 - paper path 369
 - power-on 306
 - power-on bypass 328
 - print cartridge 380
 - print quality 377, 382
 - process 303
 - removing parts 168
 - repeating defects 390, 400
 - skew 376, 391
 - stacker and stapler/stacker 402
 - toner smear 389
 - transparencies 378
 - white lines 394
 - white spots 396
 - wrinkled media 375, 394
- U**
- UNIX
 - carriage return settings 70
 - downloading firmware 93
 - Model Scripts 13
 - unlocking cabinet stand 172
 - updating firmware
 - DIMMs 164, 210
 - downloading 91
 - FTP 93
 - HP LaserJet Utility 98
 - HP Web JetAdmin 100
 - LPR command 99
 - messages 101
 - troubleshooting 102
 - UNIX 93
 - Windows local port 92
 - Windows network 93
 - usage page 63
 - USB port
 - locating 11
 - operations 162
- V**
- voltage specifications 20
- W**
- warnings setting 75
 - warranty
 - print cartridge 41
 - product 39
 - Web JetAdmin firmware updates 100
 - Web sites
 - environmental topics 46
 - firmware updates 91
 - HP Partner Portal 445

- parts ordering 444
- UNIX and Linux drivers 13
- weight, paper specifications
 - 1,500-sheet tray 28
 - 500-sheet tray 27
 - duplexer 28
 - envelope feeder 28
 - equivalence table 32
 - stapler/stacker 29
 - tray 1 26
 - tray 2 27
- white lines, troubleshooting 394
- white spots, troubleshooting 396
- Wide A4 settings 69
- Windows
 - downloading firmware 91
 - drivers supported 13
 - FTP firmware updates 93
 - local port firmware updates 92
 - LPR command firmware updates 99
 - network firmware updates 93
 - versions supported 12
- wiring diagrams 425
- wrinkled media, troubleshooting 375, 394



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