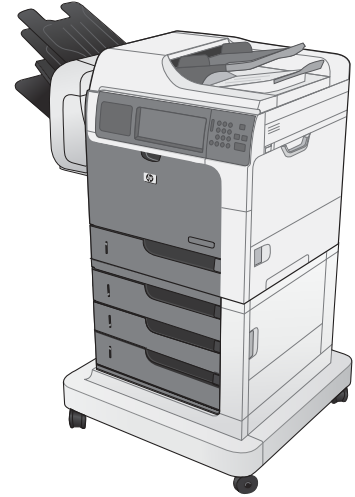
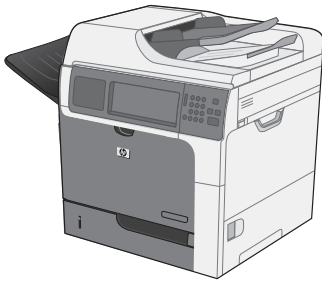




LASERJET ENTERPRISE M4555

MFP SERIES

Service Manual





HP LaserJet Enterprise M4555 MFP Series

Service Manual

Copyright and License

© 2011 Copyright Hewlett-Packard Development Company, L.P.

Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws.

The information contained herein is subject to change without notice.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Part number: CE502-90971

Edition 1, 4/2011


Trademark Credits

Intel® Core™ is a trademark of Intel Corporation in the U.S. and other countries.


Microsoft®, Windows®, Windows® XP, and Windows Vista® are U.S. registered trademarks of Microsoft Corporation.

ENERGY STAR® and the ENERGY STAR® mark are registered U.S. marks.

Conventions used in this guide

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

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

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


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

Table of contents

1 Theory of operation	1
Basic operation	2
Sequence of operation (product)	2
Sequence of operation (scanner)	3
Formatter-control system	4
Sleep delay	4
Image Resolution Enhancement technology	4
Input/output	5
Memory	5
Hard disk	5
Random-access memory	5
Firmware	5
Nonvolatile memory	5
HP Memory Enhancement technology	6
CPU	6
PjL overview	6
PML	6
Control panel	6
Scanner interface	6
Engine-control system	7
DC controller PCA	7
Motors and fans	8
Motor and fan functions	9
Ambient-temperature detection	10
High-voltage power supply	11
Fuser control	12
Fuser temperature control	13
Fuser failure detection	14
Other functions	15
Low-voltage power supply	16
Overcurrent/overvoltage protection	17
Safety	17

Sleep mode	18
Power supply detection	18
Image-formation system	19
Print cartridge	21
Memory tag	21
Cartridge-presence detection	21
Toner detection	22
Electrophotographic process	22
1. Primary charge (conditioning)	22
2. Laser-beam exposure (writing)	23
3. Developing	23
4. Transfer	24
5. Separation	25
6. Fusing	25
7. Drum cleaning	26
Laser/scanner system	26
Laser/scanner assembly failure detection	28
Safety	28
Pickup, feed, and delivery system	29
Pickup-and-feed block	33
Cassette pickup	34
Cassette media-size detection and cassette-present detection	35
Cassette lift-up operation	36
Cassette media-presence detection	36
Multifeed prevention	37
Tray 1 pickup	38
Tray 1 media-presence detection	39
Fusing-switchback and delivery block	43
Fusing	43
Pressure roller pressurization and depressurization control	44
Switchback and delivery control	45
Face-down delivery	46
Face-up delivery	47
Output bin media-full detection	48
Duplex block	49
Duplex side registration adjustment operation	49
Jam detection	52
No pick jam 1	53
No pick jam 2	54
No pick jam 3	54
Feed stay jam	54

Fuser delay jam	55
Fuser stay jam	55
Fuser wrap jam	55
Fuser output delay jam 2	55
Fuser output stay jam 2	55
Duplex re-pickup jam 1	55
Fuser output delay jam 3	56
Fuser output stay jam 3	56
Residual paper jam	56
Door open jam	56
Other functions	57
Tray 3 (1 x 500-sheet feeder)	58
500-sheet feeder motor control	59
500-sheet feeder pickup and feed	60
Cassette media-size detection and cassette presence detection	60
Cassette lift-drive operation	60
Jam detection	61
Additional trays	62
Motor control	65
Paper-deck pickup and feed operation	66
Cassette media-size detection and cassette presence detection	68
Cassette lift-drive operation	69
Jam detection	69
HP stapling mailbox	70
Motor control	73
Failure detection	74
Delivery operation	74
Staple operation	76
Stapler	81
Output bin 3 lift operation	82
Stacker mode	83
Mailbox/job separator mode	84
Jam detection	85
Automatic delivery	86
Laser/scanner system	87
Document feeder/scanner assembly	89
Scanner subsystem	89
Document feeder/scanner motor and fan control	90
Legal detection sensor	91
Fan timing sequence	91
Optical assembly operation	92

Image data path	92
Document feeder/scanner paper path and sensors	93
Document feeder pickup mechanism	94

2 Removal and replacement 95

Introduction	97
Removal and replacement strategy	98
Electrostatic discharge	99
Required tools	100
Service approach	101
Before performing service	101
After performing service	101
Post-service test	101
Print-quality test	101
Print cartridge	102
Staple cartridge (for models with a stapler/stacker)	106
Control panel	108
Transfer roller	111
Output bin and bin base assembly	112
Duplex accessory	113
Fuser-entrance guide	114
Remove the fuser-entrance guide	114
Fuser	115
Remove the fuser	115
Tray 1 separation roller	116
Envelope feeder cover	117
Tray 1 pickup and feed rollers	118
Tray 2, 3, 4, or 5 pickup, feed, and separation rollers	119
Scanner filter cover and scanner filter	120
Interface formatter PCA	121
Hard drive	123
Remove the SSD	123
Remove the encrypted HDD	124
Installing a replacement hard drive	126
HDD firmware upgrade	127
SSD firmware upgrade	128
Fax accessory PCA	129
Document feeder tray extender	130
Document feeder pickup roller cover	131
Document feeder pickup roller	132
Document feeder pickup roller pad and spring	133

Covers and document feeder	134
Identification and location (product base)	134
Scanner rear cover	136
Tray 1 cover	137
Cassette-door-open detection switch	139
Left-rear corner cover	141
Remove the left-rear corner cover	141
Front cover	143
Front-right cover	144
Remove the front-right cover	144
Front-upper cover	146
Remove the front-upper cover	146
Image scanner right cover	148
Image scanner cable cover	150
Rear-right cover	151
Rear-left cover	152
Remove the rear-left cover	152
Rear-top cover	154
Remove the rear-top cover	154
Right-lower door	156
Remove the right-lower cover	156
Document-feeder hinge cover	158
Remove the document-feeder hinge cover	158
Reinstall the document-feeder hinge cover	160
Document feeder	161
Remove the document feeder	161
Image scanner left cover	164
Remove the image scanner left cover	164
Main assemblies	165
Registration assembly	165
Switchback upper guide assembly	166
Reinstall the switchback upper guide assembly	167
Switchback assembly	168
Remove the switchback assembly	168
Laser/scanner assembly	171
Remove the laser/scanner assembly	171
Cartridge sensor assembly	173
Remove the cartridge sensor assembly	173
Environmental sensor	174
Remove the environmental sensor	174
DC controller shield-plate assembly	176

Remove the DC controller shield-plate assembly	176
DC controller	178
Remove the DC controller	178
Tray 1 pickup assembly	180
Remove the Tray 1 pickup assembly	180
Connector PCA	183
Remove the connector PCA	183
Feed motor (M101)	185
Remove the feed motor	185
Drum motor (M102)	186
Remove the drum motor	186
Fuser motor (M299)	187
Remove the fuser motor	187
Main fan (FN101)	188
Remove the main fan	188
Reinstall the main fan	189
Laser/scanner fan (FN102)	190
Remove the laser/scanner fan	190
Reinstall the laser/scanner fan	191
Cartridge front-side fan (FN103)	192
Remove the cartridge front-side fan	192
Reinstall the cartridge front-side fan	193
Low-voltage power supply fan (FN104)	194
Remove the low-voltage power supply fan	194
Reinstall the low-voltage power supply fan	195
Switchback fan (FN105)	196
Remove the switchback fan	196
Reinstall the switchback fan	197
Cartridge fan (FN301)	198
Remove the cartridge fan	198
Reinstall the cartridge fan	199
Interlock switch (SW101)	200
Remove the interlock switch	200
Output accessory detection switch (SW104)	202
Remove the output accessory detection switch	202
Low-voltage power supply	204
Remove the low-voltage power supply	204
Cassette lifter assembly	207
Remove the cassette lifter assembly	207
Lifter drive assembly	209
Remove the lifter drive assembly	209

Engine power supply	212
Remove the engine power supply	212
Feed roller assembly	217
Remove the feed roller assembly	217
Pickup drive assembly	218
Remove the pickup drive assembly	218
Cassette pickup assembly	219
Remove the cassette pickup assembly	220
Document feeder	222
Paper present flag	222
Document feeder scanner lid	223
Remove the document feeder scanner lid	223
Reinstall the document feeder scanner lid	225
Document feeder front cover	226
Document feeder rear cover	228
Document feeder jam-access cover	231
Remove the document feeder jam-access cover	231
Document feeder tray assembly	232
Remove the document feeder tray assembly	232
Document feeder internal assembly	233
Remove document feeder internal assembly	233
Document feeder PCA	235
Remove the document feeder PCA	235
Document feeder cable	236
Remove the document feeder cable	236
Reinstall the document feeder cable	237
Document feeder left hinge	238
Remove the document feeder left hinge	238
Document feeder right hinge	239
Remove the document feeder right hinge	239
Document feeder fan	240
Remove the document feeder fan	240
Document feeder motor	241
Remove the document feeder motor	241
Document feeder motor	242
Remove the document feeder motor	242
Document feeder open sensor	243
Remove the document feeder open sensor	243
Document feeder jam access plate	244
Remove the document feeder jam access plate	244
Base assembly	245

Remove the base assembly	245
Scanner	246
Scanner assembly	246
Remove the scanner	246
Scanner connector board (SCB) PCA	249
Remove the SCB PCA	249
Scanner release assembly	251
Remove the scanner release assembly	251
Scanner 24 V and communication cable	252
Remove the scanner 24 V and communication cable	252
Tub top	255
Remove the tub top	255
Interconnect board and size sensor	256
Remove the interconnect board and size sensor	256
Inverter	259
Remove the inverter	259
Inverter fan	261
Remove the inverter fan	261
Optical assembly	262
Remove the optical assembly	262
Motor assembly	266
Remove the motor assembly	266
Scanner fan	268
Remove the scanner fan	268
Optional 500-sheet paper feeder assembly	270
Rear cover (500-sheet paper feeder)	270
Right-front cover (500-sheet paper feeder)	271
Left cover (500-sheet paper feeder)	272
Remove the left cover (500-sheet paper feeder)	272
Right cover (500-sheet paper feeder)	273
Remove the right cover (500-sheet paper feeder)	273
Front cover (500-sheet paper feeder)	274
Pickup assembly (500-sheet paper feeder)	275
Remove the pickup assembly (500-sheet paper feeder)	275
Lifter assembly (500-sheet paper feeder)	278
Remove the lifter assembly (500-sheet paper feeder)	278
Lifter-drive assembly (500-sheet paper feeder)	280
Remove the lifter-drive assembly (500-sheet paper feeder)	280
Pickup motor assembly (500-sheet paper feeder)	281
Remove the pickup motor (500-sheet paper feeder) assembly	281
Controller PCA (500-sheet paper feeder)	282

Remove the controller PCA (500-sheet paper feeder)	282
Optional paper feeder assemblies (1 x 500-sheet and 3 x 500-sheet)	283
Front door (optional paper feeder)	283
Rear cover (optional paper feeder)	285
Right-front cover (optional paper feeder)	286
Right door (optional paper feeder)	287
Left cover (optional paper feeder)	289
Remove the left cover (optional paper feeder)	289
Right cover (optional paper feeder)	291
Remove the right cover (optional paper feeder)	291
Rear-right cover (optional paper feeder)	292
Remove the rear-right cover (optional paper feeder)	292
Pickup assembly (optional paper feeder)	293
Remove the pickup assembly (optional paper feeder)	293
Lifter assembly (optional paper feeder)	296
Remove the lifter assembly (optional paper feeder)	296
Lifter-drive assembly (optional paper feeder)	297
Remove the lifter-drive assembly (optional paper feeder)	297
Pickup motor assembly (optional paper feeder)	298
Remove the pickup motor assembly (optional paper feeder)	298
Controller PCA (optional paper feeder)	299
Remove the controller PCA (optional paper feeder)	299
Stapler/stacker	301
SSMBM front cover	301
SSMBM rear cover	302
SSMBM handle assembly	303
Remove the SSMBM handle assembly	303
SSMBM top cover	305
Remove the SSMBM top cover	305
SSMBM output bin 3	306
SSMBM output bin assembly cover	308
Remove the SSMBM output bin assembly cover	308
SSMBM PCA	310
SSMBM output bin sensor PCA	312
Remove the SSMBM output bin sensor PCA	312
SSMBM stapler assembly	313
Remove the SSMBM stapler assembly	313
SSMBM jogger assembly	314
Remove the SSMBM jogger assembly	314
SSMBM output bin solenoid	316
Remove the SSMBM output bin solenoid	316

SSMBM output bin assembly	318
Remove the SSMBM output bin assembly	318
SSMBM stage top assembly	320
Remove the SSMBM stage top assembly	320
Reinstall the SSMBM stage top assembly	329
SSMBM stage assembly	330
Remove the SSMBM stage assembly	330
SSMBM output bin 3 drive assembly	333
Remove the SSMBM output bin 3 drive assembly	333

3 Problem solving 337

Solve problems checklist	338
Administration Menu Map	340
Current settings page	340
Troubleshooting process	341
Problem-solving flowchart	341
Determine the problem source	344
Pre-troubleshooting checklist	345
Troubleshooting flowchart	347
Power subsystem	348
Power-on checks	348
Power-on troubleshooting overview	348
Control-panel checks	350
Scanning subsystem	351
Tools for troubleshooting	352
Component diagnostics	352
LED diagnostics	352
HP Jetdirect Inside LEDs	352
Heartbeat LED	353
Connectivity LED	353
Fax LED (fax models only)	353
Engine diagnostics	353
Early boot diagnostic test	353
Engine test	354
Formatter test	355
Half self-test	355
Drum rotation test	356
Paper-path test	357
Manual sensor test	357
SW1 right lower door	359
SW105 right upper door	360

SW101 cartridge door (top cover)	361
SR10 Tray 5 feed	362
SR7 Tray 4 feed	363
SR4 Tray 3 feed	364
PS102 pre-feed	365
PS103 TOP	366
PS106/108 paper width	367
PS700/PS699 fuser output	368
PS110 intermediate switchback	369
PS111 inverter media stay	370
PS113 duplex refeed	371
PS112 output	372
PS104 output bin full	373
Tray/Bin manual sensor test	374
PS1802 envelope feeder paper	376
PS114 Tray 1 paper	377
PS101 Tray 2 paper	378
PS107/PS907 Tray 2 paper surface	379
SW102 Tray 2 paper size	380
SR3 Tray 3 paper	381
SR1/SR2 Tray 3 paper surface	381
SW2 Tray 3 paper size	381
SR4 Tray 3 feed	382
SR6 Tray 4 paper	383
SR5/SR8 Tray 4 paper surface	383
SW3 Tray 4 paper size	383
SR7 Tray 4 feed	384
SR11 Tray 5 paper	385
SR9/SR12 Tray 5 paper surface	385
SW4 Tray 5 paper size	385
SR10 Tray 5 feed	386
PS104 output bin full	387
SW1 power switch	388
SW103 face up bin	389
SW104 output accessory	390
SW700 engine test	391
Paper path sensor test	391
Print/stop test	392
Scanner tests	392
Scanner component tests	393
Scanner sensor tests	394

Document feeder paper present sensor	394
Document feeder Y (length) sensor	395
Document feeder jam cover sensor	396
Flatbed Y (length) sensor	397
Flatbed cover angle sensor	398
Flatbed cover sensor	399
Document feeder registration sensor	400
Document feeder exit sensor	401
Document feeder read sensor	402
Component tests	403
Control-panel tests	403
Component test (special-mode test)	403
Stapler/stacker	404
Diagrams for troubleshooting	405
Block diagrams	405
Sensors	405
Switches (product base)	408
Solenoids (product base)	409
Clutch (product base)	410
Motors	411
Fans (product base)	415
Main assemblies	416
Main PCAs (product base)	423
Rollers (product base)	424
DC controller connections	425
Scanner controller board (SBC) connectors	427
General timing chart	428
General circuit diagrams	430
Internal print-quality test pages	437
Print-quality-troubleshooting pages	437
Cleaning page	438
Configuration page	438
Configuration page	438
HP embedded Jetdirect page	440
Embedded protocol page	441
Finding important information on the configuration pages	442
Print-quality troubleshooting tools	443
Repetitive defects ruler	443
Control panel menus	443
Administration menu	445
Reports menu	445

General Settings menu	446
Copy Settings menu	449
Scan/Digital Send Settings menu	452
Fax Settings menu	454
Open From USB Settings menu	458
Print Settings menu	458
Print Options menu	459
Display Settings menu	460
Manage Supplies menu	462
Manage Trays menu	463
Stapler/Stacker Settings menu	463
Network Settings menu	464
Troubleshooting menu	468
Device Maintenance menu	470
Backup/Restore menu	470
Calibrate/Cleaning menu	470
USB Firmware Upgrade menu	471
Service menu	471
Interpret control-panel messages, status-alert messages, and event code errors	472
10.OX.Y0 Supply memory error	472
10.23.50	472
10.23.51	473
10.23.52	473
10.23.70 Printing Past Very Low	473
10.XX.33 Used Supply In Use	473
10.XX.34 Used Supply In Use	474
10.XX.40 Genuine HP Supplies Installed	474
10.XX.41 Unsupported Supply In Use	474
10.XX.70 Printing past very low	475
10.YY.15 Install <supply>	475
10.YY.35 Incompatible <supply>	475
11.00.YY Internal clock error	476
13.00.00	476
13.00.EE	476
13.A3.FF	476
13.D3.DZ	477
13.E5.FF	477
13.EA.EE	477
13.EE.FF	477
13.FF.EE	478
13.FF.FF	478

13.WX.EE	478
13.WX.FF	478
13.WX.YZ Fuser Area Jam	479
13.WX.YZ Fuser wrap jam	479
13.WX.YZ Jam below control panel	480
13.WX.YZ Jam in lower bin area	480
13.WX.YZ Jam in Tray 1	480
13.WX.YZ Jam in Tray <X>	480
13.WX.YZ Jam inside envelope feeder	480
13.WX.YZ Jam inside left cover	481
13.WX.YZ Jam inside right door	481
13.WX.YZ Jam inside top cover	481
13.WX.YZ Jams inside lower right door	481
14.00.XX	481
20.00.00 Insufficient memory: <Device> To continue, touch "OK"	482
21.00.00 Page Too Complex	482
30.01.YY Scanner Failure	482
31.01.02 Jam in document feeder	486
31.01.03 Document feeder pick error	487
31.01.0X	487
32.08.AX	488
32.1C.XX	488
32.21.00	495
33.01.XX	495
33.XX.YY Used board/disk	495
40.00.01 USB I/O buffer overflow To continue, touch "OK"	496
40.00.02 Embedded I/O buffer overflow To continue, touch "OK"	496
40.00.03 EIO <X> buffer overflow To continue, touch "OK"	496
40.00.04 EIO <X> bad transmission To continue, touch "OK"	496
40.00.05 Embedded I/O bad transmission To continue, touch "OK"	496
41.02.00 Error	497
41.03.YZ Unexpected size in envelope feeder To use another tray, touch "Options"	497
41.03.YZ Unexpected size in tray <X>	498
41.05.YZ Unexpected type in tray <X>	499
41.XX.YZ Error To continue, touch "OK"	501
42.XX.YY	502
47.00.XX	502
47.01.XX	502
47.02.XX	503
47.03.XX	503

47.04.XX	503
47.05.00	503
47.06.XX	503
47.WX.YZ Printer Calibration Failed To continue, touch "OK"	504
49.XX.YY To continue turn off then on	505
50.WX.YZ Fuser error To continue turn off then on	505
51.00.YY Error	507
52.XX.00 Error To continue turn off then on	508
54.XX.YY Error	508
55.00.YY DC controller error To continue turn off then on	509
55.0X.YY DC controller error To continue turn off then on	509
56.00.YY Error To continue turn off then on	509
57.00.0Y Error To continue turn off then on	510
58.00.0Y Error To continue turn off then on	511
59.00.YY error To continue turn off then on	512
59.0X.50 Error To continue turn off then on	512
59.0X.60 Error To continue turn off then on	513
59.A2.0x Error	513
60.00.0Y Tray <Y> lifting error	514
62.00.00 No system To continue turn off then on	515
65.X0.A1 Output accessory disconnected	515
66.80.YY Stapler/Stacker failure	516
69.11.YY Error To continue turn off then on	518
70.00.00 Error To continue turn off then on	518
79.XX.YY Error To continue turn off then on	518
80.0X.YY Embedded JetDirect error	519
81.YY.ZZ EIO-1 Card Failure	520
82.73.46 OR 82.73.47	522
98.00.01 Corrupt data in firmware volume	522
98.00.02 Corrupt data in solutions volume	522
98.00.03 Corrupt data in configuration volume	523
98.00.04 Corrupt data in job data volume	523
99.00.01 Upgrade not performed file is corrupt	523
99.00.02 Upgrade not performed timeout during receive	523
99.00.03 Upgrade not performed error writing to disk	524
99.00.04 Upgrade not performed timeout during receive	524
99.00.05 Upgrade not performed timeout during receive	524
99.00.06 Upgrade not performed error reading upgrade	524
99.00.07 Upgrade not performed error reading upgrade	525
99.00.08 Upgrade not performed error reading upgrade	525
99.00.09 Upgrade canceled by user	525

99.00.10 Upgrade canceled by user	525
99.00.11 Upgrade canceled by user	526
99.00.12 Upgrade not performed the file is invalid	526
99.00.13 Upgrade not performed the file is invalid	526
99.00.14 Upgrade not performed the file is invalid	526
99.00.2X	527
99.09.60 Unsupported disk	527
99.09.61 Unsupported disk	528
99.09.62 Unknown disk	528
99.09.63 Incorrect disk	528
99.09.64 Disk malfunction	528
99.09.65 Disk data error	528
99.09.66 No disk installed	529
99.09.67 Disk is not bootable please download firmware	529
99.XX.YY	529
<binname> full Remove all paper from bin	529
<Supply> low OR Supplies low	530
<Supply> very low OR Supplies very low	530
[File System] device failure To clear touch "OK"	531
[File System] file operation failure To clear touch "OK"	531
[File System] file system is full To clear touch "OK"	531
[File System] is not initialized	531
[File System] is write protected	531
Accept bad signature	531
ADF not detected	532
Bad optional tray connection	532
Calibration reset pending	532
Canceling	532
Canceling... <jobname>	533
Cartridge Low	533
Cartridge Memory Abnormal	533
Cartridge Out	533
Checking engine	534
Checking paper path	534
Chosen personality not available To continue, touch "OK"	534
Cleaning do not grab paper	534
Cleaning... ..	534
Clearing event log	535
Clearing paper path	535
Close lower right door	535
Close right upper cover	535

Close stapler/stacker multi bin mailbox door	536
Close top cover	536
Cooling device	536
Creating cleaning page... ..	536
Data received To print last page press "OK"	536
Document feeder pick error	537
EIO <X> disk initializing	537
EIO <X> disk not functional	537
EIO <X> disk spinning up	537
Event log is empty	538
Expected drive missing	538
External device initializing	538
Fax is disabled – ignoring call	538
FIM Load Error Send full FIM on <X> port	538
Flatbed cover open	539
Fuser Kit low	539
Fuser Kit very low To continue, touch "OK"	539
Gateways failed	539
Gateways OK	540
Genuine HP cartridge installed	540
Genuine HP supply installed	540
HP Secure hard drive disabled	540
Incompatible <Supply>	540
Incompatible supplies	541
Initializing... ..	541
Install fuser unit	541
Install supplies	541
Install supply	542
Internal disk device failure To clear touch "OK"	542
Internal disk file operation failed	542
Internal disk file system is full	542
Internal disk is write protected	542
Internal disk not found	543
Internal disk not functional	543
Internal disk not initialized	543
Internal disk spinning up	543
Jam in document feeder	543
Job not stapled due to mixed sizes	544
Load Tray <X>: [Type], [Size]	544
Load Tray <X>: [Type], [Size] To use another tray, press "OK"	544
Loading program <XX>	545

Manually feed output stack Then touch "OK" to print second side	545
Manually feed: <Type><Size>	545
Manually feed: <Type><Size> To use another tray, press "OK"	546
Moving solenoid	546
Moving solenoid and motor	546
No job to cancel	546
NON HP SUPPLY INSTALLED	546
Output Bin Full	547
Paused... ..	547
Performing Paper Path Test... ..	547
Please Wait... ..	547
Printing Configuration... ..	548
Printing Event Log... ..	548
Printing File Directory... ..	548
Printing Font List... ..	548
Printing Fuser Test Page... ..	548
Printing Help Page... ..	548
Printing Menu Map... ..	549
Printing Registration Page... ..	549
Printing stopped	549
Printing Supplies Status Page... ..	549
Printing Usage Page... ..	549
Printing...engine test	550
Processing duplex job Do not grab paper until job completes	550
Processing job from tray <X>... Do not grab paper until job completes	550
Processing... ..	550
Processing... copy <X> of <Y>	550
RAM disk device failure To clear touch "OK"	551
RAM disk file operation failed To clear touch "OK"	551
RAM disk file system is full To clear touch "OK"	551
RAM disk is write protected To clear touch "OK"	551
RAM disk not initialized	551
Ready	552
Ready <IP Address>	552
Reattach output bin	552
Receiving Upgrade	552
Remove one print cartridge	552
Remove USB accessory	553
Replace <Supply>	553
Replace supplies	553
Resend external accessory firmware	554

Resend Upgrade	554
Restore Factory Settings	554
ROM disk device failed To clear touch "OK"	554
ROM disk file operation failed To clear touch "OK"	555
ROM disk file system is full To clear touch "OK"	555
ROM disk is write protected To clear touch "OK"	555
ROM disk not initialized To clear touch "OK"	555
Rotating Motor	555
Scanner Failure	556
Size Mis-Match	558
Size mismatch in Tray <X>	558
Sleep mode on	558
Staple Cartridge low	559
Staple Cartridge very low	559
Stapler/Stacker staple jam	559
Supplies low	559
SUPPLY MEMORY WARNING	559
The unit has corrupt data	560
Tray <X> empty: [Type], [Size]	560
Tray <X> lifting	561
Tray <X> open	561
Tray <X> overfilled	562
Type mismatch Tray	562
Unsupported drive installed To continue, touch "OK"	563
Unsupported supply in use OR Unsupported supply installed To continue, touch "OK"	563
Unsupported tray configuration	563
Unsupported USB accessory detected Remove USB accessory	564
Upgrade Error	564
USB accessory not functional	564
USB hubs are not fully supported Some operations may not work properly	564
USB is write protected To clear touch "OK"	564
USB needs too much power	565
USB needs too much power Remove USB and Then Turn Off then On	565
USB not initialized	565
USB storage accessory removed Clearing any associated data	565
USB storage device failure To clear touch "OK"	565
USB storage file operation failed To clear touch "OK"	566
USB storage file system is full To clear touch "OK"	566
Used supply installed To continue, touch "OK" OR Used supply in use	566
Waiting for tray <X> to lift	566

Windows Login Required to Use this Feature	566
XX.YY.ZZ Scanner Failure	567
Event-log messages	569
Print an event log	570
View an event log	570
Clear an event log	571
Clear jams	572
Common causes of jams	572
Common causes of jams (no pick 1)	572
Common causes of jams (no pick 2)	574
Common causes of jams (no pick 3)	575
Duplex re-pickup jam 1	577
Feed stay jam 1	578
Fuser output delay jam 1	578
Fuser output delay jam 2	579
Fuser output delay jam 3	580
Fuser output stay jam 1	581
Fuser output stay jam 2	581
Fuser output stationary jam 3	582
Fuser wrap jam 1	582
Residual paper jam 1 / Residual paper jam 2	582
Staple stacker multi-bin mailbox feed delay jam 1	583
Staple stacker multi-bin mailbox feed delay jam 2	583
Staple stacker multi-bin mailbox feed stay jam 1	584
Staple stacker multi-bin mailbox feed stay jam 2	584
Staple stacker multi-bin mailbox feed stay jam 3	584
Staple stacker multi-bin mailbox residual paper jam	585
Jam locations	586
Clear jams in the document feeder	587
Clear paper jams in the stapler (for models with a stapler/stacker)	588
Clear staple jams (for models with a stapler/stacker)	589
Clear jams in the output bin area	592
Clear jams from under the top cover	592
Clear jams in the right door	594
Clear jams in Tray 1	595
Clear jams in Trays 2, 3, 4, or 5	599
Clear jams in the lower right door (Trays 3, 4, or 5)	600
Clear jams in the fuser	601
Clear jams in the registration area	605
Change jam recovery	607
Paper does not feed automatically	608

Product feeds multiple sheets	608
Use manual print modes	609
Solve image-quality problems	611
Print quality examples	611
Clean the product	615
Clean the paper path	615
Clean the scanner glass	615
Solve performance problems	617
Solve connectivity problems	618
Solve direct-connect problems	618
Solve network problems	618
Service mode functions	619
Service menu	619
Product resets	622
Restore factory settings	622
Hard-disk initialization	622
NVRAM initialization	622
Service ID	623
Cold reset	624
Preboot menu options	625
Solve fax problems	632
Is your fax set up correctly?	632
What type of phone line are you using?	632
Are you using a surge-protection device?	632
Are you using a phone company voice-messaging service or an answering machine?	633
Does your phone line have a call-waiting feature?	633
Check fax accessory status	633
Fax feature is not operating	634
General fax problems	634
Problems with receiving faxes	635
Problems with sending faxes	636
Error codes	637
Fax error messages	638
Send-fax messages	639
Receive-fax messages	641
Fax reports	642
Fax activity log	642
Billing code report	643
Blocked fax list report	643
Speed dial list report	643

Fax call report	643
Clear the fax activity log	644
Service settings	644
Settings in the Troubleshooting menu	644
Settings in the Resets menu	644
Firmware upgrades	645
Solve e-mail problems	646
Validate the SMTP gateway address	646
Validate the LDAP gateway address	646
Product updates	647
Determine the installed revision of firmware	647
Perform a firmware upgrade	647
Use the HP Embedded Web Server	647
Use a USB storage device with the preboot menu	648
Use a USB storage device with the Device Maintenance menu	649

4 Parts and diagrams 651

Order parts by authorized service providers	652
Order parts, accessories, and supplies	652
Supplies part numbers	652
Customer-self repair parts	652
Service replacement parts	654
Accessories part numbers	654
Related documentation and software	655
Fasteners used in this product	656
How to use the parts lists and diagrams	658
Assembly locations	659
Base product (no optional trays or accessories)	659
Base product (with optional trays or accessories)	661
Covers (and upper plate assembly)	664
Product base	664
Upper plate assembly	666
Internal components	668
Internal components (1 of 5)	668
Internal components (2 of 5)	670
Internal components (3 of 5)	672
Internal components (4 of 5)	674
Internal components (5 of 5)	676
High-voltage power supply	678
Cassette assembly (Tray 2)	680
Paper pickup assembly	682

Reverse assembly	684
Paper feed roller assembly	686
Registration assembly	688
MP (Tray 1) pickup assembly	690
Duplex assembly	692
Fuser assembly	694
PCAs (product base)	696
Input devices	698
1x500-sheet feeder	698
Covers (1x500)	698
Main body (1x500)	700
1x500/3x500-sheet paper deck	702
Covers (1x500/3x500)	702
Main body (1x500/3x500; 1 of 2)	704
Main body (1x500/3x500; 2 of 2)	706
Output devices	708
Stapler stacker multi-bin mailbox (MBM)	708
Covers (MBM)	708
Main body (MBM)	710
Main body (MBM; 1 of 2)	710
Main body (MBM; 2 of 2)	712
Document feeder and scanner	714
Document feeder (scanner lid)	714
Document feeder (whole unit)	714
Document feeder components (1 of 5)	716
Document feeder components (2 of 5)	718
Document feeder components (3 of 5)	720
Document feeder components (4 of 5)	722
Document feeder components (5 of 5)	724
Scanner assembly	726
Scanner assembly (whole unit)	726
Scanner components (1 of 8)	728
Scanner components (2 of 8)	730
Scanner components (3 of 8)	732
Scanner components (4 of 8)	734
Scanner components (5 of 8)	736
Scanner components (6 of 8)	738
Scanner components (7 of 8)	740
Scanner components (8 of 8)	742
Alphabetical parts list	744
Numerical parts list	756

Appendix A Service and support	767
Hewlett-Packard limited warranty statement	768
HP's Premium Protection Warranty: LaserJet print cartridge limited warranty statement	770
Data stored on the print cartridge	771
End User License Agreement	772
OpenSSL	775
Customer self-repair warranty service	776
Customer support	777
 Appendix B Product specifications	 779
Physical specifications	780
Power consumption, electrical specifications, and acoustic emissions	780
Environmental specifications	780
 Appendix C Regulatory information	 781
FCC regulations	782
Environmental product stewardship program	783
Protecting the environment	783
Ozone production	783
Power consumption	783
Toner consumption	783
Paper use	783
Plastics	783
HP LaserJet print supplies	784
Return and recycling instructions	784
United States and Puerto Rico	784
Multiple returns (more than one cartridge)	784
Single returns	784
Shipping	784
Non-U.S. returns	785
Paper	785
Material restrictions	785
Disposal of waste equipment by users in private households in the European Union	786
Chemical substances	786
Material Safety Data Sheet (MSDS)	786
For more information	786
Declaration of conformity	788
Declaration of conformity (fax models)	790
Certificate of Volatility	792
Types of memory	792

Volatile memory	792
Non-volatile memory	792
Hard-disk-drive memory	792
Safety statements	793
Laser safety	793
Canadian DOC regulations	793
VCCI statement (Japan)	793
Power cord instructions	793
Power cord statement (Japan)	793
EMC statement (China)	794
EMC statement (Korea)	794
EMI statement (Taiwan)	794
Laser statement for Finland	794
GS statement (Germany)	795
Substances Table (China)	795
Restriction on Hazardous Substances statement (Turkey)	796
Additional statements for telecom (fax) products	797
EU Statement for Telecom Operation	797
New Zealand Telecom Statements	797
Additional FCC statement for telecom products (US)	797
Telephone Consumer Protection Act (US)	798
Industry Canada CS-03 requirements	798
Japan Telecom Mark	799
Vietnam Telecom wired marking for ICTQC Type approved products	799

Index	801
--------------------	------------

1 Theory of operation

- [Basic operation](#)
- [Formatter-control system](#)
- [Engine-control system](#)
- [Image-formation system](#)
- [Pickup, feed, and delivery system](#)
- [Additional trays](#)
- [HP stapling mailbox](#)
- [Laser/scanner system](#)
- [Document feeder/scanner assembly](#)

Basic operation

All high-level product processes are routed through the formatter, which stores font information, processes the print image, and communicates with the host computer.

The basic product operation can be divided into five systems:

- The engine control system, which includes the power supply and DC controller PCA
- The laser/scanner system, which forms the latent image on a photosensitive drum
- The image formation system, which transfers a toner image onto the print media
- The pickup and feed system, which consists of various rollers and transports the media through the product
- The scanner system, which scans data and sends it to the formatter for copying or for sending to e-mail

Sequence of operation (product)

A microprocessor on the DC controller PCA controls the operating sequence of the product. The tables in this section describe the basic operating sequence, from when the product power is turned on until the final printed page is delivered to an output bin.

Period (sequence)	Description
Waiting	The period of time from when the product power is turned on until the main motor or drum motor 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 product.
Standby	The period of time from the end of the waiting sequence or from the end of the last rotation until a print command is received from the host computer or until the product power is turned off.
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 positive bias on the transfer-charging roller is turned off.
Last rotation	The period of time from the completion of the print job until the main motor or drum motor 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 (sent by the host computer), then the product returns to the initial rotation period. If no print jobs are waiting, then the product returns to the standby period.

Sequence of operation (scanner)

Period (sequence)	Description
Power on	During this time, the scanner motors rotate, the product checks the status of all the sensors, the scanner lamp is illuminated, the optical scan head moves from its home position, the scanner calibrates, and then the optical scan head returns to its home position.
Initialization	The period of time after the initial power-on sequence and before the product is ready to scan or copy. During this time, the scanner and document feeder initialization is completed, scanner calibration is performed, and the document feeder checks for media in the input tray.
Standby	The period of time from the end of the initialization sequence until a request for a scan. During this time, the product might go into Sleep mode and the scan carriage rests in its home position.
Scan	The period of time immediately following a request for a scan. The scanner fan turns on, the scan start position is adjusted, the product performs the scan, and data is sent to the formatter.

Formatter-control system

The formatter is responsible for the following procedures:

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

The formatter receives a print job from the network or 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 one EIO card, one memory DIMM, two USB host ports, the hard-disk accessory, and the optional analog fax accessory.

Sleep delay

This feature conserves power after the product has been idle for an adjustable period of time. When the product is in [Sleep Delay](#), the control-panel backlight is turned off, but the product retains all settings, downloaded fonts, and macros. The default inactivity setting is for [Sleep Delay](#) is 15 minutes.

The product exits [Sleep Delay](#) and enters the warm-up cycle when any of the following events occurs:

To change the inactivity setting for the [Sleep Delay](#) function, see the [Energy Settings](#) item in the [General Settings](#) sub menu in the [Administration](#) menu.

- A print job, valid data, or a PML or PJJ command is received
- A control-panel button is pressed or you touch the touchscreen
- A cover or door is opened
- A paper tray is opened
- The engine-test switch is pressed



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

Image Resolution Enhancement technology



NOTE: Resolution Enhancement technology (REt) settings that are sent from software programs or product drivers override the control-panel settings.

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

REt produces print output with smooth angles, curves, and edges. All print resolutions, including FastRes 1200, benefit from using REt.


- ProRes 1200: produces 12000 dpi printing for the best quality in line art and graphic images.
- FastRes 1200: produces 1200 dpi print quality for fast, high quality printing of business text and graphics.

Input/output

The product receives print data primarily from the embedded HP Jetdirect print server. The product also has a USB device port for connecting directly to a computer, and two USB host ports for connecting third-party devices.

Memory

The formatter has 1.25 GB of on-board RAM.

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

Hard disk

Depending on model, the product has a solid state hard drive or HP Encrypted High Performance Hard Disk Drive installed. The hard disk can permanently store fonts and forms, make multiple original prints, and accommodate job-storage features.

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.

Firmware

The firmware is stored on the hard disk drive (HDD) or the solid-state drive (SDD) depending on product model. Some data elements are stored in the random access memory (RAM) on the formatter. A firmware upgrade is available that over writes the data on the disk drive.

Nonvolatile memory

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

HP 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 MEt is available only in PCL mode; it is not functional when printing in PS mode.

CPU

The formatter incorporates a 540 MHz processor.

PJL overview

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

- Two-way communication with the host computer through a network connection or a USB device port. The product can inform the host about the control-panel settings, and the control-panel settings can be changed from the host.
- Dynamic I/O switching. The product uses this switching to be configured with a host on each I/O. The product can receive data from more than one I/O simultaneously, until the I/O buffer is full. This can occur even when the product is offline.
- Context-sensitive switching. The product can automatically recognize the personality (PS or PCL) of each job and configure itself to serve that personality.
- Isolation of print environment settings from one print job to the next. For example, if a print job is sent to the product in landscape mode, the subsequent print jobs print in landscape only if they are formatted for landscape printing.

PML

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

Control panel

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

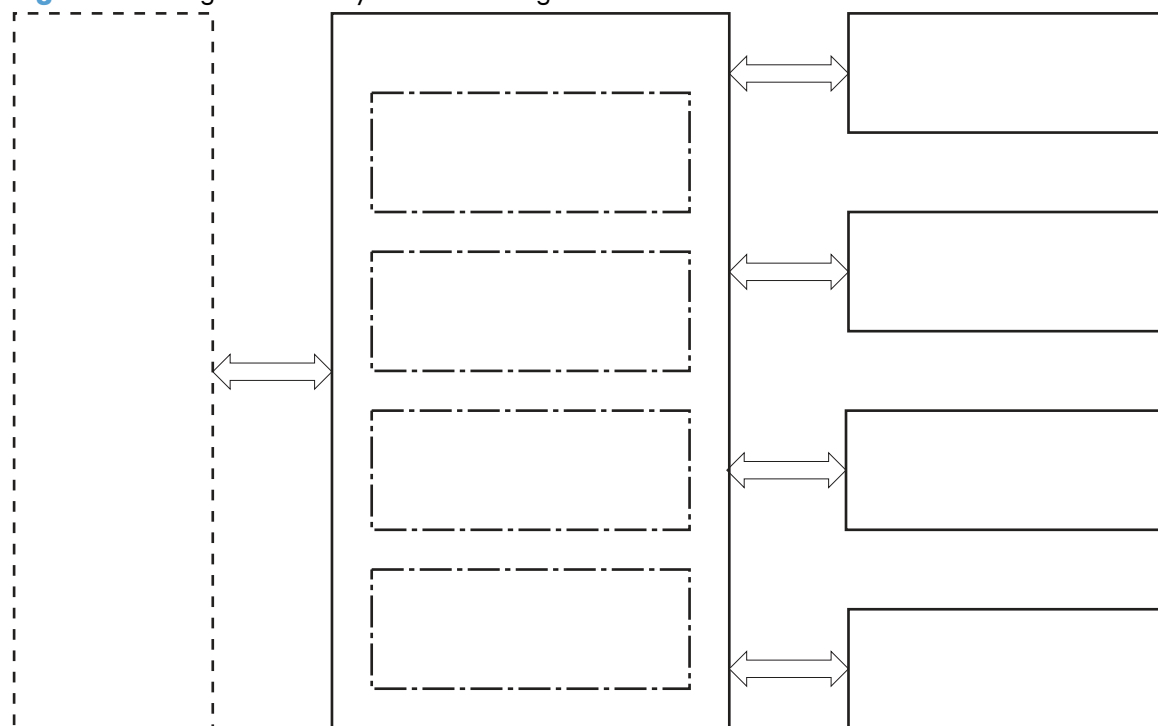
Scanner interface

The formatter receives data from the scanner to produce copies and to send scanned data in e-mail format.

Engine-control system

The control system consists of four components: the high-voltage power supply (HVPS), the low-voltage power supply (LVPS), the fuser control, and the DC controller. This system controls the laser/scanner, image-formation, and pickup-and-feed systems. The microprocessor on the DC controller PCA controls the operating sequence of the product.

Figure 1-1 Engine control system block diagram

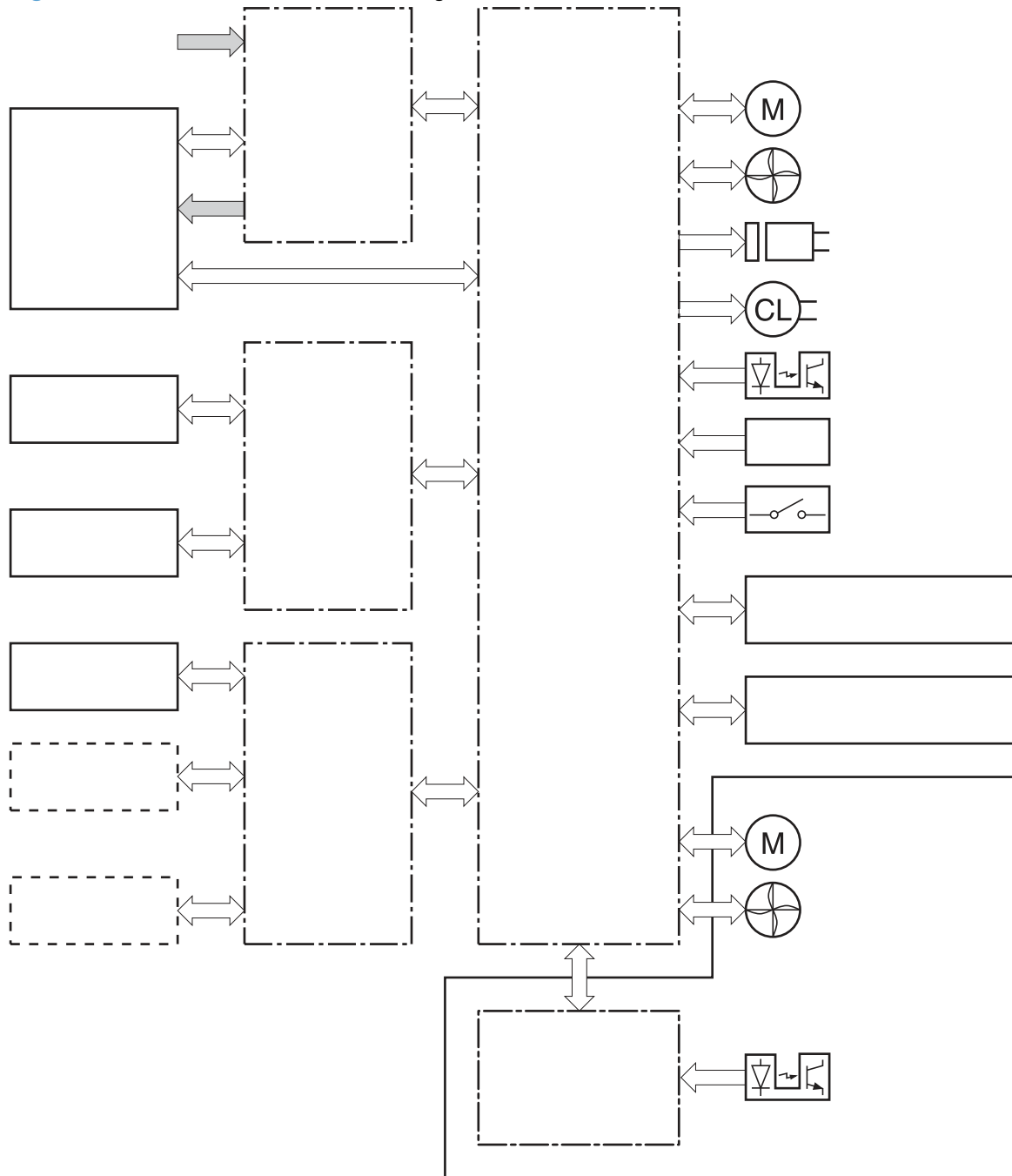


DC controller PCA

The DC controller PCA controls the operation of the product and its components. The DC controller PCA starts the product operation when the product power is turned on and the power supply sends DC voltage to the DC controller PCA. After the product enters the standby sequence, the DC controller PCA sends out various signals to operate motors, solenoids, and other product components based on the

print command and image data that the host computer sends. [Figure 1-2 DC controller PCA block diagram on page 8](#) illustrates the DC controller function.

Figure 1-2 DC controller PCA block diagram



Motors and fans

The product has nine motors: two brush-less DC motors, one DC motor that has brushes, seven fan motors, and three stepping motors. The product print engine also has seven cooling fans.

Motor and fan functions

NOTE: The DC controller monitors the feed motor, drum motor, and fuser motor to determine motor failure. The DC controller does not determine if the intermediate switchback motor, the switchback motor, the delivery motor, or the duplex re-pickup motor has failed, therefore a jam occurs when one of these motors fails.

NOTE: The DC controller determines a fan failure and notifies the formatter when the fan locks for a specified period from when the fan starts up.

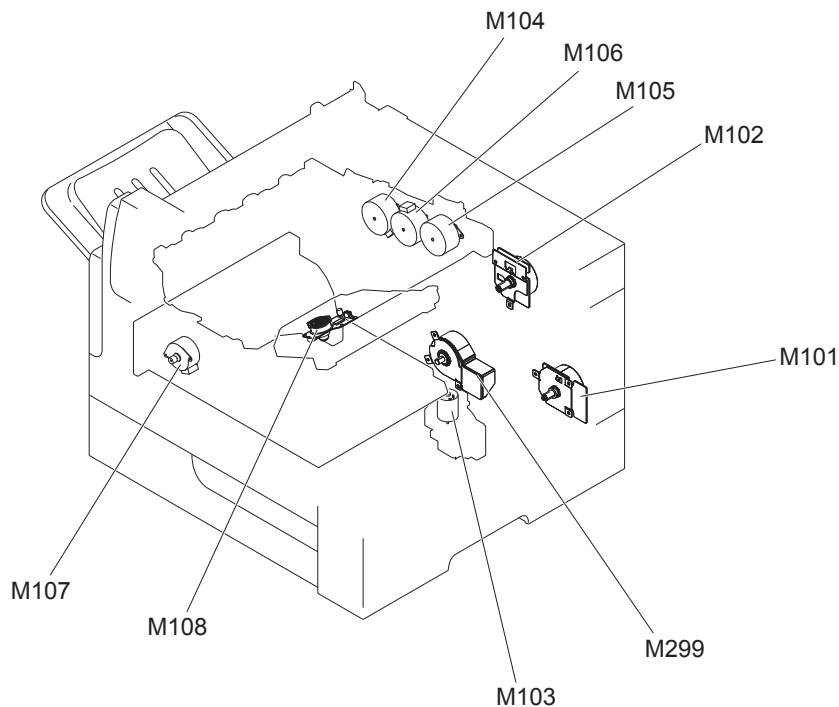


Table 1-1 Print-engine motor and fans

Name	Purpose
Feed motor (M101)	Drives the following rollers: cassette pickup roller, MP tray pickup roller, feed roller, and rollers for the input accessory
Drum motor (M102)	Drives the transfer-charging roller, photosensitive drum, and developing cylinder
Cassette lifter motor (M103)	Moves the lifting plate
Intermediate switchback motor (M104)	Drives the intermediate switchback roller
Switchback motor (M105)	Drives the switchback roller
Delivery motor (M106)	Drives the intermediate delivery roller and the delivery roller
Duplex re-pickup motor (M107)	Drives the duplex feed roller
Scanner motor (M108)	Drives the scanner mirror
Fuser motor (M299)	Drives the pressure roller and fuser delivery roller. Pressurizes or releases the pressure roller

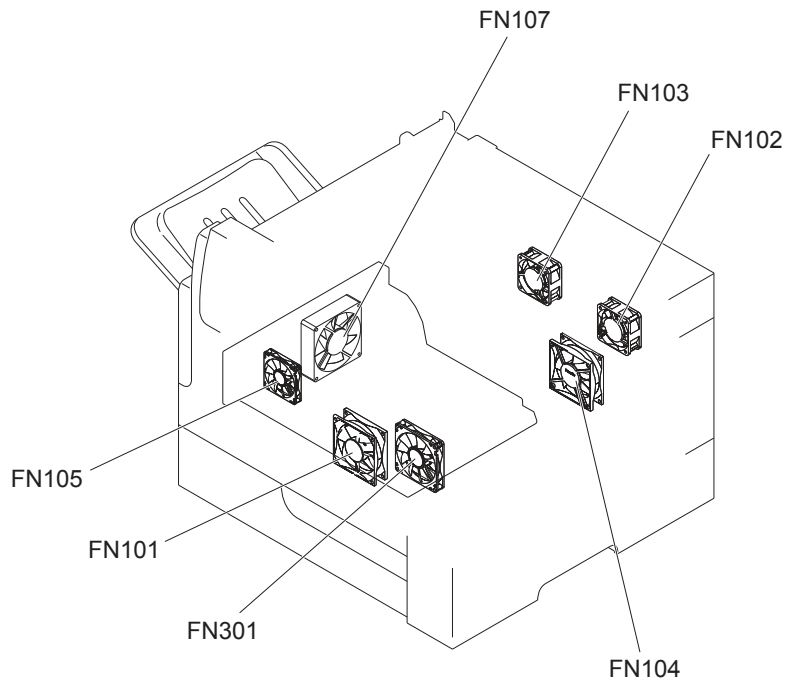


Table 1-2 Print-engine fans

Name	Cooling area	Type	Motor speed	Failure detection
Main fan (FN101)	Cartridge area, engine power supply area and laser scanner area	Intake	2-speed	Yes
Laser scanner fan (FN102)	Laser scanner fan	Intake	1-speed	Yes
Cartridge front side fan (FN103)	Cartridge area	Intake	1-speed	Yes
Low-voltage power supply fan (FN104)	Low-voltage power supply area	Intake	2-speed	Yes
Switchback fan (FN105)	Switchback area	Intake	1-speed	Yes
Duplex fan (FN107)	Duplex feed area	Intake	1-speed	Yes
Cartridge fan (FN301)	Cartridge area	Intake	1-speed	Yes

Ambient-temperature detection

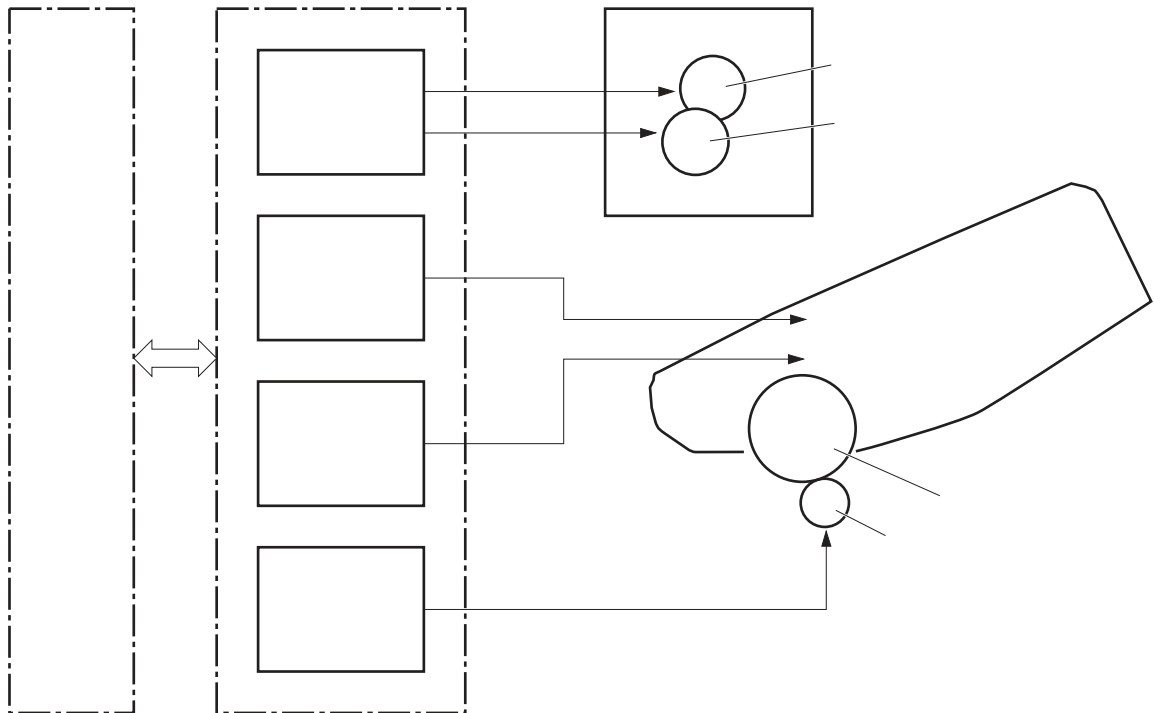
The product contains an environmental sensor that measures the air temperature of the surrounding environment. The product automatically adjusts the temperature settings in the fuser to adjust for changes in the ambient temperature.

High-voltage power supply

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

- Primary charging roller
- Developing roller
- Transfer roller
- Fuser sleeve
- Pressure roller

Figure 1-3 High-voltage power supply



The primary charging bias is used to charge the surface of the photosensitive drum evenly to prepare for image formation. The primary charging bias circuit generates the bias.

The developing bias is used to adhere toner to an electrostatic latent image formed on the photosensitive drum. The developing bias circuit generates the bias.

The transfer bias is used to transfer the toner from the photosensitive drum onto the paper. The transfer bias circuit generates the bias. The transfer bias is used to transfer the toner from the photosensitive drum onto the paper. The transfer bias circuit generates the bias.

The fuser bias is used to stabilize the paper-feed and improve the print quality. The fuser bias circuit generates the bias.

Fuser control

The fuser heater control circuit and the fuser heater safety circuit control the fuser temperature according to commands from the DC controller. The product uses an on-demand fusing method.

Figure 1-4 Fuser components

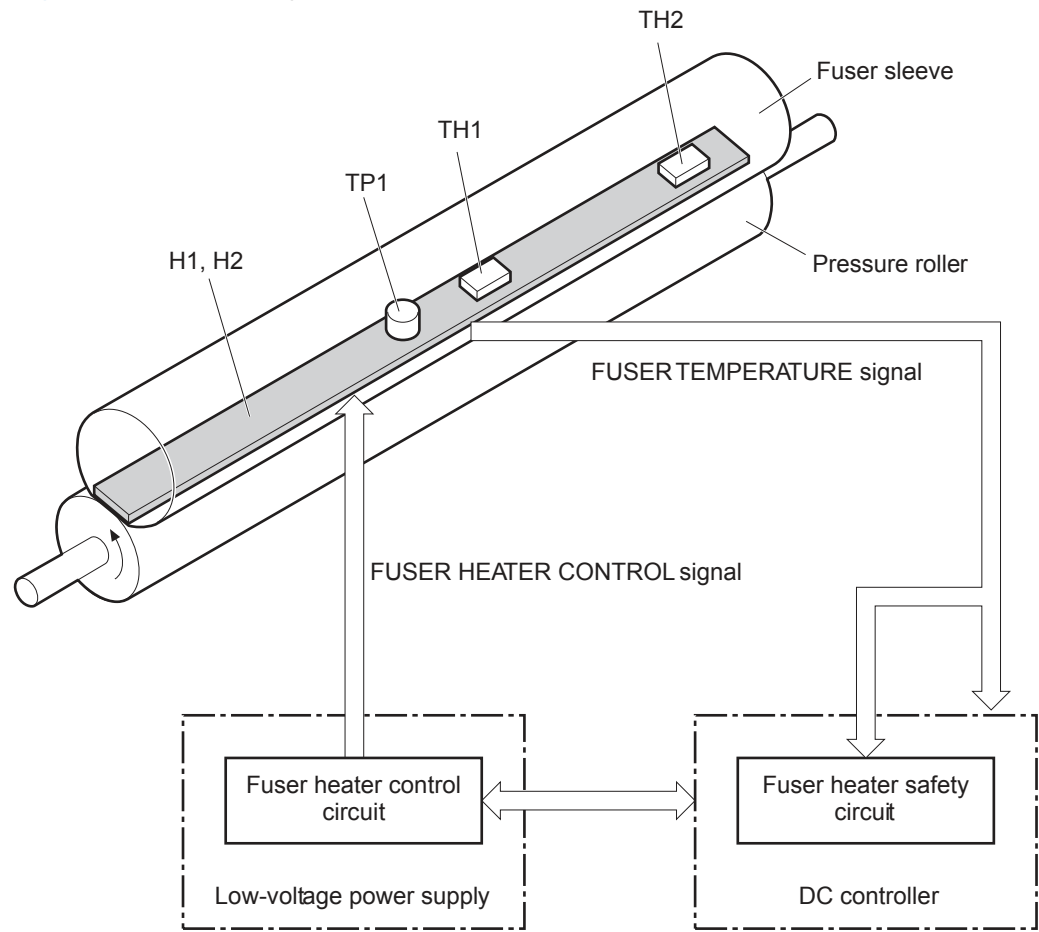


Table 1-3 Fuser components

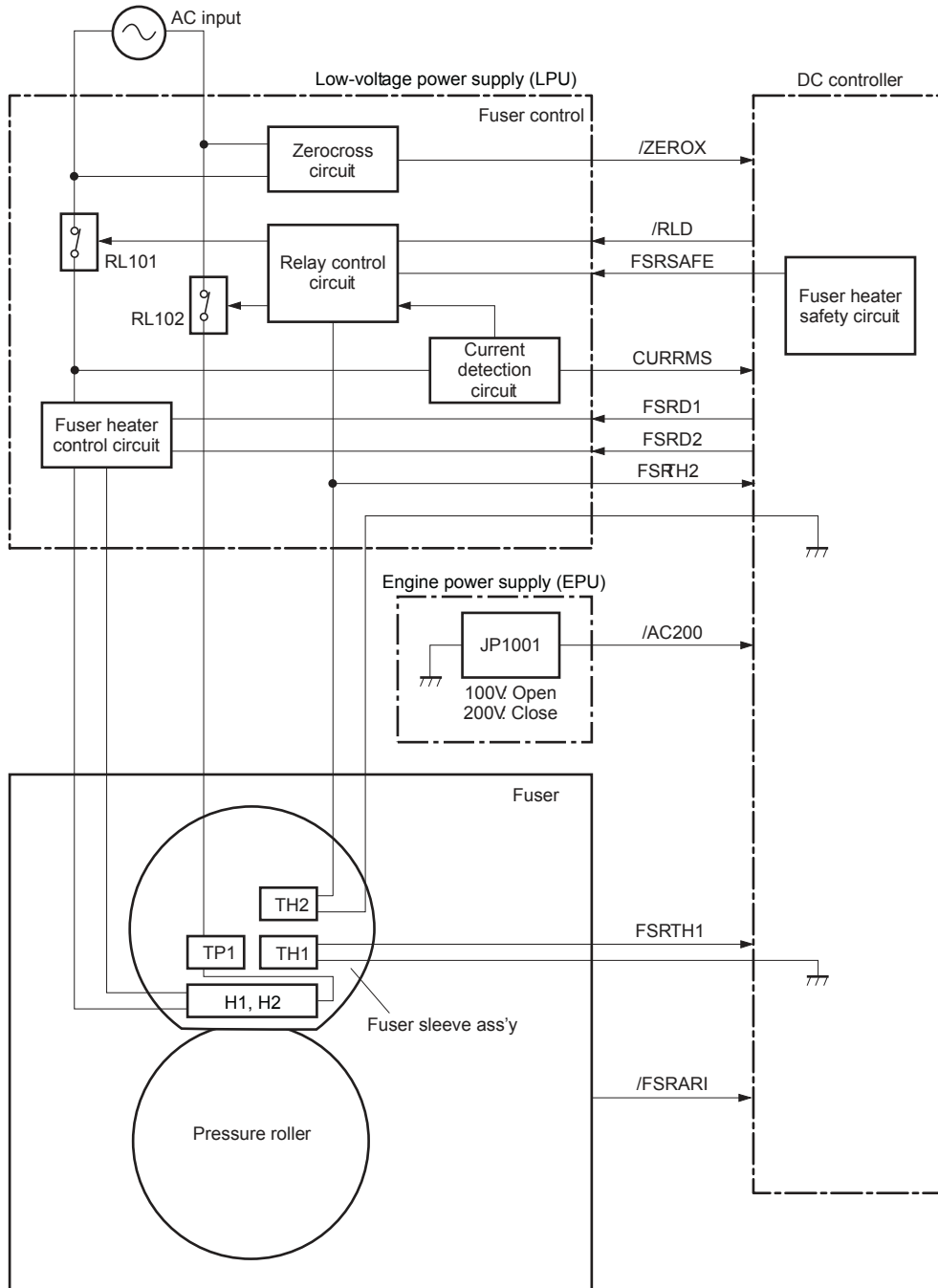
Component name		Function
H1	Fuser main heater	Heats the fuser sleeve
H2	Fuser sub heater	Heats the fuser sleeve
TH1	Main thermistor	Detects the temperature at the center of the fuser heater (Contact type)
TH2	Sub thermistor	Detects the temperature on one end of the fuser heater (Contact type)
TP1	Thermoswitch	Prevents an abnormal temperature rising of the fuser heater (Contact type)

Fuser temperature control

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

The DC controller detects the fuser temperature by monitoring the FUSER TEMPERATURE (FSRTH1 and FSRTH2) signals. The DC controller outputs the FUSER HEATER CONTROL (FSRD1 and FSRD2) signals, so that the fuser heater control circuit controls the fuser heater accordingly.

Figure 1-5 Fuser circuit



- **Fuser heater protection:** The fuser heater protection is a feature to detect excessive temperatures of the fuser and interrupt power supply to the fuser heater.

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

- DC controller
- Fuser heater safety circuit
- Thermoswitch
- **DC controller:** The DC controller monitors the detected temperature of the thermistors. The DC controller deactivates the FUSER HEATER CONTROL signal and releases the relays (RL101 and RL102) to interrupt power supply to the fuser heater when it detects an excessive temperature.
- **Fuser heater safety circuit:** The fuser heater safety circuit monitors the detected temperature of the thermistors. The fuser heater safety circuit deactivates the FUSER HEATER CONTROL signal and releases the relays (RL101 and RL102) to interrupt power supply to the fuser heater when it detects an excessive temperature.
- **Thermoswitch:** If the temperature of the fuser heater is abnormally high, the contact of the thermoswitch breaks to interrupt power supply to the fuser heater.

Fuser failure detection


The DC controller determines if the fuser functions properly. The DC controller determines a fuser failure, interrupts power supply to the fuser heater and notifies the formatter of a failure status when it encounters any of following conditions:

- Abnormal temperature rise
 - The main thermistor does not detect 15°C (59°F) or higher within a specified period from when the fuser heater is turned on.
 - The main thermistor does not detect 100°C (212°F) or higher within a specified period from when the fuser heater is turned on.
 - The main thermistor does not detect targeted temperature minus 5°C (41°F) within a specified period from when the fuser heater is turned on.
- Abnormally low temperature
 - The main thermistor detects 49°C (120.2°F) or lower continuously for a specified period after it once detects 100°C (212°F) or higher.
 - The main thermistor detects targeted temperature minus specified degrees or lower continuously for a specified period after the TOP signal for the first page is output.
 - The sub thermistor detects 49°C (120.2°F) or lower continuously for a specified period after it once detects 100°C (212°F) or higher.
- Abnormally high temperature
 - The main thermistor detects 255°C (491°F) or higher.
 - The sub thermistor detects 285°C (545°F) or higher.

- Frequency detection circuit failure
 - The ZEROCROSS signal is not detected within a specified period after the product is turned on.
- Fuser-presence detection

The DC controller determines if the fuser is installed in the product. The DC controller detects a fuser-presence according to the FUSER PRESENCE (/FUSERARI) signal when any of the following occurs:

 - The product is turned on.
 - The door is closed.

 **NOTE:** The DC controller notifies the formatter when it detects a fuser absence.

Other functions

The pressure roller cleaning clears the toner accumulated on the pressure roller surface by transferring it to the paper according to a command from the formatter. The operational sequence of the pressure roller cleaning is as follows.

Pressure roller cleaning

1. The DC controller picks up the paper from the designated input source when it receives a cleaning command from the formatter.
2. The fuser motor repeatedly drives-and-stops at interval when the trailing edge of paper passes through the transfer roller. The fuser heater is turned on-and-off at the same time.
3. The toner adhered to the pressure roller surface is fused onto the paper. Accordingly, the pressure roller is cleaned.
4. The paper with the fused toner is delivered out of the product.

Low-voltage power supply

The low-voltage circuit converts the AC power from the power source into the direct current voltage (Vdc) that the product components use.

Figure 1-6 Low-voltage power supply circuit

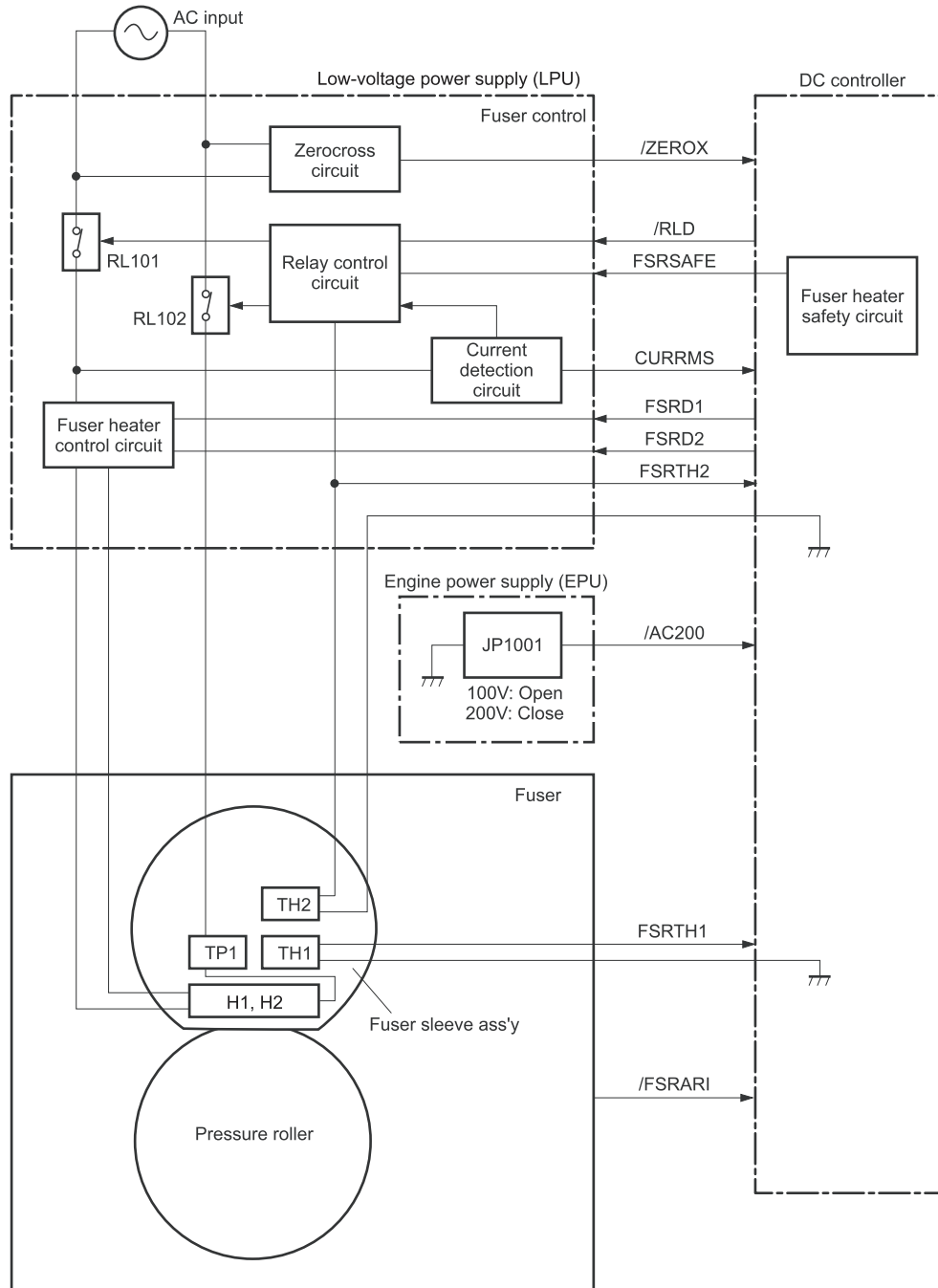


Table 1-4 Low-voltage power supply specifications

	DC voltage	Behavior
+24v	+24VA	Constantly supplied
		Stopped during Sleep mode
	+24VB	Interrupted when the top door opens
+12V	+12U	Constantly supplied
+5V	+5V	Constantly supplied
+3.3V	+3.3V	Constantly supplied
	+3.3R	Constantly supplied
		Stopped during Sleep mode

Overcurrent/overvoltage protection

The low-voltage power supply automatically stops supplying the DC voltage to the product components whenever it detects excessive current or abnormal voltage.

The low-voltage power supply has a protective circuit against overcurrent and overvoltage to prevent failures in the power supply circuit

If DC voltage is not being supplied from the low-voltage power supply, the protective function might be running. In this case, turn off the power switch and unplug the power cord. Do not turn on the product switch until the root cause is found and corrected.

The DC controller determines a low-voltage power supply failure and notifies the formatter when the protective function for the +24V power supply runs.

In addition, the low-voltage power supply has two fuses (FU1 and FU2) to protect against overcurrent. If overcurrent flows into the AC line, the fuse blows to stop AC power.

Safety

For safety the product interrupts the power supply of +24 V by turning off the interlock switch.

See [Table 1-4 Low-voltage power supply specifications on page 17](#). Accordingly, the DC power to the following components is interrupted:

- High-voltage power supply
- Low-voltage power supply
- Laser scanner fan (FN102)
- Cartridge front side fan (FN103)
- Switchback fan (FN105)
- Cartridge fan (FN301)

Sleep mode

The Sleep mode reduces the power consumption of the product.

The DC controller turns off the switching circuit and stops the power supply of +24V according to the SLEEP (/KYOSRMT) signal.

The DC controller determines a low-voltage power supply failure and notifies the formatter if the power supply of +24V is lower than a specified value when the product exits Sleep mode and enters Standby mode.

Power supply detection

The power supply detection is a feature to control the fuser depending on the power supply voltage.

The DC controller detects the power supply voltage connected to the product according to the POWERSUPPLY VOLTAGE (/AC200) signal.

The DC controller determines a low-voltage power supply failure and notifies the formatter when the power supply voltage is out of a specified value.

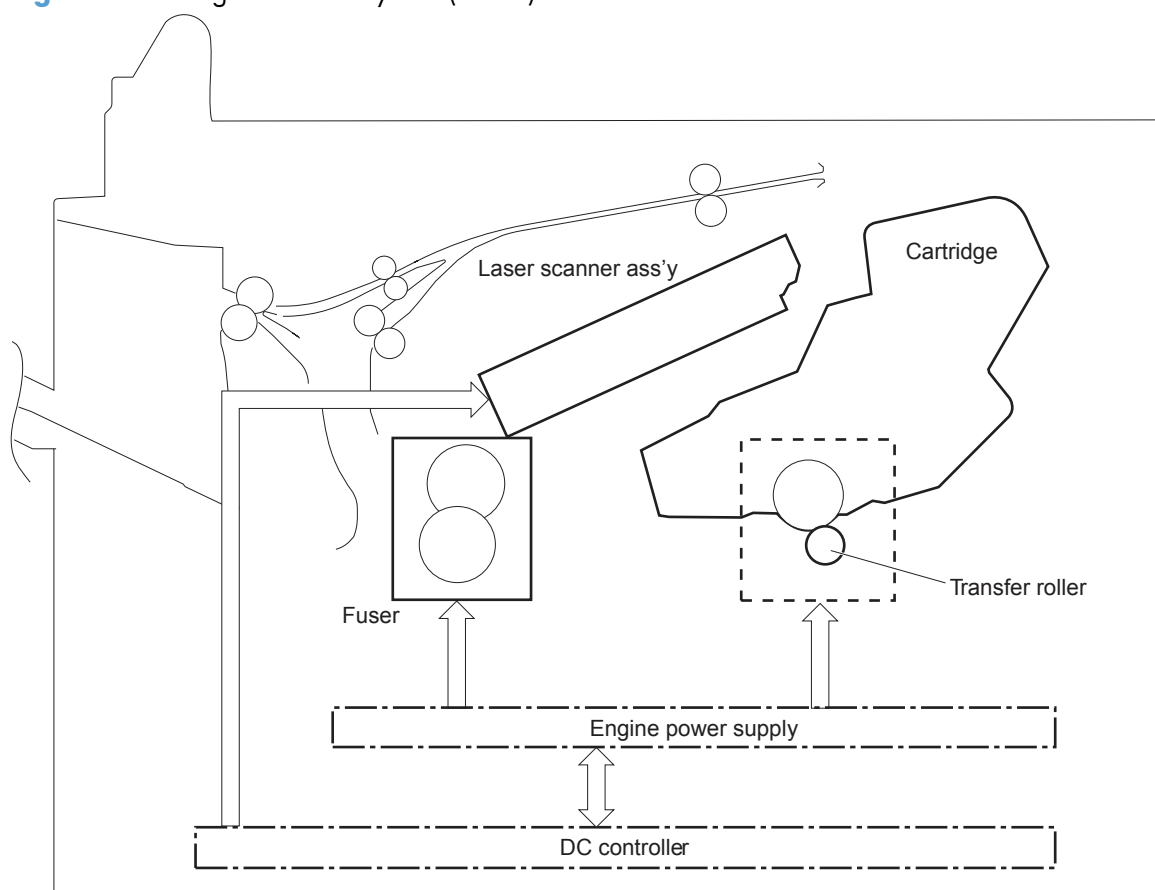
Image-formation system

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

The following are the main components of the image-formation system:

- Print cartridge
- Transfer roller
- Fuser
- Laser/scanner assembly
- Engine power supply

Figure 1-7 Image-formation system (1 of 2)



The DC controller rotates the drum motor to drive the following components:

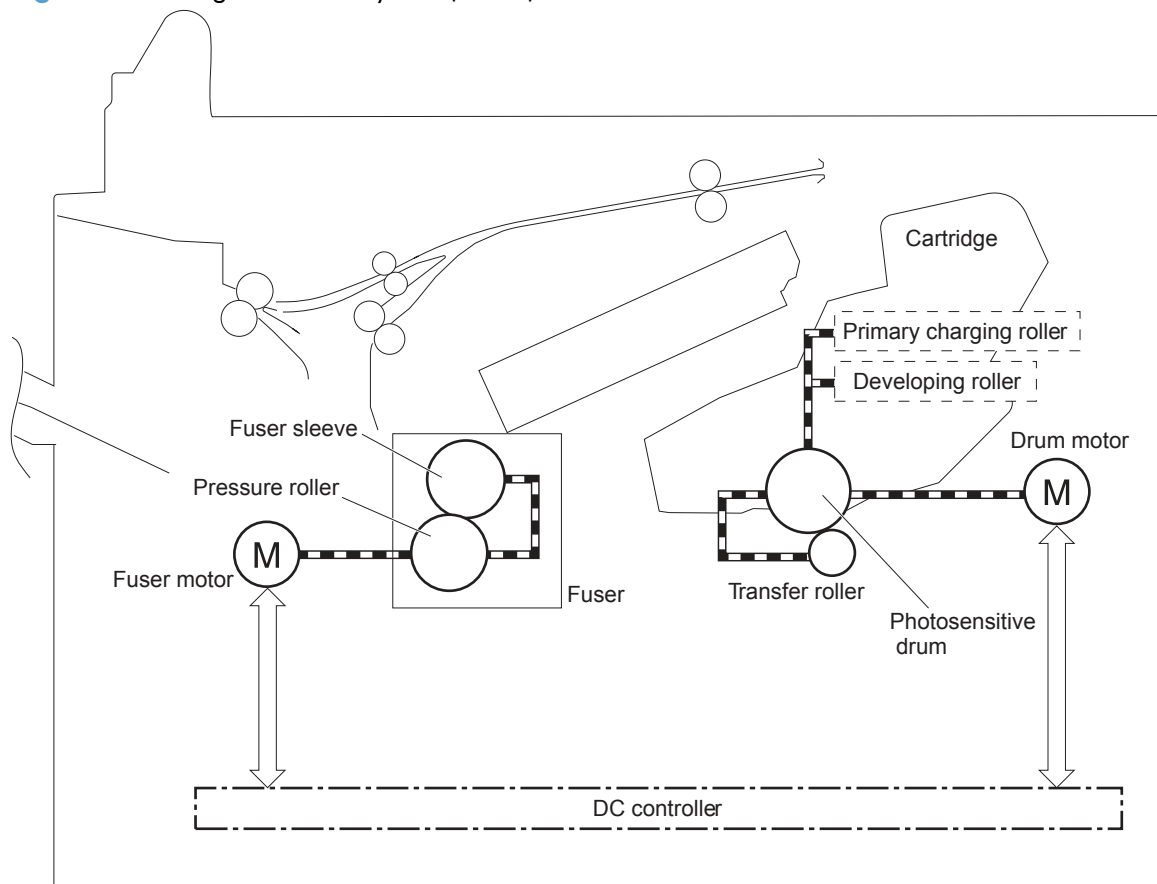
- Photosensitive drum
- Developing roller

- Primary charging roller (follows the photosensitive drum)
- Transfer roller (follows the photosensitive drum)

The DC controller rotates the fuser motor to drive the following components:

- Pressure roller
- Fuser sleeve (follows the pressure roller)

Figure 1-8 Image-formation system (2 of 2)

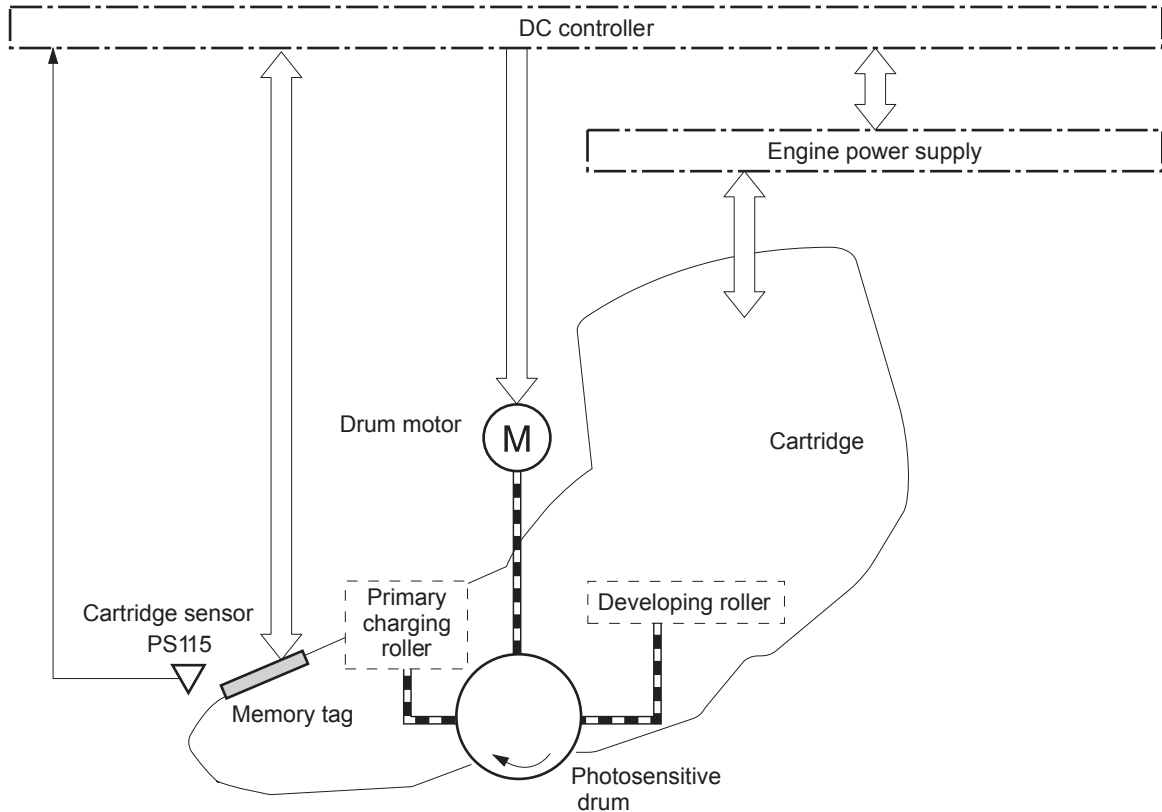


Print cartridge

The cartridge consists of a reservoir of toner and the following components:

- Photosensitive drum
- Developing roller
- Primary charging roller
- Memory tag

Figure 1-9 Print Cartridge



Memory tag

The memory tag is a non-volatile memory in the cartridge and the DC controller controls the memory tag.

The DC controller reads and writes the data in the memory tag to detect or to save the information about usage for the cartridge.

The DC controller determines a memory tag error and notifies the formatter when it fails to either read from or write to the memory tag.

Cartridge-presence detection

The DC controller detects whether the cartridge is installed in the product.

The DC controller determines a cartridge absence by monitoring the cartridge sensor (PS115) when any of the following occurs:

- The product is turned on.
- The door is closed.

The DC controller notifies the formatter when it detects a cartridge absence.

Toner detection

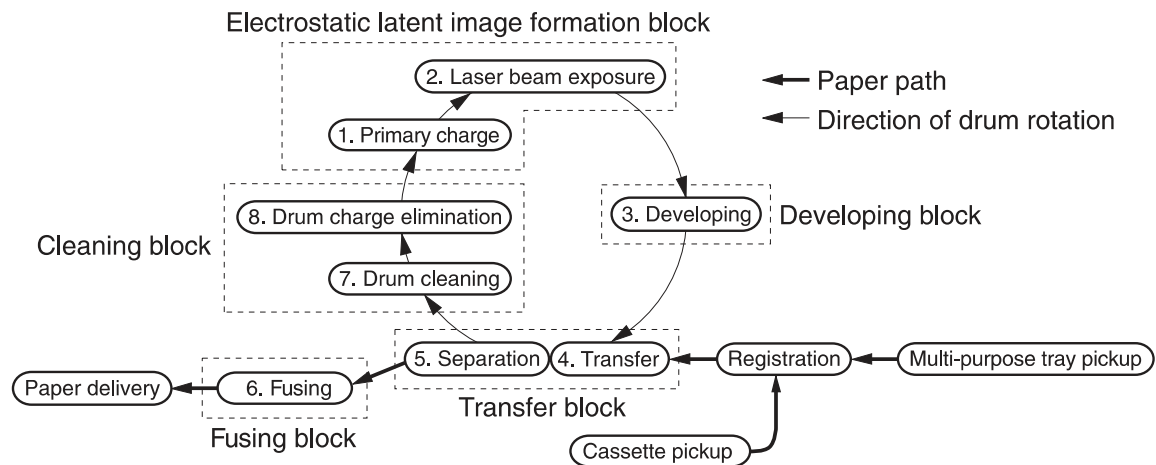
The DC controller detects the remaining toner level in the cartridge according to the TONER LEVEL signal.

The DC controller determines a cartridge low or cartridge out status when the toner level drops below a specified level and notifies the formatter.

Electrophotographic process

The electrophotographic process (image formation) is divided into stages.

Figure 1-10 Stages of image-formation

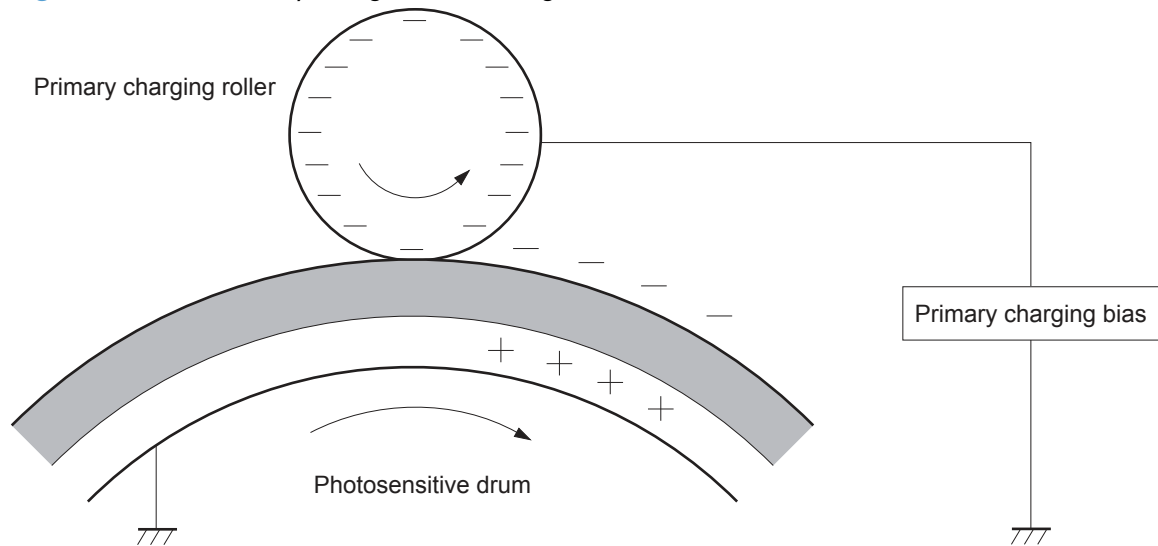


1. Primary charge (conditioning)

The primary-charging roller in the print cartridge applies a uniform negative charge to the surface of the drum. The primary-charging roller is made of conductive rubber. An AC bias is applied to the roller to

erase any residual charges from any previous image. A negative DC bias is applied by the charging roller to create a uniform negative potential on the drum surface.

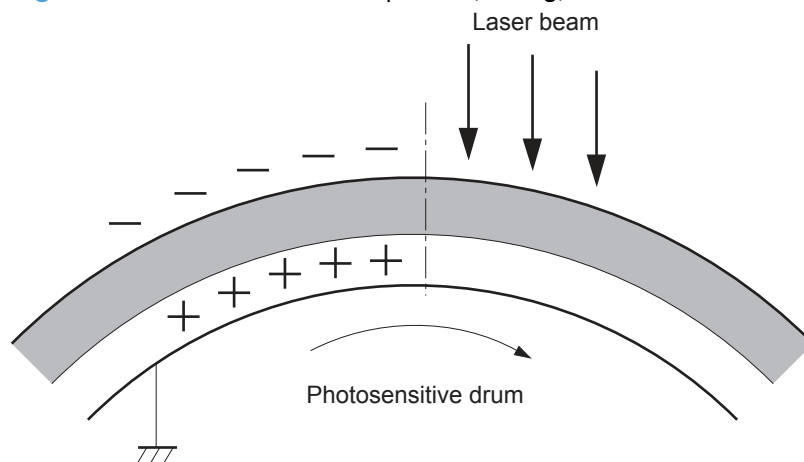
Figure 1-11 1. Primary charge (conditioning)



2. Laser-beam exposure (writing)

Two laser diodes project laser beams onto a rotating scanning mirror. As the mirror rotates, the beams reflect off of the mirror, first through a set of focusing lenses, then off a mirror, and finally through a slot in the top of the toner cartridge, and onto the photosensitive drum. The twin 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 1-12 2. Laser-beam exposure (writing)

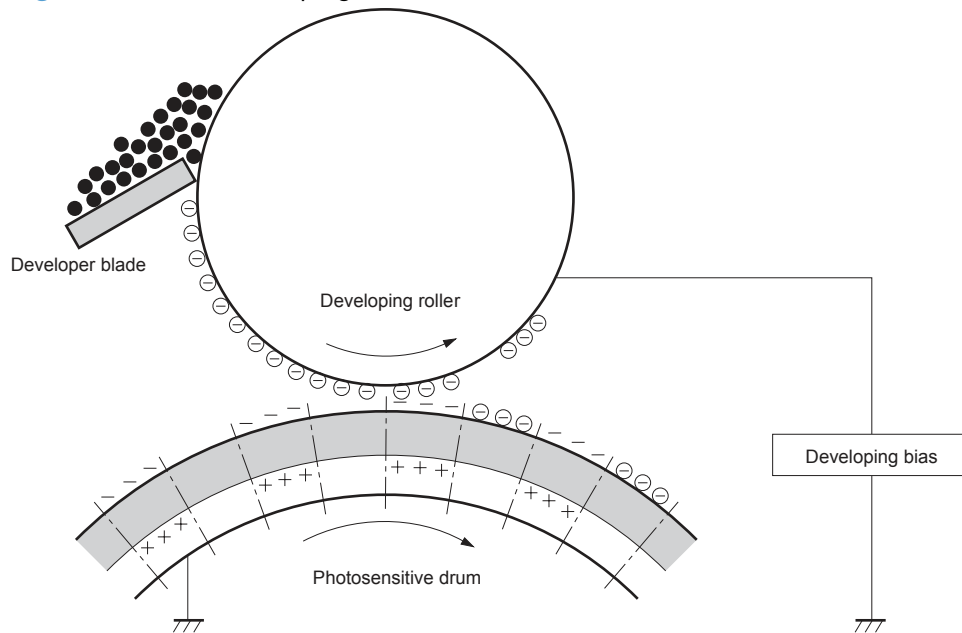


3. Developing

At this stage of the process, the latent electrostatic image is present on the drum. 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 of the drum, and is repelled from the negatively charged (unexposed) areas.

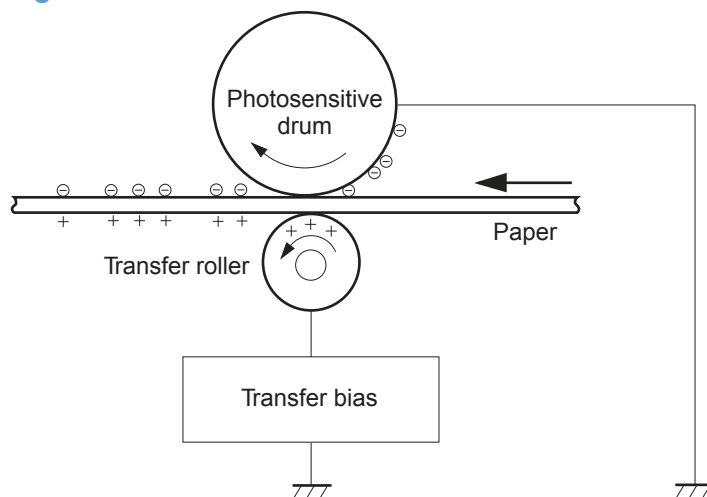
Figure 1-13 3. Developing



4. Transfer

During the transfer process, the toner image on the drum surface is transferred to the paper. The transfer charging roller applies a positive charge to the back of the paper and causes the negatively charged toner on the drum surface to be attracted to the paper. After separation, the drum is cleaned and conditioned for the next image.

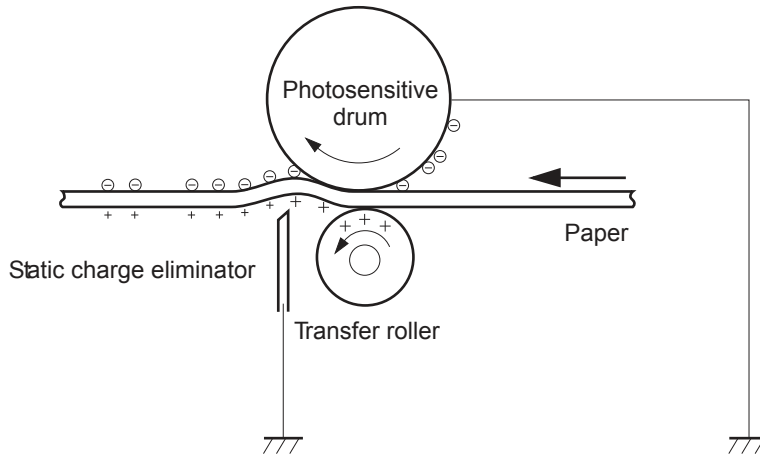
Figure 1-14 4. Transfer



5. Separation

During the separating process, the paper separates from the drum. To stabilize the feed system and to prevent dropouts on the printed image at low temperature and humidity, the static-charge eliminator reduces the charge on the back of the paper.

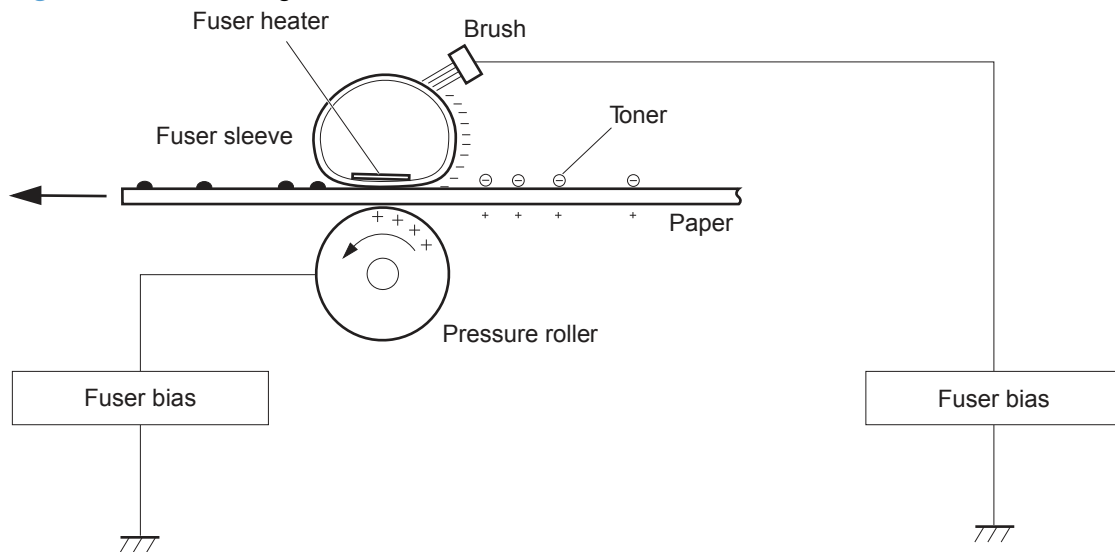
Figure 1-15 5. Separation



6. Fusing

During the fusing process, heat and pressure fuse the toner to the paper in order to produce a permanent image. The paper passes between a heated fuser element and a soft pressure roller. This melts the toner and presses it into the paper.

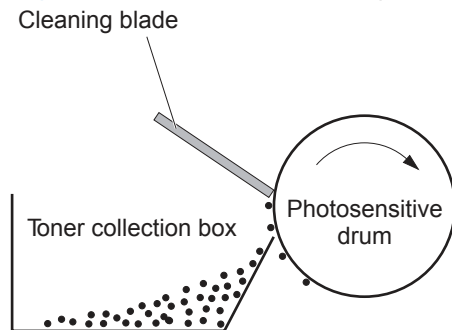
Figure 1-16 6. Fusing



7. Drum cleaning

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

Figure 1-17 7. Drum cleaning



Laser/scanner system

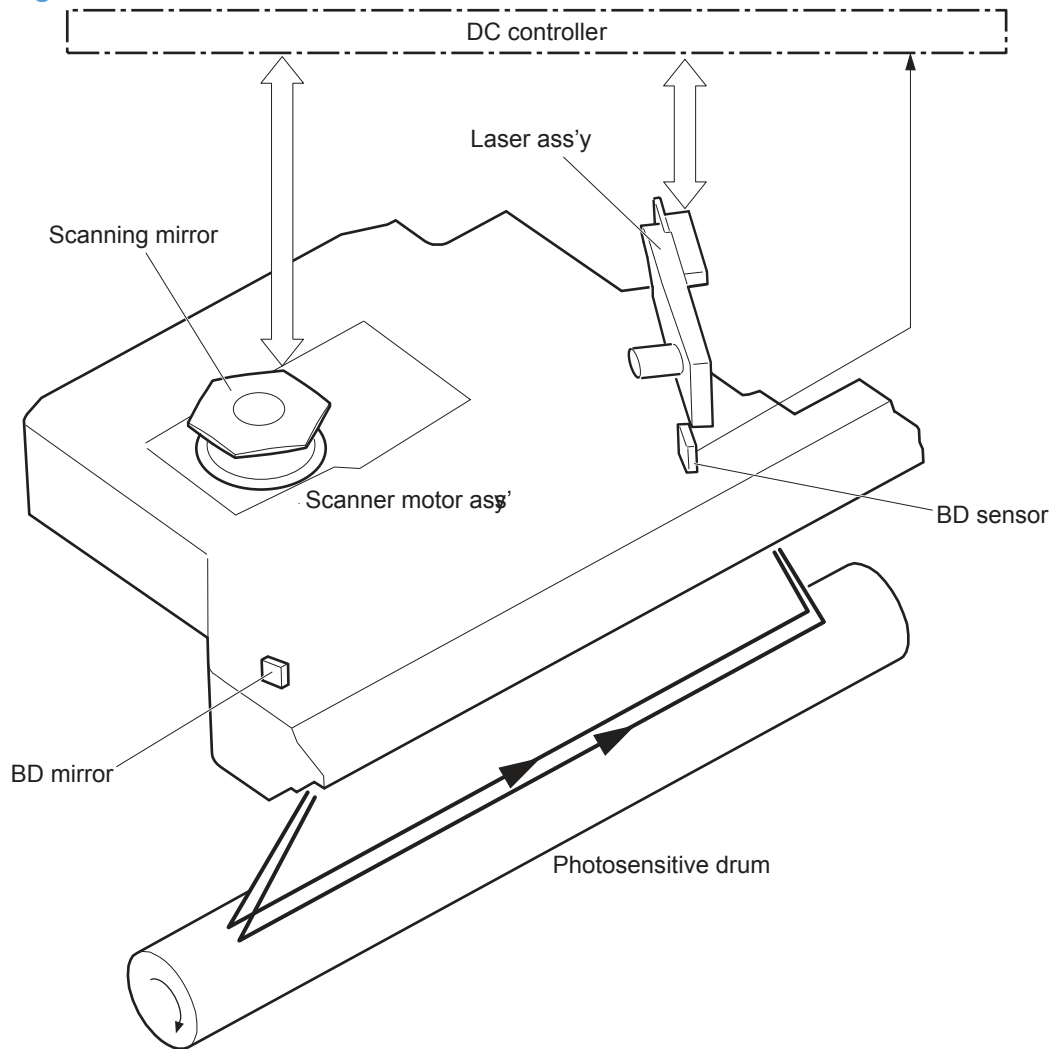
The DC controller controls the laser scanner system according to commands from the formatter. The DC controller controls the internal components in the laser scanner system to form a latent electrostatic image on the photosensitive drum according to the VIDEO signals.

The following are the main components of the laser scanner system:

- Laser assembly
- Scanner motor assembly
- BD sensor

- Scanner mirror
- Beam Detect (BD) mirror

Figure 1-18 Laser/scanner



Laser/scanner assembly failure detection

The DC controller determines an optical unit failure and notifies the formatter of the error status when any of the following occurs:

- BD failure
 - The BD signal is not detected within a specified period from when the laser/scanner starts up.
 - A specified BD interval is not detected within a specified period from when the laser/scanner is ready.
- Laser/scanner motor startup failure
 - The scanner motor does not reach a specified rotation frequency within a specified period from when the laser/scanner starts up.
 - A specified BD interval is not detected within a specified period from when the laser/scanner starts up.
- Laser/scanner motor abnormal rotation
 - The laser/scanner motor does not reach a specified rotational frequency within a specified period during a print operation.
 - A specified BD interval is not detected within a specified period during a print operation.

Safety

The laser/scanner assembly has a mechanical laser shutter. For user and service technician's safety, the laser shutter interrupts the optical path of the laser/scanner assembly when the top door is opened (SW101).

Pickup, feed, and delivery system

The DC controller controls the pickup, feed, and delivery system according to commands from the formatter.

The pickup, feed, and delivery system is divided into three parts:

- The **pickup and feed block** contains the paper path from each tray and stops at the fuser entrance.
- The **fusing/switchback/delivery block** contains the paper path from the fuser entrance to the output device.
- The **duplex block** contains the paper path to reverse the paper in the duplex reverse area for two-sided printing

Figure 1-19 Pickup, feed, and delivery system

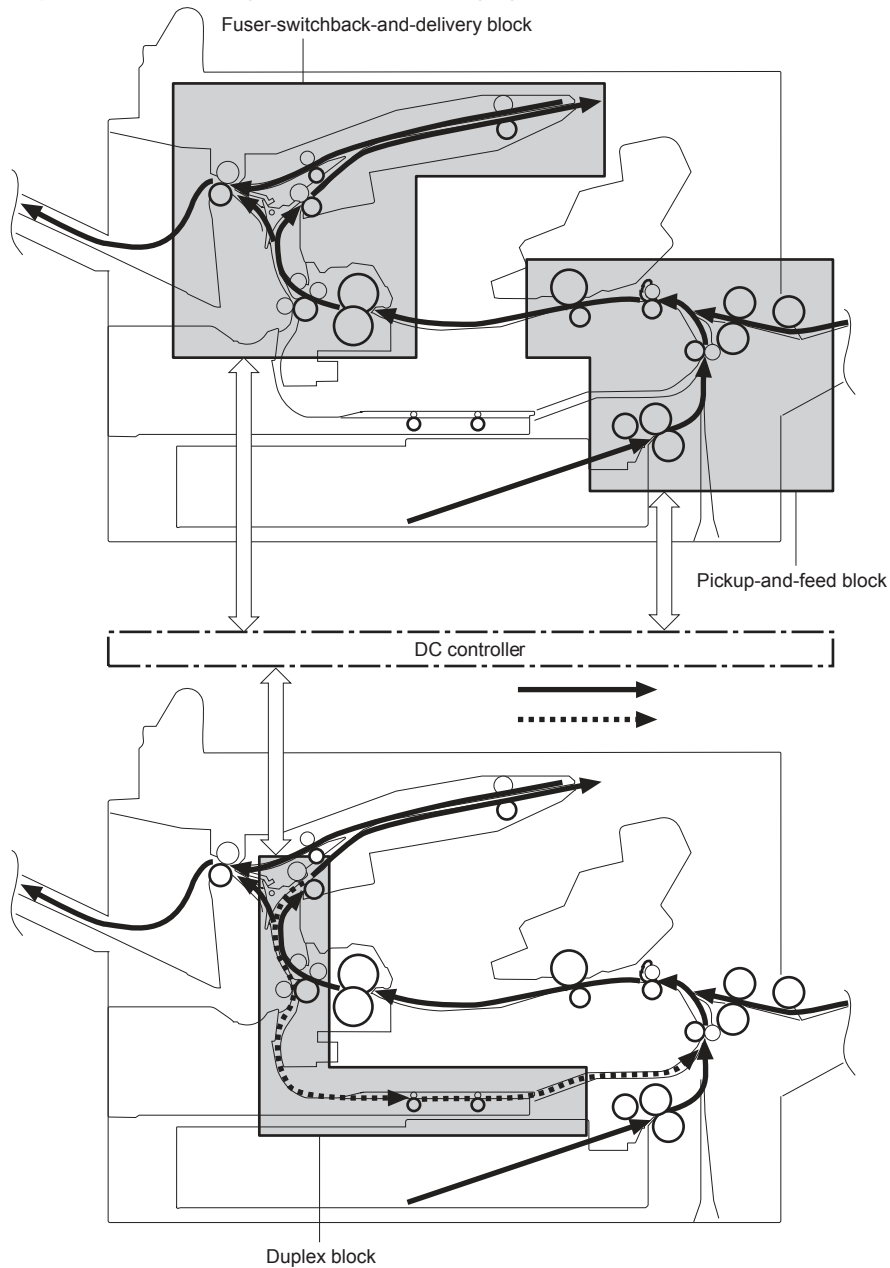
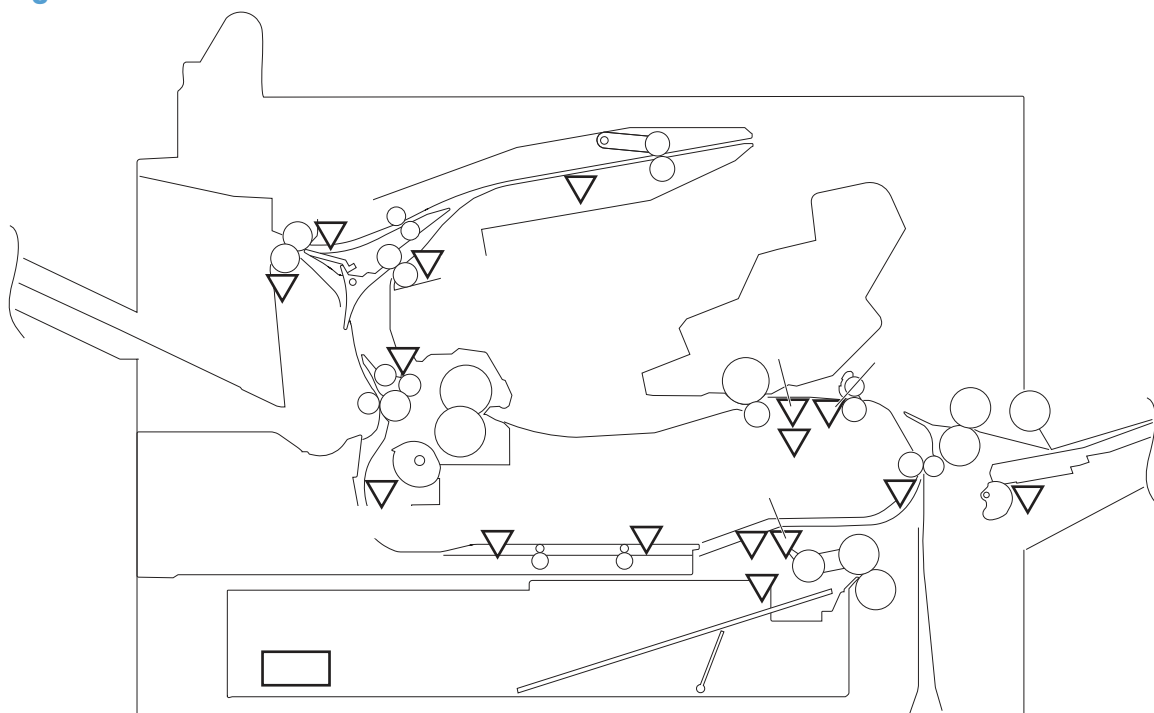
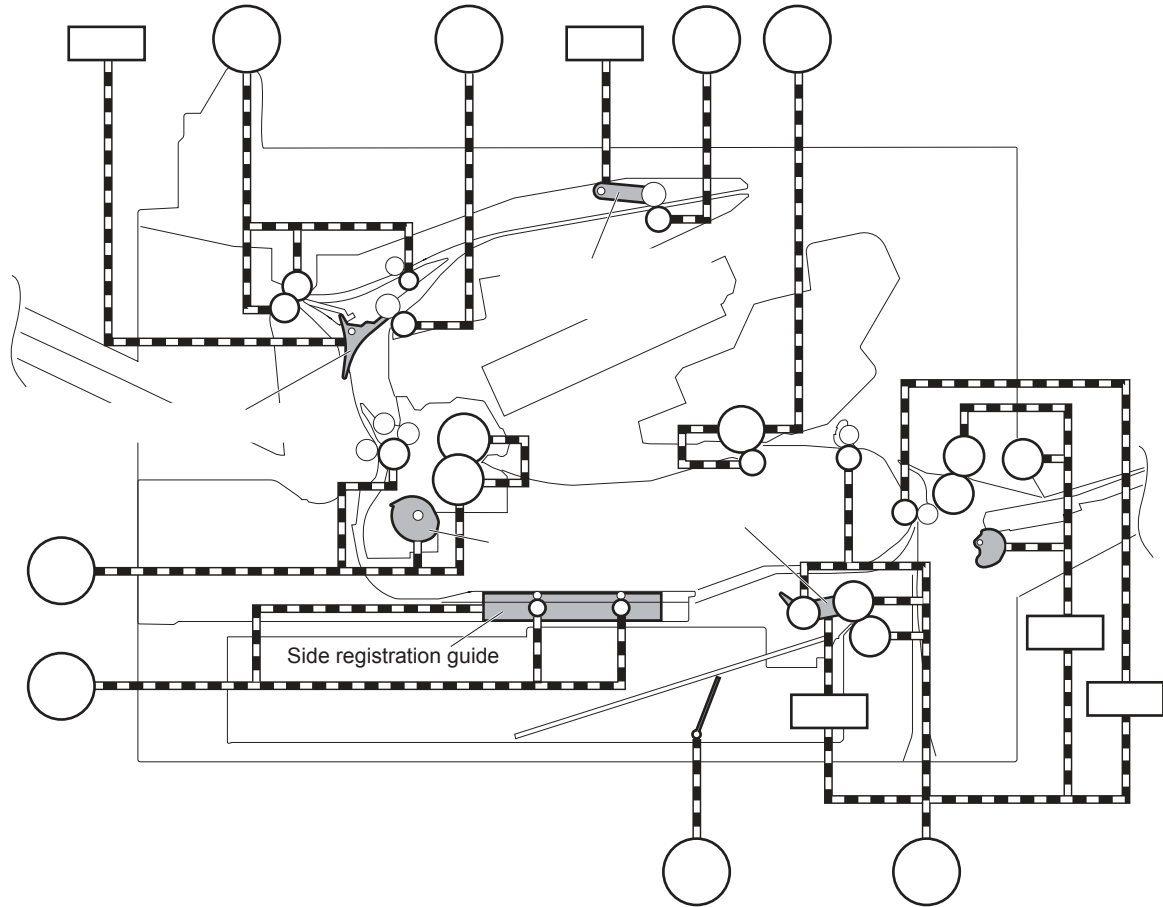


Figure 1-20 Sensor and switch locations



Component		Signal
PS101	Cassette media out sensor	CASSETTE MEDIA OUT signal
PS102	Pre-feed sensor	PRE-FEED signal
PS103	TOP sensor	TOP signal
PS104	Output-bin media-full sensor	OUTPUT BIN MEDIA FULL signal
PS106	Media width sensor 1	MEDIA WIDTH signal 1
PS107	Cassette media stack surface sensor 1	CASSETTE MEDIA STACK SURFACE signal 1
PS108	Media width sensor 2	MEDIA WIDTH signal 2
PS109	Duplex side registration sensor	DUPLEX SIDE REGISTRATION signal
PS110	Switchback sensor	SWITCHBACK signal
PS111	Switchback jam sensor	SWITCHBACK JAM signal
PS112	Delivery sensor	DELIVERY signal
PS113	Duplex re-pickup sensor	DUPLEX RE-PICKUP signal
PS114	MP tray media out sensor	MP TRAY MEDIA OUT signal
PS699	Fuser pressure release sensor	FUSER PRESSURE RELEASE signal
PS700	Fuser output sensor	FUSER OUTPUT signal
PS907	Cassette media stack surface sensor 2	CASSETTE MEDIA STACK SURFACE signal 2
SW102	Cassette media size switch	CASSETTE MEDIA SIZE signal

Figure 1-21 Motor, clutch, and solenoid locations

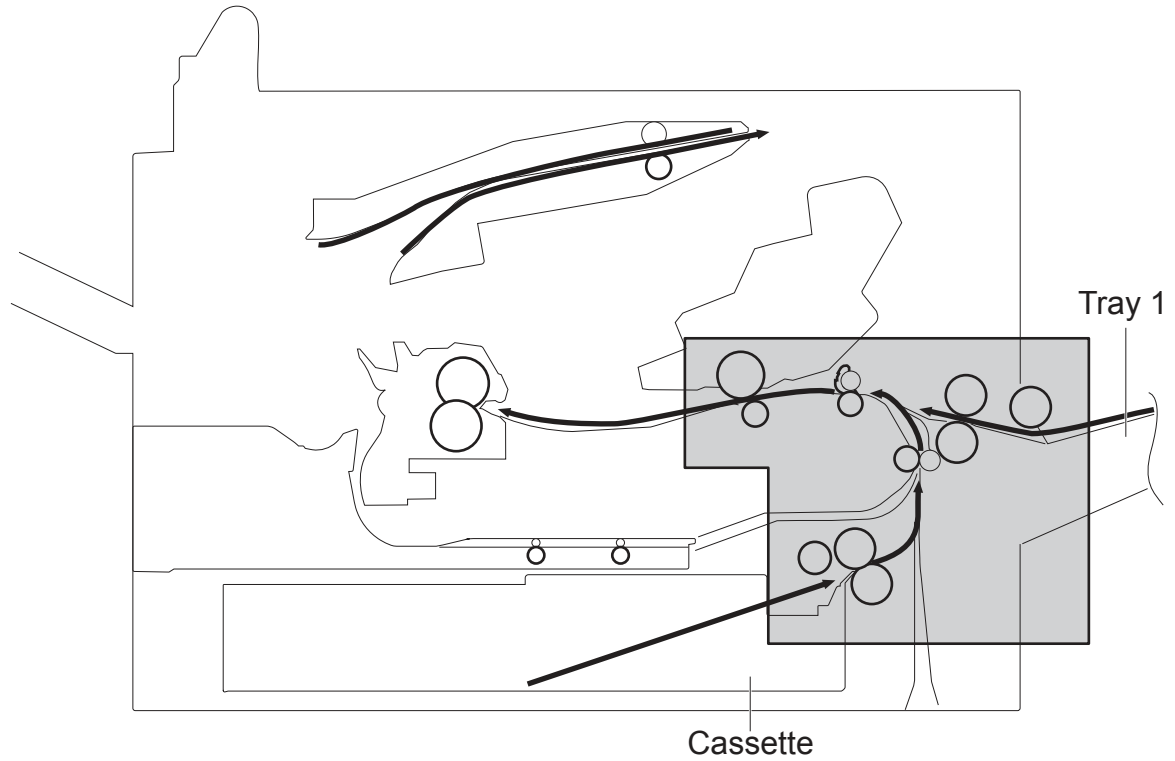


Component		Signal
CL101	Media feed clutch	MEDIA FEED CLUTCH signal
M101	Feed motor	FEED MOTOR CONTROL signal
M102	Drum motor	DRUM MOTOR CONTROL signal
M103	Cassette lifter motor	CASSETTE LIFTER MOTOR CONTROL signal
M104	Intermediate switchback motor	INTERMEDIATE SWITCHBACK MOTOR CONTROL signal
M105	Switchback motor	SWITCHBACK MOTOR CONTROL signal
M106	Delivery motor	DELIVERY MOTOR CONTROL signal
M107	Duplex re-pickup motor	DUPLEX RE-PICKUP MOTOR CONTROL signal
M299	Fuser motor	FUSER MOTOR CONTROL signal
SL101	Cassette pickup solenoid	CASSETTE PICKUP SOLENOID signal
SL102	Tray 1 pickup solenoid	MP TRAY PICKUP SOLENOID signal
SL105	Face-up solenoid	FACE-UP SOLENOID signal
SL106	Switchback roller disengagement solenoid	SWITCHBACK ROLLER DISENGAGEMENT SOLENOID signal

Pickup-and-feed block

The pickup-and-feed block picks one sheet of print-media from the cassette or the MP tray and feeds it into the fuser.

Figure 1-22 Pickup-and-feed block



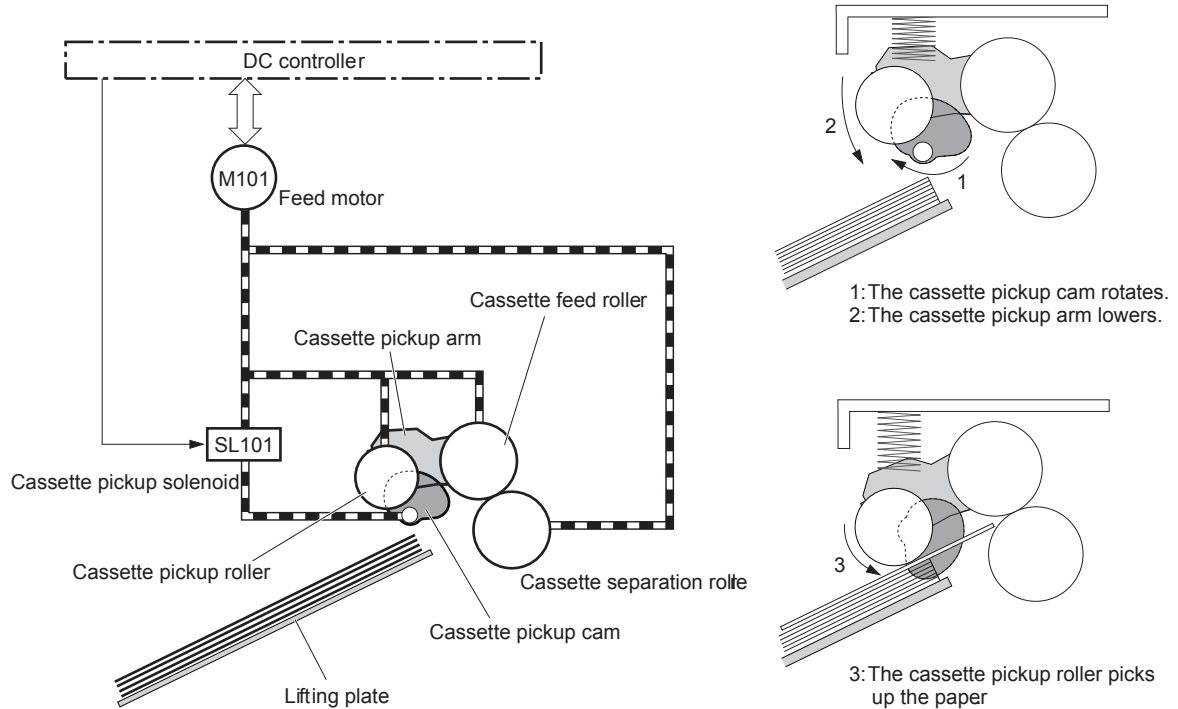
Cassette pickup

The product picks up one sheet of paper from the cassette.

The operational sequence of the cassette pickup is as follows:

1. The DC controller rotates the feed motor when it receives a print command from the formatter.
2. The cassette pickup roller, cassette feed roller, and cassette separation roller rotate.
3. The cassette pickup solenoid is driven at a specified timing.
4. The cassette pickup cam rotates.
5. As the cassette pickup arm lowers, the cassette pickup roller touches the surface of the top paper.
6. The cassette separation roller removes any multiple-fed sheets.
7. One sheet of paper is fed into the product.

Figure 1-23 Cassette pickup



Cassette media-size detection and cassette-present detection

The DC controller determines the size of the paper loaded in the cassette and also whether the cassette is installed in the product by monitoring the cassette media size switch.

The cassette media size switch contains three sub-switches. The DC controller detects the size of the paper and the presence of the cassette according to the combination of the switches.

The DC controller notifies the formatter of a media size mismatch when the detected paper size does not match the size specified by the formatter.

Table 1-6 Cassette media-size detection switch components

Cassette presence or media size	Upper switch	Middle switch	Lower switch
No cassette	Off	Off	Off
A4	On	Off	Off
LTR	Off	On	Off
B5	Off	On	On
A5	Off	Off	On
EXE	On	Off	On
LGL	On	On	Off
ENV	On	On	On

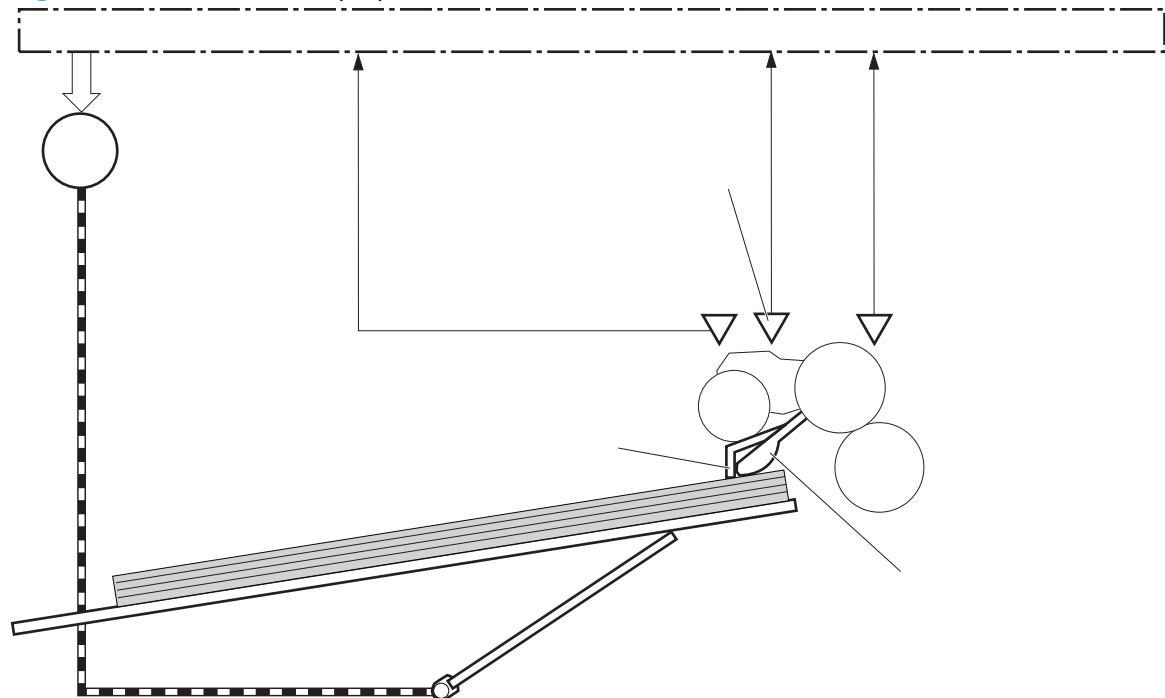
Cassette lift-up operation

The cassette lift-up operation keeps the paper stack surface at the correct pickup position.

The DC controller detects the position of the stack surface by monitoring the cassette media stack surface sensors under the following conditions:


- The product is turned on.
- The cassette is inserted.
- The paper stack surface in the cassette lowers.

Figure 1-24 Cassette lift-up operation



The operational sequence of the cassette lift-up is as follows:

1. The DC controller rotates the cassette lifter motor.
2. The lifter moves up.
3. The cassette lifter motor stops when the cassette media stack surface sensor 2 detects the paper stack surface.
4. The cassette lifter motor rotates again when the cassette media stack surface sensor 1 detects that the paper stack surface lowers.

 **NOTE:** The DC controller determines the cassette lifter motor failure and notifies the formatter if the cassette media stack surface sensor 1 or sensor 2 does not detect the paper stack surface within a specified period after the cassette lifter motor starts rotating.

Cassette media-presence detection

The DC controller detects whether the paper is loaded in the cassette.

The DC controller detects the presence of the paper by monitoring the cassette media presence sensor under the following conditions:

- From when the product is turned on until it is turned off (except during Sleep mode).

The DC controller determines a media-absence and notifies the formatter when the MP tray media presence sensor does not detect the print media.

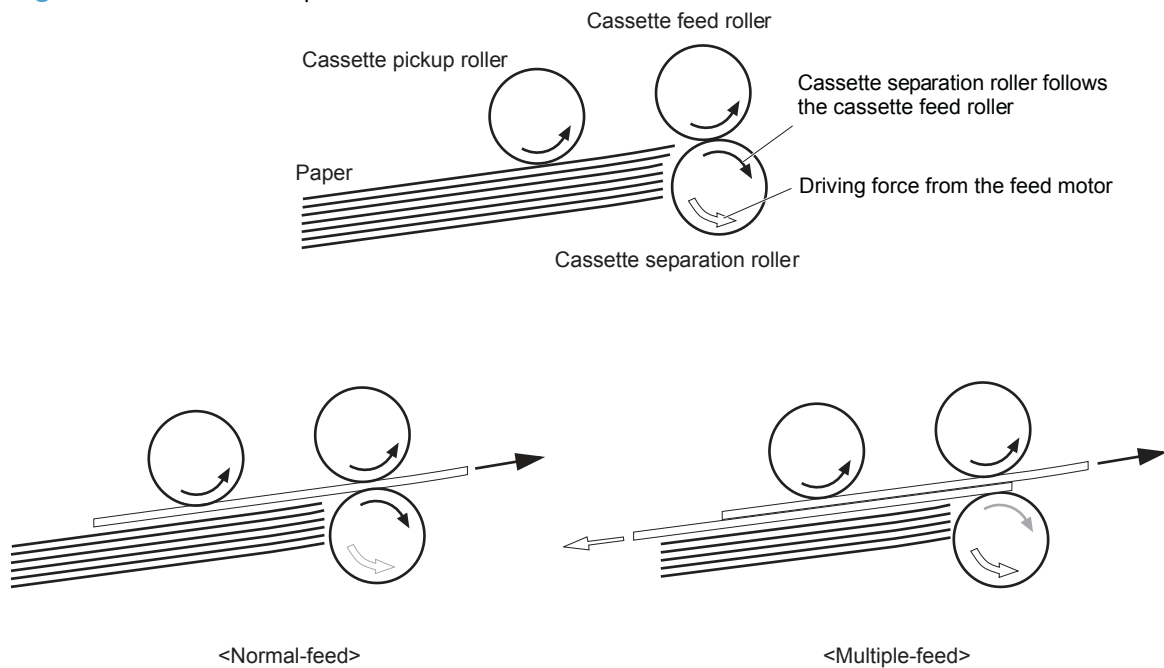
Multifeed prevention

The product uses a cassette separation roller to prevent multiple sheets of paper from entering the product.

The cassette separation roller applies opposite rotational force against the cassette feed roller as follows:

- When a single sheet is picked up, the cassette separation roller is driven by the rotation of the cassette feed roller through the sheet because it is equipped with a torque limiter. Thus one sheet is fed into the product.
- When multiple sheets are picked up, the low friction force between the sheets weakens the driving force from the cassette feed roller. Therefore, the separation roller is driven by its own driving force and holds back any multiple-fed sheets from the cassette.

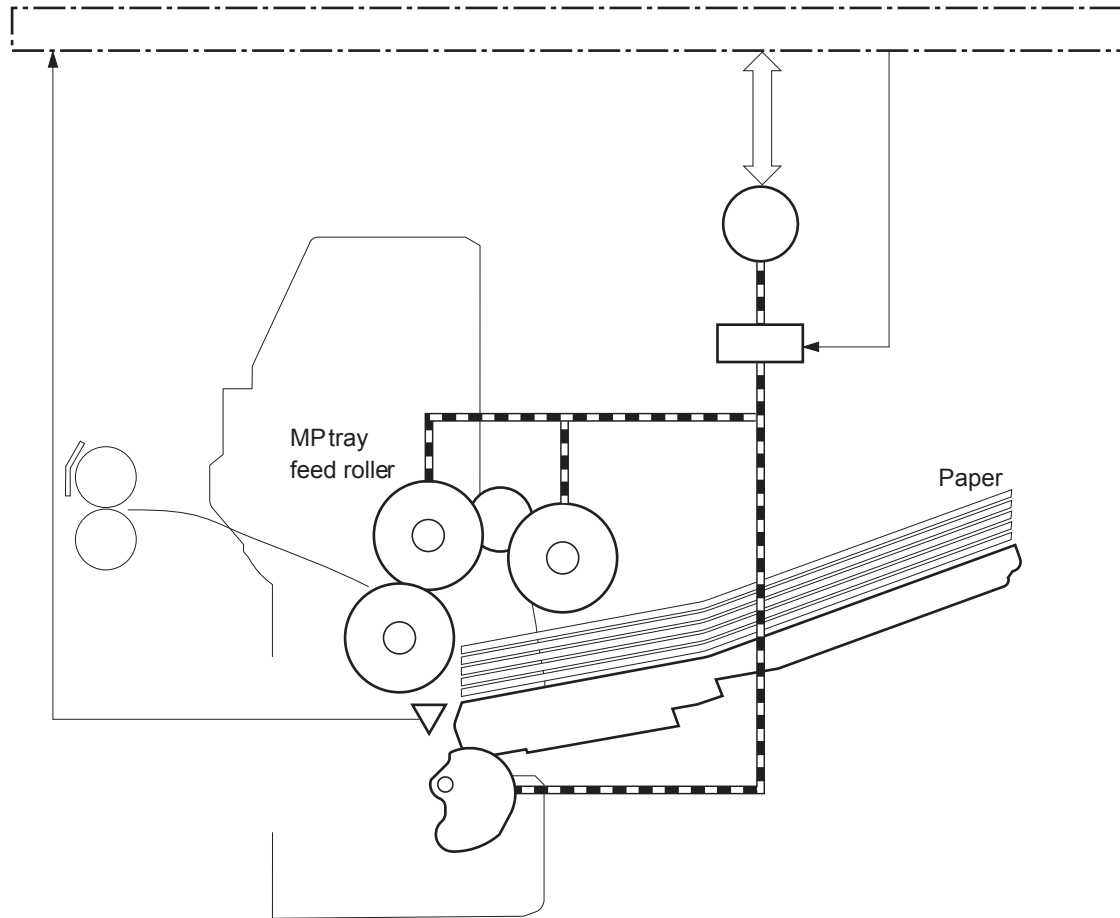
Figure 1-25 Multifeed prevention



Tray 1 pickup


The product picks up one sheet of paper from the Tray 1.

Figure 1-26 Tray 1 timing



The operational sequence of the Tray 1 pickup is as follows:

1. The DC controller rotates the feed motor when it receives a print command from the formatter.
2. The Tray 1 pickup solenoid is driven at a specified timing.
3. The Tray 1 pickup roller rotates.
4. The Tray 1 pickup cam rotates and the lifting plate moves up.
5. The Tray 1 pickup roller touches the surface of the top paper.
6. The Tray 1 separation roller removes any multiple-fed sheets.
7. One sheet of paper is fed into the product.

 **NOTE:** The mechanism of the multiple-feed prevention for Tray 1 is same mechanism as that for the cassette.

Tray 1 media-presence detection

The DC controller detects whether the paper is loaded in Tray 1.

The DC controller detects the presence of the paper by monitoring the MP tray media presence sensor under the following condition:

- From the moment that product is turned on until it is turned off (except during Sleep mode).
- Media-length detection
- Media-width detection

Feed speed control

The feed-speed control adjusts the feed speed to improve the print quality depending on the paper type. The DC controller feeds the paper at a specified speed with the print mode designated by the formatter.

Table 1-7 Feed speed control

Print mode	Feed speed	
	Legal / Letter / A4	Executive / B5 / A5 / Any custom
Auto	NA	NA
Normal	1/1, 1/2	1/2
Heavy media 1	1/1, 1/2	1/2
Heavy media 2	1/2	1/2
Light media 2	1/1, 1/2	1/2
OHT	1/2	1/2

Media-skew prevention

The product corrects the skew feed without decreasing the throughput.

The operational sequence of the skew-feed prevention is as follows:

1. The leading edge of paper strikes the registration shutter.
2. The leading edge of paper is aligned with the shutter.
3. As the feed rollers keep pushing the paper, the paper warps.
4. The stiffness of paper pushes up the registration shutter.
5. The paper passes through the registration shutter and straightens.

Figure 1-27 Corner of the media contacts the shutter

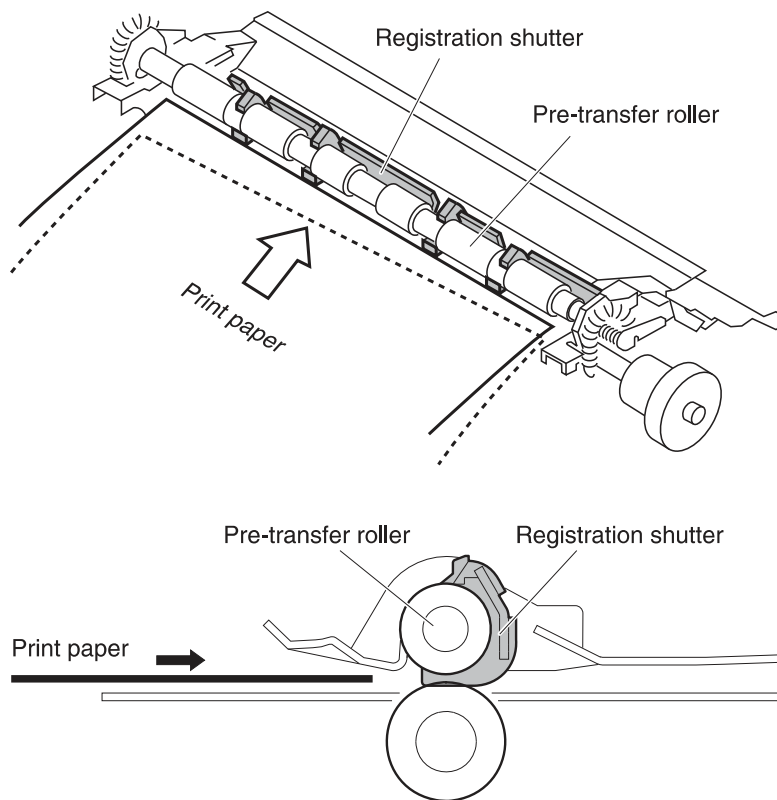


Figure 1-28 Media sags until the entire leading edge contacts the shutter

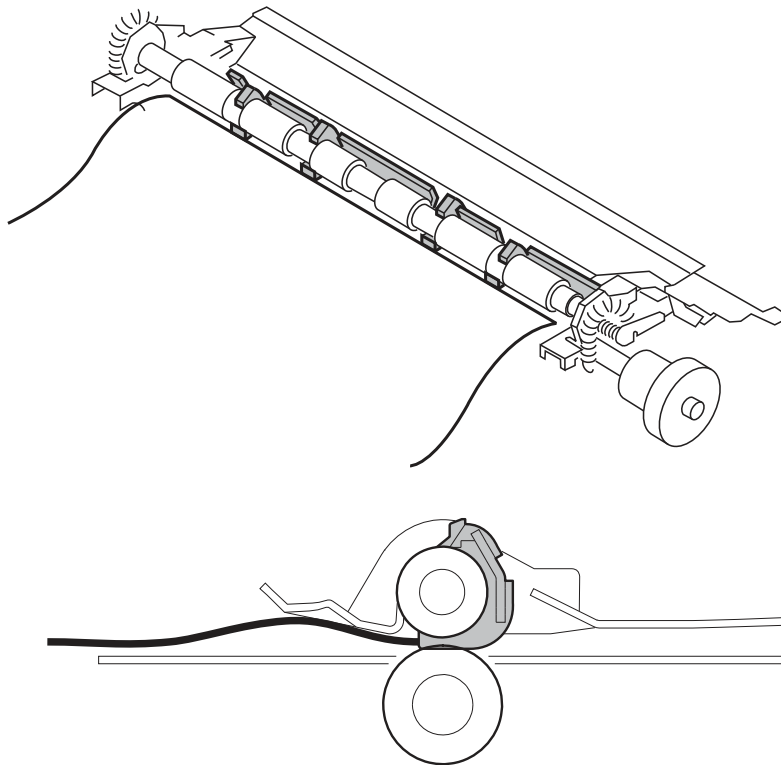
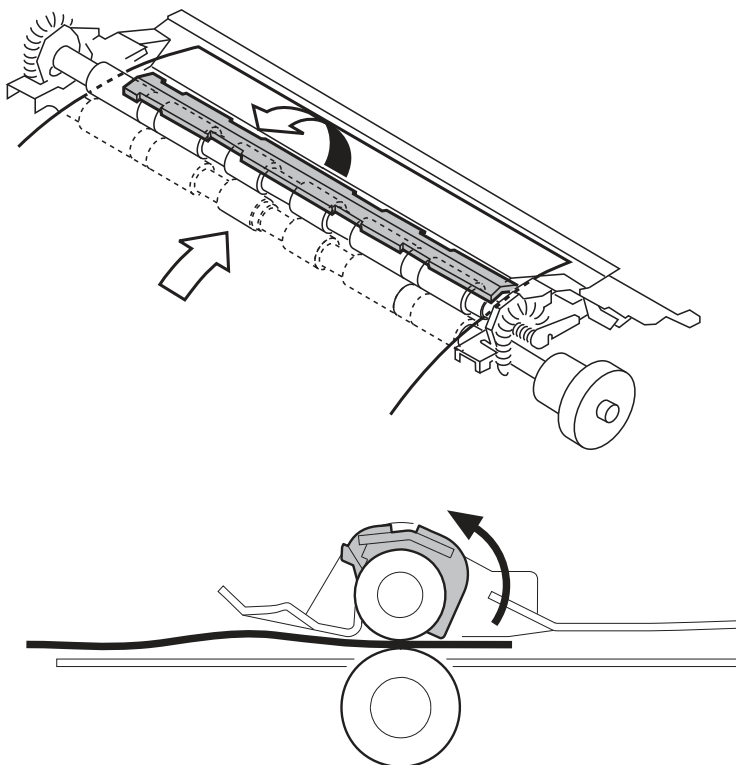



Figure 1-29 Skew is corrected, and the shutter opens



Media-length detection

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).


The DC controller detects the length of paper to prevent the toner stain on the transfer roller.

The DC controller determines the length by monitoring the time from when the leading edge of the paper reaches at the TOP sensor until when the trailing edge passes through.

The DC controller determines the media size mismatch and notifies the formatter when the detected paper size is under the following conditions:

- The detected paper size is different from the size designated by the formatter.
- The detected paper size is different from the size detected by the cassette media size switch (only for cassette pickup).

Media-width detection

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).

The DC controller detects the media-width and the position of the paper to prevent the edge overheating of the fuser heater.

The DC controller delays the pickup timing of the following paper depending on the combination of the media-width sensors.

The DC controller determines the media size mismatch and notifies the formatter when the detected paper size is under the following conditions:

- The detected paper size is different from the size designated by the formatter.
- The detected paper size is different from the size detected by the cassette media size switch (only for cassette pickup).

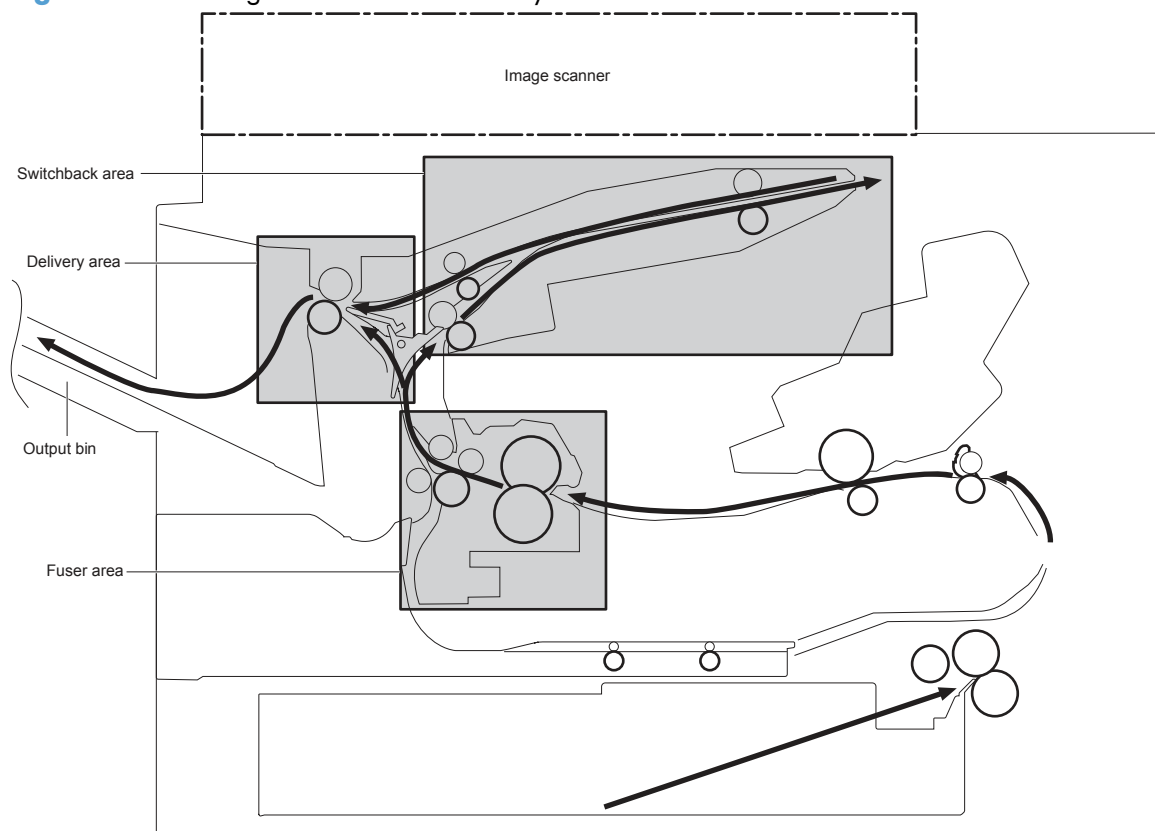
Table 1-8 Media-width detection

Media width sensor 1 (PS106)	Media width sensor 2 (PS108)	Detection
ON	ON	Regular size A4, Letter and Legal
OFF	OFF	Small size Executive, B5 and A5
OFF	ON	Right sided
ON	OFF	Left sided

Fusing-switchback and delivery block

After the toner is fused to the media, the media enters the reversing/delivery unit. The product can deliver the media to the output bin either face-up or face-down, depending on instructions from the formatter. To stack pages of a multiple-page print job in the correct order, the pages must be flipped over in the reversing unit before they are delivered to the output bin. This is the default setting. If face-up delivery is requested, the face-up solenoid (SL105) activates the face-up deflector to prevent the media from entering the reversing unit.

Figure 1-30 Fusing-switchback and delivery block



Fusing

The fuser applies heat and pressure to the media to permanently bond the toner image to the media.

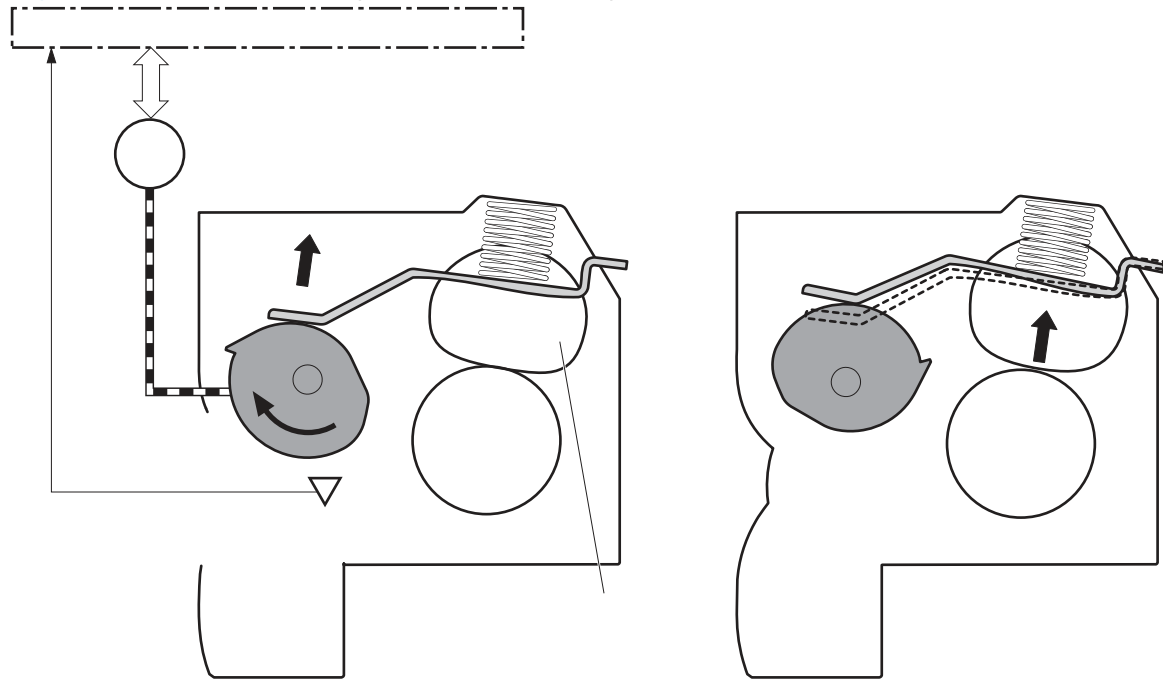
Pressure roller pressurization and depressurization control

The pressure roller pressurization and depressurization control is a feature to pressurize the pressure roller only when required for preventing a deformation of the pressure roller and to facilitate jam-cleaning procedure.

The DC controller releases the pressure roller under the following conditions:

- When a jam is detected
- At factory shipment

Figure 1-31 Pressure roller pressurization and depressurization control



The operational sequence of the pressure roller pressurization and depressurization control is as follows:

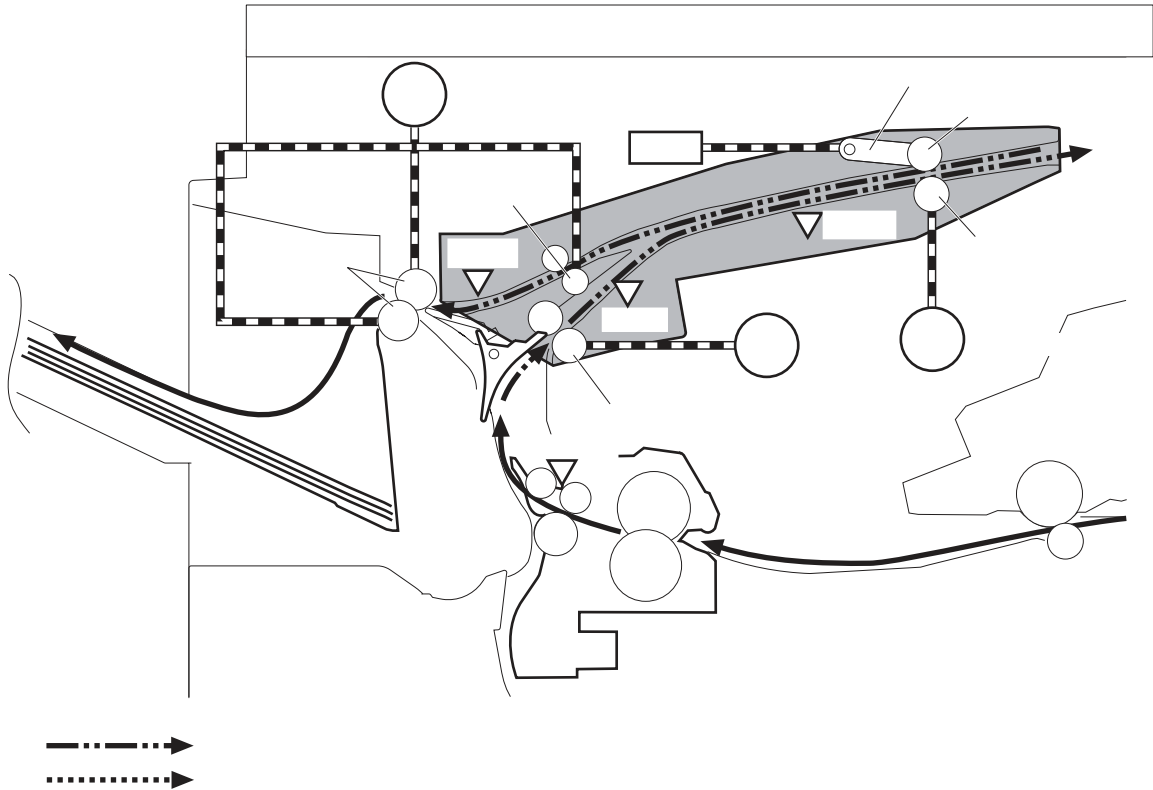
1. The DC controller reverses the fuser motor.
2. The fuser pressure release cam rotates.
3. The pressure roller is pressurized or depressurized against the fuser sleeve depending on the position of the fuser pressure release cam.

NOTE: The DC controller determines a fuser pressure release mechanism failure and notifies the formatter if the fuser pressure release sensor does not detect the depressurized condition within a specified period from when the fuser motor starts reverse rotation.

Switchback and delivery control

The output bin is located at the side of the product since the image scanner is installed on the top. Therefore, when the printed paper is delivered face-down, the paper is switched back at the switchback area and then delivered. When the paper is delivered face-up, the face-up flapper switches the paper path and then the paper is delivered.

Figure 1-32 Switchback and delivery control



The operational sequence of the pressure roller pressurization and depressurization control is as follows:

1. The DC controller reverses the fuser motor.
2. The fuser pressure release cam rotates.
3. The pressure roller is pressurized or depressurized against the fuser sleeve depending on the position of the fuser pressure release cam.

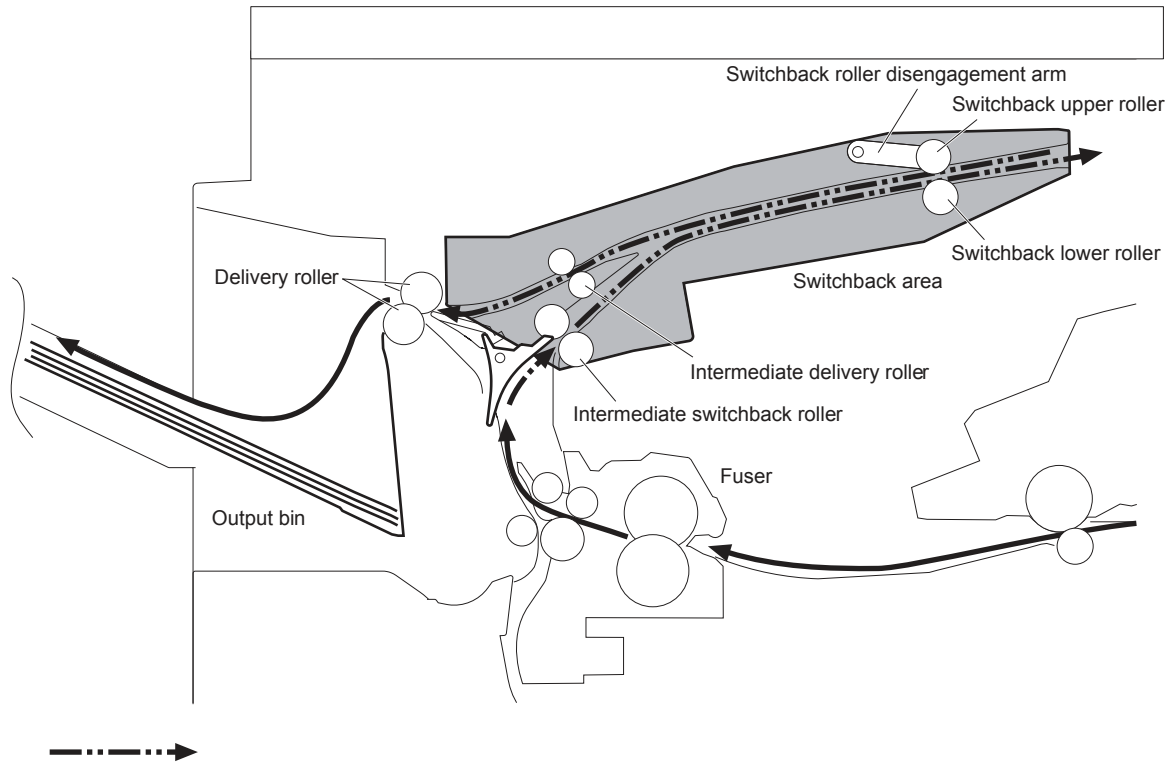


NOTE: The DC controller determines a fuser pressure release mechanism failure and notifies the formatter if the fuser pressure release sensor does not detect the depressurized condition within a specified period from when the fuser motor starts reverse rotation.

Face-down delivery

When the paper is delivered face-down, the feeding direction of the fused paper is switched in the switchback area and delivered to the output bin.

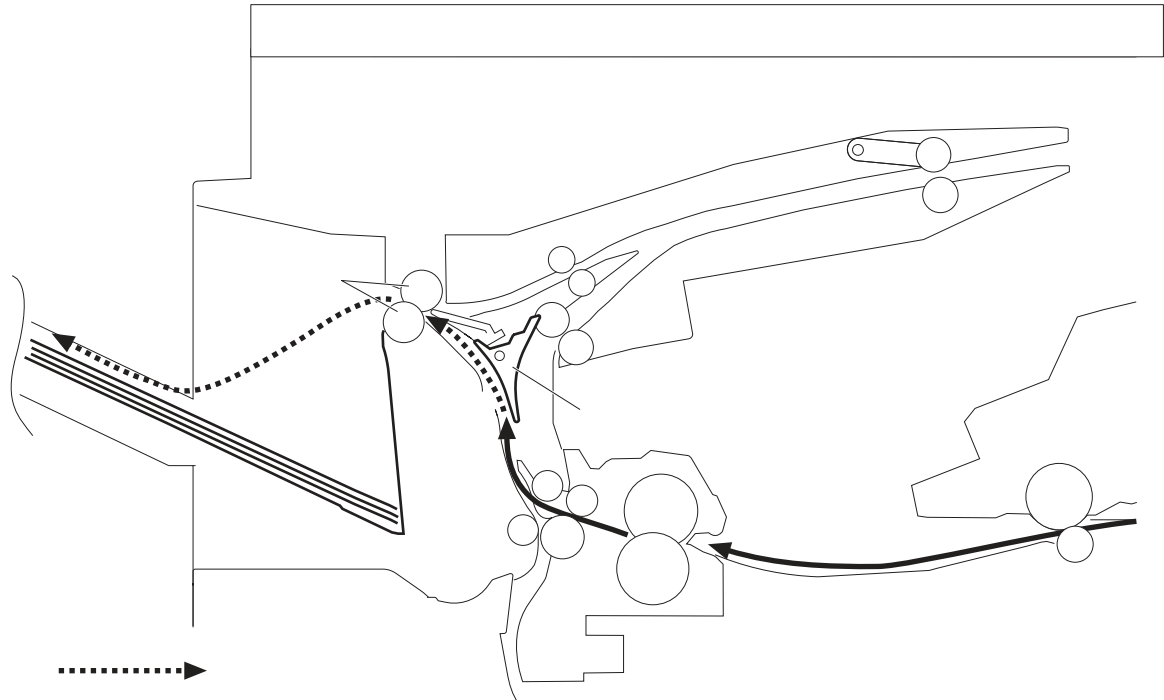
Figure 1-33 Face-down delivery



Face-up delivery

When the paper is delivered face-up, the paper path of the fused paper is switched by the face-up flap-per and delivered to the output bin.

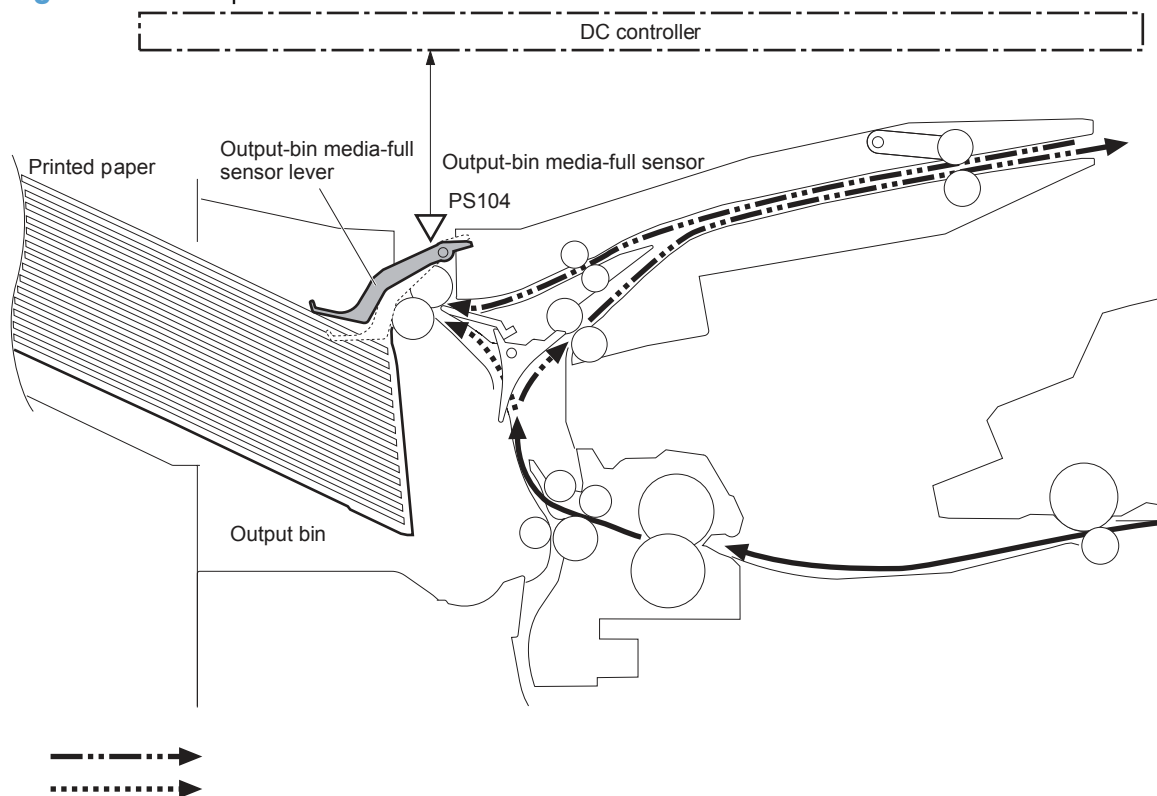
Figure 1-34 Face-up delivery



Output bin media-full detection

The DC controller detects whether the output bin is full by monitoring the output-bin media-full sensor.

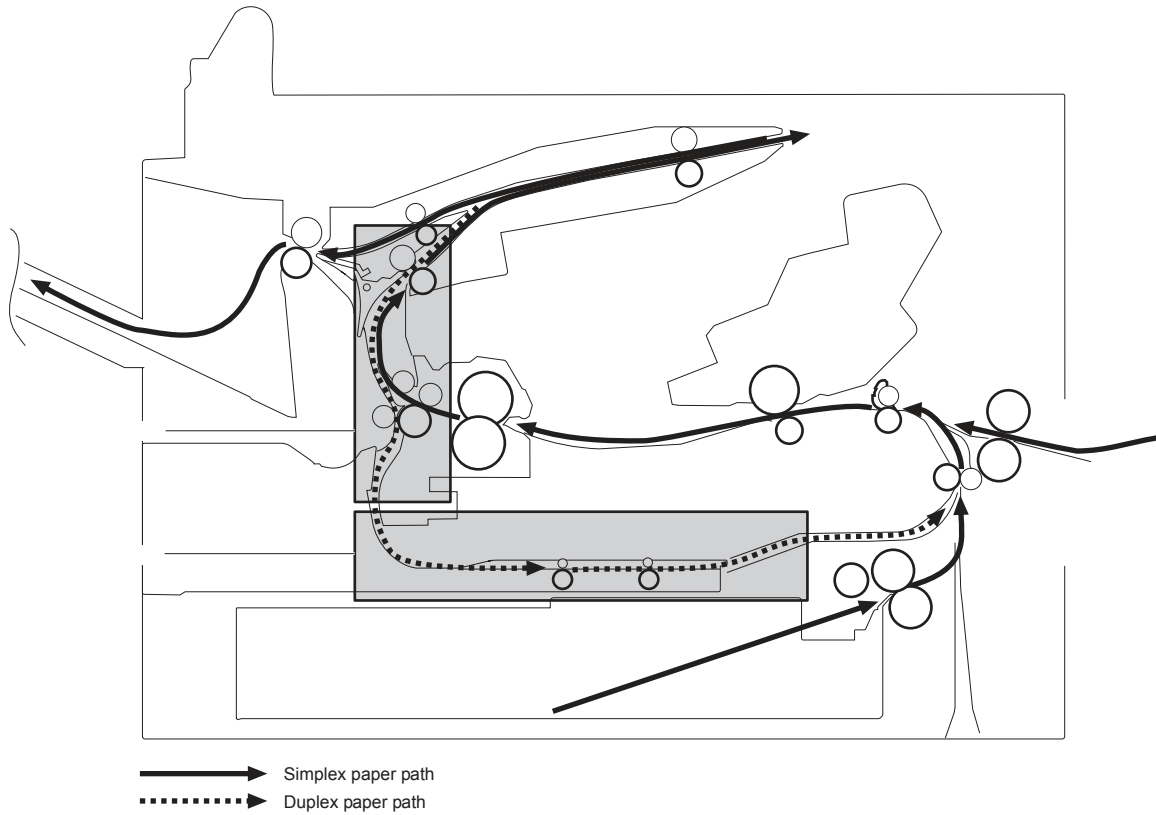
Figure 1-35 Output bin media-full detection



Duplex block

The duplex block reverses the paper in the duplex reverse area and feeds it through the duplex feed area to bring it to the simplex paper path.

Figure 1-36 Duplex block



Duplex side registration adjustment operation

The product adjusts the side registration during a duplex print operation to align the center of the horizontal scanning direction on the second side with that of the print area on the photosensitive drum.

The side registration adjustment is made by moving the side registration guide to the designated media size of the side registration adjustment command.

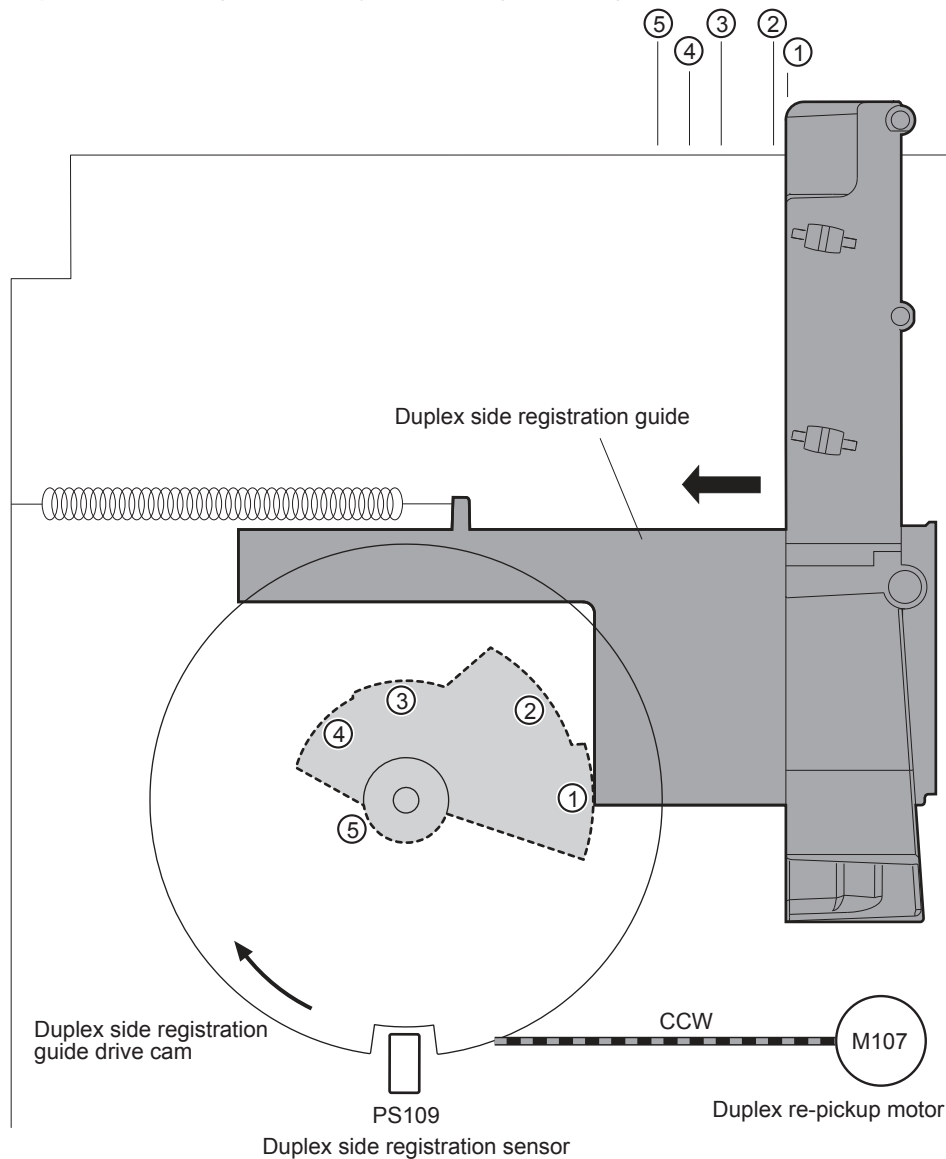
The side registration guide moves to the following five positions depending on the media size in order of numbers 1 to 5 and then back to 1:

1. Letter or Legal (homeposition)
2. A4
3. Executive

4. B5

5. A5

Figure 1-37 Duplex side registration adjustment operation



The operational sequence of the side registration adjustment is as follows:

1. The DC controller reverses the duplex re-pickup motor (M107).
2. The side registration guide drive cam rotates and the duplex side registration sensor (PS109) detects the home position of the duplex side registration guide.
3. The side registration guide moves depending on the media size.
4. The DC controller stops the duplex re-pickup motor and completes the side registration guide movement.



NOTE: The DC controller determines a duplex side registration guide failure and notifies the formatter when the duplex side registration sensor does not detect the home position of the duplex side registration guide after the duplex side registration guide drive cam rotates twice.

Jam detection



NOTE: The product senses a jam condition when paper in the paper path does not trigger the required sensor or sensors within a specific amount of time.



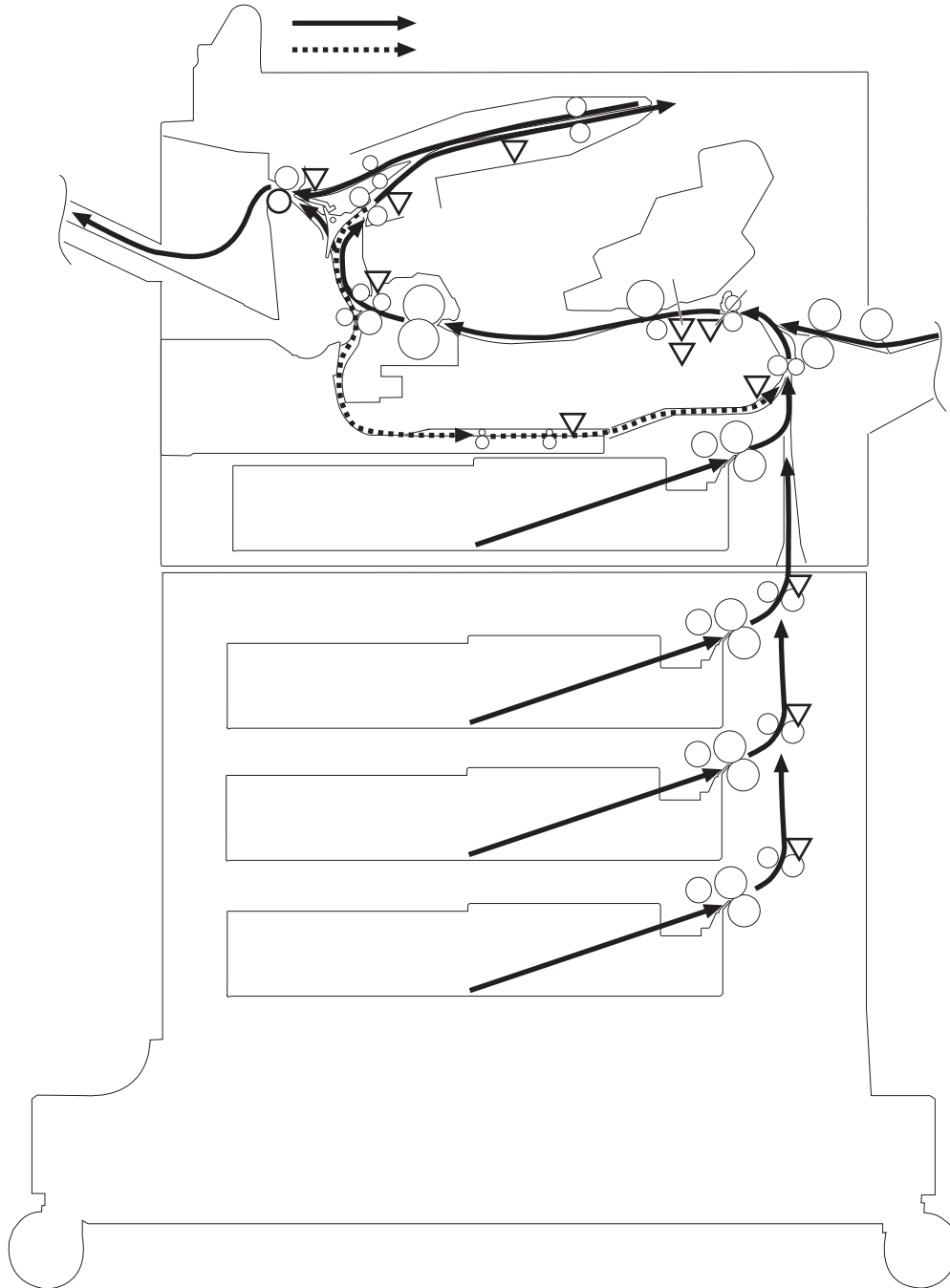
TIP: For information about individual sensor tests, see [Component diagnostics on page 352](#).

The product uses the following sensors to detect the presence of media and to check whether media is being fed correctly or has jammed:

- Pre-feed sensor (PS102)
- Top-of-page sensor (PS103)
- Media width sensor 1 (PS106)
- Media width sensor 2 (PS108)
- Switchback sensor (PS110)
- Switchback jam sensor (PS111)
- Paper-delivery sensor (PS112)
- Duplex re-pickup sensor (PS113)
- Fuser-delivery sensor (PS700)
- Paper deck cassette 1 media feed sensor (SR4) (for paper feeder, 1x500-sheet paper deck and 3x500-sheet paper deck)
- Paper deck cassette 2 media feed sensor (SR7) (for 3x500-sheet paper deck)
- Paper deck cassette 3 media feed sensor (SR10) (for 3x500-sheet paper deck)

The microprocessor on the DC controller 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 (the motors are turned off and the rollers no longer rotate) and a jam message appears on the control-panel display.

Figure 1-38 Jam detection sensors



No pick jam 1



TIP: For information about individual sensor tests, see [Component diagnostics on page 352](#).

The paper deck media feed sensor does not detect the leading edge of the paper within a specified period from when a pickup operation starts from the corresponding input accessory cassette.



NOTE: The product 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).

No pick jam 2



TIP: For information about individual sensor tests, see [Component diagnostics on page 352](#).

- Standard cassette

The pre-feed sensor does not detect the leading edge of paper within a specified period from when a pickup operation starts.

- Center or bottom cassette of the input accessory

The paper deck media feed sensor 1 does not detect the leading edge of paper within a specified period from when either paper deck media feed sensor 2 or sensor 3 detects the leading edge.



NOTE: The product 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).

No pick jam 3



TIP: For information about individual sensor tests, see [Component diagnostics on page 352](#).

If the TOP 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.

- Standard cassette

The TOP sensor does not detect the leading edge of the paper within a specified period from when the pre-feed sensor detects the leading edge.

- Input accessory

The TOP sensor does not detect the leading edge of paper within a specified period from when the media feed clutch is turned on.



NOTE: The product 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).

Feed stay jam




TIP: For information about individual sensor tests, see [Component diagnostics on page 352](#).

The TOP sensor does not detect the trailing edge of the paper within a specified period from when it detects the leading edge.

- Media width sensor 1 or media width sensor 2

Both of the media width sensors do not detect the trailing edge of the paper within a specified period from when the TOP sensor detects the trailing edge.

Fuser delay jam


 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).

The fuser output sensor does not detect the leading edge of the paper within a specified period from when the TOP sensor detects the leading edge.

Fuser stay jam


The fuser output sensor does not detect the trailing edge of the paper within a specified period from when the TOP sensor detects the trailing edge.

Fuser wrap jam

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).


The fuser output sensor detects the paper-absence within a specified period from when it detects the leading edge of paper.

Fuser output delay jam 2

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).


The switchback jam sensor does not detect the leading edge of the paper within a specified period from when the fuser output sensor detects the leading edge.

Fuser output stay jam 2

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).


The switchback jam sensor does not detect the trailing edge of the paper within a specified period from when the fuser output sensor detects the trailing edge.

Duplex re-pickup jam 1

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).

The duplex re-pickup sensor does not detect the leading edge of the paper within a specified period from when a duplex reverse operation starts.

Fuser output delay jam 3

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).


- Face-down delivery

The delivery sensor does not detect the leading edge of the paper within a specified period from when a paper switchback operation starts in the switchback area.

- Face-up delivery

The delivery sensor does not detect the leading edge of the paper within a specified period from when the fuser output sensor detects the leading edge.

Fuser output stay jam 3

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).


- Face-down delivery

The delivery sensor does not detect the trailing edge of the paper within a specified period from when a paper switchback operation starts in the switchback area.

- Face-up delivery

The delivery sensor does not detect the trailing edge of the paper within a specified period from when the fuser output sensor detects the leading edge.


Residual paper jam

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).

One of the following sensors detects the paper presence when the product is turned on, when the door is closed or when the product exits Power save mode.


- TOP sensor
- Media width sensor 1
- Media width sensor 2
- Fuser output sensor

Door open jam

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).

The door open is detected during a paper feed operation.

Other functions

 **TIP:** For information about individual sensor tests, see [Component diagnostics on page 352](#).

The product automatically clears the paper if any one of the following sensors detects the residual paper when the product is turned on or when the door is closed.

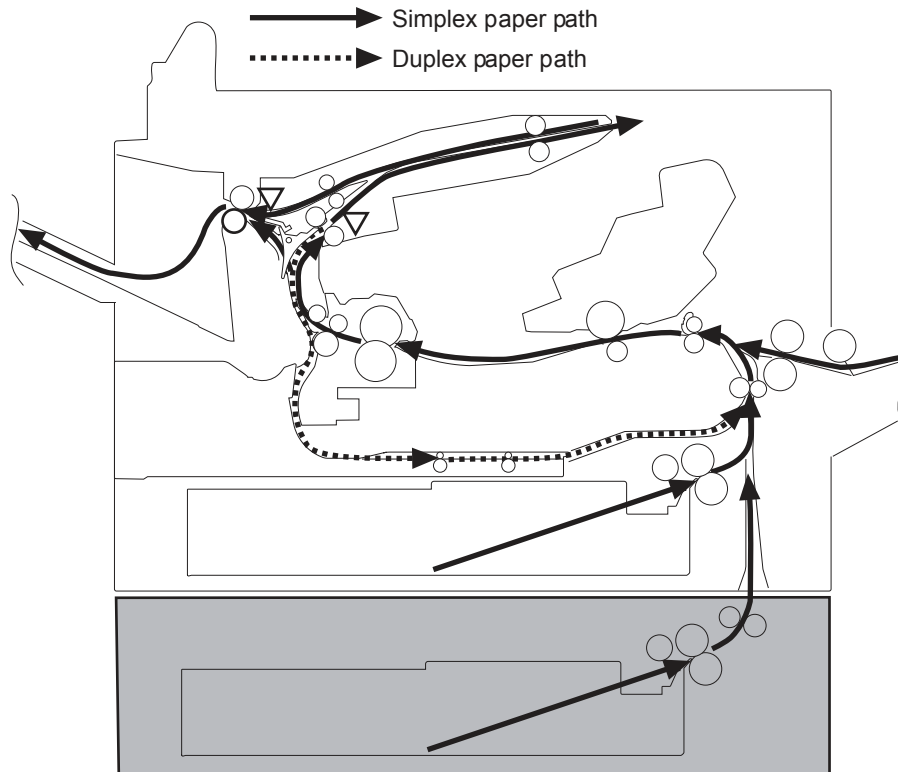
- TOP sensor
- Media width sensor 1
- Media width sensor 2
- Fuser output sensor

Tray 3 (1 x 500-sheet feeder)

The optional paper feeder is installed at bottom of the product. It picks up the paper and feeds it to the product.

The paper feeder controller controls the operational sequence of the paper feeder.

Figure 1-39 Paper path with a 500-sheet feeder installed



The figure below illustrates the signal flow in the paper feeder controller.

Figure 1-40 500-sheet feeder I/O block diagram

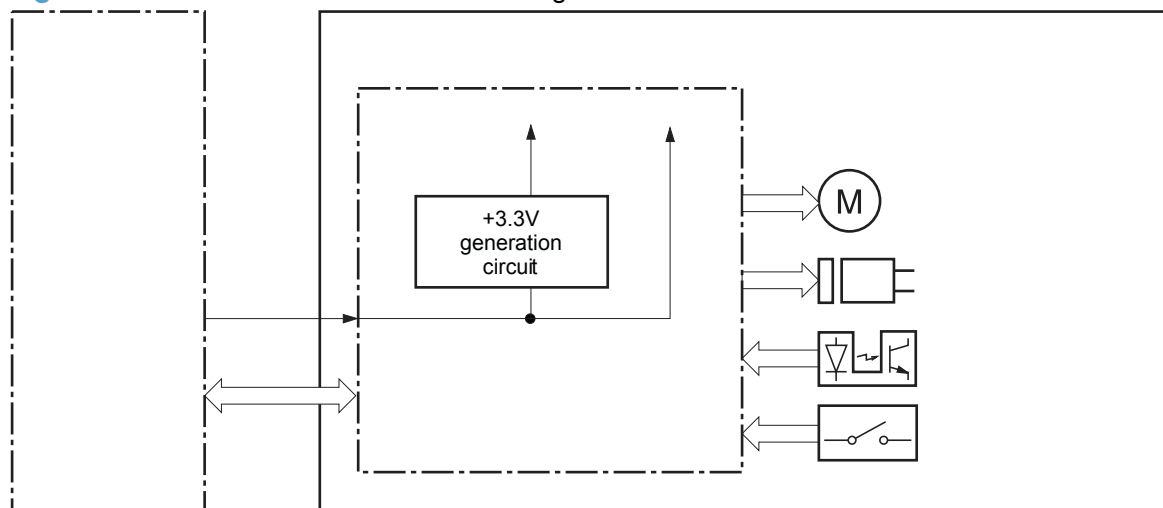
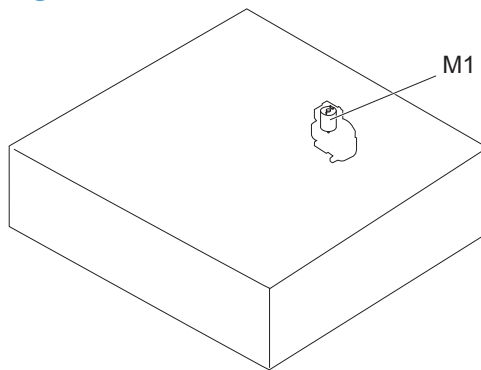


Table 1-9 500-sheet feeder components

Component		Description
Motor	M1	Paper feeder cassette lifter motor
Solenoid	SL1	Paper feeder cassette pickup solenoid
Photointerrupter	SR1	Paper feeder cassette media stack surface sensor 1
	SR2	Paper feeder cassette media stack surface sensor 2
	SR3	Paper feeder cassette media out sensor
	SR4	Paper feeder cassette media feed sensor
Switch	SW2	Paper feeder cassette media size switch

500-sheet feeder motor control

The paper feeder has one motor for the paper-feed.

Figure 1-41 500-sheet feeder motor

The paper feeder controller detects a motor failure by monitoring the lifter driver assembly.

The paper feeder controller determines a paper feeder cassette lift-up mechanism abnormality and notifies the formatter when the paper feeder cassette media stack surface sensor 1 does not detect the media surface within a specified period after the paper feeder lifter motor starts rotating.

500-sheet feeder pickup and feed

The pickup-and-feed operation picks up one sheet of paper from the paper feeder cassette and feeds it to the product. The feed motor (M101) in the product drives the rollers in the paper feeder.

Figure 1-42 500-sheet feeder pickup and feed

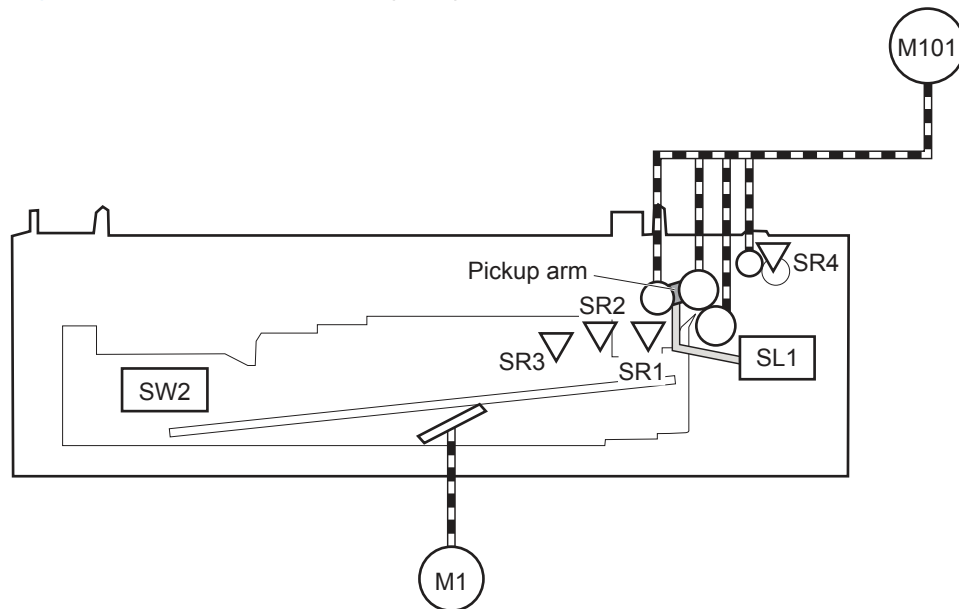


Table 1-10 500-sheet pickup and feed components

Component		Signal
Paper feeder cassette lifter motor	M1	PAPER FEEDER CASSETTE LIFTER MOTORCONTROL signal
Paper feeder cassette pickup solenoid	SL1	PAPER FEEDER CASSETTE PICKUP SOLENOID signal
Paper feeder cassette media stack surface sensor 1	SR1	PAPER FEEDER CASSETTE MEDIA STACK SURFACE signal 1
Paper feeder cassette media stack surface sensor 2	SR2	PAPER FEEDER CASSETTE MEDIA STACK SURFACE signal 2
Paper feeder cassette media out sensor	SR3	PAPER FEEDER CASSETTE MEDIA OUT signal
Paper feeder cassette media feed sensor	SR4	PAPER FEEDER CASSETTE MEDIA FEED signal
Paper feeder cassette media size switch	SW2	PAPER FEEDER CASSETTE MEDIA SIZE signal

Cassette media-size detection and cassette presence detection

The cassette media size detection for the paper feeder is the same as that of the detection for the product. See [Tray 1 media-presence detection on page 39](#).

Cassette lift-drive operation

The cassette lift-up operation for the paper feeder is the same as that of the operation for the product. See [Cassette lift-up operation on page 36](#).

Jam detection

The jam detection for the paper feeder is the same as that of the detection for the product. See [Jam detection on page 52](#).

Additional trays

The product can be upgraded when business needs change. This versatile product accommodates a variety of media types and sizes, and lets you expand paper handling and finishing capabilities with an optional two-sided printing accessory, additional 500-sheet or 1,500-sheet input trays, an envelope feeder, a 5-bin mailbox, stacker, or stapler/stacker accessory.

Each model can accept up to four optional 500-sheet input trays, or up to three 500-sheet input trays and one 1500-sheet high-capacity input tray. If a 1500-sheet high-capacity input tray is installed, it must always be below any installed 500-sheet input trays.

The optional paper deck is installed at bottom of the product. It picks up the paper and feeds it to the product.

Optional feeders

- 1 x 500-sheet paper deck with cabinet
- 3 x 500-sheet paper deck

Figure 1-43 1 x 500-sheet paper deck

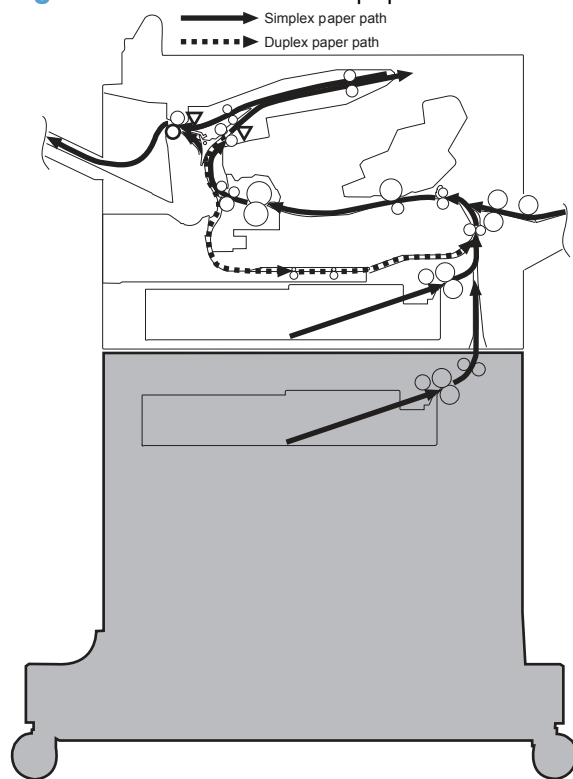


Figure 1-44 3 x 500-sheet paper deck

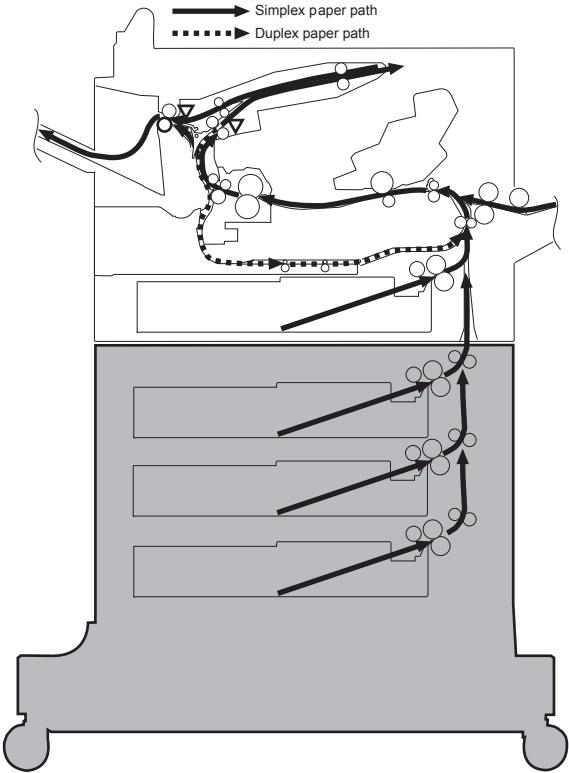
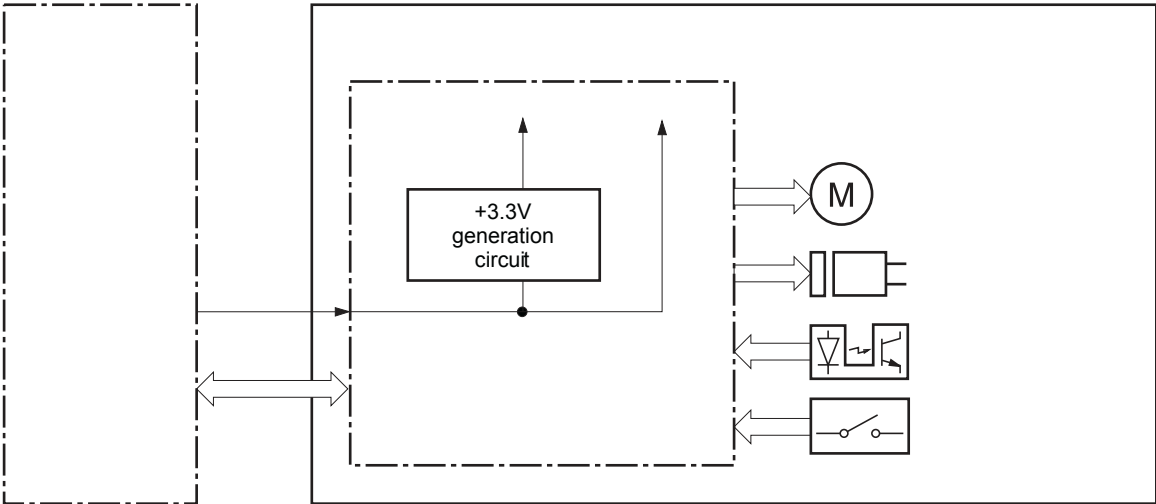


Figure 1-45 Signals for the paper decks



The paper decks contain several motors, solenoids, sensors, and switches, as described in the following table.

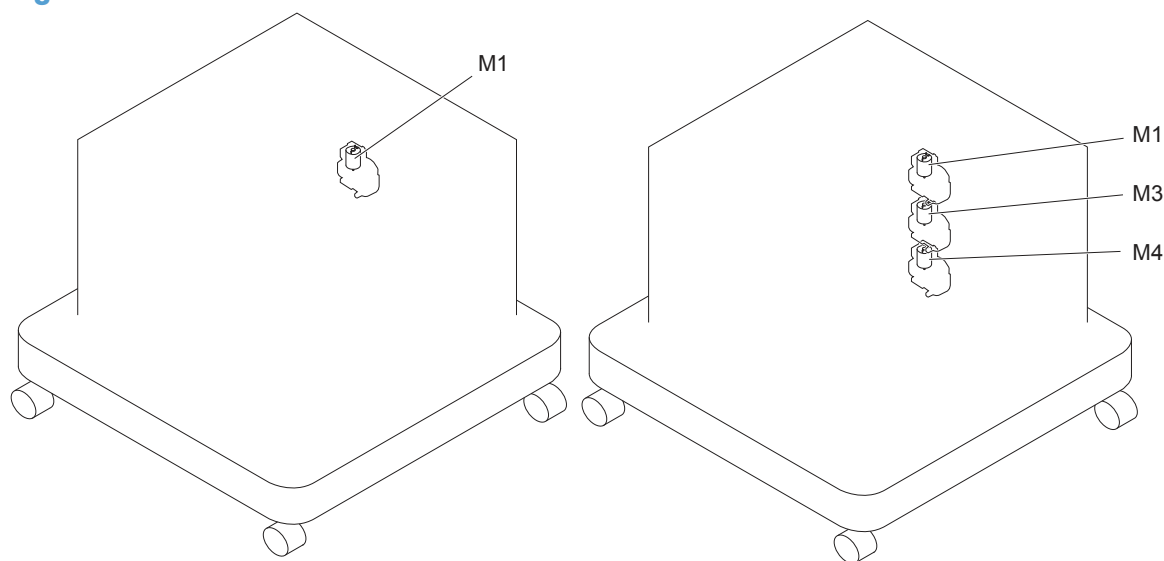
Table 1-11 Electrical components for the paper decks

Component type	Abbreviation	Component name
Motors	M1	Paper deck cassette 1 lifter motor
	M3	Paper deck cassette 2 lifter motor (3 x 500-sheet paper deck only)
	M4	Paper deck cassette 3 lifter motor (3 x 500-sheet paper deck only)
Solenoids	SL1	Paper deck cassette 1 pickup solenoid
	SL2	Paper deck cassette 2 pickup solenoid (3 x 500-sheet paper deck only)
	SL3	Paper deck cassette 3 pickup solenoid (3 x 500-sheet paper deck only)
Sensors	SR1	Paper deck cassette 1 media stack surface sensor 1
	SR2	Paper deck cassette 1 media stack surface sensor 2
	SR3	Paper deck cassette 1 media out sensor
	SR4	Paper deck cassette 1 media feed sensor
	SR5	Paper deck cassette 2 media stack surface sensor 1 (3 x 500-sheet paper deck only)
	SR6	Paper deck cassette 2 media out sensor (3 x 500-sheet paper deck only)
	SR7	Paper deck cassette 2 media feed sensor (3 x 500-sheet paper deck only)
	SR8	Paper deck cassette 2 media stack surface sensor 2 (3 x 500-sheet paper deck only)
	SR9	Paper deck cassette 3 media stack surface sensor 2 (3 x 500-sheet paper deck only)
	SR10	Paper deck cassette 3 media feed sensor (3 x 500-sheet paper deck only)
	SR11	Paper deck cassette 3 media out sensor (3 x 500-sheet paper deck only)
	SR12	Paper deck cassette 3 media stack surface sensor 1 (3 x 500-sheet paper deck only)
Switches	SW1	Paper deck right door-open-detection switch (3 x 500-sheet paper feeder only)
	SW2	Paper deck cassette 1 media size switch
	SW3	Paper deck cassette 2 media size switch (3 x 500-sheet paper deck only)
	SW4	Paper deck cassette 3 media size switch (3 x 500-sheet paper deck only)

Motor control

The 1 x 500-sheet paper deck has two motors, and the 3 x 500-sheet paper deck has three motors for feeding paper.

Figure 1-46 Motor control



Component		Drives
M1	Paper deck cassette 1 lifter motor	Lifter of the paper deck cassette 1
M3	Paper deck cassette 2 lifter motor (3 x 500-sheet paper deck)	Lifter of the paper deck cassette 2
M4	Paper deck cassette 3 lifter motor (3 x 500-sheet paper deck)	Lifter of the paper deck cassette 3

The paper deck controller detects a motor failure by monitoring the associated lifter driver assembly. The paper deck controller determines a paper deck cassette lift-up mechanism abnormality and notifies the formatter when the paper deck cassette media stack surface sensor 1 does not detect the media surface within a specified period after the paper deck lifter motor starts rotating.

Paper-deck pickup and feed operation

The pickup-and-feed operation picks up one sheet of paper from the paper deck cassette and feeds it to the product. The feed motor (M101) in the product drives the rollers in the paper deck.

Figure 1-47 Paper-deck pickup and feed operation (1 x 500-sheet paper deck)

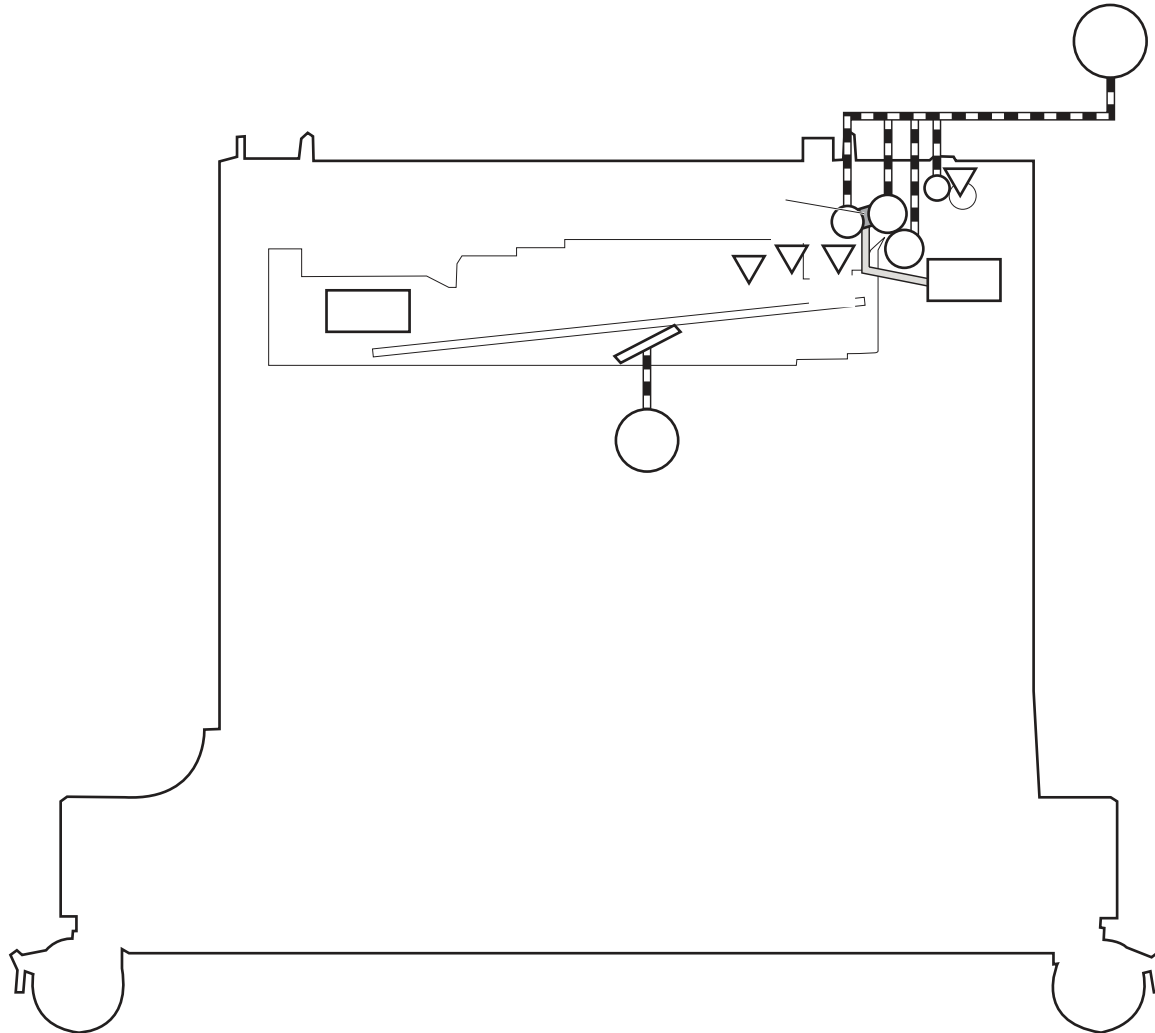


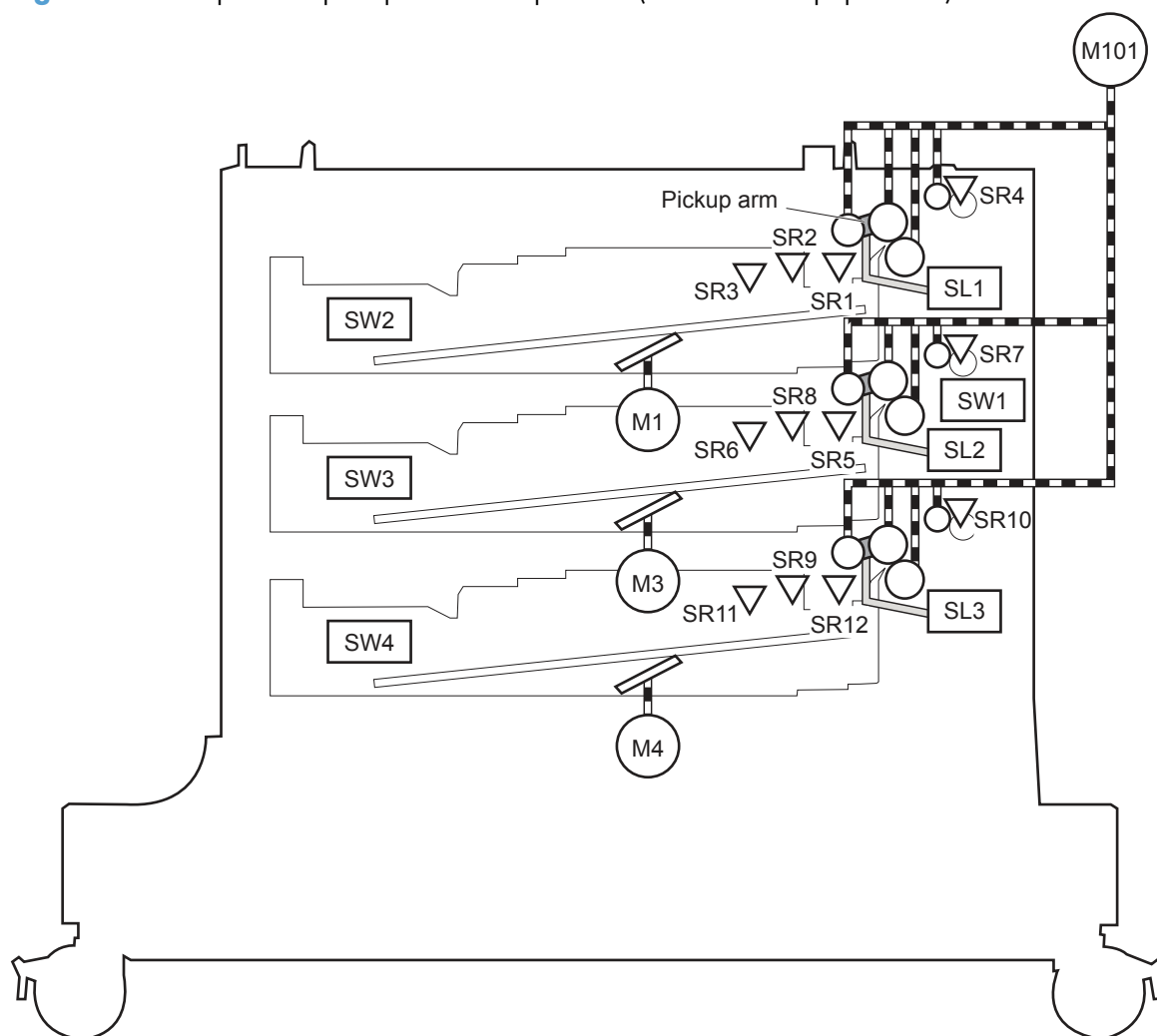
Table 1-12 Pickup feed components (1 x 500-sheet paper deck)

Component		Signal
M1	Paper deck cassette 1 lifter motor	PAPER DECK CASSETTE 1 LIFTER MOTOR CONTROL signal
SL1	Paper deck cassette 1 pickup solenoid	PAPER DECK CASSETTE 1 PICKUP SOLENOID signal
SR1	Paper deck cassette 1 media stack surface sensor 1	PAPER DECK CASSETTE 1 MEDIA STACK SURFACE signal 1
SR2	Paper deck cassette 1 media stack surface sensor 2	PAPER DECK CASSETTE 1 MEDIA STACK SURFACE signal 2
SR3	Paper deck cassette 1 media out sensor	PAPER DECK CASSETTE 1 MEDIA OUT signal

Table 1-12 Pickup feed components (1 x 500-sheet paper deck) (continued)

Component		Signal
SR4	Paper deck cassette 1 media feed sensor	PAPER DECK CASSETTE 1 MEDIA FEED signal
SW2	Paper deck cassette 1 media size switch	PAPER DECK CASSETTE 1 MEDIA SIZE signal

Figure 1-48 Paper-deck pickup and feed operation (3 x 500-sheet paper deck)



Components		Signal
M1	Paper deck cassette 1 lifter motor	PAPER DECK CASSETTE 1 LIFTER MOTOR CONTROL signal
M3	Paper deck cassette 2 lifter motor	PAPER DECK CASSETTE 2 LIFTER MOTOR CONTROL signal
M4	Paper deck cassette 3 lifter motor	PAPER DECK CASSETTE 3 LIFTER MOTOR CONTROL signal
SL1	Paper deck cassette 1 pickup solenoid	PAPER DECK CASSETTE 1 PICKUP SOLENOID signal

SL2	Paper deck cassette 2 pickup solenoid	PAPER DECK CASSETTE 2 PICKUP SOLENOID signal
SL3	Paper deck cassette 3 pickup solenoid	PAPER DECK CASSETTE 3 PICKUP SOLENOID signal
SR1	Paper deck cassette 1 media stack surface sensor 1	PAPER DECK CASSETTE 1 MEDIA STACK SURFACE signal 1
SR2	Paper deck cassette 1 media stack surface sensor 2	PAPER DECK CASSETTE 1 MEDIA STACK SURFACE signal 2
SR3	Paper deck cassette 1 media out sensor	PAPER DECK CASSETTE 1 MEDIA OUT signal
SR4	Paper deck cassette 1 media feed sensor 1	PAPER DECK CASSETTE 1 MEDIA FEED signal
SR5	Paper deck cassette 2 media stack surface sensor 1	PAPER DECK CASSETTE 2 MEDIA STACK SURFACE signal 1
SR6	Paper deck cassette 2 media out sensor	PAPER DECK CASSETTE 2 MEDIA OUT signal
SR7	Paper deck cassette 2 media out sensor	PAPER DECK CASSETTE 2 MEDIA FEED signal
SR8	Paper deck cassette 2 media stack surface sensor 2	PAPER DECK CASSETTE 2 MEDIA STACK SURFACE signal 2
SR9	Paper deck cassette 3 media stack surface sensor 2	PAPER DECK CASSETTE 3 MEDIA STACK SURFACE signal 2
SR10	Paper deck cassette 3 media out sensor	PAPER DECK CASSETTE 3 MEDIA FEED signal
SR11	Paper deck cassette 3 media out sensor	PAPER DECK CASSETTE 3 MEDIA OUT signal
SR12	Paper deck cassette 3 media stack surface sensor 1	PAPER DECK CASSETTE 3 MEDIA STACK SURFACE signal 1
SW1	Paper deck right door-open-detection switch	PAPER DECK RIGHT DOOR OPEN DETECTION signal
SW2	Paper deck cassette 1 media size switch	PAPER DECK CASSETTE 1 MEDIA SIZE signal
SW3	Paper deck cassette 2 media size switch	PAPER DECK CASSETTE 2 MEDIA SIZE signal
SW4	Paper deck cassette 3 media size switch	PAPER DECK CASSETTE 3 MEDIA SIZE signal

Cassette media-size detection and cassette presence detection

The cassette media size detection for the paper feeder is the same as that of the detection for the product. See [Tray 1 media-presence detection on page 39](#).

Cassette lift-drive operation

The cassette lift-up operation for the paper feeder is the same as that of the operation for the product. See [Cassette lift-up operation on page 36](#).

Jam detection

The jam detection for the paper feeder is the same as that of the detection for the product. See [Jam detection on page 52](#).

HP stapling mailbox

The 3-bin stapling mailbox installs on the delivery assembly and delivers paper to the output bin. The staple/stacker multi-bin mailbox controller controls the operational sequence of the staple/stacker multi-bin mailbox.

The 3-bin stapling mailbox has two modes:

- Stacker mode
- Mailbox/job separator mode

Stapling is available for both modes.

Figure 1-49 3-bin stapling mailbox

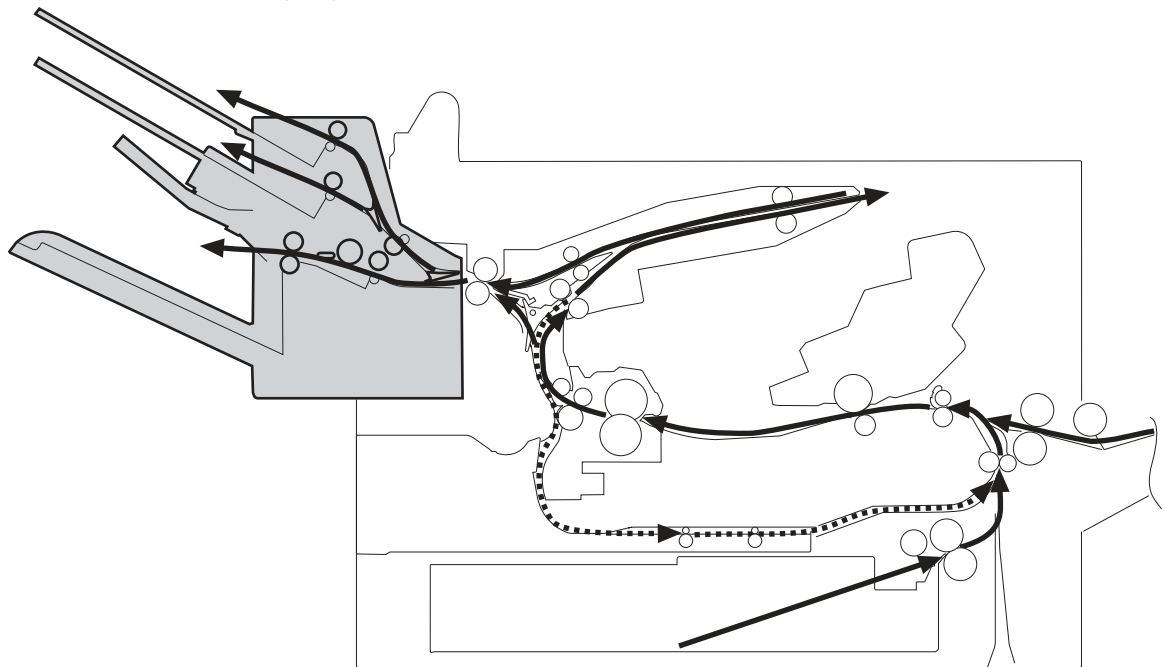
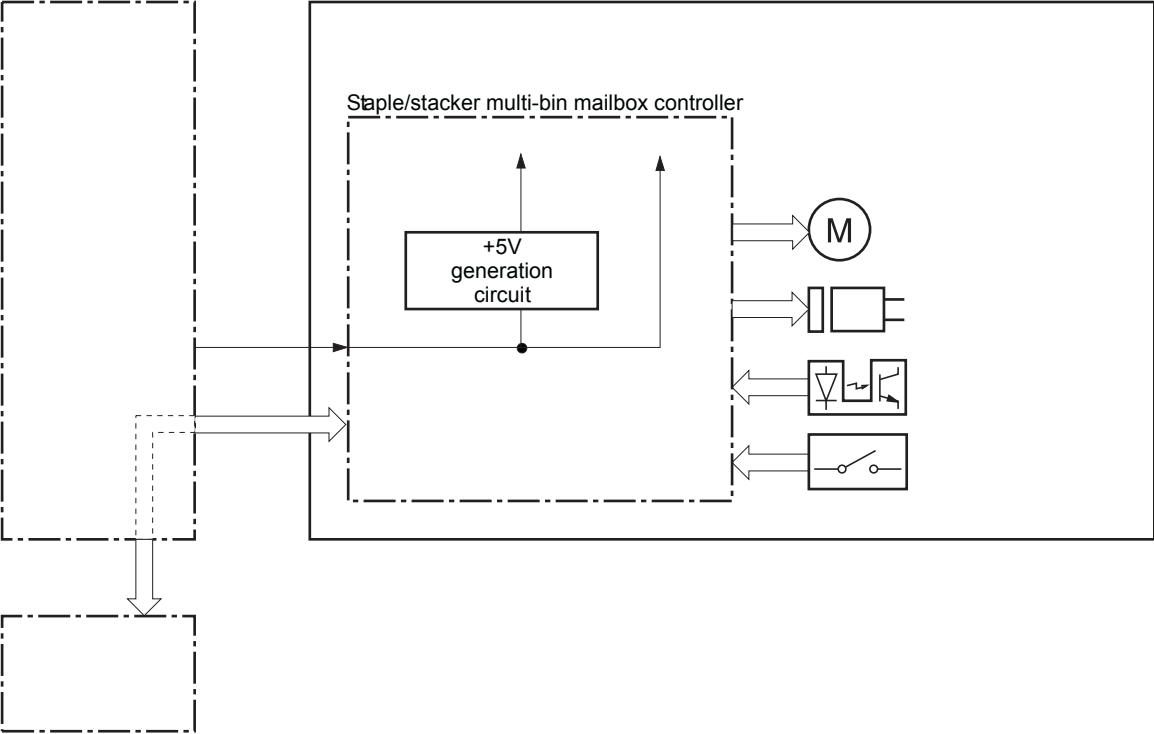


Figure 1-50 Signals for the 3-bin stapling mailbox



The 3-bin stapling mailbox contains several motors, solenoids, sensors, and switches.

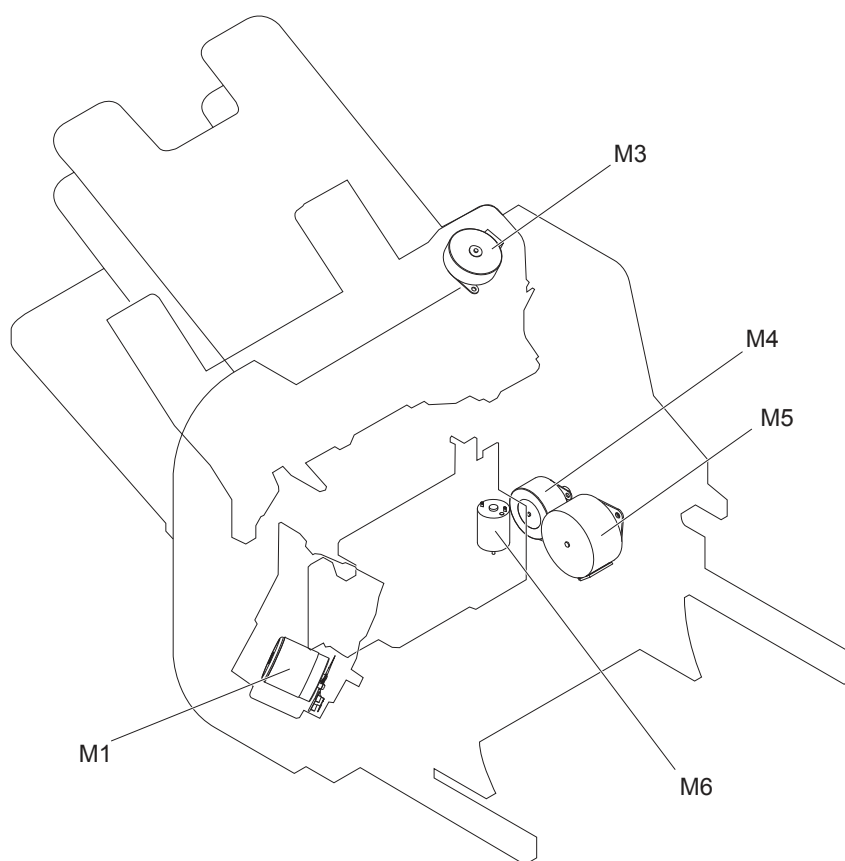
Table 1-13 Electrical components for the 3-bin stapling mailbox

Component type	Abbreviation	Component name
Motors	M1	Stapler motor
	M3	Jogger motor
	M4	Paddle motor
	M5	Stapler/stacker feed motor
	M6	Stapler/stacker lifter motor
Solenoids	SL1	Stamp solenoid
	SL2	Inlet solenoid
	SL3	Output bin solenoid

Table 1-13 Electrical components for the 3-bin stapling mailbox (continued)

Component type	Abbreviation	Component name
Sensors	SR1	Output bin 3 delivery sensor
	SR2	Stapler/stacker media feed sensor 1
	SR3	Output bin 3 media full sensor
	SR4	Alignment roller sensor
	SR5	Stapler/stacker media feed sensor 2
	SR6	Jogger sensor
	SR7	Output bin 3 upper delivery roller sensor
	PS2501	Output bin 1 media presence sensor
	PS2502	Output bin 2 media full sensor
	PS2503	Output bin 2 media presence sensor
	PS2504	Output bin 1 media full sensor
	PS2601	Output bin 3 higher limit sensor
	PS2602	Output bin 3 lower limit sensor
	PH011	Stapler sensor
	PH013	Staple presence sensor
	PH012	Staple ready sensor
Switches	SW1	Stapler/stacker door switch

Motor control



The 3-bin stapling mailbox has five motors for paper feed, paper delivery, and staple operation.

Component		Drives	Failure detection
Stapler motor	M1	Stapler	Yes (type 2) ¹
Jogger motor	M3	Jogger guide	Yes (type 2)
Paddle motor	M4	Alignment roller, disengagement of the alignment roller, and disengagement of the output bin 3 upper delivery roller	Yes (type 2)
Stapler/stacker feed motor	M5	Stapler/stacker feed roller, Stapler/stacker delivery roller, output bin 3 upper delivery roller, and the output bin 3 upper delivery roller and output bin 3 lower delivery roller	No When the motor fails a jam occurs.
Stapler/stacker lifter motor	M6	Output bin 3	Yes (type 2)

¹ There are two methods for detecting motor failure. Type 1 detects failure by monitoring the motor. Type 2 detects failure by monitoring a related part of the motor.

Failure detection

The controller detects a motor failure by monitoring a part related to the motor. If the controller determines a motor failure or motor-related part failure, it notifies the formatter when it encounters the following conditions:

- Stapler motor: The stapler sensor is not sensed for a specified period of time after the stapler motor starts rotating.
- Jogger motor: The jogger sensor is not sensed for a specified period of time after the jogger motor starts rotating.
- Paddle motor: The output bin 3 upper delivery roller sensor is not sensed for a specified period of time after the paddle motor is rotated. The alignment roller sensor is not sensed for a specified period of time after the paddle motor is reversed.
- Stapler/stacker lifter motor: The output bin 3 higher limit sensor or output bin 3 media full sensor is not sensed for a specified period of time after the stapler/stacker lifter motor is rotated. The output bin 3 higher limit sensor, output bin 3 lower limit sensor, or output bin 3 media full sensor is not sensed for a specified period from when the stapler/stacker lifter motor is reversed.

Delivery operation

The 3-bin stapling mailbox has two modes.

- Stacker mode: The printed page is delivered to output bin 3 first and then delivered to the subsequent output bins.
- Mailbox/job separator mode: The printed page is delivered to the specified output bin for each print job.



NOTE: The figure below does not show the location of stapler motor, stapler sensor, staple presence sensor and staple ready sensor because they are contained in the stapler assembly.

Figure 1-51 3-bin stapling mailbox delivery operation

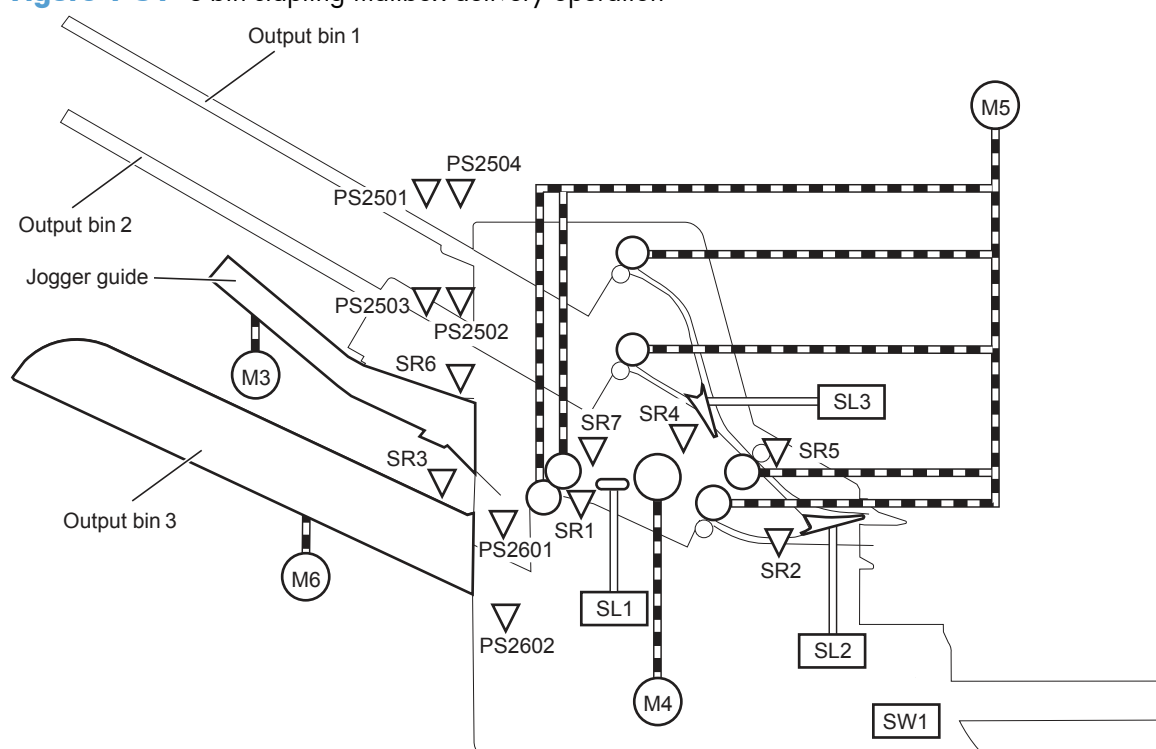


Table 1-14 Delivery components (3-bin stapling mailbox)

Component		Signal
M1	Stapler motor	STAPLER MOTOR CONTROL signal
M3	Jogger motor	JOGGER MOTOR CONTROL signal
M4	Paddle motor	PADDLE MOTOR CONTROL signal
M5	Stapler/stacker feed motor	STAPLE STACKER MULTI-BIN MAILBOX FEED MOTOR CONTROL signal
M6	Stapler/stacker lifter motor	STAPLE STACKER MULTI-BIN MAILBOX LIFTER MOTOR CONTROL signal
SL1	Stamp solenoid	STAMP SOLENOID signal
SL2	Inlet solenoid	INLET SOLENOID signal
SL3	Output bin solenoid	OUTPUT BIN SOLENOID signal
SR1	Output bin 3 delivery sensor	OUTPUT BIN 3 MEDIA DELIVERY signal
SR2	Stapler/stacker media feed sensor 1	STAPLE STACKER MULTI-BIN MAILBOX MEDIA FEED 1 signal
SR3	Output bin 3 media full sensor	OUTPUT BIN 3 MEDIA FULL signal
SR4	Alignment roller sensor	ALIGNMENT ROLLER signal
SR5	Stapler/stacker media feed sensor 2	STAPLE STACKER MULTI-BIN MAILBOX MEDIA FEED 2 signal
SR6	Jogger sensor	JOGGER signal
SR7	Output bin 3 upper delivery roller sensor	OUTPUT BIN 3 UPPER DELIVERY ROLLER signal

Table 1-14 Delivery components (3-bin stapling mailbox) (continued)

Component		Signal
PS2501	Output bin 1 media presence sensor	OUTPUT BIN 1 MEDIA PRESENCE signal
PS2502	Output bin 2 media full sensor	OUTPUT BIN 2 MEDIA FULL signal
PS2503	Output bin 2 media presence sensor	OUTPUT BIN 2 MEDIA PRESENCE signal
PS2504	Output bin 1 media full sensor	OUTPUT BIN 1 MEDIA FULL signal
PS2601	Output bin 3 higher limit sensor	OUTPUT BIN 3 HIGHER LIMIT signal
PS2602	Output bin 3 lower limit sensor	OUTPUT BIN 3 LOWER LIMIT signal
PH011	Stapler sensor	STAPLER signal
PH013	Staple presence sensor	STAPLE PRESENCE signal
PH012	Staple ready sensor	STAPLE READY signal
SW1	Stapler/stacker door switch	STAPLE STACKER MULTI-BIN MAILBOX DOOR OPEN DETECTION signal

Staple operation

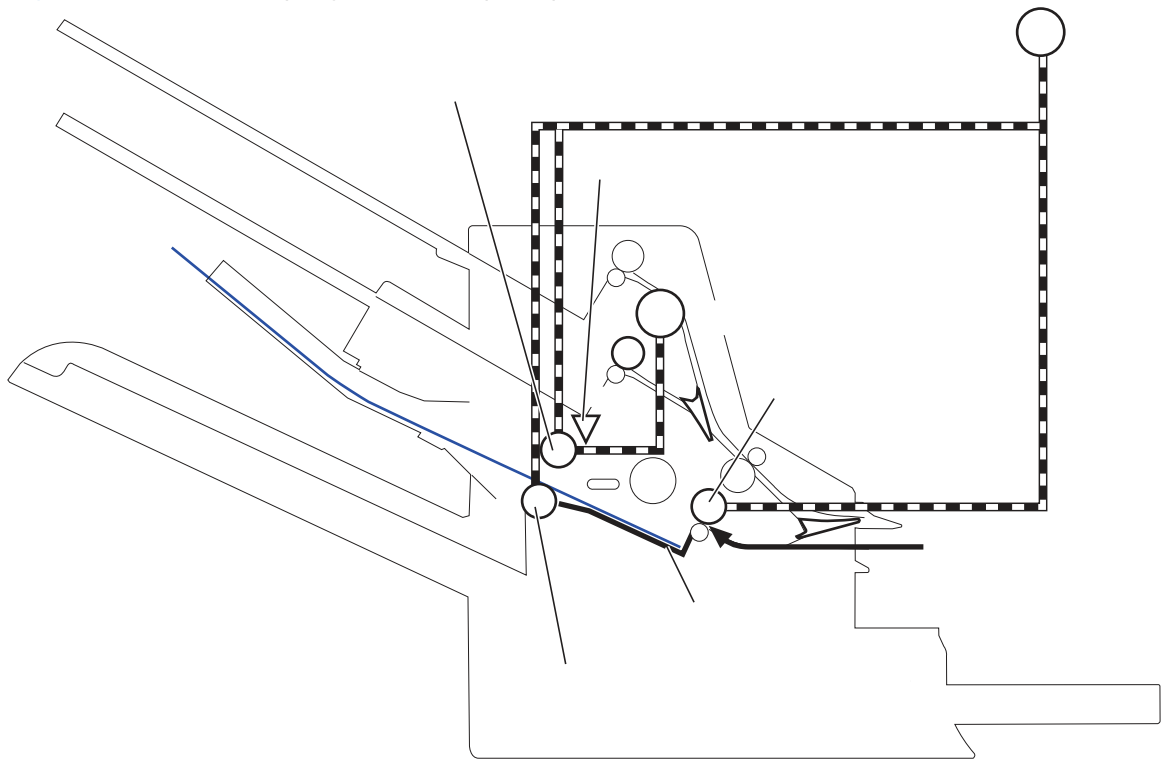
The staple operation staples 2 to 30 sheets of printed pages together into one set and then delivers it to output bin 3. This staple operation is available for both stacker mode and mailbox/job separator mode.

The staple sequence is as follows:

1. The stapler/stacker controller rotates the paddle motor to disengage the output bin 3 upper delivery roller from the output bin 3 lower delivery roller.

2. The printed page from the product is fed to the staple tray.

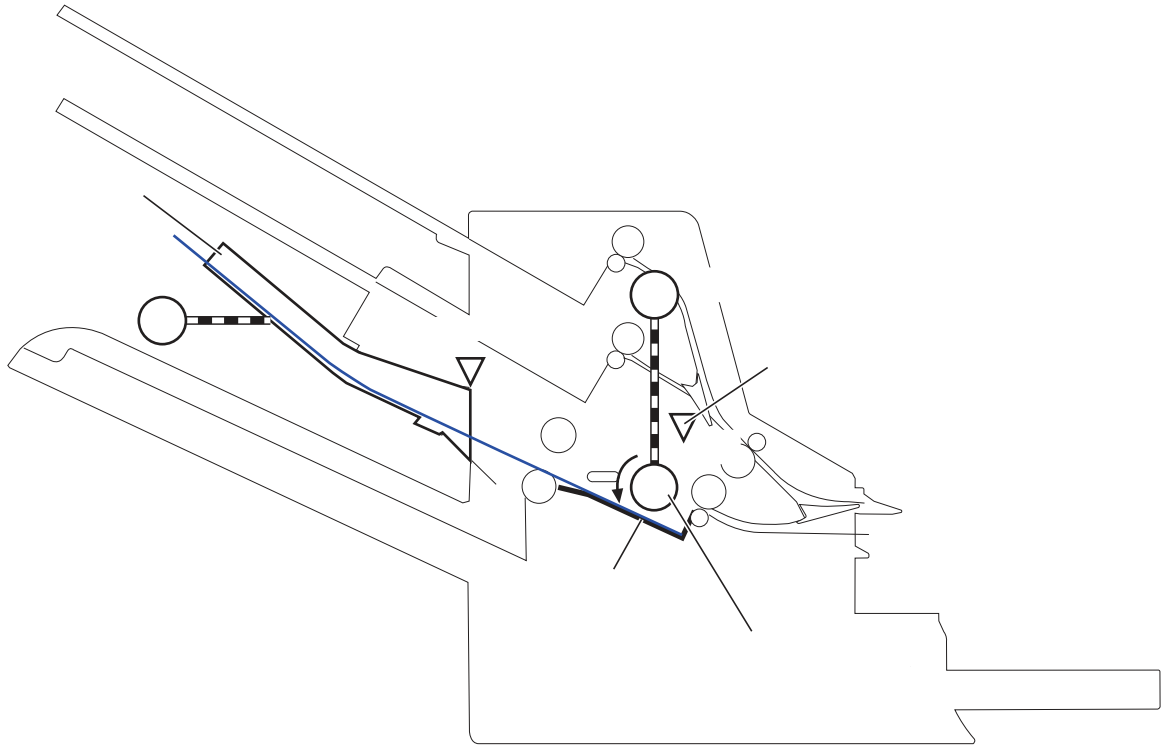
Figure 1-52 3-bin stapling mailbox stapler operation (1 of 4)



The controller determines an output bin 3 upper delivery roller failure and notifies the formatter through the DC controller when it does not detect the output bin 3 upper delivery roller sensor for a specified period after the paddle motor starts rotating.

3. The printed page on the staple tray is aligned. For horizontal alignment, the jogger motor rotates and moves the jogger guide. For vertical alignment, the paddle motor is reversed and the alignment roller pushes the page.

Figure 1-53 3-bin stapling mailbox stapler operation (2 of 4)

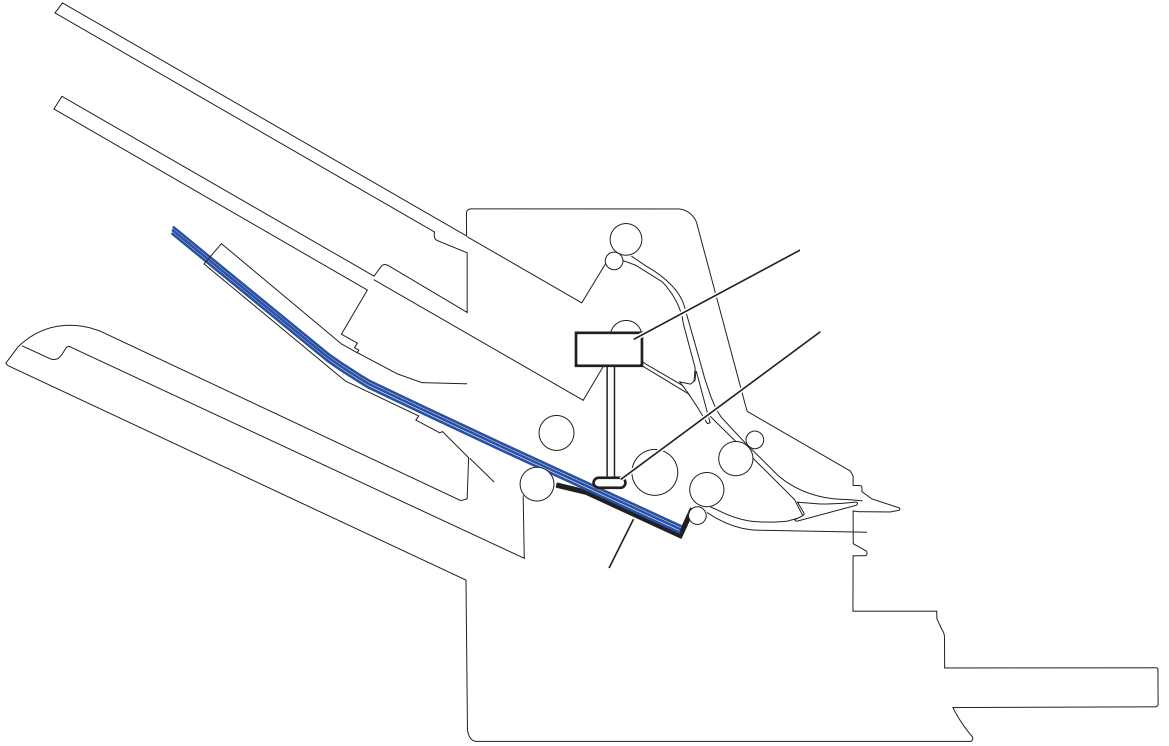


The controller determines a paddle motor failure and notifies the formatter through the DC controller when it does not detect the alignment roller sensor for a specified period after the paddle motor starts rotating.

4. After alignment, the stamp solenoid is driven and the stamp holds the page.
5. Steps 1 to 4 repeat for a specified number of pages.

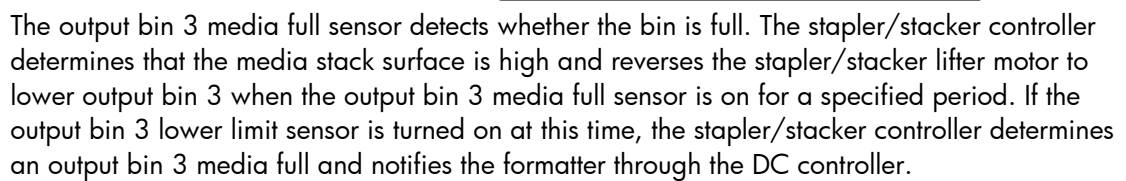
6. After all of the pages are aligned, the pages are stapled together while being held with the stamp.

Figure 1-54 3-bin stapling mailbox stapler operation (3 of 4)



7. The paddle motor rotates, and the output bin 3 upper delivery roller touches the stapled pages.
8. The stapler/stacker feed motor rotates the output bin 3 upper delivery roller and the output bin 3 lower delivery roller. Accordingly, the set of printed-pages is delivered to output bin 3.

- Figure 1-55** 3-bin stapling mailbox stapler operation (4 of 4)

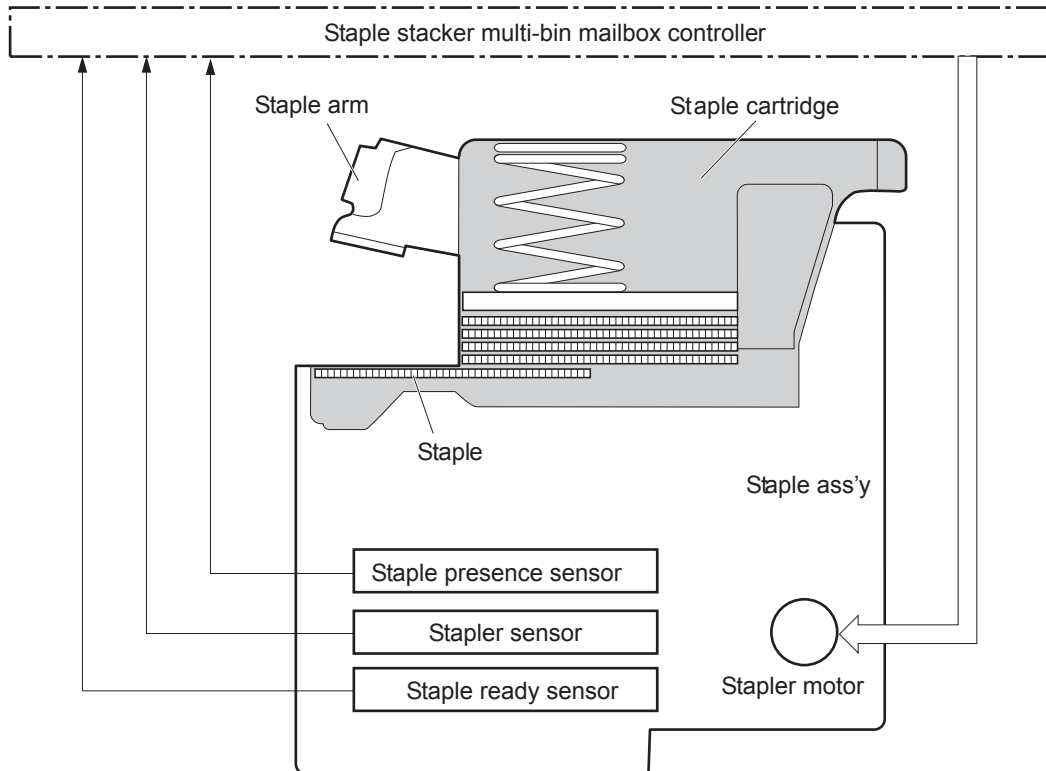


80 Chapter 1 Theory of operation

Stapler

The stapler consists of the staple cartridge and the stapler assembly. The staple cartridge holds up to 5,000 staples. The staple presence sensor detects the presence of staples. The staple ready sensor detects whether the stapler is in the correct position to staple. The stapler assembly is equipped with the stapler motor. When the stapler/stacker controller rotates the stapler motor, the staple arm lowers and staple operation begins. The stapler sensor detects the position of the staple arm.

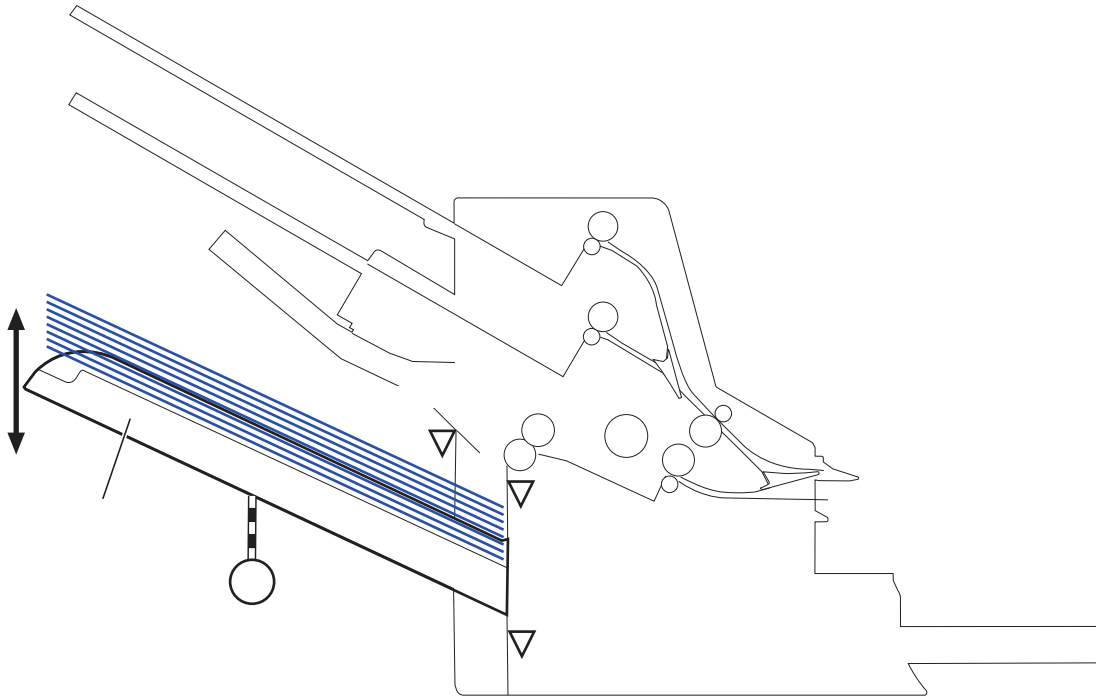
Figure 1-56 3-bin stapling mailbox sensors for the stapler



The stapler/stacker controller determines a stapler motor failure and notifies the formatter through the DC controller when it does not detect the stapler sensor for a specified period after the stapler motor starts rotating. The stapler/stacker controller determines a stapler jam and notifies the formatter through the DC controller if it senses the stapler sensor after a specified period of time from when the stapler motor starts rotating and then if the stapler sensor recovers within a specified period of time from when the stapler motor is reversed.

Output bin 3 lift operation

Figure 1-57 3-bin stapling mailbox sensors for output bin 3 lift operation



The operational sequence of the output bin 3 lift operation is as follows:

1. The stapler/stacker lifter motor rotates if both the output bin 3 higher limit sensor and the output bin 3 media full sensor are off when the product is turned on until the following conditions occur:
 - The output bin 3 higher limit sensor detects the output bin 3.
 - The output bin 3 media full sensor detects paper.

The stapler/stacker lifter motor is reversed if either the output bin 3 higher limit sensor or the output bin 3 media full sensor is on, or if both sensors are on when the product is turned on to lower the output bin 3 to a specified level.

2. When the printed pages are stacked on output bin 3, and the output bin 3 media full sensor detects the paper, the stapler/stacker lifter motor is reversed to lower the output bin 3 to a specified level.
3. The stapler/stacker controller notifies the formatter through the DC controller when the output bin 3 media full sensor detects paper. Output bin 3 lowers to the position of the output bin 3 lower limit sensor.

The stapler/stacker controller determines a stapler/stacker lifter motor failure. The controller notifies the formatter through the DC controller when it encounters the following conditions after the stapler/stacker lifter motor starts rotating:

- Output bin 3 does not reach the output bin 3 higher limit sensor within a specified period of time.
- The output bin 3 media full sensor does not detect paper.

The stapler/stacker controller determines a stapler/stacker lifter motor failure. The controller notifies the formatter through the DC controller when the following sensors are not sensed after the stapler/stacker lifter motor is reversed:

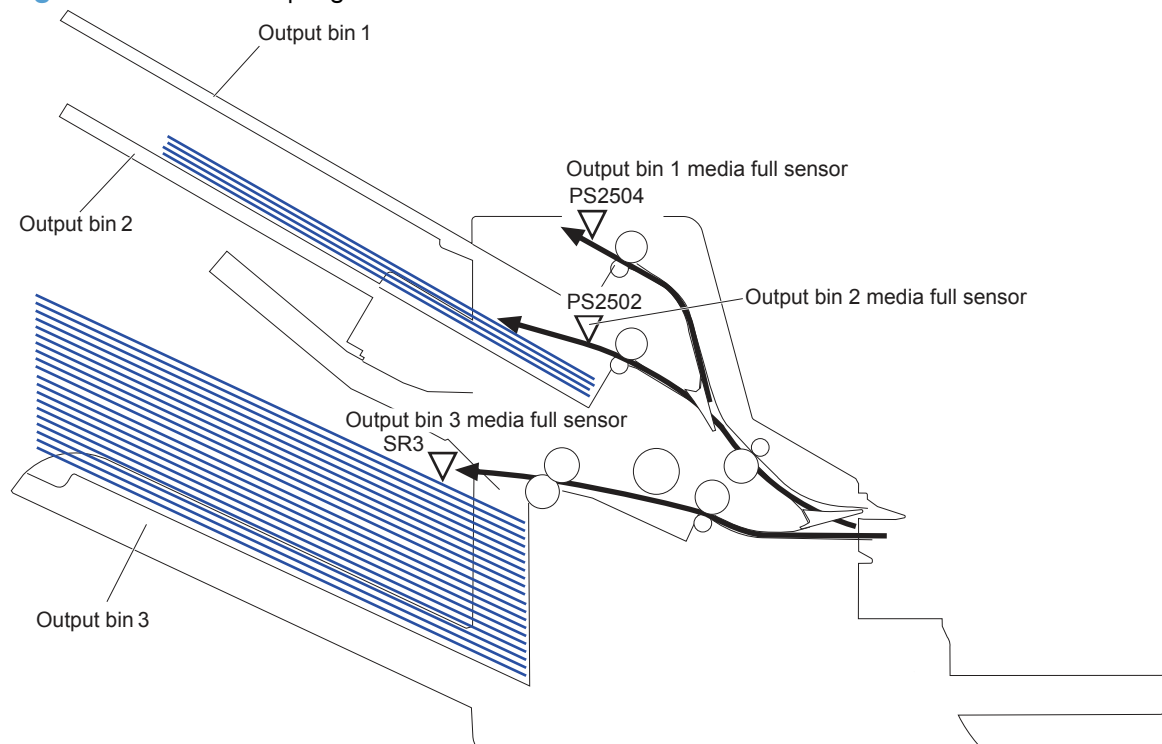
- Output bin 3 higher limit sensor
- Output bin 3 lower limit sensor
- Output bin 3 media full sensor

Stacker mode

Stacker mode does not designate an output bin. It delivers the printed page to output bin 3 first and then to the next bin up.

When the output bin 3 media full sensor detects that output bin 3 is full, the 3-bin stapling mailbox delivers to output bin 2. When the output bin 2 media full sensor detects that output bin 2 is full, the 3-bin stapling mailbox delivers to output bin 1.

Figure 1-58 3-bin stapling mailbox sensors for stacker mode



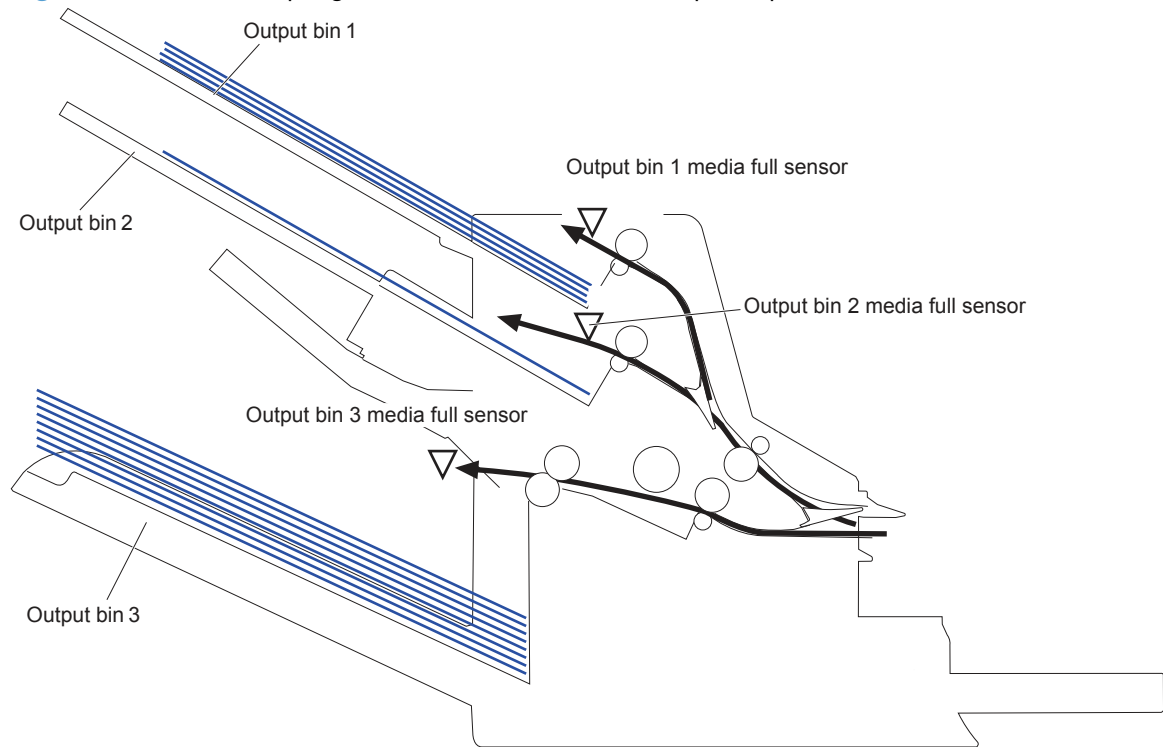
The stapler/stacker controller determines if the 3-bin stapling mailbox is full and notifies the formatter through the DC controller when it encounters the following condition:

- The output bin 1 media full sensor is detected.
- The staple operation is designated when output bin 3 is full of paper.

Mailbox/job separator mode

The mailbox/job separator mode delivers the printed page to the designated bin for each print job.

Figure 1-59 3-bin stapling mailbox sensors for mailbox/jam separation



The stapler/stacker controller determines if the 3-bin stapling mailbox is full and notifies the formatter through the DC controller when it encounters the following condition:

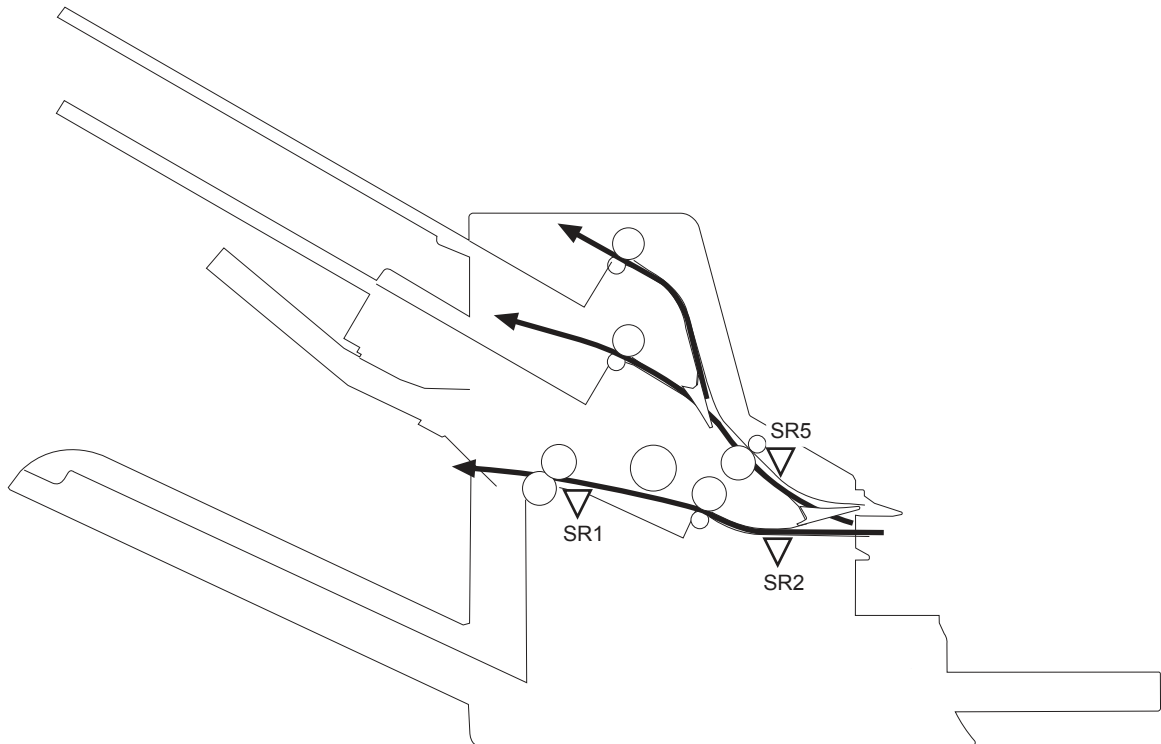
- The designated output bin media full sensor is detected.
- The staple operation is designated when output bin 3 is full of paper.

Jam detection

The 3-bin stapling mailbox uses the following sensors to detect the presence of paper and to check whether paper is being fed correctly or has jammed:

- Output bin 3 delivery sensor (SR1)
- Stapler/stacker media feed sensor 1 (SR2)
- Stapler/stacker media feed sensor 2 (SR5)

Figure 1-60 3-bin stapling mailbox sensors for jam detection



The stapler/stacker detects the following jams:

- Stapler/stacker feed delay jam 1: The stapler/stacker media feed sensor 1 does not detect the leading edge of paper within a specified period of time after the fuser delivery sensor in the product detects the leading edge.
- Stapler/stacker feed delay jam 2: The stapler/stacker media feed sensor 2 does not detect the leading edge of paper within a specified period of time after the fuser delivery sensor in the product detects the leading edge.
- Stapler/stacker feed stationary jam 1: The stapler/stacker media feed sensor 1 does not detect the trailing edge of paper within a specified period of time after it detects the leading edge.
- Stapler/stacker feed stationary jam 2: The stapler/stacker media feed sensor 2 does not detect the trailing edge of paper within a specified period of time after it detects the leading edge.

- Stapler/stacker feed stationary jam 3: The output bin 3 delivery sensor does not detect the trailing edge of paper within a specified period of time from when the stapler/stacker feed motor starts rotating after a staple operation.
- Stapler/stacker residual paper jam: Any one of the following sensors detects a presence of paper for a specified period of time during an automatic delivery operation:
 - Output bin 3 delivery sensor
 - Stapler/stacker media feed sensor 1
 - Stapler/stacker media feed sensor 2

Automatic delivery

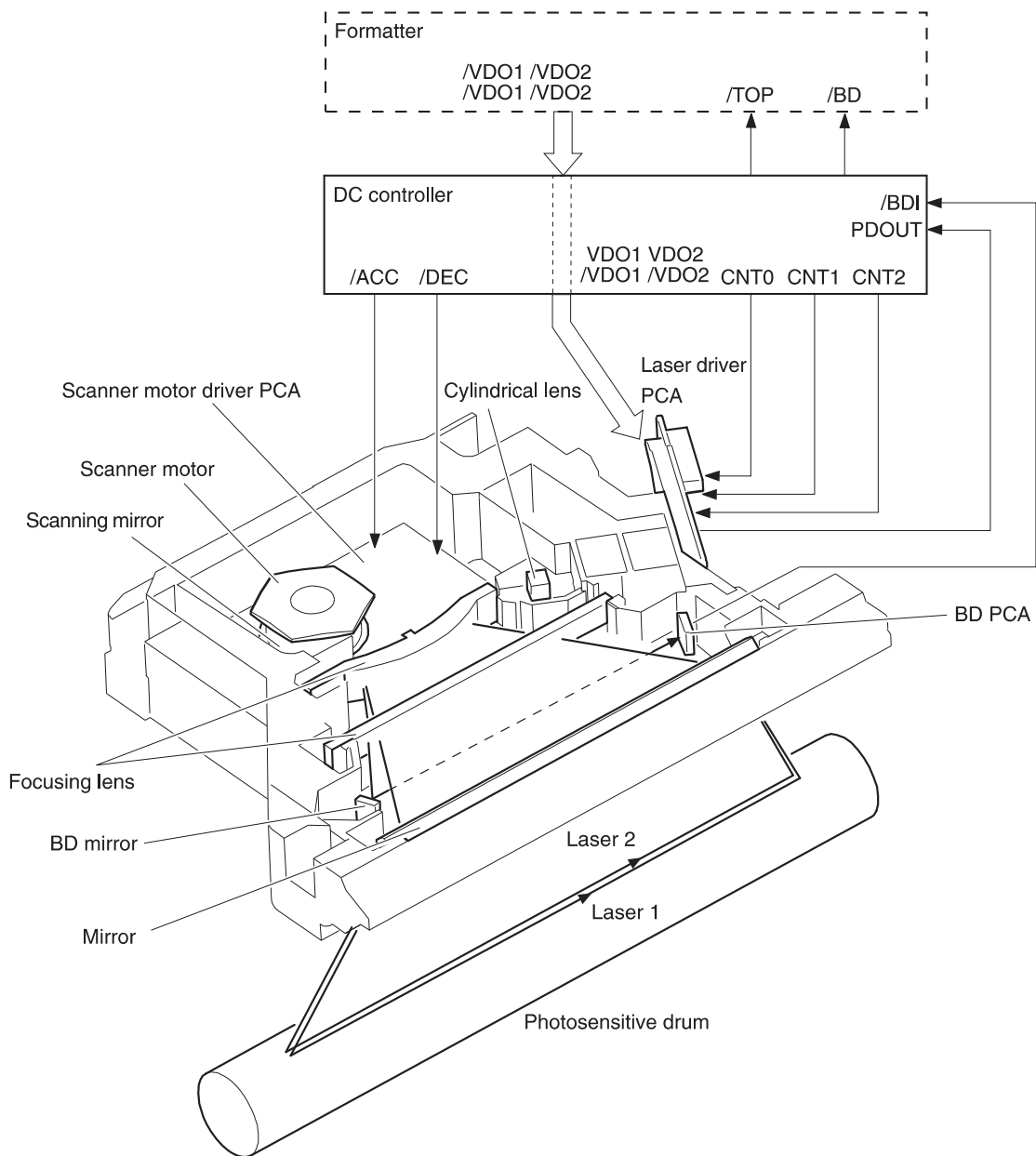
The stapler/stacker automatically clears the paper if any one of the following sensors detects the residual paper during the initial sequence after the stapler/stacker is turned on or after the door is closed.

- Output bin 3 delivery sensor
- Stapler/stacker media feed sensor 1
- Stapler/stacker media feed sensor 2

Laser/scanner system

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 1-61 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.

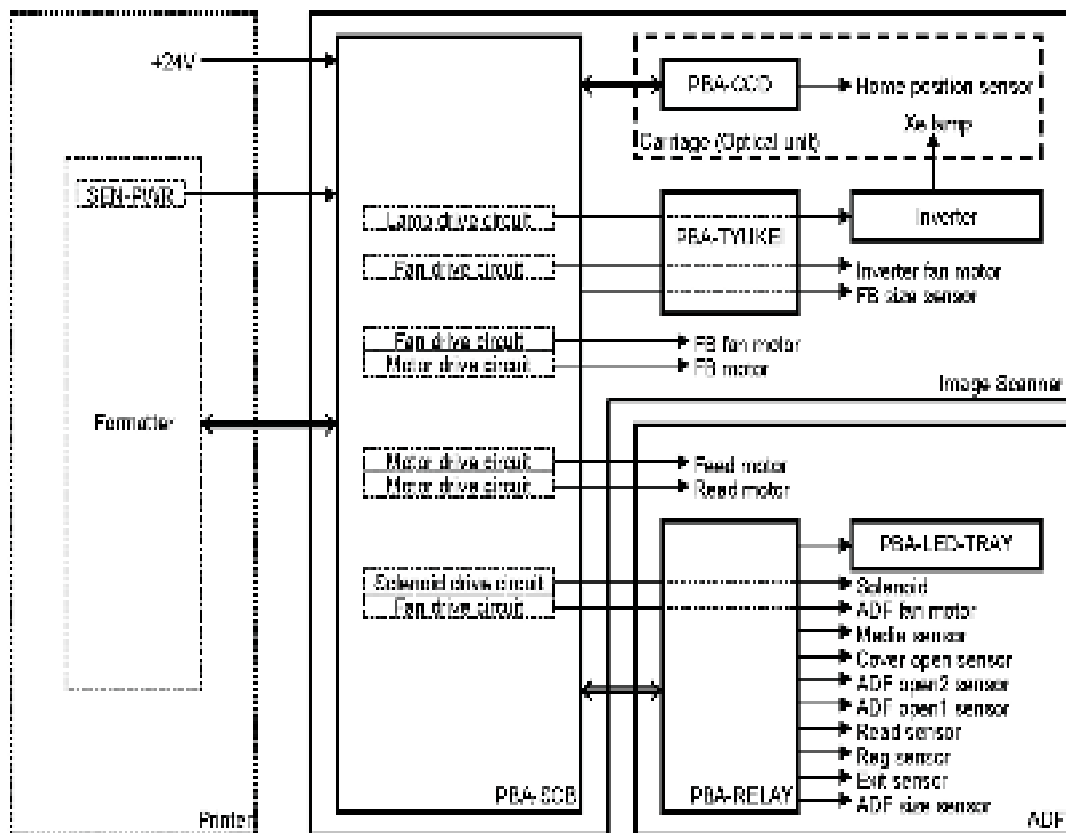
The modulated laser beams generate the latent electrostatic image on the photosensitive drum according to the image data signals that are received from the DC controller PCA.

Document feeder/scanner assembly

The document feeder/scanner assembly consists of a document feeder and flatbed scanner. The document feeder can feed 50 pages of letter or A4 size paper at speeds up to 55 images per minute (IPM) in simplex and 26 IPM in duplex. The document feeder features legal size detection and customer replaceable feed and separation rollers and pads. The flatbed scanner also includes legal detection and does not require a scanner lock for transport. The sensors and motors in both the document feeder and flatbed scanner are controlled and monitored by the scanner controller board (SCB) that is located on the rear of the flatbed scanner. The copy process board (CPB) is integrated on the formatter. Image data is sent to the formatter through the scanner cable connected to the interconnect board (ICB).

Scanner subsystem

Figure 1-62 Scanner subsystem



Document feeder/scanner motor and fan control

Component	Purpose	Type	Rotation	Timing	Failure detection
Carriage motor	Drives the carriage	Step motor	Clockwise	Initializing	No
			Clockwise	Scanning mono	No
			Clockwise	Scanning color	No
			Counterclockwise	Return	No
Feed motor	Drives the pick, separation, and registration rollers	Step motor	Counterclockwise	Separation	No
			Clockwise	Feeding	No
			Clockwise	Scanning mono (600 x 300)	No
			Clockwise	Scanning mono (600 x 600)	No
			Clockwise	Scanning color (600 x 300)	No
			Clockwise	Scanning color (600 x 600)	No
Read motor	Drives the feed and delivery rollers	Step motor	Counterclockwise	Scanning mono (600 x 300)	No
			Counterclockwise	Scanning mono (600 x 600)	No
			Counterclockwise	Scanning color (600 x 300)	No
			Counterclockwise	Scanning color (600 x 600)	No
			Clockwise	Switch back for duplex scanning	No
Scanner fan	Cools the lamp and CCD	DC motor	Clockwise	Synchronizing the lamp control	Yes
Document feeder fan	Cools the motor and solenoid	DC motor	Clockwise	Synchronizing the document feeder control	Yes
Inverter fan	Cools the inverter	DC motor	Clockwise	Synchronizing the lamp control	Yes

Legal detection sensor

The document feeder uses a legal-size media sensor to automatically detect between letter-size and legal-size media loaded into the document-feeder input tray. When the paper guides on the input tray are positioned against the paper stack in the tray, a corresponding paper-size signal is sent to the DC controller. When the default media is set to A4, the legal-size media sensor is not active. Small media sizes such as A5 are not detected by the document feeder with any default media size.

Fan timing sequence

Fan activated timing

Fans are activated as follows:

- The image scanner fan is activated when the carriage motor or lamp is turned on.
- The document feeder fan is activated when the feed motor or read motor is activated.

Fan lock failure detection

The scanner, document feeder, and inverter fans have the following failure detection features:

- The fan is turned on. After 5 seconds, the scanner controller begins observing the fan lock signal.
- The fan fails in an error condition. After 5 seconds, the lock condition is detected.
- The scanner completes the job even if the scanner recognizes errors during the job.
- After completing the job, the scanner shifts to the error status and transfers the failure information to the formatter.

Optical assembly operation

Figure 1-63 Optical assembly operation

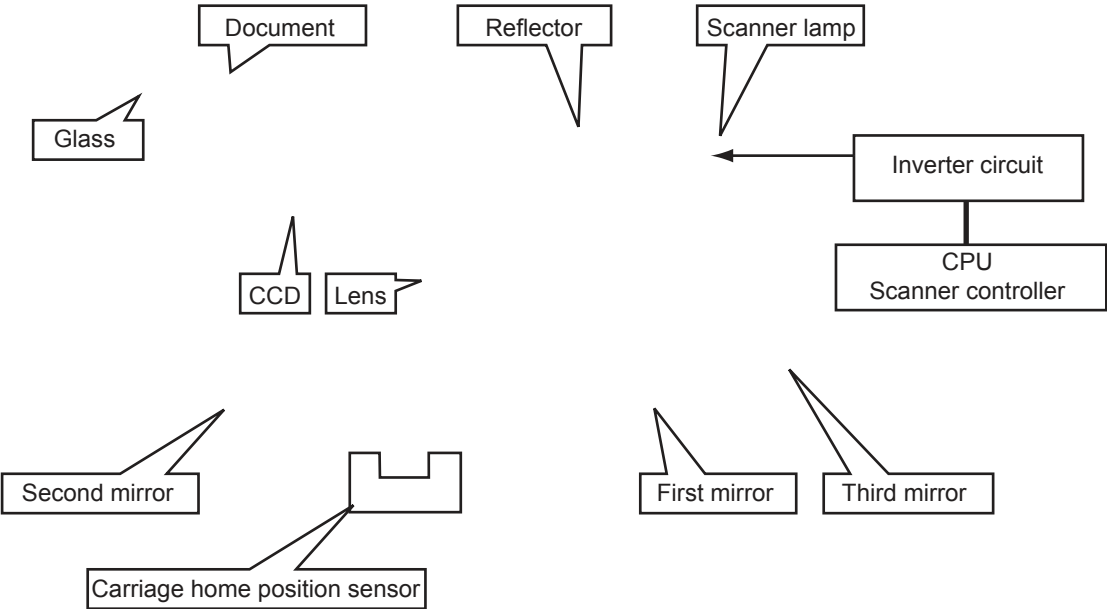


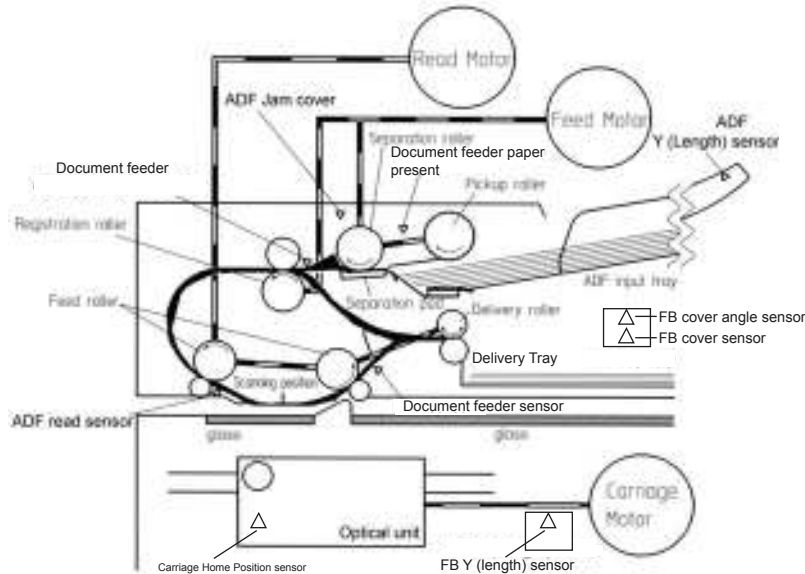
Image data path

Figure 1-64 Image data path

Document feeder/scanner paper path and sensors

 **TIP:** For information about individual component tests, see [Component diagnostics on page 352](#).

Figure 1-65 Document feeder/scanner paper path and sensors



Jam detection sequence

1. A jam error occurs in the document feeder.
2. The feed and read motors stop immediately.
3. The error bit of the scanner status is set. The status information is sent to the CPB.
4. Document feeder operation is terminated.
5. The error bit is held until the jam is cleared.

Clearing a jam

1. Open the jam-access cover and then remove the paper.
2. After the jam-access cover is closed, the error bit is cleared if the sensors detect no media.

Document feeder jam detection

1. **Remaining media check:** After initialization or after the jam-access cover is opened and then closed, the registration sensor, read sensor, or exit sensor are checked for residual paper.
2. **Pickup error:** The paper did not reach the registration sensor within the standard time. After feeding paper from the input tray, paper is transferred. The motor is stopped if the registration sensor does not detect paper. The motor reverses and attempts to refeed the paper. A pickup error occurs if the registration sensor continues to fail to detect paper after the refeed attempt. If there is paper ahead of jammed paper in the paper path, the pickup error occurs after the preceding paper is scanned and ejected.

3. Paper path jam: Document feeder sensors detect errors in the following situations:

Sensor	Description
Registration sensor	A jam is detected when the registration sensor does not detect the leading edge of paper when turning paper over during the duplexing process.
	A jam is detected when the registration sensor does not detect the trailing edge of paper.
Lead sensor	A jam is detected when the lead sensor does not detect the leading edge of paper.
	A jam is detected when the lead sensor does not detect the trailing edge of paper.
Exit sensor	A jam is detected when the exit sensor does not detect the leading edge of paper.
	A jam is detected when the exit sensor does not detect the trailing edge of paper.

- 4. Jam cover open jam:** A jam error occurs if the jam cover is opened while paper is being fed through the document feeder.
- 5. Document feeder open jam:** A jam error occurs if the document feeder is open while paper is being fed through the document feeder.

Document feeder pickup mechanism

1. The pickup-roller picks up a page from the input tray.
2. If multiple pages are picked up, the separation roller and separation pad separates them to prevent feeding of multiple pages.
3. After the page reaches the registration sensor, the pickup and separation rollers stop, and registration and read rollers start.

2 Removal and replacement

- [Introduction](#)
- [Removal and replacement strategy](#)
- [Electrostatic discharge](#)
- [Required tools](#)
- [Service approach](#)
- [Print cartridge](#)
- [Staple cartridge \(for models with a stapler/stacker\)](#)
- [Control panel](#)
- [Transfer roller](#)
- [Output bin and bin base assembly](#)
- [Duplex accessory](#)
- [Fuser-entrance guide](#)
- [Fuser](#)
- [Tray 1 separation roller](#)
- [Envelope feeder cover](#)
- [Tray 1 pickup and feed rollers](#)
- [Tray 2, 3, 4, or 5 pickup, feed, and separation rollers](#)
- [Scanner filter cover and scanner filter](#)
- [Interface formatter PCA](#)
- [Hard drive](#)
- [Fax accessory PCA](#)
- [Document feeder tray extender](#)
- [Document feeder pickup roller cover](#)

- [Document feeder pickup roller](#)
- [Document feeder pickup roller pad and spring](#)
- [Covers and document feeder](#)
- [Main assemblies](#)
- [Document feeder](#)
- [Scanner](#)
- [Optional 500-sheet paper feeder assembly](#)
- [Optional paper feeder assemblies \(1 x 500-sheet and 3 x 500-sheet\)](#)
- [Stapler/stacker](#)

Introduction

This chapter describes the removal and replacement of field-replaceable units (FRUs) only.

Replacing FRUs is generally the reverse of removal. Occasionally, notes and tips are included to provide directions for difficult or critical replacement procedures.

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

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

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


Removal and replacement strategy


! WARNING! Turn the product off, wait 5 seconds, and then remove the power cord before attempting to service the product. If this warning is not followed, severe injury can result, in addition to damage to the product. The power must be on for certain functional checks during troubleshooting. However, disconnect the power supply during parts removal.

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


The sheet-metal parts can have sharp edges. Be careful when handling sheet-metal parts.

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

 **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. Do not overtighten. If a self-tapping screw-hole becomes stripped, repair the screw-hole or replace the affected assembly.

 **TIP:** For clarity, some photos in this chapter show components removed that would not be removed to service the product. If necessary, remove the components listed at the beginning of a procedure before proceeding to service the product.

Electrostatic discharge

! **CAUTION:**  Some parts are sensitive to electrostatic discharge (ESD). Look for the ESD reminder when removing product parts. Always perform service work at an ESD-protected workstation or mat, or use an ESD strap. If an ESD workstation, mat, or strap is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.

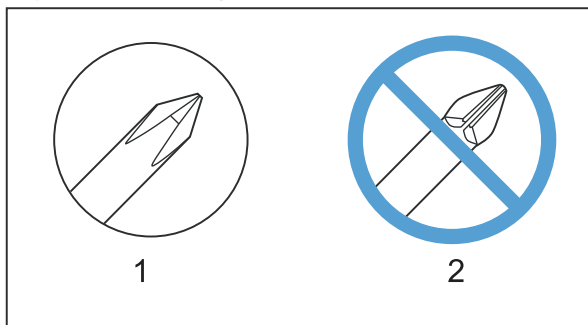
Protect the ESD-sensitive parts by placing them in ESD pouches when they are out of the product.

Required tools

- #2 Phillips screwdriver with a magnetic tip and a 152-mm (6-inch) shaft length
- Small flat blade screwdriver
- Needle-nose pliers
- ESD mat or ESD strap (if one is available)
- Penlight (optional)

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

Figure 2-1 Phillips and Pozidriv screwdriver comparison



Service approach

Before performing service

- Remove all media from the product.
- Turn off the power using the power switch.
- Unplug the power cable and interface cable or cables.
- Place the product on an ESD workstation or mat, or use an ESD strap (if one is available). If an ESD workstation, mat, or strap is not available, ground yourself by touching the sheet-metal chassis *before* touching an ESD-sensitive part.
- Remove the print cartridge. See [Print cartridge on page 102](#).
- Remove the tray cassette or cassettes.

After performing service

- Plug in the power cable.
- Reinstall the print cartridge.
- Reinstall the tray cassette or cassettes.
- If the 1 x 500-sheet paper feeder or optional 3 x 500-sheet paper feeder was removed for service, place the product on the feeder or feeders. Engage the feeder tray locks to secure the feeder or feeders to the product.

Post-service test

Perform the following test to verify that the repair or replacement was successful.

Print-quality test

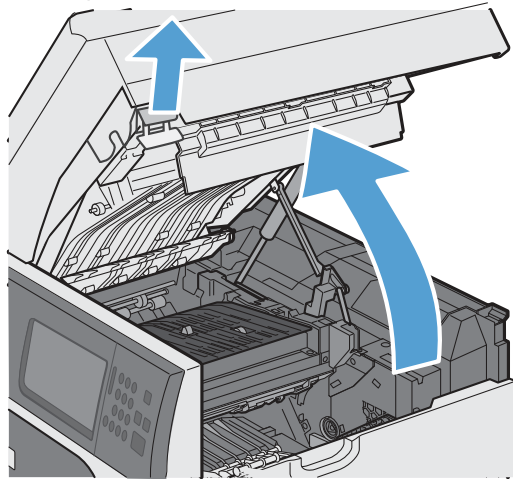
1. Verify that you have completed the necessary reassembly steps.
2. Make sure that the tray contains clean, unmarked paper.
3. Attach the power cord and interface cable or interface cables, and then turn on the product.
4. Verify that the expected startup sounds occur.
5. Print a configuration page, and then verify that the expected printing sounds occur.
6. Send a print job from the host computer, and then verify that the output meets expectations.
7. Make a copy using the document feeder, and the flatbed glass.
8. If necessary, restore any customer-specified settings.
9. Clean the outside of the product with a damp cloth.

Print cartridge

CAUTION: 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.

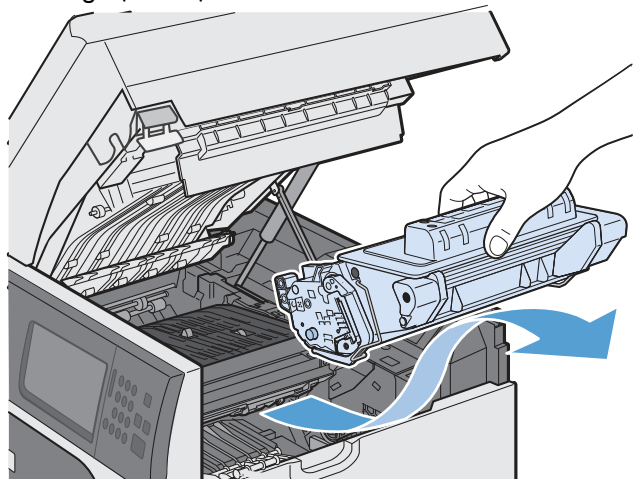
1. Pull the top cover release lever to open the top cover.

Figure 2-2 Remove and replace the print cartridge (1 of 8)



2. Grasp the handle of the used print cartridge and pull out to remove.

Figure 2-3 Remove and replace the print cartridge (2 of 8)

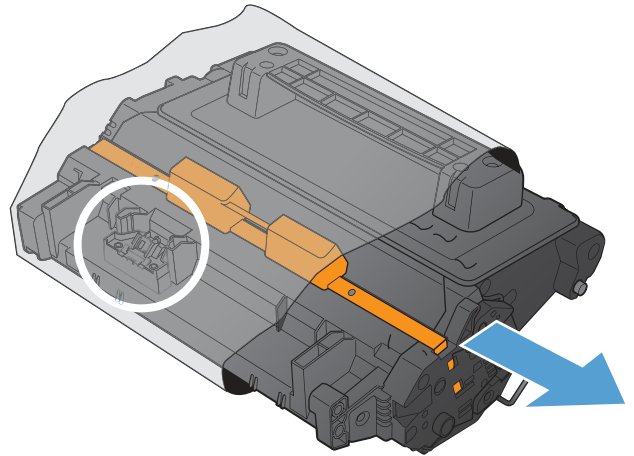


3. Store the used print cartridge in a protective bag.

4. Remove the new print cartridge from its protective bag.

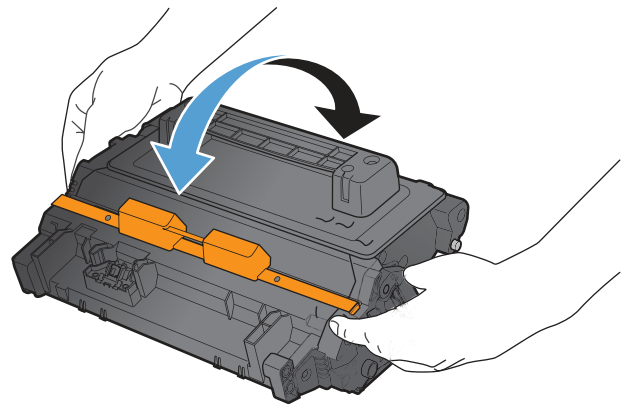
NOTE: Be careful not to damage the memory tag on the print cartridge.

Figure 2-4 Remove and replace the print cartridge (3 of 8)



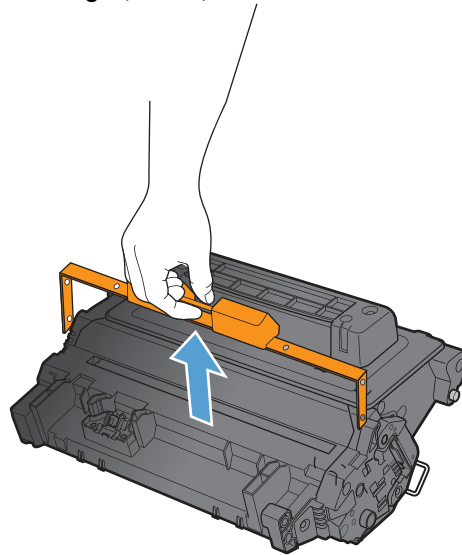
5. Grasp both sides of the print cartridge and distribute the toner by gently rocking the print cartridge five or six times.

Figure 2-5 Remove and replace the print cartridge (4 of 8)



6. Remove the orange, plastic shipping lock from the bottom of the new print cartridge.

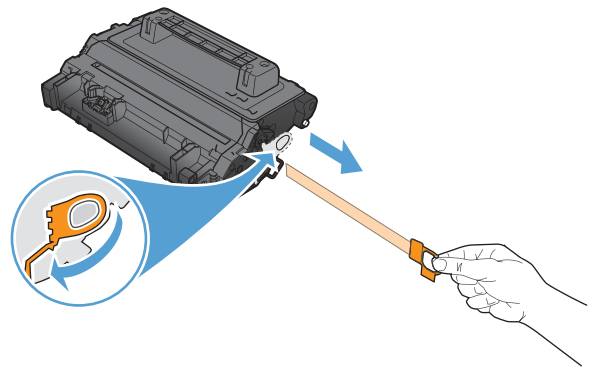
Figure 2-6 Remove and replace the print cartridge (5 of 8)



7. Pull on the orange tab to remove the toner sealing tape. Completely remove the sealing tape from the cartridge.

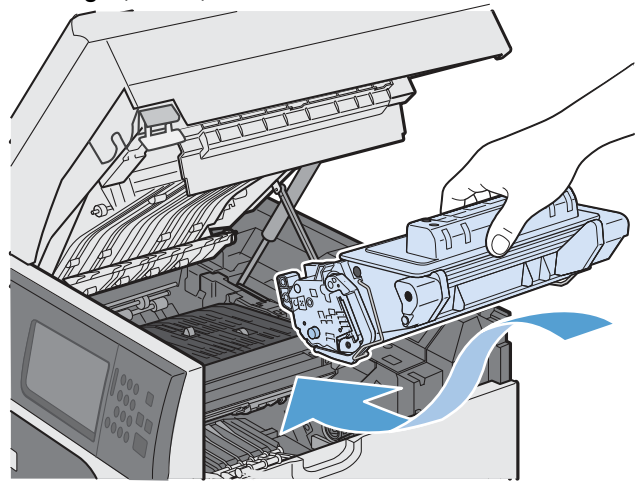
CAUTION: Avoid prolonged exposure to light.

Figure 2-7 Remove and replace the print cartridge (6 of 8)



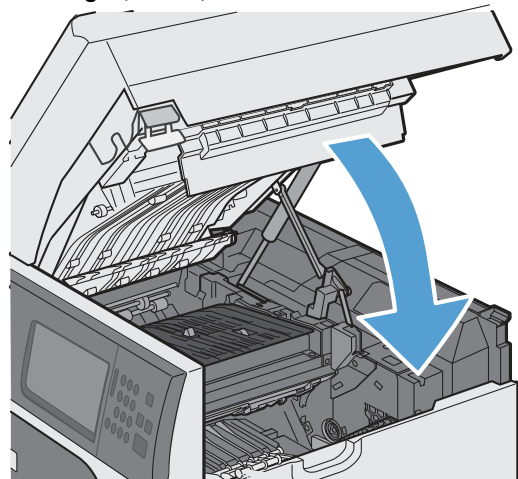
8. Align the print cartridge with its slot and insert the print cartridge until it clicks into place.

Figure 2-8 Remove and replace the print cartridge (7 of 8)



9. Close the top cover.

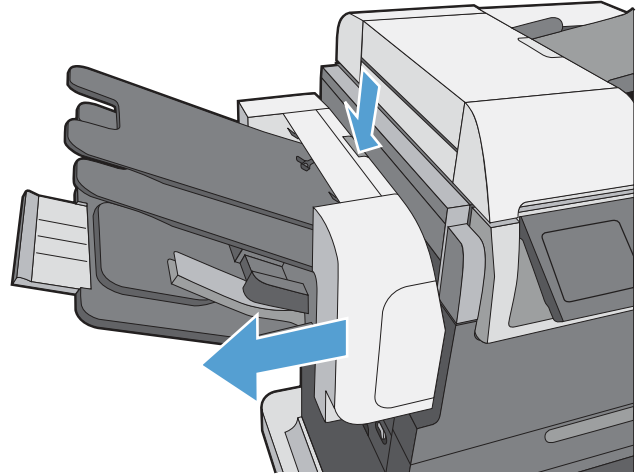
Figure 2-9 Remove and replace the print cartridge (8 of 8)



Staple cartridge (for models with a stapler/stacker)

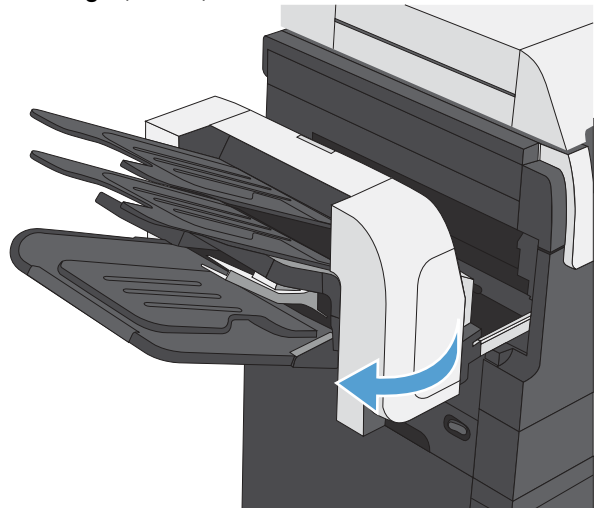
1. Press the release latch, and then slide the stapler/stacker away from the product.

Figure 2-10 Remove and replace the staple cartridge (1 of 5)



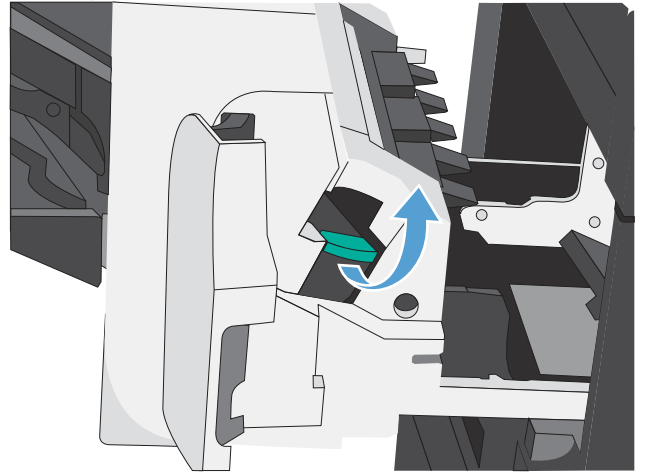
2. Open the staple-cartridge door.

Figure 2-11 Remove and replace the staple cartridge (2 of 5)



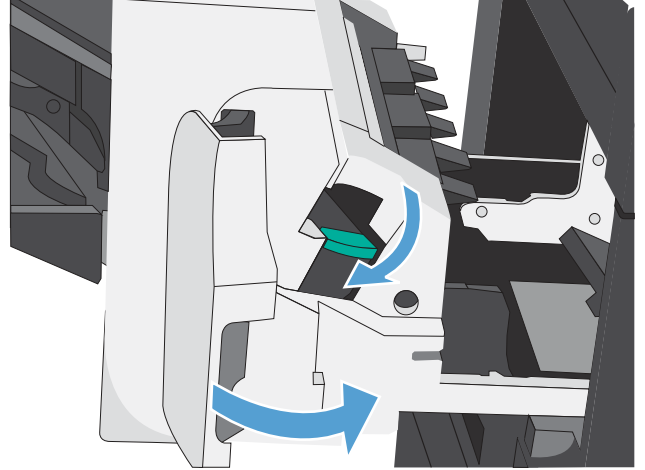
3. Lift up on the staple-cartridge green handle, and then pull the cartridge out of the stapler to remove it.

Figure 2-12 Remove and replace the staple cartridge (3 of 5)



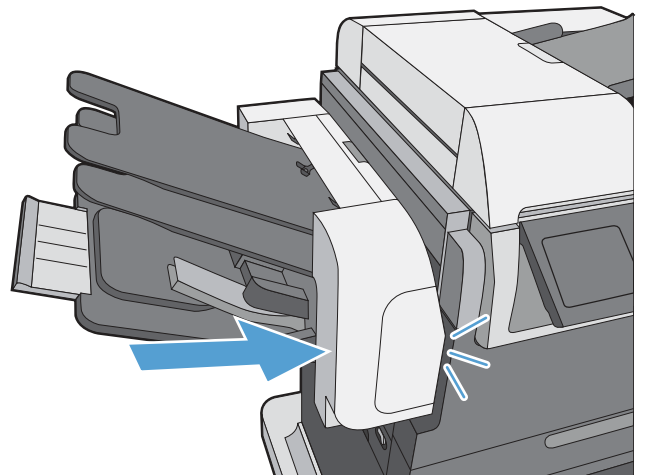
4. Insert a new staple cartridge, push down on it to snap it into place, and then close the staple-cartridge door.

Figure 2-13 Remove and replace the staple cartridge (4 of 5)



5. Slide the stapler/stacker toward the product until it latches in place.

Figure 2-14 Remove and replace the staple cartridge (5 of 5)



Control panel

1. Lift the control panel.

Figure 2-15 Remove the control panel (1 of 3)



2. Remove one screw (callout 1).

Figure 2-16 Remove the control panel (2 of 3)

3. Disconnect one connector (callout 1), and then move the control panel to the right to remove it.

Figure 2-17 Remove the control panel (3 of 3)

4. When reinstalling the control panel, make sure the bracket fits correctly on the product.

Figure 2-18 Incorrect installation of the control panel

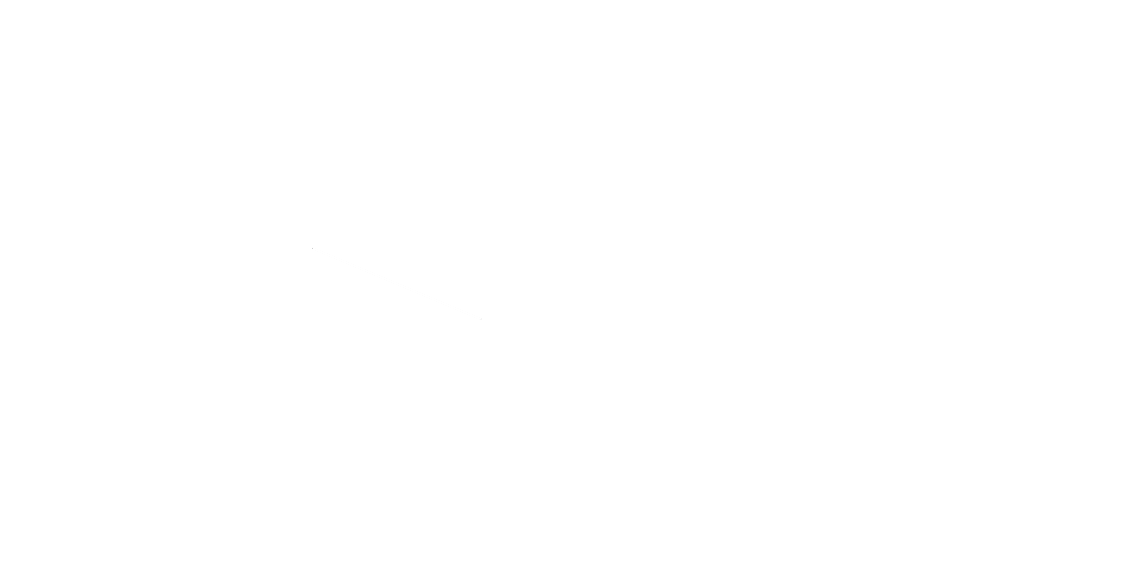


Figure 2-19 Correct installation of the control panel



Transfer roller

CAUTION: Do not touch the black rubber on the transfer roller. Skin oils on the roller can cause print-quality problems. Use disposable gloves when you remove the transfer roller.

1. Open the top cover and then open Tray 1.
2. Use a flat-blade screwdriver to lift the left end of the metal shaft out of place (near the blue gear). Slide the transfer roller to the left to remove it.


 **NOTE:** 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).

Figure 2-20 Remove the transfer roller

Output bin and bin base assembly

1. Lift and pull the output bin (callout 1) to remove it.

Figure 2-21 Remove the output bin and bin base assembly (1 of 2)

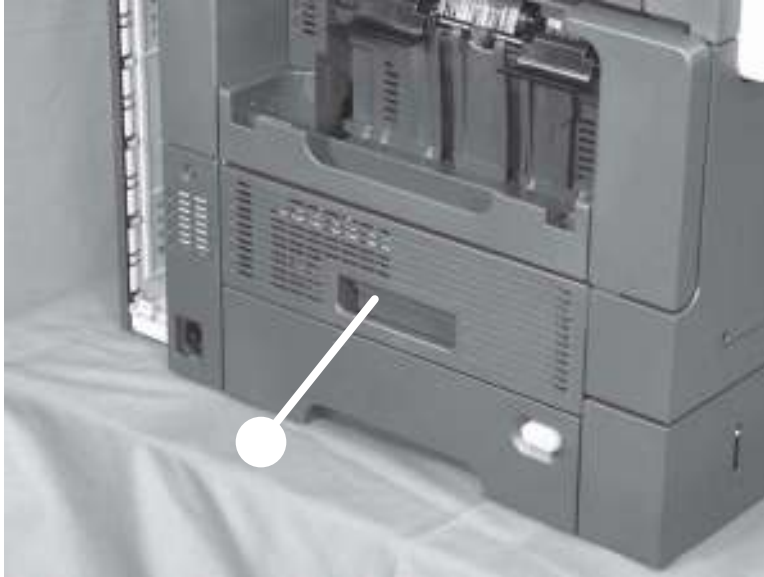
2. Slide the bin base (callout 1) away from the product, slightly lift up on the assembly to disengage the slide rails, and then remove it.

Figure 2-22 Remove the output bin and bin base assembly (2 of 2)

Duplex accessory

Slide the duplex assembly (callout 1) away from the product, slightly lift up on the assembly to disengage the slide rails, and then remove it.

Figure 2-23 Remove the duplex-printing unit



Fuser-entrance guide

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Duplex accessory. See [Duplex accessory on page 113](#).

Remove the fuser-entrance guide

1. Flex the rear hinge-pin (callout 1) of the fuser-entrance guide (callout 2) until it clears the mounting hole in the product chassis.
2. Rotate the rear of the guide away of the product and slide the guide to the left to release the front hinge-pin. Remove the fuser-entrance guide.

Figure 2-24 Remove the fuser-entrance guide

Fuser

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Duplex accessory. See [Duplex accessory on page 113](#).
- Fuser-entrance guide. See [Fuser-entrance guide on page 114](#).

Remove the fuser



CAUTION: The fuser is very hot. After turning the product power off, allow the fuser to cool for at least 30 minutes before removing it.

Squeeze the two blue tabs on the fuser to release it, and then slide it out of the product.

Figure 2-25 Remove the fuser

Tray 1 separation roller

CAUTION: If you are not installing replacement rollers, do not touch the black spongy surface of the rollers. Skin oils can cause print-quality problems.

1. Open Tray 1.
2. Open the cover (callout 1), lift the tab (callout 2) on the separation roller, and then slide the roller (callout 3) off of the shaft.

Figure 2-26 Remove the Tray 1 separation roller

Envelope feeder cover

1. Open Tray 1.
2. Pull the envelope feeder cover (callout 1) straight out of the product to remove it.

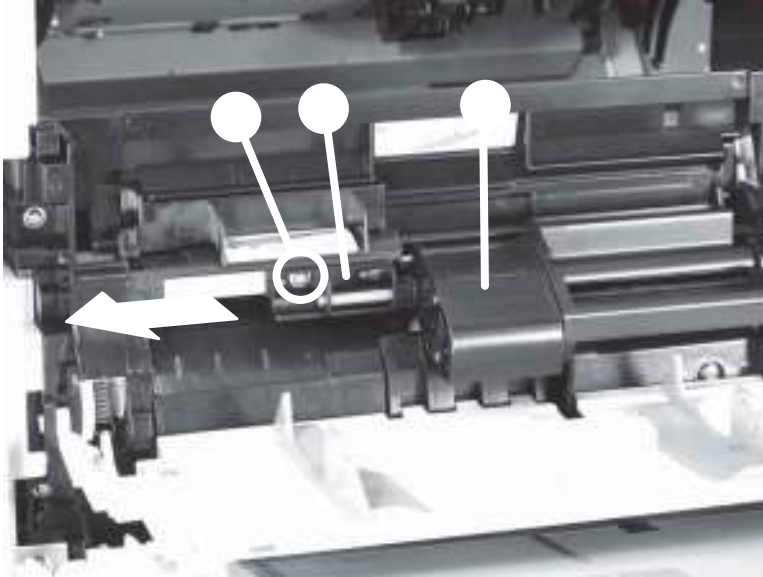
Figure 2-27 Remove the envelope feeder cover

Tray 1 pickup and feed rollers

CAUTION: If you are not installing replacement rollers, do not touch the black spongy surface of the rollers. Skin oils can cause print-quality problems.

1. Open Tray 1.
2. Remove one screw (callout 1), slightly separate the bushing from the product, and then slide the bushing (callout 2) off of the shaft. Remove the cover (callout 3).

Figure 2-28 Remove the Tray 1 pickup and feed rollers (1 of 2)



3. Remove the pickup roller (callout 1), and then remove the feed roller (callout 2).

Figure 2-29 Remove the Tray 1 pickup and feed rollers (2 of 2)



Tray 2, 3, 4, or 5 pickup, feed, and separation rollers

CAUTION: If you are not installing replacement rollers, do not touch the black spongy surface of the rollers. Skin oils can cause print-quality problems.

1. Remove the cassette from the tray.
2. Pinch the tab on the pickup roller (callout 1), feed roller (callout 2), or separation roller (callout 3) to release it, and then slide the roller off of the shaft.

Figure 2-30 Remove the Tray 2, 3, 4, or 5 pickup, feed, and separation rollers

Scanner filter cover and scanner filter

1. Remove the scanner-filter cover (callout 1).

Figure 2-31 Remove the scanner filter (1 of 2)


2. Remove the filter (callout 1).

Figure 2-32 Remove the scanner filter (2 of 2)

Interface formatter PCA

! **CAUTION:**  ESD sensitive component.

Make sure that the power is turned off, and that the power cord is unplugged from the wall receptacle.

 **NOTE:** If possible, print a configuration page before replacing the formatter. You might need to transfer the serial number and the page count information to the new formatter.

1. Loosen two thumb screws, and then carefully pull the Interface (IFA) formatter straight out of the product.

Figure 2-33 Remove the IFA formatter (1 of 2)

2. Remove the formatter from the product.



Reinstallation tip When you reinstall the formatter, make sure that it is firmly and fully seated in the product.

Figure 2-34 Remove the IFA formatter (2 of 2)

Hard drive

A solid state drive (SSD) or a crypto hard-disk drive (HDD) device is installed depending on the product model.


CAUTION:  ESD sensitive component.

Before proceeding, remove the following components:

- Formatter PCA. See [Interface formatter PCA on page 121](#).

Remove the SSD

Locate the SSD (callout 1) on the sheet-metal side of the formatter (callout 2), remove one retainer (callout 3), and then remove the SSD.

 **Reinstallation tip** Do not lose the retainer. The SSD must be held in place using the retainer.

After installing a replacement SSD on the formatter, reinstall the formatter, and then turn the product on. You must reload the firmware by executing a firmware upgrade. See [Installing a replacement hard drive on page 126](#).

Figure 2-35 Remove the SSD

Remove the encrypted HDD

1. Disconnect two connectors (callout 1), and then remove one screw (callout 2).

Figure 2-36 Remove the encrypted HDD (1 of 5)

2. Rotate the hard drive up and away from the formatter PCA, and then release it from the hinge pins.

Figure 2-37 Remove the encrypted HDD (2 of 5)

3. Disconnect one connector, and then remove the wire harness.



Reinstallation tip Install the wire harness on the replacement hard drive.

Figure 2-38 Remove the encrypted HDD (3 of 5)

4. Release one tab (callout 1), and then slide the hard drive forward to remove it.

Figure 2-39 Remove the encrypted HDD (4 of 5)

5. Remove the two hard drive mounting rails.



Reinstallation tip Install the rails on the replacement hard drive. After installing a replacement encrypted HDD on the formatter, reinstall the formatter, and then turn the product on. You must reload the firmware by executing a firmware upgrade. See [Installing a replacement hard drive on page 126](#).

Figure 2-40 Remove the encrypted HDD (5 of 5)

Installing a replacement hard drive

After installing a replacement hard drive, you must reload the firmware by performing a firmware upgrade.

Perform a firmware upgrade

1. Go to www.hp.com/support/ljm4555mfp and follow the onscreen steps to download the most recent firmware upgrade files for this product.
2. Copy the firmware upgrade file to the root directory of a USB storage accessory. The firmware upgrade file has a .bdl extension.




NOTE: Use a standard USB storage accessory that uses File Allocation Table (FAT) file systems and that does not have a CD-ROM partition.

3. Insert the USB storage accessory into the USB port on the bottom edge of the control panel.
4. HDD: see [HDD firmware upgrade on page 127](#).


-or-

SSD: see [SSD firmware upgrade on page 128](#).


HDD firmware upgrade

 **NOTE:** In the following steps, press the physical keys on the numeric keypad. The touch screen is not functional.

1. Turn the product on. The message **Error 99.09.63 Missing Disk** appears on the control-panel display. Press the **6** button to continue.
2. Press the **6** button to open the **Preboot** menu. Press the **3** button or the **9** button to scroll to **Administrator**. Press the **6** button to select it.
3. Press the **3** button or the **9** button to scroll to **Manage Disk**. Press the **6** button to select it.
4. Press the **3** button or the **9** button to scroll to **Clear Disk Pass**. Press the **6** button to select it.
5. The message **Proceed With Requested Action** appears. Press the **6** button to select it.
6. Press the **#** button to return to the **Preboot** home screen.
7. Press the **3** button or the **9** button to scroll to **Administrator**. Press the **6** button to select it.
8. Press the **3** button or the **9** button to scroll to **Download**. Press the **6** button to select it.
9. Press the **3** button or the **9** button to scroll to **USB Thumbdrive**. Press the **6** button to select it.
10. Several .bdl files might be listed. Press the **3** button or the **9** button to scroll to the firmware upgrade file that you downloaded earlier. Press the **6** button to select it.

 **NOTE:** If no .bdl files are listed, try saving the file to a different USB storage accessory.

11. Wait while the file transfers. When the transfer is complete, the message **Complete** appears on the screen.
12. Turn the product off, remove the USB storage accessory, and then turn the product on. Wait for several minutes while the product initializes.

 **NOTE:** If the upgrade is unsuccessful, try sending the firmware upgrade file again.

SSD firmware upgrade



NOTE: In the following steps, press the physical keys on the numeric keypad. The touch screen is not functional.

1. Turn the product on. The message **Error 99.09.67 Missing Disk** appears on the control-panel display. Press the **6** button to continue.
2. Press the **6** button to open the **Preboot** menu. Press the **3** button or the **9** button to scroll to **Administrator**. Press the **6** button to select it.
3. Press the **3** button or the **9** button to scroll to **Download**. Press the **6** button to select it.
4. Press the **3** button or the **9** button to scroll to **USB Thumbdrive**. Press the **6** button to select it.
5. Several .bdl files might be listed. Press the **3** button or the **9** button to scroll to the firmware upgrade file that you downloaded earlier. Press the **6** button to select it.
6. Wait while the file transfers. When the transfer is complete, the message **Complete** appears on the screen.
7. Turn the product off, remove the USB storage accessory, and then turn the product on. Wait for several minutes while the product initializes.



NOTE: If the upgrade is unsuccessful, try sending the firmware upgrade file again.

Fax accessory PCA

! **CAUTION:**  ESD sensitive component.

1. Remove the formatter PCA. See [Interface formatter PCA on page 121](#).
2. Carefully disconnect the fax-accessory PCA (callout 1) from the formatter PCA, and then remove it.

Figure 2-41 Remove the fax accessory PCA

Document feeder tray extender

Pull the tray extender out, lift, and then remove.



Reinstallation tip When the tray extender is correctly reinstalled, you will hear it click into place.

Figure 2-42 Remove the document feeder tray extender



Document feeder pickup roller cover

1. Open the jam access cover.
2. Release the cover latch (callout 1). Lower the cover (callout 2), and then pull (callout 3) the cover to remove.

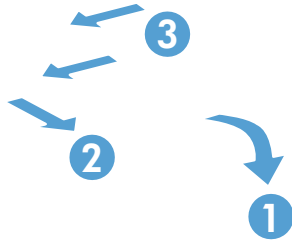
Figure 2-43 Remove the document feeder pickup roller cover



Document feeder pickup roller

Open the jam access cover (callout 1). Release the left side of the roller (callout 2) and remove the pickup roller assembly (callout 3).

Figure 2-44 Remove the document feeder pickup roller



Document feeder pickup roller pad and spring

1. Open the jam access cover.
2. Release one tab (callout 1).

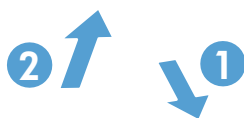
Figure 2-45 Remove the document feeder pickup roller pad and spring (1 of 2)



3. Slide the pad (callout 1) and then lift the back edge to remove the pad (callout 2). Remove the spring if necessary.

CAUTION: The spring is not captive when the pad is removed and can be dislodged and lost.

Figure 2-46 Remove the document feeder pickup roller pad and spring (2 of 2)

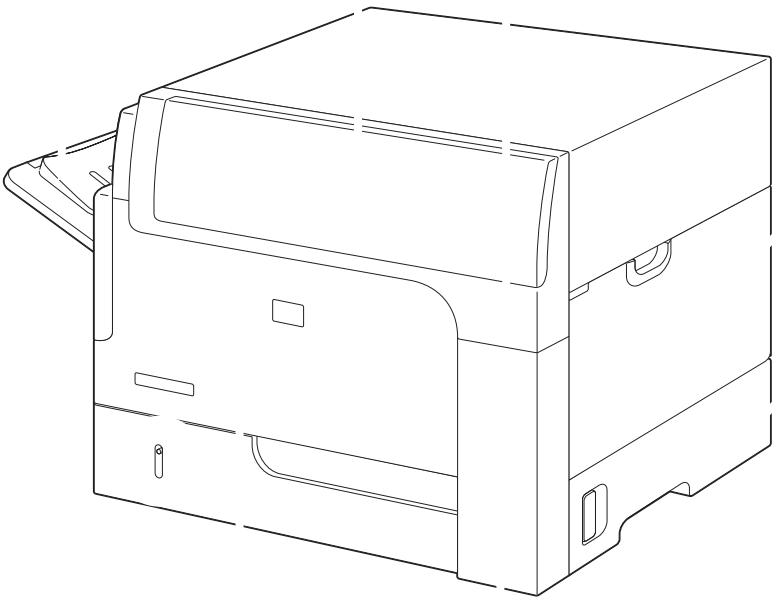


Covers and document feeder

This section describe how to remove the document feeder as an entire assembly. To remove the document feeder covers and main assemblies, see [Document feeder on page 222](#).

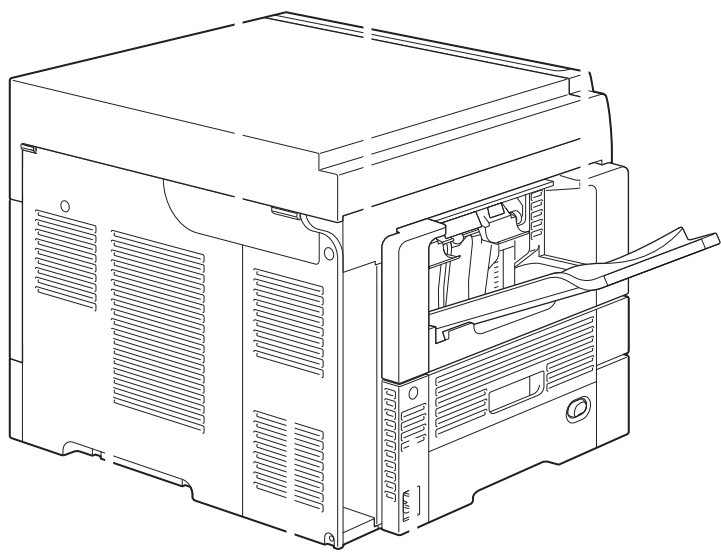
Identification and location (product base)

Figure 2-47 Identification and location (product base; 1 of 2)



Item	Description	Item	Description
1	Output bin	5	Right-lower door
2	Control panel	6	Front-right cover
3	Front-upper cover	7	Front cover
4	Tray 1 cover		

Figure 2-48 Identification and location (product base; 2 of 2)



Item	Description	Item	Description
1	Image scanner cable cover	4	Left-rear corner cover
2	Image scanner left cover	5	Rear-left cover
3	Bin base	6	Rear-right cover

Scanner rear cover

Remove one screw (callout 1), and then remove the scanner rear cover (callout 2).

Figure 2-49 Remove the scanner rear cover

Tray 1 cover

1. Open Tray 1.
2. Release the two outer retaining pins (callout 1) on the cover.


 **TIP:** Avoid releasing the inner tray (callout 2) retaining pins (callout 3). The inner tray can easily become dislodged. After releasing the outer retaining pins (callout 1), carefully fold the inner tray up and into the product to protect it.

Figure 2-50 Remove the Tray 1 cover (1 of 3)

3. Release the spring arm (callout 1).

CAUTION: The spring is not captive when the spring arm is released and can be dislodged and lost.

Figure 2-51 Remove the Tray 1 cover (2 of 3)



4. Slide the cover toward the back of the product to release it, and then remove the Tray 1 cover.

Figure 2-52 Remove the Tray 1 cover (3 of 3)

Cassette-door-open detection switch

1. Open the right-lower door, remove two screws (callout 1), and then remove the cover (callout 2).

Figure 2-53 Remove the cassette-door-open detection switch (1 of 4)

2. Remove one screw (callout 1).

Figure 2-54 Remove the cassette-door-open detection switch (2 of 4)

3. Release the wire harness (callout 1) from the guide (callout 2).

Figure 2-55 Remove the cassette-door-open detection switch (3 of 4)

4. Disconnect one connector (callout 1), and then remove the cassette-door-open detection switch (callout 2).

Figure 2-56 Remove the cassette-door-open detection switch (4 of 4)

Left-rear corner cover

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Duplex accessory. See [Duplex accessory on page 113](#).



NOTE: Removing the duplex accessory makes removing the cover easier, but it does not have to be removed to remove the cover.

Remove the left-rear corner cover

1. Remove one screw (callout 1).

Figure 2-57 Remove the left-rear corner cover (1 of 2)

2. Rotate the top of the cover away from the product (callout 1), slightly raise the cover to release it (callout 2), and then remove the cover.

Figure 2-58 Remove the left-rear corner cover (2 of 2)

Front cover

1. Remove the Tray 2 cassette.
2. Remove three screws (callout 1).

Figure 2-59 Remove the front cover (1 of 2)

3. Rotate the bottom of the cover away from the product to release it, and then remove the cover (callout 2).

Figure 2-60 Remove the front cover (2 of 2)

Front-right cover

Before proceeding, remove the following components:

- Tray 1 cover. See [Tray 1 cover on page 137](#).
- Front cover. See [Front cover on page 143](#).

Remove the front-right cover

1. Remove one screw (callout 1).

Figure 2-61 Remove the front-right cover (1 of 2)

2. Rotate the cover towards the right side of the product, to release it, and then remove the cover.


 **TIP:** It might be easier to remove the cover if you open Tray 1 and the right-lower cover (jam access door).

Figure 2-62 Remove the front-right cover (2 of 2)

Front-upper cover

Before proceeding, remove the following components:

- Control panel. See [Control panel on page 108](#).
- Tray 1 cover. See [Tray 1 cover on page 137](#).
- Front cover. See [Front cover on page 143](#).
- Front-right cover. See [Front-right cover on page 144](#).

Remove the front-upper cover

1. Remove eight screws (callout 1).

Figure 2-63 Remove the front-upper cover (1 of 2)

2. Carefully feed the control-panel cable through the opening (callout 1) in the cover as it is removed.

Figure 2-64 Remove the front-upper cover (2 of 2)

Image scanner right cover

1. Open Tray 1.
2. Remove one screw (callout 1).

Figure 2-65 Remove the image scanner right cover (1 of 3)

3. Starting at the edge of the cover near the rear of the product (callout 1), slightly flex the cover to release it.


 **TIP:** Slightly pulling the cover toward the rear of the product (callout 2) will help it release easier. Also, opening the top cover will help release the cover.

Figure 2-66 Remove the image scanner right cover (2 of 3)

4. Slightly flex the middle of the cover to release it, and then slide the cover toward the rear of the product to remove it.

Figure 2-67 Remove the image scanner right cover (3 of 3)

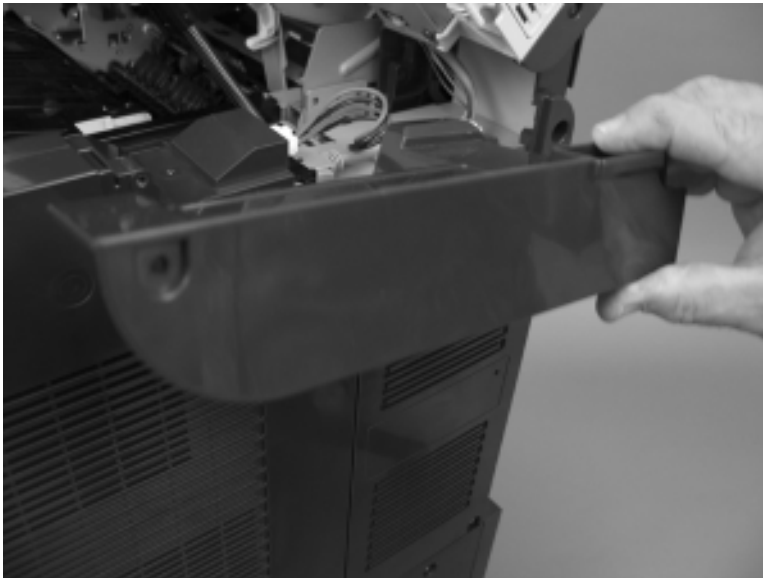
Image scanner cable cover

1. Pull the top cover release lever to open the top cover.
2. Remove one screw (callout 1).

Figure 2-68 Remove the image scanner cable cover (1 of 2)

3. Remove the cover.

Figure 2-69 Remove the image scanner cable cover (2 of 2)



Rear-right cover

1. Pull the top cover release lever to open the top cover.
2. Open Tray 1.
3. Remove three screws (callout 1).

Figure 2-70 Remove the rear-right cover (1 of 2)

4. Release two tabs (callout 1), slide the cover towards Tray 1 to release it, and then remove the cover.

Figure 2-71 Remove the rear-right cover (2 of 2)

Rear-left cover

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).

Remove the rear-left cover

1. Remove three screws (callout 1).

Figure 2-72 Remove the rear-left cover (1 of 2)

2. Remove the cover (callout 2).

Figure 2-73 Remove the rear-left cover (2 of 2)

Rear-top cover

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-left cover. See [Rear-left cover on page 152](#).

Remove the rear-top cover

1. Remove one screw (callout 1), and then release one tab (callout 2).

Figure 2-74 Remove the rear-top cover (1 of 2)

2. Push the cover towards Tray 1 to release it, and then remove the cover (callout 2).

Figure 2-75 Remove the rear-top cover (2 of 2)

Right-lower door

Before proceeding, remove the following components:

- Tray 1 cover. See [Tray 1 cover on page 137](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).

Remove the right-lower cover

1. Open the right-lower cover, and then rotate the stopper (callout 1) to release it.

Figure 2-76 Remove the right-lower cover (1 of 3)

2. Support the cover, and then remove the shaft (callout 1).

Figure 2-77 Remove the right-lower cover (2 of 3)

3. Slide the door-retainer arm (callout 1) toward the front of the product, until you can remove it from the product chassis.

Figure 2-78 Remove the right-lower cover (3 of 3)

Document-feeder hinge cover

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-left cover. See [Rear-left cover on page 152](#).

Remove the document-feeder hinge cover

1. Remove one screw (callout 1).

Figure 2-79 Remove the document feeder hinge cover (1 of 3)

2. Release the corner of the cover (callout 1), and then slide the cover (callout 2) toward the rear of the product.

Figure 2-80 Remove the document feeder hinge cover (2 of 3)

3. Remove the cover.



NOTE: The document-feeder hinge cover consists of two separate covers. It will likely come apart when removed.

Figure 2-81 Remove the document feeder hinge cover (3 of 3)



Reinstall the document-feeder hinge cover

When the cover is reinstalled, make sure that the flanges on the cover are correctly positioned behind the Image scanner left cover.

Figure 2-82 Reinstall the document-feeder hinge cover

Document feeder

Before proceeding, remove the following components:

- Image scanner right cover. See [Image scanner right cover on page 148](#).





NOTE: The document feeder can be removed with the image scanner right cover installed. However, the document feeder cannot be placed on a flat surface without damaging the cover if the cover attached.

Make sure that you remove this cover prior to removing the document feeder.

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-left cover. See [Rear-left cover on page 152](#).
- Document-feeder hinge cover. See [Document-feeder hinge cover on page 158](#).

Remove the document feeder

 **WARNING!** The document feeder is heavy. Dropping the document feeder might cause personal injury to you or other people in the vicinity, and might cause severe damage to the document feeder.

 **CAUTION:** The top portion of the document feeder is **not** captive in the closed position. Only its weight keeps it in the closed position (down against the scanner glass).

The top portion can open rapidly if the document feeder is not kept in a level position when removing it or handling it after removal. Make sure that the top portion is securely held down in the closed position when removing or handling the document feeder.

1. Disconnect two connectors (callout 1), and then release the wire harnesses from two retainers (callout 2).

Figure 2-83 Remove the document feeder (1 of 4)

2. Close the top cover, and then remove three screws (callout 1).

Figure 2-84 Remove the document feeder (2 of 4)

3. Slightly slide the document feeder away from the sheet-metal bracket (callout 1).

Figure 2-85 Remove the document feeder (3 of 4)

4. Securely grasp the document feeder, and then lift it up and off of the product base.

WARNING! The top portion of the document feeder is **not** captive in the closed position. Keep the document feeder in a level position when removing it to avoid the top portion from opening rapidly.

Figure 2-86 Remove the document feeder (4 of 4)



Image scanner left cover

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-left cover. See [Rear-left cover on page 152](#).
- Document-feeder hinge cover. See [Document-feeder hinge cover on page 158](#).

Remove the image scanner left cover

Slightly slide the cover toward the rear of the product, and then remove the cover.

Figure 2-87 Remove the image scanner left cover

Main assemblies

Registration assembly

1. Pull the top cover release lever to open the top cover.
2. Remove five screws (callout 1), and then remove the registration assembly (callout 2) and grounding plate (callout 3) together.

Figure 2-88 Remove the registration assembly (1 of 2)

3. If necessary, separate the registration assembly (callout 1) from the grounding plate (callout 2).

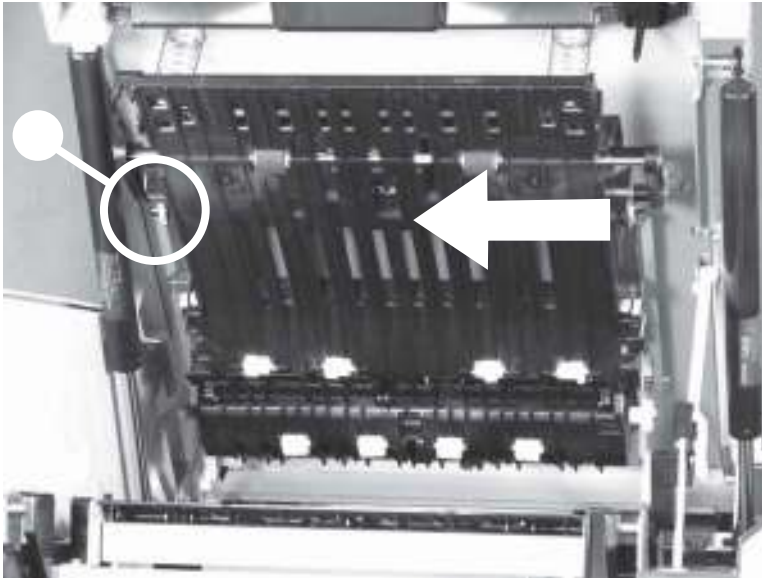
Figure 2-89 Remove the registration assembly (2 of 2)

Switchback upper guide assembly

1. Pull the top cover release lever to open the top cover.
2. Carefully flex the bushing (callout 1) and then slide the assembly toward the front of the product to remove it.

CAUTION: Be careful when handling the assembly after removal. There are springs attached to the assembly that can be easily dislodged and lost.

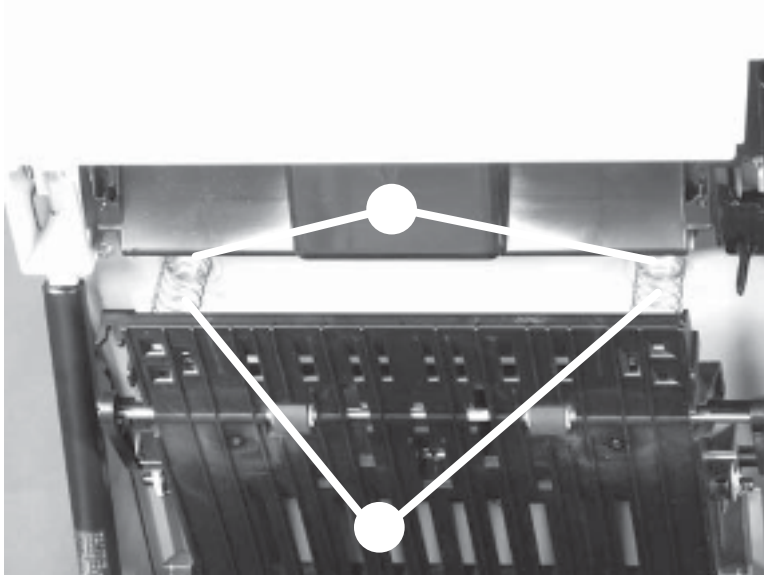
Figure 2-90 Remove the switchback upper guide assembly



Reinstall the switchback upper guide assembly

When the assembly is reinstalled, make sure that two springs (callout 1) are correctly positioned on the sheet-metal bosses (callout 2).

Figure 2-91 Reinstall the switchback upper guide assembly



Switchback assembly

Before proceeding, remove the following components:

- Switchback upper guide assembly. See [Switchback upper guide assembly on page 166](#).

Remove the switchback assembly

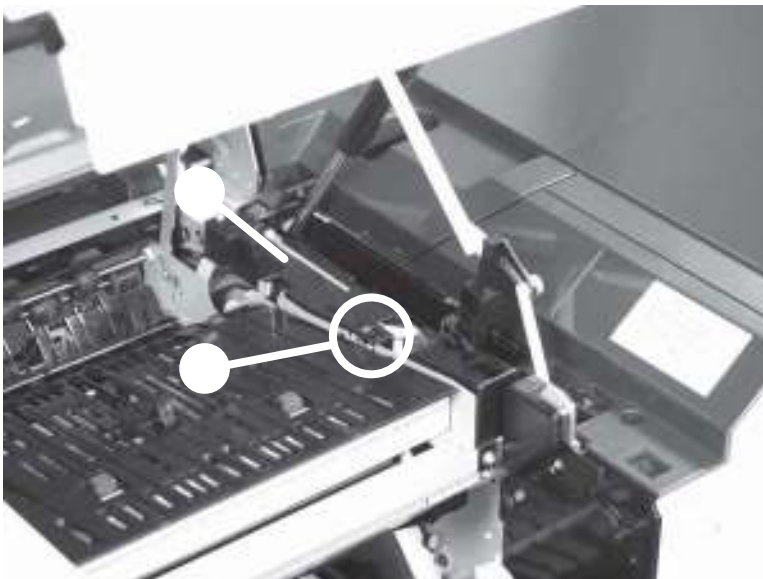
1. Pull the top cover release lever to open the top cover.
2. Remove one screw (callout 1), and then remove the cover (callout 2).

Figure 2-92 Remove the switchback assembly (1 of 6)



3. Release one tab (callout 1), and then remove the cover (callout 2).

Figure 2-93 Remove the switchback assembly (2 of 6)



4. Disconnect two connectors (callout 1).

Figure 2-94 Remove the switchback assembly (3 of 6)



5. Pinch one tab (callout 1) to release it, and then remove one arm (callout 2) from the upper-plate assembly (callout 3).

Figure 2-95 Remove the switchback assembly (4 of 6)

6. Release one tab (callout 1), and then remove one arm (callout 2) from the upper-plate assembly (callout 3).

Figure 2-96 Remove the switchback assembly (5 of 6)

7. Remove two screws (callout 1), and then remove the switchback assembly (callout 2).

Figure 2-97 Remove the switchback assembly (6 of 6)

Laser/scanner assembly

Before proceeding, remove the following components:

- Switchback upper guide assembly. See [Switchback upper guide assembly on page 166](#).
- Switchback assembly. See [Switchback assembly on page 168](#).

Remove the laser/scanner assembly

1. Disconnect one connector (callout 1), remove one screw (callout 2), and then remove the cover (callout 3).

Figure 2-98 Remove the laser/scanner assembly (1 of 3)

2. Disconnect one connector (callout 1), and then release the wire harness (callout 2) from the retainers (callout 3).

Figure 2-99 Remove the laser/scanner assembly (2 of 3)

3. Remove four screws (callout 1), and then remove the laser/scanner assembly.

Figure 2-100 Remove the laser/scanner assembly (3 of 3)

Cartridge sensor assembly

Before proceeding, remove the following components:

- Switchback upper guide assembly. See [Switchback upper guide assembly on page 166](#).
- Switchback assembly. See [Switchback assembly on page 168](#).

Remove the cartridge sensor assembly

1. Disconnect one connector (callout 1), and then remove one screw (callout 2).

Figure 2-101 Remove the cartridge sensor assembly (1 of 2)

2. Disconnect one connector (callout 1), and then remove the sensor assembly (callout 2).

Figure 2-102 Remove the cartridge sensor assembly (2 of 2)

Environmental sensor

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).

Remove the environmental sensor

1. Remove one ground spring (callout 1), and then disconnect one connector (callout 2).


 **TIP:** The correct connector to disconnect is the one attached to the purple and black wire harness.

Figure 2-103 Remove the environmental sensor (1 of 2)

2. Remove one screw (callout 1), and then remove the sensor (callout 2).

Figure 2-104 Remove the environmental sensor (2 of 2)

DC controller shield-plate assembly

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).

Remove the DC controller shield-plate assembly

1. Remove one black screw (callout 1), remove five silver screws (callout 2), and then slightly rotate the top of the shield (callout 3) away from the product.

CAUTION: The shield is still connected to the product by a wire harness. Do not completely remove the shield after removing the screws.

Figure 2-105 Remove the DC controller shield-plate assembly (1 of 6)

2. Disconnect one connector (J42; callout 1), and then remove the DC controller shield.

Figure 2-106 Remove the DC controller shield-plate assembly (2 of 2)

DC controller

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).

Remove the DC controller

1. Disconnect all of the connectors (callout 1) on the DC controller.
 - 34 wire-harness connectors
 - 1 flat-flexible cable (FFC)


 **Reinstallation tip** When the DC controller is reinstalled, connectors J52, J58, and J59 are empty.

Figure 2-107 Remove the DC controller (1 of 2)

2. Remove two screws (callout 1), and then remove the DC controller.

Figure 2-108 Remove the DC controller (2 of 2)

Tray 1 pickup assembly

Before proceeding, remove the following components:

- Tray 1 cover assembly. See [Tray 1 cover on page 137](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Right-lower door. See [Right-lower door on page 156](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).

Remove the Tray 1 pickup assembly

1. Remove three screws (callout 1), and then remove the Tray 1 gear cover (callout 2).

Figure 2-109 Remove the Tray 1 pickup assembly (1 of 5)

2. Disconnect two connectors (J71 and J81; callout 1).

Figure 2-110 Remove the Tray 1 pickup assembly (2 of 5)

3. Release the wire harnesses (callout 1) from the guide (callout 2).

Figure 2-111 Remove the Tray 1 pickup assembly (3 of 5)

4. Remove four screws (callout 1).

Figure 2-112 Remove the Tray 1 pickup assembly (4 of 5)

5. Remove four screws (callout 1), and then remove the Tray 1 pickup assembly (callout 2).

Figure 2-113 Remove the Tray 1 pickup assembly (5 of 5)

Connector PCA

Before proceeding, remove the following components:

- Interface formatter PCA. See [Interface formatter PCA on page 121](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).

Remove the connector PCA

1. Disconnect two connectors (callout 1), and then disconnect one FFC (callout 2).

Figure 2-114 Remove the connector PCA (1 of 2)

2. Remove two screws (callout 1), and then remove the connector PCA (callout 2).

Figure 2-115 Remove the connector PCA (2 of 2)

Feed motor (M101)

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).

Remove the feed motor

Disconnect one connector (callout 1), remove three screws (callout 2), and then remove the feed motor (callout 3).

Figure 2-116 Remove the feed motor

Drum motor (M102)

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).

Remove the drum motor

Disconnect one connector (callout 1), remove three screws (callout 2), and then remove the drum motor (callout 3).

Figure 2-117 Remove the drum motor

Fuser motor (M299)

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- DC controller PCA. See [DC controller on page 178](#).

Remove the fuser motor

Disconnect one connector (callout 1), remove three screws (callout 2), and then remove the fuser motor (callout 3).

Figure 2-118 Remove the fuser motor

Main fan (FN101)

Before proceeding, remove the following components:

- Front cover. See [Front cover on page 143](#).

Remove the main fan

1. Remove three screws (callout 1), and then remove the fan duct (callout 2).

Figure 2-119 Remove the main fan (1 of 3)

2. Remove two screws (callout 1), and then remove the connector cover (callout 2).

Figure 2-120 Remove the main fan (2 of 3)

3. Disconnect one connector (callout 1), release two tabs (callout 2), and then remove the main fan (callout 3).

Figure 2-121 Remove the main fan (3 of 3)

Reinstall the main fan

When you reinstall the main fan, make sure of the following:

- The fan wire harness (callout 1) is positioned as shown in the following figure.
- The label (callout 2) on the fan faces inside the product.

Figure 2-122 Reinstall the main fan

Laser/scanner fan (FN102)

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).

Remove the laser/scanner fan

Disconnect one connector (callout 1), release one tab (callout 2), and then remove the laser/scanner fan (callout 3).

Figure 2-123 Remove the laser/scanner fan

Reinstall the laser/scanner fan

When you reinstall the main fan, make sure of the following:

- The fan wire harness (callout 1) is positioned as shown in the following figure.
- The label (callout 2) on the fan faces inside the product.

Figure 2-124 Reinstall the laser/scanner fan

Cartridge front-side fan (FN103)

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).

Remove the cartridge front-side fan

Disconnect one connector (callout 1), release one tab (callout 2), and then remove the cartridge front-side fan (callout 3).

Figure 2-125 Remove the cartridge front-side fan

Reinstall the cartridge front-side fan

When you reinstall the main fan, make sure of the following:

- The fan wire harness (callout 1) is positioned as shown in the following figure.
- The label (callout 2) on the fan faces inside the product.

Figure 2-126 Reinstall the cartridge front-side fan

Low-voltage power supply fan (FN104)

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Environmental sensor assembly. See [Environmental sensor on page 174](#).

Remove the low-voltage power supply fan

Disconnect one connector (callout 1), release two tabs (callout 2), and then remove the low-voltage power supply fan (callout 3).

Figure 2-127 Remove the low-voltage power supply fan

Reinstall the low-voltage power supply fan

When you reinstall the main fan, make sure of the following:

- The fan wire harness (callout 1) is positioned as shown in the following figure.
- The label (callout 2) on the fan faces inside the product.

Figure 2-128 Reinstall the low-voltage power supply fan

Switchback fan (FN105)

Before proceeding, remove the following components:

- Front cover. See [Front cover on page 143](#).

Remove the switchback fan

1. Remove three screws (callout 1), and then remove the fan duct (callout 2).

Figure 2-129 Remove the switchback fan (1 of 2)

2. Disconnect one connector (callout 1), release three tabs (callout 2), and then remove the switchback fan (callout 3).

Figure 2-130 Remove the switchback fan (2 of 2)

Reinstall the switchback fan

When you reinstall the main fan, make sure of the following:

- The fan wire harness (callout 1) is positioned as shown in the following figure.
- The label (callout 2) on the fan faces inside the product.

Figure 2-131 Reinstall the switchback fan

Cartridge fan (FN301)

Before proceeding, remove the following components:

- Front cover. See [Front cover on page 143](#).

Remove the cartridge fan

1. Remove three screws (callout 1), and then remove the fan duct (callout 2).

Figure 2-132 Remove the cartridge fan (1 of 3)

2. Remove two screws (callout 1), and then remove the connector cover (callout 2).

Figure 2-133 Remove the cartridge fan (2 of 3)

3. Disconnect one connector (callout 1), release two tabs (callout 2), and then remove the cartridge fan (callout 3).

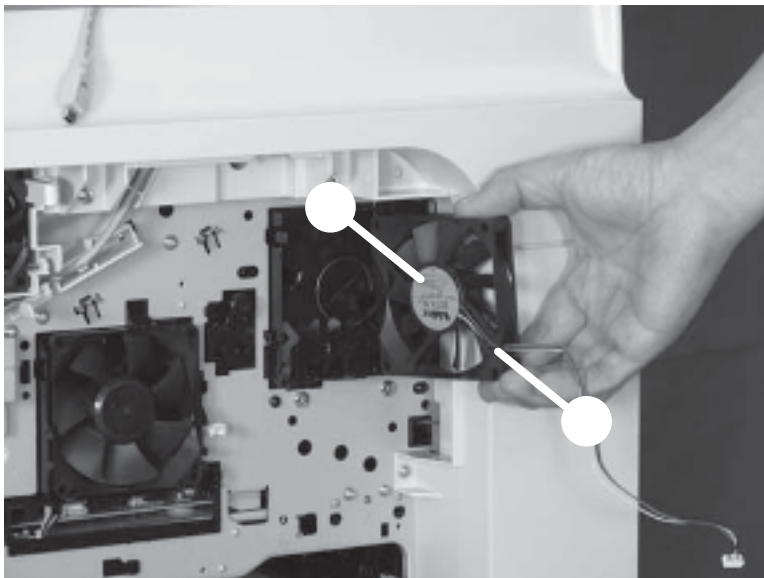
Figure 2-134 Remove the cartridge fan (3 of 3)

Reinstall the cartridge fan

When you reinstall the main fan, make sure of the following:

- The fan wire harness (callout 1) is positioned as shown in the following figure.
- The label (callout 2) on the fan faces inside the product.

Figure 2-135 Reinstall the cartridge fan



Interlock switch (SW101)

Before proceeding, remove the following components:

- Tray 1 cover assembly. See [Tray 1 cover on page 137](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- Right-lower door. See [Right-lower door on page 156](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).

Remove the interlock switch

1. Remove three screws (callout 1), and then remove the Tray 1 gear cover (callout 2).

Figure 2-136 Remove the interlock switch (1 of 2)

2. Release the wire harnesses (callout 1) from the guide (callout 2), release one tab (callout 3), and then slide the interlock switch (callout 4) toward the left to remove it.

Figure 2-137 Remove the interlock switch (2 of 2)

Output accessory detection switch (SW104)

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Left-rear corner cover. See [Left-rear corner cover on page 141](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-left cover. See [Rear-left cover on page 152](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- Connector PCA. See [Connector PCA on page 183](#).

Remove the output accessory detection switch

1. Remove four screws (callout 1).

Figure 2-138 Remove the output accessory detection switch (1 of 3)

2. Remove two black screws (callout 1), five silver screws (callout 2), and then remove the formatter shield (callout 3).

Figure 2-139 Remove the output accessory detection switch (2 of 3)

3. Remove one screw (callout 1), disconnect one connector (callout 2), and then remove the output accessory detection switch (callout 3).

Figure 2-140 Remove the output accessory detection switch (3 of 3)

Low-voltage power supply

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Left-rear corner cover. See [Left-rear corner cover on page 141](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- Connector PCA. See [Connector PCA on page 183](#).

Remove the low-voltage power supply

1. Remove four screws (callout 1).

Figure 2-141 Remove the low-voltage power supply (1 of 4)

2. Remove two black screws (callout 1), five silver screws (callout 2), and then remove the formatter shield (callout 3).

Figure 2-142 Remove the low-voltage power supply (2 of 4)

3. Disconnect six connectors (callout 1).



NOTE: These wire-harnesses are stiff and can make the connectors difficult to disconnect.

Figure 2-143 Remove the low-voltage power supply (3 of 4)

4. Remove three screws (callout 1), and then remove the low-voltage power supply.

Figure 2-144 Remove the low-voltage power supply (4 of 4)

Cassette lifter assembly



NOTE: If you did not remove the tray prior to servicing the product, remove it now.

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- Left-rear corner cover. See [Left-rear corner cover on page 141](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- DC controller PCA. See [DC controller on page 178](#).
- Connector PCA. See [Connector PCA on page 183](#).
- Low-voltage power supply. See [Low-voltage power supply on page 204](#).

Remove the cassette lifter assembly

1. Disconnect one connector (callout 1).

Figure 2-145 Remove the cassette lifter assembly (1 of 3)

2. Remove the cassette, remove four screws (callout 1), and then remove the lifter assembly.

Figure 2-146 Remove the cassette lifter assembly (2 of 3)

3. If necessary, remove one spring (callout 1) from the lifter assembly.

CAUTION: Be careful when handling the assembly. The spring is not captive and can be easily dislodged and lost.

Figure 2-147 Remove the cassette lifter assembly (3 of 3)

Lifter drive assembly

Before proceeding, remove the following components:

- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- Left-rear corner cover. See [Left-rear corner cover on page 141](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- DC controller PCA. See [DC controller on page 178](#).
- Connector PCA. See [Connector PCA on page 183](#).

Remove the lifter drive assembly

1. Release the wire harnesses (callout 1) from the guides (callout 2).

Figure 2-148 Remove the lifter drive assembly (1 of 4)

2. Remove three screws (callout 1), and then remove the guide (callout 2).

Figure 2-149 Remove the lifter drive assembly (2 of 4)

3. Disconnect one connector (callout 1), and then remove one spring (callout 2).

CAUTION: Be careful when handling the assembly. The spring is not captive and can be easily dislodged and lost.

HP recommends disconnecting the spring from the product chassis, and then leaving it connected to the assembly.

Figure 2-150 Remove the lifter drive assembly (3 of 4)

4. Remove two screws (callout 1), remove the holder (callout 2), and then remove the lifter drive assembly (callout 3).

CAUTION: To remove the assembly, two wire harness must be released from the retainers. One of these wire harnesses is not captive and can easily be lost.

Figure 2-151 Remove the lifter drive assembly (4 of 4)

Engine power supply

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Duplex accessory. See [Duplex accessory on page 113](#).
- Fuser. See [Fuser on page 115](#).
- Front cover. See [Front cover on page 143](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- DC controller PCA. See [DC controller on page 178](#).
- Connector PCA. See [Connector PCA on page 183](#).
- Low-voltage power supply. See [Low-voltage power supply on page 204](#).

Remove the engine power supply

1. Remove three screws (callout 1), and then remove the fan duct (callout 2).

Figure 2-152 Remove the engine power supply (1 of 9)

2. Remove two screws (callout 1), and then remove the connector cover (callout 2).

Figure 2-153 Remove the engine power supply (2 of 9)

3. Disconnect two connectors (callout 1), and then remove four screws (callout 2).

Figure 2-154 Remove the engine power supply (3 of 9)

4. Remove two screws (callout 1), push in on the boss (callout 2), and then remove the rear guide (callout 3).

Figure 2-155 Remove the engine power supply (4 of 9)

5. Remove four screws (callout 1).

Figure 2-156 Remove the engine power supply (5 of 9)

6. Release the wire harness (callout 1) from the guide (callout 2).

Figure 2-157 Remove the engine power supply (6 of 9)

7. Support the engine power supply (callout 1) and feed the wire harness (callout 2) through the hole in the chassis while pulling the power supply straight out of the product.

CAUTION: Be careful when feeding the wires through the hole in the chassis so that they are not damaged.

Figure 2-158 Remove the engine power supply (7 of 9)

8. Remove one screw (callout 1), and then release the wire harness (callout 2).

Figure 2-159 Remove the engine power supply (8 of 9)

9. Remove five screws (callout 1), and then remove the feed assembly (callout 2).



Reinstallation tip When the feed assembly is reinstalled, it must be correctly positioned or the power supply will not slide into the product. If you are having problems reinstalling the power supply, make sure that the feed assembly is correctly mounted.

Figure 2-160 Remove the engine power supply (9 of 9)

Feed roller assembly

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Tray 1 cover. See [Tray 1 cover on page 137](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- Right-lower door. See [Right-lower door on page 156](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- Tray 1 pickup assembly. See [Tray 1 pickup assembly on page 180](#).

Remove the feed roller assembly

Remove two screws (callout 1), and then remove the feed roller assembly (callout 2).

Figure 2-161 Remove the feed roller assembly

Pickup drive assembly

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Tray 1 cover. See [Tray 1 cover on page 137](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- Right-lower door. See [Right-lower door on page 156](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- DC controller. See [DC controller on page 178](#).
- Feed motor (M101). See [Feed motor \(M101\) on page 185](#).

Remove the pickup drive assembly

Remove three screws (callout 1), and then remove the pickup drive assembly (callout 2).

Figure 2-162 Remove the pickup drive assembly

Cassette pickup assembly

Before proceeding, remove the following components:

- Output bin and bin base assembly. See [Output bin and bin base assembly on page 112](#).



NOTE: If the optional HP Stapling Mailbox is installed, remove it.

- Tray 1 cover. See [Tray 1 cover on page 137](#).
- Cassette-door-open detection switch. See [Cassette-door-open detection switch on page 139](#).
- Front cover. See [Front cover on page 143](#).
- Front-right cover. See [Front-right cover on page 144](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Rear-right cover. See [Rear-right cover on page 151](#).
- Rear-left cover. See [Rear-left cover on page 152](#).
- Rear-top cover. See [Rear-top cover on page 154](#).
- Right-lower door. See [Right-lower door on page 156](#).
- DC controller shield-plate assembly. See [DC controller shield-plate assembly on page 176](#).
- DC controller PCA. See [DC controller on page 178](#).
- Feed motor (M101). See [Feed motor \(M101\) on page 185](#).
- Pickup drive assembly. See [Pickup drive assembly on page 218](#).
- Tray 1 pickup assembly. See [Tray 1 pickup assembly on page 180](#).

Remove the cassette pickup assembly

1. Remove one screw (callout 1), and then remove the cassette rail (callout 2).

Figure 2-163 Remove the cassette pickup assembly (1 of 4)

2. Remove seven screws (callout 1), and then remove the sheet-metal plate and handle assembly (callout 2).

Figure 2-164 Remove the cassette pickup assembly (2 of 4)

3. Remove one screw (callout 1).

Figure 2-165 Remove the cassette pickup assembly (3 of 4)

4. Disconnect two connectors (callout 1), remove one screw (callout 2), and then remove the cassette pickup assembly (callout 3).

Figure 2-166 Remove the cassette pickup assembly (4 of 4)

Document feeder



NOTE: The following section describes removing and replacing document feeder components. To remove the complete document feeder, see [Document feeder on page 161](#).

Paper present flag

1. Open the jam access cover.
2. Release the flag from the hinge.

Figure 2-167 Remove the paper present flag (1 of 2)



3. Pull the flag to release and remove it.

Figure 2-168 Remove the paper present flag (2 of 2)



Document feeder scanner lid

Before proceeding, remove the following components:

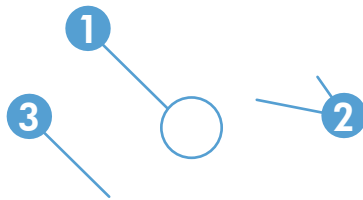
- Scanner rear cover. See [Scanner rear cover on page 136](#).

Remove the document feeder scanner lid

1. Remove one screw (callout 1), disconnect two connectors (callout 2), and then release the cable (callout 3) from the chassis.

CAUTION: When the scanner lid is reinstalled, the ground-wire screw (callout 1) must be installed in the lower mounting hole in the chassis. If the screw is installed in the upper mounting hole, it might contact a jumper on the SCB, which causes a short on the formatter. See [Reinstall the document feeder scanner lid on page 225](#).

Figure 2-169 Remove the document feeder scanner lid (1 of 3)



2. Remove two screws.

Figure 2-170 Remove the document feeder scanner lid (2 of 3)



3. From the rear of the product, lift the scanner lid to remove it.

Figure 2-171 Remove the document feeder scanner lid (3 of 3)



Reinstall the document feeder scanner lid

1. Make sure the cable retainer is installed inside the cavity.

Figure 2-172 Reinstall the document feeder scanner lid

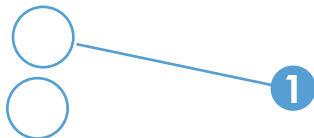


2. The SCB ground-wire screw must be installed in the upper mounting hole (callout 1) in the chassis. If the screw is installed in the lower mounting hole, it might contact a jumper on the SCB, which causes a short on the formatter.

Indicators of an incorrectly installed ground-wire screw include the following:

- The green LED on the document feeder is permanently on.
- Touching the [Copy](#) button causes the product to continually attempt to pick paper until the message **31.01.03 Document feeder pick error** appears on the control-panel display.

Figure 2-173 SCB ground-wire screw



Document feeder front cover

1. Lift the jam cover.

Figure 2-174 Remove document feeder front cover (1 of 4)



2. Remove one screw.

Figure 2-175 Remove document feeder front cover (2 of 4)



3. Open the scanner lid, and then remove two screws.

Figure 2-176 Remove document feeder front cover (3 of 4)



4. Close the scanner lid, and then remove the document feeder front cover.

Figure 2-177 Remove document feeder front cover (4 of 4)

Document feeder rear cover

1. Open the jam cover.

Figure 2-178 Remove the document feeder rear cover (1 of 5)



2. Remove one screw.

Figure 2-179 Remove the document feeder rear cover (2 of 5)



3. Open the scanner lid, and then remove one screw.

Figure 2-180 Remove the document feeder rear cover (3 of 5)



4. Release one tab (callout 1) and then lift the document feeder rear cover (callout 2).

Figure 2-181 Remove the document feeder rear cover (4 of 5)



5. Remove the document feeder rear cover.

Figure 2-182 Remove the document feeder rear cover (5 of 5)

Document feeder jam-access cover

Before proceeding, remove the following components:

- Document feeder front cover. See [Document feeder front cover on page 226](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder jam-access cover

1. Remove one stepped screw.

Figure 2-183 Remove the document feeder jam-access cover (1 of 2)



2. Lift the cover slightly, and then pull the cover toward the front of the product to remove it.

Figure 2-184 Remove the document feeder jam-access cover (2 of 2)



Document feeder tray assembly

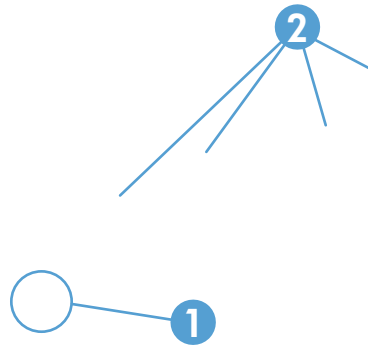
Before proceeding, remove the following components:

- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder tray assembly

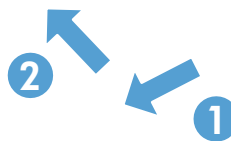
1. Open the jam-access cover.
2. Disconnect one connector (callout 1) and release the cable from the cable guides (callout 2).

Figure 2-185 Remove the document feeder tray assembly (1 of 2)



3. Release the pin from the hinge (callout 1), and then remove the tray assembly (callout 2).

Figure 2-186 Remove the document feeder tray assembly (2 of 2)



Document feeder internal assembly

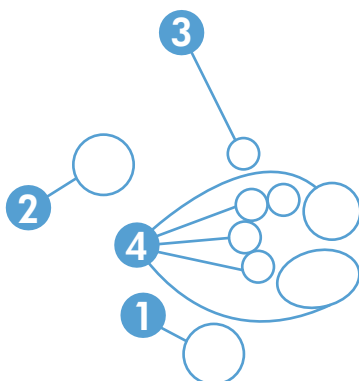
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder front cover. See [Document feeder front cover on page 226](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).
- Document feeder jam-access cover. See [Document feeder jam-access cover on page 231](#).

Remove document feeder internal assembly

1. Remove one screw (callout 1), release one clamp (callout 2), disconnect one connector (callout 3), and then disconnect six connectors (callout 4) on the PCA.

Figure 2-187 Remove the internal assembly (1 of 3)



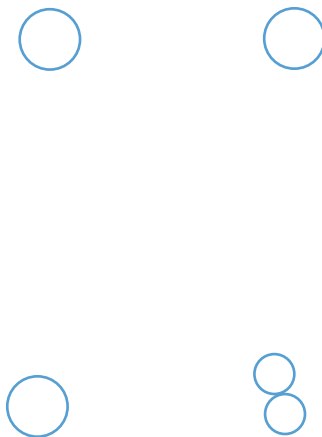
2. Remove two screws.

Figure 2-188 Remove the document feeder internal assembly (2 of 3)



3. Remove five screws, and then remove the assembly.

Figure 2-189 Remove the document feeder internal assembly (3 of 3)



Document feeder PCA

Before proceeding, remove the following components:

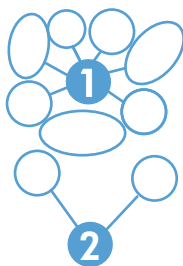
- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder PCA

! **CAUTION:**  ESD-sensitive part.

- ▲ Disconnect seven connectors (callout 1), remove two screws (callout 2), and then remove the PCA.

Figure 2-190 Remove the document feeder PCA



Document feeder cable

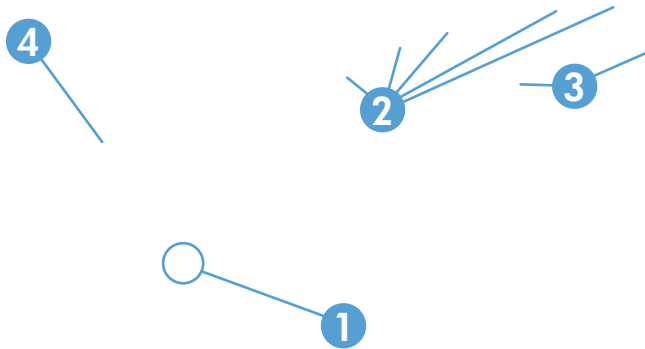
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder cable

Remove one screw (callout 1), release the cable guides (callout 2), disconnect two connectors (callout 3), and then release one tab (callout 4). Remove the document feeder cable.

Figure 2-191 Remove the document feeder cable (1 of 2)



Reinstall the document feeder cable

When reinstalling the cable, make sure to correctly wrap the cable in the toroid.

Figure 2-192 Reinstall the document feeder cable



Document feeder left hinge

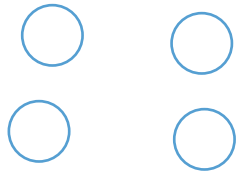
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).

Remove the document feeder left hinge

Remove four screws, and then remove the hinge.

Figure 2-193 Remove the document feeder left hinge



Document feeder right hinge

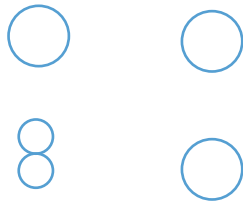
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder right hinge

Remove five screws, and then remove the hinge.

Figure 2-194 Remove the document feeder right hinge



Document feeder fan

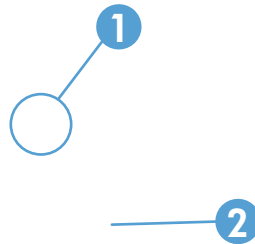
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder fan

Disconnect all connectors from the document feeder PCA and lift the cable guide to provide access to the screw (callout 1). Remove one screw (callout 1), and then remove the document feeder fan (callout 2).

Figure 2-195 Remove the document feeder fan



Document feeder motor

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder motor

Remove two screws (callout 1), disconnect one connector (callout 2), release one spring (callout 3), and then remove the motor.


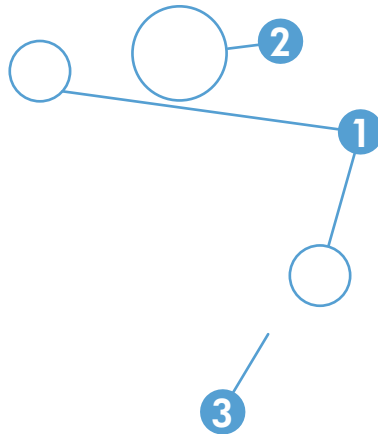
 **Reinstallation tip** When reassembling, reattach the spring before reinstalling screws.

Figure 2-196 Remove the document feeder motor



Document feeder motor

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

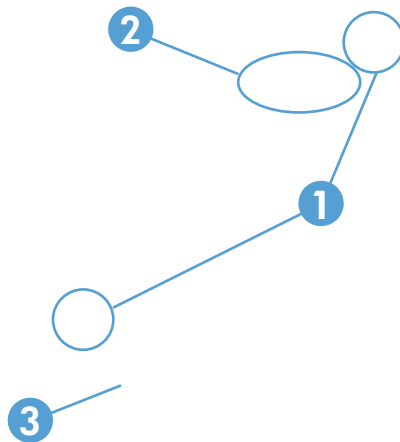
Remove the document feeder motor

Remove two screws (callout 1), disconnect one connector (callout 2), release one spring (callout 3), and then remove the motor.



Reinstallation tip When reassembling, reattach the spring before reinstalling the screws.

Figure 2-197 Remove the document feeder motor



Document feeder open sensor

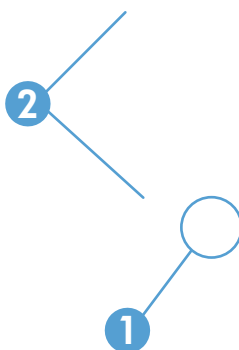
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder open sensor

Remove one screw (callout 1), disconnect two connectors (callout 2), and then remove the sensor.

Figure 2-198 Remove the document feeder open sensor



Document feeder jam access plate

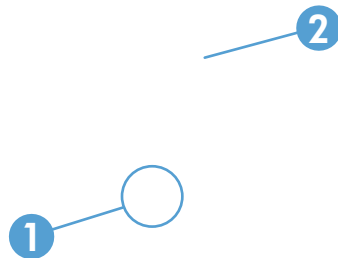
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).

Remove the document feeder jam access plate

Remove one stepped screw (callout 1) and then remove the jam access plate (callout 2).

Figure 2-199 Remove the document feeder jam access plate



Base assembly

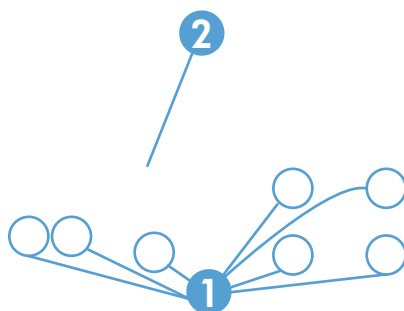
Before proceeding, remove the following components:

- Document feeder front cover. See [Document feeder front cover on page 226](#).
- Document feeder rear cover. See [Document feeder rear cover on page 228](#).
- Document feeder jam-access cover. See [Document feeder jam-access cover on page 231](#).
- Internal assembly. See [Document feeder internal assembly on page 233](#).
- Document feeder fan. See [Document feeder fan on page 240](#).

Remove the base assembly

Remove seven screws (callout 1), and then release one cable clamp (callout 2). Remove the right hinge, document feeder PCA, and document feeder open sensor from the base assembly.

Figure 2-200 Remove the base assembly



Scanner



NOTE: The following section describes removing and replacing document feeder components. To remove the complete document feeder (ADF and scanner), see [Document feeder on page 161](#).

Scanner assembly

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner cable cover. See [Image scanner cable cover on page 150](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).

Remove the scanner

1. Disconnect two connectors (callout 1), and then release two retainers (callout 2)

Figure 2-201 Remove the scanner assembly (1 of 4)

2. Remove three screws (callout 1).

Figure 2-202 Remove the scanner assembly (2 of 4)

3. Slightly slide the document feeder away from the sheet-metal bracket (callout 1).

Figure 2-203 Remove the scanner assembly (3 of 4)

4. Lift the scanner assembly up and off the product.

Figure 2-204 Remove the scanner assembly (4 of 4)



Scanner connector board (SCB) PCA

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).

Remove the SCB PCA

! **CAUTION:**  ESD-sensitive part.

1. Carefully pull the zero insertion force (ZIF) connector to release the FFC. Disconnect the FFC.

Figure 2-205 Remove the SCB PCA (1 of 3)



2. Disconnect eight connectors (callout 1).

Figure 2-206 Remove the SCB PCA (2 of 3)

3. Remove five screws (callout 1), and then remove the SCB PCA.

Figure 2-207 Remove the SCB PCA (3 of 3)

Scanner release assembly

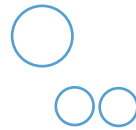
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).

Remove the scanner release assembly

- ▲ Remove three screws, and then remove the scanner release assembly.

Figure 2-208 Remove the scanner release assembly



Scanner 24 V and communication cable

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).

Remove the scanner 24 V and communication cable

1. Remove three screws (callout 1).

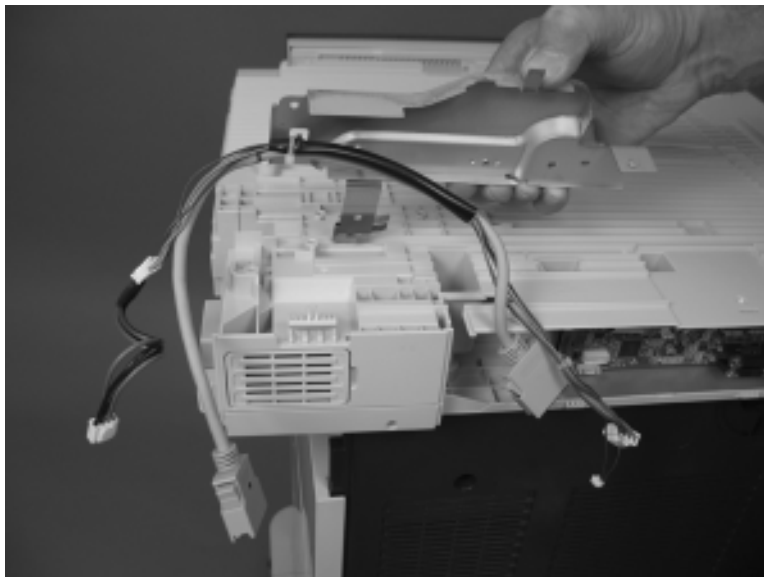
Figure 2-209 Remove the scanner 24 V and communication cable (1 of 4)

2. Remove one screw (callout 1), and then disconnect three connectors (callout 2).

Figure 2-210 Remove the scanner 24 V and communication cable (2 of 4)

3. Remove the scanner 24 V and communication cable.

Figure 2-211 Remove the scanner 24 V and communication cable (3 of 4)



4. If necessary, cut one cable tie (callout 1), and then separate the scanner 24 V and communication cable from the sheet-metal bracket (callout 2).

Figure 2-212 Remove the scanner 24 V and communication cable (4 of 4)

Tub top

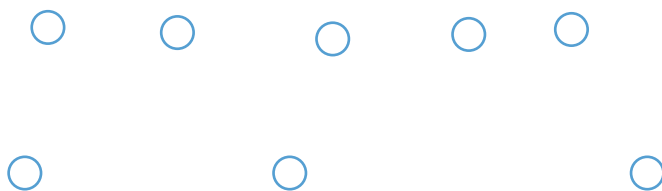
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).

Remove the tub top

Remove eight screws, and then remove the tub top.

Figure 2-213 Remove tub top



Interconnect board and size sensor

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).
- Tub top. See [Tub top on page 255](#).

Remove the interconnect board and size sensor

1. Disconnect one connector (callout 1), release one tab (callout 2), and then slide the inverter cover to the right to remove it.

Figure 2-214 Remove the interconnect board and size sensor (1 of 4)

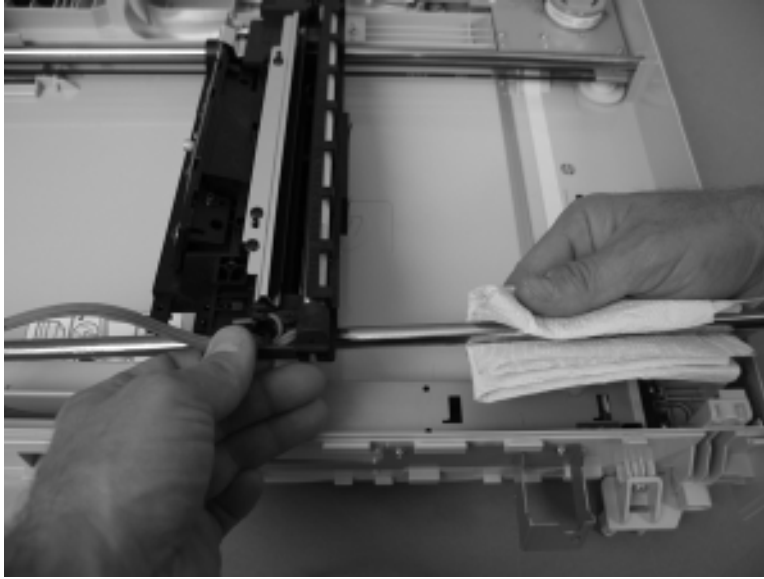
1



2. Move the carriage to the center of the scanner.

3. Remove the front side shaft.

Figure 2-215 Remove the interconnect board and size sensor (2 of 4)



CAUTION: Grease is applied to the shaft. Avoid removing the grease from the shaft. Keep the grease away from other parts of the product.

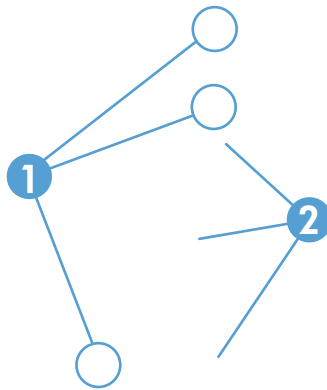
4. Disconnect two FFCs and one connector.

Figure 2-216 Remove the interconnect board and size sensor (3 of 4)



5. Remove three screws (callout 1), and then remove the interconnect board and size sensor (callout 2).

Figure 2-217 Remove the interconnect board and size sensor (4 of 4)



Inverter

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).
- Tub top. See [Tub top on page 255](#).
- Interconnect board and size sensor. See [Interconnect board and size sensor on page 256](#).

Remove the inverter

! **CAUTION:**  ESD-sensitive part.

1. Remove six screws.


 **NOTE:** Make sure to note the locations of each screw type.

Figure 2-218 Remove the inverter (1 of 2)



2. Carefully lift the grounding plate, and then remove the inverter.

CAUTION: Do not deform the grounding plate. Deforming the grounding plate can cause the optical carriage to malfunction.

Figure 2-219 Remove the inverter (2 of 2)



Inverter fan

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).
- Tub top. See [Tub top on page 255](#).
- Interconnect board and size sensor. See [Interconnect board and size sensor on page 256](#).
- Inverter. See [Inverter on page 259](#).

Remove the inverter fan

- ▲ Remove one screw, and then remove the inverter fan.

CAUTION: Check the arrows embossed on the fan frame that indicate air flow direction. When the fan is reinstalled, the air must flow in the correct direction.

Figure 2-220 Remove the inverter fan



Optical assembly

Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).
- Scanner connector board (SCB) PCA. See [Scanner connector board \(SCB\) PCA on page 249](#).
- Tub top. See [Tub top on page 255](#).

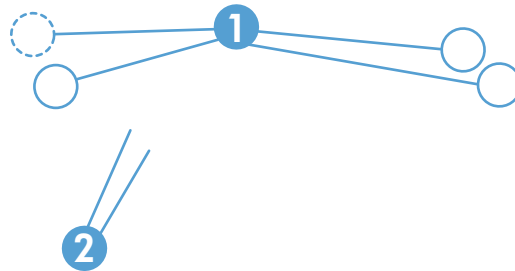
Remove the optical assembly

CAUTION: If you are removing both shafts, be sure to return each shaft in its original position. The front shaft has oil applied and rear shaft has grease applied.

CAUTION: Avoid removing the grease and oil from the shafts. Keep the grease and oil away from other parts of the product.

1. Remove four screws (callout 1), release two cables (callout 2) from the cable guides, and then remove the sheet metal box.

Figure 2-221 Remove the optical assembly (1 of 6)



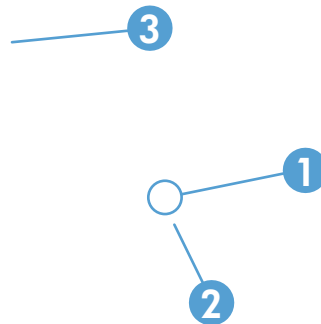
2. Disconnect one connector (callout 1), release one tab (callout 2), and then slide the inverter cover to the right to remove.

Figure 2-222 Remove the optical assembly (2 of 6)



3. Move the carriage to the center of the scanner.
4. Remove one screw (callout 1) and restraint (callout 2). Release the FFC (callout 3) from the tape.

Figure 2-223 Remove the optical assembly (3 of 6)



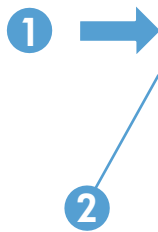
5. Remove one screw (callout 1), and then remove the stop (callout 2).

Figure 2-224 Remove the optical assembly (4 of 6)



6. Compress the spring until it locks (callout 1), and then remove the belt (callout 2) from the pulley.


Figure 2-225 Remove the optical assembly (5 of 6)



7. Release the belt from the optical assembly, and then remove the assembly.

Figure 2-226 Remove the optical assembly (6 of 6)



 **CAUTION:** Oil is applied to the shaft. Keep oil away from other parts of the product.

Motor assembly

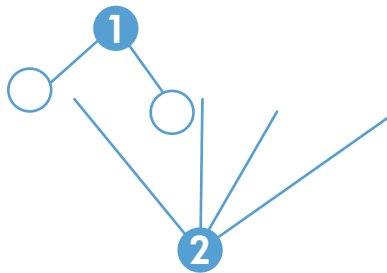
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).
- Scanner connector board (SCB) PCA. See [Scanner connector board \(SCB\) PCA on page 249](#)
- Tub top. See [Tub top on page 255](#).
- Optical assembly. See [Optical assembly on page 262](#).

Remove the motor assembly

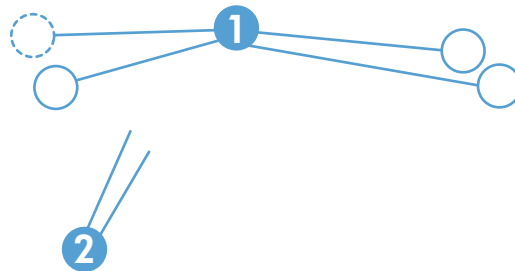
1. Remove two screws (callout 1), and then release the cables from the cable guides (callout 2).

Figure 2-227 Remove the motor assembly (1 of 3)



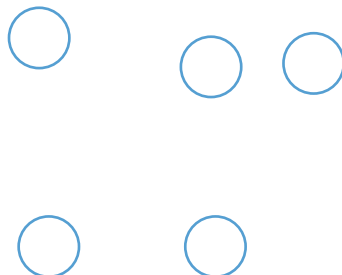
2. Remove three screws (callout 1), release two cables (callout 2) from the cable guides, and then remove the sheet metal box.

Figure 2-228 Remove the motor assembly (2 of 3)



3. Remove five screws, and then remove the motor assembly.

Figure 2-229 Remove the motor assembly (3 of 3)



Scanner fan

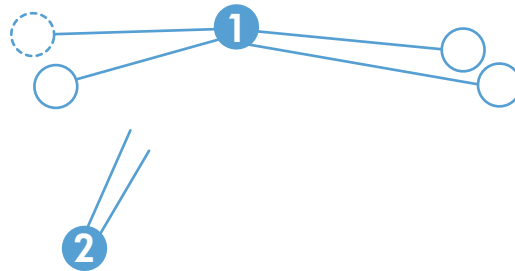
Before proceeding, remove the following components:

- Scanner rear cover. See [Scanner rear cover on page 136](#).
- Image scanner left cover. See [Image scanner left cover on page 164](#).
- Document feeder scanner lid. See [Document feeder scanner lid on page 223](#).
- Scanner assembly. See [Scanner assembly on page 246](#).
- Scanner connector board (SCB) PCA. See [Scanner connector board \(SCB\) PCA on page 249](#).
- Tub top. See [Tub top on page 255](#).

Remove the scanner fan

1. Remove four screws (callout 1), release two cables (callout 2) from the cable guides, and then remove the sheet metal box.

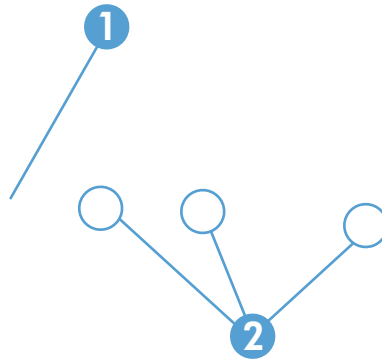
Figure 2-230 Remove the scanner fan (1 of 2)



2. Remove the foam (callout 1), release the cable from the cable guides (callout 2), and then remove the fan.

CAUTION: When the fan is reinstalled, the air must flow into the product. Check the arrows embossed on the fan frame that indicate air flow direction.

Figure 2-231 Remove the scanner fan (2 of 2)



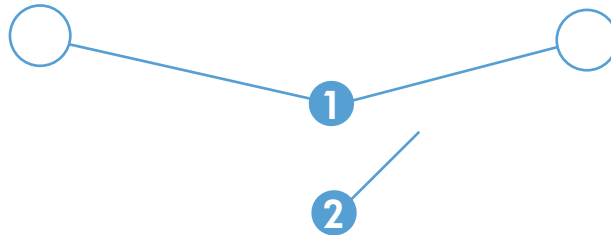
Optional 500-sheet paper feeder assembly

For information about removing the optional paper feeder assemblies (1 x 500-sheet and 3 x 500-sheet), see [Optional paper feeder assemblies \(1 x 500-sheet and 3 x 500-sheet\) on page 283](#).

Rear cover (500-sheet paper feeder)

- ▲ Remove two screws (callout 1), and then remove the rear cover (callout 2).

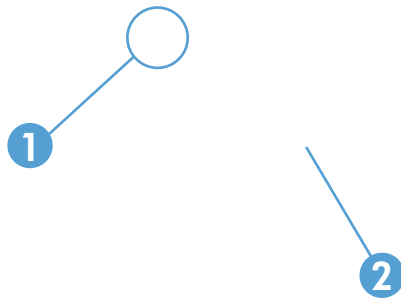
Figure 2-232 Remove the rear cover (500-sheet paper feeder)



Right-front cover (500-sheet paper feeder)

- ▲ Remove one screw (callout 1), and then lift the right-front cover (callout 2) to remove.

Figure 2-233 Remove the right-front cover (500-sheet paper feeder)



Left cover (500-sheet paper feeder)

Before proceeding, remove the following components:

- Rear cover (500-sheet paper feeder). See [Rear cover \(500-sheet paper feeder\) on page 270](#).

Remove the left cover (500-sheet paper feeder)

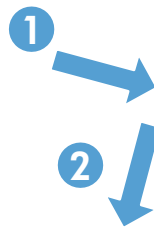
1. Release three tabs.

Figure 2-234 Remove the left cover (500-sheet paper feeder) (1 of 2)



2. Pull the top of the cover out (callout 1), and then press down (callout 2) to remove the cover.

Figure 2-235 Remove the left cover (500-sheet paper feeder) (2 of 2)



Right cover (500-sheet paper feeder)

Before proceeding, remove the following components:

- Right front cover (500-sheet paper feeder). See [Right-front cover \(500-sheet paper feeder\) on page 271](#).

Remove the right cover (500-sheet paper feeder)

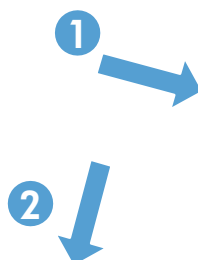
1. Release three tabs.

Figure 2-236 Remove the right cover (500-sheet paper feeder) (1 of 2)



2. Pull the top of the cover out (callout 1), and then press down (callout 2) to remove the cover.

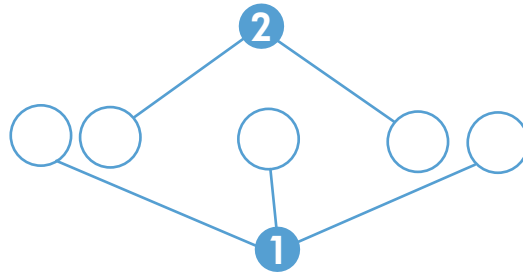
Figure 2-237 Remove the right cover (500-sheet paper feeder) (2 of 2)



Front cover (500-sheet paper feeder)

- ▲ Remove three screws (callout 1), release two tabs (callout 2), and then remove the front cover.

Figure 2-238 Remove the front cover (500-sheet paper feeder)



Pickup assembly (500-sheet paper feeder)

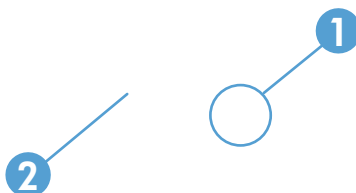
Before proceeding, remove the following components:

- Rear cover (500-sheet paper feeder). See [Rear cover \(500-sheet paper feeder\) on page 270](#).
- Right front cover (500-sheet paper feeder). See [Right-front cover \(500-sheet paper feeder\) on page 271](#).
- Right cover (500-sheet paper feeder). See [Right cover \(500-sheet paper feeder\) on page 273](#).

Remove the pickup assembly (500-sheet paper feeder)

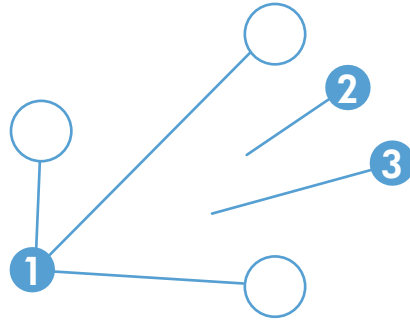
1. Remove one screw (callout 1), and then remove the tray rail (callout 2).

Figure 2-239 Remove the pickup assembly (500-sheet paper feeder) (1 of 5)



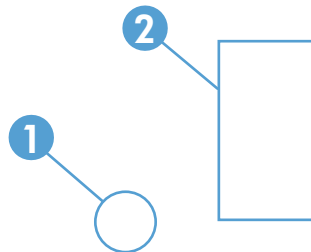
2. Remove three screws (callout 1), disconnect one connector (callout 2), and then remove the motor assembly (callout 3).

Figure 2-240 Remove the pickup assembly (500-sheet paper feeder) (2 of 5)



3. Remove one screw (callout 1), and then disconnect three connectors (callout 2).

Figure 2-241 Remove the pickup assembly (500-sheet paper feeder) (3 of 5)



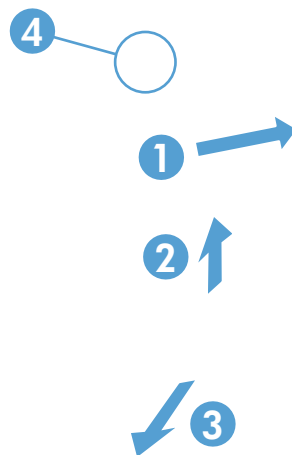
4. Remove one screw.

Figure 2-242 Remove the pickup assembly (500-sheet paper feeder) (4 of 5)



5. Move the top of the assembly to the right (callout 1) until the post (callout 4) is free of the hole. Lift the assembly (callout 2), and then pull the bottom of the assembly (callout 3) to remove it.

Figure 2-243 Remove the pickup assembly (500-sheet paper feeder) (5 of 5)



Lifter assembly (500-sheet paper feeder)

Before proceeding, remove the following components:

- Rear cover (500-sheet paper feeder). See [Rear cover \(500-sheet paper feeder\) on page 270](#).

Remove the lifter assembly (500-sheet paper feeder)

1. Disconnect one connector (callout 1).

Figure 2-244 Remove the lifter assembly (500-sheet paper feeder) (1 of 2)

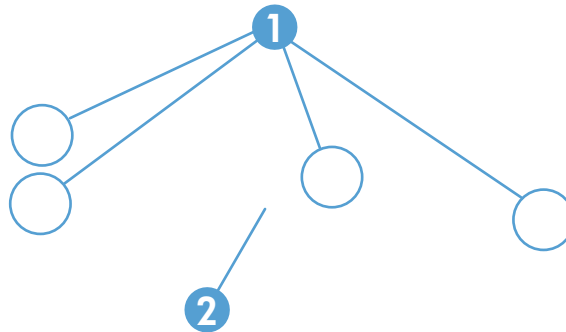


2. Remove four screws (callout 1), and then remove the lifter assembly (callout 2).



NOTE: There is a spring behind the lifter assembly that is not captive. Do not lose the spring when the assembly is removed. make sure that the spring is correctly positioned when the assembly is reinstalled.

Figure 2-245 Remove the lifter assembly (500-sheet paper feeder) (2 of 2)



Lifter-drive assembly (500-sheet paper feeder)

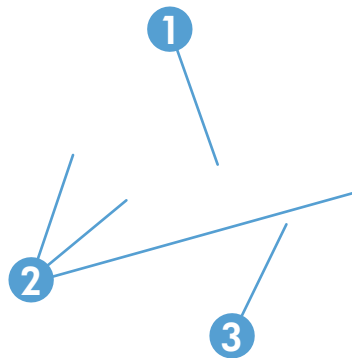
Before proceeding, remove the following components:

- Rear cover (500-sheet paper feeder). See [Rear cover \(500-sheet paper feeder\) on page 270](#).

Remove the lifter-drive assembly (500-sheet paper feeder)

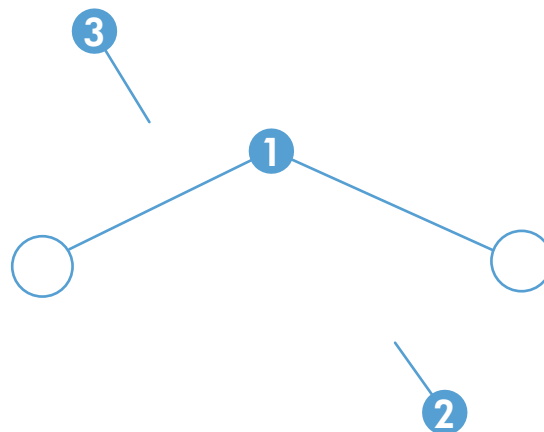
1. Disconnect one connector (callout 1), and then release the wire harnesses (callout 3) from the guides (callout 2).

Figure 2-246 Remove the lifter-drive assembly (500-sheet paper feeder) (1 of 2)



2. Remove two screws (callout 1), and then remove the sheet-metal plate (callout 2). Remove one spring (callout 3), and then remove the lifter drive assembly.

Figure 2-247 Remove the lifter-drive assembly (500-sheet paper feeder) (2 of 2)



Pickup motor assembly (500-sheet paper feeder)

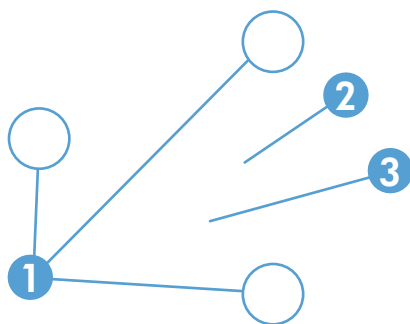
Before proceeding, remove the following components:

- Rear cover (500-sheet paper feeder). See [Rear cover \(500-sheet paper feeder\) on page 270](#).

Remove the pickup motor (500-sheet paper feeder) assembly

- ▲ Remove three screws (callout 1), disconnect one connector (callout 2), and then remove the motor assembly (callout 3).

Figure 2-248 Remove the pickup motor assembly (500-sheet paper feeder)



Controller PCA (500-sheet paper feeder)

Before proceeding, remove the following components:

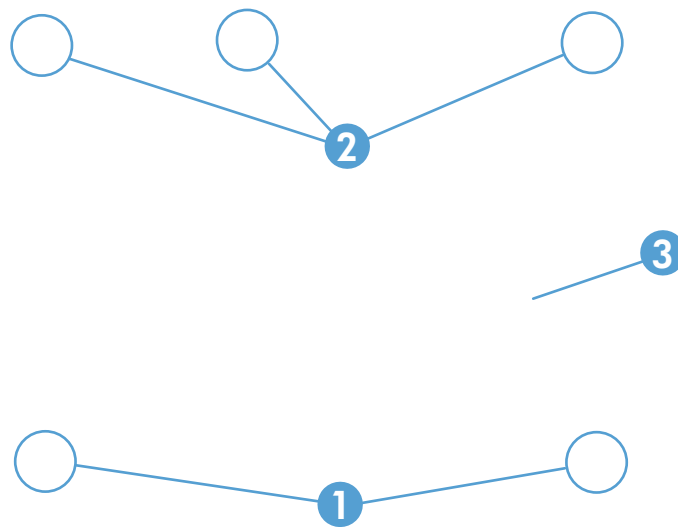
- Rear cover (500-sheet paper feeder). See [Rear cover \(500-sheet paper feeder\) on page 270](#).

Remove the controller PCA (500-sheet paper feeder)


! **CAUTION:**  ESD-sensitive part.

- ▲ Disconnect all connectors, and then remove two screws (callout 1). Release three tabs (callout 2), and then remove the PCA (callout 3).

Figure 2-249 Remove the controller PCA (500-sheet paper feeder)



Optional paper feeder assemblies (1 x 500-sheet and 3 x 500-sheet)

 **NOTE:** For information about removing the Tray 3, 4, or 5 feed and separation rollers, see [Tray 2, 3, 4, or 5 pickup, feed, and separation rollers on page 119](#).

For information about removing the right door (optional paper feeder), see [Right door \(optional paper feeder\) on page 287](#)

The following procedures apply to both the 1 x 500-sheet optional paper feeder and the 3 x 500-sheet optional paper unless specifically noted.

Front door (optional paper feeder)

1. Release one tab (callout 1), and then remove the stopper (callout 2).

Figure 2-250 Remove the front door (optional paper feeder) (1 of 3)

2. Release the link arm (callout 1), and then remove the front door (callout 2).

Figure 2-251 Remove the front door (optional paper feeder) (2 of 3)

3. If necessary, remove two screws (callout 1), remove the handle (callout 2), and then remove the link arm (callout 3).

Figure 2-252 Remove the front door (optional paper feeder) (3 of 3)

Rear cover (optional paper feeder)

- ▲ Remove two screws (callout 1), and then remove the rear cover (callout 2).

Figure 2-253 Remove the rear cover (optional paper feeder)

Right-front cover (optional paper feeder)

- ▲ Open the front and right doors, remove one screw (callout 1), and then lift the right-front cover (callout 2) to remove.

Figure 2-254 Remove the right-front cover (optional paper feeder)

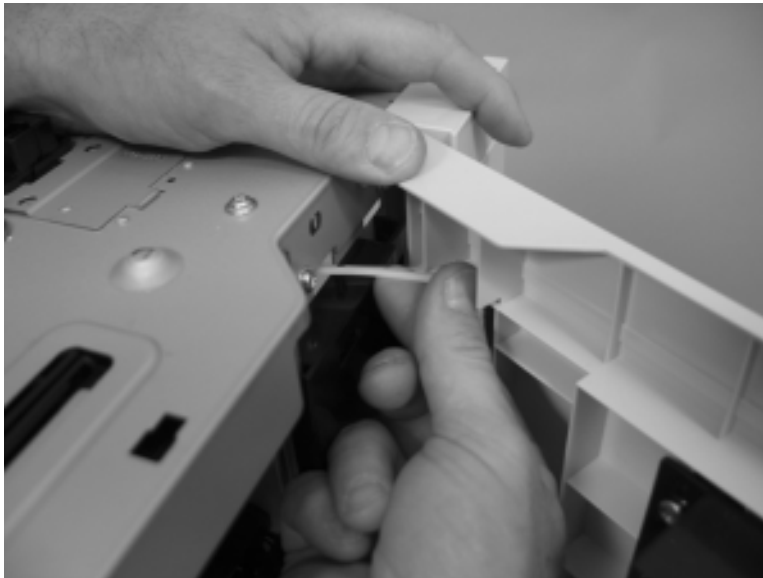
Right door (optional paper feeder)

1. Open the right door, release one tab (callout 1), and then remove the stopper (callout 2)

Figure 2-255 Remove the right door (optional paper feeder) (1 of 3)

2. Close the right door slightly, and then release the upper link arm.

Figure 2-256 Remove the right door (optional paper feeder) (2 of 3)



3. Slide the door to release the lower link arm, and then remove the right door.

Figure 2-257 Remove the right door (optional paper feeder) (3 of 3)

Left cover (optional paper feeder)

Before proceeding, remove the following components:

- Front door (optional paper feeder). See [Front door \(optional paper feeder\) on page 283](#).
- Right-front cover (optional paper feeder). See [Right-front cover \(optional paper feeder\) on page 286](#).

Remove the left cover (optional paper feeder)

1. **1 x 500 paper feeder only:** Remove two screws (callout 1), and then remove two bushings (callout 2).

Figure 2-258 Remove the left cover (optional paper feeder) (1 of 3)

2. **1 x 500 paper feeder only:** Remove three screws (callout 1), and then remove the storage box (callout 2).

Figure 2-259 Remove the left cover (optional paper feeder) (2 of 3)

3. Release five tabs (callout 1), and then remove the left cover (callout 2).

Figure 2-260 Remove the left cover (optional paper feeder) (3 of 3)

Right cover (optional paper feeder)

Before proceeding, remove the following components:

- Right door (optional paper feeder). See [Right door \(optional paper feeder\) on page 287](#).

Remove the right cover (optional paper feeder)

- ▲ Remove two screws (callout 1), release one tab (callout 2), and then remove the right cover (callout 3).

Figure 2-261 Remove the right cover (optional paper feeder)

Rear-right cover (optional paper feeder)

Before proceeding, remove the following components:

- Right door (optional paper feeder). See [Right door \(optional paper feeder\) on page 287](#).

Remove the rear-right cover (optional paper feeder)

- ▲ Remove one screw (callout 1), and then lift the rear-right cover (callout 2) to remove.

Figure 2-262 Remove the rear-right cover (optional paper feeder)

Pickup assembly (optional paper feeder)

Before proceeding, remove the following components:

- Paper feeder rear cover. See [Rear cover \(optional paper feeder\) on page 285](#).
- Paper feeder right front cover. See [Right-front cover \(optional paper feeder\) on page 286](#).



NOTE: The following procedure shows steps for removing the pickup assembly for Tray 3. **3 x 500-sheet optional paper feeder only:** The steps for removing the pickup assemblies for Tray 4 and Tray 5 are the same unless noted. You must remove the pickup assemblies in sequence beginning with the pickup assembly for Tray 5.

Remove the pickup assembly (optional paper feeder)

1. Remove one screw (callout 1), and then remove the tray rail (callout 2).

Figure 2-263 Remove the pickup assembly (optional paper feeder) (1 of 5)

2. **1 x 500-sheet optional paper feeder only:** Remove three screws (callout 1), disconnect one connector (callout 2), and then remove the motor assembly (callout 3).

Figure 2-264 Remove the pickup assembly (optional paper feeder) (2 of 5)

3. **3 x 500-sheet optional paper feeder only:** Remove four screws (callout 1), disconnect two connector (callout 2), and then remove the motor assembly (callout 3).

Figure 2-265 Remove the pickup assembly (optional paper feeder) (3 of 5)

4. Remove one screw (callout 1), and then disconnect three connectors (callout 2).

Figure 2-266 Remove the pickup assembly (optional paper feeder) (4 of 5)

5. Remove one screw (callout 1), and then remove the pickup assembly (callout 2).

Figure 2-267 Remove the pickup assembly (optional paper feeder) (5 of 5)

Lifter assembly (optional paper feeder)

Before proceeding, remove the following components:

- Rear cover (optional paper feeder). See [Rear cover \(optional paper feeder\) on page 285](#).

Remove the lifter assembly (optional paper feeder)

1. Disconnect one connector (callout 1).

Figure 2-268 Remove the lifter assembly (optional paper feeder) (1 of 2)

2. Remove four screws (callout 1), and then remove the lifter assembly (callout 2).

Figure 2-269 Remove the lifter assembly (optional paper feeder) (2 of 2)

Lifter-drive assembly (optional paper feeder)

Before proceeding, remove the following components:

- Rear cover (optional paper feeder). See [Rear cover \(optional paper feeder\) on page 285](#).

Remove the lifter-drive assembly (optional paper feeder)

1. Disconnect one connector (callout 1), and then release the wire harnesses (callout 3) from the guides (callout 2).

Figure 2-270 Remove the lifter-drive assembly (optional paper feeder) (1 of 2)

2. Remove two screws (callout 1), and then remove the sheet-metal plate (callout 2). Remove one spring (callout 3), and then remove the lifter drive assembly.

Figure 2-271 Remove the lifter-drive assembly (optional paper feeder) (2 of 2)

Pickup motor assembly (optional paper feeder)

Before proceeding, remove the following components:

- Rear cover (optional paper feeder). See [Rear cover \(optional paper feeder\) on page 285](#).

Remove the pickup motor assembly (optional paper feeder)

1. **1 x 500-sheet optional paper feeder only:** Remove three screws (callout 1), disconnect one connector (callout 2), and then remove the motor assembly (callout 3).

Figure 2-272 Remove the pickup motor assembly (optional paper feeder) (1 of 2)

2. **3 x 500-sheet optional paper feeder only:** Remove four screws (callout 1), disconnect two connector (callout 2), and then remove the motor assembly (callout 3).

Figure 2-273 Remove the pickup motor assembly (optional paper feeder) (2 of 2)

Controller PCA (optional paper feeder)

Before proceeding, remove the following components:

- Rear cover (optional paper feeder). See [Rear cover \(optional paper feeder\) on page 285](#).

Remove the controller PCA (optional paper feeder)

! **CAUTION:**  ESD-sensitive part.

1. **1 x 500-sheet optional paper feeder only:** Disconnect four connectors (callout 2), and then remove two screws (callout 1). Release three tabs (callout 3), and then remove the PCA (callout 4).

Figure 2-274 Remove the controller PCA (optional paper feeder) (1 of 2)

2. **3 x 500-sheet optional paper feeder only:** Disconnect all connectors, and then remove two screws (callout 1). Release three tabs (callout 2), and then remove the PCA (callout 3).

Figure 2-275 Remove the controller PCA (optional paper feeder) (2 of 2)

Stapler/stacker



NOTE: The stapler/stacker is also referred to as the stapler/stacker multi-bin mailbox (SSMBM).

SSMBM front cover

1. Remove one screw (callout 1), release two tabs (callout 2), and then remove the front cover (callout 3).

Figure 2-276 Remove the SSMBM front cover (1 of 2)

2. If necessary, remove the lever assembly (callout 1) from the cover.

Figure 2-277 Remove the SSMBM front cover (2 of 2)

SSMBM rear cover

- ▲ Remove two screws (callout 1), and then remove the rear cover (callout 2).

Figure 2-278 Remove the SSMBM rear cover

SSMBM handle assembly

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).

Remove the SSMBM handle assembly

1. Remove one spring (callout 1).

Figure 2-279 Remove the SSMBM handle assembly (1 of 4)

2. Release one tab (callout 1), and then remove the bushing (callout 2).

Figure 2-280 Remove the SSMBM handle assembly (2 of 4)

3. Release one tab (callout 1), and then remove the bushing (callout 2).

Figure 2-281 Remove the SSMBM handle assembly (3 of 4)

4. Remove two screws (callout 1), release one tab (callout 2), and then remove the handle assembly (callout 3).

Figure 2-282 Remove the SSMBM handle assembly (4 of 4)

SSMBM top cover

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).
- SSMBM handle assembly. See [SSMBM handle assembly on page 303](#).

Remove the SSMBM top cover

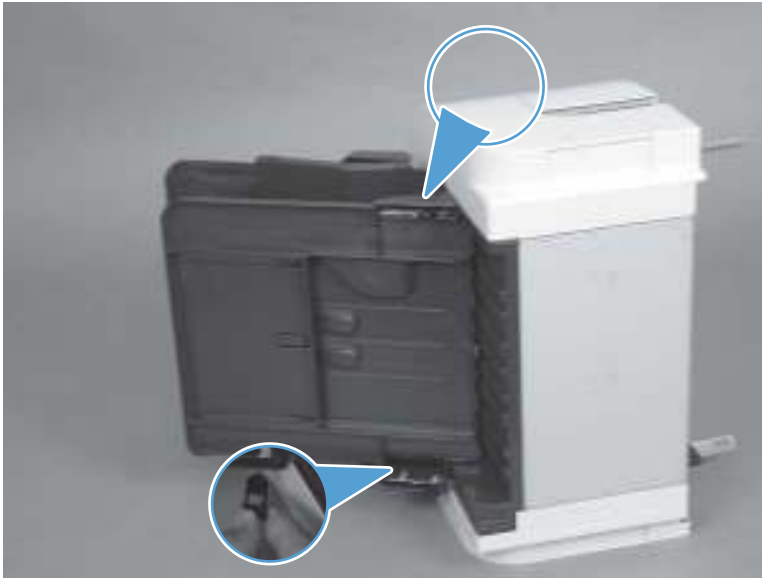
- ▲ Remove one screw (callout 1), and then remove the top cover (callout 2).

Figure 2-283 Remove the SSMBM top cover

SSMBM output bin 3

1. Squeeze and pull two stoppers to remove from the output bin.

Figure 2-284 Remove the SSMBM output bin (1 of 3)




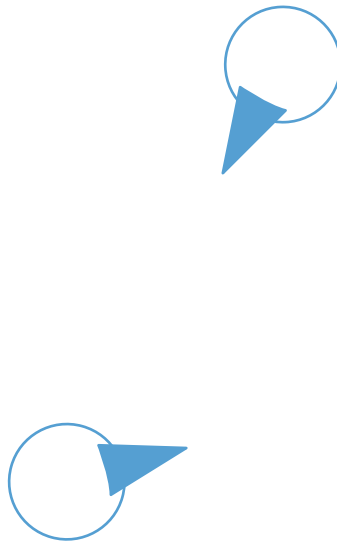
 **NOTE:** When reinstalling the output bin, make sure the two stoppers are installed in the correct position.

Figure 2-285 Remove the SSMBM output bin (2 of 3)



2. Release two tabs (callout 1) and then slide the output bin away from the stapling mailbox chassis to remove it.

Figure 2-286 Remove the SSMBM output bin (3 of 3)

SSMBM output bin assembly cover

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).
- SSMBM output bin 3. See [SSMBM output bin 3 on page 306](#).

Remove the SSMBM output bin assembly cover

1. Remove two screws (callout 1), and then slide the PCA cover away from the stapling mailbox chassis to remove it.

Figure 2-287 Remove the SSMBM output bin assembly cover (1 of 2)

2. Release two tabs (callout 1), and then remove the output bin cover assembly (callout 2).

Figure 2-288 Remove the SSMBM output bin assembly cover (2 of 2)

SSMBM PCA

! **CAUTION:**  ESD-sensitive part.

1. Remove two screws (callout 1), and then slide the PCA cover away from the stapling mailbox chassis to remove it.

Figure 2-289 Remove the SSMBM PCA (1 of 3)

2. Release the wire harnesses (callout 1) from the guide (callout 2).

Figure 2-290 Remove the SSMBM PCA (2 of 3)

3. Disconnect all connectors from the PCA, remove two screws (callout 1), and then remove the PCA (callout 2).



NOTE: Connector J460 is empty.

Figure 2-291 Remove the SSMBM PCA (3 of 3)

SSMBM output bin sensor PCA

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).

Remove the SSMBM output bin sensor PCA

1. Release one tab (callout 1), and then remove the bushing (callout 2).

Figure 2-292 Remove the SSMBM output bin sensor PCA (1 of 2)

2. Disconnect one connector (callout 1), remove one screw (callout 2), release two tabs (callout 3), and then remove the output bin sensor PCA (callout 4).

Figure 2-293 Remove the SSMBM output bin sensor PCA (2 of 2)

SSMBM stapler assembly

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).

Remove the SSMBM stapler assembly

1. Remove one screw (callout 1), and then remove the interlock assembly (callout 2).

Figure 2-294 Remove the SSMBM stapler assembly (1 of 2)

2. Disconnect two connectors (callout 1), remove three screws (callout 2), and then remove the stapler assembly (callout 3).

Figure 2-295 Remove the SSMBM stapler assembly (2 of 2)

SSMBM jogger assembly

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).

Remove the SSMBM jogger assembly

1. Disconnect two connectors (callout 1).

Figure 2-296 Remove the SSMBM jogger assembly (1 of 2)

2. Remove one screw (callout 1), slide the jogger assembly (callout 2) toward the right-side of the stapler, and then pull the assembly away from the stapler to remove it.

Figure 2-297 Remove the SSMBM jogger assembly (2 of 2)



SSMBM output bin solenoid

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).

Remove the SSMBM output bin solenoid

1. Disconnect one connector (callout 1), remove one screw (callout 2), and then remove the output bin solenoid (callout 3) and the sheet-metal plate (callout 4) together.

Figure 2-298 Remove the SSMBM output bin solenoid (1 of 2)

2. Remove two screws (callout 1), and then separate the output bin solenoid (callout 2) from the sheet-metal plate (callout 3).

Figure 2-299 Remove the SSMBM output bin solenoid (2 of 2)

SSMBM output bin assembly

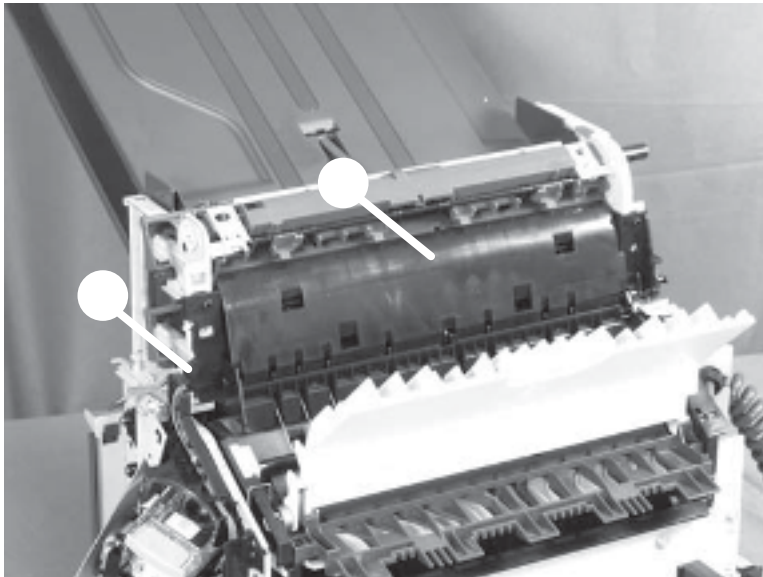
Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).
- Handle assembly. See [SSMBM handle assembly on page 303](#).
- SSMBM top cover. See [SSMBM top cover on page 305](#).
- SSMBM output bin sensor PCA. See [SSMBM output bin sensor PCA on page 312](#).
- SSMBM jogger assembly. See [SSMBM jogger assembly on page 314](#).
- SSMBM output bin solenoid. See [SSMBM output bin solenoid on page 316](#).

Remove the SSMBM output bin assembly

1. Release one tab (callout 1), and then remove the output-bin flapper assembly (callout 2).

Figure 2-300 Remove the SSMBM output bin assembly (1 of 3)



2. Remove two screws (callout 1).

Figure 2-301 Remove the SSMBM output bin assembly (2 of 3)

3. Remove two screws (callout 1), remove the belt (callout 2), and then remove the assembly (callout 3).

Figure 2-302 Remove the SSMBM output bin assembly (3 of 3)

SSMBM stage top assembly

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).
- SSMBM handle assembly. See [SSMBM handle assembly on page 303](#).
- SSMBM top cover. See [SSMBM top cover on page 305](#).
- SSMBM output bin sensor PCA. See [SSMBM output bin sensor PCA on page 312](#).
- SSMBM stapler assembly. See [SSMBM stapler assembly on page 313](#).
- SSMBM jogger assembly. See [SSMBM jogger assembly on page 314](#).
- SSMBM output bin solenoid. See [SSMBM output bin solenoid on page 316](#).
- SSMBM output bin assembly. See [SSMBM output bin assembly on page 318](#).

Remove the SSMBM stage top assembly

1. Remove two screws (callout 1), and then slide the PCA cover away from the stapling mailbox chassis to remove it.

Figure 2-303 Remove the SSMBM stage top assembly (1 of 17)

2. Disconnect four connectors (callout 1).

Figure 2-304 Remove the SSMBM stage top assembly (2 of 17)

3. Remove three screws (callout 1), and then remove the rear-rail assembly (callout 2).

Figure 2-305 Remove the SSMBM stage top assembly (3 of 17)

4. Remove two screws (callout 1), and then remove the sheet-metal plate (callout 2) and wire harness (callout 3) together.

Figure 2-306 Remove the SSMBM stage top assembly (4 of 17)

5. Release one tab (callout 1), and then remove the gear stopper (callout 2).

Figure 2-307 Remove the SSMBM stage top assembly (5 of 17)

6. Remove one gear (callout 1), and then remove the belt (callout 2).

Figure 2-308 Remove the SSMBM stage top assembly (6 of 17)

7. Release one spring (callout 1), and then remove the swing gear (callout 2).

Figure 2-309 Remove the SSMBM stage top assembly (7 of 17)

8. Remove one gear (callout 1), and then remove the belt (callout 2).

Figure 2-310 Remove the SSMBM stage top assembly (8 of 17)

9. Release one tab (callout 1), remove the sensor flag (callout 2), and then disconnect one connector (callout 3).

Figure 2-311 Remove the SSMBM stage top assembly (9 of 17)

10. Release the wire harnesses (callout 1) from the guide (callout 2), remove two screws (callout 3), and then remove the guide (callout 2).

CAUTION: Not all of the gears behind the guide are captive. Make sure you do not dislodge them when the guide is removed.

Figure 2-312 Remove the SSMBM stage top assembly (10 of 17)

11. Remove one gear (callout 1), and then remove two screws (callout 2).

CAUTION: Not all of the gears (callout 3) are captive. Make sure you do not dislodge them.

Figure 2-313 Remove the SSMBM stage top assembly (11 of 17)

12. Replace the guide (callout 1), and then install two screws (callout 2) to secure it and prevent loose gears from becoming dislodged.

Figure 2-314 Remove the SSMBM stage top assembly (12 of 17)

13. Release the wire harnesses (callout 1) from the guide (callout 3), and then remove the guide (callout 3).

Figure 2-315 Remove the SSMBM stage top assembly (13 of 17)

14. Release two bosses (callout 1), and then remove the stage top assembly (callout 2) and the right door (callout 3) together.

Figure 2-316 Remove the SSMBM stage top assembly (14 of 17)

15. Remove the stopper (callout 1).

Figure 2-317 Remove the SSMBM stage top assembly (15 of 17)

16. Remove one spring (callout 1), and then remove the right door (callout 2) and the inlet guide (callout 3) together.

Figure 2-318 Remove the SSMBM stage top assembly (16 of 17)

17. Remove one screw (callout 1), remove the bushing (callout 2), and then remove the paper feed guide (callout 3) from the stage top assembly (callout 4).

Figure 2-319 Remove the SSMBM stage top assembly (17 of 17)

Reinstall the SSMBM stage top assembly

When you reassemble the stage top assembly, make sure to insert the guide (callout 1) of the assembly **under** the shaft (callout 2) of the output bin 3 upper delivery roller.

Figure 2-320 Reinstall the SSMBM stage top assembly

SSMBM stage assembly

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).
- SSMBM handle assembly. See [SSMBM handle assembly on page 303](#).
- SSMBM top cover. See [SSMBM top cover on page 305](#).
- SSMBM output bin sensor PCA. See [SSMBM output bin sensor PCA on page 312](#).
- SSMBM stapler assembly. See [SSMBM stapler assembly on page 313](#).
- SSMBM jogger assembly. See [SSMBM jogger assembly on page 314](#).
- SSMBM output bin solenoid. See [SSMBM output bin solenoid on page 316](#).
- SSMBM output bin assembly. See [SSMBM output bin assembly on page 318](#).
- SSMBM stage top assembly. See [SSMBM stage top assembly on page 320](#).

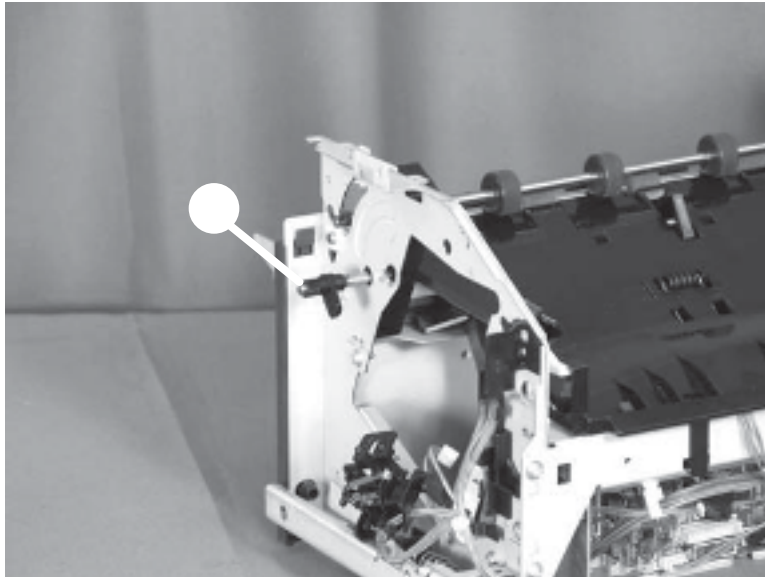
Remove the SSMBM stage assembly

1. Remove two belts (callout 1), and then remove five gears (callout 2).

Figure 2-321 Remove the SSMBM stage assembly (1 of 5)

2. Pull out the shaft (callout 1).

Figure 2-322 Remove the SSMBM stage assembly (2 of 5)



3. Disconnect one connector (callout 1).

Figure 2-323 Remove the SSMBM stage assembly (3 of 5)

4. Release two tabs (callout 1), remove the solenoid arm (callout 2), and then slide the stage assembly (callout 3) as shown below to remove it.

Figure 2-324 Remove the SSMBM stage assembly (4 of 5)

5. Remove one screw (callout 1), and then remove the stamp assembly (callout 2) from the stage assembly (callout 3).

Figure 2-325 Remove the SSMBM stage assembly (5 of 5)

SSMBM output bin 3 drive assembly

Before proceeding, remove the following components:

- SSMBM front cover. See [SSMBM front cover on page 301](#).
- SSMBM rear cover. See [SSMBM rear cover on page 302](#).
- SSMBM output bin 3. See [SSMBM output bin 3 on page 306](#).
- SSMBM output bin assembly cover. See [SSMBM output bin assembly cover on page 308](#).

Remove the SSMBM output bin 3 drive assembly

1. Remove two screws (callout 1), and then slide the PCA cover away from the stapling mailbox chassis to remove it.

Figure 2-326 Remove the SSMBM output bin 3 drive assembly (1 of 6)

2. Disconnect two connectors (callout 1), and then release the wire harnesses (callout 2) from the guide (callout 3).

Figure 2-327 Remove the SSMBM output bin 3 drive assembly (2 of 6)

3. Remove one spring (callout 1).

Figure 2-328 Remove the SSMBM output bin 3 drive assembly (3 of 6)

4. Use a screw driver to disengage the gear (callout 1), and then slide the tray support (callout 2) as shown below to remove it.

Figure 2-329 Remove the SSMBM output bin 3 drive assembly (4 of 6)



5. Remove one e-ring (callout 1), and then remove the lifter lever (callout 2).

Figure 2-330 Remove the SSMBM output bin 3 drive assembly (5 of 6)

6. Remove four screws (callout 1), and then remove the output bin 3 drive assembly.

Figure 2-331 Remove the SSMBM output bin 3 drive assembly (6 of 6)

3 Problem solving

- [Solve problems checklist](#)
- [Administration Menu Map](#)
- [Current settings page](#)
- [Troubleshooting process](#)
- [Tools for troubleshooting](#)
- [Clear jams](#)
- [Paper does not feed automatically](#)
- [Product feeds multiple sheets](#)
- [Use manual print modes](#)
- [Solve image-quality problems](#)
- [Clean the product](#)
- [Solve performance problems](#)
- [Solve connectivity problems](#)
- [Service mode functions](#)
- [Preboot menu options](#)
- [Solve fax problems](#)
- [Solve e-mail problems](#)
- [Product updates](#)

Solve problems checklist

1. Make sure that the product control panel is lit and that the product is in Ready state. If the product is not on, complete these steps:
 - a. Check the power-cable connections.
 - b. Check that the power is turned on.
 - c. Make sure that the line voltage is correct for the product power configuration. (See the label that is on the back of the product for voltage requirements.) If you are using a power strip and its voltage is not within specifications, plug the product directly into the wall. If it is already plugged into the wall, try a different outlet.
 - d. If none of these measures restores power, see [Power subsystem on page 348](#).
2. Check the cabling.
 - a. Check the cable connection between the product and the computer or network port. Make sure that the connection is secure.
 - b. Make sure that the cable itself is not faulty by using a different cable, if possible.
 - c. Check the network connection. See [Solve connectivity problems on page 618](#).
3. Check to see if any messages appear on the control-panel display.
4. Ensure that the paper that you are using meets specifications.
5. Print a configuration page. If the product is connected to a network, an HP Jetdirect page also prints.
 - a. If the pages do not print, check that at least one tray contains paper.
 - b. If the page jams in the product, see [Clear jams on page 572](#).
6. If the configuration page prints, check the following items:
 - a. If the page does not print correctly, the problem is with the product hardware.
 - b. If the page prints correctly, then the product hardware is working. The problem is with the computer you are using, with the printer driver, or with the program.
7. Select one of the following options:

Windows: Click **Start**, click **Settings**, and then click **Printers** or **Printers and Faxes**. Double-click the name of the product.

-or-

Mac OS X: Open the **Printer Setup Utility** and double-click the line for the product.

8. Verify that you have installed the printer driver for this product. Check the program to make sure that you are using the printer driver for this product.
9. Print a short document from a different program that has worked in the past. If this solution works, then the problem is with the program you are using. If this solution does not work (the document does not print), complete these steps:
 - a. Try printing the job from another computer that has the product software installed.
 - b. If you connected the product to the network, connect the product directly to a computer with a USB cable. Redirect the product to the correct port, or reinstall the software, selecting the new connection type that you are using.

Administration Menu Map

The menu map presents the entire structure of the [Administration](#) menu so you can identify how to navigate to any option.

1. From the Home screen, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Reports](#)
 - [Configuration/Status Pages](#)
 - [Administration Menu Map](#)
3. Touch the [Print](#) button to print the report.

Current settings page

The current settings page presents a list of the configurable settings for the product.

1. From the Home screen, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Reports](#)
 - [Configuration/Status Pages](#)
 - [Current Settings Page](#)
3. Touch the [Print](#) button to print the report.

Troubleshooting process

Problem-solving flowchart

Symptom	Check	Possible causes	Possible solutions
The control-panel display is blank, no lights are lit, and the product makes no sounds from the motors.	Is the power on?	<p>The power switch might be off.</p> <p>The power cord might be unplugged.</p> <p>The power outlet might not be working correctly.</p> <p>The internal power supply might have failed.</p>	<ol style="list-style-type: none"> 1. Make sure that the product is plugged in and the power switch is on. 2. Test the power outlet by plugging the product into an outlet that is known to work. 3. If the problem persists, replace the engine power supply.
The control panel indicates an error.	Do error messages appear on the control-panel display?	Several conditions can cause an error message to appear.	▲ Follow the instructions on the control panel to resolve the problem.
	Are main features, such as copy or e-mail, inactive on the touchscreen?	The scanner shipping lock might be in the locked position.	Make sure that the scanner shipping lock is unlocked. The scanner lock is on the left side of the product, underneath the scanner lid.
Paper-feed problems	Do jams occur frequently?	<p>The media does not meet specifications.</p> <p>Paper remains in the product after clearing a previous jam.</p> <p>Some of the shipping tape, cardboard, or shipping locks are still in the product.</p> <p>The maintenance kit items might be ready for replacement.</p>	<ol style="list-style-type: none"> 1. Make sure that the media meets specifications for the product. 2. Open all doors and trays and check for jammed media. 3. Make sure that the print cartridge is installed correctly. 4. Install the product maintenance kit.
	Do original documents feed correctly through the document feeder?	<p>The original document might be printed on media that is too light or too heavy for the document feeder.</p> <p>The document feeder rollers and separation pad might be dirty.</p> <p>The document feeder maintenance kit parts might need to be replaced.</p>	<ol style="list-style-type: none"> 1. If the original document is printed on very heavy or light media, copy by using the flatbed glass. 2. Clean the document feeder rollers and separation pad. 3. Install the document feeder maintenance kit.

Symptom	Check	Possible causes	Possible solutions
Copy problems	Are copies blank?	The originals might have been loaded upside-down.	<ol style="list-style-type: none"> 1. In the document feeder, load original documents face-up. 2. On the scanner glass, load original documents face-down.
	Are copies of poor quality from the document feeder and the scanner glass?	The copy settings need to be adjusted for the original document.	Adjust copy settings as needed.
	Are copies of poor quality only from the document feeder?	The document feeder mylar strip might be dirty.	Clean or replace the mylar strip.
	Are copies of poor quality only from the scanner glass?	The scanner glass might be dirty	Clean the glass.
Print-quality problems	Is the overall print quality poor?	The media does not meet specifications.	<ol style="list-style-type: none"> 1. Make sure that the media meets specifications for the product.
	Is the printing too light?	The print cartridge might be empty or damaged.	<ol style="list-style-type: none"> 2. Replace the print cartridge.
	Do lines, streaks, or dots appear on the pages?	The paper path might be dirty.	<ol style="list-style-type: none"> 3. Process a cleaning page.
		The maintenance kit items might be ready for replacement.	<ol style="list-style-type: none"> 4. Install the product maintenance kit.
General printing problems	Can you print documents from a computer?	The computer cable might be defective.	<ol style="list-style-type: none"> 1. Try printing a configuration page at the control panel.
		The printer driver might need to be reinstalled.	If the page prints, the problem is with the cable or the driver.
	Can you print over the network?	The network might not be configured correctly.	<ol style="list-style-type: none"> 2. Reconnect the cables.
			<ol style="list-style-type: none"> 3. Reinstall the printer driver. The printer driver is on the CD that came with the product.
	Are you having problems printing from specific software programs?	The problem might be with the software program.	<ol style="list-style-type: none"> 1. Try printing from a different software program. If you can print, the problem is with the original software program.
			<ol style="list-style-type: none"> 2. See the documentation for the software program.

Symptom	Check	Possible causes	Possible solutions
Stapling problems	Are jobs stapled?	The staple cassette might be jammed. The staple cassette might need to be replaced.	Remove the staple cassette and check if it is jammed or empty.
E-mail problems	Are you able to send e-mail attachments? Does an "E-mail gateway not responding" message appear on the control panel?	The SMTP gateway might need to be reconfigured.	Adjust e-mail settings as needed.
	Are you able to change the "From" e-mail address?	The product might be configured so that the "From" e-mail address cannot be changed. The product might require you to sign in before you can change the "From" e-mail address.	Use the embedded Web server to change these settings.
	Are you able to change the file type setting for e-mail attachments?	Change the settings at the control panel or by using the embedded Web server.	<ol style="list-style-type: none"> 1. At the control panel, touch the E-mail button, and then touch the More Options button. 2. Settings can also be changed through the embedded Web server.
	Do you receive a "job failed" e-mail message when you try to send an e-mail attachment?	The e-mail address to which you are sending the document might be incorrect. The file size might be larger than the maximum allowable size for the SMTP gateway.	<ol style="list-style-type: none"> 1. Send a test e-mail from your computer. 2. Use the embedded Web server to change the maximum allowable size for e-mail attachments.
Fax problems	Is the fax feature on the control panel inactive?	You need to provide required settings before using the fax feature.	<ol style="list-style-type: none"> 1. At the control panel, touch the Administration button, touch the Initial Setup button, and then touch the Fax Setup button. 2. Configure the settings for Location, Date/Time, and Fax Header.

Symptom	Check	Possible causes	Possible solutions
	Is the fax feature on the control panel completely missing?	The fax accessory might be installed incorrectly.	<ol style="list-style-type: none"> 1. Make sure that the fax accessory is installed correctly and that none of the pins are bent. 2. Print a configuration page and check the modem status. It should indicate "Operational/Enabled". If the modem status is anything else, the problem is with the fax accessory.
	Is the fax feature configured correctly but you cannot send faxes?	<p>You must use the phone cord that came with the product.</p> <p>The phone cord might not be connected securely or the telephone line might not be working.</p> <p>You might have connected the product to a digital phone line instead of an analog phone line. The fax accessory requires an analog phone line.</p>	<ol style="list-style-type: none"> 1. Always use the phone cord that came with the product. 2. Test the telephone line by connecting a telephone to it and making a call. 3. Make sure that you are connecting the product to an analog phone line.
	Is the fax feature configured correctly but you cannot receive faxes?	<p>A line splitter or surge-protection device might be interfering with incoming faxes.</p> <p>An answering machine or voice-mail system might be intercepting the incoming fax transmission.</p>	<ol style="list-style-type: none"> 1. Do not use line splitters or surge-protection devices. 2. Disconnect the answering machine or voice-mail system. 3. Set the number of rings-to-answer for the fax accessory to a lower number. 4. Make sure that the product is connected to an a dedicated analog phone line. Do not use a roll-over line.

Determine the problem source

When the product malfunctions or encounters an unexpected situation, the product control panel alerts you to the situation. This section contains a pre-troubleshooting checklist to filter out many possible

causes of the problem. A troubleshooting flowchart helps you diagnose the root cause of the problem. The remainder of this chapter provides steps for correcting problems.

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

Before beginning any troubleshooting procedure, check the following issues:

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



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

Pre-troubleshooting checklist

The list below describes basic questions to ask the customer to help quickly define the problem or problems.

Table 3-1 Pre-troubleshooting checklist

Environment	<ul style="list-style-type: none">• Is the product installed on a solid, level surface?• Is the product exposed to particle matter or dust?• Is the power-supply voltage within ± 10 volts of the specified power source?• Is the power supply plug inserted in the product and directly to the wall outlet (not a power strip)?• Is the operating environment within the specified parameters?• Is the product exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials?• Is the product exposed to direct sunlight?
Media	<ul style="list-style-type: none">• Does the customer use only supported media?• Is the media in good condition (contains no curls, folds, and so forth)?• Is the media stored correctly and within environmental limits?
Input trays	<ul style="list-style-type: none">• Is the amount of media in the tray within specifications?• Is the media correctly placed in the tray?• Are the paper guides aligned with the stack?• Is the paper tray correctly installed in the product?

Table 3-1 Pre-troubleshooting checklist (continued)

Print cartridge	<ul style="list-style-type: none">• Is the print cartridge installed correctly?• Is an original HP print cartridge installed?• Is the print cartridge damaged?
Covers	<ul style="list-style-type: none">• Are the right and front doors closed?
Condensation	<ul style="list-style-type: none">• Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe the affected area dry or leave the product on for 10 to 20 minutes.• Was a print cartridge installed soon after being moved from a cold room to a warm room? If so, allow the product to sit at room temperature for one to two hours.
Miscellaneous	<ul style="list-style-type: none">• Check for and remove any non-HP components (print cartridge, memory modules, and EIO cards) from the product.• Remove the product from the network, and make sure that the failure is with the product before beginning troubleshooting.• For any print-quality issues, use the Device Maintenance menu to calibrate the scanner. See Scanning subsystem on page 351.

Troubleshooting flowchart

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

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

Table 3-2 Troubleshooting flowchart

1 Power on	Is the product on and does a readable message display?		Follow the power-on troubleshooting checks. See Power subsystem on page 348 .
	Yes ↓	No →	After the control-panel display is functional, go to step 2.
2 Control panel messages	Does the message Ready display on the control panel?		If an error message appears, see Interpret control-panel messages, status-alert messages, and event code errors on page 472 .
	Yes ↓	No →	After the errors have been corrected, go to step 3.
3 Event log	Open the Troubleshooting menu and print an event log to see the history of errors with this product. Does the event log print?		If the event log does not print, see Interpret control-panel messages, status-alert messages, and event code errors on page 472 . If paper jams inside the product, see Clear jams on page 572 . If error messages appear on the control-panel display when you try to print an event log, see Interpret control-panel messages, status-alert messages, and event code errors on page 472 .
	Yes ↓	No →	After successfully printing and evaluating the event log, go to step 4.
4 Information pages	Open the Information menu and print the configuration pages to verify that all of the accessories are installed. Are all the accessories installed?		If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it. After evaluating the configuration pages, go to step 5.
	Yes ↓	No →	
5 Image quality	Does the print quality meet the customer's requirements?		Compare the images with the sample defects in the image defect tables. See Print quality examples on page 611 .
	Yes ↓	No →	After the print quality is acceptable, go to step 6.
6 Interface	Can the customer print successfully from the host computer?		Verify that all I/O cables are connected correctly and that a valid IP address is listed on the Jetdirect configuration page.
	Yes. This is the end of the troubleshooting process.	No →	If error messages display on the control panel, see Interpret control-panel messages, status-alert messages, and event code errors on page 472 . When the customer can print from the host computer, this is the end of the troubleshooting process.

Power subsystem

Power-on checks

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

Power-on troubleshooting overview

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

During normal operation, the main cooling fan begins to spin briefly after the product power is turned on. Place your hand on the rear cover, next to the formatter. If the fan is operating, you will feel a slight vibration and feel air passing into the product. You can also lean close to the product 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 isolate print engine, formatter, and control-panel problems. Perform an engine test. If the formatter is damaged, it might interfere with the engine test. If the engine test page does not print, try removing the formatter and then performing the engine test again. If the engine test is then successful, the problem is almost certainly with the formatter, the control panel, or the cable that connects them.

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

1. Make sure that the product is plugged into an active electrical outlet that delivers the correct voltage.
2. Make sure that the power switch is in the *on* position.
3. Make sure that the fan runs briefly, which indicates that the power supply is operational.
4. Make sure that the control-panel display wire-harness is connected.
5. Make sure that the formatter is seated and operating correctly. The heartbeat LED should be blinking, and the connectivity LED should be illuminated.
6. Use the contrast dial on the control panel to make sure that it is not all the way up or all the way down.
7. Remove any HP Jetdirect or other EIO cards, and then try to turn the product on again.



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

If the main cooling fan is not operating, check the following items.

1. Check the fuse on the low-voltage power supply (location FU1; near the power switch) to make sure that it is not open.
2. If necessary, replace the low-voltage power supply PCA.
3. If necessary, replace the DC controller.
4. If necessary, replace the high-voltage power supply.




NOTE: It is important to have the control panel functional as soon as possible in the troubleshooting process so that the control-panel display can be used to help locate product errors.

Control-panel checks

The product includes a diagnostic test mode for the control panel. This mode allows you to troubleshoot issues with the touchscreen, keypad, LEDs and speaker.

Start control panel diagnostic mode

1. Press and hold the asterisk key (*) and the plus sign (+) key at the same time.
2. Press the Start  button to initiate diagnostic mode.


Many of the diagnostic tests are for factory use only. You can use the following tests:

- **Calibrate**: calibrates the touchscreen
- **Touch Grid**: verifies that all areas respond to a touch
- **Keyboard LED**: tests the functionality of keys and LEDs
- **Sound**: tests the speaker
- **Panel Reset**: reboots the control panel

If the touchscreen does not function, use the keypad to navigate:

- Press the **3** button to move up.
- Press the **5** button to move left.
- Press the **6** button to move right.
- Press the **9** button to move down.

Exit diagnostic mode

- ▲ Do one of the following:
 - Press and hold the asterisk key (*) and the minus key (-) at the same time.
 - Touch the **Panel Reset** button.
 - Press the Stop  button.

Scanning subsystem

Calibrate the scanner

1. Touch the [Device Maintenance](#) button.
2. Touch the [Calibrate/Cleaning](#) button.
3. Touch the [Calibrate Scanner](#) button, and then follow the instructions provided on the screen.

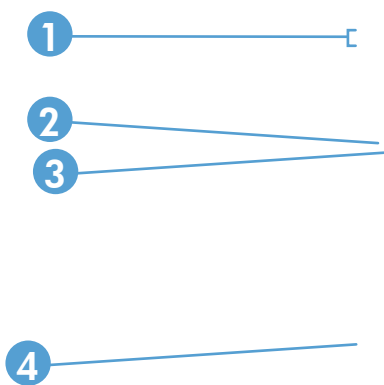
Tools for troubleshooting

Component diagnostics

From the [Troubleshooting](#) menu, you can run tests to check the status of various components in the product. During many of the diagnostic tests, the product enters a special diagnostics mode, which allows you to send print jobs and interact with the menus.

LED diagnostics

Three LEDs on the formatter indicate that the product is functioning correctly.



1	HP Jetdirect Inside LEDs
2	Heartbeat LED
3	Connectivity LED
4	Fax LED (fax models only)

HP Jetdirect Inside LEDs

The embedded HP Jetdirect print server has two LEDs, one for each possible link speed. When an LED is lit, the print server is functioning correctly. A link failure is indicated when both LEDs are off.

For link failures, check all of the network cable connections. In addition, you can try to manually configure the link settings on the embedded print server by using the product control panel menus.

1. Touch the [Administration](#) button.
2. Touch the [Network Settings](#) button.

3. Touch the [Embedded Jetdirect Menu](#) button or the [EIO <X> Jetdirect Menu](#) button.



NOTE: These menus have the same structure. If an additional HP Jetdirect network card is installed in the EIO slot, then both menus are available.

4. Touch the [Link Speed](#) button to select it.
5. Select the appropriate link speed.

Heartbeat LED

The heartbeat LED indicates that the formatter is functioning correctly. While the product is initializing after you turn it on, the LED blinks rapidly and then turns off. When the product has finished the initialization sequence, the heartbeat LED pulses on and off.

If the heartbeat LED is off, turn the product power off, and then on again. If the problem persists, the formatter might have a problem. Replace the formatter.

Connectivity LED

The connectivity LED indicates that the formatter is correctly seated in the product. If the connectivity LED is not lit, do the following.

Turn the product power off. Remove the formatter, and then reinstall it. Make sure that it is fully seated in the product and that the thumb screws are completely tightened. Turn the product on. If the problem persists, the formatter might have a problem. Replace the formatter.

Fax LED (fax models only)

The LED on the fax accessory indicates that it is functioning correctly. If the LED is off, see the *HP LaserJet Analog Fax Accessory 500 Fax Guide* for information about solving the problem.

Engine diagnostics

Use the following procedures to help diagnose and solve problems that occur in the print engine.

Early boot diagnostic test

When the product is powered on, it runs several self tests on the formatter and displays the results using the three control-panel LEDs (Ready, Data, and Attention). If the boot process stops and nothing is displayed on the control panel, examine the control-panel LEDs for any of the following light combinations:

	Ready	Data	Attention
A	OFF	OFF	OFF
B	ON	OFF	OFF
C	OFF	ON	OFF
D	ON	ON	OFF
E	OFF	OFF	ON

	Ready	Data	Attention
F	ON	OFF	ON
G	OFF	ON	ON
H	ON	ON	ON

If the boot process stops and any of these LED combinations are visible, perform the following actions:

1. Turn the product off.
2. Reseat the formatter.
3. Make sure that the engine connectors are properly connected to the formatter.
4. Verify the cable connections to the control panel.
5. Turn the product on.

If the boot process stops with the same error, replace the formatter.

Engine test

To verify that the print engine (all components except the formatter, formatter DIMMs, EIO products, and the stapler or stapler/stacker) is functioning, print an engine test page. Use a small, non-metallic, pointed object to depress the engine-test switch, which is located on the back of the product.


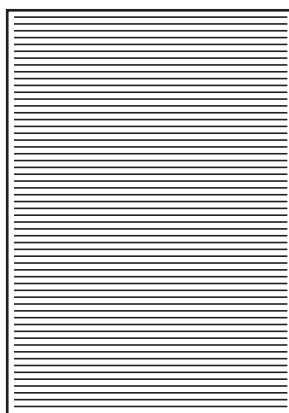
 **NOTE:** The standard output bin must be installed in order for the engine test page to print. If either the stapler/stacker or the 3-bin mailbox is installed, a jam occurs.

Figure 3-1 Engine-test-print switch location and sample page



The test page should have a series of horizontal lines. The test page prints from the last tray that you used. However, if the product has been turned off and then on since the most recent print job, the page prints from Tray 2. The product continuously prints test pages as long as the test-page switch is depressed. The product cannot print a test page if it is in 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

To verify that the formatter is functioning correctly, print a configuration page. If the page prints, the formatter is functioning.

The heartbeat LED indicates that the formatter is functioning correctly. While the product is initializing after you turn it on, the LED blinks rapidly and then turns off. When the product has finished the initialization sequence, the heartbeat LED pulses on and off.

If the heartbeat LED is off, turn the product power off, and then on again. If the problem persists, the formatter might have a problem. Replace the formatter.

The connectivity LED indicates that the formatter is correctly seated in the product. If the connectivity LED is not lit, do the following.

Turn the product power off. Remove the formatter, and then reinstall it. Make sure that it is fully seated in the product and that the thumb screws are completely tightened. Turn the product on. If the problem persists, the formatter might have a problem. Replace the formatter.

Half self-test

Use the half self-test to determine which of the eight image-formation processes might be malfunctioning.

1. Print a configuration page.
2. Open the top cover after the paper advances half-way through the product, which is 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 drum-rotation test.

Drum rotation test

The photosensitive drum, which is 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 product 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 a refilled print cartridge is in use.

Paper-path test

This diagnostic test generates one or more test pages that you can use to isolate the cause of jams.

To isolate a problem, specify which input tray to use, specify whether to use the duplex path, and specify the number of copies to print. Multiple copies can be printed to help isolate intermittent problems. The following options become available after you start the diagnostic feature:

- **Print Test Page.** Run the paper-path test from the default settings: Tray 2, no duplex, and one copy. To specify other settings, scroll down the menu and select the setting, and then scroll back up and select **Print Test Page** to start the test.
 - **Source.** Select Tray 1, Tray 2, or the optional trays.
 - **Duplex.** Enable or disable 2-sided printing.
 - **Copies.** Set the number of copies to be printed; the choices are 1, 10, 50, 100, or 500.
1. From the Home screen, scroll to and touch the **Administration** button.
 2. Touch the **Troubleshooting** button, and then touch the **Diagnostic Tests** button.
 3. Touch the **Paper Path Test** button.
 4. Select the paper-path test options for the test you want to run.

Manual sensor test

1. From the Home screen, scroll to and touch the **Administration** button.
2. Touch the **Troubleshooting** button, and then touch the **Diagnostic Tests** button.
3. Touch the **Manual Sensor Test** button.
4. Activate a switch or sensor, and then watch the control-panel display for the switch or sensor state to change from green to clear or clear to green. It might take a few seconds to change.

Figure 3-2 Manual Sensor Test screen



Table 3-3 Manual sensor tests

Sensor or switch name	Sensor or switch number	Sensor or switch test
Right lower door	SW1	See SW1 right lower door on page 359 .
Right upper door	SW105	See SW105 right upper door on page 360 .
Cartridge door (top cover)	SW101	See SW101 cartridge door (top cover) on page 361 .
Tray 5 Feed	SR10	See SR10 Tray 5 feed on page 362 .
Tray 4 Feed	SR7	See SR7 Tray 4 feed on page 363 .
Tray 3 Feed	SR4	See SR4 Tray 3 feed on page 364 .
Pre-feed	PS102	See PS102 pre-feed on page 365 .
TOP	PS103	See PS103 TOP on page 366 .
Paper width 1	PS106	See PS106/108 paper width on page 367 .
Paper width 2	PS107	
Fuser output	PS700	See PS700/PS699 fuser output on page 368 .
Intermediate Switchback	PS110	See PS110 intermediate switchback on page 369 .
Inverter media Stay	PS111	See PS111 inverter media stay on page 370 .
Duplexer Refeed	PS113	See PS113 duplex refeed on page 371 .
Output	PS112	See PS112 output on page 372 .
Output bin Full	PS104	See PS104 output bin full on page 373 .

SW1 right lower door

1. Open the right lower door.
2. Insert a piece of paper to activate the switch.

Figure 3-3 Test the SW1 right lower door switch

3. Check the control-panel display for a switch response.
4. If there is no response, replace the switch.

SW105 right upper door

1. Open the right upper door.
2. Insert a piece of paper to activate the switch.

Figure 3-4 Test the SW105 right upper door switch

3. Check the control-panel display for a switch response.
4. If there is no response, replace the switch.

SW101 cartridge door (top cover)

1. Open the top cover.
2. Insert a piece of paper to activate the switch.

Figure 3-5 Test the SW101 cartridge door (top cover) switch

3. Check the control-panel display for a switch response.
4. If there is no response, replace the switch.

SR10 Tray 5 feed

1. Remove the Tray 5 cassette, and then open the lower right door.
2. From inside the tray cavity, carefully insert an index card (or similar piece of stiff paper) into the paper path to activate the sensor.

Figure 3-6 Test the SR10 Tray 5 feed sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the sensor.

SR7 Tray 4 feed

1. Open the lower right door.
2. Carefully insert an index card (or similar piece of stiff paper) into the paper path to activate the sensor.

Figure 3-7 Test the SR7 Tray 4 feed sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the sensor.

SR4 Tray 3 feed

1. Remove the Tray 3 cassette, and then open the upper right door.
2. From inside the tray cavity, carefully insert an index card (or similar piece of stiff paper) into the paper path to activate the sensor.

Figure 3-8 Test the SR4 Tray 3 feed sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the sensor.

PS102 pre-feed

1. Open the upper right door.
2. Carefully insert an index card (or similar piece of stiff paper) into the paper path to activate the sensor.

Figure 3-9 Test the PS102 pre-feed sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the product.

PS103 TOP

1. Open the top cover, and then remove the print cartridge.
2. Raise the registration plate, and then use a small flat blade screwdriver to carefully activate the sensor flag.

Figure 3-10 Test the PS103 TOP sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the product.



NOTE: Only the base product needs to be replaced. Installed accessories or optional devices can be transferred to the replacement base product.

PS106/108 paper width

1. Open the top cover, and then remove the print cartridge.
2. Raise the registration plate, and then carefully activate one sensor flag and then the other sensor flag.

Figure 3-11 Test the PS106/108 paper width sensors

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the product.



NOTE: Only the base product needs to be replaced. Installed accessories or optional devices can be transferred to the replacement base product.

PS700/PS699 fuser output



NOTE: This sensor cannot be activated in the Manual Sensor Test mode. Use the Paper Path Test to test this sensor.

If this sensor fails the test, replace the sensor.

PS110 intermediate switchback

1. Open the top cover.
2. Carefully activate the sensor flag.

Figure 3-12 Test the PS110 intermediate switchback sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the switchback assembly.

PS111 inverter media stay

1. Open the top cover.
2. Carefully activate the sensor flag.

Figure 3-13 Test the PS110 intermediate switchback sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the switchback assembly.

PS113 duplex refeed



NOTE: This sensor cannot be activated in the Manual Sensor Test mode. Use the Paper Path Test to test this sensor.

If this sensor fails the test, replace the duplexer.

Figure 3-14 Test the PS113 duplex refeed sensor

PS112 output

1. Open the top cover.
2. Carefully activate the sensor flag.

Figure 3-15 Test the PS112 output sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the product.



NOTE: Only the base product needs to be replaced. Installed accessories or optional devices can be transferred to the replacement base product.

PS104 output bin full

1. Remove the output bin or the stapler/stacker.
2. Carefully move the sensor flappers to activate the sensor.

Figure 3-16 Test the PS104 output bin full sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the product.



NOTE: Only the base product needs to be replaced. Installed accessories or optional devices can be transferred to the replacement base product.

Tray/Bin manual sensor test

Use this test to test paper-path sensors and the paper-size switches manually. The following illustrations and table show the locations of these sensors.

1. Scroll to and touch the [Administration](#) button.
2. Touch the [Troubleshooting](#) button, and then touch the [Diagnostic Tests](#) button.
3. Touch the [Tray/Bin Manual Sensor Test](#) button.
4. Activate a switch or sensor, and then watch the control-panel display for the switch or sensor state to change from green to clear or clear to green. It might take a few seconds to change.

Figure 3-17 Tray/Bin Manual Sensor Test screen

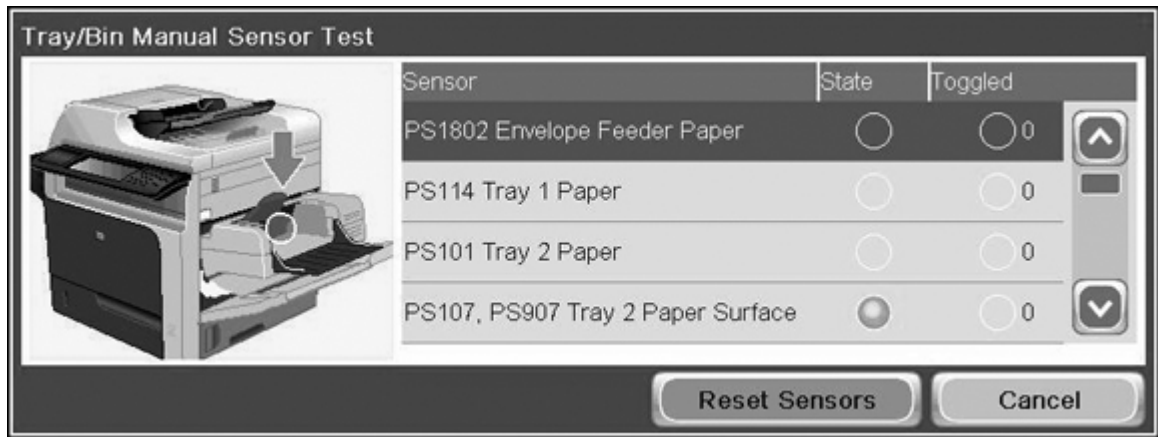


Table 3-4 Tray/Bin Manual Sensor Test

Sensor or switch name	Sensor or switch number	Sensor or switch test
Envelope feeder paper	PS1802	See PS1802 envelope feeder paper on page 376 .
Tray 1 paper	PS114	See PS114 Tray 1 paper on page 377 .
Tray 2 paper	PS101	See PS101 Tray 2 paper on page 378 .
Tray 2 paper Surface	PS107 and PS907	See PS107/PS907 Tray 2 paper surface on page 379 .
Tray 2 Paper Size	SW102	See SW102 Tray 2 paper size on page 380 .
Tray 3 paper	SR3	See SR3 Tray 3 paper on page 381 .
Tray 3 paper Surface	SR1 and SR2	See SR1/SR2 Tray 3 paper surface on page 381 .
Tray 3 paper Size	SW2	See SW2 Tray 3 paper size on page 381 .
Tray 3 feed	SR4	See SR4 Tray 3 feed on page 382 .
Tray 4 paper	SR6	See SR6 Tray 4 paper on page 383 .

Table 3-4 Tray/Bin Manual Sensor Test (continued)

Sensor or switch name	Sensor or switch number	Sensor or switch test
Tray 4 paper Surface	SR5 and SR8	See SR5/SR8 Tray 4 paper surface on page 383 .
Tray 4 paper Size	SW3	See SW3 Tray 4 paper size on page 383 .
Tray 4 feed	SR7	See SR7 Tray 4 feed on page 384 .
Tray 5 paper	SR11	See SR11 Tray 5 paper on page 385 .
Tray 5 paper Surface	SR9 and SR12	See SR9/SR12 Tray 5 paper surface on page 385 .
Tray 5 paper Size	SW4	See SW4 Tray 5 paper size on page 385 .
Tray 5 feed	SR10	See SR10 Tray 5 feed on page 386 .
Output bin full	PS104	See PS104 output bin full on page 387 .
The following items cannot be tested using the manual sensor test.		
Power switch	SW1	See SW1 power switch on page 388 .
Face up bin	SW103	See SW103 face up bin on page 389 .
Output accessory	SW104	See SW104 output accessory on page 390 .
Engine test	SW700	See SW700 engine test on page 391 .

PS1802 envelope feeder paper

1. Carefully activate the sensor flag.

Figure 3-18 Test the PS1802 envelope feeder paper sensor

2. Check the control-panel display for a sensor response.
3. If there is no response, replace the envelope feeder.

PS114 Tray 1 paper

1. Open Tray 1 (MP tray).
2. Carefully activate the sensor flag.

Figure 3-19 Test the PS114 Tray 1 paper sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the Tray 1 (MP tray) pickup assembly.

PS101 Tray 2 paper

1. Remove the Tray 2 cassette.
2. Carefully activate the sensor flag.

Figure 3-20 Test the Tray 2 paper sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the Tray 1 (MP tray) pickup assembly.

PS107/PS907 Tray 2 paper surface

1. Remove the Tray 2 cassette.
2. In the tray cavity, press the tray-closed tab to release the flag, and then activate the sensor flag.

Figure 3-21 Test the PS107/PS907 Tray 2 paper surface sensor



3. Check the control-panel display for a sensor response.
4. If there is no response, replace the cassette-pickup assembly.

SW102 Tray 2 paper size



NOTE: These three switches also detect cassette presence. If these switches fail, the message **Tray <X> open** might appear on the control-panel display.

1. Remove the Tray 2 cassette.
2. In the tray cavity, push any of the three switches.

Figure 3-22 Test the SW102 Tray 2 paper size switches

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the cassette lifter assembly.

SR3 Tray 3 paper

This sensor is identical to the Tray 2 sensor. See [PS101 Tray 2 paper on page 378](#).

SR1/SR2 Tray 3 paper surface

These sensors are identical to the Tray 2 sensors. See [PS107/PS907 Tray 2 paper surface on page 379](#).

SW2 Tray 3 paper size

This switch is identical to the Tray 2 switch. See [SW102 Tray 2 paper size on page 380](#).

SR4 Tray 3 feed

1. Remove the Tray 3 cassette, and then open the upper right door.
2. From inside the tray cavity, carefully insert an index card (or similar piece of stiff paper) into the paper path to activate the sensor.

Figure 3-23 Test the SR4 Tray 3 feed sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the sensor.

SR6 Tray 4 paper

This sensor is identical to the Tray 2 sensor. See [PS101 Tray 2 paper on page 378](#).

SR5/SR8 Tray 4 paper surface

These sensors are identical to the Tray 2 sensors. See [PS107/PS907 Tray 2 paper surface on page 379](#).

SW3 Tray 4 paper size

This switch is identical to the Tray 2 switch. See [SW102 Tray 2 paper size on page 380](#).

SR7 Tray 4 feed

1. Open the lower right door.
2. Carefully insert an index card (or similar piece of stiff paper) into the paper path to activate the sensor.

Figure 3-24 Test the SR7 Tray 4 feed sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the sensor.

SR11 Tray 5 paper

This sensor is identical to the Tray 2 sensor. See [PS101 Tray 2 paper on page 378](#).

SR9/SR12 Tray 5 paper surface

These sensors are identical to the Tray 2 sensors. See [PS107/PS907 Tray 2 paper surface on page 379](#).

SW4 Tray 5 paper size

This switch is identical to the Tray 2 switch. See [SW102 Tray 2 paper size on page 380](#).

SR10 Tray 5 feed

1. Remove the Tray 5 cassette, and then open the lower right door.
2. From inside the tray cavity, carefully insert an index card (or similar piece of stiff paper) into the paper path to activate the sensor.

Figure 3-25 Test the SR10 Tray 5 feed sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the sensor.

PS104 output bin full

1. Remove the output bin or the stapler/stacker.
2. Carefully move the sensor flappers to activate the sensor.

Figure 3-26 Test the PS104 output bin full sensor

3. Check the control-panel display for a sensor response.
4. If there is no response, replace the product.



NOTE: Only the base product needs to be replaced. Installed accessories or optional devices can be transferred to the replacement base product.

SW1 power switch



NOTE: There is no manual sensor test for this switch.

Turn the product on, and then off to test the switch. To replace this switch, remove the low-voltage power supply.

Figure 3-27 Test the SW1 power switch

SW103 face up bin



NOTE: There is no manual sensor test for this switch.


Remove the standard output bin to test this switch. If the switch fails, replace the product.



NOTE: Only the base product needs to be replaced. Installed accessories or optional devices can be transferred to the replacement base product.

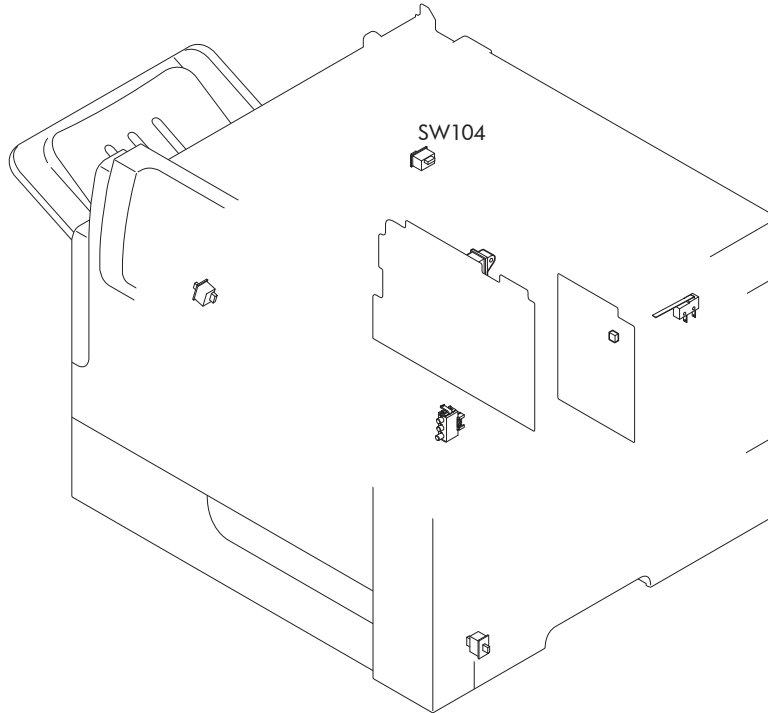
Figure 3-28 Test the SW103 face up bin switch

SW104 output accessory


 **NOTE:** There is no manual sensor test for this switch.

Remove the stapler/stacker to test this switch. If the switch fails, replace the switch.

Figure 3-29 Test the SW104 output accessory switch



SW700 engine test

 **NOTE:** There is no manual sensor test for this switch.

perform an engine test to test this switch. If the switch fails, replace the DC controller.

Figure 3-30 Test the engine test switch

Paper path sensor test

1. Touch the [Administration](#) button.
2. Touch the [Troubleshooting](#) button, and then touch the [Diagnostic Tests](#) button.
3. Touch the [Paper Path Sensors](#) button.
4. Touch the [Start Test](#) button.

 **TIP:** If prompted, follow the on-screen instructions to use an alternate source tray for this test.

The paper path sensor tests check for the presence of media at each of the sensors along the paper path. As the media passes each sensor, the sensor's state is updated. When performing these tests,

watch the control panel for the corresponding sensor to change from green to clear or clear to green. It can take a few seconds to change.

Figure 3-31 Paper path sensors test screen

Sensor	State	Toggled	Sensor	State	Toggled
SR10 Tray 5 Feed	<input type="radio"/>	0	PS110 Intermediate Switchbac	<input type="radio"/>	0
SR7 Tray 4 Feed	<input type="radio"/>	0	PS111 Inverter Media Stay	<input type="radio"/>	0
SR4 Tray 3 Feed	<input type="radio"/>	0	PS113 Duplexer Refeed	<input type="radio"/>	0
PS102 Prefeed	<input type="radio"/>	0	PS112 Output	<input type="radio"/>	0
PS103 Top	<input type="radio"/>	0	PS104 Output Bin Full	<input checked="" type="radio"/>	0
PS106 Paper Width 1	<input type="radio"/>	0			
PS108 Paper Width 2	<input type="radio"/>	0			
PS700 Fuser Output	<input type="radio"/>	0			

Start Test Cancel

Print/stop test

Use this diagnostic test to isolate the cause of problems such as image-formation defects and jams within the engine. During this test you can stop the paper anywhere along the product paper path. The test can be programmed to stop printing internal pages or an external print job when the paper reaches a certain position. The test can also be programmed to stop from 0 to 60,000 milliseconds (ms). If the timer is set to a value that is greater than the job-print time, you can recover the product in one of two ways.

1. Touch the [Administration](#) button.
 2. Touch [Troubleshooting](#) button, and then touch the [Diagnostic Tests](#) button.
 3. Touch the [Print/Stop Test](#) button.
 4. Enter a range, and then touch the [OK](#) button.
- After the print job is completed touch the [OK](#) button to return to the [Troubleshooting](#) menu before the timer times out.
 - After the timer times out, touch the [Stop](#) button. Activate the door switch to restart the engine and return it to a normal state.




NOTE: Do not try to perform a print/stop test while the product is calibrating, because you will be required to power-cycle the product. If a jam message displays on the control panel during testing, activate the door switch.

Scanner tests

These tests activate document feeder and scanner parts independently to isolate problems.

Scanner component tests

1. Touch the [Administration](#) button.
2. Touch the [Troubleshooting](#) button, and then touch the [Diagnostic Tests](#) button.
3. Touch the [Scanner Tests](#) button.
4. Select the document feeder or scanner component test option you want to run, and then touch the [OK](#) button.
5. Press the Stop  button to stop the test.

Component	Actions
Document feeder LED indicator	<p>This test turns the green input tray (on the document feeder) on and off. If the test fails, replace the document feeder.</p> <p>If the problem continues, replace the SCB.</p>
Document feeder input motor	<p>This test runs the motor in either the forward or reverse direction. If you do not hear noise when the motor is activated, replace the document feeder.</p> <p>If the problem continues, replace the SCB.</p>
Document feeder read motor	<p>This test runs the motor in either the forward or reverse direction. If you do not hear noise when the motor is activated, replace the document feeder.</p> <p>If the problem continues, replace the SCB.</p>
Lower lamp	<p>This test turns on the lamp, inverter fan, and the scanner fan. If the flatbed lamp and fans fail to turn on, replace the SCB.</p> <p>If the problem continues, replace the scanner.</p>
Flatbed Motor	<p>This test moves the optics to the right, and then back to the home position. If the scanner optics fail to move, replace the SCB.</p> <p>If the problem continues, replace the scanner.</p>

Scanner sensor tests

1. From the Home screen, scroll to and touch the [Administration](#) button.
2. Touch the [Troubleshooting](#) button, and then touch the [Diagnostic Tests](#) button.
3. Touch the [Scanner Tests](#) button.
4. Touch the [Sensors](#) button, and then touch the [OK](#) button.
5. Select from the list of sensors.

Sensor or switch name	Sensor or switch test
Document feeder paper present sensor	See Document feeder paper present sensor on page 394 .
Document feeder Y (length) sensor	See Document feeder Y (length) sensor on page 395 .
Document feeder jam cover sensor	See Document feeder jam cover sensor on page 396 .
Flatbed Y (length) sensor	See Flatbed Y (length) sensor on page 397 .
Flatbed cover angle sensor	See Flatbed cover angle sensor on page 398 .
Flatbed cover sensor	See Flatbed cover sensor on page 399 .

Document feeder paper present sensor


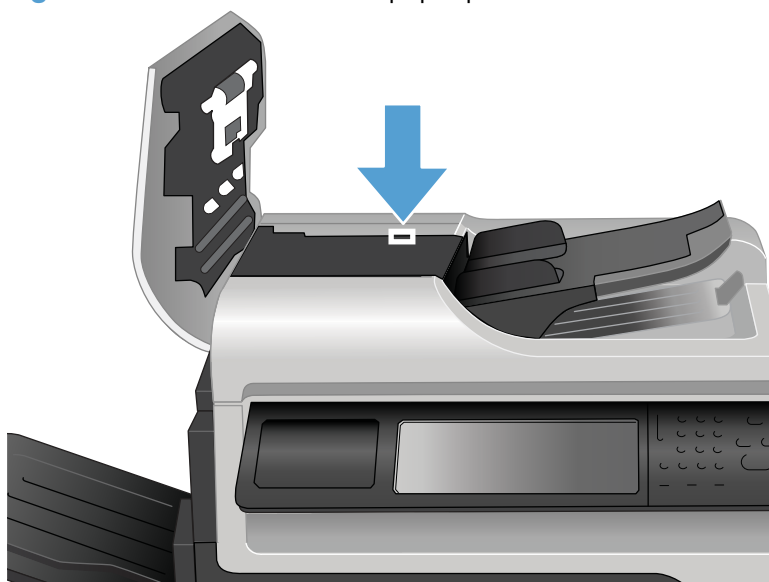
1. Open the jam-access cover and locate the document feeder paper present sensor.
-  **TIP:** To help locate the sensor, find the black paper present flag on the rear of the cover.

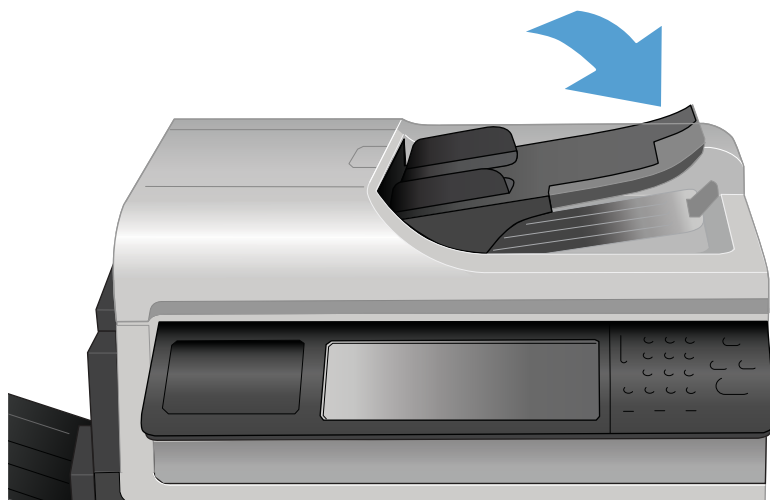
Figure 3-32 Document feeder paper present sensor test



2. Use a folded piece of paper to toggle the sensor and watch the control-panel display for a response. If the test fails, replace the document feeder.

Document feeder Y (length) sensor

1. Locate the sensor on the input tray.
2. Place a finger over the sensor, and then watch the control-panel display for a response. If the test fails, replace the document feeder.



Document feeder jam cover sensor

1. Open the jam-access cover and locate the sensor.


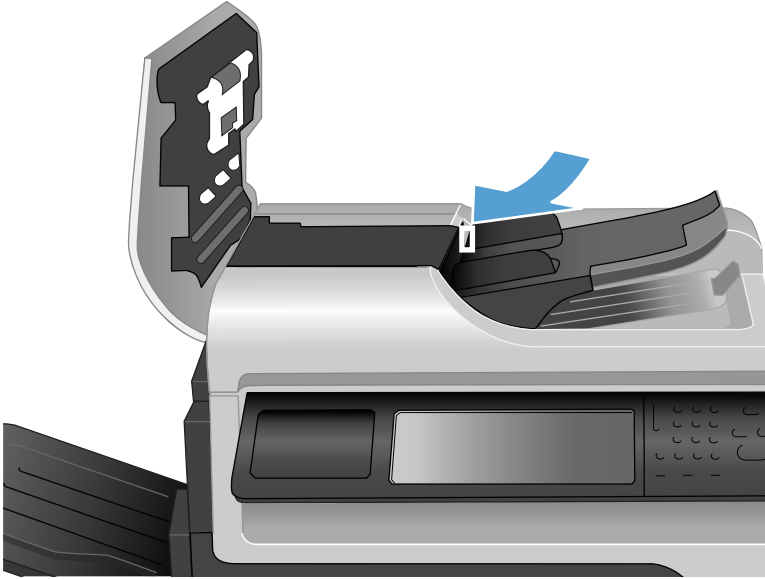
 **TIP:** To help locate the sensor, find the white sensor flag on the top of the cover.

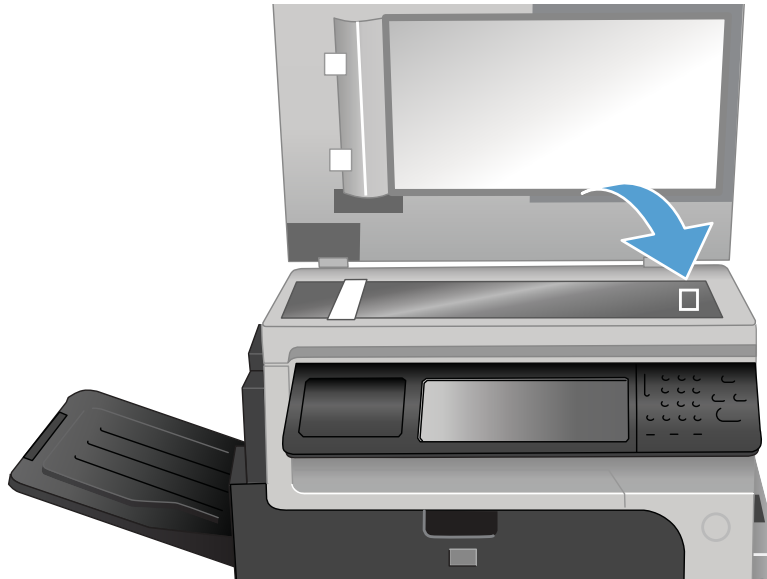
Figure 3-33 Document feeder jam cover sensor test



2. Use a folded piece of paper to actuate the sensor.
3. Check the control-panel display for sensor response. If the test fails, replace the scanner lid.

Flatbed Y (length) sensor


1. Lift the scanner and locate the sensor.



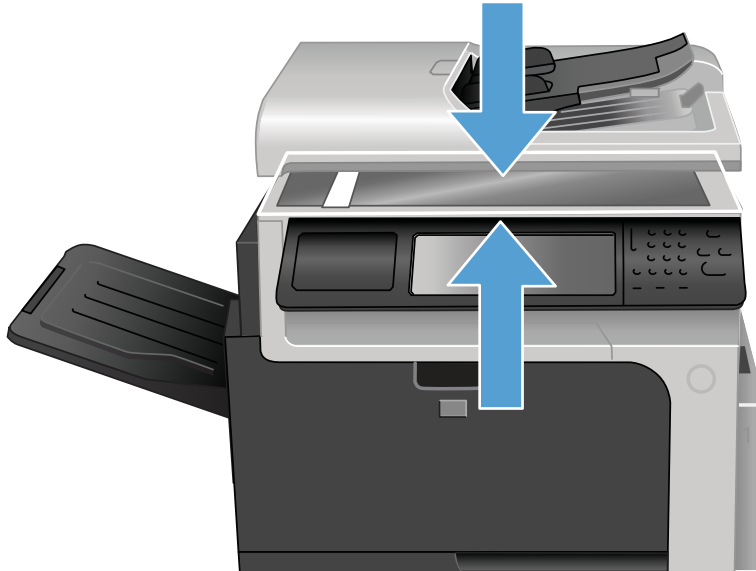
2. Block the sensor by placing a piece of paper on the glass.
3. Check the control-panel display for sensor response. If the test fails, replace the scanner.

Flatbed cover angle sensor

1. Lift the scanner and locate the sensor.

 **NOTE:** The flatbed cover angle and the flatbed cover open sensors use the same sensor assembly.

The sensor changes state when the scanner is raised approximately 50 mm (2 in).



2. Actuate the sensor by closing and then slowly opening the scanner.
3. Check the control-panel display for sensor response. If the test fails, replace the scanner lid.

Flatbed cover sensor

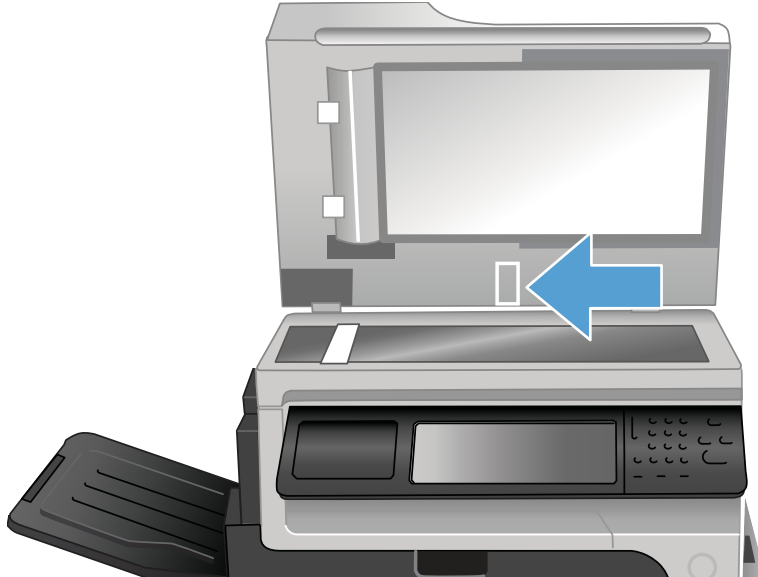
1. Open the scanner and locate the sensor.



NOTE: The flatbed cover angle and the flatbed cover open sensors use the same sensor assembly.

The sensor changes state when the scanner lid is raised approximately 150 mm (6 in).

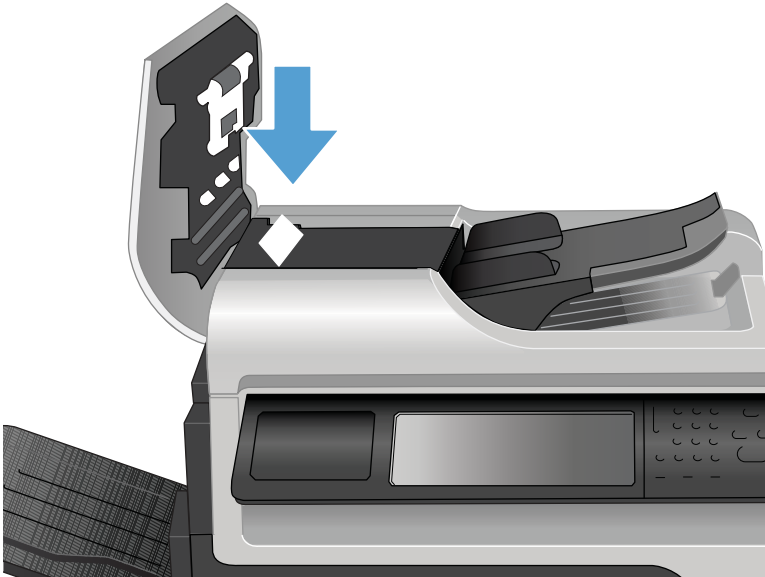
Figure 3-34 Flatbed cover sensor test



2. Raise the scanner lid to actuate the sensor.
3. Check the control-panel display for sensor response. If the test fails, replace the scanner lid.

Document feeder registration sensor

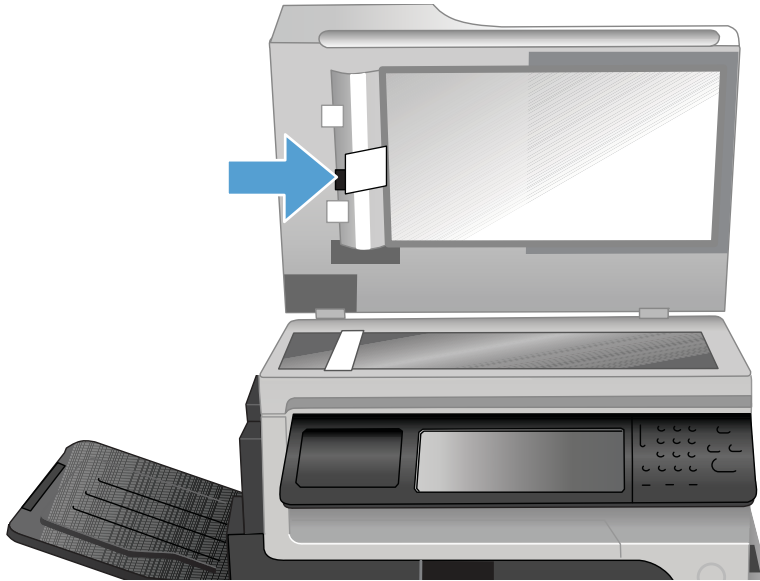
1. Open the document feeder jam access cover and locate the sensor.



2. Actuate the sensor by inserting a stiff piece of paper, like a business card, into the paper path.
3. Check the control-panel display for sensor response. If the test fails, replace the scanner lid.

Document feeder exit sensor

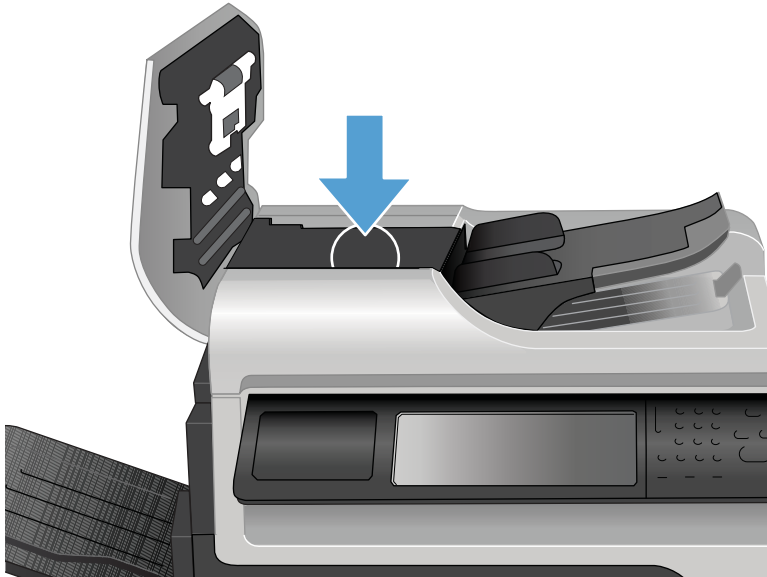
1. Lift the scanner lid and locate the sensor.



2. Actuate the sensor by inserting a stiff piece of paper, like a business card, into the paper path.
3. Check the control-panel display for sensor response. If the test fails, replace the scanner lid.

Document feeder read sensor

1. Lift the document feeder jam access cover and locate the sensor.



2. Actuate the sensor by inserting a stiff piece of paper, like a business card, into the paper path.
3. Check the control-panel display for sensor response. If the test fails, replace the scanner lid.

Component tests

Control-panel tests

Open the following menus:

- [Administration](#)
- [Troubleshooting](#)
- [Diagnostic Tests](#)

Available control-panel tests

- [LEDs](#): test the LEDs on the control panel.
- [Display](#): sequence through display tests.
- [Buttons](#): tests the key pad and other buttons.
- [Touchscreen](#): tests the control-panel touchscreen.

For more control-panel diagnostics, see [Control-panel checks on page 350](#).

Component test (special-mode test)

This test activates individual parts independently to isolate problems.

Each component test can be performed once or repeatedly. If you select [Continuous](#) from the drop-down menu as the repeat option, the test cycles the component on and off. This process continues for two minutes, and then the test terminates.



NOTE: The door interlocks must be defeated to run the component tests. Some tests might require that the print cartridge be removed. The control panel display prompts you to remove the cartridge during certain tests.

1. From the Home screen, scroll to and touch the [Administration](#) button.
2. Touch the [Troubleshooting](#) button, and then touch the [Diagnostic Tests](#) button.
3. Touch the [Component Test](#) button.
4. Select the component you want to test, and then touch the [OK](#) button.

Stapler/stacker

There are no component or sensor tests for the stapler/stacker. The stapler/stacker initializes when the product power is turned on.

Stapler/stacker initialization:

- The jogger moves out toward the front of the stapler/stacker, and then moves back.
- The bin-3 flapper raises up, and then down.

The product power must be turned off before the stapler/stacker is removed or installed. If the stapler/stacker is removed when the product power is on, the following messages appear on the control-panel display.

Stapler/stacker error messages:

- **65.80.A1 Output accessory disconnected**

This error message appears if the stapler/stacker is removed while the product power is on and the product is at the Ready state. Turn the power off, reinstall the stapler/stacker, and then turn the power on again.

- **49.21.49 The device has a detection problem. Turn off the device...**


This error message appears if the stapler/stacker is removed while the product power is on and the product is in the [Sleep](#) state. Turn the power off, reinstall the stapler/stacker, and then turn the power on again.

- **Staple Cartridge very low**

This error message appears if the staple cartridge in the stapler/stacker is very low on staples. This error message also displays if the top cover of the stapler/stacker is closed and a staple cartridge is not installed. If a staple cartridge is not installed, printed pages are delivered to the output bin without being stapled.

If the stapler/stacker is defective, configure the product to operate without it until a replacement is obtained.

1. Turn the power off.
2. Remove the defective stapler/stacker.
3. Install the output bezel and output bin.

 **NOTE:** The output bin full sensor is activated only when the product power is on and the stapler/stacker is not installed. You must install the output bezel. The output bin full sensor flag is part of the bezel.

4. Turn the power on.

Diagrams for troubleshooting

Use the diagrams in this section to identify product components.

Block diagrams

Sensors

Sensors (product base)

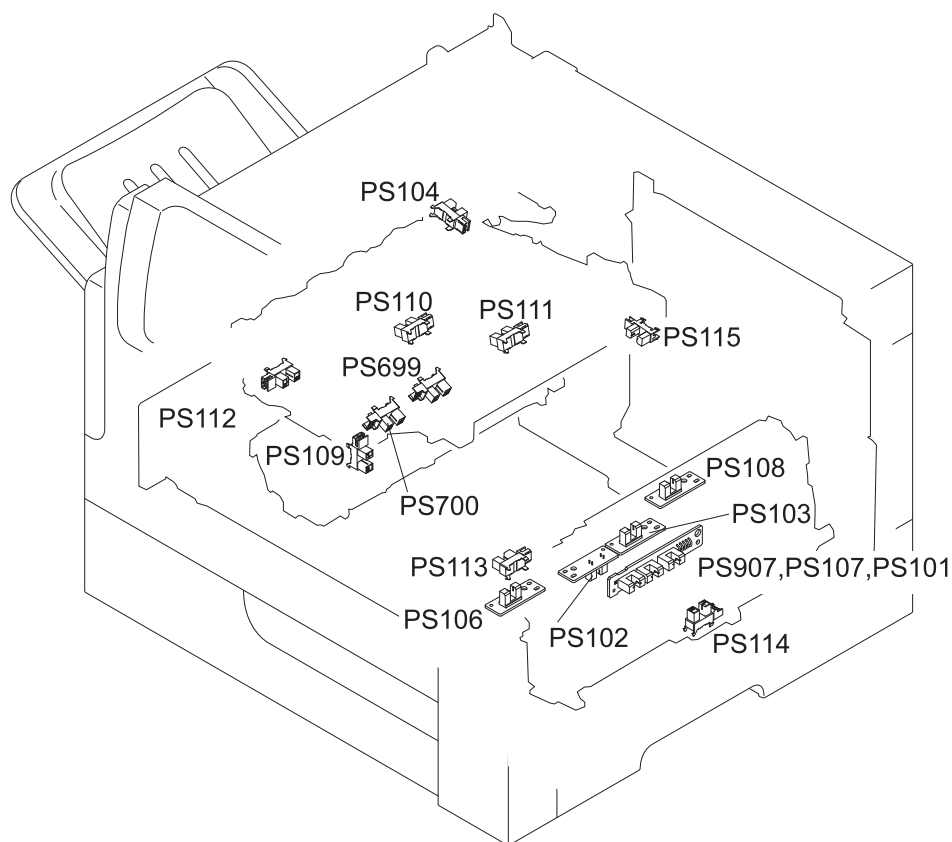


Table 3-5 Sensors (product base)

Sensor	Description	Sensor	Description
PS101	Cassette media out sensor	PS111	Switchback jam sensor
PS102	Pre-feed sensor	PS112	Delivery sensor
PS103	TOP sensor	PS113	Duplex re-pickup sensor
PS104	Output-bin media-full sensor	PS114	MP tray media-out sensor
PS106	Media width 1 sensor	PS115	Cartridge sensor
PS107	Cassette media stack surface 1 sensor	PS699	Fuser pressure release sensor
PS108	Media width 2 sensor	PS700	Fuser output sensor

Table 3-5 Sensors (product base) (continued)

Sensor	Description	Sensor	Description
PS109	Duplex side registration sensor	PS907	Cassette media stack surface 2 sensor
PS110	Switchback sensor		

Sensors (1 x 500-sheet and 3 x 500-sheet paper deck)

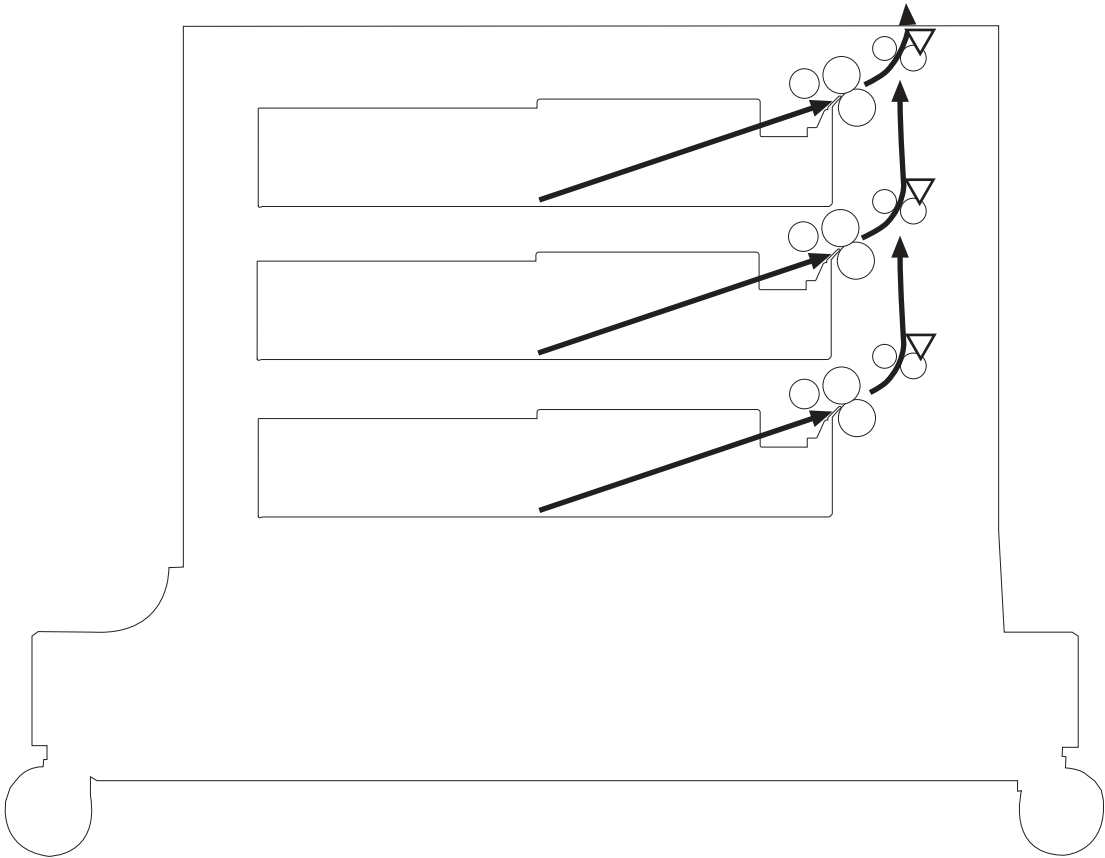


Table 3-6 Sensors (1 x 500-sheet and 3 x 500-sheet paper deck)

Sensor	Description
SR4	Paper deck media feed sensor 1 1 x 500-sheet paper deck 3 x 500-sheet paper deck
SR7	Paper deck media feed sensor 2 3 x 500-sheet paper deck
SR10	Paper deck media feed sensor 3 3 x 500-sheet paper deck

Sensors (SSMBM)

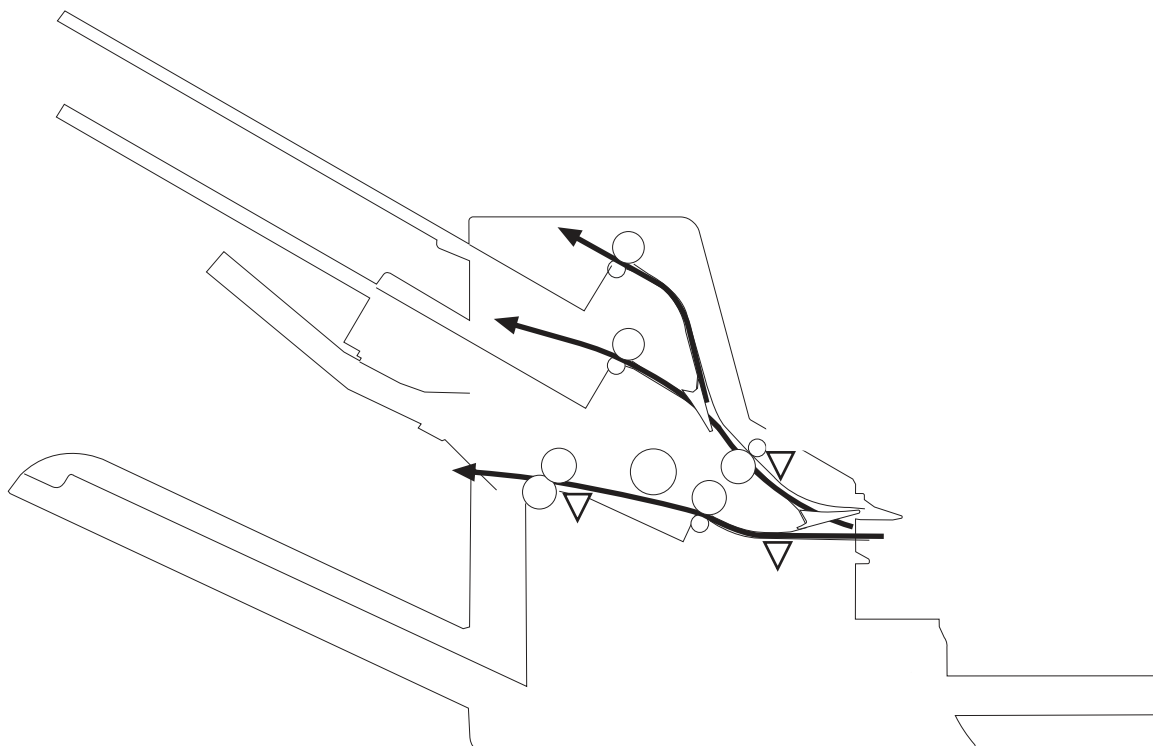


Table 3-7 Stapling mailbox sensors

Sensor	Description
SR1	Output bin 3 delivery sensor
SR2	Staple stacker multi-bin mailbox media feed sensor 1
SR5	Staple stacker multi-bin mailbox media feed sensor 2

Switches (product base)

Figure 3-35 Switches (product base)

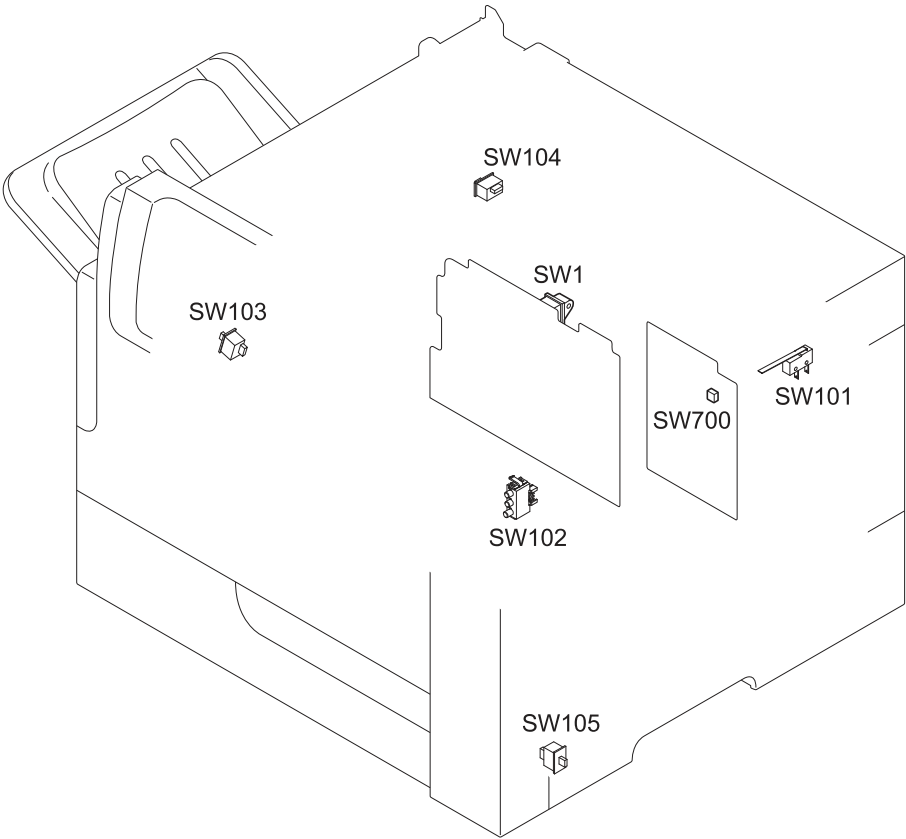


Table 3-8 Switches (product base)

Item	Description	Item	Description
SW1	Power switch	SW104	Output accessory detection switch
SW101	Interlock switch	SW105	Cassette door-open-detection switch
SW102	Cassette media size switch	SW700	Test-print switch
SW103	Face-up bin detection switch		

Solenoids (product base)

Figure 3-36 Solenoids (product base)

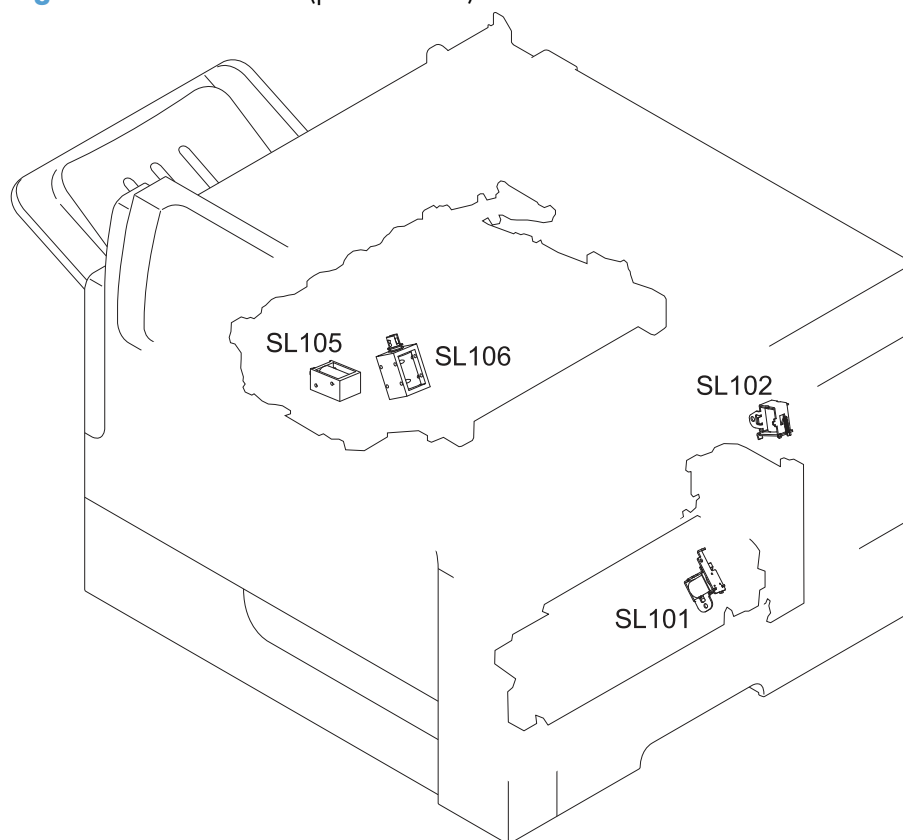


Table 3-9 Solenoids (product base)

Item	Description
SL101	Cassette pickup solenoid
SL102	MP tray pickup solenoidh
SL105	Face-up solenoid
SL106	Switchback roller disengagement solenoid

Clutch (product base)

Figure 3-37 Clutch (product base)

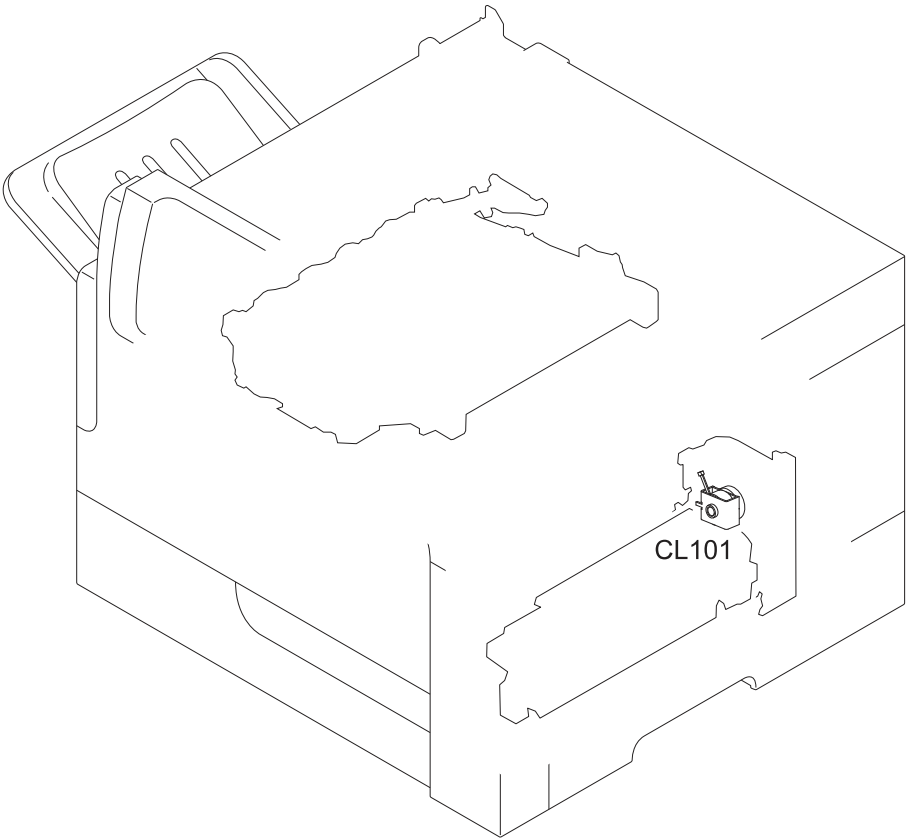


Table 3-10 Clutch (product base)

Item	Description
CL101	Media feed clutch

Motors

Motors (product base)

Figure 3-38 Motors (product base)

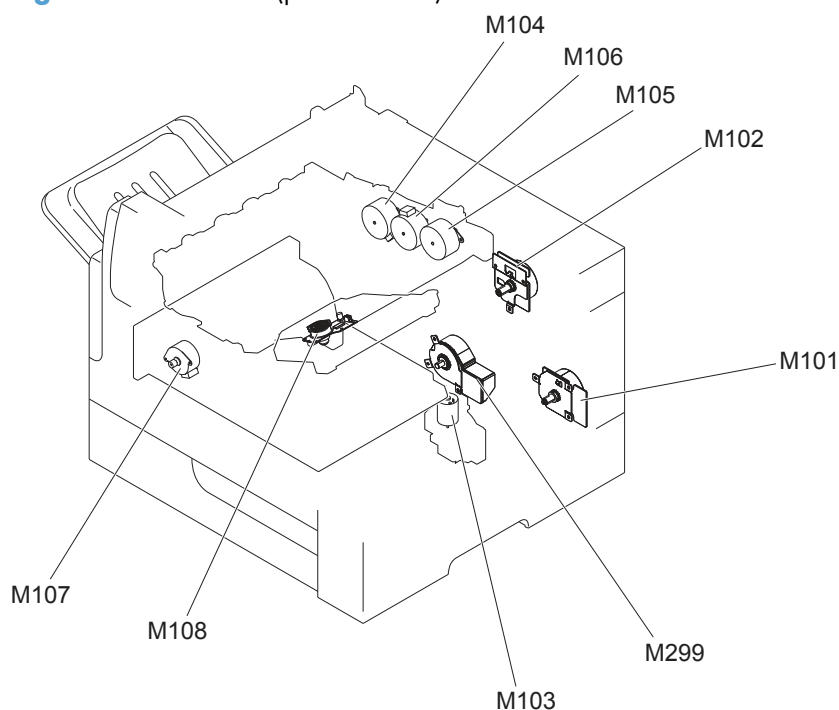


Table 3-11 Motors (product base)

Item	Component	Component driven
M101	Feed motor	Cassette pickup roller, MP tray pickup roller, feed roller and rollers for the input accessory
M102	Drum motor	Photosensitive drum, primary charging roller and transfer roller
M103	Cassette lifter motor	Lifter for the cassette
M104	Intermediate switchback motor	Intermediate switchback roller
M105	Switchback motor	Switchback roller
M106	Delivery motor	Intermediate feed roller and delivery roller
M107	Duplex re-pickup motor	Duplex feed roller
M108	Laser/scanner motor	Scanner mirror
M299	Fuser motor	Pressure roller and fuser delivery roller Pressurizes or releases the pressure roller

Motors (1 x 500-sheet paper feeder)

Figure 3-39 Motors (1 x 500-sheet paper feeder)

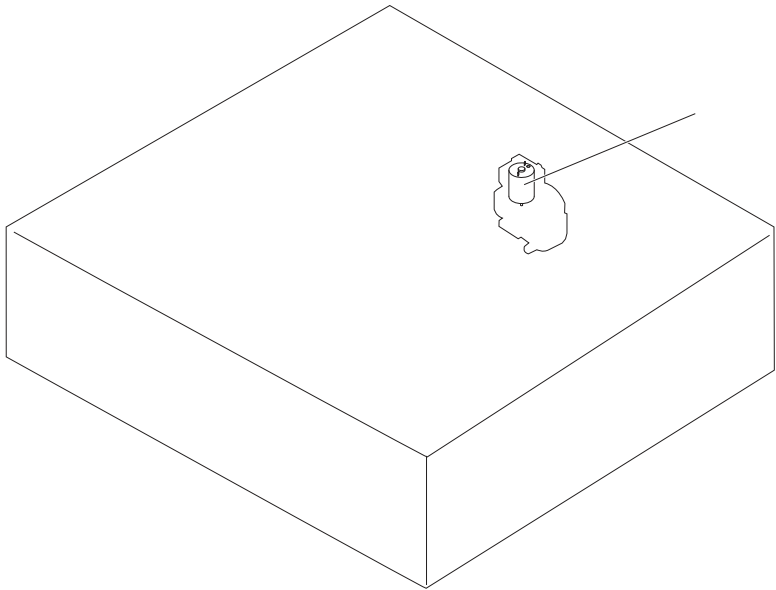


Table 3-12 Motors (1 x 500-sheet paper feeder)

Item	Component	Component driven
M1	Paper feeder cassette lifter motor	Lifter of the paper feeder cassette

Motors (1 x 500-sheet and 3 x 500-sheet paper deck)

Figure 3-40 Motors (1 x 500-sheet and 3 x 500-sheet paper deck)

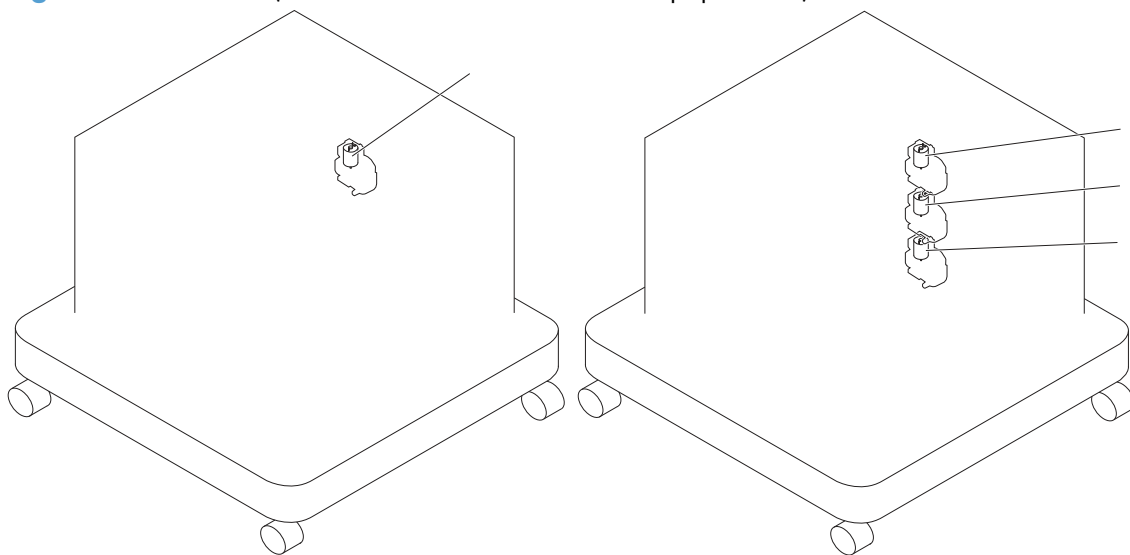


Table 3-13 Motors (1 x 500-sheet and 3 x 500-sheet paper deck)

Item	Component	Component driven
M1	Paper deck cassette 1 lifter motor	Lifter of the paper deck cassette 1
M2	Paper deck cassette 2 lifter motor	Lifter of the paper deck cassette 2
M3	Paper deck cassette 3 lifter motor	Lifter of the paper deck cassette 3

Motors (SSBM)

Figure 3-41 Motors (SSBM)

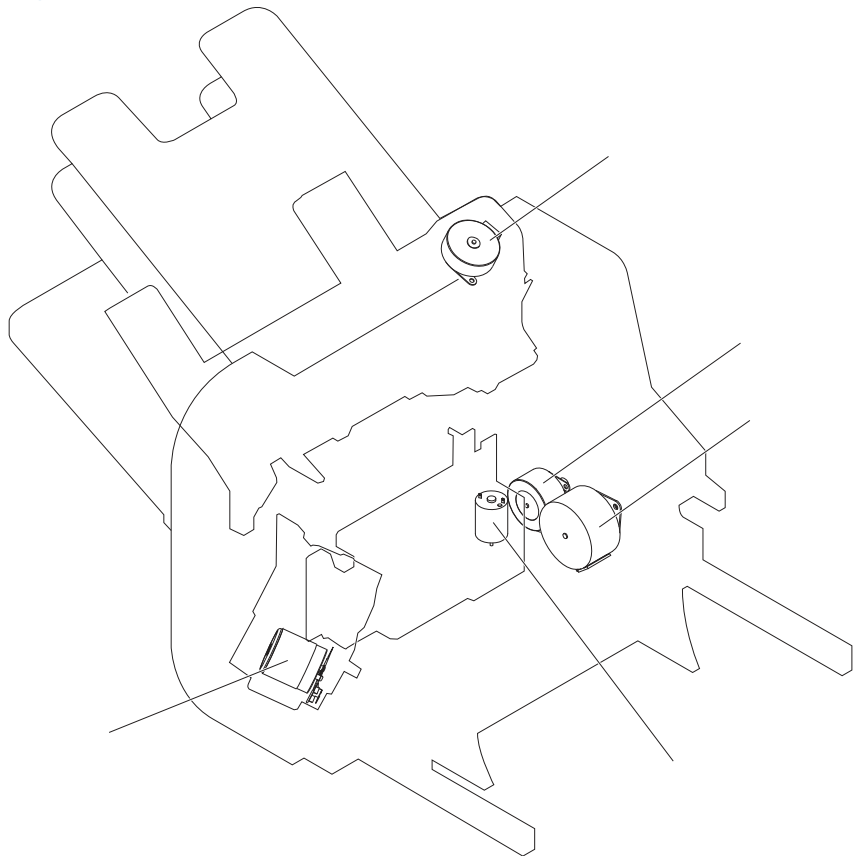


Table 3-14 Motors (SSBM)

Item	Component	Component driven
M1	Stapler motor	Stapler
M3	Jogger motor	Jogger guide
M4	Paddle motor	Alignment roller Dis/engagement of the alignment roller Dis/engagement of the output bin 3 upper delivery roller
M5	Staple stacker multi-bin mailbox feed motor	Staple stacker multi-bin mailbox feed roller, staple stacker multi-bin mailbox delivery roller, output bin 3 upper delivery roller and output bin 3 lower delivery roller
M6	Staple stacker multi-bin mailbox lifter motor	Output bin 3

Fans (product base)

Figure 3-42 Fans (product base)

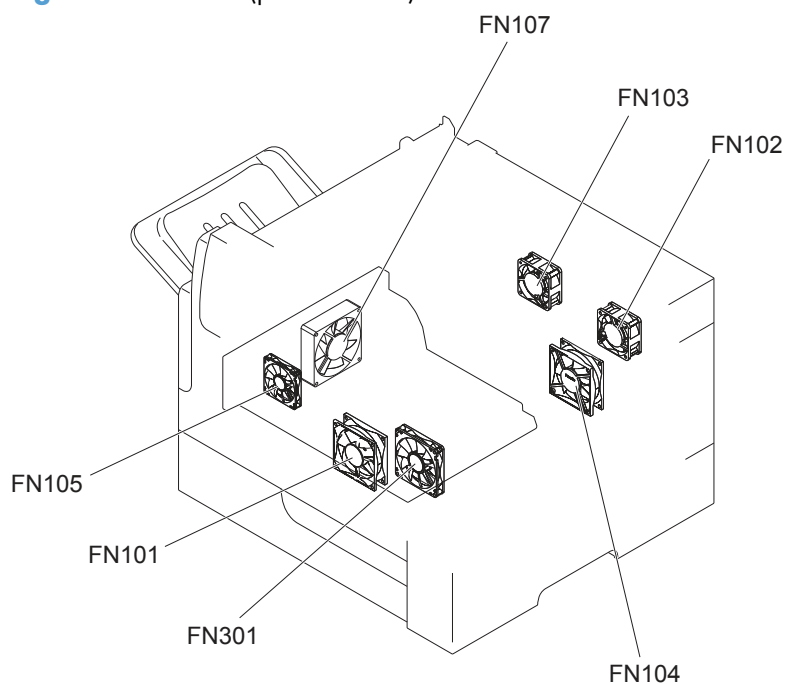


Table 3-15 Fans (product base)

Item	Component	Cooling area	Type	Speed
FN101	Main fan	Cartridge area, engine power supply area and laser/scanner area	Intake	Full/half
FN102	Laser/scanner fan	Laser/scanner area	Intake	Full
FN103	Cartridge front side fan	Cartridge area	Intake	Full
FN104	Low-voltage power supply fan	Low-voltage power supply area	Intake	Full/half
FN105	Switchback fan	Switchback area	Intake	Full
FN107	Duplex fan	Duplex feed area	Intake	Full
FN301	Cartridge fan	Cartridge area	Intake	Full

Main assemblies

Main assemblies (product base; 1 of 2)

Figure 3-43 Main assemblies (product base; 1 of 2)

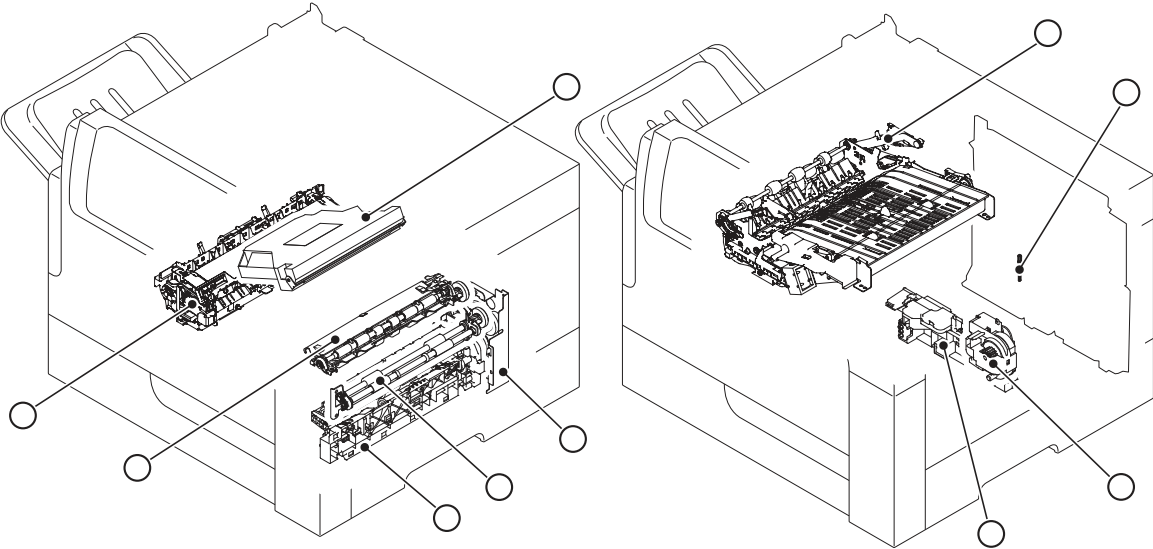


Table 3-16 Main assemblies (product base; 1 of 2)

Item	Description	Item	Description
1	Laser/scanner assembly	6	Fuser
2	Pickup drive assembly	7	Switchback assembly
3	Feed roller assembly	8	Environment sensor assembly
4	Cassette pickup assembly	9	Lifter drive assembly
5	Registration assembly	10	Cassette lifter assembly

Main assemblies (product base; 2 of 2)

Figure 3-44 Main assemblies (product base; 2 of 2)

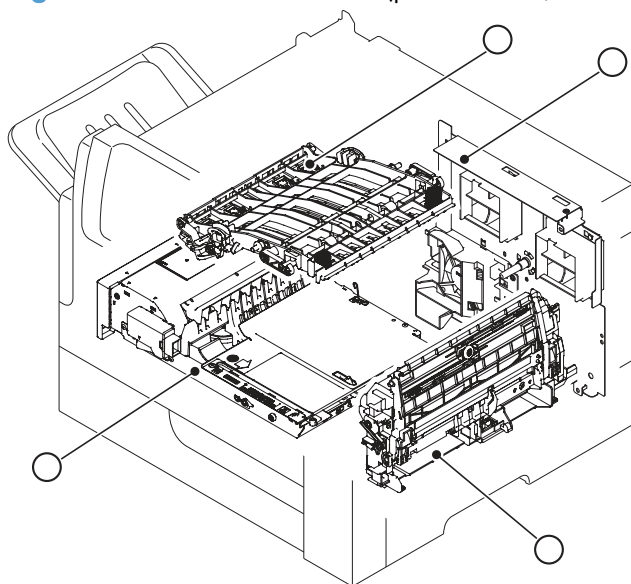


Table 3-17 Main assemblies (product base; 2 of 2)

Item	Description	Item	Description
11	Laser/scanner assembly	13	Fuser
12	Pickup drive assembly	14	Switchback assembly

Main assemblies (1 x 500-sheet paper feeder)

Figure 3-45 Main assemblies (1 x 500-sheet paper feeder)

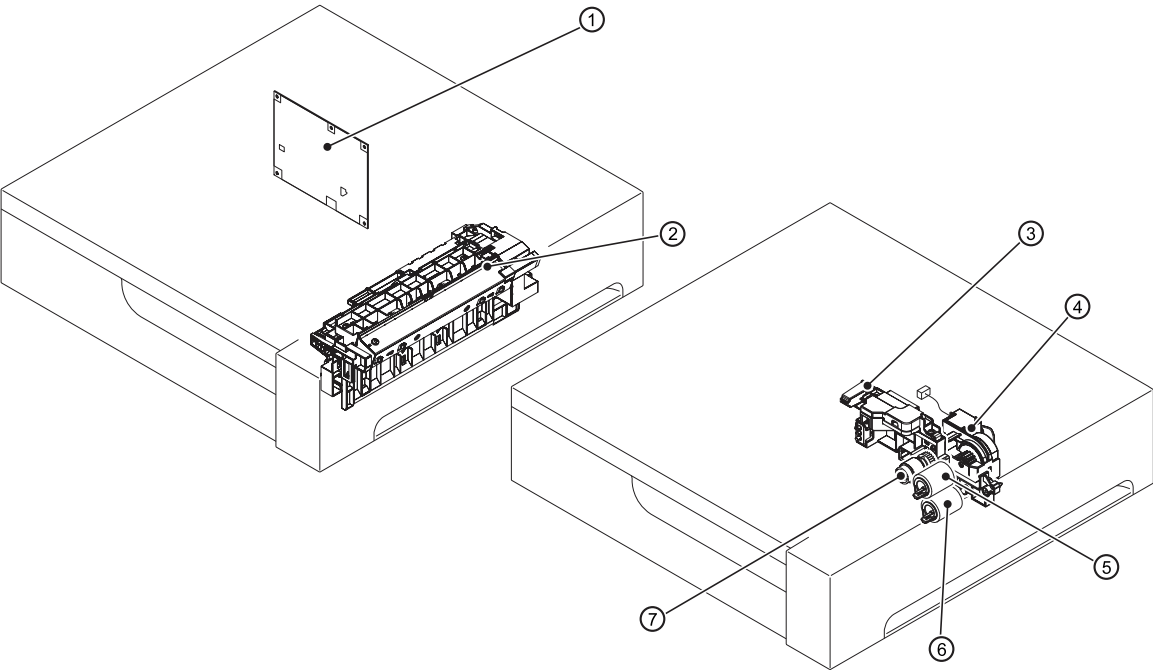


Table 3-18 Main assemblies (1 x 500-sheet paper feeder)

Item	Description	Item	Description
1	Paper feeder controller PCA	5	Paper feeder feed roller
2	Paper feeder pickup assembly	6	Paper feeder separation roller
3	Paper feeder lifter assembly	7	Paper feeder pickup roller
4	Paper feeder lifter drive assembly		

Main assemblies (1 x 500-sheet paper deck)

Figure 3-46 Main assemblies (1 x 500-sheet paper deck)

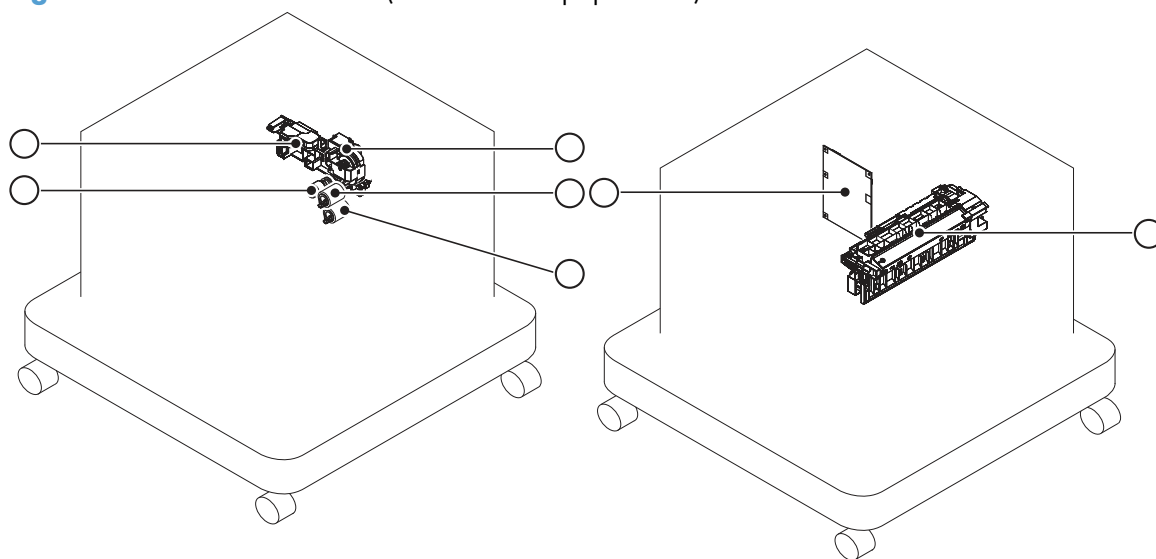


Table 3-19 Main assemblies (1 x 500-sheet paper deck)

Item	Description	Item	Description
1	Paper deck lifter drive assembly	5	Paper deck cassette pickup roller
2	Paper deck cassette feed roller	6	Paper deck pickup assembly
3	Paper deck cassette separation roller	7	Paper deck controller PCA
4	Paper deck lifter assembly		

Main assemblies (3 x 500-sheet paper deck)

Figure 3-47 Main assemblies (3 x 500-sheet paper deck)

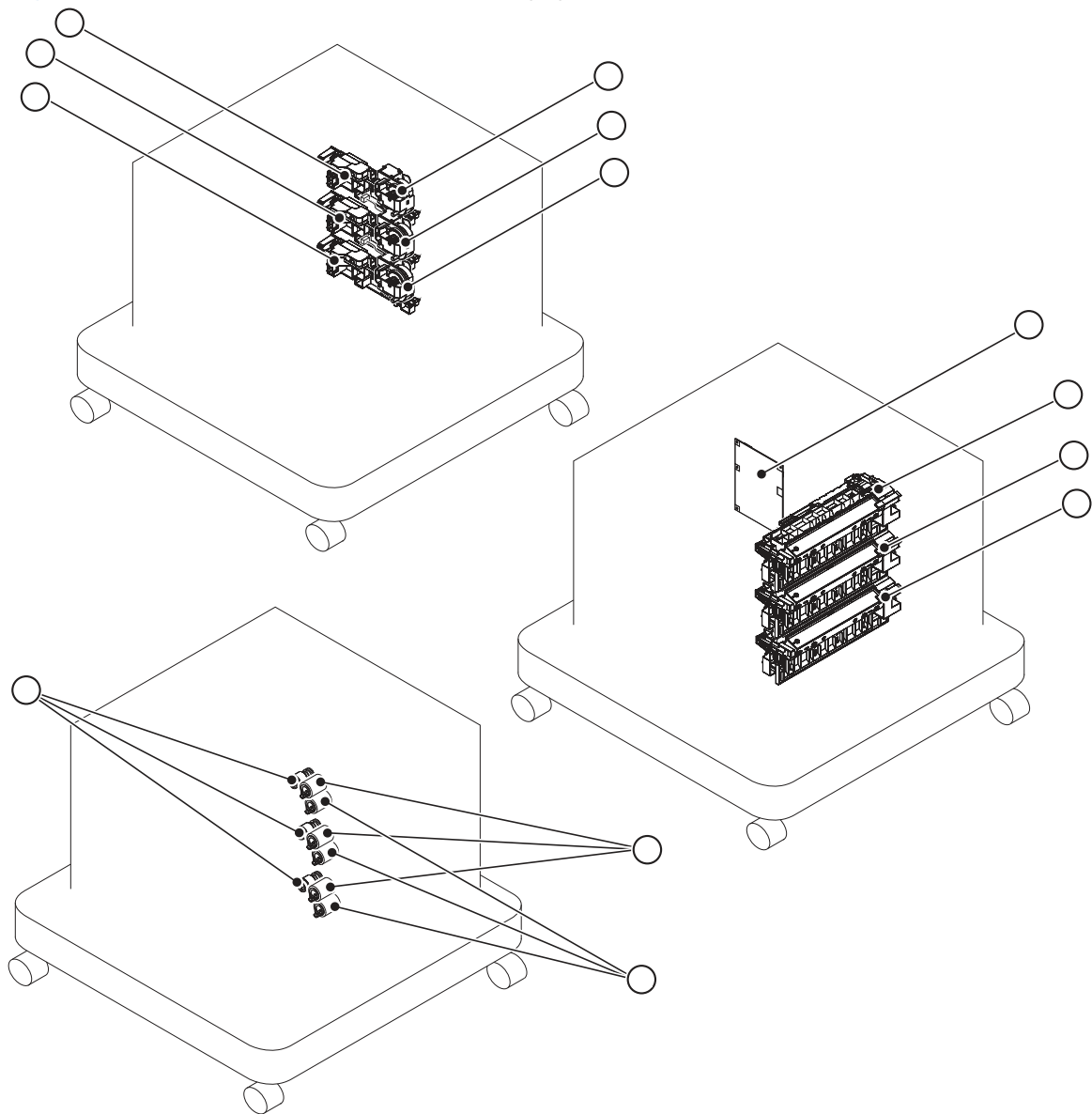


Table 3-20 Main assemblies (3 x 500-sheet paper deck)

Item	Description	Item	Description
1	Paper deck cassette 1 lifter drive assembly	8	Paper deck cassette 1 pickup assembly
2	Paper deck cassette 2 lifter drive assembly	9	Paper deck cassette 2 pickup assembly
3	Paper deck cassette 3 lifter drive assembly	10	Paper deck cassette 3 pickup assembly
4	Paper deck cassette 1 lifter assembly	11	Paper deck cassette feed roller
5	Paper deck cassette 2 lifter assembly	12	Paper deck cassette separation roller
6	Paper deck cassette 3 lifter assembly	13	Paper deck cassette pickup roller
7	Paper deck controller PCA		

Main assemblies (SSMBM; 1 of 2)

Figure 3-48 Main assemblies (SSMBM; 1 of 2)

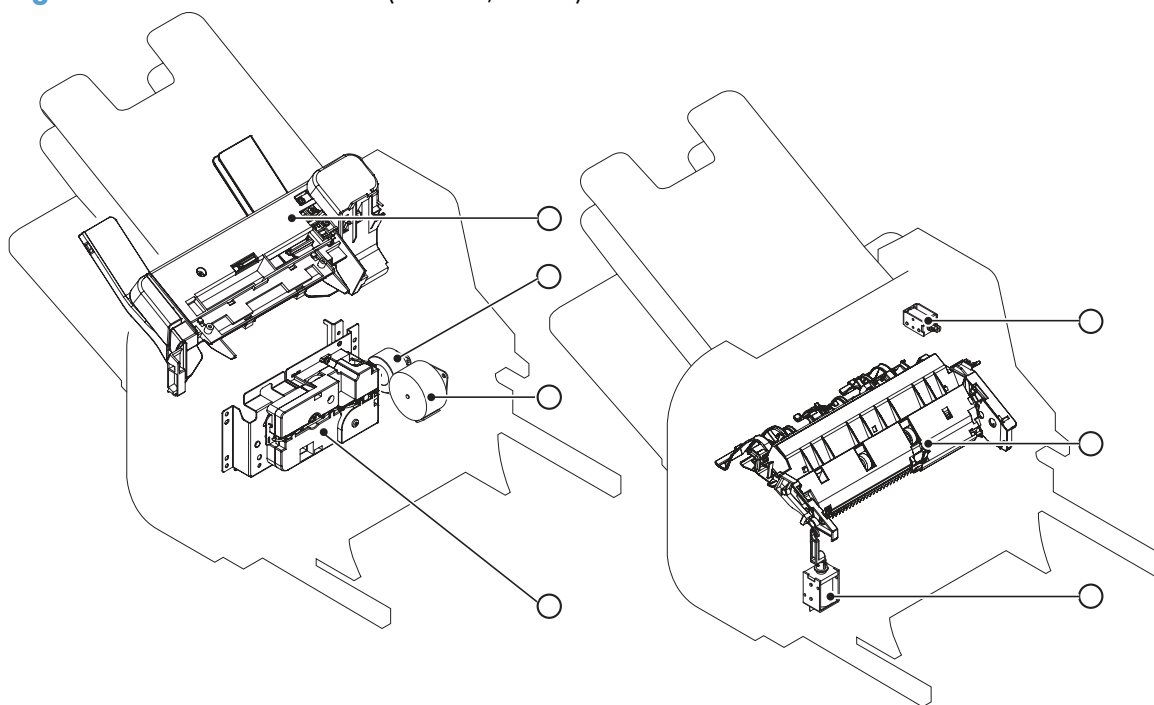


Table 3-21 Main assemblies (SSMBM; 1 of 2)

Item	Description	Item	Description
1	Jogger assembly	5	Output bin solenoid
2	Paddle motor	6	Stage top assembly
3	Staple stacker multi-bin mailbox feed motor	7	Inlet solenoid
4	Output bin 3 drive assembly		

Main assemblies (SSMBM; 2 of 2)

Figure 3-49 Main assemblies (SSMBM; 2 of 2)

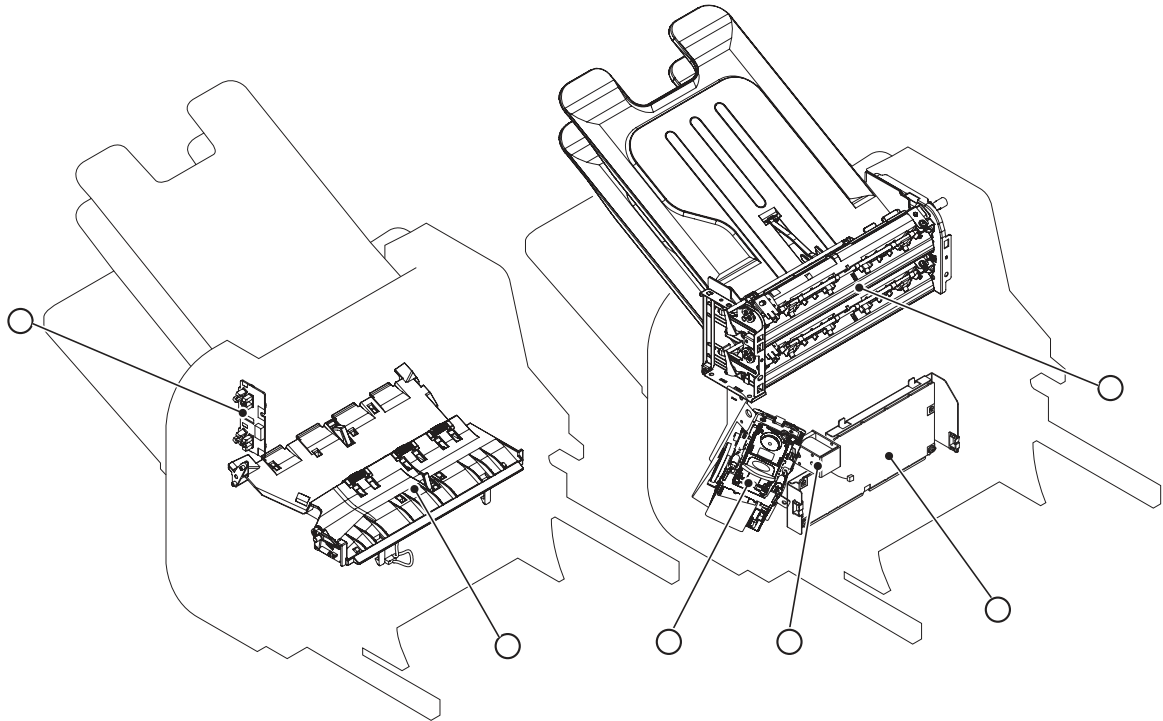


Table 3-22 Main assemblies (SSMBM; 2 of 2)

Item	Description
1	Output bin sensor PCA
2	Stage assembly
3	Multi-bin mailbox output bin assembly
4	Staple stacker multi-bin mailbox controller PCA
5	Stamp solenoid
6	Stapler assembly

Main PCAs (product base)

Figure 3-50 Main PCAs (product base)

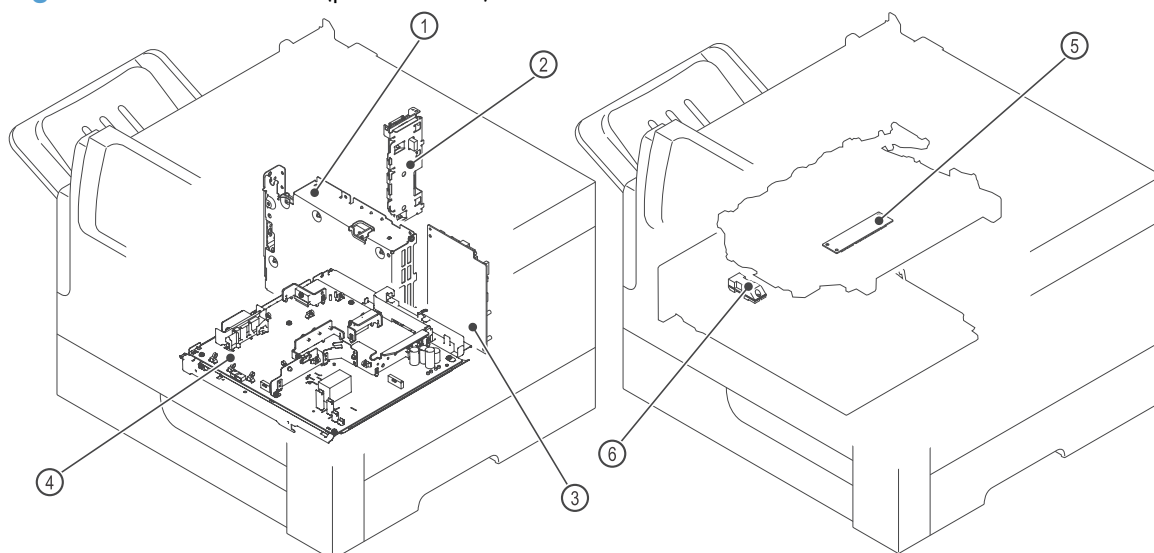


Table 3-23 Main PCAs (product base)

Item	Description	Item	Description
1	Low-voltage power supply assembly	4	Engine power supply assembly
2	Connector PCA assembly	5	Switchback connector PCA
3	DC controller	6	Duplex connector PCA

Rollers (product base)

Figure 3-51 Rollers (product base)

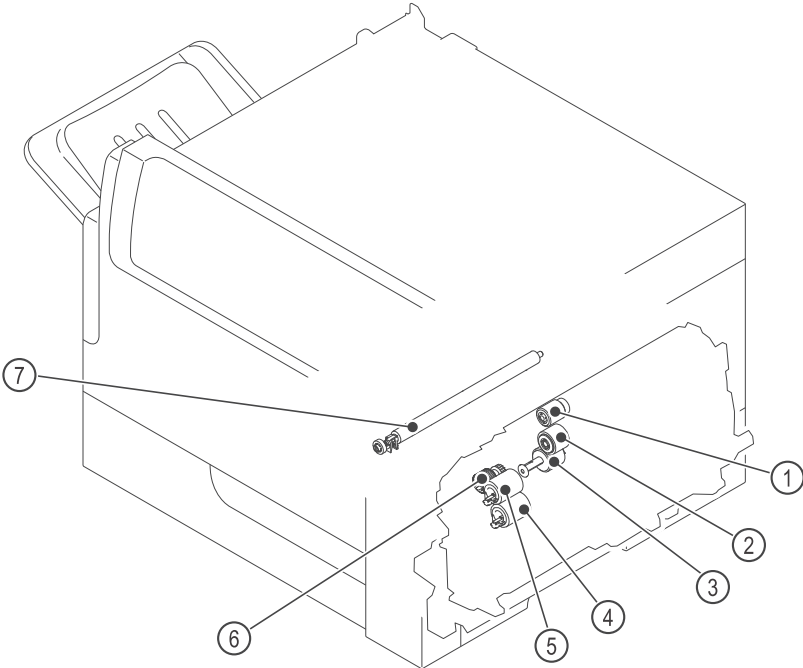


Table 3-24 Rollers (product base)

Item	Description	Item	Description
1	MP tray pickup roller	5	Cassette feed roller
2	MP tray feed roller	6	Cassette pickup roller
3	MP tray separation roller	7	Transfer roller
4	Cassette separation roller		

DC controller connections

Each of the connections on the DC controller PCA is indicated in the following figure.

Figure 3-52 DC controller component connections

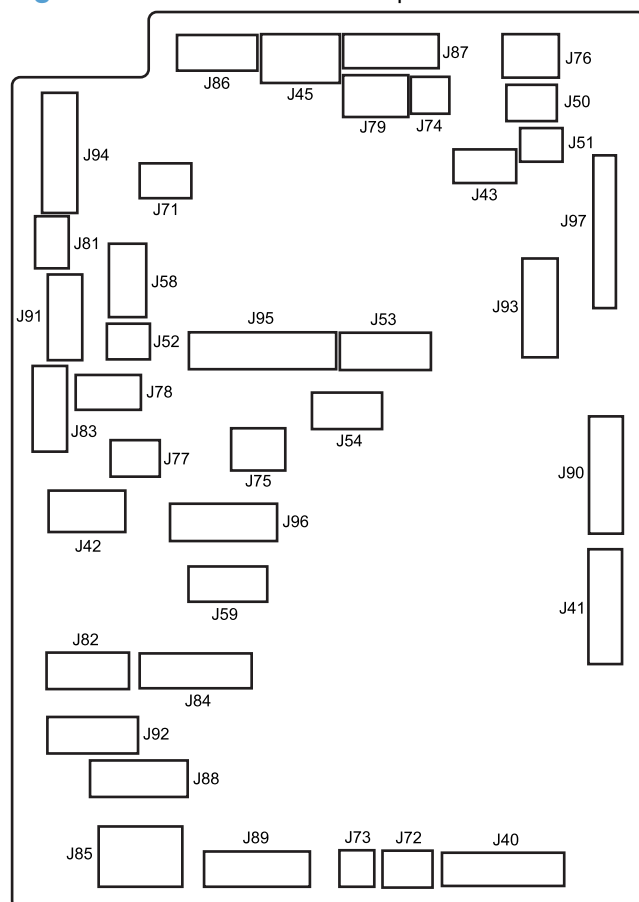


Table 3-25 DC controller connectors

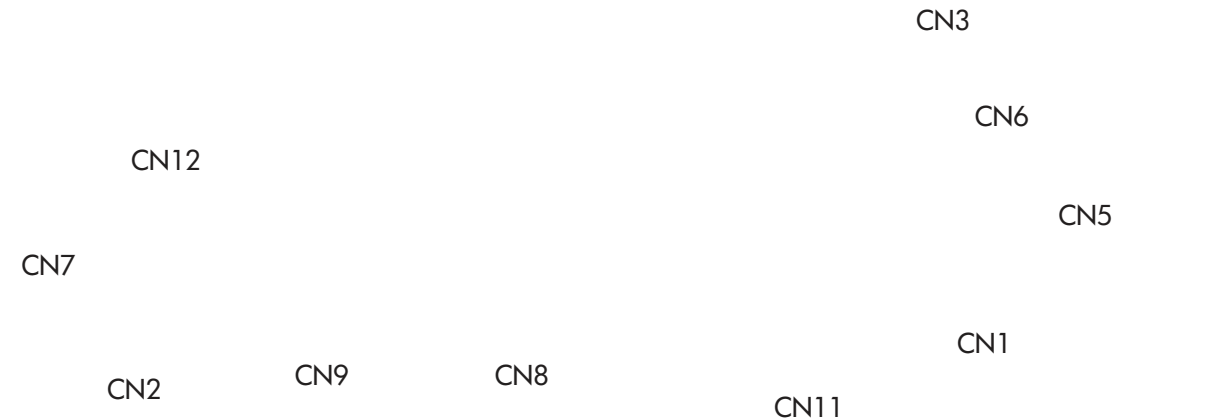
Item	Description	Item	Description
J40	Switchback motor (M104) Delivery motor (M106) Delivery sensor (PS112)	J79	Cartridge side fan (FN103)
J41	Switchback jam sensor (PS111) Face-up solenoid (SL105) Switchback roller disengagement solenoid (SL106)	J81	Tray 1 media out switch (PS114)
J42	Environmental sensor (TH3) LVPS fan (FN104)	J82	Fuser Fuser pressure sensor (PS699) Fuser output sensor (PS700)
J43	Face up bin detection switch (SW103) Switchback fan (FN105)	J83	Envelope feeder

Table 3-25 DC controller connectors (continued)

Item	Description	Item	Description
J45	Image scanner	J84	Duplex accessory Duplex Fan (FN107) Duplex repick sensor (PS113) Duplex side registration sensor (PS109) Duplex repick motor (M107)
J50	Cartridge sensor (PS115)	J85	Engine power supply
J51	Empty	J86	Scanner motor (M108)
J52		J87	Drum motor (M102)
J53		J88	Paper feeder or HCI
J54		J89	Fuser motor (M299)
J58	Empty CAUTION: This connector must remain empty (the laser/scanner connector will connect to this DCC connector). Connecting the laser/scanner to this connector will cause multiple error messages when the product is turned on.	J90	Stapler/stacker MBM
J59	Empty	J91	Feed motor (M101)
J71		J92	Cassette media out sensor (PS101) Cassette media stack surface 2 sensor (PS907) Cassette media stack surface 1 sensor (PS107)
J73	Cassette lifter motor (M103)	J93	Laser scanner
J74	E-label (TG101)	J94	Sensor 1, Width sensor 2 (PS106 / PS108) Cassette door open switch (Sw105) Prefeed sensor (PS102) TOP sensor (PS103)
J75	Laser/scanner fan (FN102)	J95	Engine power supply
J76	Output bin full sensor (PS104)	J96	Engine power supply
J77	Media feed clutch (CL101)	J97	Formatter (FFC)
J78	Interlock switch (SW101)		

Scanner controller board (SCB) connectors

Figure 3-53 Scanner controller board (SCB) connectors

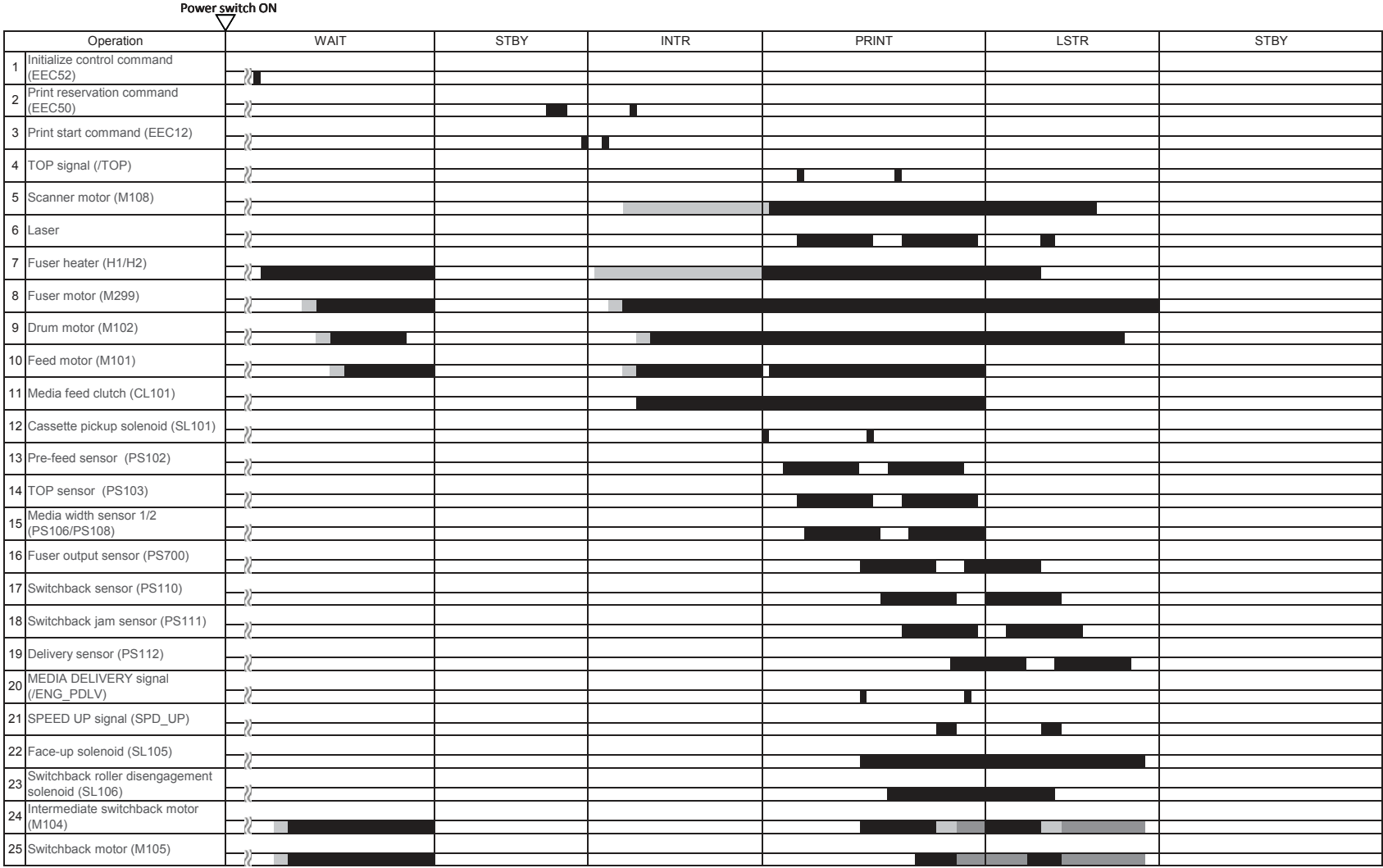


The diagram shows the locations of connectors CN1 through CN12 on the scanner controller board. CN1 is at the top right, CN2 at the bottom left, CN3 at the top right, CN4 at the top right, CN5 at the top right, CN6 at the top right, CN7 at the bottom left, CN8 at the bottom left, CN9 at the bottom left, CN10 at the bottom left, CN11 at the bottom left, and CN12 at the bottom left.

Item	Description	Item	Description
CN1	Flat-flexable cable (FFC)	CN7	Solenoid Document feeder fan motor
CN2	Inverter fan motor	CN8	Flatbed fan motor
CN3	Not used	CN9	Flatbed motor
CN5	Low-voltage power supply	CN11	Low-voltage power supply
CN6	Not used	CN12	Feed/read motor

General timing chart

Figure 3-54 General timing chart (1 of 2)



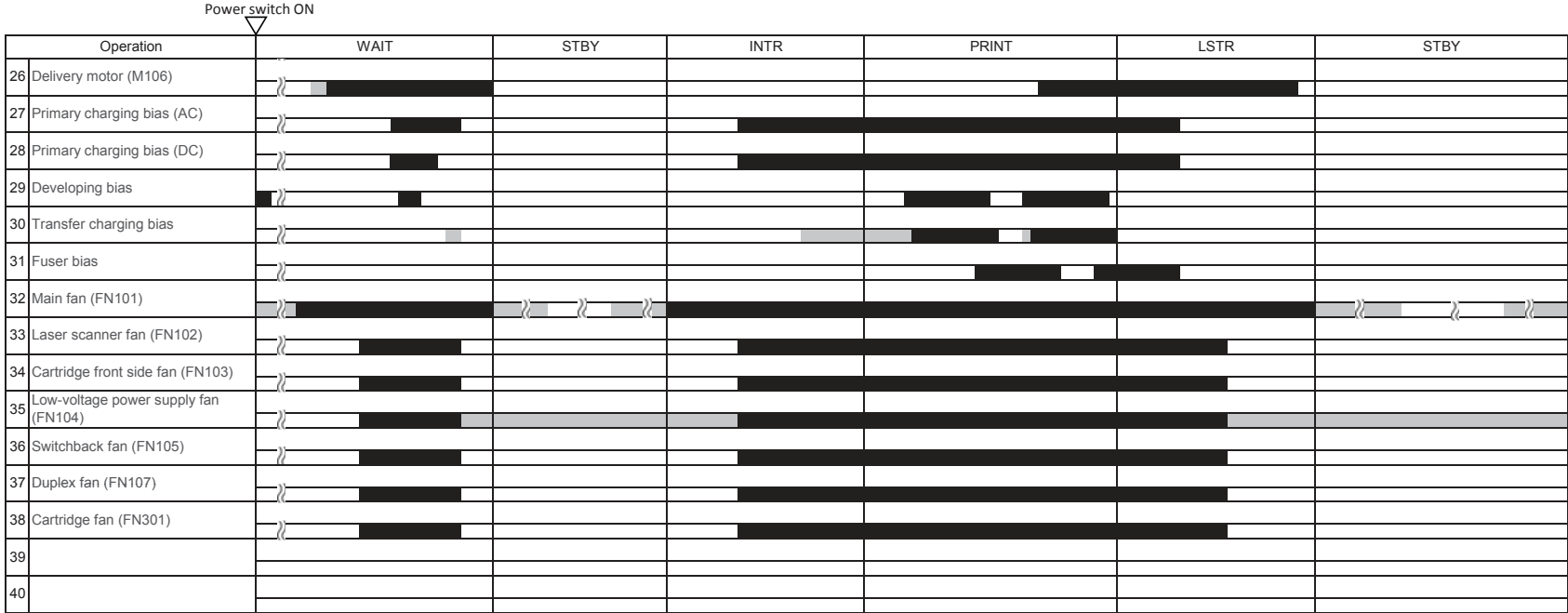


Figure 3-55 General timing chart (2 of 2)

General circuit diagrams

Figure 3-56 General circuit diagram (1 of 2)

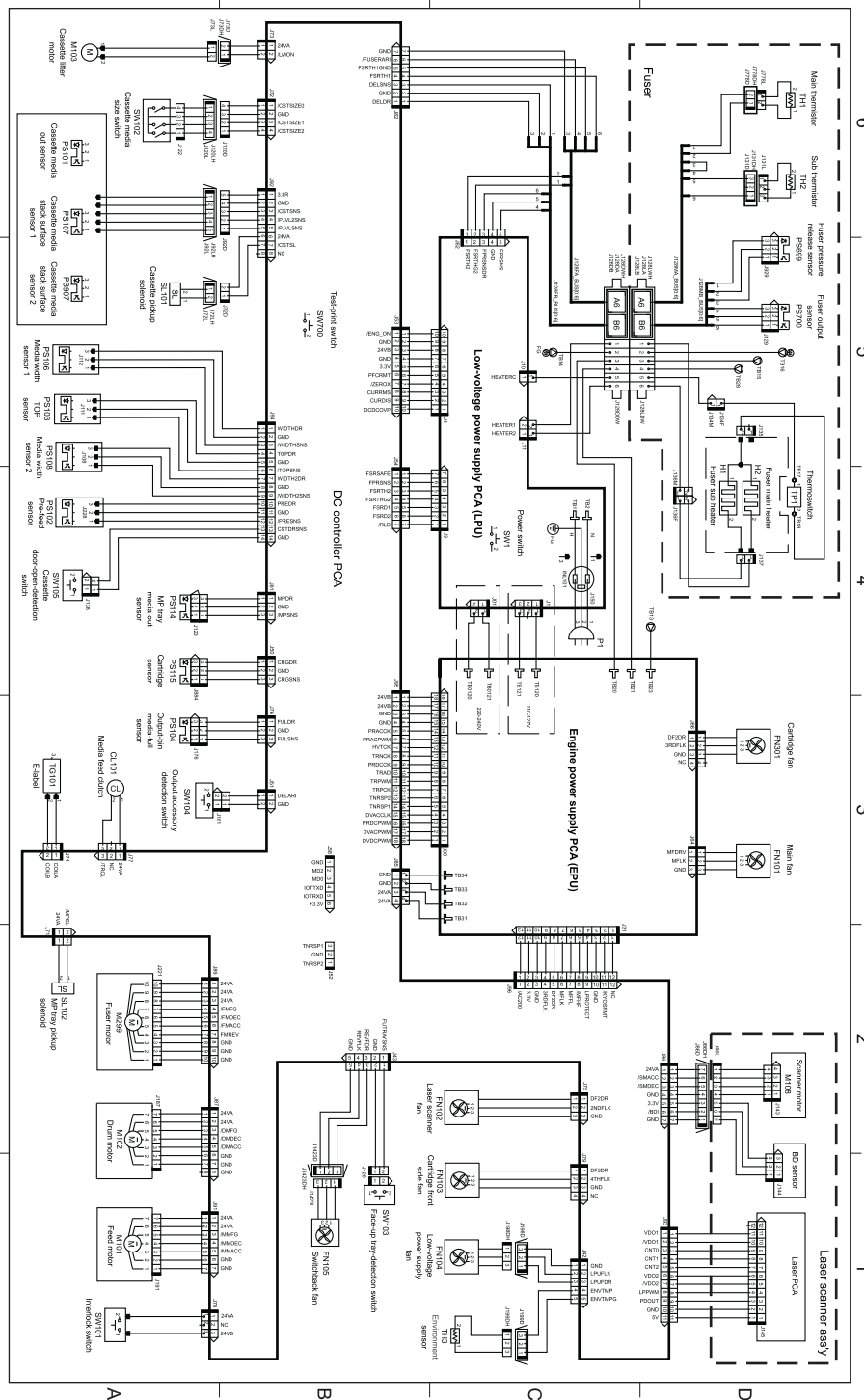
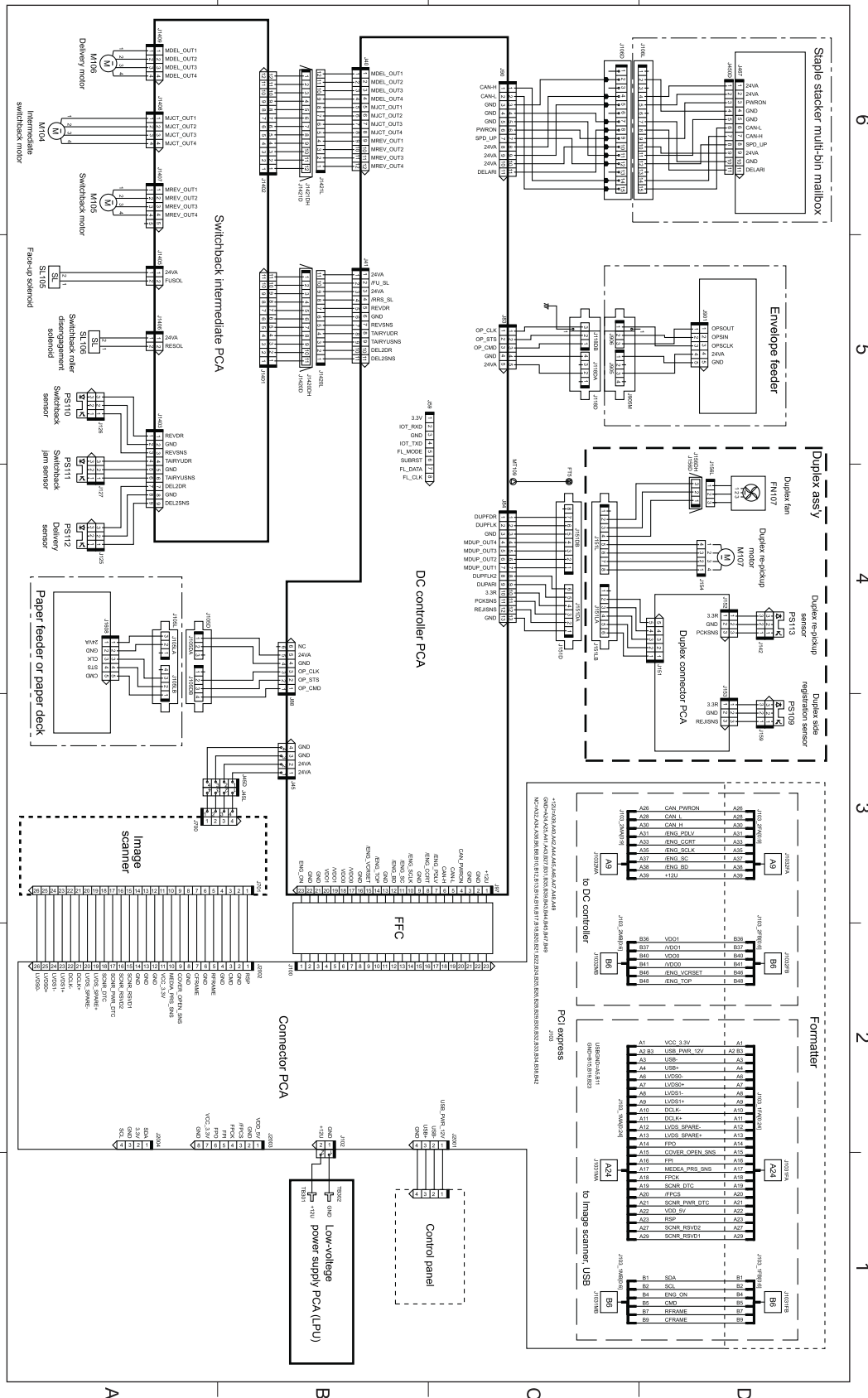


Figure 3-57 General circuit diagram (2 of 2)



The diagram illustrates the Paper feeder controller PCA, a central component connecting to various peripherals. The PCA is represented by a large rectangle with pins on its left and right sides. The left side has pins labeled 1 through 16, and the right side has pins labeled 1 through 16. The connections are as follows:

- Paper feeder cassette lifter motor (M1):** Connected to pins 1 and 2 on the left side of the PCA.
- Paper feeder cassette media size switch (SW2):** A 6-pin switch connected to pins 3, 4, 5, 6, 7, and 8 on the left side of the PCA.
- Paper feeder cassette media out sensor (SR3):** A 4-pin sensor connected to pins 9, 10, 11, and 12 on the left side of the PCA.
- Paper feeder cassette media stack surface sensor 1 (SR1):** A 4-pin sensor connected to pins 13, 14, 15, and 16 on the left side of the PCA.
- Paper feeder cassette media stack surface sensor 2 (SR2):** A 4-pin sensor connected to pins 1, 2, 3, and 4 on the right side of the PCA.
- Paper feeder cassette media feed sensor (SR4):** A 4-pin sensor connected to pins 5, 6, 7, and 8 on the right side of the PCA.
- Paper feeder cassette pickup solenoid (SL1):** A 2-pin solenoid connected to pins 9 and 10 on the right side of the PCA.
- Paper feeder cassette pickup sensor (J10A, J10B, J10C, J10D):** A 4-pin sensor connected to pins 11, 12, 13, and 14 on the right side of the PCA.
- Power and Ground:** Pins 15 and 16 on the left side are labeled +24V and GND, respectively. Pins 15 and 16 on the right side are labeled +3.3V and GND, respectively.
- Other pins:** Pins 1 through 14 on the left side are labeled T3_LIFT_MTR, T3_SIZE3, T3_SIZE2, T3_SIZE1, T3_SIZE0, T3_SIZE1, T3_SIZE0, T3_SIZE1, T3_SIZE0, T3_SIZE1, T3_SIZE0, T3_SIZE1, T3_SIZE0, T3_SIZE1, T3_SIZE0.

[illegible]

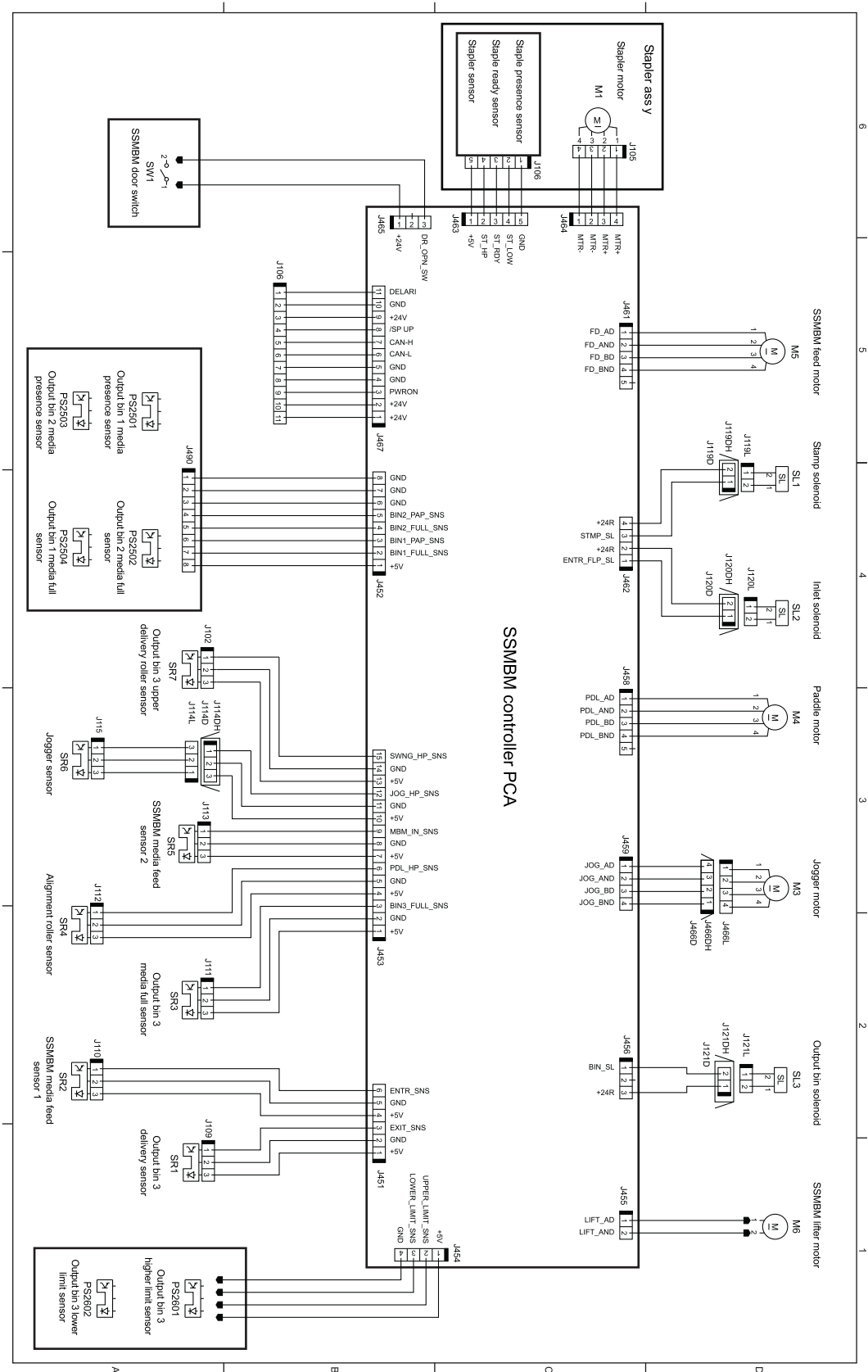
Figure 3-61 Circuit diagram for the scanner

Document Feeder

Document Feeder

Document Feeder

Figure 3-62 Circuit diagram for the stapling mailbox



Internal print-quality test pages

Print-quality-troubleshooting pages

This test helps to determine if the fuser needs to be replaced, or if it has exceeded its expected life.

A customer can complete the steps below and describe the results to the HP Customer Care representative. If the page shows no problems, the fuser does not need replacing.

Replace the fuser if the page shows the following problems:

- Fuser offset repeats in the boxes on the page
 - Lines or streaks on the page (usually down the edges of the page) indicate fuser contamination
1. From the Home screen, touch the [Administration](#) button.
 2. Open the following menus:
 - [Troubleshooting](#)
 - [Print Quality Pages](#)
 3. Touch the [Fuser Test Page](#) button.
 4. Touch the [Print](#) button.

Cleaning page

Create and use the cleaning page

1. From the Home screen, touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibrate/Cleaning](#)
 - [Cleaning Page](#)
3. Touch the [Print](#) button.
4. The cleaning process can take several minutes. When it is finished, discard the printed page.


Configuration page

Depending on the model, up to three pages print. In addition to the main configuration page, an embedded Jetdirect configuration page prints.

Configuration page

Use the configuration page to view current product settings, to help troubleshoot product problems, or to verify installation of optional accessories, such as memory (DIMMs), paper trays, and printer languages.

1. From the Home screen, touch the [Administration](#) button.
2. Open the following menus:
 - [Reports](#)
 - [Configuration/Status Pages](#)
 - [Configuration Pages](#)
3. Touch the [Print](#) button to print the report, or touch the [View](#) button to view the report on the screen. The report consists of several pages.

 **NOTE:** The product IP address or host name is listed on the Jetdirect Page.


 **NOTE:** If the product is configured with EIO cards (for example, an HP Jetdirect Print Server) or an optional hard-disk drive, an additional configuration page will print that provides information about those devices.

Figure 3-63 Configuration page

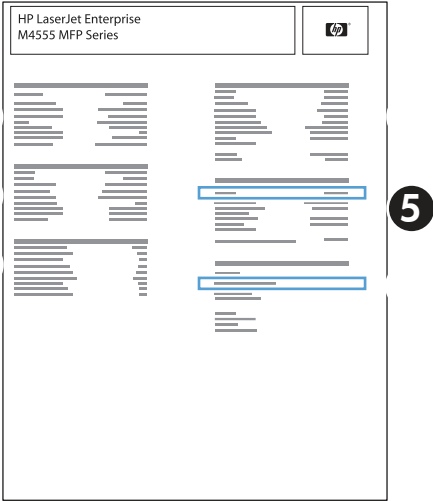


1	Product information
2	Installed personalities and options
3	Calibration information
4	Memory
5	Event log
6	Security
7	Paper trays and options

HP embedded Jetdirect page

The second configuration page is the HP embedded Jetdirect page, which contains the following information:

Figure 3-64 HP embedded Jetdirect page



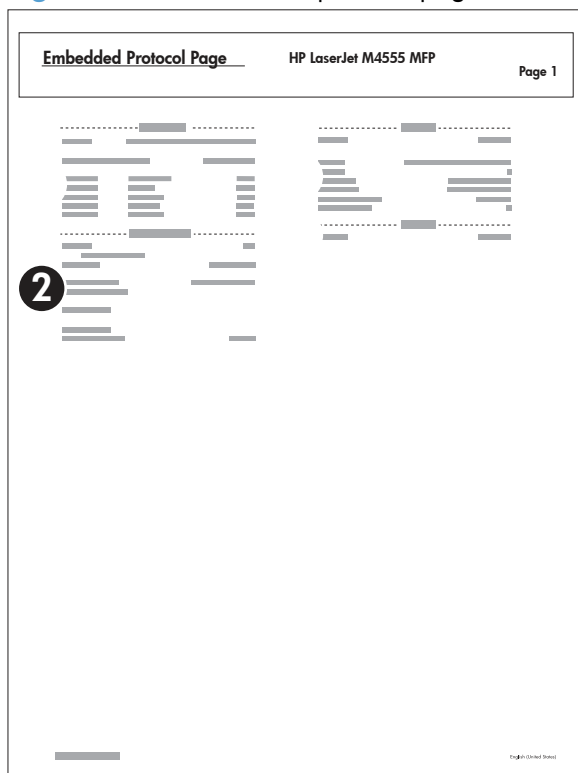
1	HP Jetdirect Configuration indicates the product status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
2	Security Settings information
3	Network Statistics indicates the total packets received, unicast 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	IPv4 information
6	IPv6 information

Always make sure the status line under the HP Jetdirect configuration lines indicates "I/O Card Ready".

Embedded protocol page

The embedded protocol page contains the following information:

Figure 3-65 Embedded protocol page



1	IPX/SPX
2	Novell/NetWare
3	AppleTalk
4	DLC/LLC

Finding important information on the configuration pages

Certain information, such as the firmware date codes, the IP address, and the e-mail gateways, is especially helpful while servicing the product. This information is on the various configuration pages.

Table 3-26 Important information on the configuration pages

Type of information	Specific information	Configuration page
Firmware date codes When you use the remote firmware upgrade procedure, all of these firmware components are upgraded.	DC controller	Look on the main configuration page, under "Device Information."
	Firmware datecode	Look on the main configuration page, under "Device Information."
	Embedded Jetdirect firmware version	Look on the embedded Jetdirect page, under "HP Jetdirect Configuration."
Accessories and internal storage All optional devices that are installed on the product should be listed on the main configuration page. In addition, separate pages print for the optional paper handling devices and the fax accessory. These pages list more-detailed information for those devices.	External disk (optional)	Look on the main configuration page, under "Installed Personalities and Options." Shows model and capacity.
	Embedded HP Jetdirect	Look on the main configuration page, under "Installed Personalities and Options." Shows model and ID.
	Total RAM	Look on the main configuration page, under "Memory."
	Duplex unit	Look on the main configuration page, under "Paper Trays and Options."
Additional 500-sheet feeders	Additional 500-sheet feeders	Look on the main configuration page, under "Paper Trays and Options."
Engine cycles and event logs Total page counts and maintenance kit counts are important for ongoing product maintenance. The configuration page lists only the three most recent errors. To see a list of the 50 most recent errors, print an event log from the Diagnostics menu.	Engine cycles	Look on the main configuration page, under "Device Information."
Pages since last maintenance (print engine maintenance count)	Pages since last maintenance (print engine maintenance count)	Look on the main configuration page, under "Device Information."
Event-log information	Event-log information	Look on the main configuration page, under "Event log."

Print-quality troubleshooting tools

Repetitive defects ruler

If the printed output shows a consistent, repetitive defect, then use the table in this section to determine which parts to replace based on the measured distance between the repetitions of the defect.




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

Distance between defects in millimeters	Product components that cause the defect
38	Primary charging roller
47	Transfer roller
50	Feed roller
50	Pre-registration roller
63	Tray 1 pickup roller
63	Developing roller
79	Tray 1 feed roller
79	Tray 1 separation roller
79	Cassette pickup roller
79	Cassette feed roller
79	Cassette separation roller
94	Photosensitive drum (print cartridge)
94	Fuser sleeve assembly
94	Pressure roller

Control panel menus

The product has many menus on the control panel Home screen to help you perform tasks and configure settings.



NOTE: To learn about each menu option, touch the Help  button in the upper-right corner of the screen for that option.



NOTE: HP regularly updates features that are available in the product firmware. To take advantage of the most current features, update the product firmware. To download the most recent firmware upgrade, go to www.hp.com/support/ljm4555mfp.

Table 3-27 Menus on the Home screen

Menu	Description
Initial Setup	<p>This menu appears when you first turn the product on. Use it to set the language, to set the date and time, to configure essential fax and e-mail settings, and to enable the Open from USB feature.</p> <p>After you have completed the initial setup, you have the option to hide this menu.</p>
Copy	<p>Use this menu to make copies of documents.</p> <p>Several options are available for customizing jobs. These settings are temporary. After you have finished the job, the product returns to the default settings.</p>
Fax	<p>Use this menu to send a fax from the product. This menu is available only for products that have a fax accessory. For this menu to appear on the control panel, this feature must be set up by using the Initial Setup menu or by using the HP Embedded Web Server.</p> <p>Several options are available for customizing jobs. These settings are temporary. After you have finished the job, the product returns to the default settings.</p>
E-mail	<p>Use this menu to scan documents and send them as an e-mail attachment. For this menu to appear on the control panel, this feature must be set up by using the Initial Setup menu, by using the HP Scan to Email Setup Wizard during software installation, or by using the HP Embedded Web Server.</p> <p>Several options are available for customizing jobs. These settings are temporary. After you have finished the job, the product returns to the default settings.</p>
Save to USB	<p>Use this menu to scan documents and save them on a USB flash drive. For this menu to appear on the control panel, this feature must be set up by using the HP Embedded Web Server.</p> <p>Several options are available for customizing jobs. These settings are temporary. After you have finished the job, the product returns to the default settings.</p>
Save to Network Folder	<p>Use this menu to scan documents and save them to a shared folder on the network. For this menu to appear on the control panel, this feature must be set up by using the HP Embedded Web Server or by using the HP Save to Folder Setup Wizard during software installation.</p> <p>Several options are available for customizing jobs. These settings are temporary. After you have finished the job, the product returns to the default settings.</p>
Open from USB	<p>Use this menu to open and print a document stored on a USB flash drive. For this menu to appear on the control panel, this feature must be set up by using the Initial Setup menu.</p>
Save to Device Memory	<p>Use this menu to scan documents and save them to the hard disk in the product.</p> <p>Several options are available for customizing jobs. These settings are temporary. After you have finished the job, the product returns to the default settings.</p>
Open from Device Memory	<p>Use this menu to open and print a document stored on the product hard drive.</p>
Quick Sets	<p>Use this menu to access preset job options for jobs that you scan and send by fax or e-mail, or jobs that you scan and save to a USB flash drive, the product hard disk, or to a folder on the network.</p> <p>Set up Quick Sets by using the HP Embedded Web Server or HP Web Jetadmin.</p>
Job Status	<p>Use this menu to see the status of all active jobs.</p>
Trays	<p>Use this menu to see the current status of each tray. You can also use this menu to configure the paper size and type settings for each tray.</p>

Table 3-27 Menus on the Home screen (continued)

Menu	Description
Supplies	Use this menu to see the current status of product supplies, such as the print cartridge. Information about ordering new supplies is also available.
Administration	Use this menu to print reports and configure default settings for the product. The Administration menu has several sub-menus. See the sections that follow for details about these menus.
Device Maintenance	Use this menu to maintain the product and to backup and restore data. See the sections that follow for details about these menus.

Administration menu

You can perform basic product setup by using the [Administration](#) menu. Use the HP Embedded Web Server for more advanced product setup. To open the HP Embedded Web Server, enter the product IP address or host name in the address bar of a Web browser.

Reports menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Reports](#) menu.

Table 3-28 Reports menu

First level	Second level	Values
Configuration/Status Pages	Administration Menu Map	Print
		View
	Current Settings Page	Print
		View
	Configuration Pages	Print
		View
	Supplies Status Page	Print
		View
	Usage Page	Print
		View
	File Directory Page	Print
		View
	Fax Activity Log	Print
		View
	Billing Codes Report	Print
		View

Table 3-28 Reports menu (continued)

First level	Second level	Values
	Blocked Fax List	Print View
	Speed Dial List	Print View
	Fax Call Report	Print View
Other Pages	PCL Font List	Print
	PS Font List	Print

General Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [General Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-29 General Settings menu

First level	Second level	Third level	Fourth level	Values
Date/Time Settings	Date/Time Format	Date Format		DD/MMMM/YYYY
				MMM/DD/YYYY
				YYYY/MMM/DD
		Time Format		12 hour (AM/PM)
				24 hours
	Date/Time	Date		Select the date from a pop-up calendar.
		Time		Select the time from a pop-up keypad.
		Time Zone		Select the time zone from a list.
		Adjust for Daylight Savings		Checkbox
Energy Settings	Sleep Schedule	A list of scheduled events displays.		
		+ (Add)	Edit	
		Edit	Delete	

Table 3-29 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values
			Event Type	Wake Up Sleep
			Event Time	
			Event Days	Select days of the week from a list.
	Sleep Delay			Enter a value between 1 and 120 minutes. The default value is 45 minutes.
Print Quality	Image Registration	Adjust Tray <X>	Print Test Page	
			X1 Shift	-5.00 mm to 5.00 mm
			Y1 Shift	
			X2 Shift	
			Y2 Shift	
	Adjust Paper Types	Select from a list of paper types that the product supports. The available options are the same for each paper type.	Print Mode	Select from a list of print modes.
			Resistance Mode	Normal Up
			Humidity Mode	Normal High
	Optimize	Line Detail		Normal* Off Alternate 1 Alternate 2 Alternate 3
		Restore Optimize		
	Resolution			300x300 dpi 600x600 dpi FastRes 1200* ProRes 1200

Table 3-29 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values
	REt			Off On*
	Economode			Off* On
	Toner Density			Range of 1 to 5. The default value is 3.
Quiet Mode				Off* On Automatic Transition
Jam Recovery				Automatic* Off On
Manage Stored Jobs	Quick Copy Job Storage Limit			1-300 Default = 32
	Quick Copy Job Held Timeout			Off* 1 Hour 4 Hours 1 Day 1 Week
	Default Folder Name for Stored Jobs			
	Sort Stored Jobs By			Job Name* Date

Table 3-29 General Settings menu (continued)

First level	Second level	Third level	Fourth level	Values
Hold Off Print Job				Enabled*
				Disabled
Restore Factory Settings				All
				Address book
				Digital Send
				Copy
				General
				E-mail
				Fax
				Print
				Security
				Networking

Copy Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Copy Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-30 Copy Settings menu

First level	Second level	Values
Copies		Range: 1 – 9999
		Default = 1
Image Preview		Make optional*
		Require preview
		Disable preview
Sides		1-sided original, 1-sided output*
		1-sided original, 2-sided output
		2-sided original, 1-sided output
		2-sided original, 2-sided output
	Orientation	Portrait*
		Landscape

Table 3-30 Copy Settings menu (continued)

First level	Second level	Values
	2-Sided Format	Book-style Flip-style Book-style original; Flip-style copy Flip-style original; Book-style copy
Staple/Collate	Staple	None Top left Top right
NOTE: For models that include a stapler/ stacker	Collate	Off On*
	Collate	Collate on (Sets in page order)* Collate off (Pages grouped)
Reduce/Enlarge	Scaling	Automatic Range X-Y (25-400%) 100% 75% 50% 125% 150% 200%
	Auto Include Margins	
Paper Selection		Automatic Tray 1: [Size], [Type] Tray <X>: [Size], [Type]
Image Adjustment	Darkness	
	Contrast	
	Background Cleanup	
	Sharpness	
Content Orientation	Orientation	Portrait* Landscape

Table 3-30 Copy Settings menu (continued)

First level	Second level	Values
	2-Sided Format	Book-style Flip-style Book-style original; Flip-style copy Flip-style original; Book-style copy
Output Bin		Select from a list of output bins.
Optimize Text/Picture	Optimize For*	Manually adjust* Text Printed picture Photograph
Pages per Sheet		One (1) Two (2) Four (4)
	Page Order	Right, then down Down, then right
	Add Page Borders	
Original Size	Automatically detect*	Select from a list of sizes that the product supports.
Edge-To-Edge		Normal (recommended)* Edge-To-Edge output
Job Build		Job Build off* Job Build on*

Scan/Digital Send Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the **Scan/Digital Send Settings** menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-31 Scan/Digital Send Settings menu

First level	Second level	Third level	Fourth level	Values
E-mail Settings	E-mail Setup	E-mail Setup Wizard		
Default Save to Network Folder Options	NOTE: E-mail Settings only			
Default Save to USB Options				
NOTE: The same options are available for each of these features, except where noted.				
	Default Job Options	Image Preview		Make optional* Require preview Disable preview
		Default File Name		
		Document File Type		Select from a list of file types.
		Optimize Text/Picture	Optimize For	Manually adjust* Text Printed picture Photograph
		Output Quality		High (large file) Medium* Low (small file)
		Original Sides		1-sided 2-sided
			Orientation	Portrait* Landscape
			2-Sided Format	Book-style Flip-style

Table 3-31 Scan/Digital Send Settings menu (continued)

First level	Second level	Third level	Fourth level	Values
		Resolution		600 dpi 400 dpi 300 dpi 200 dpi 150 dpi* 75 dpi
		Content Orientation	Orientation	Portrait* Landscape
			2-Sided Format	Book-style* Flip-style
		Original Size		Choose from a list of paper sizes.
		Notification		Do not notify* Notify when job completes Notify only if job fails Print E-mail
		Image Adjustment	Darkness	
			Contrast	
			Background Cleanup	
			Sharpness	
		Job Build		Job Build off* Job Build on
		Blank Page Suppression		Enabled Disabled*
Digital Send Service Setup	Allow Usage of Digital Sending Software (DSS) Server			Select or clear the check box. The default setting is with the check box cleared.
	Allow Transfer to New Digital Sending Software (DSS) Server			Select or clear the check box. The default setting is with the check box cleared.

Fax Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Fax Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-32 Fax Settings menu

First level	Second level	Third level	Fourth level	Values
Fax Send Settings	Fax Send Setup	Fax Setup Wizard		
		Fax Dialing Settings	Fax Dial Volume	Off Low* High
			Dialing Mode	Tone* Pulse
			Redial On Busy	Range: 0 – 9 Default = 3
			Redial On No Answer	Range: 0 - 2 Default = 0
			Redial Interval	1-5 Minutes Default = 5 minutes
			Detect Dial Tone	
			Fax Send Speed	Fast Medium Slow
			Dialing Prefix	
		General Fax Send Settings	PC Fax Send	Enabled* Disabled
			Fax Header	Prepend* Overlay
			Error Correction Mode	Enabled* Disabled
			Fax Number Confirmation	Enabled Disabled*
			JBIG Compression	Enabled* Disabled

Table 3-32 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values
		Billing Codes	Enable Billing Codes	Off* On
			Minimum Length	Range: 1 – 16 Default = 1
			Default Billing Code	
			Allow users to edit billing codes	
	Default Job Options	Image Preview		Make optional* Require preview Disable preview
		Resolution		Standard (100 x 200dpi)* Fine (200 x 200dpi) Superfine (300 x 300dpi)
		Original Sides		1-sided* 2-sided
			Orientation	Portrait* Landscape
			2-Sided Format	Book-style* Flip-style
		Notification		Do not notify* Notify when job completes Notify only if job fails Print E-mail
			Notification E-mail address	
			Include Thumbnail	
	Content Orientation	Orientation		Portrait* Landscape
		2-Sided Format		Book-style* Flip-style

Table 3-32 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values
		Original Size		Select from a list of sizes that the product supports.
		Image Adjustment	Darkness	
			Contrast	
			Background Cleanup	
			Sharpness	
		Optimize Text/Picture	Optimize For	Manually adjust* Text Printed picture Photograph
		Job Build		Job Build off* Job Build on
		Blank Page Suppression		Disabled* Enabled
Fax Receive Settings	Fax Receive Setup	Rings To Answer		
		Ring Frequency		
		Ring Interval		
		Ringer Volume		Off Low* High
		Fax Receive Speed		Fast Medium Slow
	Fax Printing Schedule	Incoming Fax Options		Always store faxes Always print faxes* Use Fax Printing Schedule
		Schedule	Add (plus sign)	Print incoming faxes
		Touch this to set up a fax printing schedule if you selected the Use Fax Printing Schedule option.	Edit	Store incoming faxes Event Time Event Days
	Blocked Fax Numbers	Fax Number to Block		

Table 3-32 Fax Settings menu (continued)

First level	Second level	Third level	Fourth level	Values
	Default Job Options	Notification		Do not notify
				Notify when job completes
				Notify only if job fails
				Include Thumbnail
		Stamp Received Faxes		Enabled
				Disabled*
		Fit to Page		Enabled*
				Disabled
		Paper Selection		Automatic
				Select from a list of the trays.
		Output Bin		Select from a list of the bins.
		Sides		1-sided
				2-sided
Fax Archive and Forwarding	Enable Fax Archiving			
		Type of Fax Job to Archive		Send and receive*
				Send only
				Receive only
		Fax Archiving E-mail Address		
	Enable Fax Forwarding			
		Type of Fax Job to Forward		Send and receive
				Send only
				Receive only
		Fax Forwarding Number		
Clear fax activity log				

Open From USB Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Open From USB Settings](#) menu.

This menu has only one setting. Use this menu to enable or disable the product's ability to print files from memory devices that are connected to the control panel USB port.

Print Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the **Print Settings** menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-33 Print Settings menu

First level	Second level	Values
Manual Feed		Enabled
		Disabled*
Courier Font		Regular*
		Dark
Wide A4		Enabled
		Disabled*
Print PS Errors		Enabled
		Disabled*
Print PDF Errors		Enabled
		Disabled*
Personality		Automatic*
		PCL
		POSTSCRIPT
		PDF
PCL	Form Length	Range: 5 – 128
		Default = 60
	Orientation	Portrait*
		Landscape

Table 3-33 Print Settings menu (continued)

First level	Second level	Values
	Font Source	Internal* Card slot 1 Card slot <X> EIO <X> disk USB
	Font Number	Range: 0 – 999 Default = 0
	Font Pitch	Range: 0.44 – 99.99 Default = 10
	Font Point Size	Range: 4.00 – 999.75 Default = 12.00
	Symbol Set	Select from a list of symbol sets.
	Append CR to LF	No* Yes
	Suppress Blank Pages	No* Yes
	Media Source Mapping	Standard* Classic

Print Options menu

To display: At the product control panel, select the [Administration](#) menu, and then select the **Print Options** menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-34 Print Options menu

First level	Second level	Values
Number of Copies		
Default Paper Size		Select from a list of sizes that the product supports.
Default Custom Paper Size	X Dimension	
	Y Dimension	

Table 3-34 Print Options menu (continued)

First level	Second level	Values
	Use Inches	
	Use Millimeters	
Output Bin		
Sides		1-sided*
		2-sided
2-Sided Format		Book-style*
		Flip-style
Enable Edge-To-Edge Override		Enabled
		Disabled*

Display Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Display Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-35 Display Settings menu

First level	Second level	Values
Key Press Sound		On*
		Off
Language Settings	Language	Select from a list of languages that the product supports.
	Keyboard Layout	Each language has a default keyboard layout. To change it, select from a list of layouts.
Network Address Button		Display
		Hide
Sleep Mode		Disabled
		Use sleep delay*
		Use sleep schedule
		Balance power savings/Wait time
Inactivity Timeout		Range: 10 – 300 seconds
		Default = 60 seconds

Table 3-35 Display Settings menu (continued)

First level	Second level	Values
Clearable Warnings		On
		Job*
Continuable Events		Auto continue (10 seconds)*
		Press OK to continue

Manage Supplies menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Manage Supplies](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-36 Manage Supplies menu

First level	Second level	Third level	Fourth level	Values
Supplies Status				Print
				View
Supply Settings	Black Cartridge	Very Low Settings		Stop
				Prompt to continue
				Continue*
		Low Threshold Settings		1-100%
				Default = 10%
	Maintenance Kit	Very Low Settings		Stop
				Prompt to continue
				Continue*
		Low Threshold Settings		1-100%
				Default = 10%
	Document Feeder Kit	Very Low Settings		Stop
				Prompt to continue*
				Continue
		Low Threshold Settings		1-100%
				Default = 10%
Supply Messages	Low Message			On*
				Off
Reset Supplies	New Document Feeder Kit			No
				Yes
	New Maintenance Kit			No
				Yes

Manage Trays menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Manage Trays](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-37 Manage Trays menu

First level	Values
Use Requested Tray	Exclusively* First
Manually Feed Prompt	Always* Unless loaded
Size/Type Prompt	Display* Do not display
Use another tray	Enabled* Disabled
Alternative Letterhead Mode	Disabled* Enabled
Duplex Blank Pages	Automatic * Yes
Override A4/Letter	Yes* No

Stapler/Stacker Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Stapler/Stacker Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-38 Stapler/Stacker Settings menu

First level	Values
Operation Mode	Mailbox Stacker Function Separator

Table 3-38 Stapler/Stacker Settings menu (continued)

First level	Values
Stapling	None
	Top left or right
	Top left
	Top right
Staples Very Low	Continue
	Stop

Network Settings menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Network Settings](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-39 Network Settings menu

First level	Values
I/O Timeout	Range: 5 – 300 sec Default = 15
Embedded Jetdirect Menu EIO <X> Jetdirect Menu	See the table that follows for details. These menus have the same structure. If an additional HP Jetdirect network card is installed in the EIO slot, then both menus are available.

Table 3-40 Embedded Jetdirect Menu/EIO <X> Jetdirect Menu

First level	Second level	Third level	Fourth level	Values
Information	Print Sec Page			Yes
				No*
TCP/IP	Enable			On*
				Off
	Host Name	Config Method		Bootp
	IPv4 Settings			DHCP*
				Auto IP
				Manual

Table 3-40 Embedded Jetdirect Menu/EIO <X> Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values
		Manual Settings	IP Address	Enter the address.
		NOTE: This menu is available only if you select the Manual option under the Config Method menu.		
			Subnet Mask	Enter the address.
			Default Gateway	Enter the address.
		Default IP		Auto IP*
				Legacy
		DHCP Release		No*
				Yes
		DHCP Renew		No*
				Yes
		Primary DNS		
		Secondary DNS		
	IPv6 Settings	Enable		Off
				On*
		Address	Manual Settings	Enable
				Address
		DHCPV6 Policy		Router Specified
				Router Unavailable*
				Always
		Primary DNS		
		Secondary DNS		
	Idle Timeout			Range: 0-3600
				Default = 270
Security	Secure Web			HTTPS Required*
				HTTPS Optional
	IPSEC			Keep
				Disable*
	802.1X			Reset
				Keep*

Table 3-40 Embedded Jetdirect Menu/EIO <X> Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values
	Reset Security			Yes No*
Diagnostics	Embedded Tests	LAN HW Test		Yes No*
		HTTP Test		Yes No*
		SNMP Test		Yes No*
		Data Path Test		Yes No*
		Select All Tests		Yes No*
		Execution Time [M]		Range: 1 – 60 hours Default = 1 hour
		Execute		No* Yes
	Ping Results	Dest Type		IPV4* IPV6
		Dest IPv4		
		Dest IPv6		
		Packet Size		Range: 64-2048 Default = 64
		Timeout		Range: 1-100 Default = 1
		Count		Range: 0-100 Default = 4
		Print Results		No* Yes
		Execute		No* Yes

Table 3-40 Embedded Jetdirect Menu/EIO <X> Jetdirect Menu (continued)

First level	Second level	Third level	Fourth level	Values
	Ping Results	Packets Sent		Range: 0-65535 Default = 0
		Packets Received		Range: 0-65535 Default = 0
		Percent Lost		Range: 0-100 percent Default = 0
		RTT Min		Range: 0-4096 Default = 0
		RTT Max		Range: 0-4096 Default = 0
		RTT Average		Range: 0-4096 Default = 0
		Ping in Progress		No* Yes
		Refresh		No* Yes
Link Speed				Automatic* 10T Half 10T Full 100TX Half 100TX Full

Troubleshooting menu

To display: At the product control panel, select the [Administration](#) menu, and then select the [Troubleshooting](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-41 Troubleshooting menu

First level	Second level	Third level	Fourth level	Values
Event Log				View*
				Print
Paper Path Page				View*
				Print
Fax	Fax T.30 Trace	Print T.30 Report	When to Print Report	Print
				Never automatically print*
				Print after every fax
				Print only after fax send jobs
				Print after any fax error
				Print only after fax send errors
				Print only after fax receive errors
				Save
				Normal*
				Off
	Fax V.34			Normal*
				Off
	Fax Speaker Mode			Normal*
				Diagnostic
Print Quality Pages	Fuser Test Page			Print
Diagnostic Tests	Paper Path Sensors	Select from a list of the product sensors.		Select from a list of the product sensors.
	Paper Path Test	Print Test Page		Print
		Source		Select from a list of the available trays.
		Destination		Select from a list of the available bins.
		Duplex		Off*
				On

Table 3-41 Troubleshooting menu (continued)

First level	Second level	Third level	Fourth level	Values
		Copies		1 *
				10
				50
				100
				500
		Stacking		Off
				On
	Manual Sensor Test			Select from a list of available components.
	Tray/Bin Manual Sensor Test			Select from a list of available components.
	Component Test			Select from a list of available components.
	Print/Stop Test			Range: 0 – 60,000
	Scanner Tests			Select from a list of available components.
	Control Panel			LEDs
				Display
				Buttons
				Touchscreen
Retrieve Diagnostic Data				Create device data file
				Create zipped debug information file
				Include crash dump files
				Clean up debug information
				Send to E-mail
				Export to USB
Generate Debug Data				

Device Maintenance menu

Backup/Restore menu

To display: At the product control panel, select the [Device Maintenance](#) menu, and then select the [Backup/Restore](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-42 Backup/Restore menu

First level	Second level	Third level	Values
Backup Data	Enable Scheduled Backups	Backup Time	Enter a time
		Days Between Backups	Enter the number of days
	Backup Now		
	Export Last Backup		
Restore Data	Insert a USB drive that contains the backup file.		

Calibrate/Cleaning menu

To display: At the product control panel, select the [Device Maintenance](#) menu, and then select the [Calibrate/Cleaning](#) menu.

In the following table, asterisks (*) indicate the factory default setting.

Table 3-43 Calibrate/Cleaning menu

First level	Second level	Values
Cleaning Settings	Auto Cleaning	Off*
		On
	Cleaning Interval	
	Cleaning Size	
Cleaning Page		Print
Calibrate Scanner		

USB Firmware Upgrade menu

To display: At the product control panel, select the [Device Maintenance](#) menu, and then select the [USB Firmware Upgrade](#) menu.

Insert a USB storage device with a firmware upgrade bundle into the USB port, and follow the on-screen instructions.

Service menu

To display: At the product control panel, select the [Device Maintenance](#) menu, and then select the [Service](#) menu.

The [Service](#) menu is locked and requires a PIN (04455511) for access.

Interpret control-panel messages, status-alert messages, and event code errors

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



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

Control-panel messages appear temporarily and might require that you acknowledge the message by pressing the **OK** button to resume printing or by pressing the **Stop** button to cancel the job. With certain messages, the job might not finish printing or the print quality might be affected. If the message is related to printing and the auto-continue feature is on, the product will attempt to resume printing after the message has appeared for 10 seconds without acknowledgement.

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

10.0X.Y0 Supply memory error

Description

The product cannot read or write to at least one print cartridge memory tag or a memory tag is missing from the print cartridge.

Memory error (Y = 0)

- **10.00.00** (event code)
Black print cartridge

Memory tag missing (Y = 1)

- **10.00.10** (event code)
Black print cartridge

Recommended action

1. Remove, and then reinstall the indicated print cartridge.
2. If the error reappears, turn the power off, and then on.
3. Check the cartridge memory tag. If it is damaged, replace the cartridge.
4. If the error persists, replace the indicated print cartridge.

10.23.50

Description

The fuser kit life was reset above the order threshold.

Recommended action

No action necessary.

10.23.51

Description

The fuser kit life was reset above the replace threshold.

Recommended action

No action necessary.

10.23.52

Description

The fuser kit life was reset above the reset threshold.

Recommended action

No action necessary.

10.23.70 Printing Past Very Low

Description

The product indicates when fuser kit is very low. The actual remaining fuse kit life might vary.

You do not need to replace the fuser kit at this time unless print quality is no longer acceptable.



NOTE: After an HP supply has reached the very low threshold, the HP premium protection warranty ends.

Recommended action

If print quality is no longer acceptable, replace the fuser kit. See the parts chapter in the service manual for the fuser kit part number.



TIP: Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.

10.XX.33 Used Supply In Use

Description

The print cartridge is used.

- **10.00.34** (event code)

Black print cartridge

Recommended action

If you believe this is a genuine HP supply, go to www.hp.com/go/anticounterfeit.



NOTE: Using a cartridge that is near its end-of-life can cause this event code.

10.XX.34 Used Supply In Use

Description

The print cartridge is used.

- **10.00.34** (event code)

Black print cartridge

Recommended action

If you believe this is a genuine HP supply, go to www.hp.com/go/anticounterfeit.



NOTE: Removing a cartridge from one product and then installing it in a different product (for testing functionality) will cause this event code.

10.XX.40 Genuine HP Supplies Installed

Description

A genuine HP print cartridge has been installed.

- **10.00.40** (event code)

Black print cartridge

Recommended action

No action necessary.

10.XX.41 Unsupported Supply In Use

Description

The installed print cartridge is for a different product.

- **10.00.41** (event code)

Black print cartridge

Recommended action

Remove the print cartridge, and then install the correct cartridge for this product.



TIP: See the parts chapter in the service manual for the correct cartridge part number.

10.XX.70 Printing past very low

Description

The product indicates when a supply level is very low. The actual remaining print cartridge life might vary.

You do not need to replace the print cartridge at this time unless print quality is no longer acceptable.



NOTE: After an HP supply has reached the very low threshold, the HP premium protection warranty ends.

- **10.00.70** (event code)

Black print cartridge

Recommended action

If print quality is no longer acceptable, replace the print cartridge. See the parts chapter in the service manual for the correct cartridge part number.



TIP: Advise the customer that HP recommends that they have replacement supplies available to install when the print quality is no longer acceptable.

10.YY.15 Install <supply>

Description

The indicated supply has been removed or installed incorrectly.

- **10.00.15** (event code)

Black print cartridge

- **10.23.15**

Fuser kit

Recommended action

Replace or install the indicated supply.

See the parts chapter in the service manual for the correct supply or kit part number.

10.YY.35 Incompatible <supply>

Description

The indicated supply is not compatible with this product.

- **10.00.35** (event code)

Black print cartridge

- **10.23.35** (event code)

Fuser

Recommended action

CAUTION: The fuser might be hot. Be careful when removing the fuser.

Install a supply that is designed for this product.

See the parts chapter in the service manual for the correct supply part number.

11.00.YY Internal clock error

Description

The product real time clock has experienced an error.

- 01=dead clock
- 02=dead real time clock

Recommended action

Whenever the product is turned off and then turned on again, set the time and date at the control panel.

If the error persists, you might need to replace the formatter.

13.00.00

Description

Generic jam event code.

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

13.00.EE

Description

Unknown door open

Recommended action

make sure that all of the doors and covers are closed.

13.A3.FF

Description

Power on jam at the Tray 3 feed sensor.

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

13.D3.DZ

Description

Late to duplex re-feed jam

- **13.D3.D1** (event code)
- **13.D3.D2** (event code)
- **13.D3.D3** (event code)
- **13.D3.D4** (event code)
- **13.D3.D5** (event code)
- **13.D3.D6** (event code)
- **13.D3.DD** (event code)
- **13.D3.DE** (event code)

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

13.E5.FF

Description

A power on jam has occurred.

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

13.EA.EE

Description

A door jam has occurred.

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

Use the component test to isolate a faulty door switch or sensor.

13.EE.FF

Description

A power on jam has occurred.

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

13.FF.EE

Description

A door jam has occurred.

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

Use the Manual sensors test or Tray/Bin manual sensors test to isolate a faulty door switch or sensor.

13.FF.FF

Description

A power on residual paper jam has occurred (sensor).

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

Use the Manual sensors test or Tray/Bin manual sensors test to isolate a faulty door switch or sensor.

13.WX.EE

Description

This jam occurs when a door is opened during printing.

- **13.AA.EE** (event code)
Tray 3, 4, or 5 door open
- **13.AB.EE** (event code)
Tray 4, 5, or 6 door open
- **13.BA.EE** (event code)
Front door open
- **13.BB.EE** (event code)
Right door open

Recommended action

Make sure that the doors are fully closed.

13.WX.FF

Description

Power on residual paper jam

This jam occurs when the paper exists at any of the paper path jam sensors at power on or door close. Due to the current FW timing requirements, the displayed jam code is always 13.FF.FF, only the event log will have 13.WX.FF

- **13.B9.FF** (event code)
Fuser output sensor - PS700
- **13.A3.FF** (event code)
Tray 3 feed sensor - SR4
- **13.A4.FF** (event code)
Tray 4 feed sensor - SR7
- **13.A5.FF** (event code)
Tray 5 feed sensor - SR10
- **13.A6.FF** (event code)
Tray 6 feed sensor - SR10
- **13.FF.FF** (event code)
Multiple sensors

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Fuser Area Jam

Description

A jam in the fuser area has occurred.

Recommended action

Clear the jam. See the clear jams section in the service manual.

Make sure media is within specifications, check for obstructions in the fuser, check that the T2 roller is installed properly.

13.WX.YZ Fuser wrap jam

Description

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Jam below control panel

Description

- **13.B2.9Z** (event code)
Page at duplex switchback jam.
Z = the source tray number

Recommended action

Check the product for a jam. See the clear jams section in the service manual.

13.WX.YZ Jam in lower bin area

Description

13.84.A4

A jam exists in the lower bin area.

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Jam in Tray 1

Description

- **13.B2.D1** (event code)
Late to registration jam, from Tray 1

This jam occurs when the paper does not reach the TOP sensor in designated amount of time from the start of paper pickup at printing from Tray 1 and duplex printing.

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Jam in Tray <X>

Description

A misfeed jam has occurred.

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Jam inside envelope feeder

Description

A jam exists inside the envelope feeder.

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Jam inside left cover**Description**

A jam exists inside the left cover.

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Jam inside right door**Description**

A jam exists inside the right door.

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Jam inside top cover**Description**

A jam exists inside the top cover.

Recommended action

Clear the jam. See the clear jams section in the service manual.

13.WX.YZ Jams inside lower right door**Description**

A jam exists inside the lower right door.

Recommended action

Clear the jam. See the clear jams section in the service manual.

14.00.XX**Description**

A feed roller error has occurred.

- **14.00.01** (event code)
- **14.00.02** (event code)
- **14.00.03** (event code)

- **14.00.04** (event code)
- **14.00.05** (event code)
- **14.00.06** (event code)

Recommended action

Check the product and accessories feed rollers for dirt or damage. Clean or replace the rollers as necessary.

20.00.00 Insufficient memory: <Device> To continue, touch "OK"

Description

The product has experienced a memory error. You might have tried to transfer too many fonts or macros.

Recommended action

Touch the **OK** button to print the transferred data (some data might be lost), and then simplify the print job or install additional memory.

21.00.00 Page Too Complex

Description

The page decompression process was too slow for the printer.

Recommended action

Touch the **OK** button to continue printing (some data might be lost).

30.01.YY Scanner Failure

Description

- **31.01.06** (event code)
Scanner fan error
- **31.01.08** (event code)
Scanner optic failed to return to the home position
- **31.01.10** (event code)
Document feeder fan error
- **31.01.14** (event code)
Scanner control board (SCB) EEPROM error
- **31.01.15** (event code)
Scanner did not initialize (internal error)

- **31.01.18** (event code)
Scanner internal optical sensor error
- **31.01.19** (event code)
Scanner internal lamp sensor error
- **31.01.23** (event code)
Scanner internal lamp sensor error
- **30.01.30** or **30.01.32** (event code)
HP image ASIC error
- **31.01.36** (event code)
Scanner firmware upgrade error
- **31.01.41** (event code)
Internal CPB communication error
- **31.01.42** (event code)
Internal product communication error
- **31.01.43** (event code)
Scan memory error
- **31.01.44** (event code)
Internal product communication error
- **31.01.45** (event code)
Internal CPB communication error
- **31.01.46** (event code)
Internal CPB communication error
- **31.01.47** (event code)
Document feeder error
- **31.01.48** (event code)
Scanner error
- **31.01.49** (event code)
Scanner inverter fan error
- **31.01.50** (event code)
Internal SCB error

Recommended action

- **31.01.06** (event code)

Turn the product off, and then on again. If the error persists, turn the product off and then check the fan wire-harness connectors.
- **31.01.08** (event code)
 1. Turn the product off, and then on again.
 2. Observe the movement of the optics assembly.
 3. If the error persists, replace the optic assembly, the scanner motor, or the entire scanner assembly.
- **31.01.10** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then check the fan wire-harness connectors.
 3. If the error persists, replace the document feeder fan or the document feeder assembly.
- **31.01.14** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, replace the SCB.
- **31.01.15** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, replace the SCB.
- **31.01.18** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, replace the optic assembly or the entire scanner assembly.
- **31.01.19** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, replace the optic assembly or the entire scanner assembly.
- **31.01.23** (event code)

Scanner internal lamp sensor error
- **30.01.30** or **30.01.32** (event code)

Turn the product off, and then on again.

- **31.01.36** (event code)
 1. Resend the scanner firmware upgrade.
 2. If the error persists, replace the SCB.
- **31.01.41** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then reseal the formatter.
- **31.01.42** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then check the SCB connectors.
 3. If the error persists, replace the SCB.
- **31.01.43** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then reseal the formatter.
 3. If the error persists, replace the formatter.
- **31.01.44** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then check the scanner cable.
 3. If the error persists, turn the product off and then reseal the formatter.
 4. If the error persists, replace the SCB or the formatter.
- **31.01.45** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then reseal the formatter.
 3. If the error persists, replace the formatter.
- **31.01.46** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then reseal the formatter.
 3. If the error persists, replace the formatter.

- **31.01.47** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then check the document feeder wire-harness connectors.
 3. If the error persists, replace the document feeder assembly.
- **31.01.48** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then check the scanner wire-harness connectors and the scanner power supply fan.
 3. If the error persists, replace the scanner power supply or scanner power supply fan.
- **31.01.49** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, turn the product off and then check the scanner wire-harness connectors and the scanner power supply fan.
 3. If the error persists, replace the scanner power supply, scanner power supply fan, or the SCB.
- **31.01.50** (event code)
 1. Turn the product off, and then on again.
 2. If the error persists, replace the SCB.

31.01.02 Jam in document feeder

Description

Document feeder jam in the top cover

Recommended action

1. Open the document feeder top cover.
2. Remove the jammed page.
3. Remove the remaining print job pages from the document feeder input tray.
4. Close the document feeder top cover.
5. Place the jammed page on top of any remaining print job pages, and then reinsert the pages into the document feeder input tray.
6. Align the sliding paper guides with the edges of the paper stack.
7. Touch the [Start](#) ☐ button to continue.


8. If the error persists, check the document feeder read and exit sensors.
9. If the error persists, replace the document feeder assembly.

31.01.03 Document feeder pick error

Description

Document feeder cannot pick paper

Recommended action

1. Open the document feeder top cover.
2. Remove any pages.
3. Remove the remaining print job pages from the document feeder input tray.
4. Close the document feeder top cover.
5. Place the removed page on top of any remaining print job pages, and then reinsert the pages into the document feeder input tray.
6. Align the sliding paper guides with the edges of the paper stack.
7. Touch the [Start](#)  button to continue.
8. If the error persists, check the document feeder sliding paper guides (they should not be too tight against the paper stack).
9. If the error persists, check and clean the document feeder rollers and separation pad.
10. If the error persists, test the registration sensor.
11. If the error persists, replace the document feeder pickup roller, separation pad, or the entire document feeder assembly.

31.01.0X

Description

- **31.01.01** (event code)
Flatbed scanner cover open
- **31.01.04** (event code)
Scanner internal communication
- **31.01.05** (event code)
Internal communication command error

Recommended action

- **31.01.01** (event code)
Close the document feeder lid
- **31.01.04** (event code)
Turn the product off, and then on.
- **31.01.05** (event code)
Turn the product off, and then on.

32.08.AX

Description

- **32.08.A1** (event code)
Shutdown event
- **32.08.A2** (event code)
Boot from normal shutdown event
- **32.08.A3** (event code)
Boot from abnormal shutdown event

Recommended action

No action necessary.

32.1C.XX

Description

- **32.1C.01** (event code)
NVRAM backup/restore service backup started
- **32.1C.02** (event code)
NVRAM backup/restore service restore started
- **32.1C.03** (event code)
NVRAM backup/restore administrator backup started
- **32.1C.04** (event code)
NVRAM backup/restore administrator restore started
- **32.1C.05** (event code)
Backup/restore complete

- **32.1C.06** (event code)
Data model failed to clone job ticket
- **32.1C.07** (event code)
Backup restore permissions error
- **32.1C.08** (event code)
Not enough disk space to perform backup/restore or network share issue
- **32.1C.09** (event code)
Tried to restore a backup file that was not valid for this product
- **32.1C.0A** (event code)
Backup file is invalid
- **32.1C.0B** (event code)
Backup is from newer version of FW than what is currently on the product
- **32.1C.0C** (event code)
Backup cancelled from the HP Embedded Web Server
- **32.1C.0D** (event code)
Backup/restore failed, auto-reboot failed, or the product might be busy
- **32.1C.0E** (event code)
Backup/restore timeout while communicating with the formatter
- **32.1C.0F** (event code)
Backup/restore timeout while communicating with the finisher firmware
- **32.1C.10** (event code)
Backup/restore timeout while communicating with the scanner firmware
- **32.1C.11** (event code)
Backup/restore timeout while communicating with the engine
- **32.1C.12** (event code)
Backup/restore timeout while communicating with the disk
- **32.1C.13** (event code)
Scheduled backup failure
- **32.1C.14** (event code)
NVRAM restore timeout while communicating with the formatter

- **32.1C.15** (event code)
NVRAM restore timeout while communicating with the finisher firmware
- **32.1C.16** (event code)
NVRAM restore timeout while communicating with the scanner firmware
- **32.1C.17** (event code)
NVRAM restore timeout while communicating with the engine
- **32.1C.18** (event code)
Backup of copy subsystem failed
- **32.1C.19** (event code)
Backup of fax subsystem failed
- **32.1C.1A** (event code)
Backup of digital send subsystem failed
- **32.1C.1B** (event code)
Backup of print subsystem failed
- **32.1C.1C** (event code)
Backup of networking subsystem failed
- **32.1C.1D** (event code)
Backup of finishing subsystem failed
- **32.1C.1E** (event code)
Restore of copy subsystem failed
- **32.1C.1F** (event code)
Restore of fax subsystem failed
- **32.1C.20** (event code)
Restore of digital send subsystem failed
- **32.1C.21** (event code)
Restore of print subsystem failed
- **32.1C.22** (event code)
Restore of networking subsystem failed
- **32.1C.24** (event code)
NVRAM backup/restore successful

- **32.1C.25** (event code)
Reset of copy subsystem failed
- **32.1C.26** (event code)
Reset of fax subsystem failed
- **32.1C.27** (event code)
Reset of digital send subsystem failed
- **32.1C.28** (event code)
Reset of print subsystem failed
- **32.1C.29** (event code)
Reset of networking subsystem failed
- **32.1C.2A** (event code)
Reset of finishing subsystem failed
- **32.1C.2B** (event code)
Reset formatter timeout
- **32.1C.2C** (event code)
Reset finisher timeout
- **32.1C.2D** (event code)
Reset scanner timeout
- **32.1C.2E** (event code)
Reset engine timeout
- **32.1C.2F** (event code)
Reset failure

Recommended action

- **32.1C.01** (event code)
No action necessary
- **32.1C.02** (event code)
No action necessary
- **32.1C.03** (event code)
No action necessary
- **32.1C.04** (event code)

No action necessary

- **32.1C.05** (event code)

No action necessary

- **32.1C.06** (event code)

Retry

- **32.1C.07** (event code)

Retry

- **32.1C.08** (event code)

Remove stored jobs and retry

Use larger capacity storage device

Check network share

- **32.1C.09** (event code)

Use a valid backup file

- **32.1C.0A** (event code)

Use a valid backup file

Reboot and observe state of product

Do a partition clean using the [Preboot](#) menu.

- **32.1C.0B** (event code)

Use a valid backup file or put correct firmware version on the product.

- **32.1C.0C** (event code)

No action necessary

- **32.1C.0D** (event code)

Reboot and then retry the backup/restore

- **32.1C.0E** (event code)

Turn the product off then on and retry

- **32.1C.0F** (event code)

Turn the product off then on and retry

- **32.1C.10** (event code)

Turn the product off then on and retry

- **32.1C.11** (event code)

- Turn the product off then on and retry
- **32.1C.12** (event code)
- Turn the product off then on and retry
- **32.1C.13** (event code)
- Turn the product off then on and retry
- **32.1C.14** (event code)
- Turn the product off then on and retry
- **32.1C.15** (event code)
- Turn the product off then on and retry
- **32.1C.16** (event code)
- Turn the product off then on and retry
- **32.1C.17** (event code)
- Turn the product off then on and retry
- **32.1C.18** (event code)
- Turn the product off then on and retry
- **32.1C.19** (event code)
- Turn the product off then on and retry
- **32.1C.1A** (event code)
- Turn the product off then on and retry
- **32.1C.1B** (event code)
- Turn the product off then on and retry
- **32.1C.1C** (event code)
- Turn the product off then on and retry
- **32.1C.1D** (event code)
- Turn the product off then on and retry
- **32.1C.1E** (event code)
- Turn the product off then on and retry
- If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.
- **32.1C.1F** (event code)

Turn the product off then on and retry

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

- **32.1C.20** (event code)

Turn the product off then on and retry

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

- **32.1C.21** (event code)

Turn the product off then on and retry

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

- **32.1C.22** (event code)

Turn the product off then on and retry

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

- **32.1C.24** (event code)

Turn the product off then on and retry.

- **32.1C.25** (event code)

Turn the product off then on and retry.

- **32.1C.26** (event code)

Turn the product off then on and retry.

- **32.1C.27** (event code)

Turn the product off then on and retry.

- **32.1C.28** (event code)

Turn the product off then on and retry.

- **32.1C.29** (event code)

Turn the product off then on and retry.

- **32.1C.2A** (event code)

Turn the product off then on and retry.

- **32.1C.2B** (event code)

Turn the product off then on and retry.

- **32.1C.2C** (event code)

- Turn the product off then on and retry.
- **32.1C.2D** (event code)
Turn the product off then on and retry.
- **32.1C.2E** (event code)
Turn the product off then on and retry.
- **32.1C.2f** (event code)
Turn the product off then on and retry.

32.21.00

Description

Corrupt firmware in external accessory

Recommended action

Turn the product off, then on, and retry.

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu

33.01.XX

Description

- **33.01.01** (event code)
A restore process has occurred.
- **33.01.02** (event code)
A save process has occurred.

Recommended action

No action necessary.

33.XX.YY Used board/disk

Description

An encrypted board or disk with existing data previously locked to a different product has replaced the original. If you continue, data is permanently lost.

Recommended action

To save the data on the board or disk, turn the product off. Replace the board or disk with another board or disk.

To delete the data on the board or disk and continue, touch the [OK](#) button.

40.00.01 USB I/O buffer overflow To continue, touch "OK"

Description

The USB buffer has overflowed.

Recommended action

Touch the **OK** button to print the transferred data (some data might be lost).

Check the host configuration.

40.00.02 Embedded I/O buffer overflow To continue, touch "OK"

Description

The product has experienced a JetDirect buffer overflow.

Recommended action

Touch the **OK** button to print the transferred data (some data might be lost).

Check the host configuration.

40.00.03 EIO <X> buffer overflow To continue, touch "OK"

Description

Too much data was sent to the EIO card in the specified slot (x). An incorrect communications protocol might be in use.

Recommended action

Touch the **OK** button to print the transferred data (some data might be lost).

40.00.04 EIO <X> bad transmission To continue, touch "OK"

Description

The connection between the product and the USB device has been broken.

Recommended action

Touch the **OK** button to clear the error message and continue printing.

Remove, and then reinstall the USB device.

40.00.05 Embedded I/O bad transmission To continue, touch "OK"

Description

The USB device has been removed.

Recommended action

Touch the **OK** button to clear the error message. (Data will be lost.)

Install the USB device.

41.02.00 Error

Description

A beam detected misprint error.

Recommended action

Turn the product off, and then on.

If the error persists, replace the laser/scanner assembly.

41.03.YZ Unexpected size in envelope feeder To use another tray, touch "Options"

Description

The product detected a different paper size than expected.

- Y = 0
Size mismatch. Detected media is longer or shorter than expected.
- Y = A
Size mismatch. Detected media too long.
- Y = B
Size mismatch. Detected media too short.
- Y = C
Size mismatch. Inter-page gap error.
- Z = D
Source is duplexer
- Z = E
Source is envelope feeder
- Z = 2
Source is Tray 2
- Z = 3
Source is Tray 3
- Z = 4

Source is Tray 4

- Z = 5

Source is Tray 5

Recommended action

Make sure that the feeder is loaded with the correct paper size and that the sliding paper guides are correctly adjusted.

Use the Tray/Bin manual sensor test to verify that the envelope feeder paper sensor (PS1802) is correctly functioning.

If the error persists, replace the envelope feeder.

41.03.YZ Unexpected size in tray <X>

Description

The product detected a different paper size than expected.

- Y = 0

Size mismatch. Detected media is longer or shorter than expected.

- Y = A

Size mismatch. Detected media too long.

- Y = B

Size mismatch. Detected media too short.

- Y = C

Size mismatch. Inter-page gap error.

- Z = D

Source is duplexer

- Z = E

Source is envelope feeder

- Z = 1

Source is Tray 1

- Z = 2

Source is Tray 2

- Z = 3

Source is Tray 3

- Z = 4

Source is Tray 4

- Z = 5

Source is Tray 5

Recommended action

Make sure that the tray is loaded with the correct paper size and that the sliding paper guides are correctly adjusted.

Use the Tray/Bin manual sensor test to verify that the cassette media switch is correctly functioning.

If the error persists, replace the lifter assembly.

41.05.YZ Unexpected type in tray <X>

Description

The product detected a different paper type than expected.

- Y = 0 (expected type)

Unknown

- Y = 1 (expected type)

Normal media

- Y = 3 (expected type)

LBP OHT

- Y = 6 (expected type)

Non-assured OHT

- Y = 7 (expected type)

Heavy media

- Y = 8 (expected type)

Light media

- Y = 9 (expected type)

Rough media

- Y = C (expected type)

Heavy media 3

- Y = D (expected type)

Heavy media 2

- Z = 1 (detected type)
Normal media
- Z = 3 (detected type)
LBP OHT
- Z = 6 (detected type)
Non-assured OHT
- Z = 7 (detected type)
Heavy media
- Z = 8 (detected type)
Light media
- Z = 9 (detected type)
Rough media
- Z = B (detected type)
Heavy glossy media (glossy media 2)
- Z = C (detected type)
Heavy media 3
- Z = D (detected type)
Heavy media 2

Recommended action

Load the tray with the size and type of paper indicated, or use another tray if available.

If this message appears and the tray is loaded with the correct paper type, check the print driver settings to make sure they match the tray type settings.

Clean the Media Sensor.

If the error persists, replace the paper pickup assembly.

41.XX.YZ Error To continue, touch “OK”

Description

A product error has occurred.

- XX = error type
- Y = fuser mode
- Z = input tray
- XX = 02
Beam detect misprint
- XX = 09
Sub thermistor abnormally high
- XX = 18
Scan line inclination adjustment
- XX = 20
Image drum HV
- Y = 2
Normal typed (not AutoSense)
- Y = 3)
Light media 1, 2, 3: typed or AutoSense
- Y = 4
Heavy media 1: typed or AutoSense
- Z = 0
Envelope feeder
- Z = 1
Tray 1
- Z = 2
Tray 2
- Z = 3
Tray 3
- Z = 4
Tray 4

- Z = 5
Tray 5
- Z = 6
Tray 6
- Z = D
Duplexer

Recommended action

Turn the product off, and then on.

If the error persists, replace the DC controller PCA.

42.XX.YY

Description

Internal system failure

Recommended action

Turn the product off, then on, and retry.

If the error persists, clear the firmware image from the active partition by using the [Partial Clean](#) item in the [Preboot](#) menu.

47.00.XX

Description

Back channel internal error

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.01.XX

Description

Image transformer internal error

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.02.XX

Description

Job parser internal error

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.03.XX

Description

Print job internal error

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.04.XX

Description

Print spooler 9100 internal error

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.05.00

Description

Print spooler framework internal error

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.06.XX

Description

Print App internal error

Recommended action

Turn the product off, and then on again. Resend the print job.

If the error persists, execute the [Partial Clean](#) item in the [Preboot](#) menu.

47.WX.YZ Printer Calibration Failed To continue, touch “OK”

Description

The device is unable to access or implement one of the image patterns files.

Y = calibration type, Z = event

- **47.FC.20** (event code)
Error Diffusion Image not found at system initialization
- **47.FC.21** (event code)
Error Diffusion Store image failure
- **47.FC.22** (event code)
Error Diffusion Image not found
- **47.FC.23**
Error Diffusion Print engine execution failure
- **47.FC.300** (event code)
Drum Speed Adjustment Image not found at system initialization
- **47.FC.31** (event code)
Drum Speed Adjustment Store image failure
- **47.FC.32** (event code)
Drum Speed Adjustment Image not found
- **47.FC.33** (event code)
Drum Speed Adjustment Print engine execution failure
- **47.FC.40** (event code)
Pulse Width Modulation Image not found at system initialization
- **47.FC.41** (event code)
Pulse Width Modulation Store image failure
- **47.FC.42** (event code)
Pulse Width Modulation Image not found
- **47.FC.43** (event code)

Pulse Width Modulation Print engine execution failure

Recommended action

Turn the product off, and then on.

If the error persists, reload the firmware.

49.XX.YY To continue turn off then on

Description

A firmware error has occurred.

Recommended action

1. Turn the product off, and then on.
2. If the error returns, check the following:
 - The error might be caused by a network connectivity problem.
 - Damaged interface cable
 - Damaged USB port
 - Invalid network configuration setting
 - The error might be caused by the print job.
 - Invalid printer driver
 - Problem with the software application
 - Problem with the file
3. If the error persists, perform a firmware upgrade.

50.WX.YZ Fuser error To continue turn off then on

Description

The fuser has experienced an error.

W = fuser error code, X = fuser mode, Y = previous printer sleep state, Z = next printer sleep state

Recommended action

W = 1 or W = 2

Low fuser temperature 1 or fuser warm-up failure

1. Reinstall the fuser. Check the connector (J128) between the fuser and the product. If it is damaged, replace the fuser.
2. W = 1: Reconnect the connector (J82) on the DC controller PCA.

-or-

W = 2: Reconnect the connectors (J53, J54 and J82) on the DC controller PCA.

3. Replace the fuser.
4. W = 2: Reconnect the connector (J62) on the low-voltage power supply PCA.
5. If the error persists, replace the low-voltage power supply.

W = 3

High fuser temperature 1

1. Reinstall the fuser. Check the connector (J128) between the fuser and the product. If it is damaged, replace the fuser.
2. Reconnect the connector (J82) on the DC controller PCA.
3. Replace the fuser.
4. If the error persists, replace the low-voltage power supply.

W = 4

Drive circuit fault

1. Check the power source. Make sure the power source meets product requirements.



NOTE: If the power source does not meet the power frequency requirement of 40 to 70Hz, the fuser temperature control does not work properly and causes this error.

2. Reconnect the connector (J53) on the DC controller PCA.
3. If the error persists, replace the low-voltage power supply.

W = 7

Fuser pressure-release mechanism failure

1. Reinstall the fuser. Check the connector (J128) between the fuser and the product. If it is damaged, replace the fuser.
2. Check the fuser pressure-release sensor flag. If it is damaged, replace the fuser.
3. Reconnect the connector (J221) of the fuser motor and the connector (J89) on the DC controller PCA.

4. Use the fuser motor (M299) drive test in the component test to verify that the fuser motor is properly functioning. If it is not, replace the fuser motor.
5. Replace the fuser.

W = 8

Low fuser temperature 2

1. Reinstall the fuser. Check the connector (J128) between the fuser and the product. If it is damaged, replace the fuser.
2. Reconnect the connector (J54) on the DC controller PCA.
3. Replace the fuser.
4. Reconnect the connector (J62) on the low-voltage power supply PCA.
5. If the error persists, replace the low-voltage power supply.

W = 9

High fuser temperature 2

1. Reinstall the fuser. Check the connector (J128) between the fuser and the product. If it is damaged, replace the fuser.
2. Reconnect the connector (J54) on the DC controller PCA.
3. Replace the fuser.
4. Reconnect the connector (J62) on the low-voltage power supply PCA.
5. If the error persists, replace the low-voltage power supply.

51.00.YY Error

Description

Laser/scanner error

- YY = 20

Black laser/scanner error

Recommended action

1. Reconnect connector (J145) on the laser/scanner.
2. Reconnect connectors (J86 and J93) on the DC controller.
3. If the error persists, replace the laser/scanner.

52.XX.00 Error To continue turn off then on

Description

Laser/scanner error

- XX = 00
laser/scanner motor startup error
- XX = 20
Laser/scanner rotation error

Recommended action

1. Reconnect connector (J145) on the laser/scanner.
2. Reconnect connectors (J86 and J93) on the DC controller.
3. Use the scanner motor (M108) drive test in the component test to verify that the scanner motor is properly functioning. If it is not, replace the laser/scanner.



NOTE: Listen for a high pitched whine from the motor.

4. If the error persists, replace the laser/scanner.

54.XX.YY Error

Description

A sensor error has occurred.

Recommended action

54.00.03

Environmental sensor (TH3) failure

1. Turn the product off, and then on.
2. If the environment sensor has been removed or replaced, check the connector (J199) on the environment sensor and the connector (J42) on the DC controller PCA.
3. If the error persists, replace the environment sensor assembly.

54.06.21

Primary laser/scanner beam detect abnormality

1. Turn the product off, and then on.
2. If the product has had parts removed or replace, check the connector (J86) on the DC controller PCA.
3. If the error persists, replace the laser/scanner assembly.

55.00.YY DC controller error To continue turn off then on

Description

DC controller PCA error

- **55.00.01** (event code)
DC controller memory error
- **55.00.03** (event code)
DC controller no engine response
- **55.00.04** (event code)
DC controller communications timeout

Recommended action

Turn the product off, and then on.

If the error persists, replace the DC controller PCA.

55.0X.YY DC controller error To continue turn off then on

Description

DC controller PCA error

- **55.01.06** (event code)
NVRAM memory data error warning
- **55.02.06** (event code)
NVRAM memory access error warning

Recommended action

Turn the product off, and then on.

If the error persists, replace the DC controller PCA.

56.00.YY Error To continue turn off then on

Description

Optional paper trays communication error

Recommended action

Turn the product off, and then on.

If the error persists, reseal the optional paper trays (1 x 500-sheet feeder and/or 3 x 500-sheet feeder).

Check the input connectors for damage. If a connector is damaged, replace the connector.

57.00.0Y Error To continue turn off then on

Description

Fan error

Recommended action

57.00.01

Main fan (FM101) failure

1. Turn the product off, and then on. Listen for fan noise at the back corner of the product. If no noise is heard, replace the power supply fan (FM101).
2. If this part has been removed or replace, check the connector (J95) on the DC controller PCA and the connector (J64) on the low-voltage power supply assembly.
3. If the error persists, replace the main fan (FN101).

57.00.02

Laser/scanner fan (FN102) failure

1. If this part has been removed or replace, check the connector (J75) on the DC controller PCA.
2. If the error persists, replace the laser/scanner fan (FN102).

57.00.03

Cartridge fan (FM301) failure

1. If this part has been removed or replace, check the connector (J95) on the DC controller PCA.
2. Check the connector (J66) on the engine power supply PCA.
3. If the error persists, replace the cartridge fan (FM301).

57.00.04

Cartridge front-side fan (FM103) failure

1. Turn the product off, and then on. Listen for fan noise at the middle back of the product. If no noise is heard, replace the cartridge front-side fan (FM103).
2. If this part has been removed or replace, check the connector (J79) on the DC controller PCA.
3. If the error persists, replace the cartridge front-side fan (FM103).

57.00.05

Switchback fan (FM105) failure

1. Turn the product off, and then on. Listen for fan noise at the front-left side of the product. If no noise is heard, replace the switchback fan (FM105).
2. If this part has been removed or replace, check the connector (J43) on the DC controller PCA.

3. Reconnect the intermediate connector (J1423) on the switchback fan.
4. If the error persists, replace the switchback fan (FM105).

57.00.06

Low-voltage power supply fan (FM104) failure

1. Turn the product off, and then on. Listen for fan noise at the middle back of the product. If no noise is heard, replace the LVPS fan (FM104).
2. If this part has been removed or replace, check the connector (J42) on the DC controller PCA.
3. Check the connector (J198) on the low-voltage power supply fan.
4. If the error persists, replace the LVPS fan (FM104).

57.00.07

Duplex fan (FM107) failure

1. Turn the product off, and then on. Listen for fan noise at the left side of the product. If no noise is heard, replace the duplex fan (FM107).
2. If this part has been removed or replace, check the connector (J84) on the DC controller PCA.
3. If the error persists, replace the duplexer.

58.00.0Y Error To continue turn off then on

Description

A sensor error has occurred.

Recommended action

58.00.02

Environmental sensor (TH3) failure

1. Turn the product off.
2. If this part has been removed or replace, check the connector (J42) on the DC controller PCA.
3. Reconnect the intermediate connector (J199) on the environmental sensor.
4. If the error persists, replace the environmental sensor (TH3).

58.00.03

DC controller CPU failure

1. Turn the product off.
2. Check all of the connectors on the DC controller PCA.
3. If the error persists, replace the DC controller PCA.

58.00.04

LVPS failure

1. Turn the product off.
2. If this part has been removed or replace, check the connector (J4) on the LVPS, and then check the connector (J83) on the DC controller PCA.
3. If the error persists, replace the LVPS.

59.00.YY error To continue turn off then on

Description

A motor error has occurred.

- YY = 00

Paper path malfunction

Recommended action

59.00.00 or 59.00.10

Feed motor (M102) failure (start-up or rotational)

1. Reconnect the connector (J191) on the feed motor and the connector (J91) on the DC controller PCA.
2. Use the feed motor (M102) drive test in the Component test to verify that the motor is properly functioning. If is not, replace the feed motor (M102).

59.00.30 or 59.00.40

Fuser motor (M299) failure (start-up or rotational)

1. Reconnect the connector (J221) on the feed motor and the connector (J89) on the DC controller PCA.
2. Use the fuser motor (M299) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the fuser motor (M299).

59.0X.50 Error To continue turn off then on

Description

A motor startup error has occurred.

Recommended action

59.05.50

Drum motor (M102) error

1. If the product has been serviced, check the connector (J187) on the ITB motor and the connector (J87) on the DC controller PCA.
2. Use the drum motor (M102) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the drum motor.

59.0X.60 Error To continue turn off then on

Description

A motor rotational error has occurred.

Recommended action

50.06.60

Drum motor (M102) error

1. If the product has been serviced, check the connector (J187) on the ITB motor and the connector (J87) on the DC controller PCA.
2. Use the drum motor (M102) drive test in the Component test to verify that the motor is properly functioning. If it is not, replace the drum motor.

59.A2.0x Error

Description

A product error has occurred.

Recommended action

59.A2.02

Lifter driver assembly Tray 2 failure

1. Use the Tray/Bin manual sensor test to verify that the Tray 2 paper (PS107 and PS907) surface sensors are properly functioning.
2. If this part has been removed or replace, check the connector (J73 and J94) on the on the DC controller PCA.
3. If the error persists, replace the lifter drive assembly (Tray 2).

59.A2.03

Lifter driver assembly Tray 3 (1 x 500) failure

1. Use the Tray/Bin manual sensor test to verify that the Tray 3 paper (SR1 and SR2) surface sensors are properly functioning.
2. If this part has been removed or replace, check the connector (1606 and 1607) on the on the paper feeder controller PCA.
3. If the error persists, replace the lifter drive assembly (Tray 3).

59.A2.03

Lifter driver assembly Tray 3 (1 x 500 with cabinet) failure

1. Use the Tray/Bin manual sensor test to verify that the Tray 3 paper (SR1 and SR2) surface sensors are properly functioning.
2. If this part has been removed or replace, check the connector (1606 and 1607) on the on the sheet feeder controller PCA.
3. If the error persists, replace the lifter drive assembly (Tray 3).

59.A2.04

Lifter driver assembly Tray 4 (3 x 500 with stand) failure

1. Use the Tray/Bin manual sensor test to verify that the Tray 4 paper (SR5 and SR8) surface sensors are properly functioning.
2. If this part has been removed or replace, check the connector (1604 and 1605) on the on the sheet feeder controller PCA.
3. If the error persists, replace the lifter drive assembly (Tray 4).

59.A2.05

Lifter driver assembly Tray 5 (3 x 500 with stand) failure

1. Use the Tray/Bin manual sensor test to verify that the Tray 5 paper (SR9 and SR12) surface sensors are properly functioning.
2. If this part has been removed or replace, check the connector (1601 and 1602) on the on the sheet feeder controller PCA.
3. If the error persists, replace the lifter drive assembly (Tray 5).

60.00.0Y Tray <Y> lifting error

Description

A tray lift motor error has occurred.

Recommended action

60.00.02

Lifter driver assembly Tray 2 failure

1. Use the Tray/Bin manual sensor test to verify that the Tray 2 paper (PS107 and PS907) surface sensors are properly functioning.
2. If this part has been removed or replace, check the connector (J73 and J94) on the on the DC controller PCA.
3. If the error persists, replace the lifter drive assembly (Tray 2).

60.00.03

Lifter driver assembly Tray 3 failure

1. Use the Tray/Bin manual sensor test to verify that the Tray 3 paper (SR1 and SR2) surface sensors are properly functioning.
2. If this part has been removed or replace, check the connector (1606 and 1607) on the on the paper feeder controller PCA.
3. If the error persists, replace the lifter drive assembly (Tray 3).

62.00.00 No system To continue turn off then on

Description

Internal system failure

Recommended action

Turn the product off, and then on.

If the error persists, reload the firmware. If the error still persists, perform a firmware upgrade.

If the firmware upgrade does not resolve the problem, replace the hard disk.

65.X0.A1 Output accessory disconnected

Description

An external paper handling accessory connection has been interrupted.

Recommended action

1. Turn the product off.
2. Make sure that all packing materials have been removed from the paper handling accessory.
3. Check the paper path for obstructions, or jammed paper.
4. Check the accessory cable connection.
5. Turn the product on. If the error persists, replace the accessory.

66.80.YY Stapler/Stacker failure

Description

An external paper handling accessory error has occurred.

- **66.80.01** (event code)
Y-align malfunction
- **66.80.02** (event code)
Logger malfunction
- **66.80.03** (event code)
Stapler malfunction
- **66.80.21** (event code)
Lift up malfunction
- **66.80.22** (event code)
Lift down malfunction
- **66.80.23** (event code)
Lift sensor malfunction
- **66.80.33** (event code)
Output roller malfunction
- **66.80.35** (event code)
Self priming malfunction
- **66.80.51** (event code)
System error (FW error)
- **66.80.55** (event code)
System error 5 (FW error)
- **66.80.56** (event code)
System error 6 (FW error)
- **66.80.57** (event code)
System error 7 (FW error)
- **66.80.58** (event code)
System error 8 (FW error)
- **66.80.59** (event code)

- System error 9 (FW error)
- **66.80.60** (event code)
- System error 10 (inter-page delay mismatch)
- **66.80.61** (event code)
- System error 11 (lifter task trouble)
- **66.80.62** (event code)
- System error 12 (inter-page delay mismatch)
- **66.80.63** (event code)
- System error 13 (FW error)
- **66.80.64** (event code)
- System error 14 (FW error)
- **66.80.65** (event code)
- System error 15 (FW error)
- **66.80.70** (event code)
- Page-info in flush
- **66.80.71** (event code)
- Flush request in PDLV
- **66.80.72** (event code)
- Delivery notice error
- **66.80.73** (event code)
- Flush request in checking paper path
- **66.80.74** (event code)
- Checking paper path start in PDLV
- **66.80.75** (event code)
- Flush request in flush
- **66.80.76** (event code)
- Non-flush complete

Recommended action

Turn the product off, and then on.

If the error persists, replace the paper handling device.

69.11.YY Error To continue turn off then on

Description

Duplexer error

Recommended action

Turn the product off, and then on.

If the error persists, replace the duplexer.

70.00.00 Error To continue turn off then on

Description

DC controller failure

Recommended action

Turn the product off, and then on.

If the error persists, replace the DC controller.

79.XX.YY Error To continue turn off then on

Description

This error can be caused by corrupted print jobs, software application issues, non-product specific printer drivers, poor-quality USB or network cables, bad network connections or incorrect network configurations, invalid firmware operations, or unsupported accessories.

Recommended action

1. Turn the product off, and then on.
2. If the error persists, check the following:
 - The error might be caused by a network connectivity problem, such as a bad interface cable, a bad USB port, or an invalid network configuration setting.

Attempt to process a copy job from the document feeder. If the product operates correctly, the problem might be a interface cable/port or network configuration setting.
 - The error might be caused by the print job, an invalid print driver, a problem with the software application, or a problem with the file you are printing.

Make sure you are using the correct printer driver. Try printing using a different software application. Try printing a different file or print job.
 - Upgrading the product firmware might resolve the problem.

80.0X.YY Embedded JetDirect error

Description

Embedded HP JetDirect print server critical error

- **80.01.80** (event code)
No heartbeat
- **80.01.81** (event code)
Reclaim timeout
- **80.01.82** (event code)
Invalid data length
- **80.01.8B** (event code)
Invalid max outstanding packet header field
- **80.01.8C** (event code)
Invalid channel mapping response
- **80.03.01** (event code)
No PGP buffers
- **80.03.02** (event code)
Channel table full
- **80.03.03** (event code)
Producer index not reset
- **80.03.04** (event code)
Consumer index not reset
- **80.03.05** (event code)
Queue position size too small
- **80.03.06** (event code)
Transport overflow
- **80.03.07** (event code)
No overflow packets
- **80.03.08** (event code)
Invalid identify response
- **80.03.09** (event code)

Invalid channel map return status

- **80.03.10** (event code)

Invalid reclaim return status

- **80.03.12** (event code)

Datagram invalid buffer

- **80.03.13** (event code)

Max stream channels

- **80.03.14** (event code)

Max datagram channels

- **80.03.15** (event code)

Card reset failed

- **80.03.16** (event code)

Self test failure

- **80.03.17** (event code)

Unknown PGP packet

- **80.03.18** (event code)

Duplicate I/O channel.

Recommended action

Turn the product off, and then on.

If the error persists, replace the formatter.

81.YY.ZZ EIO-1 Card Failure

Description

An EIO error has occurred.

- **81.01.80** (event code)

No heartbeat

- **81.01.81** (event code)

Reclaim timeout

- **81.01.82** (event code)

Invalid data length

- **81.01.8B** (event code)

- Invalid max outstanding
- **81.01.8C** (event code)
- Invalid channel mapping
- **81.03.01** (event code)
- No PGP buffers
- **81.03.02** (event code)
- Channel table full
- **81.03.03** (event code)
- Producer index not reset
- **81.03.04** (event code)
- Consumer index not reset
- **81.03.05** (event code)
- Queue position size
- **81.03.06** (event code)
- Transport overflow
- **81.03.07** (event code)
- No overflow packets
- **81.03.08** (event code)
- Invalid identify response
- **81.03.09** (event code)
- Invalid channel map return
- **81.03.10** (event code)
- Invalid reclaim return status
- **81.03.12** (event code)
- Datagram invalid buffer
- **81.03.13** (event code)
- Max stream channels
- **81.03.14** (event code)
- Max datagram channels
- **81.03.15** (event code)

Card reset failed

- **81.03.16** (event code)

Self test failure

- **81.03.17** (event code)

Unknown PGP packet

- **81.03.18** (event code)

Duplicate I/O channel

Recommended action

Turn the product off, and then on.

If the error persists, replace the EIO device..

82.73.46 OR 82.73.47

Description

A hard disk or compact flash disk cleaning failed. Usually caused by a failure of the disk hardware.

Recommended action

1. Turn the product off, and then on.
2. Use the [Clean Disk](#) item in the [Preboot](#) menu.
3. Reload the firmware.

98.00.01 Corrupt data in firmware volume

Description

Data corruption has occurred in the firmware volume

Recommended action

Turn the product off, and then on.

Use the [Clean Disk](#) item in the [Preboot](#) menu.

Reload the firmware.

98.00.02 Corrupt data in solutions volume

Description

Data corruption has occurred in the solutions volume

Recommended action

Turn the product off, and then on.

Use the [Clean Disk](#) item in the [Preboot](#) menu.

Reload the firmware.

98.00.03 Corrupt data in configuration volume

Description

Data corruption has occurred in the configuration volume

Recommended action

Turn the product off, and then on.

Use the [Clean Disk](#) item in the [Preboot](#) menu.

Reload the firmware.

98.00.04 Corrupt data in job data volume

Description

Data corruption has occurred in the job data volume

Recommended action

Turn the product off, and then on.

Rerun the file erase function.

99.00.01 Upgrade not performed file is corrupt

Description

A remote firmware upgrade (RFU) was not performed.

CRC error in the firmware image (bad image).

Recommended action

Download the RFU file and attempt the upgrade again.

99.00.02 Upgrade not performed timeout during receive

Description

A remote firmware upgrade (RFU) was not performed.

I/O timeout when reading header number and size. Indicates a problem with the network environment, not the device.

Recommended action

The most common cause is an issue with the network environment. Make sure that there is a good connection to the device and attempt the upgrade again, or upgrade using the USB walk-up port.

99.00.03 Upgrade not performed error writing to disk

Description

A remote firmware upgrade (RFU) was not performed.

Disk error. May indicate a problem or a hard disk failure. It might be necessary to check the connection to the hard disk or replace the hard disk.

Recommended action

1. Download the RFU file and attempt the upgrade again.
2. If the error persists, perform the [Clean Disk](#) process. You will then need to download firmware from the [Preboot](#) menu.
3. If the error persists, replace the hard disk.

99.00.04 Upgrade not performed timeout during receive

Description

A remote firmware upgrade (RFU) was not performed.

I/O timeout when reading rest of header.

Recommended action

The most common cause is an issue with the network environment. Make sure that there is a good connection to the device and attempt the upgrade again, or upgrade using the USB walk-up port.

99.00.05 Upgrade not performed timeout during receive

Description

A remote firmware upgrade (RFU) was not performed.

I/O timeout when reading image data.

Recommended action

The most common cause is an issue with the network environment. Make sure that there is a good connection to the device and attempt the upgrade again, or upgrade using the USB walk-up port.

99.00.06 Upgrade not performed error reading upgrade

Description

A remote firmware upgrade (RFU) was not performed.

Unexpected read error when reading header number and size.

Recommended action

1. Download the RFU file and attempt the upgrade again.
2. If the error persists, replace the hard disk.

99.00.07 Upgrade not performed error reading upgrade**Description**

A remote firmware upgrade (RFU) was not performed.

Unexpected read error when reading rest of header.

Recommended action

1. Download the RFU file and attempt the upgrade again.
2. If the error persists, replace the hard disk.

99.00.08 Upgrade not performed error reading upgrade**Description**

A remote firmware upgrade (RFU) was not performed.

Unexpected read error when reading image data.

Recommended action

1. Download the RFU file and attempt the upgrade again.
2. If the error persists, replace the hard disk.

99.00.09 Upgrade canceled by user**Description**

A remote firmware upgrade (RFU) was not performed.

The RFU was canceled by the user.

Recommended action

Resend the RFU.

99.00.10 Upgrade canceled by user**Description**

A remote firmware upgrade (RFU) was not performed.

Job canceled when reading header number and size.

Recommended action

Resend the RFU.

99.00.11 Upgrade canceled by user**Description**

A remote firmware upgrade (RFU) was not performed.

Job canceled when reading rest of header.

Recommended action

Resend the RFU.

99.00.12 Upgrade not performed the file is invalid**Description**

A remote firmware upgrade (RFU) was not performed.

Header number is 1 but header size doesn't match version 1 size.

Recommended action

Download the RFU file again. Make sure that you download the file for the correct product model.
Resend the RFU.

99.00.13 Upgrade not performed the file is invalid**Description**

A remote firmware upgrade (RFU) was not performed.

Header number is 2 but header size doesn't match version 2 size.

Recommended action

Download the RFU file again. Make sure that you download the file for the correct product model.
Resend the RFU.

99.00.14 Upgrade not performed the file is invalid**Description**

A remote firmware upgrade (RFU) was not performed.

The file is invalid.

Recommended action

Download the RFU file again. Make sure that you download the file for the correct product model.
Resend the RFU.

99.00.2X

Description

- **99.00.20** (event log)
The bundle is not for this product
- **99.00.21** (event log)
The bundle is not signed with the correct signature, or the signature is invalid
- **99.00.22** (event log)
The bundle header version is not supported by this firmware
- **99.00.23** (event log)
The package header version is not supported by this firmware
- **99.00.24** (event log)
The format of the bundle is invalid
- **99.00.25** (event log)
The format of the package is invalid
- **99.00.26** (event log)
A CRC32 check did not pass
- **99.00.27** (event log)
An I/O error occurred while downloading the bundle

Recommended action

Download the correct firmware file from www.hp.com/support/ljm4555mfp, and then resend the firmware upgrade.

99.00.27 only: Turn the product off, and then on again. Resend the firmware upgrade. If the error persists, try the sending the upgrade by another method (USB or Embedded Web Server).

99.09.60 Unsupported disk

Description

Preboot menu error.

The hard disk currently installed is not recognized or supported by the product.

Recommended action

Install the correct hard disk for this product.

99.09.61 Unsupported disk

Description

[Preboot](#) menu error.

The installed disk is installed in a product configured for a encrypted hard disk.

Recommended action

Access the [Preboot](#) menu and then select [Lock Disk](#) to lock the disk.

99.09.62 Unknown disk

Description

[Preboot](#) menu error.

The installed disk was previously locked in another product.

Recommended action

Install a new disk or use the [Preboot](#) menu to unlock this disk. If the disk is to be reused in a different product, execute the [Clean Disk](#) procedure from the [Preboot](#) menu, then reload firmware and lock the disk.

99.09.63 Incorrect disk

Description

A new or blank disk has been installed in a device which previously had an encrypted disk.

Recommended action

Follow the procedure to load firmware on a new hard disk and then lock it to this product.

99.09.64 Disk malfunction

Description

A fatal hard disk failure has occurred.

Recommended action

Replace the hard disk drive.

99.09.65 Disk data error

Description

Disk data corruption has occurred.

Recommended action

Execute the [Clean Disk](#) procedure from the [Preboot](#) menu, and then resend the RFU.

99.09.66 No disk installed

Description

A disk drive is not installed in the product.

Recommended action


Install a compatible hard disk drive.

99.09.67 Disk is not bootable please download firmware

Description

The product has a non-secure disk (solid state disk) installed as the boot disk, and it has been replaced with a new service part. A new firmware image needs to be downloaded to the device.

Recommended action

1. Press any key to continue to the main [Preboot](#) menu.
2. Press the [Help](#) button  to see the help text for the error.
3. Select the Administrator menu.



NOTE: If there is a password assigned to the Administrator, a prompt to enter the password displays.

4. Select the Download item.
5. The user can now download a new firmware bundle to the product.

99.XX.YY

Description

Firmware installation error

Recommended action

Reload the firmware.

<binname> full Remove all paper from bin

Description

The specified output bin is full.

Recommended action

Empty the bin to continue printing.

<Supply> low OR Supplies low

Description

The product indicates when a supply level, or more than one supply, is low. Actual print cartridge life might vary. You do not need to replace the print cartridge at this time unless print quality is no longer acceptable.

When multiple supplies are low, more than one event code is recorded.

- **10.00.60** (event code)
Black print cartridge
- **10.23.60** (event code)
Fuser Kit

Recommended action

If print quality is no longer acceptable, replace the supply.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.



NOTE: When an HP supply has reached its approximated end of life, the HP Premium Protection Warranty ends.

<Supply> very low OR Supplies very low

Description

The product indicates when a supply level, or more than one supply, is very low. Actual print cartridge life might vary. You do not need to replace the print cartridge at this time unless print quality is no longer acceptable.

When multiple supplies are low, more than one event code is recorded.

- **10.00.70** (event code)
Black print cartridge
- **10.23.70** (event code)
Fuser Kit

Recommended action

If print quality is no longer acceptable, replace the supply.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.



NOTE: When an HP supply has reached its approximated end of life, the HP Premium Protection Warranty ends.

[File System] device failure To clear touch “OK”

Description

The specified device has failed.

Recommended action

Touch the [OK](#) button to clear the error.

[File System] file operation failure To clear touch “OK”

Description

A PJI file system command attempted to perform an illogical operation.

Recommended action

Touch the [OK](#) button to clear the error.

[File System] file system is full To clear touch “OK”

Description

A PJI file system command could not store something on the file system because the file system was full.

Recommended action

Touch the [OK](#) button to clear the error.

[File System] is not initialized

Description

This file-storage component must be initialized before use.

Recommended action

Use the HP Embedded Web Server or HP Web Jetadmin to initialize the file system.

[File System] is write protected

Description

The file system device is protected and no new files can be written to it.

Recommended action

Touch the [OK](#) button to clear the error.

Accept bad signature

Description

The product is performing a remote firmware upgrade, and the code signature is invalid.

Recommended action

Download the correct firmware upgrade file for this product, and then reinstall the upgrade. See the product user guide for more information.

ADF not detected**Description**

The ADF was not detected when the product initialized.

Recommended action

Make sure that the document feeder cables are connected and fully seated.

Bad optional tray connection**Description**

The optional tray is not connected, not connected correctly, or a connection is not working correctly.

Recommended action

1. Turn the product off.
2. Remove and then reinstall the optional tray.
3. Reconnect connectors for the tray.
4. If the problem continues, replace the connector for the tray.

Calibration reset pending**Description**

A calibration reset occurs when all jobs are processed.

Recommended action

To begin the reset sooner, cancel all jobs by pressing the [Stop](#) button ☒.

Canceling**Description**

The product is canceling the current job.

Recommended action

No action is necessary.

Canceling... <jobname>

Description

The product is canceling the current job <jobname>.

Recommended action

No action is necessary.

Cartridge Low

Description

This message appears even though the print cartridge is new.

Recommended action

1. Remove, and then reinstall the print cartridge.
2. Make sure a genuine HP supply is used.
3. If the error persists, replace the print cartridge.

Cartridge Memory Abnormal

Description

This message appears even though the print cartridge is new.

Recommended action

1. Remove, and then reinstall the print cartridge.
2. Reconnect connector (J74) on the DC controller PCA.
3. If the error persists, replace the print cartridge.

Cartridge Out

Description

This message appears even though the print cartridge is new.

Recommended action

1. Remove, and then reinstall the print cartridge.
2. Make sure a genuine HP supply is used.
3. If the error persists, replace the print cartridge.

Checking engine

Description

The product is conducting an internal test.

Recommended action

No action is necessary.

Checking paper path

Description

The product is checking for possible paper jams.

Recommended action

No action is necessary.

Chosen personality not available To continue, touch "OK"

Description

A print job requested a product language (personality) that is not available for this product. The job will not print and will be cleared from memory.

Recommended action

Print the job by using a print driver for a different language, or add the requested language to the product (if possible). To see a list of available personalities, print a configuration page.

Cleaning do not grab paper

Description

The product is performing an automatic cleaning cycle. Printing will continue after the cleaning is complete.

Recommended action

No action is necessary.

Cleaning...

Description

The product is performing an automatic cleaning cycle. Printing will continue after the cleaning is complete.

Recommended action

No action is necessary.

Clearing event log

Description

This message is displayed while the event log is cleared. The product exits the menus when the event log has been cleared.

Recommended action

No action is necessary.

Clearing paper path

Description

The product is attempting to eject jammed paper.

Recommended action

Check progress at the bottom of the display.

Close lower right door

Description

The 3 x 500-sheet optional paper feeder right door is open.

Recommended action

Close the door.

Use the lower-right door switch (SW1) test in the Manual sensor test to verify that the switch is properly functioning. If the switch fails the test, replace the switch.

Check the sensor flag on the lower-right door assembly. If it is damaged, replace the door assembly.

Close right upper cover

Description

This message appears even though the right upper cover is closed.

Recommended action

1. Use the right upper cover switch (SW105) test in the Manual sensor test to verify that the switch is properly functioning. If the switch fails the test, replace the switch.
2. Reconnect the connector (J94) on the DC controller PCA.
3. If the problem persists, replace the right upper cover switch (SW105).

Close stapler/stacker multi bin mailbox door

Description

This message appears even though the stapler/stacker multi bin mailbox door is closed.

Recommended action

1. Reconnect the connector (J465) on the stapler/stacker controller PCA.
2. Check the stapler/stacker door sensor flag. If the flag is damaged, replace the sensor flag.

Close top cover

Description

This message appears even though the top cover is closed.

Recommended action

1. Use the cartridge door (top cover) switch (SW101) test in the Manual sensor test to verify that the switch is properly functioning. If the switch fails the test, replace the switch.
2. Reconnect the connector (J78) on the DC controller PCA.
3. If the problem persists, replace the cartridge door (top cover) switch (SW101).

Cooling device

Description

The product is cooling.

Recommended action

No action is necessary.

Creating cleaning page...

Description

A cleaning page is being generated.

Recommended action

No action is necessary.

Data received To print last page press "OK"

Description

The product is waiting for the command to print the last page.

Recommended action

Touch the **OK** button to print the last page of the job.

Document feeder pick error

Description

31.01.03 (event code)

A document feeder pick error occurred.

Recommended action

The document feeder rollers might be dirty or damaged. Clean or replace the rollers.

EIO <X> disk initializing

Description

The specified EIO disk device is initializing.

Recommended action

No action is necessary.

EIO <X> disk not functional

Description

The EIO disk in slot <X> is not correctly functioning.

- X = 1

Slot 1

Recommended action

Turn the product off, and then on.

If the error persists, turn the product off, and then remove and reinstall the disk.

EIO <X> disk spinning up

Description

EIO disk device in slot <X> is spinning up its platter. Jobs that require disk access must wait.

- X = 1

Slot 1

Recommended action

No action is necessary.

Event log is empty

Description

No product events are in the log.

Recommended action

No action is necessary.

Expected drive missing

Description

The product cannot find the encrypted hard drive.

Recommended action

Install the encrypted hard drive.

External device initializing

Description

An external device is initializing.

Recommended action

No action necessary.

Fax is disabled – ignoring call

Description

The product received a call, but the fax feature was not configured with the required settings (country/region, date/time, company name, fax number, etc.)

Recommended action

Use the [Administration](#) menu to configure the required fax settings.

FIM Load Error Send full FIM on <X> port

Description

The product displays this message before the firmware is loaded at startup if an error has occurred during a firmware upgrade.

Recommended action

Resend the firmware upgrade.

Flatbed cover open

Description

The scanner cover has been opened to access the glass.

Recommended action

Close the scanner cover.

Fuser Kit low


Description

10.23.60 (event code)

The product indicates when a supply is low.

Recommended action

Replace the fuser.


 **NOTE:** After replacing the fuser, reset the fuser page counter by selecting [New Fuser Kit](#) in the [Reset Supplies](#) sub-menu.

Fuser Kit very low To continue, touch "OK"

Description


10.23.70 (event code)

The product indicates when a supply is very low.

 **NOTE:** After an HP supply has reached the very low threshold, the HP premium protection warranty for that supply has ended.

Recommended action

Replace the fuser.

 **NOTE:** After replacing the fuser, reset the fuser page counter by selecting [New Fuser Kit](#) in the [Reset Supplies](#) sub-menu.

Gateways failed

Description

Incorrect gateways configuration

Recommended action

Use the [EIO <X> Jetdirect Menu](#) to configure the [Default Gateway](#).

Gateways OK

Description

Gateways correctly configuration

Recommended action

No action necessary.

Genuine HP cartridge installed

Description

A new HP print cartridge has been installed. The message appears for about 6 seconds before the product returns to the **Ready** state.

Recommended action

No action necessary.

Genuine HP supply installed

Description

10.XX.40 (event code)

A new genuine HP print cartridge has been installed.

Recommended action

Touch the [Hide](#) button to remove this message.

HP Secure hard drive disabled

Description

The drive has been encrypted for another product.

Recommended action

Remove the drive or use the Embedded Web Server for more information.

Incompatible <Supply>

Description

The indicated supply <supply>is not compatible with this product.

- **10.00.35** (event code)

Black print cartridge

- Fuser kit

10.23.35 (event code)

Recommended action

Replace the supply with one that is designed for this product.

Incompatible supplies**Description**

Print cartridges or other supply items are installed that were not designed for this product. The product cannot print with these supplies installed.

Event codes are supply specific.

Recommended action

Touch the **OK** button to identify the incompatible supplies.

Replace the supplies with those that are designed for this product.

Initializing...**Description**

The product is starting.

Recommended action

No action necessary.

Install fuser unit**Description**

The fuser has been removed or installed incorrectly.

Recommended action

CAUTION: The fuser can be hot while the product is in use. Turn the product off, and then wait for the fuser to cool before handling it.

1. Remove the output bin or stapler/stacker.
2. Remove the fuser entrance guide.
3. Remove the fuser.

Install supplies**Description**

More than one supply is missing or is installed incorrectly.

Recommended action

Touch the **OK** button to identify the supplies that need to be replaced.

Touch the **OK** button a second time for more information about the specific supply.

Insert the supply or make sure it is correctly installed and fully seated.

Install supply

Description

A supply item is either not installed or installed incorrectly.

- Black cartridge

10.00.15 (event code)

Recommended action

Install the supply item or make sure that the installed supply item is fully seated.

Internal disk device failure To clear touch “OK”

Description

The internal disk failed.

Recommended action

Touch the **OK** button to clear the error.

Internal disk file operation failed

Description

A P/L system command attempted to perform an illogical operation, such as downloading a file to a non-existent directory.

Recommended action

Touch the **OK** button to clear the error.

Internal disk file system is full

Description

A P/L system command attempted to write data to the internal disk but was unsuccessful because the disk is full.

Recommended action

Touch the **OK** button to clear the error.

Internal disk is write protected

Description

The internal disk is write protected and no new files can be written to it.

Recommended action

Touch the **OK** button to clear the error.

Internal disk not found**Description**

The internal disk was not found at start up.

Recommended action

Turn the product off, and then on again.

Internal disk not functional**Description**

82.0X.YY (event code)

The internal hard drive is not correctly functioning.

Recommended action

Turn the product off, remove and then reinstall the hard drive.

If the error persists, replace the internal hard drive.

Internal disk not initialized**Description**

The internal disk file system must be initialized before it can be used.

Recommended action

Initialize the internal disk file system.

Internal disk spinning up**Description**

Internal disk device is spinning up its platter. Jobs that require disk access must wait.

Recommended action

No action is necessary.

Jam in document feeder**Description**

31.01.02 (event code)

A document feeder jam has occurred.

Recommended action

Clear the jam. See the clear jams section in the service manual.

Job not stapled due to mixed sizes**Description**

This message is displayed when the job to staple has more than one paper size (paper width).

Recommended action

Paper with different widths cannot be stapled. Use the same width paper for the entire print job.

Load Tray <X>: [Type], [Size]**Description**

This message appears even though there is media loaded in the tray.

Recommended action

Use the cassette media present sensor test in the Tray/bin manual sensor test to verify that the sensor is correctly functioning.

Make sure that the sensor flag on the media presence sensor is not damaged and moves freely.

Reconnect the corresponding connector:

- MP tray: connector (J191) on the MP tray media feed sensor and the connector (J91) on the DC controller PCA.
- Printer cassette: connectors (J22) on the cassette media feed sensor and the connector (J1605) on the DC controller PCA.
- 1 X 500-sheet paper feeder cassette: connector (J32) on the paper feeder cassette media feed sensor and the connector (J1602) on the paper feeder controller PCA.
- Paper deck cassette 1: connector (J32) on the paper deck cassette 1 media feed sensor and connector (J1602) on the paper deck controller PCA 1
- Paper deck cassette 2: connector (J13) on the paper deck cassette 2 media feed sensor and connector (J1607) on the paper deck controller PCA 2.
- Paper deck cassette 3: connector (J13) on the paper deck cassette 3 media feed sensor and connector (J607) on the paper deck controller PCA 3.

Load Tray <X>: [Type], [Size] To use another tray, press "OK"**Description**

This message appears when the indicated tray is selected but is not loaded, and other paper trays are available for use. It also appears when the tray is configured for a different paper type or size than the print job requires.

Recommended action

Load the correct paper in the tray.

If prompted, confirm the size and type of paper loaded.

Otherwise, press the **OK** button to select another tray.

Loading program <XX>**Description**

Programs and fonts can be stored on the product's file system and are loaded into RAM when the product is turned on. The number <XX> specifies a sequence number indicating the current program being loaded.

Recommended action

No action necessary.



NOTE: Do not turn the product off.

Manually feed output stack Then touch "OK" to print second side**Description**

The product has printed the first side of a manual duplex job and is waiting for the user to insert the output stack to print the second side.

Recommended action

1. Maintaining the same orientation, remove pages from the output bin.
2. Flip document printed side up.
3. Load document in Tray 1.
4. Touch the **OK** button to print the second side of the job.

Manually feed: <Type><Size>**Description**

This message appears when manual feed is selected, Tray 1 is not loaded, and other trays are empty.

Recommended action

Load tray with requested paper.

If paper is already in tray, press the **Help** button to exit the message and then press the **OK** button to print.

To use another tray, clear paper from Tray 1, press the **Help** button to exit the message and then press the **OK** button.

Manually feed: <Type><Size> To use another tray, press "OK"

Description

This message appears when manual feed is selected, Tray 1 is loaded, and other trays are available.

Recommended action

Load tray with requested paper.

If paper is already in tray, press the [Help](#) button to exit the message and then press the [OK](#) button to print.

To use another tray, clear paper from Tray 1, press the [Help](#) button to exit the message and then press the [OK](#) button.

Moving solenoid

Description

The solenoid is moving as part of a component test.

Recommended action

To exit press ⊗

Moving solenoid and motor

Description

The solenoid and a motor are moving as part of a component test.

Recommended action

To exit press ⊗

No job to cancel

Description

You have pressed the stop button but the product is not actively processing any jobs.

Recommended action

No action necessary.

NON HP SUPPLY INSTALLED

Description

10.99.31 (event code)

This message is displayed for about 6 seconds when a new non HP supply is installed.

Recommended action

If you believe you purchased a genuine HP supply, go to www.hp.com/go/anticounterfeit.

Output Bin Full

Description

This message appears even though the output bin is not full.

Recommended action

1. Make sure that the output bin sensor flag is not damaged and can move freely. If the flag is damaged, replace the flag.
2. Use the output bin full sensor (PS104) test in the Manual sensor test to test the sensor. If it does not respond, replace the output bin full sensor (PS104).
3. Reconnect connector (J76) on the DC controller PCA.

Paused...

Description

The product is paused, and there are no error messages pending at the display. The I/O continues receiving data until memory is full.

Recommended action

Press the **Stop** button ⊗.

Performing Paper Path Test...

Description

A paper-path test is being performed.

Recommended action

No action necessary.

Please Wait...

Description

The product is in the process of clearing data.

Recommended action

No action necessary.

Printing Configuration...

Description

The product is printing the Configuration page.

Recommended action

No action necessary.

Printing Event Log...

Description

The product is printing the Event Log page.

Recommended action

No action necessary.

Printing File Directory...

Description

The product is printing the File Directory pages.

Recommended action

No action necessary.

Printing Font List...

Description

The product is printing the Font List pages.

Recommended action

No action necessary.

Printing Fuser Test Page...

Description

The product is printing the Fuser Test page.

Recommended action

No action necessary.

Printing Help Page...

Description

The product is printing the Help page.

Recommended action

No action necessary.

Printing Menu Map...**Description**

The product is printing the Menu Map pages.

Recommended action

No action necessary.

Printing Registration Page...**Description**

The product is printing the Registration pages.

Recommended action

No action necessary.

Printing stopped**Description**

Time has expired on the Print/Stop test.

Recommended action

Touch the **OK** button to continue.

Printing Supplies Status Page...**Description**

The product is printing the Supplies Status page.

Recommended action

No action necessary.

Printing Usage Page...**Description**

The product is printing the Usage page.

Recommended action

No action necessary.

Printing...engine test

Description

The product is printing an engine test page.

Recommended action

No action necessary.

Processing duplex job Do not grab paper until job completes

Description

Paper temporarily comes into the output bin while printing a duplex job.

CAUTION: Do not grab paper as it temporarily comes into the output bin. The message disappears when the job is finished.

Recommended action

No action necessary.

Processing job from tray <X>... Do not grab paper until job completes

Description

The product is actively processing a job from the designated tray.

Recommended action

No action necessary.

Processing...

Description

The product is currently processing a job but is not yet picking pages. When paper motion begins, this message is replaced by a message that indicates the tray the job is using.

Recommended action

No action necessary.

Processing... copy <X> of <Y>

Description

The product is currently processing or printing collated copies. The message indicates that copy number <X> of total copies <Y> is currently being processed.

Recommended action

No action necessary.

RAM disk device failure To clear touch "OK"

Description

The specified device failed.

Recommended action

Touch the OK button to remove the message.

RAM disk file operation failed To clear touch "OK"

Description

A PjL command was received that attempted to perform an illegal operation, such as downloading a file to a non-existent directory.

Recommended action

Touch the OK button to clear the error.

RAM disk file system is full To clear touch "OK"

Description

The hard disk is full.

Recommended action

Touch the OK button to clear the error.

RAM disk is write protected To clear touch "OK"

Description

The device is protected and no new files can be written to it.

Recommended action

Touch the OK button to clear the error.

RAM disk not initialized

Description

The RAM disk file system must be initialized before it can be used.

Recommended action

Initialize the RAM disk file system.

Ready

Description

The product is online and ready for data. No status or product attendance messages are pending at the display.

Recommended action

No action necessary.

Ready <IP Address>

Description

The product is online and ready for data. No status or product attendance messages are pending at the display. The product IP address displays.

Recommended action

No action necessary.

Reattach output bin

Description

This message is displayed when the standard output bin is detached at start up or the optional stapler/stacker does not have the Jetlink cable attached at start up.

Recommended action

Touch the [Hide](#) button to remove this message.

Receiving Upgrade

Description

The product is receiving a firmware upgrade.

Recommended action

Do not turn the product off until it reaches the **Ready** state.

Remove one print cartridge

Description

The product is testing the print-cartridge motor.

Recommended action

To perform the test, remove the print cartridge. To cancel the test, press the [Stop](#) button ⊗.

To exit press ⊗

Remove USB accessory

Description

This message displays when an unsupported USB device is inserted into a host USB port on the product.

Recommended action

Remove the unsupported USB device.

Replace <Supply>

Description

This alert appears only if the product is configured to stop when a supply reaches the very low threshold. The product indicates when a supply level is at its estimated end of life. The actual life remaining might be different than estimated.

The supply does not need to be replaced now unless the print quality is no longer acceptable.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.

The product can be configured to stop when the supply level is very low. The supply might still be able to produce acceptable print quality.



NOTE: When an HP supply has reached its approximated end of life, the HP Premium Protection Warranty on that supply ends.

- **10.00.70** (event code)

Black print cartridge

- **10.23.70** (event code)

Fuser Kit

Recommended action

Replace the specified supply.

Or, configure the product to continue printing by using the [Manage Supplies](#) menu.

Replace supplies

Description

This alert appears only if the product is configured to stop when a supply reaches the very low threshold. The product indicates when a supply level is at its estimated end of life. The actual life remaining might be different than estimated.

The supply does not need to be replaced now unless the print quality is no longer acceptable.

HP recommends that the customer have a replacement supply available to install when print quality is no longer acceptable.



NOTE: When an HP supply has reached its approximated end of life, the HP Premium Protection Warranty on that supply ends.

Recorded event codes depend on which supplies are at the end of life.

- **10.00.70** (event code)
Black print cartridge
- **10.23.70** (event code)
Fuser Kit

Recommended action

Touch the [OK](#) button to find out which supplies need to be replaced.

Or, configure the product to continue printing by using the [Manage Supplies](#) menu.

Resend external accessory firmware

Description

An external accessory requires a firmware upgrade. Printing can continue, but jams might occur if the job uses the external accessory.

Recommended action

Perform a firmware upgrade.

Resend Upgrade

Description

A firmware upgrade did not complete successfully.

Recommended action

Upgrade the firmware again.

Restore Factory Settings

Description

The product is restoring factory settings.

Recommended action

No action necessary.

ROM disk device failed To clear touch “OK”

Description

The specified device failed.

Recommended action

Touch the **OK** button to clear the error.

ROM disk file operation failed To clear touch “OK”**Description**

A PjL command was received that attempted to perform an illegal operation, such as downloading a file to a non-existent directory.

Recommended action

Touch the **OK** button to clear the error.

ROM disk file system is full To clear touch “OK”**Description**

The hard disk is full.

Recommended action

Touch the **OK** button to clear the error.

ROM disk is write protected To clear touch “OK”**Description**

The device is protected and no new files can be written to it.

Recommended action

Touch the **OK** button to clear the error.

ROM disk not initialized To clear touch “OK”**Description**

The ROM disk file system must be initialized before it can be used.

Recommended action

Initialize the ROM disk file system.

Rotating Motor**Description**

The product is executing a component test and the component selected is a motor.

Recommended action

Press the **Stop** button (⊗) when ready to stop this test.

To exit press ⊗

Scanner Failure

Description

- **30.01.06** or **30.01.08** (event code)
Scanner fan error
- **30.01.10** (event code)
Scanner ADF fan error
- **30.01.14** (event code)
SCB EEPROM error
- **30.01.15** (event code)
Scanner internal error
- **30.01.18** (event code)
Scanner CCD error
- **30.01.19** (event code)
Scanner lamp error
- **30.01.41** (event code)
CPB general error
- **30.01.42** (event code)
Scanner cable disconnected
- **30.01.44** (event code)
SCB communication error
- **30.01.45** (event code)
CPB assertion failure
- **30.01.46** (event code)
Formatter can not find ONYX ASIC
- **30.01.48** (event code)
Scanner power is not connected
- **30.01.49** (event code)
Scanner inverter fan error
- **30.01.50** (event code)

Scanner flash read/write problem

- **31.01.10** (event code)

ADF fan error

Recommended action

- **30.01.06** or **30.01.08** (event code)

Turn the product off, and then on.

- **30.01.10** (event code)

Turn the product off, and then on.

- **30.01.14** (event code)

Turn the product off, and then on. If the error persist, replace the SCB.

- **30.01.15** (event code)

Turn the product off, and then on.

- **30.01.18** (event code)

Turn the product off, and then on.

- **30.01.19** (event code)

Turn the product off, and then on. If the error persists, replace the lamp.

- **30.01.41** (event code)

Turn the product off, and then on.

- **30.01.42** (event code)

Turn the product off, and then on. If the error persists, check the cables.

- **30.01.44** (event code)

Turn the product off, and then on. If the error persists, check the SCB/CPB connections.

- **30.01.45** (event code)

Turn the product off, and then on.

- **30.01.46** (event code)

Turn the product off, and then on.

- **30.01.48** (event code)

Turn the product off, and then on.

- **30.01.49** (event code)

Turn the product off, and then on.

- **30.01.50** (event code)
Turn the product off, and then on.
- **31.01.10** (event code)
Turn the product off, and then on.

Size Mis-Match

Description

This message appears even though the correct size paper is loaded in the correct paper tray.

Recommended action

1. Use the Tray 2 size switch (SW102) test in the Tray/Bin manual sensor test to test the switch. If it does not respond, replace the lifter drive assembly.
2. Reconnect connector (J122) on the Tray 2 media size switch, and then reconnect connector (J72) on the DC controller.
3. If the error persists, replace the lifter drive assembly.

Size mismatch in Tray <X>

Description

The paper in the listed tray does not match the size specified for that tray.

Recommended action

1. Load the correct paper.
2. Verify the paper is positioned correctly.
3. Close the tray, and then verify that the control panel lists the correct size and type for the specified tray.
4. If necessary, use the control-panel menus to reconfigure the size and type settings for the specified tray.

Sleep mode on

Description

The product is in sleep mode. Pressing a control-panel button, receiving of a print job, or an error condition clears this message.

Recommended action

No action necessary.

Staple Cartridge low

Description

The product indicates when a supply level is low. 20 to 50 staples remain in the cartridge.

Recommended action

Replace the staple cartridge.

Staple Cartridge very low

Description

The product staple cartridge is at end of life.



NOTE: After an HP supply has reached the very low threshold, the HP premium protection warranty ends.

Recommended action

Replace the staple cartridge.

Stapler/Stacker staple jam

Description

A stapler/stacker jam exists.

Recommended action

13.89.33

Clear the jam. See the clear jams section in the service manual.

Supplies low

Description

Multiple supplies on the product have reached the **User defined low** threshold.

Recommended action

Replace the supply when print quality is no longer acceptable.

SUPPLY MEMORY WARNING

Description

The product cannot read or write to the e-label or the e-label is missing.

Recommended action

No action necessary.

The unit has corrupt data

Description

98.00.0X (event code)

Data corruption has occurred in the firmware volume

- **98.00.01**
Corrupt data in the firmware volume
- **98.00.02**
Corrupt data in the solutions volume
- **98.00.03**
Corrupt data in the configuration volume
- **98.00.04**
Corrupt data in the job data volume

Recommended action

- **98.00.01** or **98.00.02** or **98.00.03**
 1. Turn the product off, and then on again.
 2. Use the [Clean Disk](#) item in the [Preboot](#) menu.
 3. Reload the firmware.
- **98.00.04**
 1. Turn the product off, and then on again.
 2. Run the file erase function.

Tray <X> empty: [Type], [Size]

Description

The specified tray is empty and the current job does not need this tray to print.

- X = 1
Tray 1
- X = 2
Tray 2
- X = 3
Tray 3

- X = 4
Tray 4
- X = 5
Tray 5

Recommended action

Refill the tray at a convenient time.



NOTE: This could be a false message. If the tray is loaded without removing the shipping lock, the product does not sense that the paper is loaded. Remove the shipping lock and then load the tray.

Tray <X> lifting

Description

The product is in the process of lifting paper in the indicated tray.

- X = 2
Tray 2
- X = 3
Tray 3
- X = 4
Tray 4
- X = 5
Tray 5

Recommended action

No action necessary.

Tray <X> open

Description

The specified tray is open or not closed completely.

- X = 2
Tray 2
- X = 3
Tray 3
- X = 4

Tray 4

- X = 5

Tray 5

Recommended action

Close the tray.



NOTE: If this message appears after lifter drive assembly was removed or replaced, make sure that the connector on the assembly is correctly connected and fully seated.

If the error persists, use the Media size switches (SW102, SW2 , SW3,) test in the Tray/Bin manual sensor test to test the switches. If they do not respond, replace associated the lifter drive assembly.

Tray <X> overfilled

Description

The tray is filled above the stack-height mark.

- X = 2

Tray 2

- X = 3

Tray 3

- X = 4

Tray 4

- X = 5

Tray 5

Recommended action

Remove enough paper so that the paper stack does not exceed the limit for the tray.



NOTE: If this message appears after lifter drive assembly was removed or replaced, make sure that the connector on the assembly is correctly connected and fully seated.

Type mismatch Tray

Description

The specified tray contains a paper type that does not match the configured type.

Recommended action

The specified tray will not be used until this condition is addressed. Printing can continue from other trays.

1. Load the correct paper in the specified tray.
2. At the control panel, verify the type configuration.

Unsupported drive installed To continue, touch "OK"**Description**

A non-supported hard drive has been installed. The drive is unusable by this product.

Recommended action

1. Turn the product off.
2. Remove the hard drive.
3. Turn the product on.

Unsupported supply in use OR Unsupported supply installed To continue, touch "OK"**Description**

A non-supported supply has been installed.

OR

The print cartridge is for a different HP product.

- XX = 00

Black print cartridge

Recommended action

Install the correct supplies for this product. See the parts chapter in the service manual for supply part numbers.

Unsupported tray configuration**Description**

The product has too many optional trays installed.

Recommended action

Turn the product off, remove the unsupported trays, and then turn the product on.

Unsupported USB accessory detected Remove USB accessory

Description

A non-supported USB accessory has been installed.

Recommended action

Turn the product off, remove the USB accessory, and then turn the product on.

Upgrade Error

Description

30.01.36 (event code)

SCB upgrade error

Recommended action

1. Turn the product off, and then on.
2. Resend the upgrade.
3. If the error persists, replace the SCB.

USB accessory not functional

Description

A parameter in the USB accessory is not correctly functioning.

Recommended action

1. Turn the product off.
2. Remove the USB accessory.
3. Insert a replacement USB accessory.

USB hubs are not fully supported Some operations may not work properly

Description

Some USB hubs require more power than the product has available.

Recommended action

Remove the USB hub.

USB is write protected To clear touch "OK"

Description

The device is protected and no new files can be written to it.

Recommended action

Touch the [OK](#) button to clear the error.

USB needs too much power**Description**

Power requirements for the USB device attached to the product are beyond supported limits.

Recommended action

Remove the USB device and then turn the product off and then on again. Try a similar accessory that has its own power supply or requires less power.

USB needs too much power Remove USB and Then Turn Off then On**Description**

A USB accessory is drawing too much electrical current. Printing cannot continue.

Recommended action

Turn the product off, remove the USB accessory, and then turn the product on.

Use a USB accessory that uses less power or that contains its own power supply.

USB not initialized**Description**

The USB device file system must be initialized before it can be used.

Recommended action

Use the EWS or HP Web Jetadmin to initialize the component.

USB storage accessory removed Clearing any associated data**Description**

This message displays for about 6 seconds after a USB device is removed.

Recommended action

Touch the [Hide](#) button to remove this message.

USB storage device failure To clear touch "OK"**Description**

The specified device failed.

Recommended action

Touch the **OK** button to clear this error.

USB storage file operation failed To clear touch “OK”**Description**

A P/L file system command was received that attempted to perform an illegal operation, such as downloading a file to a non-existent directory.

Recommended action

Touch the **OK** button to clear this error.

USB storage file system is full To clear touch “OK”**Description**

The file system on the installed USB device is full.

Recommended action

Touch the **OK** button to clear this error.

Used supply installed To continue, touch “OK” OR Used supply in use**Description**

One of the print cartridges has been previously used.

- XX = 00

Black print cartridge

Recommended action

If you believe you purchased a genuine HP supply, go to www.hp.com/go/anticounterfeit.

Waiting for tray <X> to lift**Description**

The specified tray is in the process of lifting paper to the top of the tray (so it can properly feed).

Recommended action

No action necessary

Windows Login Required to Use this Feature**Description**

Windows login required.

Recommended action

Enter your windows login.

XX.YY.ZZ Scanner Failure

Description

- **30.07.01** (event code)
Scanner PCA backup memory data error
- **30.07.02** (event code)
Scanner PCA memory read/write error
- **30.07.03** (event code)
Scanner main data transfer error
- **30.07.04** (event code)
ADF control boards data transfer error
- **30.07.06** (event code)
Shading correction data transfer error
- **30.07.07** (event code)
Scanner carriage motor error
- **30.07.08** (event code)
Scanner lamp broken CCD failure
- **30.07.09** (event code)
Scanner AGC out of range
- **30.07.11** (event code)
CPB scanner transmit communication error
- **30.07.17** (event code)
Scanner detected a command overrun
- **30.07.19** (event code)
Scanner response timeout
- **30.07.20** (event code)
CPB scanner receive communication error
- **30.07.25** (event code)

Scanner initialization error

- **30.07.26** (event code)

CPB firmware fault

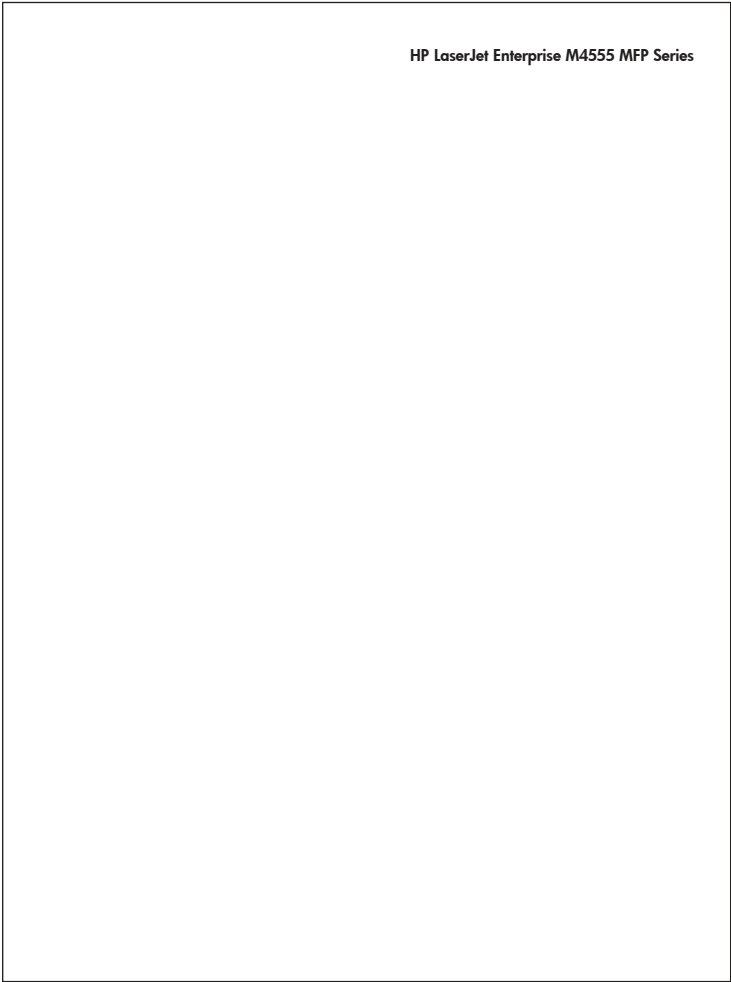
Recommended action

Turn the product off, and then on

Event-log messages

This section describes how to print, view, or clear the messages that only appear in the event log. See the control-panel message section of this manual for a description of these messages.

Figure 3-66 Sample event log



1	Product information
2	Event number
3	Date and time
4	Engine cycles
5	Event log code
6	Firmware version number
7	Description of personality
8	Consecutive Repeats

Print an event log



NOTE: Printing an event log by using the [Administration](#) menu shows only a subset of events. To print a complete event log, use the [Service](#) menu.

Print the event log from the Administration menu

1. From the Home screen, open the following menus:
 - [Administration](#)
 - [Troubleshooting](#)
2. Use the **Down** arrow button ▼ to select the [Event Log](#) item, and then touch the [OK](#) button.
3. Select the [Print](#) item.

Print the event log from the Service menu

1. From the Home screen, open the following menus:
 - [Device Maintenance](#)
 - [Service](#)

The PIN required for the [Service](#) menu is 04455511.
2. Use the **Down** arrow button ▼ to select the [Event Log](#) item, and then press the [OK](#) button.
3. Select the [Print](#) item.

View an event log




NOTE: Viewing an event log by using the [Administration](#) menu shows only a subset of events. To print a complete event log, use the [Service](#) menu.

View an event log from the Administration menu

1. From the Home screen, open the following menus:
 - [Administration](#)
 - [Troubleshooting](#)
2. Use the **Down** arrow button ▼ to select the [Event Log](#) item, and then touch the [OK](#) button.
3. Select the [View](#) item.

Viewing the event log from the Service menu

1. Press the **Home** button .
2. From the Home screen, open the following menus:
 - **Device Maintenance**
 - **Service**

The PIN required for the **Service** menu is 04455511.
3. Use the **Down** arrow button ▼ to select the **Event Log** item, and then touch the **OK** button.
4. Select the **View** item.

Clear an event log

1. From the Home screen, open the following menus:
 - **Device Maintenance**
 - **Service**

The PIN required for the **Service** menu is 04455511.
2. Use the **Down** arrow button ▼ to select the **Clear Event Log** item, and then touch the **OK** button.

Clear jams

Common causes of jams

Follow these guidelines to prevent paper from jamming in the product:

- Use only paper that meets HP specifications.
- Store paper in the original packaging in a controlled environment.
- Use paper that has not been previously printed on or copied and that is free from cuts, nicks, tears, or wrinkles.
- Make sure the tray is loaded correctly, the paper guides are aligned against the stack of paper, and that the paper stack does not exceed the stack height mark in the tray.
- Remove the paper, flex it, rotate it 180°, or flip it over. Reload the paper into the input tray.
- Wait until pages completely settle in the output bin before removing them.
- If you are using perforated or embossed paper, feed single sheets from Tray 1.

For information about sensor locations, see [Block diagrams on page 405](#).

Common causes of jams (no pick 1)

Table 3-44 Common causes of jams in cassette 1 of the input accessory

Cause	Action
The paper feeder pickup roller, paper feeder separation roller or paper feeder feed roller is dirty, worn or deformed.	Clean any dirty roller. Replace any worn or deformed roller. Replace the paper feeder separation roller and paper feeder feed roller together.
The paper deck cassette 1 pickup roller, paper deck cassette 1 separation roller or paper deck cassette 1 feed roller is dirty, worn or deformed.	Clean any dirty roller. Replace any worn or deformed roller. Replace the paper deck cassette 1 separation roller and paper deck cassette 1 feed roller together.
Poor contact of the paper feeder cassette media-feed sensor connectors.	Reconnect the intermediate connector (J13) of the paper feeder cassette media feed sensor and the connector (J1607) on the paper feeder controller PCA.
The paper feeder cassette media-feed sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the paper feeder cassette media feed sensor is functioning properly. If it is not, replace the paper feeder cassette pickup assembly.
Poor contact of the paper deck cassette 1 media feed sensor connectors.	Reconnect the intermediate connector (J13) of the paper deck cassette 1 media feed sensor and the connector (J1607) on the paper deck controller PCA.
The paper deck cassette 1 media feed sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the paper deck cassette 1 media feed sensor is functioning properly. If it is not, replace the paper deck cassette 1 pickup assembly.

Table 3-44 Common causes of jams in cassette 1 of the input accessory (continued)

Cause	Action
Poor contact of the paper feeder cassette pickup solenoid connector.	Reconnect the intermediate connector (J18) of the paper feeder cassette pickup solenoid and the connector (J1607) on the paper feeder controller PCA.
The paper feeder cassette pickup solenoid is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the paper feeder cassette pickup solenoid is functioning properly. If it is not, replace the paper feeder cassette pickup assembly.
Poor contact of the paper deck cassette 1 pickup solenoid connector.	Reconnect the intermediate connector (J18) of the paper deck cassette 1 pickup solenoid and the connector (J1607) on the paper deck controller PCA.
The paper deck cassette 1 pickup solenoid is defective.	Use the Components tests to verify that the paper deck cassette 1 pickup solenoid is functioning properly. If it is not, replace the paper deck cassette 1 pickup assembly.

Table 3-45 Common causes of jams in cassette 2 of the input accessory

Cause	Action
The paper deck cassette 2 pickup roller, paper deck cassette 2 separation roller or paper deck cassette 2 feed roller is dirty, worn or deformed,	Clean any dirty roller. Replace any worn or deformed roller. Replace the paper deck cassette 2 separation roller and paper deck cassette 2 feed roller together.
Poor contact of the paper deck cassette 2 media feed sensor connectors.	Reconnect the intermediate connector (J22) of the paper deck cassette 2 media feed sensor and the connector (J1605) on the paper deck controller PCA.
The paper deck cassette 2 media feed sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the paper deck cassette 2 media feed sensor is functioning properly. If it is not, replace the paper deck cassette 2 pickup assembly.
Poor contact of the paper deck cassette 2 pickup solenoid connector.	Reconnect the intermediate connector (J20) of the paper deck cassette 2 pickup solenoid and the connector (J1605) on the paper deck controller PCA.
The paper deck cassette 2 pickup solenoid is defective.	Use the Components tests to verify that the paper deck cassette 2 pickup solenoid is functioning properly. If it is not, replace the paper deck cassette 2 pickup assembly.

Table 3-46 Common causes of jams in cassette 3 of the input accessory

Cause	Action
The paper deck cassette 3 pickup roller, paper deck cassette 3 separation roller or paper deck cassette 3 feed roller is dirty, worn or deformed,	Clean any dirty roller. Replace any worn or deformed roller. Replace the paper deck cassette 3 separation roller and paper deck cassette 3 feed roller together.
Poor contact of the paper deck cassette 3 media feed sensor connectors.	Reconnect the intermediate connector (J32) of the paper deck cassette 3 media feed sensor and the connector (J1602) on the paper deck controller PCA.

Table 3-46 Common causes of jams in cassette 3 of the input accessory (continued)

Cause	Action
The paper deck cassette 3 media feed sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the paper deck cassette 3 media feed sensor is functioning properly. If it is not, replace the paper deck cassette 3 pickup assembly.
Poor contact of the paper deck cassette 3 pickup solenoid connector.	Reconnect the intermediate connector (J30) of the paper deck cassette 3 pickup solenoid and the connector (J1602) on the paper deck controller PCA
The paper deck cassette 3 pickup solenoid is defective.	Use the Components tests to verify that the paper deck cassette 3 pickup solenoid is functioning properly. If it is not, replace the paper deck cassette 3 pickup assembly.

Common causes of jams (no pick 2)

Table 3-47 Common causes of jams in the product cassette

Cause	Action
The cassette pickup roller, cassette separation roller or cassette feed roller is dirty, worn or deformed.	Clean any dirty roller. Replace any worn or deformed roller. Replace the cassette separation roller and cassette feed roller together.
Poor contact of the pre-feed sensor connector.	Reconnect the connector (J94) on the DC controller PCA.
The pre-feed sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the pre-feed sensor is functioning properly. If it is not, replace the product.
Poor contact of the cassette pickup solenoid connector.	Reconnect the connector (J92) on the DC controller PCA.
The cassette pickup solenoid is defective.	Use the Components tests to verify that the cassette pickup solenoid is functioning properly. If it is not, replace the cassette pickup solenoid.
Poor contact of the feed motor connectors.	Reconnect the connector (J191) of the feed motor and the connector (J91) on the DC controller PCA.
The feed motor is defective.	Use the Components tests to verify that the feed motor is functioning properly. If it is not, replace the feed motor.

Table 3-48 Common causes of jams in cassette 2 or 3 of the input accessory

Cause	Action
Poor contact of the paper deck cassette 1 media feed sensor connectors.	Reconnect the intermediate connector (J13) of the paper deck cassette 1 media feed sensor and the connector (J1607) on the paper deck controller PCA.
The paper deck cassette 1 media feed sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the paper deck cassette 1 media feed sensor is functioning properly. If it is not, replace the paper deck cassette 1 pickup assembly.

Common causes of jams (no pick 3)

Table 3-49 Common causes of jams in the product cassette

Cause	Action
The pre-registration roller is dirty, worn or deformed.	Clean the pre-registration roller if dirty. Replace the roller if it is worn or deformed.
The registration assembly is defective.	Check the spring of the registration shutter and place it in correct position. Replace the registration assembly if the registration shutter is scarred or worn.
Poor contact of the TOP sensor connector.	Reconnect the connector (J94) on the DC controller PCA.
The TOP sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the TOP sensor is functioning properly. If it is not, replace the product.
Poor contact of the feed motor connectors.	Reconnect the connector (J191) of the feed motor and the connector (J91) on the DC controller PCA.
The feed motor is defective.	Use the Components tests to verify that the feed motor is functioning properly. If it is not, replace the feed motor.

Table 3-50 Common causes of jams in the input accessory

Cause	Action
Poor contact of the feed clutch connector.	Reconnect the connector (J77) on the DC controller PCA.
The feed clutch is defective.	Use the Components tests to verify that the feed clutch is functioning properly. If it is not, replace the feed clutch.
The pre-registration roller is dirty, worn or deformed.	Clean the pre-registration roller if dirty. Replace the roller if it is worn or deformed.
The registration assembly is defective.	Check the spring of the registration shutter and place it in correct position. Replace the registration assembly if the registration shutter is scarred or worn.
Poor contact of the TOP sensor connector.	Reconnect the connector (J94) on the DC controller PCA.
The TOP sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the TOP sensor is functioning properly. If it is not, replace the product.
Poor contact of the feed motor connectors.	Reconnect the connector (J191) of the feed motor and the connector (J91) on the DC controller PCA.
The feed motor is defective.	Use the Components tests to verify that the feed motor is functioning properly. If it is not, replace the feed motor.

Table 3-51 Common causes of jams in the MP tray (Tray 1)

Cause	Action
The MP tray pickup roller, MP tray separation roller or MP tray feed roller is dirty, worn or deformed.	Clean any dirty roller. Replace any worn or deformed roller. Replace the MP tray separation roller and MP tray feed roller together.
Poor contact of the MP tray pickup solenoid connector.	Reconnect the connector (J71) on the DC controller PCA.
The MP tray pickup solenoid is defective.	Use the Components tests to verify that the MP tray pickup solenoid is functioning properly. If it is not, replace the MP tray pickup solenoid.
The pre-registration roller is dirty, worn or deformed.	Clean the pre-registration roller if dirty. Replace the roller if it is worn or deformed.
The registration assembly is defective.	Check the spring of the registration shutter and place it in correct position. Replace the registration assembly if the registration shutter is scarred or worn.
Poor contact of the TOP sensor connectors.	Reconnect the connector (J94) on the DC controller PCA.
The TOP sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the TOP sensor is functioning properly. If it is not, replace the product.
Poor contact of the feed motor connectors.	Reconnect the connector (J191) of the feed motor and the connector (J91) on the DC controller PCA.
The feed motor is defective.	Use the Components tests to verify that the feed motor is functioning properly. If it is not, replace the feed motor.

Table 3-52 Common causes of no pick jams in the duplex assembly

Cause	Action
Poor contact of the duplex re-pickup motor connector.	Reconnect the connector (J84) on the DC controller PCA.
The duplex re-pickup motor is defective.	Use the Components tests to verify that the duplex repickup motor is functioning properly. If it is not, replace the duplex assembly.
The pre-registration roller is dirty, worn or deformed.	Clean the pre-registration roller if dirty. Replace the roller if it is worn or deformed.
The registration assembly is defective.	Check the spring of the registration shutter and place it in correct position. Replace the registration assembly if the registration shutter is scarred or worn.
Poor contact of the TOP sensor connector.	Reconnect the connector (J94) on the DC controller PCA.
The TOP sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the TOP sensor is functioning properly. If it is not, replace the product.
Poor contact of the feed motor connectors.	Reconnect the connector (J191) of the feed motor and the connector (J91) on the DC controller PCA.
The feed motor is defective.	Use the Components tests to verify that the feed motor is functioning properly. If it is not, replace the feed motor.

Table 3-53 Common causes of jams in the envelope feeder

Cuase	Action
The envelope feeder pickup roller is dirty, worn or deformed.	Clean any dirty roller. Replace any worn or deformed roller.
Poor contact of the envelope feeder pickup motor connectors.	Reconnect the connector (J1852) of the envelope feeder pickup motor and the connector (J1802) on the envelope feeder controller PCA.
The envelope feeder pickup motor is defective.	Replace the envelope feeder pickup motor.
The pre-registration roller is dirty, worn or deformed.	Clean the pre-registration roller if dirty. Replace the roller if it is worn or deformed.
The registration assembly is defective.	Check the spring of the registration shutter and place it in correct position. Replace the registration assembly if the registration shutter is scarred or worn.
Poor contact of the TOP sensor connector.	Reconnect the connector (J94) on the DC controller PCA.
The TOP sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the TOP sensor is functioning properly. If it is not, replace the product.
Poor contact of the feed motor connectors.	Reconnect the connector (J191) of the feed motor and the connector (J91) on the DC controller PCA.
The feed motor is defective.	Use the Components tests to verify that the feed motor is functioning properly. If it is not, replace the feed motor.

Duplex re-pickup jam 1

Table 3-54 Common causes of re-pick jams in the duplex assembly

Cause	Action
The fuser delivery roller is dirty, worn or deformed.	Clean the fuser delivery roller if dirty. Replace the fuser if the roller is worn or deformed.
The intermediate switchback roller is dirty, worn or deformed.	Clean the intermediate switchback roller if dirty. Replace the switchback assembly if the roller is worn or deformed.
Poor contact of the switchback roller disengagement solenoid connector.	Reconnect the connector (J41) on the DC controller PCA.
The switchback roller disengagement solenoid is defective.	Use the Components tests to verify that the switchback roller disengagement solenoid is functioning properly. If it is not, replace the switchback assembly.
Poor contact of the duplex re-pickup sensor connector.	Reconnect the connector (J84) on the DC controller PCA.
The duplex re-pickup sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the duplex re-pickup sensor is functioning properly. If it is not, replace the duplex assembly.
The duplex re-pickup roller is dirty, worn or deformed.	Clean the duplex re-pickup roller if dirty. Replace the duplex assembly if the roller is worn or deformed.
Poor contact of the fuser motor connectors.	Reconnect the connector (J221) of the fuser motor and the connector (J89) of the DC controller PCA.

Table 3-54 Common causes of re-pick jams in the duplex assembly (continued)

Cause	Action
The fuser motor is defective.	Use the Components tests to verify that the fuser motor is functioning properly. If it is not, replace the fuser motor.
Poor contact of the intermediate switchback motor connector.	Reconnect the connector (J40) on the DC controller PCA.
The intermediate switchback motor is defective.	Use the Components tests to verify that the intermediate switchback motor is functioning properly. If it is not, replace the switchback assembly.

Feed stay jam 1

Table 3-55 Common causes of jams with TOP sensor (PS103) detection

Cause	Action
Multiple-feed of the paper.	Replace the pickup roller or separation roller if worn or deformed.
The registration roller is worn or deformed.	Replace the registration roller if worn or deformed.
The transfer roller is correctly installed.	Make sure that the transfer roller is correctly installed (the bushings at both ends or the roller must be fully seated).
The transfer roller is worn or deformed.	Replace the transfer roller.
Poor contact of the drum motor connectors.	Reconnect the connector (J187) of the drum motor and the connector (J87) on the DC controller PCA.
The drum motor is defective.	Use the Components tests to verify that the drum motor is functioning properly. If it is not, replace the drum motor.

Table 3-56 Common causes of jams with media width sensors (PS106 or PS108) detection

Cause	Action
Poor contact of the media width sensor 1 or media width sensor 2 connector.	Reconnect the connector (J94) on the DC controller PCA.
The media width sensor 1 or media width sensor 2 is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the media width sensor 1 or media width sensor 2 is functioning properly. If it is not, replace the printer.

Fuser output delay jam 1

Table 3-57 Common causes of jams in fuser output (delay 1)

Cause	Action
Dirt or scratches on the fuser inlet guide.	Clean the fuser inlet guide if dirt, scratch or toner projection is on it.

Table 3-57 Common causes of jams in fuser output (delay 1) (continued)

Cause	Action
Poor contact of the fuser output sensor connectors.	Reinstall the fuser. Check the connector (J128) between the fuser and the printer. If it is damaged, replace the fuser.
The fuser output sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the fuser output sensor is functioning properly. If it is not, replace the fuser.
Poor contact of the drum motor connectors.	Reconnect the connector (J187) of the drum motor and the connector (J87) on the DC controller PCA.
The drum motor is defective.	Use the Components tests to verify that the drum motor is functioning properly. If it is not, replace the drum motor.
Poor contact of the fuser motor connectors.	Reconnect the connector (J221) of the fuser motor and the connector (J89) on the DC controller PCA.
The fuser motor is defective.	Use the Components tests to verify that the fuser motor is functioning properly. If it is not, replace the fuser motor.

Fuser output delay jam 2

Table 3-58 Common causes of jams in fuser output (delay 2)

Cause	Action
Dirt or scratches on the fuser output upper guide or the fuser output lower guide.	Clean the fuser output upper guide or fuser output lower guide if dirt or toner projection is on it. Replace the fuser if the guide is worn or deformed.
The fuser sleeve or the pressure roller is defective.	Process a pressure roller cleaning. Replace the fuser if the sleeve or roller is worn or deformed.
Dirt or scratches on the switchback upper guide.	Clean the switchback upper guide if dirt or toner projection is on it. Replace the switchback upper guide assembly if worn or deformed.
Dirt or scratches on the switchback lower guide.	Clean the switchback lower guide if dirt or toner projection is on it. Replace the switchback assembly if the guide is worn or deformed.
The intermediate switchback roller is dirty, worn or deformed.	Clean the intermediate switchback roller if dirty. Replace the switchback assembly if the roller is worn or deformed.
Poor contact of the switchback jam sensor connectors.	Reconnect the connector (J41) on the DC controller PCA.
The switchback jam sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the switchback jam sensor is functioning properly. If it is not, replace the switchback assembly.
Poor contact of the intermediate switchback motor connector.	Reconnect the connector (J40) on the DC controller PCA.
The intermediate switchback motor is defective.	Use the Components tests to verify that the intermediate switchback motor is functioning properly. If it is not, replace the switchback assembly.

Fuser output delay jam 3

Table 3-59 Common causes of jams in fuser output (delay 3; face-down)

Cause	Action
The switchback lower roller is dirty, worn or deformed.	Clean the switchback lower roller if dirty. Replace the switchback assembly if the roller is worn or deformed.
The switchback upper roller is dirty, worn or deformed.	Clean the switchback upper roller if dirty. Replace the switchback upper guide assembly if the roller is worn or deformed.
The intermediate feed roller is dirty, worn or deformed.	Clean the intermediate feed roller if dirty. Replace the switchback assembly if the roller is worn or deformed.
Poor contact of the delivery sensor connector.	Reconnect the connector (J41) on the DC controller PCA.
The delivery sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the delivery sensor is functioning properly. If it is not, replace the switchback assembly.
Poor contact of the switchback motor connector.	Reconnect the connector (J40) on the DC controller PCA.
The switchback motor is defective.	Use the Components tests to verify that the switchback motor is functioning properly. If it is not, replace the switchback assembly.
Poor contact of the delivery motor connector.	Reconnect the connector (J40) on the DC controller PCA.
The delivery motor is defective.	Use the Components tests to verify that the delivery motor is functioning properly. If it is not, replace the switchback assembly.

Table 3-60 Common causes of jams in fuser output (delay 3; face-up)

Cause	Action
Poor contact of the face-up solenoid connector.	Reconnect the connector (J41) on the DC controller PCA.
The face-up solenoid is defective.	Use the Components tests to verify that the face-up solenoid is functioning properly. If it is not, replace the switchback assembly.
Poor contact of the delivery sensor connector.	Reconnect the connector (J41) on the DC controller PCA.
The delivery sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the delivery sensor is functioning properly. If it is not, replace the switchback assembly.
Poor contact of the delivery motor connector.	Reconnect the connector (J40) on the DC controller PCA.
The delivery motor is defective.	Use the Components tests to verify that the delivery motor is functioning properly. If it is not, replace the switchback assembly.

Fuser output stay jam 1

Table 3-61 Common causes of jams in fuser output (stay 1)

Cause	Action
Dirt or scratches on the fuser output upper guide or the fuser output lower guide.	Clean the fuser output upper guide or fuser output lower guide if dirt or toner projection is on it. Replace the fuser if the guide is worn or deformed.
The fuser sleeve or the pressure roller is defective.	Process a pressure roller cleaning. Replace the fuser if the roller worn or deformed.
The fuser delivery roller is dirty, worn or deformed.	Clean the fuser delivery roller if dirty. Replace the fuser if the roller is worn or deformed.
Poor contact of the fuser motor connectors.	Reconnect the connector (J221) of the fuser motor and the connector (J89) on the DC controller PCA.
The fuser motor is defective.	Use the Components tests to verify that the fuser motor is functioning properly. If it is not, replace the fuser motor.

Fuser output stay jam 2

Table 3-62 Common causes of jams in fuser output (stay 2)

Cause	Action
Dirt or scratches on the switchback upper guide.	Clean the switchback upper guide if dirt or toner projection is on it. Replace the switchback upper guide assembly if the guide is worn or deformed.
Dirt or scratches on the switchback lower guide.	Clean the switchback lower guide if dirt or toner projection is on it. Replace the switchback assembly if the guide is worn or deformed.
The switchback lower roller is dirty, worn or deformed.	Clean the switchback lower roller if dirty. Replace the switchback assembly if the guide is worn or deformed.
The switchback upper roller is dirty, worn or deformed.	Clean the switchback upper roller if dirty. Replace the switchback upper guide assembly if the guide is worn or deformed.
Poor contact of the switchback jam sensor connector.	Reconnect the connector (J41) on the DC controller PCA.
The switchback jam sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the switchback jam sensor is functioning properly. If it is not, replace the switchback assembly.
Poor contact of the switchback motor connector.	Reconnect the connector (J40) on the DC controller PCA.
The switchback motor is defective.	Use the Components test to verify that the switchback motor is functioning properly. If it is not, replace the switchback assembly.

Fuser output stationary jam 3

Table 3-63 Common causes of jams in fuser output (stationary 3)

Cause	Action
The delivery roller is dirty, worn or deformed.	Clean the delivery roller if dirty. Replace the switchback assembly if the roller is worn or deformed.
Poor contact of the delivery sensor connector.	Reconnect the connector (J41) on the DC controller PCA.
The delivery sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the delivery sensor is functioning properly. If it is not, replace the switchback assembly.
Poor contact of the delivery motor connector.	Reconnect the connector (J40) on the DC controller PCA.
The delivery motor is defective.	Use the Components test to verify that the delivery motor is functioning properly. If it is not, replace the switchback assembly.

Fuser wrap jam 1

Table 3-64 Common causes of fuser jams (wrap)

Cause	Action
Dirt or scratches on the fuser output upper guide or the fuser output lower guide.	Clean the fuser output upper guide or fuser output lower guide if dirt or toner projection is on it. Replace the fuser if the guide is worn or deformed.
The fuser sleeve or the pressure roller is defective.	Process a pressure roller cleaning. Replace the fuser if the sleeve or roller is worn or deformed.

Residual paper jam 1 / Residual paper jam 2

Table 3-65 Common causes of residual paper jam

Cause	Action
Residual paper is in the product paper path.	Remove any residual paper.
Poor contact of the pre-feed sensor connector.	Reconnect the connector (J94) on the DC controller PCA.
The pre-feed sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the pre-feed sensor is functioning properly. If it is not, replace the product.
Poor contact of the TOP sensor connectors.	Reconnect the connector (J94) on the DC controller PCA.
The TOP sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the TOP sensor is functioning properly. If it is not, replace the product.
Poor contact of the media width sensor 1 or media width sensor 2 connector.	Reconnect the connector (J94) on the DC controller PCA.

Table 3-65 Common causes of residual paper jam (continued)

Cause	Action
The media width sensor 1 or media width sensor 2 is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the media width sensor 1 or media width sensor 2 is functioning properly. If it is not, replace the product.
Poor contact of the fuser output sensor connectors.	Reinstall the fuser. Check the connector (J128) between the fuser and the printer. If it is damaged, replace the fuser.
The fuser output sensor is defective.	Use the sensor test in the Manual sensor test or the Tray/Bin manual sensor tests to verify that the fuser output sensor is functioning properly. If it is not, replace the fuser.

Staple stacker multi-bin mailbox feed delay jam 1

Table 3-66 Common causes in the staple stacker multi-bin mailbox (delay 1)

Cause	Action
Poor contact of the staple stacker multi-bin mailbox media feed sensor 1 connector.	Reconnect the connector (J451) on the staple stacker multi-bin mailbox controller PCA.
The staple stacker multi-bin mailbox media feed sensor 1 is defective.	Replace the stage assembly.
Poor contact of the inlet solenoid drive connector.	Reconnect the connector (J462) on the staple stacker multi-bin mailbox controller PCA and the connector (J120) of the inlet solenoid.
The inlet solenoid is defective.	Replace the inlet solenoid.

Staple stacker multi-bin mailbox feed delay jam 2

Table 3-67 Common causes in the staple stacker multi-bin mailbox (delay 2)

Cause	Action
Poor contact of the staple stacker multi-bin mailbox media feed sensor 2 connector.	Reconnect the connector (J453) on the staple stacker multi-bin mailbox controller PCA.
The staple stacker multi-bin mailbox media feed sensor 2 is defective.	Replace the stage top assembly.
Poor contact of the inlet solenoid drive connector.	Reconnect the connector (J462) on the staple stacker multi-bin mailbox controller PCA and the connector (J120) of the inlet solenoid.
The inlet solenoid is defective.	Replace the inlet solenoid.

Staple stacker multi-bin mailbox feed stay jam 1

Table 3-68 Common causes in the staple stacker multi-bin mailbox (stay 1)

Cause	Action
The staple stacker multi-bin mailbox media feed sensor 1 lever is set incorrectly or damaged.	Check the sensor lever to make sure it is set correctly. If it is damaged, replace the stage assembly.
The spring of the staple stacker multi-bin mailbox media feed sensor 1 lever is unhooked.	Check the spring and place it in correct position.
Poor contact of the staple stacker multi-bin mailbox media feed sensor 1 connector.	Reconnect the connector (J451) on the staple stacker multi-bin mailbox controller PCA.
The staple stacker multi-bin mailbox media feed sensor 1 is defective.	Replace the stage assembly.
Poor contact of the staple stacker multi-bin mailbox feed motor drive connector.	Reconnect the connector (J461) on the staple stacker multi-bin mailbox controller PCA.
The staple stacker multi-bin mailbox feed motor is defective.	Replace the staple stacker multi-bin mailbox feed motor.

Staple stacker multi-bin mailbox feed stay jam 2

Table 3-69 Common causes in the staple stacker multi-bin mailbox (stay 2)

Cause	Action
The staple stacker multi-bin mailbox media feed sensor 2 lever is set incorrectly or damaged.	Check the sensor lever to make sure it is set correctly. If it is damaged, replace the stage top assembly.
The spring of the staple stacker multi-bin mailbox media feed sensor 2 lever is unhooked.	Check the spring and place it in correct position.
Poor contact of the staple stacker multi-bin mailbox media feed sensor 2 connector.	Reconnect the connector (J453) on the staple stacker multi-bin mailbox controller PCA.
The staple stacker multi-bin mailbox media feed sensor 2 is defective.	Replace the stage top assembly.
Poor contact of the staple stacker multi-bin mailbox feed motor drive connector.	Reconnect the connector (J461) on the staple stacker multi-bin mailbox controller PCA.
The staple stacker multi-bin mailbox feed motor is defective.	Replace the staple stacker multi-bin mailbox feed motor.

Staple stacker multi-bin mailbox feed stay jam 3

Table 3-70 Common causes in the staple stacker multi-bin mailbox (stay 3)

Cause	Action
The staple stacker multi-bin mailbox media feed sensor 3 lever is set incorrectly or damaged.	Check the sensor lever to make sure it is set correctly. If it is damaged, replace the stage assembly.
The spring of the staple stacker multi-bin mailbox media feed sensor 3 lever is unhooked.	Check the spring and place it in correct position.

Table 3-70 Common causes in the staple stacker multi-bin mailbox (stay 3) (continued)

Cause	Action
Poor contact of the staple stacker multi-bin mailbox media feed sensor 3 connector.	Reconnect the connector (J451) on the staple stacker multi-bin mailbox controller PCA.
The output bin 3 delivery sensor is defective.	Replace the stage assembly.


Staple stacker multi-bin mailbox residual paper jam

Table 3-71 Common causes of residual paper jams in the SSMBM

Cause	Action
Residual paper is in the staple stacker multi-bin mailbox.	Remove any residual paper.
The spring of the sensor lever detecting the staple stacker multi-bin mailbox residual paper jam is unhooked	Check the spring of the sensor lever to make sure it is set correctly.
Poor connector contact exists in the sensor detecting the staple stacker multi-bin mailbox residual paper jam.	Reconnect the following corresponding sensor connector on the staple stacker multi-bin mailbox controller PCA. <ul style="list-style-type: none"> • Output bin 3 delivery sensor: J451 • SSMBM media feed sensor 1: J451 • SSMBM media feed sensor 2: J453
The sensor detecting the staple stacker multi-bin mailbox residual paper jam is defective.	Replace the following corresponding part. <ul style="list-style-type: none"> • Output bin 3 delivery sensor: stage assembly • SSMBM media feed sensor 1: stage assembly • SSMBM media feed sensor 2: stage top assembly

Jam locations

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

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


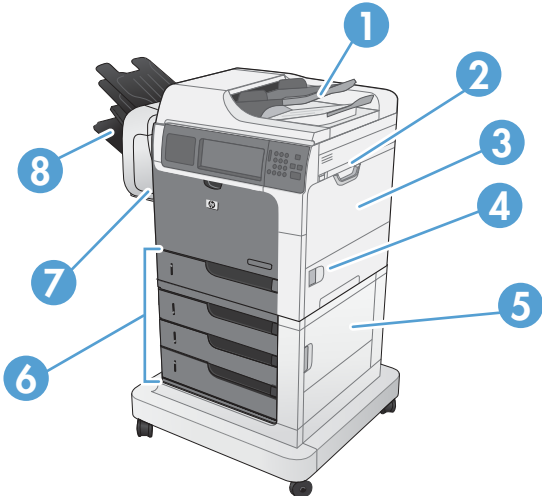
 **WARNING!** To avoid electrical shock, remove any necklaces, bracelets, or other metal items before reaching into the inside of the product.

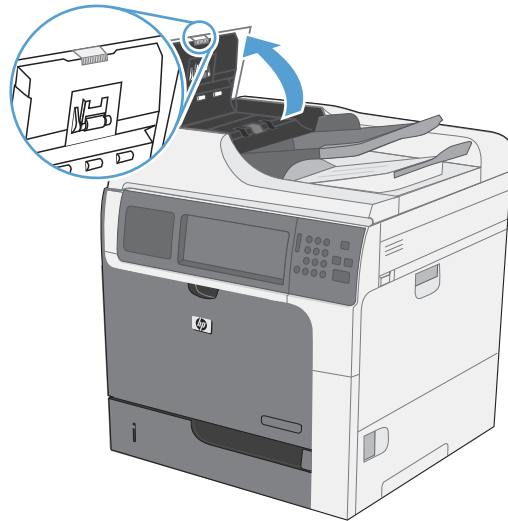
Figure 3-67 Jam locations



1	Document feeder
2	Top cover area
3	Tray 1 area
4	Right door
5	Lower-right door NOTE: For the 1 x 500-sheet feeder, use this door to access Tray 3. For the 3 x 500-sheet feeder, use this door to access Tray 3,4, and 5.
6	Tray 2, and optional Trays 3, 4, and 5
7	Stapler (for models with a stapler/stacker)
8	Output bins (for models with a stapler/stacker)

Clear jams in the document feeder

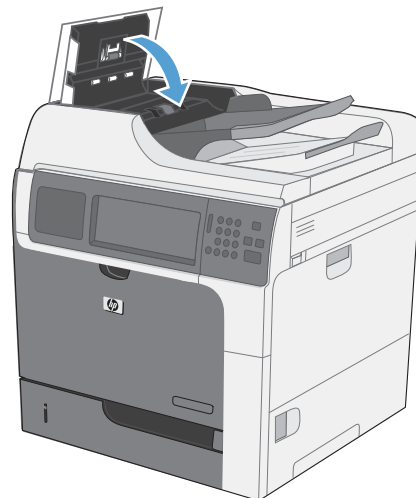
1. Open the document feeder cover.



2. Lift the jam-access door, and remove any jammed paper.

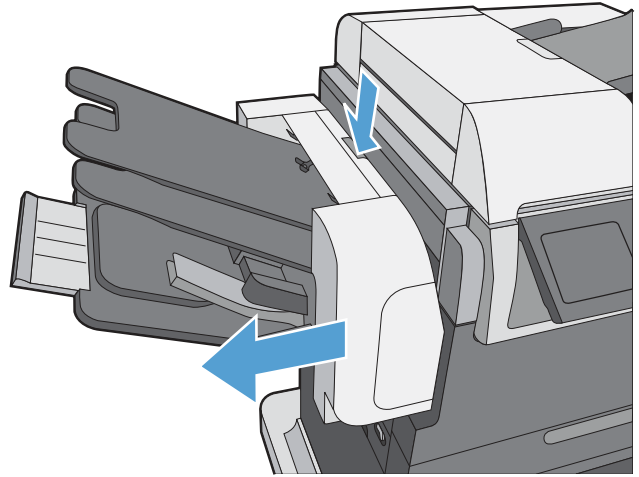


3. Close the document feeder cover.

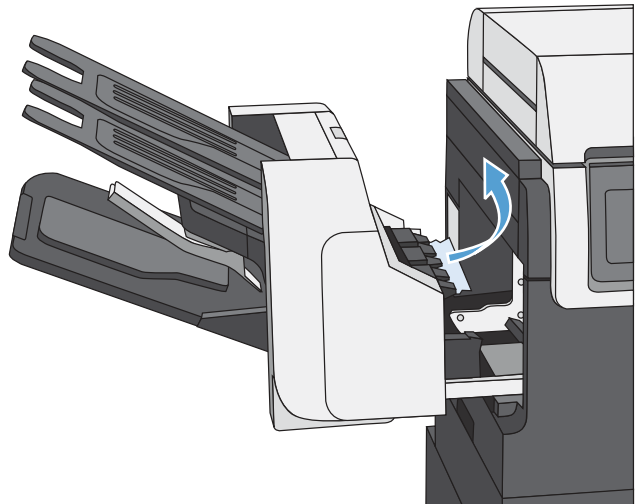


Clear paper jams in the stapler (for models with a stapler/stacker)

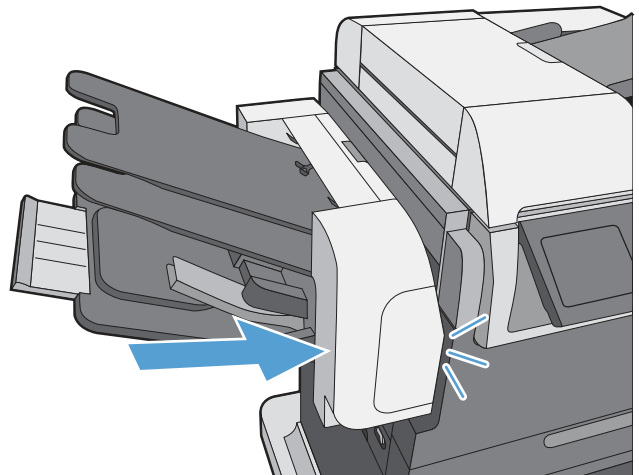
1. Turn the product off. Press the release latch, and then slide the stapler/stacker away from the product.



2. If jammed paper is visible, pull it straight out.

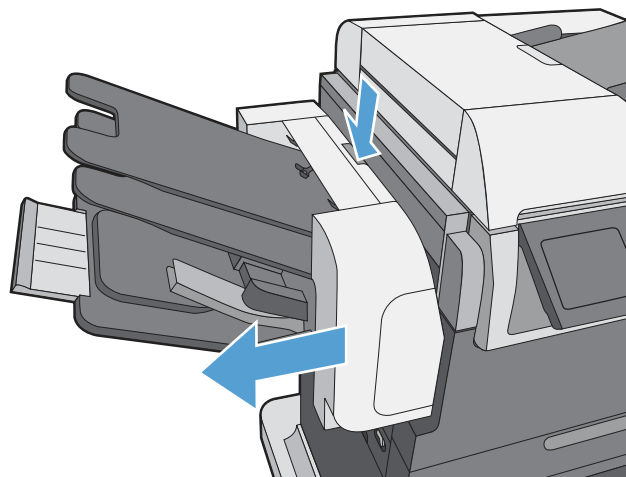


3. Slide the stapler/stacker toward the product until it latches in place. Turn the product on.

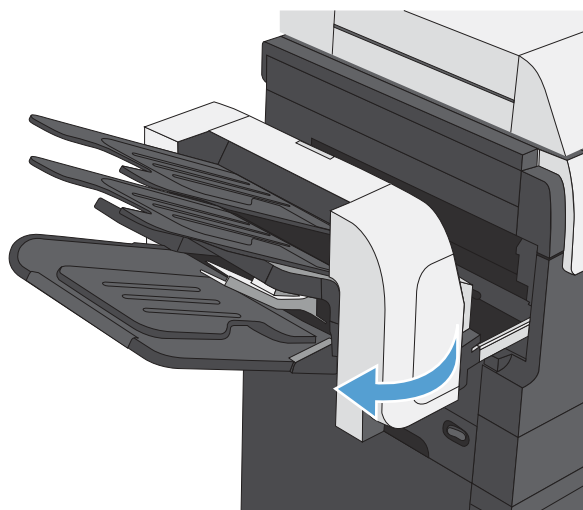


Clear staple jams (for models with a stapler/stacker)

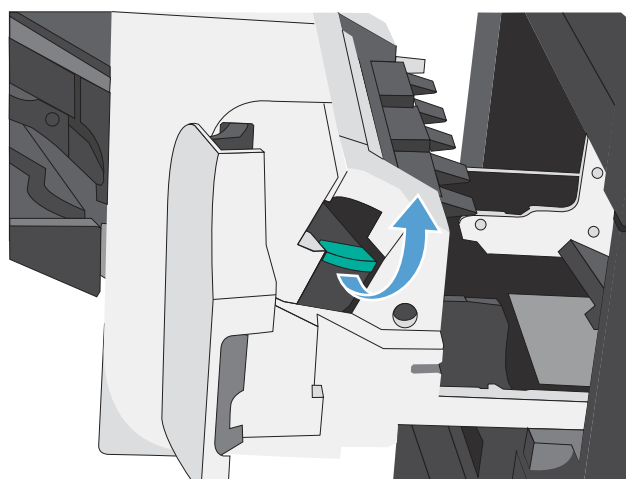
1. Turn the product off. Press the release latch, and then slide the stapler/stacker away from the product.



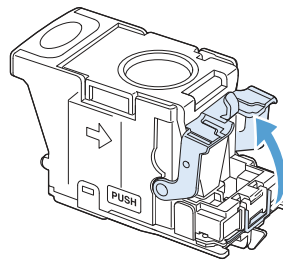
2. Open the staple-cartridge door.



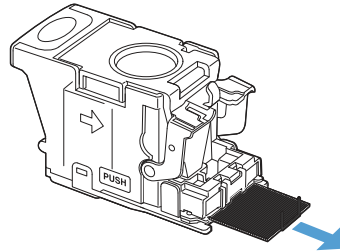
3. Lift up on the staple-cartridge green handle, and then pull the cartridge out of the stapler to remove it.



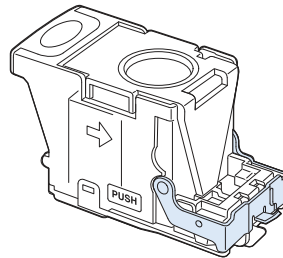
4. Lift up on the small lever at the back of the staple cartridge.



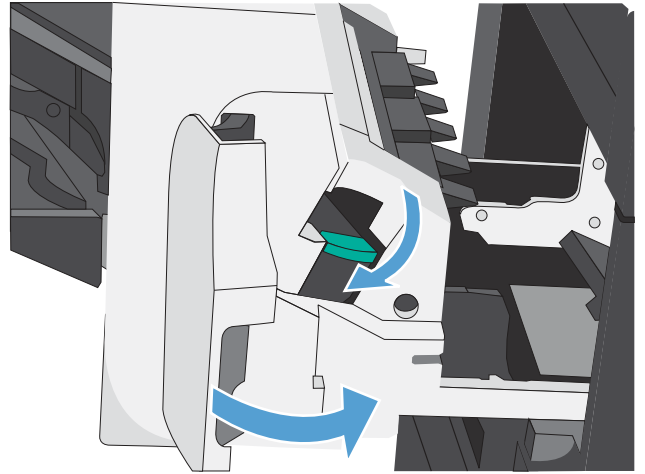
5. Remove the jammed staples.



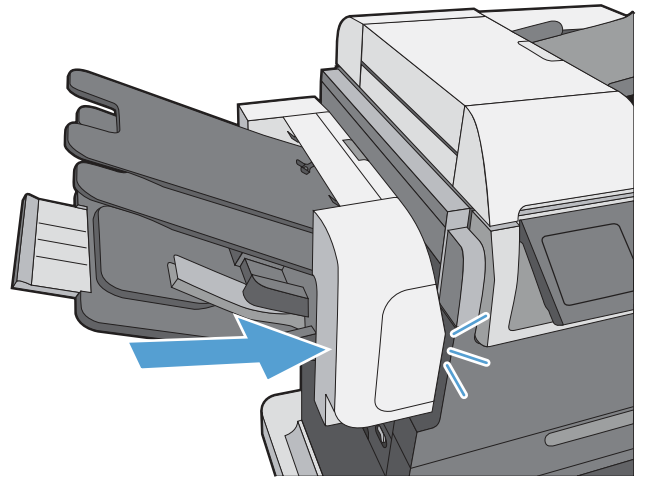
6. Close the lever at the back of the staple cartridge. Be sure that it snaps into place.



7. Insert the staple cartridge into the stapler, push down on the green handle until it snaps into place, and then close the staple-cartridge door.

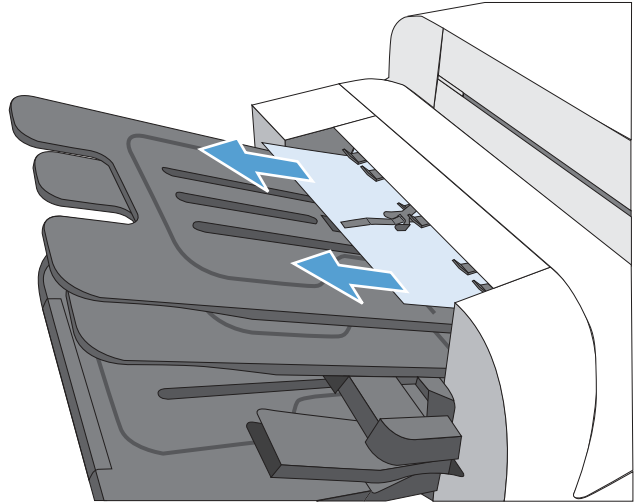


8. Slide the stapler/stacker toward the product until it latches in place. Turn the product on.



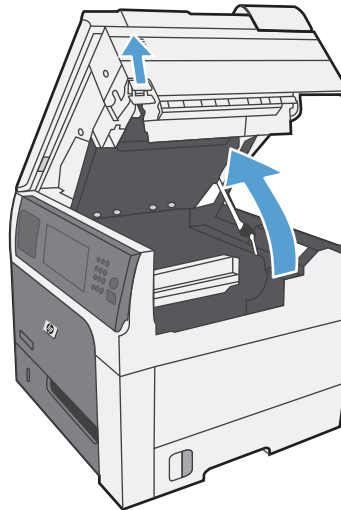
Clear jams in the output bin area

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

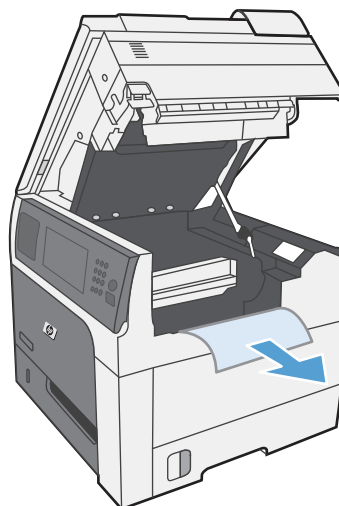


Clear jams from under the top cover

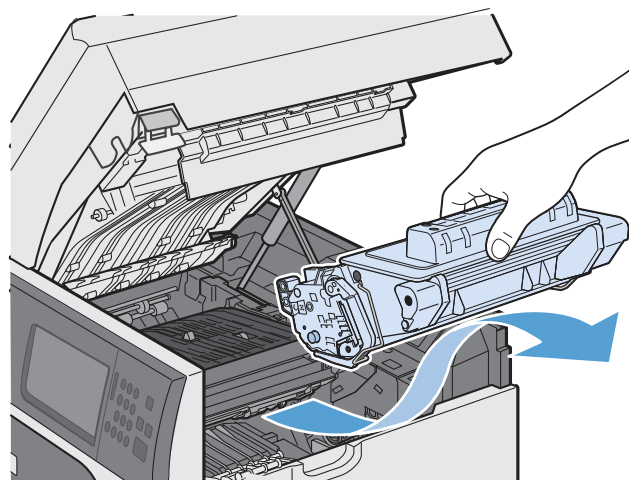
1. Pull the top cover release lever to open the top cover.



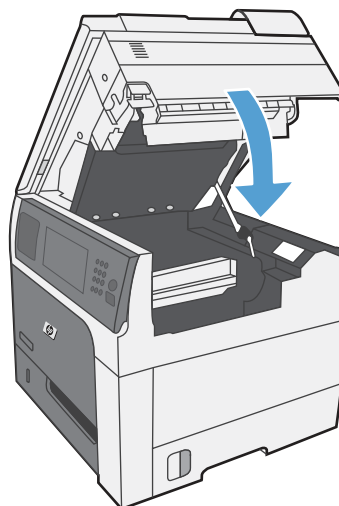
2. Remove any jammed sheets that are visible in the print cartridge area.



3. If no jammed paper is visible, remove the print cartridge, and then remove the any jammed paper in the paper path.

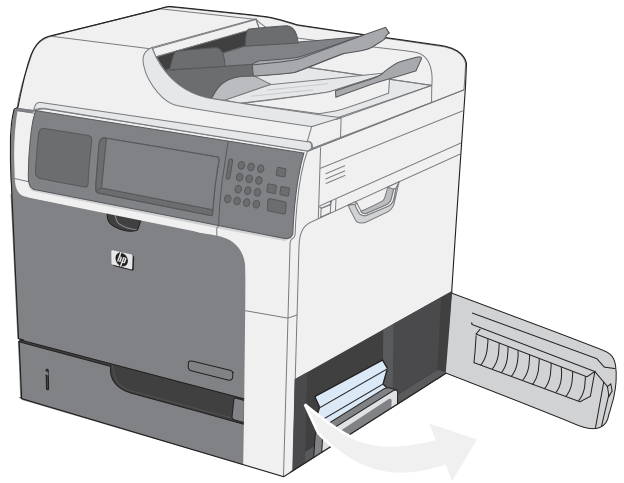


4. Reinstall the print cartridge, and then close the top cover.

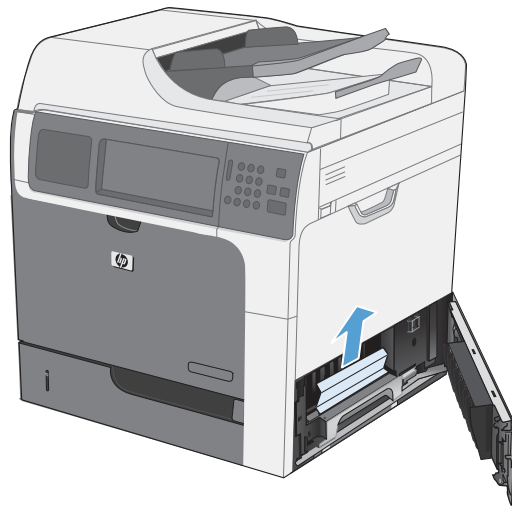


Clear jams in the right door

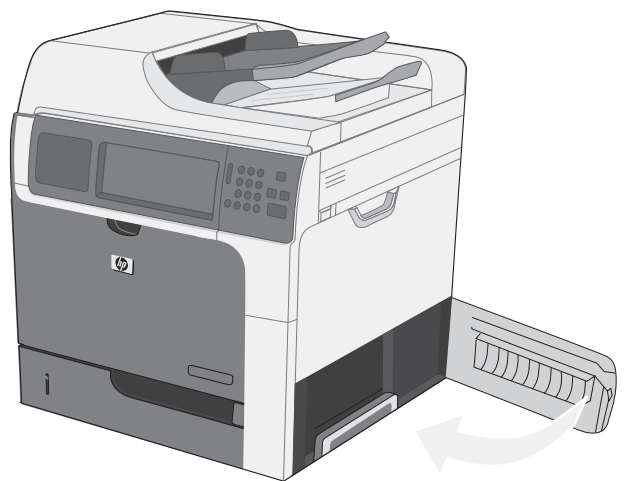
1. Turn off the product, and then open the right door.



2. Gently pull the paper out of the pickup area.



3. Close the right door.

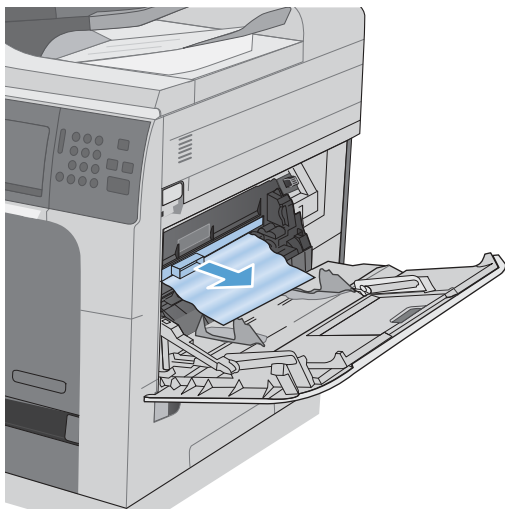


Clear jams in Tray 1

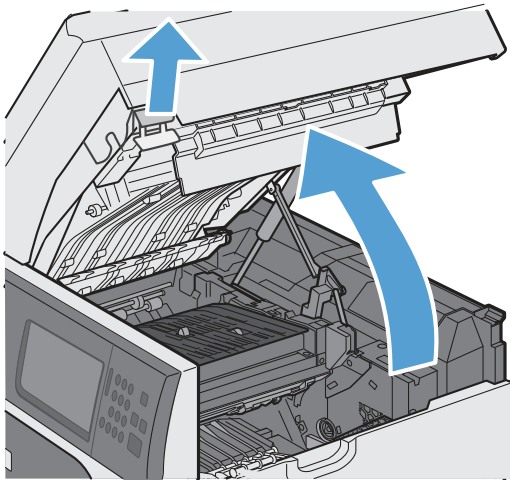
1. Clear the jam by gently pulling the paper straight out. Touch the **OK** button to clear the message.



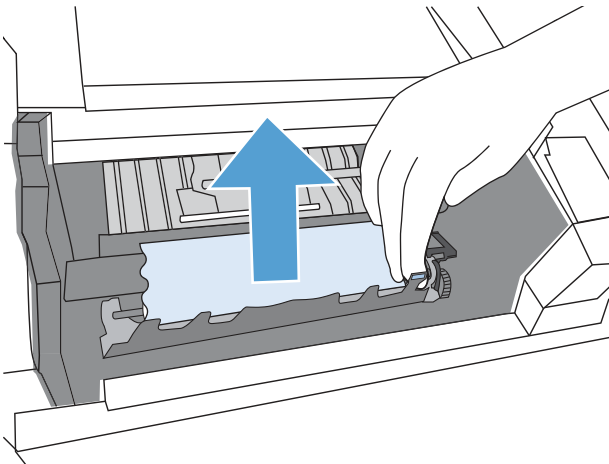
2. If you cannot remove the paper, remove the black-plastic shield.



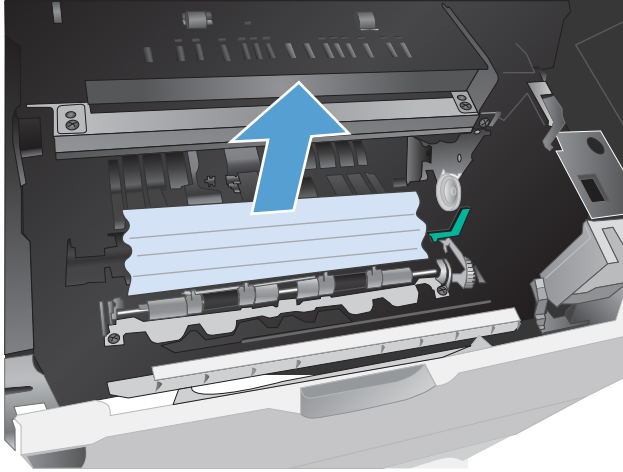
3. Open the top cover and remove the print cartridge.



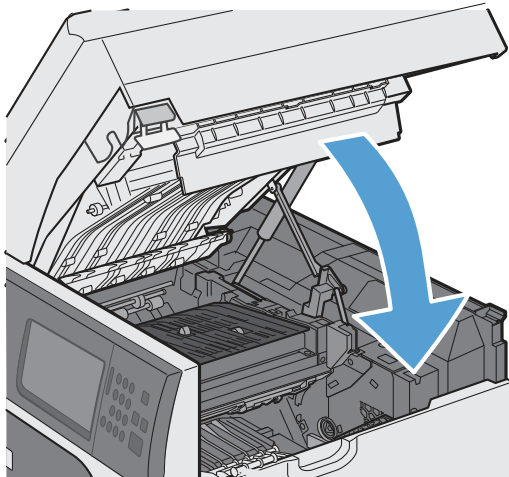
4. At the front of the registration roller, lift the small green tab to raise the plastic roller shield, and then pull any jammed paper straight out.



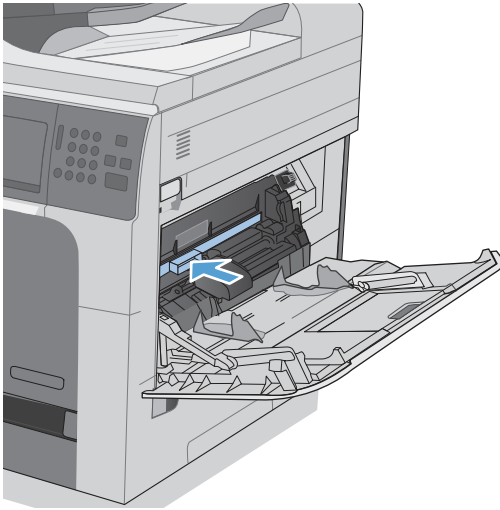
5. At the back of the roller, use the longer green tab to raise the metal shield, and then pull any jammed paper straight out. Touch the **OK** button to clear the message.



6. Lower the shield, reinstall the print cartridge, and then close the top cover.



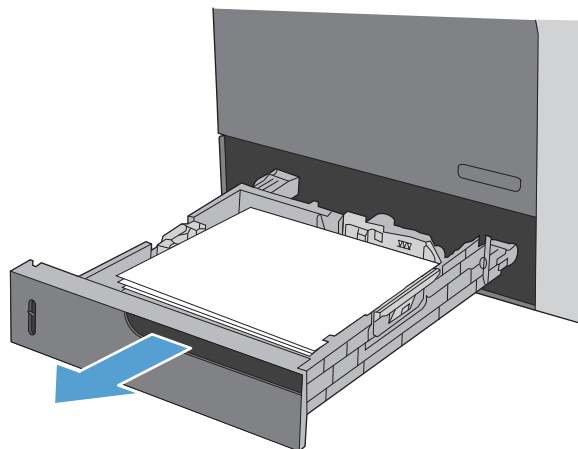
7. Reinstall the black-plastic shield.



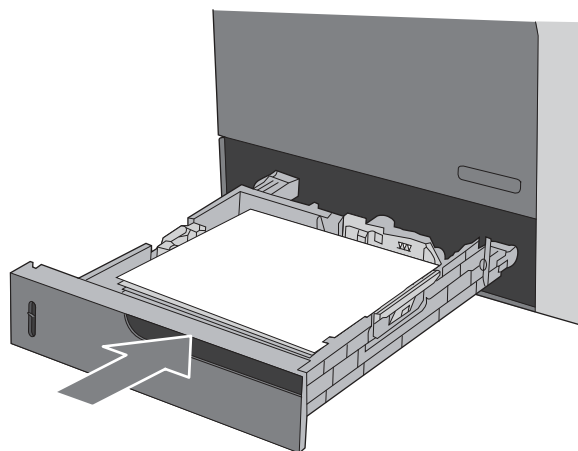
Clear jams in Trays 2, 3, 4, or 5

! CAUTION: Opening a tray when paper is jammed can cause the paper to tear and leave pieces of paper in the tray, which might cause another jam. Be sure to clear jams before opening the tray.

1. Open the tray and make sure that the paper is stacked correctly. Remove any jammed or damaged sheets of paper. To access jammed paper from the tray cavity, remove the tray from the product.

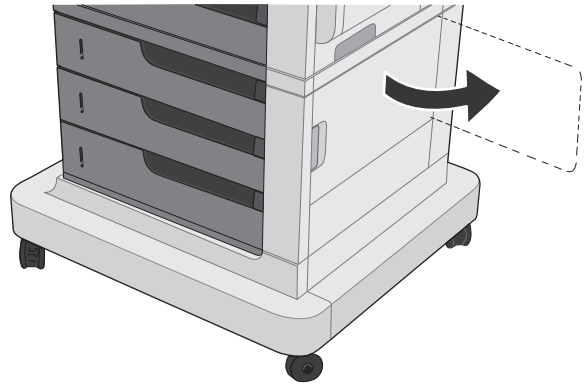


2. Close the tray.

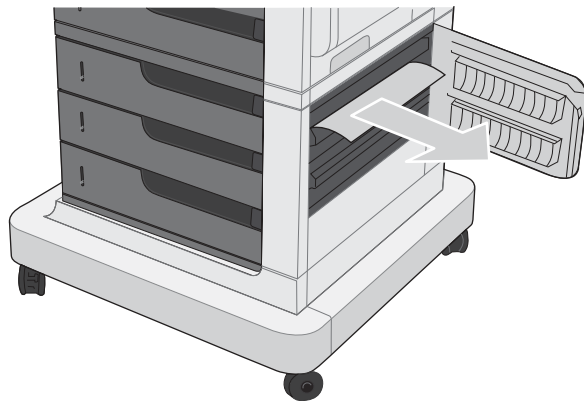


Clear jams in the lower right door (Trays 3, 4, or 5)

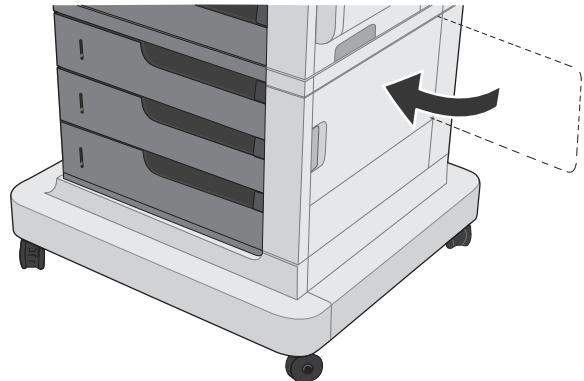
1. Open the lower right door.



2. If paper is visible, gently pull the jammed paper up or down to remove it.



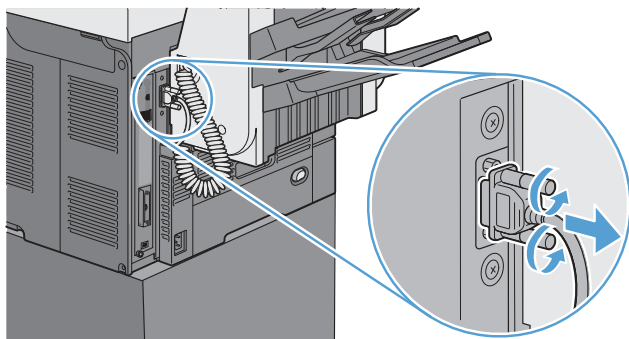
3. Close the lower right door.



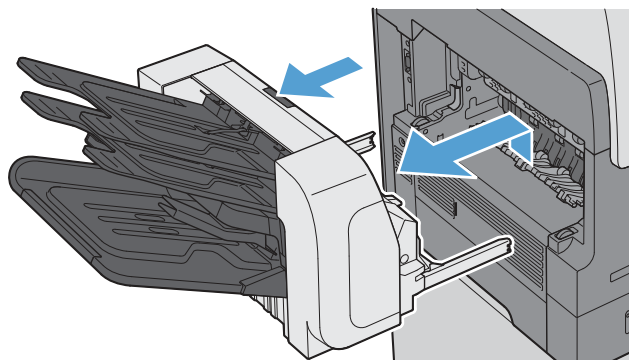
Clear jams in the fuser

CAUTION: The fuser can be hot. Turn off the product, and then wait for the fuser to cool.

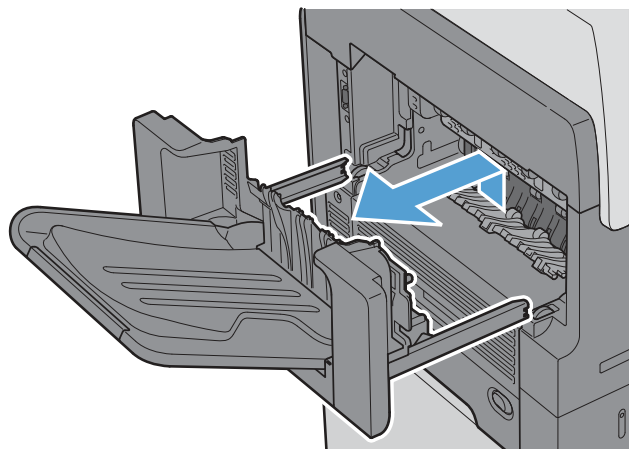
1. Turn off the product.
2. **Models with a stapler/stacker:** Disconnect the stapler/stacker connector.



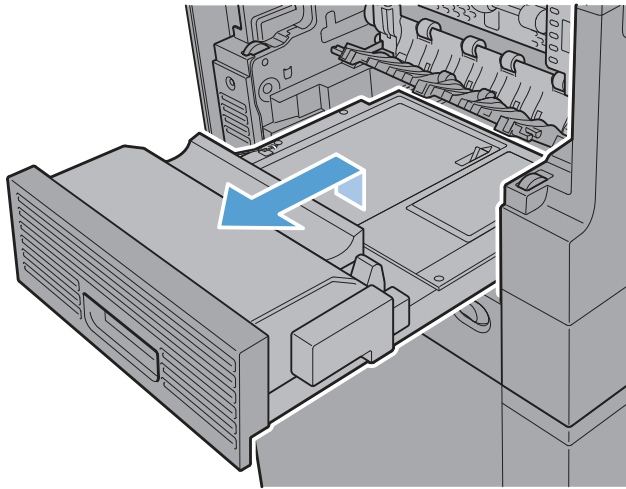
3. **Models with a stapler/stacker:** Release the stapler/stacker latch and then slide the mailbox away from the product to remove it.



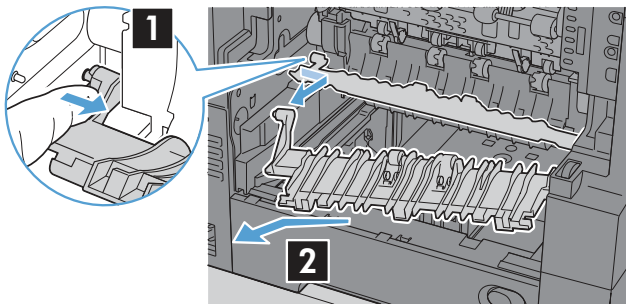
4. **All other models:** Slide the output bin away from the product to remove it.



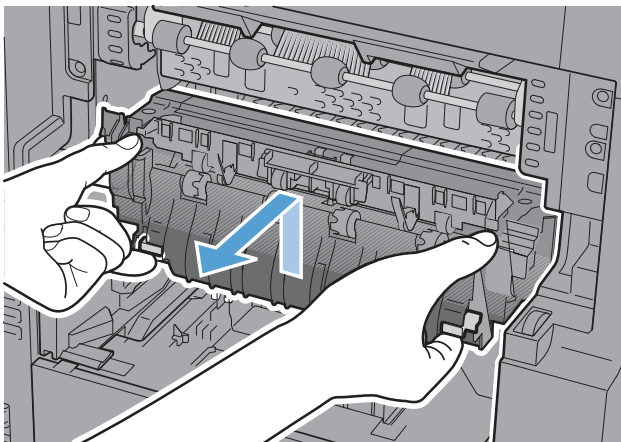
5. Slide the duplexer away from the product to remove it.



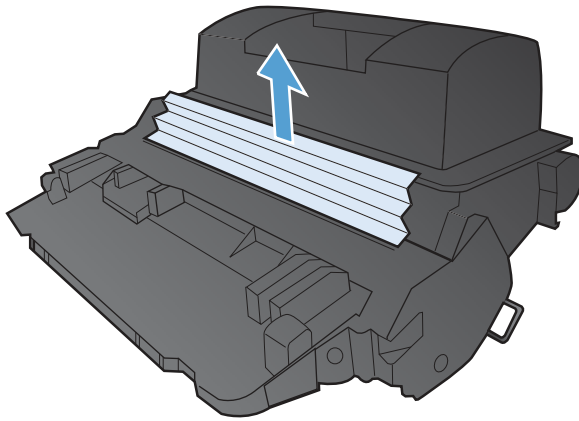
6. Carefully flex the left-hand side of fuser-entrance guide to release it, and then rotate the guide out and away from the product to remove it.



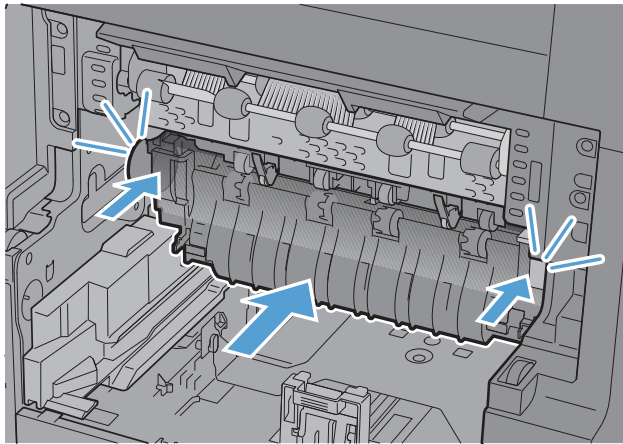
7. Squeeze the two blue tabs on the fuser to release it, slightly lift it up and then pull the fuser straight out of the product to remove it.



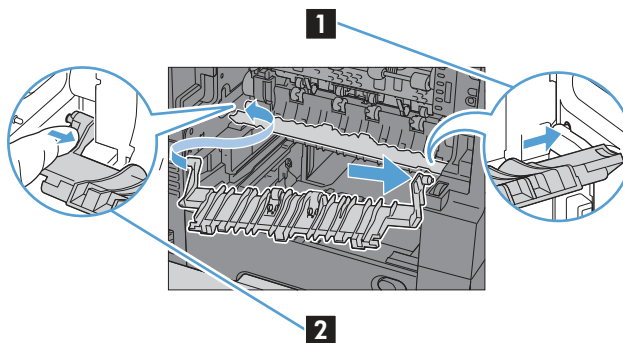
8. Clear the jam by carefully pulling the paper straight out.



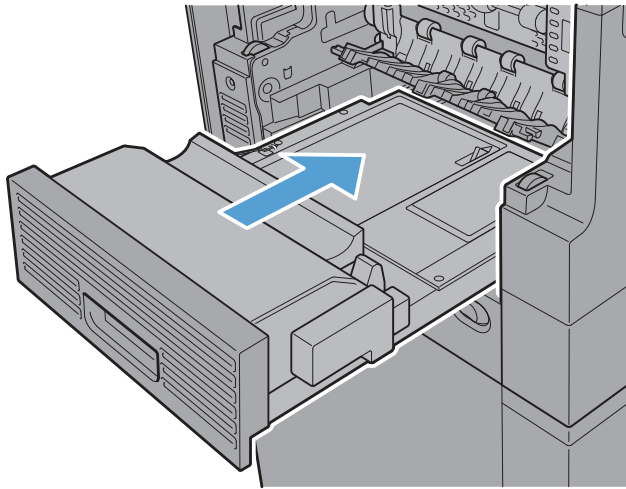
9. Push the fuser straight into the product until it snaps into place.



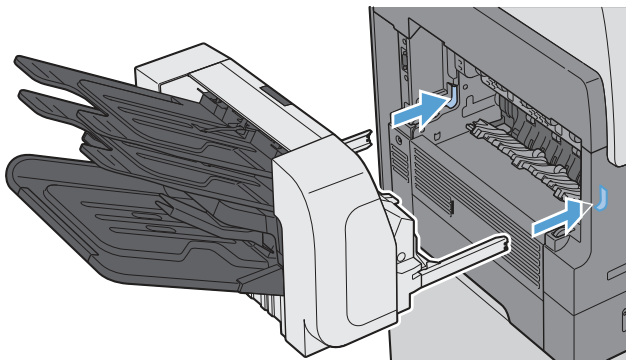
10. Insert the right-hand side of fuser-entrance guide into the product, carefully flex the left-hand side of the guide, and then push it back into the product until the pins on the guide snap into the holes on the product chassis.



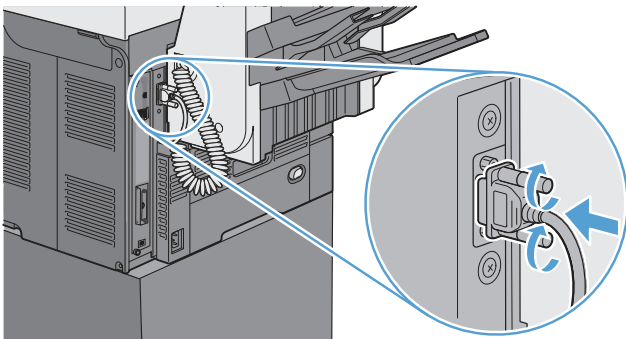
- 11.** Slide the duplexer into the product to install it.



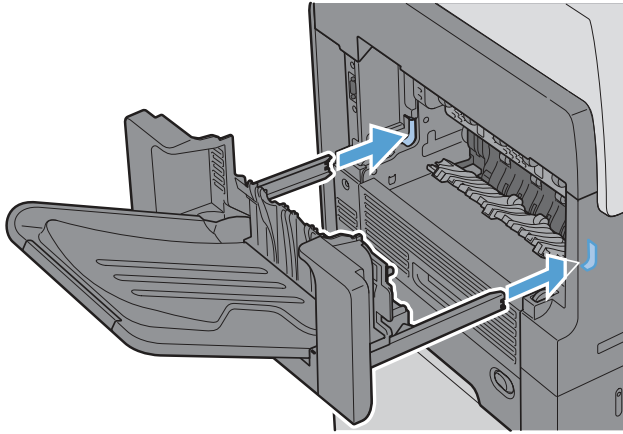
- 12. Models with a stapler/stacker:** Slide the stapler/stacker toward the product until it latches into place to install it.



- 13. Models with a stapler/stacker:** Reconnect the stapler/stacker connector.



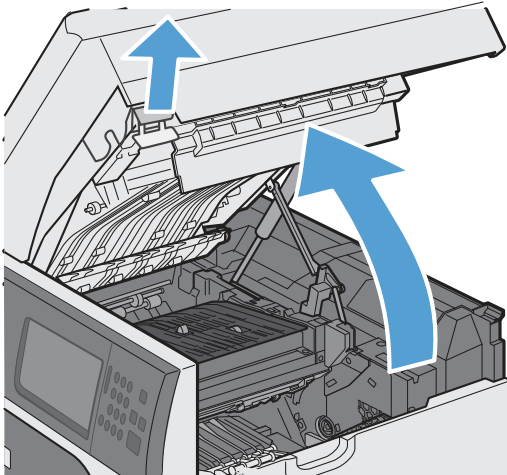
- 14. All other models:** Slide the output bin toward the product to install it.



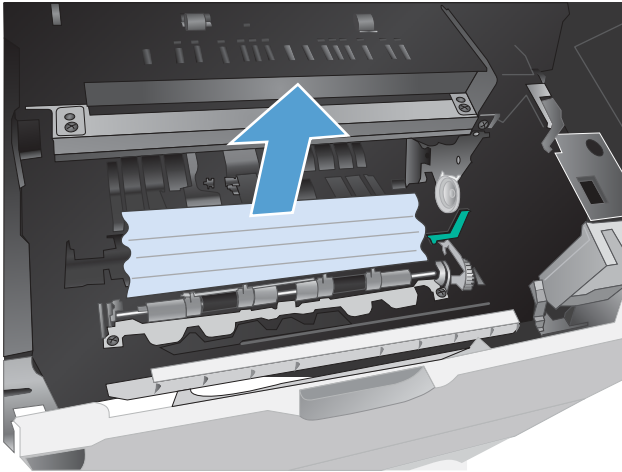
- 15.** Turn the product on.

Clear jams in the registration area

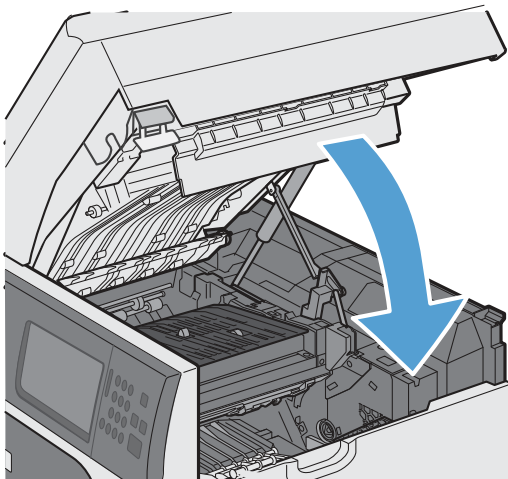
- 1.** Turn off the product, open the top cover, and then remove the print cartridge.



2. If jammed paper is visible under the registration shield use the green lever to raise the shield, and then clear the jam by gently pulling the paper straight out.




3. Lower the shield, reinstall the print cartridge, and then close the top cover.



Change jam recovery

This product provides a jam recovery feature that reprints jammed pages.

1. From the Home screen, touch the [Administration](#) button.
 2. Open the [General Settings](#) menu, and then open the [Jam Recovery](#) menu.
 3. Select one of the following options:
 - [Automatic](#) — The product attempts to reprint jammed pages when sufficient memory is available. This is the default setting.
 - [Off](#) — The product does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.
-
-  **NOTE:** When using this option, if the product runs out of paper and the job is being printed on both sides, some pages can be lost.
-
- [On](#) — The product always reprints jammed pages. Additional memory is allocated to store the last few pages printed. This might cause overall performance to suffer.

Paper does not feed automatically

Paper does not feed automatically

Cause	Solution
Manual feed is selected in the software program.	Load Tray 1 with paper, or, if the paper is loaded, touch the Start <input type="checkbox"/> button.
The correct size paper is not loaded.	Load the correct size paper.
The input tray is empty.	Load paper into the input tray.
Paper from a previous jam has not been completely removed.	Open the product and remove any paper in the paper path.
The paper size is not configured correctly for the input tray.	Print a configuration page or use the control panel to determine the paper size for which the tray is configured.
The guides in the tray are not against the paper.	Verify that the paper guides are touching the paper.
The Manually Feed Prompt menu in the Manage Trays menu is set to the Always setting. The product always prompts for manual feed, even if the tray is loaded.	Load Tray 1 with paper, or, if the paper is loaded, touch the Start <input type="checkbox"/> button. Or, change the manual-feed prompt setting to Always , so that the product prompts for manual feed only when the tray is empty.
The Use Requested Tray menu in the Manage Trays menu is set to the Exclusively setting, and the requested tray is empty. The product will not use another tray.	Load the requested tray. Or, change the setting to First . The product can use other trays if no paper is loaded in the specified tray.

Product feeds multiple sheets

Product feeds multiple sheets

Cause	Solution
Print paper is sticking together.	Remove paper, flex it, rotate it 180 degrees or flip it over, and then reload it into the tray. NOTE: Do not fan paper. Fanning can cause static electricity, which can cause paper to stick together.
Paper does not meet the specifications for this product.	Use only paper that meets HP paper specifications for this product.
Trays are not properly adjusted.	Make sure that the paper guides match the size of paper being used.

Use manual print modes

Try the following multi-purpose (MP) modes to see if they solve the image-quality problems. These options can be found in the [Adjust Paper Types](#) and [Optimize](#) submenus under the [Print Quality](#) menu on the control panel.

Table 3-72 MP modes under the [Adjust Paper Types](#) sub menu

Print Mode	<ul style="list-style-type: none">• Auto Sense Mode• Normal mode• Light Mode• Light Rough Mode• Heavy Mode• Extra Heavy Mode• Card Stock Mode• Card Glossy Mode• Rough Mode• Transparency Mode• Transparency 2 Mode• 4 mm trans mode• Tough Mode• Label Mode• Envelope Mode <p>NOTE: Not all print modes are available for all paper types.</p>
Resistance Mode	Set to Up to resolve print-quality issues caused by poor secondary transfer in low-humidity environments with resistive or rough surface media.
Humidity Mode	<p>With glossy film, set to High when the product is in a high-humidity environment and print-quality defects occur on HP Tough Paper or opaque film.</p> <p>With transparencies, set to High when the product is in a high-humidity environment and print-quality defects occur on transparencies on the first page of a print job.</p> <p>With all other paper types, set to High when the product is in a high-humidity environment and light density occurs on the first page of a print job.</p>
Pre-Rotation Mode	Set this feature to On if horizontal banding occurs on pages.

Table 3-72 MP modes under the [Adjust Paper Types](#) sub menu (continued)

Fuser Temp Mode	If you are seeing a faint image of the page repeated at the bottom of the page or on the following page, first make sure the Paper Type and Print Mode settings are correct for the type of paper you are using. If you continue to see ghost images on your print jobs, set the Fuser Temp feature to one of the Alternate settings. Try the Alternate 1 setting first and see if it solves the problem. If you continue to see the problem, try Alternate 2 and then Alternate 3 . Using the Alternate 2 and Alternate 3 settings might cause an extra delay between jobs.
Paper Curl Mode	Use in high-humidity and high-temperature environments. The Reduced setting decreases fuser temperature and increases the interpage gap.

Table 3-73 MP modes under the [Optimize](#) submenu



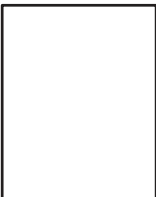
Normal Paper	Set to Smooth when printing on smooth paper of normal weight.
Heavy Paper	Set to Smooth when printing on smooth, heavy media types.
Envelop Control	Set to Reduced Temp if envelopes are sticking due to moisture in the envelop adhesive.
Environment	Set to Low Temp if the product is operating in a low-temperature environment and you are having problems with print quality such as blisters in the printed image.
Line Voltage	Set to Low Voltage if the product is operating in a low-voltage environment and you are having problems with print quality such as blisters in the printed image.
Tray 1	Set the mode to Alternate if you are seeing marks on the back side of the paper when printing from Tray 1. This sets the product to initiate a clean sequence every time a job finishes when the product is set for Any Size and Any Type for Tray 1.
Background	Set to Alternate 1 when a background occurs all over the page. Set to Alternate 2 when thin vertical lines appear on the page. Set to Alternate 3 when the other alternatives do not correct the problem.
Uniformity Control	Set to Alternate 1 to improve uniformity on any paper type. Set to Alternate 2 to improve uniformity on normal and light paper types. Set to Alternate 3 when the other alternatives do not correct the problem.
Transfer Control	Set to Alternate 1 to reduce primary transfer bias and to resolve low density or blotchy images. Set to Alternate 2 to resolve ghosting outlines that look like a finger or fingers. Set to Alternate 3 when the other alternatives do not correct the problem.
Process Cleaning Page	Generates and processes a fuser cleaning page.


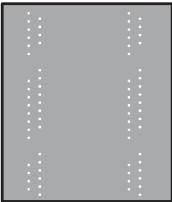

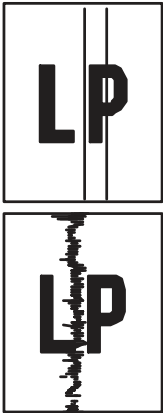
Solve image-quality problems

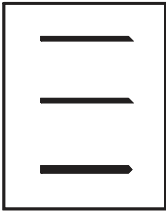


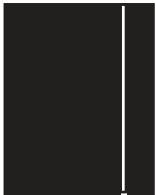
This section helps you define print-quality problems and what to do to correct them. Often print-quality problems can be handled easily by making sure that the product is maintained, using paper that meets HP specifications, or running a cleaning page.




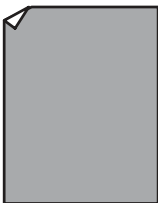
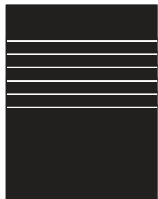
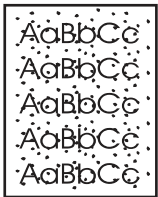
Print quality examples

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

Problem	Sample	Cause	Solution
Print is light or faded on entire page.		Poor contact exists between the transfer roller and its shaft.	Clean the contact. If the problem remains after cleaning, check the contact for damage. Replace any deformed or damaged parts.
Image is too dark.		Poor contact exists in the primary charging bias or developing bias contacts between the print cartridge and the product.	Clean each print cartridge contact. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts. Replace the print cartridge.
Page is blank.		Poor developing bias contact exists with the cartridge.	Clean the contact. If the problem remains after cleaning, check the contact for damage. Replace any deformed or damaged parts.
		The laser shutter open-close projection part of the cartridge is damaged.	Replace the print cartridge.
		The laser shutter arm and the laser shutter are malfunctioning or damaged.	If the laser shutter arm or the laser shutter does not move smoothly or if any part is damaged, replace any defective part.
		The laser/scanner is defective.	Replace the laser/scanner.

Problem	Sample	Cause	Solution
The page all black.		Poor contact exists in the primary charging bias or developing bias contacts between the print cartridge and the product.	Clean each contact. If the problem remains after cleaning, check the contacts for damage. Replace any deformed or damaged parts. Replace the print cartridge.
		The primary charging roller is defective.	Replace the print cartridge.
White spots appear in an image		Poor contact exists in the static charge eliminator.	Clean the contact.
		The transfer roller is deformed or has deteriorated.	Replace the transfer roller.
		Poor contact exists between the transfer roller and its shaft.	Clean the contact.
The back of the page is dirty.		The paper is dirty.	Use clean paper that meets HP specifications and that has been stored properly.
		Dirt on the leading edge of the page might signify that dirt exists on the cassette pickup roller.	Clean the cassette pickup roller. If the dirt does not come off, replace the roller.
		Repetitive defects might indicate that dirt exists on the cassette feed roller, feed roller, Tray1 separation roller, pre-registration roller, transfer roller, or pressure roller.	Use the repetitive defects ruler to identify the dirty roller and then clean it. If the dirt does not come off, replace the roller.
		The feed belt, feed guide, or fuser inlet guide is dirty.	Clean the dirty part.
Vertical streaks or bands appear on the page.		Scratches are present on the circumference of the photosensitive drum.	Replace the print cartridge.
		The fuser inlet guide is dirty.	Clean the fuser inlet guide.
		Scratches on the fuser sleeve.	Remove the cause of the scratches, and then replace the fuser.

Problem	Sample	Cause	Solution
Horizontal lines or bands appear on the page.		Horizontal scratches on the photosensitive drum.	Replace the print cartridge.
		The fuser sleeve is dirty, deformed or worn.	Replace the fuser.
The front of the page is dirty.		Dirt on leading edge of image (MP tray pickup roller).	Clean the MP tray pickup roller. If the dirt does not come off, replace the roller.
		Repetitive dirt (cassette separation roller, feed roller, MP tray feed roller, pre-registration roller, fuser sleeve or cartridge).	Use the repetitive defects ruler to identify the dirty roller. Clean the dirty part. If the dirt does not come off, replace the corresponding part.
		The delivery roller is dirty.	Clean the delivery roller.
Dropouts appear.		The transfer roller is dirty, deformed or has deteriorated.	Replace the transfer roller.
		Poor toner sensor contact exists with the cartridge.	Clean the contact.
		The photosensitive drum, primary charging roller, developing roller or toner sensor is defective.	Replace the print cartridge.
		Scratches or foreign substance on the fuser sleeve.	Replace the fuser.
Vertical white lines appear in a particular color.		Scratches exist on the circumference of the photosensitive drum.	Replace the print cartridge.
		The developing roller is defective.	
		Dirt is adhering to the laser beam window.	Clean the laser beam window.
		Foreign substance adheres to the fuser inlet guide or the guide is dirty.	Clean the fuser inlet guide.
		Scratches or foreign substance on the fuser sleeve.	Replace the fuser.
		The laser/scanner-unit mirror is dirty.	Replace the laser/scanner.

Problem	Sample	Cause	Solution
A horizontal white line appears on the page.		Horizontal scratches are present on the photosensitive drum.	Replace the print cartridge.
		The fuser sleeve is defective.	Replace the fuser.
The toner is not fully fused to the paper.		The pressure roller is dirty.	Perform the pressure roller cleaning procedure. If the dirt does not come off, replace the pressure roller.
		The fuser roller or pressure roller is scarred or deformed.	Replace the fuser.
The printed page contains misformed characters.		A poor connection exists on the laser/scanner assembly.	Reconnect the following laser/scanner assembly connectors: J143, J144, and J145.
		A poor connection exists on the DC controller PCA.	Reconnect the following DC controller PCA connectors: J86 and J93.
		The laser/scanner unit is defective.	Replace the laser/scanner.
The printed page contains wrinkles or creases.		The roller or paper feed guide is dirty.	Clean any dirty components.
		A feed roller is deformed or has deteriorated.	Replace any deformed or deteriorated rollers.
		The paper feed guide is damaged.	Replace the paper-feed-guide unit.
Repetitive horizontal lines		A roller is dirty.	See repetitive image defect ruler. Clean the indicated roller. If the contaminate does not come off, replace the appropriate roller or assembly.
Pages have flecks of toner		Residual toner exists in the paper path.	Execute a cleaning page to clean the contaminants off the fuser. The cleaning page might need to be run several times to clean the fuser. Do not replace the fuser. NOTE: Cleaning the fuser with HP Tough Paper provides better results than with plain paper. You might need to execute the cleaning process several times to remove all contaminants on the fuser.


Clean the product

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

Clean the paper path

1. From the Home screen, touch the [Device Maintenance](#) button.
2. Open the following menus:
 - [Calibrate/Cleaning](#)
 - [Cleaning Page](#)
3. Touch the [Print](#) button to print the page.
4. The cleaning process can take several minutes. When it is finished, discard the printed page.

Clean the scanner glass

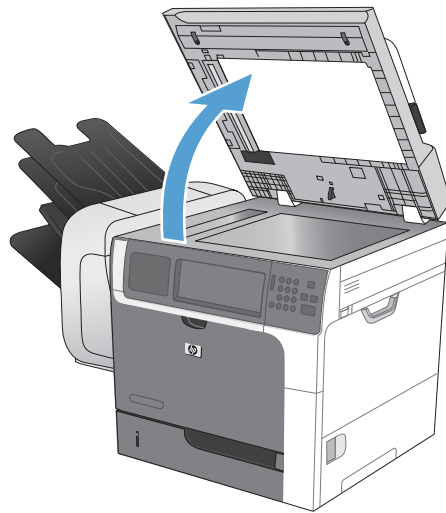
 **NOTE:** If streaks or other defects appear only on copies made by using the document feeder, clean the scanner strip with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner. The scanner strip is located along the left-hand side of the scanner glass. It is not necessary to clean the entire scanner glass.

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

1. Use the power switch to turn off the product, and then unplug the power cord from the electrical socket.



2. Open the scanner lid.



3. Clean the scanner glass and the white plastic backing with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner. Dry the glass and white plastic backing with a chamois or a cellulose sponge to prevent spotting.

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

NOTE: Carefully clean the small glass strip to the left of the scanner glass. Small marks on this glass result in streaks on copies made from the document feeder.

4. Plug in the product, and then use the power switch to turn on the product.



Solve performance problems

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

Solve connectivity problems

Solve direct-connect problems

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

- Verify that the cable is connected to the computer and to the product.
- Verify that the cable is not longer than 2 m (6.5 ft). Replace the cable if necessary.
- Verify that the cable is working correctly by connecting it to another product. Replace the cable if necessary.

Solve network problems

Check the following items to verify that the product is communicating with the network. Before beginning, print a configuration page. See [Configuration page on page 438](#).

Problem	Solution
Poor physical connection	<p>Verify that the product is attached to the correct network port using a cable of the correct length.</p> <p>Verify that cable connections are secure.</p> <p>Look at the network port connection on the back of the product, and verify that the amber activity light and the green link-status light are lit.</p> <p>If the problem continues, try a different cable or port on the hub.</p>
The computer is unable to communicate with the product.	<p>Use the command prompt to ping the product from your computer. For example:</p> <pre>ping 192.168.45.39</pre> <p>Verify that the ping displays round-trip times, which indicates that it is working.</p> <p>If the ping command failed, verify that the network hubs are on, and then verify that the network settings, the product, and the computer are all configured for the same network.</p>
Incorrect link and duplex settings	<p>Hewlett-Packard recommends leaving this setting in automatic mode (the default setting).</p>
Incorrect IP address for the product on the computer	<p>Use the correct IP address. The IP address is listed on the configuration page.</p> <p>If the IP address is correct, delete the product and then add it again.</p>
New software programs have caused compatibility problems.	<p>Verify that any new software programs are correctly installed and that they use the correct printer driver.</p>
Your computer or workstation is set up incorrectly.	<p>Check the network drivers, printer drivers, and the network redirection.</p> <p>Verify that the operating system is configured correctly.</p>
The protocol is disabled, or other network settings are incorrect.	<p>Review the configuration page to check the status of the protocol. Enable it if necessary.</p> <p>Reconfigure the network settings if necessary.</p>

Service mode functions

Service menu

The [Service](#) menu is PIN-protected for added security. Only authorized service people have access to the [Service](#) menu. When you select [Service](#) from the list of menus, the product prompts you to type an eight-digit personal identification number (PIN). The PIN for the HP LaserJet Enterprise M4555 MFP Series is 04455511.

 **NOTE:** The product automatically exits the [Service](#) menu after about one minute if no items are selected or changed.

1. Scroll to and touch the [Device Maintenance](#) button.
2. Touch the [Service](#) button.
3. Select the [Service Access Code](#) menu and then touch the [Access Code](#) text box. The touchscreen numeric keypad appears.
4. Type the PIN (04455511).
5. Touch the [OK](#) button to save the PIN or the [Cancel](#) button to exit the screen.
6. The PIN displays in the [Service use only:](#) text box as [*****](#).
7. Touch the [OK](#) button to open the [Service](#) menu or the [Cancel](#) button to exit the screen.

The following menu items appear in the [Service](#) menu:

Table 3-74 Service menu

Menu item	Sub menu item	Description
Event Log	Print	Allows you to print or view the product event log.
	View	
Clear Event Log		Use this item to clear the product event log.
Cycle Counts	Total Engine Cycles	The page count that is stored in NVRAM and printed on the configuration page represents the number of pages that the formatter has formatted (not including engine-test prints).
	Refurbish Cycle Count	Use this item to record the page count when the product was refurbished.
	Document Feeder Count	Set the total number of pages that have been fed through the document feeder.
	Document Feeder Kit Interval	Total number of pages since the document feeder kit was replaced.
	ADF Count	Set the total pages fed through the document feeder.

Table 3-74 Service menu (continued)

Menu item	Sub menu item	Description
	Flatbed Count	Set the total pages scanned from the flatbed.
	ADF Simplex Count	Set the total single-sided pages fed through the document feeder.
	ADF Duplex Count	Set the total two-sided pages fed through the document feeder.
	Copy Scan Count	Set the total copy pages that have been scanned.
	Send Scan Count	Set the number of scanned pages sent to e-mail.
	Copy Pages Count	Set the number of scanned pages that have been printed.
	Fax Scan Count	Set the number of scanned pages that have been faxed.
Scanner Settings		Set the calibration values. WARNING! Do not change these values unless instructed to do so.
Serial Number		Set the serial number.
Service ID		Use this item to show the date that the product was first used on the control panel. This eliminates the need for users to keep paper receipts for proof of warranty. If the formatter was replaced, you will have to calculate this date. See Restoring the service ID on page 623 . NOTE: A six-day grace period is built into the date system.
Cold Reset Paper		When you perform a cold reset, the paper size that is stored in NVRAM is reset to the default factory setting. If you replace a formatter board in a country/region that uses A4 as the standard paper size, use this menu to reset the default paper size to A4. Letter and A4 are the only available values.
Media Sensor Value		After replacement of the registration assembly, set the media sensor values found on the label of the new registration assembly.

Table 3-74 Service menu (continued)

Menu item	Sub menu item	Description
PTT Test Mode		
	Hook Operations	Test the fax/modem
	Generate Random Data	Test the fax/modem
	Generate DTMF Tone Burst	Test the fax/modem
	Generate DTMF Continuous Tone	Test the fax/modem
	Generate Pulse Burst	Test the fax/modem
	Generate Tone Dial Number	Test the fax/modem
	Generate Pulse Dial Number	
	Generate Single Modem Tone	
	Line Measurements	
	Fax Transmit Signal Loss	

Product resets

Use the following information to perform system-wide reset procedures. Customers do not have access to this information.


Restore factory settings


Use the [Resets](#) menu to restore factory settings.

1. Scroll to and touch the [Administration](#) button, and then touch the [General Settings](#) button.
2. Touch the **Restore Factory Settings** button, and then touch an option. Touch the [Select All](#) button to reset factory settings for all options.
3. Touch the [Reset](#) button to restore factory settings.

Hard-disk initialization


A hard-disk initialization erases and reformats the hard disk. Perform a hard-disk initialization only if an error message on the control-panel indicates a 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. Use the information on these pages to reset any customer-specific settings.


 **CAUTION:** A hard-disk initialization deletes the following information: all stored copy jobs, the local address book (e-mail addresses), the speed-dial list (fax numbers), and the Java™ applet files.

1. Turn the product off and then on.
2. Before the memory count appears on the control-panel display, press the *right-hand side* of the Start ☐ button until all three LEDs are lit. Release the Start ☐ button.
3. Press **5** one time. The [Initialize Disk](#) item appears on the control-panel display.
4. Press **6** one time. A series of asterisks appears on the control-panel display. Wait for the product to complete its initialization sequence.

NVRAM initialization

 **NOTE:** If an HP LaserJet Analog Fax Accessory 500 is installed, performing an NVRAM initialization can cause the product to violate local telephone regulations. Reset the language and country/region settings after performing NVRAM initialization. For more information, see the *HP LaserJet Analog Fax Accessory 500 Fax Guide* or the product user guide.

Before performing an NVRAM initialization, print a menu map and a configuration page. Use the information on these pages to reset any customer-specific settings.

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

Performing an NVRAM initialization resets the following settings and information:

- All menu settings are reset to factory default values, including the fax header and company name.
- All faxes in memory are erased.
- All speed-dials, group-dials, and phonebook entries are erased.
- All localization settings, including language and country/region, are reset.

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

1. Turn the product off and then on.
2. Before the memory count appears on the control-panel display, press and hold **9** until all three LEDs flash once and then stay on. This might take up to 20 seconds.
3. Press **3** one time, and then press the Start ☐ button.
4. Press **3** two times until the **NVRAM INIT** item appears on the control-panel display.
5. Press **6** one time, and wait while the product completes its initialization sequence.

Service ID

This information appears on the configuration page, which eliminates the need for customers to keep paper receipts for proof of the warranty. Because the product does not have an internal clock, the availability of the service ID date depends on the product being connected to a source that can provide the date, in this case a time server that is on the same network as the product. When the product is not connected to a date source, the service ID is not available, and "00000" appears on the configuration page.

Restoring the service ID

If you replace the formatter, the date is lost. Use this menu item to reset the value to the date that the product was first used. The date format is YYDDD. Use the following procedure to calculate the date.

1. To calculate YY, subtract 1990 from the calendar year. For instance, if the product was first used in 2002, calculate YY as follows: $2002 - 1990 = 12$ (YY = 12).
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. For instance, if the product was first used on October 17, calculate DDD as follows:
 - a. Subtract 1 from 10 (October is the tenth month of the year): $10 - 1 = 9$.
 - b. Multiply 9 by 30: $9 \times 30 = 270$.
 - c. Add 17 to 270: $270 + 17 = 287$ (DDD = 287).

Converting the service ID to an actual date

You can use the product service ID number to determine whether the product 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 product was installed.
2. Divide DDD by 30, and add 1 to the whole-number part of the quotient. The total is the month.
3. The remainder from the calculation in step 2 is the day of the month.

Using the Service ID 12287 as an example, the date conversion is as follows:

1. $12 + 1990 = 2002$, so the year is 2002.
2. $287 \text{ divided by } 30 = 9 \text{ with a remainder of } 17$. Add 1 to 9 to get 10, so the month is October.
3. The remainder (from the above calculation) is 17, so that is the day of the month.
4. The complete date is 17-October-2002.

Cold reset

A cold reset unlocks menus that have been previously locked and resets all control-panel menu items to the factory defaults. A cold reset does not clear the values in the [Service](#) menu, such as the serial number and the page counts.



NOTE: Before performing a cold reset, print a menu map and a configuration page. Use the information on these pages to reset customer-specific settings.



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

1. Turn the product off and then on.
2. When the memory count appears on the control-panel display, press and hold **6** until all three LEDs flash once and then stay on. This might take up to 20 seconds.
3. Press **3** two times until the [Cold Reset](#) item appears on the control-panel display.
4. Press **6** one time. The product continues its initialization sequence.

Preboot menu options

If an error occurs while the product is booting, an error message appears on the control-panel display. The user can access the Preboot menus. The Error menu item will not be seen if an error did not occur.

Open the preboot menu

1. Turn the product on.
2. Press and hold the **Stop** button when the LED lights are illuminated solid.
3. Use the **3** button and the **9** button to highlight one of the menu items listed below, and then press the **6** to open the selected item.

Cold reset using the Preboot menu

1. Turn the product on.
2. Press the **Stop** button when the **Ready**, **Data**, and **Attention** LEDs are illuminated solid.
3. Use the **3** button to highlight **Administrator**, and then press the **OK** button.
4. Use the **3** button to highlight **Startup Options**, and then press the **OK** button.
5. Use the **3** button to highlight **Cold Reset**, and then press the **OK** button.
6. Press the **Back** button twice to highlight the **Continue** option, and then press the **OK** button.



NOTE: The product will initialize.

Table 3-75 Preboot menu options (1 of 5)

Menu option	First level	Second level	Third level	Description
Continue				Selecting the Continue item exits the Preboot menu and continues the normal boot process. If a selection is not made in the initial menu within 30 seconds, the product returns to a normal boot (the same as selecting Continue). If the user navigates to another menu, the timeout does not apply.
Sign In				Enter the Administrator PIN or Service PIN if one is required to access the Preboot menu.

Table 3-75 Preboot menu options (1 of 5) (continued)

Menu option	First level	Second level	Third level	Description
Administrator				This item navigates to the Administrator sub menus.
				If authentication is required (and the user is not already signed in) the Sign In displays. The user is required to sign in.
Download				This item initiates a Preboot firmware download process. A USB device interface or a Network connection can be used to download firmware.
Clean Disk				See Product updates on page 647 .
				See Product updates on page 647 .
Clean Disk				This item reinitializes the disk and cleans all disk partitions.
				CAUTION: Selecting the Clean Disk item removes <i>all</i> data.
				A delete confirmation prompt is <i>not</i> provided.
Partial Clean				The system is <i>not</i> bootable after this action—a firmware download must be performed to return the system to a bootable state.
Change Password				This item reinitializes the disk (removing all data except the firmware repository where the master firmware bundle is downloaded and saved).
				CAUTION: Selecting the Partial Clean item removes <i>all</i> data except the firmware repository.
				A delete confirmation prompt is <i>not</i> provided.
Change Password				This allows user to reformat the disk by removing the firmware image from the active directory without having to download new firmware code (product remains bootable).
Change Password				Select this item to set or change the administrator password.
Clear Password				Select the Clear Password item to remove a password from the Administration menu. Before the password is actually cleared, a message will be shown asking to confirm that the password should be cleared. Press the OK button to confirm the action.
				When the confirmation prompt appears, press the OK button to clear the password.

Table 3-76 Preboot menu options (2 of 5)

Menu option	First level	Second level	Third level	Description
Administrator continued	Manage Disk	Clear Disk		Select the Clear Disk item to enable an external device for job storage. Job storage is normally enabled only for the boot device. This will be grayed out unless the 99.09.68 error is displayed.
		Lock Disk		Select the Lock Disk item to lock (mate) a new secure disk to this product. The secure disk already locked to this product will remain accessible to this product. Use this function to have more than one encrypted disk accessible by the product when using them interchangeably. The data stored on the secure disk locked to this product always remains accessible to this product.
		Leave Unlocked		Select the Leave Unlocked item to use a new secure disk in an unlocked mode for single service event. The secure disk that is already locked to this product will remain accessible to this product and uses the old disk's encryption password with the new disk. The secure disk that is already locked to this product remains accessible to this product.
		Clear Password		Select the Clear Password item to continue using the non-secure disk and clear the password associated with the yet to be installed secure disk. CAUTION: Data on the missing secure disk will be permanently inaccessible.
		Retain Password		Select the Retain Password item to use the non-secure disk for this session only, and then search for the missing secure disk in future sessions.
		Boot Device		
			Secure Erase	Select the Secure Erase item to erase all of the data on the disk and unlock it if required. This might take a long time. NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command is a one pass over write that erases the entire disk including firmware. The disk remains an encrypted disk.
			Erase and Unlock	Select the Erase and Unlock item to cryptographically erase all data on disk and unlock the disk to allow access to it from any product. NOTE: The system will be unusable until the system files are reinstalled. this processes erases the crypto key. The disk becomes a non-encrypted disk.
			Get Status	This item provides disk status information if any is available.

Table 3-77 Preboot menu options (3 of 5)

Menu option	First level	Second level	Third level	Description
Administrator	Manage Disk	Internal Device		Select the Internal Device item to erase the internal device or get status about the internal device.
continued	continued		Secure Erase	<p>Select the Secure Erase item to erase all of the data on the disk and unlock it if required.</p> <p>This might take a long time.</p> <p>NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command is a one pass over write that erases the entire disk including firmware. The disk remains an encrypted disk.</p>
			Erase and Unlock	<p>Select the Erase and Unlock item to cryptographically erase all data on disk and unlock the disk to allow access to it from any product.</p> <p>NOTE: The system will be unusable until the system files are reinstalled. Erases the crypto key. The disk becomes a non-encrypted disk.</p>
			Get Status	This item provides disk status information if any is available.
		External Device		Select the External Device item to erase the external device or get status about the external device.
			Secure Erase	<p>Select the Secure Erase item to erase all of the data on the disk and unlock it if required.</p> <p>This might take a long time.</p> <p>NOTE: The system will be unusable until the system files are reinstalled. The ATA secure-erase command is a one pass over write that erases the entire disk including firmware. The disk remains an encrypted disk.</p>
			Erase and Unlock	<p>Select the Erase and Unlock item to cryptographically erase all data on disk and unlock the disk to allow access to it from any product.</p> <p>NOTE: The system will be unusable until the system files are reinstalled. This process erases the crypto key. The disk becomes a non-encrypted disk.</p>
			Get Status	This item provides disk status information if any is available.

Table 3-78 Preboot menu options (4 of 5)

Menu option	First level	Second level	Third level	Description
Administrator continued	Configure LAN			Select the Configure LAN item to set up the network settings for the Preboot menu firmware upgrade.
				The network can be configured to obtain the network settings from a DHCP server or as a static configuration.
		DHCP		Use this item for automatic IP address acquisition from the DHCP server.
		Static		Use this item to manually assign the network addresses.
			IP Address	Use this item to manually enter the IP addresses.
			Subnet Mask	Use this item to manually enter the subnet mask.
			Default Gateway	Use this item to manually enter the default gateway.
			Save and Exit	Select the Save and Exit item to save the manual settings.

Table 3-79 Preboot menu options (5 of 5)

Menu option	First level	Second level	Third level	Description
Administrator continued	Startup Options			Select the Startup Options item to specify options that can be set for the next time the product is turned on and initializes to the to Ready state.
			Cold Reset	Check the Cold Reset item to clear the IP address and all customer settings (this item also returns all settings to factory defaults). NOTE: Items in the Service menu are not reset.
			First Power	Not currently functional: This item allows the product initialize as if it is the first time it has been turned on. For example, the user is prompted to configure first-time settings like Select Date/Time, Select Language, and other settings. Check this item so that it is enabled for the next time the product power is turned on. When the product power is turned on the next time, this item is unchecked so that the pre-configured settings are used during configuration and the first-time setting prompt is not used.
			Skip Plug-ins	This item allows the device to be started without loading the third-party applications. This means that files including Accessible Architecture on the disk will not be available at bootup. This is useful for troubleshooting problems with the hard disk without having to remove the hard disk. It also applies to flash file system disks on DIMMs. In this case, this function will cause the product to configure the HP firmware first, followed by the third-party applications. NOTE: The files on the disk will be available after the product enters the Ready state.
			Skip Cal	Select the Skip Cal item to initialize the product the next time the power is turned on without calibrating.
			Show Revision	Not currently functional: Check the Show Revision item to allow the product to initialize and show the firmware version when the product reaches the Ready state. Once the product power is turned on the next time, the Show Revision item is unchecked so the firmware revision is not shown.
			Lock Service	CAUTION: Select the Lock Service item to lock the Service menu access (both Preboot and Device Maintenance paths). Service personnel must have the Administrator remove the Lock Service setting before they can enter the Service menu.

Table 3-80 Preboot menu options (5 of 5)

Menu option	First level	Second level	Third level	Description
Administrator continued	Startup Options continued	Skip Disk Scan		Check the Skip Disk Scan item to allow the product to initialize without scanning the disk.
				If the product is crashing on Step 4/8, checking this item might allow the problem to be isolated.
				Once the product is turned on the next time, the Skip Disk Scan item is unchecked and the disk scan is not skipped.
		Embedded Jetdirect Off		Check the Embedded Jetdirect Off item to disable the embedded Jetdirect. By default this item is unchecked so that Jetdirect is always enabled.
Service Tools				This item requires the Service access code.
	Reset Password			Use this item to clear the Administrator password.
	Subsystems			For manufacturing use only. Do not change these values.

Solve fax problems

Is your fax set up correctly?

Use the following checklist to help identify the cause of any fax related problems you are encountering:

- **Are you using the phone cord supplied with the fax accessory?** This fax accessory has been tested with the supplied phone cord to meet RJ11 and functional specifications. Do not substitute another phone cord; the analog-fax accessory requires an analog phone cord. It also requires an analog phone connection.
- **Is the fax/phone line connector seated in the socket on the fax accessory?** Make sure that the phone jack is well seated in the socket. The connector should be inserted into the socket until it "clicks."
- **Is the phone wall jack working properly?** Verify that a dial tone exists by attaching a phone to the wall jack. Can you hear a dial tone, and can you make a phone call?

What type of phone line are you using?

- **Dedicated line:** A standard fax/phone number assigned to receive or send faxes.



NOTE: The phone line should be for product fax use only and not shared with other types of telephone devices. Examples include alarm systems that use the phone line for notifications to a monitoring companies.

- **PBX system:** A business-environment phone system. Standard home phones and the fax accessory use an analog phone signal. Some PBX systems are digital and might not be compatible with the fax accessory. You need to have access to a standard analog phone line to be able to send and receive faxes.
- **Roll-over lines:** A phone system feature where a new call "rolls over" to the next available line when the first incoming line is busy. Try attaching the fax accessory to the first incoming phone line. The fax accessory will answer the phone after it rings the number of times set in the rings-to-answer setting.



NOTE: Roll-over lines can cause problems with the fax accessory's ability to receive faxes. Using roll-over lines with this product is not recommended.

Are you using a surge-protection device?

A surge-protection device can be used between the wall jack and the fax accessory to protect the fax accessory against electrical power passed through the phone lines. These devices can cause some fax communication problems by degrading the quality of the phone signal. If you are having problems sending or receiving faxes and are using one of these devices, connect the fax accessory directly to the phone jack on the wall to determine whether the problem is with the surge-protection device.

Are you using a phone company voice-messaging service or an answering machine?

If the rings-to-answer setting for the messaging service is lower than the rings-to-answer setting for the fax accessory, the messaging service answers the call, and the fax accessory is not able to receive faxes. If the rings-to-answer setting for the fax accessory is lower than that of the messaging service, the fax accessory answers all calls, and no calls are routed to the messaging service.


Does your phone line have a call-waiting feature?

If the fax telephone line has an activated call-waiting feature, a call-waiting notice can interrupt a fax call in progress, which causes a communication error. Ensure that a call-waiting feature is not active on the fax telephone line.

Check fax accessory status

If the analog-fax accessory does not appear to be functioning, print a configuration report to check the status.

1. From the Home screen, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Reports](#)
 - [Configuration/Status Pages](#)
 - [Configuration Pages](#)
3. Touch the [Print](#) button to print the report, or touch the [View](#) button to view the report on the screen. The report consists of several pages.

 **NOTE:** The product IP address or host name is listed on the Jetdirect Page.

On the fax accessory page of the configuration page, under the Hardware Information heading, check the Modem Status. The following table identifies the status conditions and possible solutions.

Table 3-81 Modem status conditions

Operational / Enabled ¹	The analog-fax accessory is installed and ready.
Operational / Disabled ¹	The fax accessory is installed and operational, however, HP Digital Sending utility has either disabled the product fax feature or has enabled LAN fax. When LAN fax is enabled, the analog-fax feature is disabled. Only one fax feature, either LAN fax or analog fax, can be enabled at a time.
Non-Operational / Enabled/Disabled ¹	A firmware failure has been identified. The firmware should be updated.
Damaged / Enabled/Disabled ¹	The Fax accessory has failed; reseal the fax accessory card and check for bent pins. If the status is still DAMAGED, replace the analog-fax accessory card.

¹ ENABLED indicates that the analog fax accessory is enabled, turned on; DISABLED indicates that LAN fax is enabled (analog fax is turned off).

Fax feature is not operating

The fax accessory is installed but the icon does not appear on the product Home screen.

Cause	Solution
HP MFP Digital Sending Software Configuration utility has disabled the analog-fax feature.	Use the HP MFP Digital Sending Software Configuration utility to enable the analog-fax feature.
The accessory is not operating correctly.	<p>Check the fax accessory status on the configuration report. If the status is:</p> <p>NON-OPERATIONAL, new firmware might need to be installed.</p> <p>If the status is DAMAGED and you just installed the card, try reseating the card and check for bent pins.</p> <p>If the status is DAMAGED and the card is installed correctly, the card might need to be replaced.</p>
The product/accessory has a faulty formatter board.	Contact your HP service representative for service.

The product is not displaying the fax menus.

Cause	Solution
LAN fax is enabled.	This is normal operation. When the HP Digital Sending Software enables LAN fax, the analog fax is disabled and the fax menu, which is used for the analog fax only, does not open.

General fax problems

Problem	Cause	Solution
Fax failed to send.	JBIG is enabled and receiving fax does not have JBIG capability.	Set the JBIG mode to Off.
An "Out of Memory" status message appears on the status message bar.	The product storage disk is full.	Delete some files from the disk, and see the product user guide for information about managing the disk.
Print quality of a photo is poor or prints as a gray box.	The Page Content mode setting is not set for optimal results.	Try setting the Optimize Text/Picture option to Photograph .
The fax was canceled by using the product keyboard, but the fax was still sent.	Cancellation takes place after making a selection in the cancellation menu (displayed after pressing the red Stop button) and acknowledging with the OK button.	Cancel faxes using the control-panel menus.
No fax address book button appears.	The fax address book feature has not been enabled.	Use the HP MFP Digital Sending Software Configuration utility to enable the fax address book feature.

Problem	Cause	Solution
Not able to locate the fax settings in HP Web Jetadmin.	Fax settings in HP Web Jetadmin are located under the device's status page drop-down menu.	Select Digital Sending and Fax from the drop-down menu.
The header is being appended to the top of the page when overlay is enabled.	The fax will append the overlay header to the top of a page when overlay is set, when the fax has been forwarded.	This is normal operation.
There is a mix of names and numbers in the recipients box.	This is normal for both names and numbers to appear, depending on where they are from, the fax address book lists names, and all other databases list numbers.	Normal, no action required.
A one-page fax prints as two pages.	The fax header is being appended to the top of the fax, pushing text to a second page.	If you want your one page fax to print on one page, set the overlay header to overlay mode or adjust the fit to page setting.
Document stops feeding in the middle of faxing.	There might be a jam in the document feeder.	If there is a jam, see the product user guide for instructions on clearing jams.
The volume for sounds coming from the fax accessory is too high or too low.	The volume setting needs to be adjusted.	Use the control-panel menus to adjust the volume

Problems with receiving faxes

Incoming fax calls are not being answered by the fax accessory (no fax detected).

Cause	Solution
The rings-to-answer setting might not be set correctly.	Check the rings-to-answer setting.
The phone cord might not be connected properly, or the phone cord is not working.	Check the installation. Make sure that you are using the phone cord that came with the fax accessory.
The phone line might not be working.	Disconnect the fax accessory from the phone jack, and connect a phone. Try to make a phone call to make sure that the phone line is working.
A voice-messaging service might be interfering with the fax accessory's ability to answer calls.	Do one of the following: <ul style="list-style-type: none"> • Discontinue the messaging service. • Get a phone line dedicated to fax calls. • Decrease the rings-to-answer setting for the fax accessory to a number less than the rings-to-answer setting for the voice mail.

Faxes are transmitting or being received very slowly.

Cause	Solution
You might be sending or receiving a very complex fax, such as one with many graphics.	Complex faxes take longer to be sent or received.
The receiving fax machine might have a slow modem speed.	The fax accessory only sends the fax at the fastest modem speed the receiving fax machine can use.
The resolution at which the fax was sent or is being received is very high. A higher resolution typically results in better quality, but also requires a longer transmission time.	If you are receiving the fax, call and ask the sender to decrease the resolution and resend the fax. If you are sending, decrease the resolution and change the Optimize Text/Picture option.
If there is a poor phone-line connection, the fax accessory and the receiving fax machine slow down the transmission to adjust for errors.	Cancel and resend the fax. Have the phone company check the phone line.

Faxes are not printing on the product.

Cause	Solution
There is no media in the media input tray.	Load media. Any faxes received while the input tray is empty are stored and will print after the tray has been refilled.
The Fax Printing Schedule is enabled.	If Schedule Printing of Faxes is enabled, faxes will not print until it is disabled.
The product is either low on toner or has run out of toner.	The product stops printing as soon as it is low on toner or runs out of toner. Any faxes received are stored in memory, and then are printed after the toner has been replaced. For other product printing problems, see the product user guide.
Incoming call might be a voice call.	Incoming voice calls usually show up in the call report as a Communication Error (17) . As these are voice calls and not a fax error, no action is required. Make sure that those calling you have a voice number that is different from the fax number.
The incoming fax was interrupted.	Verify that the fax telephone line does not have an activated call-waiting feature. A call-waiting notice can interrupt a fax call in progress, which causes a communication error.
The Fax Printing Schedule feature is set to Always store faxes .	Change the Fax Printing Schedule setting to Always print faxes .

Problems with sending faxes

Problem	Cause	Solution
Faxes quit during sending.	The fax machine to which you are sending might be malfunctioning.	Try sending to another fax machine.

Problem	Cause	Solution
	Your phone line might not be working.	Disconnect the fax accessory from the phone jack, and connect a phone. Try to make a phone call to make sure that the phone line is working.
	Your phone line might be noisy or poor quality.	Try using a lower baud rate to improve the reliability of transmission.
	A call-waiting feature might be active.	Verify that the fax telephone line does not have an activated call-waiting feature. A call-waiting notice can interrupt a fax call in progress, which causes a communication error.
The fax accessory is receiving faxes but is not sending them.	If the fax accessory is on a PBX system, the PBX system might be generating a dial tone the fax accessory cannot detect.	Disable the detect dial tone setting.
	There might be a poor phone connection.	Try again later.
	The fax machine to which you are sending might be malfunctioning.	Try sending to another fax machine.
	Your phone line might not be working.	Disconnect the fax accessory from the phone jack, and connect a phone. Try to make a phone call to make sure that the phone line is working.
Outgoing fax calls keep dialing.	The fax accessory automatically redials a fax number if the Redial on Busy option is set to on or if the Redial On No Answer is set on.	This is normal operation. If you do not want the fax to retry, set Redial on Busy to 0 and set Redial On No Answer to 0.
Faxes you send are not arriving at the receiving fax machine.	The receiving fax machine might be turned off or might have an error condition, such as being out of paper.	Call the recipient to make sure the fax machine is turned on and ready to receive faxes.
	A fax might be in memory because it is waiting to redial a busy number, or there are other jobs ahead of it waiting to be sent.	If a fax job is in memory for either of these reasons, an entry for the job appears in the fax log. Print the fax activity log, and check the Result column for jobs with a Pending designation.

Error codes

If a fax problem occurs which prevents or interrupts sending or receiving of a fax, an error code is generated that will help in determining the cause of the problem. Error codes show up in the fax activity log, the fax call report, and the T.30 protocol trace. Print one of these three reports to obtain the error code. A detailed description of the error codes and the appropriate action can be found at www.hp.com by searching for HP LaserJet Analog Fax Accessory 500.

Fax error messages

When an analog fax is sent or received on an HP LaserJet product, any errors that occur during the fax process will be displayed on the product control panel and entered into the fax reports. Fax errors can occur for many reasons and often they are due to interruptions or noise on the telephone connection. Any error that takes place during the fax process regardless of where it originates will be displayed by the product.

If the fax process is interrupted or an error occurs during a fax transmission or reception, a two part status/error description is generated by the fax subsystem on the product. Normal or successful faxes also generate messages indicating success. The message information consists of a text description and a numeric code (a few messages don't include numeric codes). Only the text part of the message will be displayed on the product control panel; however, both the text message and numeric code will be listed in the fax activity report, fax call report, and the fax T.30 trace (these fax reports can be printed out individually from the product control panel – under the [Administration](#) > [Reports](#) > [Fax Reports](#) and [Administration](#) > [Troubleshooting](#) > [Fax](#) > [Fax T.30 Trace](#) menus). The numeric code is shown in parentheses after the text part of the message in the reports. For example, if a communication error occurred, the control panel display would show **Fax Failed: Communication Error**. The same error would be shown in the Result field in the fax activity report as **Communication Error (17)**. For this example, the numeric code associated with this communication error is '17'.

The numeric code is generated by the fax modem. Usually a numeric code of (0) indicates a normal modem response. Some messages will always display a numeric code of (0), whereas other messages can have a range of numeric codes depending on the circumstances, and a few messages will have no numeric code. Usually a numeric code of (0) indicates an error was not associated with the fax modem, but occurred in another part of the fax subsystem or other product subsystem such as the printing subsystem. Non-zero error codes give further detail into the particular action or process that the modem is executing, and they don't necessarily indicate that there is a problem with the modem.

In the tables that follow, the fax messages with the most common number codes are given with recommended corrective action. Several messages that are normal or indicate a normal event are also included in tables. For example, if a fax was not able to be sent to a busy number, a **Fail Busy** message will be shown. Nothing is wrong with the fax subsystem; the message indicates the fax was not completed due to a busy telephone number at the receiving end.

Persistent error messages with numeric codes different than those listed here require the assistance of customer support. A more detailed listing of the last fax call can be printed out before contacting customer support to help identify the problem. The detailed fax listing is called a fax T.30 trace and can be printed for the last fax, or it can be set to print whenever a fax error occurs. To print or configure the fax T.30 trace, touch the [Administration](#), [Troubleshooting](#), and then [Fax T.30 Trace](#) menus. You can then print the report for the last fax or configure when to print the T.30 trace.

Send-fax messages

Table 3-82 Send-fax messages

Message	Error No.	Description	Action(s)
Cancelled	0	Fax was cancelled by user at control panel of product.	None.
Success	n/a	Fax sent successfully.	None.
Fail Busy	0	The receiving fax machine is busy.	The fax will be retried automatically (if configured), otherwise try resending fax later.
No Answer	0	The receiving fax machine is not answering the call.	The receiving fax machine might be disconnected or turned off; contact the receiver to check the machine. Try resending.
Compression Error	Any	Fax might be corrupted or not sent.	Try resending fax.
No Dial	0	No dial tone is detected when sending the fax.	Verify the phone line is active; set the sending fax to "not" to detect a dial tone.
Modem Fail	Any	Unexpected or bad response from the internal fax modem to product.	Try resending fax; if the error persists, contact service. NOTE: This does not necessarily indicate that the modem hardware is bad.
Communication Error	17 or 36	Lost telephone connection between sender and receiver. Might be due to voice calls.	Try resending the fax.
Communication Error	Any besides 17 or 36	General communications issue where the fax transmission was interrupted or did not proceed as expected.	Try resending fax; if the error persists, contact service.
Space Fail	0	Unable to read or write the fax image file to disk; could be corrupt product disk or no space available on the product's disk.	Try resending fax; if the error persists, contact service.
Page Fail	0	Incompatible page width, or page had too many bad lines.	Try resending fax; if the error persists, contact service.
Memory Error	0	Out of RAM memory on product.	If error persists, might need to add RAM to product.
Job Fail	Any	Fax failure; the fax job did not complete.	Try resending fax; if the error persists, contact service.

Table 3-82 Send-fax messages (continued)

Message	Error No.	Description	Action(s)
Power Failure	0	A power failure occurred during the fax transmission on the sending fax product.	Try resending the fax.
No Fax Detected	17 or 36	No fax machine was detected at receiving end. Might be due to voice calls.	Verify fax number and have receiver verify fax machine is on and connected; then try resending fax.

Receive-fax messages

Table 3-83 Receive-fax messages

Message	Error No.	Description	Action(s)
Success	n/a	The Fax was received.	None.
Blocked	n/a	Fax reception was blocked by receiving fax machine using blocked number feature.	None.
Modem Fail	Any	Unexpected or bad response from the internal modem to the product. For example, the product is trying to send a fax at the same time another fax is arriving.	Have fax resent; if the error persists, contact service.
Communication Error	17, 36	Lost telephone connection or interruption between sender/receiver.	Have the sender resend the fax (if the sending machine does not automatically retry).
Communication Error	Any besides 17 or 36	General communications issue where the fax transmission was interrupted or did not proceed as expected.	Have fax resent; if the error persists, contact service.
Space Fail	0	Unable to read or write image file to disk; could be corrupt product disk or no space on disk.	Have fax resent; if the error persists, contact service.
Page Fail	0	Incompatible page width or page had too many bad lines.	Have fax resent; if the error persists, contact service.
Memory Error	0	Out of RAM memory on product.	If error persists, might need to add additional RAM memory to product.
Compression Error	0	Corrupted fax - the received image file cannot be decoded.	Have fax resent; enable ECM (Error Correction Mode) if not already.
Print Fail	0	Corrupted fax - the received image file cannot be decoded.	Have fax resent; enable ECM (Error Correction Mode) if not already.
Poll Invalid	0	The fax polling feature attempted to retrieve a fax from another machine but no fax was available.	Contact the administrator of the fax machine being polled and verify a fax is available, and then retry.
Job Fail	Any	Fax failure; this includes all non-specific failures.	Have fax resent; if the error persists, contact service.

Table 3-83 Receive-fax messages (continued)

Message	Error No.	Description	Action(s)
Power Failure	0	A power failure occurred during the fax reception.	Have the sender resend the fax.
No Fax Detected	17, 36	A voice call was made to the fax.	None

Fax reports

The following sections list the fax reports available on this product. These reports can be printed or viewed on the product control panel.

The following fax reports are available on this product:

- Fax Activity Log
- Billing Codes Report
- Blocked Fax List
- Speed Dial List
- Fax Call Report

Use the following steps to print or view a fax report:

1. From the Home screen, scroll to and touch the [Administration](#) button.
2. Open the following menus:
 - [Reports](#)
 - [Fax Reports](#)
3. Touch the log or report to print or view.
4. Touch the [Print](#) or [View](#) button.

Fax activity log

The fax activity log includes the following information.

- The fax header information configured on the product.
- The job number of each fax job.
- Date and time of all faxes received, sent, or failed to send.
- The type of fax job; send or receive.
- Identification (phone number, if available)
- Duration (off-hook time)

- Number of pages
- Result (successfully sent, pending, or failed to send which includes error type and code)

The database stores the most recent 500 fax entries (older faxes are deleted from the log). The database fax entries include any fax session as an entry. For example, a fax session could be a sent fax, received fax, or firmware upgrades. Depending on the activity, there might be fewer than 500 entries in the report (unless you sent 500 faxes without receiving any faxes or other completing another activity).

If you want to use the log for record keeping purposes, you should print the log periodically (at least every 500 faxes), and then clear it.

Billing code report

The billing code report is a list of the most recent 500 faxes that were successfully sent, listed by billing code. The following information is provided in this report.

- Billing code number
- Date and time of all faxes that were successfully sent
- Identification number
- Duration (off hook time)
- Number of pages sent
- Result (success)

The database stores the most recent 500 faxes (older faxes are deleted from the database). If you want to use the report for record keeping purposes, you should print the report periodically (at least every 500 faxes), and then clear it.

Blocked fax list report

The blocked fax list report contains the list of fax numbers that the product has been configured to not receive faxes from.

Speed dial list report

A speed dial list report lists the fax numbers assigned to speed dial names.

Fax call report

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

Clear the fax activity log

To clear the fax activity log, complete the following steps.

1. On the control panel, touch the [Administration](#) button.
2. Open the following menus:
 - [Fax Settings](#)
 - [Clear fax activity log](#)
3. Touch the [Clear](#) button to clear the fax activity log.

Service settings

These items in the control-panel menus can help with troubleshooting if the corrective action taken under the Error Codes section is unsuccessful. They are intended to be used when an HP service representative is assisting you.

Settings in the Troubleshooting menu

Open the [Administration](#) menu, and then select the [Troubleshooting](#) menu.

Troubleshooting menu settings

Fax T.30 Trace: The T.30 trace is a printed report which produces a record of all the communications between the sending and receiving fax machines for the last fax transmission or reception. The report has many technical details which are usually beyond the scope of most users. However the report contains detailed error codes and other information that might be useful in troubleshooting a particular problem related to sending or receiving a fax. The report contents might be requested by an HP service representative when trying to determine the cause of a problem and will help to determine the appropriate action.

Transmit Signal Loss: This selection compensates for phone line signal loss. It is not recommended to modify this setting unless requested to do so by an HP service representative as it might render the fax inoperable.

V34: This setting has two values, [Normal](#) and [Off](#), that control the modem baud rate. The [Normal](#) setting allows the modem to select any of the supported baud rates up to 33,600 bps. The [Off](#) setting sets the baud rate to 14,400 bps. This setting remains set, until changed.

Speaker Mode: This service setting has two modes, [Normal](#) and [Diagnostic](#). In [Normal](#) mode, the modem speaker is turned on during dialing through the initial connection and then shuts off. For [Diagnostic](#) mode, the speaker is turned on and remains on for all fax communications until the setting is returned to [Normal](#) mode.

Settings in the Resets menu

Open the [Administration](#) menu, and then select the [Resets](#) menu.

Resets menu settings

Restore Factory Telecom Settings or Restore Default Telecom Settings: This selection resets menu changes back to their default settings. This includes the maximum baud rate, ring-burst off time, V.34, speaker mode, and transmit signal loss.

Firmware upgrades

The firmware on the fax accessory can be updated. Fax firmware updates occur as part of an overall product firmware update. See the product user guide for more information.

Solve e-mail problems

If you are unable to send e-mails by using the digital-send feature, you might need to reconfigure the SMTP gateway address or the LDAP gateway address. Print a configuration page to find the current SMTP and LDAP gateway addresses. Use the following procedures to check if the SMTP and LDAP gateway addresses are valid.

Validate the SMTP gateway address



NOTE: This procedure is for Windows operating systems.

1. Open an MS-DOS command prompt: click **Start**, click **Run**, and then type `cmd`.
2. Type `telnet` followed by the SMTP gateway address and then the number 25, which is the port over which the MFP is communicating. For example, type `telnet 123.123.123.123 25` where "123.123.123.123" represents the SMTP gateway address.
3. Press **Enter**. If the SMTP gateway address is *not* valid, the response contains the message `Could not open connection to the host on port 25: Connect Failed`.
4. If the SMTP gateway address is not valid, contact the network administrator.

Validate the LDAP gateway address



NOTE: This procedure is for Windows operating systems.

1. Open Windows Explorer. In the address bar, type `LDAP://` immediately followed by the LDAP gateway address. For example, type `LDAP://12.12.12.12` where "12.12.12.12" represents the LDAP gateway address.
2. Press **Enter**. If the LDAP gateway address is valid, the **Find People** dialog box opens.
3. If the LDAP gateway address is not valid, contact the network administrator.

Product updates

To download the most recent firmware upgrade for the product, go to www.hp.com/support/ljm4555mfp.

Determine the installed revision of firmware

Print a configuration page to determine the installed revision of firmware. See [Configuration page on page 438](#).

On the configuration page, look in the section marked Device Information for the firmware datecode and firmware revision.

Firmware datecode and firmware revision examples

- 20100831 (firmware datecode)
- 103067_104746 (firmware revision)

Perform a firmware upgrade

The firmware bundle is a xxxxxxxx.bdl file. This file requires an interactive upgrade method. You cannot upgrade the product using the traditional FTP, LPR or Port 9100 methods of upgrading. Use one of the following methods to upgrade the product firmware.

Use the HP Embedded Web Server

1. Open a browser window.
2. Enter the product IP address in the URL line.
3. Click the **General** tab, and then click the **Firmware Upgrade** link.



NOTE: If you get a warning screen, follow the instructions for setting an administrator password from the **Security** tab.


4. Browse to the location that the firmware upgrade file was downloaded to, and then select the firmware file. Click the **Install** button to perform the upgrade.




IMPORTANT: Do not close the browser window until the HP Embedded Web Server (EWS) displays the confirmation page.


5. Click the **Restart Now** button on the EWS confirmation page, or turn the product off, and then on again using the power switch.

Use a USB storage device with the preboot menu

1. Copy the firmware update file to a portable USB flash memory storage device (thumb drive).
2. Turn the product on.
3. Press and hold the Stop  button when all of the LEDs illuminate solid.
4. Press the 9 button to highlight the Administrator menu, and then press the 6 button.
5. Press the 9 button to highlight the Download menu, and then press the 6 button.
6. Insert the portable USB storage device with the firmware update file on it.

 **NOTE:** If the error message **No USB Thumbdrive Files Found** appears on the control-panel display, you might need to connect the storage device to the external USB connection on the formatter.

7. Press the 9 button to highlight the USB Thumbdrive menu, and then press the 6 button.
8. Press the 9 button to highlight the firmware update file, and then press the 6 button.

 **NOTE:** The upgrade process can take up to 10 minutes to complete.

 **TIP:** If there is more than one firmware update file on the storage device, make sure that you select the correct file for this product.

9. When the message Complete appears on the control-panel display, press the 5 button three times.
10. When the message Continue appears on the control-panel display, press the 6 button. The product will initialize.
11. When the upgrade process is complete, print a configuration page and verify that the upgrade firmware version was installed.

Use a USB storage device with the Device Maintenance menu

1. Copy the firmware update file to a portable USB flash memory storage device (thumbdrive).
2. Turn the product on, and then wait until it reaches the **Ready** state.
3. Touch the [Device Maintenance](#) button.
4. Touch the [USB Firmware Upgrade](#) menu.
5. Insert the portable USB storage device with the firmware upgrade file on it into the USB port on the front of the product, and then touch the [OK](#) button.
6. Touch the firmware update file, and then touch the [Upgrade](#) button.



TIP: If there is more than one firmware upgrade file on the storage device, make sure that you select the correct file for this product.

7. When the product prompts you to confirm the upgrade, touch the [Upgrade](#) button.

When the upgrade is complete, the product will initialize.



NOTE: The upgrade process can take up to 10 minutes to complete.

8. When the upgrade process is complete, print a configuration page and verify that the upgrade firmware version was installed.

4 Parts and diagrams

- [Order parts by authorized service providers](#)
- [How to use the parts lists and diagrams](#)
- [Assembly locations](#)
- [Covers \(and upper plate assembly\)](#)
- [Internal components](#)
- [Input devices](#)
- [Output devices](#)
- [Document feeder and scanner](#)
- [Alphabetical parts list](#)
- [Numerical parts list](#)

Order parts by authorized service providers

Order parts, accessories, and supplies

Table 4-1 Order parts, accessories, and supplies

Order supplies and paper	www.hp.com/go/suresupply
Order genuine HP parts or accessories	www.partsurfer.hp.com
Order through service or support providers	Contact an HP-authorized service or support provider.
Order using HP software	For information about using the HP software to order parts, accessories, and supplies, see the product user guide.

Supplies part numbers

Table 4-2 Supplies part numbers

Item	Description	Part number
HP LaserJet print cartridge with HP ColorSphere toner	Black print cartridge (standard)	CE390A (new) CE390-67901 (service)
	Black print cartridge (high capacity)	CE390X (new) CE390-67902 (service)
	Black print cartridge (contractual)	CE268-67901 (service)

Customer-self repair parts

Each kit includes parts and installation instructions. The customer-self repair (CSR) level indicates the expected difficulty the customer will experience when replacing this part:

- A = Easy
- B = Difficult
- C = Very difficult

Item	Part number	CSR level
Transfer roller kit	CE502-67902	A
<ul style="list-style-type: none">• Transfer roller assembly (with removal tool)• Installation instructions		

Item	Part number	CSR level
Output bin assembly kit	CE502-67906	A
<ul style="list-style-type: none"> Cover, tray base Cover, paper delivery tray assembly Installation instructions 		
Duplex assembly kit	CE5025-67907	A
<ul style="list-style-type: none"> Duplexer Installation instructions 		
Fuser entrance guide kit	CE502-67908	B
<ul style="list-style-type: none"> Fuser entrance guide assembly Installation instructions 		
IFA formatter kit	CE502-67911	A
<ul style="list-style-type: none"> IFA formatter assembly Installation instructions 		
Fuser kit	110 volt: CE502-67909	A
<ul style="list-style-type: none"> Fuser assembly Installation instructions 	220 volt: CE502-67913	
	CAUTION: Make sure that you order the correct fuser kit for the specific voltage of your product.	
Tray 2-6 pickup and feed rollers kit	CE502-67910	A
<ul style="list-style-type: none"> Paper pickup rollers (cassette) Paper feed rollers (cassette) Installation instructions 		
Tray 1 pick, feed, and separation roller kit	CE502-67911	A
<ul style="list-style-type: none"> Tray 1 pickup roller Tray 1 feed roller Tray 1 separation roller Installation instructions 		
Solid state drive kit	CE502-67914	B
<ul style="list-style-type: none"> Solid state drive, 8 GB Installation instructions 		
Hard disk drive encrypted kit	CE502-67915	B
<ul style="list-style-type: none"> Hard disk drive encrypted, 250 GB Installation instructions 		

Service replacement parts

Item	Part number
Front cover assembly service kit	CE502-67917
<ul style="list-style-type: none">JewelNameplate: HP LaserJet M4555 MFPNameplate: HP LaserJet M4559 MFPCover, frontInstallation instructions	

Accessories part numbers

Table 4-3 Accessories part numbers

Item	Description	Part number
1x500-sheet feeder	Optional feeder to increase paper capacity.	CE737A
1x500-sheet feeder with stand	Optional feeder to increase paper capacity.	CE734A
3x500-sheet feeder with stand	Optional feeder to increase paper capacity.	CE735A
Stapler/stacker	Optional output accessory to increase paper handling.	CE736A
Staple cartridge refill	Staple cartridge refill for the stapling mailbox.	C8091A
Envelope feeder	Optional input accessory to increase paper handling.	CB524A
HP LaserJet preventative maintenance kit	this kit includes a fuser, transfer roller, and all pickup and feed rollers.	110 V: CE731A
		220 V: CE732A

Table 4-3 Accessories part numbers (continued)

Item	Description	Part number
Document feeder maintenance kit	This kit includes a replacement roller assembly and separation pad for the document feeder.	CE248A
Power cord	China 220V - 10A	8121-0943
	Taiwan 110V - 13A	8121-0964
	Korea 220V - 10A	8121-0731
	Japan 110V - 12A	8121-1143
	India 220V - 6A	8121-0564
	Asia Pacific 220V - 10A	8121-0739
	Australia/New Zealand 220V - 10A	8121-0837
	Israel 220V - 10A	8121-1004
	Denmark 220V - 10A	8121-0733
	South Africa 220V - 10A	8121-0737
	Switzerland 220V - 10A	8121-0738
	Brazil 110V - 10A	8121-0734
	Argentina 220V - 10A	8121-0729
	North America 110V - 13A	8121-1141
	Israel - Unique cord	8120-8913
	Switzerland - Unique cord	8121-0844
	Rest of World - Standard 2-wire RJ-11	8121-0811

Related documentation and software

Table 4-4 Related documentation and software

Item	Description	Part number
<i>HP LaserJet Enterprise M4555 MFP Series User Guide</i>	Product user guide	CE502-90906
<i>HP LaserJet Enterprise M4555 MFP Series Service Manual</i>	English service manual (this manual)	CE502-90971

Fasteners used in this product

Table 4-5 Fasteners¹

Part number	Description	Where used	Quantity
XA9-1670-000CN	Screw, D M3x6	Ref 22 in Upper plate assembly on page 666 .	16
XD9-0235-000CN	Ring, E	Ref 23 in Upper plate assembly on page 666 .	9
RC2-2633-000CN	Screw, M4X5	Ref 2 in Internal components (3 of 5) on page 672 .	2
IRA068K339NI	Screw (ASY-NS-SCR00063)	Ref 2456 in Document feeder components (1 of 5) on page 716 .	5
PF2309K115NI	Screw (ASY-SCR03T100PLA-SP)	Ref 1504 in Document feeder components (1 of 5) on page 716 .	5
		Ref 1504 in Document feeder components (2 of 5) on page 718 .	10
IR4068K333NI	Screw (ASY-030060FNTW)	Ref 1508 in Document feeder components (2 of 5) on page 718 .	3
		Ref 1508 in Scanner components (6 of 8) on page 738 .	3
		Ref 1508 in Scanner components (7 of 8) on page 740 .	2
PF2309K113NI	Screw (ASY-SCR-5-4-DAN-SP)	Ref 2327 in Document feeder components (2 of 5) on page 718 .	3
		Ref 2327 in Document feeder components (5 of 5) on page 724 .	2
IRA4068K331NI	Screw (ASY-0300060FDIT)	Ref 2401 in Document feeder components (2 of 5) on page 718 .	5
IRA4068K336NI	Screw (ASY-040200FNWS)	Ref 2405 in Document feeder components (2 of 5) on page 718 .	1
PF2309K115NI	Screw (ASY-SCR03T100PLA-SP)	Ref 1504 in Document feeder components (4 of 5) on page 722 .	3
		Ref 1504 in Document feeder components (5 of 5) on page 724 .	5
IRA4068K332NI	Screw (ASY-030060FNTP)	Ref 2402 in Document feeder components (4 of 5) on page 722 .	1
		Ref 2402 in Document feeder components (5 of 5) on page 724 .	3
PF2309K108NI	Screw (ASY-SCR04T100PLA-SP)	Ref 2455 in Document feeder components (5 of 5) on page 724 .	5
IR4068K339NI	Screw (ASY-NS-SCR00063)	Ref 2456 in Document feeder components (5 of 5) on page 724 .	4

Table 4-5 Fasteners¹ (continued)


Part number	Description	Where used	Quantity
IRA4068K342NI	Screw (ASY-040100FNBB)	Ref 1502 in Scanner components (1 of 8) on page 728.	1
		Ref 1502 in Scanner components (3 of 8) on page 732.	6
		Ref 1502 in Scanner components (8 of 8) on page 742.	8
IRA4068K341NI	Screw (ASY-030060FNIT)	Ref 1501 in Scanner components (2 of 8) on page 730.	1
		Ref 1501 in Scanner components (4 of 8) on page 734.	2
		Ref 1501 in Scanner components (5 of 8) on page 736.	2
		Ref 1501 in Scanner components (6 of 8) on page 738.	1
		Ref 1501 in Scanner components (7 of 8) on page 740.	5
IR4068K344NI	Screw (ASY-NS-SCR00027)	Ref 1504 in Scanner components (5 of 8) on page 736.	2
		Ref 1504 in Scanner components (6 of 8) on page 738.	6
		Ref 1504 in Scanner components (7 of 8) on page 740.	2
IR4068K338NI	Screw (ASY-NS-SCR00023B)	Ref 1505 in Scanner components (5 of 8) on page 736.	2
IR4068K335NI	Screw (ASY-030080FNTW)	Ref 1507 in Scanner components (6 of 8) on page 738.	2
IR4068K343NI	Screw (ASY-IR4041P021)	Ref 1022 in Scanner components (6 of 8) on page 738.	1

¹ The quantity column in this table lists the number of fasteners used in a specific component. When you order a fastener using the part number in this table, you will receive one fastener.

How to use the parts lists and diagrams

The figures in this chapter show the major subassemblies in the product and their component parts. A parts list table follows each exploded view assembly diagram. Each table lists the item number, the associated part number, and the description of each part. If a part is not listed in the table, then it is not a field replacement unit (FRU).

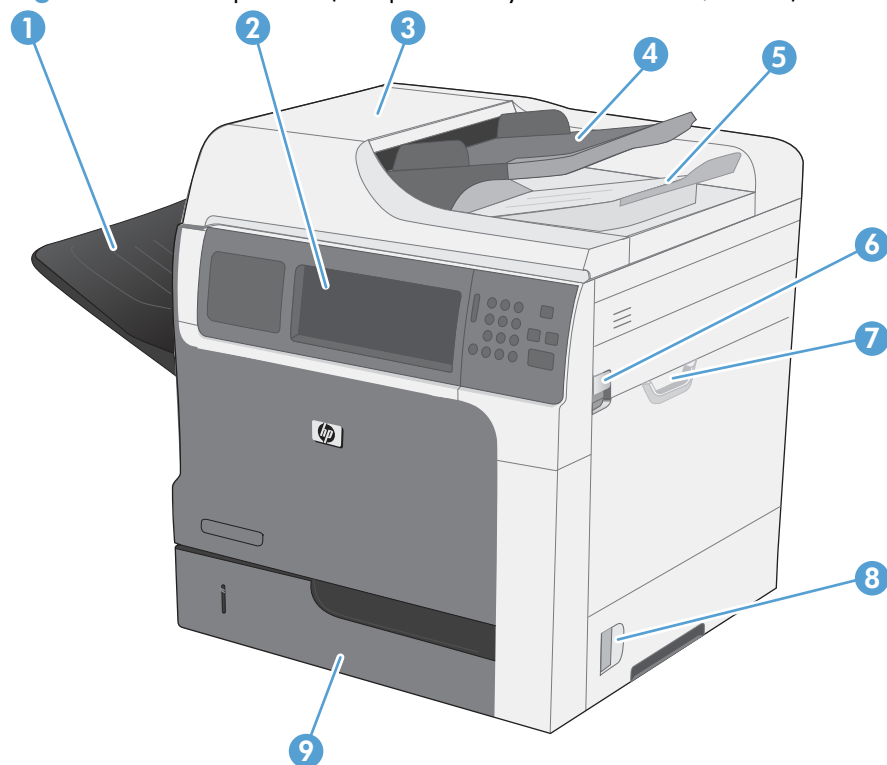
CAUTION: Be sure to order the correct part. When looking for part numbers for electrical components, pay careful attention to the voltage that is listed in the description column. Doing so will ensure that the part number selected is for the correct model.

 **NOTE:** In this manual, the abbreviation “PCA” stands for “printed circuit-board assembly.” Components described as a PCA might consist of a single circuit board or a circuit board plus other parts, such as cables and sensors.

Assembly locations

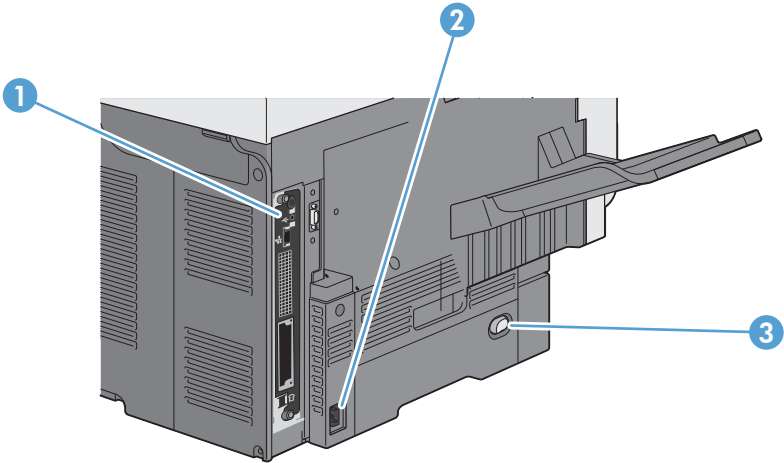
Base product (no optional trays or accessories)

Figure 4-1 Base product (no optional trays or accessories; 1 of 3)



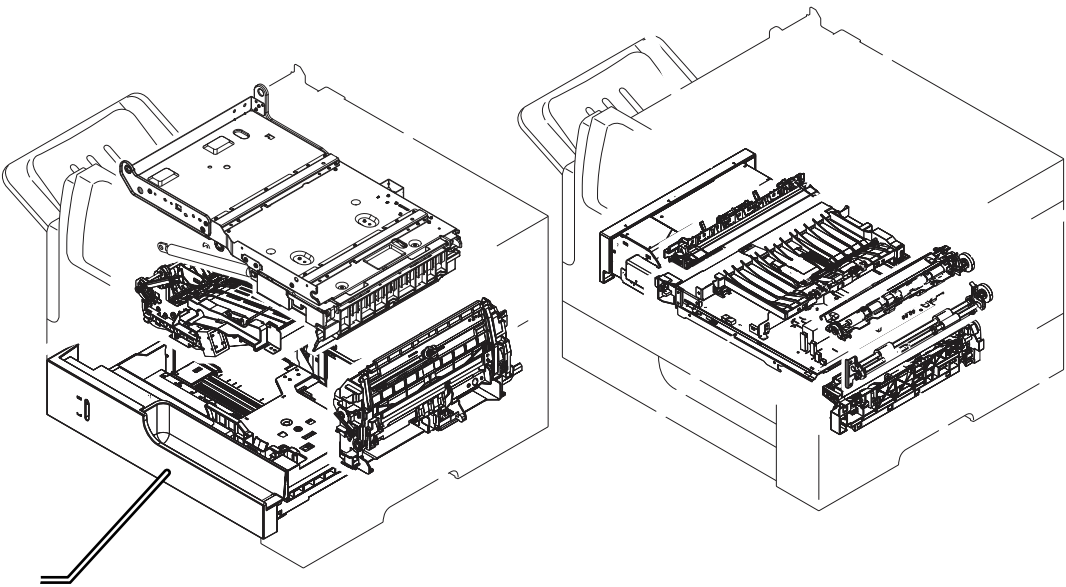
Item	Description
1	Output bin, standard
2	Control panel with color touchscreen display
3	Document feeder cover (jam access)
4	Document feeder input tray
5	Document feeder output bin
6	Top cover release lever
7	Tray 1
8	Right door latch
9	Tray 2

Figure 4-2 Base product (no optional trays or accessories; 2 of 3)



Item	Description
1	Formatter
2	Power connection
3	Power switch

Figure 4-3 Base product (no optional trays or accessories; 3 of 3)

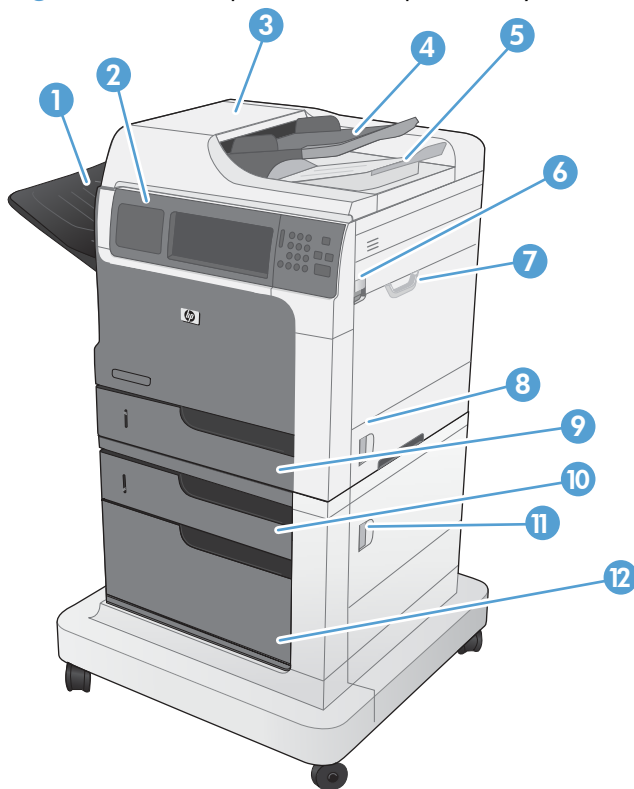


Item	Description
1	Upper plate assembly
2	Duplex assembly
3	Fuser assembly
4	Registration assembly

Item	Description
5	Paper feed roller assembly
6	Paper pickup assembly
7	Power supply assembly
8	Tray 1 pickup assembly
9	Tray 2 assembly
10	Reverse assembly

Base product (with optional trays or accessories)

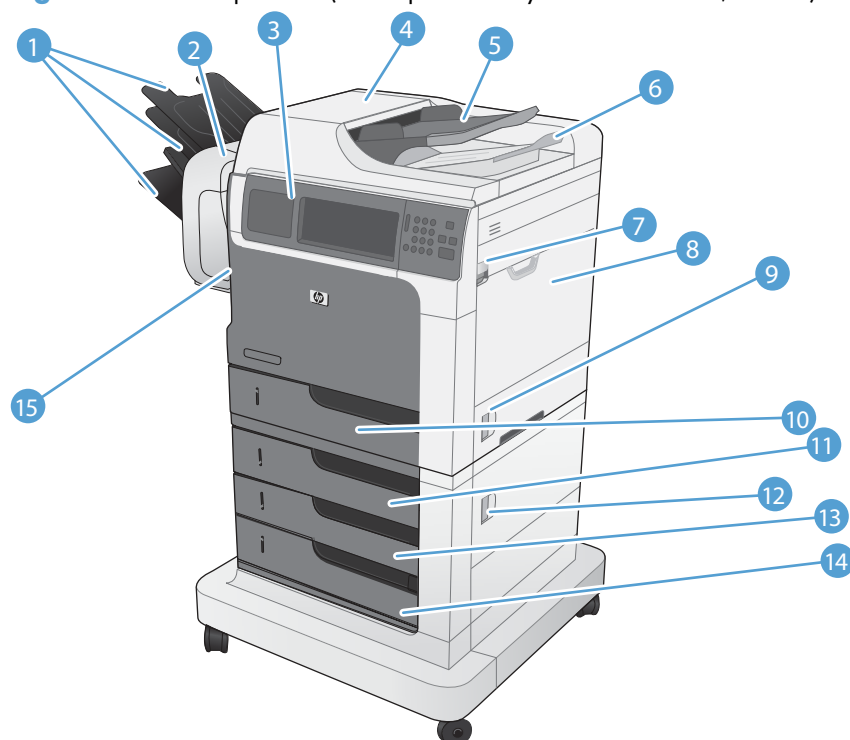
Figure 4-4 Base product (with optional trays or accessories; 1 of 2)



Item	Description
1	Output bin, standard
2	Control panel with color touchscreen display
3	Document feeder cover (jam access)
4	Document feeder input tray
5	Document feeder output bin
6	Top cover release lever

Item	Description
7	Tray 1
8	Right door latch
9	Tray 2
10	Tray 3
11	Lower right door latch
12	Storage cabinet

Figure 4-5 Base product (with optional trays or accessories; 2 of 2)



Item	Description
1	Stapler/stacker output bins
2	Stapler/stacker accessory
3	Control panel with color touchscreen display
4	Document feeder cover (jam access)
5	Document feeder input tray
6	Document feeder output bin
7	Top cover release lever
8	Tray 1
9	Right door latch

Item	Description
10	Tray 2
11	Tray 3
12	Lower right door latch
13	Tray 4
14	Tray 5
15	Stapler door (staple cartridge access)

Covers (and upper plate assembly)

Product base

Figure 4-6 Covers

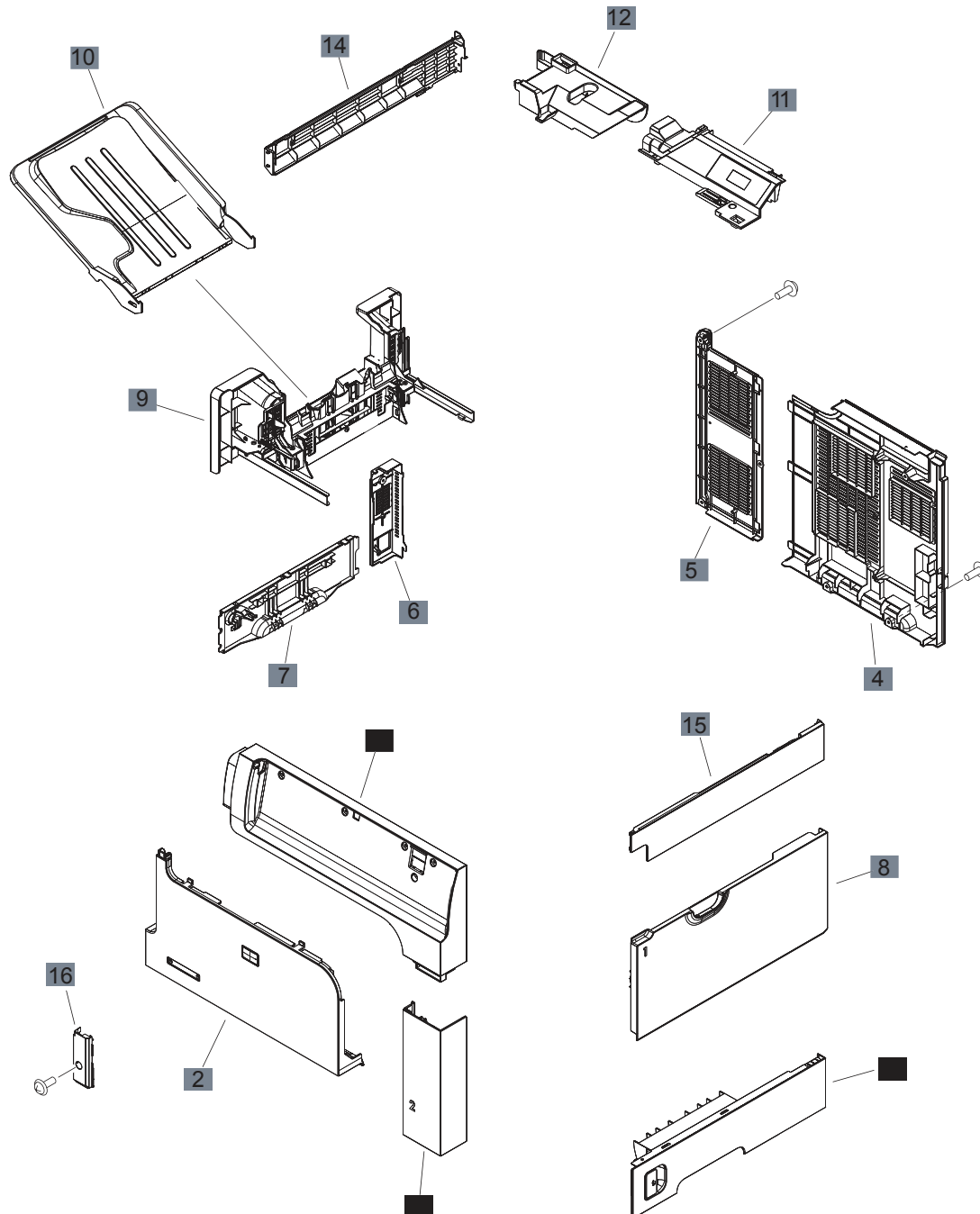


Table 4-6 Covers

Ref	Description	Part number	Qty
1	Cover, front-upper side assembly	RM1-7394-000CN	1
2	Cover, front	RC2-8007-000CN	1
3	Cover, right front	RC2-8011-000CN	1
4	Cover, right rear	RC2-8013-000CN	1
5	Cover, left rear	RC2-8014-000CN	1
6	Cover, rear side	RC2-7980-000CN	1
7	Cover, cassette left assembly	RM1-7378-000CN	1
8	Cover, MP assembly (Tray 1)	RM1-7402-000CN	1
9	Cover, tray base assembly (standard output bin mounting)	RM1-7409-000CN	1
10	Cover, paper delivery tray assembly (standard output bin)	RM1-7414-000CN	1
11	Cover, top rear	RC2-7992-000CN	1
12	Cover, cable image scanner	RC2-7993-000CN	1
13	Cover, right lower assembly	RM1-7404-000CN	14
1	Cover, lower left image scanner	RC2-8037-000CN	1
15	Cover, right image scanner	RC2-8036-000CN	1
16	Cover, front-lower left	RC2-7983-000CN	1

Upper plate assembly

Figure 4-7 Upper plate assembly

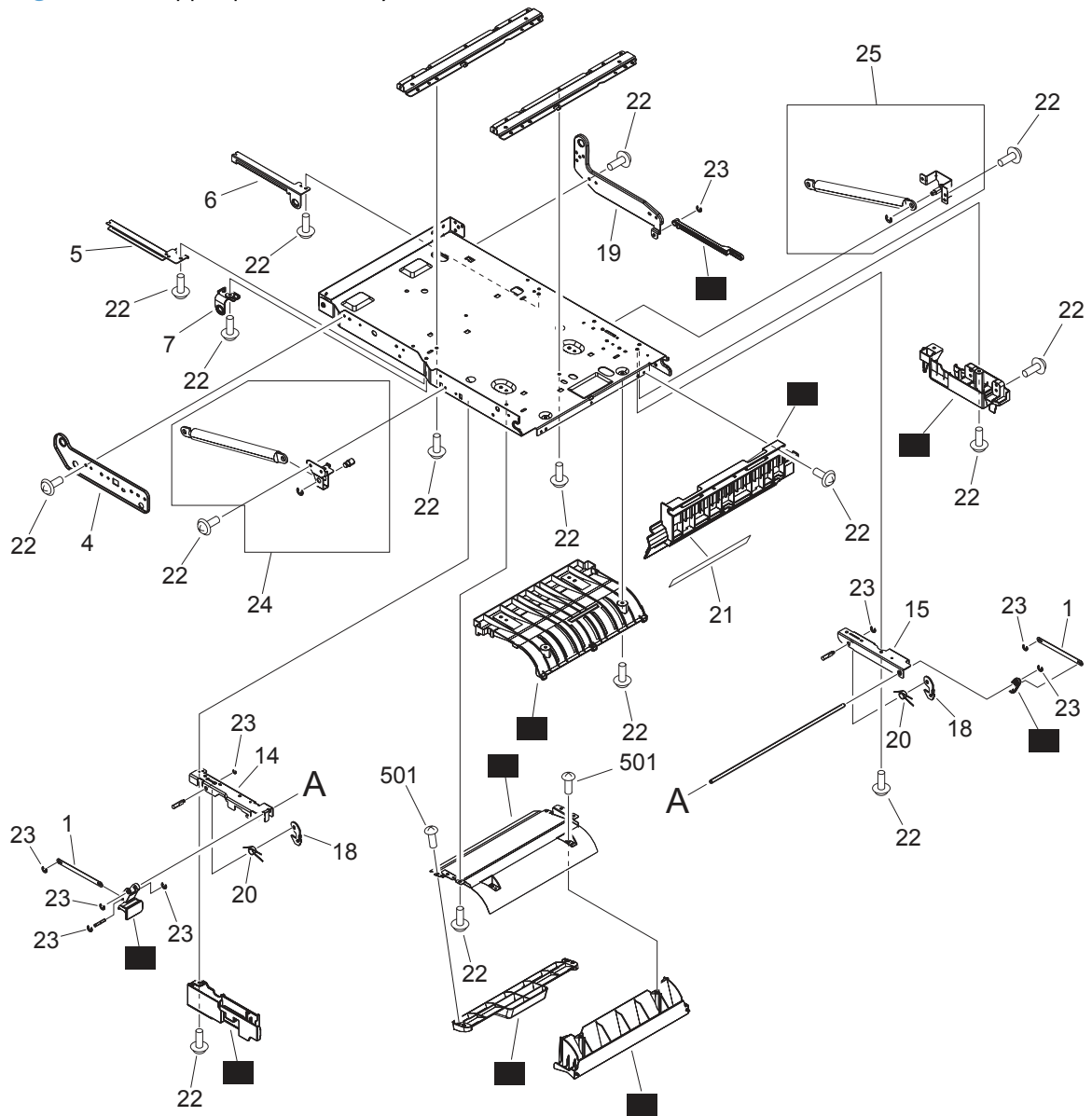


Table 4-7 Upper plate assembly¹

Ref	Description	Part number	Qty
2	Link handle (upper plate)	RC1-2822-000CN	1
3	Rod link (upper plate)	RC1-2830-000CN	1
7	Block, guide support (upper plate)	RC1-3102-000CN	1
8	Cover, front lock IS (upper plate)	RM1-7394-000CN	1
9	Cover, rear lock IS (upper plate)	RC2-8027-000CN	1
10	Upper cartridge guide (upper plate)	RC2-8028-000CN	1
11	Legal size guide (upper plate)	RC2-8029-000CN	1
12	Cartridge support 1 (upper plate)	RC2-8030-000CN	1
13	Cartridge support 2 (upper plate)	RC2-8031-000CN	1
16	Handle lock (upper plate)	RC2-8096-000CN	1
17	Right shutter holder (upper plate)	RC2-8097-000CN	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Internal components

Internal components (1 of 5)

Figure 4-8 Internal components (1 of 5)

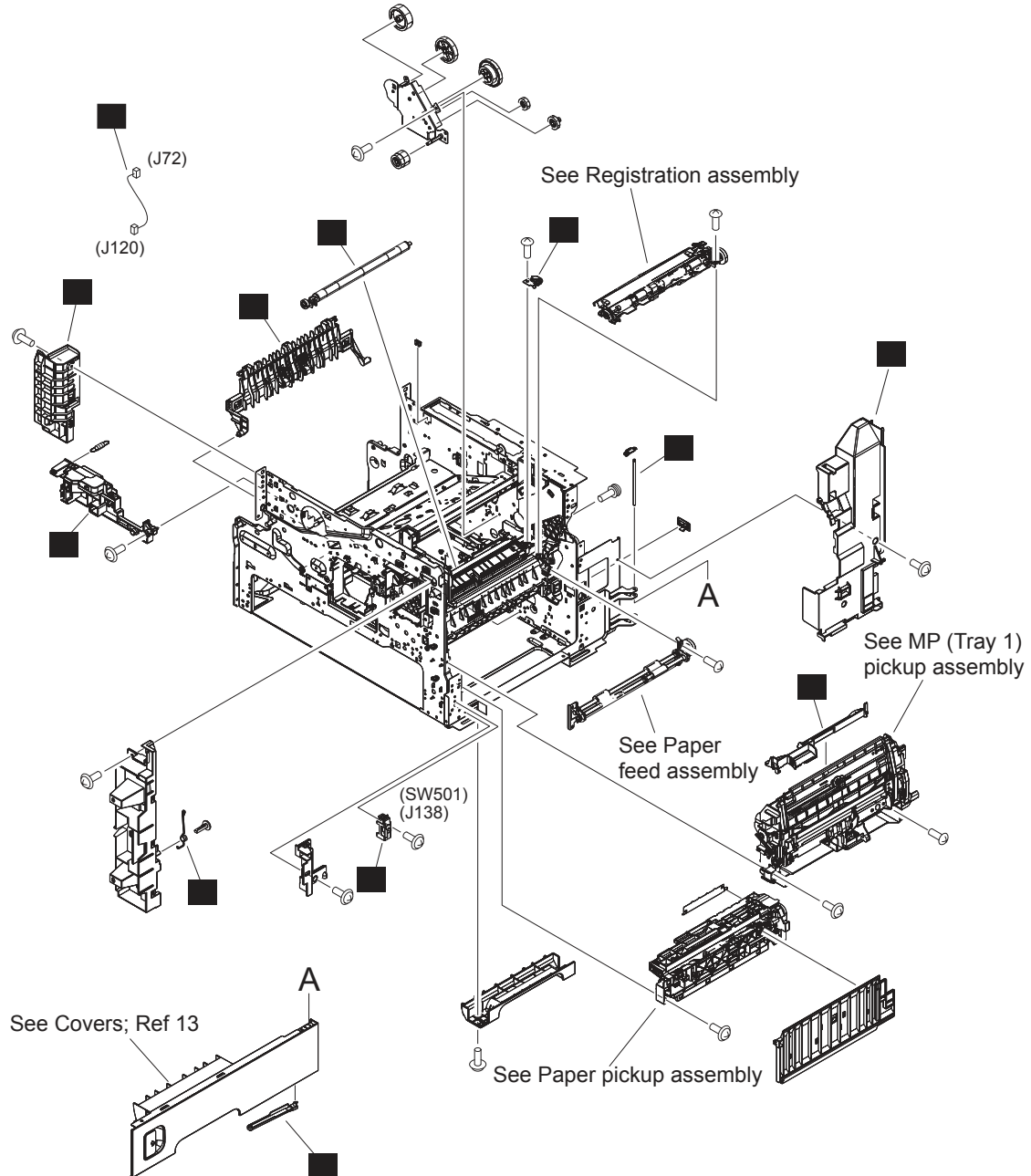


Table 4-8 Internal components (1 of 5)

Ref	Description	Part number	Qty
1	Transfer roller assembly	RM1-5462-000CN	1
2	Ground plate assembly	RM1-5461-000CN	1
3	Cover, environment	RL1-2831-000CN	1
4	Cover, front inner	RC2-7979-000CN	1
5	Cable, size detect	RM1-7179-000CN	1
6	Shaft, right-lower access door hinge	RU5-4142-000CN	1
7	Cover, MP (Tray 1) gear	RC2-7987-000CN	1
8	Lifter base assembly	RM1-5913-000CN	1
9	Link rod, lower-access door	RC1-2902-000CN	1
10	Spring, torsion	RC2-8085-000CN	1
11	Sensor, assembly right door	RM1-1045-000CN	1
12	Face-up open guide assembly	RM1-7389-000CN	1

Internal components (2 of 5)

Figure 4-9 Internal components (2 of 5)

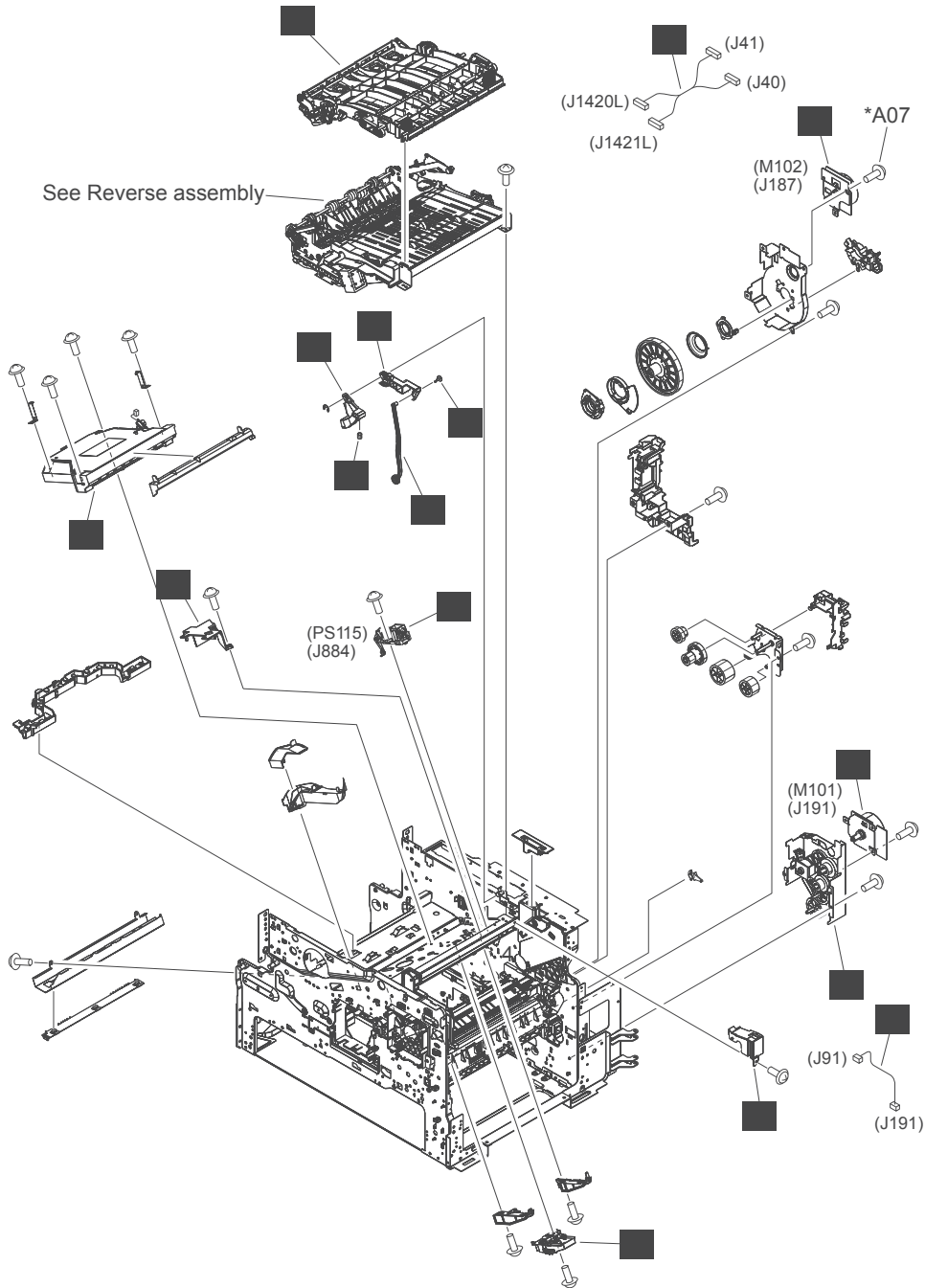


Table 4-9 Internal components (2 of 5)

Ref	Description	Part number	Qty
1	Laser/scanner assembly	RM1-7419-000CN	1
2	Motor, DC 24V	RL1-1657-020CN	1
3	Cable, paper feed motor	RM1-7114-000CN	1
4	Reverse estrangement guide assembly	RM1-7380-000CN	1
5	Paper pickup drive assembly	RM1-7403-000CN	1
6	Tag holder assembly	RM1-4539-000CN	1
7	Cover, lens protective	RC2-7994-000CN	1
8	Motor, DC 24V	RL1-1659-010CN	1
9	Rod, release	RC2-8086-000CN	1
10	Cover, door arm (top cover)	RC1-2833-000CN	1
11	Arm, door B	RC2-7967-000CN	1
12	Arm, door 1	RC1-2827-000CN	1
13	Spring, compression	RU5-2265-000CN	1
14	Stopper, bushing arm	RC1-3090-000CN	1
15	Cable, switchback joint	RM1-7180-000CN	1
16	Sensor, assembly cartridge	RM1-8323-000CN	1

Internal components (3 of 5)

Figure 4-10 Internal components (3 of 5)

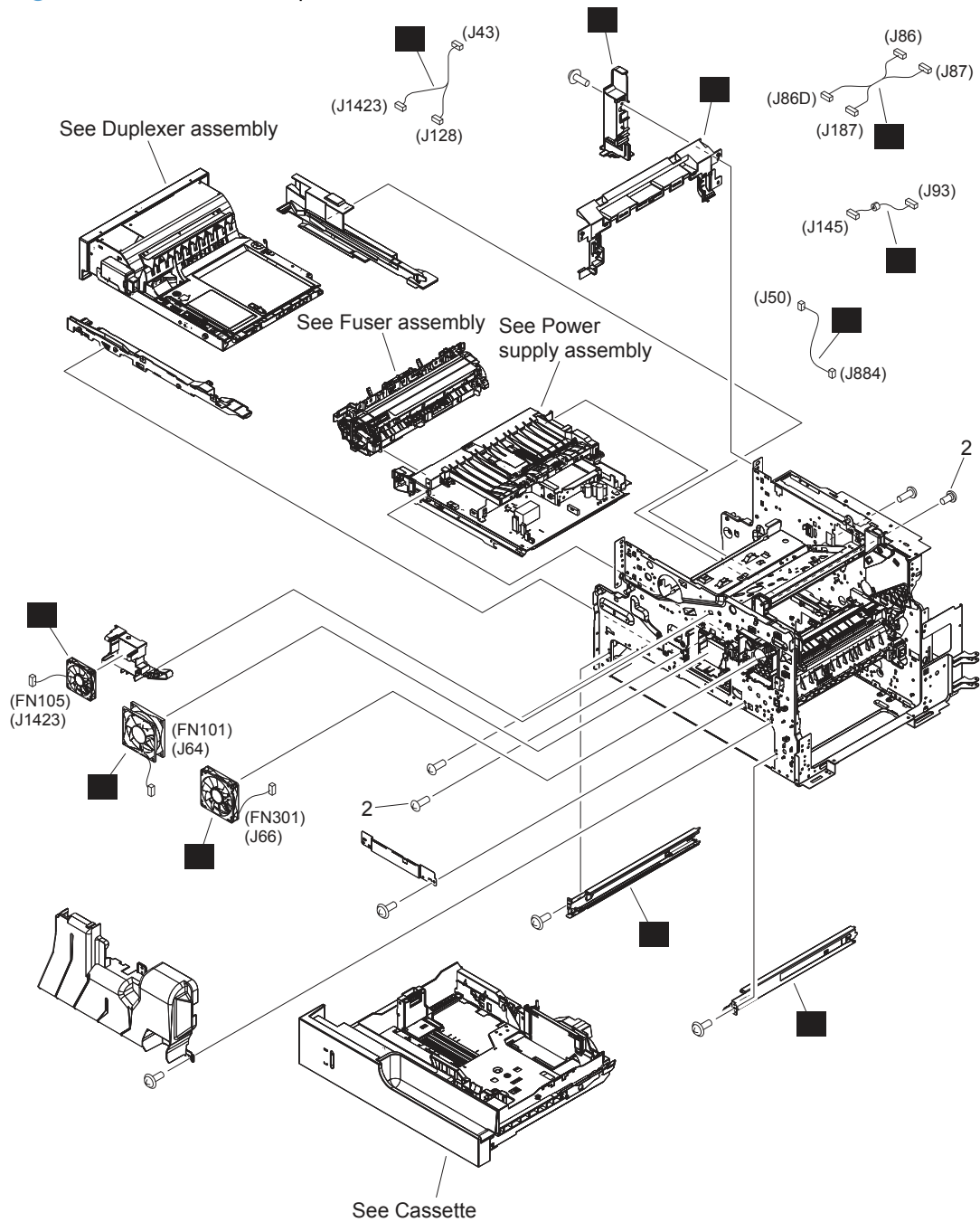


Table 4-10 Internal components¹ (3 of 5)

Ref	Description	Part number	Qty
1	Cover, inner rear	RC2-7982-000CN	1
3	Fan (FN101)	RK2-1988-000CN	1
4	Fan (FN301)	RK2-1991-000CN	1
5	Fan (FN105)	RK2-0280-000CN	1
6	Cassette right rail assembly	RM1-5931-000CN	1
7	Cassette left rail assembly	RM1-5932-000CN	1
8	Cable, cartridge sensor	RM1-7112-000CN	1
9	Center shroud	RL1-2830-000CN	1
10	Cable, reverse fan	RM1-7177-000CN	1
11	Cable, scanner joint drum motor	RM1-7178-000CN	1
12	Cable, laser	RM1-7166-000CN	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Internal components (4 of 5)

Figure 4-11 Internal components (4 of 5)

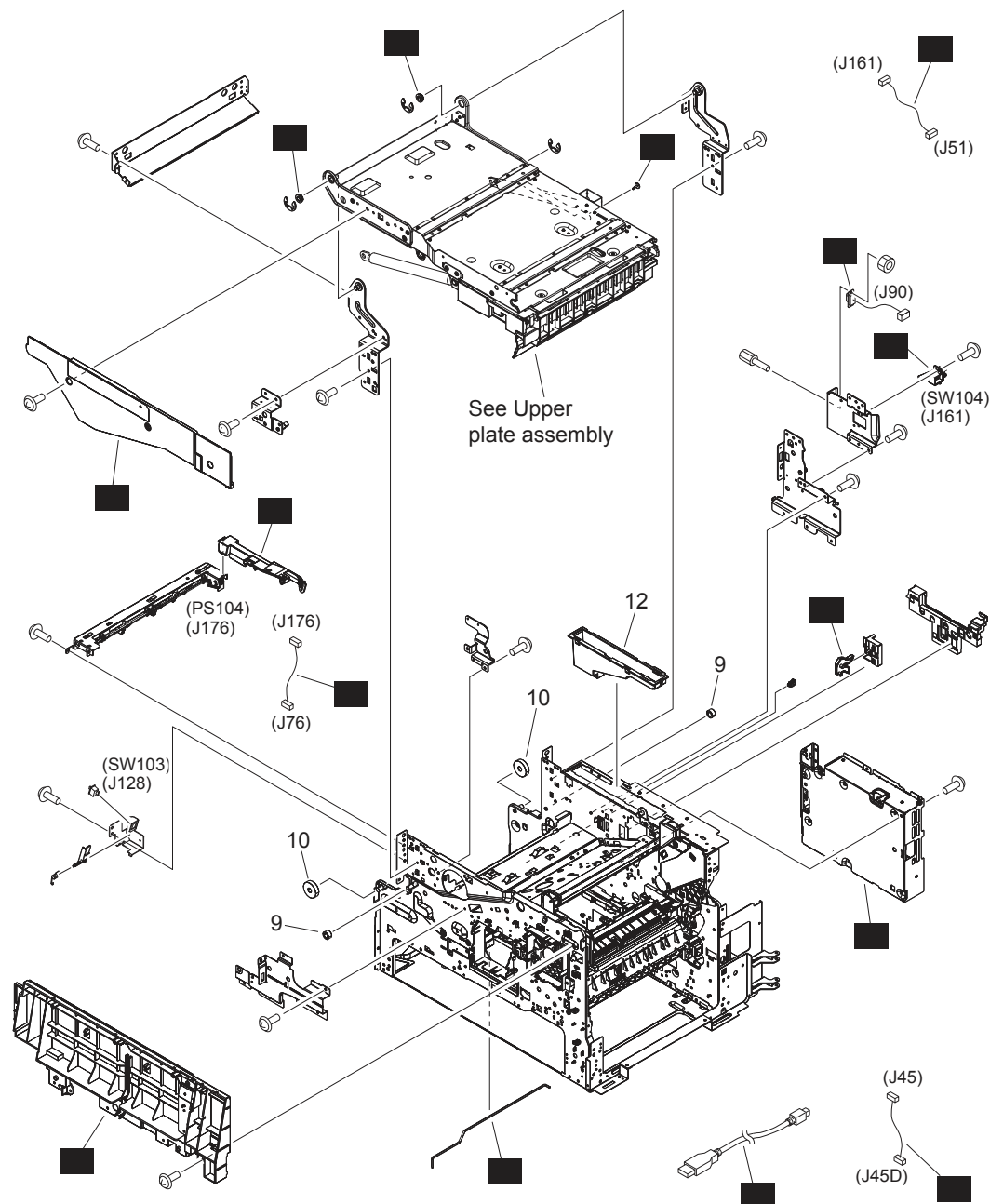


Table 4-11 Internal components¹ (4 of 5)

Ref	Description	Part number	Qty
1	Cover, reverse side rear	RC1-2852-000CN	1
2	Rod, switch front	RC1-2980-000CN	1
3	Cable, paper delivery sensor	RM1-7168-000CN	1
4	Cover, IS front	RL1-2832-000CN	1
5	Cover, back panel assembly	RM1-7415-000CN	1
6	Cable, paper delivery	RM1-7167-000CN	1
7	Cable, USB	RK2-3241-000CN	1
8	Bushing	RC1-2922-000CN	2
11	Low-voltage power supply 110V	RM1-7401-000CN	1
11	Low-voltage power supply 220V	RM1-7413-000CN	1
13	Link switch	RC1-3003-000CN	1
14	Sensor unit MBM	RM1-7374-000CN	1
15	Cable, full detect	RM1-7158-000CN	1
16	Stopper, bushing arm	RC1-3090-000CN	1
17	Cable, scanner power supply	RM1-7161-000CN	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Internal components (5 of 5)

Figure 4-12 Internal components (5 of 5)

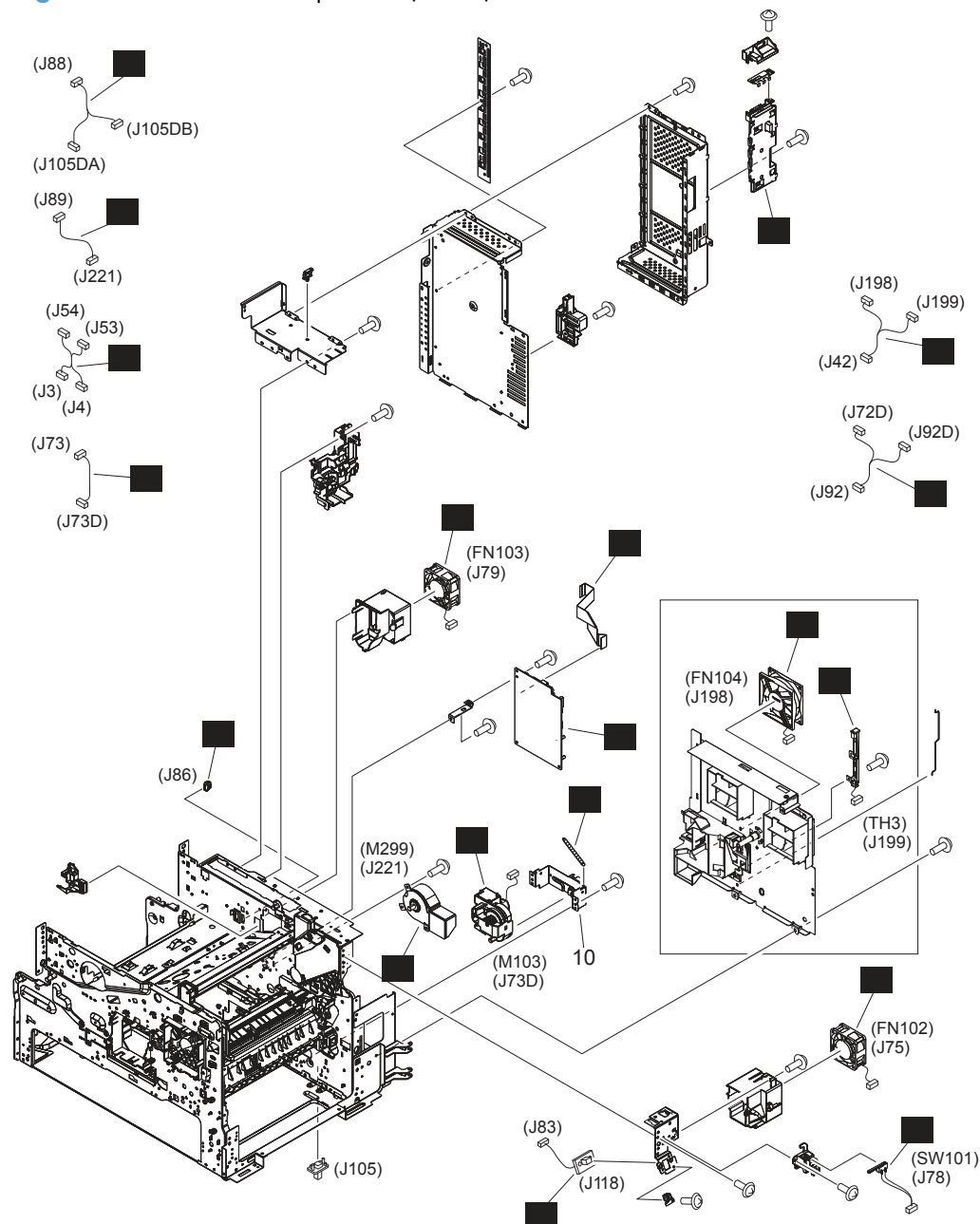


Table 4-12 Internal components (5 of 5)

Ref	Description	Part number	Qty
1	Connector PCA assembly	RM1-7375-000CN	1
2	Cable, flat flexible (FFC)	RK2-3206-000CN	1
3	Connector, snap tight	VS1-7207-007CN	1
4	Cable, paper feed	RM1-7169-000CN	1
5	Cable, environmental sensor	RM1-7164-000CN	1
6	Cable, P sensor solenoid	RM1-7170-000CN	1
7	Fan (FN104)	RK2-3214-000CN	1
8	Cable, door switch	RM1-7113-000CN	1
9	Spring, tension	RU6-2475-000CN	1
11	Cable, FSR control	RM1-7156-000CN	1
12	DC controller PCA	RM1-7102-000CN	1
13	Fuser motor assembly	RM1-5051-020CN	1
14	Cable, envelope feeder	RM1-5085-000CN	1
15	Lifter assembly (1 required for each cassette)	RM1-5914-000CN	1
16	Fan (FN103)	RK2-1992-000CN	1
17	Cable, lifter motor	RM1-7162-000CN	1
18	Fan (FN102)	RK2-1989-000CN	1
19	Cable, fuser motor	RM1-7159-000CN	1
20	Sensor, assembly temperature	RM1-7420-000CN	1

High-voltage power supply

Figure 4-13 High-voltage power supply

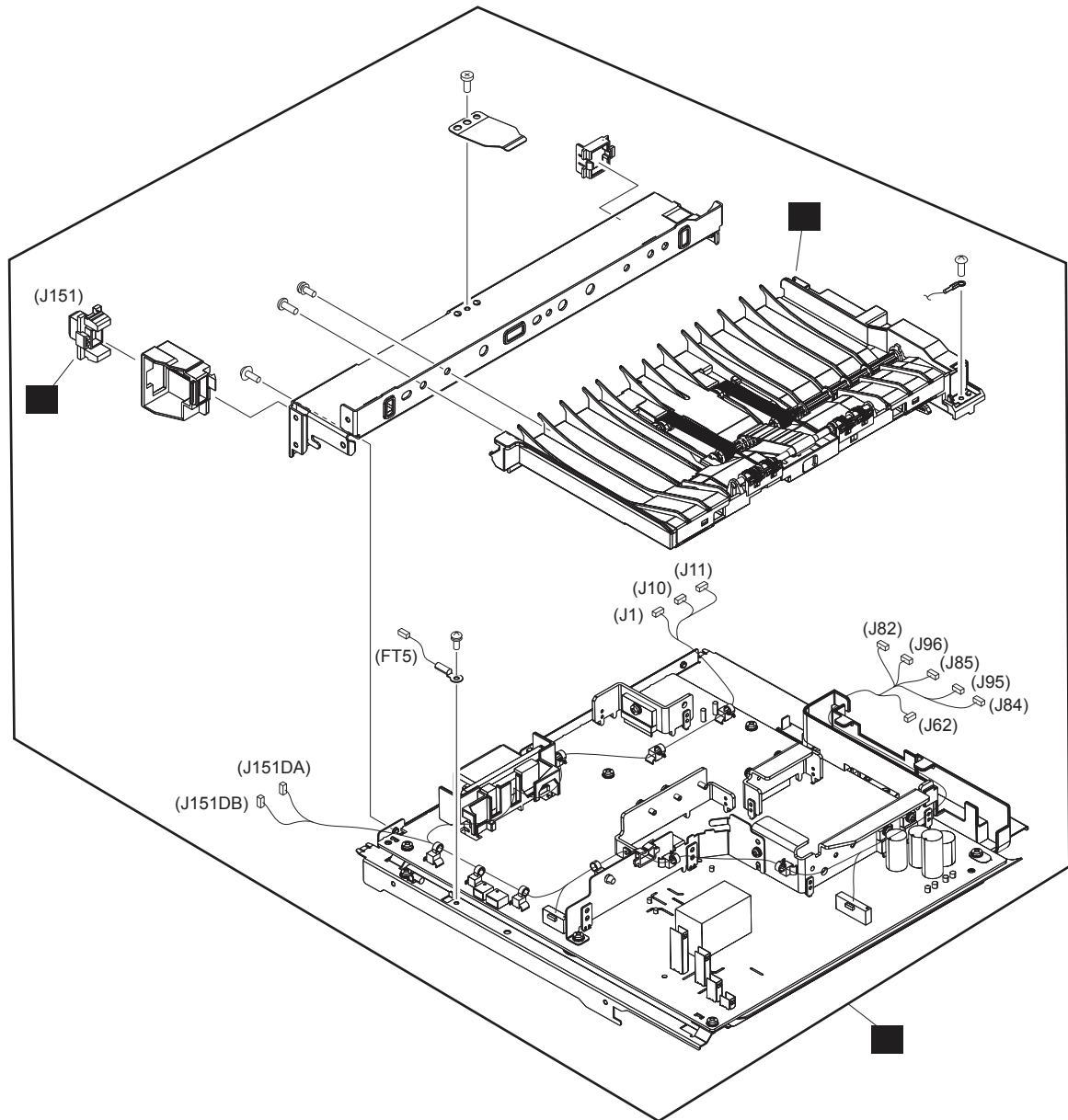


Table 4-13 High-voltage power supply

Ref	Description	Part number	Qty
1	Paper feed assembly	RM1-4548-000CN	1
2	High-voltage power supply 110V	RM1-7384-000CN	1
2	High-voltage power supply 220V	RM1-7386-000CN	1
3	Connector, drawer	WS1-6336-000CN	1

Cassette assembly (Tray 2)

Figure 4-14 Cassette assembly (Tray 2)

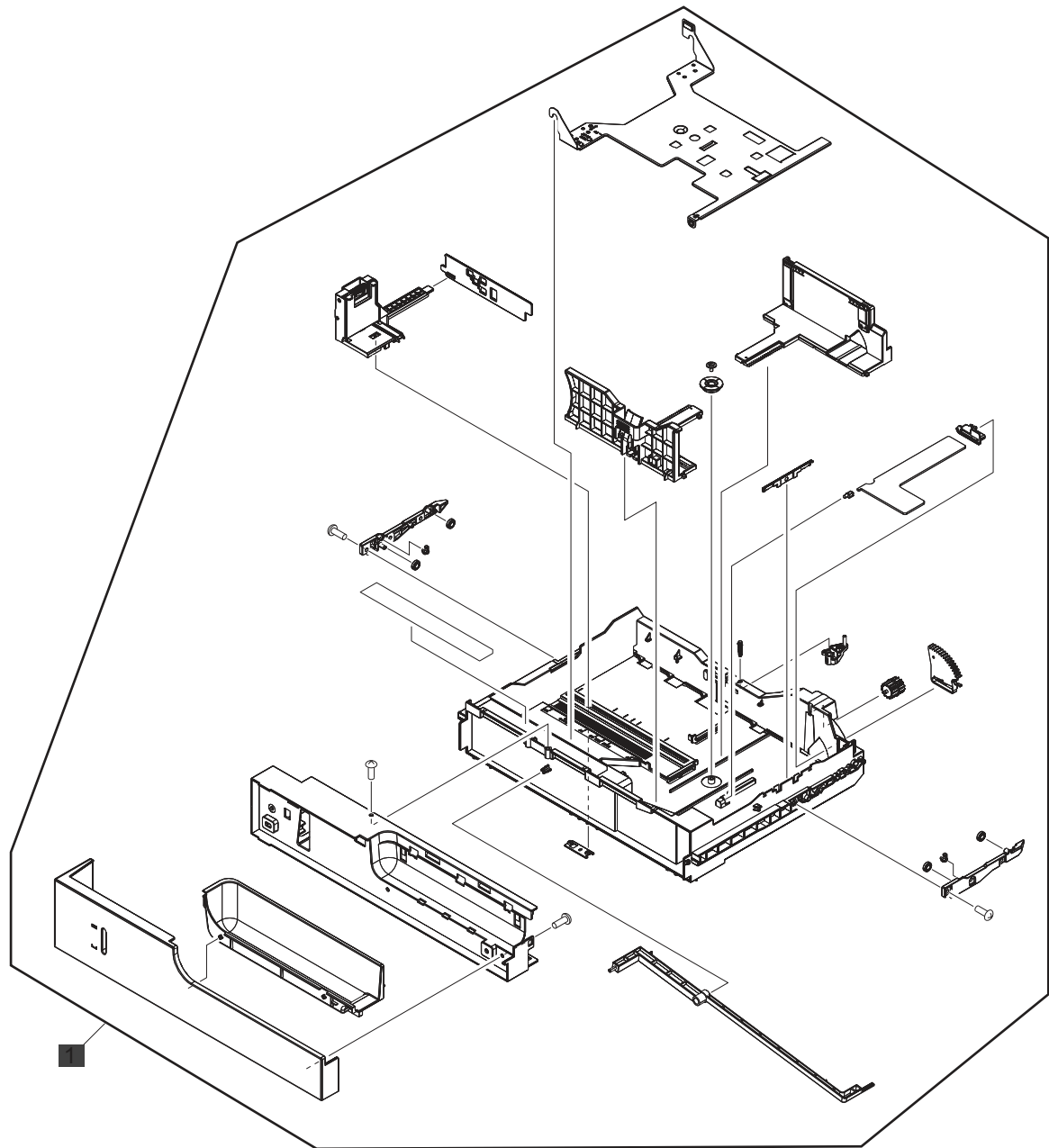


Table 4-14 Cassette assembly (Tray 2)

Ref	Description	Part number	Qty
1	Cassette assembly (Tray 2)	RM1-7379-000CN	1

Paper pickup assembly

Figure 4-15 Paper pickup assembly

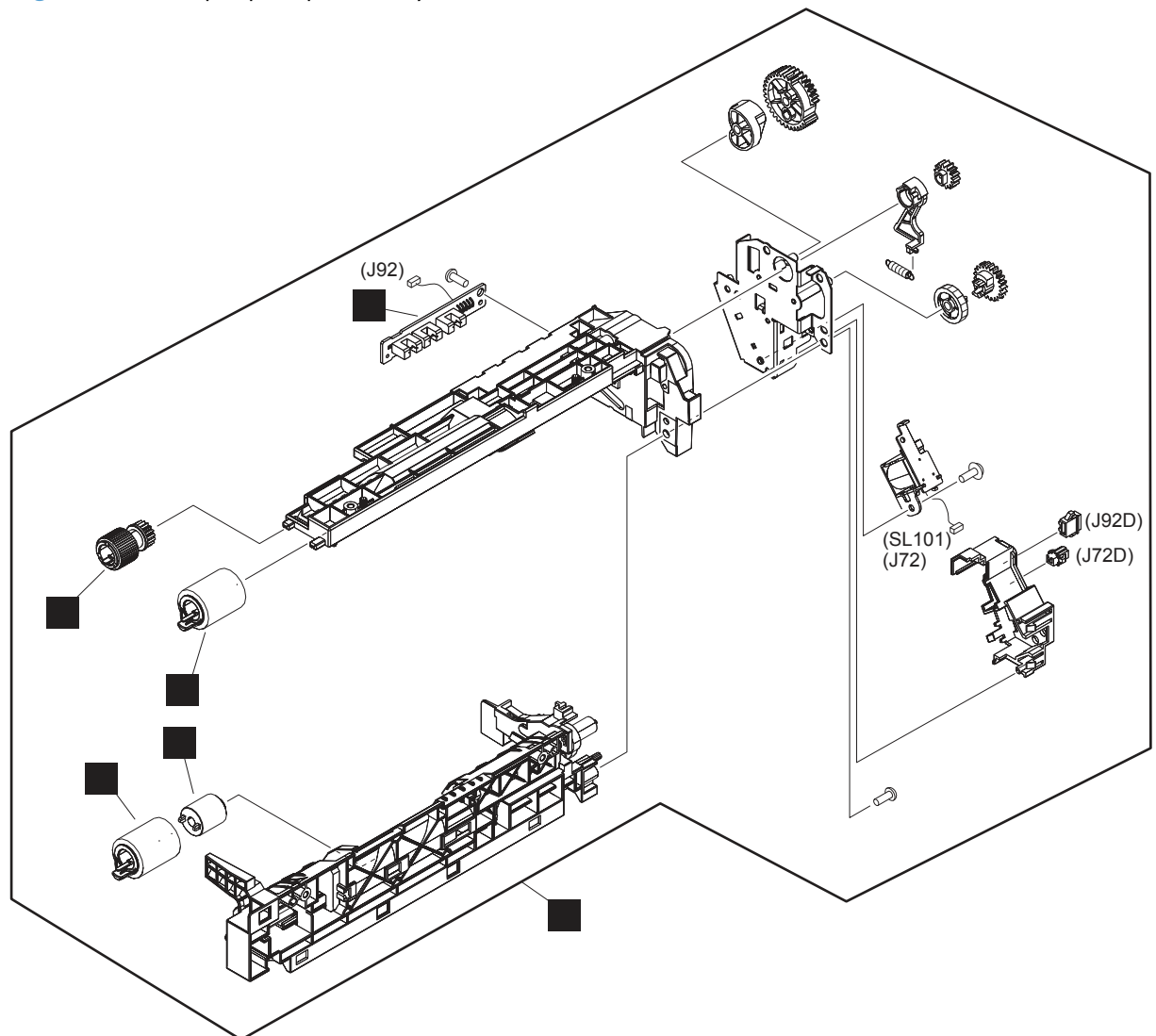


Table 4-15 Paper pickup assembly

Ref	Description	Part number	Qty
1	Paper pickup assembly	RM1-5919-000CN	1
2	Torque limiter	RC1-3293-000CN	1
3	Paper pickup roller, cassette	RL1-2099-000CN	1
4	Paper feed roller, cassette	RM1-0037-020CN	2
5	Paper sensor PCA assembly	RM1-5853-000CN	1

Reverse assembly

Figure 4-16 Reverse assembly

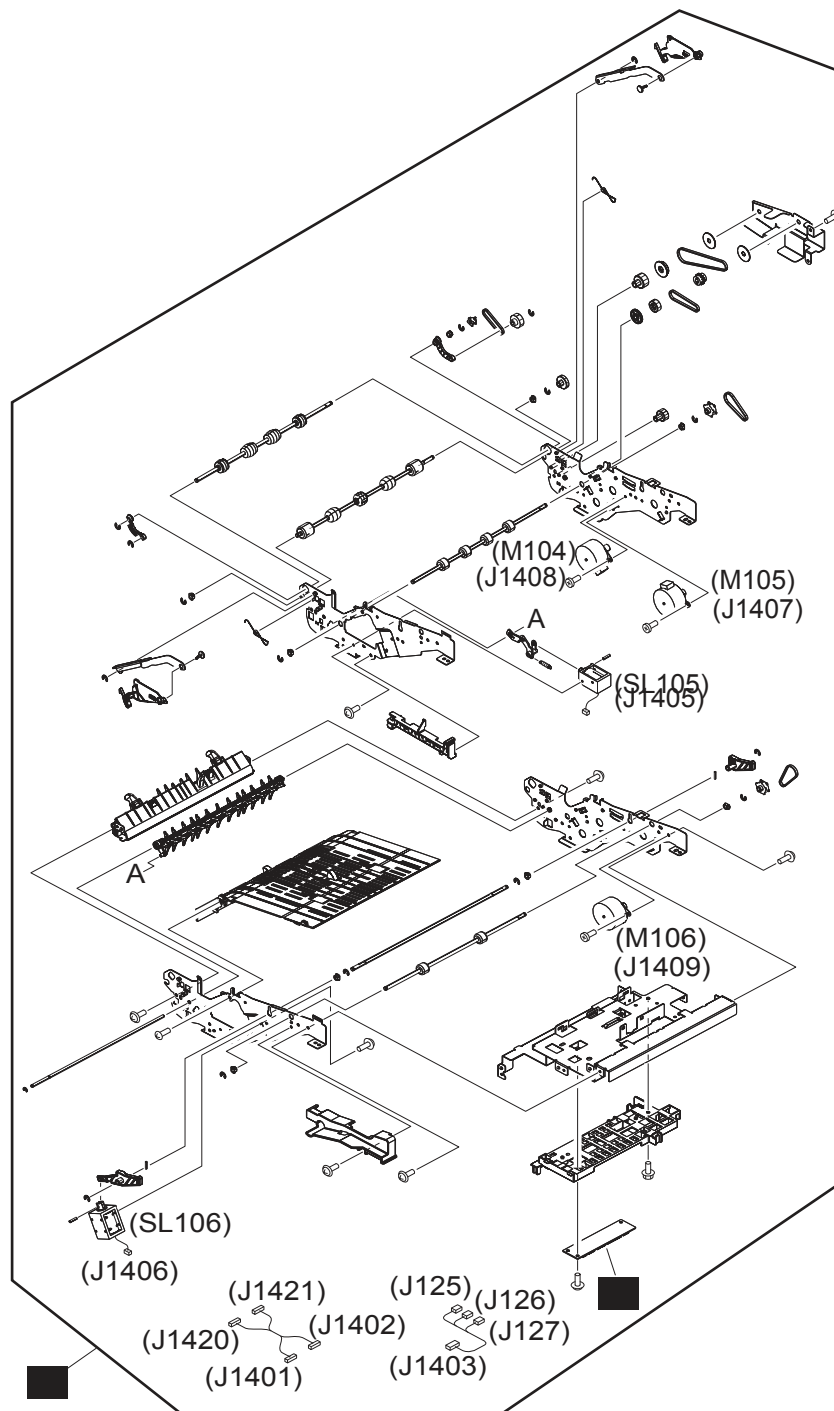


Table 4-16 Reverse assembly

Ref	Description	Part number	Qty
1	Reverse assembly	RM1-7399-000CN	1
2	Reverse PCA assembly	RM1-1379-000CN	1

Paper feed roller assembly

Figure 4-17 Paper feed roller assembly

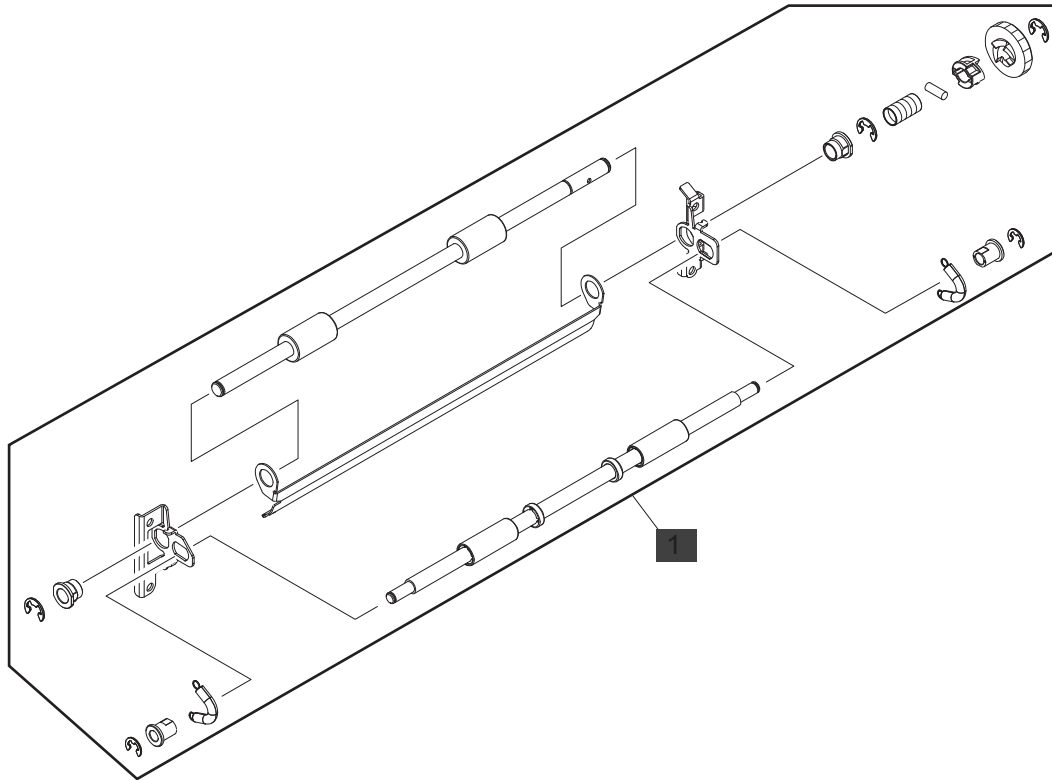


Table 4-17 Paper feed roller assembly

Ref	Description	Part number	Qty
1	Paper feed roller assembly	RM1-4527-000CN	1

Registration assembly

Figure 4-18 Registration assembly

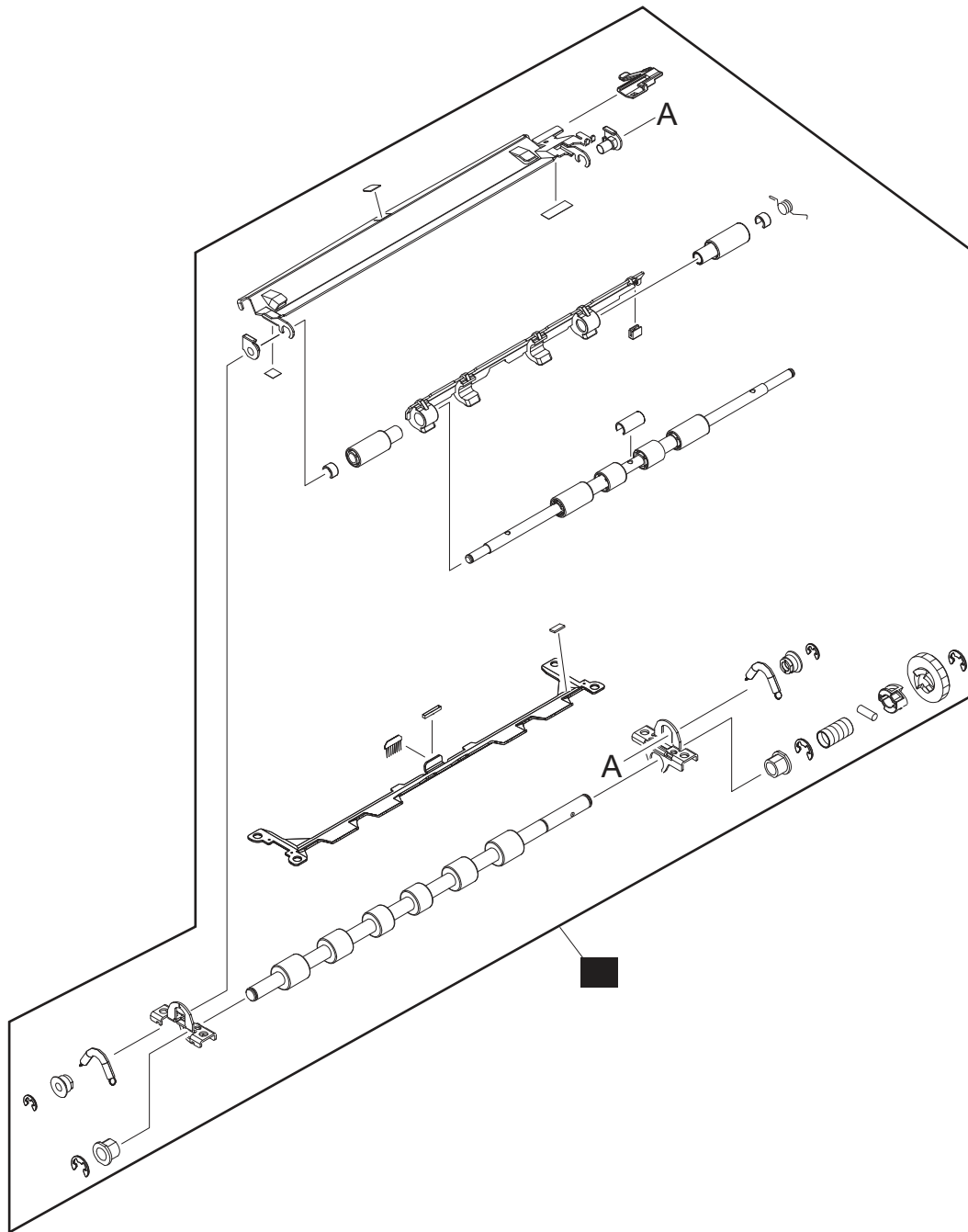


Table 4-18 Registration assembly

Ref	Description	Part number	Qty
1	Registration assembly	RM1-5460-010CN	1

MP (Tray 1) pickup assembly

Figure 4-19 MP (Tray 1) pickup assembly

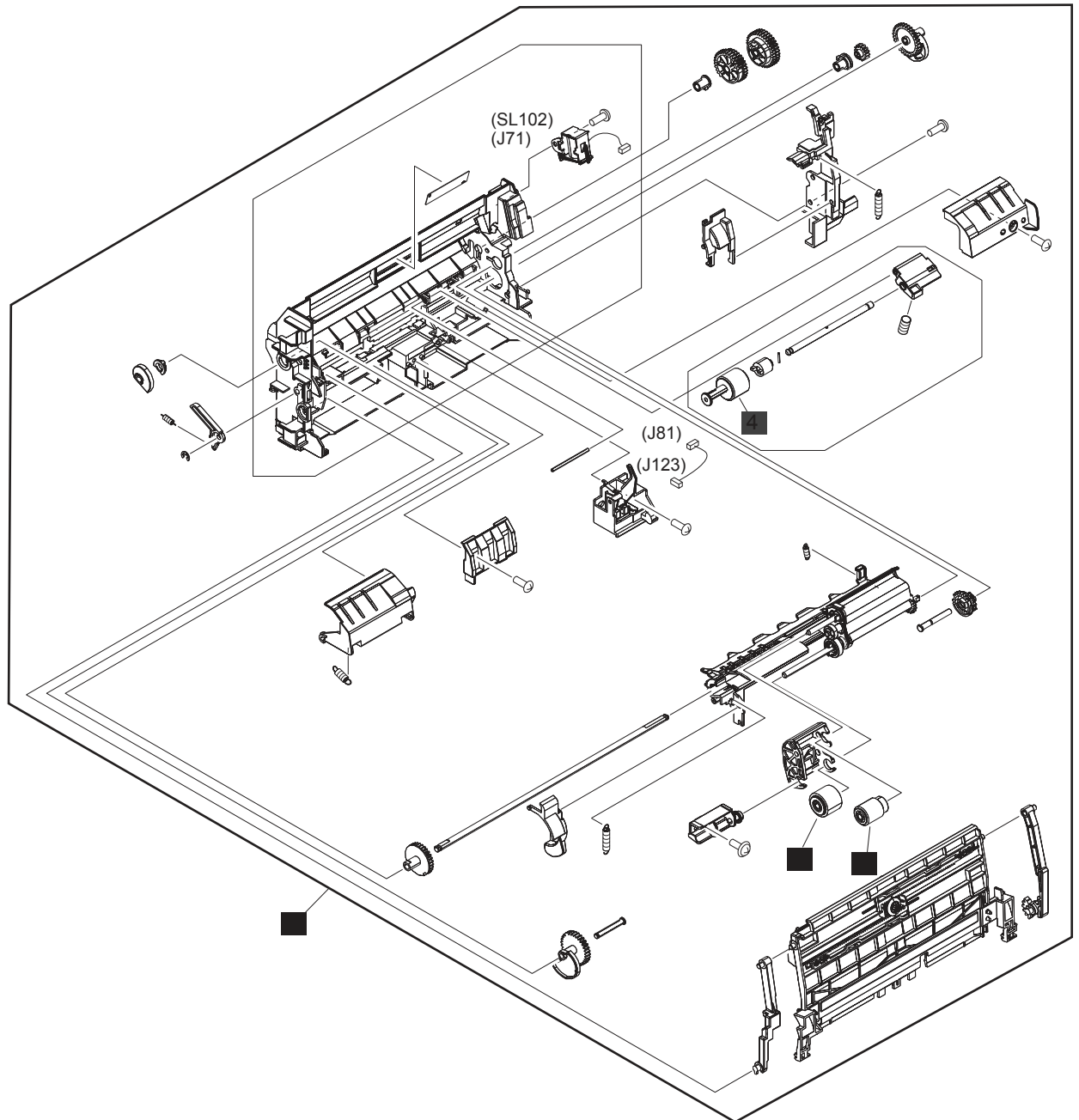


Table 4-19 MP (Tray 1) pickup assembly

Ref	Description	Part number	Qty
1	MP (Tray 1) pickup assembly	RM1-7377-000CN	1
2	MP (Tray 1) pickup roller	RL1-1641-000CN	1
3	MP (Tray 1) feed roller	RL1-1663-000CN	1
4	MP (Tray 1) separation roller	RM1-5460-010CN	1

Duplex assembly

Figure 4-20 Duplex assembly

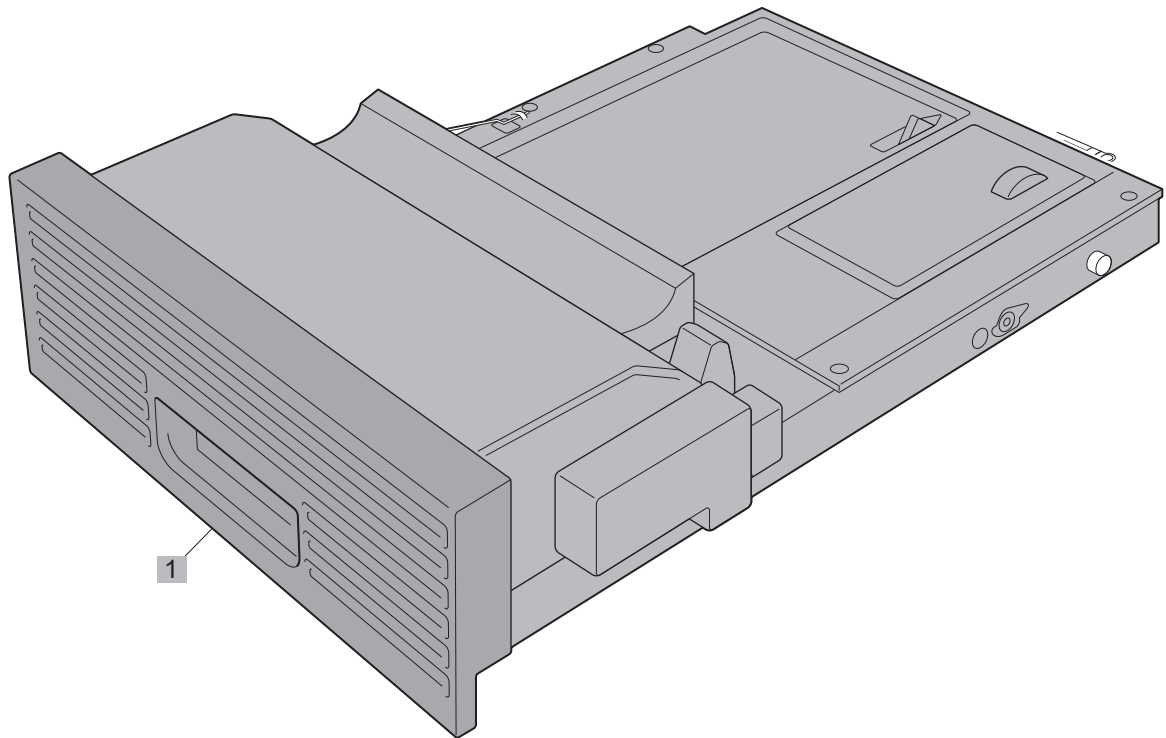


Table 4-20 Duplex assembly

Ref	Description	Part number	Qty
1	Duplex assembly	RM1-7387-000CN	1

Fuser assembly

Figure 4-21 Fuser assembly

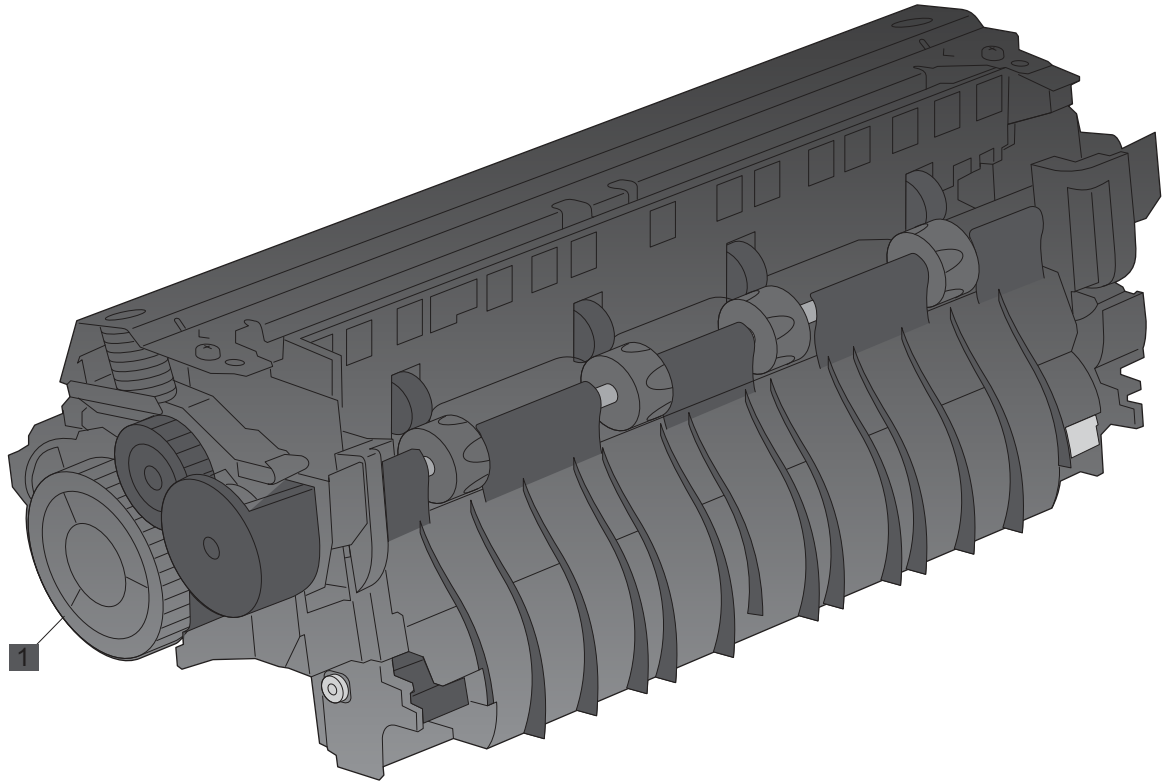


Table 4-21 Fuser assembly

Ref	Description	Part number	Qty
1	Fuser assembly 110V	RM1-7395-000CN	1
1	Fuser assembly 220V	RM1-7397-000CN	1

PCAs (product base)

Figure 4-22 PCAs (product base)

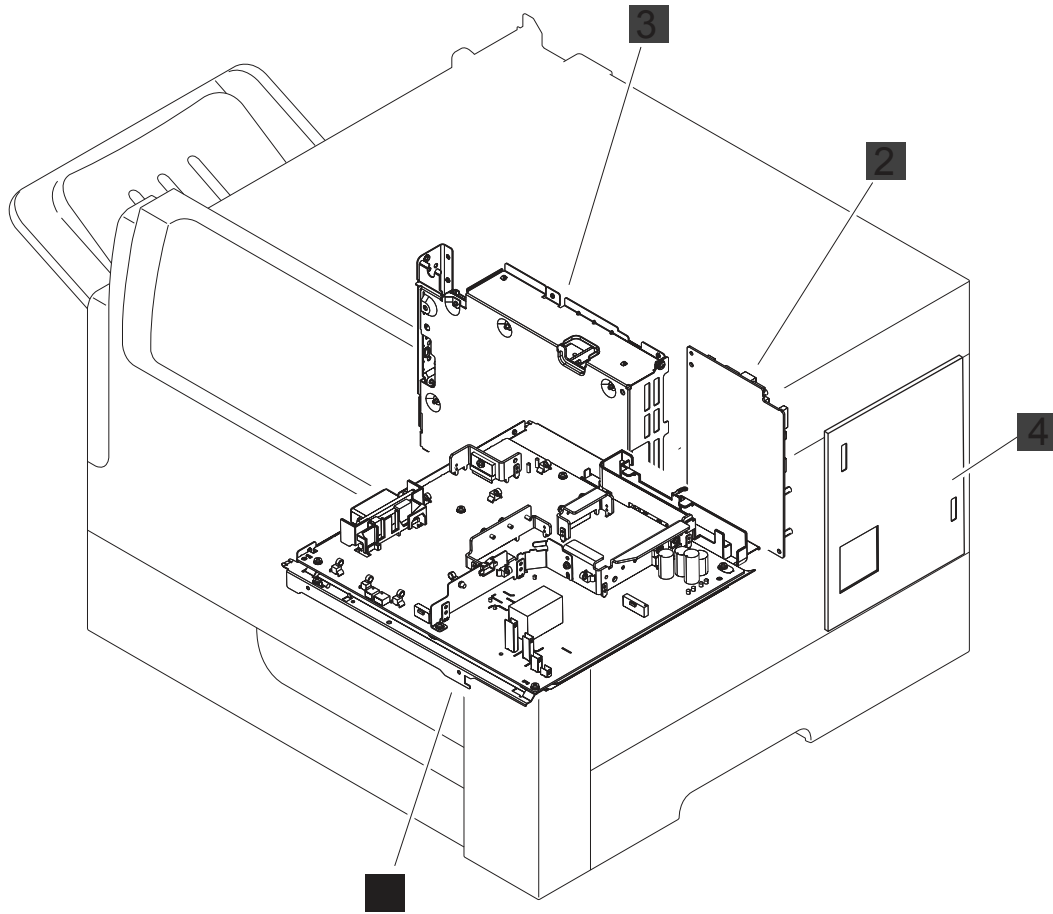


Table 4-22 PCAs (product base)

Ref	Description	Part number	Qty
1	Power supply, high-voltage 110V	RM1-7384-000CN	1
1	Power supply, high-voltage 220V	RM1-7386-000CN	1
2	DC controller PCA	RM1-7102-000CN	1
3	Power supply, low-voltage 110V	RM1-7401-000CN	1
3	Power supply, low-voltage 220V	RM1-7413-000CN	1
4	Formatter, IFA	CE502-60113	1
Not shown	Connector PCB assembly	RM1-7375-000CN	1

Input devices

1x500-sheet feeder

Covers (1x500)

Figure 4-23 Covers (1x500)

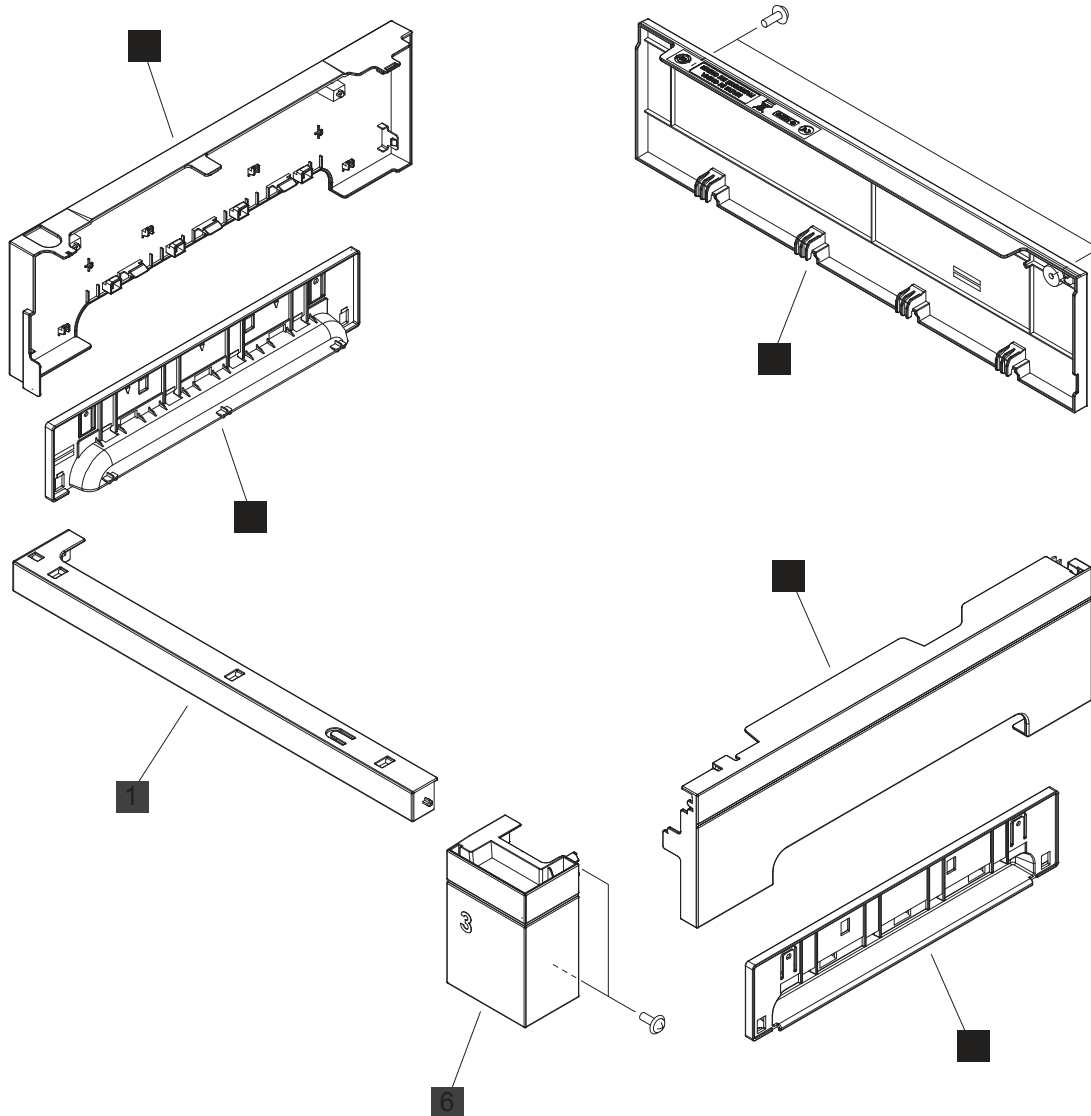


Table 4-23 Covers (1x500)

Ref	Description	Part number	Qty
1	Cover, front right (1x500)	RC2-7307-000CN	1
2	Cover, left (1x500)	RC3-1328-000CN	1
3	Cover, left handle (1x500)	RC3-1329-000CN	1
4	Cover, right (1x500)	RC3-1330-000CN	1
5	Cover, right handle (1x500)	RC3-1331-000CN	1
6	Cover, right front (1x500)	RC3-1332-000CN	1
7	Cover, rear (1x500)	RC3-1333-000CN	1

Main body (1 x500)

Figure 4-24 Main body (1x500)

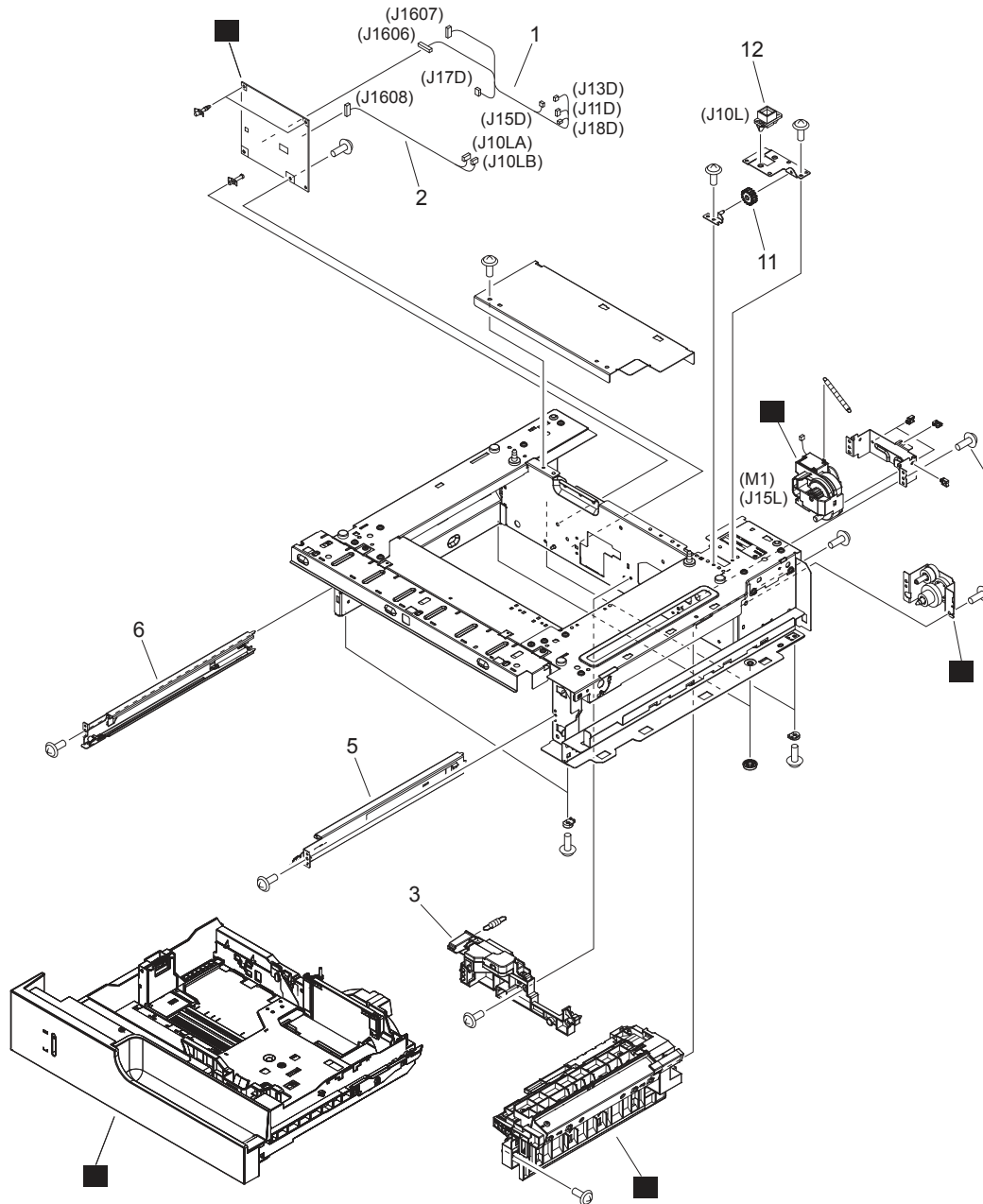


Table 4-24 Main body (1x500)

Ref	Description	Part number	Qty
4	Lifter assembly (1x500)	RM1-5914-000CN	1
7	Paper pickup drive assembly (1x500)	RM1-5941-000CN	1
8	Paper driver PCA (1x500)	RM1-7189-000CN	1
9	Paper pickup assembly (1x500)	RM1-5929-030CN	1
10	Cassette (1x500)	RM1-7379-000CN	1

1x500/3x500-sheet paper deck

Covers (1x500/3x500)

Figure 4-25 Covers (1x500/3x500)

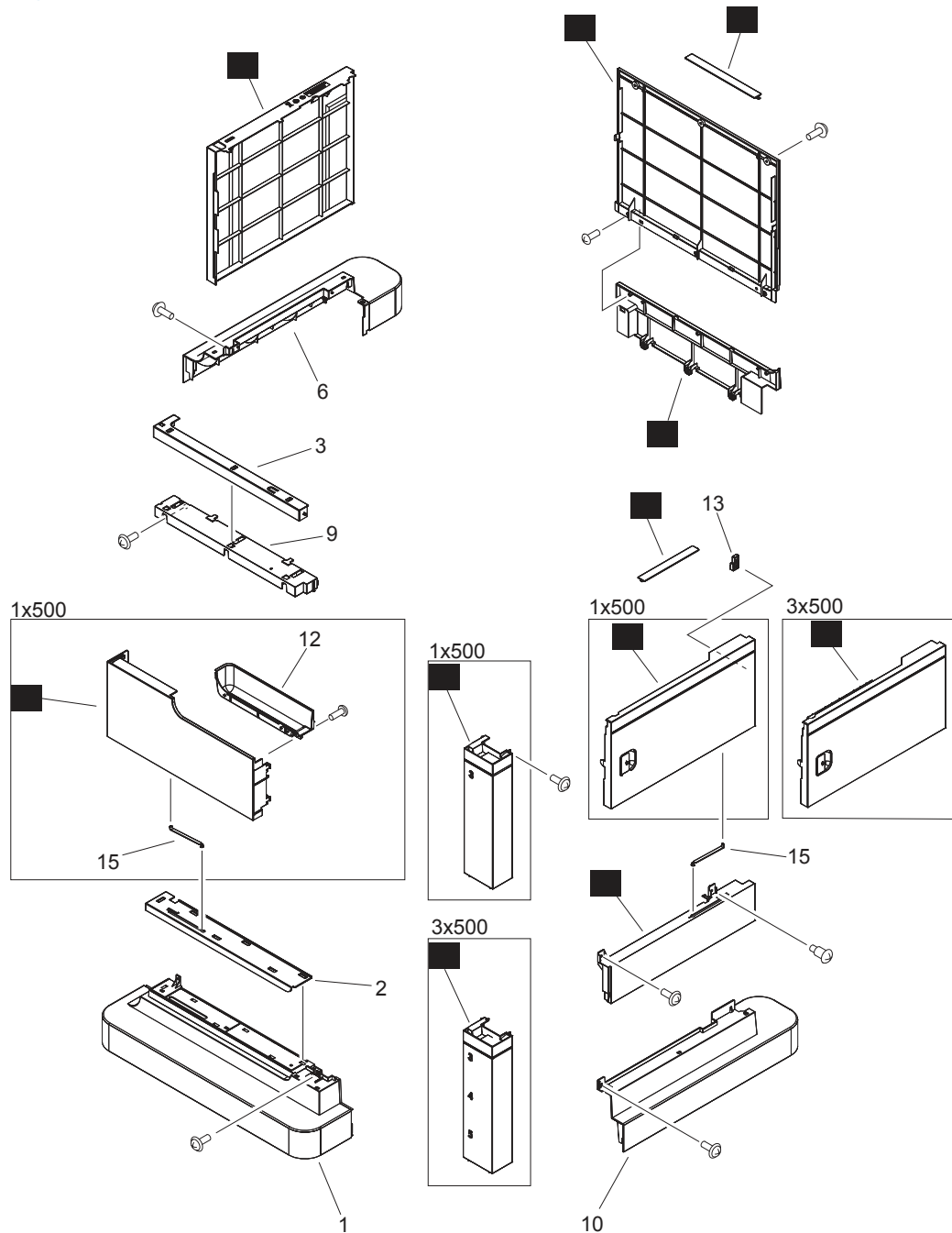


Table 4-25 Covers (1x500/3x500)

Ref	Description	Part number	Qty
4	Cover, rear lower (SF)	RC2-7305-000CN	1
5	Cover, rear (SF)	RC2-7304-000CN	1
7	Cover, left (SF)	RC2-7306-000CN	1
8	Cover, right front (1x500)	RC2-7320-000CN	1
8	Cover, right front (3x500)	RC2-7321-000CN	1
11	Cover, right center (SF)	RC2-7309-000CN	1
14	Cover, right door assembly (1x500)	RM1-6932-000CN	1
14	Cover, right door assembly (3x500)	RM1-6933-000CN	1
16	Door, stock (1x500)	RC2-7315-000CN	1
17	Cover, right upper (SF)	RC2-7310-000CN	1
18	Cover, rear upper (SF)	RC2-9274-000CN	1

Main body (1x500/3x500; 1 of 2)

Figure 4-26 Main body (1x500/3x500; 1 of 2)

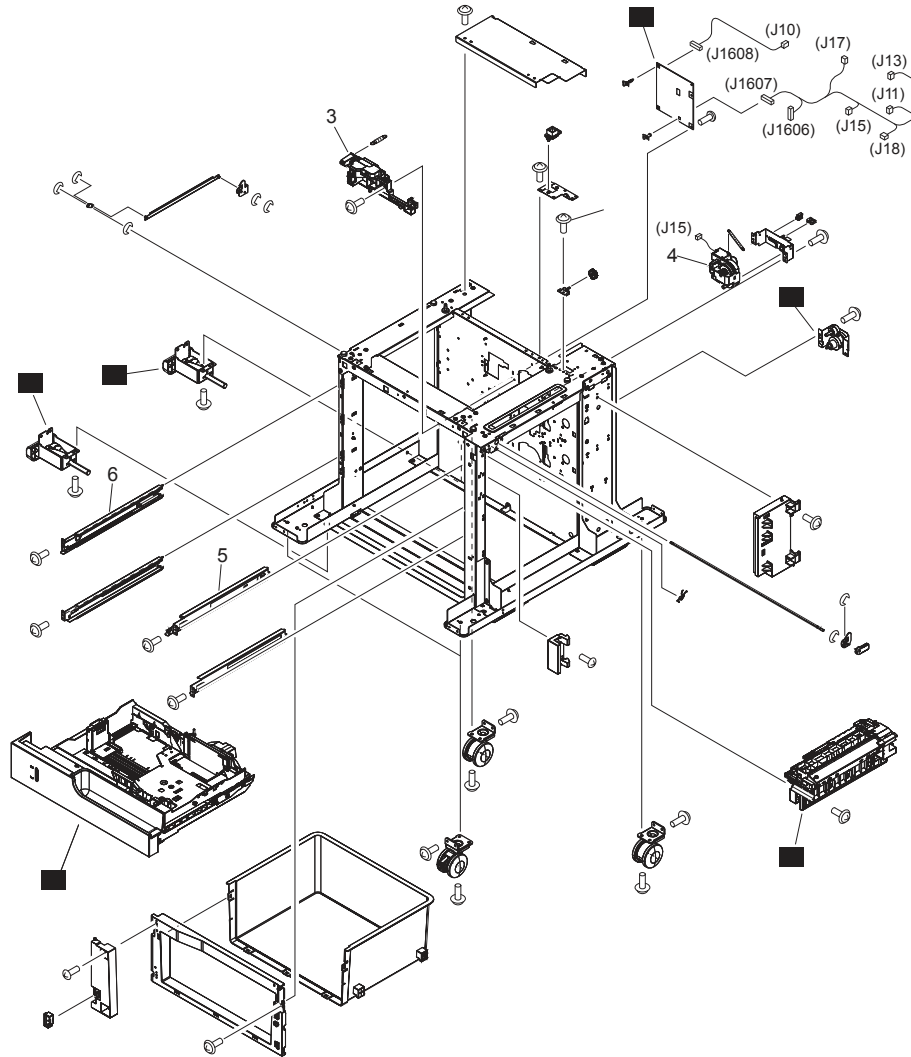


Table 4-26 Main body (1x500/3x500; 1 of 2)

Ref	Description	Part number	Qty
1	Paper deck driver PCA (1x500)	RM1-7189-000CN	1
2	Cassette assembly (1x500/3x500)	RM1-7379-000CN	1/3
7	Paper pickup drive assembly (1x500)	RM1-5941-000CN	1
8	Auxiliary foot assembly (1x500/3x500)	RM1-5938-000CN	2/4
9	Paper pickup assembly (1x500/3x500)	RM1-5929-030CN	1/3

Main body (1x500/3x500; 2 of 2)

Figure 4-27 Main body (1x500/3x500; 2 of 2)

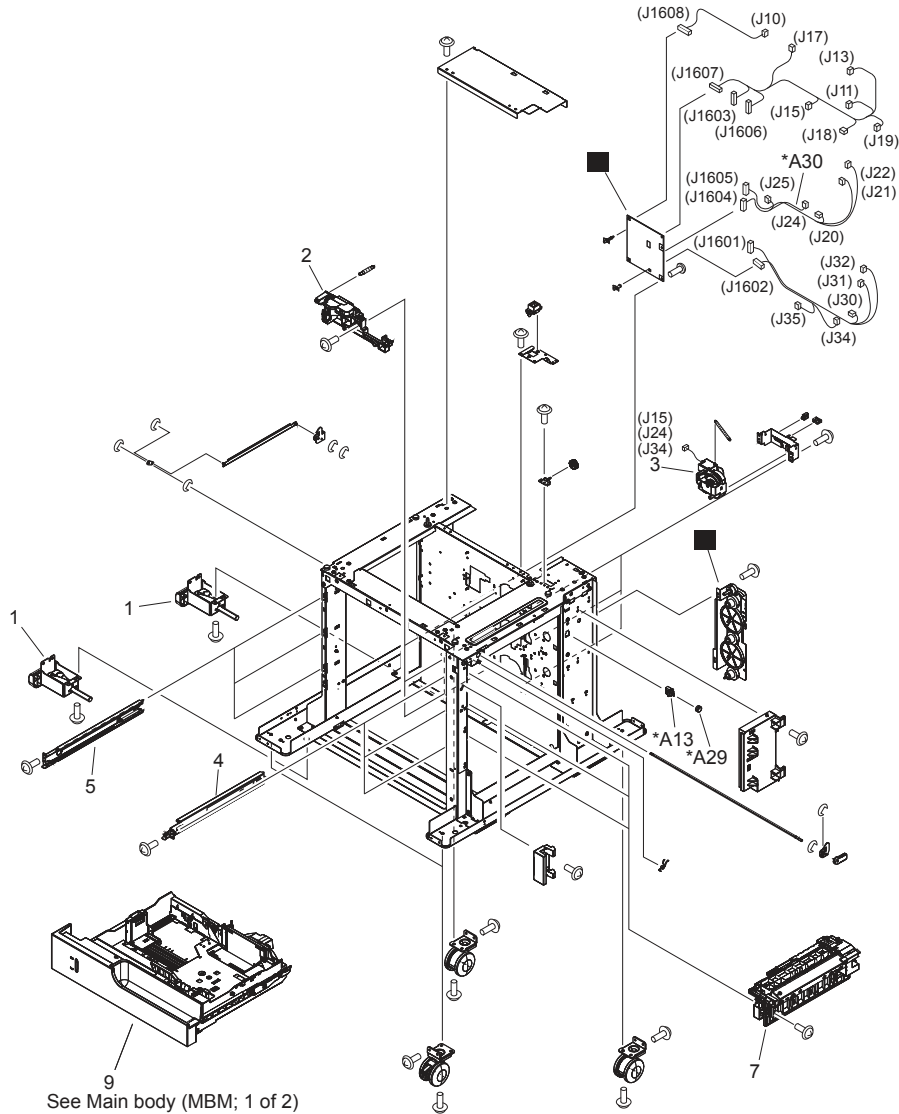


Table 4-27 Main body (1x500/3x500; 2 of 2)

Ref	Description	Part number	Qty
6	Paper pickup drive assembly (3x500)	RM1-5942-000CN	1
8	Paper deck driver PCA (3x500)	RM1-7153-000CN	1

Output devices

Stapler stacker multi-bin mailbox (MBM)

Covers (MBM)

Figure 4-28 Covers (MBM)

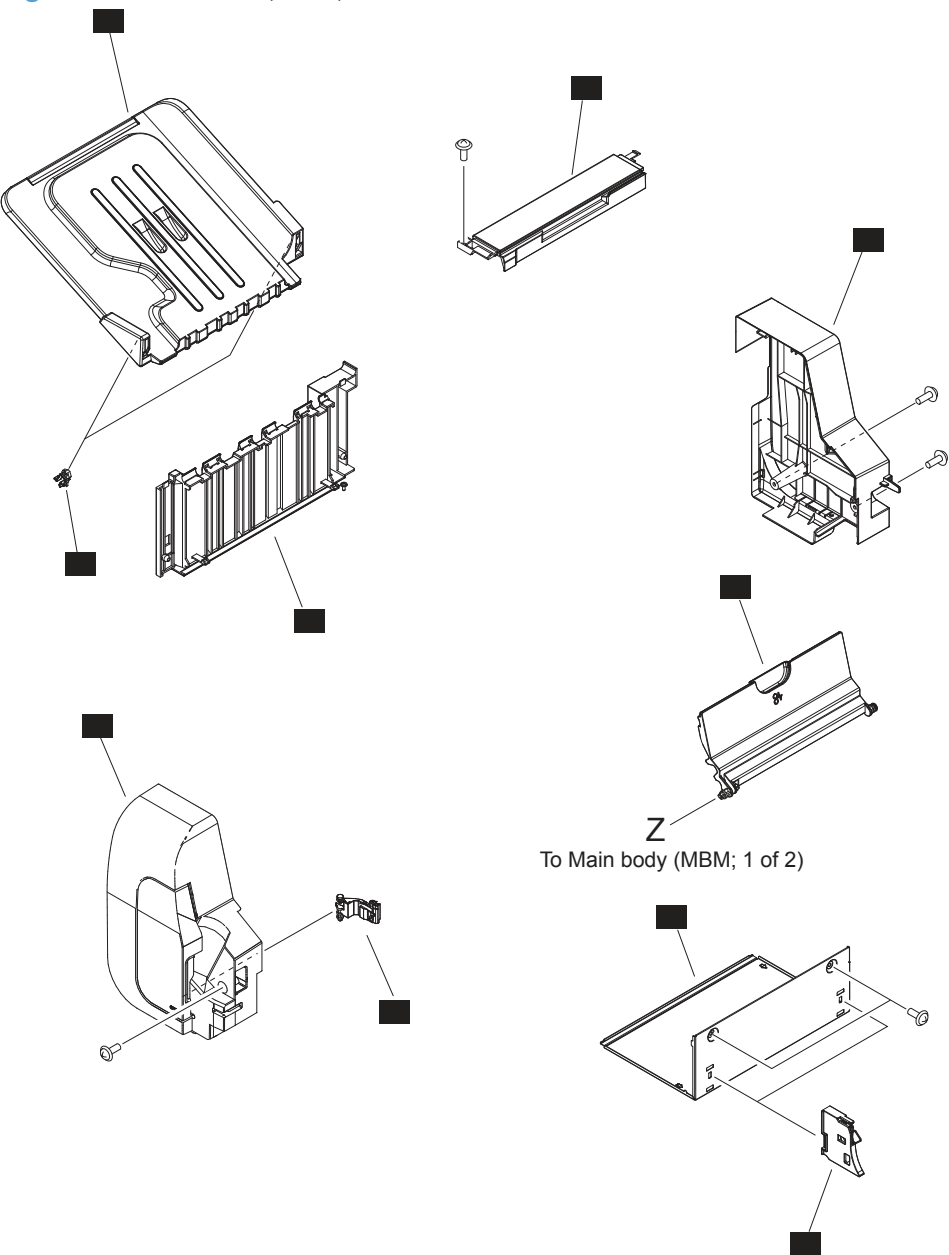


Table 4-28 Covers (MBM)

Ref	Description	Part number	Qty
1	Cover, front assembly (MBM)	RM1-7438-000CN	1
2	Cover, rear (MBM)	RC2-8147-000CN	1
3	Cover, bottom (MBM)	RL1-2438-000CN	1
4	Panel, stacking (MBM)	RL1-1984-000CN	1
5	Door, right (MBM)	RC2-8149-000CN	1
6	Lifter guide assembly (MBM)	RM1-6330-000CN	2
7	Cover, top assembly (MBM)	RM1-6669-000CN	1
8	Tray assembly (MBM)	RM1-5161-000CN	1
9	Tray, stopper (MBM)	RC2-5576-000CN	2
10	Interlock lever assembly (MBM)	RM1-6335-000CN	1

Main body (MBM)

Main body (MBM; 1 of 2)

Figure 4-29 Main body (MBM; 1 of 2)

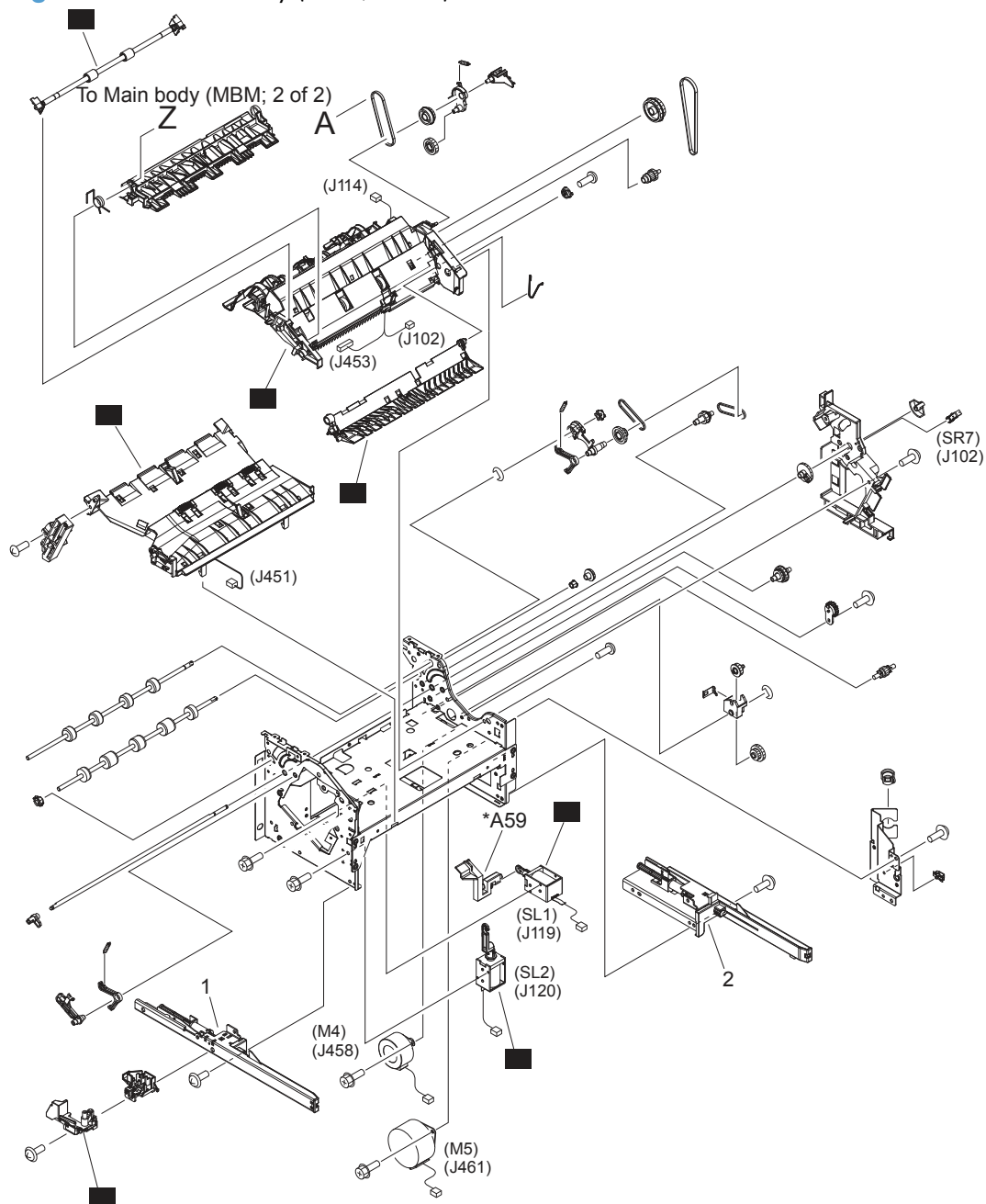


Table 4-29 Main body (MBM; 1 of 2)

Ref	Description	Part number	Qty
3	Stage assembly (MBM)	RM1-5159-000CN	1
5	Paper feed roller assembly (MBM)	RM1-6332-000CN	1
9	Stage top sub assembly (MBM)	RM1-7437-000CN	1
14	Interlock assembly (MBM)	RM1-7431-000CN	1
15	Paper feed guide assembly (MBM)	RM1-5173-000CN	1
17	Solenoid, stamp assembly (MBM)	RM1-6664-000CN	1
18	Solenoid, entrance assembly (MBM)	RM1-6663-000CN	1

Main body (MBM; 2 of 2)

Figure 4-30 Main body (MBM; 2 of 2)

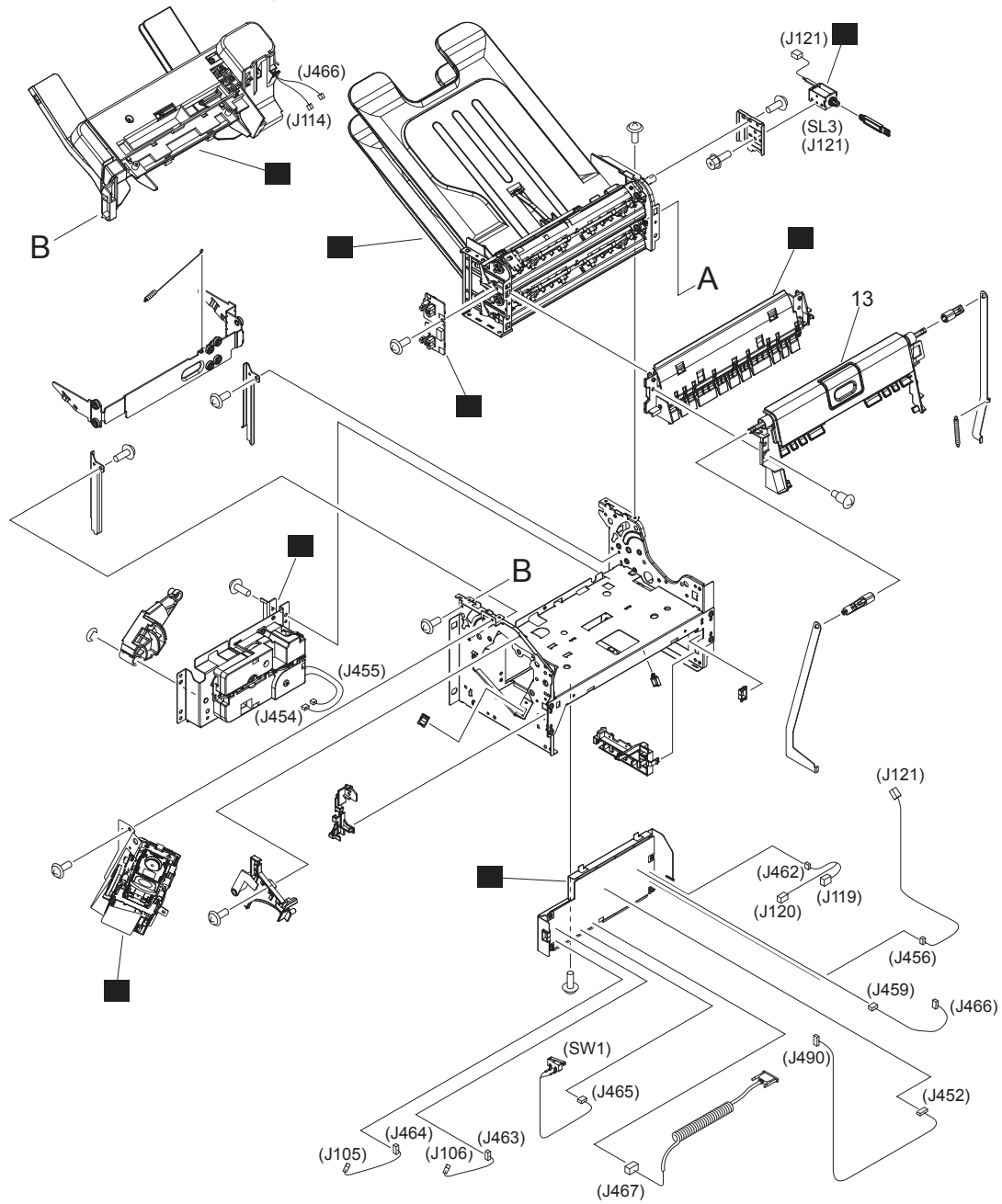


Table 4-30 Main body (MBM; 2 of 2)

Ref	Description	Part number	Qty
4	MBM driver PCA (MBM)	RM1-7433-000CN	1
6	Jog assembly (MBM)	RM1-7433-000CN	1
7	Lift tray assembly (MBM)	RM1-5156-000CN	1
8	Flapper assembly (MBM)	RM1-5157-000CN	1
10	MBM bin assembly (MBM)	RM1-6668-000CN	1
11	Stapler assembly (MBM)	RM1-5166-000CN	1
12	Bin sensor PCA (MBM)	RM1-5894-000CN	1

Document feeder and scanner

Document feeder (scanner lid)

Document feeder (whole unit)

Figure 4-31 Document feeder (whole unit)

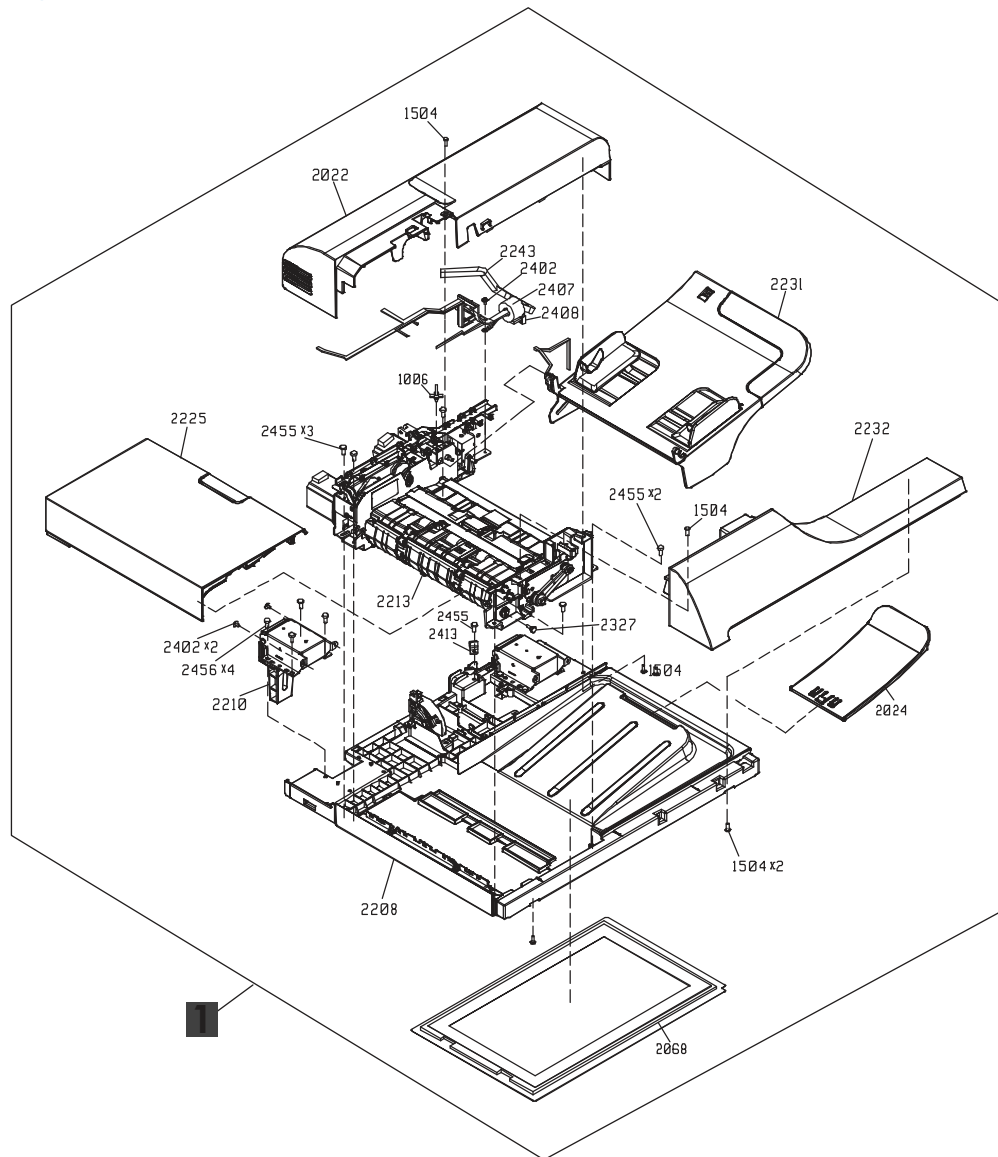


Table 4-31 Docuemnt feeder (whole unit)

Ref	Description	Part number	Qty
1	Automatic document feeder (ADF)	PF2309-SVPNI	1

Document feeder components (1 of 5)

Figure 4-32 Document feeder components (1 of 5)

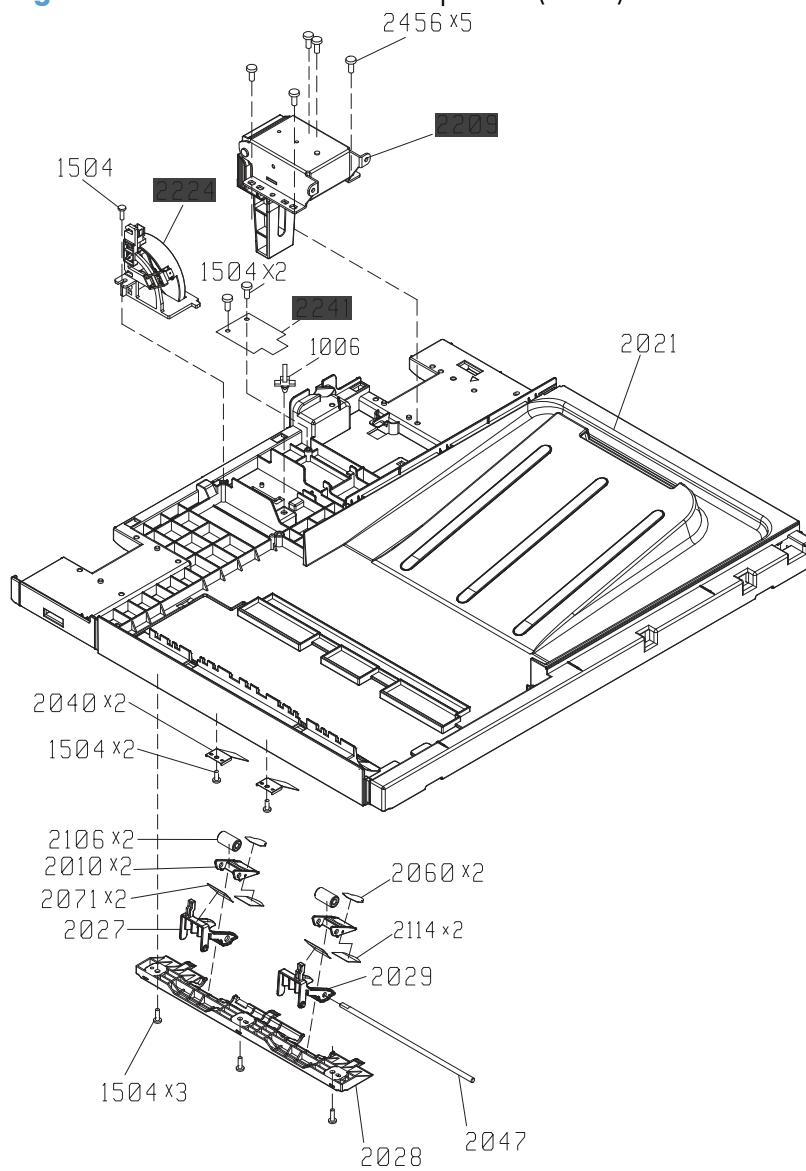


Table 4-32 Document feeder components¹ (1 of 5)

Ref	Description	Part number	Qty
2241	Interconnection board (ASY-PBA-RELAY-SP)	PF2309K118NI	1
2209	Hinge, right counterbalance (ASY-HNG-R-SP)	PF2309K119NI	1
2224	Sensor, open/close ADF (ASY-DFSENS-SP)	PF2309K121NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Document feeder components (2 of 5)

Figure 4-33 Document feeder components (2 of 5)

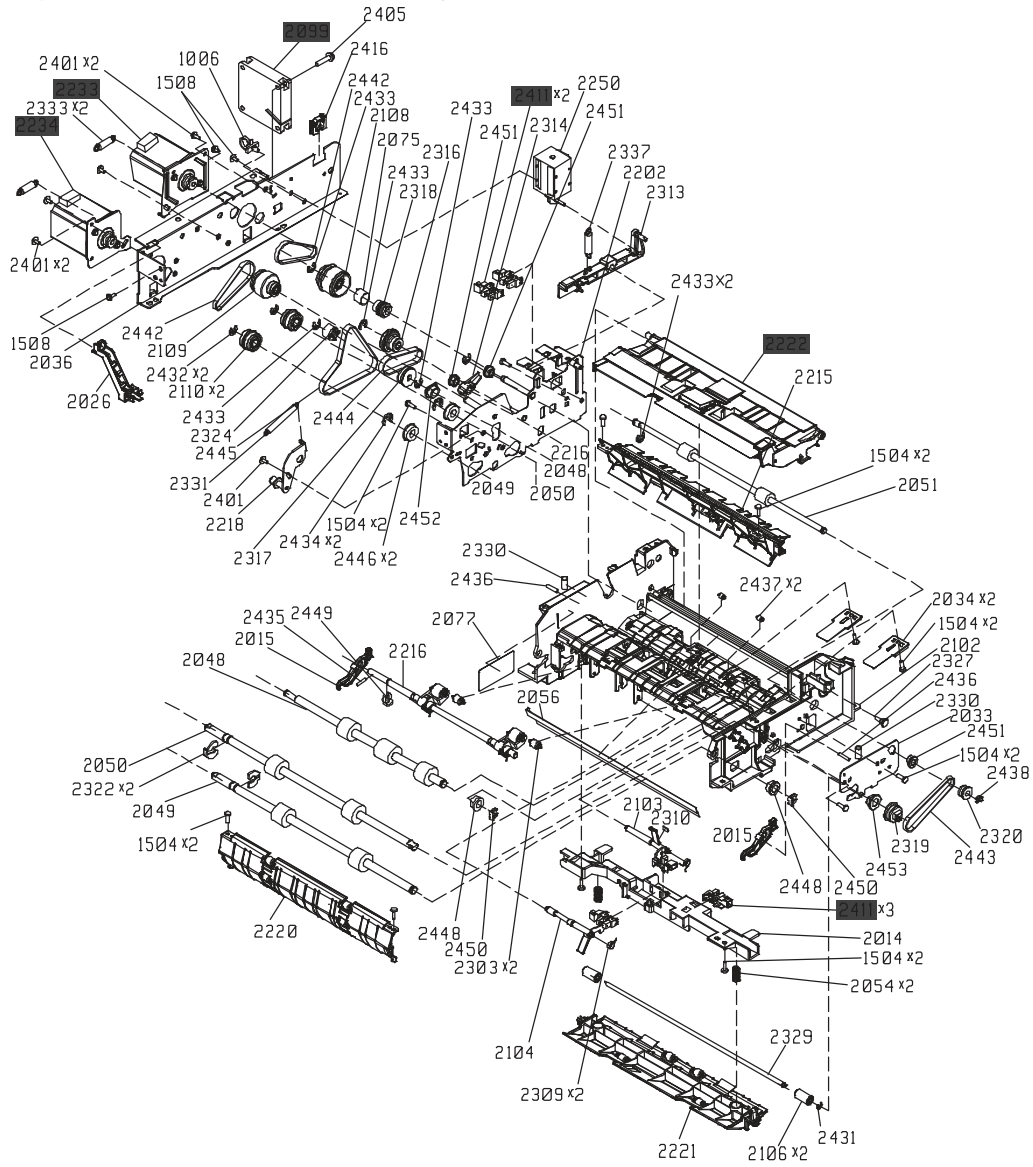


Table 4-33 Document feeder components¹ (2 of 5)

Ref	Description	Part number	Qty
2241	Sensor open/angle ADF (ASY-SG2481-NY-SP)	PF2309K122NI	5
2233	Motor, feed assembly ADF (ASY-MOT-FE-SP)	PF2309K125NI	1
2234	Motor read assembly ADF (ASY-MOT-RE-SP)	PF2309K126NI	1
2099	Motor, fan ADF (ASY-FAN-SP)	PF2309K127NI	1
2222	Upper paper path assembly (ASY-GIDREV-SPR-SP)	PF2309K129NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Document feeder components (3 of 5)

Figure 4-34 Document feeder components (3 of 5)

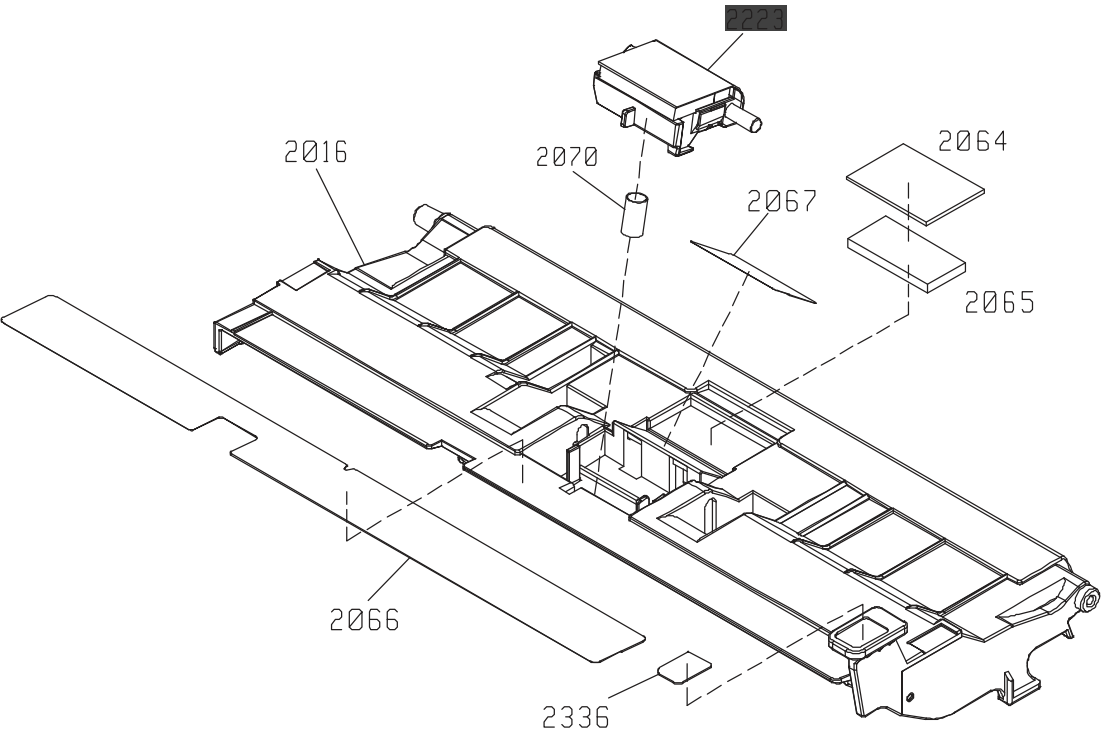


Table 4-34 Docuemnt feeder components (3 of 5)

Ref	Description	Part number	Qty
2223	Separation pad (ASY-HLD-REV-PAD-SP)	PF2309K133NI	1

Document feeder components (4 of 5)

Figure 4-35 Document feeder components (4 of 5)

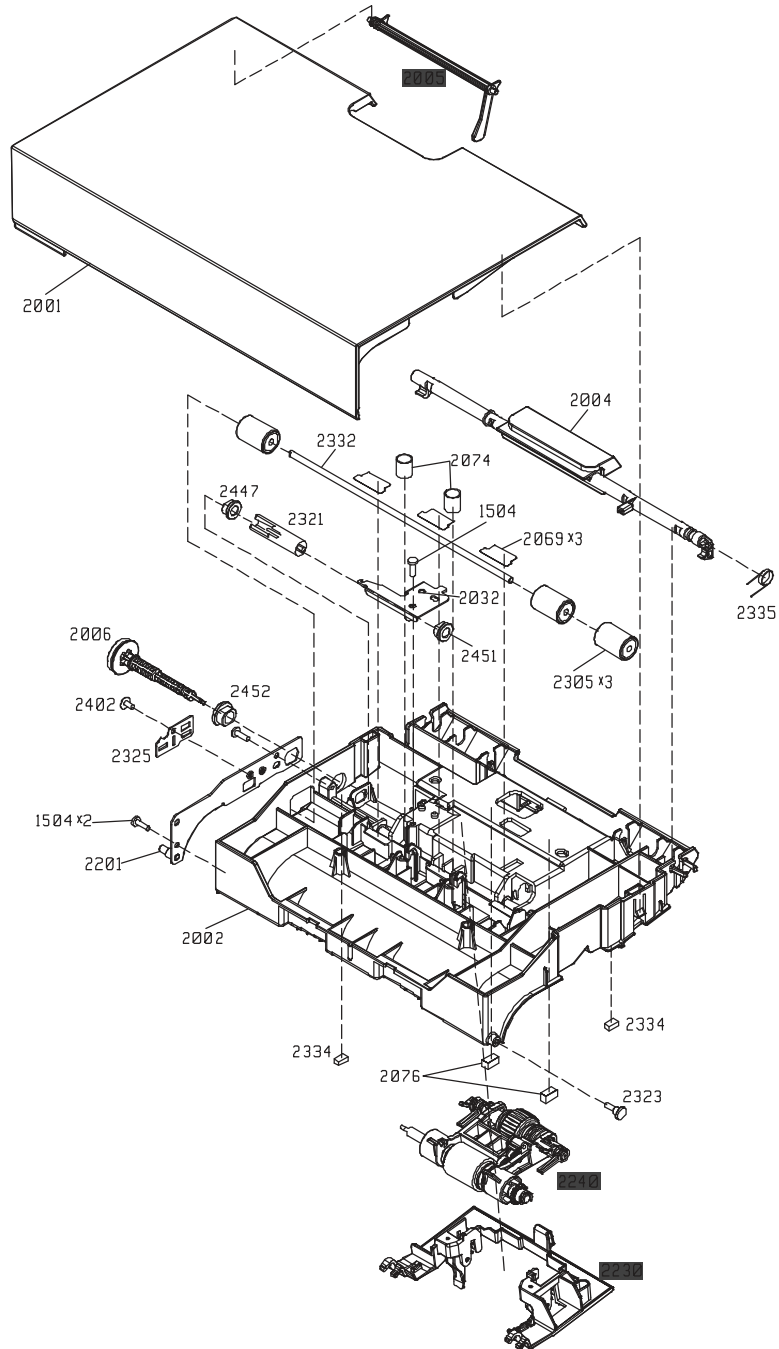


Table 4-35 Document feeder components¹ (4 of 5)

Ref	Description	Part number	Qty
2005	Lever, media presence sensor (ASY-LVR-FE-EMP-SP)	PF2309K130NI	1
2240	Pick roller assembly (ASY-ROL-FE-FEED-SP)	PF2309K131NI	1
2230	Cover, pick roller assembly cover (ASY-CVR-FE-PICK-SP)	PF2309K132NII	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Document feeder components (5 of 5)

Figure 4-36 Document feeder components (5 of 5)

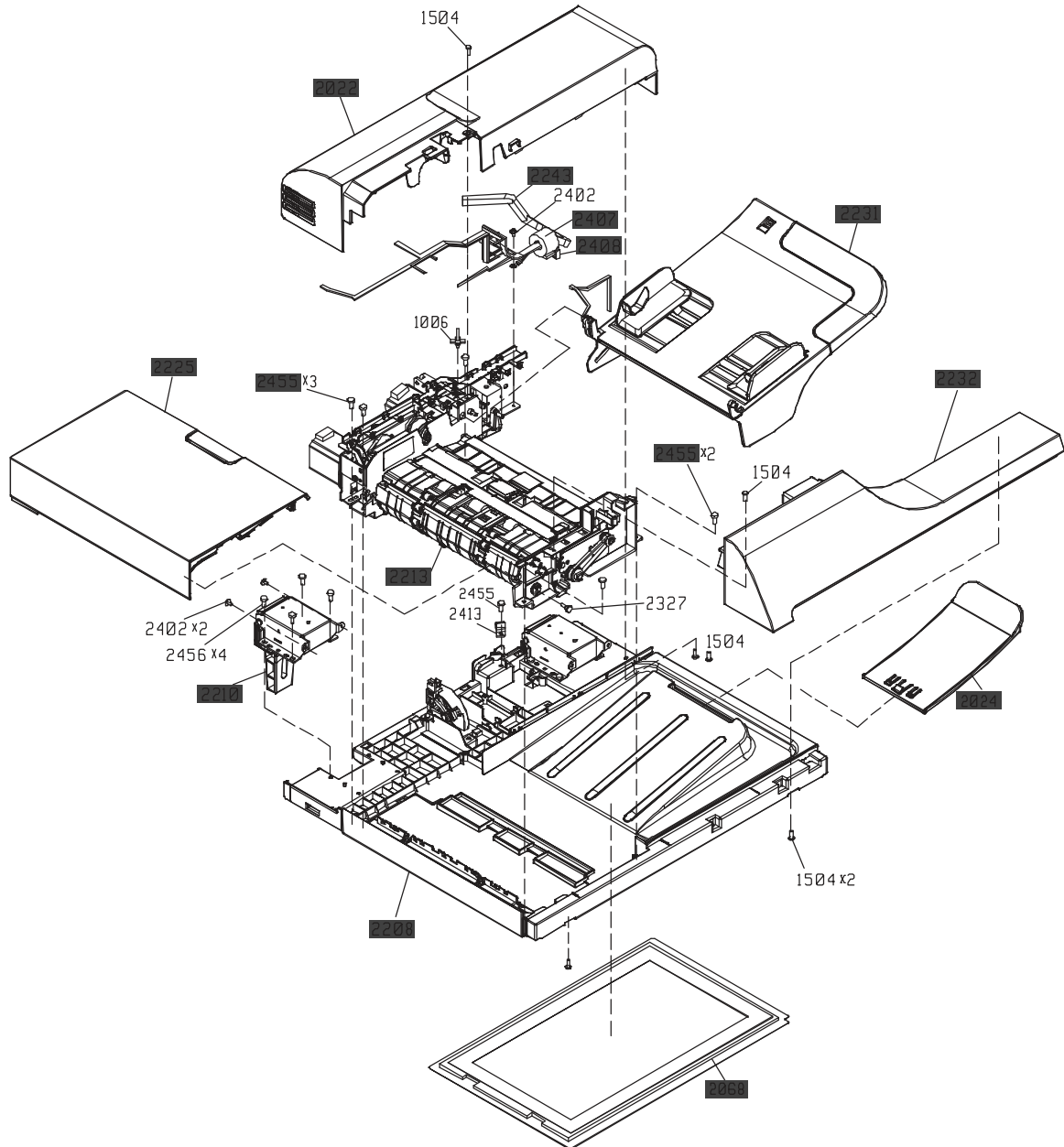


Table 4-36 Document feeder components¹ (5 of 5)

Ref	Description	Part number	Qty
2208	ADF base assy (ASY-BASE-SP)	PF2309K102NI	1
2213	ADP paper path assy (ASY-FRM-RE-FEED-SP)	PF2309K103NI	1
2210	Hinge, left counterbalance (ASY-HNG-L-SP)	PF2309K104NI	1
2225	Door jam assembly (ASY-CVR-FE-FEED-SP)	PF2309K105NI	1
2231	Tray, input assembly (ASY-TRY-SP)	PF2309K106NI	1
2232	Cover, front assembly (ASY-CVR-F-SP)	PF2309K107NI	1
2243	Cable, ADF interface (ASM-IF-SP)	PF2309K110NI	1
2407	Toroid, ADF interface cable (ASY-TFT-152613N-SP)	PF2309K111NI	1
2408	Sensor, ADF open/angle (ASY-TFB-2024IRS)	PF2309K112NI	1
2022	Cover, rear (ASY-CVR-F-R-SP)	PF2309K114NI	1
2024	Output tray extension (ASY-TRY-F-BASE-SP)	PF2309K116NI	1
2068	White background assembly (ASY-SHT-F-CUSH-SP)	PF2309K117NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Scanner assembly

Scanner assembly (whole unit)

Figure 4-37 Scanner assembly (whole unit)

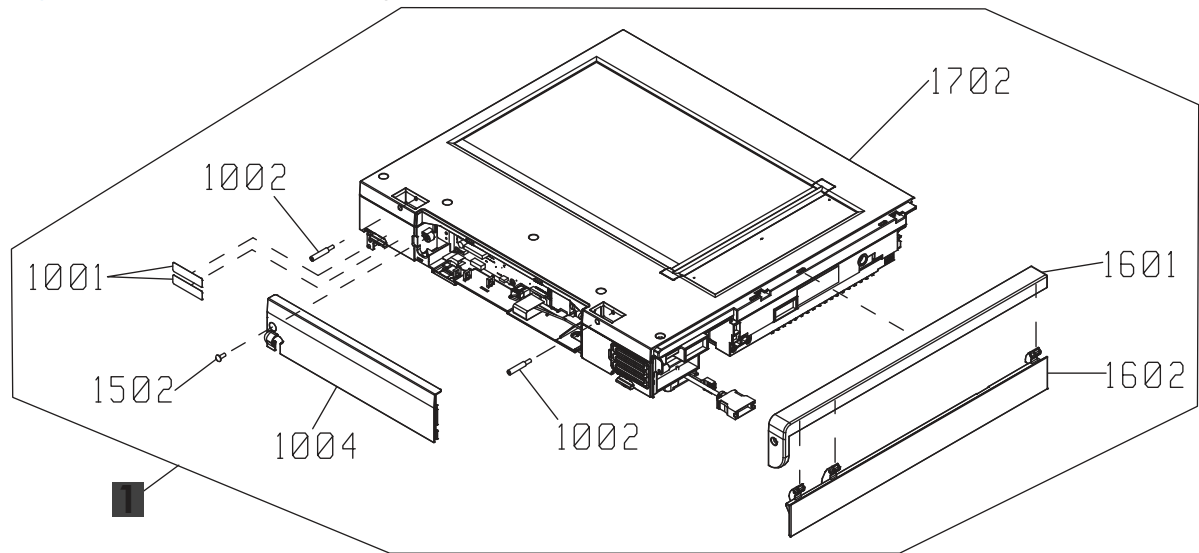


Table 4-37 Scanner assembly (whole unit)

Ref	Description	Part number	Qty
1	Scanner assembly	IR4070-SVP	1

Scanner components (1 of 8)

Figure 4-38 Scanner components (1 of 8)

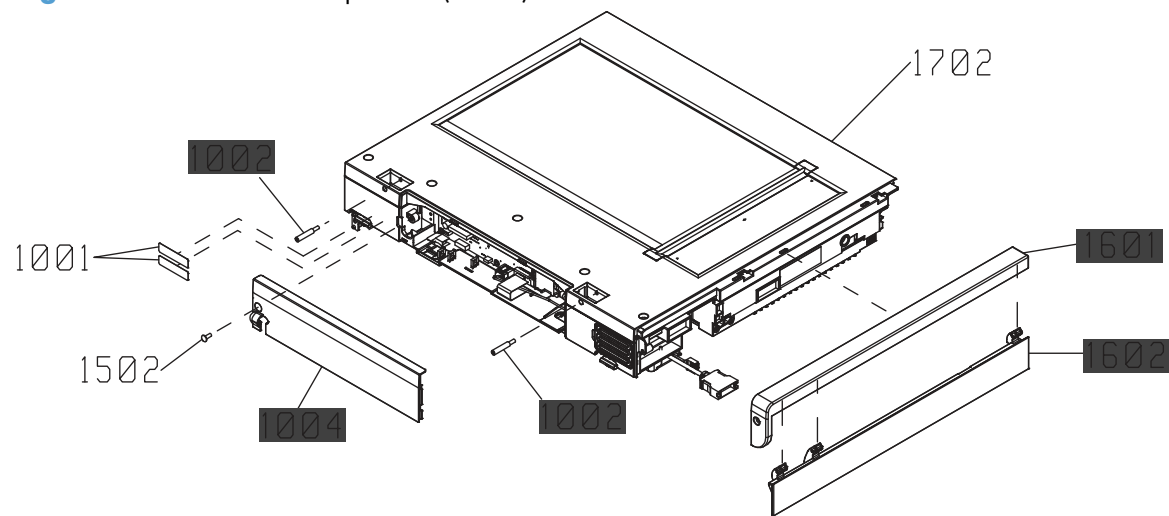


Table 4-38 Scanner components¹ (1 of 8)

Ref	Description	Part number	Qty
1002	Hinge restraining pin (S-SFT-STP-HNG)	IR4068K319NI	2
1004	Cover, rear scanner (S-CVR-REAR)	IR4068K321NI	1
1601	Cover, left upper scanner	IR4070K301NI	1
1602	Cover, left flapper scanner	IR4070K302NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Scanner components (2 of 8)

Figure 4-39 Scanner components (2 of 8)

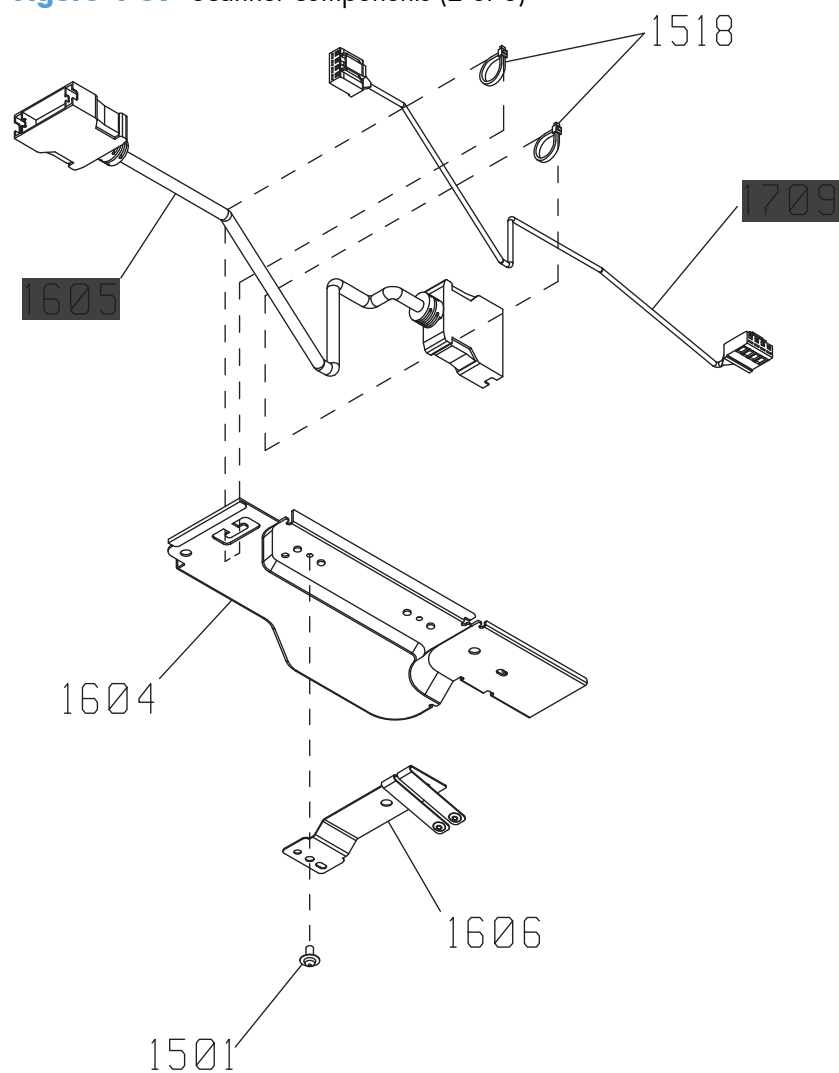


Table 4-39 Scanner components¹ (2 of 8)

Ref	Description	Part number	Qty
1605	Cover, Asm ICB main left	IR4070K304NI	1
1601	Cover, left upper scanner	IR4070K301NI	1
1709	Cable, Asm power	IR4070K305NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Scanner components (3 of 8)

Figure 4-40 Scanner components (3 of 8)

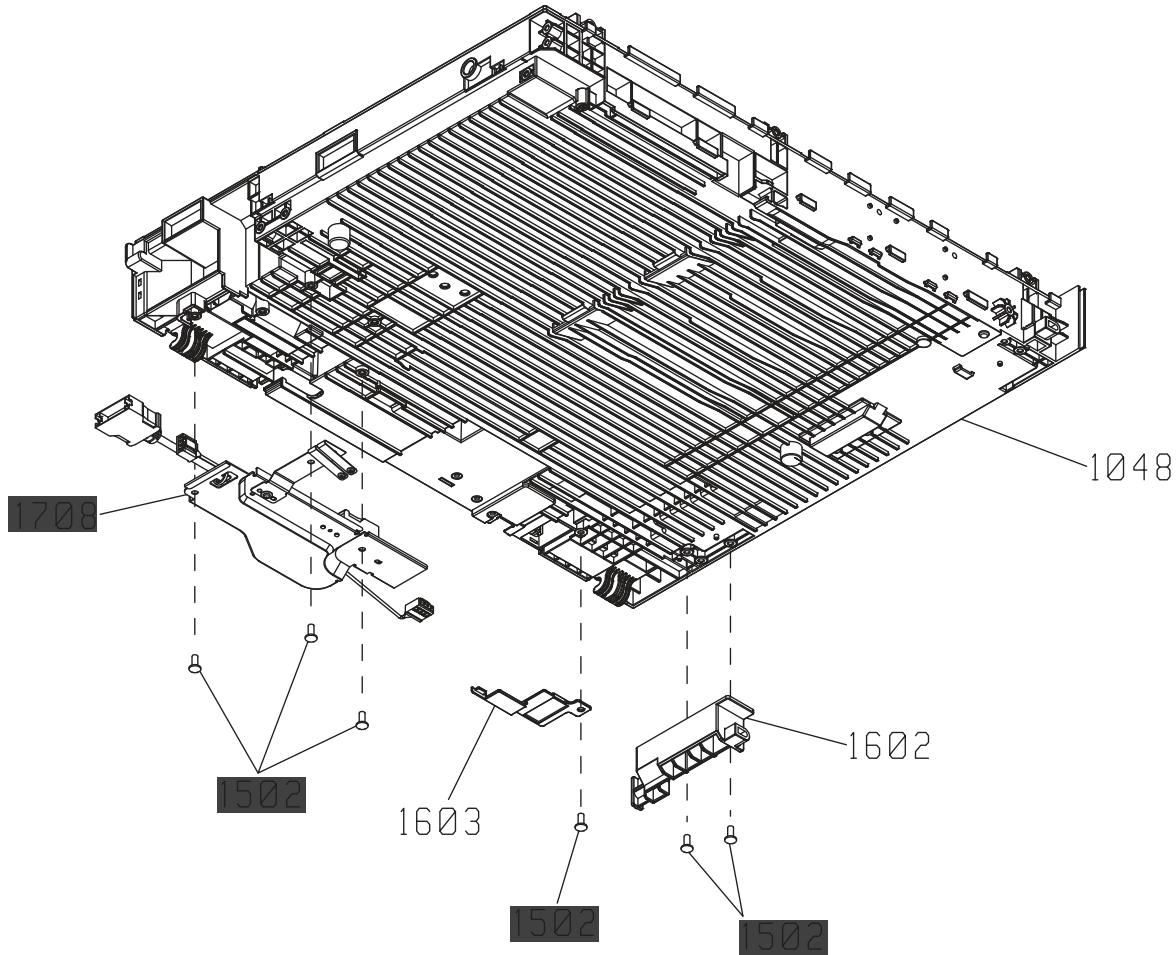


Table 4-40 Scanner components¹ (3 of 8)

Ref	Description	Part number	Qty
1706	Screw (ASY-040100FNBB)	IR4068K342NI	16
1708	Cover, sheet metal assembly with cable	IR4068K344NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Scanner components (4 of 8)

Figure 4-41 Scanner components (4 of 8)

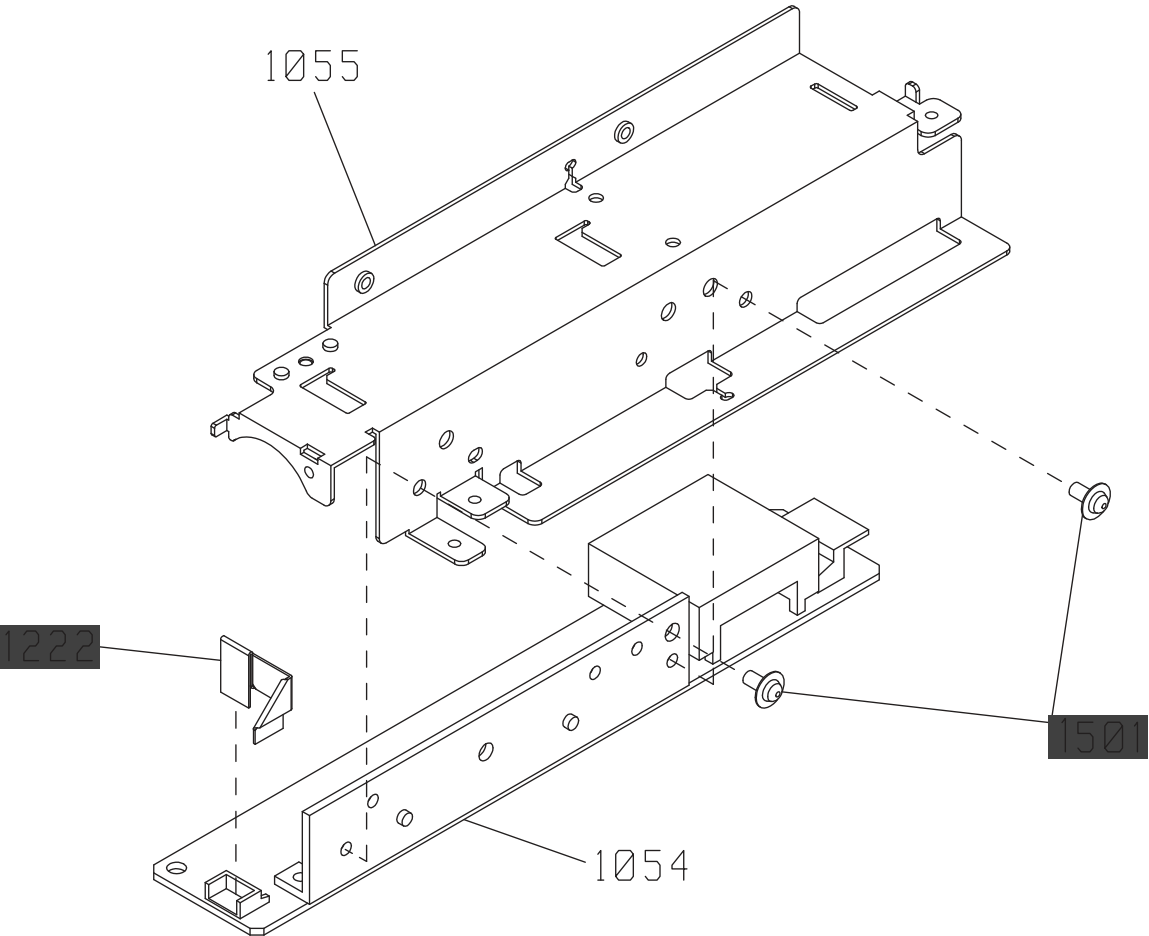


Table 4-41 Scanner assembly¹ (4 of 8)

Ref	Description	Part number	Qty
1222	Cable, FFC to SCB and IC board (S-K-CBP-INV-FFC)	IR4068K303NI	1
1501	Screw (ASY-030060FNIT)	IR4068K341NI	9

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Scanner components (5 of 8)

Figure 4-42 Scanner assembly (5 of 8)

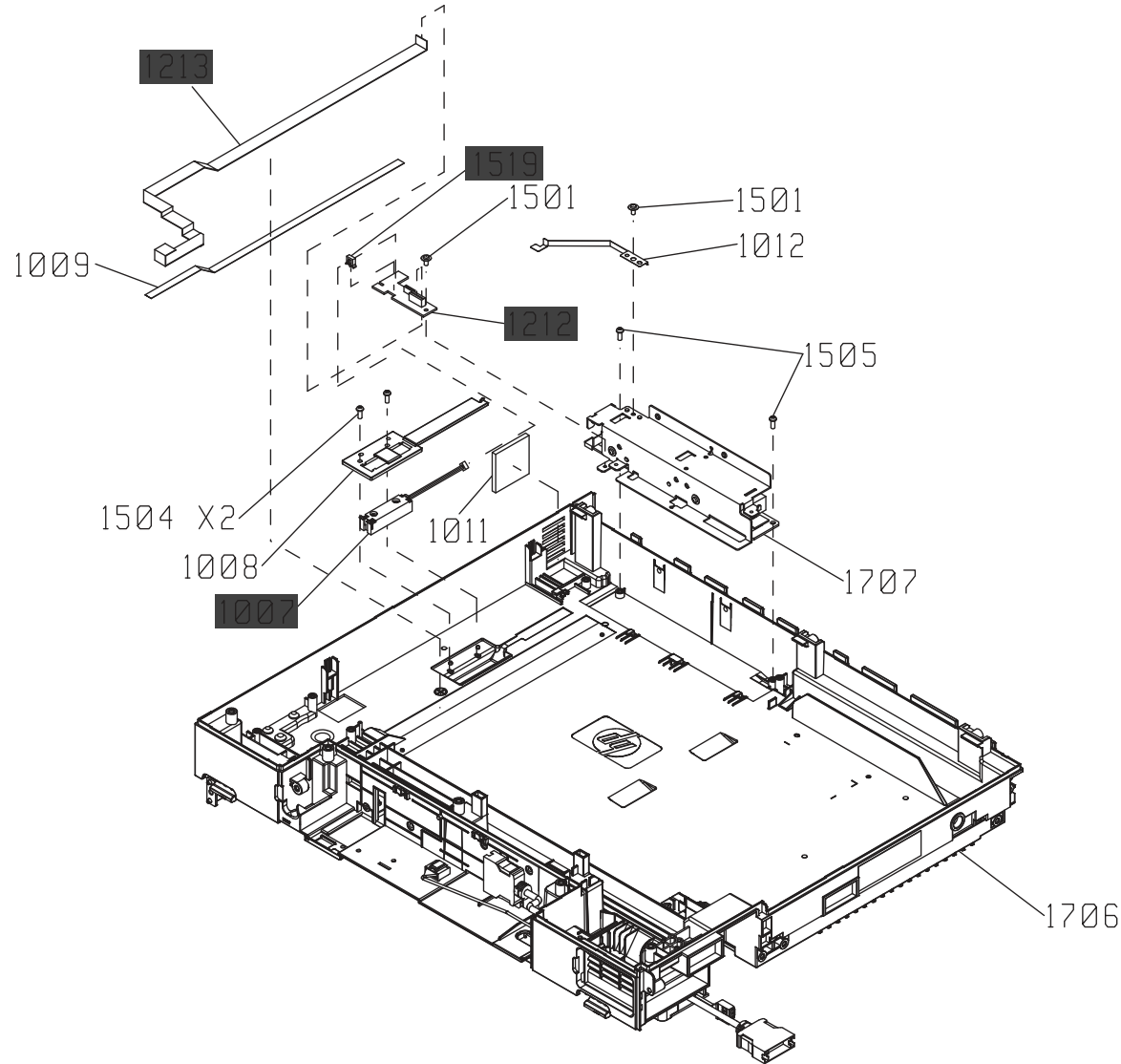


Table 4-42 Scanner assembly¹ (5 of 8)

Ref	Description	Part number	Qty
1007	Size sensor (S-SNS-EY3A-1061-2)	IR4068K305NI	1
1212	Interconnection board (S-PBA-TYUKEI)	IR4068K307NI	1
1213	Cable, FFC to SCB and IC board (S-K-CBP-RELAY-FFC)	IR4068K308NI	1
1519	Wire saddle (RTMC-01T V0)	IR4070K308NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Scanner components (6 of 8)

Figure 4-43 Scanner components (6 of 8)

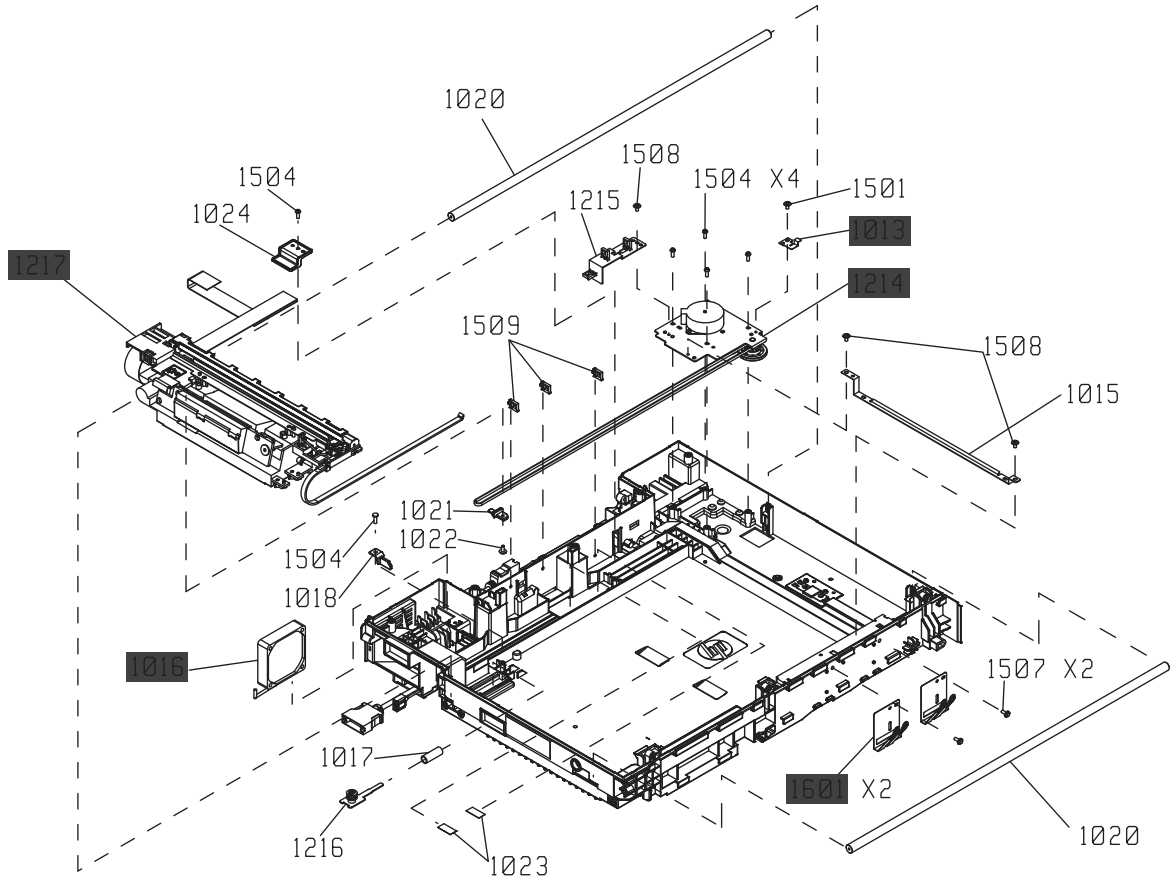


Table 4-43 Scanner components¹ (6 of 8)

Ref	Description	Part number	Qty
1214	Scanner motor assembly (S-ASSY-MOTOR-UNIT)	IR4068K309NI	1
1013	Grounding feature (S-SP-GND-SFT-R)	IR4068K310NI	1
1016	Scanner fan motor (S-FAN-D06037600G-01)	IR4068K311NI	1
1217	Carriage assembly (ASSY-CRG-UNIT-IR4068)	IR4068K200NI	1
1601	Grounding feature (Sp-Gnd-F)	IR4070K309NI	2

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Scanner components (7 of 8)

Figure 4-44 Scanner components (7 of 8)

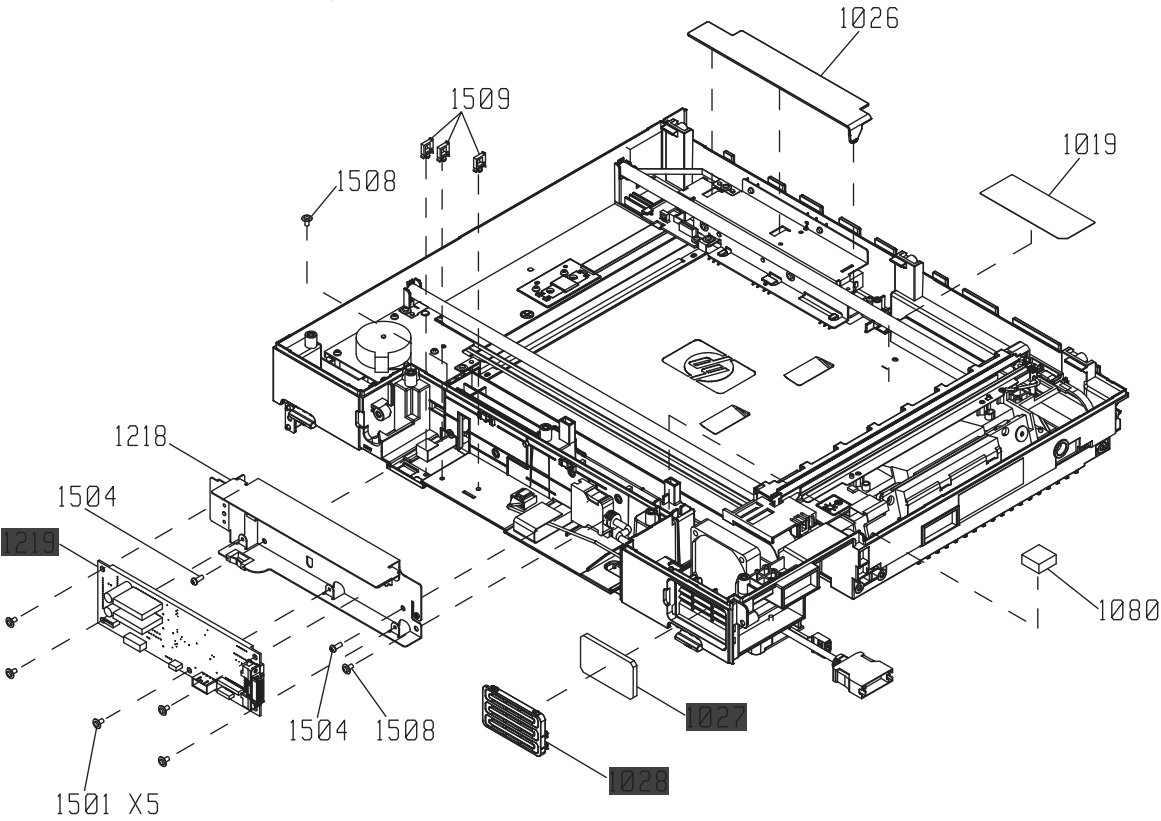


Table 4-44 Scanner components¹ (7 of 8)

Ref	Description	Part number	Qty
1219	Scanner control board (SCB) (S-PBA-SCB)	IR4068K312NI	1
1027	Fan filter (S-FLTR-IN)	IR4068K313NI	1
1028	Cover, fan filter (S-CVR-FAN)	IR4068K314NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Scanner components (8 of 8)

Figure 4-45 Scanner components (8 of 8)

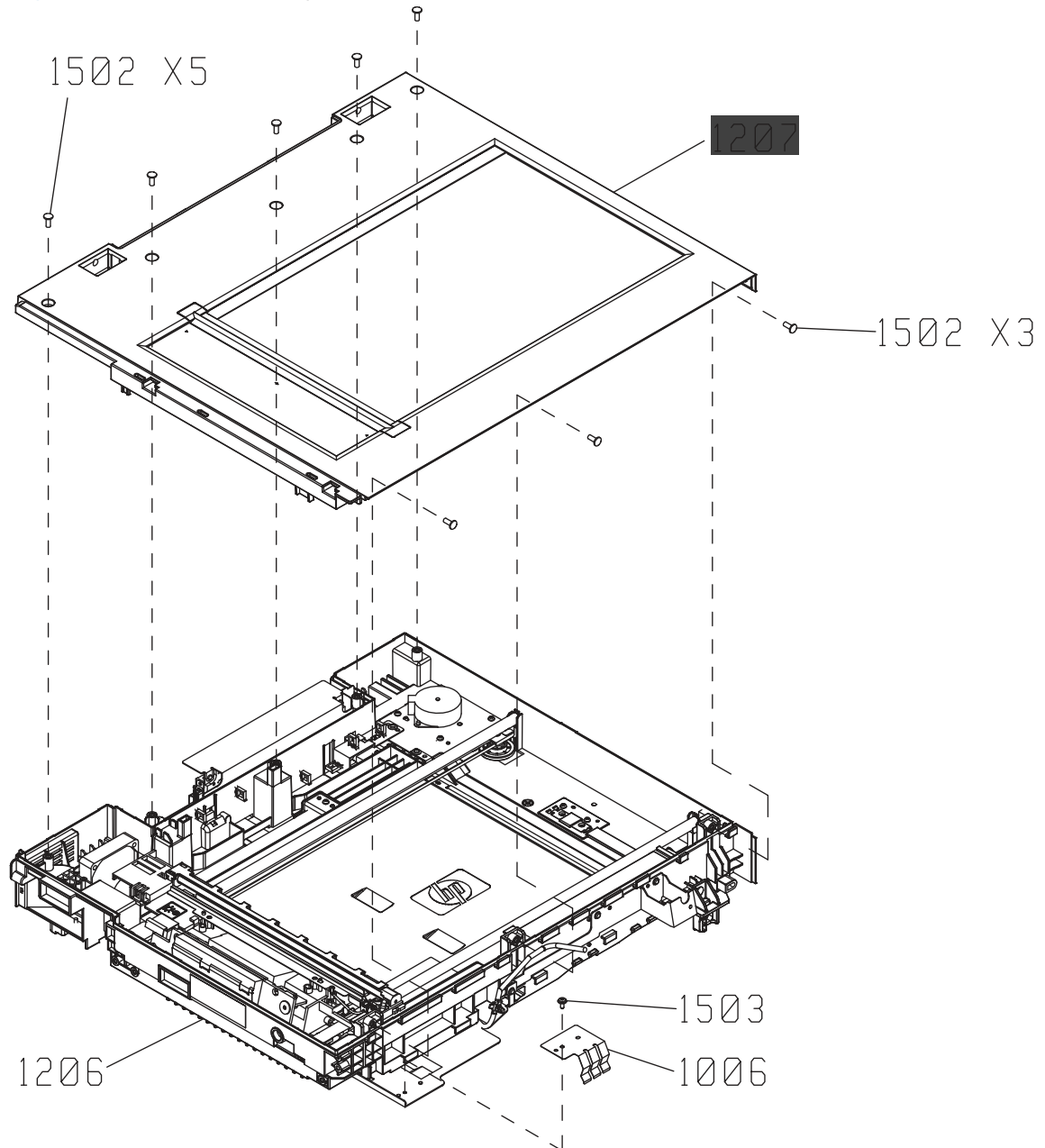


Table 4-45 Scanner components¹ (8 of 8)

Ref	Description	Part number	Qty
1207	Cover, scanner upper assembly (S-ASSY-UPPER-UNIT)	IR4068K315NI	1

¹ To order available fasteners for this component, see [Fasteners used in this product on page 656](#).

Alphabetical parts list

Table 4-46 Alphabetical parts list

Description	Part number	Table and page
ADF base assy (ASY-BASE-SP)	PF2309K102NI	Document feeder components¹ (5 of 5) on page 725
ADP paper path assy (ASY-FRM-RE-FEED-SP)	PF2309K103NI	Document feeder components¹ (5 of 5) on page 725
Arm, door 1	RC1-2827-000CN	Internal components (2 of 5) on page 671
Arm, door B	RC2-7967-000CN	Internal components (2 of 5) on page 671
Automatic document feeder (ADF)	PF2309-SVPNI	Docuemnt feeder (whole unit) on page 715
Auxiliary foot assembly (1x500/3x500)	RM1-5938-000CN	Main body (1x500/3x500; 1 of 2) on page 705
Bin sensor PCA (MBM)	RM1-5894-000CN	Main body (MBM; 2 of 2) on page 713
Block, guide support (upper plate)	RC1-3102-000CN	Upper plate assembly¹ on page 667
Bushing	RC1-2922-000CN	Internal components¹ (4 of 5) on page 675
Cable, ADF interface (ASM-IF-SP)	PF2309K110NI	Document feeder components¹ (5 of 5) on page 725
Cable, Asm power	IR4070K305NI	Scanner components¹ (2 of 8) on page 731
Cable, cartridge sensor	RM1-7112-000CN	Internal components¹ (3 of 5) on page 673
Cable, door switch	RM1-7113-000CN	Internal components (5 of 5) on page 677
Cable, envelope feeder	RM1-5085-000CN	Internal components (5 of 5) on page 677
Cable, environmental sensor	RM1-7164-000CN	Internal components (5 of 5) on page 677
Cable, FFC to SCB and IC board (S-K-CBP-INV-FFC)	IR4068K303NI	Scanner assembly¹ (4 of 8) on page 735
Cable, FFC to SCB and IC board (S-K-CBP-RELAY-FFC)	IR4068K308NI	Scanner assembly¹ (5 of 8) on page 737
Cable, flat flexible (FFC)	RK2-3206-000CN	Internal components (5 of 5) on page 677
Cable, FSR control	RM1-7156-000CN	Internal components (5 of 5) on page 677

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Cable, full detect	RM1-7158-000CN	Internal components¹ (4 of 5) on page 675
Cable, fuser motor	RM1-7159-000CN	Internal components (5 of 5) on page 677
Cable, laser	RM1-7166-000CN	Internal components¹ (3 of 5) on page 673
Cable, lifter motor	RM1-7162-000CN	Internal components (5 of 5) on page 677
Cable, P sensor solenoid	RM1-7170-000CN	Internal components (5 of 5) on page 677
Cable, paper delivery	RM1-7167-000CN	Internal components¹ (4 of 5) on page 675
Cable, paper delivery sensor	RM1-7168-000CN	Internal components¹ (4 of 5) on page 675
Cable, paper feed	RM1-7169-000CN	Internal components (5 of 5) on page 677
Cable, paper feed motor	RM1-7114-000CN	Internal components (2 of 5) on page 671
Cable, reverse fan	RM1-7177-000CN	Internal components¹ (3 of 5) on page 673
Cable, scanner joint drum motor	RM1-7178-000CN	Internal components¹ (3 of 5) on page 673
Cable, scanner power supply	RM1-7161-000CN	Internal components¹ (4 of 5) on page 675
Cable, size detect	RM1-7179-000CN	Internal components (1 of 5) on page 669
Cable, switchback joint	RM1-7180-000CN	Internal components (2 of 5) on page 671
Cable, USB	RK2-3241-000CN	Internal components¹ (4 of 5) on page 675
Carriage assembly (ASSY-CRG-UNIT-IR4068)	IR4068K200NI	Scanner components¹ (6 of 8) on page 739
Cartridge support 1 (upper plate)	RC2-8030-000CN	Upper plate assembly¹ on page 667
Cartridge support 2 (upper plate)	RC2-8031-000CN	Upper plate assembly¹ on page 667
Cassette (1x500)	RM1-7379-000CN	Main body (1x500) on page 701
Cassette assembly (1x500/3x500)	RM1-7379-000CN	Main body (1x500/3x500; 1 of 2) on page 705

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Cassette assembly (Tray 2)	RM1-7379-000CN	Cassette assembly (Tray 2) on page 681
Cassette left rail assembly	RM1-5932-000CN	Internal components¹ (3 of 5) on page 673
Cassette right rail assembly	RM1-5931-000CN	Internal components¹ (3 of 5) on page 673
Center shroud	RL1-2830-000CN	Internal components¹ (3 of 5) on page 673
Connector PCA assembly	RM1-7375-000CN	Internal components (5 of 5) on page 677
Connector PCB assembly	RM1-7375-000CN	PCAs (product base) on page 697
Connector, drawer	WS1-6336-000CN	High-voltage power supply on page 679
Connector, snap tight	VS1-7207-007CN	Internal components (5 of 5) on page 677
Cover, Asm ICB main left	IR4070K304NI	Scanner components¹ (2 of 8) on page 731
Cover, back panel assembly	RM1-7415-000CN	Internal components¹ (4 of 5) on page 675
Cover, bottom (MBM)	RL1-2438-000CN	Covers (MBM) on page 709
Cover, cable image scanner	RC2-7993-000CN	Covers on page 665
Cover, cassette left assembly	RM1-7378-000CN	Covers on page 665
Cover, door arm (top cover)	RC1-2833-000CN	Internal components (2 of 5) on page 671
Cover, environment	RL1-2831-000CN	Internal components (1 of 5) on page 669
Cover, fan filter (S-CVR-FAN)	IR4068K314NI	Scanner components¹ (7 of 8) on page 741
Cover, front	RC2-8007-000CN	Covers on page 665
Cover, front assembly (ASY-CVR-F-SP)	PF2309K107NI	Document feeder components¹ (5 of 5) on page 725
Cover, front assembly (MBM)	RM1-7438-000CN	Covers (MBM) on page 709
Cover, front inner	RC2-7979-000CN	Internal components (1 of 5) on page 669
Cover, front lock IS (upper plate)	RM1-7394-000CN	Upper plate assembly¹ on page 667
Cover, front right (1x500)	RC2-7307-000CN	Covers (1x500) on page 699

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, front-lower left	RC2-7983-000CN	Covers on page 665
Cover, front-upper side assembly	RM1-7394-000CN	Covers on page 665
Cover, inner rear	RC2-7982-000CN	Internal components¹ (3 of 5) on page 673
Cover, IS front	RL1-2832-000CN	Internal components¹ (4 of 5) on page 675
Cover, left (1x500)	RC3-1328-000CN	Covers (1x500) on page 699
Cover, left (SF)	RC2-7306-000CN	Covers (1x500/3x500) on page 703
Cover, left flapper scanner	IR4070K302NI	Scanner components¹ (1 of 8) on page 729
Cover, left handle (1x500)	RC3-1329-000CN	Covers (1x500) on page 699
Cover, left rear	RC2-8014-000CN	Covers on page 665
Cover, left upper scanner	IR4070K301NI	Scanner components¹ (1 of 8) on page 729
Cover, left upper scanner	IR4070K301NI	Scanner components¹ (2 of 8) on page 731
Cover, lens protective	RC2-7994-000CN	Internal components (2 of 5) on page 671
Cover, lower left image scanner	RC2-8037-000CN	Covers on page 665
Cover, MP (Tray 1) gear	RC2-7987-000CN	Internal components (1 of 5) on page 669
Cover, MP assembly (Tray 1)	RM1-7402-000CN	Covers on page 665
Cover, paper delivery tray assembly (standard output bin)	RM1-7414-000CN	Covers on page 665
Cover, pick roller assembly cover (ASY-CVR-FE-PICK-SP)	PF2309K132NII	Document feeder components¹ (4 of 5) on page 723
Cover, rear (1x500)	RC3-1333-000CN	Covers (1x500) on page 699
Cover, rear (ASY-CVR-F-R-SP)	PF2309K114NI	Document feeder components¹ (5 of 5) on page 725
Cover, rear (MBM)	RC2-8147-000CN	Covers (MBM) on page 709
Cover, rear (SF)	RC2-7304-000CN	Covers (1x500/3x500) on page 703
Cover, rear lock IS (upper plate)	RC2-8027-000CN	Upper plate assembly¹ on page 667
Cover, rear lower (SF)	RC2-7305-000CN	Covers (1x500/3x500) on page 703

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Cover, rear scanner (S-CVR-REAR)	IR4068K321NI	Scanner components¹ (1 of 8) on page 729
Cover, rear side	RC2-7980-000CN	Covers on page 665
Cover, rear upper (SF)	RC2-9274-000CN	Covers (1x500/3x500) on page 703
Cover, reverse side rear	RC1-2852-000CN	Internal components¹ (4 of 5) on page 675
Cover, right (1x500)	RC3-1330-000CN	Covers (1x500) on page 699
Cover, right center (SF)	RC2-7309-000CN	Covers (1x500/3x500) on page 703
Cover, right door assembly (1x500)	RM1-6932-000CN	Covers (1x500/3x500) on page 703
Cover, right door assembly (3x500)	RM1-6933-000CN	Covers (1x500/3x500) on page 703
Cover, right front	RC2-8011-000CN	Covers on page 665
Cover, right front (1x500)	RC3-1332-000CN	Covers (1x500) on page 699
Cover, right front (1x500)	RC2-7320-000CN	Covers (1x500/3x500) on page 703
Cover, right front (3x500)	RC2-7321-000CN	Covers (1x500/3x500) on page 703
Cover, right handle (1x500)	RC3-1331-000CN	Covers (1x500) on page 699
Cover, right image scanner	RC2-8036-000CN	Covers on page 665
Cover, right lower assembly	RM1-7404-000CN	Covers on page 665
Cover, right rear	RC2-8013-000CN	Covers on page 665
Cover, right upper (SF)	RC2-7310-000CN	Covers (1x500/3x500) on page 703
Cover, scanner upper assembly (S-ASSY-UPPER-UNIT)	IR4068K315NI	Scanner components¹ (8 of 8) on page 743
Cover, sheet metal assembly with cable	IR4068K344NI	Scanner components¹ (3 of 8) on page 733
Cover, top assembly (MBM)	RM1-6669-000CN	Covers (MBM) on page 709
Cover, top rear	RC2-7992-000CN	Covers on page 665
Cover, tray base assembly (standard output bin mounting)	RM1-7409-000CN	Covers on page 665
DC controller PCA	RM1-7102-000CN	Internal components (5 of 5) on page 677
DC controller PCA	RM1-7102-000CN	PCAs (product base) on page 697

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Door jam assembly (ASY-CVR-FE-FEED-SP)	PF2309K105NI	Document feeder components¹ (5 of 5) on page 725
Door, right (MBM)	RC2-8149-000CN	Covers (MBM) on page 709
Door, stock (1x500)	RC2-7315-000CN	Covers (1x500/3x500) on page 703
Duplex assembly	RM1-7387-000CN	Duplex assembly on page 693
Face-up open guide assembly	RM1-7389-000CN	Internal components (1 of 5) on page 669
Fan (FN101)	RK2-1988-000CN	Internal components¹ (3 of 5) on page 673
Fan (FN102)	RK2-1989-000CN	Internal components (5 of 5) on page 677
Fan (FN103)	RK2-1992-000CN	Internal components (5 of 5) on page 677
Fan (FN104)	RK2-3214-000CN	Internal components (5 of 5) on page 677
Fan (FN105)	RK2-0280-000CN	Internal components¹ (3 of 5) on page 673
Fan (FN301)	RK2-1991-000CN	Internal components¹ (3 of 5) on page 673
Fan filter (S-FLTR-IN)	IR4068K313NI	Scanner components¹ (7 of 8) on page 741
Flapper assembly (MBM)	RM1-5157-000CN	Main body (MBM; 2 of 2) on page 713
Formatter, IFA	CE502-60113	PCAs (product base) on page 697
Fuser assembly 110V	RM1-7395-000CN	Fuser assembly on page 695
Fuser assembly 220V	RM1-7397-000CN	Fuser assembly on page 695
Fuser motor assembly	RM1-5051-020CN	Internal components (5 of 5) on page 677
Ground plate assembly	RM1-5461-000CN	Internal components (1 of 5) on page 669
Grounding feature (S-SP-GND-SFT-R)	IR4068K310NI	Scanner components¹ (6 of 8) on page 739
Grounding feature (Sp-Gnd-F)	IR4070K309NI	Scanner components¹ (6 of 8) on page 739
Handle lock (upper plate)	RC2-8096-000CN	Upper plate assembly¹ on page 667

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
High-voltage power supply 110V	RM1-7384-000CN	High-voltage power supply on page 679
High-voltage power supply 220V	RM1-7386-000CN	High-voltage power supply on page 679
Hinge restraining pin (S-SFT-STP-HNG)	IR4068K319NI	Scanner components¹ (1 of 8) on page 729
Hinge, left counterbalance (ASY-HNG-L-SP)	PF2309K104NI	Document feeder components¹ (5 of 5) on page 725
Hinge, right counterbalance (ASY-HNG-R-SP)	PF2309K119NI	Document feeder components¹ (1 of 5) on page 717
Interconnection board (ASY-PBA-RELAY-SP)	PF2309K118NI	Document feeder components¹ (1 of 5) on page 717
Interconnection board (S-PBA-TYUKEI)	IR4068K307NI	Scanner assembly¹ (5 of 8) on page 737
Interlock assembly (MBM)	RM1-7431-000CN	Main body (MBM; 1 of 2) on page 711
Interlock lever assembly (MBM)	RM1-6335-000CN	Covers (MBM) on page 709
Jog assembly (MBM)	RM1-7433-000CN	Main body (MBM; 2 of 2) on page 713
Laser/scanner assembly	RM1-7419-000CN	Internal components (2 of 5) on page 671
Legal size guide (upper plate)	RC2-8029-000CN	Upper plate assembly¹ on page 667
Lever, media presence sensor (ASY-LVR-FE-EMP-SP)	PF2309K130NI	Document feeder components¹ (4 of 5) on page 723
Lift tray assembly (MBM)	RM1-5156-000CN	Main body (MBM; 2 of 2) on page 713
Lifter assembly (1 required for each cassette)	RM1-5914-000CN	Internal components (5 of 5) on page 677
Lifter assembly (1x500)	RM1-5914-000CN	Main body (1x500) on page 701
Lifter base assembly	RM1-5913-000CN	Internal components (1 of 5) on page 669
Lifter guide assembly (MBM)	RM1-6330-000CN	Covers (MBM) on page 709
Link handle (upper plate)	RC1-2822-000CN	Upper plate assembly¹ on page 667
Link rod, lower-access door	RC1-2902-000CN	Internal components (1 of 5) on page 669
Link switch	RC1-3003-000CN	Internal components¹ (4 of 5) on page 675

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Low-voltage power supply 110V	RM1-7401-000CN	Internal components¹ (4 of 5) on page 675
Low-voltage power supply 220V	RM1-7413-000CN	Internal components¹ (4 of 5) on page 675
MBM bin assembly (MBM)	RM1-6668-000CN	Main body (MBM; 2 of 2) on page 713
MBM driver PCA (MBM)	RM1-7433-000CN	Main body (MBM; 2 of 2) on page 713
Motor read assembly ADF (ASY-MOT-RE-SP)	PF2309K126NI	Document feeder components¹ (2 of 5) on page 719
Motor, DC 24V	RL1-1657-020CN	Internal components (2 of 5) on page 671
Motor, DC 24V	RL1-1659-010CN	Internal components (2 of 5) on page 671
Motor, fan ADF (ASY-FAN-SP)	PF2309K127NI	Document feeder components¹ (2 of 5) on page 719
Motor, feed assembly ADF (ASY-MOT-FE-SP)	PF2309K125NI	Document feeder components¹ (2 of 5) on page 719
MP (Tray 1) feed roller	RL1-1663-000CN	MP (Tray 1) pickup assembly on page 691
MP (Tray 1) pickup assembly	RM1-7377-000CN	MP (Tray 1) pickup assembly on page 691
MP (Tray 1) pickup roller	RL1-1641-000CN	MP (Tray 1) pickup assembly on page 691
MP (Tray 1) separation roller	RM1-5460-010CN	MP (Tray 1) pickup assembly on page 691
Output tray extension (ASY-TRY-F-BASE-SP)	PF2309K116NI	Document feeder components¹ (5 of 5) on page 725
Panel, stacking (MBM)	RL1-1984-000CN	Covers (MBM) on page 709
Paper deck driver PCA (1x500)	RM1-7189-000CN	Main body (1x500/3x500; 1 of 2) on page 705
Paper deck driver PCA (3x500)	RM1-7153-000CN	Main body (1x500/3x500; 2 of 2) on page 707
Paper driver PCA (1x500)	RM1-7189-000CN	Main body (1x500) on page 701
Paper feed assembly	RM1-4548-000CN	High-voltage power supply on page 679
Paper feed guide assembly (MBM)	RM1-5173-000CN	Main body (MBM; 1 of 2) on page 711

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Paper feed roller assembly	RM1-4527-000CN	Paper feed roller assembly on page 687
Paper feed roller assembly (MBM)	RM1-6332-000CN	Main body (MBM; 1 of 2) on page 711
Paper feed roller, cassette	RM1-0037-020CN	Paper pickup assembly on page 683
Paper pickup assembly	RM1-5919-000CN	Paper pickup assembly on page 683
Paper pickup assembly (1x500)	RM1-5929-030CN	Main body (1x500) on page 701
Paper pickup assembly (1x500/3x500)	RM1-5929-030CN	Main body (1x500/3x500; 1 of 2) on page 705
Paper pickup drive assembly	RM1-7403-000CN	Internal components (2 of 5) on page 671
Paper pickup drive assembly (1x500)	RM1-5941-000CN	Main body (1x500) on page 701
Paper pickup drive assembly (1x500)	RM1-5941-000CN	Main body (1x500/3x500; 1 of 2) on page 705
Paper pickup drive assembly (3x500)	RM1-5942-000CN	Main body (1x500/3x500; 2 of 2) on page 707
Paper pickup roller, cassette	RL1-2099-000CN	Paper pickup assembly on page 683
Paper sensor PCA assembly	RM1-5853-000CN	Paper pickup assembly on page 683
Pick roller assembly (ASY-ROL-FE-FEED-SP)	PF2309K131NI	Document feeder components¹ (4 of 5) on page 723
Power supply, high-voltage 110V	RM1-7384-000CN	PCAs (product base) on page 697
Power supply, high-voltage 220V	RM1-7386-000CN	PCAs (product base) on page 697
Power supply, low-voltage 110V	RM1-7401-000CN	PCAs (product base) on page 697
Power supply, low-voltage 220V	RM1-7413-000CN	PCAs (product base) on page 697
Registration assembly	RM1-5460-010CN	Registration assembly on page 689
Reverse assembly	RM1-7399-000CN	Reverse assembly on page 685
Reverse estrangement guide assembly	RM1-7380-000CN	Internal components (2 of 5) on page 671

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Reverse PCA assembly	RM1-1379-000CN	Reverse assembly on page 685
Right shutter holder (upper plate)	RC2-8097-000CN	Upper plate assembly¹ on page 667
Rod link (upper plate)	RC1-2830-000CN	Upper plate assembly¹ on page 667
Rod, release	RC2-8086-000CN	Internal components (2 of 5) on page 671
Rod, switch front	RC1-2980-000CN	Internal components¹ (4 of 5) on page 675
Scanner assembly	IR4070-SVP	Scanner assembly (whole unit) on page 727
Scanner control board (SCB) (S-PBA-SCB)	IR4068K312NI	Scanner components¹ (7 of 8) on page 741
Scanner fan motor (S-FAN-D06037600G-01)	IR4068K311NI	Scanner components¹ (6 of 8) on page 739
Scanner motor assembly (S-ASSY-MOTOR-UNIT)	IR4068K309NI	Scanner components¹ (6 of 8) on page 739
Screw (ASY-030060FNIT)	IR4068K341NI	Scanner assembly¹ (4 of 8) on page 735
Screw (ASY-040100FNBB)	IR4068K342NI	Scanner components¹ (3 of 8) on page 733
Sensor open/angle ADF (ASY-SG2481-NY-SP)	PF2309K122NI	Document feeder components¹ (2 of 5) on page 719
Sensor unit MBM	RM1-7374-000CN	Internal components¹ (4 of 5) on page 675
Sensor, ADF open/angle (ASY-TFB-2024IRS)	PF2309K112NI	Document feeder components¹ (5 of 5) on page 725
Sensor, assembly cartridge	RM1-8323-000CN	Internal components (2 of 5) on page 671
Sensor, assembly right door	RM1-1045-000CN	Internal components (1 of 5) on page 669
Sensor, assembly temperature	RM1-7420-000CN	Internal components (5 of 5) on page 677
Sensor, open/close ADF (ASY-DFSENS-SP)	PF2309K121NI	Document feeder components¹ (1 of 5) on page 717
Separation pad (ASY-HLD-REV-PAD-SP)	PF2309K133NI	Document feeder components (3 of 5) on page 721
Shaft, right-lower access door hinge	RU5-4142-000CN	Internal components (1 of 5) on page 669

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
Size sensor (S-SNS-EY3A-1061-2)	IR4068K305NI	Scanner assembly¹ (5 of 8) on page 737
Solenoid, entrance assembly (MBM)	RM1-6663-000CN	Main body (MBM; 1 of 2) on page 711
Solenoid, stamp assembly (MBM)	RM1-6664-000CN	Main body (MBM; 1 of 2) on page 711
Spring, compression	RU5-2265-000CN	Internal components (2 of 5) on page 671
Spring, tension	RU6-2475-000CN	Internal components (5 of 5) on page 677
Spring, torsion	RC2-8085-000CN	Internal components (1 of 5) on page 669
Stage assembly (MBM)	RM1-5159-000CN	Main body (MBM; 1 of 2) on page 711
Stage top sub assembly (MBM)	RM1-7437-000CN	Main body (MBM; 1 of 2) on page 711
Stapler assembly (MBM)	RM1-5166-000CN	Main body (MBM; 2 of 2) on page 713
Stopper, bushing arm	RC1-3090-000CN	Internal components (2 of 5) on page 671
Stopper, bushing arm	RC1-3090-000CN	Internal components¹ (4 of 5) on page 675
Tag holder assembly	RM1-4539-000CN	Internal components (2 of 5) on page 671
Toroid, ADF interface cable (ASY-TFT-152613N-SP)	PF2309K111NI	Document feeder components¹ (5 of 5) on page 725
Torque limiter	RC1-3293-000CN	Paper pickup assembly on page 683
Transfer roller assembly	RM1-5462-000CN	Internal components (1 of 5) on page 669
Tray assembly (MBM)	RM1-5161-000CN	Covers (MBM) on page 709
Tray, input assembly (ASY-TRY-SP)	PF2309K106NI	Document feeder components¹ (5 of 5) on page 725
Tray, stopper (MBM)	RC2-5576-000CN	Covers (MBM) on page 709
Upper cartridge guide (upper plate)	RC2-8028-000CN	Upper plate assembly¹ on page 667
Upper paper path assembly (ASY-GIDREV-SPR-SP)	PF2309K129NI	Document feeder components¹ (2 of 5) on page 719

Table 4-46 Alphabetical parts list (continued)

Description	Part number	Table and page
White background assembly (ASY-SHT-F-CUSH-SP)	PF2309K117NI	Document feeder components¹ (5 of 5) on page 725
Wire saddle (RTMC-01T V0)	IR4070K308NI	Scanner assembly¹ (5 of 8) on page 737

Numerical parts list

Table 4-47 Numerical parts list

Part number	Description	Table and page
CE502-60113	Formatter, IFA	PCAs (product base) on page 697
IR4068K200NI	Carriage assembly (ASSY-CRG-UNIT-IR4068)	Scanner components¹ (6 of 8) on page 739
IR4068K303NI	Cable, FFC to SCB and IC board (S-K-CBP-INV-FFC)	Scanner assembly¹ (4 of 8) on page 735
IR4068K305NI	Size sensor (S-SNS-EY3A-1061-2)	Scanner assembly¹ (5 of 8) on page 737
IR4068K307NI	Interconnection board (S-PBA-TYUKEI)	Scanner assembly¹ (5 of 8) on page 737
IR4068K308NI	Cable, FFC to SCB and IC board (S-K-CBP-RELAY-FFC)	Scanner assembly¹ (5 of 8) on page 737
IR4068K309NI	Scanner motor assembly (S-ASSY-MOTOR-UNIT)	Scanner components¹ (6 of 8) on page 739
IR4068K310NI	Grounding feature (S-SP-GND-SFT-R)	Scanner components¹ (6 of 8) on page 739
IR4068K311NI	Scanner fan motor (S-FAN-D06037600G-01)	Scanner components¹ (6 of 8) on page 739
IR4068K312NI	Scanner control board (SCB) (S-PBA-SCB)	Scanner components¹ (7 of 8) on page 741
IR4068K313NI	Fan filter (S-FLTR-IN)	Scanner components¹ (7 of 8) on page 741
IR4068K314NI	Cover, fan filter (S-CVR-FAN)	Scanner components¹ (7 of 8) on page 741
IR4068K315NI	Cover, scanner upper assembly (S-ASSY-UPPER-UNIT)	Scanner components¹ (8 of 8) on page 743
IR4068K319NI	Hinge restraining pin (S-SFT-STP-HNG)	Scanner components¹ (1 of 8) on page 729
IR4068K321NI	Cover, rear scanner (S-CVR-REAR)	Scanner components¹ (1 of 8) on page 729
IR4068K341NI	Screw (ASY-030060FNIT)	Scanner assembly¹ (4 of 8) on page 735
IR4068K342NI	Screw (ASY-040100FNBB)	Scanner components¹ (3 of 8) on page 733
IR4068K344NI	Cover, sheet metal assembly with cable	Scanner components¹ (3 of 8) on page 733
IR4070-SVP	Scanner assembly	Scanner assembly (whole unit) on page 727

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
IR4070K301NI	Cover, left upper scanner	Scanner components¹ (1 of 8) on page 729
IR4070K301NI	Cover, left upper scanner	Scanner components¹ (2 of 8) on page 731
IR4070K302NI	Cover, left flapper scanner	Scanner components¹ (1 of 8) on page 729
IR4070K304NI	Cover, Asm ICB main left	Scanner components¹ (2 of 8) on page 731
IR4070K305NI	Cable, Asm power	Scanner components¹ (2 of 8) on page 731
IR4070K308NI	Wire saddle (RTMC-01T V0)	Scanner assembly¹ (5 of 8) on page 737
IR4070K309NI	Grounding feature (Sp-Gnd-F)	Scanner components¹ (6 of 8) on page 739
PF2309-SVPNI	Automatic document feeder (ADF)	Docuemnt feeder (whole unit) on page 715
PF2309K102NI	ADF base assy (ASY-BASE-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K103NI	ADP paper path assy (ASY-FRM-RE-FEED-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K104NI	Hinge, left counterbalance (ASY-HNG-L-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K105NI	Door jam assembly (ASY-CVR-FE-FEED-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K106NI	Tray, input assembly (ASY-TRY-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K107NI	Cover, front assembly (ASY-CVR-F-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K110NI	Cable, ADF interface (ASM-IF-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K111NI	Toroid, ADF interface cable (ASY-TFT-152613N-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K112NI	Sensor, ADF open/angle (ASY-TFB-2024IRS)	Document feeder components¹ (5 of 5) on page 725
PF2309K114NI	Cover, rear (ASY-CVR-F-R-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K116NI	Output tray extension (ASY-TRY-F-BASE-SP)	Document feeder components¹ (5 of 5) on page 725
PF2309K117NI	White background assembly (ASY-SHT-F-CUSH-SP)	Document feeder components¹ (5 of 5) on page 725

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
PF2309K118NI	Interconnection board (ASY-PBA-RELAY-SP)	Document feeder components¹ (1 of 5) on page 717
PF2309K119NI	Hinge, right counterbalance (ASY-HNG-R-SP)	Document feeder components¹ (1 of 5) on page 717
PF2309K121NI	Sensor, open/close ADF (ASY-DFSENS-SP)	Document feeder components¹ (1 of 5) on page 717
PF2309K122NI	Sensor open/angle ADF (ASY-SG2481-NY-SP)	Document feeder components¹ (2 of 5) on page 719
PF2309K125NI	Motor, feed assembly ADF (ASY-MOT-FE-SP)	Document feeder components¹ (2 of 5) on page 719
PF2309K126NI	Motor read assembly ADF (ASY-MOT-RE-SP)	Document feeder components¹ (2 of 5) on page 719
PF2309K127NI	Motor, fan ADF (ASY-FAN-SP)	Document feeder components¹ (2 of 5) on page 719
PF2309K129NI	Upper paper path assembly (ASY-GIDREV-SPR-SP)	Document feeder components¹ (2 of 5) on page 719
PF2309K130NI	Lever, media presence sensor (ASY-LVR-FE-EMP-SP)	Document feeder components¹ (4 of 5) on page 723
PF2309K131NI	Pick roller assembly (ASY-ROL-FE-FEED-SP)	Document feeder components¹ (4 of 5) on page 723
PF2309K132NII	Cover, pick roller assembly cover (ASY-CVR-FE-PICK-SP)	Document feeder components¹ (4 of 5) on page 723
PF2309K133NI	Separation pad (ASY-HLD-REV-PAD-SP)	Document feeder components (3 of 5) on page 721
RC1-2822-000CN	Link handle (upper plate)	Upper plate assembly¹ on page 667
RC1-2827-000CN	Arm, door 1	Internal components (2 of 5) on page 671
RC1-2830-000CN	Rod link (upper plate)	Upper plate assembly¹ on page 667
RC1-2833-000CN	Cover, door arm (top cover)	Internal components (2 of 5) on page 671
RC1-2852-000CN	Cover, reverse side rear	Internal components¹ (4 of 5) on page 675
RC1-2902-000CN	Link rod, lower-access door	Internal components (1 of 5) on page 669
RC1-2922-000CN	Bushing	Internal components¹ (4 of 5) on page 675
RC1-2980-000CN	Rod, switch front	Internal components¹ (4 of 5) on page 675

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
RC1-3003-000CN	Link switch	Internal components¹ (4 of 5) on page 675
RC1-3090-000CN	Stopper, bushing arm	Internal components (2 of 5) on page 671
RC1-3090-000CN	Stopper, bushing arm	Internal components¹ (4 of 5) on page 675
RC1-3102-000CN	Block, guide support (upper plate)	Upper plate assembly¹ on page 667
RC1-3293-000CN	Torque limiter	Paper pickup assembly on page 683
RC2-5576-000CN	Tray, stopper (MBM)	Covers (MBM) on page 709
RC2-7304-000CN	Cover, rear (SF)	Covers (1x500/3x500) on page 703
RC2-7305-000CN	Cover, rear lower (SF)	Covers (1x500/3x500) on page 703
RC2-7306-000CN	Cover, left (SF)	Covers (1x500/3x500) on page 703
RC2-7307-000CN	Cover, front right (1x500)	Covers (1x500) on page 699
RC2-7309-000CN	Cover, right center (SF)	Covers (1x500/3x500) on page 703
RC2-7310-000CN	Cover, right upper (SF)	Covers (1x500/3x500) on page 703
RC2-7315-000CN	Door, stock (1x500)	Covers (1x500/3x500) on page 703
RC2-7320-000CN	Cover, right front (1x500)	Covers (1x500/3x500) on page 703
RC2-7321-000CN	Cover, right front (3x500)	Covers (1x500/3x500) on page 703
RC2-7967-000CN	Arm, door B	Internal components (2 of 5) on page 671
RC2-7979-000CN	Cover, front inner	Internal components (1 of 5) on page 669
RC2-7980-000CN	Cover, rear side	Covers on page 665
RC2-7982-000CN	Cover, inner rear	Internal components¹ (3 of 5) on page 673
RC2-7983-000CN	Cover, front-lower left	Covers on page 665
RC2-7987-000CN	Cover, MP (Tray 1) gear	Internal components (1 of 5) on page 669
RC2-7992-000CN	Cover, top rear	Covers on page 665

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
RC2-7993-000CN	Cover, cable image scanner	Covers on page 665
RC2-7994-000CN	Cover, lens protective	Internal components (2 of 5) on page 671
RC2-8007-000CN	Cover, front	Covers on page 665
RC2-8011-000CN	Cover, right front	Covers on page 665
RC2-8013-000CN	Cover, right rear	Covers on page 665
RC2-8014-000CN	Cover, left rear	Covers on page 665
RC2-8027-000CN	Cover, rear lock IS (upper plate)	Upper plate assembly¹ on page 667
RC2-8028-000CN	Upper cartridge guide (upper plate)	Upper plate assembly¹ on page 667
RC2-8029-000CN	Legal size guide (upper plate)	Upper plate assembly¹ on page 667
RC2-8030-000CN	Cartridge support 1 (upper plate)	Upper plate assembly¹ on page 667
RC2-8031-000CN	Cartridge support 2 (upper plate)	Upper plate assembly¹ on page 667
RC2-8036-000CN	Cover, right image scanner	Covers on page 665
RC2-8037-000CN	Cover, lower left image scanner	Covers on page 665
RC2-8085-000CN	Spring, torsion	Internal components (1 of 5) on page 669
RC2-8086-000CN	Rod, release	Internal components (2 of 5) on page 671
RC2-8096-000CN	Handle lock (upper plate)	Upper plate assembly¹ on page 667
RC2-8097-000CN	Right shutter holder (upper plate)	Upper plate assembly¹ on page 667
RC2-8147-000CN	Cover, rear (MBM)	Covers (MBM) on page 709
RC2-8149-000CN	Door, right (MBM)	Covers (MBM) on page 709
RC2-9274-000CN	Cover, rear upper (SF)	Covers (1x500/3x500) on page 703
RC3-1328-000CN	Cover, left (1x500)	Covers (1x500) on page 699
RC3-1329-000CN	Cover, left handle (1x500)	Covers (1x500) on page 699
RC3-1330-000CN	Cover, right (1x500)	Covers (1x500) on page 699
RC3-1331-000CN	Cover, right handle (1x500)	Covers (1x500) on page 699
RC3-1332-000CN	Cover, right front (1x500)	Covers (1x500) on page 699

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
RC3-1333-000CN	Cover, rear (1x500)	Covers (1x500) on page 699
RK2-0280-000CN	Fan (FN105)	Internal components¹ (3 of 5) on page 673
RK2-1988-000CN	Fan (FN101)	Internal components¹ (3 of 5) on page 673
RK2-1989-000CN	Fan (FN102)	Internal components (5 of 5) on page 677
RK2-1991-000CN	Fan (FN301)	Internal components¹ (3 of 5) on page 673
RK2-1992-000CN	Fan (FN103)	Internal components (5 of 5) on page 677
RK2-3206-000CN	Cable, flat flexible (FFC)	Internal components (5 of 5) on page 677
RK2-3214-000CN	Fan (FN104)	Internal components (5 of 5) on page 677
RK2-3241-000CN	Cable, USB	Internal components¹ (4 of 5) on page 675
RL1-1641-000CN	MP (Tray 1) pickup roller	MP (Tray 1) pickup assembly on page 691
RL1-1657-020CN	Motor, DC 24V	Internal components (2 of 5) on page 671
RL1-1659-010CN	Motor, DC 24V	Internal components (2 of 5) on page 671
RL1-1663-000CN	MP (Tray 1) feed roller	MP (Tray 1) pickup assembly on page 691
RL1-1984-000CN	Panel, stacking (MBM)	Covers (MBM) on page 709
RL1-2099-000CN	Paper pickup roller, cassette	Paper pickup assembly on page 683
RL1-2438-000CN	Cover, bottom (MBM)	Covers (MBM) on page 709
RL1-2830-000CN	Center shroud	Internal components¹ (3 of 5) on page 673
RL1-2831-000CN	Cover, environment	Internal components (1 of 5) on page 669
RL1-2832-000CN	Cover, IS front	Internal components¹ (4 of 5) on page 675
RM1-0037-020CN	Paper feed roller, cassette	Paper pickup assembly on page 683
RM1-1045-000CN	Sensor, assembly right door	Internal components (1 of 5) on page 669

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
RM1-1379-000CN	Reverse PCA assembly	Reverse assembly on page 685
RM1-4527-000CN	Paper feed roller assembly	Paper feed roller assembly on page 687
RM1-4539-000CN	Tag holder assembly	Internal components (2 of 5) on page 671
RM1-4548-000CN	Paper feed assembly	High-voltage power supply on page 679
RM1-5051-020CN	Fuser motor assembly	Internal components (5 of 5) on page 677
RM1-5085-000CN	Cable, envelope feeder	Internal components (5 of 5) on page 677
RM1-5156-000CN	Lift tray assembly (MBM)	Main body (MBM; 2 of 2) on page 713
RM1-5157-000CN	Flapper assembly (MBM)	Main body (MBM; 2 of 2) on page 713
RM1-5159-000CN	Stage assembly (MBM)	Main body (MBM; 1 of 2) on page 711
RM1-5161-000CN	Tray assembly (MBM)	Covers (MBM) on page 709
RM1-5166-000CN	Stapler assembly (MBM)	Main body (MBM; 2 of 2) on page 713
RM1-5173-000CN	Paper feed guide assembly (MBM)	Main body (MBM; 1 of 2) on page 711
RM1-5460-010CN	Registration assembly	Registration assembly on page 689
RM1-5460-010CN	MP (Tray 1) separation roller	MP (Tray 1) pickup assembly on page 691
RM1-5461-000CN	Ground plate assembly	Internal components (1 of 5) on page 669
RM1-5462-000CN	Transfer roller assembly	Internal components (1 of 5) on page 669
RM1-5853-000CN	Paper sensor PCA assembly	Paper pickup assembly on page 683
RM1-5894-000CN	Bin sensor PCA (MBM)	Main body (MBM; 2 of 2) on page 713
RM1-5913-000CN	Lifter base assembly	Internal components (1 of 5) on page 669
RM1-5914-000CN	Lifter assembly (1 required for each cassette)	Internal components (5 of 5) on page 677

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
RM1-5914-000CN	Lifter assembly (1x500)	Main body (1x500) on page 701
RM1-5919-000CN	Paper pickup assembly	Paper pickup assembly on page 683
RM1-5929-030CN	Paper pickup assembly (1x500)	Main body (1x500) on page 701
RM1-5929-030CN	Paper pickup assembly (1x500/3x500)	Main body (1x500/3x500; 1 of 2) on page 705
RM1-5931-000CN	Cassette right rail assembly	Internal components¹ (3 of 5) on page 673
RM1-5932-000CN	Cassette left rail assembly	Internal components¹ (3 of 5) on page 673
RM1-5938-000CN	Auxiliary foot assembly (1x500/3x500)	Main body (1x500/3x500; 1 of 2) on page 705
RM1-5941-000CN	Paper pickup drive assembly (1x500)	Main body (1x500) on page 701
RM1-5941-000CN	Paper pickup drive assembly (1x500)	Main body (1x500/3x500; 1 of 2) on page 705
RM1-5942-000CN	Paper pickup drive assembly (3x500)	Main body (1x500/3x500; 2 of 2) on page 707
RM1-6330-000CN	Lifter guide assembly (MBM)	Covers (MBM) on page 709
RM1-6332-000CN	Paper feed roller assembly (MBM)	Main body (MBM; 1 of 2) on page 711
RM1-6335-000CN	Interlock lever assembly (MBM)	Covers (MBM) on page 709
RM1-6663-000CN	Solenoid, entrance assembly (MBM)	Main body (MBM; 1 of 2) on page 711
RM1-6664-000CN	Solenoid, stamp assembly (MBM)	Main body (MBM; 1 of 2) on page 711
RM1-6668-000CN	MBM bin assembly (MBM)	Main body (MBM; 2 of 2) on page 713
RM1-6669-000CN	Cover, top assembly (MBM)	Covers (MBM) on page 709
RM1-6932-000CN	Cover, right door assembly (1x500)	Covers (1x500/3x500) on page 703
RM1-6933-000CN	Cover, right door assembly (3x500)	Covers (1x500/3x500) on page 703
RM1-7102-000CN	DC controller PCA	Internal components (5 of 5) on page 677
RM1-7102-000CN	DC controller PCA	PCAs (product base) on page 697

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
RM1-7112-000CN	Cable, cartridge sensor	Internal components¹ (3 of 5) on page 673
RM1-7113-000CN	Cable, door switch	Internal components (5 of 5) on page 677
RM1-7114-000CN	Cable, paper feed motor	Internal components (2 of 5) on page 671
RM1-7153-000CN	Paper deck driver PCA (3x500)	Main body (1x500/3x500; 2 of 2) on page 707
RM1-7156-000CN	Cable, FSR control	Internal components (5 of 5) on page 677
RM1-7158-000CN	Cable, full detect	Internal components¹ (4 of 5) on page 675
RM1-7159-000CN	Cable, fuser motor	Internal components (5 of 5) on page 677
RM1-7161-000CN	Cable, scanner power supply	Internal components¹ (4 of 5) on page 675
RM1-7162-000CN	Cable, lifter motor	Internal components (5 of 5) on page 677
RM1-7164-000CN	Cable, environmental sensor	Internal components (5 of 5) on page 677
RM1-7166-000CN	Cable, laser	Internal components¹ (3 of 5) on page 673
RM1-7167-000CN	Cable, paper delivery	Internal components¹ (4 of 5) on page 675
RM1-7168-000CN	Cable, paper delivery sensor	Internal components¹ (4 of 5) on page 675
RM1-7169-000CN	Cable, paper feed	Internal components (5 of 5) on page 677
RM1-7170-000CN	Cable, P sensor solenoid	Internal components (5 of 5) on page 677
RM1-7177-000CN	Cable, reverse fan	Internal components¹ (3 of 5) on page 673
RM1-7178-000CN	Cable, scanner joint drum motor	Internal components¹ (3 of 5) on page 673
RM1-7179-000CN	Cable, size detect	Internal components (1 of 5) on page 669
RM1-7180-000CN	Cable, switchback joint	Internal components (2 of 5) on page 671
RM1-7189-000CN	Paper driver PCA (1x500)	Main body (1x500) on page 701

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
RM1-7189-000CN	Paper deck driver PCA (1x500)	Main body (1x500/3x500; 1 of 2) on page 705
RM1-7374-000CN	Sensor unit MBM	Internal components¹ (4 of 5) on page 675
RM1-7375-000CN	Connector PCA assembly	Internal components (5 of 5) on page 677
RM1-7375-000CN	Connector PCB assembly	PCAs (product base) on page 697
RM1-7377-000CN	MP (Tray 1) pickup assembly	MP (Tray 1) pickup assembly on page 691
RM1-7378-000CN	Cover, cassette left assembly	Covers on page 665
RM1-7379-000CN	Cassette assembly (Tray 2)	Cassette assembly (Tray 2) on page 681
RM1-7379-000CN	Cassette (1x500)	Main body (1x500) on page 701
RM1-7379-000CN	Cassette assembly (1x500/3x500)	Main body (1x500/3x500; 1 of 2) on page 705
RM1-7380-000CN	Reverse estrangement guide assembly	Internal components (2 of 5) on page 671
RM1-7384-000CN	High-voltage power supply 110V	High-voltage power supply on page 679
RM1-7384-000CN	Power supply, high-voltage 110V	PCAs (product base) on page 697
RM1-7386-000CN	High-voltage power supply 220V	High-voltage power supply on page 679
RM1-7386-000CN	Power supply, high-voltage 220V	PCAs (product base) on page 697
RM1-7387-000CN	Duplex assembly	Duplex assembly on page 693
RM1-7389-000CN	Face-up open guide assembly	Internal components (1 of 5) on page 669
RM1-7394-000CN	Cover, front-upper side assembly	Covers on page 665
RM1-7394-000CN	Cover, front lock IS (upper plate)	Upper plate assembly¹ on page 667
RM1-7395-000CN	Fuser assembly 110V	Fuser assembly on page 695
RM1-7397-000CN	Fuser assembly 220V	Fuser assembly on page 695
RM1-7399-000CN	Reverse assembly	Reverse assembly on page 685
RM1-7401-000CN	Low-voltage power supply 110V	Internal components¹ (4 of 5) on page 675

Table 4-47 Numerical parts list (continued)

Part number	Description	Table and page
RM1-7401-000CN	Power supply, low-voltage 110V	PCAs (product base) on page 697
RM1-7402-000CN	Cover, MP assembly (Tray 1)	Covers on page 665
RM1-7403-000CN	Paper pickup drive assembly	Internal components (2 of 5) on page 671
RM1-7404-000CN	Cover, right lower assembly	Covers on page 665
RM1-7409-000CN	Cover, tray base assembly (standard output bin mounting)	Covers on page 665
RM1-7413-000CN	Low-voltage power supply 220V	Internal components¹ (4 of 5) on page 675
RM1-7413-000CN	Power supply, low-voltage 220V	PCAs (product base) on page 697
RM1-7414-000CN	Cover, paper delivery tray assembly (standard output bin)	Covers on page 665
RM1-7415-000CN	Cover, back panel assembly	Internal components¹ (4 of 5) on page 675
RM1-7419-000CN	Laser/scanner assembly	Internal components (2 of 5) on page 671
RM1-7420-000CN	Sensor, assembly temperature	Internal components (5 of 5) on page 677
RM1-7431-000CN	Interlock assembly (MBM)	Main body (MBM; 1 of 2) on page 711
RM1-7433-000CN	MBM driver PCA (MBM)	Main body (MBM; 2 of 2) on page 713
RM1-7433-000CN	Jog assembly (MBM)	Main body (MBM; 2 of 2) on page 713
RM1-7437-000CN	Stage top sub assembly (MBM)	Main body (MBM; 1 of 2) on page 711
RM1-7438-000CN	Cover, front assembly (MBM)	Covers (MBM) on page 709
RM1-8323-000CN	Sensor, assembly cartridge	Internal components (2 of 5) on page 671
RU5-2265-000CN	Spring, compression	Internal components (2 of 5) on page 671
RU5-4142-000CN	Shaft, right-lower access door hinge	Internal components (1 of 5) on page 669
RU6-2475-000CN	Spring, tension	Internal components (5 of 5) on page 677
VS1-7207-007CN	Connector, snap tight	Internal components (5 of 5) on page 677
WS1-6336-000CN	Connector, drawer	High-voltage power supply on page 679

A Service and support

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

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet M4555, M4555H, M4555F, M4555FSKM	One-year on-site warranty

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

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

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

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

Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. Some countries/regions, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country/region to country/region, state to state, or province to province.

HP's limited warranty is valid in any country/region or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country/region for which it was never intended to function for legal or regulatory reasons.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries/regions, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

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

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

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

TO THE EXTENT ALLOWED BY LOCAL LAW, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Data stored on the print cartridge

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

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

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

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

Any third party possessing the print cartridge might have access to the anonymous information on the memory chip. If you prefer to not allow access to this information, you can render the chip inoperable. However, after you render the memory chip inoperable, the memory chip cannot be used in an HP product.

End User License Agreement

PLEASE READ CAREFULLY BEFORE USING THIS SOFTWARE PRODUCT: This End-User License Agreement ("EULA") is a contract between (a) you (either an individual or the entity you represent) and (b) Hewlett-Packard Company ("HP") that governs your use of the software product ("Software"). This EULA does not apply if there is a separate license agreement between you and HP or its suppliers for the Software, including a license agreement in online documentation. The term "Software" may include (i) associated media, (ii) a user guide and other printed materials, and (iii) "online" or electronic documentation (collectively "User Documentation").

RIGHTS IN THE SOFTWARE ARE OFFERED ONLY ON THE CONDITION THAT YOU AGREE TO ALL TERMS AND CONDITIONS OF THIS EULA. BY INSTALLING, COPYING, DOWNLOADING, OR OTHERWISE USING THE SOFTWARE, YOU AGREE TO BE BOUND BY THIS EULA. IF YOU DO NOT ACCEPT THIS EULA, DO NOT INSTALL, DOWNLOAD, OR OTHERWISE USE THE SOFTWARE. IF YOU PURCHASED THE SOFTWARE BUT DO NOT AGREE TO THIS EULA, PLEASE RETURN THE SOFTWARE TO YOUR PLACE OF PURCHASE WITHIN FOURTEEN DAYS FOR A REFUND OF THE PURCHASE PRICE; IF THE SOFTWARE IS INSTALLED ON OR MADE AVAILABLE WITH ANOTHER HP PRODUCT, YOU MAY RETURN THE ENTIRE UNUSED PRODUCT.

- 1. THIRD PARTY SOFTWARE.** The Software may include, in addition to HP proprietary software ("HP Software"), software under licenses from third parties ("Third Party Software" and "Third Party License"). Any Third Party Software is licensed to you subject to the terms and conditions of the corresponding Third Party License. Generally, the Third Party License is in a file such as "license.txt" or a "readme" file. You should contact HP support if you cannot find a Third Party License. If the Third Party Licenses include licenses that provide for the availability of source code (such as the GNU General Public License) and the corresponding source code is not included with the Software, then check the product support pages of HP's website (hp.com) to learn how to obtain such source code.
- 2. LICENSE RIGHTS.** You will have the following rights provided you comply with all terms and conditions of this EULA:
 - a. Use.** HP grants you a license to Use one copy of the HP Software. "Use" means installing, copying, storing, loading, executing, displaying, or otherwise using the HP Software. You may not modify the HP Software or disable any licensing or control feature of the HP Software. If this Software is provided by HP for Use with an imaging or printing product (for example, if the Software is a printer driver, firmware, or add-on), the HP Software may only be used with such product ("HP Product"). Additional restrictions on Use may appear in the User Documentation. You may not separate component parts of the HP Software for Use. You do not have the right to distribute the HP Software.
 - b. Copying.** Your right to copy means you may make archival or back-up copies of the HP Software, provided each copy contains all the original HP Software's proprietary notices and is used only for back-up purposes.
- 3. UPGRADES.** To Use HP Software provided by HP as an upgrade, update, or supplement (collectively "Upgrade"), you must first be licensed for the original HP Software identified by HP as eligible for the Upgrade. To the extent the Upgrade supersedes the original HP Software, you may no longer use such HP Software. This EULA applies to each Upgrade unless HP provides other terms with the Upgrade. In case of a conflict between this EULA and such other terms, the other terms will prevail.

4. TRANSFER.

- a.** Third Party Transfer. The initial end user of the HP Software may make a one-time transfer of the HP Software to another end user. Any transfer will include all component parts, media, User Documentation, this EULA, and if applicable, the Certificate of Authenticity. The transfer may not be an indirect transfer, such as a consignment. Prior to the transfer, the end user receiving the transferred Software will agree to this EULA. Upon transfer of the HP Software, your license is automatically terminated.
 - b.** Restrictions. You may not rent, lease or lend the HP Software or Use the HP Software for commercial timesharing or bureau use. You may not sublicense, assign or otherwise transfer the HP Software except as expressly provided in this EULA.
- 5. PROPRIETARY RIGHTS.** All intellectual property rights in the Software and User Documentation are owned by HP or its suppliers and are protected by law, including applicable copyright, trade secret, patent, and trademark laws. You will not remove any product identification, copyright notice, or proprietary restriction from the Software.
- 6. LIMITATION ON REVERSE ENGINEERING.** You may not reverse engineer, decompile, or disassemble the HP Software, except and only to the extent that the right to do so is allowed under applicable law.
- 7. CONSENT TO USE OF DATA.** HP and its affiliates may collect and use technical information you provide in relation to (i) your Use of the Software or the HP Product, or (ii) the provision of support services related to the Software or the HP Product. All such information will be subject to HP's privacy policy. HP will not use such information in a form that personally identifies you except to the extent necessary to enhance your Use or provide support services.
- 8. LIMITATION OF LIABILITY.** Notwithstanding any damages that you might incur, the entire liability of HP and its suppliers under this EULA and your exclusive remedy under this EULA will be limited to the greater of the amount actually paid by you for the Product or U.S. \$5.00. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOST PROFITS, LOST DATA, BUSINESS INTERRUPTION, PERSONAL INJURY, OR LOSS OF PRIVACY) RELATED IN ANY WAY TO THE USE OF OR INABILITY TO USE THE SOFTWARE, EVEN IF HP OR ANY SUPPLIER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND EVEN IF THE ABOVE REMEDY FAILS OF ITS ESSENTIAL PURPOSE. Some states or other jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
- 9. U.S. GOVERNMENT CUSTOMERS.** Software was developed entirely at private expense. All Software is commercial computer software within the meaning of the applicable acquisition regulations. Accordingly, pursuant to US FAR 48 CFR 12.212 and DFAR 48 CFR 227.7202, use, duplication and disclosure of the Software by or for the U.S. Government or a U.S. Government subcontractor is subject solely to the terms and conditions set forth in this End User License Agreement, except for provisions which are contrary to applicable mandatory federal laws.
- 10. COMPLIANCE WITH EXPORT LAWS.** You will comply with all laws, rules, and regulations (i) applicable to the export or import of the Software, or (ii) restricting the Use of the Software, including any restrictions on nuclear, chemical, or biological weapons proliferation.
- 11. RESERVATION OF RIGHTS.** HP and its suppliers reserve all rights not expressly granted to you in this EULA.

© 2009 Hewlett-Packard Development Company, L.P.

Rev. 04/09

OpenSSL

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

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;

LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

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

Customer self-repair warranty service

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

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

Customer support

Get telephone support for your country/region	Country/region phone numbers are on the flyer that was in the box with your product or at www.hp.com/support/ .
Have the product name, serial number, date of purchase, and problem description ready.	
Get 24-hour Internet support	www.hp.com/support/ljm4555mfp
Get support for products used with a Macintosh computer	www.hp.com/go/macosex
Download software utilities, drivers, and electronic information	www.hp.com/support/ljm4555mfp_software
Order additional HP service or maintenance agreements	www.hp.com/go/carepack
Register your product	www.register.hp.com

B Product specifications

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

Physical specifications

Table B-1 Product dimensions

Product	Height	Depth	Width	Weight
M4555 mfp	549 mm (21.6 in)	511 mm (20.1 in)	739 mm (29.1 in)	52.3 kg (115.3 lb)
M4555H mfp				52.5 kg (115.4 lb)
M4555F mfp	1010 mm (43.3 in)	719 mm (28.3 in)	780 mm (30.7 in)	75.0 kg (166.4 lb)
M4555FSKM mfp	1010 mm (43.3 in)	719 mm (28.3 in)	909 mm (35.8 in)	87.5 kg (192.9 lb)

Power consumption, electrical specifications, and acoustic emissions

See www.hp.com/support/ljm4555mfp for current information.

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

Environmental specifications

Environmental condition	Recommended	Allowed
Temperature (product and print cartridge)	17° to 27°C (62.6° to 80.6°F)	10° to 30°C (50° to 86°F)
Relative humidity	30% to 70% relative humidity (RH)	10% to 80% RH
Altitude	N/A	0 m (0 ft) to 3000 m (9842 ft)

C Regulatory information

- [FCC regulations](#)
- [Environmental product stewardship program](#)
- [Declaration of conformity](#)
- [Declaration of conformity \(fax models\)](#)
- [Certificate of Volatility](#)
- [Safety statements](#)
- [Additional statements for telecom \(fax\) products](#)

FCC regulations

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



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

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

Environmental product stewardship program

Protecting the environment

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

Ozone production

This product generates no appreciable ozone gas (O₃).

Power consumption

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



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

www.hp.com/go/energystar

Toner consumption

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

Paper use

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

Plastics

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

HP LaserJet print supplies

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

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



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

Return and recycling instructions

United States and Puerto Rico

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

Multiple returns (more than one cartridge)

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

OR

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

Single returns

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

Shipping

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

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

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

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

Residents of Alaska and Hawaii

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

Non-U.S. returns

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

Paper

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

Material restrictions

This HP product does not contain added mercury.

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

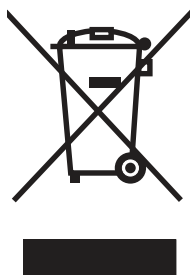
HP LaserJet Enterprise M4555 MFP Series	
Type	Carbon monofluoride lithium
Weight	0.8 g
Location	On formatter board
User-removable	No



廢電池請回收

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

Disposal of waste equipment by users in private households in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Chemical substances

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

Material Safety Data Sheet (MSDS)

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

For more information

To obtain information about these environmental topics:

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

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

Visit www.hp.com/go/environment or www.hp.com/hpinfo/globalcitizenship/environment.

Declaration of conformity

Declaration of conformity

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

Manufacturer's Name: Hewlett-Packard Company DoC#: BOISB-0904-00-rel.1.0

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

declares, that the product

Product Name: HP LaserJet Enterprise M4555 MFP
HP LaserJet Enterprise M4555h MFP

Regulatory Model Number²⁾ BOISB-0904-00
Including:
CE734A – 1x500 sheet input tray with integrated stand
CE735A – 3x500 sheet input tray with integrated stand
CE736A – Stapling mailbox

Product Options: ALL


Print Cartridges: CE390A, CE390X

conforms to the following Product Specifications:

SAFETY: IEC 60950-1:2005 / EN60950-1:2006 +A11
IEC 60825-1:2007 / EN 60825-1:2007 (Class 1 Laser/LED Product)
IEC 62311:2007 / EN62311:2008
GB4943-2001

EMC: CISPR22:2005 +A1/ EN55022:2006 +A1 - Class A^{1),3)}
EN 61000-3-2:2006
EN61000-3-3:2008
EN 55024:1998 +A1 +A2
FCC Title 47 CFR, Part 15 Class A^{1),3)} / ICES-003, Issue 4
GB9254-2008, GB17625.1-2003

Supplementary Information:

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

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

1. The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.
2. For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the product name or the product number(s).
3. The product meets the requirements of EN55022 & CNS13438 Class A in which case the following applies: "Warning – This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures."

Boise, Idaho USA

October 8, 2010

For regulatory topics only:

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe, Herrenberger Straße 140, D-71034, Böblingen (FAX: +49-7031-14-3143)
www.hp.eu/certificates

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

Declaration of conformity (fax models)

Declaration of conformity

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

Manufacturer's Name: Hewlett-Packard Company DoC#: BOISB-0904-01-rel.1.0

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

declares, that the product

Product Name: HP LaserJet Enterprise M4555f MFP
HP LaserJet Enterprise M4555fskm MFP

Regulatory Model Number²⁾ BOISB-0904-01
Including:
CE734A – 1x500 sheet input tray with integrated stand
CE735A – 3x500 sheet input tray with integrated stand
CE736A – Stapling mailbox
BOISB-0703-00 – Fax Module

Product Options: ALL

Print Cartridges: CE390A, CE390X

conforms to the following Product Specifications:

SAFETY: IEC 60950-1:2005 / EN60950-1: 2006 +A11
IEC 60825-1:2007 / EN 60825-1:2007 (Class 1 Laser/LED Product)
IEC 62311:2007 / EN62311:2008
GB4943-2001

EMC: CISPR22:2005 +A1/ EN55022:2006 +A1 - Class A^{1),3)}
EN 61000-3-2:2006
EN61000-3-3:2008
EN 55024:1998 +A1 +A2
FCC Title 47 CFR, Part 15 Class A^{1),3)} / ICES-003, Issue 4
GB9254-2008, GB17625.1-2003

TELECOM: ES 203 021; FCC Title 47 CFR, Part 68⁴⁾

Supplementary Information:

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

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

1. The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.
2. For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the product name or the product number(s).
3. The product meets the requirements of EN55022 & CNS13438 Class A in which case the following applies: "Warning – This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures."
4. Telecom approvals and standards appropriate for the target countries/regions have been applied to this product, in addition to those listed above.
5. This product uses an analog fax accessory module which Regulatory Model number is: BOISB-0703-00, as needed to meet technical regulatory requirements for the countries/regions this product will be sold.

Boise, Idaho USA

October 8, 2010

For regulatory topics only:

European Contact:	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe, Herrenberger Straße 140, D-71034, Böblingen (FAX: +49-7031-14-3143) www.hp.eu/certificates
USA Contact:	Product Regulations Manager, Hewlett-Packard Company, PO Box 15, Mail Stop 160, Boise, Idaho 83707-0015 (Phone: 208-396-6000)

Certificate of Volatility

This is a statement regarding the volatility of customer data stored in memory. This statement describes how to securely erase data from the product.

Types of memory

Volatile memory

The product utilizes volatile memory (a total of 1280 MB) to support the embedded OS and to store customer data during the printing process. When the product is powered off, this volatile memory is erased.

Non-volatile memory

The product utilizes non-volatile memory (EEPROM) to store system control data and user preference settings. No customer print data is stored in non-volatile memory. This non-volatile memory can be cleared and restored to factory defaults by performing a Cold Reset or Restore Factory Settings at the control panel.

Hard-disk-drive memory

The product contains an internal hard disk drive that may retain data after the product is powered off. The product also may contain additional optional compact flash storage, or an external EIO hard disk. Data stored in these devices may be from incoming/outgoing fax or e-mail files, stored copy or print jobs, fax or e-mail address books, or third-party solutions. Some of this data can be erased from the product control panel, but most must be erased using the Secure Disk Erase feature available from the product BIOS Menu, the Embedded Web Server (EWS) for the product, and from HP Web Jetadmin. Secure Storage Erase features comply with U.S. NIST Special Publication 800-88 "Guidelines for Media Sanitization".

Safety statements

Laser safety

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

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

Canadian DOC regulations

Complies with Canadian EMC Class A requirements.

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

VCCI statement (Japan)

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

VCCI-A

Power cord instructions

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

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

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

Power cord statement (Japan)

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

EMC statement (China)

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

EMC statement (Korea)

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

EMI statement (Taiwan)

警告使用者：

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

Laser statement for Finland

Luokan 1 laserlaite

Klass 1 Laser Apparat

HP LaserJet M4555, M4555H, M4555F, M4555FSKM, laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisessa käytössä kirjoittimen suojakoteloitinta estää lasersäteiden pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (2007) mukaisesti.

VAROITUS !

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

VARNING !

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

HUOLTO

HP LaserJet M4555, M4555H, M4555F, M4555FSKM - 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 erikoistyykaluja.

VARO !

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

VARNING !

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

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

GS statement (Germany)

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

Substances Table (China)

有毒有害物质表

根据中国电子信息产品污染控制管理办法的要求而出台

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

0614

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

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

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

Restriction on Hazardous Substances statement (Turkey)

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

Additional statements for telecom (fax) products

EU Statement for Telecom Operation

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

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

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

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

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

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

New Zealand Telecom Statements

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

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

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

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

Additional FCC statement for telecom products (US)

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

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

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

This equipment uses the following USOC jacks: RJ11C.

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

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

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

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

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

Telephone Consumer Protection Act (US)

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

Industry Canada CS-03 requirements

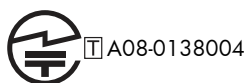
Notice: The Industry Canada label identifies certified equipment. This certification means the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirement document(s). The Department does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

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

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

Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Number of all the devices does not exceed five (5.0). The standard connecting arrangement code (telephone jack type) for equipment with direct connections to the telephone network is CA11A.

Japan Telecom Mark



Vietnam Telecom wired marking for ICTQC Type approved products



Index

Symbols/Numerics

- 3-bin mailbox
 - operations 29
- 3-bin stapling mailbox 70
 - automatic delivery 86
 - delivery operation 74
 - electrical components 71
 - failure detection 74
 - jam detection 85
 - mailbox/job separator mode 84
 - motor control 73
 - optional, operations 70
 - output bin 3 lift operation 82
 - stacker mode 83
 - staple operation 76
 - stapler 81
- 500-sheet trays
 - operations 29
 - rollers, replacing 119
 - sensor tests 391

A

- accessories
 - ordering 652
- accessories installed, information 442
- acoustic specifications 780
- activity log 642
- Administration menu, control panel 445
- after-service checklist 101
- AppleTalk information 441
- automatic delivery
 - 3-bin stapling mailbox 86

B

- Backup/Restore menu, control panel 470

- bands, troubleshooting 612
- batteries included 785
- billing code report
 - printing 643
- bins
 - operations 29
- blank pages
 - troubleshooting 617
- blank pages, troubleshooting 611
- blocked fax list report
 - printing 643

C

- cable, USB
 - troubleshooting 617
- Calibrate/Cleaning menu, control panel 470
- call report 643
- Canadian DOC regulations 793
- cartridge
 - ordering 652
 - part number 652
- cartridge, print
 - drum rotation test 356
 - replacing 102
- cartridges
 - error messages 553
 - recycling 784
 - replace message 553
 - warranty 770
- cartridges, print
 - detection operations 22
 - image formation operations 19
 - memory 21
- cassette
 - pickup assembly (500-sheet paper feeder), removing 275
 - pickup assembly (optional paper feeder), removing 293
- cautions iii
- characters, troubleshooting 614
- checklists
 - after-service 101
 - preservice 101
- checks 354
- circuit diagrams 430
- cleaning
 - paper path 615
 - product 615
 - scanner glass 615
- cleaning page
 - printing 438
- clearing log/report data 644
- cold reset 620, 624
- components
 - 3-bin stapling mailbox 71
 - diagnostic tests 403
 - paper deck 64
- configuration pages
 - information 442
 - printing 438
- connections
 - DC controller 425
- connectivity
 - solving problems 618
- connectivity LED 353
- connectors
 - scanner controller board (SBC) 427
- control panel
 - Administration menu 445
 - Backup/Restore menu 470
 - Calibrate/Cleaning menu 470

- cleaning page, printing 615
- connections diagram 425
- Copy Settings menu 449
- Display Settings menu 460
- Fax Settings menu 454
- General Settings menu 446
- Manage Supplies menu 462
- Manage Trays menu 463
- messages, troubleshooting 472
- Network Settings menu 464
- Open from USB Settings menu 458
- Print Options menu 459
- Print Settings menu 458
- removing 108
- Reports menu 445
- Scan/Digital Send Settings menu 452
- Service menu 471
- Stapler/Stacker Settings menu 463
- Troubleshooting menu 468
- troubleshooting tests 403
- USB Firmware Upgrade menu 471
- controller (500-sheet paper feeder)
 - PCA (500-sheet paper feeder), removing 282
- controller (optional paper feeder)
 - PCA (optional paper feeder), removing 299
- conventions, document iii
- Copy Settings menu, control panel 449
- copying
 - quality, troubleshooting 611
- counts 619
 - copy pages 620
 - copy scan 620
 - document feeder 619
 - document feeder duplex 620
 - document feeder simplex 620
 - flatbed cycle 620
 - page, reset 619
 - print engine maintenance 442
 - refurbish cycle 619
 - reset after replacing formatter 619
 - send scan 620
 - total cycle 619
 - See also pages counts
- covers
 - diagrams and part numbers 664
 - document feeder front cover, removing 226
 - document feeder rear cover, removing 228
 - document feeder tray extender, removing 130
 - front cover (500-sheet paper feeder), removing 274
 - front door (optional paper feeder), removing 283
 - jam-access cover, removing 231
 - left cover (500-sheet paper feeder), removing 272
 - left cover (optional paper feeder), removing 289
 - output bin and bin base assembly, removing 112
 - rear cover (500-sheet paper feeder), removing 270
 - rear cover (optional paper feeder), removing 285
 - rear-right cover (optional paper feeder), removing 292
 - right cover (500-sheet paper feeder), removing 273
 - right cover (optional paper feeder), removing 291
 - right door (optional paper feeder), removing 287
 - right-front cover (500-sheet paper feeder), removing 271
 - right-front cover (optional paper feeder), removing 286
- CPU, formatter 6
- creases, troubleshooting 614
- customer support
 - online 777
- D**
- dark image, troubleshooting 611
- date
 - codes for firmware 442
 - manufacture 440
 - product first used 620
- DC controller
 - connections, diagrams 425
 - operations 7
- defects, repeating 443
- delivery operation
 - 3-bin stapling mailbox 74
- diagnostics
 - component 403
 - control panel 403
 - engine 353
 - LED 352
- diagrams
 - circuit 430
 - covers 664
 - DC controller connections 425
 - timing 428
- digital sending
 - validating gateway addresses 646
- Display Settings menu, control panel 460
- disposal, end-of-life 785
- DLC/LLC information 441
- document conventions iii
- document feeder
 - jam-access cover, removing 231
 - jams 587
 - parts lists and diagrams 714
 - removing and replacing 222
- document feeder and scanner
 - parts lists and diagrams 714
- document feeder base assembly
 - removing and replacing 245
- document feeder cable
 - removing and replacing 236
- document feeder count
 - document feeder pages 619
- document feeder fan
 - removing and replacing 240
- document feeder internal assembly
 - removing and replacing 233
- document feeder interval 619
- document feeder jam access plate
 - removing and replacing 244
- document feeder left hinge
 - removing and replacing 238

- document feeder motor
 - removing and replacing 241, 242
- document feeder open sensor
 - removing and replacing 243
- document feeder PCA
 - removing and replacing 235
- document feeder pick mechanism
 - document feeder/scanner 94
- document feeder right hinge
 - removing and replacing 239
- document feeder tray assembly
 - removing and replacing 232
- document feeder/scanner
 - fan control 90
 - fan timing sequence 91
 - image data path 92
 - jam detection 93
 - legal detection 91
 - motor control 90
 - optical assembly 92
 - paper path and sensors 93
 - pick mechanism 94
 - scanner subsystem 89
- document feeder/scanner assembly 89
- drum rotation test 356
- duplex accessory
 - replacing 113
- duplex printing accessory
 - connections diagram 425

E

- electrical specifications 780
- electrostatic discharge (ESD) 99
- embedded protocol page 441
- end-of-life disposal 785
- engine
 - diagnostics 353
- engine control system 7
- engine power supply
 - connections diagram 425
- engine test 354
- envelope feeder
 - connections diagram 425
 - cover, tray 1, replacing 117
- environment, specifications 780
- Environmental Product Stewardship Program 783

- error
 - codes 637
- error messages, control panel 472
- ESD (electrostatic discharge) 99
- European Union, waste disposal 786
- event log
 - clear 571, 619
 - information 442
 - print 570
 - view 570
- event-log messages 569
- e-mail
 - validating gateway addresses 646

F

- faded print 611
- failure detection
 - 3-bin stapling mailbox 74
- fan control
 - document feeder/scanner 90
- fan timing sequence
 - document feeder/scanner 91
- fans
 - connections diagram 425
 - operations 8
 - scanner, removing 268
- fax
 - feeding problems 634
- fax accessory
 - light status 353
 - NVRAM initialization 622
- fax accessory PCA
 - removing 129
- Fax Settings menu, control panel 454
- FCC regulations 782
- feeding operations 29
- feeding problems 634
- Finnish laser safety statement 794
- firmware 5
 - date codes 442
 - version information 440
- firmware upgrades 645
- firmware, downloading new 647
- flowcharts
 - troubleshooting 347

- formatter
 - connections diagram 425
 - lights 352
 - operations 4
 - resets after replacing 619
 - service ID 623
 - testing 355
- formatter PCA
 - removing 121
- fuse failure detection 14
- fuser
 - connections diagram 425
 - image formation operations 19
 - jams 601
 - part number 653
 - removing 115
- fuser-control circuit 12
- fuser-entrance guide, removing 114
- fuses, overcurrent/overvoltage protection 17

G

- gateways
 - validating addresses 646
- General Settings menu, control panel 446

H

- half self-test 355
- hard disk
 - initialization 622
 - replacing 123
- HDD, crypto
 - replacing 123
- heartbeat LED 353
- high-voltage
 - power supply 11
- horizontal lines, troubleshooting 613
- HP Customer Care 777
- HP Jetdirect print server
 - configuration page 440
- HP Jetdirect print servers
 - lights 352
- humidity requirements 780

I

- image data path
 - document feeder/scanner 92

- image formation
 - operations 19
 - troubleshooting 355
- image quality issues
 - examples and solutions 611
- input trays
 - optional, operations 62
- installation
 - date calculation 620
 - verify for optional accessories 438
- installing
 - print cartridge 102
- inverter PCA, removing 259
- IPv4 information 440
- IPv6 information 440
- IPX/SPX information 441

J

- jam detection
 - 3-bin stapling mailbox 85
 - document feeder/scanner 93
- jams
 - causes 572
 - detection operations 52
 - diagnostic test for 357
 - document feeder 587
 - document feeder access cover, removing 231
 - fuser 601
 - lower right door 600
 - output area 588
 - output bin 592
 - recovery 607
 - registration 605
 - right door, upper 594
 - scanner 592
 - stapler 588, 589
 - Tray 1 595
 - trays 599

Japanese VCCI statement 793

Jetdirect print server. *See* HP

Jetdirect print server

- lights 352

K

Korean EMC statement 794

L

laser safety statements 793, 794

- laser/scanner assembly
 - connections diagram 425
 - operations 87
- LDAP servers
 - validating gateway addresses 646
- LEDs. *See* lights
- legal detection
 - document feeder/scanner 91
- license, software 772
- lifter assembly (500-sheet paper feeder)
 - removing 278
- lifter assembly (optional paper feeder)
 - removing 296
- lifter-drive assembly (500-sheet paper feeder)
 - removing 280
- lifter-drive assembly (optional paper feeder)
 - removing 297
- light print, troubleshooting 611
- lights
 - fax accessory 353
 - formatter 352
 - troubleshooting with 352
- lines, troubleshooting 612
- log/report
 - activity log 642
 - activity log, clearing 644
 - billing code report 643
 - blocked fax list report 643
 - fax call report 643
 - speed dial list report 643
- loose toner, troubleshooting 614
- low-voltage power supply
 - operations 16
- lower right door
 - jams 600

M

Macintosh

- support 777

mailbox, 3-bin

- operations 29

mailbox/job separator mode

- 3-bin stapling mailbox 84

Manage Supplies menu, control panel 462

Manage Trays menu, control panel 463

manual print modes 609

material restrictions 785

Material Safety Data Sheet (MSDS) 786

media

- feeding operations 29

memory

- formatter 5
- information 438
- NVRAM initialization 622
- print cartridges 21
- supply errors 472

memory chip, print cartridge

- description 771

Memory Enhancement technology (MEt) 6

memory tag

- locating 103

menus, control panel

- Administration 445
- Backup/Restore 470
- Calibrate/Cleaning 470
- Copy Settings 449
- Display Settings 460
- Fax Settings 454
- General Settings 446
- Manage Supplies 462
- Manage Trays 463
- Network Settings 464
- Open from USB Settings 458
- Print Options 459
- Print Settings 458
- Reports 445
- Scan/Digital Send Settings 452
- Service 471
- Stapler/Stacker Settings 463
- Troubleshooting 468
- USB Firmware Upgrade 471

mercury-free product 785

messages, control panel 472

model number 440

modem speed 635

motor control

- 3-bin stapling mailbox 73
- document feeder/scanner 90
- paper feeder 65

- motors
 - 3-bin stapling mailbox 71
 - connections diagram 425
 - operations 8
 - paper feeder 64
 - pickup (500-sheet paper feeder), removing 281
 - pickup (optional paper feeder), removing 298

N

- Network Settings menu, control panel 464
- networks
 - HP embedded Jetdirect configuration page 440
 - validating gateway addresses 646
- notes iii
- Novell/NetWare information 441
- NVRAM
 - initialization 622
 - operations 5

O

- online support 777
- Open from USB Settings menu, control panel 458
- operating environment specifications 780
- operations
 - engine control system 7
 - formatter 4
 - image formation 19
 - jam detection 52
 - laser/scanner system 87
 - motors and fans 8
 - pickup, feed, and delivery 29
 - power supply, high-voltage 11
 - Resolution Enhancement technology (REt) 4
 - sequence of 2
 - Sleep delay 4
 - temperature detection 10
- optical assembly
 - document feeder/scanner 92
- optical unit
 - removing 262

- ordering
 - print cartridge 652
 - product documents 655
 - supplies and accessories 652
- output area
 - jams 588
- output bin
 - jams 592
- output bin 3 lift operation
 - 3-bin stapling mailbox 82
- output bins
 - operations 29
- overcurrent/overvoltage protection 17

P

- pages
 - blank 617
 - not printing 617
 - printing slowly 617
- pages count 619
 - from product copy 620
 - from product copy scan count 620
 - from product document feeder 619, 620
 - from product flatbed 620
 - from product refurbish date 619
 - from product send scan 620
 - reset 619
 - since last maintenance 442
 - See *also* counts
- paper
 - default size reset 620
 - feeding operations 29
 - stop in path for testing 392
 - wrinkled 614
- paper deck
 - 1 x 500-sheet 62
 - 3 x 500-sheet 62
 - electrical components 64
 - pickup and feed operation 66
- paper feeder
 - controller PCA, removing 282, 299
 - front cover, removing 274
 - front door, removing 283
 - left cover, removing 272, 289

- lifter assembly, removing 278, 296
- lifter-drive assembly, removing 280, 297
- motor control 65
- pickup assembly, removing 275, 293
- pickup motor assembly, removing 281, 298
- rear cover, removing 270, 285
- rear-right cover, removing 292
- right cover, removing 273, 291
- right door, removing 287
- right-front cover, removing 271, 286
- paper feeder (1 x 500)
 - operations 58
- paper path
 - diagnostic test 357
 - diagnostic test, manual 374
 - stop movement for testing 392
- paper path and sensors
 - document feeder/scanner 93
- paper path sensor test 391
- paper present flag
 - removing and replacing 222
- part number
 - print cartridge 652
- part numbers
 - covers 664
- parts
 - replacing 658
- parts lists and diagrams
 - document feeder/scanner 714
- password
 - Service menu PIN 619
- PBX systems troubleshooting 636
- phone lines troubleshooting 636
- photosensitive drum rotation test 356
- pickup and feed operations 29
- pickup and feed rollers, replacing tray 1 118
- pickup roller cover, document feeder
 - removing and replacing 131
- pickup roller pad, document feeder
 - removing and replacing 133

- pickup roller spring, document feeder
 - removing and replacing 133
 - pickup roller, document feeder
 - removing and replacing 132
 - pickup, feed, and delivery
 - paper-deck pickup and feed 66
 - PJL (product job language) 6
 - pliers, required 100
 - PML (printer management language) 6
 - port configuration information 440
 - post-service tests 101
 - power
 - consumption 780
 - troubleshooting 348
 - power supply
 - connections diagram 425
 - overcurrent/overvoltage protection 17
 - power supply, high-voltage operations 11
 - pre-troubleshooting checklist 345
 - preservice checklist 101
 - pressure roller operations 19
 - print cartridge
 - drum rotation test 356
 - ordering 652
 - part number 652
 - replacing 102
 - print cartridges
 - detection operations 22
 - error messages 553
 - image formation operations 19
 - memory 21
 - memory chips 771
 - recycling 784
 - replace message 553
 - warranty 770
 - Print Options menu, control panel 459
 - print quality
 - built-in troubleshooting pages 437
 - manual print modes 609
 - test 101
 - test pages 437
 - troubleshooting 611
 - Print Quality menu options 609
 - Print Settings menu, control panel 458
 - printer management language (PML) 6
 - printing
 - modes, manual 609
 - stop for testing 392
 - troubleshooting 617
 - problem-solving
 - event-log messages 569
 - gateway addresses 646
 - processor specifications 6
 - product job language (PJL) 6
 - product sequence of operations 2
- Q**
- quality. See print quality
- R**
- recycling 784
 - HP printing supplies returns and environmental program 784
 - registration
 - jams 605
 - registration assembly, removing 165
 - regulatory statements
 - environmental product stewardship program 783
 - removing parts
 - cautions for 98
 - checklists 101
 - control panel 108
 - controller PCA (500-sheet paper feeder) 282
 - controller PCA (optional paper feeder) 299
 - document feeder front cover 226
 - document feeder rear cover 228
 - document feeder tray extender 130
 - front cover (500-sheet paper feeder) 274
 - front door (optional paper feeder) 283
 - left cover (500-sheet paper feeder) 272
 - left cover (optional paper feeder) 289
 - lifter assembly (500-sheet paper feeder) 278
 - lifter assembly (optional paper feeder) 296
 - lifter-drive assembly (500-sheet paper feeder) 280
 - lifter-drive assembly (optional paper feeder) 297
 - output bin and bin base assembly 112
 - pickup assembly (500-sheet paper feeder) 275
 - pickup assembly (optional paper feeder) 293
 - pickup motor (500-sheet paper feeder) 281
 - pickup motor (optional paper feeder) 298
 - rear cover (500-sheet paper feeder) 270
 - rear cover (optional paper feeder) 285
 - rear-right cover (optional paper feeder) 292
 - right cover (500-sheet paper feeder) 273
 - right cover (optional paper feeder) 291
 - right door (optional paper feeder) 287
 - right-front cover (500-sheet paper feeder) 271
 - right-front cover (optional paper feeder) 286
 - tools, required 100
 - repeating defects, troubleshooting 443
 - replace supplies message 553
 - replacing
 - parts 98
 - Reports menu, control panel 445
 - reset, cold 624
 - resolution
 - operations 4
 - troubleshooting quality 611

- Resolution Enhancement technology (REt) 4
- restore factory settings 622
- reversing assembly
 - operations 43
- right door, upper
 - jams 594
- rollers
 - 500-sheet trays, replacing 119
 - image formation operations 19
 - transfer, replacing 111
 - tray 1 pickup and feed, replacing 118
 - tray 1 separation, replacing 116

S

- safety statements 793, 794
- Scan/Digital Send Settings menu, control panel 452
- scanner
 - jams 592
 - removing and replacing 246
 - sequence of operations 3
- scanner assembly
 - parts lists and diagrams 726
- scanner assembly, removing 246
- scanner controller board (SBC)
 - connectors, diagrams 427
- scanner fan, removing 268
- scanner filter, replacing 120
- scanner settings 620
- scanner subsystem
 - document feeder/scanner 89
- scanning e-mail
 - validating gateway addresses 646
- screwdrivers, required 100
- screws
 - replacing 98
- separation roller, replacing tray 1 116
- security settings information 440
- sending to e-mail
 - validating gateway addresses 646
- sensor tests manual
 - PS101 tray 2 paper 378

- PS102 prefeed 365
- PS103 TOP 366
- PS104 output bin full 373, 387
- PS106/107 paper width 367
- PS107/PS907 tray 2 paper 379
- PS110 intermediate switchback 369
- PS111 inverter media stay 370
- PS112 output 372
- PS113 duplex rRefeed 371
- PS114 Tray 1 Paper 377
- PS1802 envelope feeder paper 376
- PS700 fuser output 368
- SR1/SR2 tray 3 paper
 - surface 381
- SR10 tray 5 feed 362, 386
- SR11 tray 5 paper 385
- SR3 tray 3 paper 381
- SR4 tray 3 feed 364, 382
- SR5/SR8 tray 4 paper
 - surface 383
- SR6 tray 4 paper 383
- SR7 tray 4 feed 363, 384
- SR9/SR12 tray 5 paper
 - surface 385
- SW1 Power Switch 388
- SW1 right lower door 359
- SW101 cartridge door (top cover) 361
- SW102 tray 2 paper size 380
- SW103 Face Up Bin 389
- SW104 output accessory 390
- SW105 right upper door 360
- SW2 tray 3 paper size 381
- SW3 tray 4 paper size 383
- SW4 tray 5 paper size 385
- SW700 engine test 391

sensors

- 3-bin stapling mailbox 72
- connections diagram 425
- fuser-control circuits 12
- jam detection 52
- media-detection 29
- paper feeder 64
- paper path, testing 391

- temperature detection 10
- tests, manual 357
- sequence of operations 2
- serial number 620
- service
 - tools, required 100
- Service ID
 - convert to date 620
 - restore 620
- service ID 623
- Service menu options 619
- Service menu, control panel 471
- service settings 644
- settings
 - cold reset 624
 - restore factory 622
- skew
 - prevention operations 40
- sleep settings
 - operations 4
- slow fax reception 635
- slow fax transmission 636
- SMTP servers
 - validating gateway addresses 646
- software
 - software license agreement 772
- solenoids
 - 3-bin stapling mailbox 71
 - paper feeder 64
- solving
 - direct-connect problems 618
 - network problems 618
- specifications
 - electrical and acoustic 780
 - operating environment 780
- speed dial
 - list report 643
- SSD
 - replacing 123
- SSMBM handle assembly
 - removing and replacing 303
- SSMBM output bin assembly
 - removing and replacing 318
- SSMBM output bin stay (support arm)
 - removing and replacing 333
- SSMBM PCA
 - removing and replacing 310

- SSMBM stapler unit
 - removing and replacing 313
- SSMBM, front cover
 - removing and replacing 301
- SSMBM, jogger guide unit
 - removing and replacing 314
- SSMBM, output bin
 - removing and replacing 306
- SSMBM, output bin sensor PCA
 - removing and replacing 312
- SSMBM, output bin solenoid
 - removing and replacing 316
- SSMBM, top cover
 - removing and replacing 305
- stacker mode
 - 3-bin stapling mailbox 83
- standard output bin
 - operations 29
- staple operation
 - 3-bin stapling mailbox 76
- stapler
 - 3-bin stapling mailbox 81
 - jams 588, 589
- stapler/stacker
 - operations 29
- Stapler/Stacker Settings menu,
 - control panel 463
- staples
 - replacing 106
- static precautions 99
- status, fax accessory page 633
- stop printing for test 392
- streaks, troubleshooting 612
- supplies
 - error messages 553
 - memory errors 472
 - ordering 652
 - recycling 784
 - replace message 553
- support
 - online 777
- switches
 - 3-bin stapling mailbox 72
 - connections diagram 425
 - paper feeder 64
 - paper-size, diagnostic test 374

T

- T.30 Trace report 644
- Taiwan EMI statement 794

- TCP/IP information 440
- technical support
 - online 777
- temperature
 - detection sensor 10
 - fuser-control circuits 12
 - temperature requirements 780
- tests
 - drum rotation 356
 - engine 354
 - formatter 355
 - half self 355
 - manual sensor 357
 - paper path 357
 - paper path sensor 391
 - post-service 101
 - print-quality 101
 - print/stop 392
 - special-mode test 374
- text, troubleshooting 614
- timing chart 428
- tips iii
- toner
 - level detection 22
 - loose, troubleshooting 614
- toner cartridges. *See* print cartridges
- tools
 - troubleshooting 352
- tools, required 100
- transfer charging roller
 - operations 19
- transfer rollers, replacing 111
- Tray 1
 - jams 595
- tray 1
 - operations 29
 - pickup and feed rollers,
 - replacing 118
 - separation roller, replacing 116
- trays
 - jam detection 52
 - jams 599
 - operations 29
 - rollers, replacing 119
 - sensor tests 391
- troubleshooting
 - blank pages 617
 - checklist 338, 345

- cleaning page for 438
- cold reset 624
- configuration pages for 438
- control panel 403
- control panel messages 472
- control-panel checks 350
- direct-connect problems 618
- drum rotation test 356
- engine test 354
- flowchart 347
- formatter test 355
- half self-test 355
- lights, using 352
- lines, printed pages 612
- network problems 618
- pages not printing 617
- pages printing slowly 617
- paper path sensor test 391
- PBX systems 636
- power 348
- print quality issues 611
- process 341
- repeating defects 443
- scanner calibration 351
- scanning subsystem 351
- slow fax reception 635
- slow fax transmission 636
- text 614
- tools 352
- USB cables 617
- wrinkles 614
- Troubleshooting menu, control
 - panel 468

U

- updates, downloading product 647
- upper plate assembly
 - diagrams and part numbers 664
- USB Firmware Upgrade menu,
 - control panel 471
- USB port
 - troubleshooting 617

V

- validating gateway addresses 646
- version, hardware firmware 440
- vertical lines, troubleshooting 612

W

warnings iii

warranty

- customer self repair 776

- license 772

- print cartridges 770

- product 768

warranty date information 620

Web sites

- customer support 777

- Macintosh customer support
777

- Material Safety Data Sheet
(MSDS) 786

white spots, troubleshooting 612

wrinkles, troubleshooting 614



CE502-90971