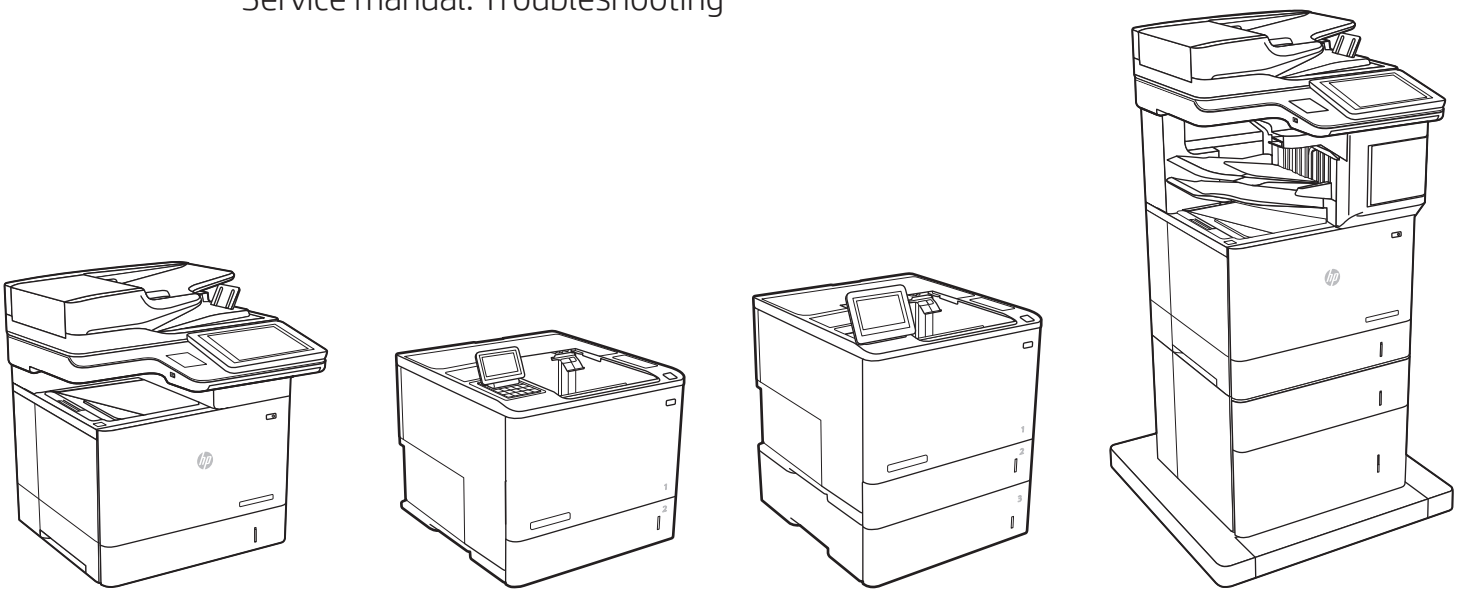
HP LaserJet Enterprise M607, M608, M609
HP LaserJet Enterprise M610, M611, M612
HP LaserJet Managed E60055, E60065, E60075
HP LaserJet Managed E60155, E60165, E60175
HP LaserJet Enterprise MFP M631, M632, M633
HP LaserJet Enterprise MFP M634, M635, M636
HP LaserJet Managed MFP E62555, E62565, E62575
HP LaserJet Managed MFP E62655, E62665, E62675

Service manual: Troubleshooting



www.hp.com/videos/LaserJet

www.hp.com/support/ljM607
www.hp.com/support/ljM608
www.hp.com/support/ljM609
www.hp.com/support/ljM610
www.hp.com/support/ljM611
www.hp.com/support/ljM612
www.hp.com/support/ljM631MFP
www.hp.com/support/ljM632MFP
www.hp.com/support/ljM633MFP
www.hp.com/support/ljM634MFP
www.hp.com/support/ljM635MFP
www.hp.com/support/ljM636MFP

www.hp.com/support/ljE60055
www.hp.com/support/ljE60065
www.hp.com/support/ljE60075
www.hp.com/support/ljE60155
www.hp.com/support/ljE60165
www.hp.com/support/ljE60175
www.hp.com/support/ljE62555MFP
www.hp.com/support/ljE62565MFP
www.hp.com/support/ljE62575MFP
www.hp.com/support/ljE62655MFP
www.hp.com/support/ljE62665MFP
www.hp.com/support/ljE62675MFP

HP LaserJet Enterprise M607, M608, M609, HP LaserJet Enterprise M610, M611, 612, HP LaserJet Managed E60055, E60065, E60075, HP LaserJet Managed E60155, E60165, E60175, HP LaserJet Enterprise MFP M631, M632, M633,HP LaserJet Enterprise M634, M635, M636, HP LaserJet Managed MFP E62555, E62565, E62575, HP LaserJet Managed MFP E62655, E62665, E62675

Service manual: Troubleshooting

Copyright and License

© Copyright 2019 HP 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.

Edition 3, 3/2020

Trademark Credits

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

Conventions used in this guide

TIP: Helpful hints or shortcuts.

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

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

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

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

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

HP service and support

Learn about HP access to additional service and support information.

Additional service and support for channel partners

Channel partners, go to partner.hp.com, and then use the steps below to access the HP Web-based Interactive Search Engine (WISE).

Access WISE for Channel partners

1. Select **Services & Support** (near the top of the screen).
2. Under **Services Delivery**, select **Technical Support**.
3. Select **Technical Documentation**.

Find information about the following topics

- Service manuals
- Service advisories
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Install and configure
- Printer specifications
- Warranty and regulatory information

Additional service and support for HP internal personnel

HP internal personnel, go to one of the following Web-based Interactive Search Engine (WISE) sites:

Americas (AMS)

- WISE - English
- WISE - Spanish
- WISE - Portuguese
- WISE - French

Asia Pacific / Japan (APJ)

- WISE - English
- WISE - Japanese
- WISE - Korean
- WISE - Chinese (simplified)

- WISE - Chinese (traditional)
- WISE - Thai

Europe / Middle East / Africa (EMEA)

- WISE - English

Table of contents

1 Theory of operation 1
HP service and support 2
Additional service and support for channel partners 2
Additional service and support for HP internal personnel 2
Basic operation 4
Sequence of operation 5
Engine-control system 6
DC controller 7
Motors 8
Fans 9
Solenoids 9
Clutches 9
Switches 10
Photointerrupter sensors 11
Sensors 11
LEDs 11
Low-voltage power supply 12
Low-voltage power supply voltages description 13
Over-current/over-voltage protection 13
Safety 13
Low-voltage power supply functions 14
High-voltage power supply 14
High-voltage power supply circuits 14
Fuser control 15
Fuser circuits 16
Fuser control functions 17
Fuser heater protection 19
Laser scanner system 20
Laser/scanner failure detection 21
Safety 21
Image formation system 22
Image-formation process 25

Step 1: Pre-exposure 25
Step 2: Primary charging 26
Step 3: Laser-beam exposure 27
Step 4: Development 27
Step 5: Transfer 28
Step 6: Separation 28
Step 7: Fusing 29
Step 8: Drum cleaning 29
Toner cartridge 30
Design 30
Memory chip 31
Dynamic security 31
JetIntelligence 31
Authentication 31
Anti-theft 31
Pickup, feed, and delivery system 33
Photo sensors and switches 36
Motors, clutches, and solenoids 37
Jam detection/prevention 38
Input accessories 41
550-sheet paper feeder (PF) 41
Controller 41
Paper path 41
Pickup and feed components 42
Jam detection 45
2,100-sheet paper deck (HCI) 45
Controller 45
Paper path 45
Pickup and feed components 46
Jam detection 49
1x550, 3x550, 2,550-sheet paper decks (PD) 49
Controller 49
Paper path 49
Pickup and feed components 52
Paper deck jam detection 56
Output accessories 57
2-bin staple stacker multi-bin mailbox (SSMBM) 57
Controller 57
Paper path 57
Motors 58
Fan 59

Delivery functions 59
Delivery operation 59
Jam detection 62
5-bin staple stacker multi bin mailbox (SSMBM) 63
Controller 64
Paper path 64
Motors 66
Fan 66
Delivery functions 66
Delivery operation 67
Jam detection 69
Scanning and image capture system (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 72
Document feeder system (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 73
Document feed system 73
Sensors in the document feeder 73
Document feeder paper path 74
Document feeder simplex operation 75
Document feeder e-duplex operation 76
Deskew operation 77
Document feeder hinges 77

2 Solve problems 79
HP service and support 80
Additional service and support for channel partners 80
Additional service and support for HP internal personnel 80
Manually unlock the front door (E60155/E60165/E60175 models) 82
Manually unlock the left door (E62655/E62665/E62675 models) 83
Solve problems checklist 84
Solve problems checklist 84
Print menu map 90
Print current settings pages 90
View, print and clear the event log 91
View or print the event log from the Troubleshooting menu 91
View, print, or clear the event log from the Service menu 91
Pre-boot menu options 93
Remote Admin 103
Required software and network connection 103
Connect a remote connection 105
Disconnect a remote connection 109
Troubleshooting process 112

Determine the problem source 112
Pre-troubleshooting checklist 112
Troubleshooting flowchart 113
Power subsystem 114
Power-on checks 114
Power-on troubleshooting overview 114
Control panel checks (touchscreen models) 120
Control-panel diagnostics (touchscreen models) 120
Touchscreen diagnostic mode (touchscreen models) 120
Control-panel system diagnostics (touchscreen models) 125
Control panel diagnostic flowcharts (touchscreen models) 140
Touchscreen black, white, or dim (no image) 141
Touchscreen has an unresponsive zone 142
No control panel sound 143
Home button is unresponsive 144
Hardware integration pocket (HIP) is not functioning (control panel functional) 145
Tools for troubleshooting 146
Individual component diagnostics 147
Tools for troubleshooting: LED diagnostics 147
Understand lights on the formatter 147
Tools for troubleshooting: Engine diagnostics 150
Engine test button 150
Defeating interlocks 151
Disable cartridge check 154
Tools for troubleshooting: Paper path and sensor diagnostic tests 154
Paper path page 154
Paper path sensors test 155
Manual sensor tests 157
Tools for troubleshooting: Print/stop test 159
Tools for troubleshooting: Component tests 161
Individual component diagnostics 161
Tools for troubleshooting: Scanner tests (MFP) 163
Continuous scan test (MFP) 163
Tools for troubleshooting: Scanner tests (MFP) 164
Run fax test (MFP) 164
Diagrams 165
Diagrams: Block diagrams 165
Diagrams Electrical components 165
Diagrams: Printed circuit assembly (PCA) connector locations 176
Diagrams: External plug and port locations 179

Diagrams: Locations of major assemblies 181
Diagrams: General timing chart 201
Diagrams: General circuit diagrams 202
Internal test and information pages 214
Print a configuration page 214
Wireless page 216
HP embedded Jetdirect page 218
Fax accessory page 219
Finding important information on the configuration pages 220
Print a fuser test page 222
Control-panel menus 223
Copy menu (MFP models only) 225
Scan menu (MFP models only) 228
Print menu 229
HP JetAdvantage menu (MFP models only) 230
Quick Sets menu (MFP models only) 231
Contacts menu (fax models only) 232
Supplies menu 233
Trays menu 235
Reports menu 238
Settings menu 240
Support Tools menu 245
Control panel message document (CPMD) 252
Control-panel messages and event log entries 252
Resolve print-quality problems 253
Introduction 253
Troubleshoot print quality 253
Update the printer firmware 253
Print from a different software program 253
Check the paper type setting for the print job 253
Check the paper type setting on the printer 253
Check the paper type setting (Windows) 254
Check the paper type setting (macOS) 254
Check toner-cartridge status 254
Print a cleaning page 255
Visually inspect the toner cartridge 255
Check paper and the printing environment 256
Step one: Use paper that meets HP specifications 256
Step two: Check the environment 256
Step three: Set the individual tray alignment 256
Try a different print driver 257

Print quality troubleshooting guide 258
Introduction 259
Toner cartridges 260
Check toner-cartridge status 260
Visually inspect the toner cartridge or cartridges 260
Check the paper-type setting for the print job 261
Check paper and the printing environment 261
Information to collect 262
Product specific image defects 262
Resolving print quality problems 262
Introduction 262
Troubleshoot print quality problems 263
Repetitive image defect ruler 271
Use a ruler to measure between repetitive defects 272
Printer specific image defects 275
Image defect events 275
Clean the printer 292
Clean the paper path 292
Print a cleaning page 292
Check the scanner glass for dirt and smudges (MFP) 293
Clean the pickup rollers and separation pad in the document feeder (MFP) 295
Clean the Tray 1 roller and separation pad 297
Step 1: Clean the Tray 1 roller 297
Step 2: Clean the separation pad assembly 298
Clean the Tray 2-X rollers 300
Step 1: Clean the Tray 2-X rollers 300
Solve paper handling problems 307
Printer feeds incorrect page size 307
Printer pulls from incorrect tray 307
Printer will not duplex or duplexes incorrectly 308
Paper does not feed from Tray 2-X 308
Output is curled or wrinkled 308
Printer does not pick up paper or misfeeds 309
The printer does not pick up paper 309
The printer picks up multiple sheets of paper 310
The document feeder jams, skews, or picks up multiple sheets of paper (MFP) 310
Paper does not feed automatically 310
Clear paper jams 312
Paper path jam sensor locations 314
Paper jam locations (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 321

Paper jam locations (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 322
Auto-navigation for clearing jams 322
Experiencing frequent or recurring paper jams? 322
Clear paper jams in the document feeder 324
Clear paper jams in Tray 1(M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 326
Clear paper jams in Tray 1 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 328
Clear paper jams in Trays 2, 3, 4, or 5 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 331
Clear paper jams in Trays 2, 3, or 4 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 335
Clear paper jams in the 2,550-sheet high-capacity input tray (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 339
Clear paper jams in the 2,100-sheet high-capacity input tray (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 342
Clear paper jams in the right door and fuser area (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 345
Clear paper jams in the rear door and fuser area (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 348
Clear paper jams in the output bin (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 351
Clear paper jams in the output bin (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 352
Clear paper jams in the duplexer (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 353
Clear paper jams in the duplexer (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 355
Clear paper jams in the envelope feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 357
Clear paper jams in the envelope feeder (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 359
Clear paper jams in the HP Stapling Mailbox (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 361
Clear paper jams in the HP Stapling Mailbox accessory (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 363
Clear staple jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 364
Clear staple jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 367
Change jam recovery 370
Solve performance problems 371

Factors affecting print performance 371
Print speeds 372
The printer does not print or it prints slowly 373
The printer prints slowly 374
Solve connectivity problems 375
Solve wired network problems 375
Introduction 375
Poor physical connection 375
The computer is unable to communicate with the printer 375
The printer is using incorrect link and duplex settings for the network 376
New software programs might be causing compatibility problems 376
The computer or workstation might be set up incorrectly 376
The printer is disabled, or other network settings are incorrect 376
Solve wireless network problems 376
Introduction 377
Wireless connectivity checklist 377
The printer does not print after the wireless configuration completes 378
The printer does not print, and the computer has a third-party firewall installed 378
The wireless connection does not work after moving the wireless router or printer 378
Cannot connect more computers to the wireless printer 378
The wireless printer loses communication when connected to a VPN 378
The network does not appear in the wireless networks list 379
The wireless network is not functioning 379
Reduce interference on a wireless network 379
Service mode functions 380
Service menu 380
Printer resets 385
Restore factory-set defaults 385
Printer cold reset 385
Format Disk and Partial Clean functions 387
Active and repository firmware locations 387
Partial Clean 387
Execute a Partial Clean 388
Format Disk 388
Execute a Format Disk 389
Firmware upgrades 391
Determine the installed revision of firmware 392
Perform a firmware upgrade 394
HP Embedded Web Server 394
USB flash drive (control-panel menu) 395
USB flash drive (Pre-boot menu) 396

Solve fax problems or email 398

Appendix A Printer specifications 399

Printer dimensions 400

Printer dimensions (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 400

Printer dimensions (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 403

Printer space requirements 407

Power consumption, electrical specifications, and acoustic emissions 407

Operating environment range 407

Certificate of Volatility 408

Appendix B Revision history 427

Revision history 428

Index 429

List of tables

Table 1-1 Sequence of operation 5
Table 1-2 Motors 8
Table 1-3 Fans 9
Table 1-4 Solenoids 9
Table 1-5 Clutches 9
Table 1-6 Switches 10
Table 1-7 Photointerrupter sensors 11
Table 1-8 Sensors 11
Table 1-9 LEDs 11
Table 1-10 Converted DC voltages 13
Table 1-11 Low-voltage power supply functions 14
Table 1-12 High-voltage power supply circuits 15
Table 1-13 Fuser components 16
Table 1-14 Fuser-control functions 19
Table 1-18 Toner cartridge functions 30
Table 1-20 Photo sensors and switches 36
Table 1-21 Motors, solenoids, and clutches 37
Table 1-22 Paper path sensors 40
Table 1-23 Jams that the printer detects 40
Table 1-24 Pickup and feed components for the 550-sheet PF 43
Table 1-25 Pickup and feed functions for the 550-sheet PF 43
Table 1-26 Pickup and feed components for the 2,100-sheet HCI 47
Table 1-27 Paper pickup and feed functions for the 2,100-sheet HCI 48
Table 1-28 Pickup and feed components for 1x550 paper deck and 3x550 paper deck 53
Table 1-29 Pickup and feed components for the 2,550-sheet paper deck 55
Table 1-30 Pickup and feed functions for the 1x550, 3x550, and 2,550 paper decks 56
Table 1-31 Motors for the 2-bin SSMBM 59
Table 1-32 Fan for the 2-bin SSMBM 59
Table 1-33 Delivery functions for the SSMBM 59
Table 1-34 Motors and solenoids for the 2-bin SSMBM 60
Table 1-35 Sensors and switches for the 2-bin SSMBM 61
Table 1-36 Motors for the 5-bin SSMBM 66

Table 1-37 Fan for SSMBM 66
Table 1-38 Delivery functions for the SSMBM 66
Table 1-39 Motors and solenoids for the 5-bin SSMBM 67
Table 1-40 Sensors and switches for the 5-bin SSMBM 69
Table 1-41 Document feeder sensors 74
Table 1-42 Document feeder paper path 74
Table 2-8 Troubleshooting flowchart 113
Table 2-9 Heartbeat LED, printer operational 148
Table 2-10 Printer base, sensors (image formation) block diagram 166
Table 2-11 Printer base, sensors (pickup, feed, and delivery) block diagram 167
Table 2-12 Printer base, motors, solenoids, and clutches block diagram 168
Table 2-13 1x550-sheet paper feeder, electrical components block diagram 169
Table 2-14 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram 170
Table 2-15 2,550-sheet paper deck, electrical components block diagram 172
Table 2-16 Stapler stacker multi bin mailbox (5 bin; SSBM), motors and solenoids block diagram 173
Table 2-17 Stapler stacker multi bin mailbox (5 bin; SSBM), sensors and switches block diagram 174
Table 2-18 Stapler stacker multi bin mailbox (2 bin; SSBM), motors and solenoids block diagram 175
Table 2-19 Stapler stacker multi bin mailbox (2 bin; SSBM), sensors and switches block diagram 176
Table 2-20 DC controller connections 177
Table 2-21 External plug and port locations (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 179
Table 2-22 External plug and port locations (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 180
Table 2-23 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (1 of 2) 181
Table 2-24 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (2 of 2) 182
Table 2-25 Printer base (E60155/E60165/E60175), main assemblies (2 of 2) 182
Table 2-26 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (1 of 2) 183
Table 2-27 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (2 of 2) 184
Table 2-28 Printer base (E62655/E62665/E62675), main assemblies 184
Table 2-29 Printer base, printed circuit assemblies (PCAs) 185
Table 2-30 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), roller assemblies .. 185
Table 2-31 rinter base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), roller assemblies 186
Table 2-32 1x550-sheet paper feeder, main assemblies 187
Table 2-33 1x550-sheet paper feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 envelope feeder), main assemblies 188
Table 2-34 1x550-sheet paper feeder, printed circuit assemblies (PCAs) 189
Table 2-35 1x550-sheet paper deck, main assemblies (1 of 2) 190
Table 2-36 1x550-sheet paper deck, main assemblies (2 of 2) 191

Table 2-37 1x550-sheet paper deck, printed circuit assemblies (PCAs) 192
Table 2-38 3x550-sheet paper deck, main assemblies (1 of 2) 193
Table 2-39 3x550-sheet paper deck, main assemblies (2 of 2) 194
Table 2-40 3x550-sheet paper deck, printed circuit assemblies (PCAs) 195
Table 2-41 2,100-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies 196
Table 2-42 2,100-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), printed circuit assemblies (PCAs) 197
Table 2-43 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (1 of 2) 198
Table 2-44 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (2 of 2) 199
Table 2-45 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), printed circuit assemblies (PCAs) 200
Table 2-47 Wireless page (1 of 2) 216
Table 2-48 Wireless page (2 of 2) 217
Table 2-49 HP embedded Jetdirect page 218
Table 2-50 Fax accessory page (1 of 2) 219
Table 2-51 Fax accessory page (2 of 2) 220
Table 2-52 Important information on the configuration pages 220
Table 2-53 Copy menu (MFP models only) 225
Table 2-54 Scan menu (MFP models only) 228
Table 2-55 Print menu 229
Table 2-56 HP JetAdvantage menu (MFP models only) 230
Table 2-57 Contacts menu (fax models only) 232
Table 2-58 Supplies menu (fax models only) 233
Table 2-59 Trays menu 235
Table 2-60 Reports menu (fax models only) 238
Table 2-61 Settings menu (fax models only) 240
Table 2-62 Support Tools menu 245
Table 2-63 Image defects table quick reference 263
Table 2-64 Light print 265
Table 2-65 Gray background or dark print 266
Table 2-66 Blank page — No print 266
Table 2-67 Black page 267
Table 2-68 Banding defects 267
Table 2-69 Streak defects 268
Table 2-70 Fixing/fuser defects 269
Table 2-71 Image placement defects 269
Table 2-72 Output defects 270
Table 2-74 Printer feeds incorrect page size 307
Table 2-75 Printer pulls from incorrect tray 307

Table 2-76 Printer will not duplex (print 2-sided jobs) or duplexes incorrectly 308
Table 2-77 Paper does not feed from Tray 2-X 308
Table 2-78 Output is curled or wrinkled 308
Table 2-79 Paper does not feed automatically 310
Table 2-80 Printer base, sensors (pickup, feed, and delivery) block diagram 314
Table 2-81 1x550-sheet paper feeder, electrical components block diagram 315
Table 2-82 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram 316
Table 2-83 2,550-sheet paper deck, electrical components block diagram 318
Table 2-84 Stapler stacker multi bin mailbox (5 bin; SSBM), sensors and switches block diagram 319
Table 2-85 Stapler stacker multi bin mailbox (2 bin; SSBM), sensors and switches block diagram 320
Table 2-86 Solve performance problems 371
Table 2-87 Service menu 381
Table A-1 Dimensions for M607n, M607dn, M608n, M608dn, M609dn models 400
Table A-2 Dimensions for M6608x, M609x 400
Table A-3 Dimensions for the 1x550-sheet paper feeder 400
Table A-4 Dimensions for the printer with a 1x550-sheet paper feeder 400
Table A-5 Dimensions for the 2,100-sheet HCI with stand 401
Table A-6 Dimensions for the printer with a 2,100-sheet HCI with stand 401
Table A-7 Dimensions for the envelope feeder 401
Table A-8 Dimensions for the printer with an envelope feeder 401
Table A-9 Dimensions for the HP Stapling Mailbox 401
Table A-10 Dimensions for the printer with an HP Stapling Mailbox 402
Table A-11 Dimensions for base models (M631dn, M631h Flow, M632h, M633fh) 403
Table A-12 Dimensions for M631z 403
Table A-13 Dimensions for M632fht 403
Table A-14 Dimensions for M632z Flow, M633z Flow 403
Table A-15 Dimensions for the 1x550-sheet paper feeder 404
Table A-16 Dimensions for the printer with a 1x550-sheet paper feeder 404
Table A-17 Dimensions for the 1x550-sheet feeder with printer stand 404
Table A-18 Dimensions for the printer with a 1x550-sheet feeder with printer stand 404
Table A-19 Dimensions for the 1x550-sheet feeder and 2,100-sheet HCI with stand 404
Table A-20 Dimensions for the printer with a 1x550-sheet feeder and 2,100-sheet HCI with stand 405
Table A-21 Dimensions for the envelope feeder cassette 405
Table A-22 Dimensions for the printer with an envelope feeder 405
Table A-23 Dimensions for the printer with an HP Stapling Mailbox 405
Table A-24 Operating environment range 407
Table B-1 Revision history 428

List of figures

Figure 1-5 High-voltage power supply circuits 15
Figure 1-6 Fuser components 16
Figure 1-7 Fuser control 18
Figure 1-13 Pre-exposure 26
Figure 1-14 Primary charging 26
Figure 1-15 Laser-beam exposure 27
Figure 1-16 Developing 27
Figure 1-17 Transfer 28
Figure 1-18 Separation 28
Figure 1-19 Fusing 29
Figure 1-20 Drum cleaning 29
Figure 1-21 Toner cartridge components 30
Figure 1-23 Photo sensors and switches 36
Figure 1-24 Motors, solenoids, and clutches for pickup, feed and delivery system 37
Figure 1-25 Paper path and location of sensors 39
Figure 1-26 Controller for the 550-sheet PF 41
Figure 1-27 Paper path for the 550-sheet PF 42
Figure 1-28 Pickup and feed components for the 550-sheet PF 43
Figure 1-29 Controller for the 2,100-sheet HCI 45
Figure 1-30 Paper path for the 2,100-sheet HCI 46
Figure 1-31 Pickup and feed components for the 2,100-sheet HCI 47
Figure 1-32 Controller for the 1x550, 3x550, and 2,550 paper decks 49
Figure 1-33 Paper path for the 1x550 PD 50
Figure 1-34 Paper path for the 3x550 PD 51
Figure 1-35 Paper path for the 2,550 PD 52
Figure 1-36 Pickup and feed components for 1x550 paper deck and 3x550 paper deck 53
Figure 1-37 Pickup and feed components for the 2,550-sheet paper deck 55
Figure 1-38 SSMBM controller 57
Figure 1-39 Paper path for the 2-bin SSMBM 58
Figure 1-40 Motors and solenoids for the 2-bin SSMBM 60
Figure 1-41 Sensors and switches for the 2-bin SSMBM 61
Figure 1-42 Paper path and location of sensors for the 2-bin SSMBM 63

Figure 1-43 SSMBM controller 64
Figure 1-44 Paper path for the 5-bin SSMBM 65
Figure 1-45 Motors and solenoids for the 5-bin SSMBM 67
Figure 1-46 Sensors and switches for the 5-bin SSMBM 68
Figure 1-47 Paper path and location of sensors for the 5-bin SSMBM 71
Figure 1-48 Document feeder sensors 74
Figure 1-49 Document feeder paper path 74
Figure 1-50 Deskew operation 77
Figure 1-51 Document feeder open (book mode) 78
Figure 1-52 Document feeder open (60º to 80º) 78
Figure 2-1 Unlock the front door 82
Figure 2-2 Unlock the left door 83
Figure 2-6 Open the Control Panel 104
Figure 2-7 Turn Windows features on or off 104
Figure 2-8 Enable the telnet client feature 105
Figure 2-9 Select the +3:Administrator item 106
Figure 2-10 Select the +A:Remote Admin item 106
Figure 2-11 Select the 1:Start Telnet item 106
Figure 2-12 Telnet connecting message 106
Figure 2-13 Telnet error message 107
Figure 2-14 Telnet server function initialized 107
Figure 2-15 Open a command window 108
Figure 2-16 Start a telnet session 108
Figure 2-17 Establish a telnet connection 108
Figure 2-18 Enter the PIN 109
Figure 2-19 Remote Admin window 109
Figure 2-20 Access the administrator menu 110
Figure 2-21 Access the remote admin menu 110
Figure 2-22 Terminate the telnet connection 111
Figure 2-23 Diagnostic-tests access button (small touchscreen) 120
Figure 2-24 Press the diagnostics-access button (small touchscreen) 121
Figure 2-25 Diagnostic-tests access button (large touchscreen) 121
Figure 2-26 Press the diagnostics-access button (large touchscreen) 122
Figure 2-27 Control-panel version A yellow screen 122
Figure 2-28 Open the Pre-boot menu 125
Figure 2-29 Pre-boot menu 126
Figure 2-30 Access the administration menu 127
Figure 2-31 Access the diagnostics menu 127
Figure 2-32 Open the screen test 128
Figure 2-33 Blue vertical gradient screen 128
Figure 2-34 Open the touch test 132

Figure 2-35 Touch the white grid 132
Figure 2-36 Verify the mark 133
Figure 2-37 Open the softkey test 134
Figure 2-38 Touch the Home button 134
Figure 2-39 Successful test 135
Figure 2-40 Open the backlight test 136
Figure 2-41 Open the sound test 137
Figure 2-42 Do not open the keyboard test 138
Figure 2-43 Open the sound test 139
Figure 2-44 Touchscreen blank, white, or dim (no image) 141
Figure 2-45 Touchscreen has an unresponsive zone 142
Figure 2-46 No control panel sound 143
Figure 2-47 Home button is unresponsive 144
Figure 2-48 Hardware integration pocket (HIP) is not functioning (control panel functional) 145
Figure 2-49 Engine test button (1 of 2) 150
Figure 2-50 Engine test button (2 of 2) 151
Figure 2-51 Defeat the toner cartridge door interlocks 152
Figure 2-52 Defeat the right or rear door interlock 153
Figure 2-53 Printer base, image formation system block diagram 165
Figure 2-54 Printer base, sensors (image formation) block diagram 166
Figure 2-55 Printer base, sensors (pickup, feed, and delivery) block diagram 167
Figure 2-56 Printer base, motors, solenoids, and clutches block diagram 168
Figure 2-57 1x550-sheet paper feeder, electrical components block diagram 169
Figure 2-58 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram 170
Figure 2-59 2,550-sheet paper deck, electrical components block diagram 172
Figure 2-60 Stapler stacker multi bin mailbox (5 bin; SSBM), motors and solenoids block diagram 173
Figure 2-61 Stapler stacker multi bin mailbox (5 bin; SSBM), sensors and switches block diagram 174
Figure 2-62 Stapler stacker multi bin mailbox (2 bin; SSBM), motors and solenoids block diagram 175
Figure 2-63 Stapler stacker multi bin mailbox (2 bin; SSBM), sensors and switches block diagram 176
Figure 2-64 DC controller connections 177
Figure 2-65 External plug and port locations (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 179
Figure 2-66 External plug and port locations (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 180
Figure 2-67 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (1 of 2) 181
Figure 2-68 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (2 of 2) 182
Figure 2-69 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (2 of 2) 182
Figure 2-70 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (1 of 2) 183

Figure 2-71 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (2 of 2) 184
Figure 2-72 Printer base (E62655/E62665/E62675), main assemblies 184
Figure 2-73 Printer base, printed circuit assemblies (PCAs) 185
Figure 2-74 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), roller assemblies 185
Figure 2-75 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), roller assemblies 186
Figure 2-76 1x550-sheet paper feeder, main assemblies 187
Figure 2-77 1x550-sheet paper feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 envelope feeder), main assemblies 188
Figure 2-78 1x550-sheet paper feeder, printed circuit assemblies (PCAs) 189
Figure 2-79 1x550-sheet paper deck, main assemblies (1 of 2) 190
Figure 2-80 1x550-sheet paper deck, main assemblies (2 of 2) 191
Figure 2-81 1x550-sheet paper deck, printed circuit assemblies (PCAs) 192
Figure 2-82 3x550-sheet paper deck, main assemblies (1 of 2) 193
Figure 2-83 3x550-sheet paper deck, main assemblies (2 of 2) 194
Figure 2-84 3x550-sheet paper deck, printed circuit assemblies (PCAs) 195
Figure 2-85 2,100-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies 196
Figure 2-86 2,100-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), printed circuit assemblies (PCAs) 197
Figure 2-87 2,550-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (1 of 2) 198
Figure 2-88 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (2 of 2) 199
Figure 2-89 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), printed circuit assemblies (PCAs) 200
Figure 2-90 General timing chart 201
Figure 2-91 General circuit diagram for the printer base (M607/M608/M609) 202
Figure 2-92 General circuit diagram for the printer base (E60155/E60165/E60175) (1 of 2) 203
Figure 2-93 General circuit diagram for the printer base (E60155/E60165/E60175) (2 of 2) 204
Figure 2-94 General circuit diagram for the printer base (M631/M623/M633) 205
Figure 2-95 General circuit diagram for the printer base (E62655/E62665/E62675) (1 of 2) 206
Figure 2-96 General circuit diagram for the printer base (E62655/E62665/E62675) (2 of 2) 207
Figure 2-97 General circuit diagram for the 550-sheet paper feeder 208
Figure 2-98 General circuit diagram for the 1x550-sheet and 3x-550-sheet paper deck 209
Figure 2-99 General circuit diagram for the 2,100-sheet paper deck 210
Figure 2-100 General circuit diagram for the 2,550-sheet paper deck 211
Figure 2-101 General circuit diagram for the 5 bin stapler stacker multi-bin mail box 212
Figure 2-102 General circuit diagram for the 2 bin stapler stacker multi-bin mail box 213
Figure 2-104 Wireless page (1 of 2) 216

Figure 2-105 Wireless page (2 of 2) 217
Figure 2-106 HP embedded Jetdirect page 218
Figure 2-107 Fax accessory page (1 of 2) 219
Figure 2-108 Fax accessory page (2 of 2) 220
Figure 2-109 Fuser test page 223
Figure 2-110 Examples of repetitive defects 272
Figure 2-111 Place the ruler on the page 273
Figure 2-112 Locate the next repetitive defect 273
Figure 2-113 Determine the defective assembly 274
Figure 2-126 Remove the cover 297
Figure 2-127 Remove the roller 298
Figure 2-128 Move the lift plate out of the way 298
Figure 2-129 Release the cover 299
Figure 2-130 Remove the roller 299
Figure 2-131 Open the tray (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 300
Figure 2-132 Open the tray (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 300
Figure 2-133 Lower the access cover (Tray 2 rollers) 301
Figure 2-134 Lower the access cover (Tray 3 rollers) 301
Figure 2-135 Lower the access cover (M631z/M632fht/Flow M632z/Flow M633z) 302
Figure 2-136 Locate the separation roller 302
Figure 2-137 Install the separation roller tool 303
Figure 2-138 Slide the roller to the left 303
Figure 2-139 Remove the roller 304
Figure 2-140 Locate the pickup and feed roller 304
Figure 2-141 Unlock the pickup and feed rollers 305
Figure 2-142 Slide the rollers to the left 305
Figure 2-143 Remove the rollers 306
Figure 2-144 Printer base, sensors (pickup, feed, and delivery) block diagram 314
Figure 2-145 1x550-sheet paper feeder, electrical components block diagram 315
Figure 2-146 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram 316
Figure 2-147 2,550-sheet paper deck, electrical components block diagram 318
Figure 2-148 Stapler stacker multi bin mailbox (5 bin; SSBM), sensors and switches block diagram 319
Figure 2-149 Stapler stacker multi bin mailbox (2 bin; SSBM), sensors and switches block diagram 320
Figure 2-150 Open the Pre-boot menu 386
Figure 2-151 Open the Pre-boot menu 388
Figure 2-152 Open the Pre-boot menu 389
Figure 2-153 Configuration report 393
Figure 2-154 Open the Pre-boot menu 396
Figure A-1 Certificate of Volatility (1 of 2; M607/M608/M609) 408
Figure A-2 Certificate of Volatility (2 of 2; M607/M608/M609) 409
Figure A-3 Certificate of Volatility (1 of 2; M631/M632/M633) 410

Figure A-4 Certificate of Volatility (2 of 2; M631/M632/M633) 411
Figure A-5 Certificate of Volatility (1 of 2; E60155/E60165/E60175) 412
Figure A-6 Certificate of Volatility (2 of 2; E60155/E60165/E60175) 413
Figure A-7 Certificate of Volatility (1 of 2; E62655/E62665/E62675) 414
Figure A-8 Certificate of Volatility (2 of 2; E62655/E62665/E62675) 415
Figure A-9 Certificate of Volatility (1 of 2; E65150/E65160) 416
Figure A-10 Certificate of Volatility (2 of 2; E65150/E65160) 417
Figure A-11 Certificate of Volatility (1 of 2; M634/M635/M636) 418
Figure A-12 Certificate of Volatility (2 of 2; M634/M635/M636) 419
Figure A-13 Certificate of Volatility (1 of 2; M634z/M636z) 420
Figure A-14 Certificate of Volatility (2 of 2; M634z/M636z) 421
Figure A-15 Certificate of Volatility (1 of 2; M610/M611/M612) 422
Figure A-16 Certificate of Volatility (2 of 2; M610/M611/M612) 423
Figure A-17 Certificate of Volatility (1 of 2; M611x/M612x) 424
Figure A-18 Certificate of Volatility (2 of 2; M611x/M612x) 425

1 Theory of operation

- HP service and support
- Basic operation
- Engine-control system
- Laser scanner system
- Image formation system
- Toner cartridge
- Pickup, feed, and delivery system
- Input accessories
- Output accessories
- Scanning and image capture system (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Document feeder system (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

HP service and support

Learn about HP access to additional service and support information.

Additional service and support for channel partners

Channel partners, go to partner.hp.com, and then use the steps below to access the HP Web-based Interactive Search Engine (WISE).

Access WISE for Channel partners

1. Select **Services & Support** (near the top of the screen).
2. Under **Services Delivery**, select **Technical Support**.
3. Select **Technical Documentation**.

Find information about the following topics

- Service manuals
- Service advisories
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Install and configure
- Printer specifications
- Warranty and regulatory information

Additional service and support for HP internal personnel

HP internal personnel, go to one of the following Web-based Interactive Search Engine (WISE) sites:

Americas (AMS)

- WISE - English
- WISE - Spanish
- WISE - Portuguese
- WISE - French

Asia Pacific / Japan (APJ)

- WISE - English
- WISE - Japanese
- WISE - Korean
- WISE - Chinese (simplified)

- WISE - Chinese (traditional)
- WISE - Thai

Europe / Middle East / Africa (EMEA)

- WISE - English

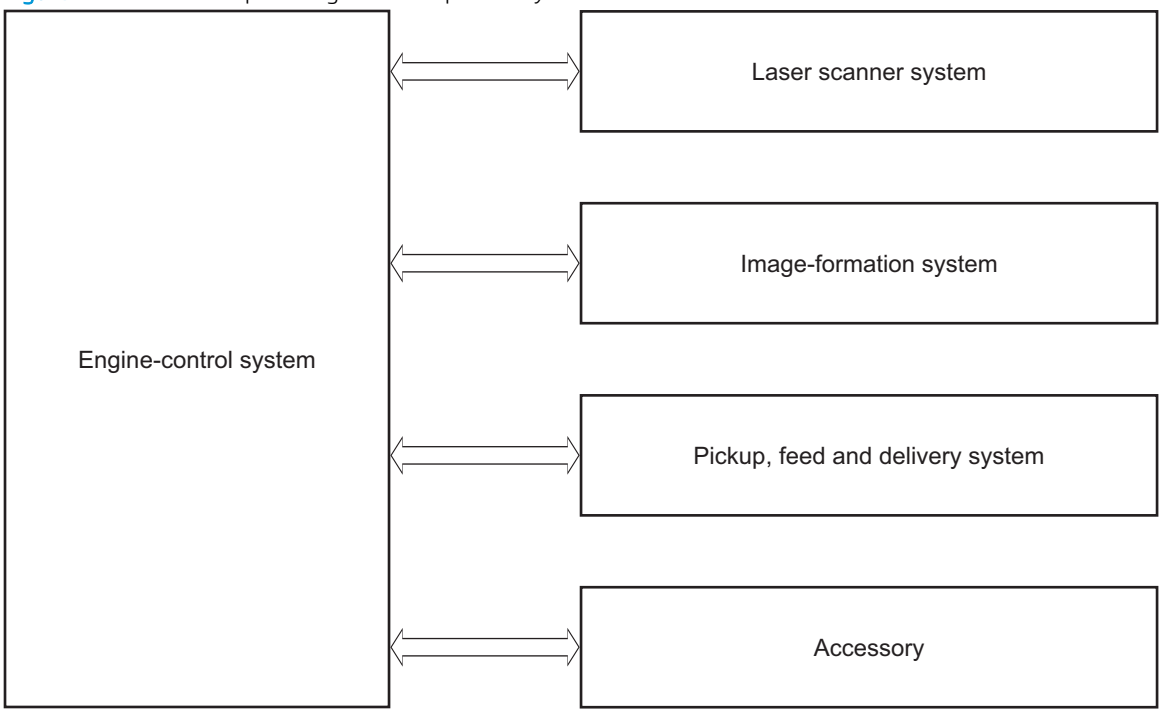
Basic operation

The printer routes all high-level processes through the formatter, which stores font information, processes the print image, and communicates with the host computer.

The basic printer operation comprises the following systems:

- The engine-control system, which includes the high-voltage and low-voltage power supplies (HVPS and LVPS), fuser control circuits, and the DC controller printed circuit assembly (PCA)
- The laser/scanner system, which forms the latent image on the photosensitive drum
- The image-formation system, which transfers a toner image onto the paper
- The pickup, feed and delivery system, which uses a system of rollers and belts to transport the paper through the printer
- Optional accessories (paper feeder, paper decks, staple stacker multi-bin mailbox)

Figure 1-1 Relationship among the main printer systems



Sequence of operation

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

Table 1-1 Sequence of operation

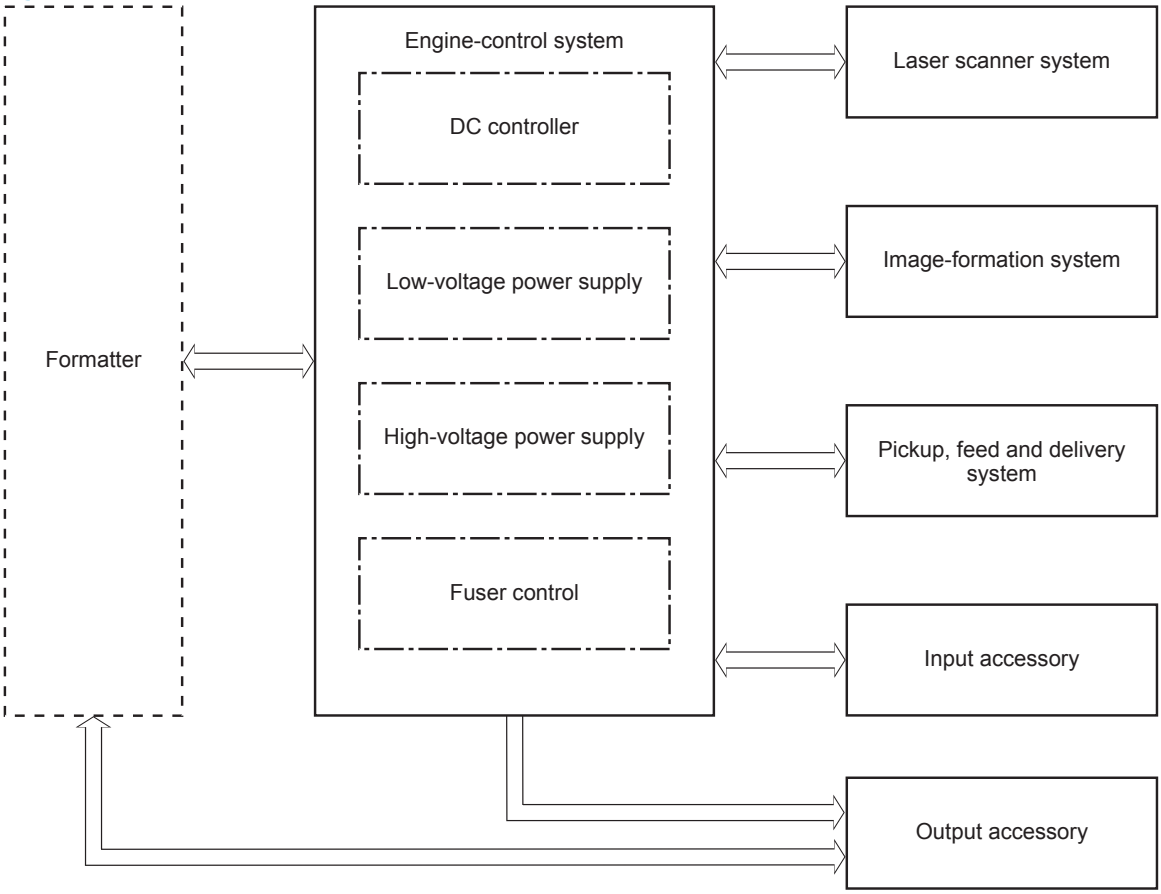
Period	Duration	Description
Waiting	From the time the power is turned on, the door is closed, or when the printer exits Sleep mode until the printer is ready for printing.	• Heats the fuser film in the fuser • Detects the toner cartridge • Rotates and stops each motor • Rotates and stops each fan • Cleans the transfer roller
Standby	From the end of the waiting sequence, the last rotation until the formatter receives a print command, or until the printer is turned off.	• Is in the Ready state • Enters Sleep mode if the formatter sends the sleep command • Rotates and stops each fan
Initial rotation	From the time the formatter receives a print command until the paper enters the paper path.	• Rotates each motor • Rotates each fan • Activates the high-voltage power supply (high-voltage bias) • Prepares the laser/scanner unit • Warms the fuser to the correct temperature
Printing	From the time the first sheet of paper enters the paper path until the last sheet has passed through the fuser.	• Forms the image on the photosensitive drums • Transfers the toner to the paper • Fuses the toner image onto the paper
Last rotation	From the time the last sheet of paper exits the fuser until the motors stop rotating.	• Stops each motor • Stops each fan • Stops the high-voltage power supply (high-voltage bias) • Stops the laser/scanner unit • Turns the fuser heater off • If another print command is received, the printer enters the initial rotation period when the last rotation is complete.

Engine-control system

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

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

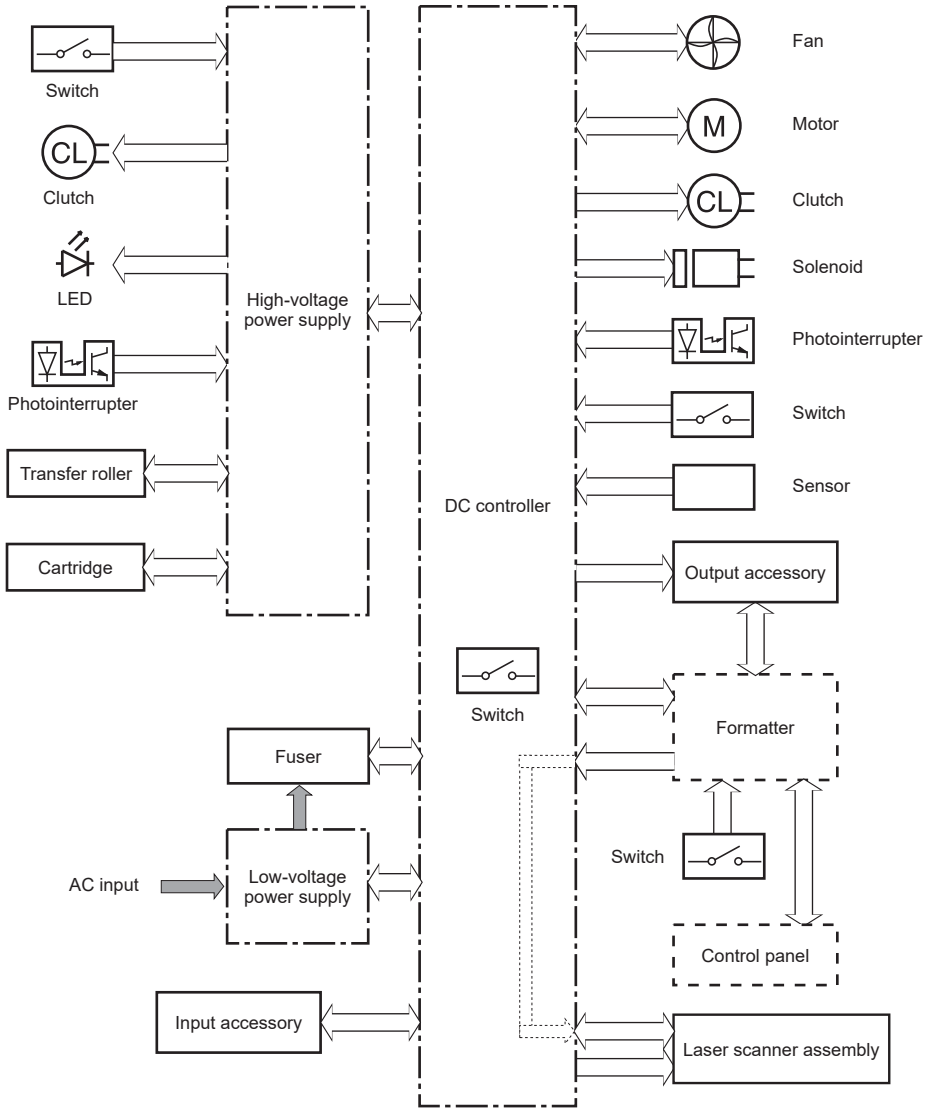
Figure 1-2 Engine-control system



DC controller

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

Figure 1-3 DC controller



Motors

The printer has four motors. The motors drive the components in the paper-feed and image-formation systems.

The DC controller monitors the fuser motor and the drum motor to determine whether a motor has failed. It notifies the formatter when it encounters the following conditions:

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

Table 1-2 Motors

Abbreviation	Name	Purpose	Failure detection
M1	Fuser motor	Drives the pressure roller, fuser output roller, output roller, duplex switchback roller (duplex models)	Yes
M2	Drum motor	Drives the photosensitive drum, primary charging roller, transfer roller, tray 1 pickup roller, tray 1 feed roller (M607/M608/M609/ E60055/E60065/E60075/E60155/E60165/ E60175 models), tray 2 pickup roller, tray 2 feed roller, registration roller, feed roller, duplex feed roller (duplex models), each roller for input accessory	Yes
M3	Lifter motor	Drives the Tray 2 lifter	No
M4	Scanner motor	Drives the scanner mirror	No

Fans

The printer has four fans for preventing the temperature from rising in the printer and for cooling the printed pages.

The DC controller determines whether there is a fan failure and notifies the formatter if a fan locks for a specified time from when the fan starts.

Table 1-3 Fans

Abbreviation	Name	Cooling area	Type	Speed
FM1	Scanner fan	Toner cartridge and laser scanner assembly	Intake	Full
FM2	Duplex fan	Duplex feed area	Intake	Full
FM3	Cartridge upper fan	Toner cartridge, laser scanner assembly, and around the low-voltage power supply	Intake	Full/Low
FM4	Cartridge lower fan	Toner cartridge, laser scanner assembly, and around the low-voltage power supply	Intake	Full/Low

Solenoids

Table 1-4 Solenoids

Component abbreviation	Component name
SL1	Tray 1 pickup solenoid
SL2	Developer alienation solenoid
SL5	Front door lock solenoid (E60155/E60165/E60175 models)
SL6	Left door lock solenoid (E62655/E62665/E62675 models)

Clutches

Table 1-5 Clutches

Component abbreviation	Component name
CL1	Tray 1 feed clutch (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)
CL2	Duplex feed clutch
CL3	Tray 2 pickup clutch
CL4	Duplex switchback clutch (duplex models)

Switches

Table 1-6 Switches

Component abbreviation	Component name
SW1	24V interlock switch
SW2	Front door switch (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)
SW2	Left door switch (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 models)
SW4	Tray 2 media size switch 1
SW5	Tray 2 media size switch 2
SW6	Rear door switch R (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)
SW7	Rear door switch L (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)
SW6	Right door switch R (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 models)
SW7	Right door switch L (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 models)
SW301	Test print switch
SW4100	Power switch

Photointerrupter sensors

Table 1-7 Photointerrupter sensors

Component abbreviation	Component name
PS4300	Tray 2 media out sensor
PS4350	Tray 1 media out sensor
PS4400	Tray 2 media surface sensor
PS4450	FD1 media full sensor
PS4500	Fuser loop sensor
PS4550	Registration sensor
PS4600	separation roller rotation sensor
PS4650	Fuser output sensor
PS4700	Duplex feed sensor duplex models)
PS4750	Tray 1 feed sensor (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)
PS4800	Fuser pressure release sensor
PS4850	Developer alienation sensor

Sensors

Table 1-8 Sensors

Component abbreviation	Component name
TH4200	Environment sensor

LEDs

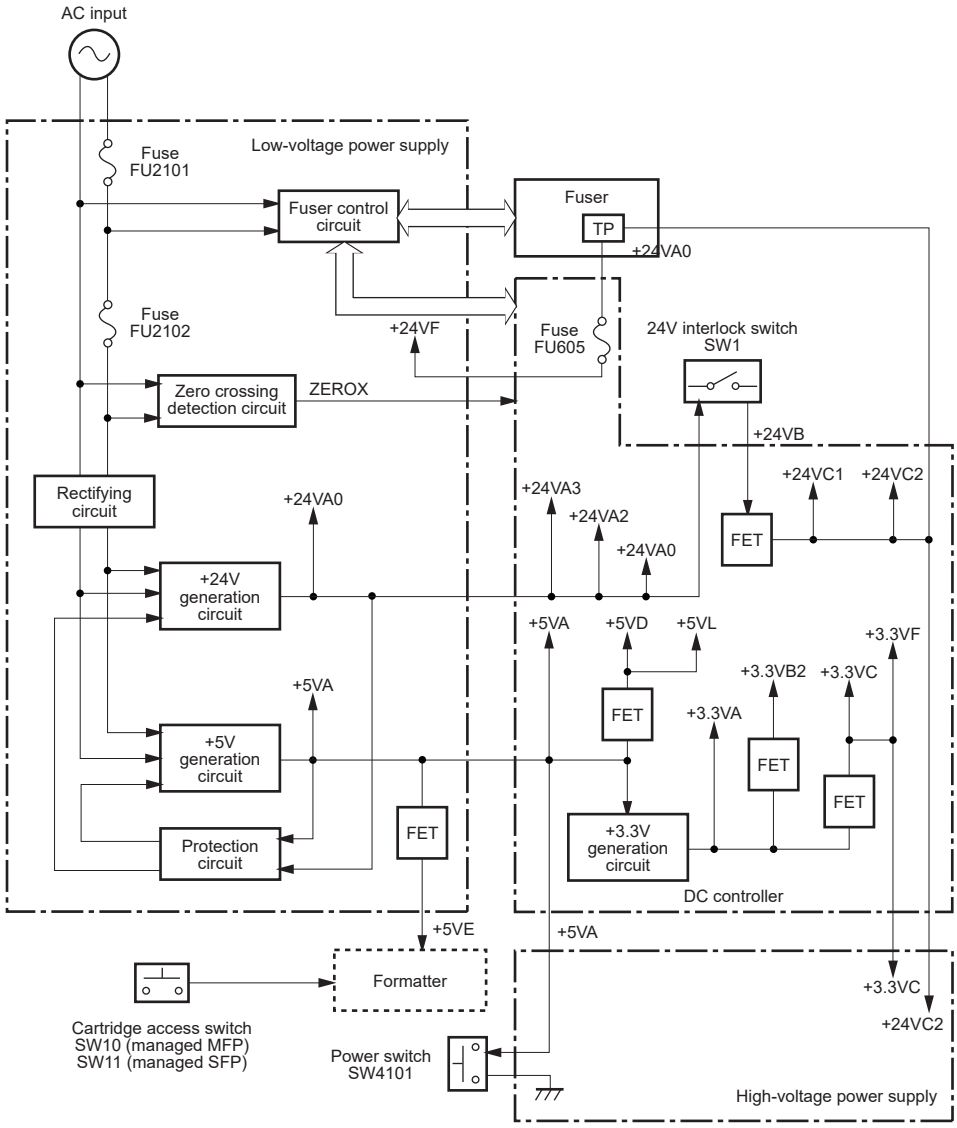
Table 1-9 LEDs

Component abbreviation	Component name
LED4100	Power supply LED
LED4950	Pre-exposure LED

Low-voltage power supply

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

Figure 1-4 Low-voltage power supply circuits



Low-voltage power supply voltages description

The low-voltage power supply converts the AC power into two DC voltages, which it then subdivides, as described in the following table:

Table 1-10 Converted DC voltages

Main DC voltage	Sub-voltage	Behavior
+24V	+24VA0	Stopped during active OFF or inactive OFF
	+24VA2	Stopped during active OFF or inactive OFF
	+24VB	Stopped during active OFF or inactive OFF
	+24VC1	Stopped during active OFF or inactive OFF
	+24VC2	Stopped during active OFF or inactive OFF
	+24VF	Stopped during active OFF or inactive OFF
+5V	+5VA	Stopped during inactive OFF
	+5VB	Stopped during active OFF or inactive OFF
	+5VE	Stopped during inactive OFF
	+5LL	Stopped during active OFF or inactive OFF
+3.3V	+3.3VA	Stopped during inactive OFF
	+3.3VB2	Stopped during inactive OFF Supplied intermittently during active OFF
	+3.3VC	Stopped during active OFF or inactive OFF
	=3.3VF	Stopped during active OFF or inactive OFF

Over-current/over-voltage protection

The low-voltage power supply automatically stops supplying the DC voltage to the printer components whenever it detects excessive current or abnormal voltage. The low-voltage power supply has a protective circuit against over-current and over-voltage to prevent failures in the power supply circuit.

⚠ CAUTION: If DC voltage is not being supplied from the low-voltage power supply, the protective function might be running. In this case, turn the power switch off and unplug the power cord.

Do not turn the power switch on until the root cause is found and corrected.

If the protective function is active, the DC controller notifies the formatter of a low-voltage power supply failure. In addition, the low-voltage power supply has two fuses to protect against over-current. If over-current flows into the AC line, the fuse stops the AC power.

Safety

For personal safety, the printer interrupts +24VB and +24VC power when the cartridge door detection switch is turned off. This stops DC power supply to the high-voltage power supply (HVPS)

The printer also stops the +24VB power when the +24V interlock switch is turned off. This stops DC power supply to the following load:

- High-voltage power supply
- Drum motor
- Fuser motor
- Duplex switchback clutch (duplex models)

The remote switch control circuit turns on or off the printer power so that the AC power flows even when the power switch is turned off. Unplug the printer power cord before disassembling the printer.

Low-voltage power supply functions

The printer has the following low-voltage power supply functions:

Table 1-11 Low-voltage power supply functions

Function	Behavior
Inactive OFF	The power supply is off.
Active OFF (state of sleep)	The low-voltage power supply is output only to the formatter and DC controller.

High-voltage power supply

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

- Primary charging roller (in the toner cartridge)
- Developing roller (in the toner cartridge)
- Transfer front guide
- Transfer roller
- Static charge eliminator
- Fuser film
- Pressure roller

High-voltage power supply circuits

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

Figure 1-5 High-voltage power supply circuits

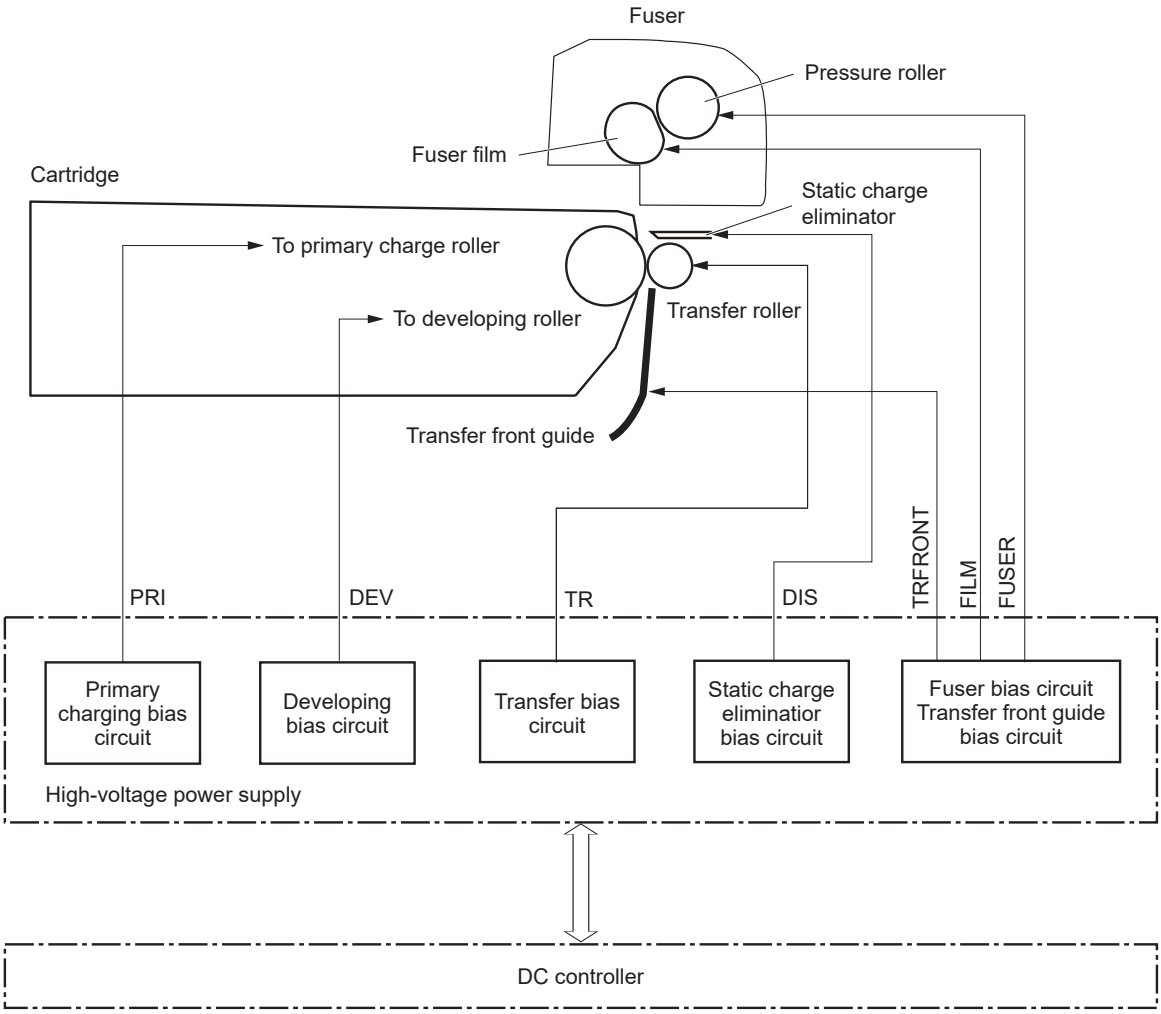


Table 1-12 High-voltage power supply circuits

Circuit	Description
Primary-charging-bias generation	The primary charging bias negatively charges the surface of the photosensitive drum to prepare for image formation.
Developing-bias generation	The developing bias adheres toner to an electrostatic latent image formed on the photosensitive drum.
Transfer-bias generation	The primary transfer bias transfers the toner from the photosensitive drum onto the paper.
Static charge eliminator bias generation	The static charge eliminator bias eliminates the electric charge on the back side of the paper for stable paper feed and print quality.
Fuser bias generation	The printer uses instant-on fusing. The fuser bias is DC positive for improved print quality. The fuser bias circuit is located in the high-voltage power supply.

Fuser control

The DC controller and components in the fuser perform the following functions related to fuser operation:

- Control fuser temperature
- Detect fuser failures
- Prevent excessive temperature rise
- Detect remaining life in the fuser
- Determine if the correct fuser is installed

Fuser circuits

The fuser heater control circuit and the fuser heater safety circuit control the fuser temperature according to commands from the DC controller. The fuser consists of the following major components:

Figure 1-6 Fuser components

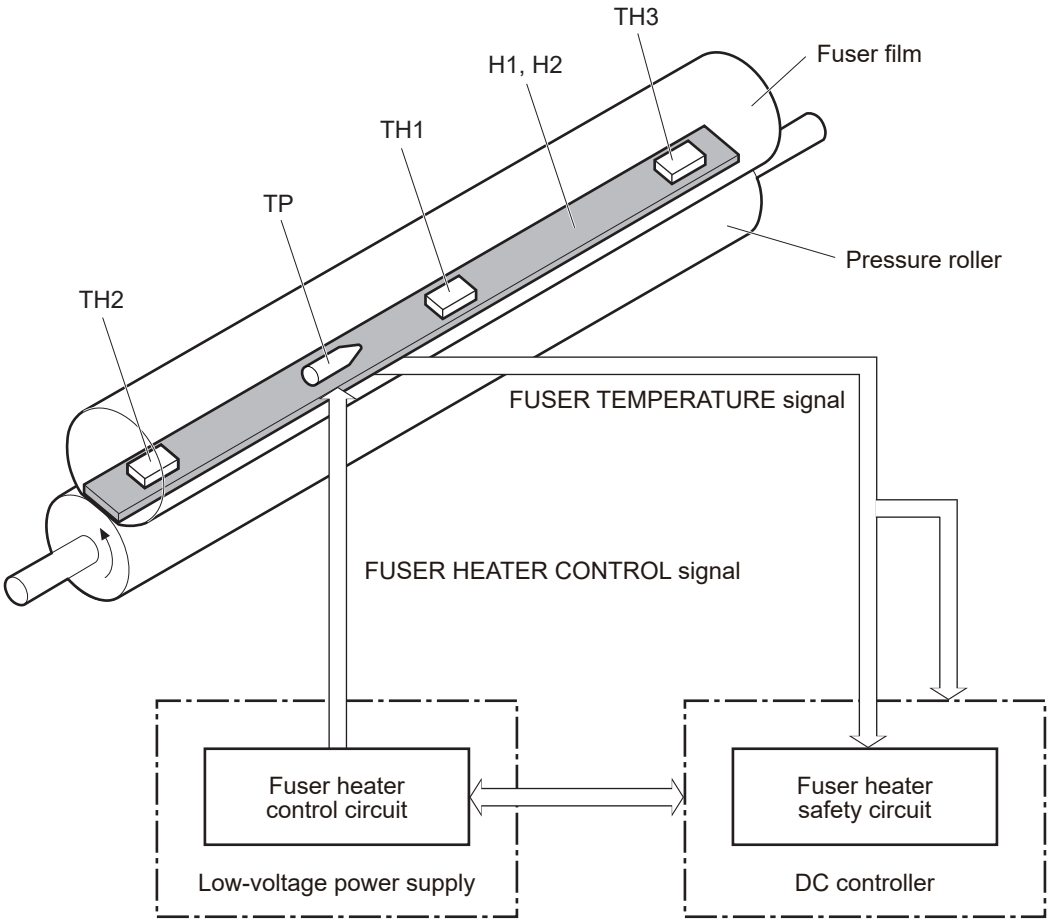


Table 1-13 Fuser components

Type of component	Abbreviation	Name	Function
Heaters	H1, H2	Fuser heaters	Heats the center of the fuser film assembly
Thermistors (Contact type)	TH1	Main thermistor	Detects the center temperature of the fuser heater

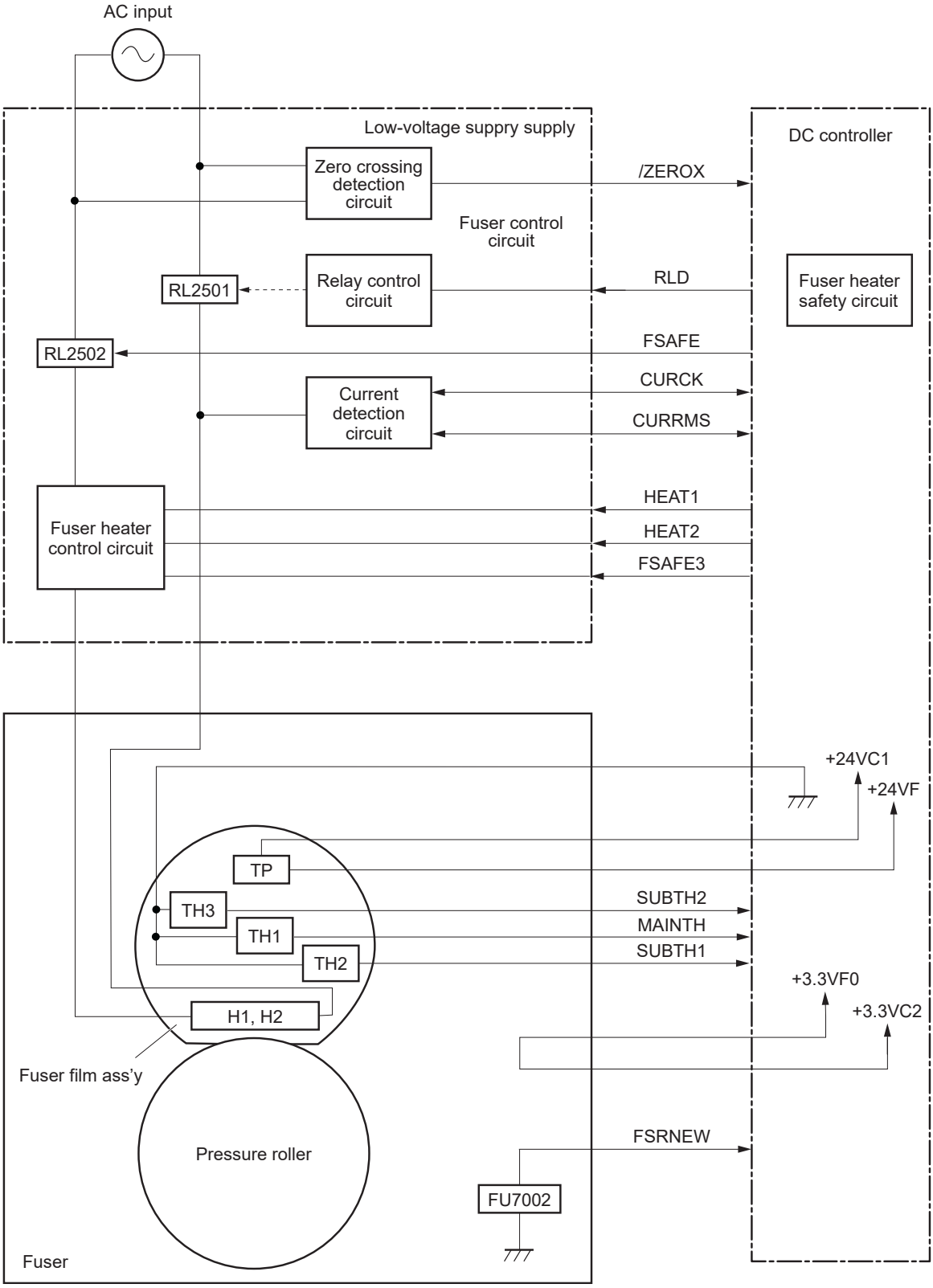
Table 1-13 Fuser components (continued)

Type of component	Abbreviation	Name	Function
Thermistors (Contact type)	TH2, TH3	Sum thermistors	Detects the edge temperature of the fuser heater.
Thermal switch (Contact type)	TP	Thermal fuse	Prevents an abnormal temperature rise in the fuser heater

Fuser control functions

The following figure shows the fuser control functions

Figure 1-7 Fuser control



The printer has the following fuser-control functions:

Table 1-14 Fuser-control functions

Failure detection function	Supported feature
Fuser temperature control	Yes
Heat up error detection	Yes
Low temperature error detection	Yes
High temperature error detection	Yes
Breaking of a heater wire detection	No
Frequency detection circuit failure detection	Yes
Low-voltage power supply failure detection	Yes
Fuser pressure release mechanism failure detection	Yes
Brand new fuser detection	Yes
Fuser type discrepancy detection	Yes
Fuser type identification detection	Yes
Fuser presence detection	Yes
Fuser life detection	Yes
Fuser roller cleaning	Yes

Fuser heater protection

Fuser heater protection is a feature that detects excessive temperatures in the fuser and interrupts the power supply to the fuser heater.

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

- **DC controller**: When a thermistor or sub-thermistor detects a temperature above a certain threshold, the DC controller interrupts power to the fuser heater.
- **Fuser-heater safety circuit**: The fuser heater safety circuit monitors the detected temperature of the thermistors and interrupts power to the fuser heater when it detects excessive temperature.
- **Temperature fuse:** When the fuser heater reaches a temperature above a certain threshold, the temperature fuse interrupts power to the fuser heater.

Laser scanner system

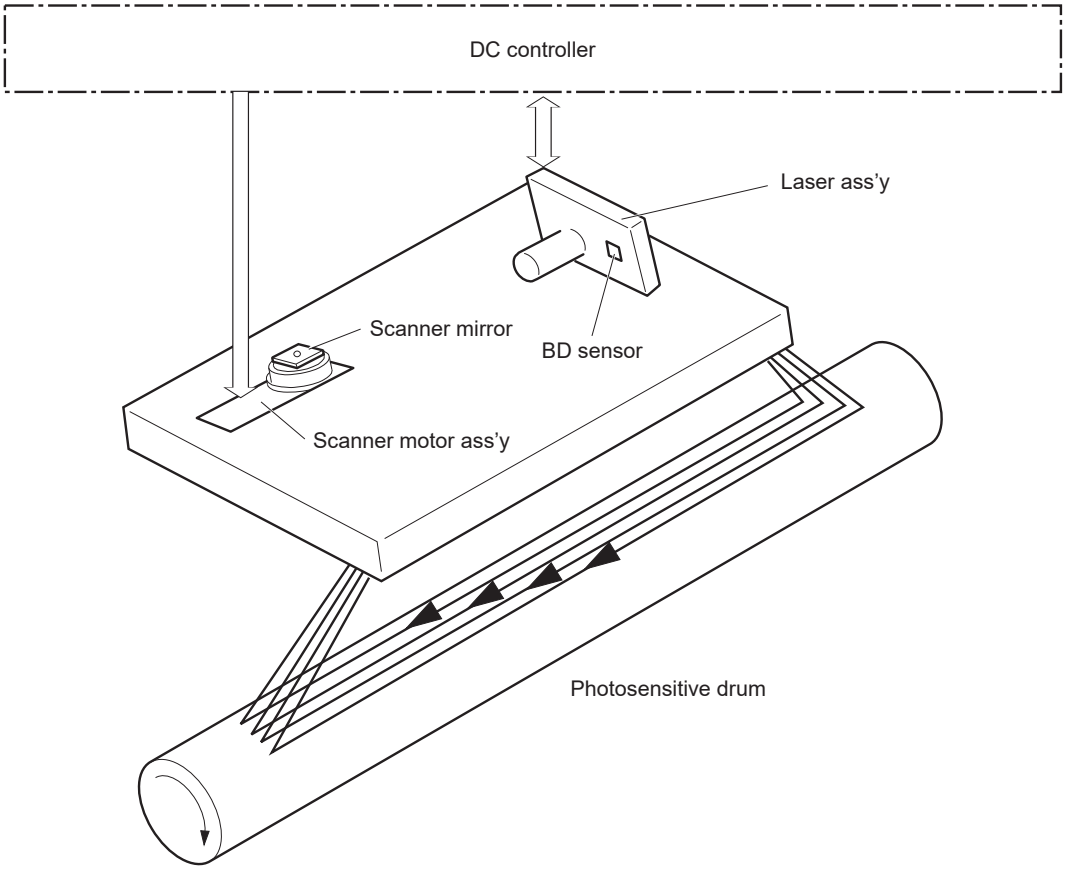
The laser/scanner system forms the latent electrostatic image on the photosensitive drum inside the toner cartridge.

The DC controller receives instructions from the formatter regarding the image of the page to be printed. The DC controller signals the lasers to emit light, and the laser beams pass through lenses and onto the scanner mirror, which rotates at a constant speed. The mirror reflects the beam onto the photosensitive drum in the pattern required for the image, exposing the surface of the drum so it can receive toner.

The laser/scanner system consists of the following main components:

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

Figure 1-8 Laser scanner



Laser/scanner failure detection

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

- Laser scanner failure detection
- Laser/scanner motor startup failure: The scanner motor does not reach a specified rotation frequency within a specified period of time 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 of time during a print operation.

Safety

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

- Rear door (SW6, SW7) for M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)
- Right door (SW6, SW7) for M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 models)

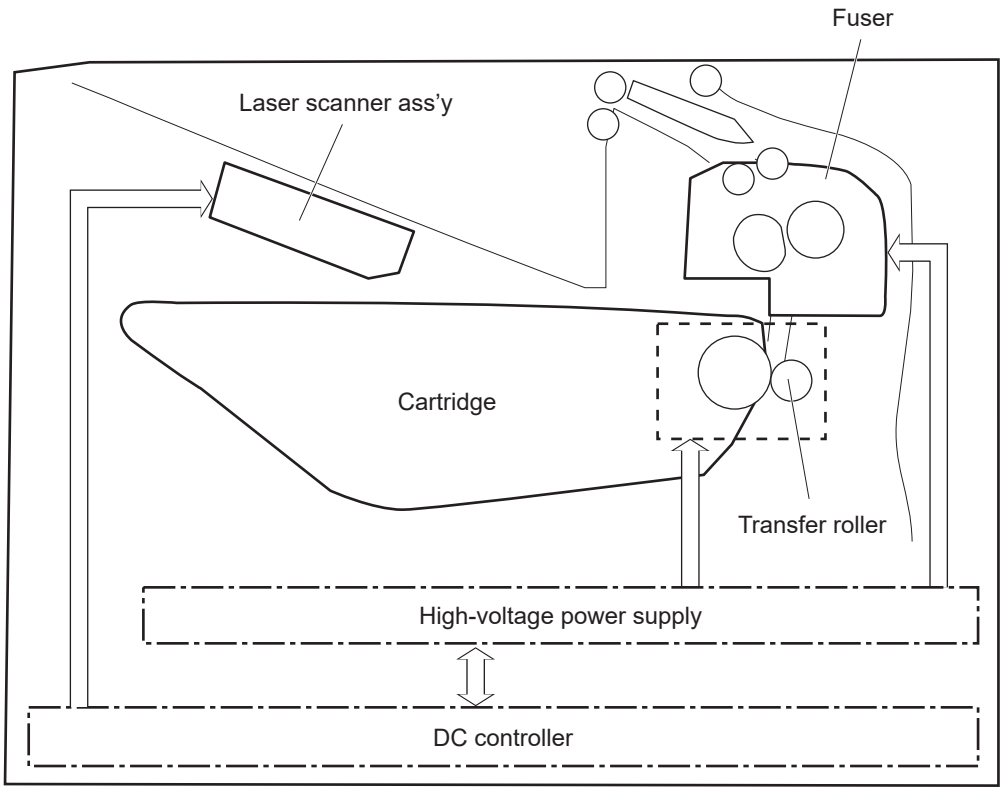
Image formation system

The image-formation system creates the printed image on the paper. The system consists of the following components:

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

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

Figure 1-9 Image formation system



The DC controller rotates the following motors to drive each component.

Drum Motor

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

Fuser motor

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

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

Figure 1-10 Motors

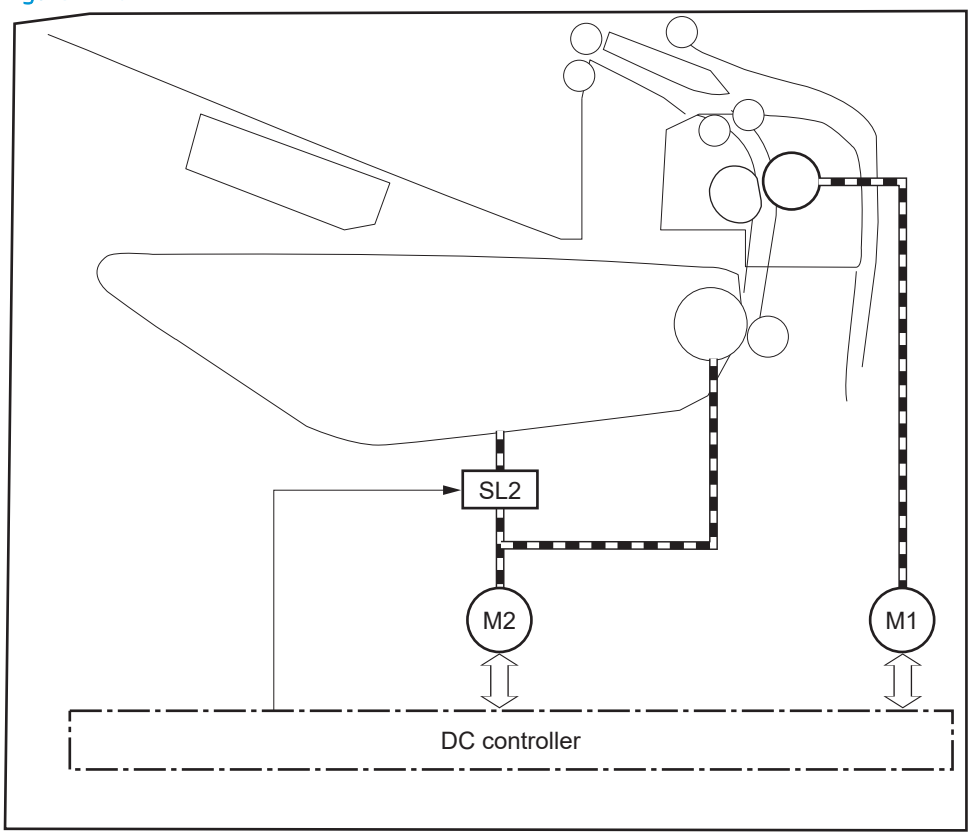


Table 1-15 Motors

Abbreviation	Component
M1	Fuser motor
M2	Drum motor
SL2	Developer alienation solenoid

The following figure shows the location of the sensors:

Figure 1-11 Sensors

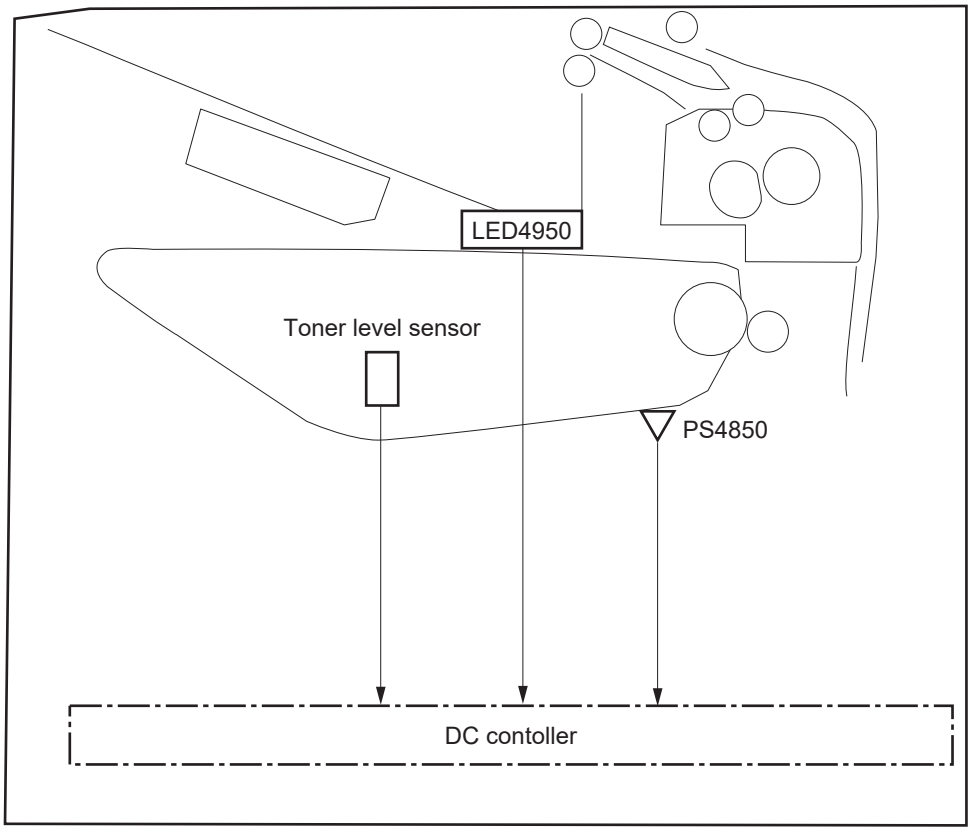


Table 1-16 Sensors

Abbreviation	Component name
LED4950	Pre-exposure LED
PS4850	Developer alienation sensor
	Toner level sensor

Image-formation process

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

Figure 1-12 Image formation process

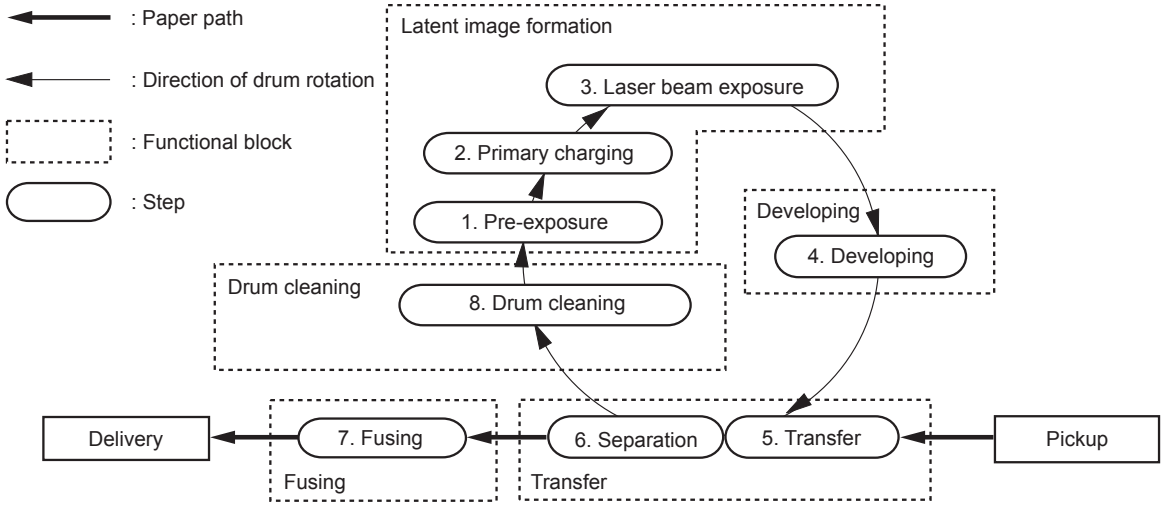


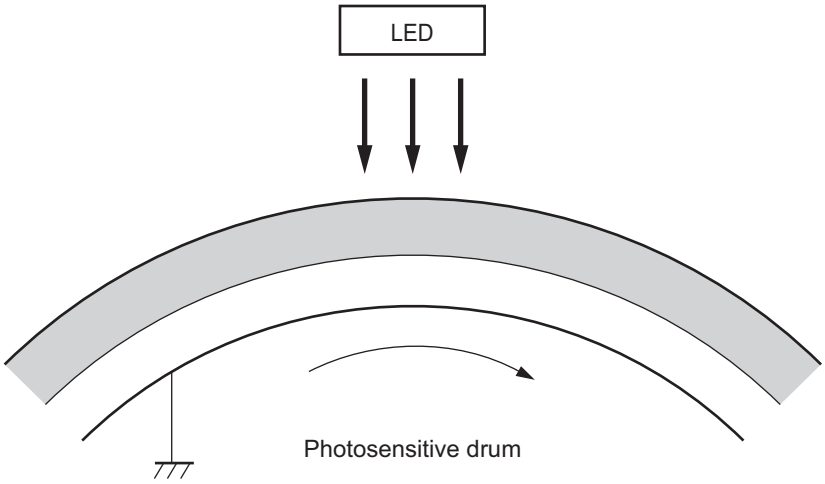
Table 1-17 Image formation process

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

Step 1: Pre-exposure

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

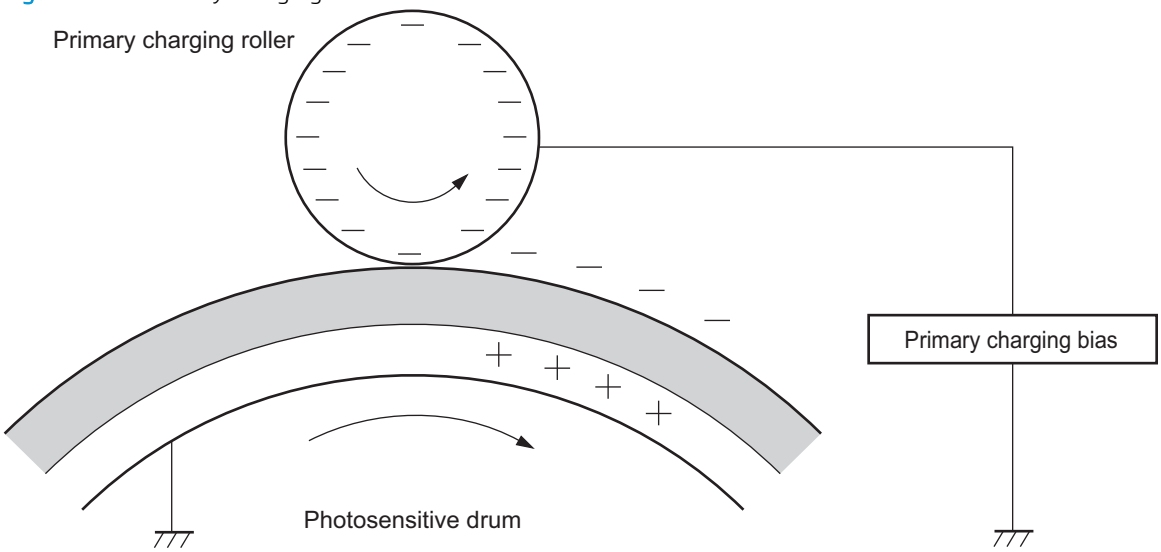
Figure 1-13 Pre-exposure



Step 2: Primary charging

The primary-charging roller contacts the photosensitive drum and charges the drum with negative potential.

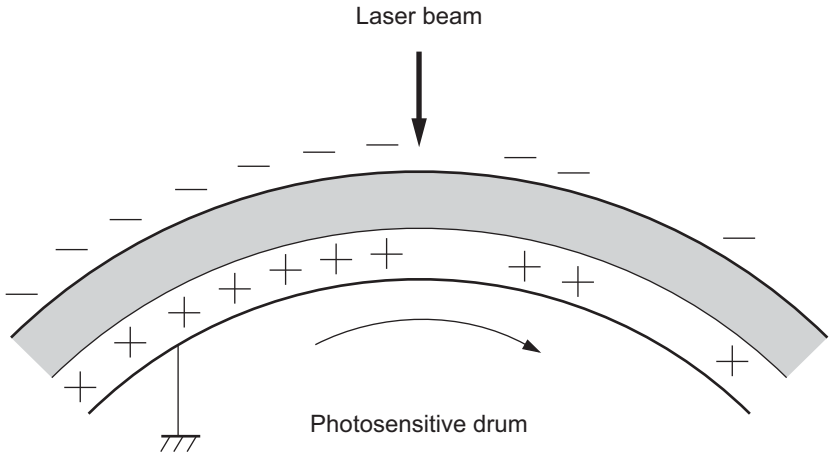
Figure 1-14 Primary charging



Step 3: Laser-beam exposure

The laser beam strikes the surface of the photosensitive drum in the areas where the image will form. The negative charge neutralizes in those areas, which are then ready to accept toner.

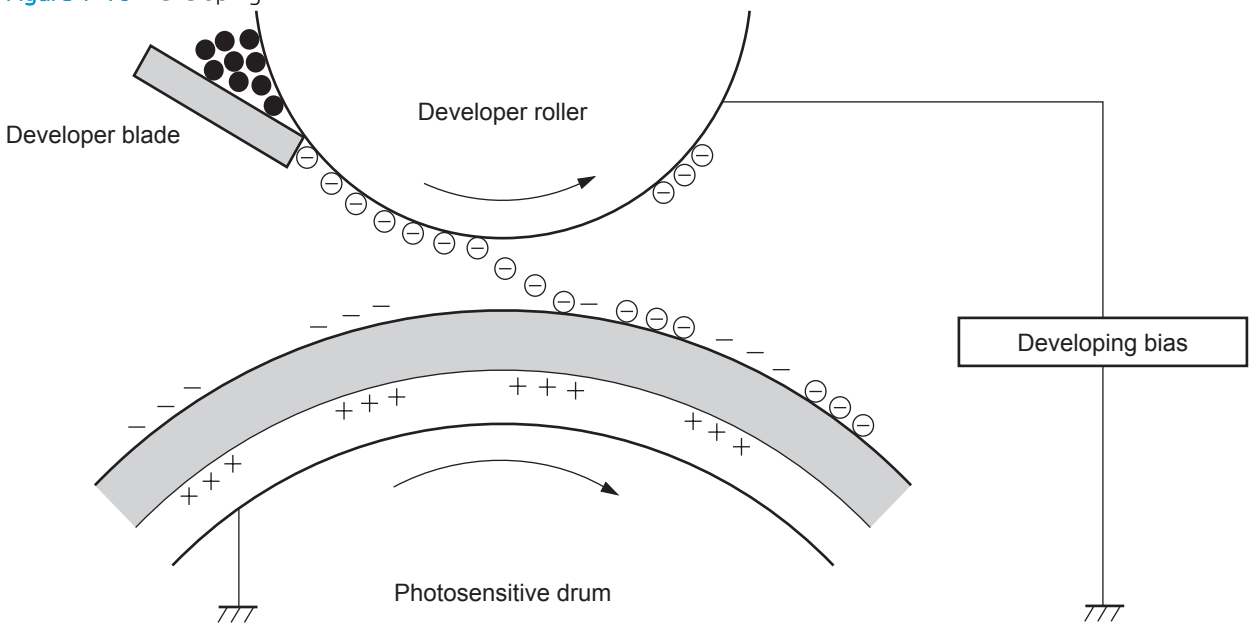
Figure 1-15 Laser-beam exposure



Step 4: Development

Toner acquires a negative charge as the developing cylinder contacts the developing blade. Because the negatively charged surface of the photosensitive drums has been neutralized where the drums have been struck by the laser beam, the toner adheres to those areas on the drums. The latent image becomes visible on the surface of each drum.

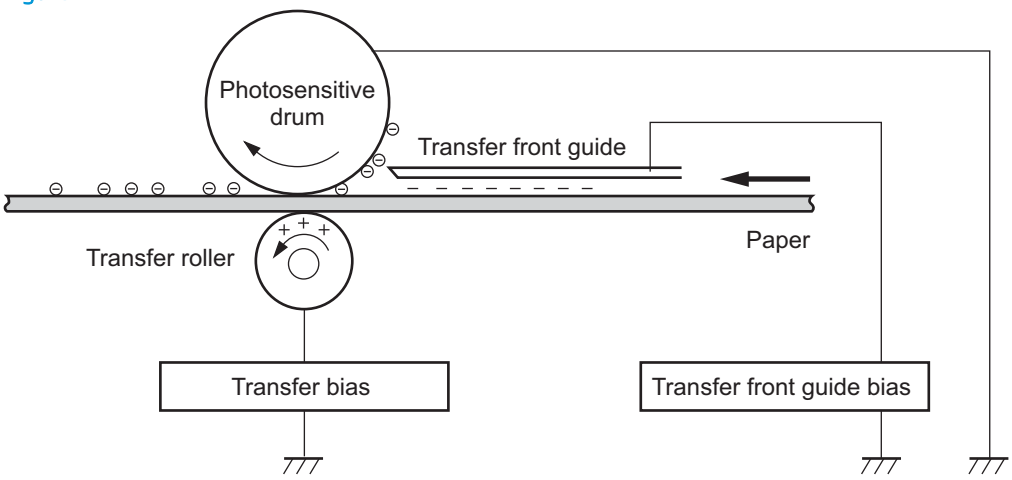
Figure 1-16 Developing



Step 5: Transfer

The toner image on the photosensitive drum transfers to the paper. Transfer bias applied to the transfer roller attracts the negatively-charged toner to the paper.

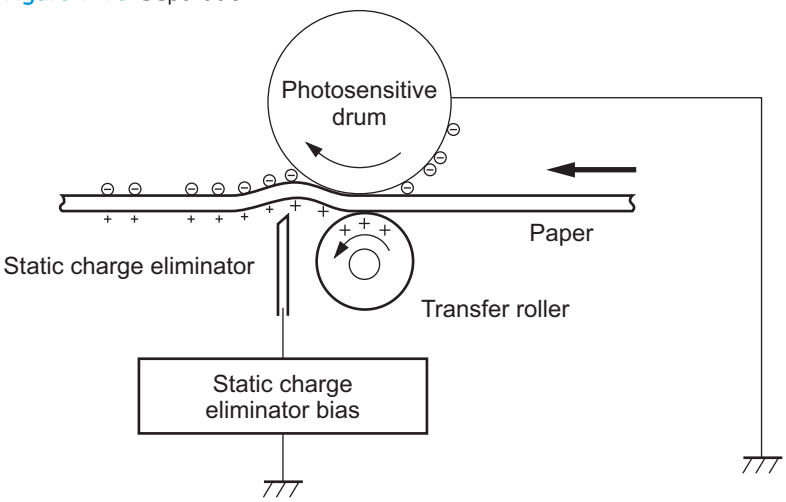
Figure 1-17 Transfer



Step 6: Separation

The elasticity of the paper and the curvature of the photosensitive drum cause the paper to separate from the photosensitive drum. The static-charge eliminator removes excess charge from the paper to make sure that the toner fuses correctly.

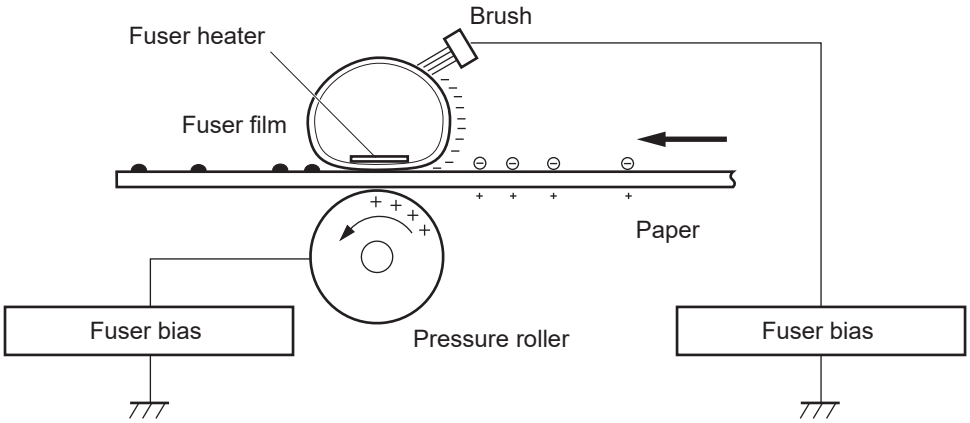
Figure 1-18 Separation



Step 7: Fusing

To create the permanent image, the paper passes through heated, pressurized rollers to melt the toner onto the page. Fusing bias is added to the pressure roller to improve the print quality.

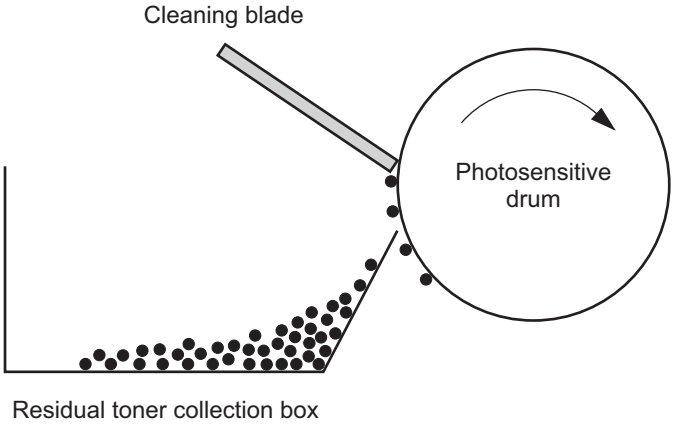
Figure 1-19 Fusing



Step 8: Drum cleaning

The cleaning blade scrapes the residual toner off the surface of the photosensitive drum, and toner is deposited in the toner-collection portion of the cartridge.

Figure 1-20 Drum cleaning



Toner cartridge

The printer has one toner cartridge.

Design

The toner cartridge is filled with toner and consists of the following components:

- Photosensitive drum
- Developer roller
- Primary-charging roller
- E-label

The DC controller rotates the drum motor to drive the photosensitive drum, developer roller, and the primary-charging roller.

Figure 1-21 Toner cartridge components

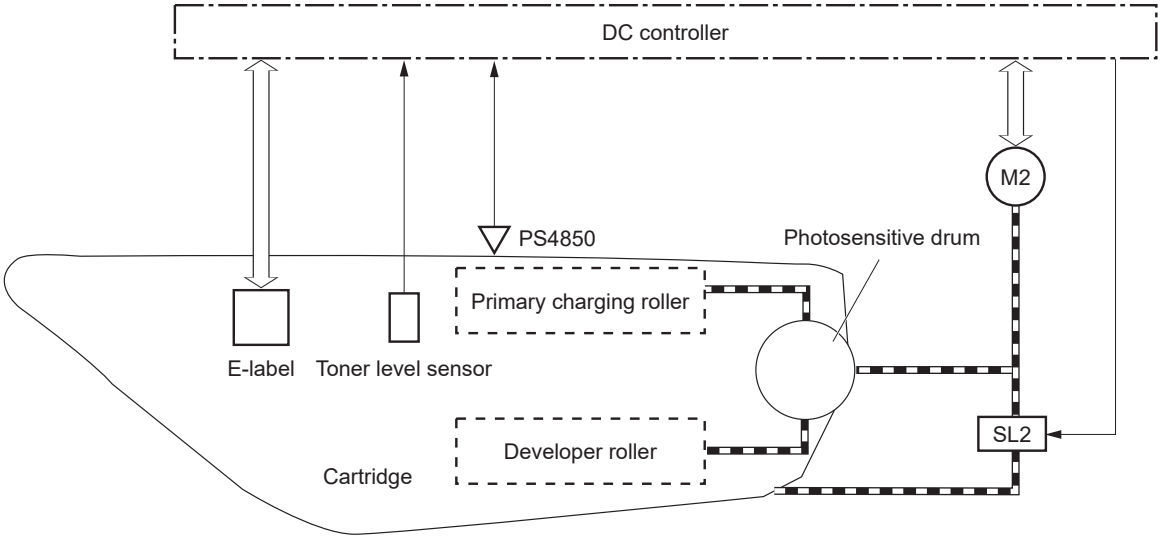


Table 1-18 Toner cartridge functions

Function	Supported feature
Toner cartridge presence detection	Yes
Toner level detection	Yes
Toner cartridge life detection	Yes
Toner cartridge mis-installation detection	No
Drum discharge	Yes
Developer alienation control	Yes
Toner level sensor mechanism malfunction	No
Transfer roller cleaning	Yes
Primary charging roller cleaning	No

Memory chip

The memory chip is non-volatile memory that stores information about the usage of the toner cartridge and helps protect the customer from counterfeit cartridges. This chip is also used to detect the presence of a cartridge within the printer or when a cartridge is installed in the wrong slot. The printer reads and writes the data in the memory chip.

Dynamic security

Certain HP printers use cartridges that have security chips or electronic circuitry. Cartridges using a non-HP chip or modified or non-HP circuitry* might not work. And, those that work today might not work in the future.

As is standard in the printing business, HP has a process for authenticating cartridges. HP continues to use security measures to protect the quality of our customer experience, maintain the integrity of our printing systems, and protect our intellectual property. These measures include authentication methods that change periodically and might prevent some third-party supplies from working now or in the future. HP printers and original HP cartridges deliver the best quality, security and reliability. When cartridges are cloned or counterfeited, the customer is exposed to quality and potential security risks, compromising the printing experience.

* Non-HP chips and modified or non-HP electronic circuitry are not produced or validated by HP. HP cannot guarantee that these chips or circuitry will work in your printer now or in the future. If you are using a non-original HP cartridge, please check with your supplier to ensure your cartridge has an original HP security chip or unmodified HP electronic circuitry.

JetIntelligence

JetIntelligence supports two features for managing toner cartridges.

- The authentication feature allows customers to specify the use of only genuine HP toner cartridges in the printer.
- The anti-theft feature enables locking a cartridge to a specific printer or fleet of printers.

Authentication

The genuine HP authentication feature allows a customer to specify that only genuine HP supplies can be used in a printer. If a non-HP or used supply is installed, the printer will not print. This feature is disabled by default, and can be enabled or disabled from the control panel or the Embedded Web Server (EWS).

If a genuine HP toner cartridge from another printer is moved to a printer with this feature enabled, the toner cartridge will authenticate and print, unless the toner cartridge has passed the low state. If the toner cartridge has passed the low state, an **Unauthorized Cartridge** message displays on the control panel.

If a non-HP toner cartridge is used in a printer with this feature enabled, the message **Unauthorized Cartridge** appears on the control-panel display.

NOTE: If a customer suspects they have a counterfeit cartridge, they should report it by going to www.hp.com/go/anticounterfeit and selecting **Report now**.

Anti-theft

The toner cartridge anti-theft feature allows a customer to configure the printer to automatically lock genuine HP toner cartridges to a specific printer or fleet of printers when they are installed. A locked toner cartridge will only work in the specified printer or fleet of printers. This feature prevents toner cartridges from being stolen

and used in another printer, or from being moved from an authorized printer to an unauthorized printer. This feature is disabled by default, and can be enabled or disabled from the control panel, the Embedded Web Server (EWS), or Web Jetadmin.

When the anti-theft feature is enabled, the toner cartridge in a printer will only work in the specified printer or fleet of printers. If a locked toner cartridge is moved to another printer, the cartridge will not print and the message **Protected Cartridge** appears on the control-panel display.

NOTE: When a toner cartridge is locked to a specific printer or fleet of printers, it cannot be unlocked. This is a permanent operation.

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 uses a series of rollers to move the paper through the printer.

The pickup, feed, and delivery system consists of the following three functional blocks. The DC controller controls each block to pick up, feed, and deliver the paper.

- **Pickup-and-feed block**: Controls the movement of the paper from each pickup source to the fuser inlet
- **Fuser-and-delivery block**: Controls the movement of the paper from the fuser to the delivery destination
- **Duplex block**: Controls the movement of the paper from the duplex switchback unit to the duplex re-pickup unit (duplex models)

The following figure shows the simplex and duplex paper path for the pickup, feed, and delivery system:

Figure 1-22 Pickup, feed, and delivery system

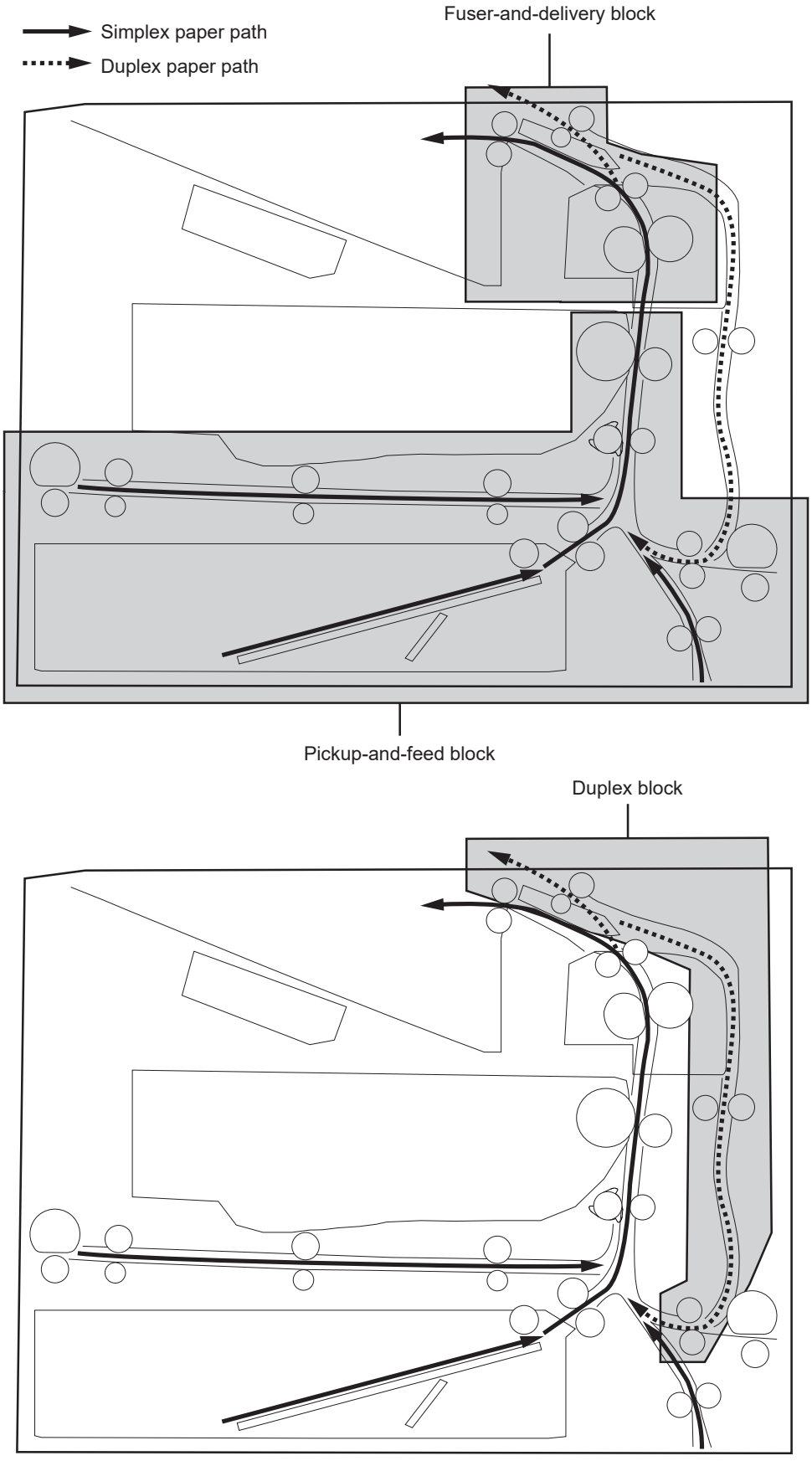


Table 1-19 Pickup, feed, and delivery functions

Function	Supported feature
Tray 2 media size detection	Yes
Tray 2 presence detection	Yes
Tray 2 media surface detection	Yes
Tray 2 media presence detection	Yes
Tray 2 media level detection	No
Tray 2 lift-up control	Yes
Tray 2 lift-down control	No
Tray 2 multiple-feed prevention mechanism	Yes
Tray 1 media presence detection	Yes
Tray 1 media width detection	No
Tray 1 last-media detection	No
Skew-feed prevention mechanism	Yes
Feed speed control (duplex models)	Yes
Loop control	Yes
Media detection	No
OHT detection	No
Image leading edge positioning	Yes
Media length detection	Yes
Media width detection	Yes
Pressure roller pressure release control	Yes
Output bin media-full detection	Yes
Automatic delivery	Yes
Duplex switchback control (duplex models)	Yes
Duplex feed control (duplex models)	Yes
Unit causing the jam notice	Yes
Brand new pickup roller detection	Yes

Photo sensors and switches

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

Figure 1-23 Photo sensors and switches

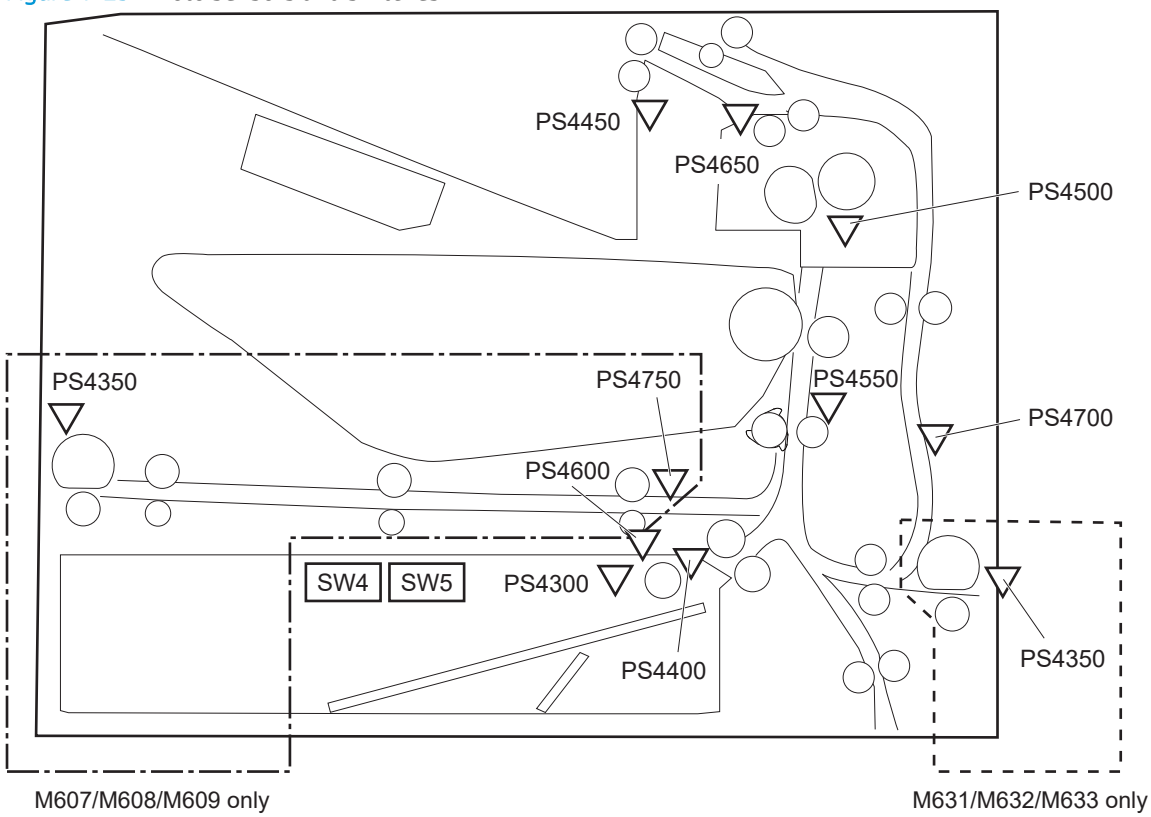


Table 1-20 Photo sensors and switches

Abbreviation	Component
PS4300	Tray 2 media out sensor
PS4350	Tray 1 media out sensor
PS4400	Tray 2 media surface sensor
PS4450	FD1 media full sensor
PS4500	Fuser loop sensor
PS4550	Registration sensor
PS4600	separation roller rotation sensor
PS4650	Fusor output sensor
PS4700	Duplex feed sensor (duplex models)
PS4750	Tray 1 feed sensor (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)
SW4	Tray 2 media size switch 1
SW5	Tray 2 media size switch 2

Motors, clutches, and solenoids

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

Figure 1-24 Motors, solenoids, and clutches for pickup, feed and delivery system

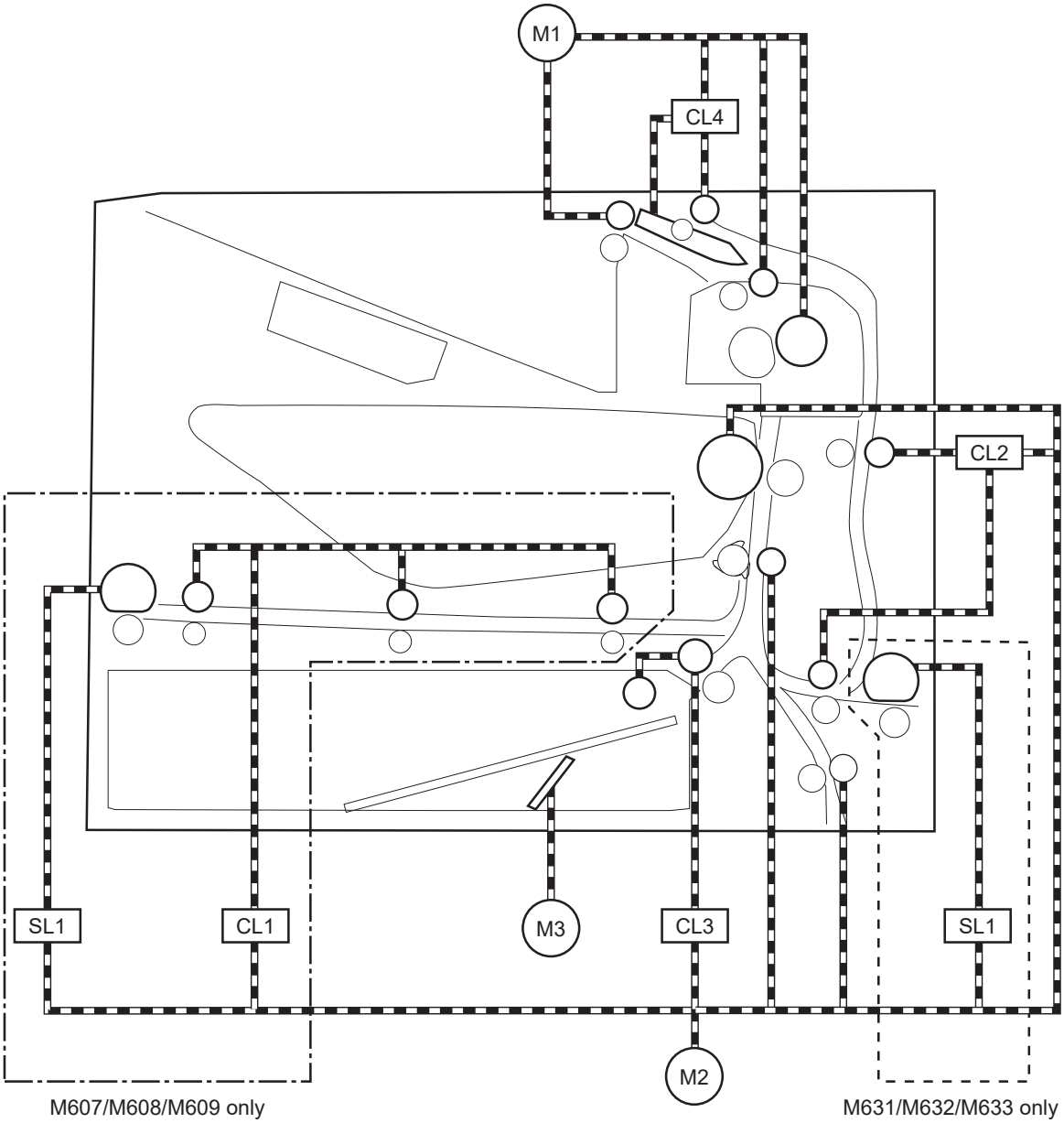


Table 1-21 Motors, solenoids, and clutches

Abbreviation	Component
M1	Fuser motor
M2	Drum motor
M3	Lifter motor
SL1	Tray 1 pickup solenoid
CL1	Tray 1 feed clutch (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)

Table 1-21 Motors, solenoids, and clutches (continued)

Abbreviation	Component
CL2	Duplex feed clutch (duplex models)
CL3	Tray 2 pickup clutch
CL4	Duplex switchback clutch (duplex models)

Jam detection/prevention

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

The following figure shows the location of the sensors in the paper path:

Figure 1-25 Paper path and location of sensors

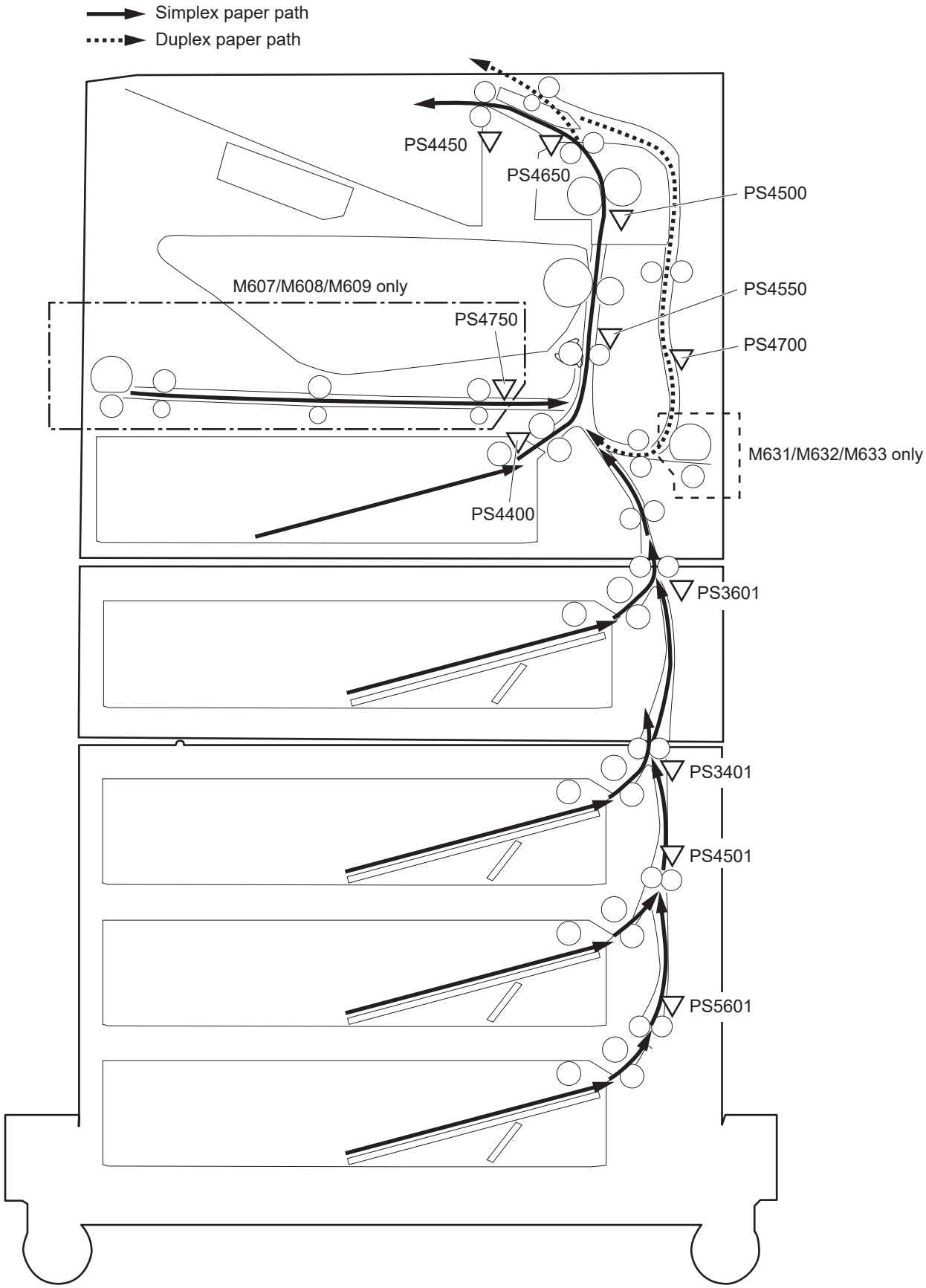


Table 1-22 Paper path sensors

Abbreviation	Component
PS3401	Paper deck tray 1 feed sensor/HCI feed sensor (1x550-sheet paper deck, 3x550-sheet paper deck, 2,550-sheet paper deck, and 2,100-sheet paper deck)
PS3601	PF feed sensor (550-sheet paper feeder and envelope feeder)
PS4400	Tray 2 media surface sensor
PS4450	FD1 media full sensor
PS4500	Fuser loop sensor
PS4501	Paper deck Tray 2 feed sensor (3x550-sheet paper deck and 2,550-sheet paper deck)
PS4550	Registration sensor
PS4650	Fuser output sensor
PS4700	Duplex feed sensor (duplex models)
PS4750	Tray 1 feed sensor (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models)
PS5601	Paper deck Tray 3 feed sensor (3x550-sheet paper deck)

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

Table 1-23 Jams that the printer detects

Jam
No pick jam 1
No pick jam 2
No pick jam 3
Pickup stay jam1
Fuser delivery delay jam 1
Fuser deliver stay jam 1
Residual paper jam 1
Residual paper jam 2
Door open jam 1
Fuser wrap jam 1
Duplex re-pickup jam 1
Delivery delay jam 1
Duplex feed delay jam 1
Inappropriate to the delivery path jam 2

Input accessories

Optional input accessories are available for the printer:

Models	Accessories
M607/M608/M609/E60055/E60065/ E60075/E60155/E60165/E60175	550-sheet paper feeder
	Envelope feeder
	2,100-sheet paper deck (HCI)
M631/M632/M633/E62555/E62565/ E62575/E62655/E62665/E62675	550-sheet paper feeder
	Envelope feeder
	1x550-sheet paper deck
	3x550-sheet paper deck
	2,550-sheet paper deck

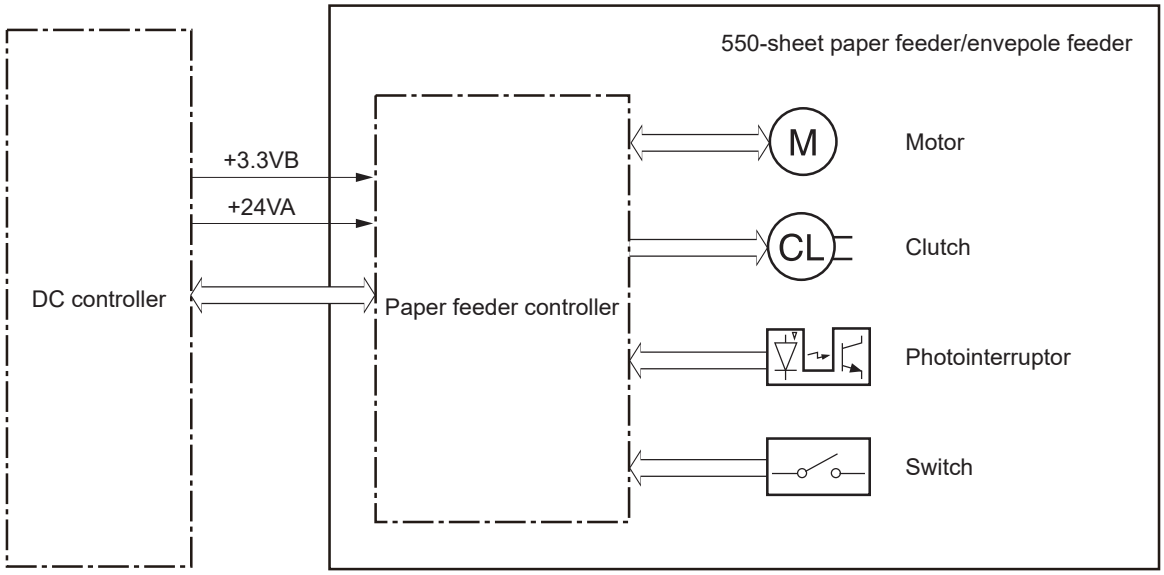
550-sheet paper feeder (PF)

The 550-sheet paper feeder (PF) is installed under the printer. It picks up paper and feeds it into the printer.

Controller

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

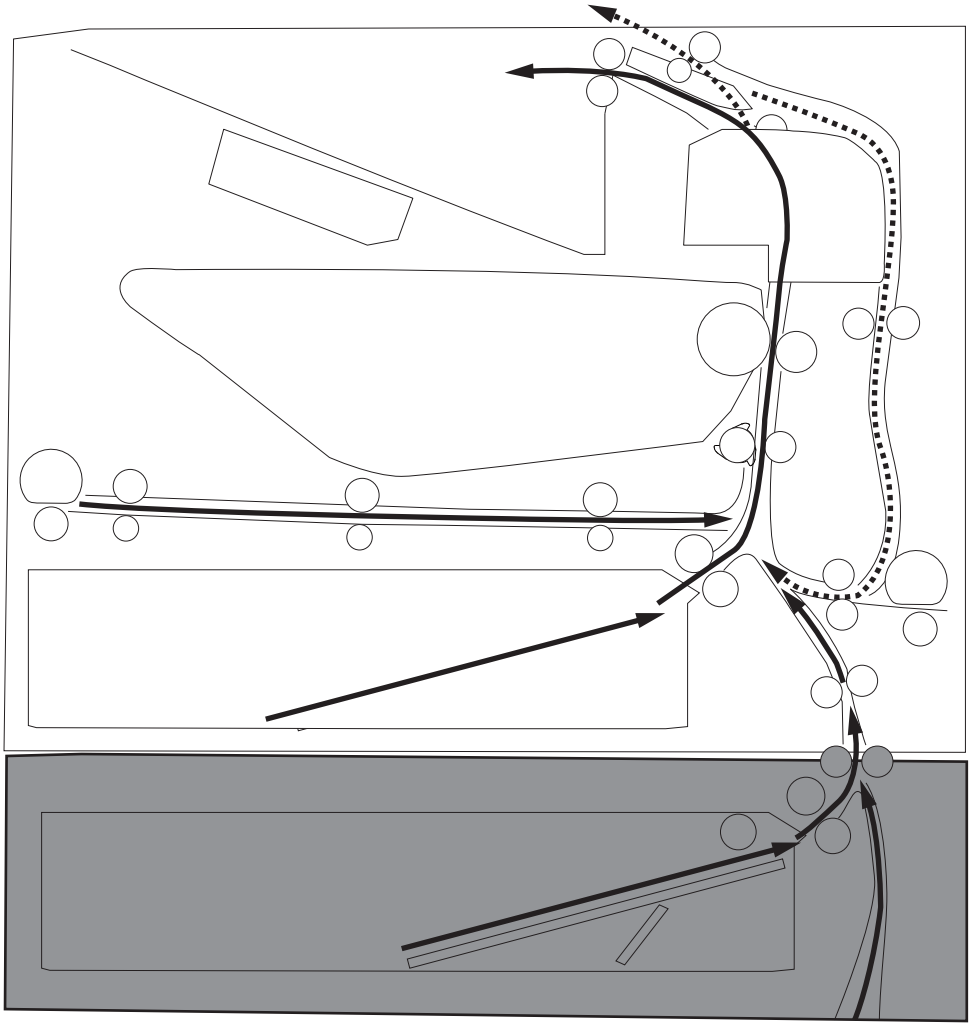
Figure 1-26 Controller for the 550-sheet PF



Paper path

The following figure shows the paper path when the 550-sheet paper feeder is installed:

Figure 1-27 Paper path for the 550-sheet PF



Pickup and feed components

The 550-sheet paper feeder has one motor for lifting the tray and feeding paper.

Figure 1-28 Pickup and feed components for the 550-sheet PF

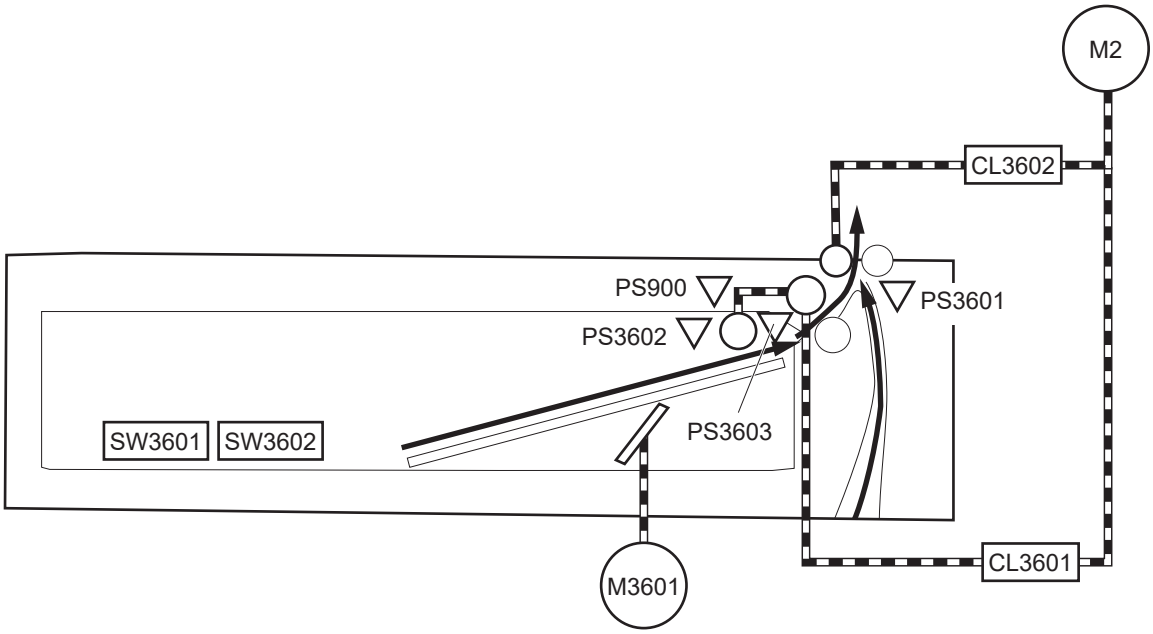


Table 1-24 Pickup and feed components for the 550-sheet PF

Component type	Abbreviation	Component name
Motors	M2	Drum motor (included in the printer)
	M3601[1]	PF lifter motor (lifts the tray)
Clutches	CL3601	PF pickup clutch
	CL3602	PF feed clutch
Switches	SW3601	PF media size switch 1
	SW3602	PF media size switch 2
	SW3603	PF door switch
Sensors	PS3601	PF feed sensor
	PS3602	PF media out sensor
	PS3603	PF media surface sensor
	PS900	PF separation roller rotation sensor

[1] The paper feeder does not detect motor failure

Table 1-25 Pickup and feed functions for the 550-sheet PF

Function	Supported feature
Tray lift-up control	Yes
Tray presence detection	Yes
Tray media size detection	Yes
Tray media stack surface detection	Yes

Table 1-25 Pickup and feed functions for the 550-sheet PF (continued)

Function	Supported feature
Tray media out detection	Yes
Tray media level detection	No
Multiple-feed prevention	Yes
Automatic delivery	Yes

Jam detection

The printer DC controller detects jams during pickup or feed from the 550-sheet paper feeder.

2,100-sheet paper deck (HCI)

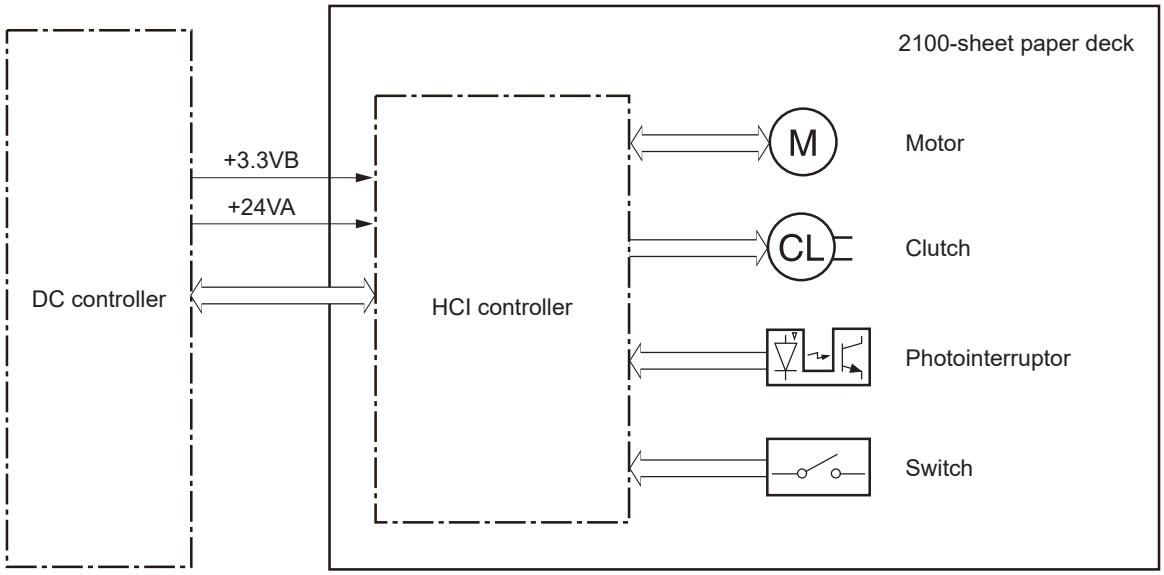
The 2,100-sheet HCI (high capacity input) paper deck is an optional accessory for the M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models

The HCI paper deck is installed under the printer. It picks up paper and feeds it into the printer.

Controller

The HCI controller controls the operational sequence of the HCI.

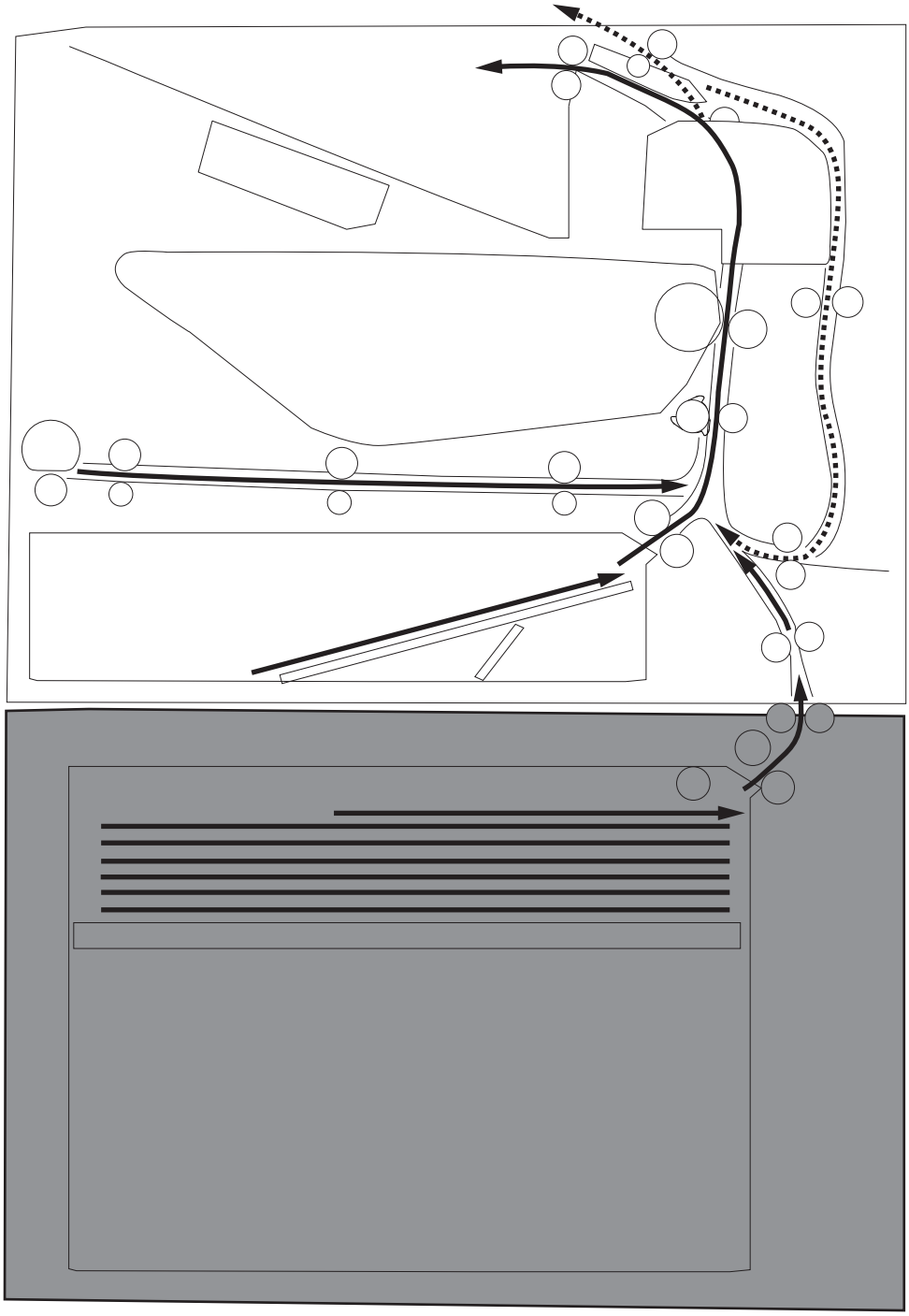
Figure 1-29 Controller for the 2,100-sheet HCI



Paper path

The following figure shows the paper path when the 2,100-sheet HCI is installed:

Figure 1-30 Paper path for the 2,100-sheet HCI



Pickup and feed components

The HCI paper deck has one motor for lifting the tray and feeding paper.

Figure 1-31 Pickup and feed components for the 2,100-sheet HCI

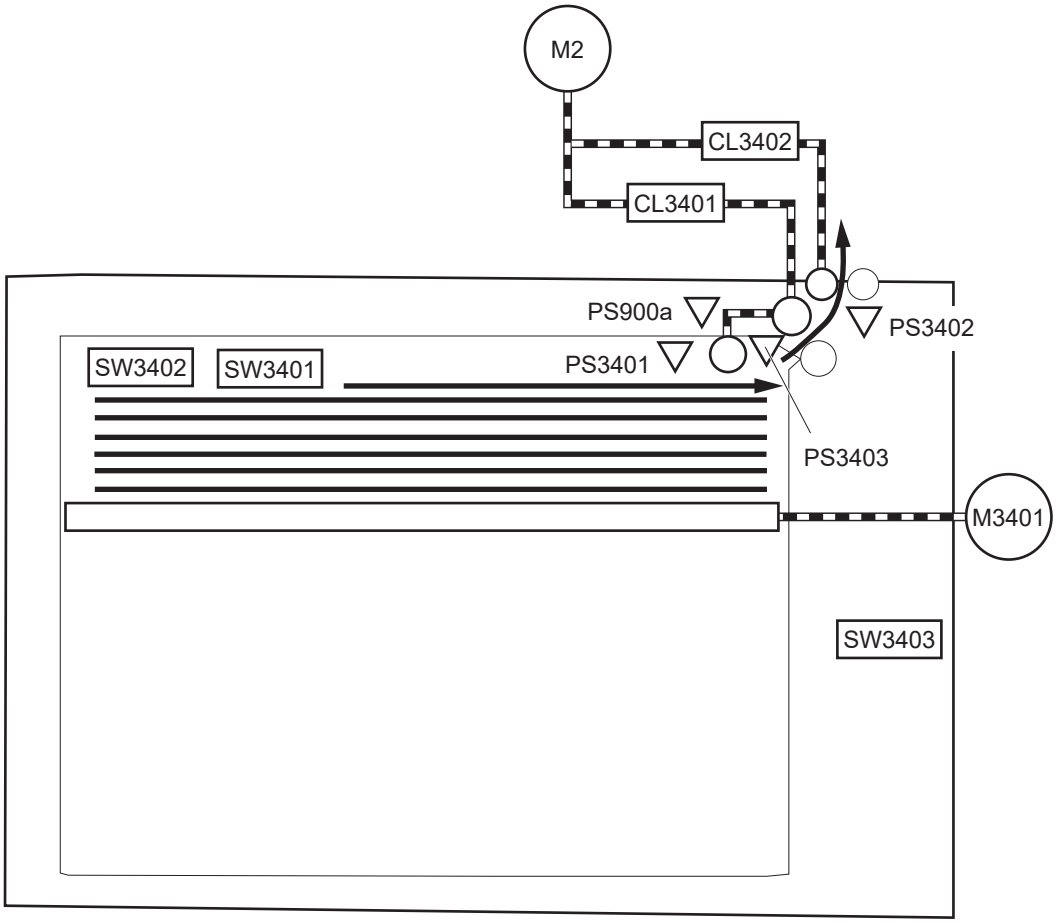


Table 1-26 Pickup and feed components for the 2,100-sheet HCI

Component type	Abbreviation	Component
Motors	M2	Drum motor (included in the printer
	M3401[1]	HCI lifter motor (lifts up the tray)
Clutches	CL3401	HCI pickup clutch
	CL3602	HCI feed clutch
Switch	SW3401	HCI media size switch
	SW3402	HCI front door switch
	SW3403	HCI rear door switch
Photointerrupter	PS3401	HCI feed sensor
	PS3402	HCI media out sensor
	PS3403	HCI media surface sensor
	PS900a	HCI separation roller rotation sensor

[1]

Table 1-27 Paper pickup and feed functions for the 2,100-sheet HCI

Function	Supported feature
HCI Lift-up control	Yes
HCI presence detections	Yes
HCI media size detection	Yes
HCI media stack surface detection	Yes
HCI media out detection	Yes
HCI media level detection	No
Multiple-feed prevention	Yes
Automatic delivery	Yes

Jam detection

The printer DC controller detects jams during pickup or feed from the HCI paper deck.

1x550, 3x550, 2,550-sheet paper decks (PD)

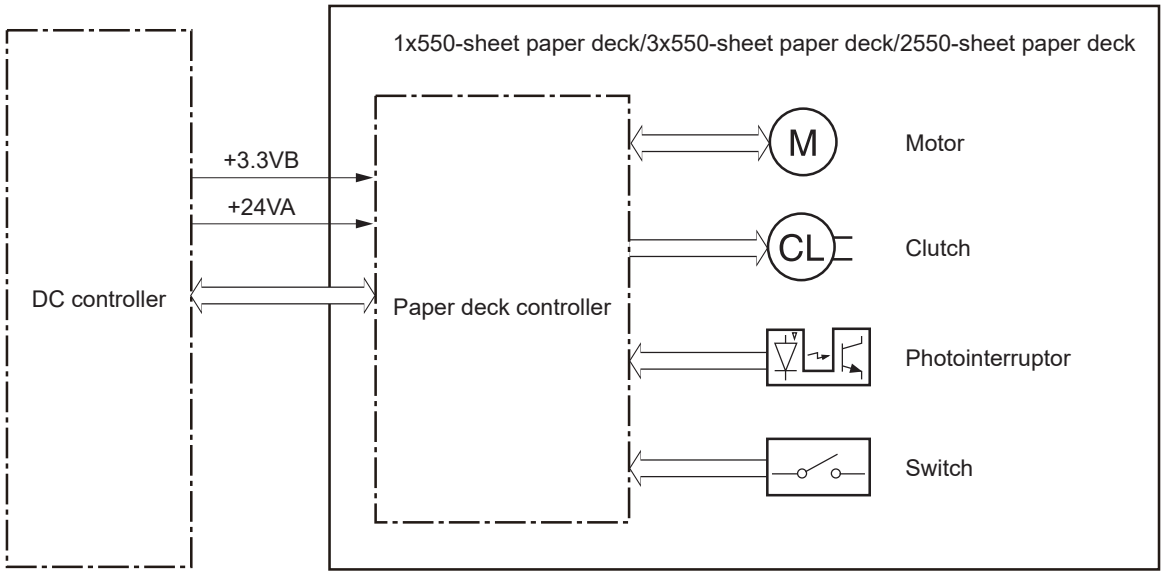
The 1x.550, 3x550, and 2,100-sheet paper decks are optional accessories for the M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 models

The paper deck is installed under the printer. It picks up paper and feeds it into the printer.

Controller

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

Figure 1-32 Controller for the 1x550, 3x550, and 2,550 paper decks



Paper path

The following figures show the paper path for the 1x550, 3x550, and 2,550 paper decks:

Figure 1-33 Paper path for the 1x550 PD

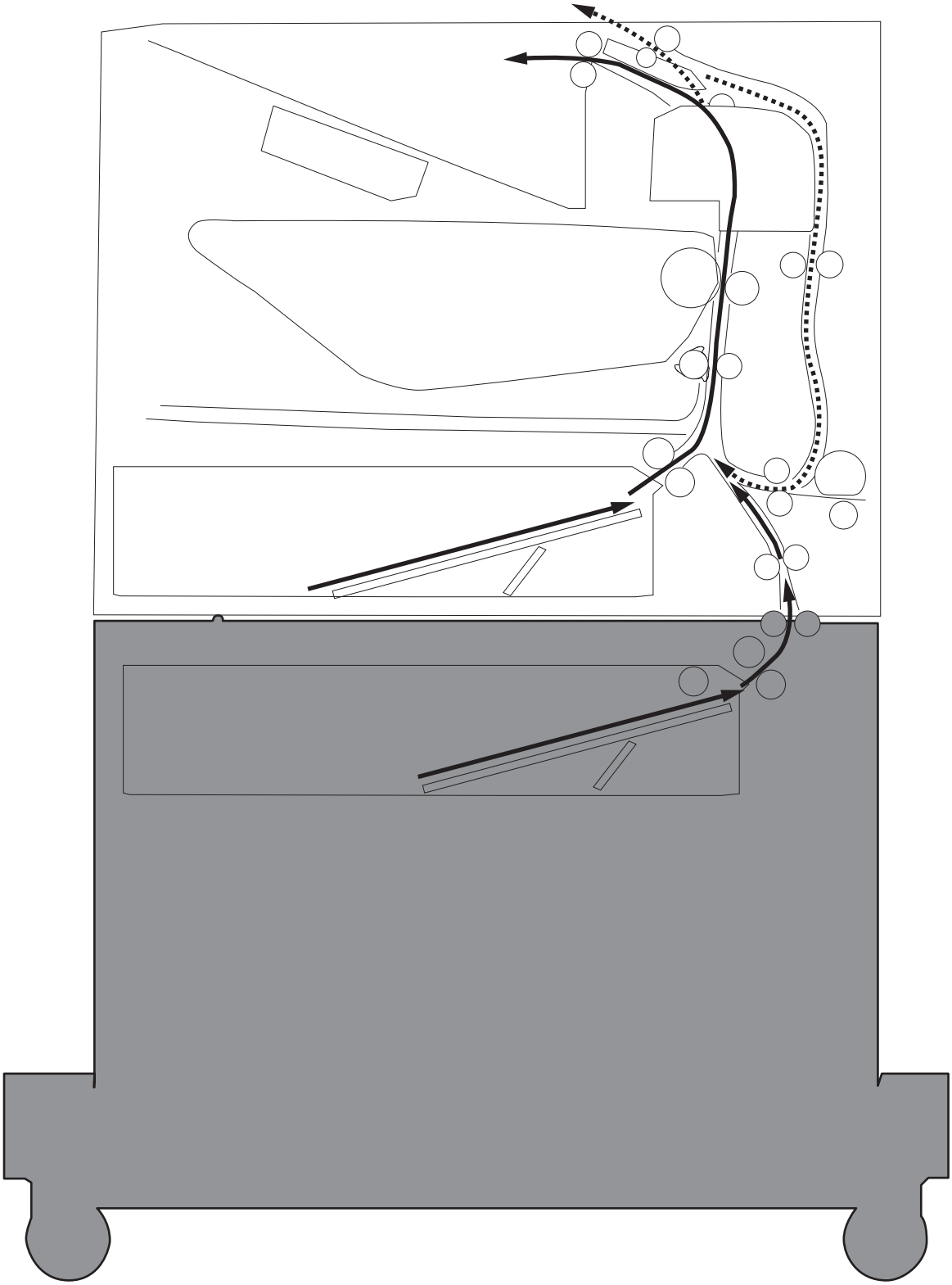


Figure 1-34 Paper path for the 3x550 PD

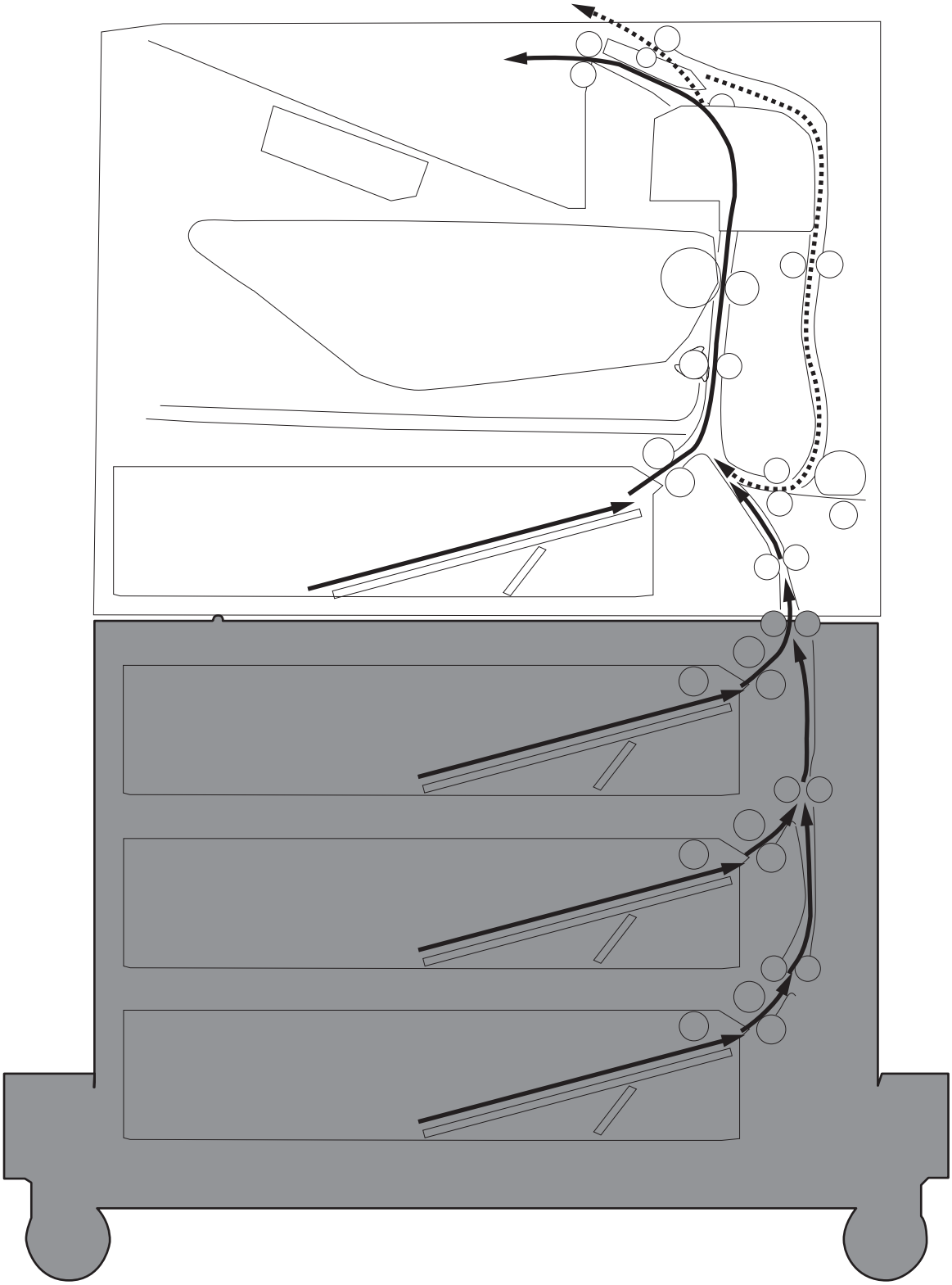
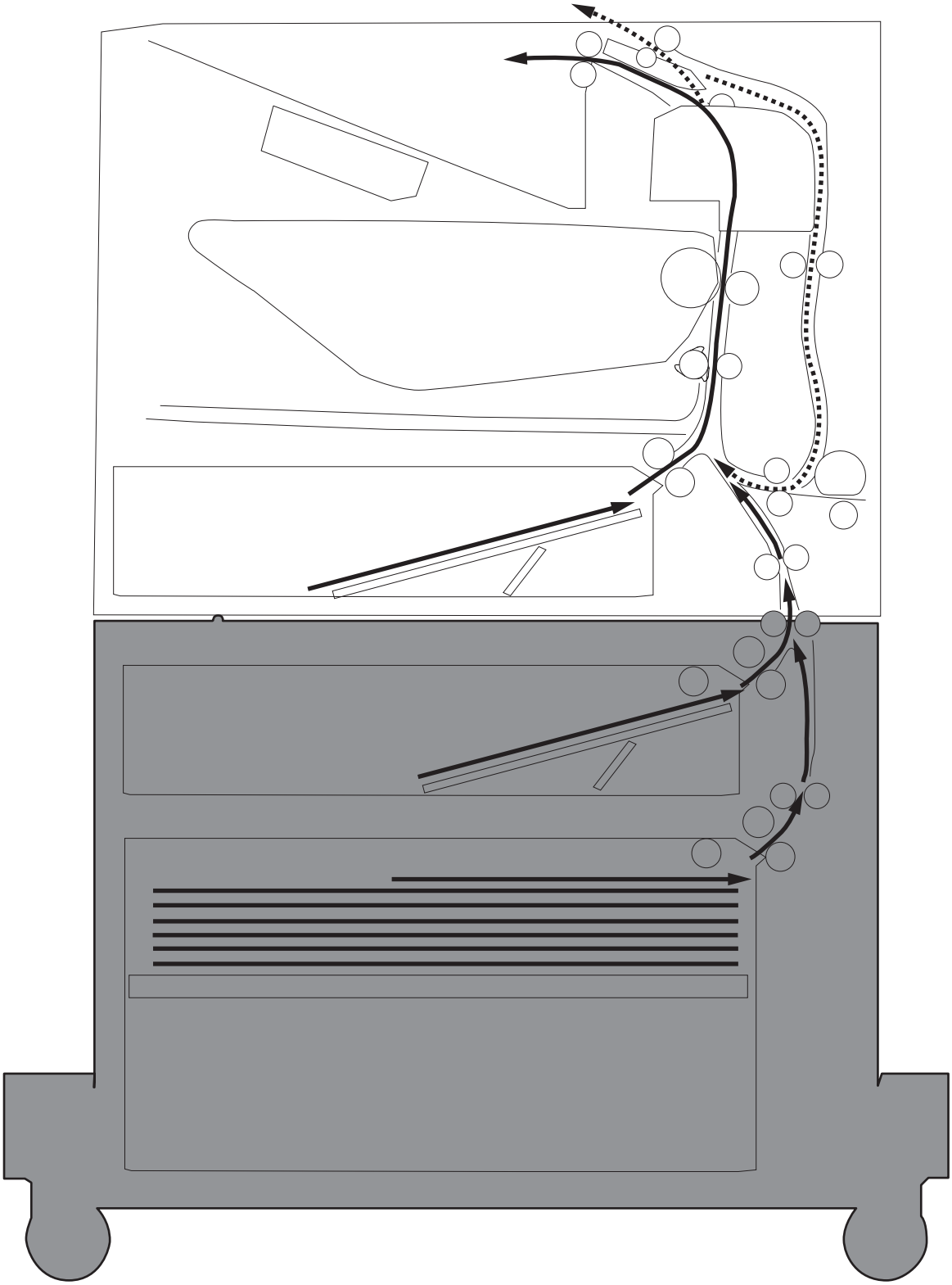


Figure 1-35 Paper path for the 2,550 PD



Pickup and feed components

The paper deck picks up the sheet of paper in the HCI tray and feeds it to the printer. Each paper deck has one motor for lifting up the cassette.

Figure 1-36 Pickup and feed components for 1x550 paper deck and 3x550 paper deck

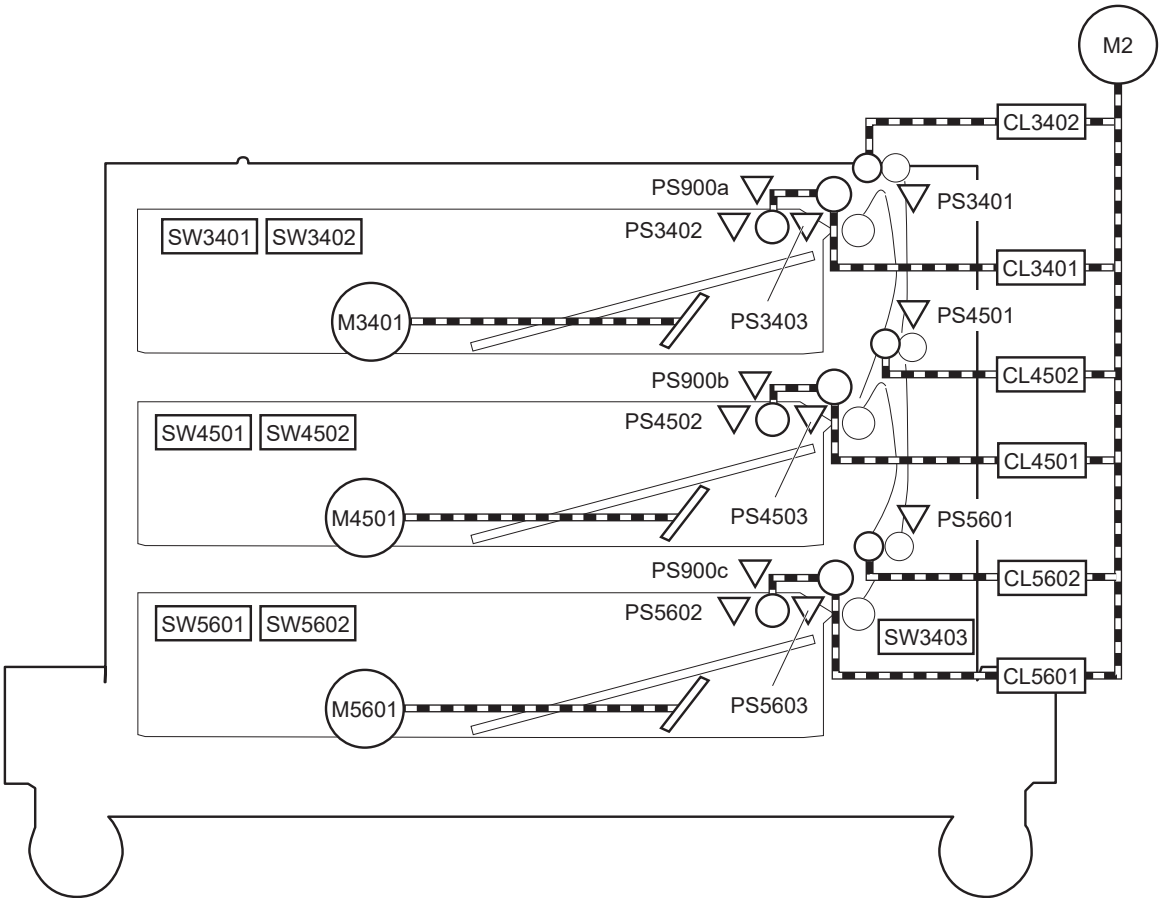


Table 1-28 Pickup and feed components for 1x550 paper deck and 3x550 paper deck

Component type	Abbreviation	Component	1x550	3x550
Motor	M2	Drum motor (included in printer)	No	No
	M3401[1]	PD tray 1 lifter motor	Yes	Yes
	M4501[1]	PD tray 2 lifter motor	No	Yes
	M5601[1]	PD tray 3 lifter motor	No	Yes
Clutch	CL3401	PD tray 1 pickup clutch	Yes	Yes
	CL3402	PD tray 1 feed clutch	Yes	Yes
	CL4501	PD tray 2 pickup clutch	No	Yes
	CL4502	PD tray 2 feed clutch	No	Yes
	CL5601	PD tray 3 pickup clutch	No	Yes
	CL5602	PD tray 3 feed clutch	No	Yes
Switch	SW3401	PD tray 1 media size switch 1	Yes	Yes
	SW3402	PD tray 1 media size switch 2	Yes	Yes
	SW4501	PD tray 2 media size switch 1	No	Yes
	SW4502	PD tray 2 media size switch 2	No	Yes

Table 1-28 Pickup and feed components for 1x550 paper deck and 3x550 paper deck (continued)

Component type	Abbreviation	Component	1x550	3x550
	SW5601	PD tray 3 media size switch 1	No	Yes
	SW5602	PD tray 3 media size switch 2	No	Yes
	SW3403	PD door switch	Yes	Yes
Sensor	PS3401	PD tray 1 feed sensor	Yes	Yes
	PS3402	PD tray 1 media out sensor	Yes	Yes
	PS3403	PD tray 1 media surface sensor	Yes	Yes
	PS4501	PD tray 2 feed sensor	No	Yes
	PS4502	PD tray 2 media out sensor	No	Yes
	PS4503	PD tray 2 media surface sensor	No	Yes
	PS5601	PD tray 3 feed sensor	No	Yes
	PS5602	PD tray 3 media out sensor	No	Yes
	PS5603	PD tray 3 media surface sensor	No	Yes
	PS900a	PD separation roller rotation sensor 1	Yes	Yes
	PS900b	PD separation roller rotation sensor 21	No	Yes
	PS900c	PD separation roller rotation sensor 31	No	Yes

1

Figure 1-37 Pickup and feed components for the 2,550-sheet paper deck

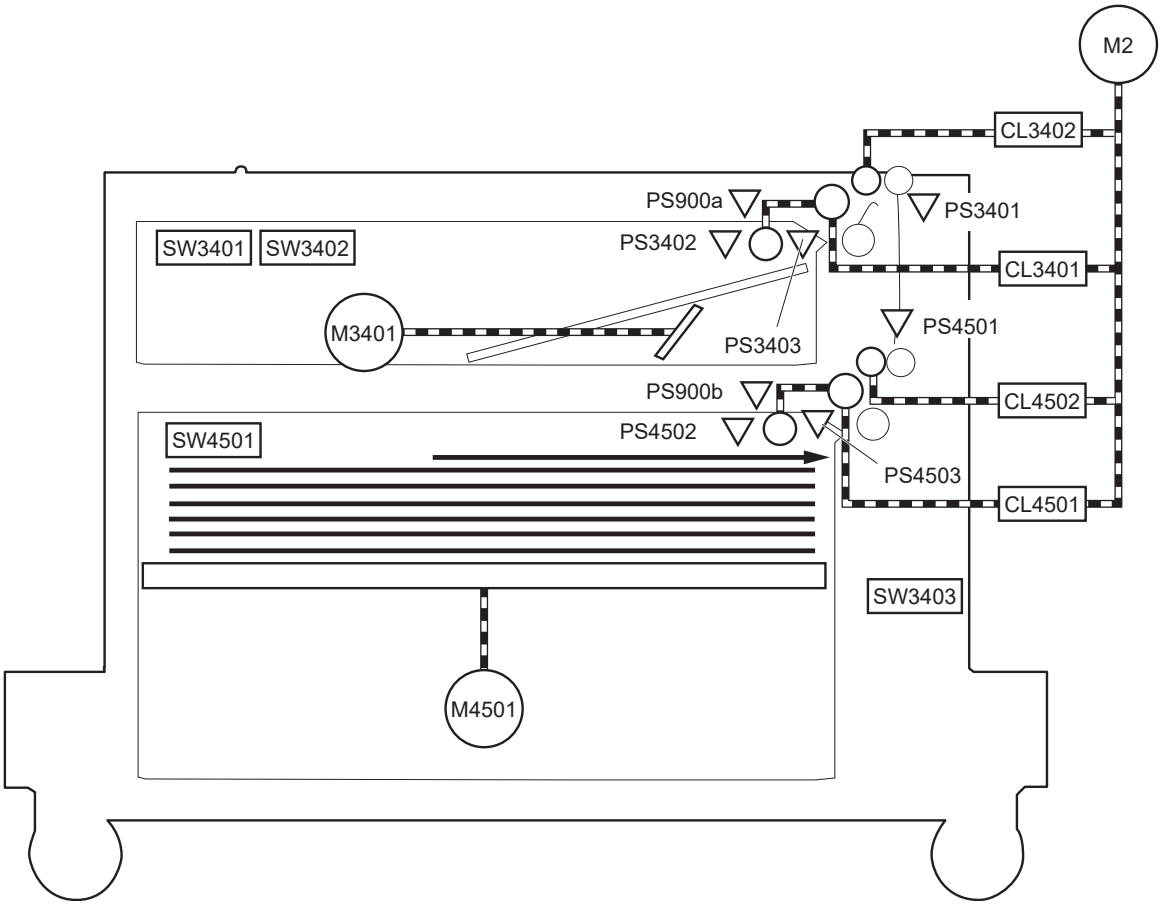


Table 1-29 Pickup and feed components for the 2,550-sheet paper deck

Component type	Abbreviation	Component
Motor	M2	Drum motor (included in the printer)
	M3401	PD tray 1 lifter motor
	M4501	PD tray 2 lifter motor
Clutch	CL3401	PD tray 1 pickup clutch
	CL3402	PD tray 1 feed clutch
	CL4501	PD tray 2 pickup clutch
	CL4502	PD tray 2 feed clutch
Switch	SW3401	PD tray 1 media size switch 1
	SW3402	PD tray 1 media size switch 2
	SW4501	PD tray 2 media size switch 1
	SW3403	PD door switch
Sensor	PS3401	PD tray 1 feed sensor
	PS3402	PD tray 1 media out sensor
	PS3403	PD tray 1 media surface sensor

Table 1-29 Pickup and feed components for the 2,550-sheet paper deck (continued)

Component type	Abbreviation	Component
	PS4501	PD tray 2 feed sensor
	PS4502	PD tray 2 media out sensor
	PS4503	PD tray 2 media surface sensor
	PS900a	PD separation roller rotation sensor 1
	PS900b	PD separation roller rotation sensor 2

Table 1-30 Pickup and feed functions for the 1x550, 3x550, and 2,550 paper decks

Function	Supported feature
tray lift-up control	Yes
tray presence detection	Yes
tray media size detection	Yes
tray media stack surface detection	Yes
tray media out detection	Yes
tray media level detection	No
Multiple-feed prevention	Yes
Automatic delivery	Yes

Paper deck jam detection

The printer DC controller detects jams during pickup or feed from the paper deck.

Output accessories

An optional 2-bin or 5-bin staple stacker multi bin mailbox (SSMBM) is available for the printer.

Models	Supported SSMBM
M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675	2-bin SSMBM
M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175	5-bin SSMBM

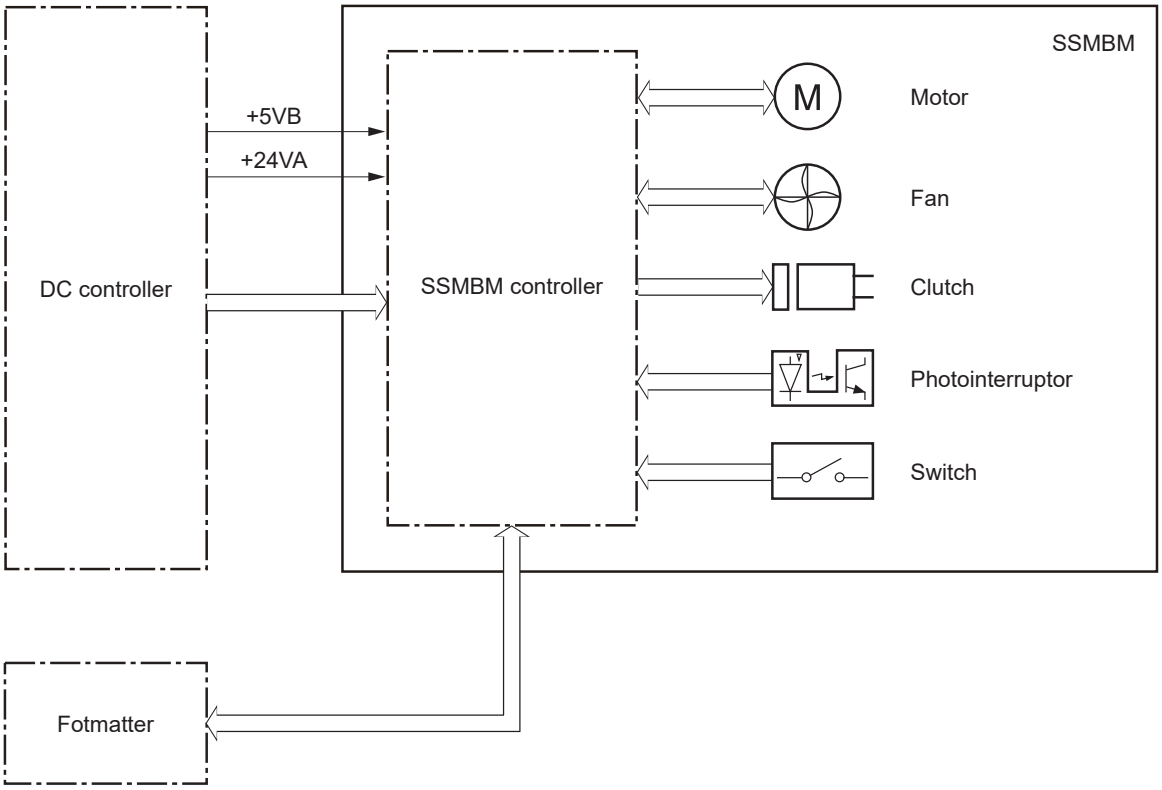
2-bin staple stacker multi-bin mailbox (SSMBM)

The 2-bin (SSMBM) is available for the M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 models. It is installed above the output bin and delivers the paper to the output bin after stapling.

Controller

The SSMBM controller controls the operation sequence of the SSMBM.

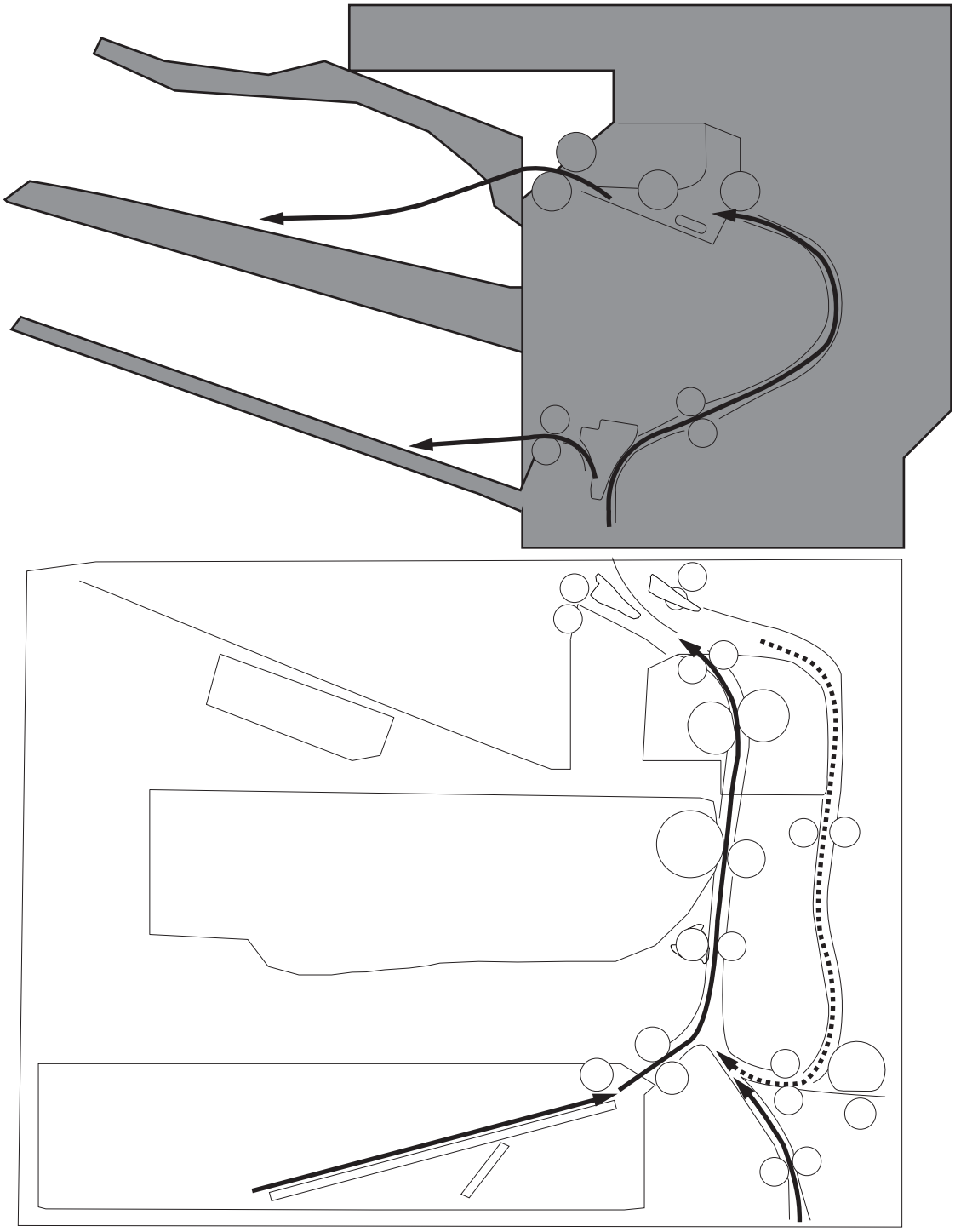
Figure 1-38 SSMBM controller



Paper path

The following figure shows the paper path for the 2-bin SSMBM:

Figure 1-39 Paper path for the 2-bin SSMBM



Motors

The 2-bin SSMBM has six motors for the paper feed, paper alignment, and stapling.

Table 1-31 Motors for the 2-bin SSMBM

Component		Components driven
M11	SS output motor	Output bin 1 delivery roller, exit feed roller
M12	SS feed motor	Output bin 2 delivery roller, inlet feed roller
M14	Jogger motor	Jogger guide
M15	Y alignment motor	Alignment roller Engages/disengages the output in 1 delivery order
M16	Staple motor	Staple
M17	Lifter motor	Lift up the output bin 1

NOTE: The SSMBM does not detect motor failures.

Fan

The SSMBM has a fan that prevents the temperature from rising in the SSMBM. The SSMBM controller detects fan failure.

Table 1-32 Fan for the 2-bin SSMBM

Component		Cooling area	Type	Speed
Fan11	MBM fan	Inside the SSMBM	Intake	Full/Low

Delivery functions

Table 1-33 Delivery functions for the SSMBM

Function	Supported feature
Mailbox mode	Yes
Stacker mode	No
Function separator mode	No
Job separator mode	No
Collator mode	No
Staple control	Yes
Automatic delivery	Yes

Delivery operation

The SSMBM delivers paper from the printer to the specified output bin for each print job (mailbox mode).

Figure 1-40 Motors and solenoids for the 2-bin SSMBM

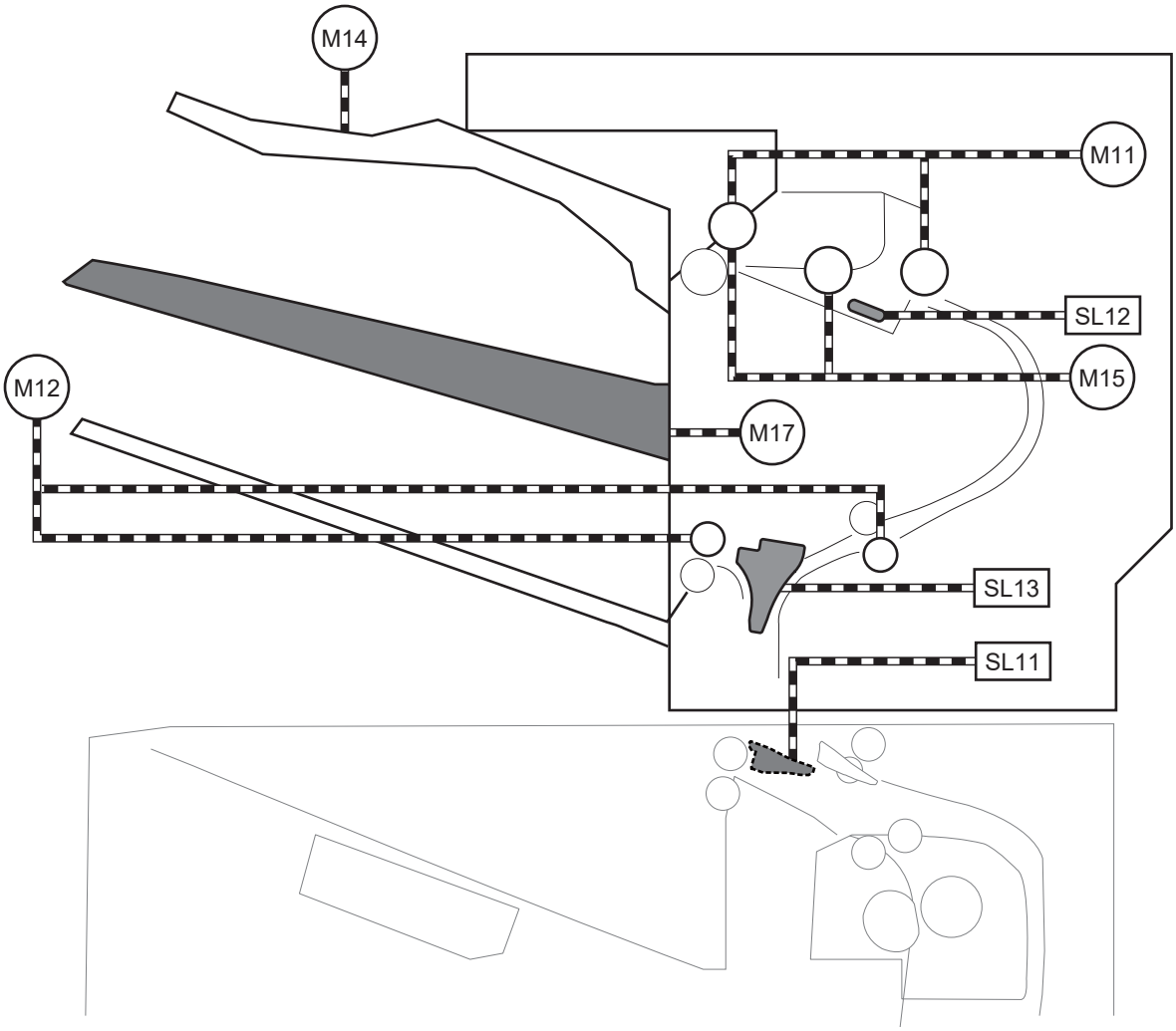


Table 1-34 Motors and solenoids for the 2-bin SSMBM

Abbreviation	Component
M11	SS output motor
M12	SS feed motor
M14	Jogger motor
M15	Y alignment motor
M16	Staple motor
M17	Lifter motor
SL11	Inlet flapper solenoid
SL12	Stamp solenoid
SL13	Output bin 2 flapper solenoid

Figure 1-41 Sensors and switches for the 2-bin SSMBM

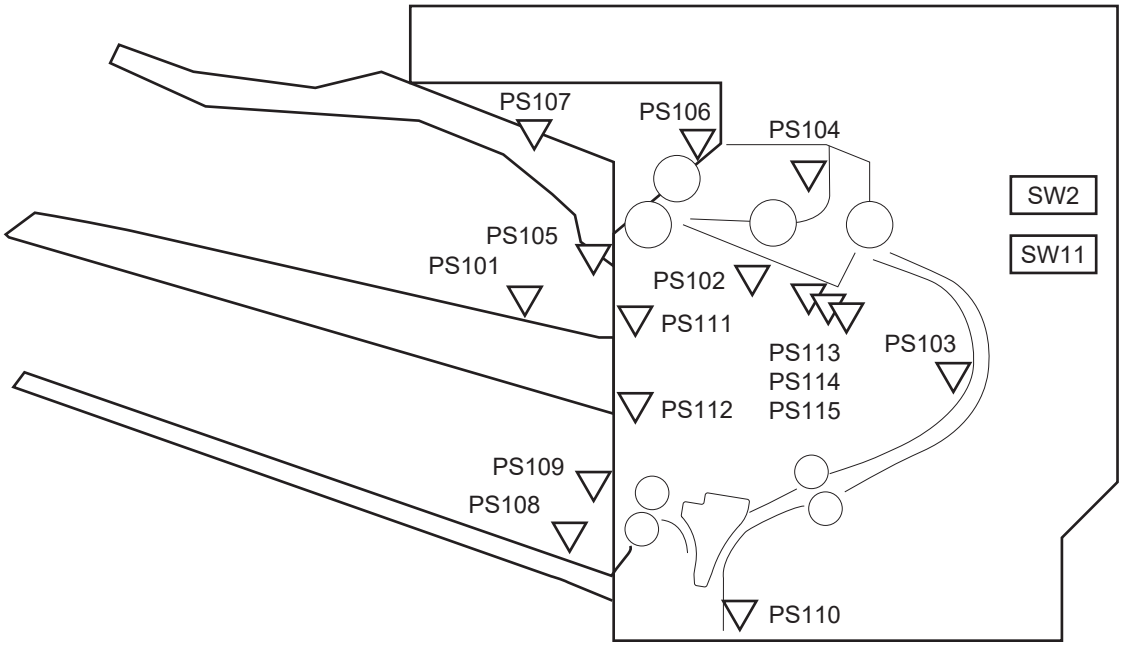


Table 1-35 Sensors and switches for the 2-bin SSMBM

Abbreviation	Component
PS101	Bin 1 media presence sensor
PS102	SS exit sensor
PS103	Staple inlet sensor
PS104	Y alignment home position sensor
PS105	Bin 1 media full sensor
PS106	Alienation home position sensor
PS107	Jogger home position sensor
PS108	Bin 2 media presence sensor
PS109	Bin 2 media full sensor
PS110	SS inlet sensor
PS111	Bin 1 upper limit sensor
PS112	Bin 1 lower limit sensor
PS113	Staple low sensor
PS114	Staple ready sensor
PS115	Staple home position sensor
SW2	SS door switch
SW11	Staple door switch

Jam detection

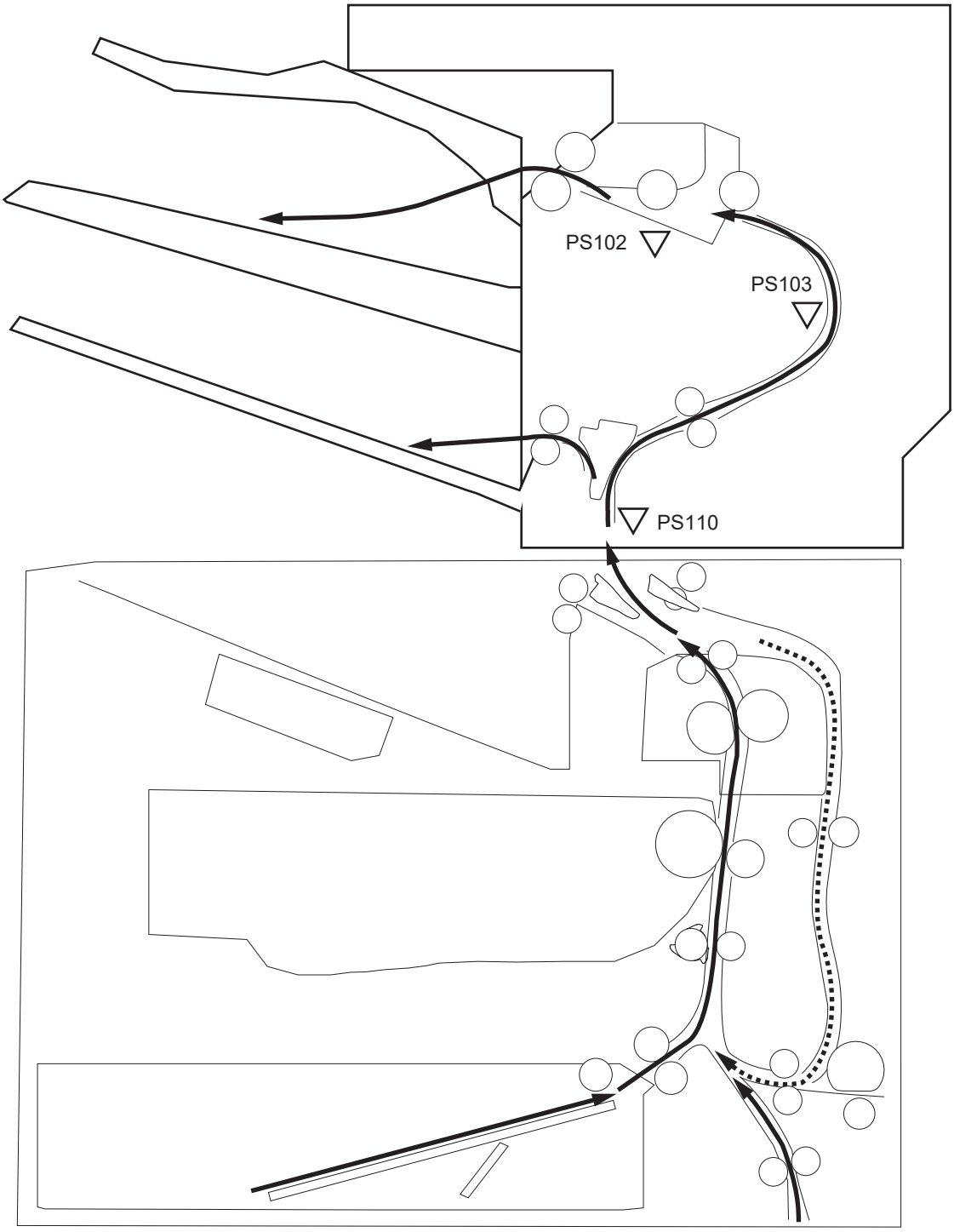
The SSMBM detects the following types of jams:

- Residual paper jam
- Feed delay jam
- Feed stay jam

The 2-bin SSMBM uses the following sensors to detect the presence of the paper and to check whether the paper is being fed correctly.

- SS exit sensor (PS102)
- Staple inlet sensor (PS103)
- SS inlet sensor (PS110)

Figure 1-42 Paper path and location of sensors for the 2-bin SSMBM



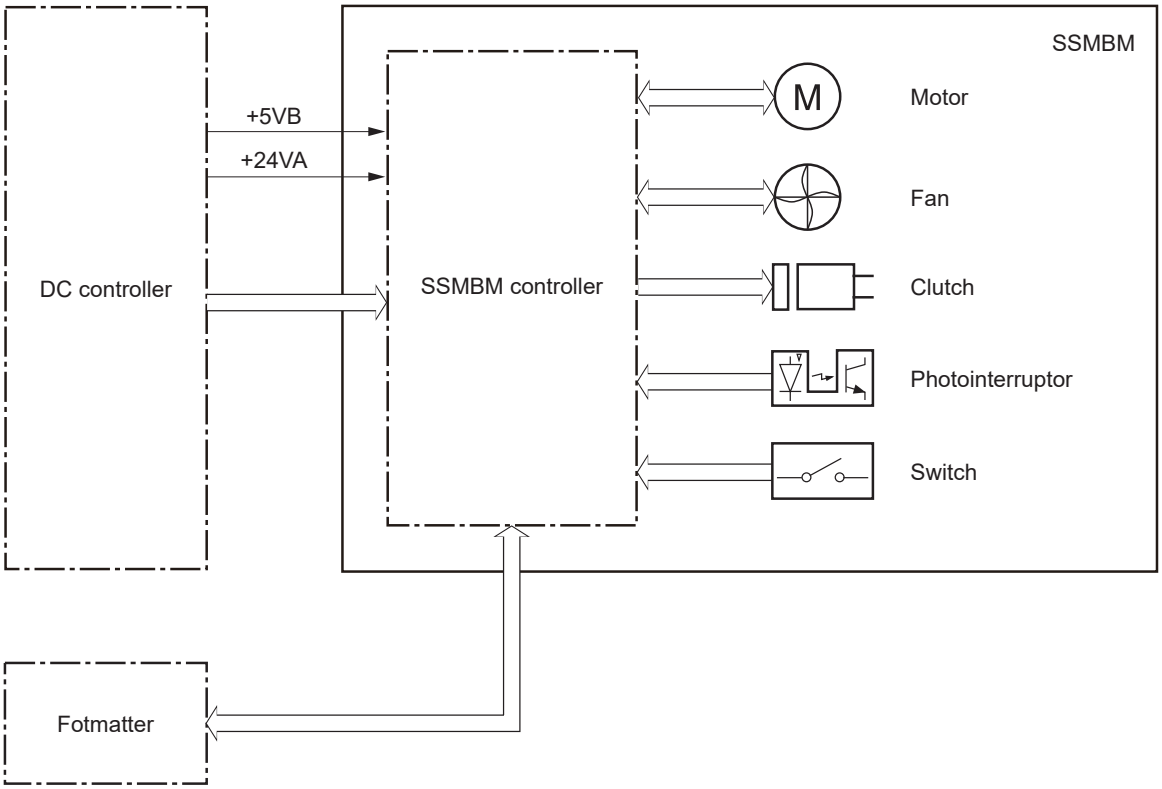
5-bin staple stacker multi bin mailbox (SSMBM)

The 5-bin (SSMBM) is available for the M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models. It: is installed above the printer and delivers the paper to the output tray after stapling.

Controller

The SSMBM controller controls the operation sequence of the SSMBM.

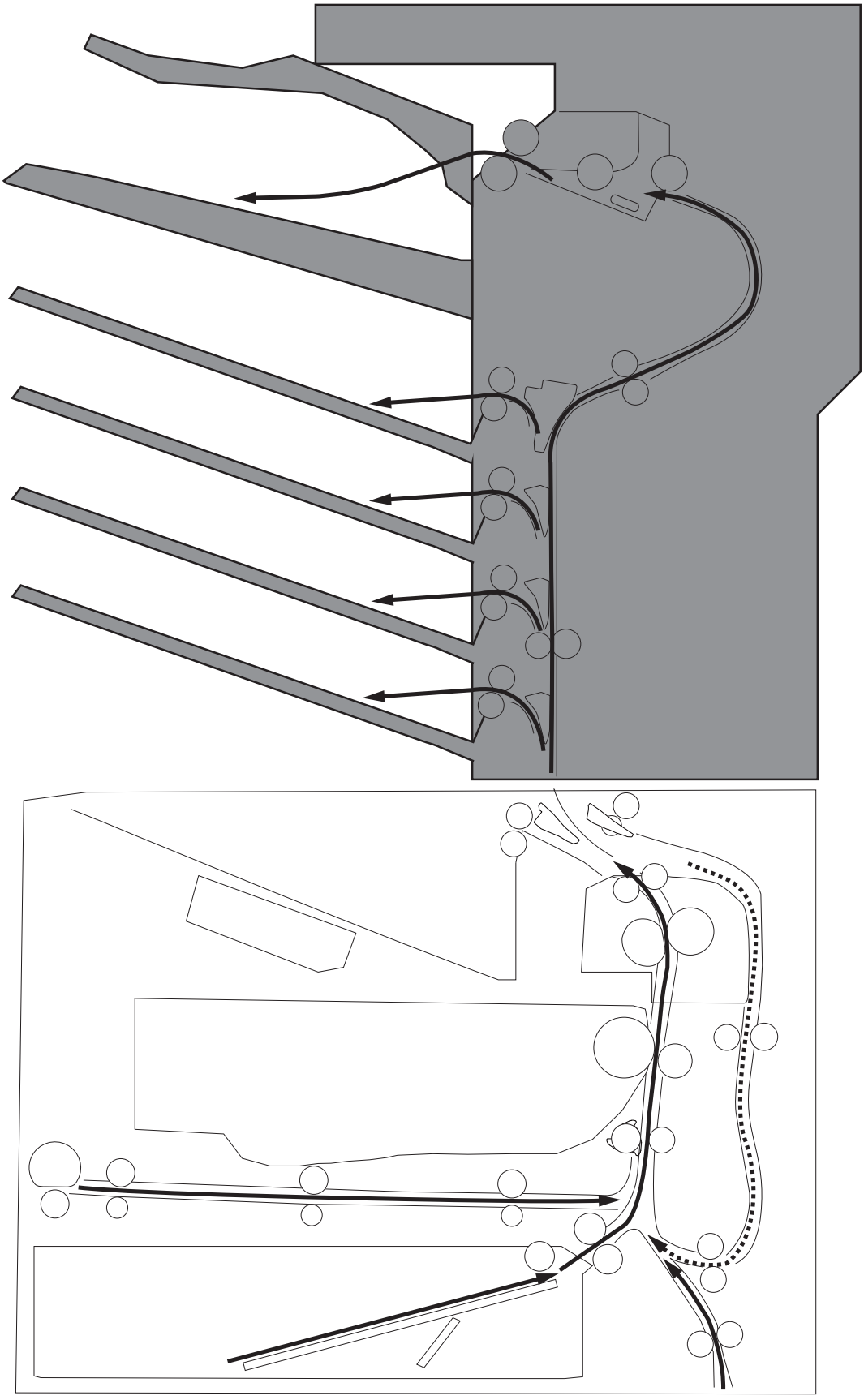
Figure 1-43 SSMBM controller



Paper path

The following figure shows the paper path for the 5-bin SSMBM

Figure 1-44 Paper path for the 5-bin SSMBM



Motors

The 5-bin SSMBM has six motors for the paper feed, paper alignment, and stapling.

Table 1-36 Motors for the 5-bin SSMBM

Component		Components driven
M11	SS output motor	Output bin 1 delivery roller, exit feed roller
M12	SS feed motor	Output bin 2 delivery roller, inlet feed roller
M13	MBM feed motor	Output bin 3 delivery roller, output bin 4 delivery roller, output bin 5 delivery roller, feed roller
M14	Jogger motor	Jogger guide
M15	Y alignment motor	Alignment roller Engages/disengages the output in 1 delivery order
M16	Staple motor	Staple
M17	Lifter motor	Lift up the output bin 1

NOTE: The SSMBM does not detect motor failures.

Fan

The SSMBM has a fan that prevents the temperature from rising in the SSMBM. The SSMBM controller detects fan failure

Table 1-37 Fan for SSMBM

Component		Cooling area	Type	Speed
Fan11	MBM fan	Inside the SSMBM	Intake	Full/Low

Delivery functions

Table 1-38 Delivery functions for the SSMBM

Function	Supported feature
Mailbox mode	Yes
Stacker mode	No
Function separator mode	No
Job separator mode	No
Collator mode	No
Staple control	Yes
Automatic delivery	Yes

Delivery operation

The SSMBM delivers paper from the printer to the specified output bin for each print job (mailbox mode).

Figure 1-45 Motors and solenoids for the 5-bin SSMBM

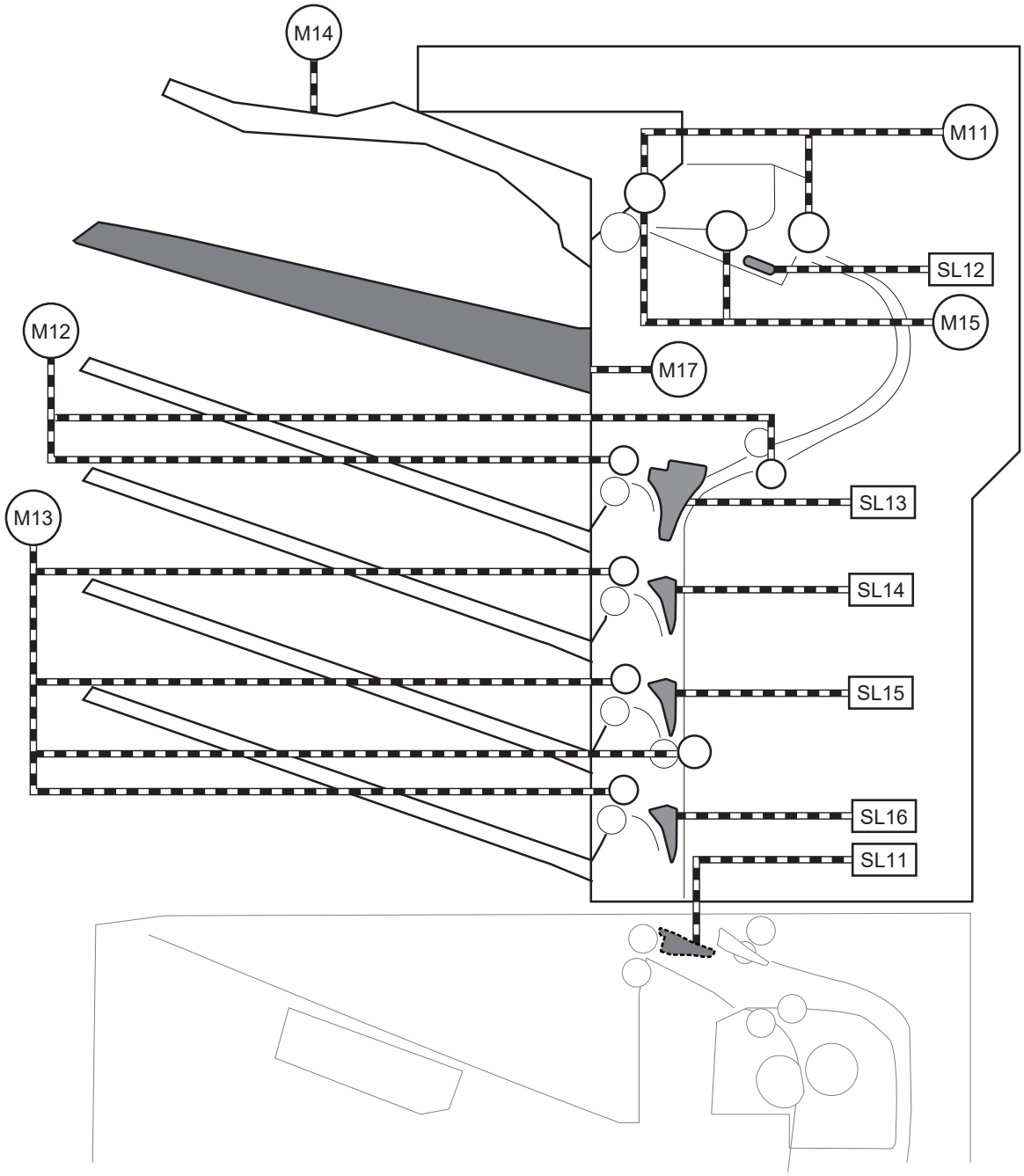


Table 1-39 Motors and solenoids for the 5-bin SSMBM

Abbreviation	Component
M11	SS output motor
M12	SS feed motor
M13	MBM feed motor

Table 1-39 Motors and solenoids for the 5-bin SSMBM (continued)

Abbreviation	Component
M14	Jogger motor
M15	Y alignment motor
M16	Staple motor
M17	Lifter motor
SL11	Inlet flapper solenoid
SL12	Stamp solenoid
SL13	Output bin 2 flapper solenoid
SL14	Output bin 3 flapper solenoid
SL15	Output bin 4 flapper solenoid
SL16	Output bin 5 flapper solenoid

Figure 1-46 Sensors and switches for the 5-bin SSMBM

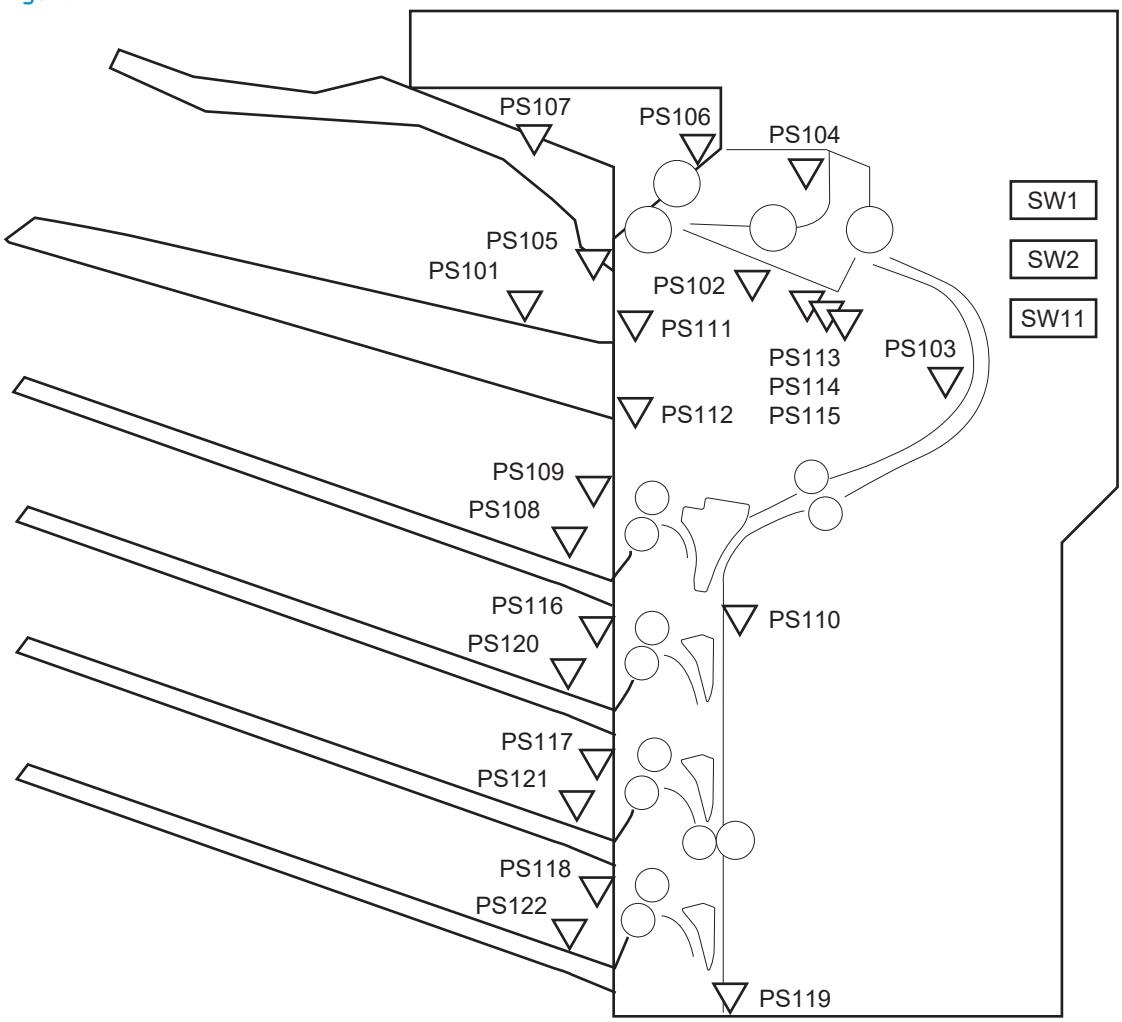


Table 1-40 Sensors and switches for the 5-bin SSMBM

Abbreviation	Component
PS101	Bin 1 media presence sensor
PS102	SS exit sensor
PS103	Staple inlet sensor
PS104	Y alignment home position sensor
PS105	Bin 1 media full sensor
PS106	Alienation home position sensor
PS107	Jogger home position sensor
PS108	Bin 2 media presence sensor
PS109	Bin 2 media full sensor
PS110	SS inlet sensor
PS111	Bin 1 upper limit sensor
PS112	Bin 1 lower limit sensor
PS113	Staple low sensor
PS114	Staple read sensor
PS115	Staple home position sensor
PS116	Bin 3 media full sensor
PS117	Bin 4 media full sensor
PS118	Bin 5 media full sensor
PS119	MBM inlet sensor
PS120	Bin 3 media presence sensor
PS121	Bin 4 media presence sensor
PS122	Bin 5 media presence sensor
SW1	MBM door switch
SW2	SS door switch
SW11	Staple door switch

Jam detection

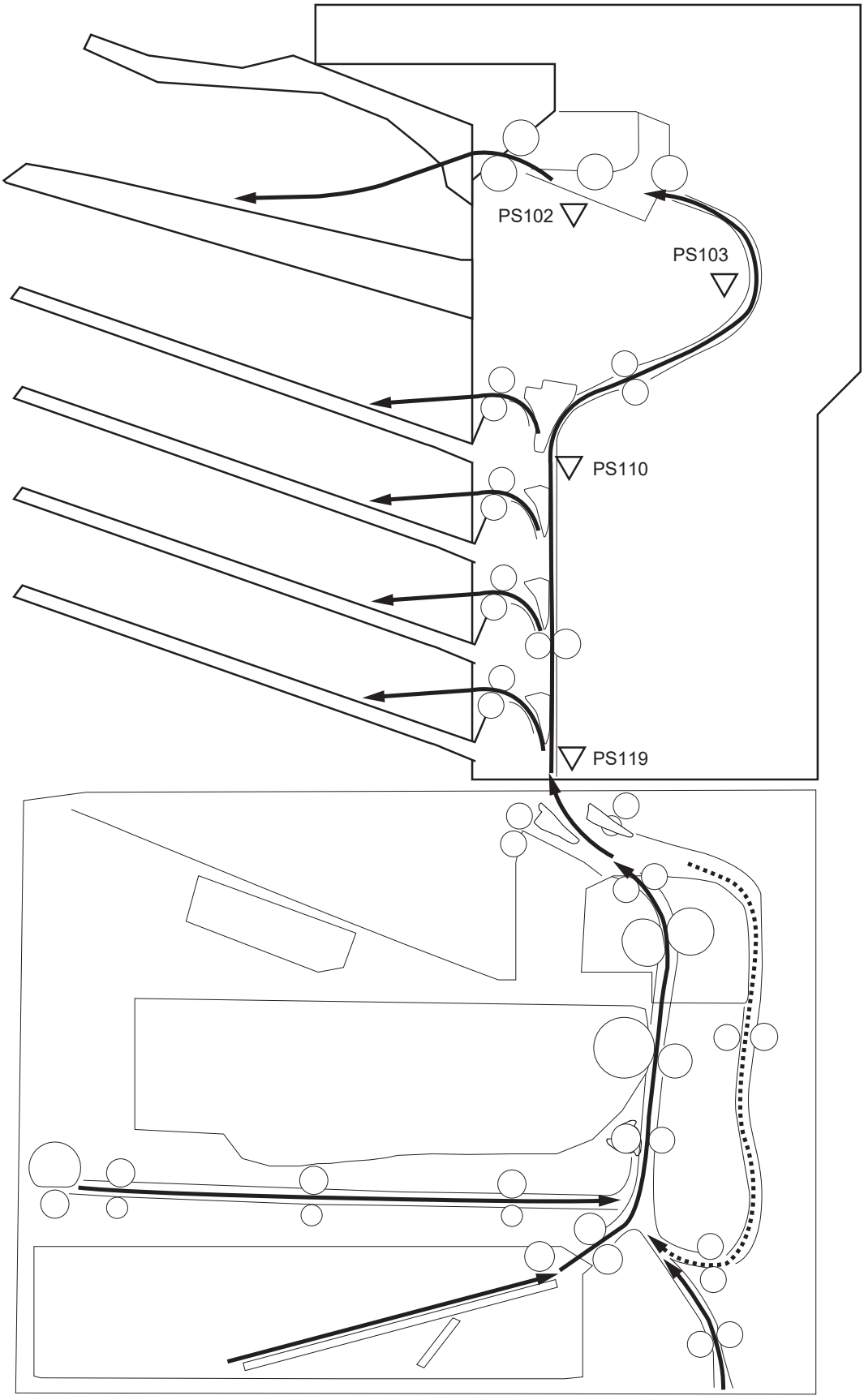
The SSMBM detects the following types of jams:

- Residual paper jam
- Feed delay jam
- Feed stay jam

The 5-bin SSMBM uses the following sensors to detect the presence of the paper and to check whether the paper is being fed correctly.

- SS exit sensor (PS102)
- Staple inlet sensor (PS103)
- SS inlet sensor (PS110)
- MBM inlet sensor (PS119)

Figure 1-47 Paper path and location of sensors for the 5-bin SSMBM



Scanning and image capture system (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

NOTE: This section is for the M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 printers only.

The scanner is a carriage-type platen scanner which includes the frame, glass, scan module, and a scan control board (SCB). The scanner has a sensor to detect legal-sized media and a switch to indicate when the document feeder is opened.

The document feeder and control panel are attached to the scanner. If the scanner fails, it can be replaced as a whole unit. The scanner replacement part does not include the document feeder, control panel, or SCB.

Document feeder system (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

NOTE: This section is for the M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 printers only.

Document feed system

This section describes the following:

- Sensors in the document feeder
- Document feeder paper path
- Simplex single-pass scanning
- Electronic duplexing (e-duplex) single-pass scanning
- Deskew operation
- Document feeder hinges

The printer supports single-pass electronic duplexing (e-duplex) copy jobs. Two separate scan modules scan the front-side and back-side of an e-duplex copy job page in a single pass through the document feeder.

For the WF class, this ADF supports a smart background which auto-crops and adjusts the image extents.

Sensors in the document feeder

The document feeder contains the following sensors:

- ADF paper present sensor: Detects whether a document is present in the document feeder. If paper is present in the document feeder when copies are made, the printer scans the document using the document feeder. If no paper is present when copies are made, the printer scans the document using the scanner glass.
- ADF Y (length) sensor: Detects whether a legal-size original is present in the document feeder.
- ADF jam cover sensor: Detects whether the document feeder cover is open or closed.
- ADF paper path deskew sensor: Detects the top of the page as it enters the deskew rollers.
- ADF paper path pick success sensor: Detects a successful one page feed from the document feeder tray.

  NOTE: This sensor uses ultrasonic sound to detect a multi-page paper feed.

- Paper path sensor 1: Detects the top of the page as it approaches the front-side scan module (document feeder glass).

Figure 1-48 Document feeder sensors

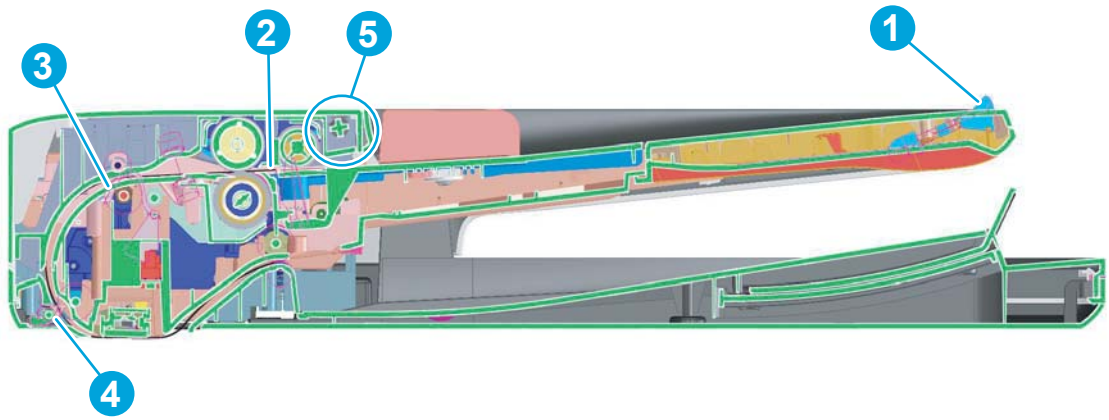


Table 1-41 Document feeder sensors

Item	Description
1	ADF Y (length) sensor
2	ADF paper present sensor
3	ADF deskew sensor
4	Paper path sensor 1 NOTE: For an e-duplex copy job, this sensor is used to activate the front-side scan module (in the scanner base) and the front-side background selector (in the document feeder), if needed.
5	ADF jam cover sensor (open the jam access cover and insert a folded piece of paper to activate the flag)

Document feeder paper path

Figure 1-49 Document feeder paper path

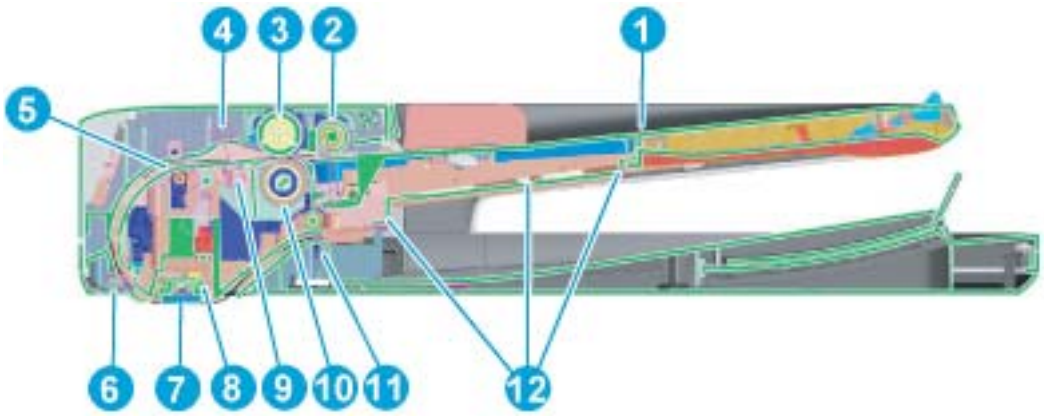


Table 1-42 Document feeder paper path

Item	Description	Item	Description
1	Input tray	7	Front-side scan module NOTE: This scan module (document feeder glass) is located in the scanner base.
2	Pre-pick roller	8	Back-side scan module

Table 1-42 Document feeder paper path (continued)

Item	Description	Item	Description
3	Pick roller	9	ADF pick success transmitter
4	ADF pick success receiver	10	Separator roller
5	Deskew drive roller	11	Exit drive roller
6	Prescan drive roller	12	Lift plate

Document feeder simplex operation

Following is the basic sequence of operation for a document feeder simplex job.

1. The ADF jam cover sensor detects when the cover door is in the closed position.
2. The ADF paper present sensor activates when paper is loaded onto the input tray.
3. The feed motor rotates to raise the lift plate and starts to pick the loaded paper.
4. The ADF multi-pick (ultrasonic) sensor activates when the leading edge of the media is driven past the sensor. The printer firmware registers a successful pick operation.
5. The ADF paper path deskew activates when the leading edge of the paper passes it. The printer firmware registers the leading edge of the paper position.
6. The leading edge of the paper drives into the nip point of the deskew drive roller and the deskew pinch rollers. This creates a buckle of paper by the nip point for pick-skew correction.
7. The deskew motor rotates the deskew drive roller to pull the paper into the prescan drive roller.
8. The pick motor stops turning and allows both the pick and feed roller to turn freely while the paper is pulled in by the deskew drive roller.
9. The feed motor rotates to drive the paper into the prescan front-side sensor. The firmware registers the leading edge position of the paper as the multi-pick sensor activates.
10. The feed motor continues to rotate and drive the leading edge of the paper through the preset distance from the multi-pick sensor to the front-side scan zone. The scanner begins the scanning and data retrieval process.
11. The ADF multi-pick (ultrasonic) sensor deactivates when the trailing edge of the paper passes the sensor. The firmware registers the trailing edge of the paper position.
12. The feed motor continues to rotate and drive the trailing edge of the paper through the preset distance from the ADF multi-pick (ultrasonic) sensor to the front-side scan zone. The scanner ends the scanning and data retrieval process.
13. The feed motor continues to rotate and ejects the trailing edge of the paper into the output bin.
14. One of the following occurs:
    - If the copy job is complete, the ADF paper present sensor deactivates. The feed motor reverses rotation to raise the pick roller.
    - If the copy job is not complete, the ADF paper present sensor is active. The printer firmware detects additional pages in the input tray and the process repeats.

Document feeder e-duplex operation

Following is the basic sequence of operation for a document feeder simplex job.

NOTE: For an e-duplex copy job, the background scan operation begins immediately after the simplex sequence of operation ends.

1. The feed motor continues to drive the paper until the leading edge activates the prescan back-side sensor. The printer firmware registers the position of the leading edge of the paper.
2. The feed motor continues to rotate to drive the leading edge of the paper through the preset distance from prescan back-side sensor to the back-side background selector scan zone. The back-side background scan module begins scanning and retrieval of the data.
3. The prescan back-side sensor deactivates when the trailing edge of the paper passes it. The printer firmware registers the trailing edge of the paper position.
4. The feed motor continues to rotate to drive the trailing edge of the paper edge past the back-side background selector scan zone.
5. The feed motor continues to rotate and ejects the trailing edge of the paper into the output bin.
6. One of the following occurs:
   - If the copy job is complete, the ADF paper present sensor deactivates. The feed motor reverses rotation to raise the pick roller.
   - If the copy job is not complete, the ADF paper present sensor is active. The printer firmware detects additional pages in the input tray and the process repeats.

Deskew operation

Sliding side guides on the input tray make sure that the paper stack is correctly aligned at the center of the input tray when paper is loaded in the tray. The correct position of the loaded paper is parallel with the direction of travel into the document feeder paper path.

The document feeder further reduces paper skew due to improper loading of paper in the input tray by buckling the paper to create a paper buffer.

The document feeder aligns the leading edge of the paper parallel with the deskew drive rollers before it is driven further into the document feeder paper path.

NOTE: If the page to be copied is smaller than the minimal sliding guide setting, do not use the document feeder for the copy job. Attempting to copy too small of a page using the document feeder can result in document feeder jams and/or damage to the original page. Instead, use the flatbed glass to copy the page.

Figure 1-50 Deskew operation

Document feeder hinges

The document feeder hinges allow positioning the assembly vertically above the scanner glass to accommodate the placement of books and other objects up to 25 mm (1.0 in) in height on the scanner glass. The document feeder still closes (the bottom of the ADF is kept parallel to the scanner glass) and allows the printer to operate.

The document feeder hinges provide height adjustment of 25 mm (1.0 in) when a maximum downward force of 4.5 kg (10 lb) is applied at the front edge of the assembly, with the fulcrum (such as the spine of a book) centered on the scanner glass and parallel to its long axis.

The document feeder will withstand a downward force of about 4.5 kg (10 lb) applied at the front edge center of the assembly—when the fulcrum (such as the spine of a book) is located anywhere on the scanner glass and parallel to its long axis—without breaking, deforming, detaching or experiencing performance degradation.

The document feeder hinges support the assembly in the open position and prevent the document feeder from suddenly closing in a damaging or loud manner.

The hinges can hold the document feeder static in all positions higher than 100 mm (3.93 in); measured at the front of the assembly. Less than 2.3 kg (5 lb) of force is required to open or close the document feeder.

The hinges allow the document feeder to open to an angle of between 60º and 80º from the horizontal position (this angle will not allow the printer to tip over).

Figure 1-51 Document feeder open (book mode)

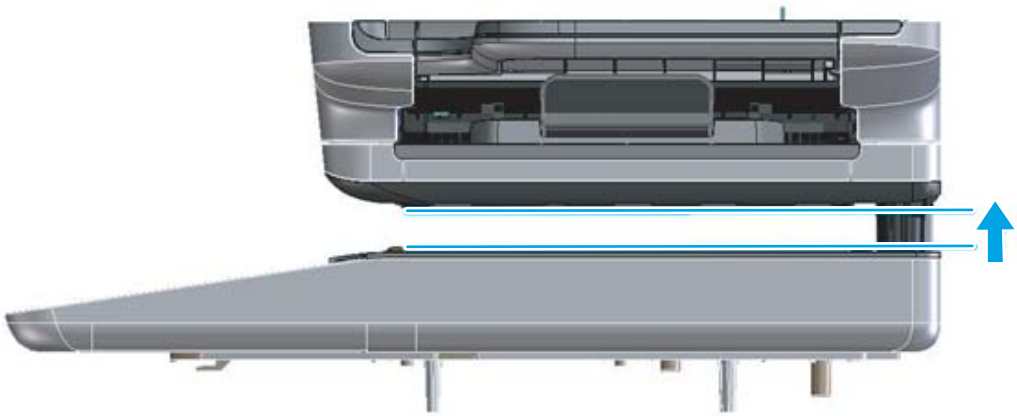


Figure 1-52 Document feeder open (60º to 80º)

2 Solve problems

- HP service and support
- Manually unlock the front door (E60155/E60165/E60175 models)
- Manually unlock the left door (E62655/E62665/E62675 models)
- Solve problems checklist
- Troubleshooting process
- Tools for troubleshooting
- Resolve print-quality problems
- Print quality troubleshooting guide
- Clean the printer
- Solve paper handling problems
- Solve performance problems
- Solve connectivity problems
- Service mode functions
- Firmware upgrades
- Solve fax problems or email

HP service and support

Learn about HP access to additional service and support information.

Additional service and support for channel partners

Channel partners, go to partner.hp.com, and then use the steps below to access the HP Web-based Interactive Search Engine (WISE).

Access WISE for Channel partners

1. Select **Services & Support** (near the top of the screen).
2. Under **Services Delivery**, select **Technical Support**.
3. Select **Technical Documentation**.

Find information about the following topics

- Service manuals
- Service advisories
- Up-to-date control panel message (CPMD) troubleshooting
- Solutions for printer issues and emerging issues
- Remove and replace part instructions and videos
- Install and configure
- Printer specifications
- Warranty and regulatory information

Additional service and support for HP internal personnel

HP internal personnel, go to one of the following Web-based Interactive Search Engine (WISE) sites:

Americas (AMS)

- WISE - English
- WISE - Spanish
- WISE - Portuguese
- WISE - French

Asia Pacific / Japan (APJ)

- WISE - English
- WISE - Japanese
- WISE - Korean
- WISE - Chinese (simplified)

- WISE - Chinese (traditional)
- WISE - Thai

Europe / Middle East / Africa (EMEA)

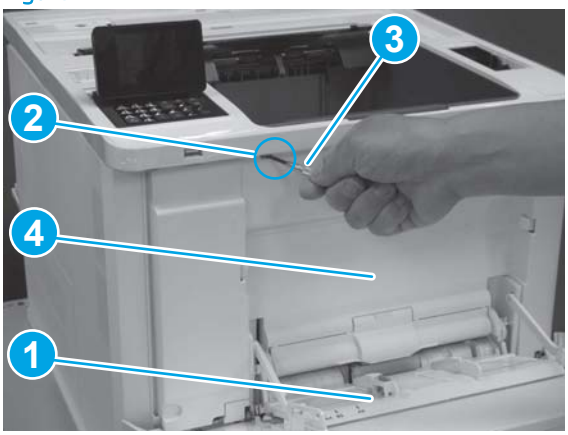
- WISE - English

Manually unlock the front door (E60155/E60165/E60175 models)

If there is an issue with the front door lock, use the following procedure to manually disengage it.

- Open Tray 1 (callout 1), locate the door lock hole (callout 2), insert a small flat blade screwdriver (callout 3) into the hole, and then move the screwdriver left or right to release the lock to open the front door (callout 4).

Figure 2-1 Unlock the front door

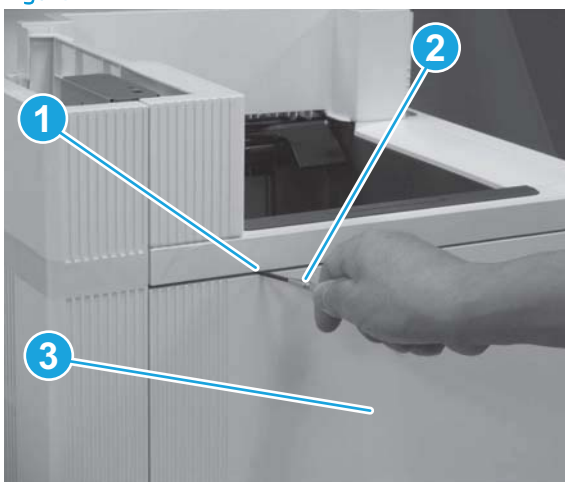


Manually unlock the left door (E62655/E62665/E62675 models)

If there is an issue with the left door lock, use the following procedure to manually disengage it.

- Locate the left door lock hole (callout 1), insert a small flat blade screwdriver (callout 2) into the hole, and then move the screwdriver left or right to release the lock to open the left door (callout 3).

Figure 2-2 Unlock the left door



Solve problems checklist

- Solve problems checklist
- Print menu map
- Print current settings pages
- View, print and clear the event log
- Pre-boot menu options

Solve problems checklist

If the printer is not correctly functioning, complete the steps (in the order given) in the following checklist. If the printer fails a checklist step, follow the corresponding troubleshooting suggestions for that step. If a checklist step resolves the problem, skip the remaining checklist items.

1. If the control panel is blank or black, check the following before proceeding:

   - ❑ Check to make sure that the printer is not in Sleep mode (tap the touchscreen control panel or press a button on the LCD control panel).
   - ❑ Check the power switch button (it should be blinking). Tap the power button to bring the printer out of Sleep mode.
   - ❑ Check the power cable.
   - ❑ Check that the power is turned on.
   - ❑ Make sure that the line voltage is correct for the printer power configuration. (See the label that is on the back of the printer for voltage requirements.) If a power strip is in use, and its voltage is not within specifications, connect the printer directly into the electrical outlet. If it is already connected into the outlet, try a different outlet.

   If the control panel is not responding to touch (touchsreen models), or if it appears black or blank, try the following:

   NOTE: The following conditions indicate that the printer has frozen while in Sleep mode. Opening a door, tapping the control panel (touchscreen control panels), or pressing a control-panel button (LCD control panels) causes the printer to wake up from Sleep mode.

   - The control-panel home button LED is illuminated.
   - The power-switch LED flashes once every three to five seconds.

   a. Turn the printer power off, and then on again.

   b. Verify that the control panel is correctly functioning by accessing the control panel diagnostics. See the Control-panel checks section of the printer *Troubleshooting Manual*.

   TIP: The LED on the formatter blinks if the control panel is not detected or the cables are not properly seated.

If the control panel does not respond to the diagnostic button, try the following:

- Try printing from a host computer. Does the printer print a test page?
- Is the printer HP Embedded Web Server (EWS) accessible?
- Turn the power off.
- Reseat the cable connections on the bottom of the control-panel assembly and the control-panel connectors at the formatter.
- Turn the printer power on, and then check for functionality of the control-panel by tapping the touchscreen or pressing a button on the LCD control panel.

c. Try upgrading the firmware. If the firmware upgrade fails to resolve the problem, and the printer still freezes while in Sleep mode, elevate the case after collecting the following info:

- Try printing to the printer from a host computer. Does the printer print a page?
- Is the printer HP Embedded Web Server (EWS) accessible?
- Turn the printer power off, and then on again. Save the printer diagnostic file (see instructions further down in this section).
- Try printing to the printer from a host computer. Does the printer print a page?
- Is the printer HP Embedded Web Server (EWS) accessible?
- Turn the printer power off, and then on again. Save the printer diagnostic file.

To save diagnostic files from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Retrieve Diagnostic Data
3. Follow the prompts on the control-panel display to save the data.

NOTE: The exported data might contain personally (customer) identifiable information.

To save diagnostic files from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Retrieve Diagnostic Data item, and then press the OK button.
5. Follow the prompts on the control-panel display to save the data.

NOTE: The exported data might contain personally (customer) identifiable information.

d. If the error persists, replace the control-panel assembly.

2. The control panel should indicate a Ready, Paused, or Sleep mode on status. If an error message displays, resolve the error.

   - Try using the Power-on checks section in the printer *Troubleshooting Manual* to solve the problem.

3. For network connection errors, check the cables.

   a. Check the network cable connections between the printer and the computer or network port. Make sure that the connections are secure.

   NOTE: The network LEDs should be illuminated and flashing.

   b. Make sure that the cables are not faulty by trying different cables, if possible.

   c. Check the network connection. Verify that the port is active.

4. Print a configuration page. If the printer is connected to a network, an HP Jetdirect page also prints.

Print a configuration page from a touchscreen control panel

a. From the Home screen on the printer control panel, swipe (right), and the touch the Reports button.

b. Touch the Configuration/Status Pages item

c. Touch Configuration Page to select it.

TIP: Multiple report pages can be selected, and then printed together.

d. Touch the Print button to print the pages.

Print a configuration page from a LCD control panel

a. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.

b. Use the right arrow ▶ button to scroll to Reports, and then press the OK button.

c. Use the down arrow ▼ button to scroll to Configuration/Status Pages, and then press the OK button.

d. Use the down arrow ▼ or ▲ buttons to scroll to Configuration Page, and then press the OK button to select it.

e. Use the down arrow ▼ and right arrow ▶ buttons to scroll to Print, and then press the OK button to print the pages.

TIP: Multiple report pages can be selected, and then printed together.

- If the pages do not print, check that at least one tray contains paper.

TIP: Make sure that the selected paper size and type meet HP specifications. Also open the **Trays** menu on the printer control panel and verify that the tray is configured correctly for the paper type and size.

- If the page jams in the printer, follow the instructions on the control panel to clear the jam.

- If the page does not print correctly, the problem is with the printer hardware.
- If the page prints correctly, the printer hardware is working. The problem is with the host computer, with the print driver, or with the program.

5. Print a supplies status page and then check that the maintenance items below are not at their end-of-life.

TIP: If a maintenance item needs to be replaced, order the part number provided below.

Print a supplies status page from a touchscreen control panel

a. From the Home screen on the printer control panel, swipe (right), and the touch the Reports button.

b. Touch the Configuration/Status Pages item

c. Touch Supplies Status Page to select it.

TIP: Multiple report pages can be selected, and then printed together.

d. Touch the Print button to print the pages.

Print a supplies status page from a LCD control panel

a. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.

b. Use the right arrow ▶ button to scroll to Reports, and then press the OK button.

c. Use the down arrow ▼ button to scroll to Configuration/Status Pages, and then press the OK button.

d. Use the down arrow ▼ or ▲ buttons to scroll to Supplies Status Page, and then press the OK button to select it.

e. Use the down arrow ▼ and right arrow ▶ buttons to scroll to Print, and then press the OK button to print the pages.

TIP: Multiple report pages can be selected, and then printed together.

NOTE: HP long-life consumables and maintenance kit life specifications are estimations. Actual individual life/yield during normal use varies depending on usage, environment, media, and other factors. Estimated life is not an implied guarantee or warrantable.

- Maintenance kit 110V/220V (includes the fuser, pickup and feed rollers, and secondary transfer roller); estimated life: 225,000 pages
  - J8J87A (110V)
  - J8J88A (220V)
- Fuser kit
  - J8J87-67901 (110V; new)
  - RM2-1256-020CN (110V; service)
  - J8J87-67901 (220V; new)
  - RM2-1257-020CN (220V; service)

- Toner cartridge
  - W1470-67901
  - W1470-67902
  - W1470-67903
  - CF327A (new)
  - CF327-67901 (service)
  - CF237X (new)
  - CF237-67902 (service)
  - CF237Y (new)
  - CF237-67904 (service)
  - CF237YC (new)
  - CF237-67905 (service)
  - W9004MC (new)
  - W9004-67901 (service)
  - CF237G (new)
  - CF237–67903 (service)
  - J8J96A (new)
  - J7Z09-67933 (service)
- Document feeder roller kit; estimated life: 150,000 pages
  - J8J95A (new)
  - 5851–7202 (service)

6. Verify that the correct print driver for this printer is installed. Check the program to make sure that the print driver for this printer is used. The print driver can be downloaded from the following Web sites: www.hp.com/support/ljM607, www.hp.com/support/ljM608, www.hp.com/support/ljM609, www.hp.com/support/ljM610, www.hp.com/support/ljM611, www.hp.com/support/ljM612, www.hp.com/support/ljE60055, www.hp.com/support/ljE60065, www.hp.com/support/ljE60075, www.hp.com/support/ljE60155, www.hp.com/support/ljE60165, www.hp.com/support/ljE60175, www.hp.com/support/ljM631MFP, www.hp.com/support/ljM632MFP, www.hp.com/support/ljM633MFP, www.hp.com/support/ljM634MFP, www.hp.com/support/ljM635MFP, www.hp.com/support/ljM636MFP, www.hp.com/support/ljE62555MFP, www.hp.com/support/ljE62565MFP, www.hp.com/support/ljE62575MFP, www.hp.com/support/ljE62655MFP, www.hp.com/support/ljE62665MFP, www.hp.com/support/ljE62675MFP.

7. Print a short document from a different program that has worked in the past. If this solution works, the problem is with the program. 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 printer software installed.

b. If the printer is connected to the network, connect the printer directly to a host computer with a USB cable. Redirect the printer to the correct port, or reinstall the software (make sure to select the new connection type).

Print menu map

To more easily navigate individual settings, print a report of the complete Administration menu.

Print the settings menu map from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and the touch the Reports button.
2. Touch the Configuration/Status Pages item
3. Touch Settings Menu Map to select it.

> TIP: Multiple report pages can be selected, and then printed together.

4. Touch the Print button to print the pages.

Print the settings menu map from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to Reports, and then press the OK button.
3. Use the down arrow ▼ button to scroll to Configuration/Status Pages, and then press the OK button.
4. Use the down arrow ▼ or ▲ buttons to scroll to Settings Menu Map, and then press the OK button to select it.
5. Use the down arrow ▼ and right arrow ▶ buttons to scroll to Print, and then press the OK button to print the pages.

> TIP: Multiple report pages can be selected, and then printed together.

Print current settings pages

Printing the current settings page provides a map of the user configurable settings that might be helpful in the troubleshooting process.

Print the current settings page from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and the touch the Reports button.
2. Touch the Configuration/Status Pages item
3. Touch Current Settings to select it.

> TIP: Multiple report pages can be selected, and then printed together.

4. Touch the Print button to print the pages.

Print the current settings page from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to Reports, and then press the OK button.
3. Use the down arrow ▼ button to scroll to Configuration/Status Pages, and then press the OK button.

4. Use the down arrow ▼ or ▲ buttons to scroll to Current Settings, and then press the OK button to select it.
5. Use the down arrow ▼ and right arrow ▶ buttons to scroll to Print, and then press the OK button to print the pages.

TIP: Multiple report pages can be selected, and then printed together.

View, print and clear the event log

- View or print the event log from the Troubleshooting menu
- View, print, or clear the event log from the Service menu

Printing the event log might be helpful in the troubleshooting process. For more information, see the Interpret control-panel messages and event log entries section in the printer troubleshooting manual.

View or print the event log from the Troubleshooting menu

View or print the event log from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Event log
3. The event log displays on the screen. Touch the Print button to print the log.

NOTE: Touch the Done button to return to the Troubleshooting menu.

View or print the event log from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Event log menu, and then press the OK button.
5. The event log displays on the screen. Use the left arrow ◀ or right arrow ▶ buttons to select the Print item, and then press the OK button.

NOTE: Select the Done item to return to the Troubleshooting menu.

View, print, or clear the event log from the Service menu

View, print, or clear the event log from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Touch the Service button to display the sign on screen.

NOTE: Make sure that Service Access Code displays in the access type area.

3. Type in the following service access personal identification number (PIN) for the printer:
    - 05060717 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
    - 05063117 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
4. Touch Event log to display log. Touch the Print button to print the log.
5. Touch one of the following:
    - Clear (removes all log entries)
    - Print (prints the log)
    - Done (return to the Service menu)

View, print, or clear the event log from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Service menu, and then press the OK button.
4. On the sign-in screen, enter the following service access code for the printer (use the printer keypad):

    NOTE: Make sure that Service Access Code displays in the access type area.

    - 05060717 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
    - 05063117 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
5. After the PIN is entered press the OK button.
6. Use the down arrow ▼ button to scroll to Event Code, and then press the OK button.
7. Use the left arrow ◀ or right arrow ▶ buttons to select from the following:

    NOTE: Press the OK button after selecting an option.

    - Clear (removes all log entries)
    - Print (prints the log)
    - Done (return to the Service menu)

Pre-boot menu options

The Pre-boot menus are available prior to the printer initializing.

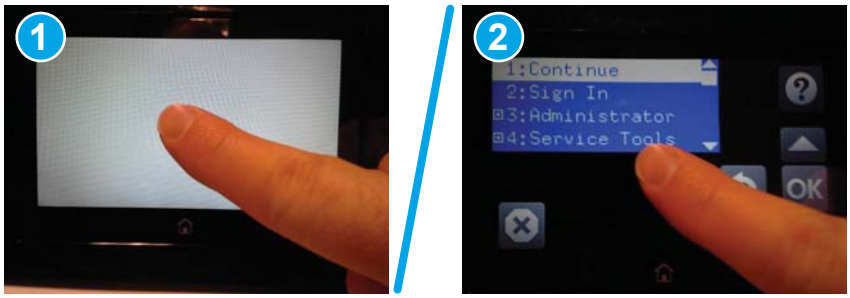
CAUTION: The Format Disk option (printers with a hard-disk drive only) performs a disk initialization for the entire disk. The operating system, firmware files, and third party files (among other files) will be completely lost. HP does not recommend this action.

TIP: The Pre-boot menu can be remotely accessed by using a telnet network protocol to establish an administration connection to the printer. See Remote Admin on page 103.

Open the Pre-boot menu from a touchscreen control panel

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-3 Open the Pre-boot menu



2. On the Pre-boot menu screen, use the following buttons to navigate the tests.

Figure 2-4 Pre-boot menu

	Use this button to see more information about a selected item.
	Use this button to scroll up through menu items.
	Use this button to select a highlighted menu item.
	Use this button to scroll down through menu items.
	Use this button to go back to the previous menu.
	Not used.
	Use this button to exit a diagnostic test.

3. Use the arrow buttons on the touchscreen to navigate the Pre-boot menu.
4. Touch the OK button to select a menu item.

Open the Pre-boot menu from a LCD control panel

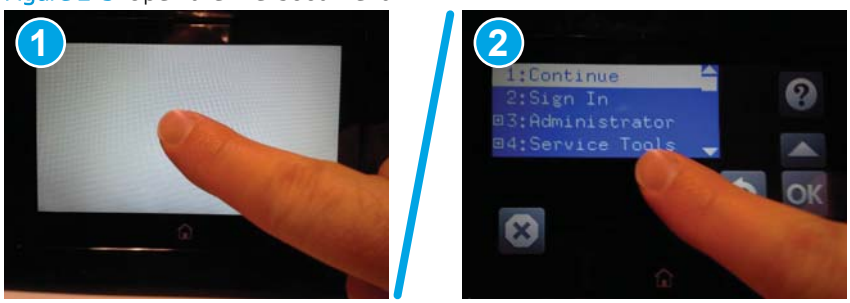
1. Press the Cancel button when you see the 1/8 under the logo.
2. Use the arrow buttons on the control panel to navigate the Pre-boot menu.
3. Press the OK button to select a menu item.

Cold reset using the Pre-boot menu from a touchscreen control panel

⚠ CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-5 Open the Pre-boot menu



2. Use the ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the ▼ button to highlight the +8:Startup Options item, and then touch the OK button.
4. Use the ▼ button to highlight the 2 Cold Reset item, and then touch the OK button to select it.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1:Continue item, and then touch the OK button.

NOTE: The printer will initialize.

Cold reset using the Pre-boot menu from a LCD control panel

⚠ CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Press the Cancel button when you see the 1/8 under the logo.
2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then press the OK button.
3. Use the down arrow ▼ button to highlight the +8:Startup Options item, and then press the OK button.
4. Use the down arrow ▼ button to highlight the 2 Cold Reset item, and then press the OK button to select it.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1:Continue item, and then touch the OK button.

NOTE: The printer will initialize.

NOTE: Some of the pre-boot options in the following tables are not supported by the current version of the printer firmware and are included for information only. Future versions of firmware will support these options.

Table 2-1 Pre-boot menu options (1 of 7)

Menu option	First level	Second level	Third level	Description
Continue				Selecting the Continue item exits the Pre-boot menu and continues the normal boot process. If a selection is not made in the initial menu within 30 seconds, the printer 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 open the Pre-boot menu.
Administrator				This item navigates to the Administrator submenus. If authentication is required (and the user is not already signed in) the Sign In prompt displays. The user is required to sign in.
	Download	Network USB USB Thumbdrive		This item initiates a Pre-boot firmware download process. A USB Thumbdrive option will work on all FutureSmart printers. USB or Network connections are not currently supported.
	Format Disk			This item reinitializes the disk and cleans all disk partitions. CAUTION: Selecting the Format Disk item removes **all** data. A delete confirmation prompt is **not** provided. The system is **not** bootable after this action and a **99.09.67** error displays on the control panel. A firmware download must be performed to return the system to a bootable state.
	Partial Clean			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 **all** data except the firmware repository. A delete confirmation prompt is **not** provided. CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost). This allows a user to reformat the disk by removing the firmware image from the active directory without having to download new firmware code (printer remains bootable).

Table 2-1 Pre-boot menu options (1 of 7) (continued)

Menu option	First level	Second level	Third level	Description
	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 Administrator 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 displays, press the OK button to clear the password.

Table 2-2 Pre-boot menu options (2 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Manage Disk	Clear disk		Select the Clear disk item to enable using 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 printer. The secure disk already locked to this printer will remain accessible to this printer. Use this function to have more than one encrypted disk accessible by the printer when using them interchangeably. The data stored on the secure disk locked to this printer always remains accessible to this printer.
		Leave Unlocked		Select the Leave Unlocked item to use a new secure disk in an unlocked mode for a single service event. The secure disk that is already locked to this printer will remain accessible to this printer and uses the old disk's encryption password with the new disk. The secure disk that is already locked to this printer remains accessible to this printer.
		Clear Disk Pwd		Select the Clear Disk Pwd 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 overwrite, which erases the entire disk including firmware. The disk remains an encrypted disk.

Table 2-2 Pre-boot menu options (2 of 7) (continued)

Menu option	First level	Second level	Third level	Description
			Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all data on the disk and unlock the disk to allow a user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. It erases the encryption key. The encryption key is erased, so the disk becomes a non-encrypted disk.
			Get Status	This item provides disk status information if any is available.

Table 2-3 Pre-boot menu options (3 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Manage Disk (continued)	Internal Device		Select the Internal Device item to erase the internal device or get a status about the internal 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 erases the entire disk, including firmware. The disk remains an encrypted disk.
			Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all of the data on disk and unlock the disk to allow the user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. The HP High Performance Secure Hard Disk is erased.
			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	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 erases the entire disk, including firmware. The disk remains an encrypted disk.
			Erase/Unlock	Select the Erase/Unlock item to cryptographically erase all of the data on disk and unlock the disk to allow a user to gain access to it from any printer. NOTE: The system will be unusable until the system files are reinstalled. The encryption key is erased, so the disk becomes a non-encrypted disk.
			Get Status	This item provides disk status information if any is available.

Table 2-4 Pre-boot menu options (4 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Configure LAN NOTE: This configuration is only active when the Pre-boot menu is open.	IP Mode [DHCP]		The network can be configured to obtain the network settings from a DHCP server or as static. Use this item for automatic IP address acquisition from the DHCP server.
		IP Mode [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	Select the Save item to save the manual settings.

Table 2-5 Pre-boot menu options (5 of 7)

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 printer is turned on and initializes to the **Ready** state.
		Show Revision		**Not currently functional**: Select the Show Revision item to allow the printer to initialize and show the firmware version when the printer reaches the **Ready** state. Once the printer power is turned on the next time, the Show Revision item is unchecked so that the firmware revision is not shown.
		Cold Reset		Select 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.
		Skip Disk Load		Select the Skip Disk Load item to disable installed third-party applications.
		Skip Cal		Select the Skip Cal item to skip the printer calibration for the very next power-initialization cycle only.
		Lock Service		CAUTION: Select the Lock Service item to lock the Service menu access (both in the Pre-boot menu and the Device Maintenance menu). Service personnel must have the administrator remove the Lock Service setting before they can open the Service menu.
		Skip FSCK		Select the Skip FSCK item to disable Chkdisk/ScanVolume during startup.

Table 2-5 Pre-boot menu options (5 of 7) (continued)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Startup Options (continued)	First Power		**Not currently functional**: This item allows the printer to 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 date/time, language, and other settings. Select this item so that it is enabled for the next time the printer power is turned on. When the printer 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.
		Embedded Jetdirect Off		Select the Embedded Jetdirect Off item to disable the embedded HP Jetdirect. By default this item is unchecked so that HP Jetdirect is always enabled.
		WiFi Accessory		Select the WiFi Accessory item to enable the wireless accessory.

Table 2-6 Pre-boot menu options (6 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Diagnostics			Diagnostic items are useful to diagnose hardware components and their interface connections. Use these items to troubleshoot specific hardware components, and the interface between them and other components.
		Memory	Do Not Run	Use the Do Not Run item to exclude the Memory diagnostic when executing multiple diagnostics.
			Short	Use the Short item to select a brief memory test. **NOTE:** This test requires about four minutes to execute.
			Long	Use the Long item to select an extended memory test. **NOTE:** This test requires about twenty minutes to execute.
		Disk	Do Not Run	Use the Do Not Run item to exclude the Disk diagnostic when executing multiple diagnostics.
			Short	Use the Short item to select a brief firmware self-test. **NOTE:** This test requires about two or three minutes to execute.

Table 2-6 Pre-boot menu options (6 of 7) (continued)

Menu option	First level	Second level	Third level	Description
			Long	Use the Long item to select an extended firmware self-test. NOTE: This test requires about sixty minutes to execute.
			Optimized	Use the Optimized item to select a test that checks the active sectors on the disk. NOTE: This test requires about thirty minutes to execute.
			Raw	Use the Raw item to select a test that checks every sector on the disk. NOTE: This test requires about fifty minutes to execute.
			Smart	Use the Smart item to select a very brief test that checks the drive self-monitoring analysis and reporting technology (SMART) status—the drive detects and reports reliability indicators to help anticipate disk failures (SMART status).
		CPB		Use the CPB item to verify the integrity of the copy processor board (CPB) and the formatter PCA connections.
		Interconnect		Use the Interconnect item to verify the integrity of the interconnect PCA (ICB) and its connections.
		Run Selected		Select the Run Selected item to execute a selected test. NOTE: If more than one test is selected, they are executed in sequence.

Table 2-7 Pre-boot menu options (7 of 7)

Menu option	First level	Second level	Third level	Description
Administrator (continued)	Remote Admin	Start Telnet		The Remote Admin item allows a service technician to access to the printer Pre-boot menu remotely, and to navigate the menu selections from a remote location. IMPORTANT: A Remote Admin connection must be initiated by a person that is physically present at the printer. This person will also need to provide a randomly generated PIN to the remote service technician. NOTE: For more information about using the Remote Admin function, see Remote Admin on page 103.
		Stop Telnet		
		Refresh IP		

Table 2-7 Pre-boot menu options (7 of 7) (continued)

Menu option	First level	Second level	Third level	Description
	System Triage	Copy Logs		If the device will not boot to the **Ready** state, or the diagnostic log feature found in the Troubleshooting menu is not accessible, then use the System Triage item to copy the diagnostic logs to a USB flash drive at the next printer start up. The files can then be sent to HP to help diagnose the problem.
	Change Svc PWD			Use this item to change the Service menu personal identification number (PIN).
	Reset Svc PWD			If the Service menu personal identification number (PIN) has been changed. Use this item to reset it to the original PIN.
Service Tools	Reset Password			Use this item to reset the Pre-boot administrator password.
	Subsystems			For manufacturing use only. Do not change these values.
Developer Tools	Netexec			

Remote Admin

The Remote Admin feature allows remote access the printer Pre-boot menu (BIOS environment). The printer functions as a telnet server which uses the telnet networking protocol to transmit text data. Any computer (with telnet installed and enabled) can function as the telnet client to remotely display and interact with the Pre-boot menu.

IMPORTANT: While the Remote Admin function allows remote access the Pre-boot menu, for security reasons the Remote Admin connection must be initiated by a person that is physically present at the printer.

This section describes the following Remote Admin items.

- Required software and network connection
- Connect a remote connection
- Disconnect a remote connection

Required software and network connection

Before using the Remote Admin feature, make sure that the telnet network protocol is installed, and enabled, on the remote telnet client computer.

NOTE: This section describes enabling and configuring the telnet feature for computers using a Windows® operating system.

HP recommends that the telnet client computer be a Windows based system, however, there are other operating systems that support the telnet network protocol. For information about enabling and configuring the telnet network protocol for other operating systems, see the owner's manual for that operating system.

Telnet client

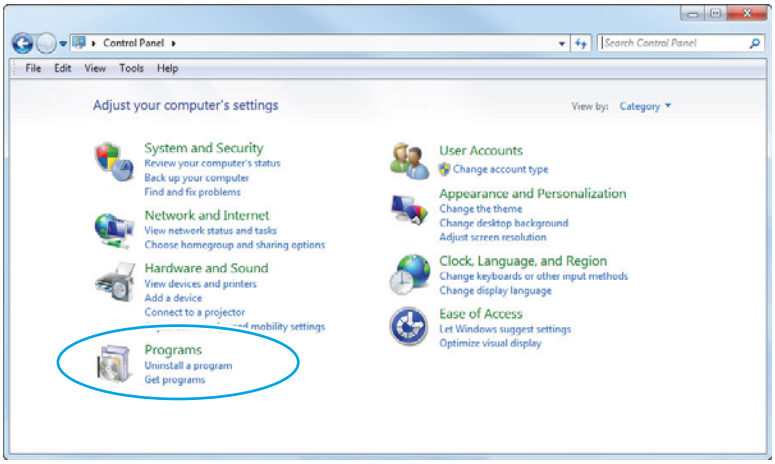
Enable the Windows telnet client

All computers using the Windows operating system have the telnet client installed, however, the telnet client function might not be enabled by default.

NOTE: The figures and menus in this section are for the Windows 7 Enterprise® operating system. Screens and menu selections might vary slightly for other operating systems.

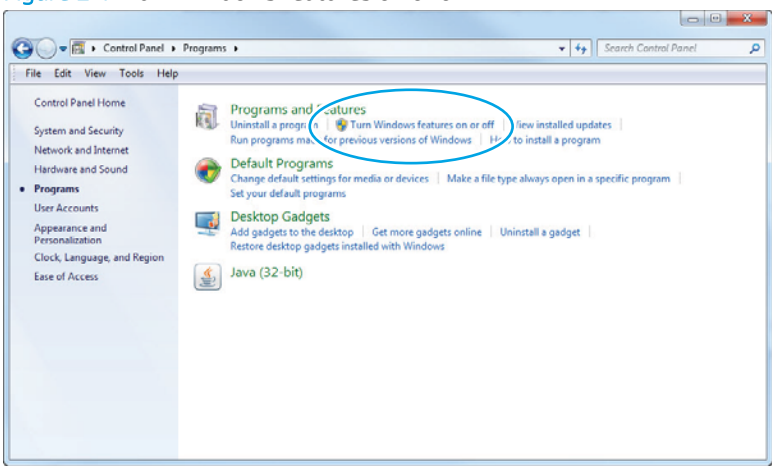
1. Use the **Start** menu to open the **Control Panel**, and then click the **Programs** item to select it.

Figure 2-6 Open the Control Panel



2. Click the **Turn Windows features on or off** item to select it.

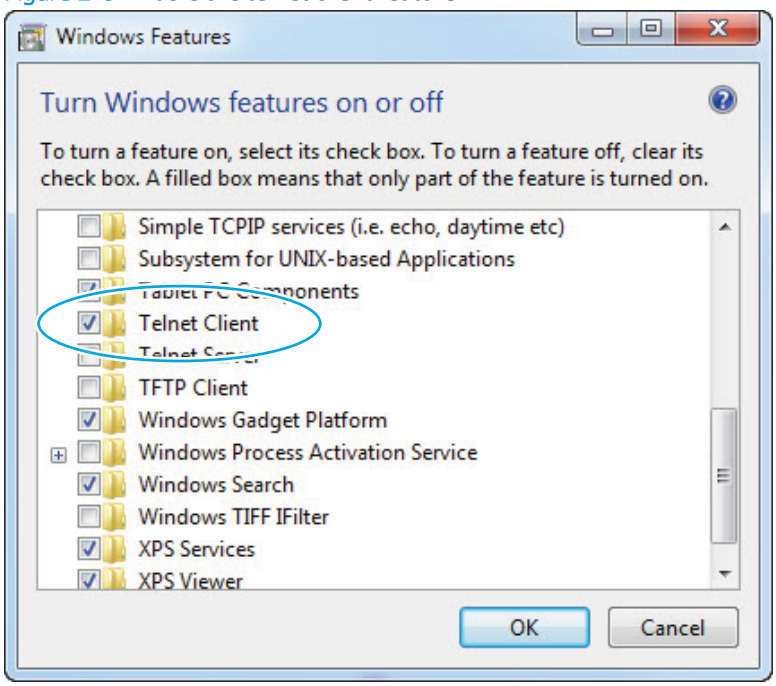
Figure 2-7 Turn Windows features on or off



3. In the **Windows Features** box, scroll down to **Telnet Client**. If the check box is not checked, click the box to select it, and then click the **OK** button.

TIP: If the check box is already checked then the telnet client function is already enabled. Click the **Cancel** button.

Figure 2-8 Enable the telnet client feature



Network connection

The remote telnet client computer must have direct network access to the printer for the Remote Admin function to operate. This means that the telnet client computer must be on the same network as the printer. The Remote Admin function cannot be accessed through a network firewall or other remote access network security programs.

If a private network is not accessible, ask the network administrator to set up a virtual private network (VPN) connection to the network.

Connect a remote connection

Start the telnet server function at the printer

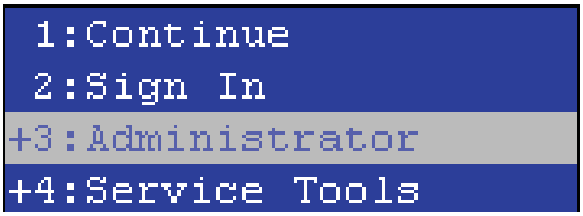
For security reasons the Remote Admin feature must be initiated by a person that is physically present at the printer. The following steps must be performed by a person that is physically present at the printer.

NOTE: This person might need to sign in with an administrator or service password depending on how the printer is configured.

1. Turn the printer on.
2. The HP logo displays on the printer control panel. When a "1/8" with an underscore displays, touch the middle of the screen to open the Pre-boot menu.

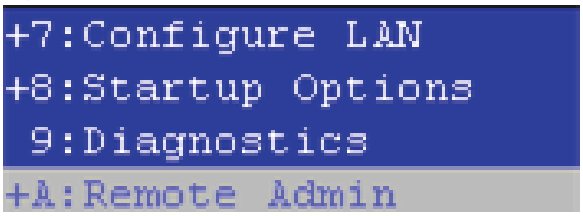
3. Use the arrow buttons on the touchscreen to scroll down and highlight the **+3:Administrator** item, and then touch the OK button to select it.

Figure 2-9 Select the +3:Administrator item



4. Use the arrow buttons on the touchscreen to scroll down and highlight the **+A:Remote Admin** item, and then touch the OK button to select it.

Figure 2-10 Select the +A:Remote Admin item



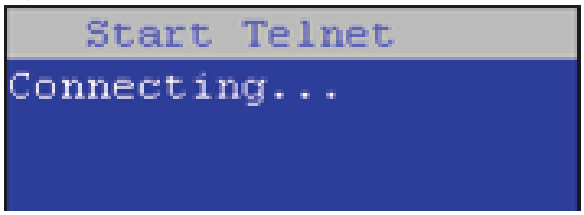
5. Use the arrow buttons on the touchscreen to scroll down and highlight the **1:Start Telnet** item, and then touch the OK button to select it.

Figure 2-11 Select the 1:Start Telnet item

6. Do one of the following

- If a connecting message displays briefly, go to step 7.

  Figure 2-12 Telnet connecting message

- If an error message displays, use the steps below to identify the problem.

Figure 2-13 Telnet error message

a. The printer network cable is not correctly connected.

b. The BIOS LAN settings are incorrect.

   - The printer should be configured to use a static IP address, but is configured to use DHCP instead.
   - The printer is configured to use a static IP address, but the IP address is incorrect.

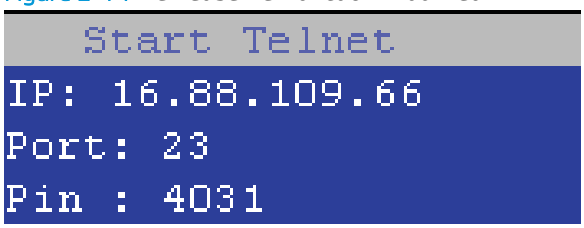
c. The printer is correctly configured to use DHCP, but the DHCP server is not turned on or is malfunctioning.

7. When the printer telnet server function is initialized, the following screen appears. Use the information on this screen to connect the remote telnet client computer to the printer.

NOTE: The printer is now ready to receive remote telnet client commands.

- IP: The static or dynamically allocated IP address for the printer.
- Port: The standard telnet port (23).
- Pin: A randomly generated 4-digit personal identification number (PIN).

Figure 2-14 Telnet server function initialized

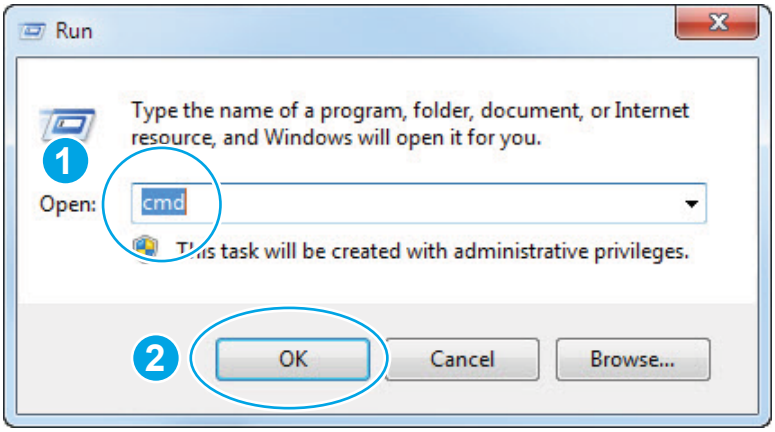


Start the telnet client function at the remote computer

The following steps establish a Remote Admin connection from a remote computer to the printer.

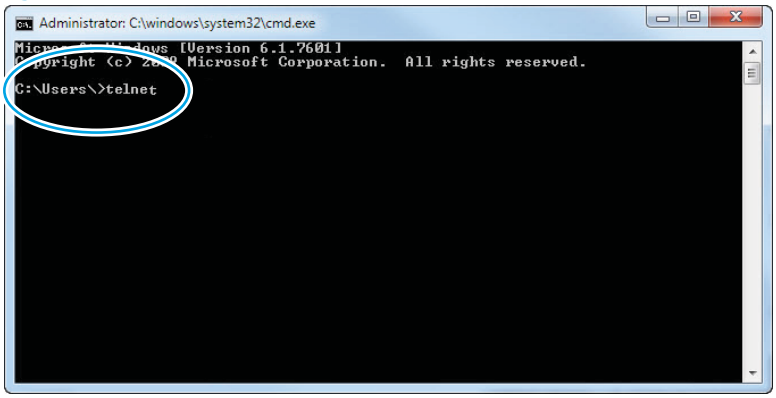
1. From the **Start** menu click **Run** to open a dialog box, type `cmd` in the **Open** field, and then click the **OK** button to open a Windows command window.

Figure 2-15 Open a command window



2. From any displayed directory, type `telnet` at the prompt, and then press the **Enter** key.

Figure 2-16 Start a telnet session

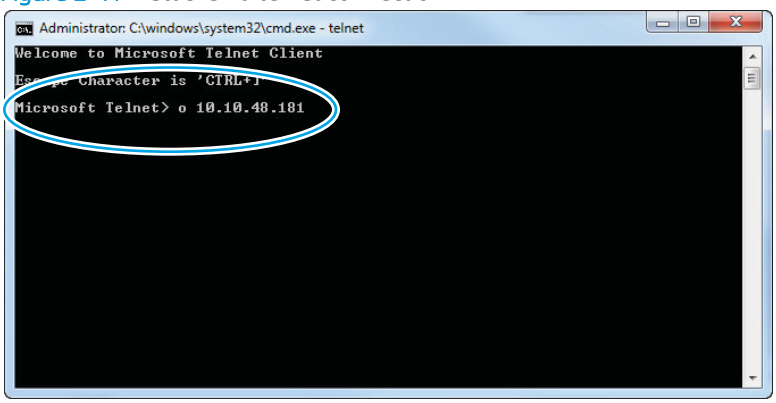


3. Type `o <IP ADDRESS>` at the telnet prompt, and then press the **Enter** key.

NOTE: For `<IP ADDRESS>`, substitute the IP address that was displayed in step 7 in Start the telnet server function at the printer on page 105.

TIP: If the telnet connection fails to establish a connection, the printer is probably behind a firewall or on a different network that the remote telnet client computer. See Network connection on page 105.

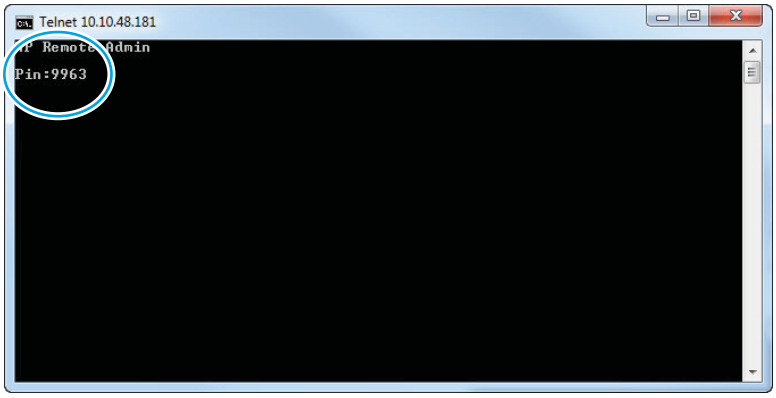
Figure 2-17 Establish a telnet connection



4. Type the PIN that was displayed in step 7 in Start the telnet server function at the printer on page 105 at the prompt, and then press the **Enter** key.

IMPORTANT: Make sure to type the PIN correctly. After five incorrect PIN entries, the printer terminates the Remote Admin connection. The Remote Admin feature must be re-initiated at the printer. See Start the telnet server function at the printer on page 105.

Figure 2-18 Enter the PIN

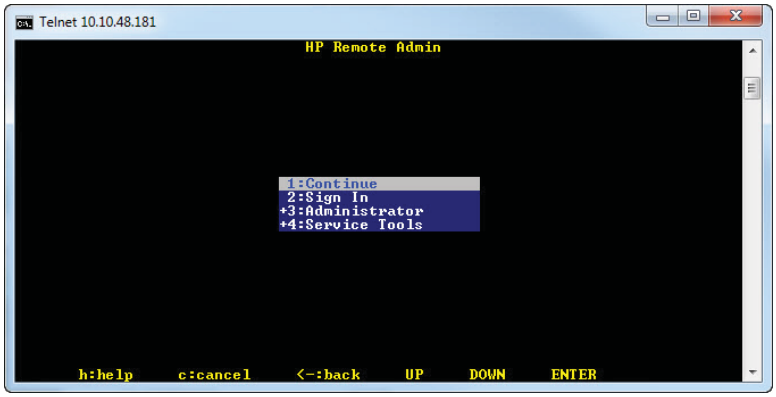


5. The following screen displays when the correct PIN is entered and the Remote Admin connection is successful. For information about the Pre-boot menu and options, see Pre-boot menu options on page 93.

NOTE: Because a Remote Admin connection is an unsecure telnet network protocol connection, the following Pre-boot menu items are disabled for the remote telnet client computer.

- The **+3:Administrator** menu **4:Change Password** item.
- The **+3:Administrator** menu **5:Clear Password** item.
- The **+3:Administrator** menu **6:Disk Manage** item.

Figure 2-19 Remote Admin window



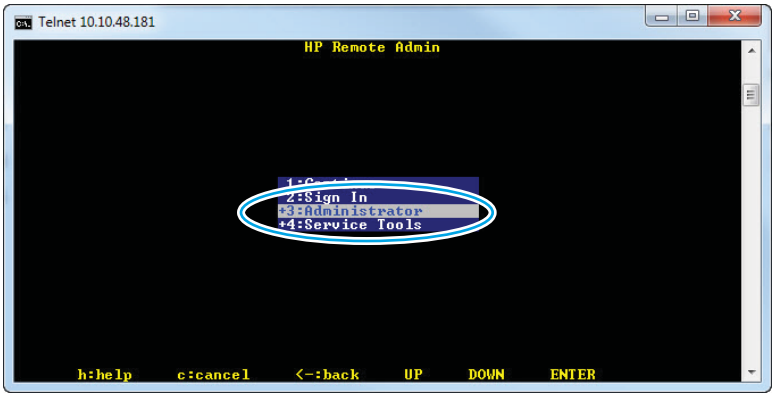
Disconnect a remote connection

The Remote Admin connection can be terminated from the printer control panel or the remote telnet client computer.

NOTE: The following procedure describes terminating a Remote Admin connection from the remote telnet client computer.

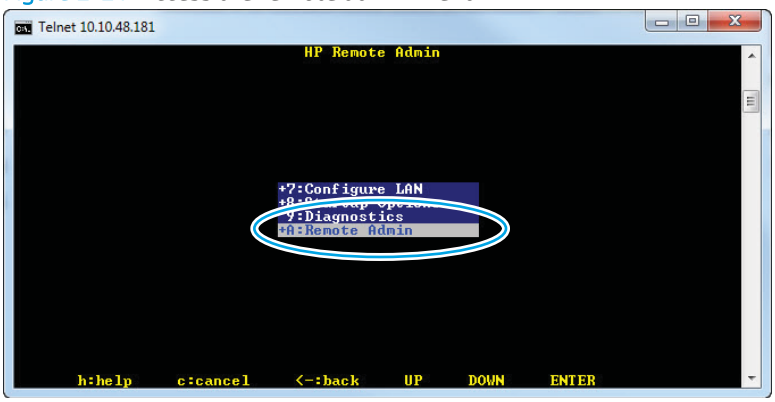
1. From the Pre-boot main menu, use the arrow buttons on the keyboard to scroll down to the **+3:Administrator** item, and then press the **Enter** key.

Figure 2-20 Access the administrator menu



2. Use the arrow buttons on the keyboard to scroll down to the **+A:Remote Admin** item, and then press the **Enter** key.

Figure 2-21 Access the remote admin menu

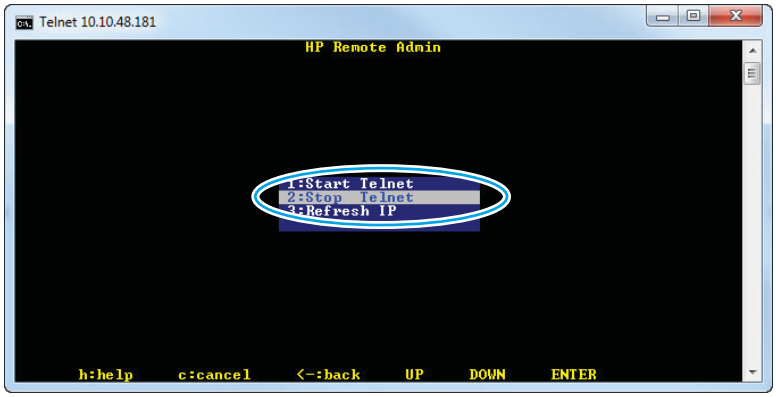


3. Use the arrow buttons on the keyboard to scroll down to the **2:Stop Telnet** item, and then press the **Enter** key. The Remote Admin connection between the printer and the remote telnet client computer terminates.

IMPORTANT: The printer remains in the Pre-boot menu. Have the person that is physically present at the printer do the following:

- Touch the Home button to return to the main Pre-boot menu and highlight the **1:Continue** item, and then touch the OK button. The printer will continue to initialize.

Figure 2-22 Terminate the telnet connection



Troubleshooting process

- Determine the problem source
- Power subsystem
- Control panel checks (touchscreen models)

Determine the problem source

When the printer malfunctions or encounters an unexpected situation, the printer control panel alerts the user to the situation. This section contains a pre-troubleshooting checklist and a troubleshooting flow chart to filter out many possible causes of the problem. Use the pre-troubleshooting checklist to gather information about the problem from the customer. Use the troubleshooting flowchart to help diagnose the root cause of the problem. The remainder of this chapter provides steps for correcting problems.

- Use the pre-troubleshooting check list to gather information about the problem from the customer. See Pre-troubleshooting checklist on page 112.
- Use the troubleshooting flowchart to pinpoint the root cause of hardware malfunctions. The flowchart provides guides to the section of this chapter that contain steps to correct the malfunction. See Troubleshooting flowchart on page 113.

Before beginning any troubleshooting procedure, check the following issues:

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

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

Pre-troubleshooting checklist

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

General topic	Questions
Environment	• Is the printer installed on a solid, level surface (+/- 1°)? • Is the power-supply voltage within ± 10 volts of the specified power source? • Is the power-supply plug inserted in the printer and the wall outlet (not a surge protector)? • Is the operating environment within the specified parameters? • Is the printer exposed to ammonia gas, such as that produced by diazo copiers or office cleaning materials? NOTE: Diazo copiers produce ammonia gas as part of the copying processes. Ammonia gas (from cleaning supplies or a diazo copier) can have an adverse effect on some printer components (for example, the toner cartridge or cartridges OPC). • Is the printer exposed to direct sunlight? • Is the printer exposed to an air conditioning or heating vent that can cause temperature fluctuations?

General topic	Questions
Media	• Does the customer use only supported media? • Is the media in good condition (no curls, folds, or distortion)? • Is the media stored correctly and within environmental limits?
Input trays	• 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 (no gaps in the stack or excessive pressure causing the stack to bow)? • Is the tray (or trays) correctly installed in the printer?
Toner cartridge	• Is the toner cartridge (or cartridges) installed correctly?
Transfer unit and fuser	• Are the transfer unit and fuser installed correctly? NOTE: For printers with an intermediate transfer belt (ITB), is the ITB installed correctly and fully seated. If a replacement ITB was installed, was all of the packing materials removed?
Covers	• Is the toner cartridge door closed?
Condensation	• Does condensation occur following a temperature change (particularly in winter following cold storage)? If so, wipe affected parts dry or leave the printer on for 10 to 20 minutes. • Was a toner cartridge (or cartridges) opened soon after being moved from a cold to a warm room? If so, allow the toner cartridge (or cartridges) to sit at room temperature for 1 to 2 hours.
Miscellaneous	• Check for and remove any non-HP components (toner cartridges, memory modules, and EIO cards) from the printer. • Remove the printer from the network and ensure that the failure is associated with the printer before beginning troubleshooting. • For any color print-quality issues (color printers only), calibrate the printer, and then print a diagnostics page to verify print quality.

Troubleshooting flowchart

This flowchart highlights the general processes to follow to quickly isolate and solve printer hardware problems.

Each row depicts a major troubleshooting step. Follow a “yes” answer to a question to proceed to the next major step. A “no” answer indicates that more testing is needed. Go to the appropriate section in this chapter, and follow the instructions there. After completing the instructions, go to the next major step in this troubleshooting flowchart.

Table 2-8 Troubleshooting flowchart

1 **Power on**	Is the printer on and does a readable message display?		Follow the power-on troubleshooting checks. See Power subsystem on page 114. After the control panel display is functional, see step 2.
	Yes ↓	No →	
2 **Control panel messages**	Does an error message appear on control-panel display?		After the errors have been corrected, go to step 3.

Table 2-8 Troubleshooting flowchart (continued)

	No ↓	Yes→	
3 **Event log**	Open the Troubleshooting menu and view or print an event log to see the history of errors with this printer. Does the event log print?		If the event log does not print, check for error messages. If paper jams inside the printer, see the jams section of the printer service manual. If error messages display on the control panel when trying to print an event log, see the control panel message document (CPMD) for this printer. NOTE: The CPMD is not provided in this service manual. The CPMD for this printer is available on the HP Service Access Workbench (SAW) Web site. Go to http://h41302.www4.hp.com/km/saw/home.do. After successfully printing and evaluating the event log, see step 4.
	Yes ↓	No →	
4 **Information pages**	Open the Reports menu and print the configuration pages to verify that all the accessories are installed. Are all the accessories installed?		If accessories that are installed are not listed on the configuration page, remove the accessory and reinstall it. After evaluating the configuration pages, see step 5.
	Yes ↓	No →	
5 **Print quality**	Does the print quality meet the customer's requirements?		Compare the images with the sample defects in the print quality troubleshooting guide. See the printer specific image defects section in the printer troubleshooting service manual. After the print quality is acceptable, see step 6.
	Yes ↓	No →	
6 **Interface**	Can the customer print successfully from the host computer?		Verify that all I/O cables are connected correctly and that a valid IP address is listed on the HP Jetdirect configuration page. If error messages display on the control panel when trying to print an event log, see the control-panel message section of the printer troubleshooting service manual. When the customer can print from the host computer, this is the end of the troubleshooting process.
	Yes. This is the end of the troubleshooting process.	No →	

Power subsystem

Power-on checks

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

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

NOTE: For touchscreen control panel models, also try the control panel checks in the printer *Troubleshooting Manual*.

Power-on troubleshooting overview

Startup sounds are heard when the printer power is turned and is operating correctly. If these sounds are heard, the dc side of the power supply is functioning.

If startup sounds are heard, 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.

NOTE: Depressing, and holding down, the test-page switch causes the printer to continually print test pages. Releasing the switch stops the test page continuous printing.

Troubleshooting power on problems

1. Verify that power is available to the printer. If the printer is plugged into a surge protector or uninterruptible power supply (UPS), remove it, and then plug the printer directly into a known operating wall receptacle (make sure that the wall receptacle provides the correct voltage and current for the printer).

   Unplug any other devices on the same circuit that the printer is using.

2. Try another known operating wall receptacle and a different power cord.

3. Listen for startup noises (for example, fans or motors) and look for illuminated lights on the control panel and formatter LEDs.

   NOTE: Operational fans, motors, and control-panel lights indicate the following:

   - AC power is present at the printer.
   - The power supply is providing either or both 24 Vdc and 5 Vdc voltages.
   - The DC controller microprocessor is functioning.

4. Check the following:

   a. Turn the printer on, and then listen for startup noises. If normal startup noises are heard, go to step c below.

   b. If normal startup noises are not heard, turn the printer off, and then remove any installed accessories (for example, envelope feeders, paper feeders, or output accessories).

      Turn the printer on, and then listen for startup noises. If normal startup noises are heard, the problem might be with one of the accessories.

   c. Turn the printer off and then remove the power connector from the formatter. Turn the printer on, and then use a small pointed object (like a paper clip) to depress the engine test-page switch located on the rear or right side (depending on printer model) of the printer (near the formatter).

      NOTE: The test page can only use Tray 2 as the paper source, so make sure that paper is loaded in Tray 2.

d. If the engine test page prints, the print engine is operating normally. Replace the formatter.

NOTE: **M631dn only**: If the engine test page does not print, turn the printer off, remove the embedded MultiMedia Card (eMMC), and then try the engine test again. If the page prints, the problem might be the eMMC.

e. If after replacing the formatter normal startup noises are still not heard, replace the DC controller.

NOTE: If the error persists after replacing these assemblies, elevate using the Standard Support process.

Troubleshooting a blank control panel

A blank control panel display can be caused by one or more of the following:

- No power to the printer.
- Power supply has tripped (over-current/over-voltage/temperature issue).
- Check the cables and connections on the formatter and at the control panel.
- Faulty components installed on the formatter (for example, memory DIMM or disk drive).
- Faulty control panel.
- **M631dn only**: Make sure that the embedded MultiMedia Card (eMMC) PCA is fully seated.
- For touchscreen models, use the control panel checks section in the printer *Troubleshooting Manual* to troubleshoot the control panel

1. Verify that power is available to the printer. If the printer is plugged into a surge protector or uninterruptible power supply (UPS), remove it, and then plug the printer directly into a known operating wall receptacle (make sure that the wall receptacle provides the correct voltage and current for the printer).
2. Make sure that the power switch is in the *on* position.
3. Make sure that startup noises are heard, which indicates that the power supply is operational.
4. Make sure that the control-panel display wire harness is connected (at both ends).
5. Make sure that the formatter connectors are fully seated. Make sure the power switch is in the on position, and then verify that the heartbeat LED is blinking.
6. Remove any external solutions, and then try to turn the printer on again.
7. If the control panel display is blank, but startup sounds are heard after the printer power is turned on, try printing an engine-test page to determine whether the problem is with the control-panel display, formatter, or other printer assemblies.

a. Remove the formatter.

b. Use a small pointed object to depress the test-page switch located on the rear of the printer.

NOTE: The test page can only use Tray 2 as the paper source, so make sure that paper is loaded in Tray 2.

c. If the engine test page prints, the print engine is operating normally (a failed engine test print page does not necessarily indicate that the print engine or DC controller is defective).

d. Use the control-panel diagnostics to test the control panel. See the control panel checks section in the printer *Troubleshooting Manual*. If the error persists, proceed to step 8.

8. If the print engine appears to be correctly operating (the engine test page successfully printed) and the control panel is still blank, replace the power supply.

9. If after replacing the power supply normal startup noises and lights are still not present, replace the DC controller.

NOTE: If the error persists after replacing these assemblies, elevate using the Standard Support process.

Control panel checks (touchscreen models)

NOTE: The printer includes a diagnostic test mode for the touchscreen control panels. Diagnostic tests are not available for the LCD control panel.

- Control-panel diagnostics (touchscreen models)
- Control panel diagnostic flowcharts (touchscreen models)

Control-panel diagnostics (touchscreen models)

- Touchscreen diagnostic mode (touchscreen models)
- Control-panel system diagnostics (touchscreen models)

Touchscreen diagnostic mode (touchscreen models)

Use the diagnostics in this section to test the control-panel hardware and embedded firmware. These tests are useful for checking control-panel functionality independent of the printer control-panel system diagnostics. To test the control panel using the system diagnostics, see Control-panel system diagnostics (touchscreen models) on page 125.

1. **Small touchscreen only**: Locate the diagnostic-tests access button on the back of the control panel.

Figure 2-23 Diagnostic-tests access button (small touchscreen)

2. **Small touchscreen only**: Press the diagnostics-access button. Repeatedly pressing the button cycles through the available diagnostics.

NOTE: A pen, pencil, or other small blunt object is needed to press the button.

TIP: When pressed, the button illuminates green.

Figure 2-24 Press the diagnostics-access button (small touchscreen)

3. **Large touchscreen only**: Locate the diagnostic-tests access button on the back of the control panel.

Figure 2-25 Diagnostic-tests access button (large touchscreen)

4. **Large touchscreen7 only**: Press the diagnostics-access button. Repeatedly pressing the button cycles through the available diagnostics.

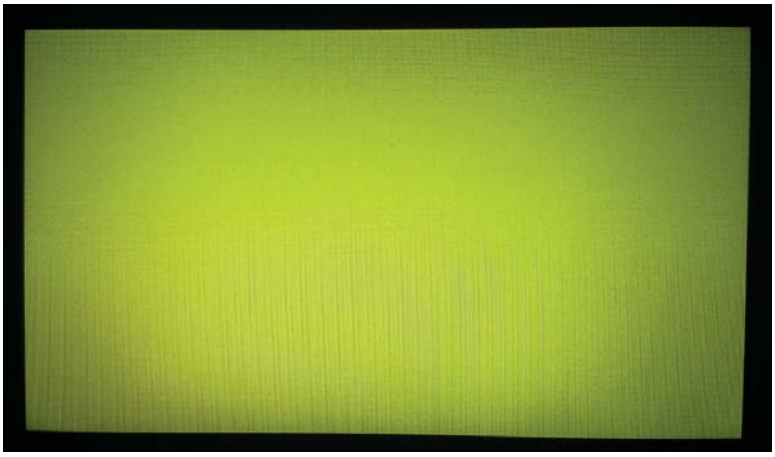
Figure 2-26 Press the diagnostics-access button (large touchscreen)

5. A yellow screen appears (after the first press of the button) indicating that the control-panel firmware is version A (a magenta screen indicates version B firmware).

NOTE: If a different color appears on the screen, elevate using the Standard Support process to determine the firmware version.

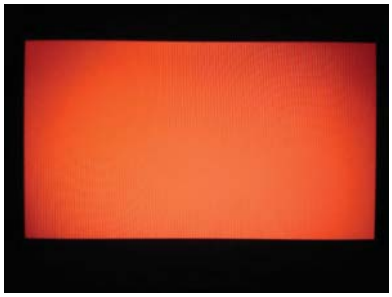
TIP: After 4 seconds of inactivity, the diagnostic mode times out and is exited.

Figure 2-27 Control-panel version A yellow screen

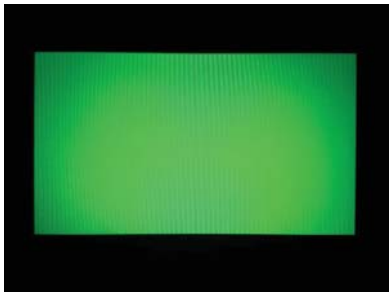


6. Touch the screen to cycle the screen through the following:

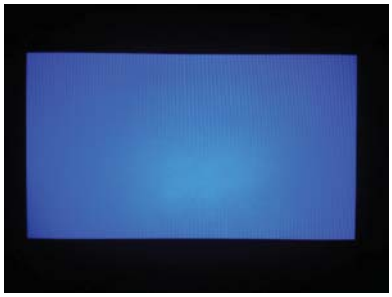
   - A red screen.



- A green screen.



- A blue screen.



- Five brightness levels of a white screen.

- A final black screen.

TIP: When the final black screen displays, press the Home button to cycle through the diagnostic screens and test its functionality.

7. Pressing the diagnostic-tests button with the black screen displayed, exits the diagnostic mode.

Control-panel system diagnostics (touchscreen models)

Use the diagnostics in this section to test the control-panel hardware and display using the printer firmware system diagnostics.

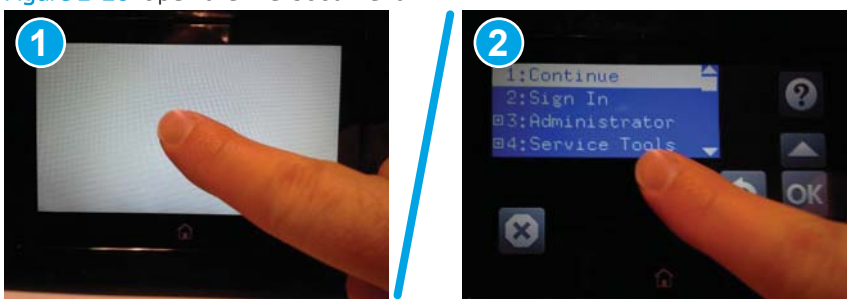
- Open the control-panel system diagnostic tests
- Screen test
- Touch test
- SoftKey test
- Backlight test
- Sound test
- Keyboard test (M632z/633z only)
- Version

Open the control-panel system diagnostic tests

Open the control-panel system diagnostic tests from a touchscreen control panel

1. Turn the printer power off, and then on again.
2. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-28 Open the Pre-boot menu



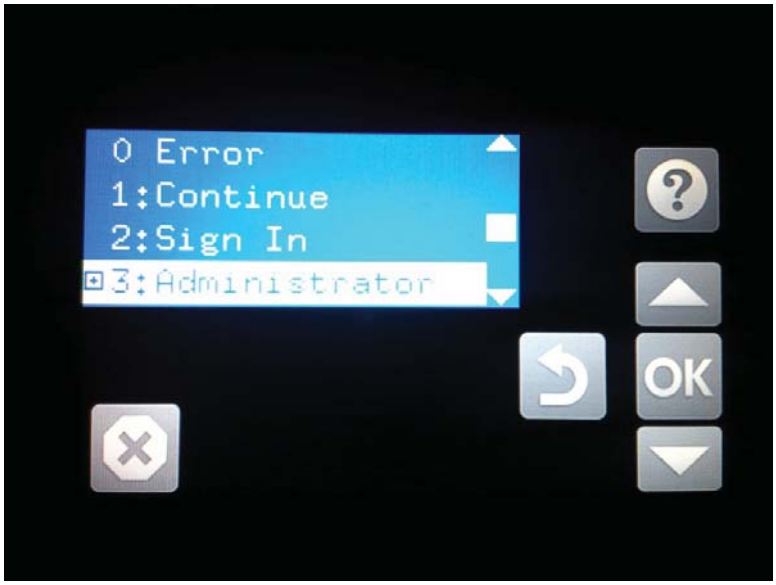
3. On the Pre-boot menu screen, use the following buttons to navigate the tests.

Figure 2-29 Pre-boot menu

	Use this button to see more information about a selected item.
	Use this button to scroll up through menu items.
	Use this button to select a highlighted menu item.
	Use this button to scroll down through menu items.
	Use this button to go back to the previous menu.
	Not used.
	Use this button to exit a diagnostic test.

4. Use the down arrow ▼ button to scroll to +3 Administration, and then press the OK button to select it.

Figure 2-30 Access the administration menu



5. Use the down arrow ▼ button to scroll to +E CP Diagnostics, and then press the OK button to select it.

NOTE: An administrator password might be required to continue.

Figure 2-31 Access the diagnostics menu

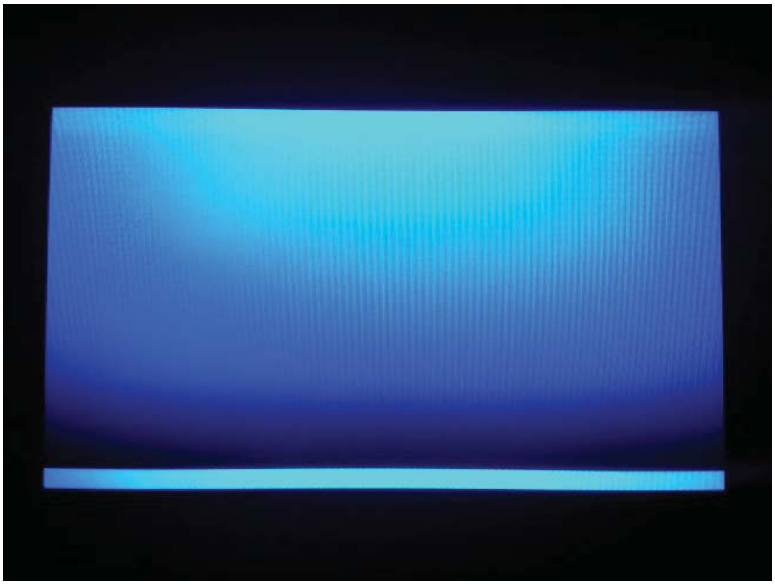
Screen test

1. Open the control-panel system diagnostic tests. See Open the control-panel system diagnostic tests on page 125.
2. With 1 Screen Test highlighted, press the OK button to select it.

   Figure 2-32 Open the screen test

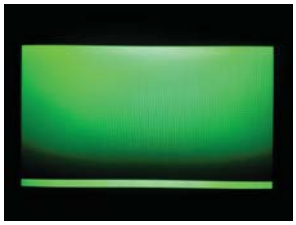
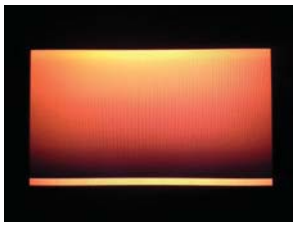
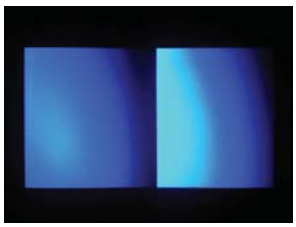
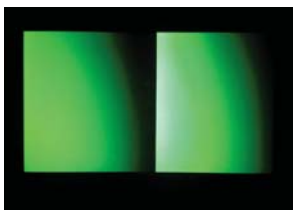
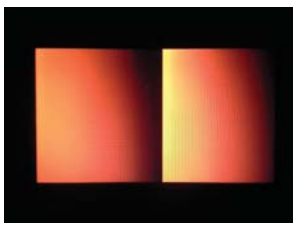
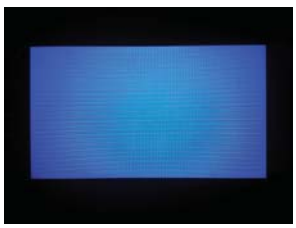
3. The blue vertical gradient screen appears.

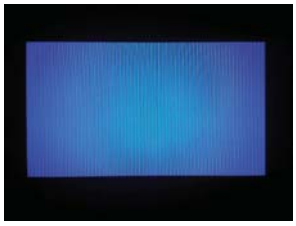
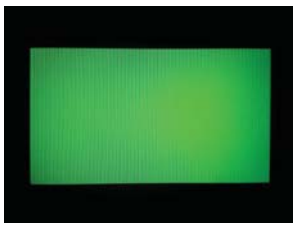
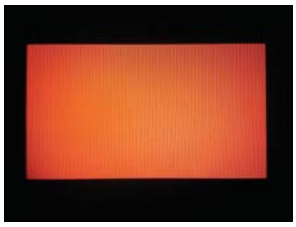
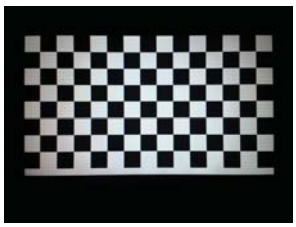
   Figure 2-33 Blue vertical gradient screen

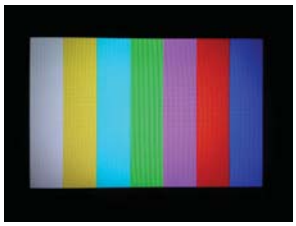
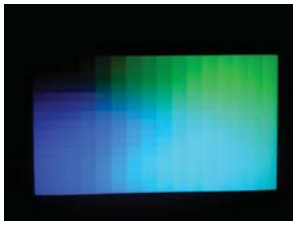
   

4. Touch the touchscreen to scroll though the remaining touchscreen test screens.

NOTE: Touch the Home button to exit the test.

	Green vertical gradient
	Red vertical gradient
	Blue horizontal gradient
	Green horizontal gradient
	Red horizontal gradient
	Blue with black horizontal interlaced
	Green with black horizontal interlaced

	Red with black horizontal interlaced
	Blue with black vertical interlaced
	Green with black vertical interlaced
	Red with black vertical interlaced
	Black with white center
	White with black center
	Checkerboard

	Multicolor stripes
	Blue green grid meshing

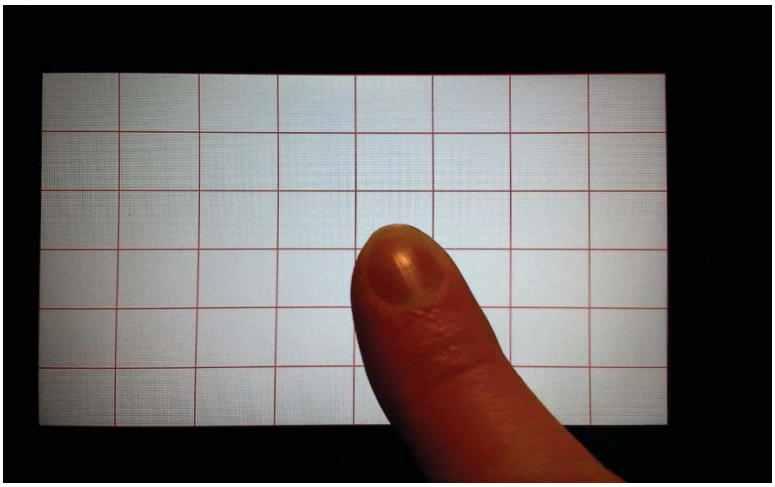
Touch test

1. Open the control-panel system diagnostic tests. See Open the control-panel system diagnostic tests on page 125.
2. Use the down arrow ▼ button to scroll to 2 Touch Test, and then press the OK button to select it.

Figure 2-34 Open the touch test

3. Use your finger to touch the white grid on the display.

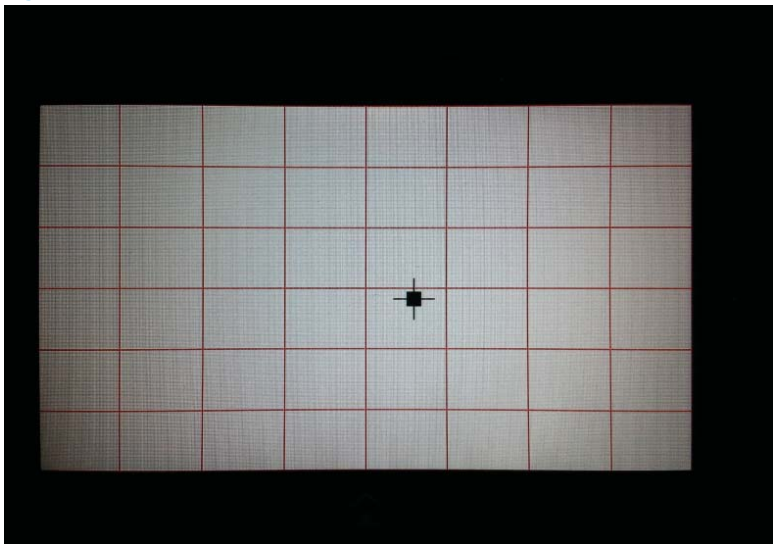
Figure 2-35 Touch the white grid



4. A mark appears on the grid where it was touched.

NOTE: Touch the Home button to exit the test.

Figure 2-36 Verify the mark



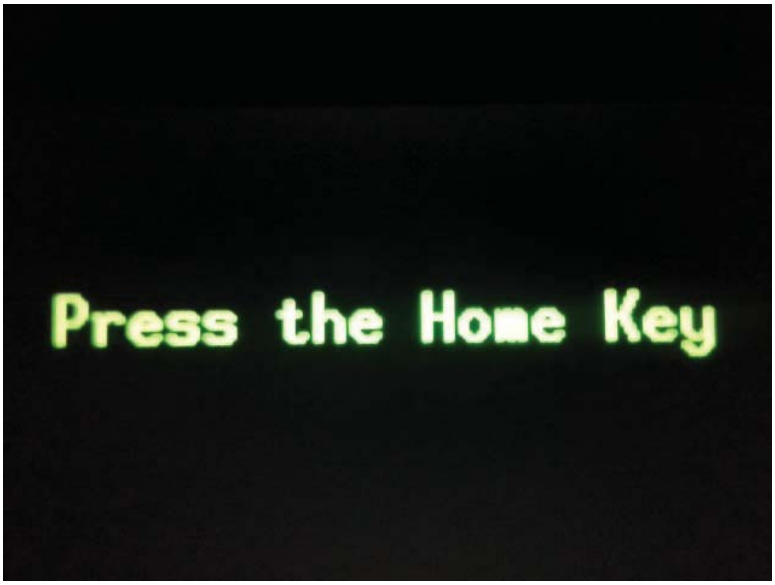
SoftKey test

1. Open the control-panel system diagnostic tests. See Open the control-panel system diagnostic tests on page 125.
2. Use the down arrow ▼ button to scroll to 3 SoftKey Test, and then press the OK button to select it.

Figure 2-37 Open the softkey test

3. When prompted, touch the Home button.

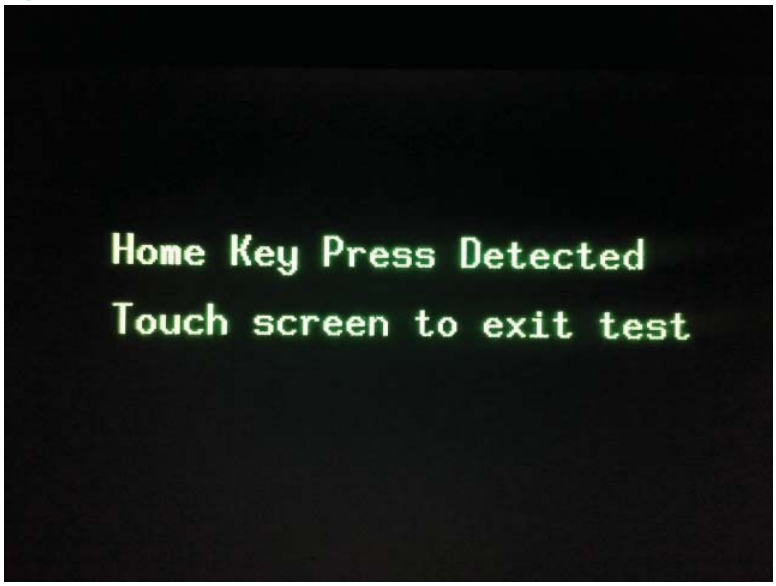
Figure 2-38 Touch the Home button



4. If the test is successful, the following screen appears on the display.

NOTE: Touch the screen to exit the test.

Figure 2-39 Successful test



Backlight test

1. Open the control-panel system diagnostic tests. See Open the control-panel system diagnostic tests on page 125.
2. Use the down arrow ▼ button to scroll to 4 Backlight Test, and then press the OK button to select it.

   After selecting the 4 Backlight Test, the screen automatically dims, and then returns to full brightness.

NOTE: Touch any key to exit the test.

Figure 2-40 Open the backlight test

Sound test

1. Open the control-panel system diagnostic tests. See Open the control-panel system diagnostic tests on page 125.
2. Use the down arrow ▼ button to scroll to 5 Sound Test, and then press the OK button to select it.

   After selecting the 5 Sound Test, the printer emits a series of audible tones.

NOTE: Touch any key to exit the test.

Figure 2-41 Open the sound test

Keyboard test (M632z/633z only)

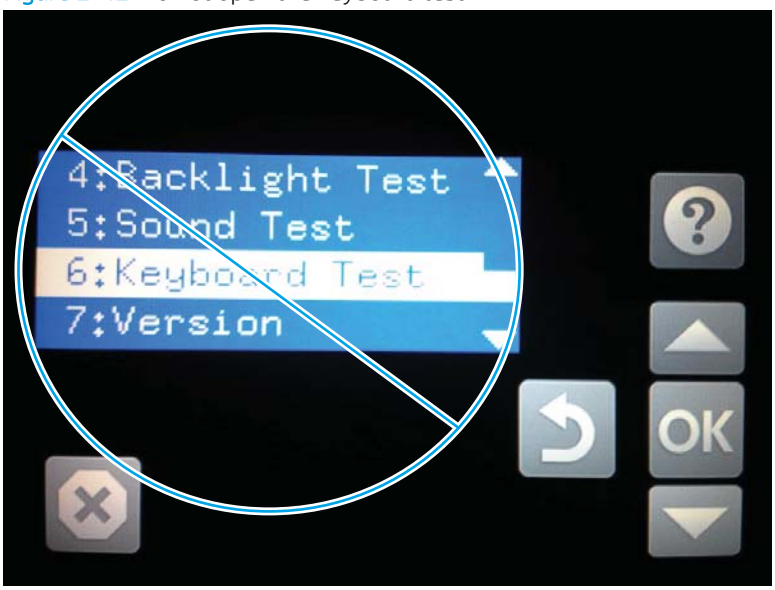
IMPORTANT: The control-panel system diagnostic tests include a 6 Keyboard Test item. This test is **not** valid for printers that do not have a pull out keyboard installed, even though this option is present in the control-panel system diagnostic tests menu.

If the 6 Keyboard Test is opened on the M632z or 633z printers, the printer power must be turned off to exit the test.

HP does not recommend turning the printer power off during the control-panel system diagnostic tests.

1. Open the control-panel system diagnostic tests. See Open the control-panel system diagnostic tests on page 125.
2. Use the down arrow ▼ button to scroll to 6 Keyboard Test, and then press the OK button to select it.

   Figure 2-42 Do not open the keyboard test

3. When prompted, touch the H key on the keyboard or the Home button to exit the test.

Version

1. Open the control-panel system diagnostic tests. See Open the control-panel system diagnostic tests on page 125.
2. Use the down arrow ▼ button to scroll to 7 Version, and then press the OK button to select it.

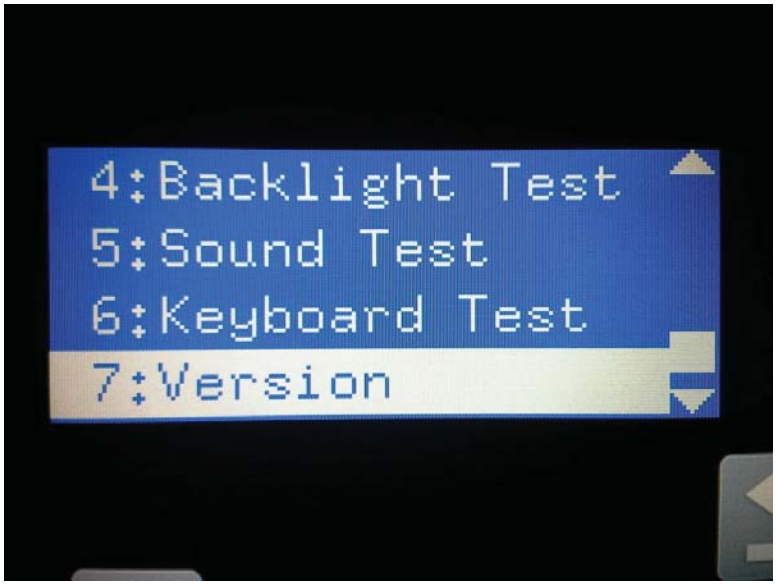
NOTE: Touch any key to exit the test.

Select 7 Version to view the following types of information:

NOTE: The following types of information are for the control panel only, not the printer.

- Panel ID
- Hardware (version)
- Firmware (version)
- KB Hw (version)
- KB Firm (version)
- LCD Vendor
- Touch Controller Version

Figure 2-43 Open the sound test



Control panel diagnostic flowcharts (touchscreen models)

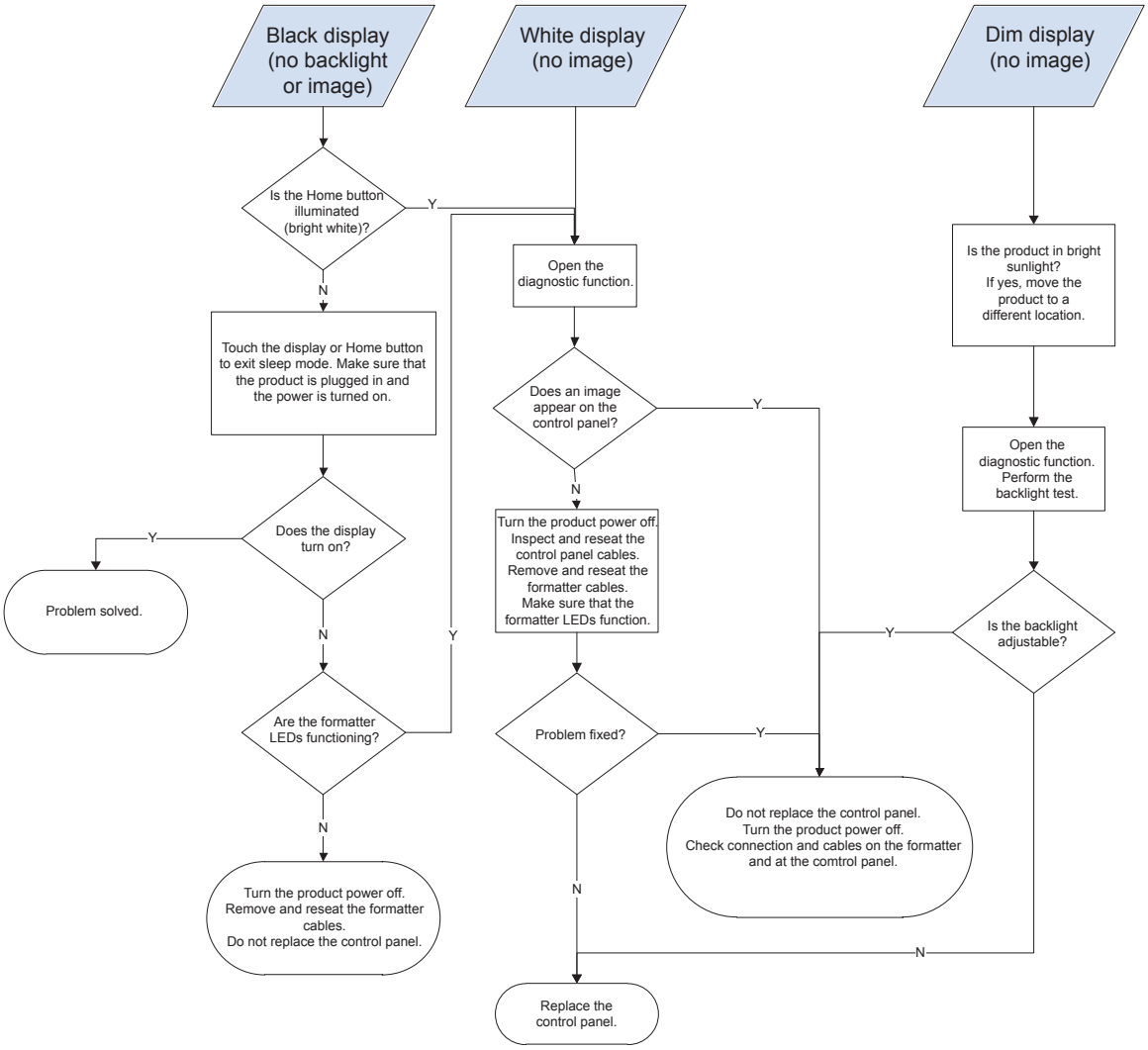
Use the flowcharts in this section to troubleshoot the following control panel problems.

- Touchscreen is blank, white, or dim (no image).
- Touchscreen is slow to respond or requires multiple presses to respond.
- Touchscreen has an unresponsive zone.
- No control panel sound.
- Home button is unresponsive.
- Hardware integration pocket (HIP) is not functioning (control panel functional).

Touchscreen black, white, or dim (no image)

NOTE: To open the diagnostic function, press the button on the back of the control panel.

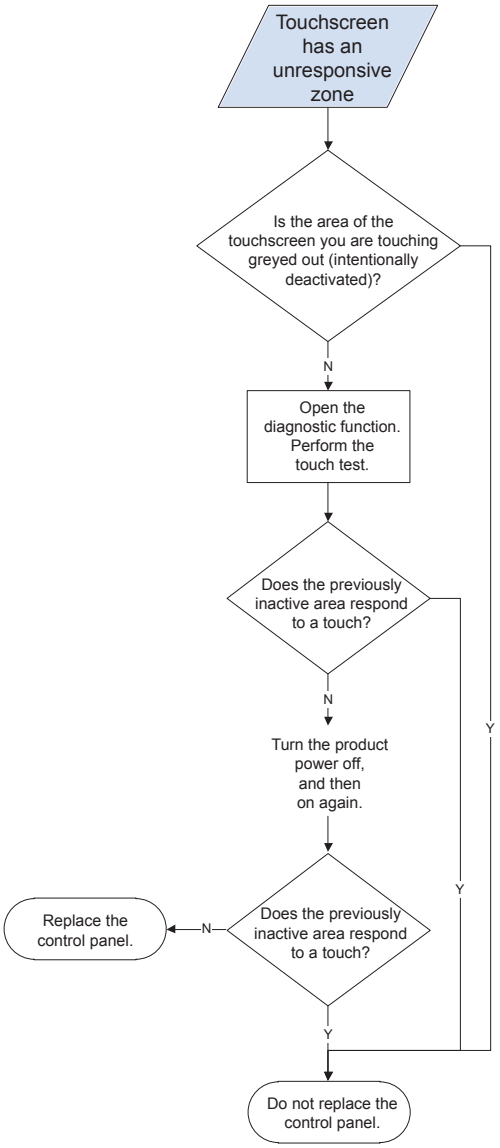
Figure 2-44 Touchscreen blank, white, or dim (no image)



Touchscreen has an unresponsive zone

NOTE: To open the diagnostic function, press the button on the back of the control panel.

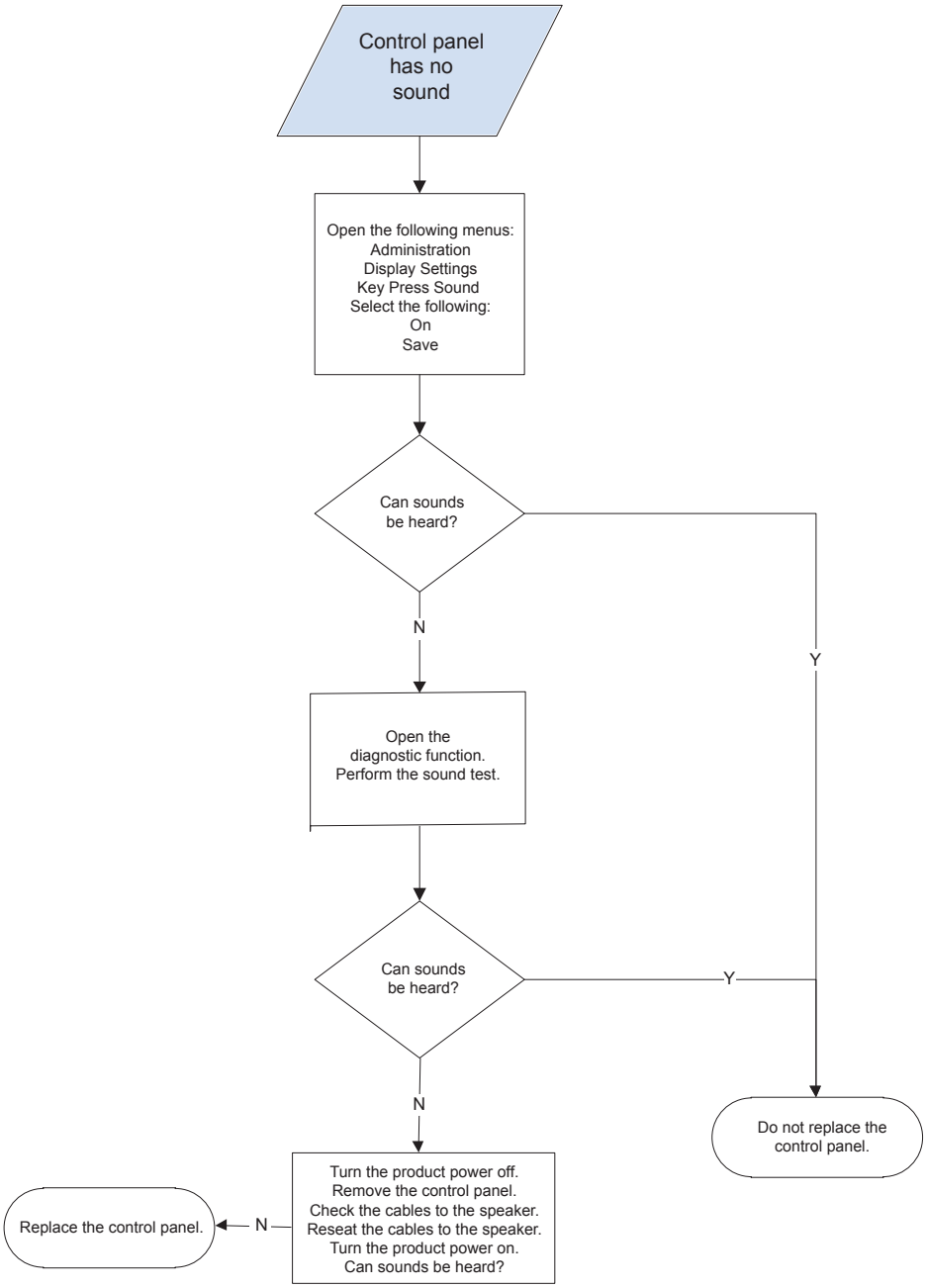
Figure 2-45 Touchscreen has an unresponsive zone



No control panel sound

NOTE: To open the diagnostic function, press the button on the back of the control panel.

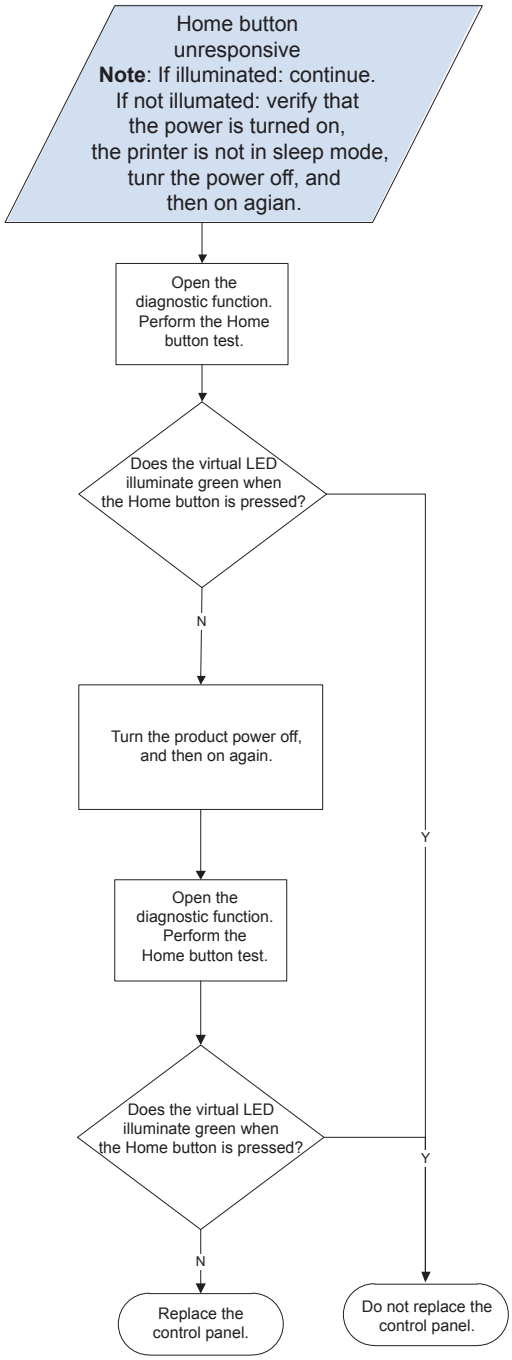
Figure 2-46 No control panel sound



Home button is unresponsive

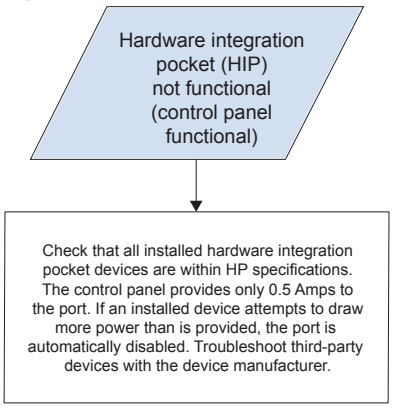
NOTE: To open the diagnostic function, press the button on the back of the control panel.

Figure 2-47 Home button is unresponsive



Hardware integration pocket (HIP) is not functioning (control panel functional)

Figure 2-48 Hardware integration pocket (HIP) is not functioning (control panel functional)



Tools for troubleshooting

NOTE: This section describes tools that can help to solve printer problems.

- Individual component diagnostics
- Diagrams
- Internal test and information pages
- Control-panel menus
- Control panel message document (CPMD)

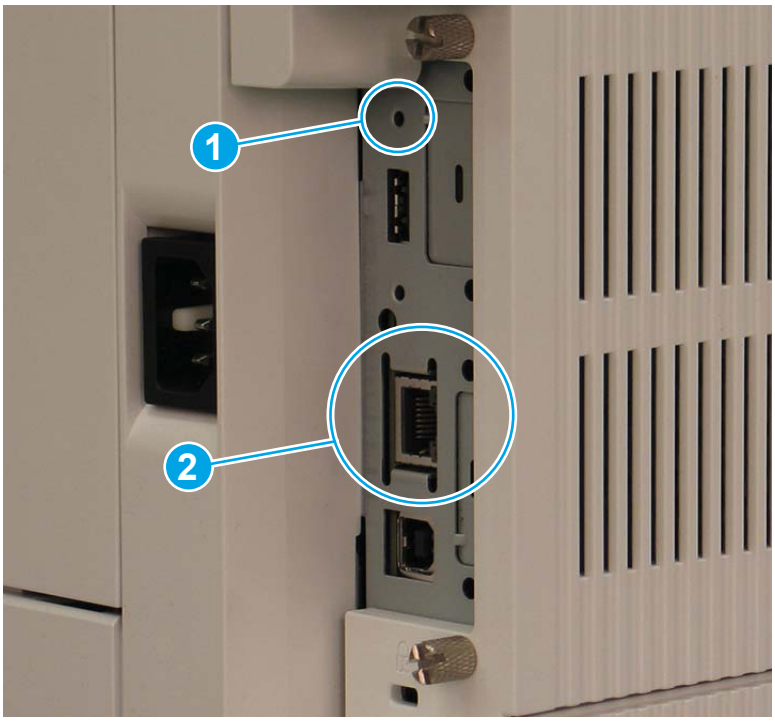
Individual component diagnostics

Tools for troubleshooting: LED diagnostics

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

Understand lights on the formatter

Three LEDs on the formatter indicate that the printer is functioning correctly.



1	Heartbeat LED
2	HP Jetdirect LEDs

Heartbeat LED

The heartbeat LED indicates that the formatter is functioning correctly. While the printer is initializing after it is turned on, the LED blinks rapidly, and then turns off. When the printer has finished the initialization sequence, the heartbeat LED pulses on and off.

The following list describes the heartbeat LED operation while the printer is executing the firmware boot process.

If after initialization, the heartbeat LED is not solid green, see Table 2-9 Heartbeat LED, printer operational on page 148.

- Green
  - Blinking: The printer is correctly functioning.
  - Solid: The FW has not yet booted.
- Amber

  - Blinking: The control panel is not detected.
  - Solid: The FFC between the formatter and DC controller is not connected or is damaged.
- Red
  - Solid: Valid SPI code; there is a problem releasing ASIC and running the BIOS

    Solid: BIOS initiates PROSAC to change the LED from red to green.

    Solid: PROSAC is not running (No ROM or SPI code).
  - Blinking: Valid SPI code not found.
- Off: No 5V or 3.3V PROSAC power.

The following table describes the heartbeat LED operation when the printer completes the firmware boot process and is in the **Ready** state.

Table 2-9 Heartbeat LED, printer operational

LED color	Description
Green	• Normal operation – Formatter is operating normally – Firmware is operating normally – Control panel is connected
Yellow	• Formatter cannot connect to the control panel – Check control panel connections – Verify control panel functionality
Red	• Formatter error or failure – Serial peripheral interface (SPI) flash memory boot error – Power on self-test (formatter) failed – Diagnostic (formatter) failed
Off	TIP: The heartbeat LED is off if the power cable is disconnected, the printer power switch is in the off position, or the printer is in Sleep Mode. • Firmware or system freeze – Check control panel for an error message – Control panel failure NOTE: This condition is not usually caused by a formatter failure. Turn the power off, and then on again. If the error persists, perform a firmware upgrade.

HP Jetdirect LEDs

The embedded HP Jetdirect print server has two LEDs. The yellow LED indicates network activity, and the green LED indicates the link status. A blinking yellow LED indicates network traffic. If the green LED is off, a link has failed.

For link failures, check all the network cable connections. In addition, try to manually configure the link settings on the embedded print server by using the printer control-panel menus.

1. From the Home screen on the printer control panel, scroll to and touch the Administration button.
2. Open the following menus:
   - Network Settings
   - Embedded Jetdirect Menu
   - Link Speed
3. Select the appropriate link speed, and then touch the OK button.

Tools for troubleshooting: Engine diagnostics

The printer contains extensive internal engine diagnostics that help in troubleshooting print quality, paper path, noise, assembly, and timing issues.

Engine test button

To verify that the printer engine is functioning, print an engine test page. Use a small pointed object to depress the test-page switch located on the rear side of the printer. The test page should have a series of lines that are parallel to the short end of the page. The test page can use only Tray 2 as the paper source, so make sure that paper is loaded in Tray 2.

NOTE: Depressing, and holding down, the test-page switch causes the printer to continually print test pages. Releasing the switch stops the test page continuous printing.

TIP: Depending on the printer model, the engine test button is located on the right side or rear side of the printer.

Figure 2-49 Engine test button (1 of 2)

Figure 2-50 Engine test button (2 of 2)

Defeating interlocks

Different tests can be used to isolate different types of issues. For assembly or noise isolation, run the diagnostic test when the toner cartridge door or rear door is open.

Defeating the door interlocks allows observation of the paper pick operation (and view the page enter registration).

⚠ WARNING! Be careful when performing printer diagnostics to avoid risk of injury. Only trained service personnel should open and run the diagnostics with a door open. Never touch any of the power supplies when the printer is turned on.

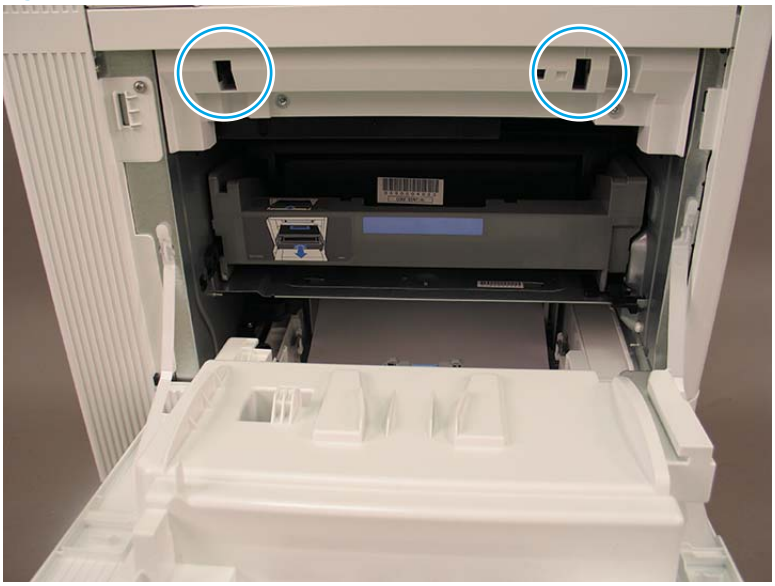
Defeat the toner cartridge door interlocks

1. Open the toner cartridge door.

2. Insert a folded piece of paper into the slots.

TIP: Fold a stiff piece of paper, for example a business card or index card, into two 10 mm (.375 in) strips, and insert the strips into the slots for the cartridge door logic switches.

Figure 2-51 Defeat the toner cartridge door interlocks



Defeat the right or rear door interlock

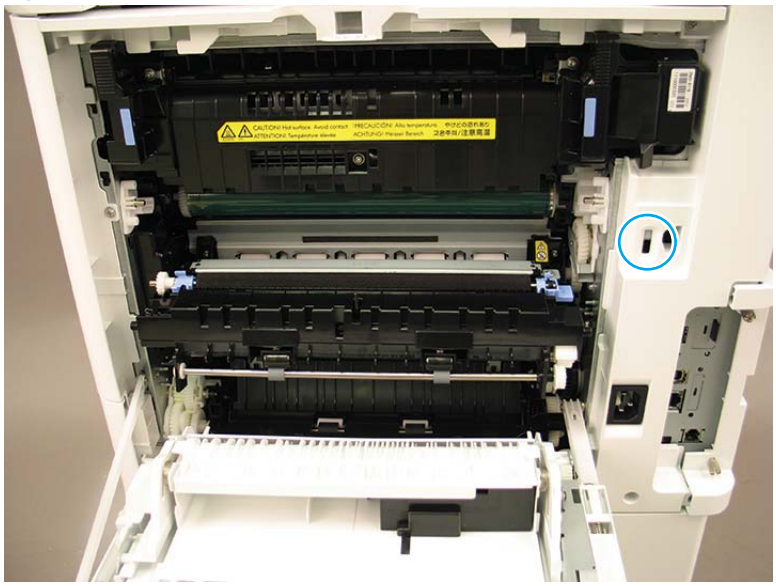
NOTE: For the M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 printers, this is the rear door.

1. Open the right or rear door.

2. Insert a folded piece of paper into the slot.

TIP: Fold a stiff piece of paper, for example a business card or index card, into two 10 mm (.375 in) strips, and insert the strips into the slot for the cartridge door logic switches.

Figure 2-52 Defeat the right or rear door interlock



Disable cartridge check

Use this diagnostic test to print internal pages or send an external job to the printer when the toner cartridge is removed or exchanged. Supply errors are ignored while the printer is in this mode. When the printer is in this mode, access the troubleshooting menus and print internal pages (the print quality pages will be the most useful). This test can be used to isolate problems, such as noise, and to isolate print-quality problems that are related to the toner cartridge.

NOTE: Do not remove or exchange the toner cartridge until after beginning the disable cartridge check diagnostic.

Disable cartridge check from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Diagnostic Tests
   - Disable Cartridge Check
3. Follow the prompts to perform a Disable Cartridge Check.

Disable cartridge check from a LCD control panel

1. rom the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Diagnostic Test menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to and select Disable Cartridge Check, and then press the OK button.
6. Follow the prompts to perform a Disable Cartridge Check.

Tools for troubleshooting: Paper path and sensor diagnostic tests

- Paper path page
- Paper path sensors test
- Manual sensor tests

Paper path page

This page contains the following type of information:

- Paper path usage
- Scanner usage (MFP printers)
- Paper type usage
- Print mode usage (sides)

View or print the paper path page from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and the touch the Support Tools item.
2. Open the following menus:
   - Troubleshooting
   - Paper Path Page

   NOTE: The paper path page can only be viewed on the large touchscreen printers. For small touchscreen printers, print the pages.
3. Touch Print to print the pages, or touch Cancel to return to the Troubleshooting menu.

Print the paper path page from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Paper Path Page item, and then press the OK button.
5. Use the left arrow ◀ or right arrow ▶ buttons to select the Print item, and then press the OK button.

NOTE: Touch the Cancel button to return to the Troubleshooting menu.

Paper path sensors test

This test displays the status of each paper-path sensor and allows viewing of sensor status while printing an internal test page.

Access the paper path sensors test from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Diagnostic Tests
   - Paper Path Sensor Test
3. Select from the following:
   - Options (configure the Paper Path Sensor Test)

     NOTE: Depending on the printer model, not all options are available.
     - Number of copies
     - Paper tray (source to print from)
     - Output Sides (simplex or duplex testing)

- Staple (model dependant)
- Output bin (model dependant)

- Done (return to the Troubleshooting menu)
- Start (begins the test)

Access the paper path sensors test from a LCD control panel

1. rom the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Diagnostic Test menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to and select Paper path Sensor Test, and then press the OK button.
6. Use the left arrow ◀ or right arrow ▶ buttons to select from the following:

   - Options (configure the Paper Path Sensor Test)

     NOTE: Depending on the printer model, not all options are available.

     - Number of copies
     - Paper tray (source to print from)
     - Output Sides (simplex or duplex testing)
     - Staple (model dependant)
     - Output bin (model dependant)

   - Done (return to the Troubleshooting menu)
   - Start (begins the test)

Manual sensor tests

The Manual Sensor Test screen shows the sensor number, sensor name , sensor state (active or inactive), and the number of times the sensor has been toggled (activated).

Access the manual sensor test from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Diagnostic Tests
   - Manual Sensor Test
3. Select from the following:
   - All sensors (choose the group of sensors to test)
     - Input tray sensors
     - Output bin sensors
     - Engine sensors
   - Done (return to the Troubleshooting menu)
   - Reset (reset the selected sensor's state)

Access the manual sensor test from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Diagnostic Test menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to and select Manual Sensor Test, and then press the OK button.
6. Use the left arrow ◀ or right arrow ▶ buttons to select from the following:
   - Options (configure the Paper Path Sensor Test)
     - All sensors (choose the group of sensors to test)

        - Input tray sensors
        - Output bin sensors
        - Engine sensors
    - Done (return to the Troubleshooting menu)
    - Reset (reset the selected sensor's state)
- Done (return to the Troubleshooting menu)
- Start (begins the test)

Tools for troubleshooting: 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, stop the paper anywhere along the printer 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 ms.

Access the print/stop test from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Diagnostic Tests
   - Print/Stop Test
3. Touch the Stop next print job check box to enable the Print/Stop Test.
4. Touch the Delay ms (0 to 60000) box (a 10-key keypad appears), and then enter the time to stop printing delay (in milliseconds).
5. To perform the test, send a print job (the job will stop at the specified time).

NOTE: Touch the Done button to return to the Troubleshooting menu.

Access the print/stop test from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Diagnostic Test menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to and select Print/Stop Test, and then press the OK button.
6. Use the up arrow ▲ or down arrow ▼ buttons to scroll to the Stop next print job item, and then press the OK button to select the checkbox (enables the test).
7. Use the down arrow ▼ button to scroll to the Delay ms (0 to 60000) item, and then use the printer 10-key keypad to enter the time to stop printing delay (in milliseconds).
8. To perform the test, send a print job (the job will stop at the specified time).

NOTE: Use the arrow buttons to scroll to the Done button, and then press OK to return to the Troubleshooting menu.

Common print stop test timing millisecond (ms) stops

- 600 ms: The page has passed the registration area and the leading edge is just short of entering the fuser. The image can be seen on the paper but has not fused. If the defect is visible then the cause might be the drum, transfer roller, or a roller prior to, or in, the registration area.
- 1200 ms: The leading edge is about 18mm (0.71 in) into the top output bin. The image has gone through the fuser. If the defect was not visible prior to the fuser, and is visible after the fuser, then the fuser it is the likely cause of the print quality defect. Inspect the fuser for damage, debris, or labels stuck to the fuser. Replace the fuser. Discuss media specifications and proper care of the fuser with the customer.

Tools for troubleshooting: Component tests

Use the procedure below to test various printer mechanical and electromechanical assemblies.

Individual component diagnostics

This test activates individual parts independently to isolate problems.

Each component test can be performed once or repeatedly. If the Repeat option is enabled, the test cycles the component on and off. This process continues until the test automatically terminates.

NOTE: The cartridge door interlocks must be defeated to run the component tests. A control-panel display prompt appears to indicate removing the toner cartridge, during certain tests.

Access the individual component diagnostics from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Diagnostic Tests
   - Component Test
3. Select from the following:
   - Drum Motor > (displays the components list)

     NOTE: The list of components depending on the printer model.
   - Repeat (select this item to continuously run the test)

     NOTE: The test continues until the it stops automatically.
   - Done (return to the Troubleshooting menu)
   - Start (starts the component test)

Access the individual component diagnostics from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Diagnostic Test menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to and select Component Test, and then press the OK button.
6. Use the left arrow ◀ or right arrow ▶ buttons to select from the following:
   - Drum Motor > (displays the components list)

NOTE: The list of components depending on the printer model.

- Repeat (select this item to continuously run the test)

NOTE: The test continues until the it stops automatically.

- Done (return to the Troubleshooting menu)
- Start (starts the component test)

Tools for troubleshooting: Scanner tests (MFP)

Use these diagnostic tests to manually test the scanner optical carriage.

Continuous scan test (MFP)

This section lists describes accessing the Continuous Scan test.

Access the continuous scan test from a MFP touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Diagnostic Tests
   - Continuous Scan
3. Select from the following:
   - 2-sided (duplex test)
   - Done (return to the Troubleshooting menu)
   - Start (starts the test)

Tools for troubleshooting: Scanner tests (MFP)

Use these diagnostic tests to manually test the fax module.

Run fax test (MFP)

This section lists describes accessing the Run Fax Test procedure.

Access the run fax test from a MFP touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Diagnostic Tests
   - Run Fax Test
3. Select from the following:
   - Done (return to the Troubleshooting menu)
   - Start (starts the test)

Diagrams

Use the diagrams in this section to identify printer components.

Diagrams: Block diagrams

Use the diagrams in this section to identify printer sensors, switches, and assemblies.

Diagrams Electrical components

Figure 2-53 Printer base, image formation system block diagram

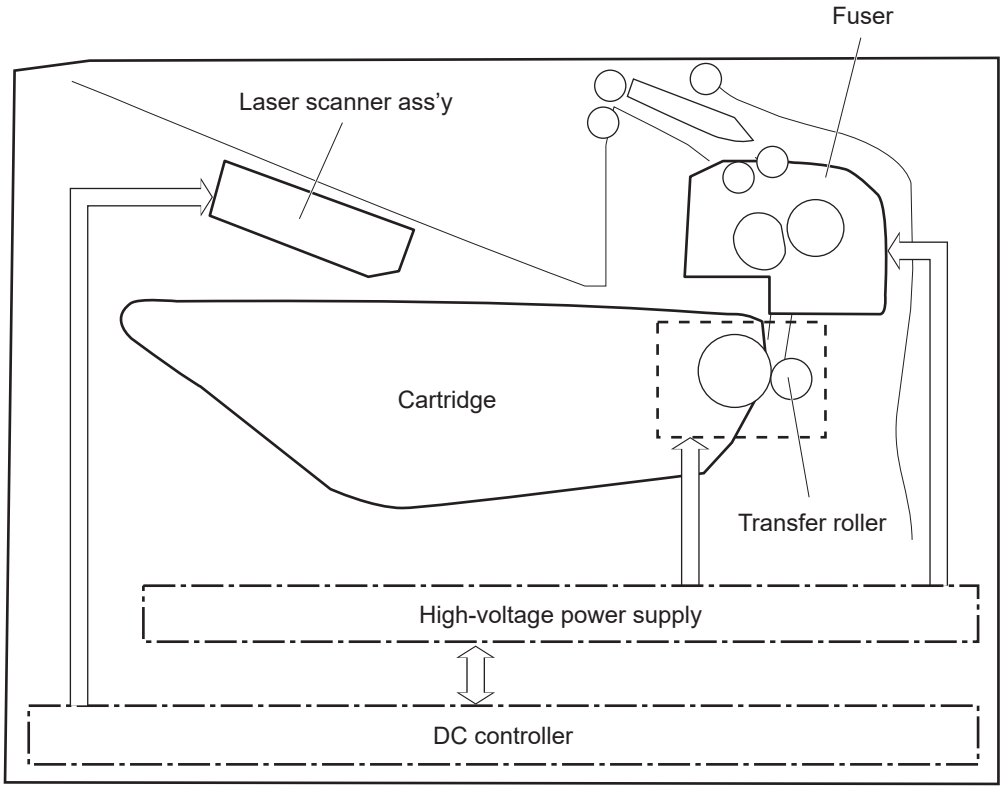


Figure 2-54 Printer base, sensors (image formation) block diagram

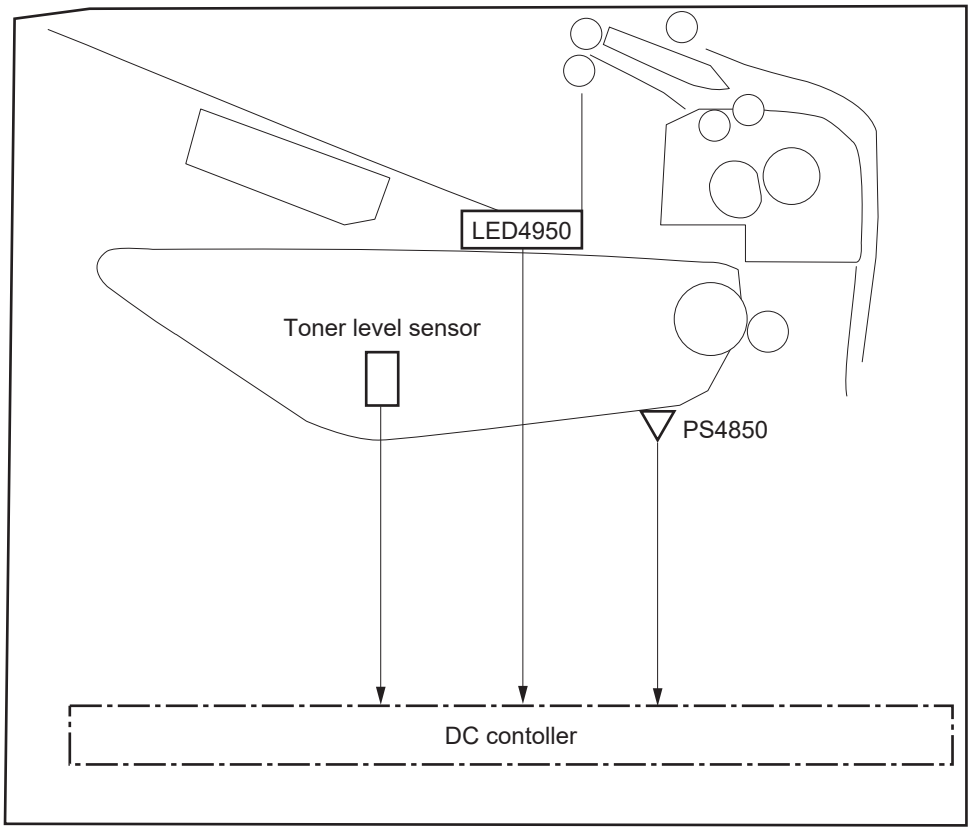


Table 2-10 Printer base, sensors (image formation) block diagram

Item	Description
LED4950	Pre-exposure LED
PS4850	Developer alienation sensor
NA	Toner level sensor

Figure 2-55 Printer base, sensors (pickup, feed, and delivery) block diagram

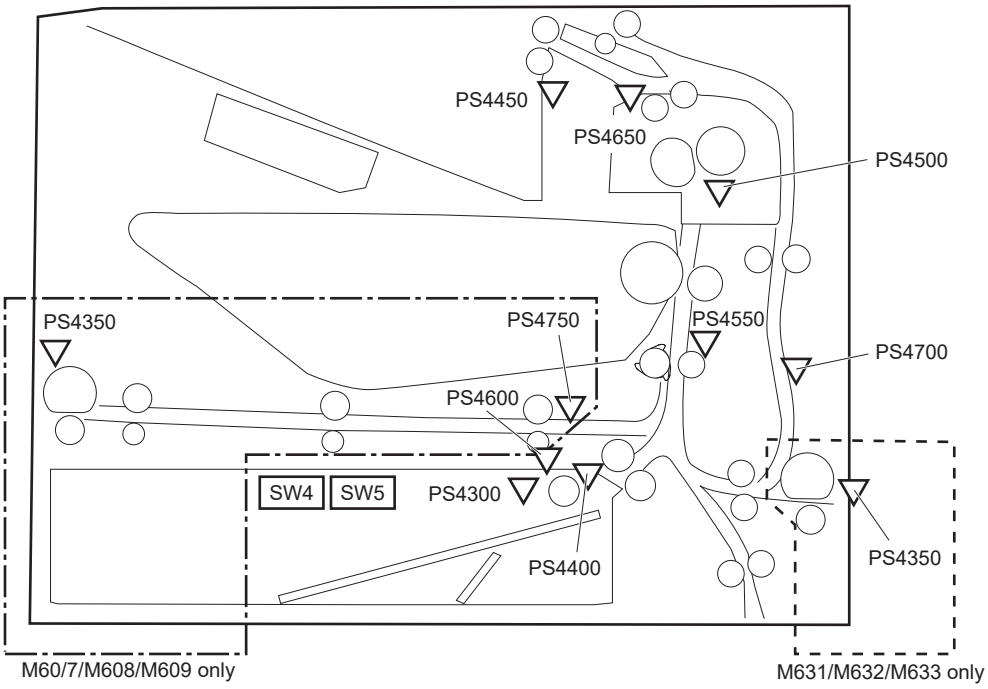


Table 2-11 Printer base, sensors (pickup, feed, and delivery) block diagram

Item	Description	Item	Description
PS4300	Tray 2 media out sensor	PS4600	Retard roller rotation sensor
PS4350	Tray 1 media out sensor	PS4650	Fuser output sensor
PS4400	Tray 2 media surface sensor	PS4700	Duplex feed sensor
PS4450	FD1 media full sensor	PS4750	Tray 1 feed sensor
PS4500	Fuser loop sensor	SW4	Tray 2 media size switch 1
PS4550	Registration sensor	SW5	Tray 2 media size switch 2

[1] Duplex models only.

[2] M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models only.

Figure 2-56 Printer base, motors, solenoids, and clutches block diagram

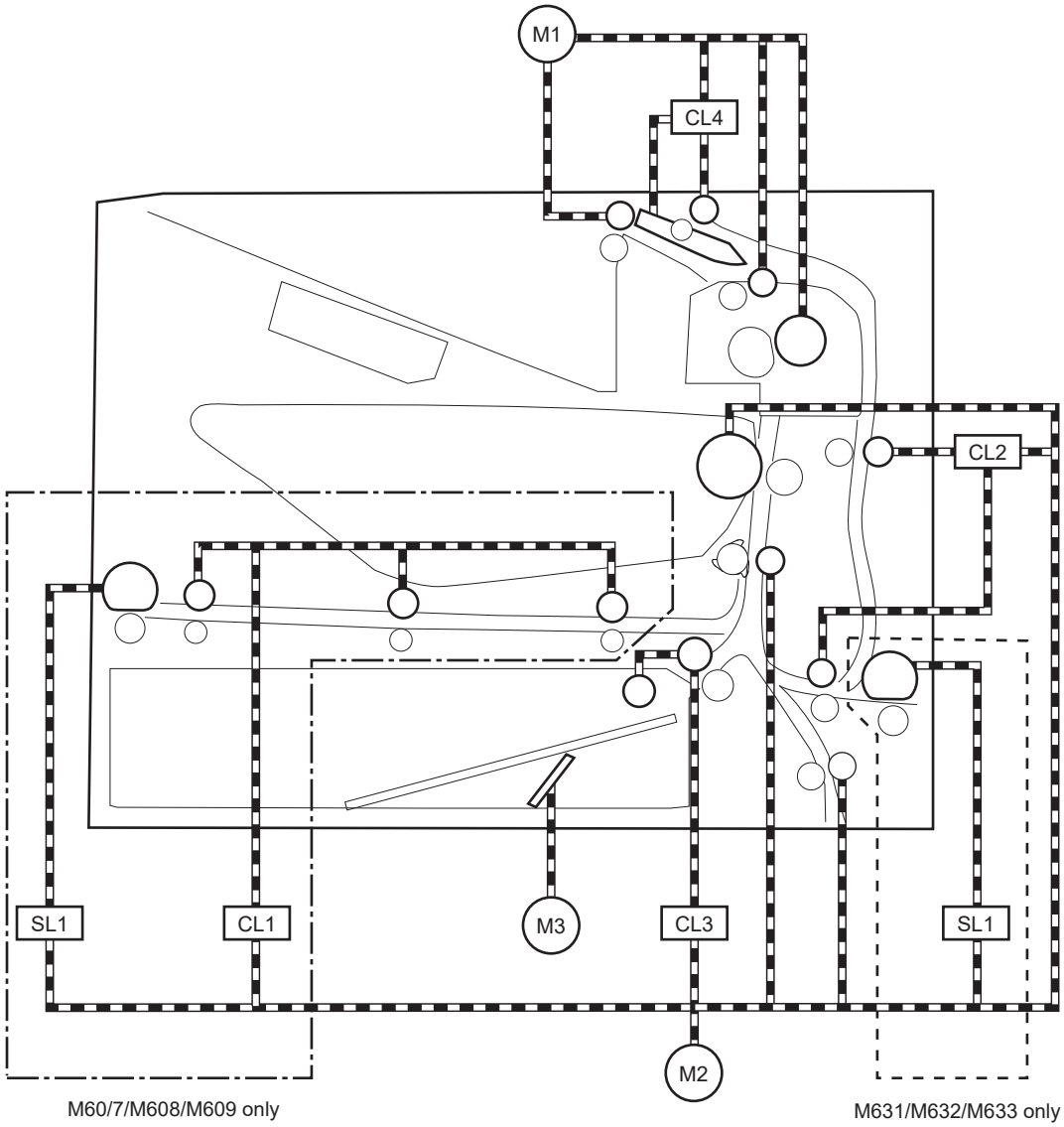


Table 2-12 Printer base, motors, solenoids, and clutches block diagram

Item	Description	Item	Description
M1	Fuser motor	CL1	Tray 1 feed clutch
M2	Drum motor	CL2	Duplex feed clutch
M3	Lifter motor	CL3	Tray 2 pickup clutch
SL1	Tray 1 pickup solenoid	CL4	Duplex switchback clutch

[1] Duplex models only.
[2] M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 models only.

Figure 2-57 1x550-sheet paper feeder, electrical components block diagram

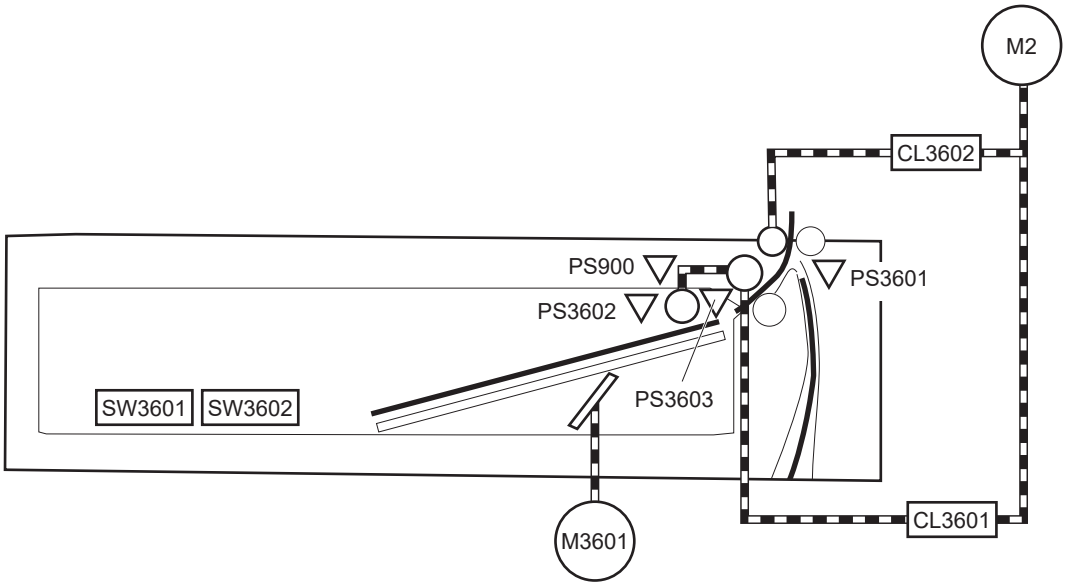


Table 2-13 1x550-sheet paper feeder, electrical components block diagram

Item	Description	Item	Description
M2	Drum motor	SW3603	PF Door switch
M3601	PF Lifter motor	PS3601	PF Feed sensor
CL3601	PF pickup clutch	PS3602	PF Media out sensor
CL3602	PF Feed clutch	PS3603	PF Media surface sensor
SW3601	PF Media size switch 1	PS900	PF Retard roller rotation sensor
SW3602	PF Media size switch 2		

[1] Located in the printer.
[2] 1x500-sheet paper feeder only.

Figure 2-58 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram

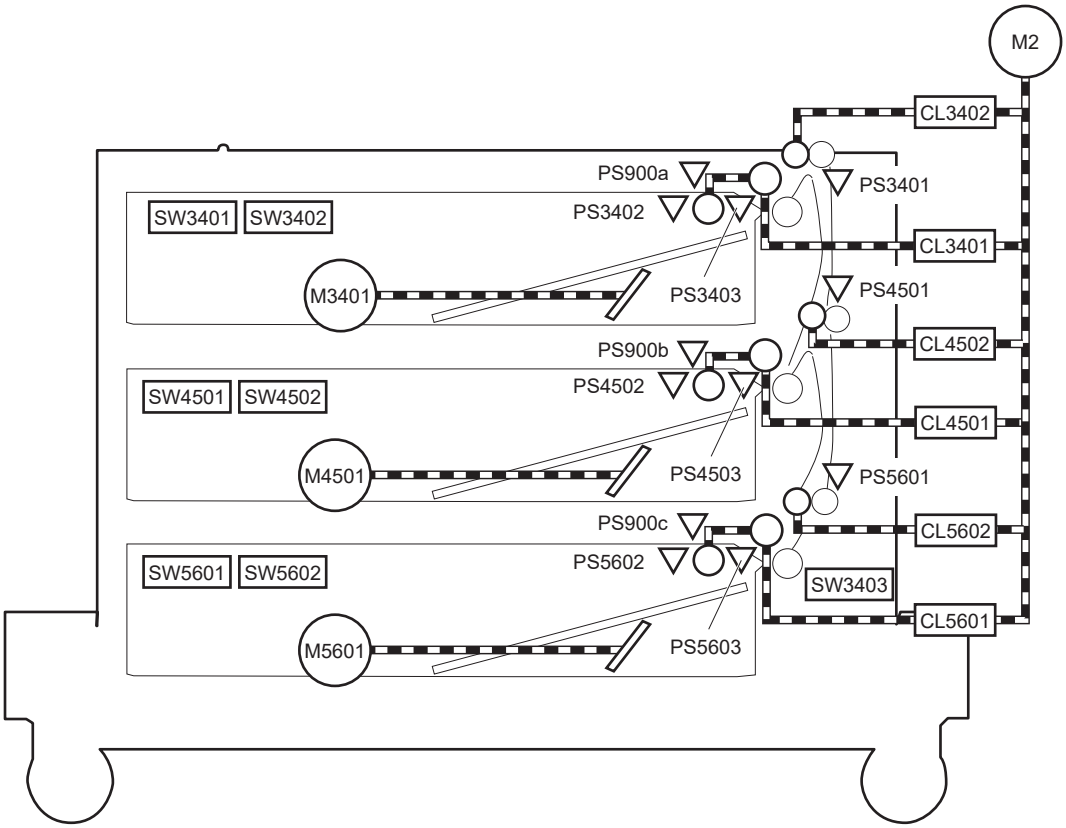


Table 2-14 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram

Item	Description	1x550 PD	3x550 PD
M2	Drum motor	No	No
M3401	PD cassette 1 lifter motor	Yes	Yes
M4501	PD cassette 2 lifter motor	No	Yes
M5601	PD cassette 3 lifter motor	No	Yes
CL3401	PD cassette 1 pickup clutch	Yes	Yes
CL3402	PD cassette 1 feed clutch	Yes	Yes
CL4501	PD cassette 2 pickup clutch	No	Yes
CL4502	PD cassette 2 feed clutch	No	Yes
CL5601	PD cassette 3 pickup clutch	No	Yes
CL5602	PD cassette 3 feed clutch	No	Yes
SW3401	PD Cassette 1 media size switch 1	Yes	Yes
SW3402	PD Cassette 1 media size switch 2	Yes	Yes
SW4501	PD Cassette 2 media size switch 1	No	Yes
SW4502	PD Cassette 2 media size switch 2	No	Yes
SW5601	PD Cassette 3 media size switch 1	No	Yes
SW5602	PD Cassette 3 media size switch 2	No	Yes

Table 2-14 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram (continued)

Item	Description	1x550 PD	3x550 PD
SW3403	PD door switch	Yes	Yes
PS3401	PD cassette 1 feed sensor	Yes	Yes
PS3402	PD cassette 1 media out sensor	Yes	Yes
PS3403	PD cassette 1 media surface sensor	Yes	Yes
PS4501	PD cassette 2 feed sensor	No	Yes
PS4502	PD cassette 2 media out sensor	No	Yes
PS4503	PD cassette 2 media surface sensor	No	Yes
PS5601	PD cassette 3 feed sensor	No	Yes
PS5602	PD cassette 3 media out sensor	No	Yes
PS5603	PD cassette 3 media surface sensor	No	Yes
PS900a	PD retard roller rotation sensor 1	Yes	Yes
PS900b	PD retard roller rotation sensor 2	No	Yes
PS900c	PD retard roller rotation sensor 3	No	Yes

[1] Located in the printer.

Figure 2-59 2,550-sheet paper deck, electrical components block diagram

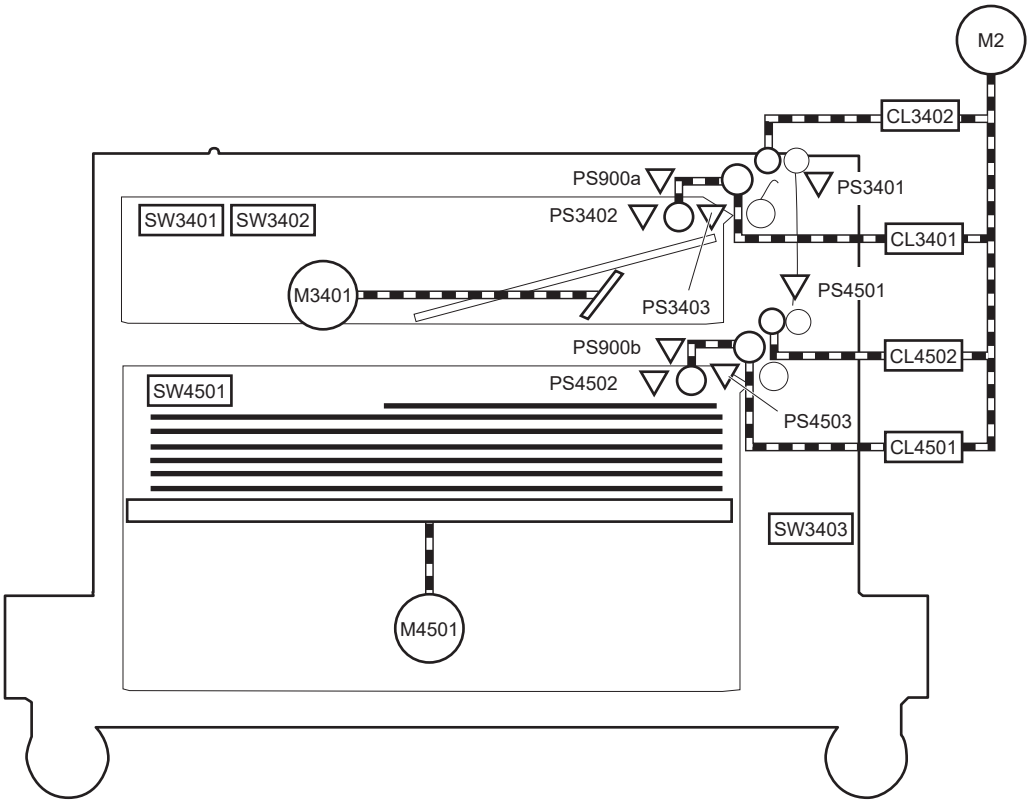


Table 2-15 2,550-sheet paper deck, electrical components block diagram

Item	Description	Item	Description
M2	Drum motor	SW3403	PD door switch
M3401	PD cassette 1 lifter motor	PS3401	PD cassette 1 feed sensor
M4501	PD cassette 2 lifter motor	PS3402	PD cassette 1 media out sensor
CL3401	PD cassette 1 pickup clutch	PS3403	PD cassette 1 media surface sensor
CL3402	PD cassette 1 feed clutch	PS900	Retard roller rotation sensor
CL4501	PD cassette 2 pickup clutch	PS4501	PD cassette 2 feed sensor
CL4502	PD cassette 2 feed clutch	PS4502	PD cassette 2 media out sensor
SW3401	PD Cassette 1 media size switch 1	PS4503	PD cassette 2 media surface sensor
SW3402	PD Cassette 1 media size switch 2	PS900a	PD retard roller rotation sensor 1
SW4501	PD Cassette 2 media size switch 1	PS900b	PD retard roller rotation sensor 2

[1] Located in the printer.

Figure 2-60 Stapler stacker multi bin mailbox (5 bin; SSBM), motors and solenoids block diagram

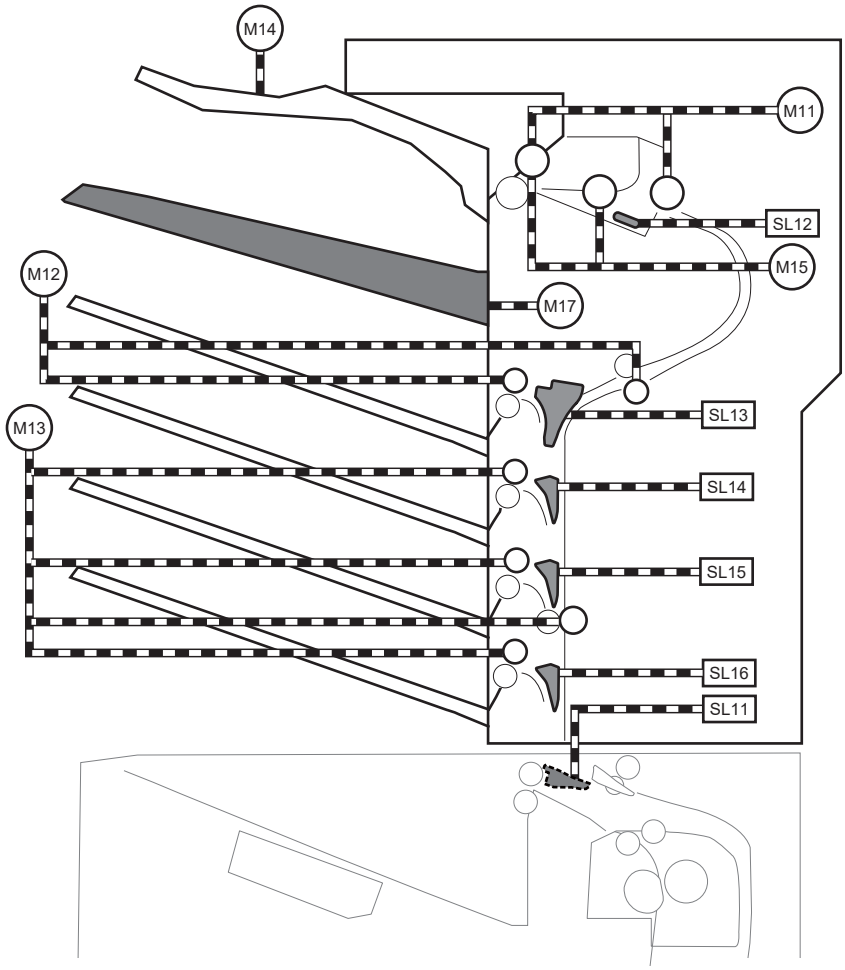


Table 2-16 Stapler stacker multi bin mailbox (5 bin; SSBM), motors and solenoids block diagram

Item	Description	Item	Description
M11	SS output motor	SL11	Inlet flapper solenoid
M12	SS feed motor	SL12	Stamp solenoid
M13	MBM feed motor	SL13	Output bin 2 flapper solenoid
M14	Jogger motor	SL14	Output bin 3 flapper solenoid
M15	Y alignment motor	SL15	Output bin 4 flapper solenoid
M16	Staple motor	SL16	Output bin 5 flapper solenoid
M17	Lifter motor		

Figure 2-61 Stapler stacker multi bin mailbox (5 bin; SSBM), sensors and switches block diagram

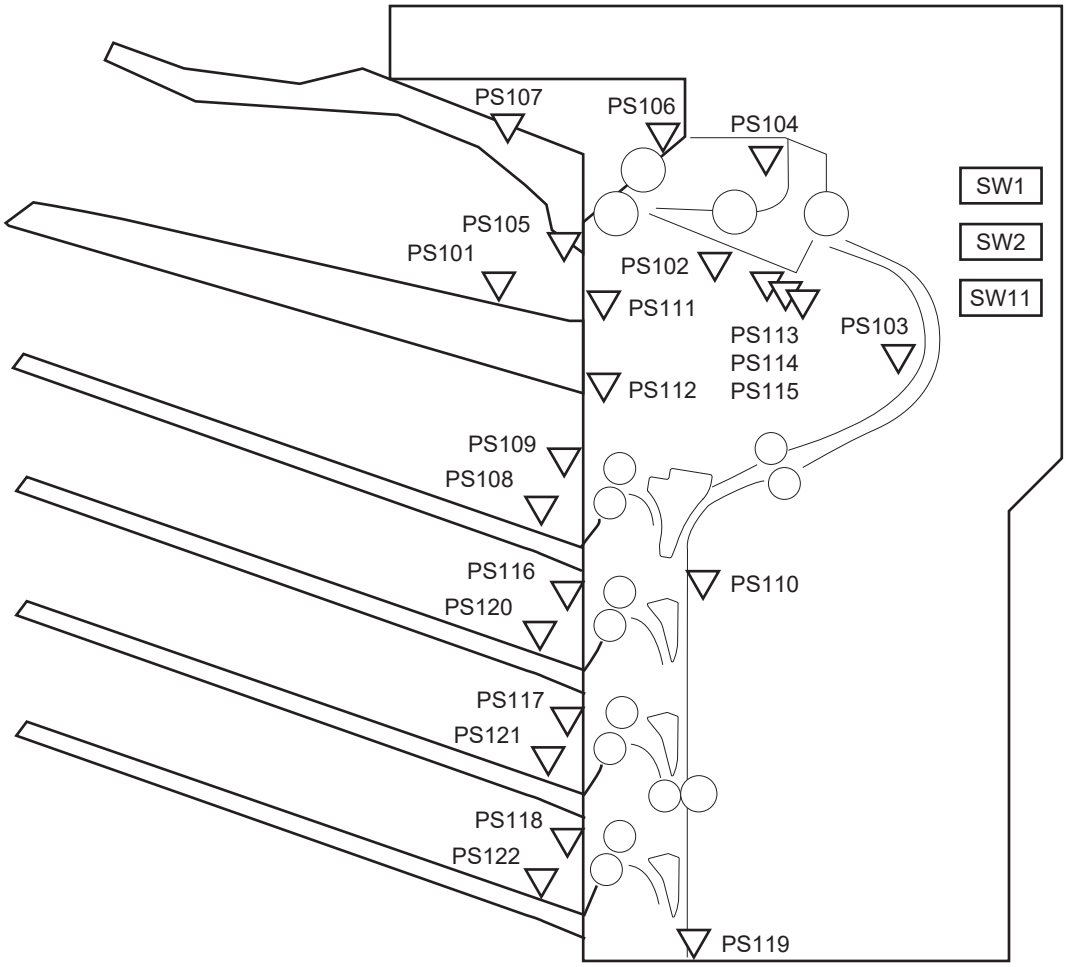


Table 2-17 Stapler stacker multi bin mailbox (5 bin; SSBM), sensors and switches block diagram

Item	Description	Item	Description
PS101	Bin 1 media presence sensor	PS114	Staple ready sensor
PS102	SS exit sensor	PS115	Staple home position sensor
PS103	Staple inlet sensor	PS116	Bin 3 media full sensor
PS104	Y alignment home position sensor	PS117	Bin 4 media full sensor
PS105	Bin 1 media full sensor	PS118	Bin 5 media full sensor
PS106	Alienation home position sensor	PS119	MBM inlet sensor
PS107	Jogger home position sensor	PS120	Bin 3 media presence sensor
PS108	Bin 2 media presence sensor	PS121	Bin 4 media presence sensor
PS109	Bin 2 media full sensor	PS122	Bin 5 media presence sensor
PS110	SS inlet sensor	SW1	MBM door switch
PS111	Bin 1 upper limit sensor	SW2	SS door switch
PS112	Bin 1 lower limit sensor	SW11	Staple door switch
PS113	Staple low sensor		

Figure 2-62 Stapler stacker multi bin mailbox (2 bin; SSBM), motors and solenoids block diagram

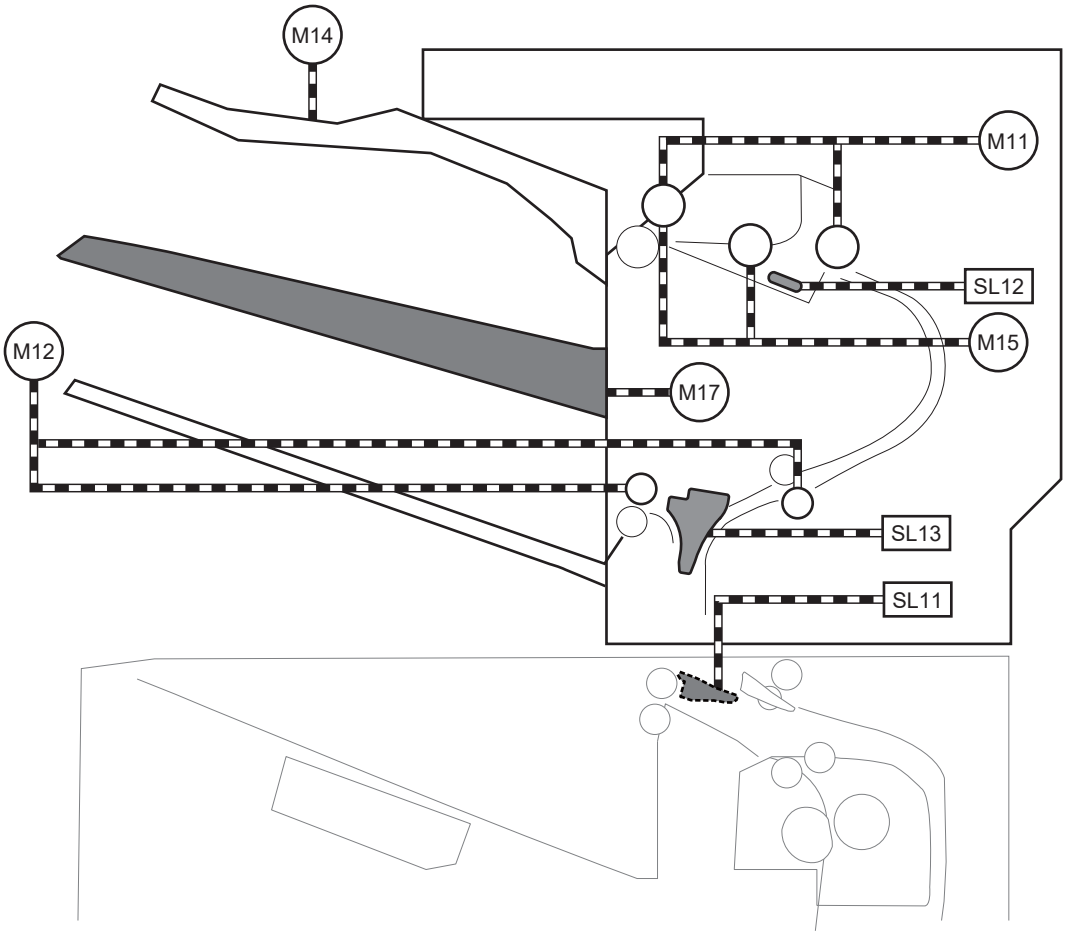


Table 2-18 Stapler stacker multi bin mailbox (2 bin; SSBM), motors and solenoids block diagram

Item	Description	Item	Description
M11	SS output motor	M17	Lifter motor
M12	SS feed motor	SL11	Inlet flapper solenoid
M14	Jogger motor	SL12	Stamp solenoid
M15	Y alignment motor	SL13	Output bin 2 flapper solenoid
M16	Staple motor		

Figure 2-63 Stapler stacker multi bin mailbox (2 bin; SSBM), sensors and switches block diagram

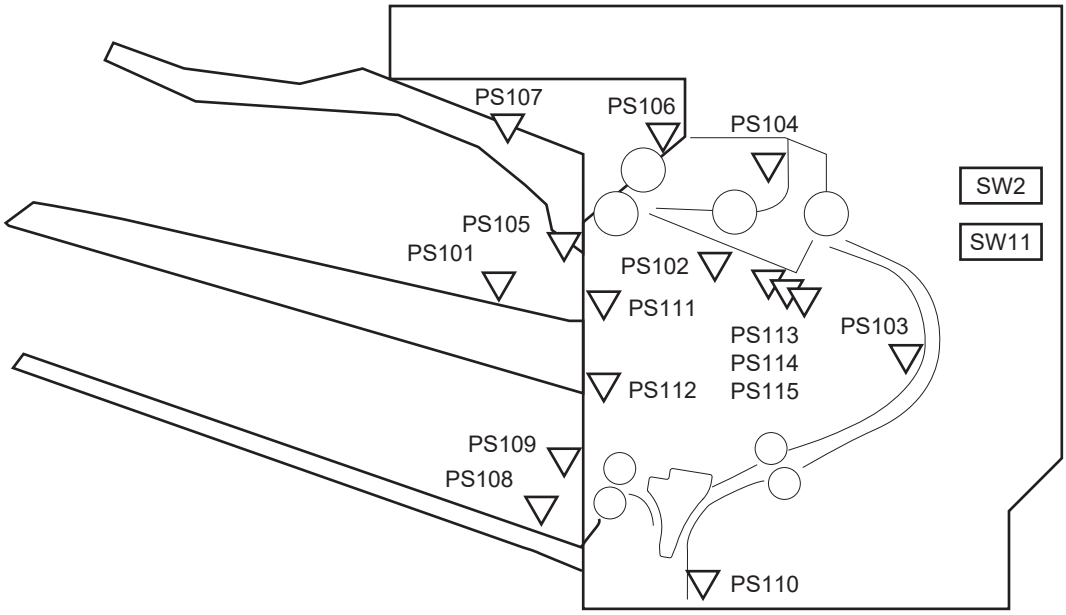


Table 2-19 Stapler stacker multi bin mailbox (2 bin; SSBM), sensors and switches block diagram

Item	Description	Item	Description
PS101	Bin 1 media presence sensor	PS110	SS inlet sensor
PS102	SS exit sensor	PS111	Bin 1 upper limit sensor
PS103	Staple inlet sensor	PS112	Bin 1 lower limit sensor
PS104	Y alignment home position sensor	PS113	Staple low sensor
PS105	Bin 1 media full sensor	PS114	Staple ready sensor
PS106	Alienation home position sensor	PS115	Staple home position sensor
PS107	Jogger home position sensor	SW2	SS door switch
PS108	Bin 2 media presence sensor	SW11	Staple door switch
PS109	Bin 2 media full sensor		

Diagrams: Printed circuit assembly (PCA) connector locations

Use the diagrams in this section to identify printer PCA connector locations.

DC controller connections

Each of the connections on the DC controller PCA is indicated in the following figure.

Figure 2-64 DC controller connections

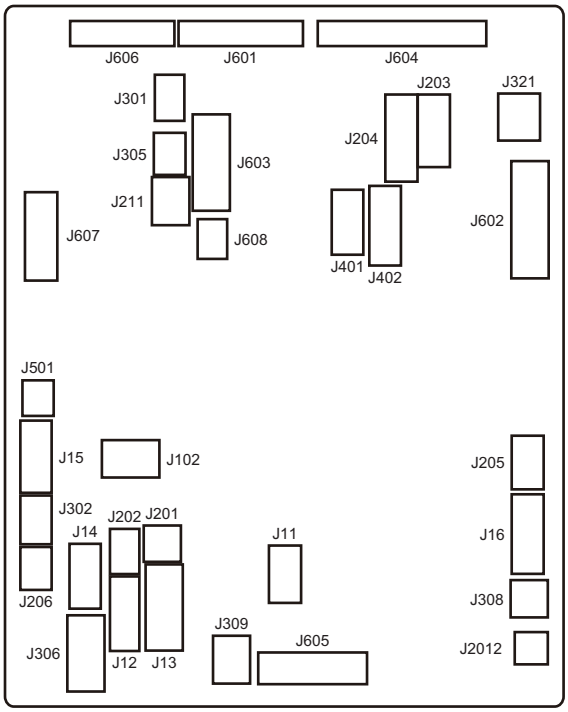


Table 2-20 DC controller connections

Item	Description	Item	Description
J11	Tray 1 media out sensor Tray 1 pickup solenoid	J306	Tray 2 media size switch 1 Tray 2 media size switch 2
J12	Duplex feed clutch Tray 2 pickup clutch Retard roller rotation sensor	J308	Left door switch Front door switch
J13	Duplex fan Right door switch R Rear door switch R Right door switch L Rear door switch L	J309	Duplex feed sensor
J14	Tray 2 media out sensor Tray 2 media surface sensor	J321	24V interlock switch
J15	Fuser loop sensor Registration sensor	J401	Fuser
J16	Cartridge upper fan Cartridge lower fan Environment sensor	J402	Fuser
J102	Not used	J501	E-label

Table 2-20 DC controller connections (continued)

Item	Description	Item	Description
J201	Developer alienation solenoid	J601	Low-voltage power supply
J202	Tray 1 feed clutch	J602	Low-voltage power supply
J203	Drum motor	J603	Output accessory
J204	Fuser motor	J604	High-voltage power supply
J205	Laser scanner assembly	J605	Input accessory
J206	Lifter motor	J606	Laser scanner assembly
J211	Scanner fan	J607	Formatter
J301	Developer alienation sensor	J608	Not used
J302	Tray 1 feed sensor	J2012	Front door lock solenoid Left door lock solenoid
J305	Output bin media full sensor		

[1] E62655/E62665/E62675 models only
[2] E60155/E60165/E60175 models only

Diagrams: External plug and port locations

Use the following figure to locate and identify the printer external port locations.

Figure 2-65 External plug and port locations (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

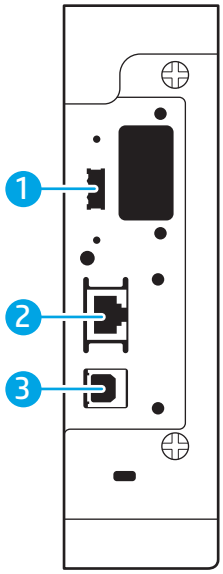


Table 2-21 External plug and port locations (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

Item	Description
1	Host USB port for connecting external USB devices (this port might be covered)
2	Local area network (LAN) Ethernet (RJ-45) network port
3	Hi-Speed USB 2.0 printing port NOTE: For easy-access USB printing, use the USB port near the control panel.

Figure 2-66 External plug and port locations (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

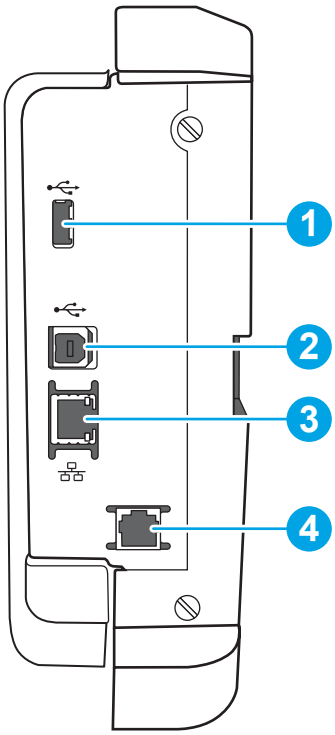


Table 2-22 External plug and port locations (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

Item	Description
1	Host USB port for connecting external USB devices (this port might be covered) NOTE: For easy-access USB printing, use the USB port near the control panel.
2	Hi-Speed USB 2.0 printing port
3	Local area network (LAN) Ethernet (RJ-45) network port
4	Fax port (fax models only)

Diagrams: Locations of major assemblies

Main assemblies (printer base)

Figure 2-67 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (1 of 2)

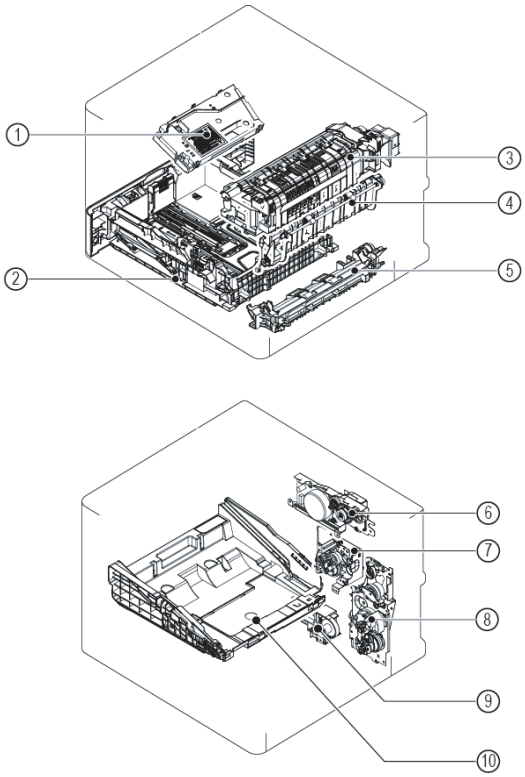


Table 2-23 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (1 of 2)

Item	Description	Item	Description
1	Laser scanner assembly	6	Fuser drive assembly
2	Tray 2	7	Developer drive assembly
3	Fuser	8	Main drive assembly
4	Transfer assembly	9	Lifter drive assembly
5	Feed frame assembly	19	Cartridge (toner) tray assembly

Figure 2-68 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (2 of 2)

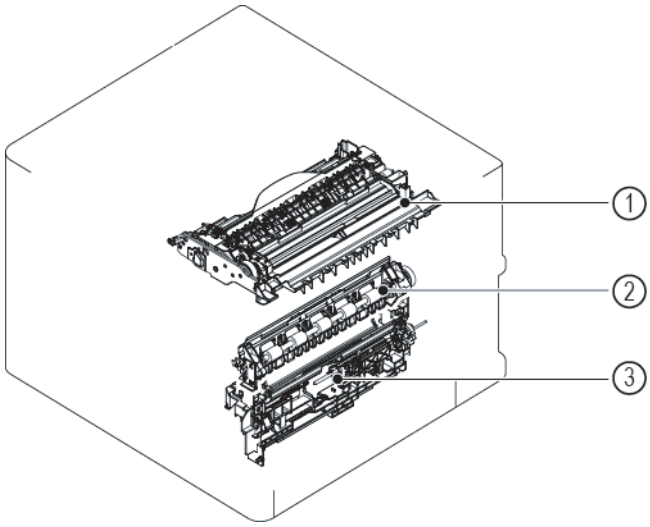


Table 2-24 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (2 of 2)

Item	Description
1	Delivery assembly
2	Registration assembly
3	Pickup assembly

Figure 2-69 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (2 of 2)

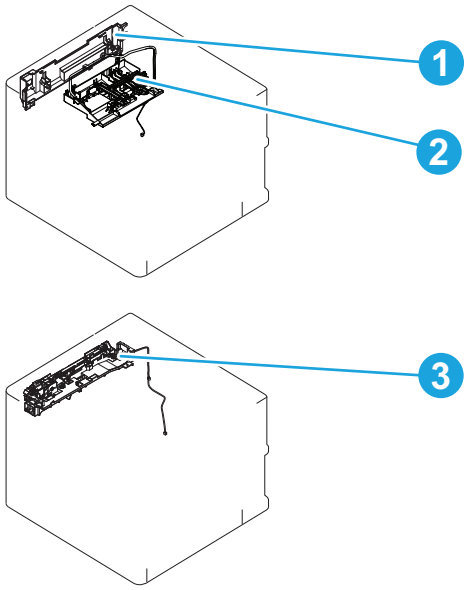


Table 2-25 Printer base (E60155/E60165/E60175), main assemblies (2 of 2)

Item	Description
1	Inner cover

Table 2-25 Printer base (E60155/E60165/E60175), main assemblies (2 of 2) (continued)

Item	Description
2	Laser shutter holder assembly
3	Front door link assembly

Figure 2-70 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (1 of 2)

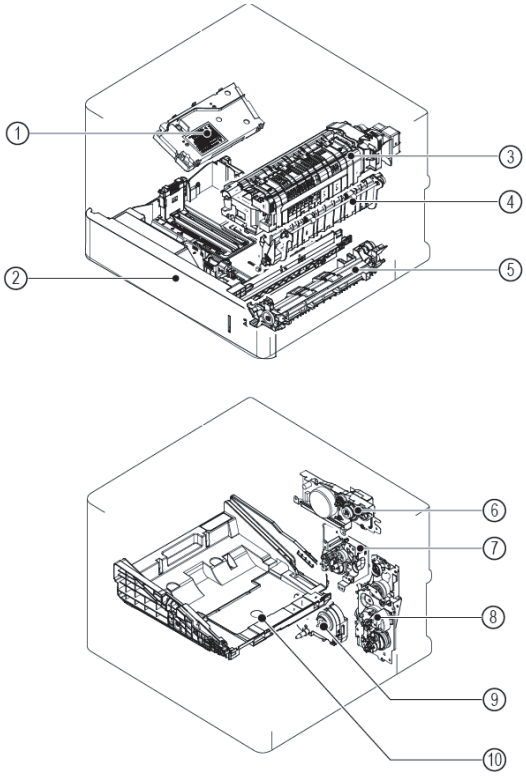


Table 2-26 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (1 of 2)

Item	Description	Item	Description
1	Laser scanner assembly	6	Fuser drive assembly
2	Tray 2	7	Developer drive assembly
3	Fuser	8	Main drive assembly
4	Transfer assembly	9	Lifter drive assembly
5	Feed frame assembly	19	Cartridge (toner) tray assembly

Figure 2-71 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (2 of 2)

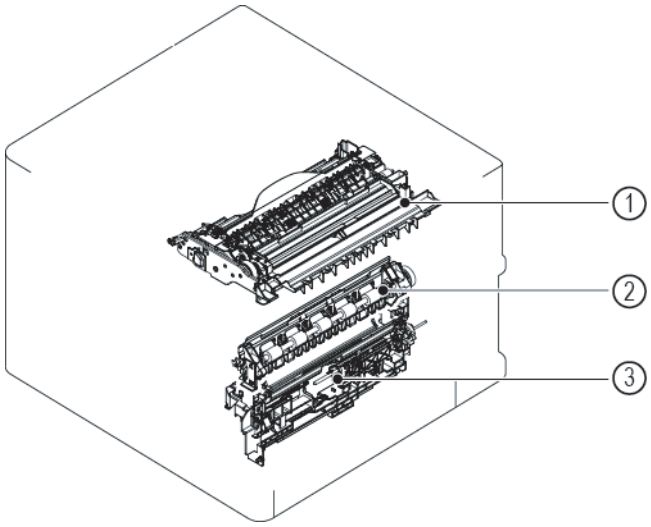


Table 2-27 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (2 of 2)

Item	Description
1	Delivery assembly
2	Registration assembly
3	Pickup assembly

Figure 2-72 Printer base (E62655/E62665/E62675), main assemblies

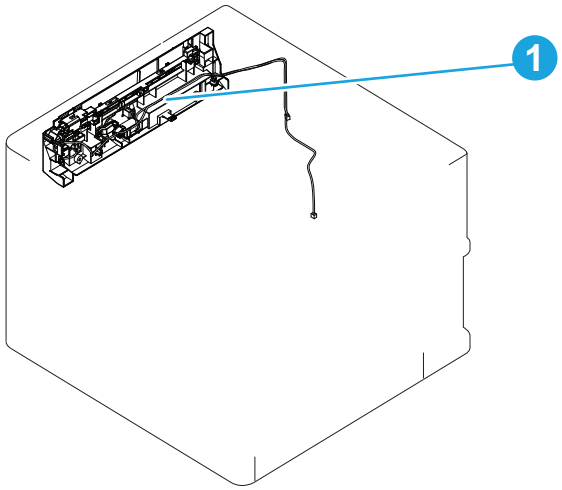


Table 2-28 Printer base (E62655/E62665/E62675), main assemblies

Item	Description
1	Left door link assembly

Figure 2-73 Printer base, printed circuit assemblies (PCAs)

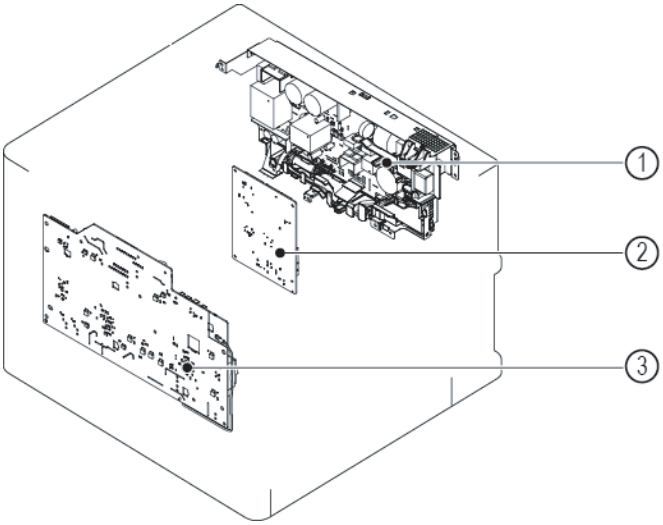


Table 2-29 Printer base, printed circuit assemblies (PCAs)

Item	Description
1	Low-voltage power supply (LVPS) PCA
2	DC controller PCA
3	High-voltage power supply (HVPS) PCA

Figure 2-74 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), roller assemblies

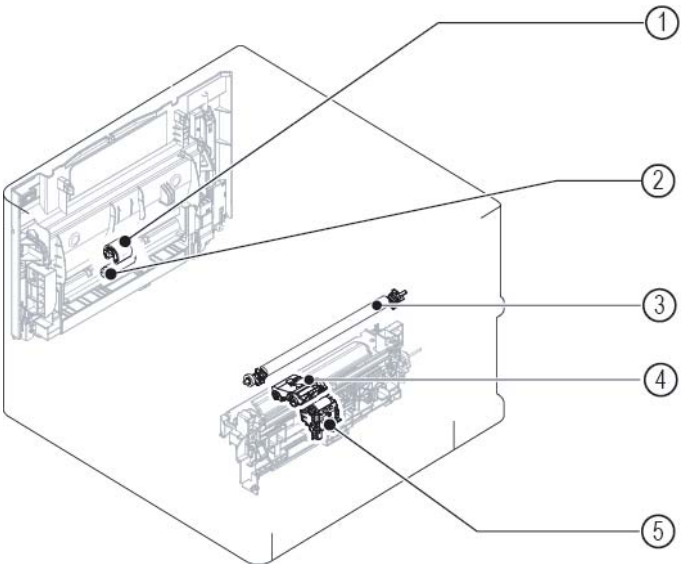


Table 2-30 Printer base (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), roller assemblies

Item	Description	Item	Description
1	Tray 1 pickup roller	4	Tray 2 pickup roller assembly
2	Tray 1 separation roller	5	Tray 2 retard roller assembly
3	Transfer roller assembly		

Figure 2-75 Printer base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), roller assemblies

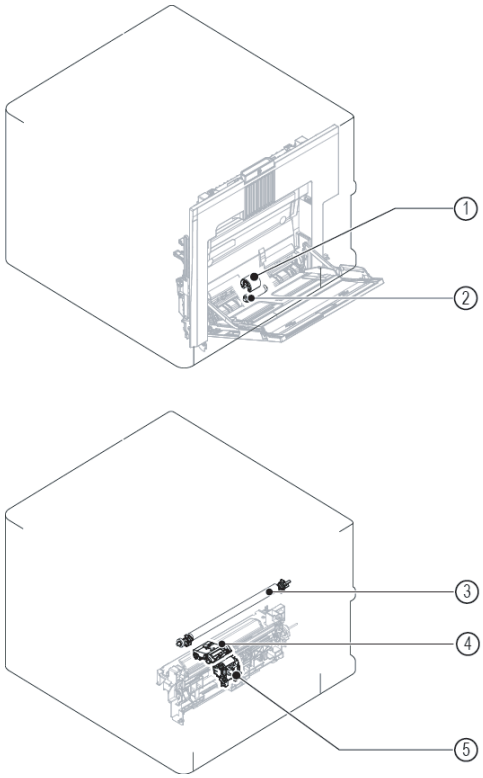


Table 2-31 rinter base (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), roller assemblies

Item	Description	Item	Description
1	Tray 1 pickup roller	4	Tray 2 pickup roller assembly
2	Tray 1 separation roller	5	Tray 2 retard roller assembly
3	Transfer roller assembly		

Main assemblies (1x550-sheet paper feeder)

Figure 2-76 1x550-sheet paper feeder, main assemblies

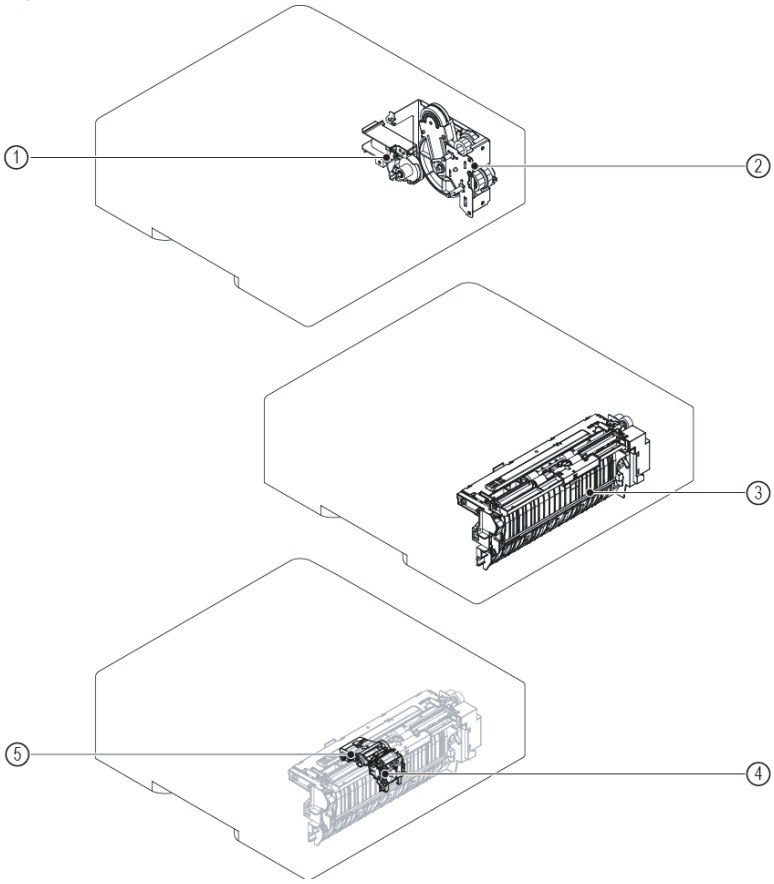


Table 2-32 1x550-sheet paper feeder, main assemblies

Item	Description	Item	Description
1	Lifter drive assembly	4	PF retard roller assembly
2	Drive assembly	5	PF pickup roller assembly
3	Pickup assembly		

Figure 2-77 1x550-sheet paper feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 envelope feeder), main assemblies

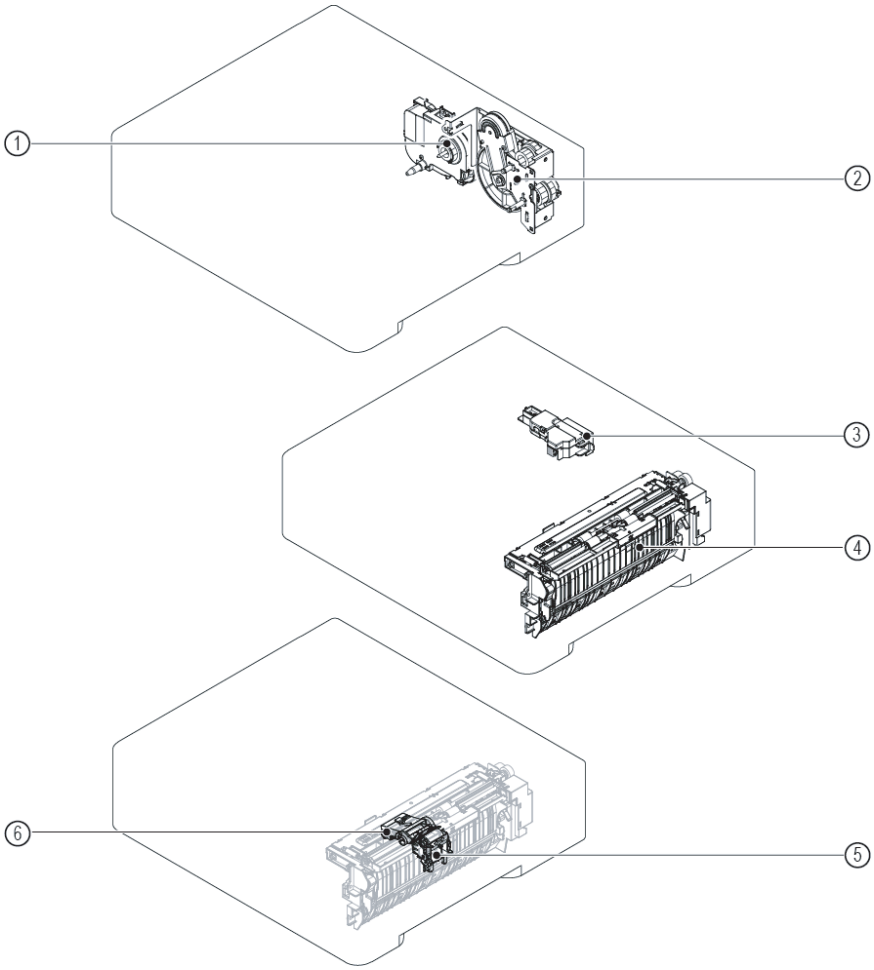


Table 2-33 1x550-sheet paper feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 envelope feeder), main assemblies

Item	Description	Item	Description
1	Lifter drive assembly	4	Pickup assembly
2	Drive assembly	5	PF retard roller assembly
3	Auto close assembly	6	PF pickup roller assembly

Figure 2-78 1x550-sheet paper feeder, printed circuit assemblies (PCAs)

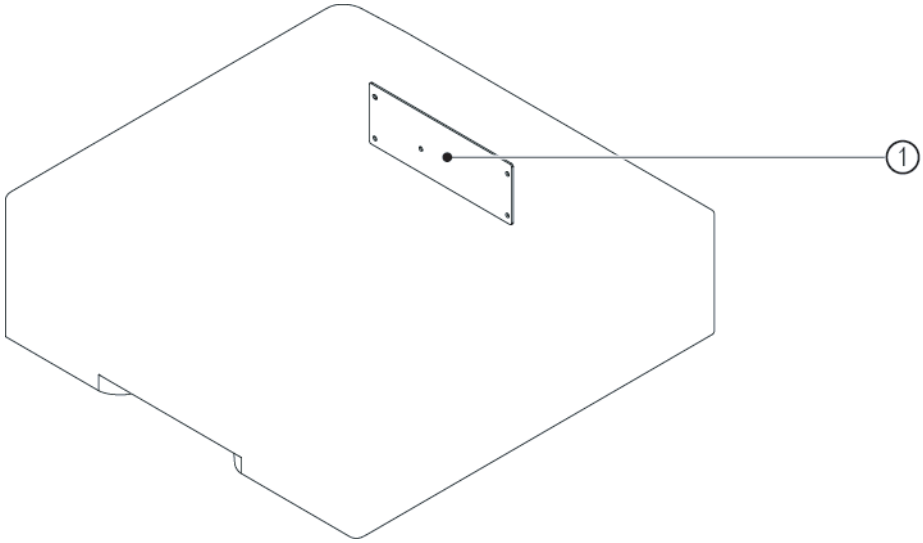


Table 2-34 1x550-sheet paper feeder, printed circuit assemblies (PCAs)

Item	Description
1	Paper feeder controller PCA

Main assemblies (1x550-sheet paper deck)

Figure 2-79 1x550-sheet paper deck, main assemblies (1 of 2)

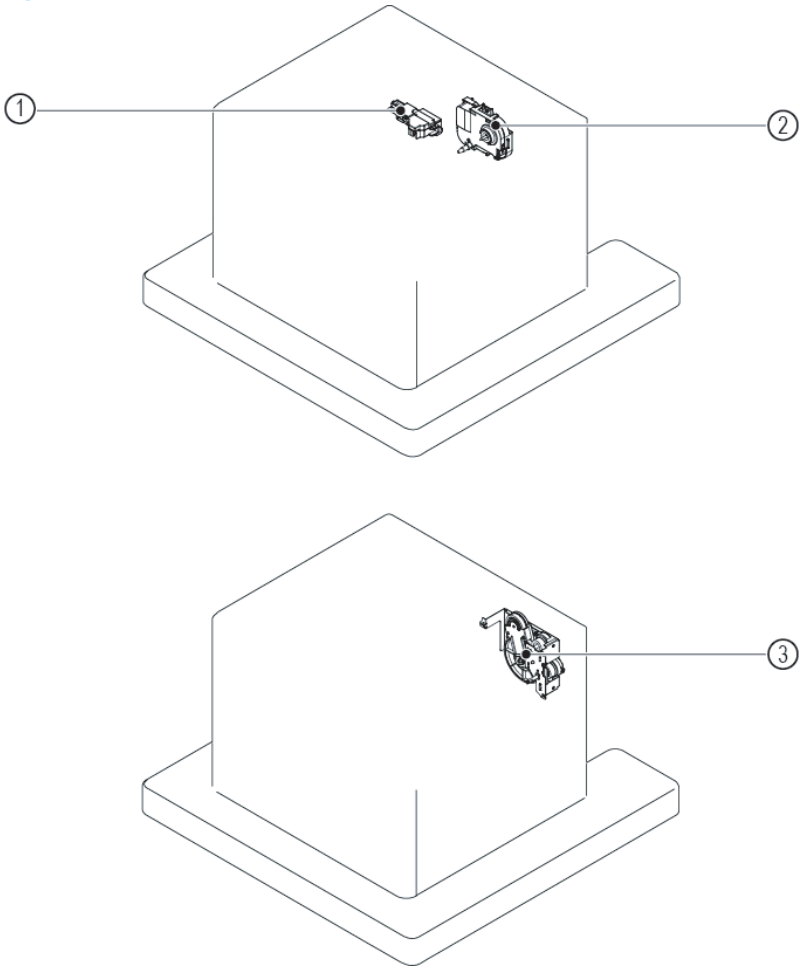


Table 2-35 1x550-sheet paper deck, main assemblies (1 of 2)

Item	Description	Item	Description
1	Cassette auto close assembly	3	Cassette drive assembly
2	Cassette lifter drive assembly		

Figure 2-80 1x550-sheet paper deck, main assemblies (2 of 2)

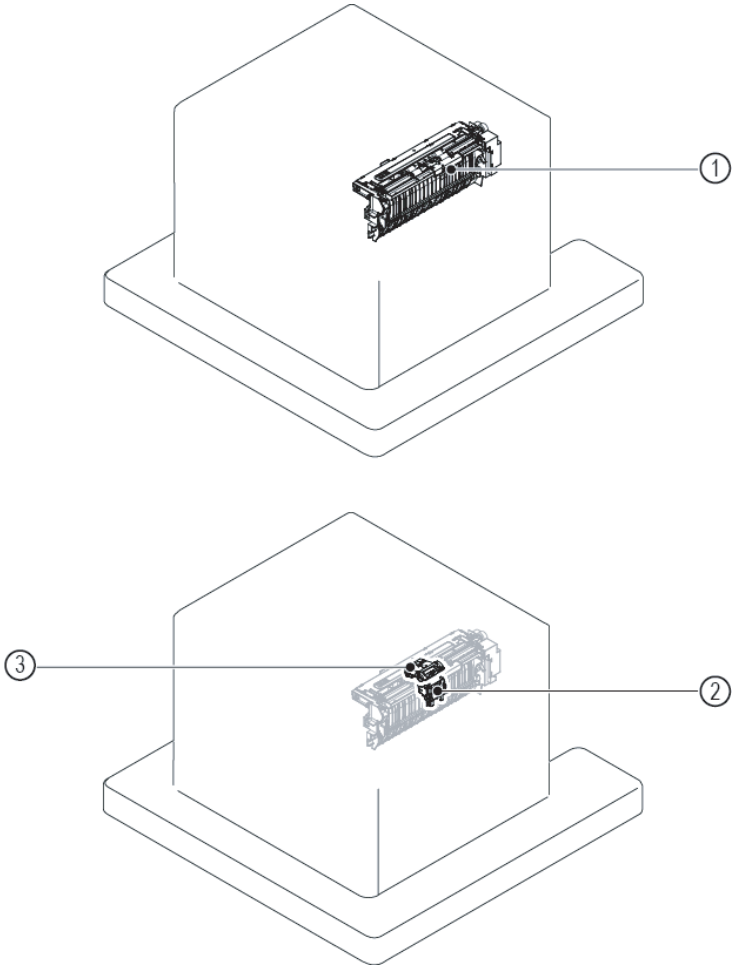


Table 2-36 1x550-sheet paper deck, main assemblies (2 of 2)

Item	Description	Item	Description
1	Cassette pickup assembly	3	PD pickup roller assembly
2	PD retard roller assembly		

Figure 2-81 1x550-sheet paper deck, printed circuit assemblies (PCAs)

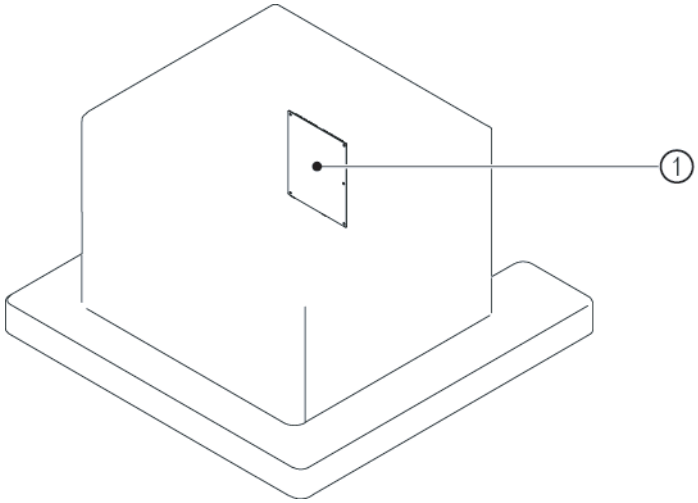


Table 2-37 1x550-sheet paper deck, printed circuit assemblies (PCAs)

Item	Description
1	Paper deck controller PCA

Main assemblies (3x550-sheet paper deck)

Figure 2-82 3x550-sheet paper deck, main assemblies (1 of 2)

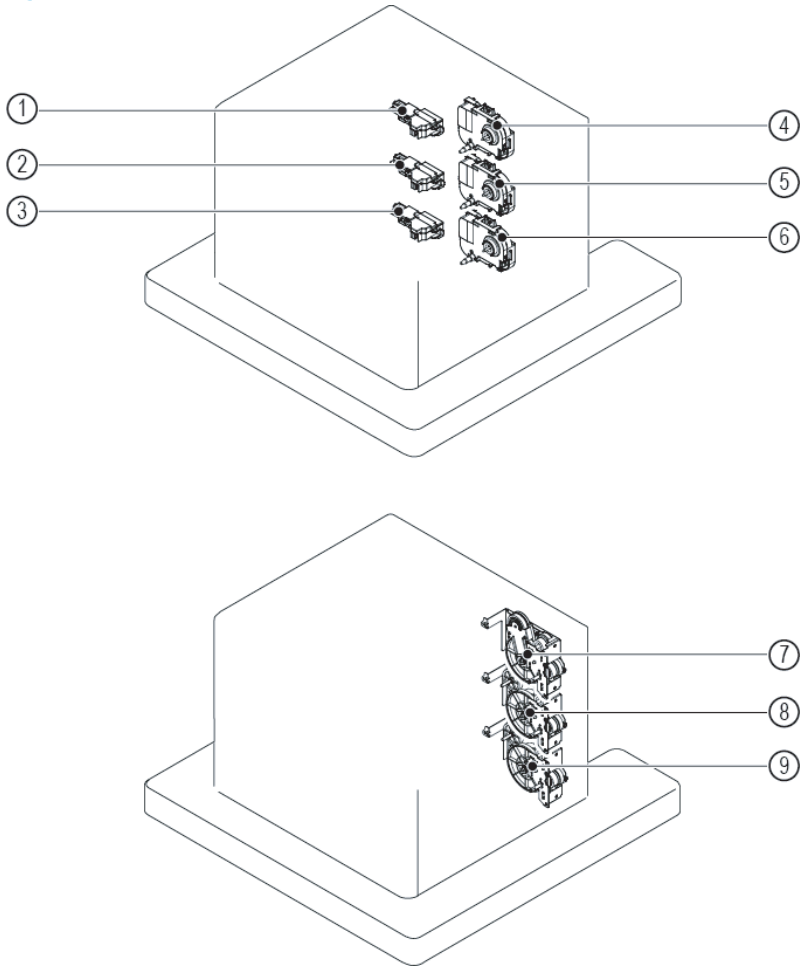


Table 2-38 3x550-sheet paper deck, main assemblies (1 of 2)

Item	Description	Item	Description
1	Cassette 1 auto close assembly	6	Cassette 3 lifter drive assembly
2	Cassette 2 auto close assembly	7	Cassette 1 drive assembly
3	Cassette 3 auto close assembly	8	Cassette 2 drive assembly
4	Cassette 1 lifter drive assembly	9	Cassette 3 drive assembly
5	Cassette 2 lifter drive assembly		

Figure 2-83 3x550-sheet paper deck, main assemblies (2 of 2)

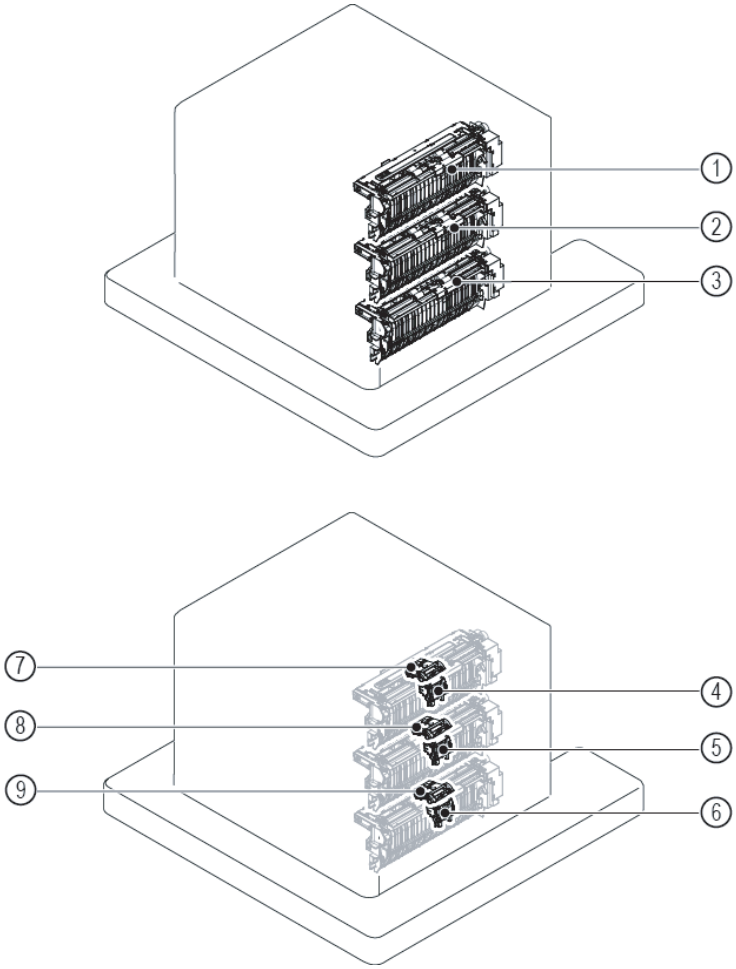


Table 2-39 3x550-sheet paper deck, main assemblies (2 of 2)

Item	Description	Item	Description
1	Cassette 1 pickup assembly	6	PD 3 retard roller assembly
2	Cassette 2 pickup assembly	7	PD 1 pickup roller assembly
3	Cassette 3 pickup assembly	8	PD 2 pickup roller assembly
4	PD 1 retard roller assembly	9	PD 3 pickup roller assembly
5	PD 2 retard roller assembly		

Figure 2-84 3x550-sheet paper deck, printed circuit assemblies (PCAs)

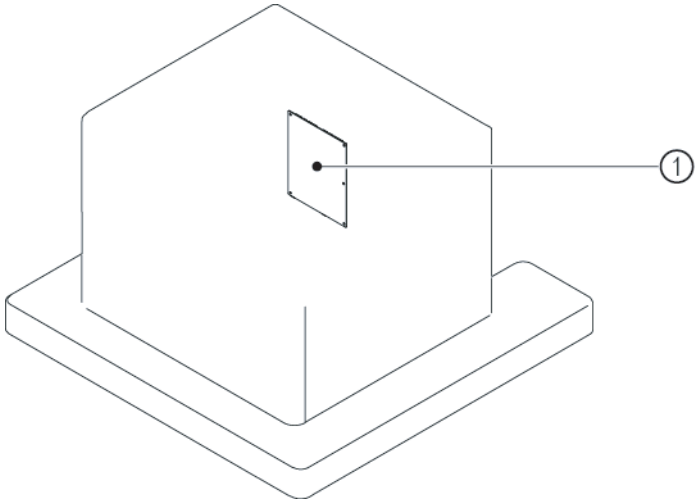


Table 2-40 3x550-sheet paper deck, printed circuit assemblies (PCAs)

Item	Description
1	Paper deck controller PCA

Main assemblies (2,100-sheet paper deck; M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

Figure 2-85 2,100-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies

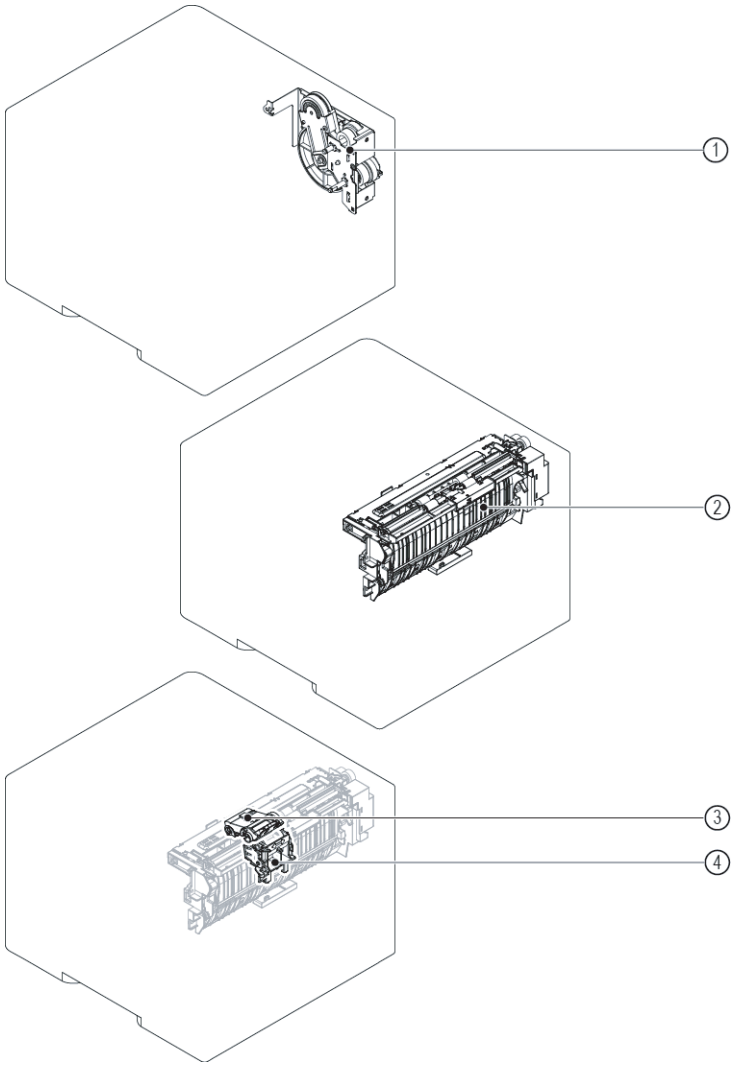


Table 2-41 2,100-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies

Item	Description	Item	Description
1	Drive assembly	3	HCI retard roller assembly
2	Pickup assembly	4	HCI pickup roller assembly

Figure 2-86 2,100-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), printed circuit assemblies (PCAs)

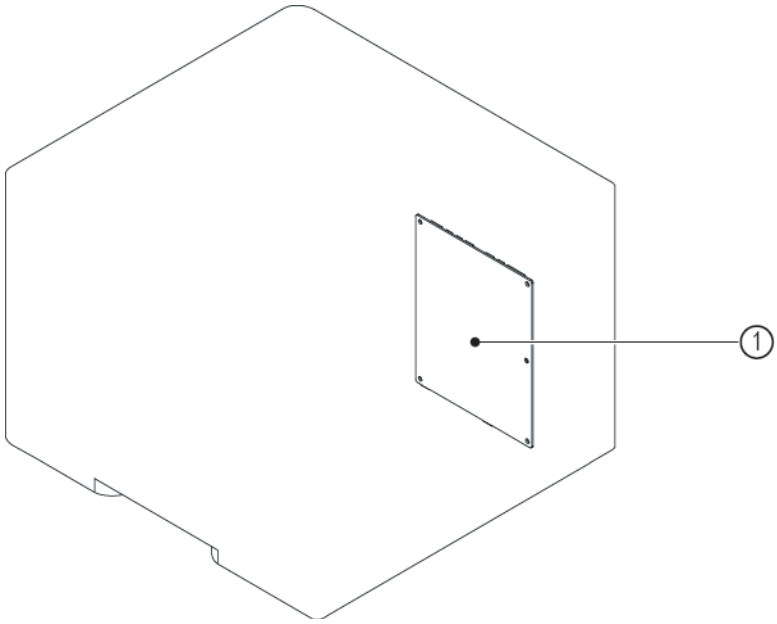


Table 2-42 2,100-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), printed circuit assemblies (PCAs)

Item	Description
1	HCI controller PCA

Main assemblies (2,550-sheet paper deck; M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

Figure 2-87 2,550-sheet paper deck (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175), main assemblies (1 of 2)

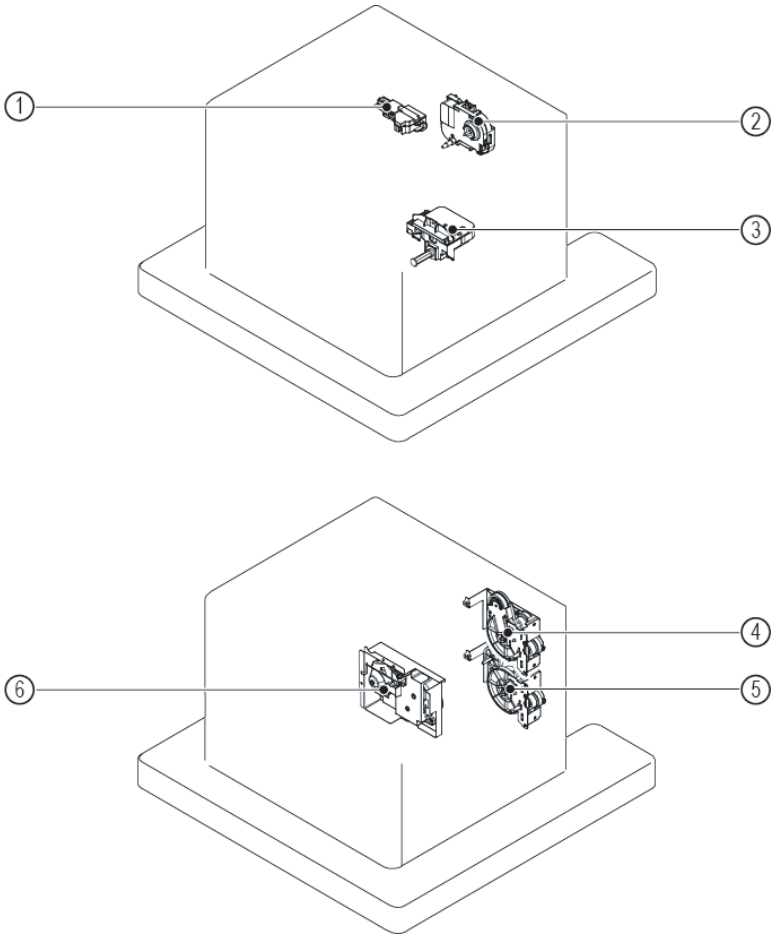


Table 2-43 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (1 of 2)

Item	Description	Item	Description
1	Cassette auto close assembly	4	Cassette drive assembly
2	Cassette lifter drive assembly	5	Tray drive assembly
3	Tray auto close assembly	6	Tray lifter drive assembly

Figure 2-88 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (2 of 2)

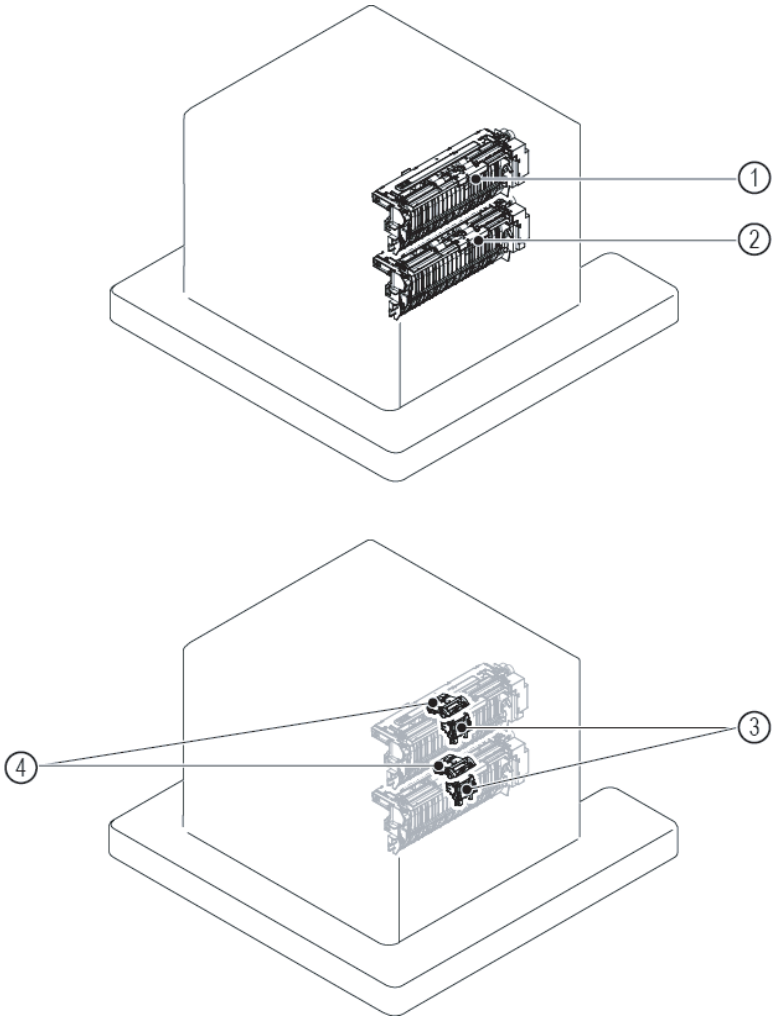


Table 2-44 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), main assemblies (2 of 2)

Item	Description	Item	Description
1	Cassette pickup assembly	3	PD retard roller assembly
2	Tray pickup assembly	4	PD pickup roller assembly

Figure 2-89 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), printed circuit assemblies (PCAs)

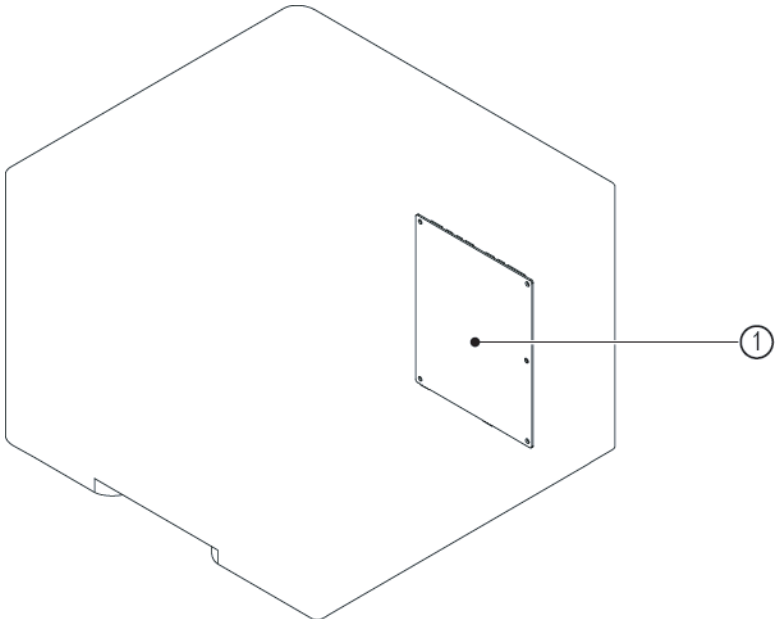
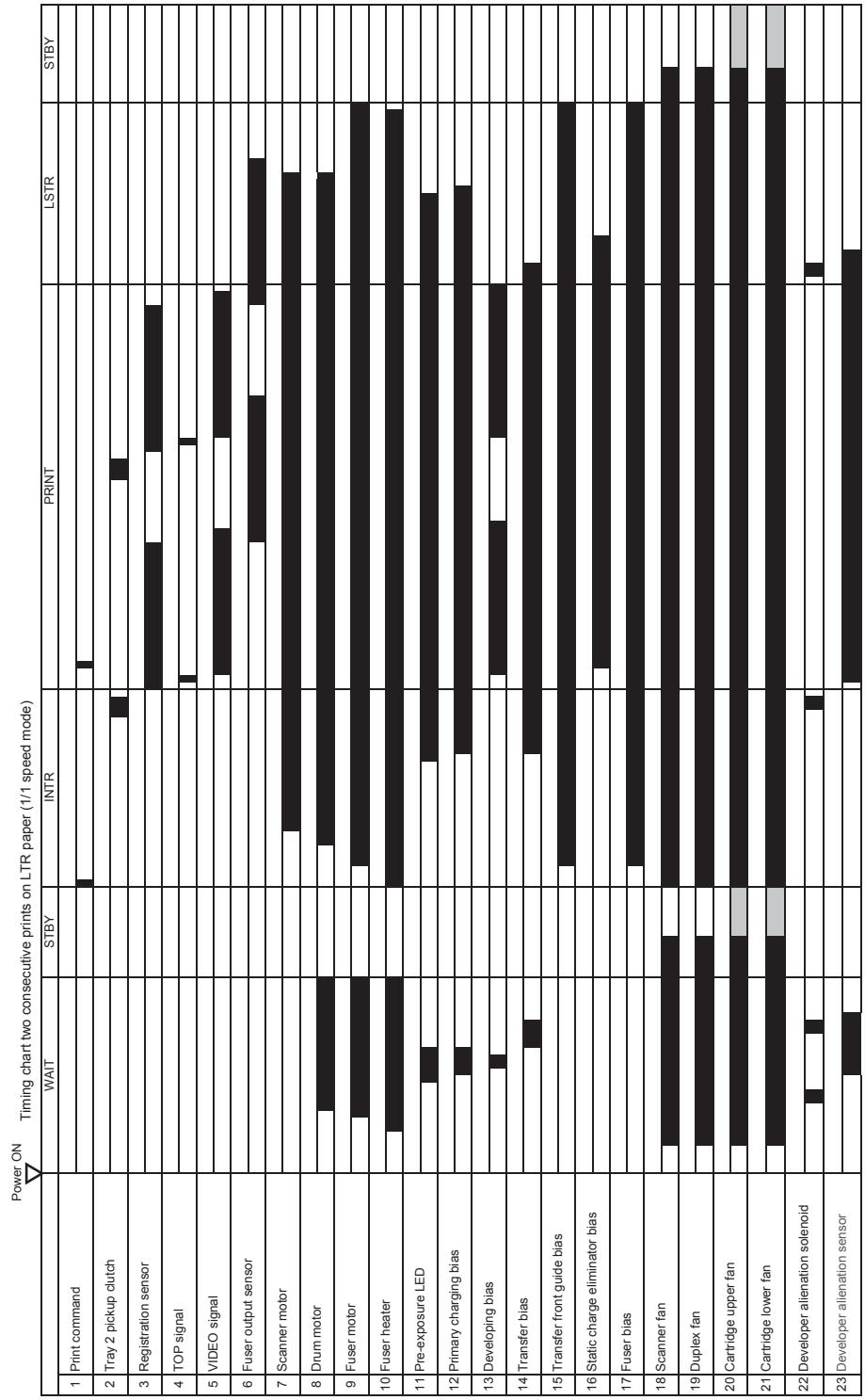


Table 2-45 2,550-sheet paper deck (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675), printed circuit assemblies (PCAs)

Item	Description
1	HCI controller PCA

Diagrams: General timing chart

Figure 2-90 General timing chart



Diagrams: General circuit diagrams

Figure 2-91 General circuit diagram for the printer base (M607/M608/M609)

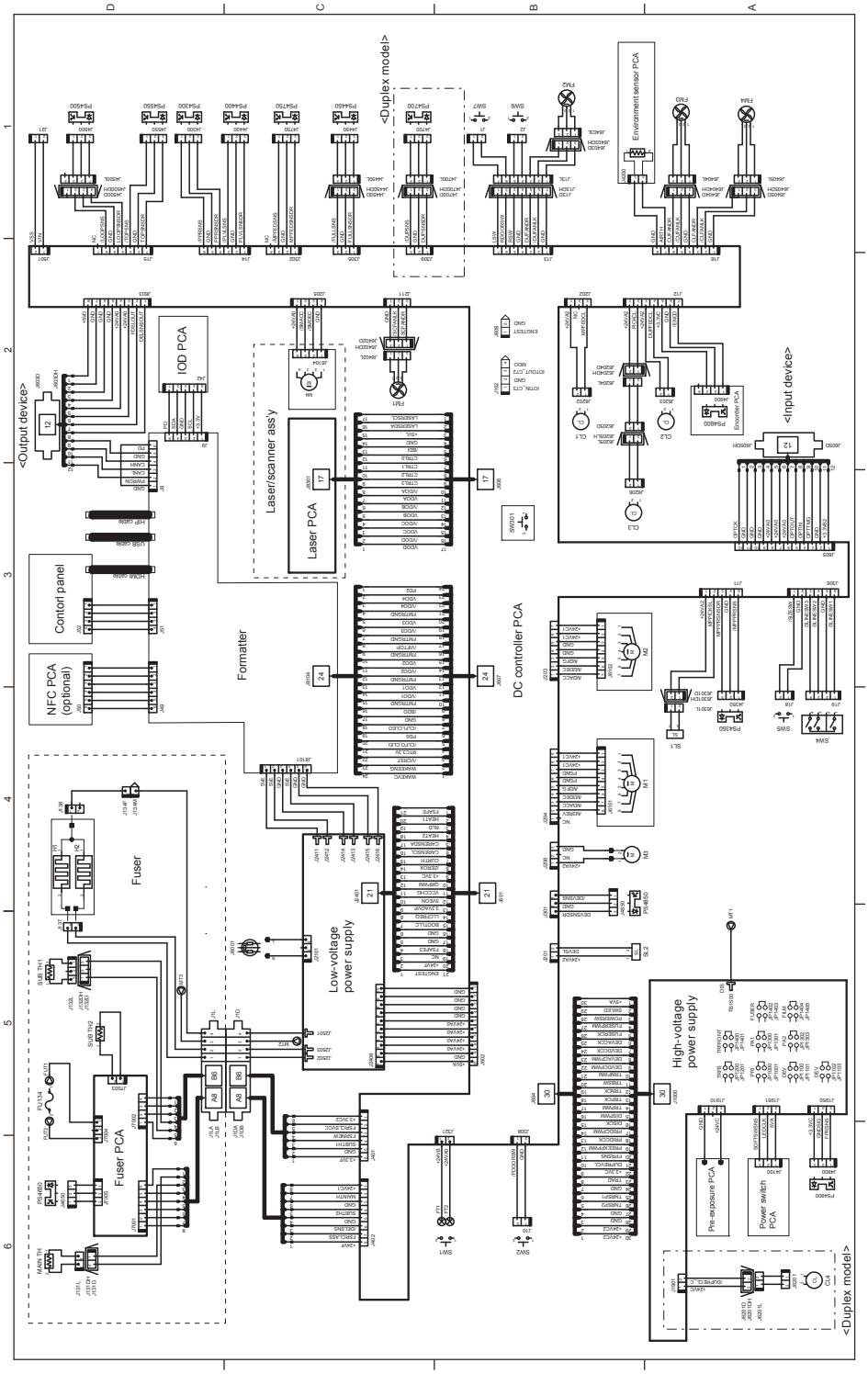


Figure 2-92 General circuit diagram for the printer base (E60155/E60165/E60175) (1 of 2)

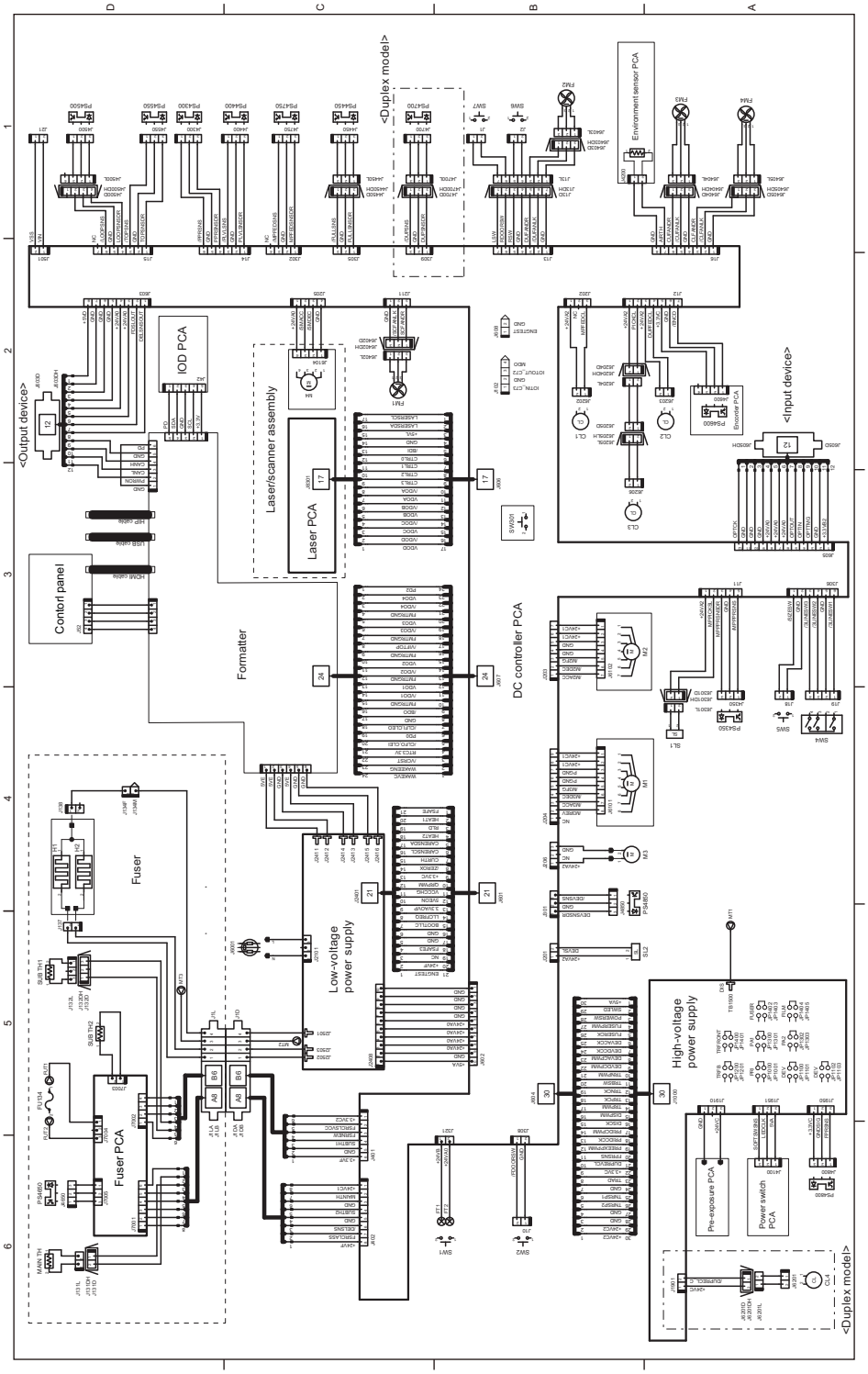


Figure 2-93 General circuit diagram for the printer base (E60155/E60165/E60175) (2 of 2)

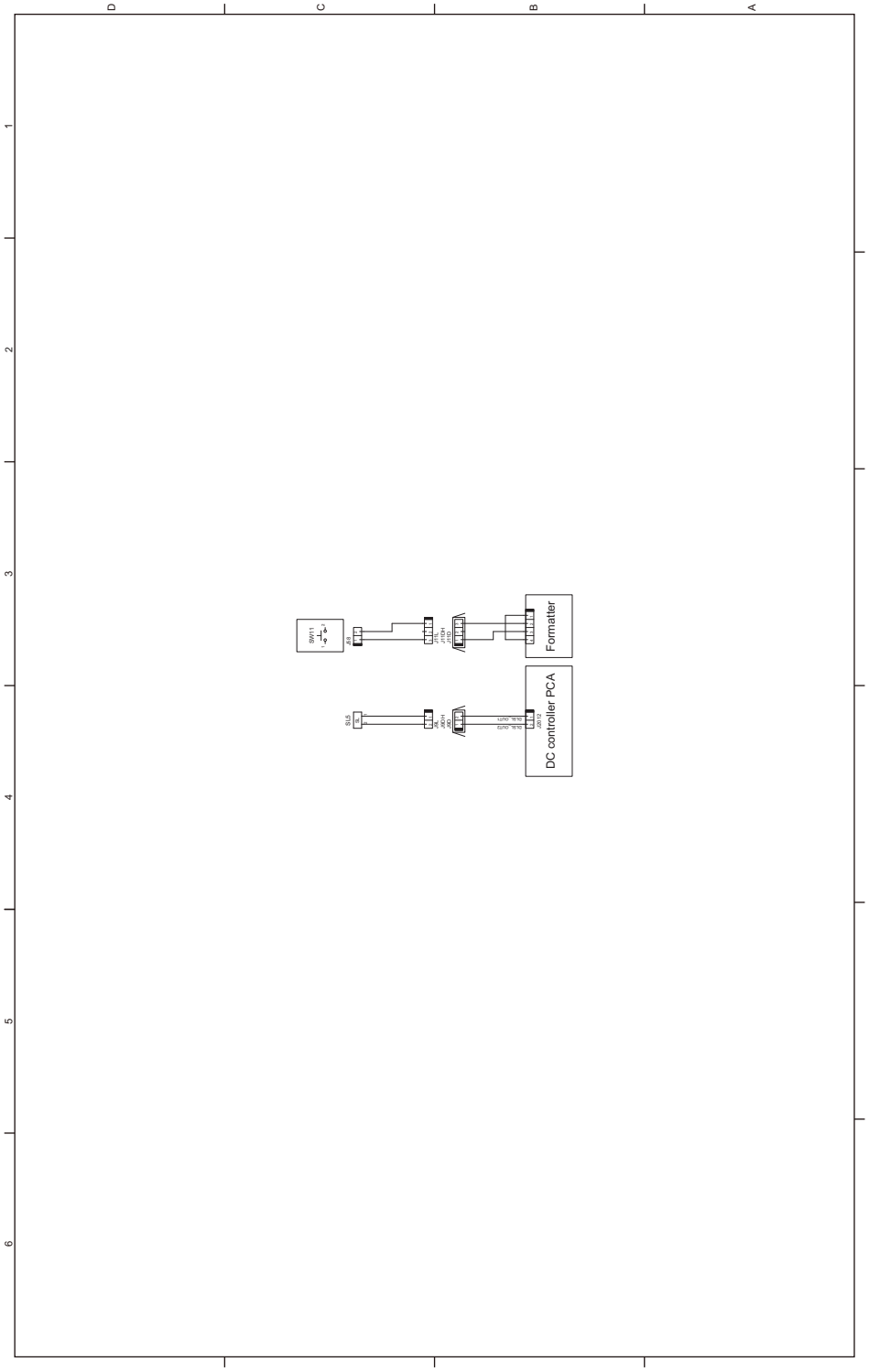


Figure 2-94 General circuit diagram for the printer base (M631/M623/M633)

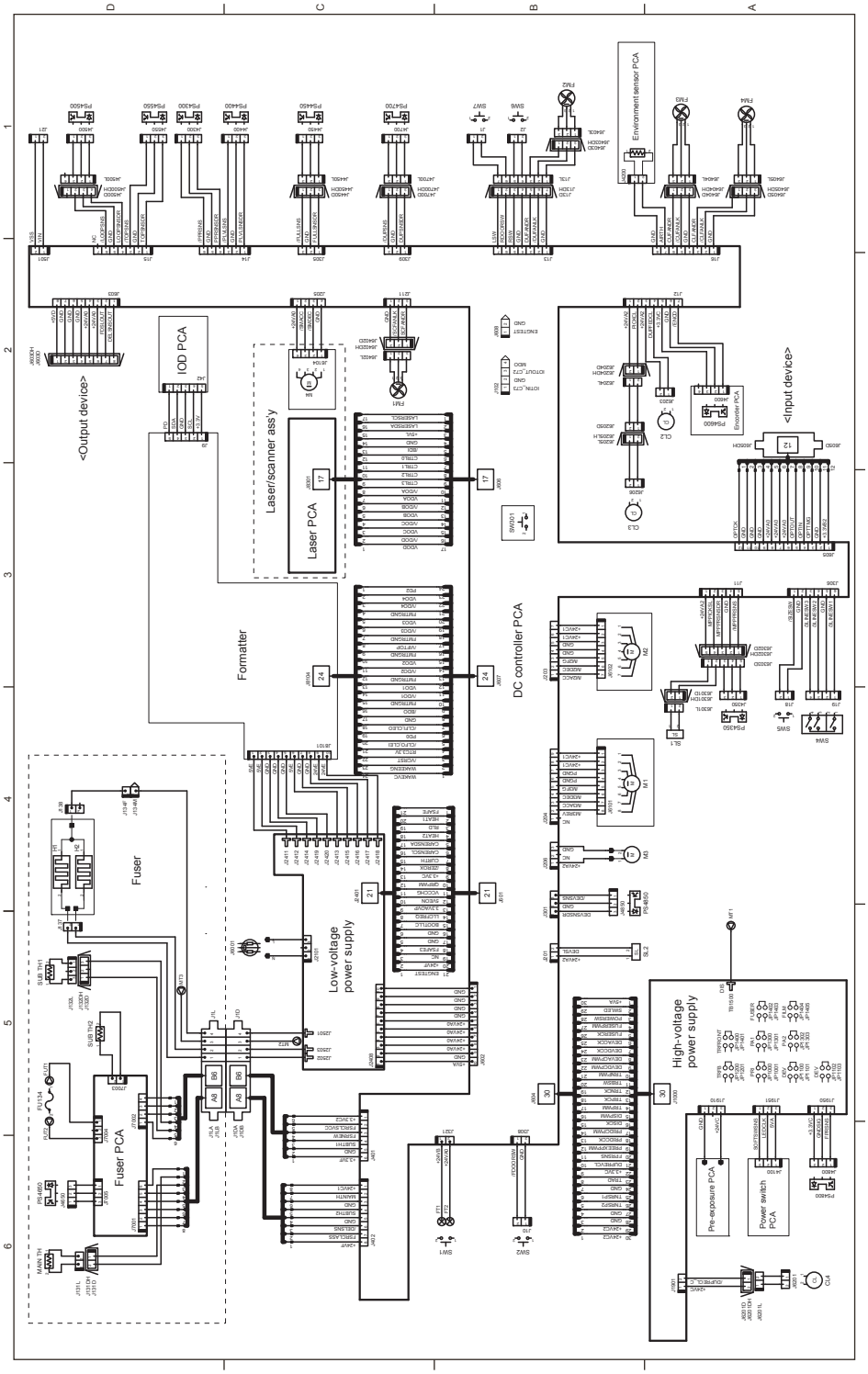


Figure 2-95 General circuit diagram for the printer base (E62655/E62665/E62675) (1 of 2)

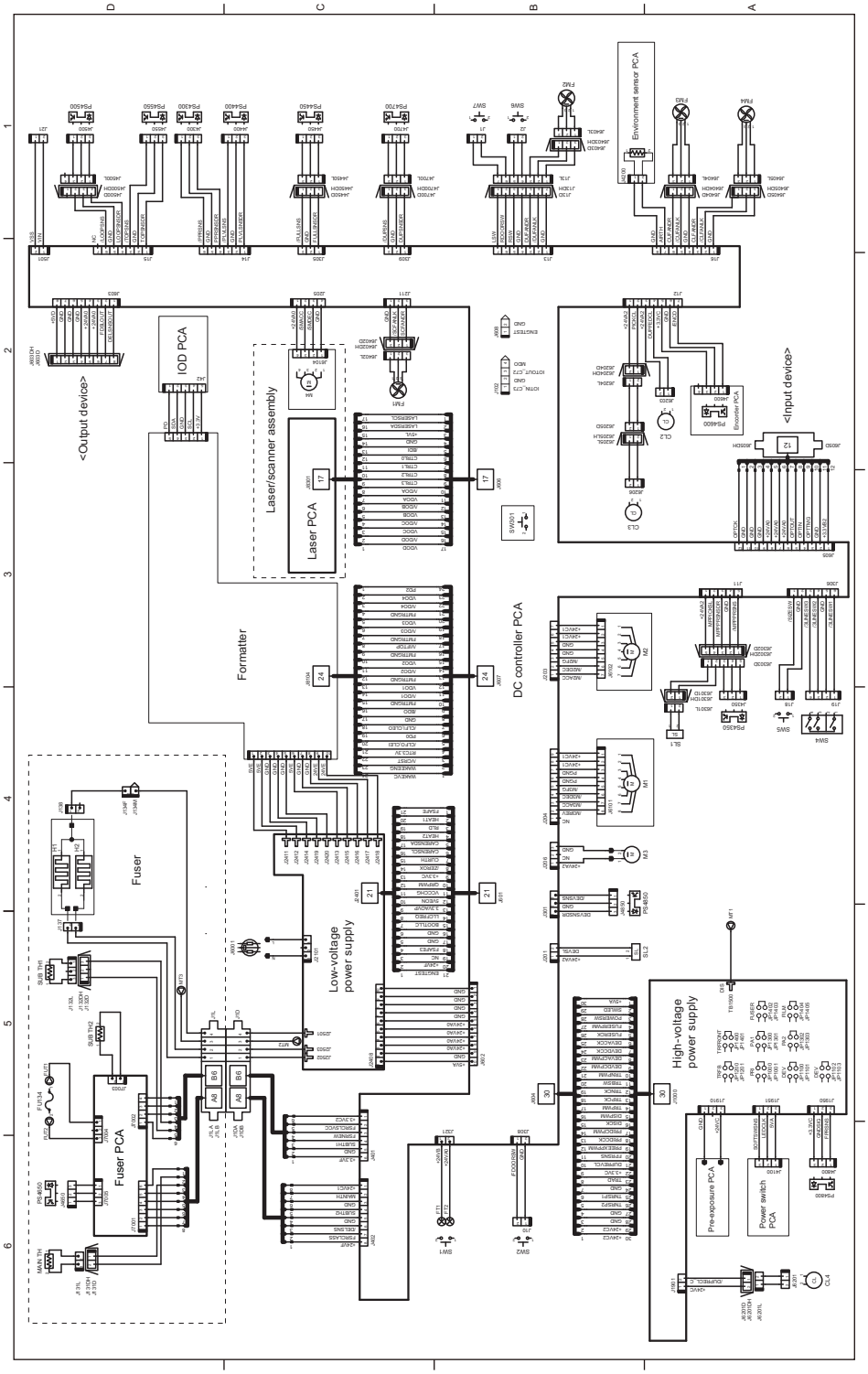


Figure 2-96 General circuit diagram for the printer base (E62655/E62665/E62675) (2 of 2)

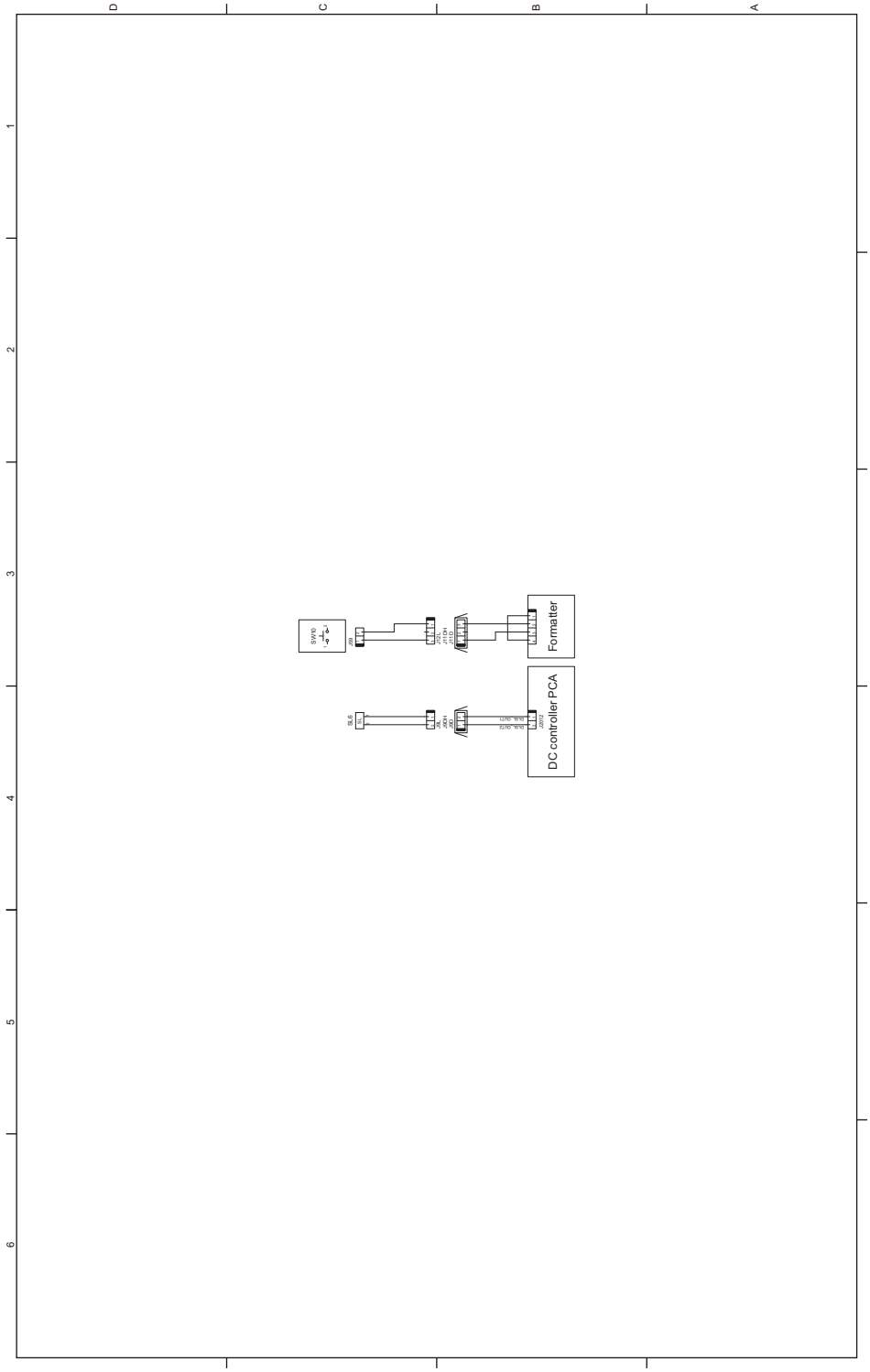


Figure 2-97 General circuit diagram for the 550-sheet paper feeder

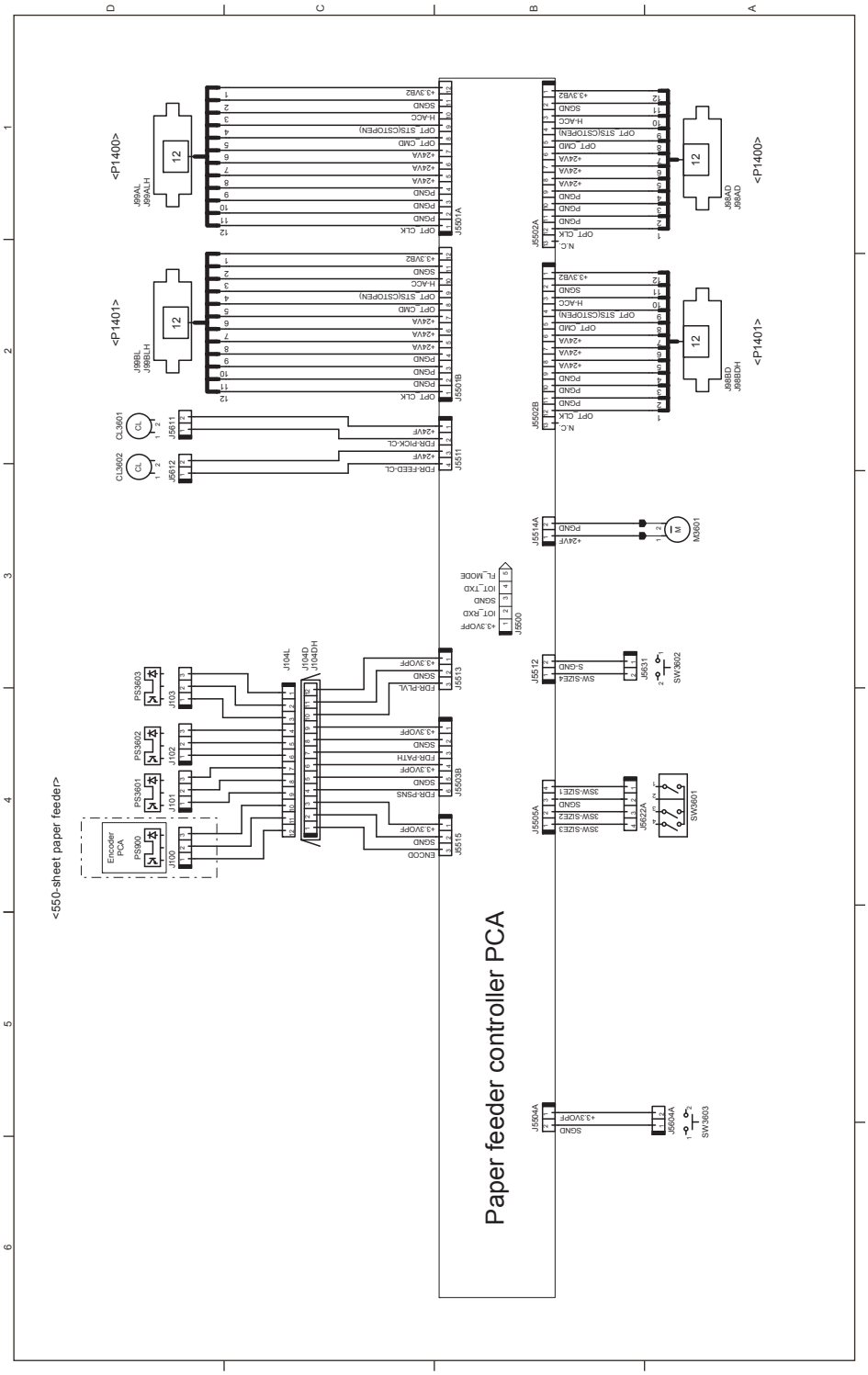


Figure 2-98 General circuit diagram for the 1x550-sheet and 3x-550-sheet paper deck

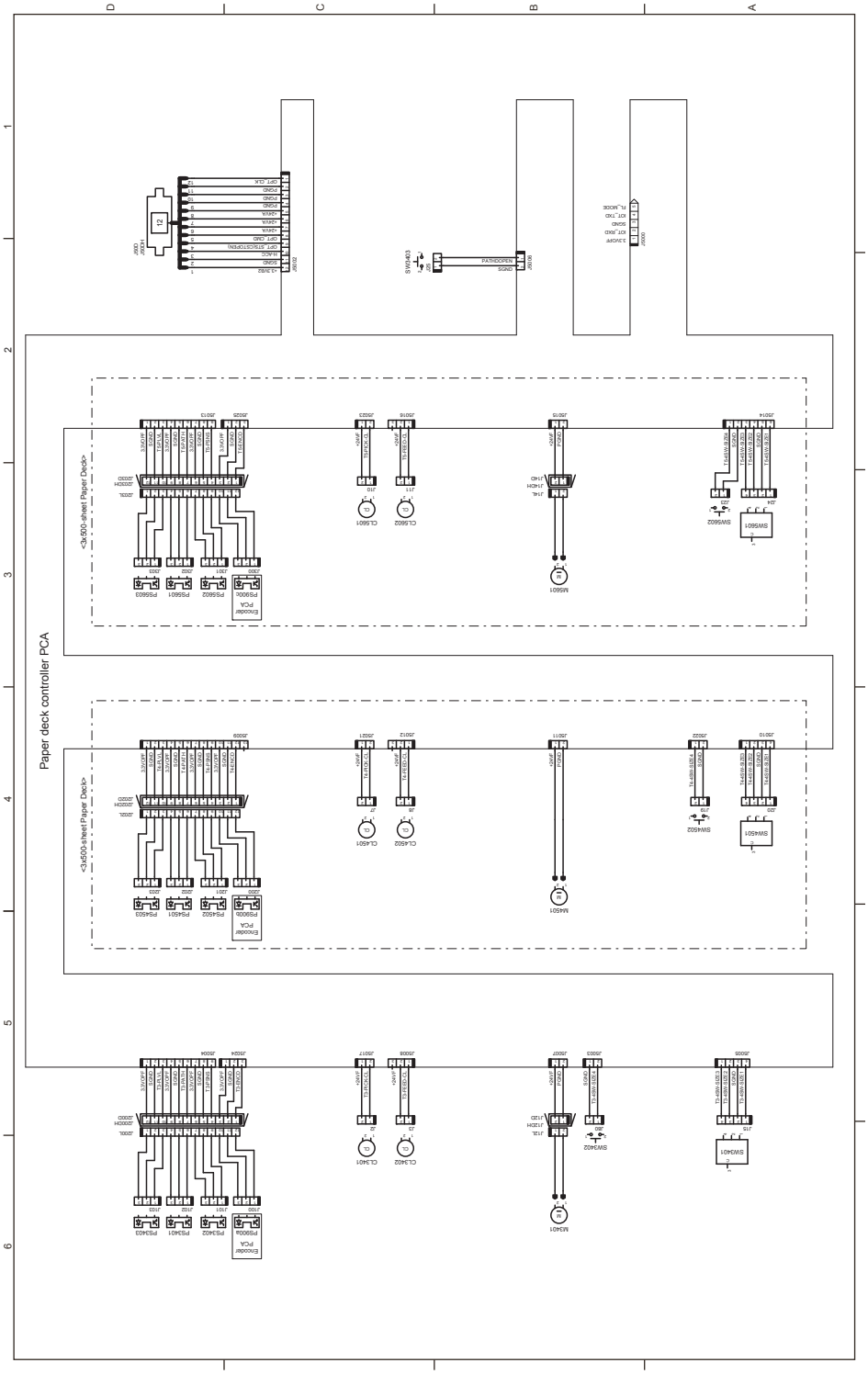


Figure 2-99 General circuit diagram for the 2,100-sheet paper deck

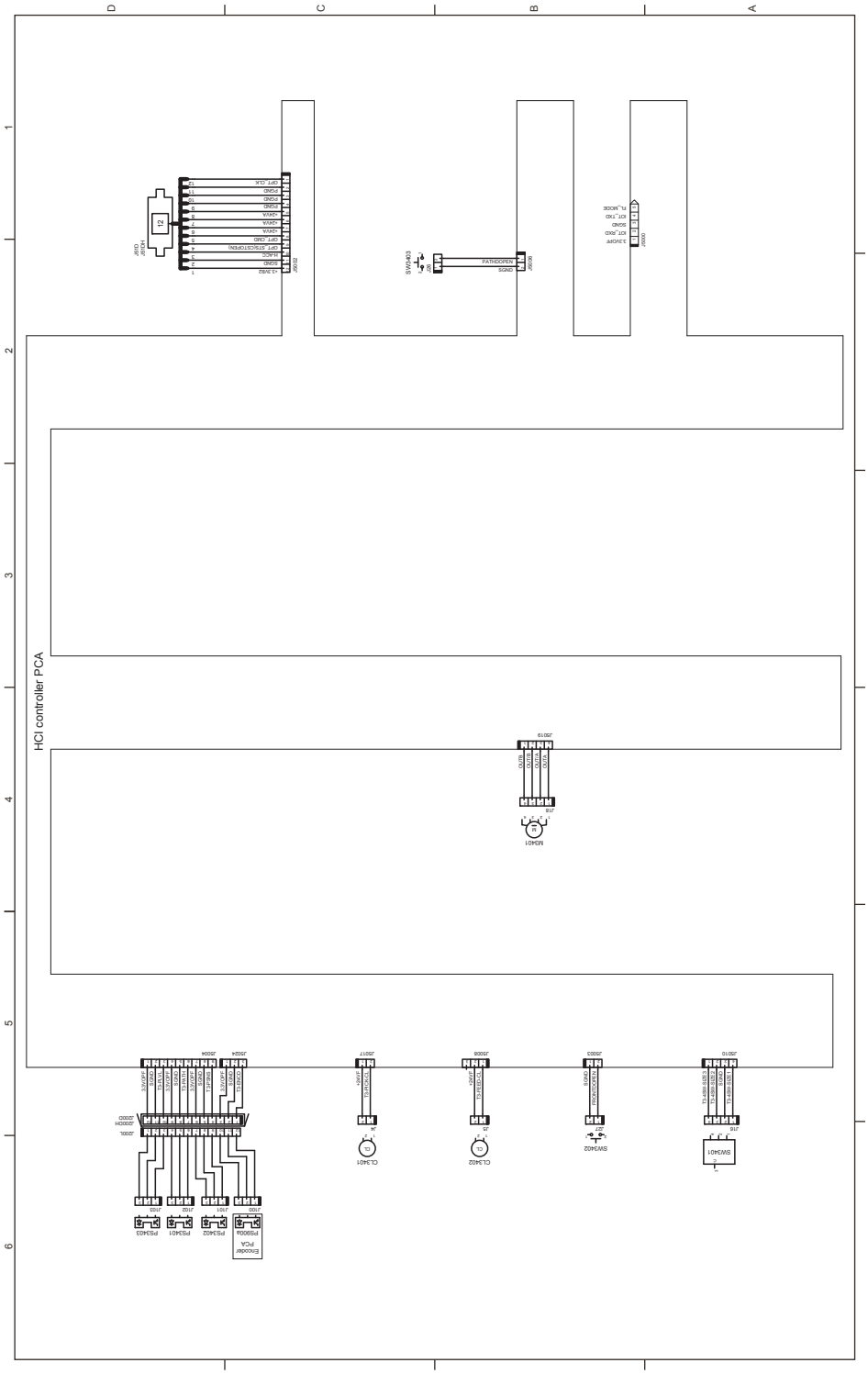


Figure 2-100 General circuit diagram for the 2,550-sheet paper deck

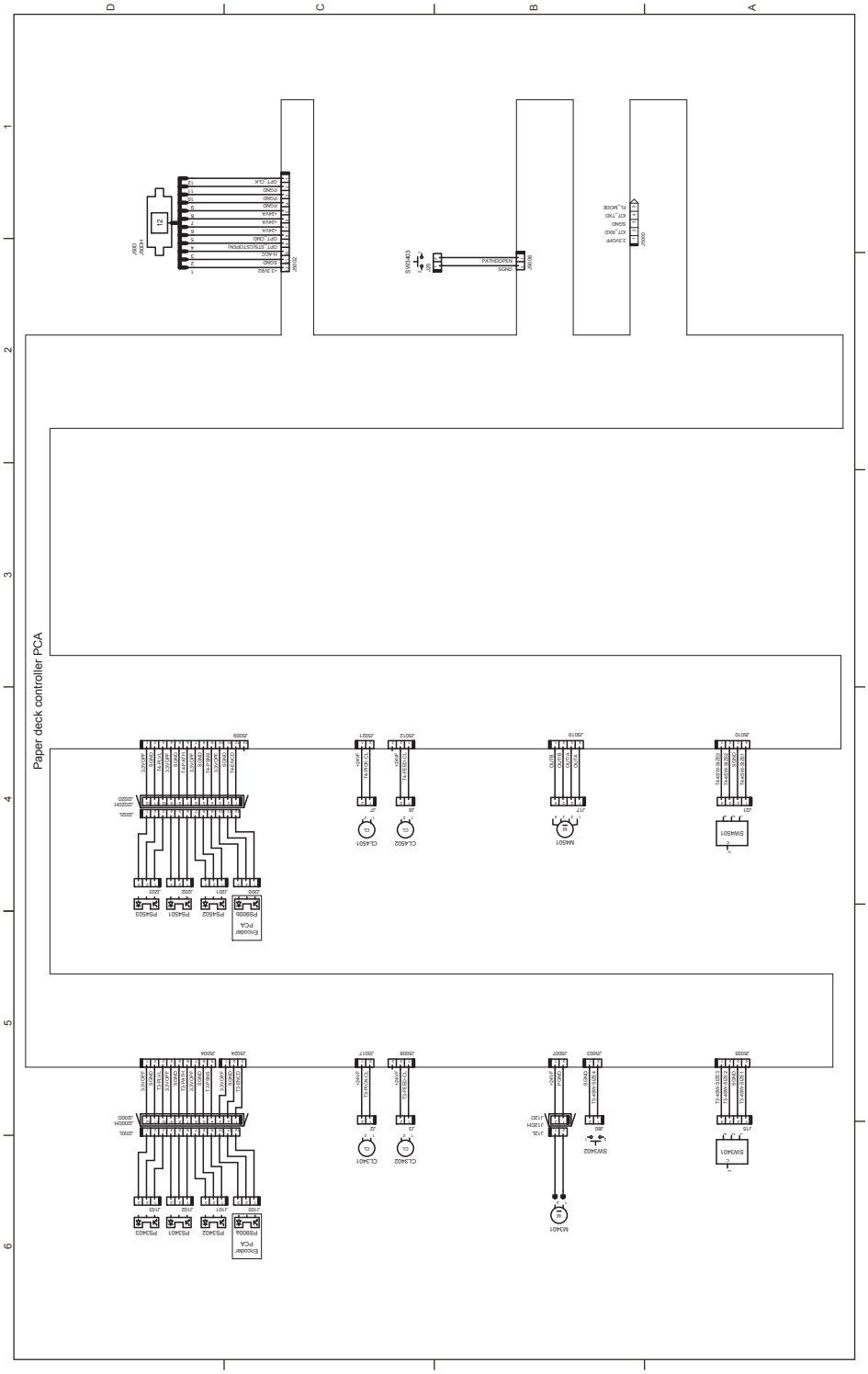


Figure 2-101 General circuit diagram for the 5 bin stapler stacker multi-bin mail box

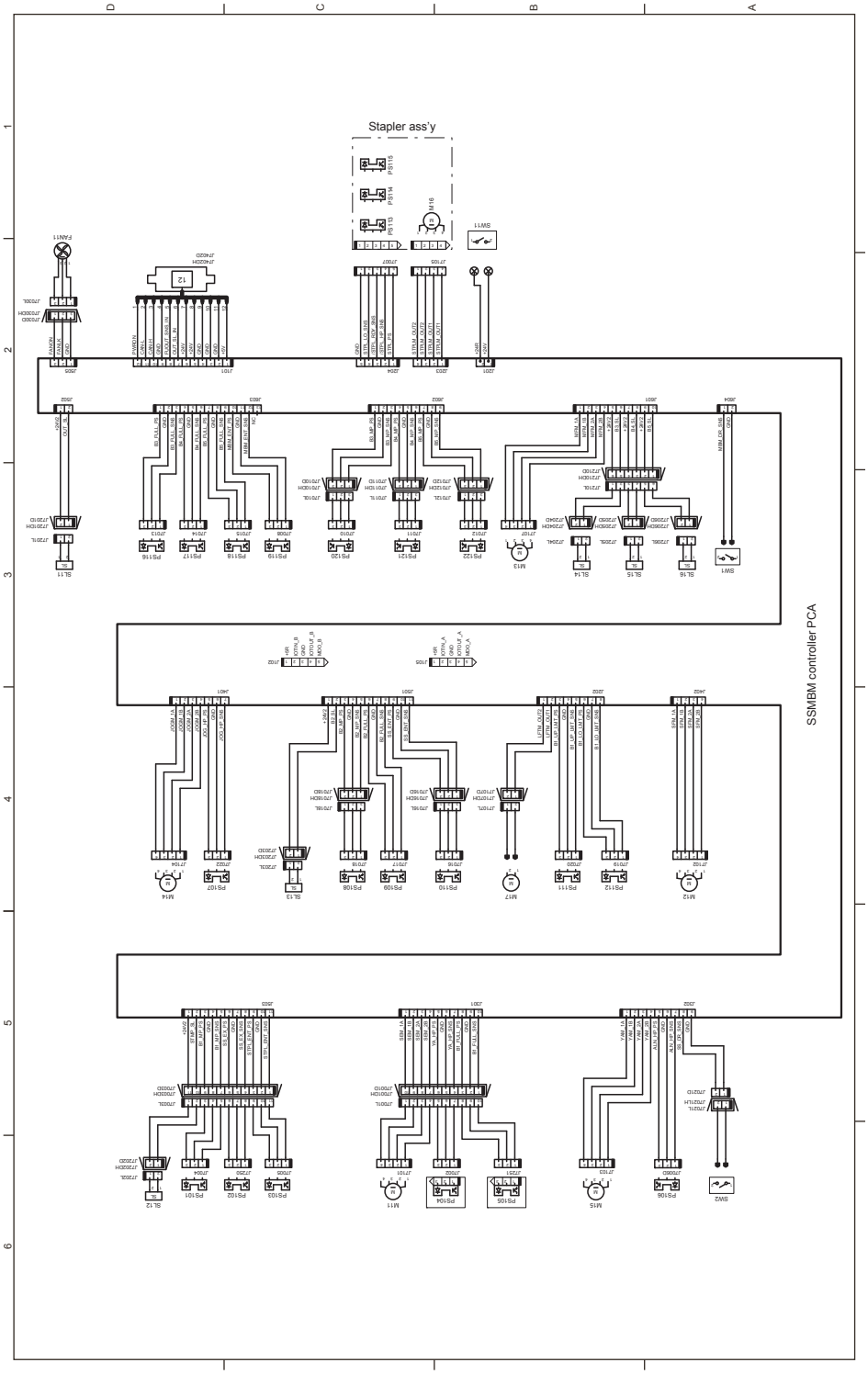
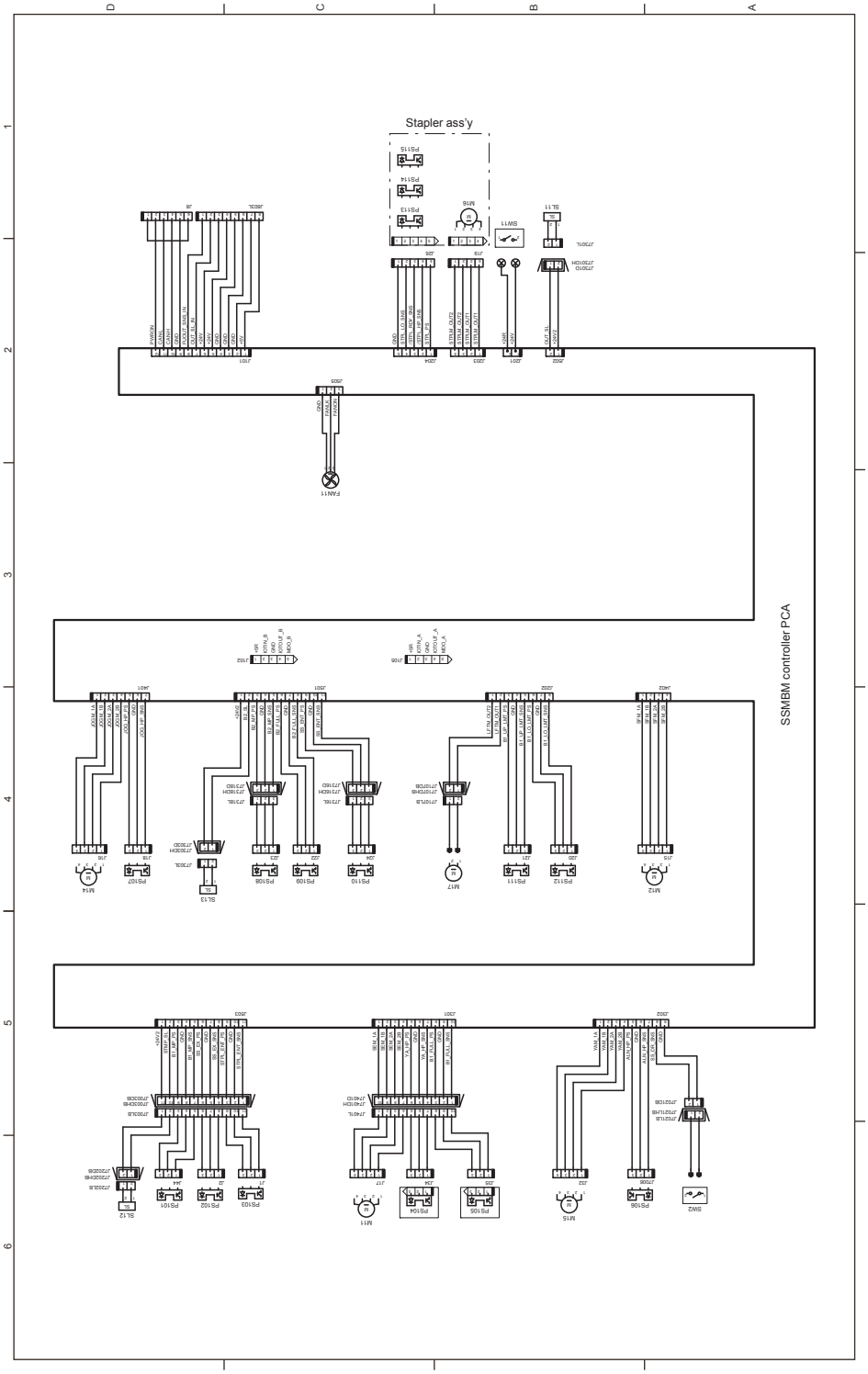


Figure 2-102 General circuit diagram for the 2 bin stapler stacker multi-bin mail box



Internal test and information pages

Print a configuration page

NOTE: Depending on the model, up to six pages print when printing a configuration page.

- Configuration Page
- Wireless HP Jetdirect (2 pages)
- Embedded HP Jetdirect
- Fax Accessory Page (2 pages)

Print the configuration page from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and the touch the Reports button.
2. Touch the Configuration/Status Pages item
3. Touch Configuration Page to select it.

   TIP: Multiple report pages can be selected, and then printed together.

4. Touch the Print button to print the pages.

Print the configuration page from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to Reports, and then press the OK button.
3. Use the down arrow ▼ button to scroll to Configuration/Status Pages, and then press the OK button.
4. Use the down arrow ▼ or ▲ buttons to scroll to Configuration Page, and then press the OK button to select it.
5. Use the down arrow ▼ and right arrow ▶ buttons to scroll to Print, and then press the OK button to print the pages.

   TIP: Multiple report pages can be selected, and then printed together.

Figure 2-103 Configuration report

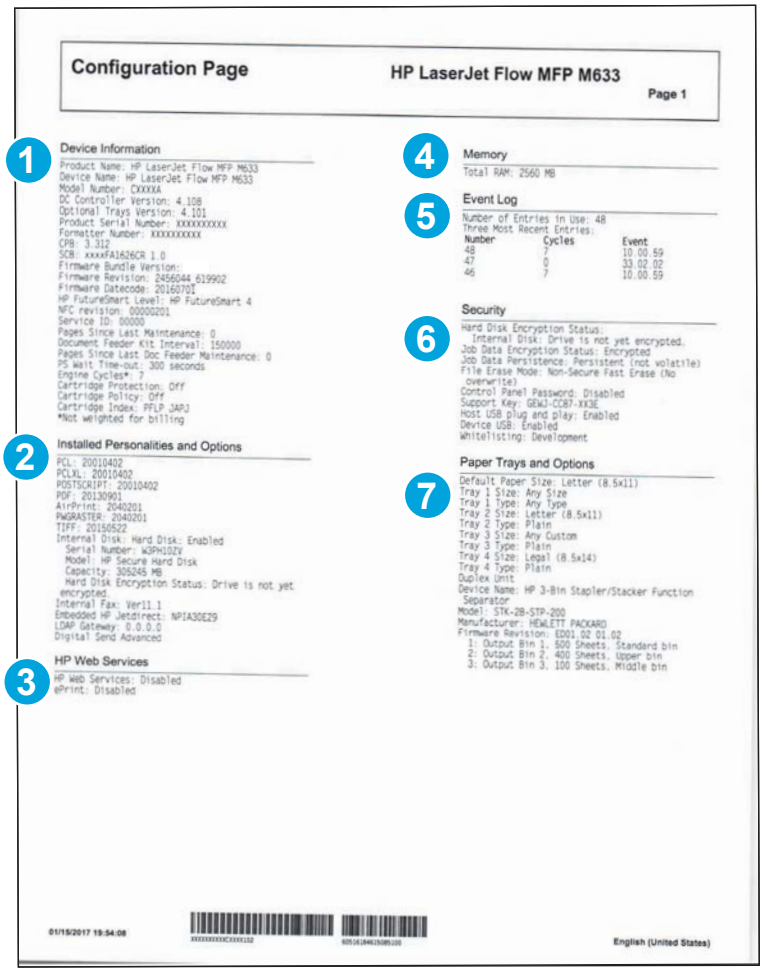


Table 2-46 Configuration page

Item	Description	Item	Description
1	Device information	5	Event Log
2	Installed personalities and options	6	Security
3	HP Web services	7	Paper Trays and Options
4	Memory		

Wireless page

The wireless page contains the following information:

NOTE: Wireless models only.

Always make sure the status line under the general information line indicates "**I/O Card Ready**."

Figure 2-104 Wireless page (1 of 2)

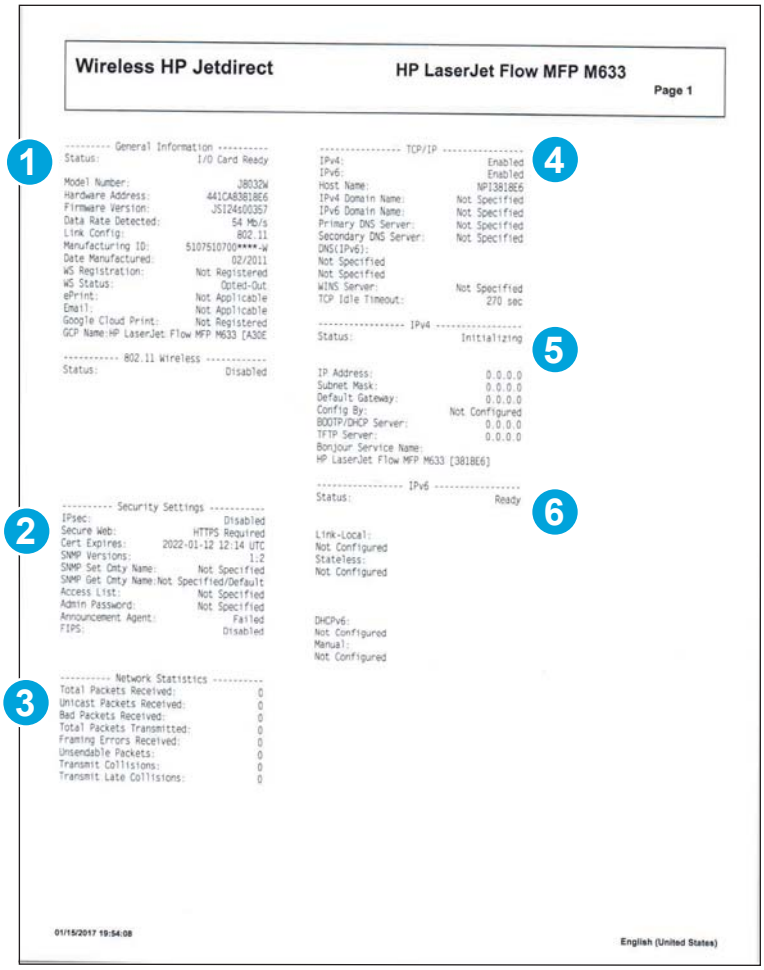


Table 2-47 **Wireless page (1 of 2)**

Item	Description
1	**General Information** indicates the printer 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.

Figure 2-105 Wireless page (2 of 2)

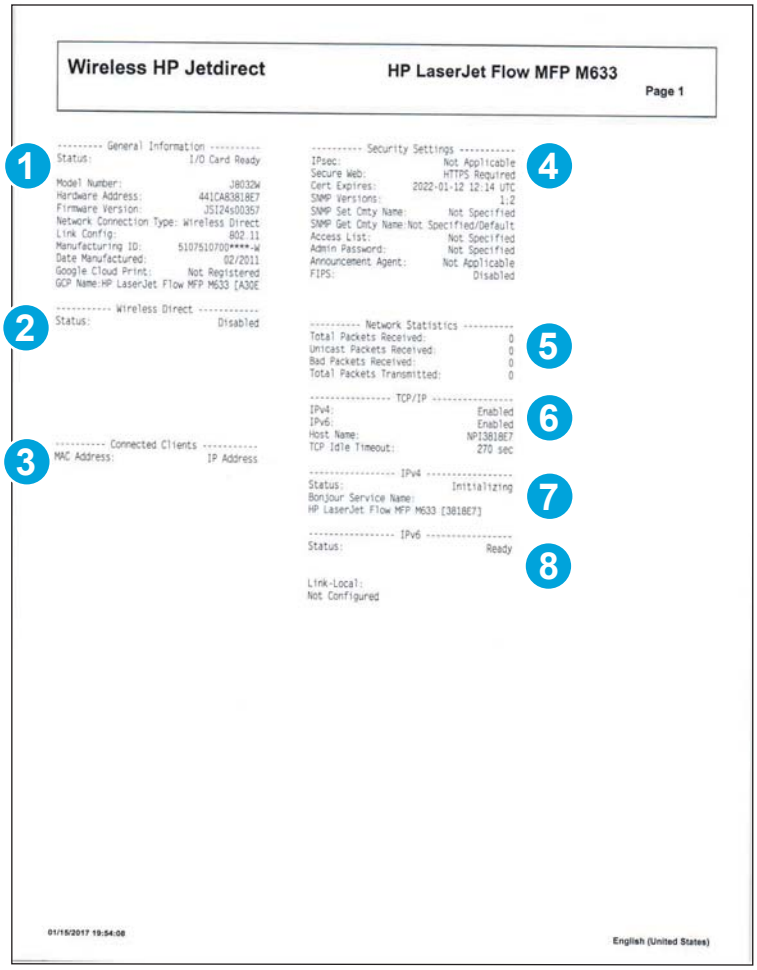


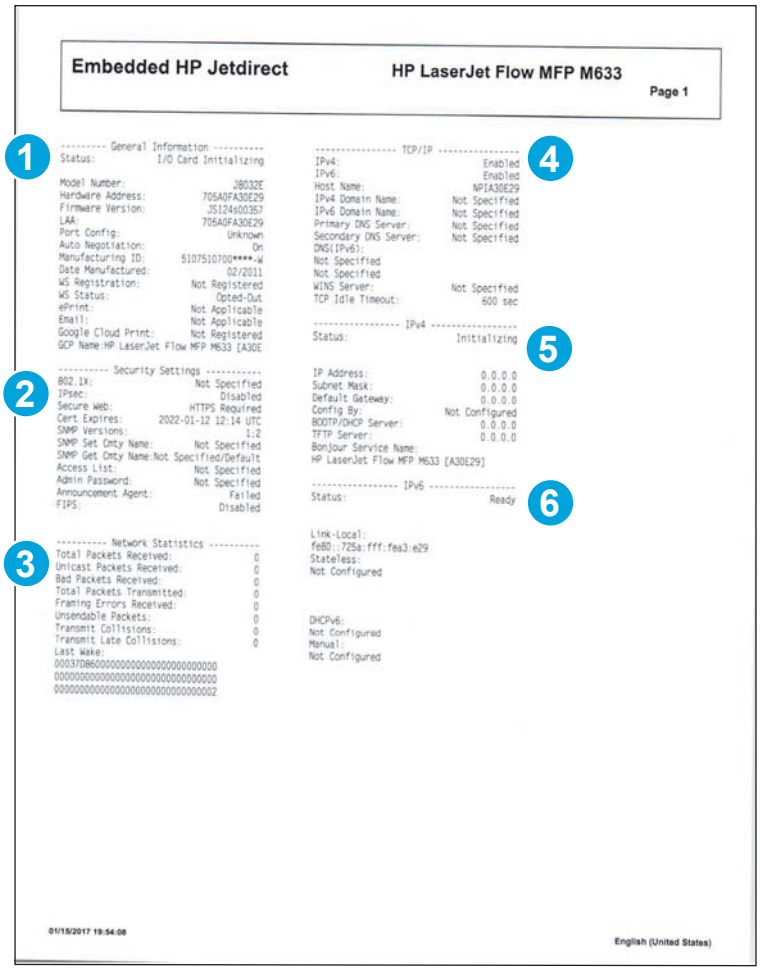
Table 2-48 Wireless page (2 of 2)

Item	Description
1	**General Information** indicates the printer status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
2	**Wireless Direct** indicates the wireless function status.
3	**Connected Clients** indicates the MAC or IP address of connected clients.
4	**Security Settings** information
5	**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.
6	**TCP/IP** information, including the IP address.
7	**IPv4** information.
8	**IPv6** information.

HP embedded Jetdirect page

The Embedded HP Jetdirect page contains the following information:

Figure 2-106 HP embedded Jetdirect page



Item	Description
1	**General Information** indicates the printer status, model number, hardware firmware version, port select, port configuration, auto negotiation, manufacturing identification, and manufactured date.
4	**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

Fax accessory page

The fax accessory page contains the following information:

Figure 2-107 Fax accessory page (1 of 2)

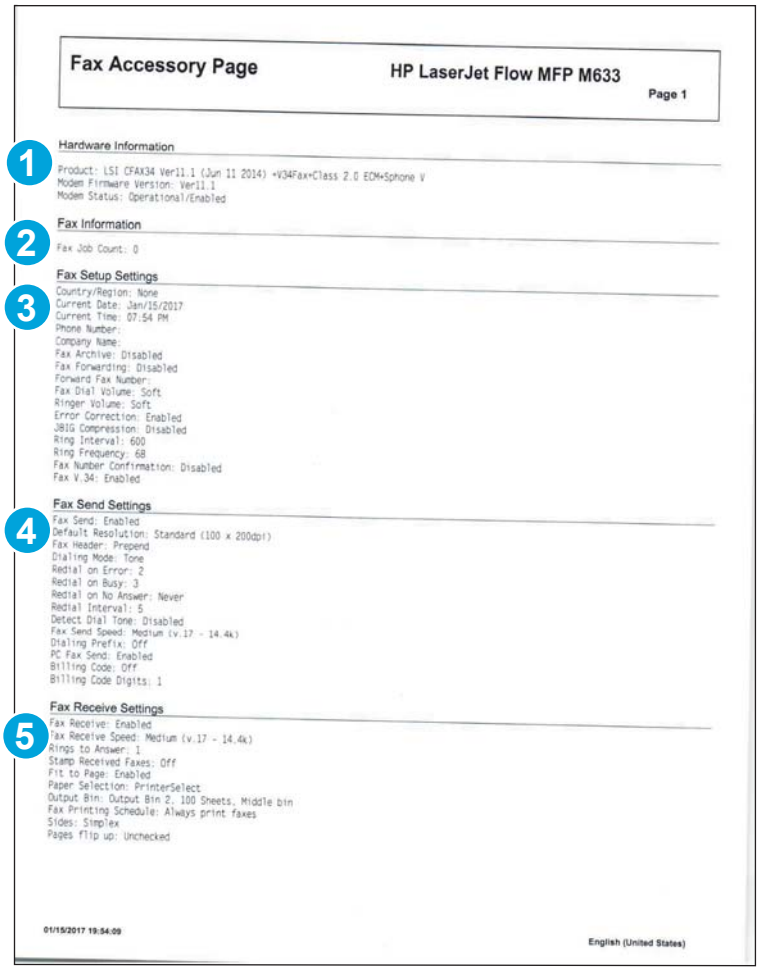


Table 2-50 Fax accessory page (1 of 2)

Item	Description
1	**Hardware Information** shows the product information, modem firmware version, and modem status.
2	**Fax Information** shows a fax job count.
3	**Fax Setup Settings** shows the fax setup settings (for example, the fax phone number, company name, and error correction settings).
4	**Fax Send Settings** shows the fax send settings (for example, the default resolution, fax send speed, and billing code settings).
5	**Fax Receive Settings** shows the fax receive settings (for example, the fax receive speed, rings to answer, and output bin settings).

Figure 2-108 Fax accessory page (2 of 2)

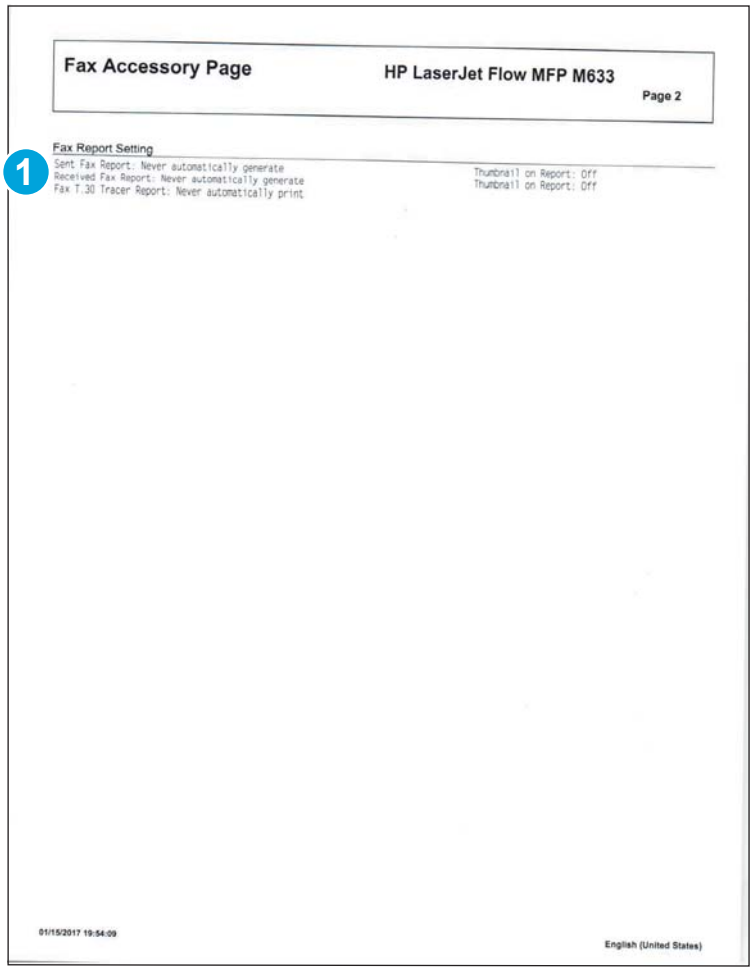


Table 2-51 Fax accessory page (2 of 2)

Item	Description
1	**Fax Report Setting** shows the sent fax report, received fax report, and fax T.30 tracer report settings.

Finding important information on the configuration pages

Certain information, such as the firmware date codes, the IP address, and the email gateways, is especially helpful while servicing the printer. This information is on the various configuration pages.

Table 2-52 Important information on the configuration pages

Type of information	Specific information	Configuration page
Firmware date codes When performing a remote firmware upgrade procedure, all of these firmware components are upgraded.	DC controller	Look on the configuration page, under "Device Information."
	Firmware datecode	Look on the configuration page, under "Device Information".
	HP embedded Jetdirect firmware version.	Look on the Embedded HP Jetdirect page, under "General Information."

Table 2-52 Important information on the configuration pages (continued)

Type of information	Specific information	Configuration page
Accessories and internal storage All optional devices that are installed on the printer 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.	Embedded HP Jetdirect	Look on the configuration page, under “Installed Personalities and Options.” Shows model and ID.
	Total RAM	Look on the configuration page, under “Memory.”
Additional sheet feeder and paper deck accessories.	Additional 550-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 printer 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 configuration page, under “Device Information”.
Event-log information	Event-log information	Look on the configuration page, under “Event Log.”
IP address	Wireless connectivity information	Look on the wireless page, under “IPv4”.

Print a fuser test page

Use the fuser test page to evaluate problems with fuser print quality.

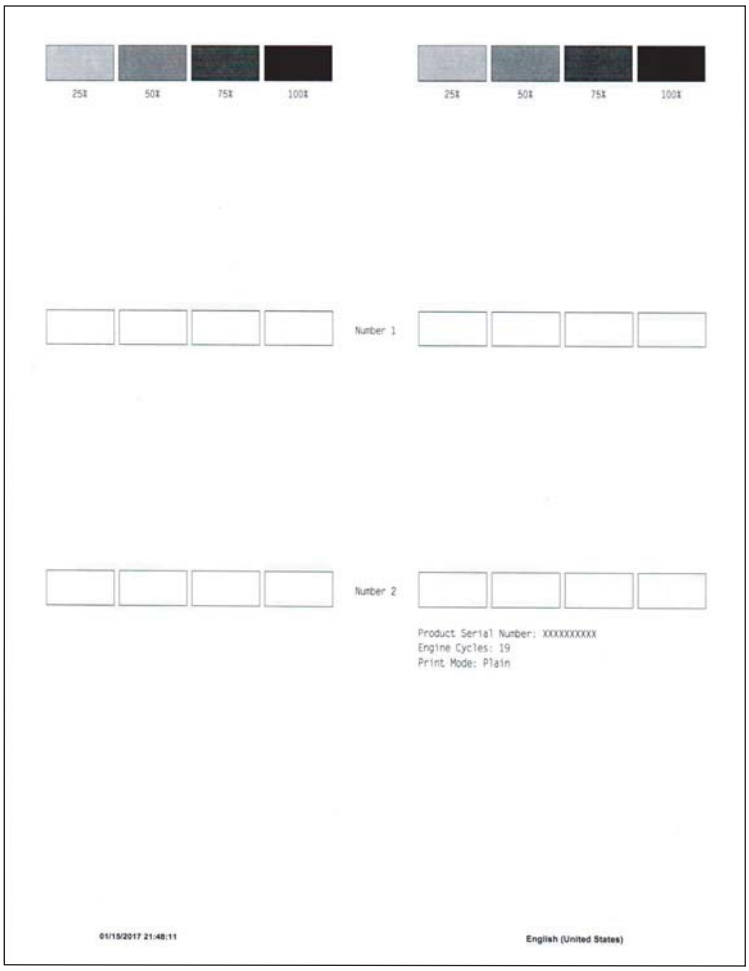
Print a fuser test page from a touchscreen control panel

1. From the From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Troubleshooting
   - Print Quality Pages
3. Touch the Fuser Test Page checkbox, and then touch the Print button.

Print a fuser test page from a LCD control panel

1. FFrom the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Troubleshooting menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Print Quality Pages menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to Fuser Test Page, and then press the OK button.
6. Use the down arrow ▼ and the right arrow ▶ buttons to select the Print item, and then press the OK button.

Figure 2-109 Fuser test page



Control-panel menus

- Copy menu (MFP models only)
- Scan menu (MFP models only)
- Print menu
- HP JetAdvantage menu (MFP models only)
- Quick Sets menu (MFP models only)
- Contacts menu (fax models only)
- Supplies menu
- Trays menu
- Reports menu
- Settings menu
- Support Tools menu

NOTE: For touchscreen printers, touch an item to navigate to sub menus. For LCD printers, use the arrow buttons and the OK button to navigate to sub menus.

Copy menu (MFP models only)

Touchscreen printers: At the printer control panel, touch the Copy button.

LCD printers: Use the arrow buttons to scroll to the Copy button, and then press the OK button.

Table 2-53 Copy menu (MFP models only)

First level	Second level	Third level	Fourth-level	Description
Sides	Original Sides 1-sided 2-sided **NOTE:** For 2-sided, the Pages flip up option is available.			Use this item to indicate whether the original document is printed on one or both sides, and whether the copies should be printed on one or both sides.
	Output Sides 1-sided 2-sided **NOTE:** For 2-sided, the Pages flip up option is available.			Use this item top select the source tray for the copy job. **NOTE:** The A3 Tray 2 or the A3 Tray 3 is the default tray.
Quick Sets and Defaults	Load Save			Use this item to determine create or load copy quick sets.
Options	Sides	Original Sides 1-sided 2-sided **NOTE:** For 2-sided, the Pages flip up option is available.		Use this item to indicate whether the original document is printed on one or both sides, and whether the copies should be printed on one or both sides.
		Output Sides 1-sided 2-sided **NOTE:** For 2-sided, the Pages flip up option is available.		
	Staple	None Top left angled Top right angled		Use to enable/disable stapling and position the staple on the page.

Table 2-53 Copy menu (MFP models only) (continued)

First level	Second level	Third level	Fourth-level	Description
	Scan Mode	Standard Document Book Mode 2-sided ID		Use to describe the type of original. **NOTE:** Use the 2-sided ID option to automatically place the images from a two sided identification card (like a drivers licence for example) on a single page.
	Reduce/Enlarge	Automatic **NOTE:** When Automatic is selected, the Include Margins option is available. Manual **NOTE:** When Manual is selected, use the % dialog box to enter the percentage for document scaling (25 to 400 percent).		Use this to automatically or manually scale the original to fit on the output page.
	Original Size	Choose from a list of sizes.		Use this to describe the size or sizes of the originals.
	Paper Selection	Paper Size Paper Type Paper Tray		Select from a list of paper sizes, types, and available trays for the copy job. **NOTE:** The list of trays depends on the printer configuration.
	Booklet	Booklet Format (check box) **NOTE:** When Booklet Format is selected, the Borders on each page option is available.		Use this item to set the copy job to a booklet format.
	Content Orientation	Automatically detect Portrait Landscape		Use this to automatically detect, or manually describe the original content orientation..
	Pages per Sheet	One Two Four (right, then down) Four (down, then right Add page borders		Use this to print the original to a single page or to print multiple originals to a single page. **NOTE:** Add page borders is only available when printing multiple originals on a single page.

Table 2-53 Copy menu (MFP models only) (continued)

First level	Second level	Third level	Fourth-level	Description
	Image Adjustment	Sharpness Darkness Contrast Background Cleanup		Use the sliders to adjust the values for these items.
	Optimize Text/Picture	Text Mixed Printed picture Photograph		Use this to improve print quality.
	Edge-to-Edge	Normal (recommended) Edge-to-Edge		Use to avoid shadows that can appear along the edges of copies when the original document is printed close to the edges. Combine with the Reduce/Enlarge feature to ensure that the entire page is printed on the copies When the Edge-to-Edge feature is turned on, the product minimizes margins and prints as close to the edge of the paper as possible.
	Erase Edges	Apply same width to all edges (check box) Top Edge Bottom Edge Left Edge Right Edge		Use this to remove blemishes, such as dark borders or staple marks, by cleaning the specified edges of the scanned image. In each of the text boxes enter the measurements, in inches, for how much of the top edge, bottom edge, left edge, and right edge to clean.
	Collate	Collate on Collate off		If you are making more than one copy, select the Collate on option to assemble the pages in the correct order in each set of copies.
	Multi-feed Detection	On Off		When enabled, scanning stops if HP EveryPage technology detects multiple pages being fed at one time. When disabled, this feature will not stop scanning when multi-feeds are detected.

Scan menu (MFP models only)

To display: At the printer control panel, touch the Scan button.

NOTE: Some items below (for example, Scan to Email) require printer configuration of the feature. If not already configured, follow the prompts on the control-panel display.

Table 2-54 Scan menu (MFP models only)

First level	Description
Scan to Email	Use this to scan the original and attach it to an email.
Scan to Fax	Use this to scan the original and send it as a fax.
Scan to Network Folder	Use this to scan the original and save it to a network folder.
Scan to USB Drive	Use this to scan the original and save it to a USB drive.
Scan to Job Storage	Use this to scan the original and save it to the printer memory.
Scan to SharePoint	Use this to scan the original and save it to a SharePoint site.

Print menu

Touchscreen printers: At the printer control panel, touch the Print button.

LCD printers: Use the arrow buttons to scroll to the Print button, and then press the OK button.

Table 2-55 Print menu

First level	Second level	Third level	Fourth-level	Description
Print from Job Storage	Choose			Use this to view and select jobs stored in the printer memory.
	Print List			Use this to print the list of jobs stored in the printer memory.
	Print			Use this to print the selected job.
Print from USB Drive	Choose			Use this to view and select jobs stored on a USB drive.
	Print			Use this to print the selected job.

HP JetAdvantage menu (MFP models only)

To display: At the printer control panel, touch the HP JetAdvantage button.

NOTE: To use this feature, the printer must be connected to a network. Go to http://www8.hp.com/us/en/solutions/business-solutions/printingsolutions/privateprint.html ror more information.

Table 2-56 HP JetAdvantage menu (MFP models only)

First level	Description
E-mail	Enter the email address associated with a HP JetAdvantage account.
Password	Enter the password associated with a HP JetAdvantage account.
Log in	Use this to access a HP JetAdvantage account.

Quick Sets menu (MFP models only)

Use the HP Embedded Web Server (EWS) to configure Quick Sets for the printer.

To display: At the printer control panel, touch the Quick Sets button.

Contacts menu (fax models only)

To display: At the printer control panel, touch the Contacts button.

NOTE: Contacts is an application that can create contacts.

TIP: Use the symbols located at the lower left corner of the screen to add contacts and groups to the Contacts display.

Table 2-57 Contacts menu (fax models only)

First level	Second level	Description
Local	Local	Choose from a list of contacts.
	Fax Speed Dials	Choose from a list of speed dial phone numbers.

Supplies menu

Touchscreen printers: At the printer control panel, touch the Supplies button.

LCD printers: Use the arrow buttons to scroll to the Supplies button, and then press the OK button.

NOTE: The supplies listed in the Supplies menu depend on the printer configuration.

Table 2-58 Supplies menu (fax models only)

First level	Second level	Third level	Fourth level	Description
Black Cartridge				This displays the following information about the supply: • Status • HP part number • Pages printed • Approximate pages remaining
Maintenance Kit				This displays the following information about the supply: • Status • HP part number
Document Feeder Kit (MFP models only)				This displays the following information about the supply: • Status • HP part number
Staple Cartridge (SSMBM models only)				This displays the following information about the supply: • Status • HP part number
	Low Warning Thresholds	Black Cartridge Maintenance Kit (MFP models only) Document Feeder Kit (MFP models only) **NOTE:** The supplies listed depend on the printer configuration.		Set the level at which the supply is considered low.
	Low Warning Threshold Message	On Off		When this feature is enabled, a low supply message appears on the control-panel display when a supply is low.

Table 2-58 Supplies menu (fax models only) (continued)

First level	Second level	Third level	Fourth level	Description
	Low Behavior	Stop Continue **NOTE:** Select the setting that is currently display to display all options.		Specifies how the product reacts when a supply is low. Stop: The printer stops until the supply is replaced. Continue: A supply very low message appears on the control panel display, but printing continues.
	Very Low Behavior	Black Cartridge Maintenance Kit (MFP models only) Document Feeder Kit (MFP models only) **NOTE:** The supplies listed depend on the printer configuration.	Stop Continue Prompt to continue	Specifies how the product reacts when a supply is low. Stop: The printer stops until the supply is replaced. Continue: A supply very low message appears on the control panel display, but printing continues. Prompt to continue: A supply very low message appears on the control panel display, printing continues after acknowledging the low condition.
	Store Usage Data	On Supplies Not on Supplies		Use this to determine where data about supply usage is stored.
	Cartridge Protection	Off Protect cartridges		Select Protect cartridges to permanently protect cartridges so that they can be used only in this printer or fleet of printers.
	Cartridge Policy	Off Authorized HP		Select Authorized HP to allow only genuine HP cartridges to be used in this printer.
	Reset Supplies	Black Cartridge Maintenance Kit (MFP models only) Document Feeder Kit (MFP models only) **NOTE:** The supplies listed depend on the printer configuration.	Cancel Reset	After replacing a supply kit, select it from the list and then select Reset.
				Select this to print a supplies status page.

Trays menu

Touchscreen printers: At the printer control panel, touch the Trays button.

LCD printers: Use the arrow buttons to scroll to the Trays button, and then press the OK button.

NOTE: The trays listed in the this menu depend on the printer configuration.

Table 2-59 Trays menu

First level	Second level	Third level	Fourth level	Description
Tray <X>	Size			Choose from a list of paper sizes.
	Type			Choose from a list of paper types.
	Status			This shows the tray status (for example, "Empty" might display).
	Capacity			This shows the tray capacity.
	Use Requested Tray	Exclusively When available		Controls how the printer handles jobs that have specified a specific input tray. Two options are available: Exclusively: The printer never selects a different tray when the user has indicated that a specific tray should be used, even if that tray is empty. When available: The printer uses the selected tray unless it is empty or unavailable.
	Manual Feed Prompt	Always prompt Prompt on mismatch		Indicate whether a prompt should appear when the type or size for a job does not match the specified tray and the product pulls from the multipurpose tray instead. Two options are available: Always prompt: A prompt always displays before using the multipurpose tray. Prompt on mismatch: A prompt only displays if the job size/type does not match the tray configuration.

Table 2-59 Trays menu (continued)

First level	Second level	Third level	Fourth level	Description
	Size/Type Prompt	Display Do not display		Controls whether the tray configuration message displays whenever a tray is closed. Two options are available: Display: Shows the tray configuration message when a tray is closed. The user is able to configure the tray settings directly from this message. Do not display: Prevents the tray configuration message from automatically appearing.
	Use Another Tray	Allow Do not allow		Use to turn on or off the control-panel prompt to select another tray when the specified tray is empty. Two options are available: Allow: When this option is selected, the user is prompted either to add paper to the selected tray or to choose a different tray. Do not allow: When this option is selected, the user is not given the option of selecting a different tray. The product prompts the user to add paper to the tray that was initially selected.
	Alternative Letterhead Mode	Off On		Use to load letterhead or preprinted paper into the tray the same way for all print jobs, whether you are printing to one side of the sheet or to both sides of the sheet. When this option is selected, load the paper as you would for printing on both sides. See the user documentation that came with the product for instructions about loading letterhead for printing on both sides. When this option is selected, the product speed slows to the speed required for printing on both sides.

Table 2-59 Trays menu (continued)

First level	Second level	Third level	Fourth level	Description
	Duplex Blank Pages	Automatic Always **NOTE:** Automatic is not available for the M607n and M608n printers.		Control how the product handles two-sided jobs (duplexing). Automatic: Enables Smart Duplexing, which instructs the printer not to process blank pages. Always: Disables Smart Duplexing and forces the duplexer to flip the sheet of paper even if it is printed on only one side. This might be preferable for certain jobs that use paper types such as letterhead or prepunched paper.
	Override A4/Letter	No Yes		Prints on letter-size paper when an A4 job is sent but no A4-size paper is loaded in the printer (or to print on A4 paper when a letter-size job is sent but no letter-size paper is loaded). This option also overrides A3 with ledger-size paper and ledger with A3-size paper.

Reports menu

Touchscreen printers: At the printer control panel, touch the Reports button.

LCD printers: Use the arrow buttons to scroll to the Reports button, and then press the OK button.

Table 2-60 Reports menu (fax models only)

First level	Second level	Third level	Description
Configuration/Status Pages **NOTE:** It is possible to select and print multiple reports. **TIP:** Large touchscreen printers have a View feature for the report pages.	Settings Menu Map (check box)	Cancel Print	A map of the available printer configuration settings.
	Current Setting Page (check box)	Cancel Print	Print a summary of the current printer settings. **TIP:** This is helpful if settings need to be changed to service the printer. Use this report to record the present printer configuration.
	Configuration Page (check box)	Cancel Print	Shows the printer settings and installed accessories.
	How to Connect Page (check box)	Cancel Print	Show information required to connect to the printer by using a network.
	Supplies Status Page (check box)	Cancel Print	Shows the approximate remaining life for the supplies; reports statistics on total number of pages and jobs processed, serial number, page counts, and maintenance information. **IMPORTANT:** HP provides approximations of the remaining life for the supplies as a customer convenience. The actual remaining supply levels might be different than the approximations provided.
	Usage Page (check box)	Cancel Print	Shows a page count for jobs processed by the printer (for example, total page count for pages printed).
	File Directory Page (check box)	Cancel Print	Shows the file name and folder name for files that are stored in the printer memory.
	Web Services Status Page (check box)	Cancel Print	Shows the detected Web Services for the printer.
Fax Reports (fax models only) **TIP:** Large touchscreen printers have a View feature for the report pages.	Fax Activity Log (check box)	Cancel Print	Contains a list of the faxes that have been sent from or received by this printer.
	Billing Codes Report (check box)	Cancel Print	Provides a list of billing codes used for outgoing faxes. This report shows how many sent faxes were billed to each code.

Table 2-60 Reports menu (fax models only) (continued)

First level	Second level	Third level	Description
	Blocked Fax List (check box)	Cancel Print	A list of phone numbers that are blocked from sending faxes to this printer.
	Fax Call Report (check box)	Cancel Print	A detailed report of the last fax operation, either sent or received.
Other pages	Demonstration Page (check box)	Cancel Print	Print a demonstration page.
	PCL Font List (check box)	Cancel Print	Print the available PCL fonts.
	PS Font List (check box)	Cancel Print	Print the available PS fonts.

Settings menu

Touchscreen printers: At the printer control panel, touch the Settings button.

LCD printers: Use the arrow buttons to scroll to the Settings button, and then press the OK button.

Table 2-61 Settings menu (fax models only)

First level	Second level	Third level	Fourth level	Description
General	Date/Time Settings	Date/Time Format	Date Format Time Format	Use these items to specify the date and time and to configure date/time settings.
		Date/Time		Set the following: • Date • Time • Time Zone
	Energy Settings	Sleep Schedule **NOTE:** The date and time settings must be configured before using this feature.	New Event Done	Create a printer Wake Event and/or Sleep Event schedule.
		Sleep Settings	Done	Set the following Sleep Settings: • Sleep after inactivity • Auto off after sleep
	Display Settings	Display Brightness		Use the slider to adjust the display brightness.
		System Sound	On Off	Turn the printer sound on or off.
		Language Settings	Language Keyboard Layout	Select from a list of languages..
		Information Screen	Show connection information Hide connection information	Determine wether the printer connection information appears on the control-panel display.
		Display Date and Time	No Yes	Determine wether the date and time appears on the control-panel display.
		Inactivity Timeout	seconds (10 to 300)	Specifies the amount of time that elapses between any activity on the control panel and when the product resets to the default settings. When the timeout expires, the control-panel display returns to the Home menu, and any user signed in to the printer is signed out.

Table 2-61 Settings menu (fax models only) (continued)

First level	Second level	Third level	Fourth level	Description
Fax Reports (fax models only)	Fax Activity Log (check box)			Contains a list of the faxes that have been sent from or received by this printer.
	Billing Codes Report (check box)			Provides a list of billing codes used for outgoing faxes. This report shows how many sent faxes were billed to each code.
	Blocked Fax List (check box)			A list of phone numbers that are blocked from sending faxes to this printer.
	Fax Call Report (check box)			A detailed report of the last fax operation, either sent or received.
Manage Supplies	Low Warning Thresholds	Black Cartridge Maintenance Kit (MFP models only) Document Feeder Kit (MFP models only) NOTE: The supplies listed depend on the printer configuration.		Set the level at which the supply is considered low.
	Low Warning Threshold Message	On Off		When this feature is enabled, a low supply message appears on the control-panel display when a supply is low.
	Low Behavior	Stop Continue NOTE: Select the setting that is currently display to display all options.		Specifies how the product reacts when a supply is low. Stop: The printer stops until the supply is replaced. Continue: A supply very low message appears on the control panel display, but printing continues.

Table 2-61 Settings menu (fax models only) (continued)

First level	Second level	Third level	Fourth level	Description
	Very Low Behavior	Black Cartridge Maintenance Kit (MFP models only) Document Feeder Kit (MFP models only) NOTE: The supplies listed depend on the printer configuration.	Stop Continue Prompt to continue	Specifies how the product reacts when a supply is low. Stop: The printer stops until the supply is replaced. Continue: A supply very low message appears on the control panel display, but printing continues. Prompt to continue: A supply very low message appears on the control panel display, printing continues after acknowledging the low condition.
	Store Usage Data	On Supplies Not on Supplies		Use this to determine where data about supply usage is stored.
	Cartridge Protection	Off Protect cartridges		Select Protect cartridges to permanently protect cartridges so that they can be used only in this printer or fleet of printers.
	Cartridge Policy	Off Authorized HP		Select Authorized HP to allow only genuine HP cartridges to be used in this printer.
	Reset Supplies	Black Cartridge Maintenance Kit (MFP models only) Document Feeder Kit (MFP models only) NOTE: The supplies listed depend on the printer configuration.	Cancel Reset	After replacing a supply kit, select it from the list and then select Reset.
Manage Stapler/Stacker (SSMBM models only)	Operation Mode	Mailbox Stacker Function Separator		Use this to configure the stapler/stacker multi bin mailbox.
	Job Offset	Off On		
Networking	Ethernet	INFORMATION	Print Security Report Yes No	Print a network security report page.

Table 2-61 Settings menu (fax models only) (continued)

First level	Second level	Third level	Fourth level	Description
		TCP\IP	HOST NAME	
			IPV4 SETTINGS	
			IVP6 SETTINGS	
			PROXY SERVER	
			PROXY PORT	
			IDLE TIME OUT	
		SECURITY	SECURE WEB	
			ISPEC	
			802.1X	
			ANNOUNCEMENT AGENT	
			RESET SECURITY	
		LINK SPEED	AUTO	The link speed and communication mode of the print server must match the network. The available settings depend on the printer and installed print server. **CAUTION:** If you change the link setting, network communications with the print server and network printer might be lost. The print server uses auto-negotiation to configure itself with the highest link speed and communication mode allowed. If auto-negotiation fails, either the 100TX Half feature or the 10T Half feature is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.)
			10T HALF	
			10T FULL	
			10T AUTO	
			100TX HALF	
			100TX FULL	
			100TX AUTO	
			1000T FULL	
			Done	
	Wireless	INFORMATION	Print Security Report	Print a network security report page.
			Yes	
			No	
		WIRELESS STATION	Status	
			WI-FI PROTECTED SETUP	

Table 2-61 Settings menu (fax models only) (continued)

First level	Second level	Third level	Fourth level	Description
		TCP\IP	HOST NAME	
			IPV4 SETTINGS	
			IVP6 SETTINGS	
			PROXY SERVER	
			PROXY PORT	
			IDLE TIME OUT	
		SECURITY	SECURE WEB	
			ISPEC	
			802.1X	
			ANNOUNCEMENT AGENT	
			RESET SECURITY	
	Wireless Direct	Status	On	Use this to configure the wireless direct settings.
			Off	
			Done	
		Channel	Range 1 to 11	
			Done	
	I/O Timeout	seconds Range 5 to 300	Done	Set the amount of time before the printer times out from inactivity.

Support Tools menu

Touchscreen printers: At the printer control panel, touch the Support Tools button.

LCD printers: Use the arrow buttons to scroll to the Support Tools button, and then press the OK button.

Table 2-62 Support Tools menu

First level	Second-level	Third-level	Fourth-level	Fith-level	Description
Maintenance	Backup/Restore **IMPORTANT:** The backup data might contain personable identifiable information such as user names or IP addresses. HP uses this data to understand the issue that the printer is having and to improve future versions of the printer software.	Backup Data	Password Confirm Password		Create a password to encrypt the file, and then select the Next button. Insert a USB drive into the USB port, and then select the BackUp button.
		Restore Data			Insert a USB drive into the USB port, and then select the Restore button.
	Calibration/Cleaning	Cleaning Page	Off 1000 pages 2000 pages 5000 papges 10000 pages 20000 pages		Use this to set up automatic cleaning.
		Clean Document Feeder Rollers (MFP models only)	Set cleaning reminder interval (1–100) %		Set the interval for a reminder to clean the rollers. **NOTE:** A lower percentage results in more frequent reminders.
			Reminder Behavior		Choose from the following the reminder behaviors: Prompt to continue Continue Stop
		Calibrate Scanner (MFP models only)	Done Start		Touch Start to calibrate the scanner. Follow the prompts on the control-panel display to complete the process.

Table 2-62 Support Tools menu (continued)

First level	Second-level	Third-level	Fourth-level	Fith-level	Description
	USB Firmware Upgrade	Cancel Details Install			Insert a USB drive with an upgrade firmware bundle file on it into the USB port. Select Install to upgrade the firmware.
Troubleshooting	Reports **NOTE:** It is possible to select and print multiple reports. **TIP:** Large touchscreen printers have a View feature for the report pages.	Configuration/Status Pages	Settings Menu Map (check box)	Cancel Print	A map of the available printer configuration settings.
			Current Setting Page (check box)	Cancel Print	Print a summary of the current printer settings. **TIP:** This is helpful if settings need to be changed to service the printer. Use this report to record the present printer configuration.
			Configuration Page (check box)	Cancel Print	Shows the printer settings and installed accessories.
			How to Connect Page (check box)	Cancel Print	Show information required to connect to the printer by using a network.
			Supplies Status Page (check box)	Cancel Print	Shows the approximate remaining life for the supplies; reports statistics on total number of pages and jobs processed, serial number, page counts, and maintenance information. **IMPORTANT:** HP provides approximations of the remaining life for the supplies as a customer convenience. The actual remaining supply levels might be different than the approximations provided.
			Usage Page (check box)	Cancel Print	Shows a page count for jobs processed by the printer (for example, total page count for pages printed).

Table 2-62 Support Tools menu (continued)

First level	Second-level	Third-level	Fourth-level	Fith-level	Description
			File Directory Page (check box)	Cancel Print	Shows the file name and folder name for files that are stored in the printer memory.
			Web Services Status Page (check box)	Cancel Print	Shows the detected Web Services for the printer.
		Fax Reports (fax models only) TIP: Large touchscreen printers have a View feature for the report pages.	Fax Activity Log (check box)	Cancel Print	Contains a list of the faxes that have been sent from or received by this printer.
			Billing Codes Report (check box)	Cancel Print	Provides a list of billing codes used for outgoing faxes. This report shows how many sent faxes were billed to each code.
			Blocked Fax List (check box)	Cancel Print	A list of phone numbers that are blocked from sending faxes to this printer.
			Fax Call Report (check box)	Cancel Print	A detailed report of the last fax operation, either sent or received.
		Other pages	Demonstration Page (check box)	Cancel Print	Print a demonstration page.
			PCL Font List (check box)	Cancel Print	Print the available PCL fonts.
			PS Font List (check box)	Cancel Print	Print the available PS fonts.
	Fax Tools	Fax T.30 Trace Report	Never automatically print Print after every fax Print only after fax send jobs Print only after received faxes Print only after fax send errors Print only after fax receive errors Print after any fax error	Done Print Now	Use to print or configure the fax T.30 trace report. T.30 is the standard that specifies handshaking, protocols, and error correction between fax machines.

Table 2-62 Support Tools menu (continued)

First level	Second-level	Third-level	Fourth-level	Fith-level	Description
		Fax V.34	Enable Disable		Use to disable V.34 modulations if several fax failures have occurred or if phone line conditions require it.
		JBIG Compression	On Off		The JBIG compression reduces fax-transmission time, which can result in lower phone charges. However, using JBIG compression sometimes causes compatibility problems with older fax machines. If this occurs, turn off the JBIG compression.
		Fax Speaker Mode	Normal Diagnostic		Used by a technician to evaluate and diagnose fax issues by listening to the sounds of fax modulations.
		Fax Service Log	Cancel Print		Select Print to print a detailed fax service log.
	Print Quality Pages	Fuser test page (check box) PQ Troubleshootingpage (check box)	Cancel Print		Choose a print quality page, and then select Print.
	Event Log	Done Print			View and print the 50 most recent events in the Event Log. For each event, the log shows the error date and time, error code, and description or personality.
	Paper Path Page	Cancel Print			Shows how many pages were printed by paper size, source tray, paper type, and print mode. NOTE: For printers with a large touchscreen, the page appears on the control-panel display.

Table 2-62 Support Tools menu (continued)

First level	Second-level	Third-level	Fourth-level	Fith-level	Description
	Diagnostic Tests	Disable Cartridge Check	Cancel Continue		Use this diagnostic test to print internal pages or send an external job to the printer when the toner cartridge is removed or exchanged. Supply errors are ignored while the printer is in this mode. When the printer is in this mode, access the troubleshooting menus and print internal pages (the print quality pages will be the most useful). This test can be used to isolate problems, such as noise, and to isolate print-quality problems that are related to the toner cartridge.
		Paper Path Test	Number of Copies Paper Tray Output Sides Staple (SSMBM models only) Output Bin (the list of output bins depends on printer configuration).	Done Print	This diagnostic test generates one or more test pages. Use these pages to isolate the cause of jams. Multiple copies can be printed to help isolate intermittent problems.
		Print Stop Test	Stop next print job (check box) Delay ms (0 to 60000) Done		Use this diagnostic test to isolate the cause of problems such as image-formation defects and jams within the engine. During this test, stop the paper anywhere along the printer paper path. Configure the test to stop from 0 to 60,000 ms during a print job.

Table 2-62 Support Tools menu (continued)

First level	Second-level	Third-level	Fourth-level	Fith-level	Description
		Paper Path Sensor Test	Options Done Start	Number of Copies Paper Tray Output sides Staple (SSMBM models only) Output Bin (the list of output bins depends on printer configuration). Done	Generates a test page for testing paper path sensors. Configure the paper path used for the test to test specific paper path sensors. A list of sensors appears on the control-panel display. As the test page prints, sensors in the list toggle from an inactive to active state.
		Manual Sensor Test	All sensors Input tray sensors Output bin sensors Engine sensors	Done Reset	A list of sensors appears on the control-panel display. When the sensor is manually toggled, its state changes from inactive to active on the control-panel display.
		Component Test	Component (select from a list of components to test) Repeat Status (displays the component status during the test) Done Start	Drum motor Alienation motor Fuser motor Tray 1 pickup solenoid Tray 2 pickup solenoid Tray 3 pickup solenoid Tray 4 pickup solenoid Tray 1 feed clutch Tray 3 feed clutch Duplex refeed clutch solenoid Switchback flapper solenoid Laser Scanner Motor NOTE: The list of available components to test depends on the printer configuration.	Use this to test various mechanical and electromechanical components.
		Continuous Scan (MFP models only)	2-sided (check box) Done Start		Use this to test the sub scanner assembly (SSA) optical scan assembly.

Table 2-62 Support Tools menu (continued)

First level	Second-level	Third-level	Fourth-level	Fith-level	Description
		Run Fax Test	Done Start		Use this to test the fax module functionality.
	Generate Debug Data	Cancel Start			Create files that contain information about the printer that can help identify the cause of problems.
	Retrieve Diagnostic Data	Cancel			Insert a USB drive into the USB port. **IMPORTANT:** The data might contain personable identifiable information.
	Retrieve Fax Diagnostic Data	Cancel			Insert a USB drive into the USB port. **IMPORTANT:** The data might contain personable identifiable information.
Service					The Service menu is for authorized service personal only and is protected by a personal identification number (PIN). **NOTE:** See the **Service mode functions** section in the printer *Troubleshooting Service Manual* for more information.

Control panel message document (CPMD)

Control-panel messages and event log entries

The CPMD is not provided in this service manual. The CPMD for this printer is available on the HP Service Access Workbench (SAW) Web site. Go to http://h41302.www4.hp.com/km/saw/home.do.

Resolve print-quality problems

Introduction

Use the information below to troubleshoot print-quality problems, including issues with image quality.

The troubleshooting steps can help resolve the following defects:

- Blank pages
- Black pages
- Curled paper
- Dark or light bands
- Dark or light streaks
- Fuzzy print
- Gray background or dark print
- Light print
- Loose toner
- Missing toner
- Scattered dots of toner
- Skewed images
- Smears
- Streaks

Troubleshoot print quality

To resolve print-quality issues, try these steps in the order presented.

Update the printer firmware

Try updating the printer firmware. For more information, go to www.hp.com/support and select the option to **Get software and drivers**. Then follow the prompts to navigate to the firmware download for the printer.

Print from a different software program

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

Check the paper type setting for the print job

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

Check the paper type setting on the printer

1. Open the tray.
2. Verify that the tray is loaded with the correct type of paper.
3. Close the tray.
4. Follow the control panel instructions to confirm or modify the paper type settings for the tray.

Check the paper type setting (Windows)

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. From the **Paper Type** drop-down list, click the **More...** option.
5. Expand the list of **Type is:** options.
6. Expand the category of paper types that best describes your paper.
7. Select the option for the type of paper you are using, and click the **OK** button.
8. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog box, click the **OK** button to print the job.

Check the paper type setting (macOS)

1. Click the **File** menu, and then click the **Print** option.
2. In the **Printer** menu, select the printer.
3. By default, the print driver displays the **Copies & Pages** menu. Open the menus drop-down list, and then click the **Finishing** menu.
4. Select a type from the **Media Type** drop-down list.
5. Click the **Print** button.

Check toner-cartridge status

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

Step one: Print the supplies status page

1. From the Home screen on the printer control panel, navigate to the Reports application, and then select the Reports icon.
2. Select the Configuration/Status Pages menu.
3. Select Supplies Status Page, and then select Print to print the page.

Step two: Check supplies status

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

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

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

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

2. Check to see if you are using a genuine HP cartridge.

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

Print a cleaning page

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

Follow these steps to clean the printer's paper path.

1. From the Home screen on the printer control panel, navigate to the Support Tools application, and then select the Support Tools icon.
2. Select the following menus:
   a. Maintenance
   b. Calibration/Cleaning
   c. Cleaning Page
3. Select Print to print the page.

   A **Cleaning...** message displays on the printer control panel. The cleaning process takes a few minutes to complete. Do not turn the printer off until the cleaning process has finished. When it is finished, discard the printed page.

Visually inspect the toner cartridge

NOTE: If the access door to the cartridge area is locked, contact your managed service provider for assistance with unlocking the door.

Follow these steps to inspect the toner cartridge.

1. Remove the toner cartridge from the printer, and verify that the sealing tape has been removed.
2. Check the memory chip for damage.
3. Examine the surface of the green imaging drum.

CAUTION: Do not touch the imaging drum. Fingerprints on the imaging drum can cause print-quality problems.

4. If you see any scratches, fingerprints, or other damage on the imaging drum, replace the toner cartridge.
5. Reinstall the toner cartridge, and print a few pages to see if the problem has resolved.

Check paper and the printing environment

Step one: Use paper that meets HP specifications

Some print-quality problems arise from using paper that does not meet HP specifications.

- Always use a paper type and weight that this printer supports.
- Use paper that is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.
- Use paper that has not been previously printed on.
- Use paper that does not contain metallic material, such as glitter.
- Use paper that is designed for use in laser printers. Do not use paper that is designed only for use in Inkjet printers.
- Use paper that is not too rough. Using smoother paper generally results in better print quality.

Step two: Check the environment

The environment can directly affect print quality and is a common cause for print-quality or paper-feeding issues. Try the following solutions:

- Move the printer away from drafty locations, such as open windows or doors, or air-conditioning vents.
- Make sure the printer is not exposed to temperatures or humidity outside of printer specifications.
- Do not place the printer in a confined space, such as a cabinet.
- Place the printer on a sturdy, level surface.
- Remove anything that is blocking the vents on the printer. The printer requires good air flow on all sides, including the top.
- Protect the printer from airborne debris, dust, steam, grease, or other elements that can leave residue inside the printer.

Step three: Set the individual tray alignment

Follow these steps when text or images are not centered or aligned correctly on the printed page when printing from specific trays.

1. From the Home screen on the printer control panel, navigate to the Settings application, and then select the Settings icon.
2. Select the following menus:
   a. Copy/Print or Print
   b. Print Quality
   c. Image Registration
3. Select Tray, and then select the tray to adjust.

4. Select Print Test Page, and then follow the instructions on the printed pages.
5. Select Print Test Page again to verify the results, and then make further adjustments if necessary.
6. Select Done to save the new settings.

Try a different print driver

Try a different print driver when printing from a software program and the printed pages have unexpected lines in graphics, missing text, missing graphics, incorrect formatting, or substituted fonts.

Download any of the following drivers from the HP Web site: www.hp.com/support/ljM607, www.hp.com/support/ljM608, www.hp.com/support/ljM609, www.hp.com/support/ljM610, www.hp.com/support/ljM611, www.hp.com/support/ljM612, www.hp.com/support/ljE60055, www.hp.com/support/ljE60065, www.hp.com/support/ljE60075, www.hp.com/support/ljE60155, www.hp.com/support/ljE60165, www.hp.com/support/ljE60175, www.hp.com/support/ljM631MFP, www.hp.com/support/ljM632MFP, www.hp.com/support/ljM633MFP, www.hp.com/support/ljM634MFP, www.hp.com/support/ljM635MFP, www.hp.com/support/ljM636MFP, www.hp.com/support/ljE62555MFP, www.hp.com/support/ljE62565MFP, www.hp.com/support/ljE62575MFP, www.hp.com/support/ljE62655MFP, www.hp.com/support/ljE62665MFP, www.hp.com/support/ljE62675MFP.

HP PCL 6 V3 driver	This printer-specific print driver supports Windows 7 and newer operating systems that support version 3 drivers. For a list of supported operating systems, go to www.hp.com/go/support.
HP PCL-6 V4 driver	This product-specific print driver supports Windows 8 and newer operating systems that support version 4 drivers. For a list of supported operating systems, go to www.hp.com/go/support.
HP UPD PS driver	• Recommended for printing with Adobe® software programs or with other highly graphics-intensive software programs • Provides support for printing from postscript emulation needs, or for postscript flash font support
HP UPD PCL 6	• Recommended for printing in all Windows environments • Provides the overall best speed, print quality, and printer feature support for most users • Developed to align with Windows Graphic Device Interface (GDI) for best speed in Windows environments • Might not be fully compatible with third-party and custom software programs that are based on PCL 5

Print quality troubleshooting guide

NOTE: Use the procedures in this section to resolve most print-quality issues (for example, streaks or fading, missing black or other colors, blurred or fuzzy text, and ink streaks or smears). Try the following solutions in the order presented. When one of the solutions resolves the issue, there is no need to continue with the other procedures.

- Introduction
- Product specific image defects

Introduction

- Toner cartridges
- Check the paper-type setting for the print job
- Check paper and the printing environment
- Information to collect

Toner cartridges

Check toner-cartridge status

Print the supplies status page from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and the touch the Reports button.
2. Touch the Configuration/Status Pages item
3. Touch Supplies Status Page to select it.

TIP: Multiple report pages can be selected, and then printed together.

4. Touch the Print button to print the pages.

Print the supplies status page from an LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to Reports, and then press the OK button.
3. Use the down arrow ▼ button to scroll to Configuration/Status Pages, and then press the OK button.
4. Use the down arrow ▼ or ▲ buttons to scroll to Supplies Staus page, and then press the OK button to select it.
5. Use the down arrow ▼ and right arrow ▶ buttons to scroll to Print, and then press the OK button to print the pages.

TIP: Multiple report pages can be selected, and then printed together.

Check the supplies status page for the following information:

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

Visually inspect the toner cartridge or cartridges

1. Remove the toner cartridge or cartridges from the printer, and verify that the sealing tape has been removed.
2. Check the memory chip for damage.
3. Examine the surface of the imaging drum on the cartridge.

CAUTION: Do not touch the roller (imaging drum). Fingerprints on the imaging drum can cause print-quality problems.

4. If you see any scratches, fingerprints, or other damage on an imaging drum, replace the toner cartridge or cartridges.
5. If the imaging drum does not appear to be damaged, rock the toner cartridge or cartridges gently several times and reinstall it. Print a few pages to see if the problem has resolved.

Check the paper-type setting for the print job

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

Check the paper type setting (Windows)

1. From the software program, select the **Print** option.
2. Select the printer, and then click the **Properties** or **Preferences** button.
3. Click the **Paper/Quality** tab.
4. From the **Paper Type** drop-down list, click the **More...** option.
5. Expand the list of **Type is:** options.
6. Expand the category of paper types that best describes your paper.
7. Select the option for the type of paper you are using, and click the **OK** button.
8. Click the **OK** button to close the **Document Properties** dialog box. In the **Print** dialog box, click the **OK** button to print the job.

Check the paper type setting (Mac OS X)

1. Click the **File** menu, and then click the **Print** option.
2. In the **Printer** menu, select the printer.
3. By default, the print driver displays the **Copies & Pages** menu. Open the menus drop-down list, and then click the **Finishing** menu.
4. Select a type from the **Media Type** drop-down list.
5. Click the **Print** button.

Check paper and the printing environment

Step one: Use paper that meets HP specifications

- Always use a paper type and weight that this printer supports.
- Use paper that is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, staples, and curled or bent edges.
- Use paper that has not been previously printed on.
- Use paper that does not contain metallic material, such as glitter.

- Use paper that is designed for use in laser printers. Do not use paper that is designed only for use in Inkjet printers.
- Use paper that is not too rough. Using smoother paper generally results in better print quality

Step two: Check the environment

The environment can directly affect print quality and is a common cause for print-quality or paper-feeding issues. Try the following solutions:

- Move the printer away from drafty locations, such as open windows or doors, or air-conditioning vents.
- Make sure the printer is not exposed to temperatures or humidity outside of printer specifications.
- Do not place the printer in a confined space, such as a cabinet.
- Place the printer on a sturdy, level surface.
- Remove anything that is blocking the vents on the printer. The printer requires good air flow on all sides, including the top.
- Protect the printer from airborne debris, dust, steam, grease, or other elements that can leave residue inside the printer.

Information to collect

- Configuration page
- Current settings page
- Supples status page
- Demo page
- Other pages support personnel may request

Product specific image defects

NOTE: The image defects described in this section are printer-specific image defects.

- Resolving print quality problems
- Repetitive image defect ruler
- Printer specific image defects

Resolving print quality problems

- Introduction
- Troubleshoot print quality problems

For more information on resolving print quality problems, go to WISE and type "c06450141" in the search box. In the list of results, find and open the article "Image Quality Troubleshooting Guide".

Introduction

The following information provides troubleshooting steps for solving image defect issues, including the following defects:

- Light print
- Gray background or dark print
- Blank pages
- Black pages
- Dark or light bands
- Dark or light streaks
- Missing toner
- Skewed images
- Colors that do not align
- Curled paper

Troubleshoot print quality problems

Table 2-63 Image defects table quick reference

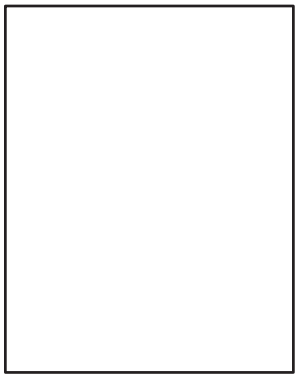
Table 2-64 Light print on page 265	Table 2-65 Gray background or dark print on page 266	Table 2-66 Blank page — No print on page 266
		

Table 2-63 Image defects table quick reference (continued)

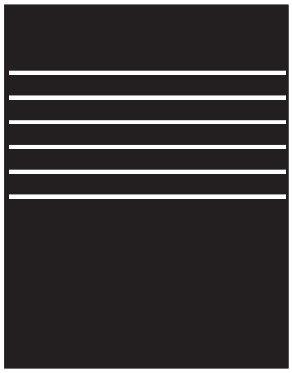
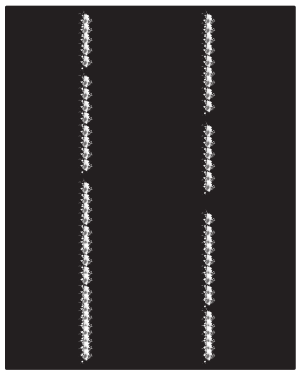
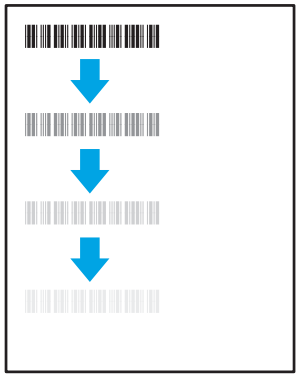
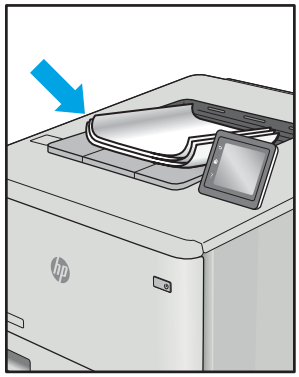
Table 2-67 Black page on page 267	Table 2-68 Banding defects on page 267	Table 2-69 Streak defects on page 268
		
Table 2-70 Fixing/fuser defects on page 269	Table 2-71 Image placement defects on page 269	Table 2-72 Output defects on page 270
		

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

1. Reprint the document. Print quality defects can be intermittent in nature or can go away completely with continued printing.
2. Check the condition of the cartridge or cartridges. If a cartridge is in a **Very Low** state (it has passed the rated life), replace the cartridge.
3. Make sure that the driver and tray print mode settings match the media that is loaded in the tray. Try using a different ream of media or a different tray. Try using a different print mode.
4. Make sure that the printer is within the supported operating temperature/humidity range.
5. Make sure that the paper type, size, and weight are supported by the printer. See the printer support page at support.hp.com for a list of the supported paper sizes and types for the printer.

NOTE: The term “fusing” refers to the part of the printing process where toner is affixed to paper.

The following examples depict letter-size paper that has passed through the printer short-edge first.

Table 2-64 Light print

Description	Sample	Possible solutions
Light print: The printed content on the entire page is light or faded.		1. Reprint the document. 2. Remove the cartridge, and then shake it to redistribute the toner. 3. **Mono models only:** Make sure that the Economode setting is disabled both at the printer control panel and in the print driver. 4. Make sure that the cartridge is installed correctly. 5. Print a Supply status page and check for life and usage of the cartridge. 6. Replace the cartridge. 7. If the problem persists, go to support.hp.com. If the problem persists, access the HP Web-based Interactive Search Engine (WISE), and search for document c05493714, the HP LaserJet Enterprise, Managed printers - Print quality troubleshooting guide. NOTE: To access WISE, you will be required to log in with your HP or Partner credentials. 8. Check the transfer roller for correct seating and for dust or dirt buildup. Clean or replace the transfer roller as needed. 9. Perform a high-voltage power supply test. If the HVPS test page comes out lighter than expected, try another toner cartridge to see if the issue happens with multiple cartridges. Check if the high-voltage contacts are dirty, bent or damaged. This might cause the drum not to charge fully. NOTE: The HVPS contacts cannot be replaced. 10. If the HVPS test is not successful or if the issue persists, replace the high-voltage power supply.

Table 2-65 Gray background or dark print

Description	Sample	Possible solutions
Gray background or dark print: The image or text is darker than expected.		1. Make sure that the paper in the trays has not already been run through the printer. 2. Use a different paper type. 3. Reprint the document. 4. **Mono models only:** From the Home screen on the printer control panel, go to the Adjust Toner Density menu, and then adjust the toner density to a lower level. 5. Make sure that the printer is in within the supported operating temperature and humidity range. 6. Replace the cartridge. 7. If the problem persists, go to support.hp.com. If the problem persists, access the HP Web-based Interactive Search Engine (WISE), and search for document c05493714, the HP LaserJet Enterprise, Managed printers - Print quality troubleshooting guide. NOTE: To access WISE, you will be required to log in with your HP or Partner credentials.

Table 2-66 Blank page — No print

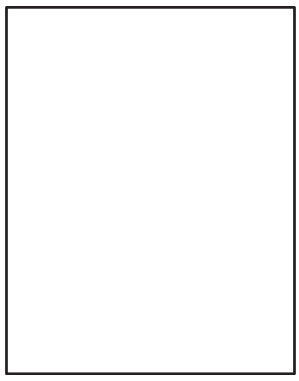
Description	Sample	Possible solutions
Blank page — No print: The page is completely blank and contains no printed content.		1. Make sure that the cartridge is genuine HP cartridges. 2. Make sure that the cartridge is installed correctly. 3. Print with a different cartridge. 4. Check the paper type in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

Table 2-67 Black page

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

Table 2-68 Banding defects

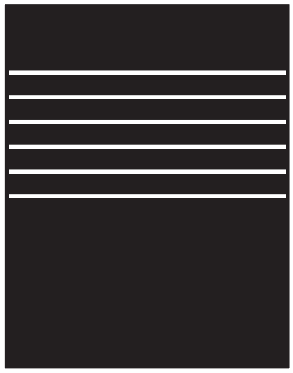
Description	Sample	Possible solutions
Repetitive wide-pitch banding and Impulse bands: Dark or light lines which repeat down the length of the page. They might be sharp or soft in nature. The defect displays only in areas of fill, not in text or sections with no printed content.		1. Reprint the document.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

Table 2-69 Streak defects

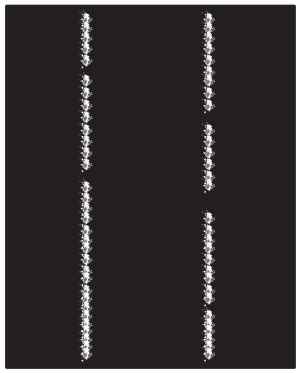
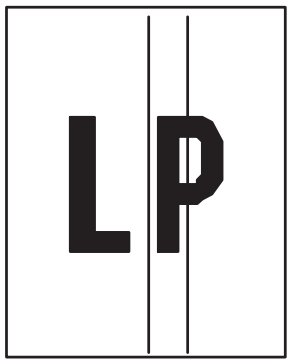
Description	Sample	Possible solutions
Light vertical streaks: Light streaks that usually span the length of the page. The defect displays only in areas of fill, not in text or sections with no printed content.		1. Reprint the document. 2. Remove the cartridge, and then shake it to redistribute the toner. 3. If the problem persists, go to support.hp.com. NOTE: Both light and dark vertical streaks can occur when the printing environment is outside the specified range for temperature or humidity. Refer to your printer's environmental specifications for allowable temperature and humidity levels.
Dark vertical streaks and ITB cleaning streaks (color models only): Dark lines which occur down the length of the page. The defect might occur anywhere on the page, in areas of fill or in sections with no printed content.		1. Reprint the document. 2. Remove the cartridge, and then shake it to redistribute the toner. 3. Print a cleaning page. 4. Check the toner level in the cartridge. 5. If the problem persists, go to support.hp.com.

Table 2-70 Fixing/fuser defects

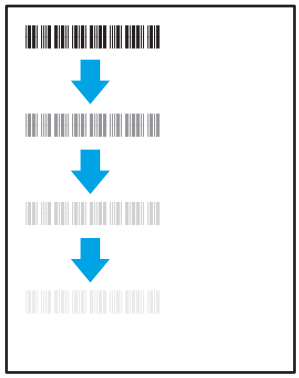
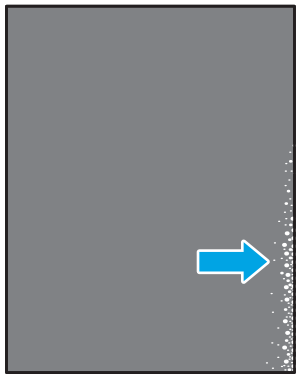
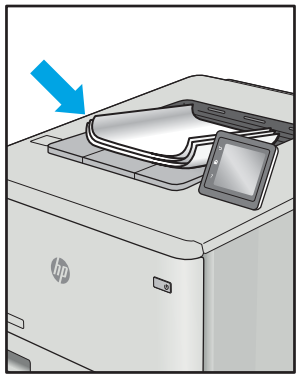
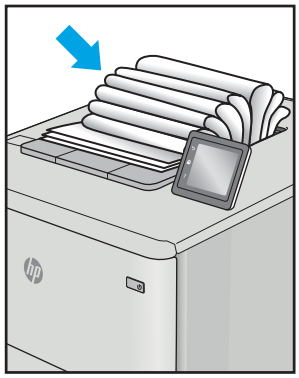
Description	Fixing/fuser	Possible solutions
Hot fuser offset (shadow): Slight shadows, or offsets, of the image repeated down the page. The repeated image might fade with each recurrence.		1. Reprint the document. 2. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a lighter paper type. 3. If the problem persists, go to support.hp.com.
Poor fusing: Toner rubs off along either edge of page. This defect is more common at the edges of high-coverage jobs and on light media types but can occur anywhere on the page.		1. Reprint the document. 2. Check the paper type in the paper tray and adjust the printer settings to match. If necessary, select a heavier paper type. 3. **Enterprise models only:** From the printer control panel, go to the Edge-to-Edge menu and then select Normal. Reprint the document. 4. **Enterprise models only:** From the printer control panel, select Auto Include Margins and then reprint the document. 5. If the problem persists, go to support.hp.com.

Table 2-71 Image placement defects

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

Table 2-72 Output defects

Description	Sample	Possible solutions
Output curl: Printed paper has curled edges. The curled edge can be along the short or long side of the paper. Two types of curl are possible: • **Positive curl:** The paper curls toward the printed side. The defect occurs in dry environments or when printing high coverage pages. • **Negative curl:** The paper curls away from the printed side. The defect occurs in high-humidity environments or when printing low coverage pages.		1. Reprint the document. 2. **Positive curl:** From the printer control panel, select a heavier paper type. The heavier paper type creates a higher temperature for printing. **Negative curl:** From the printer control panel, select a lighter paper type. The lighter paper type creates a lower temperature for printing. Try storing the paper in a dry environment prior or use freshly opened paper. 3. Print in duplex mode. 4. If the problem persists, go to support.hp.com.
Output stacking: The paper does not stack well in the output tray. The stack might be uneven, skewed, or the pages might be pushed out of the tray and onto the floor. Any of the following conditions can cause this defect: • Extreme paper curl • The paper in the tray is wrinkled or deformed • The paper is a non-standard paper type, such as envelopes • The output tray is too full		1. Reprint the document. 2. Extend the output bin extension. 3. If the defect is caused by extreme paper curl, complete the troubleshooting steps for Output curl. 4. Use a different paper type. 5. Use freshly opened paper. 6. Remove the paper from the output tray before the tray gets too full. 7. If the problem persists, go to support.hp.com.

Repetitive image defect ruler

When troubleshooting the source of some print image defects, one solution is to identify if it is a repetitive defect (does the print quality defect appear multiple times on the printed page?). If this is the case, use a ruler to measure occurrences of repetitive image defects to help solve image-quality problems. For more information, see Use a ruler to measure between repetitive defects on page 272.

Place the ruler next to the first occurrence of the defect on the page. Find the distance between identical defects and use the table below to identify the component that is causing the defect.

IMPORTANT: 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.

NOTE: Defects on the tray pickup rollers or the Tray 1 pickup roller do not cause a repetitive defect. Defects on these rollers cause a defect to appear only on the leading edge of the image.

TIP: To make a printer specific repetitive defect ruler, use a metric ruler to transfer the measurements in Table 2-73 Repetitive defects on page 271 to a transparency or the edge of a piece of paper—clearly label each ruler mark with the associated defective assembly.

Table 2-73 Repetitive defects

Assembly	Distance between defects
Primary charging roller[1]	26.7 mm (1.1 in)
Face down roller[1][1]	28.3 mm (1.1 in)
Fuser output roller	34.6 mm (1.4 in)
Developer roller[1]	44.1 mm (1.7 in)
Transfer roller	44.6 mm (1.8 in)
Registration roller	48 mm (1.9 in)
Tray 2 pickup roller	50 mm (2.0 in)
Tray 2 retard roller	
Tray 2 feed roller	
Fuser sleeve	75.4 mm (3.0 in)
Pressure roller	78.5 mm (3.1 in)
Photosensitive drum[1]	92.4 mm (3.6 in)

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

Use a ruler to measure between repetitive defects

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

1. Identify a repetitive defect on the page.

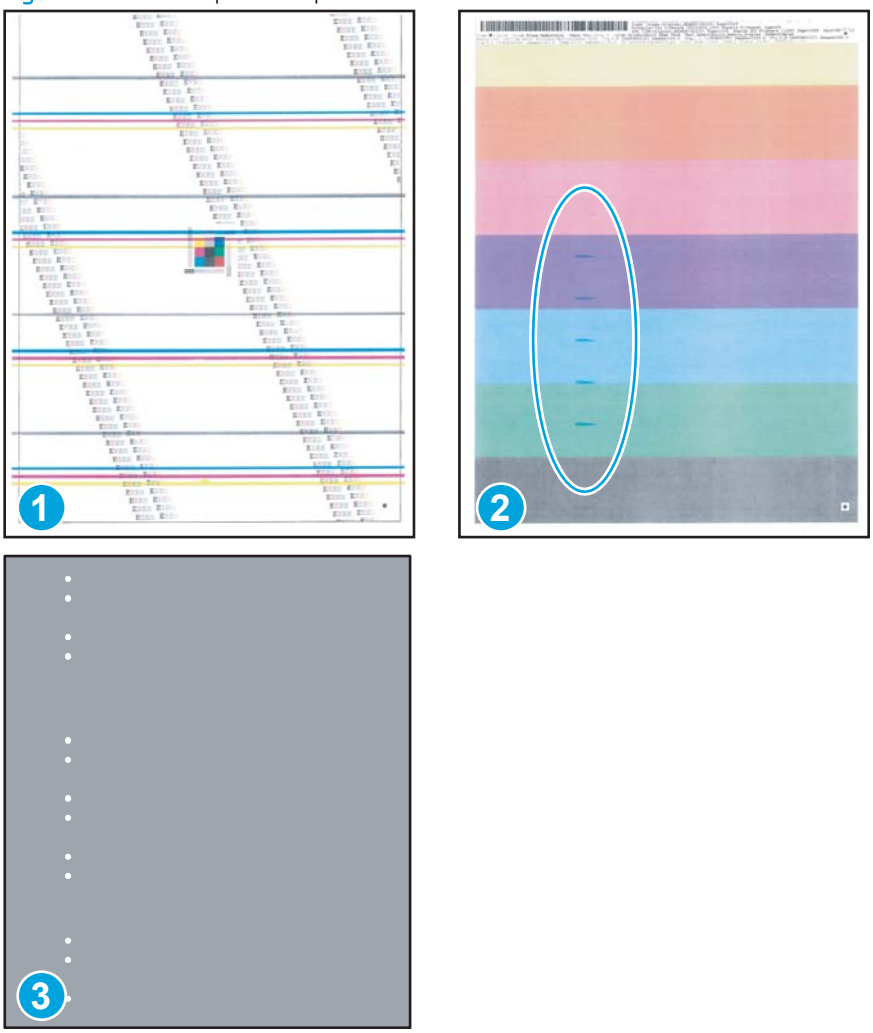
TIP: Print a cleaning page to see if that resolves the defect.

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

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

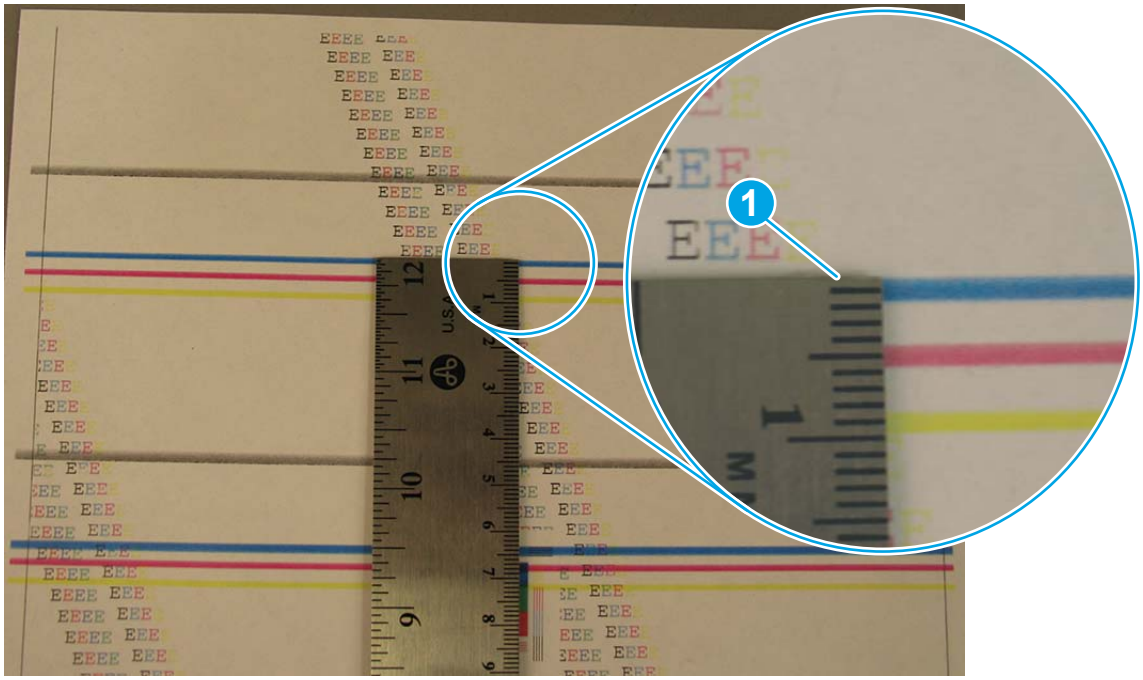
- Lines (callout 1)
- Smudges (callout 2)
- Dots or spots (callout 3)

Figure 2-110 Examples of repetitive defects



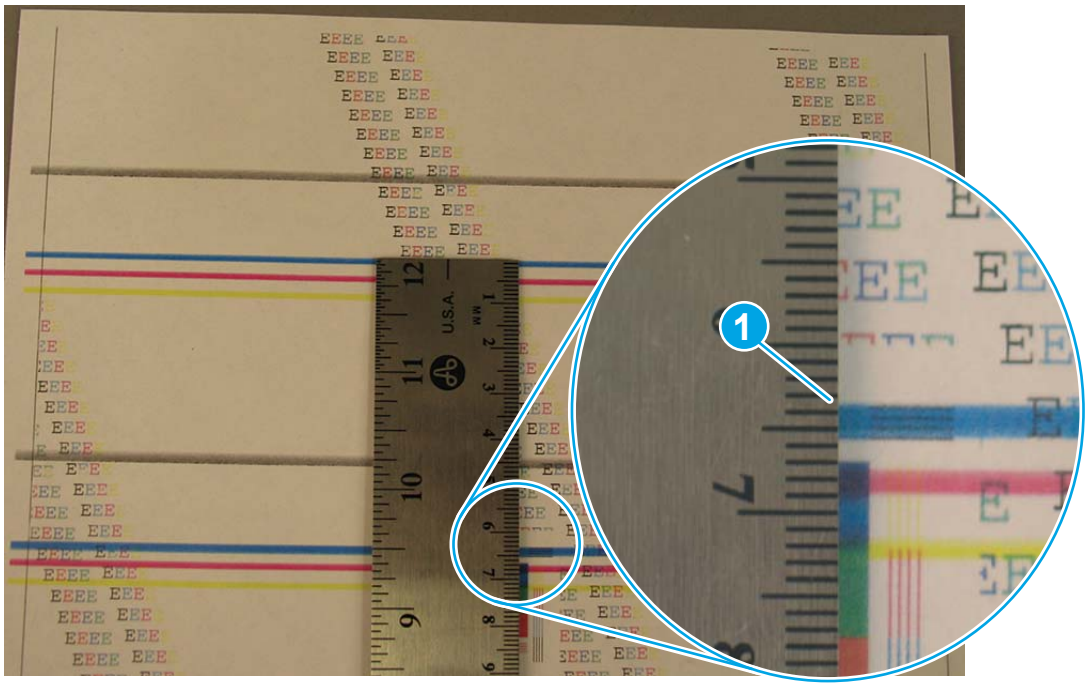
2. Position a metric ruler on the page with the “zero” ruler mark at one occurrence of the defect (callout 1).

Figure 2-111 Place the ruler on the page



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

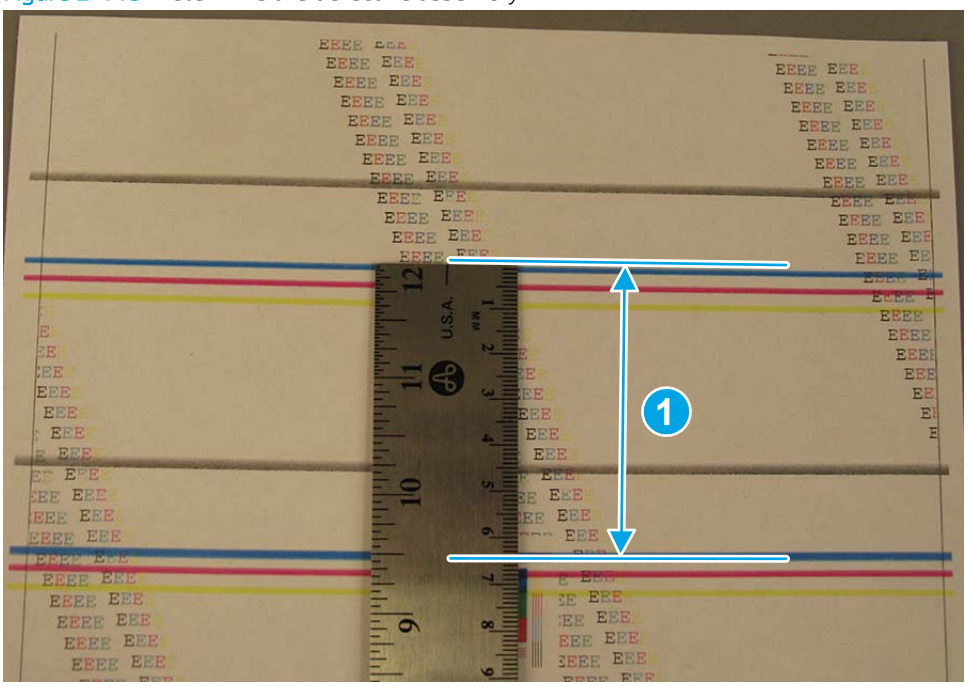
Figure 2-112 Locate the next repetitive defect



4. Measure the distance (in millimeters) between the two occurrences (callout 1), and then use Table 2-73 Repetitive defects on page 271 to determine the defective assembly.

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

Figure 2-113 Determine the defective assembly



Printer specific image defects

Image defect events

NOTE: The image defects described in this section are defects that occurred during development and that could not be fully eliminated. Customers might observe these defects.

- 44 mm (44.1 mm) wide pitch banding
- 18 mm leading edge blur
- 46 mm leading edge blur
- 25 mm leading edge blur
- 50 mm trailing edge blur
- 75 mm trailing edge blur
- 104 mm trailing edge blur
- 111 mm trailing edge blur
- 120 mm trailing edge blue duplex side
- Hot offset
- Mottle/graininess
- Mottle/graininess

44 mm (44.1 mm) wide pitch banding

Figure 2-114 44 mm (44.1 mm) wide pitch banding

Description of the defect

Soft, gradual bands can be seen over a constant density area. It appears as slight gradients which repeat at approximately 44.1 mm pitch. This phenomenon is a density variation which appears on the PQ due to the gap variation between OPC and developer sleeve. This gap varies due to the part's accuracy of the OPC, developer sleeve, and the spacer placed between the OPC and the developer sleeve.

Conditions that can cause the defect

This defect occurs in fill areas. This does not occur in text regions.

Solutions for the defect

- Resend the job.
- If the defect is persistent and more severe than acceptable limit sample, then replace the cartridge.

Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Toner cartridge

18 mm leading edge blur

Figure 2-115 18 mm leading edge blur

Description of the defect

A dark and usually sharp band occurring 18 mm from the leading edge. This impulse band is caused by the leading edge of the media impacting the OPC and causing a disturbance on the developer.

Conditions that can cause the defect

This defect occurs in fill areas where the leading edge of the media does not follow the correct path into the transfer nip. This does not occur in text regions

Solutions for the defect

- Resend the job.
- If the defect is persistent, try printing in Quiet Mode (1/2 speed) which, because of the slower process speed, allows the media to enter the transfer nip more reliably and with less impact force.

  At the printer control panel open the following menus: Settings > General > Quiet Mode > On.

Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Paper path

46 mm leading edge blur

Figure 2-116 46 mm leading edge blur

Description of the defect

A dark and usually sharp band occurring 46 mm from the leading edge. This impulse band is a latent image caused by the leading edge of the media entering the transfer nip.

Conditions that can cause the defect

This defect occurs in fill areas. This does not occur in text regions.

Solutions for the defect

- Resend the job.
- If the defect is persistent, try printing in Quiet Mode (1/2 speed) which, because of the slower process speed, allows the media to enter the transfer nip more reliably and with less impact force.

  At the printer control panel open the following menus: Settings > General > Quiet Mode > On.

Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Paper path

25 mm leading edge blur

Figure 2-117 25 mm leading edge blur

Description of the defect

A dark and usually sharp band occurring 25 mm from the trailing edge. This impulse band is a developer blur caused by the trailing edge of the media exiting the registration rollers.

Conditions that can cause the defect

This defect occurs in fill areas. This does not occur in text regions.

Solutions for the defect

- Resend the job.
- If the defect is persistent, try printing in Quiet Mode (1/2 speed) which, because of the slower process speed, allows the media to enter the transfer nip more reliably and with less impact force.

  At the printer control panel open the following menus: Settings > General > Quiet Mode > On.

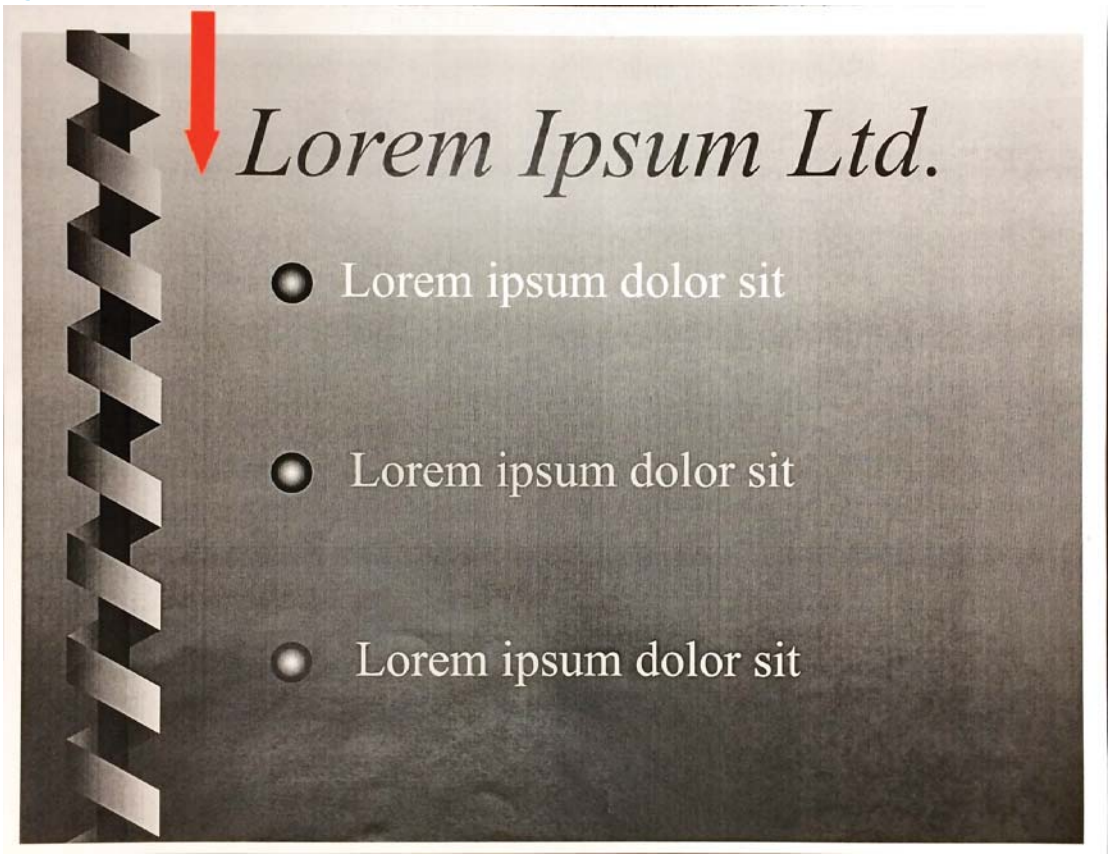
Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Paper path

50 mm trailing edge blur

Figure 2-118 50 mm trailing edge blur



Description of the defect

A dark and usually sharp band occurring 50 mm from the trailing edge. This impulse band is a transfer blur caused by the trailing edge of the media exiting the registration rollers.

Conditions that can cause the defect

This defect occurs in fill areas. This does not occur in text regions.

Solutions for the defect

- Resend the job.
- If the defect is persistent, try printing in Quiet Mode (1/2 speed) which, because of the slower process speed, allows the media to enter the transfer nip more reliably and with less impact force.

  At the printer control panel open the following menus: Settings > General > Quiet Mode > On.

Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Paper path

75 mm trailing edge blur

Figure 2-119 75 mm trailing edge blur

Description of the defect

A dark and usually sharp band occurring 75 mm from the trailing edge. This impulse band is a latent image blur caused by the trailing edge of the media exiting the feed/re-feed roller nip.

Conditions that can cause the defect

This defect occurs in fill areas. This does not occur in text regions.

Solutions for the defect

- Resend the job.
- If the defect is persistent, try printing in Quiet Mode (1/2 speed) which, because of the slower process speed, allows the media to enter the transfer nip more reliably and with less impact force.

  At the printer control panel open the following menus: Settings > General > Quiet Mode > On.

Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Paper path

104 mm trailing edge blur

Figure 2-120 104 mm trailing edge blur

Description of the defect

A dark and usually sharp band occurring 104 mm from the trailing edge. This impulse band is a developer blur caused by the input clutch (pick motor clutch) being turned off.

Conditions that can cause the defect

This defect occurs in fill areas. This does not occur in text regions.

Solutions for the defect

- Resend the job.
- If the defect is persistent, try printing in Quiet Mode (1/2 speed) which, because of the slower process speed, allows the media to enter the transfer nip more reliably and with less impact force.

  At the printer control panel open the following menus: Settings > General > Quiet Mode > On.

Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Paper path

111 mm trailing edge blur

Figure 2-121 111 mm trailing edge blur

Description of the defect

A dark and usually sharp band occurring 111 mm from the leading edge. This impulse band is a latent image blur caused by the leading edge of the media entering the fuser nip.

Conditions that can cause the defect

This defect occurs in fill areas. This does not occur in text regions.

Solutions for the defect

- Resend the job.
- If the defect is persistent, try printing in Quiet Mode (1/2 speed) which, because of the slower process speed, allows the media to enter the transfer nip more reliably and with less impact force.

  At the printer control panel open the following menus: Settings > General > Quiet Mode > On.

Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Paper path

120 mm trailing edge blue duplex side

Figure 2-122 120 mm trailing edge blue duplex side

Description of the defect

A dark and usually sharp band occurring 120 mm from the trailing leading edge of a duplex page. This impulse band is a developer blur caused by the trailing edge of the media exiting the re-feed roller nip.

Conditions that can cause the defect

This defect occurs in fill areas. This does not occur in text regions.

Solutions for the defect

- Resend the job.
- If the defect is persistent, try printing in Quiet Mode (1/2 speed) which, because of the slower process speed, allows the media to enter the transfer nip more reliably and with less impact force.

  At the printer control panel open the following menus: Settings > General > Quiet Mode > On.

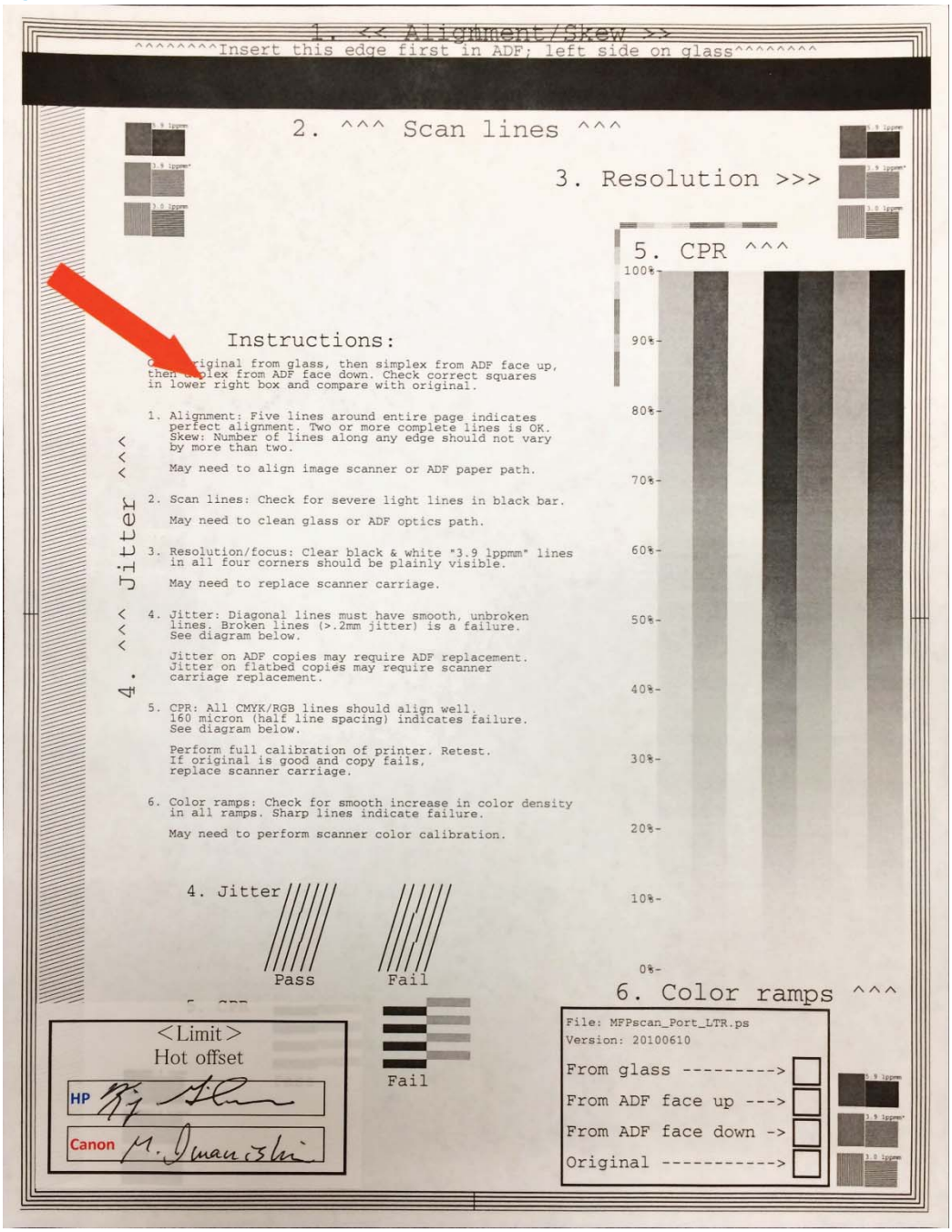
Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Paper path

Hot offset

Figure 2-123 Hot offset



Description of the defect

Slight offset of the image repeated approximately 75 mm down the page. The fuser is too hot. This issue occurs when the fuser thermistor detection temperature did not follow the target temperature. This issue also occurs when printing large duplex jobs (> 500 duplex pages) where the internal printer and fuser build up excessive heat.

Conditions that can cause the defect

Additionally, hot offset might occur if the wrong media type is selected and might occur more commonly if the fuser is late in life.

Solutions for the defect

- Resend the job after letting the fuser cool.
- Resend the job using a lighter fuser mode.
- Update the printer firmware to the latest Futuresmart version found on HP.com.
- If the error persists, replace the fuser.

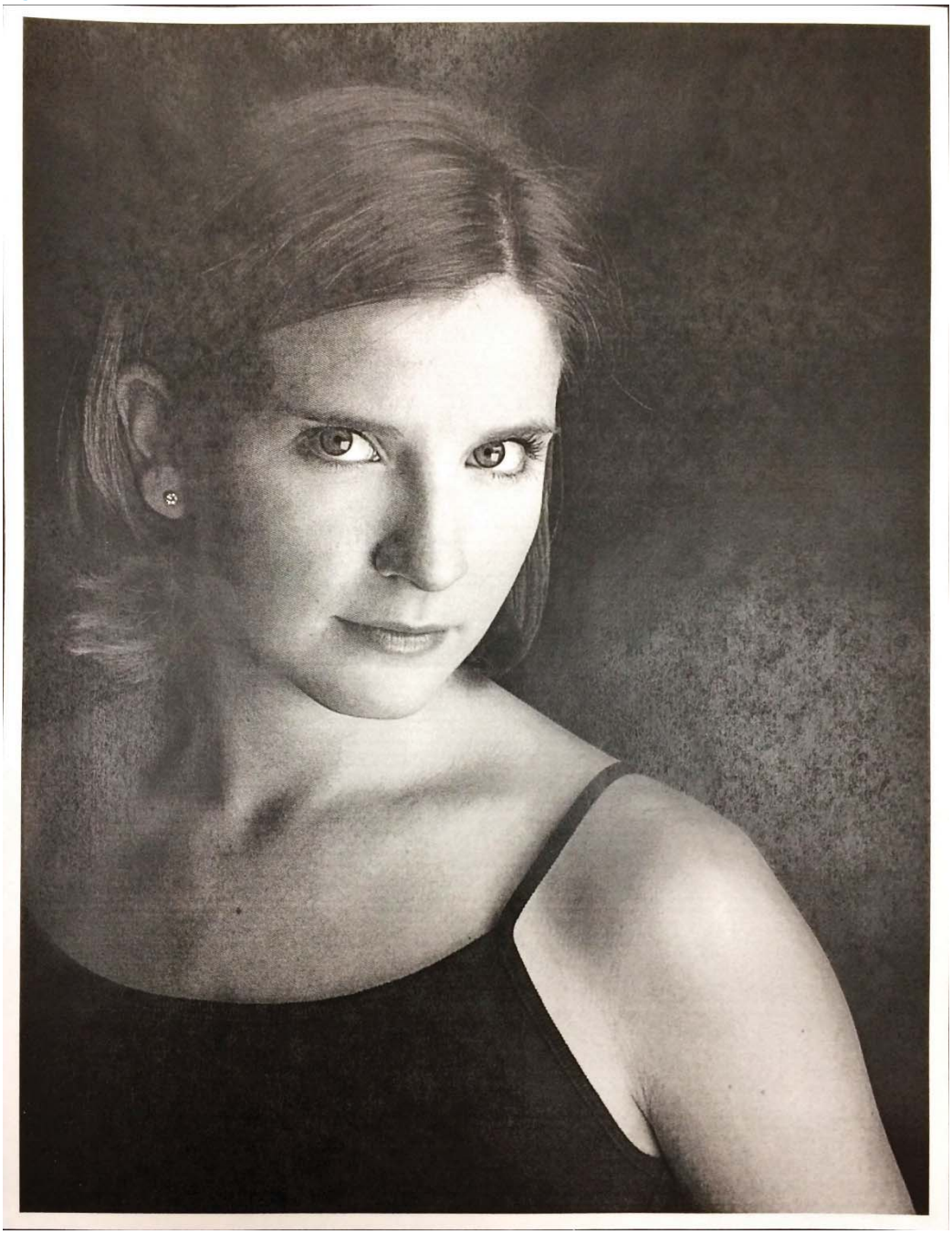
Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Fuser

Mottle/graininess

Figure 2-124 Mottle/grainines



Description of the defect

Large areas of fill look blotchy, grainy, non-uniform, or mottled. Graininess/fixing mottle is a phenomenon that occurs by how the toner (dot) is pressed or melted depending on the media roughness. This leads to the density variance or uneven gloss. This defect is caused by inconsistently melted toner. This defect tends to become worse as the printer becomes hot.

Conditions that can cause the defect

- The defect appears in large areas of fill and is more severe in low temperature and humidity environments.
- The defect appears in large areas of fill and becomes worse as the printer temperature become hot.

Solutions for the defect

- Resend the job after letting the printer cool.
- Change the print mode from Full Speed to Quiet Mode (1/2 speed) to improve the issue. At the printer control panel open the following menus: Settings > General > Quiet Mode > On.
- If the error persists, replace the fuser.

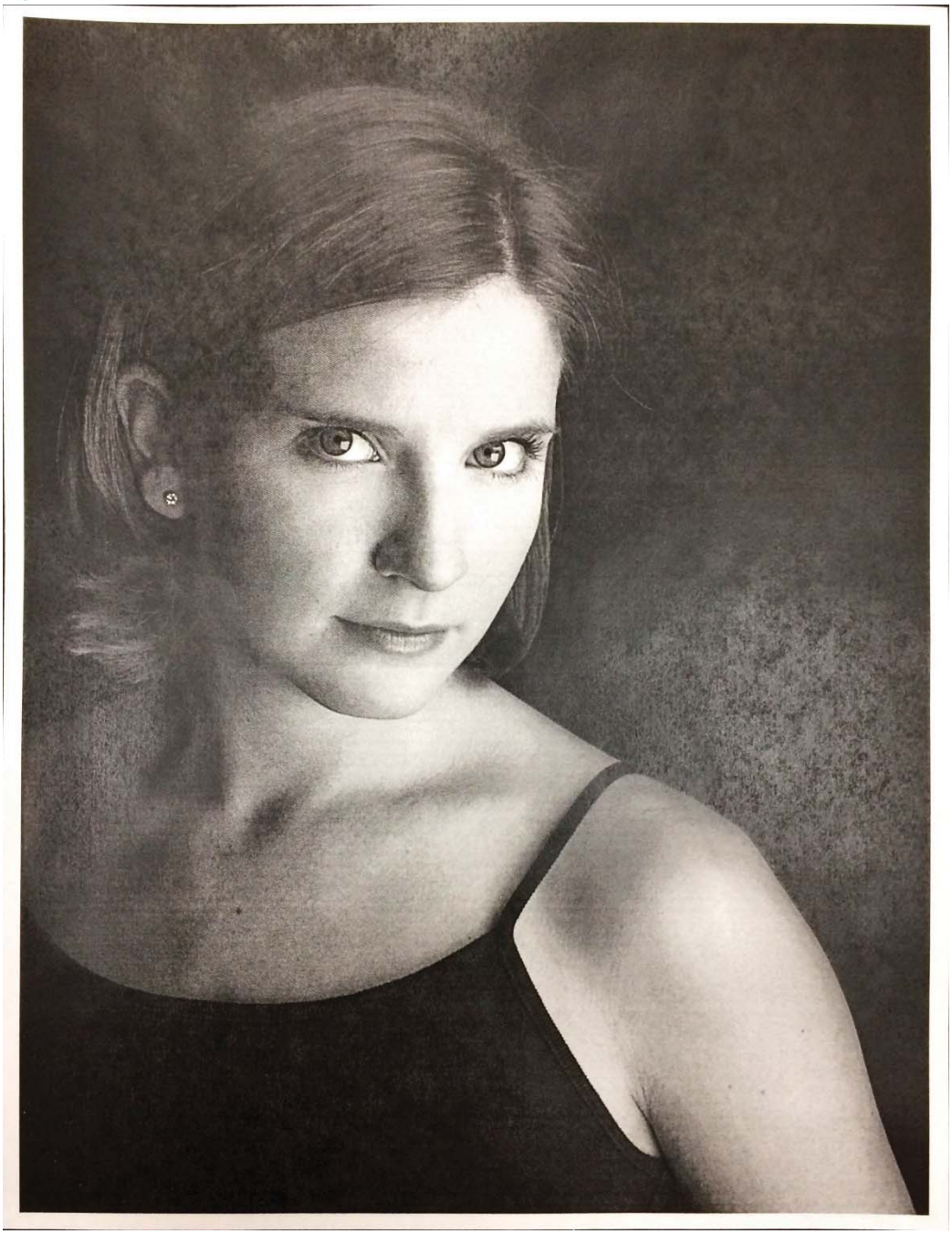
Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Toner
- Fuser

Mottle/graininess

Figure 2-125 Mottle/grainines



Description of the defect

Large areas of fill look blotchy, grainy, non-uniform, or mottled. Graininess/fixing mottle is a phenomenon that occurs by how the toner (dot) is pressed or melted depending on the media roughness. This leads to the density variance or uneven gloss. This defect is caused by inconsistently melted toner. This defect tends to become worse as the printer becomes hot.

Conditions that can cause the defect

- The defect appears in large areas of fill and is more severe in low temperature and humidity environments.
- The defect appears in large areas of fill and becomes worse as the printer temperature become hot.

Solutions for the defect

- Resend the job after letting the printer cool.
- Change the print mode from Full Speed to Quiet Mode (1/2 speed) to improve the issue. At the printer control panel open the following menus: Settings > General > Quiet Mode > On.
- If the error persists, replace the fuser.

Parts related to the defect

NOTE: The following item(s) might need to be repaired or replaced to prevent this defect form occurring.

- Media
- Toner
- Fuser

Clean the printer

NOTE: To clean the printer exterior, use a soft, water-moistened cloth.

- Clean the paper path
- Print a cleaning page
- Check the scanner glass for dirt and smudges (MFP)
- Clean the pickup rollers and separation pad in the document feeder (MFP)
- Clean the Tray 1 roller and separation pad
- Clean the Tray 2-X rollers

Clean the paper path

Over time, particles of toner and paper accumulate inside the printer. This can cause print-quality problems during printing. Cleaning the paper path eliminates or reduces these problems.

Clean the paper path and toner-cartridge areas every time that the toner cartridge is changed or whenever print-quality problems occur. As much as possible, keep the printer free from dust and debris.

Print a cleaning page

Print the cleaning from a touchscreen control panel

1. From the From the Home screen on the printer control panel, swipe (right), and then touch the Support Tools button.
2. Open the following menus:
   - Maintenance
   - Calibration/Cleaning
   - Cleaning Page
3. Touch the Print button.

NOTE: Use the Cleaning Page screen to setup an Automatic Cleaning Interval. Touch the desired page interval, and then touch the Done button.

Print the cleaning page from an LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Maintenance menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Calibration/Cleaning menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to Cleaning Page, and then press the OK button.
6. Use the down arrow ▼ and the right arrow ▶ buttons to select the Print item, and then press the OK button.

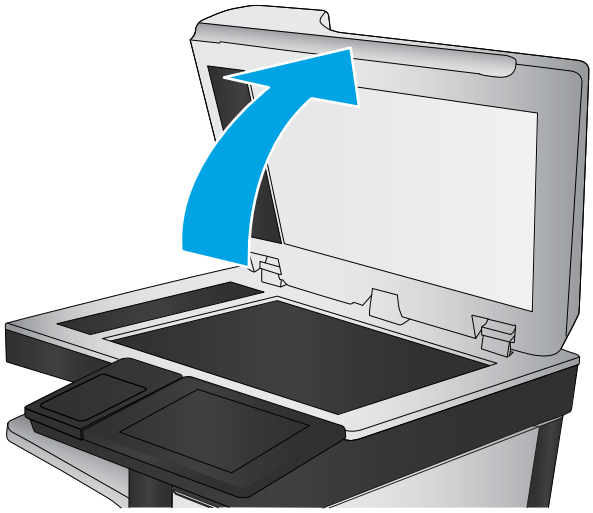
NOTE: Use the Cleaning Page screen to setup an Automatic Cleaning Interval. Use the arrow buttons to scroll to the desired page interval, and then press the OK button.

Check the scanner glass for dirt and smudges (MFP)

Over time, specks of debris might collect on the scanner glass and white plastic backing, which can affect performance. Use the following procedure to clean the scanner if the printed pages have streaks, unwanted lines, black dots, poor print quality, or unclear text.

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

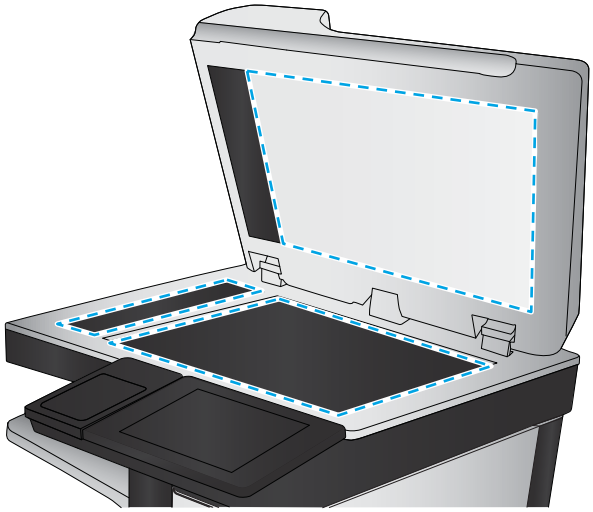
2. Open the scanner lid.



3. Clean the scanner glass, the document feeder strips, and the white plastic backing with a soft cloth or sponge that has been moistened with nonabrasive glass cleaner.

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

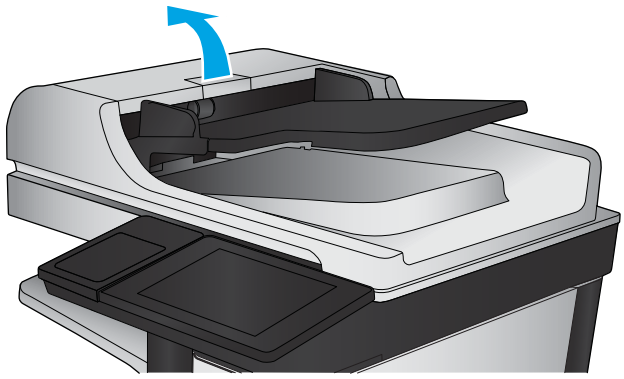
   NOTE: If you are having trouble with streaks on copies when you are using the document feeder, be sure to clean the small strip of glass on the left side of the scanner.



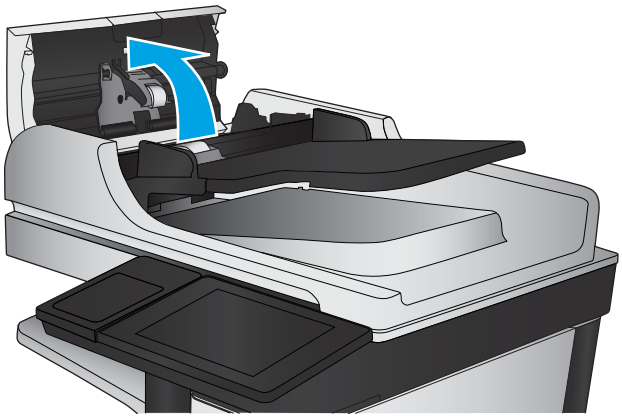
4. Dry the glass and white plastic parts with a chamois or a cellulose sponge to prevent spotting.
5. Connect the power cable to an outlet, and then press the power button to turn the printer on.

Clean the pickup rollers and separation pad in the document feeder (MFP)

1. Lift the document-feeder latch.

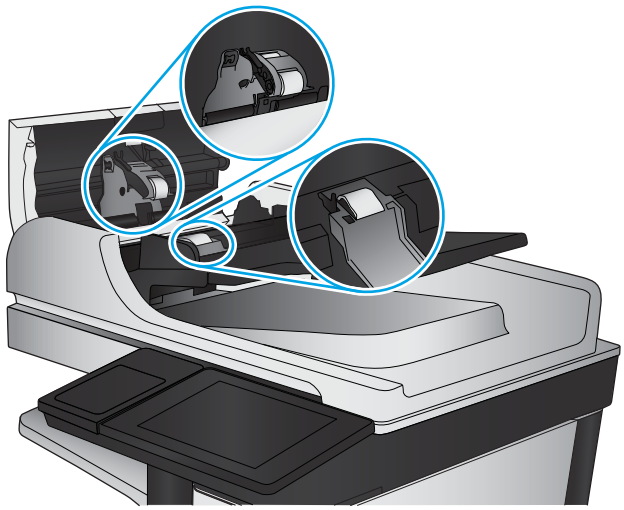


2. Open the document-feeder cover.



3. Remove any visible lint or dust from each of the feed rollers and the separation pad using compressed air or a clean lint-free cloth moistened with warm water.

   NOTE: Lift up the roller assembly to access and clean the second roller.



4. Close the document-feeder cover.

   If the error persists, install a document feeder maintenance kit (5851-7202).

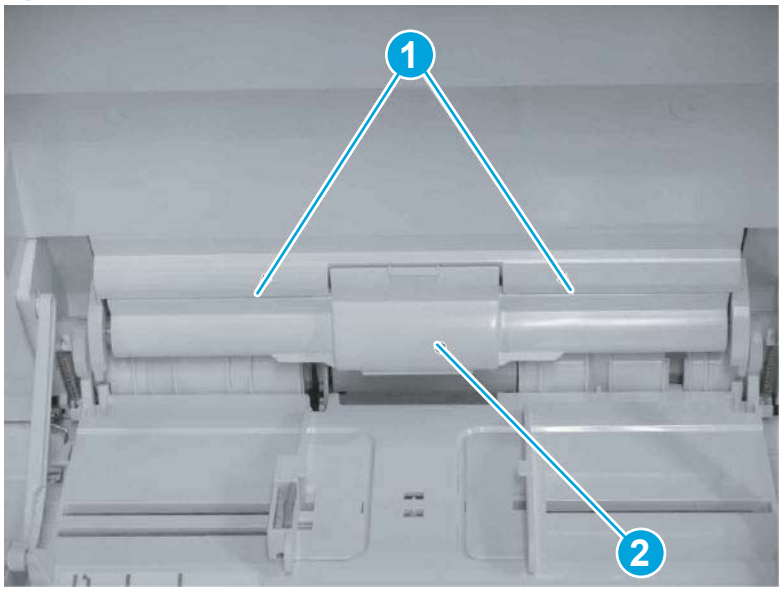
Clean the Tray 1 roller and separation pad

NOTE: The MFP printer is shown in the following figures. However, the procedure is correct for all printer models.

Step 1: Clean the Tray 1 roller

1. Release two tabs (callout 1), and then remove the roller cover (callout 2).

Figure 2-126 Remove the cover



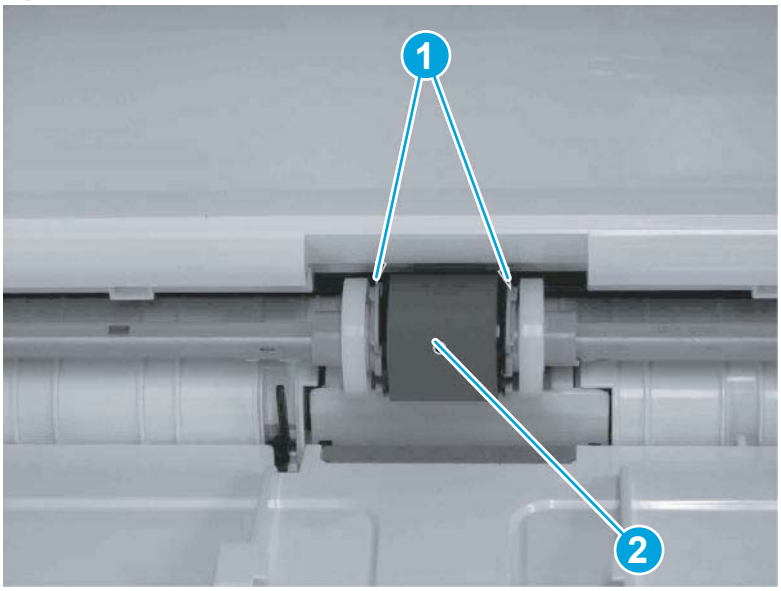
2. Release two tabs (callout 1), and then remove the roller (callout 2).

IMPORTANT: Use a damp, lint-free cloth to gently clean the rollers.

NOTE: When handling the rollers or pads, avoid touching the spongy surfaces. Skin oils and fingerprints on a roller surface can cause print-quality problems.

Reinstallation tip: Reverse the removal steps to install the assembly.

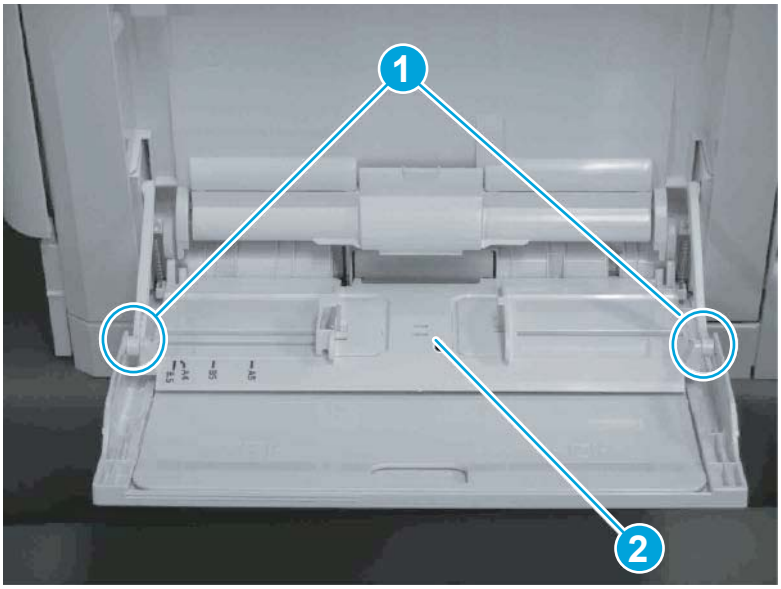
Figure 2-127 Remove the roller



Step 2: Clean the separation pad assembly

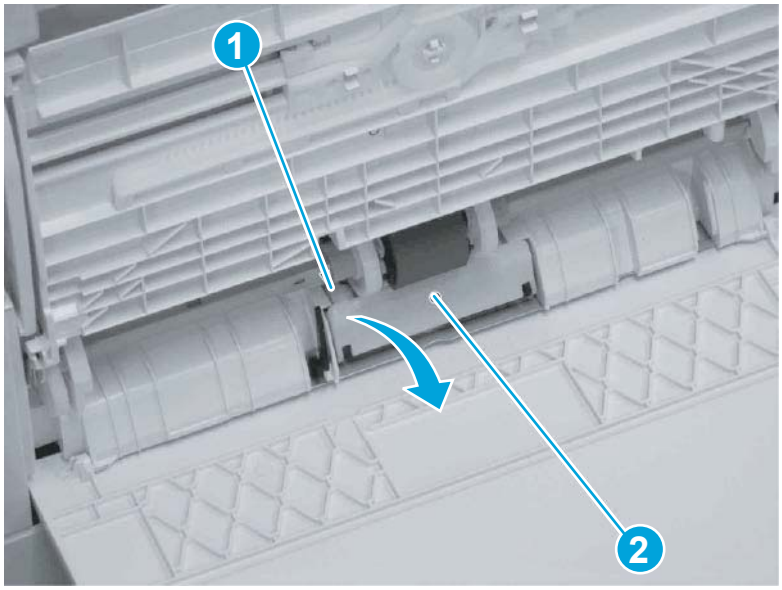
1. Open Tray 1, careful release two retainer arms (callout 1), and then move the lift plate (callout 2) up and out of the way.

Figure 2-128 Move the lift plate out of the way



2. Release one tab (callout 1), and then rotate the top of the cover (callout 2) down to release it.

Figure 2-129 Release the cover



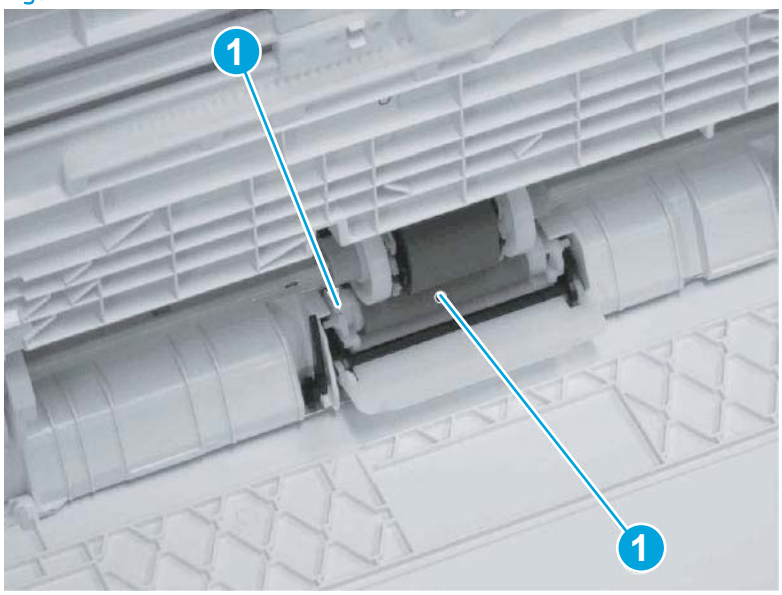
3. Release one tab (callout 1), and then remove the roller (callout 2).

IMPORTANT: Use a damp, lint-free cloth to gently clean the rollers.

NOTE: When handling the rollers or pads, avoid touching the spongy surfaces. Skin oils and fingerprints on a roller surface can cause print-quality problems.

Reinstallation tip: Reverse the removal steps to install the assembly.

Figure 2-130 Remove the roller



Clean the Tray 2-X rollers

CAUTION: Removing and reinstalling the separation roller, and reinstalling the pick and feed roller assembly requires specialized tools. These tools are provided in a replacement roller kit. If these tools are not available, the rollers should not be removed and cleaned.

Step 1: Clean the Tray 2-X rollers

1. Open the paper tray for which the rollers will be replaced.

Figure 2-131 Open the tray (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

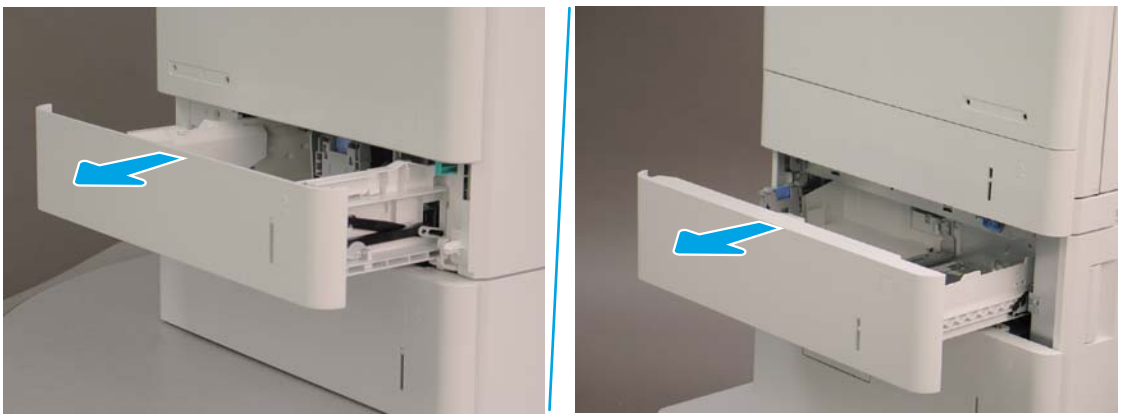
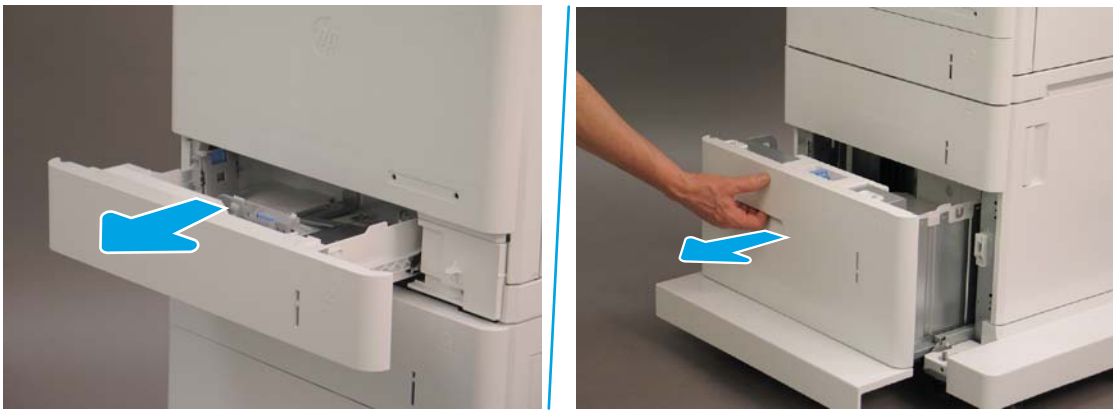


Figure 2-132 Open the tray (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)



2. **M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 Tray 2 rollers only**: At the rear of the printer, do the following:

   M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 Tray 2 rollers only: At the right side of the printer, do the following:

NOTE: When this step is complete, go to step 5.

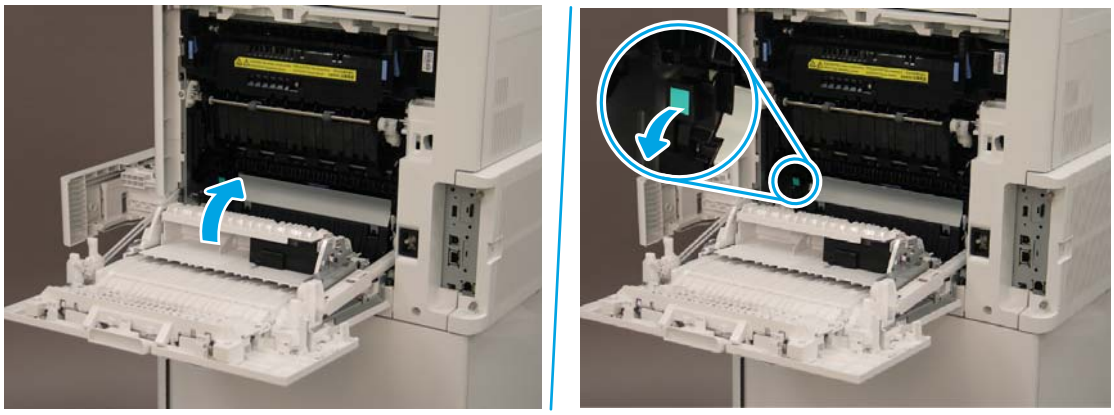
   a. Open the rear cover.

   b. Raise the transfer assembly.

c. Lower the access cover.

NOTE: The M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 printer is shown below. However the instructions are valid for the M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 printer.

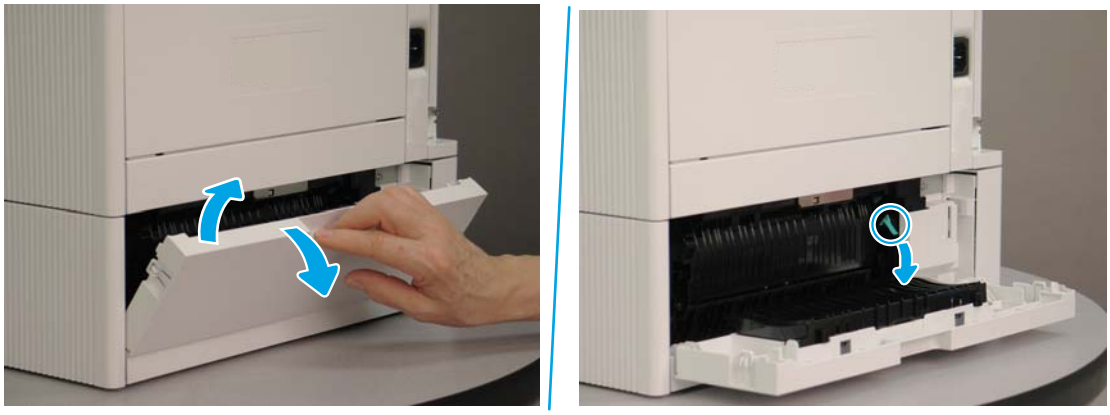
Figure 2-133 Lower the access cover (Tray 2 rollers)



3. **Tray 3 rollers only**: Open the lower door, and then lower the access cover.

NOTE: When this step is complete, go to step 5.

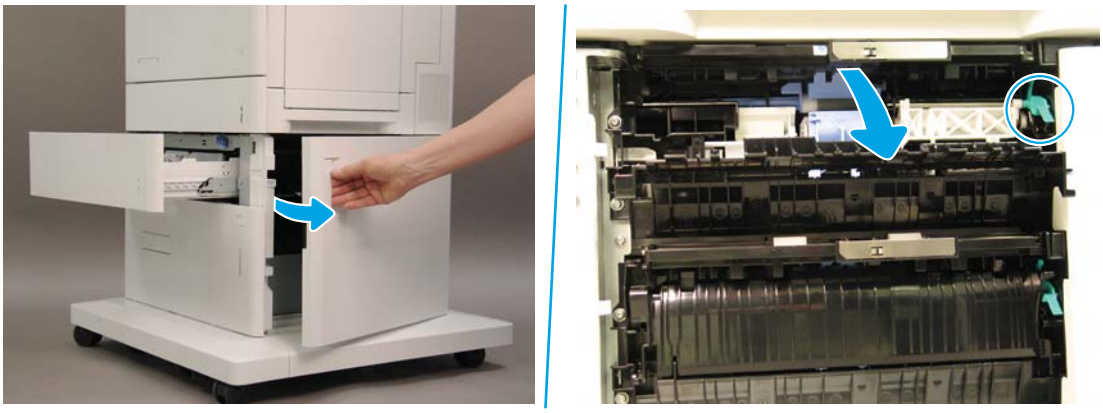
Figure 2-134 Lower the access cover (Tray 3 rollers)



4. **M631z/M632fht/Flow M632z/Flow M633z only**: Open the right door of the paper feeder. Locate the green tab on the feed assembly cover. Release the tab to lower the access cover.

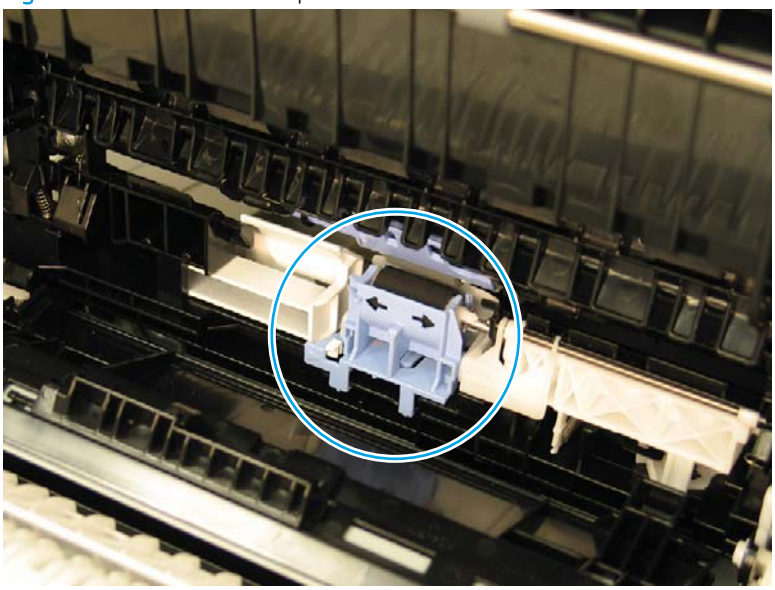
NOTE: When this step is complete, go to step 5.

Figure 2-135 Lower the access cover (M631z/M632fht/Flow M632z/Flow M633z)



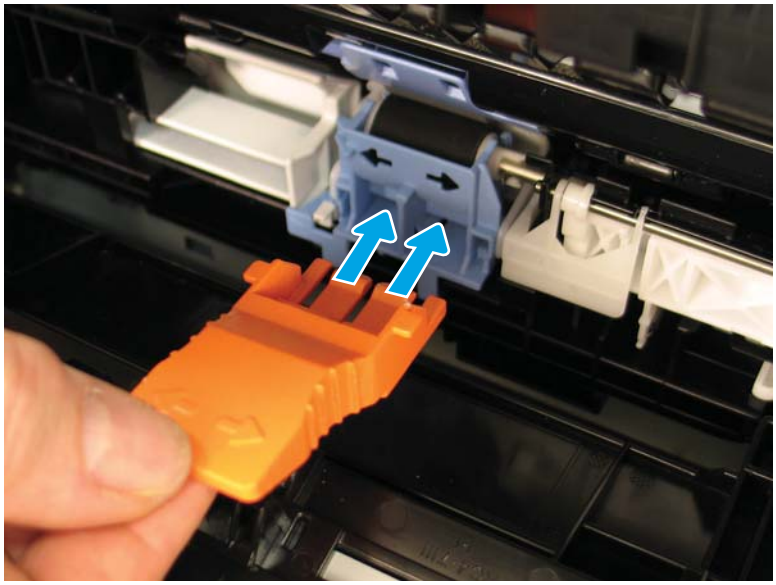
5. Locate the separation roller.

Figure 2-136 Locate the separation roller



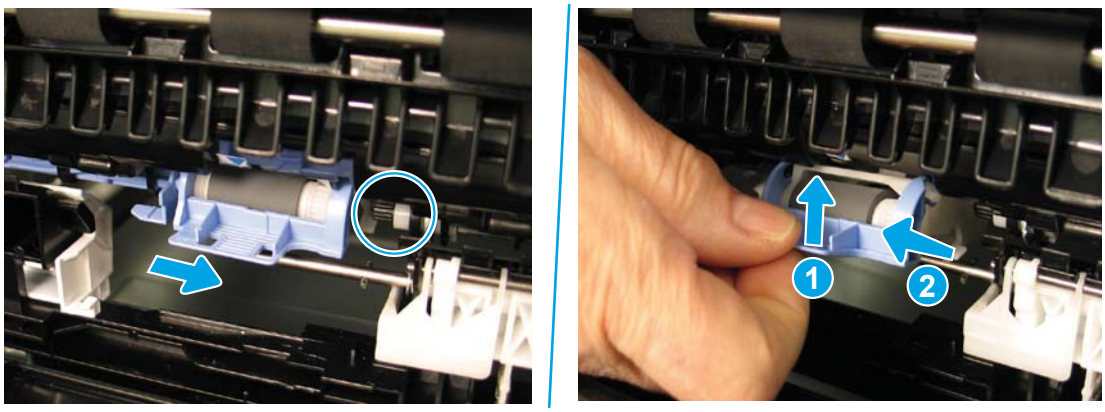
6. Install the orange tool on the separation roller until it snaps into place.

Figure 2-137 Install the separation roller tool



7. Slide the roller to the left.

Figure 2-138 Slide the roller to the left



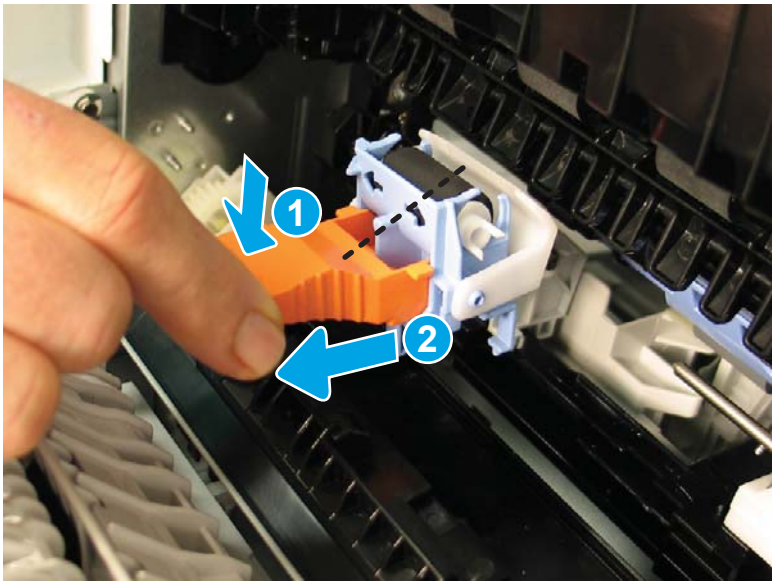
8. Tilt the end of the tool down (callout 1) and then pull straight out of the printer (callout 2) to remove the separation roller.

IMPORTANT: Use a damp, lint-free cloth to gently clean the rollers.

NOTE: When handling rollers or pads, avoid touching the spongy surfaces. Skin oils and fingerprints on a roller surface can cause print-quality problems.

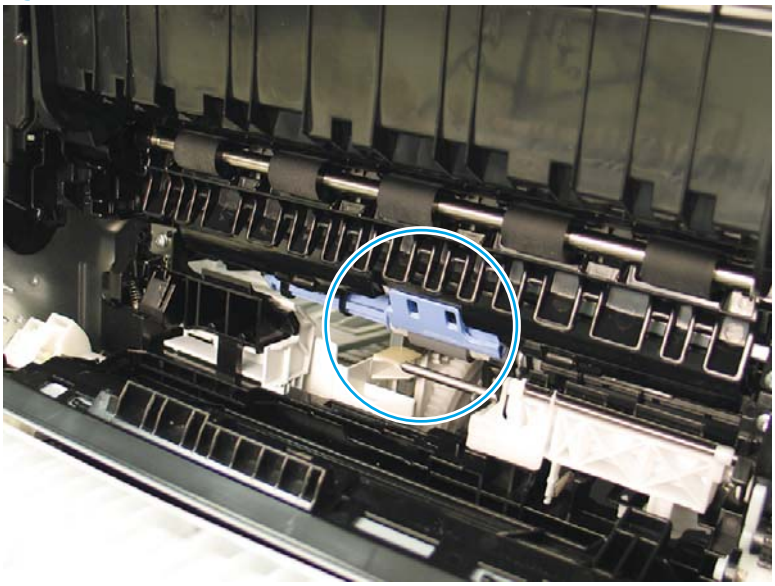
Reinstallation tip: Leave the roller tool attached to the roller assembly. The tool is necessary to reinstall the separation roller.

Figure 2-139 Remove the roller



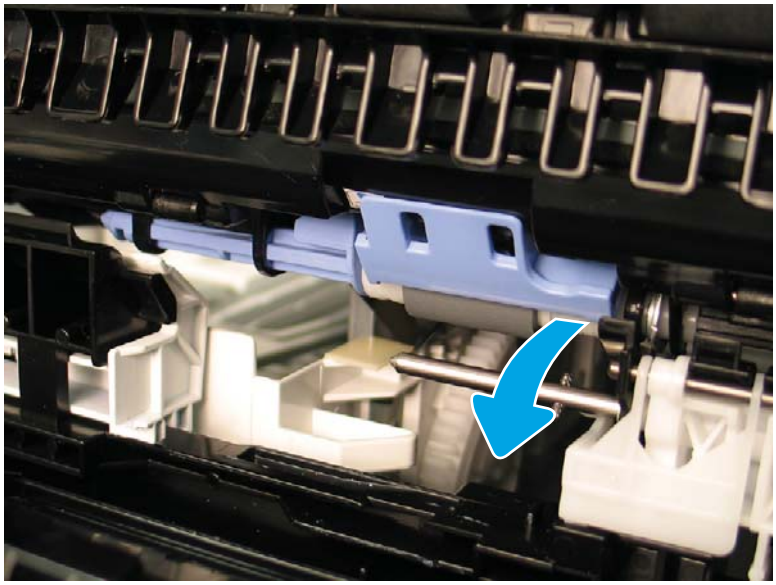
9. Locate the pickup and feed roller.

Figure 2-140 Locate the pickup and feed roller



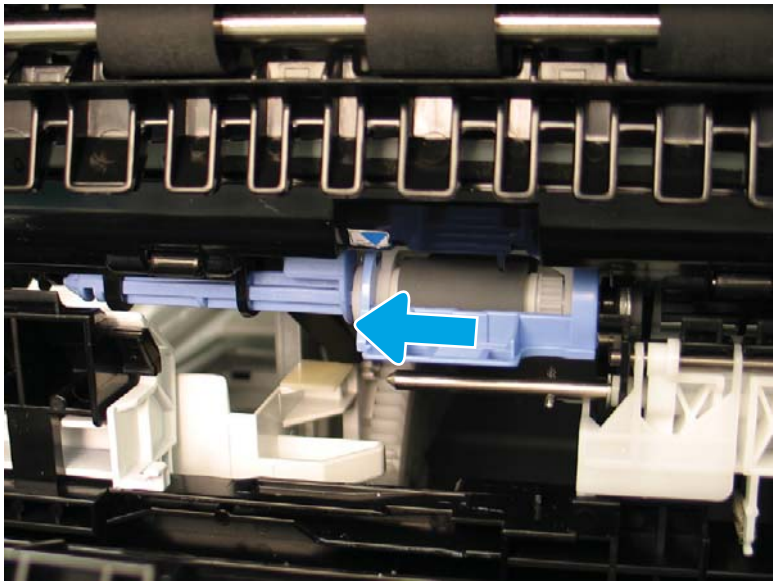
10. Locate and pull down the blue tab to unlock the pickup and feed rollers.

Figure 2-141 Unlock the pickup and feed rollers



11. Use the tab as a handle to slide the rollers to the left to compress the left blue post until it clicks into place.

Figure 2-142 Slide the rollers to the left



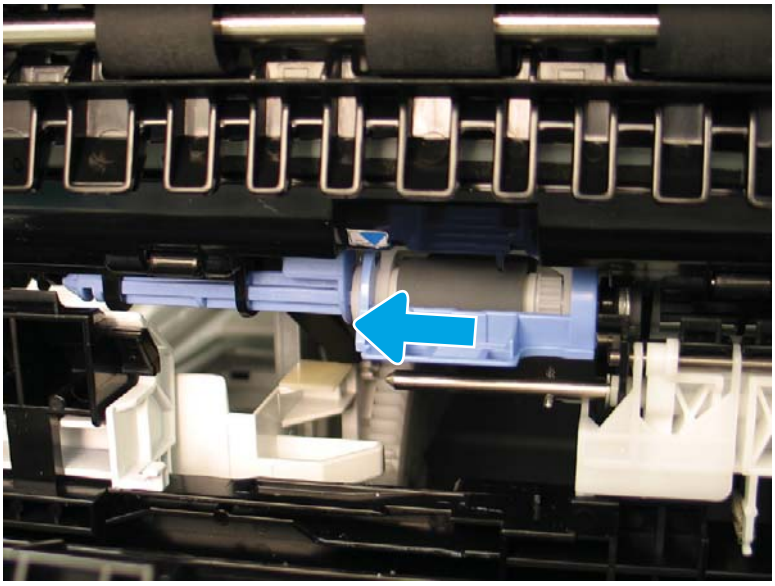
12. Slightly move the rollers to the right to free them from the blue post. Make sure that the roller is clear of the black post on the right.

    Slightly lift up the front of the roller assembly (callout 1), and then pull the assembly away from the printer (callout 2) to remove it.

IMPORTANT: Use a damp, lint-free cloth to gently clean the rollers.

NOTE: When handling rollers or pads, avoid touching the spongy surfaces. Skin oils and fingerprints on a roller surface can cause print-quality problems.

Figure 2-143 Remove the rollers



Solve paper handling problems

- Printer feeds incorrect page size
- Printer pulls from incorrect tray
- Printer will not duplex or duplexes incorrectly
- Paper does not feed from Tray 2-X
- Output is curled or wrinkled
- Printer does not pick up paper or misfeeds
- Clear paper jams

Printer feeds incorrect page size

Table 2-74 Printer feeds incorrect page size

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

Printer pulls from incorrect tray

Table 2-75 Printer pulls from incorrect tray

Cause	Solution
A driver for a different printer is in use.	Use a driver for this printer.
The specified tray is empty.	Load paper in the specified tray.
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 guides are touching the paper.

Printer will not duplex or duplexes incorrectly

Table 2-76 Printer will not duplex (print 2-sided jobs) or duplexes incorrectly

Cause	Solution
The duplex job is trying to use unsupported paper.	Verify that the paper is supported for duplex printing.
The printer driver is not set up for duplex printing.	Set up the printer driver to enable duplex printing.
The first page is printing on the back of preprinted forms or letterhead.	Load preprinted forms and letterhead in Tray 1 with the letterhead or printed side down, with the top of the page leading into the printer. For Tray 2-X, load the paper printed side up with the top of the page toward the right of the printer.
The printer model does not support automatic 2-sided printing.	The printer model does not support automatic 2-sided printing.

Paper does not feed from Tray 2-X

Table 2-77 Paper does not feed from Tray 2-X

Cause	Solution
The correct size paper is not loaded.	Load the correct size paper.
The input tray is empty.	Load paper in the input tray.
The correct paper type for the input tray is not selected in the printer control panel.	From the printer control panel, select the correct paper type for the input tray. Trays configured for a paper type with a specific weight range will not match a print job that specifies an exact weight, even if the specified weight is within the weight range.
Paper from a previous jam has not been completely removed.	Open the printer and remove any paper in the paper path. Closely inspect the fuser area for jams.
None of the optional trays appear as input tray options.	The optional trays only display as available if they are installed. Verify that any optional trays are correctly installed. Verify that the printer driver has been configured to recognize the optional trays.
An optional tray is incorrectly installed.	Print a configuration page to confirm that the optional tray is installed. If not, verify that the tray is correctly attached to the printer.
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.	Make sure that the tray guides are set to the correct size paper that is loaded in the tray.

Output is curled or wrinkled

Table 2-78 Output is curled or wrinkled

Cause	Solution
Paper does not meet the specifications for this printer.	Use only paper that meets the HP paper specifications for this printer.
The correct paper type for the input tray is not selected in the printer control panel.	From the printer control panel, select the correct paper type for the input tray. Trays configured for a paper type with a specific weight range will not match a print job that specifies an exact weight, even if the specified weight is within the weight range.

Table 2-78 Output is curled or wrinkled (continued)

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

Printer does not pick up paper or misfeeds

Use the following procedures if the printer will not pick or misfeeds paper.

The printer does not pick up paper

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

NOTE: Tray 1 and Tray 2 are optimal for paper pickup when using special paper or media other than 20lb plain paper. For Tray 1 and Tray 2 the printer increases the number of attempts to pick up a page, which increases the reliability of successfully picking the page from the tray and decreases the possibility of a mispick jam.

HP recommends using Tray 1 or Tray 2 if the printer is experiencing excessive or reoccurring jams from trays other than Tray 1 and Tray 2, or for print jobs that require media other than 20lb plain paper.

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

The printer picks up multiple sheets of paper

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

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

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

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

Paper does not feed automatically

Table 2-79 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, press the OK button.
The correct size paper is not loaded.	Load the correct size paper.
The input tray is empty.	Load paper into the input tray.
Paper from a previous jam has not been completely removed.	Open the printer and remove any paper in the paper path.

Table 2-79 Paper does not feed automatically (continued)

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

Clear paper jams

- Paper path jam sensor locations
- Paper jam locations (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Paper jam locations (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Auto-navigation for clearing jams
- Experiencing frequent or recurring paper jams?
- Clear paper jams in the document feeder
- Clear paper jams in Tray 1(M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear paper jams in Tray 1 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Clear paper jams in Trays 2, 3, 4, or 5 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear paper jams in Trays 2, 3, or 4 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Clear paper jams in the 2,550-sheet high-capacity input tray (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear paper jams in the 2,100-sheet high-capacity input tray (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Clear paper jams in the right door and fuser area (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear paper jams in the rear door and fuser area (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Clear paper jams in the output bin (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear paper jams in the output bin (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Clear paper jams in the duplexer (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear paper jams in the duplexer (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Clear paper jams in the envelope feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear paper jams in the envelope feeder (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Clear paper jams in the HP Stapling Mailbox (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear paper jams in the HP Stapling Mailbox accessory (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

- Clear staple jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
- Clear staple jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Change jam recovery

Paper path jam sensor locations

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

Figure 2-144 Printer base, sensors (pickup, feed, and delivery) block diagram

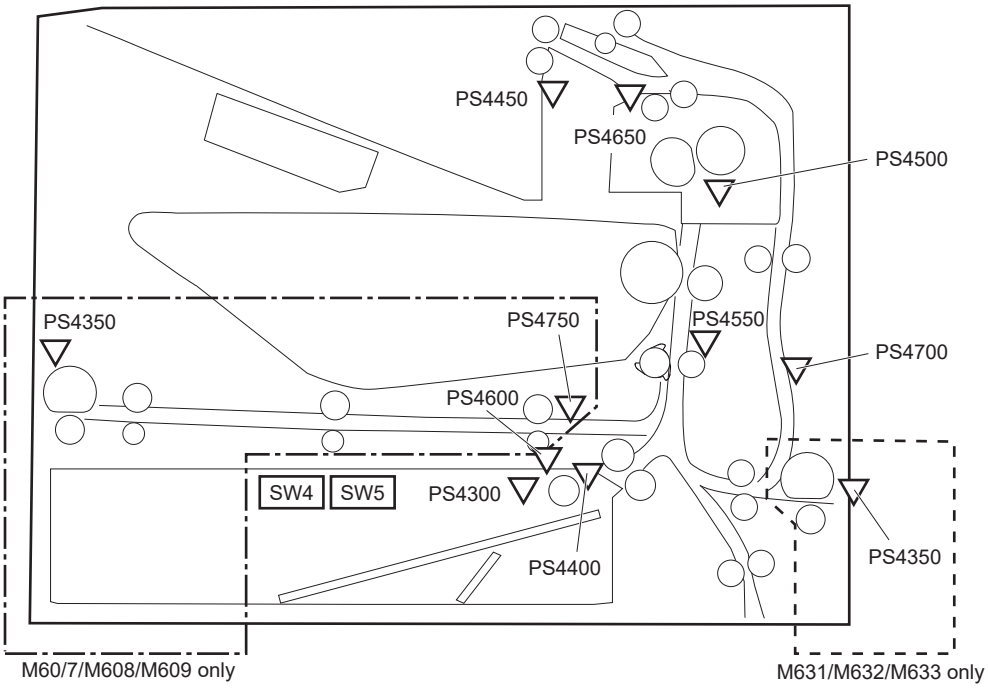


Table 2-80 Printer base, sensors (pickup, feed, and delivery) block diagram

Item	Description	Item	Description
PS4300	Tray 2 media out sensor	PS4600	Retard roller rotation sensor
PS4350	Tray 1 media out sensor	PS4650	Fuser output sensor
PS4400	Tray 2 media surface sensor	PS4700	Duplex feed sensor
PS4450	FD1 media full sensor	PS4750	Tray 1 feed sensor
PS4500	Fuser loop sensor	SW4	Tray 2 media size switch 1
PS4550	Registration sensor	SW5	Tray 2 media size switch 2

[1] Duplex models only.
[2] M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 models only.

Figure 2-145 1x550-sheet paper feeder, electrical components block diagram

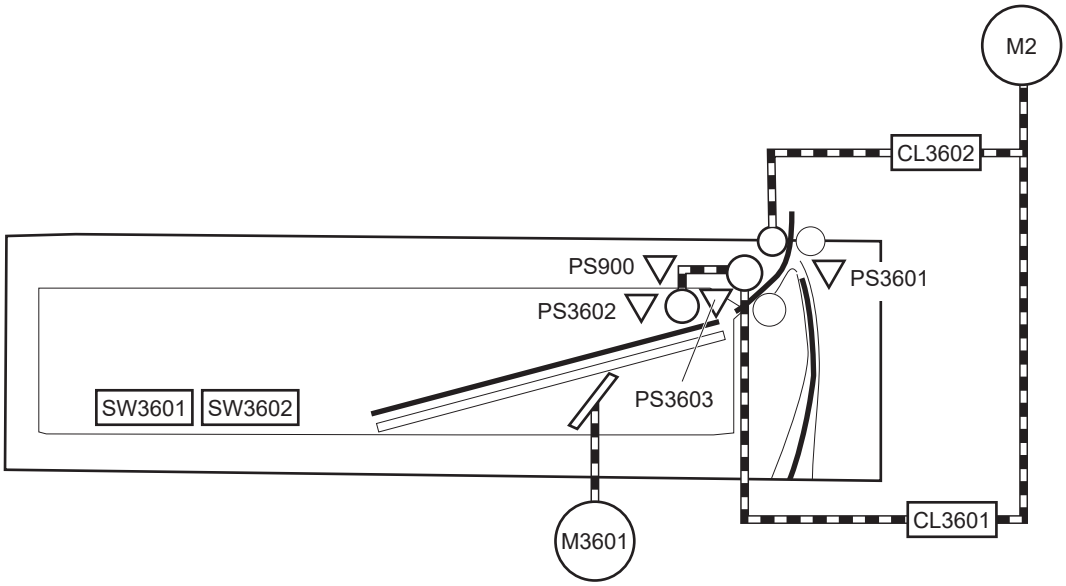


Table 2-81 1x550-sheet paper feeder, electrical components block diagram

Item	Description	Item	Description
M2	Drum motor	SW3603	PF Door switch
M3601	PF Lifter motor	PS3601	PF Feed sensor
CL3601	PF pickup clutch	PS3602	PF Media out sensor
CL3602	PF Feed clutch	PS3603	PF Media surface sensor
SW3601	PF Media size switch 1	PS900	PF Retard roller rotation sensor
SW3602	PF Media size switch 2		

[1] Located in the printer.
[2] 1x500-sheet paper feeder only.

Figure 2-146 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram

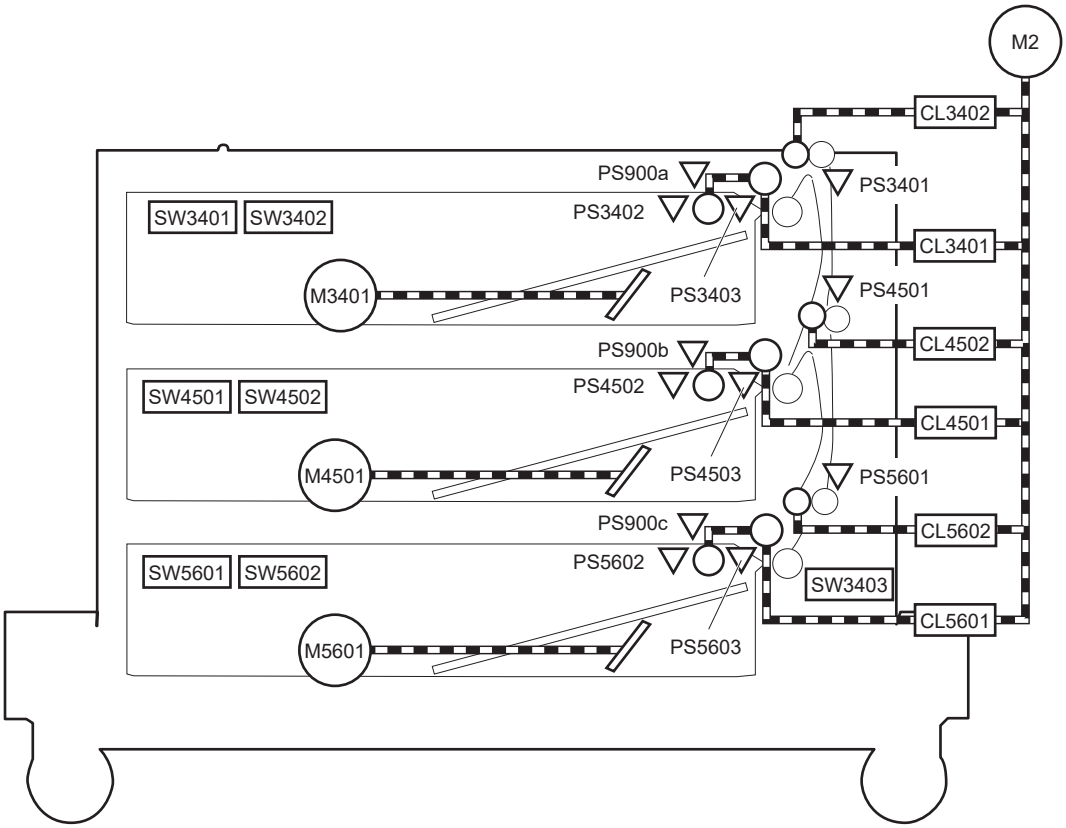


Table 2-82 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram

Item	Description	1x550 PD	3x550 PD
M2	Drum motor	No	No
M3401	PD cassette 1 lifter motor	Yes	Yes
M4501	PD cassette 2 lifter motor	No	Yes
M5601	PD cassette 3 lifter motor	No	Yes
CL3401	PD cassette 1 pickup clutch	Yes	Yes
CL3402	PD cassette 1 feed clutch	Yes	Yes
CL4501	PD cassette 2 pickup clutch	No	Yes
CL4502	PD cassette 2 feed clutch	No	Yes
CL5601	PD cassette 3 pickup clutch	No	Yes
CL5602	PD cassette 3 feed clutch	No	Yes
SW3401	PD Cassette 1 media size switch 1	Yes	Yes
SW3402	PD Cassette 1 media size switch 2	Yes	Yes
SW4501	PD Cassette 2 media size switch 1	No	Yes
SW4502	PD Cassette 2 media size switch 2	No	Yes
SW5601	PD Cassette 3 media size switch 1	No	Yes
SW5602	PD Cassette 3 media size switch 2	No	Yes

Table 2-82 1x550-sheet and 3x550-sheet paper decks, electrical components block diagram (continued)

Item	Description	1x550 PD	3x550 PD
SW3403	PD door switch	Yes	Yes
PS3401	PD cassette 1 feed sensor	Yes	Yes
PS3402	PD cassette 1 media out sensor	Yes	Yes
PS3403	PD cassette 1 media surface sensor	Yes	Yes
PS4501	PD cassette 2 feed sensor	No	Yes
PS4502	PD cassette 2 media out sensor	No	Yes
PS4503	PD cassette 2 media surface sensor	No	Yes
PS5601	PD cassette 3 feed sensor	No	Yes
PS5602	PD cassette 3 media out sensor	No	Yes
PS5603	PD cassette 3 media surface sensor	No	Yes
PS900a	PD retard roller rotation sensor 1	Yes	Yes
PS900b	PD retard roller rotation sensor 2	No	Yes
PS900c	PD retard roller rotation sensor 3	No	Yes

[1] Located in the printer.

Figure 2-147 2,550-sheet paper deck, electrical components block diagram

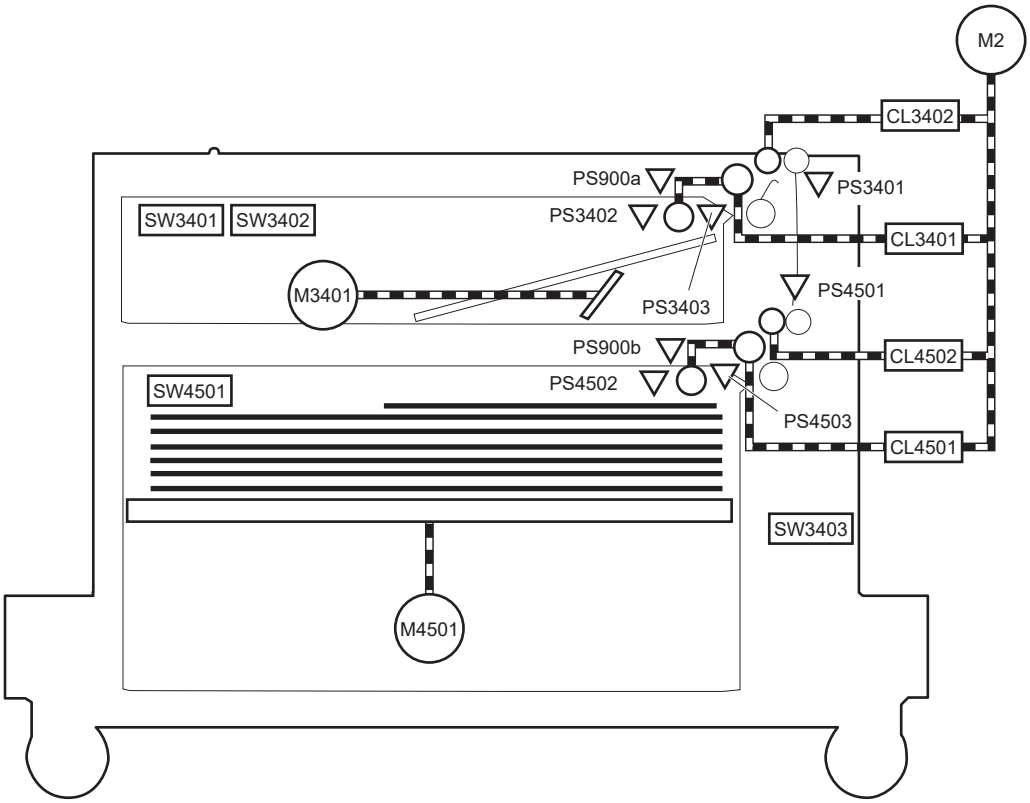


Table 2-83 2,550-sheet paper deck, electrical components block diagram

Item	Description	Item	Description
M2	Drum motor	SW3403	PD door switch
M3401	PD cassette 1 lifter motor	PS3401	PD cassette 1 feed sensor
M4501	PD cassette 2 lifter motor	PS3402	PD cassette 1 media out sensor
CL3401	PD cassette 1 pickup clutch	PS3403	PD cassette 1 media surface sensor
CL3402	PD cassette 1 feed clutch	PS900	Retard roller rotation sensor
CL4501	PD cassette 2 pickup clutch	PS4501	PD cassette 2 feed sensor
CL4502	PD cassette 2 feed clutch	PS4502	PD cassette 2 media out sensor
SW3401	PD Cassette 1 media size switch 1	PS4503	PD cassette 2 media surface sensor
SW3402	PD Cassette 1 media size switch 2	PS900a	PD retard roller rotation sensor 1
SW4501	PD Cassette 2 media size switch 1	PS900b	PD retard roller rotation sensor 2

[1] Located in the printer.

Figure 2-148 Stapler stacker multi bin mailbox (5 bin; SSBM), sensors and switches block diagram

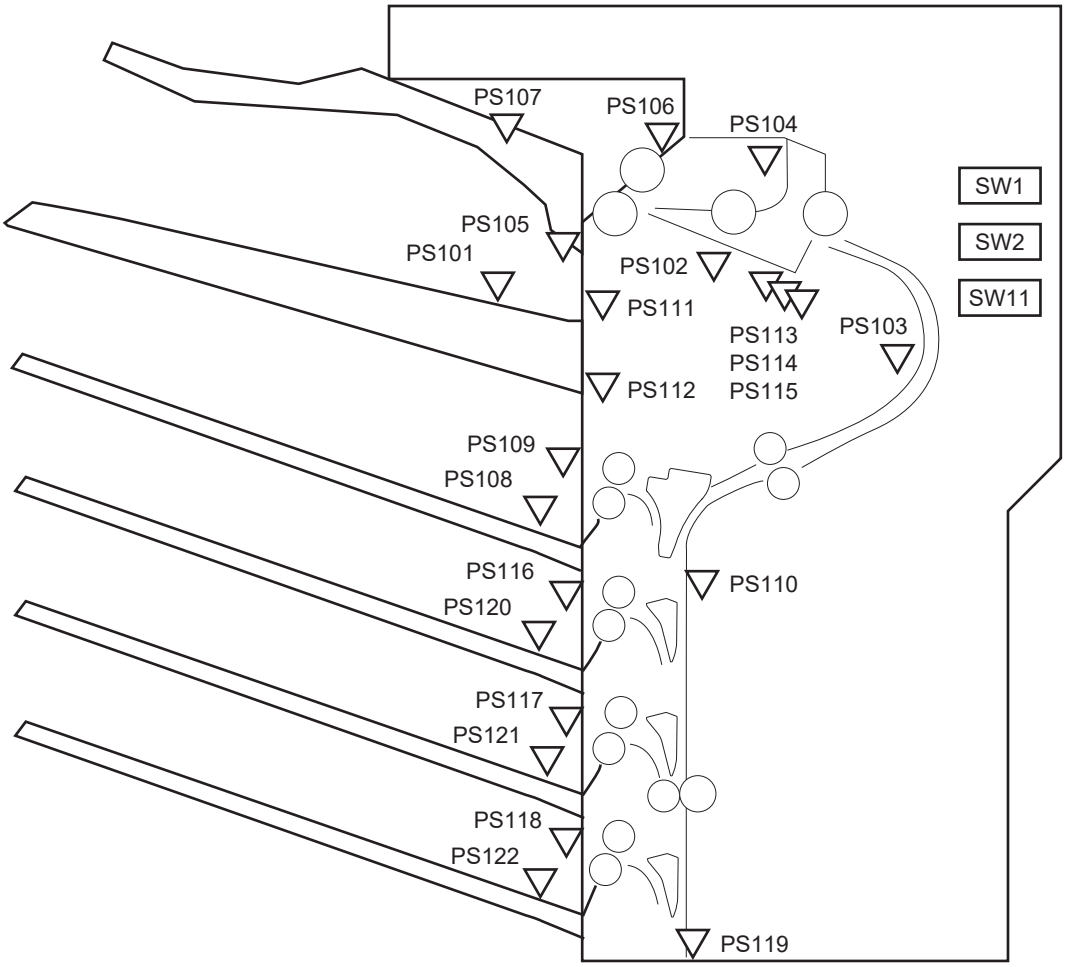


Table 2-84 Stapler stacker multi bin mailbox (5 bin; SSBM), sensors and switches block diagram

Item	Description	Item	Description
PS101	Bin 1 media presence sensor	PS114	Staple ready sensor
PS102	SS exit sensor	PS115	Staple home position sensor
PS103	Staple inlet sensor	PS116	Bin 3 media full sensor
PS104	Y alignment home position sensor	PS117	Bin 4 media full sensor
PS105	Bin 1 media full sensor	PS118	Bin 5 media full sensor
PS106	Alienation home position sensor	PS119	MBM inlet sensor
PS107	Jogger home position sensor	PS120	Bin 3 media presence sensor
PS108	Bin 2 media presence sensor	PS121	Bin 4 media presence sensor
PS109	Bin 2 media full sensor	PS122	Bin 5 media presence sensor
PS110	SS inlet sensor	SW1	MBM door switch
PS111	Bin 1 upper limit sensor	SW2	SS door switch
PS112	Bin 1 lower limit sensor	SW11	Staple door switch
PS113	Staple low sensor		

Figure 2-149 Stapler stacker multi bin mailbox (2 bin; SSBM), sensors and switches block diagram

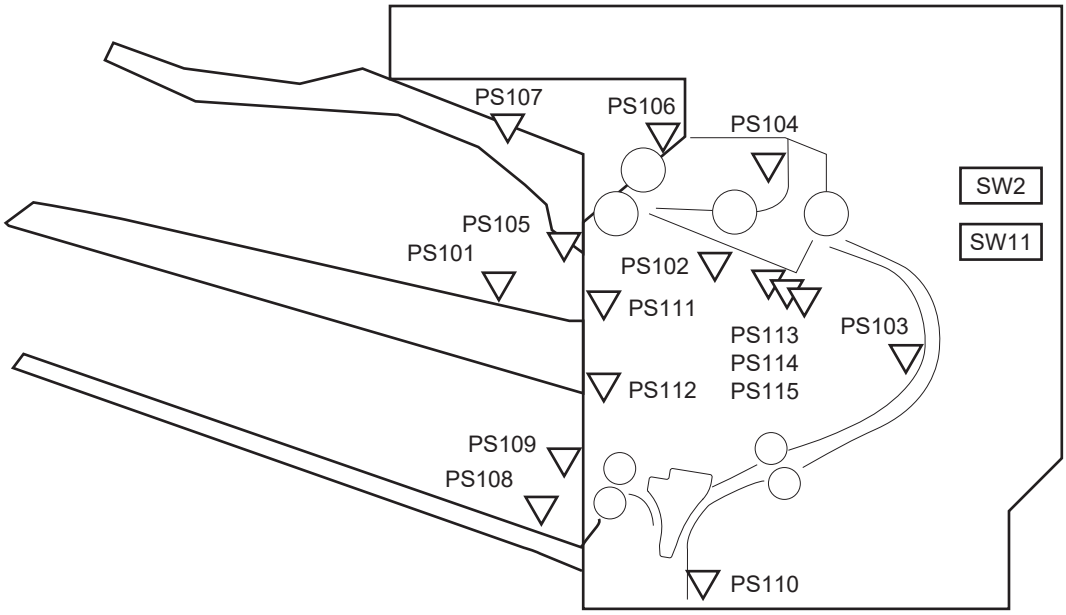
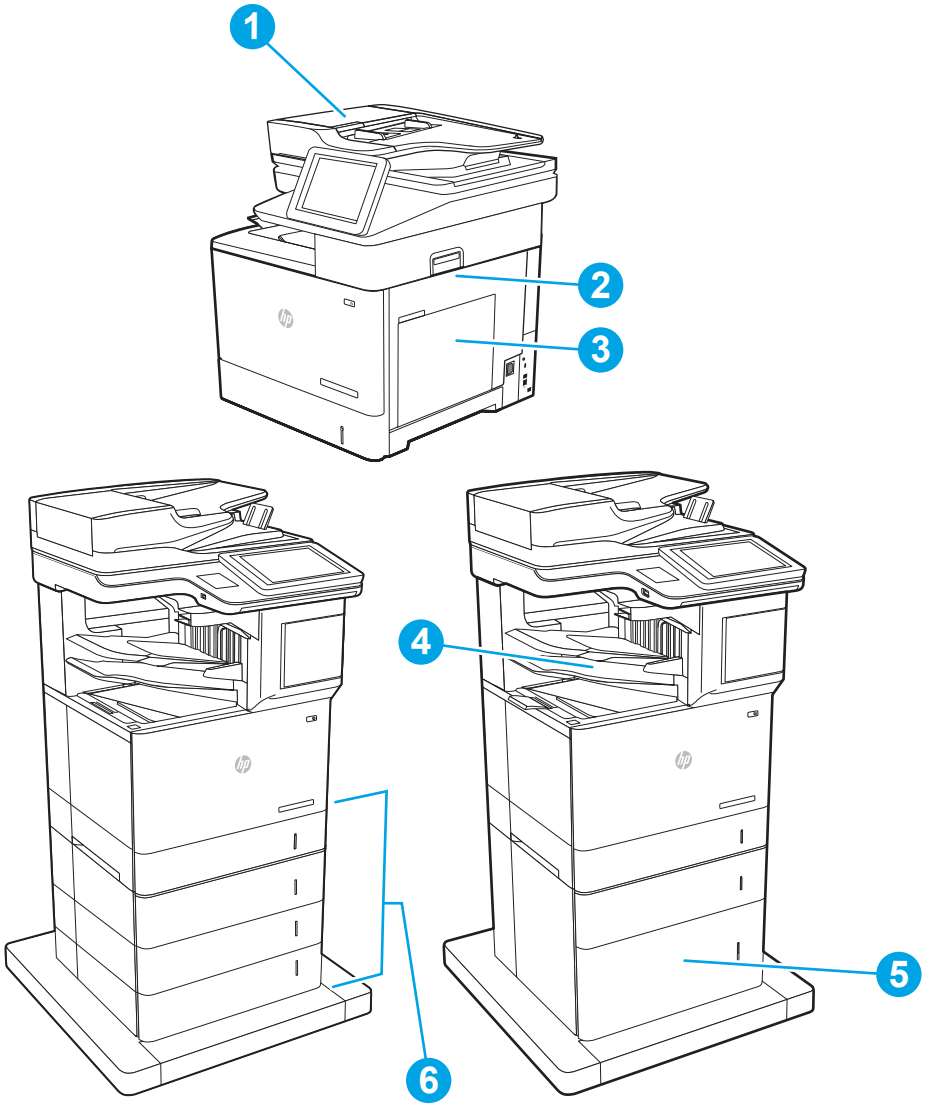


Table 2-85 Stapler stacker multi bin mailbox (2 bin; SSBM), sensors and switches block diagram

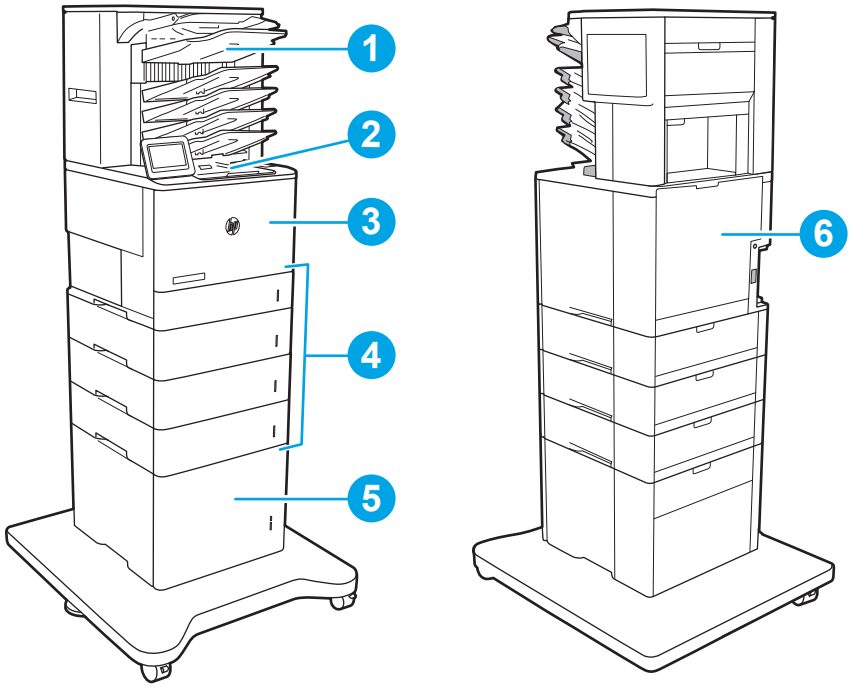
Item	Description	Item	Description
PS101	Bin 1 media presence sensor	PS110	SS inlet sensor
PS102	SS exit sensor	PS111	Bin 1 upper limit sensor
PS103	Staple inlet sensor	PS112	Bin 1 lower limit sensor
PS104	Y alignment home position sensor	PS113	Staple low sensor
PS105	Bin 1 media full sensor	PS114	Staple ready sensor
PS106	Alienation home position sensor	PS115	Staple home position sensor
PS107	Jogger home position sensor	SW2	SS door switch
PS108	Bin 2 media presence sensor	SW11	Staple door switch
PS109	Bin 2 media full sensor		

Paper jam locations (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)



1	Document feeder
2	Duplexer and fuser
3	Tray 1
4	Output bin, HP Stapling Mailbox
5	2,100-sheet HCI feeder
6	Trays 2-5 Envelope feeder (not shown)

Paper jam locations (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)



1	HP Stapling Mailbox
2	Output bin
3	Tray 1
4	Trays 2–5
5	2,100-sheet HCI feeder
6	Duplexer and fuser
	Envelope feeder (not shown)

Auto-navigation for clearing jams

The auto-navigation feature assists you in clearing jams by providing step-by-step instructions on the control panel. When you complete a step, the product displays instructions for the next step until you have completed all steps in the procedure.

Experiencing frequent or recurring paper jams?

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

1. Use only paper that meets HP specifications for this product.
2. Use paper that is not wrinkled, folded, or damaged. If necessary, use paper from a different package.
3. Use paper that has not previously been printed or copied on.
4. Make sure the tray is not overfilled. If it is, remove the entire stack of paper from the tray, straighten the stack, and then return some of the paper to the tray.

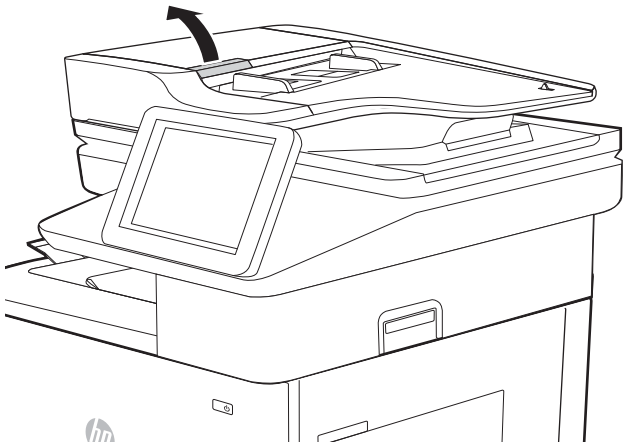
5. Make sure the paper guides in the tray are adjusted correctly for the size of paper. Adjust the guides so they are touching the paper stack without bending it.
6. Make sure that the tray is fully inserted in the product.
7. If you are printing on heavy, embossed, or perforated paper, use the manual feed feature and feed sheets one at a time.
8. Open the Trays menu on the product control panel. Verify that the tray is configured correctly for the paper type and size.
9. Make sure the printing environment is within recommended specifications.

Clear paper jams in the document feeder

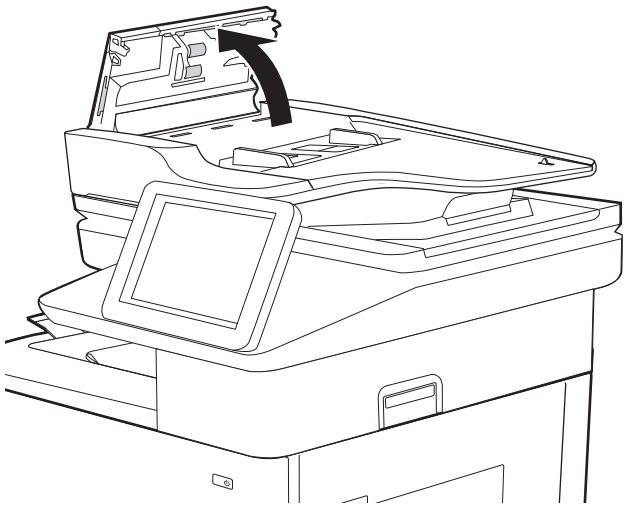
The following information describes how to clear paper jams in the document feeder. When a jam occurs, the control panel displays the following message and an animation that assists in clearing the jam.

- 31.13.XX Jam in Document Feeder

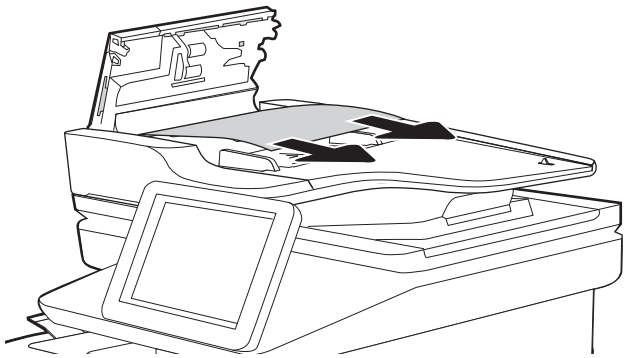
1. Lift the latch to release the document-feeder cover.



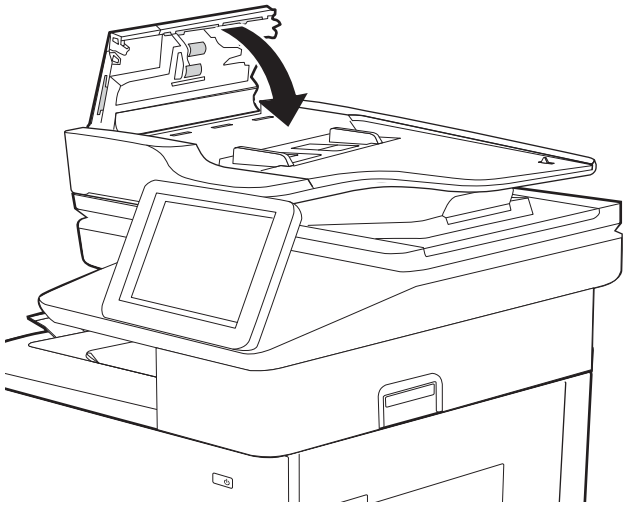
2. Open the document-feeder cover.



3. Remove any jammed paper.



4. Close the document-feeder cover.



NOTE: To avoid jams, make sure the guides in the document-feeder input tray are adjusted tightly against the document. Remove all staples and paper clips from original documents.

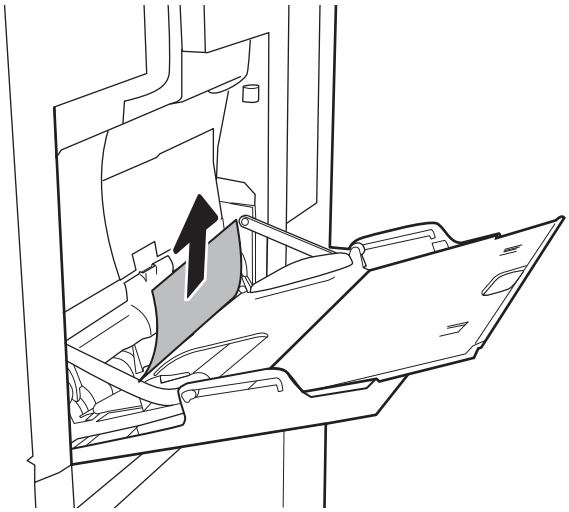
NOTE: Original documents that are printed on heavy, glossy paper can jam more frequently than originals that are printed on plain paper.

Clear paper jams in Tray 1(M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

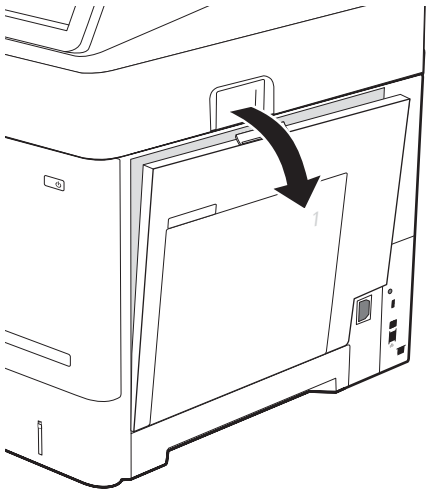
The following information describes how to clear a paper jam in Tray 1. When a jam occurs, the control panel displays the following message and an animation that assists in clearing the jam.

- 13.A1.XX Jam in Tray 1

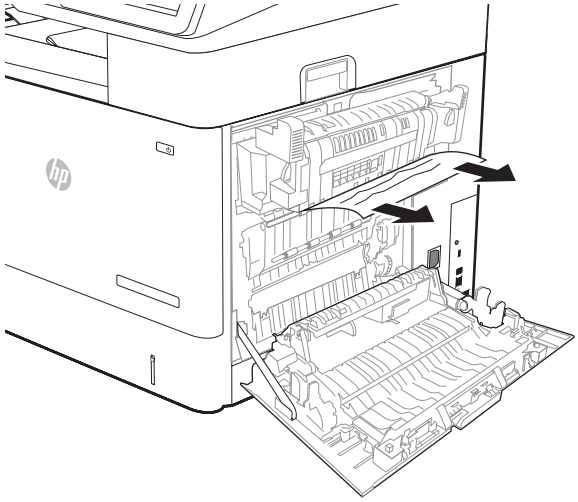
1. If jammed paper is visible in Tray 1, clear the jam by gently pulling the paper straight out.



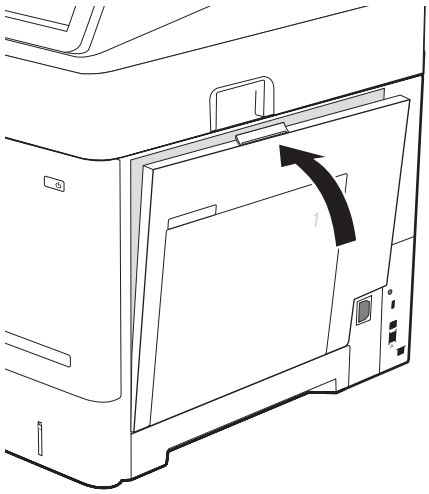
2. If you cannot remove the paper, or if no jammed paper is visible in Tray 1, close Tray 1 and open the right door.



3. Gently pull out any jammed paper.



4. Close the right door.

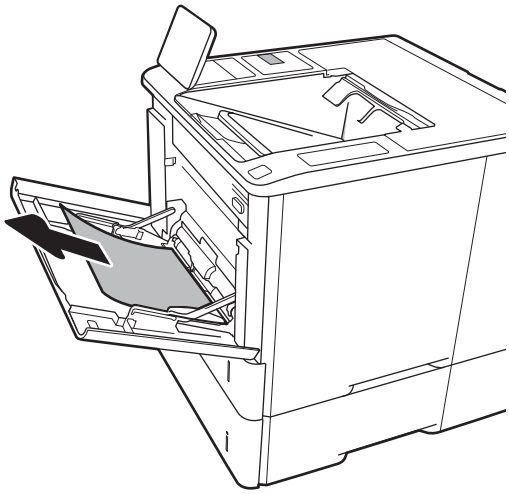


Clear paper jams in Tray 1 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

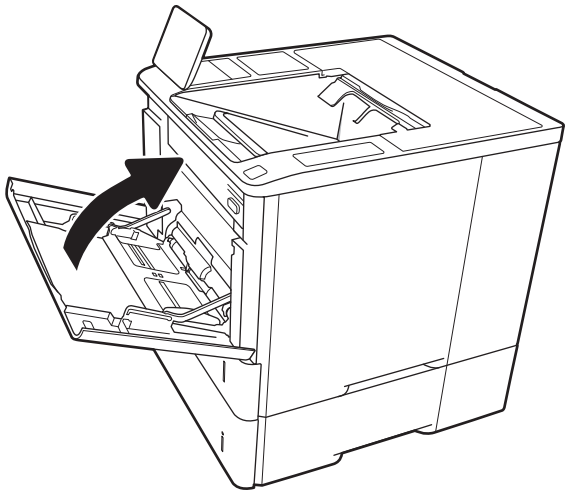
The following information describes how to clear a paper jam in Tray 1. When a jam occurs, the control panel displays the following message and an animation that assists in clearing the jam.

- 13.A1.XX Jam in Tray 1

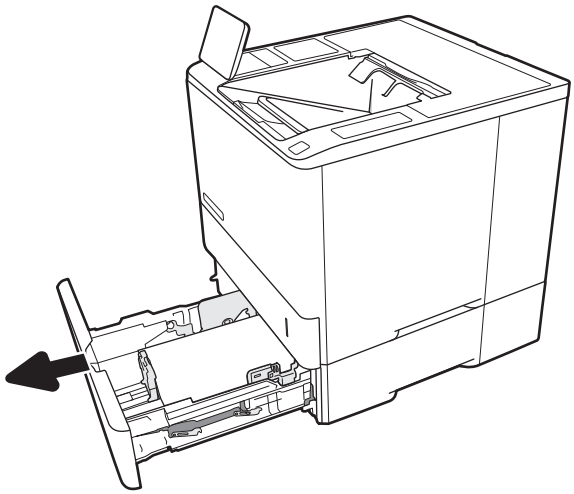
1. If jammed paper is visible in Tray 1, clear the jam by gently pulling the paper straight out.



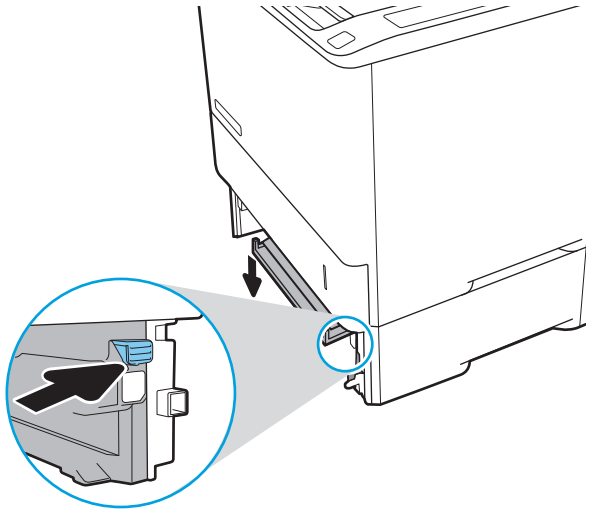
2. Close Tray 1.



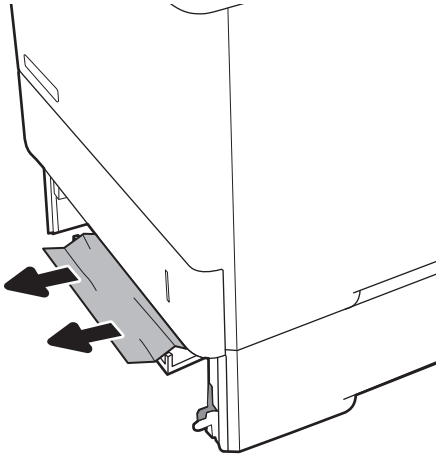
3. Pull Tray 2 out of the printer.



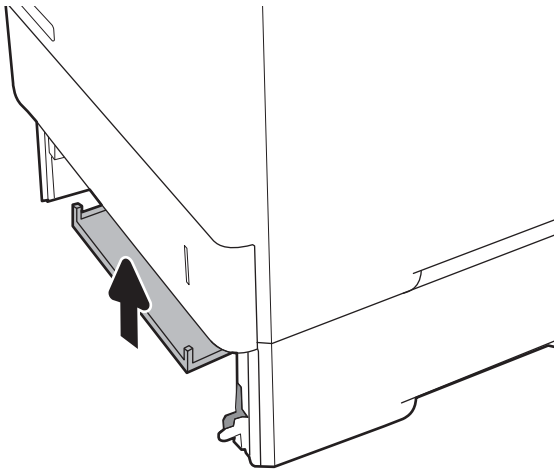
4. Lower the jam plate in the Tray 2 opening.



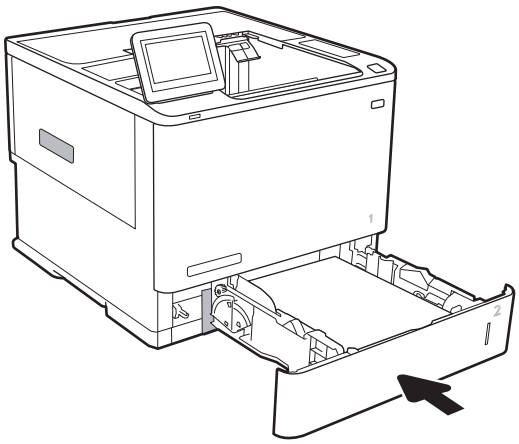
5. Pull any jammed paper straight out.



6. Raise the jam plate back into position.



7. Install Tray 2 in the printer.



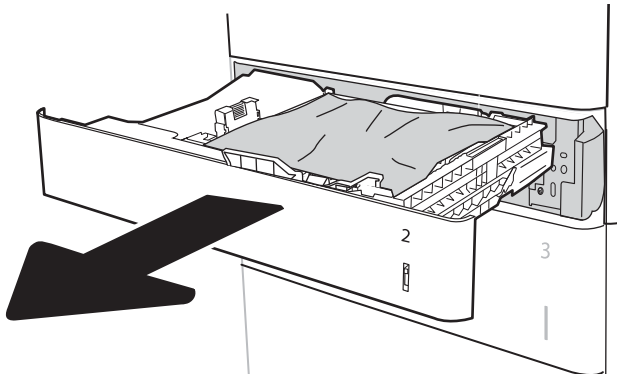
Clear paper jams in Trays 2, 3, 4, or 5 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

The following information describes how to clear a paper jam in Trays 2, 3, 4, or 5. When a jam occurs, the control panel displays one of the following messages and an animation that assists in clearing the jam.

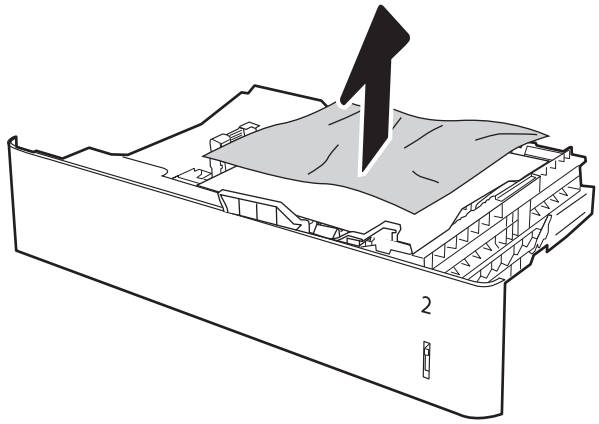
- 13.A2.XX Jam in Tray 2
- 13.A3.XX Jam in Tray 3
- 13.A4.XX Jam in Tray 4
- 13.A5.XX Jam in Tray 5

NOTE: The following procedure shows Tray 2. The method to clear jams in Trays 3, 4, and 5 is the same.

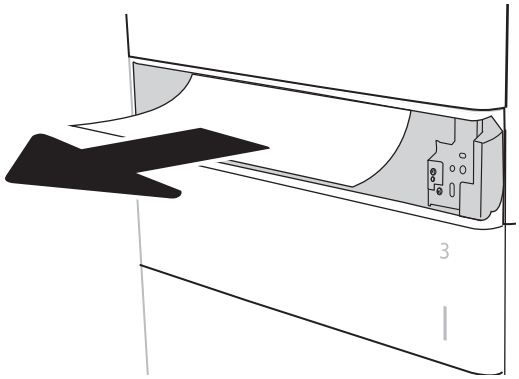
1. Pull the tray completely out of the printer by pulling and lifting it up slightly.



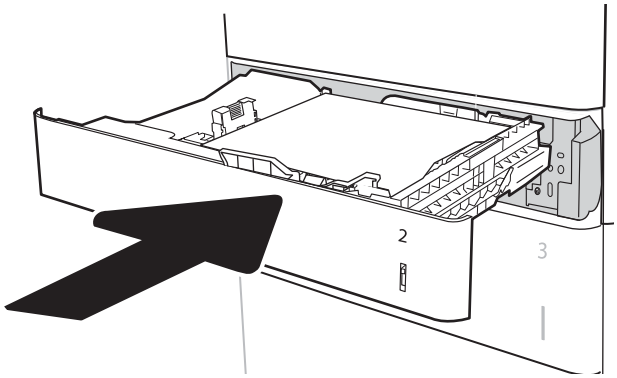
2. Remove any jammed or damaged sheets of paper from the tray.



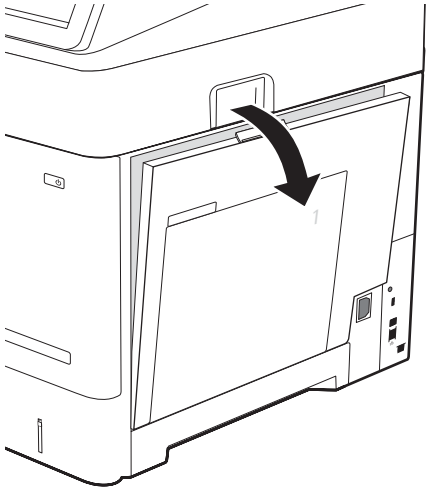
3. Remove any paper from the feed rollers inside the printer.



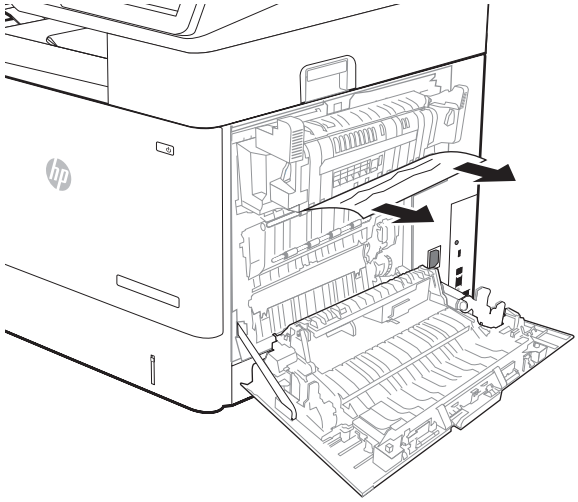
4. Reinsert and close the tray.



5. Open the right door.

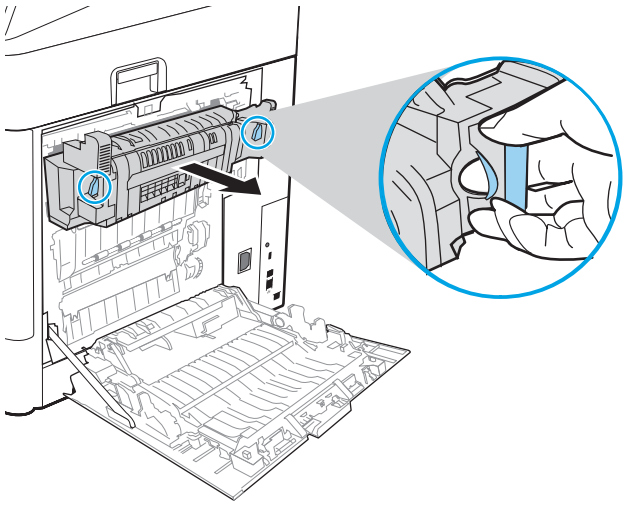


6. Remove any jammed paper.

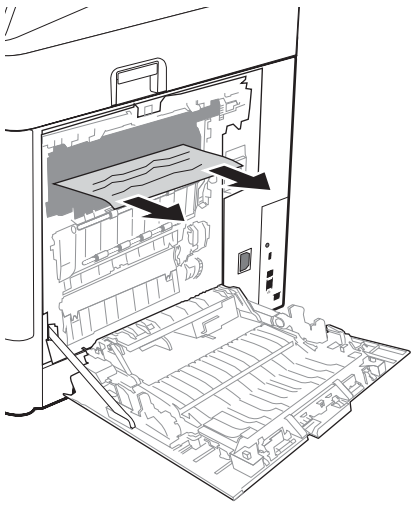


7. Remove the fuser by grabbing the two side latches and pulling the fuser straight out of the printer.

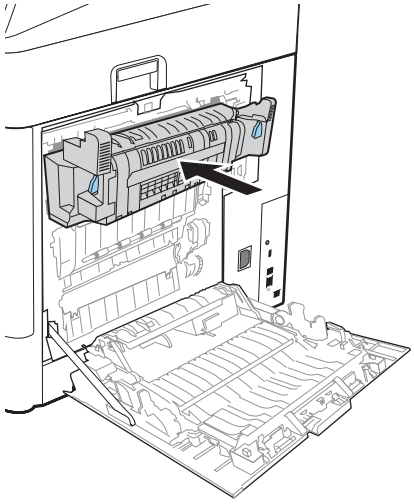
CAUTION: The fuser can be hot while the printer is in use. Wait for the fuser to cool before handling it.



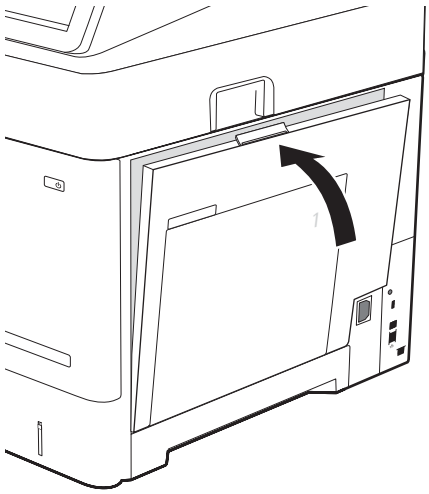
8. Remove any jammed paper from the fuser opening.



9. Reinstall the fuser.



10. Close the right door.



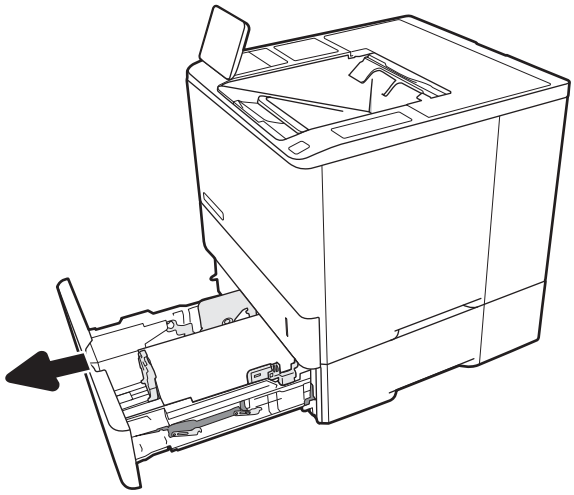
Clear paper jams in Trays 2, 3, or 4 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

The following information describes how to clear a paper jam in Trays 2, 3, 4, or 5. When a jam occurs, the control panel displays one of the following messages and an animation that assists in clearing the jam.

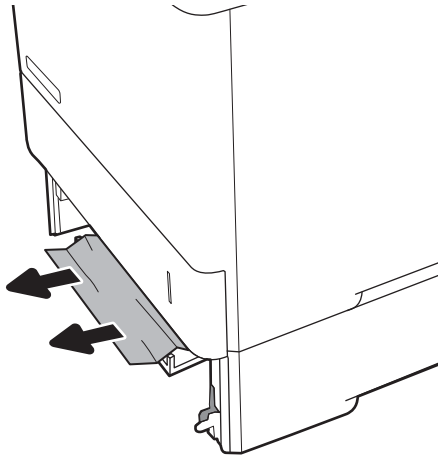
- 13.A2.XX Jam in Tray 2
- 13.A3.XX Jam in Tray 3
- 13.A4.XX Jam in Tray 4
- 13.A5.XX Jam in Tray 5

NOTE: The following procedure shows Tray 2. The method to clear jams in Trays 3, 4, and 5 is the same.

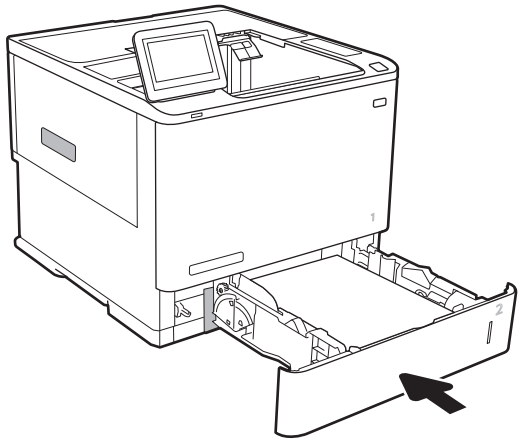
1. Pull the tray completely out of the printer by pulling and lifting it up slightly.



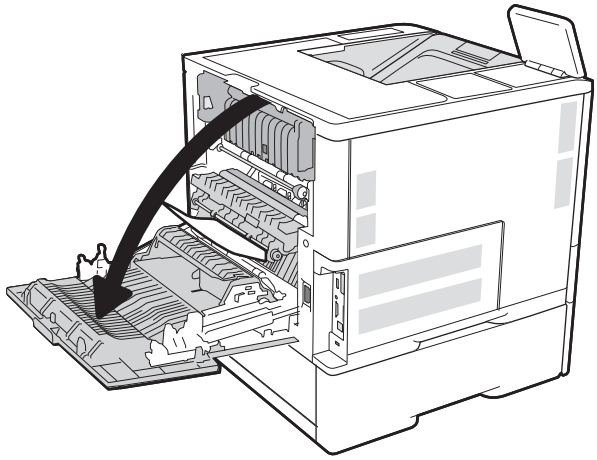
2. Remove any jammed or damaged sheets of paper.



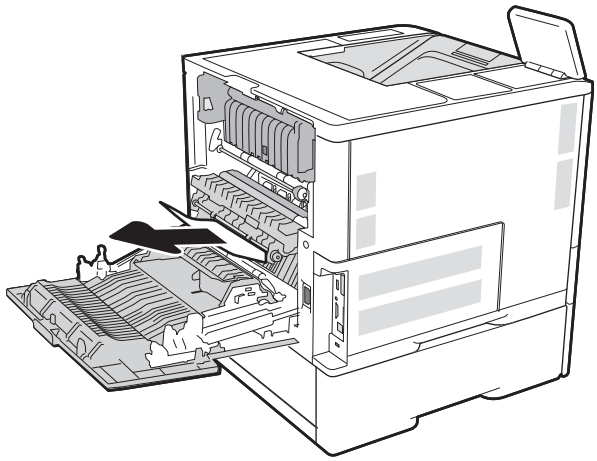
3. Reinsert and close the tray.



4. Open the rear door.

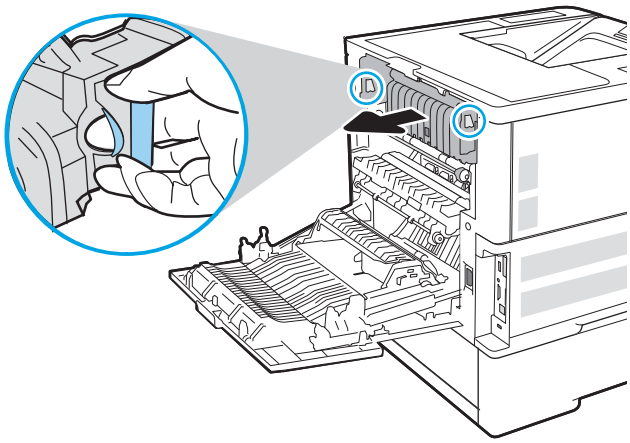


5. Remove any jammed paper.

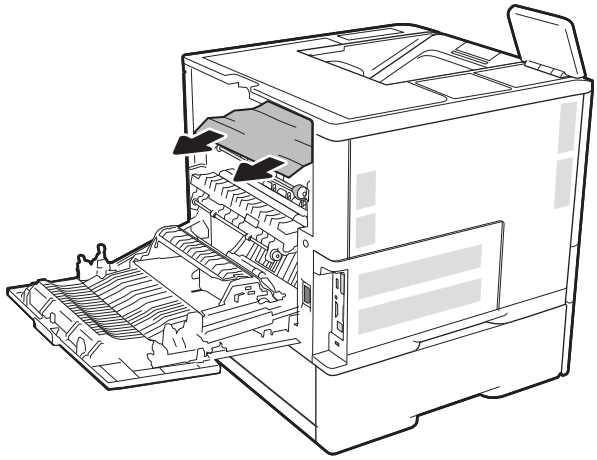


6. Remove the fuser by grabbing the two side latches and pulling the fuser straight out of the printer.

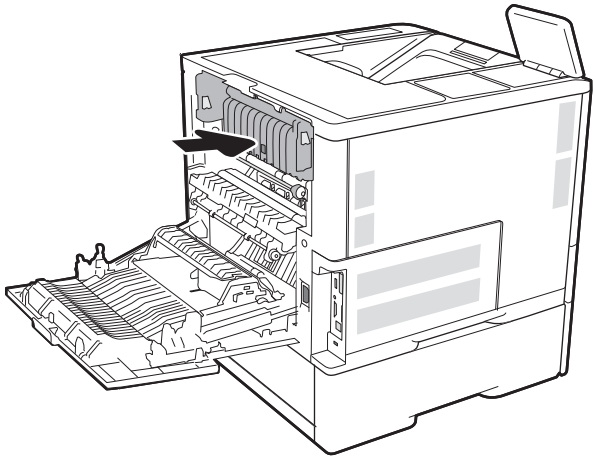
CAUTION: The fuser can be hot while the printer is in use. Wait for the fuser to cool before handling it.



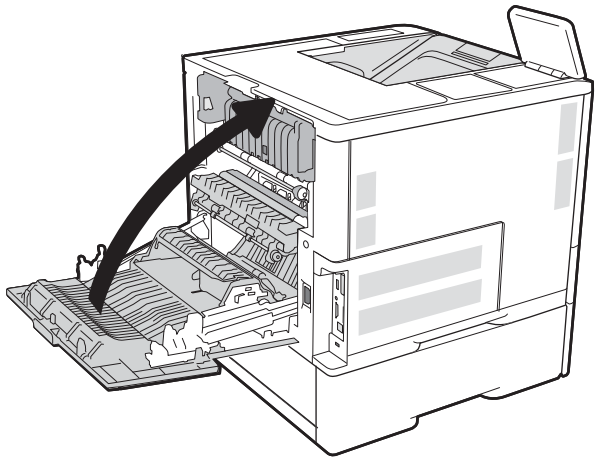
7. Remove any jammed paper from the fuser opening.



8. Reinstall the fuser.



9. Close the rear door

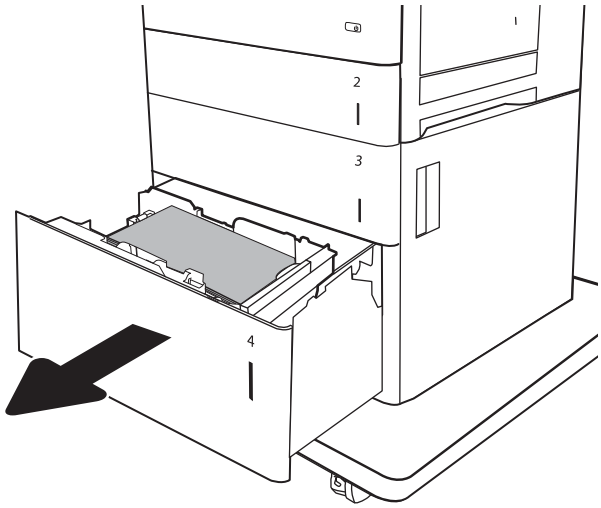


Clear paper jams in the 2,550-sheet high-capacity input tray (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

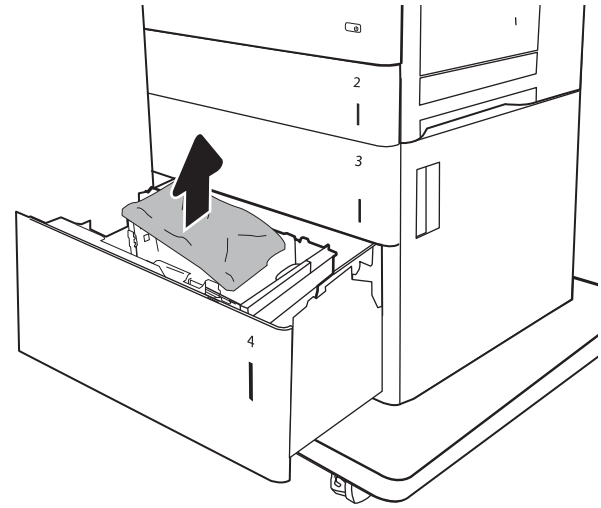
The following information describes how to clear a paper jam in the 2,100-sheet high-capacity tray. When a jam occurs, the control panel displays one of the following messages and an animation that assists in clearing the jam.

- 13.AY.XX Jam in Tray Y, where Y equals the tray number assigned to the HCI
- 13.FF.EE Door Open Jam

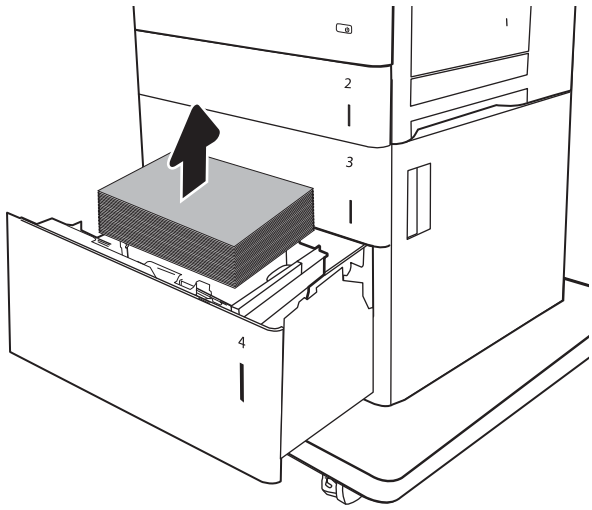
1. Open the 2,100-sheet high-capacity input tray.



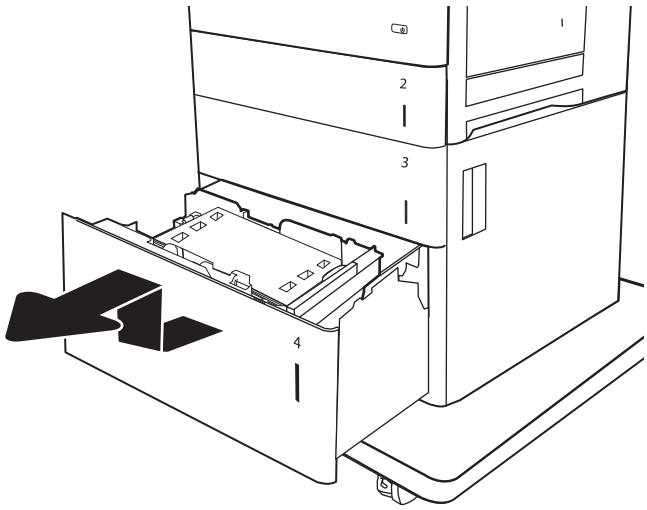
2. Remove and discard any damaged sheets.



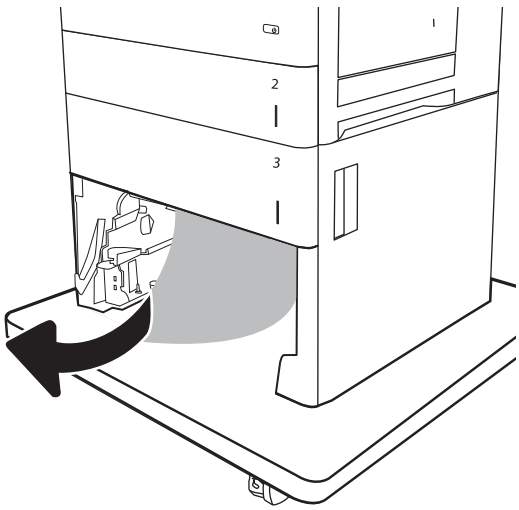
3. Remove the paper from the tray.



4. Lift the tray up and then pull it straight out to remove it.

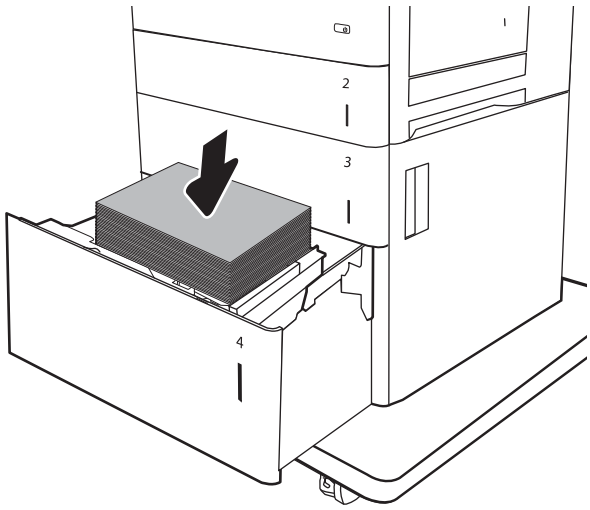


5. If jammed paper is in the feed area, pull it down to remove it.

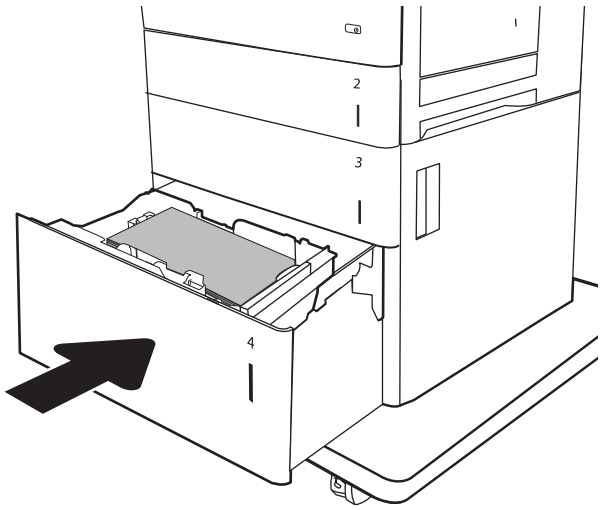


6. Reinstall the tray, and then load full reams of paper into the tray. The tray holds 2,100 sheets of paper.

   NOTE: For best results, load full reams of paper. Avoid dividing reams into smaller sections.



7. Close the tray.

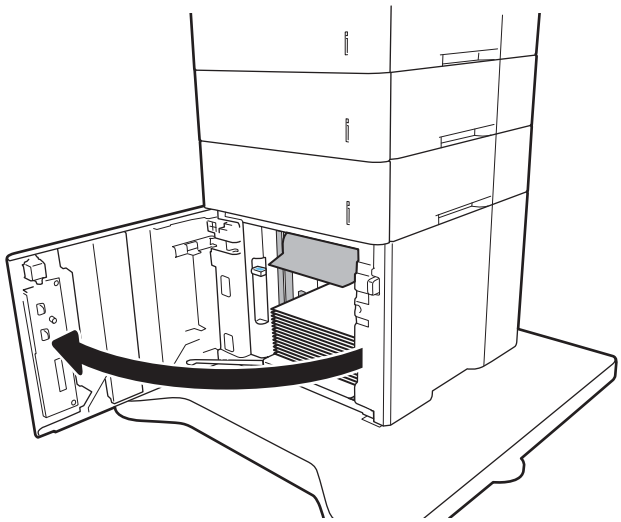


Clear paper jams in the 2,100-sheet high-capacity input tray (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

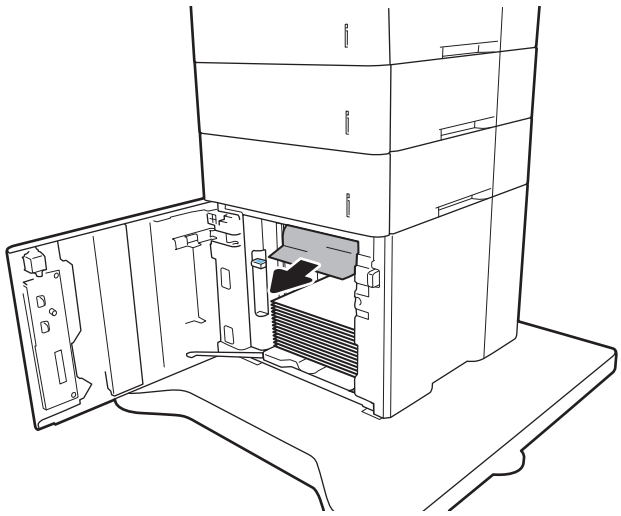
The following information describes how to clear a paper jam in the 2,100-sheet high-capacity tray. When a jam occurs, the control panel displays one of the following messages and an animation that assists in clearing the jam.

- 13.AY.XX Jam in Tray Y, where Y equals the tray number assigned to the HCI
- 13.FF.EE Door Open Jam

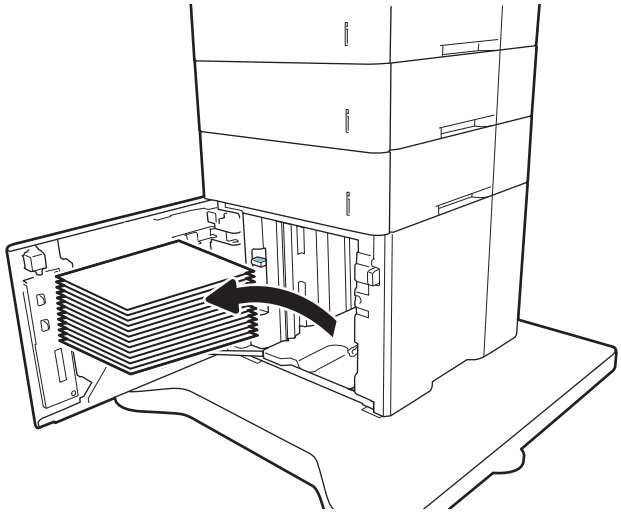
1. Open the 2,100-sheet high-capacity input tray.



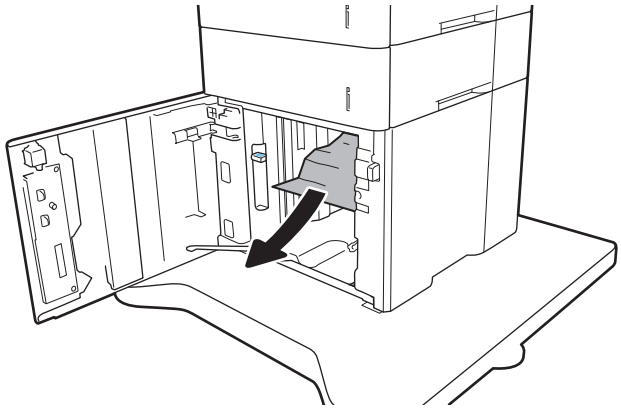
2. Remove and discard any damaged sheets.



3. Remove the paper from the tray.

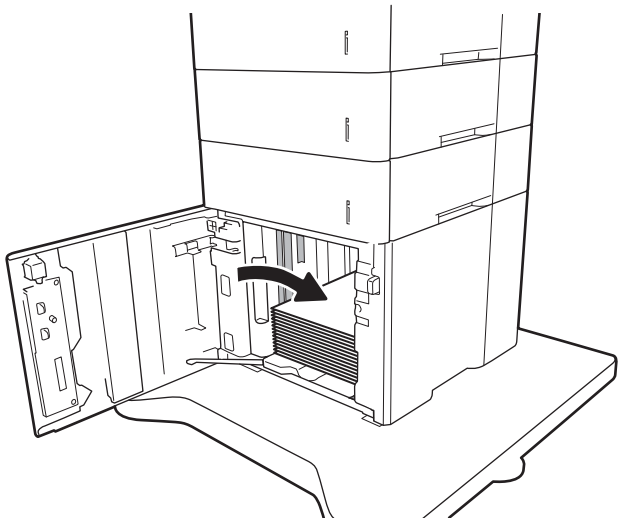


4. If jammed paper is in the feed area, pull it down to remove it.

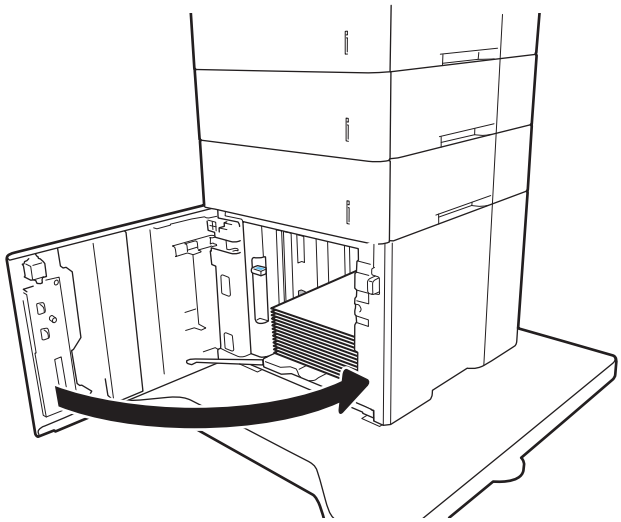


5. Load full reams of paper into the HCI. The tray holds 2,100 sheets of paper.

   NOTE: For best results, load full reams of paper. Avoid dividing reams into smaller sections.



6. Close the HCI door.



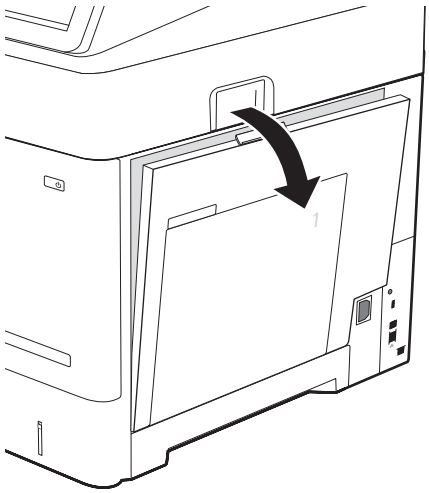
Clear paper jams in the right door and fuser area (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

Use the following procedure to clear paper jams in the right door, duplexer, and fuser area. When a jam occurs, the control panel displays one of the following messages and an animation that assists in clearing the jam.

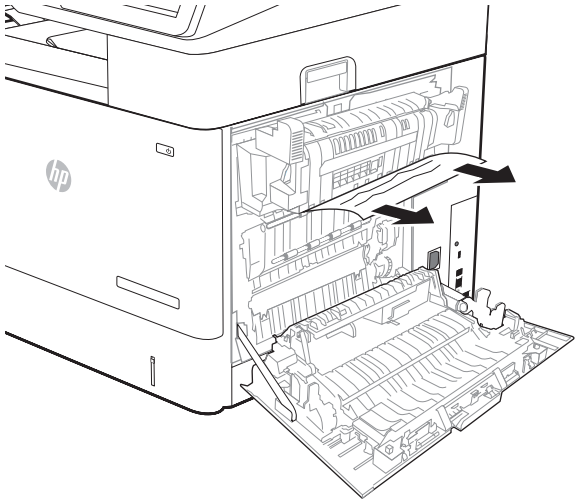
- 13.B2.XX Jam in <cover or door>
- 13.B9.XX Jam in Fuser
- 13.FF.EE Door Open Jam

⚠ CAUTION: The fuser is hot while the printer is in use. Wait for the fuser to cool before clearing jams.

1. Open the right door.

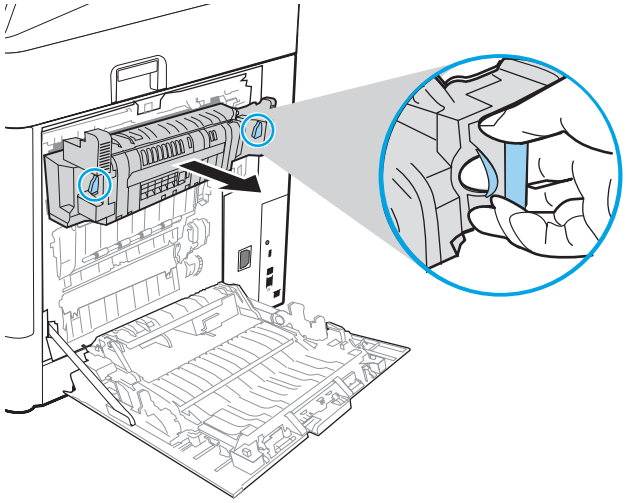


2. Remove any jammed paper.



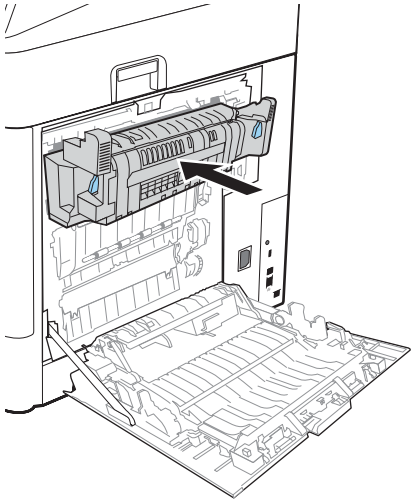
3. Remove the fuser by grabbing the two side latches and pulling the fuser straight out of the printer.

CAUTION: The fuser can be hot while the printer is in use. Wait for the fuser to cool before handling it.

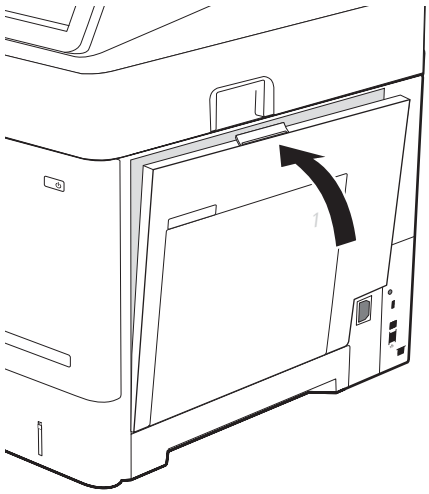


4. Remove any jammed paper from the fuser opening.

5. Reinstall the fuser.



6. Close the right door.



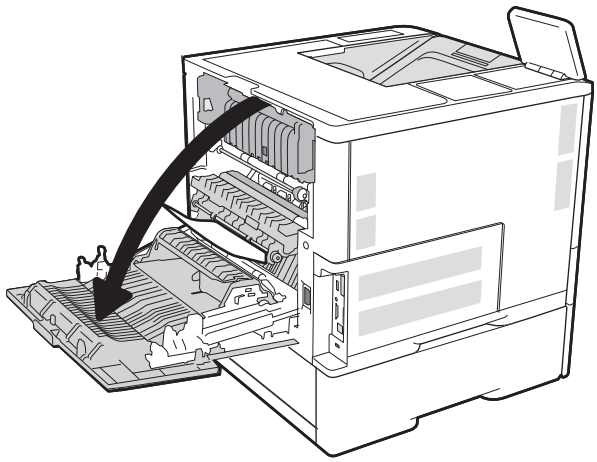
Clear paper jams in the rear door and fuser area (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

Use the following procedure to clear paper jams in the rear door and fuser area. When a jam occurs, the control panel displays one of the following messages and an animation that assists in clearing the jam.

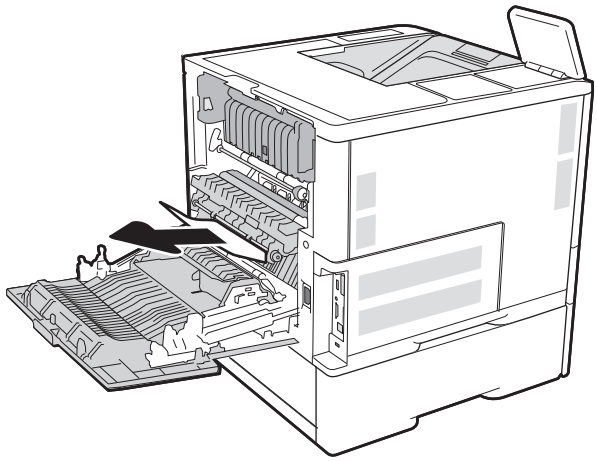
- 13.B2.XX Jam in <cover or door>
- 13.B9.XX Jam in Fuser

⚠ CAUTION: The fuser is hot while the printer is in use. Wait for the fuser to cool before clearing jams.

1. Open the rear door.

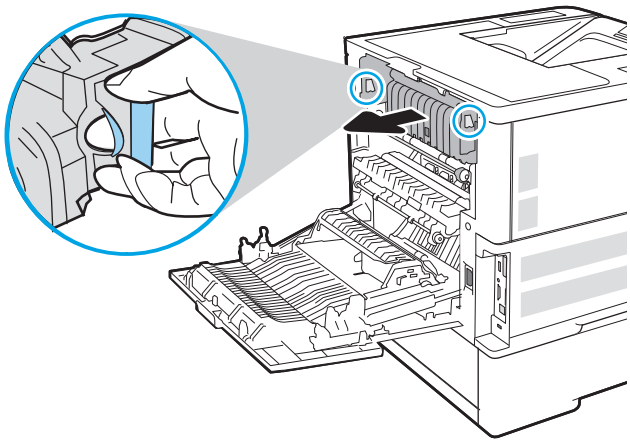


2. Remove any jammed paper.

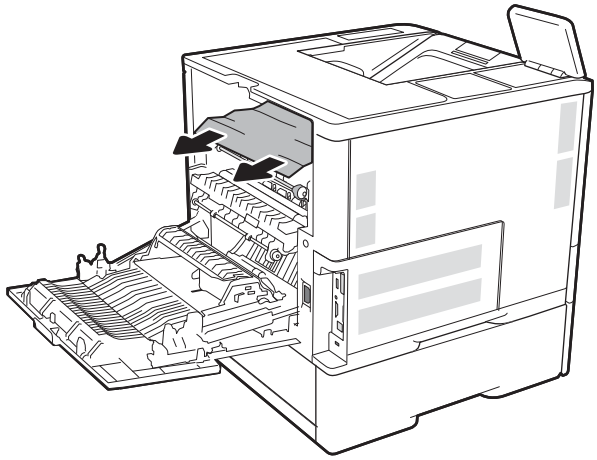


3. Remove the fuser by grabbing the two side latches and pulling the fuser straight out of the printer.

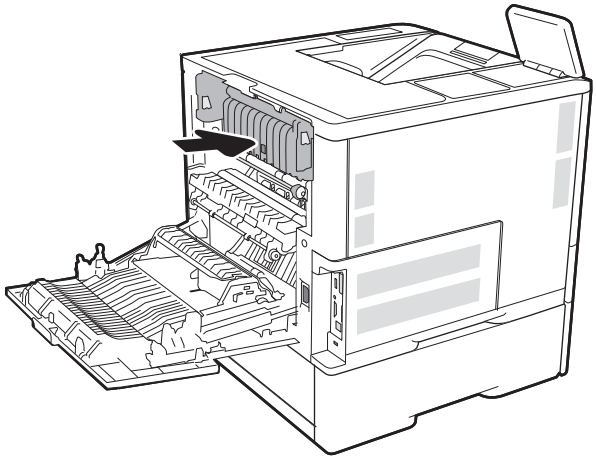
CAUTION: The fuser can be hot while the printer is in use. Wait for the fuser to cool before handling it.



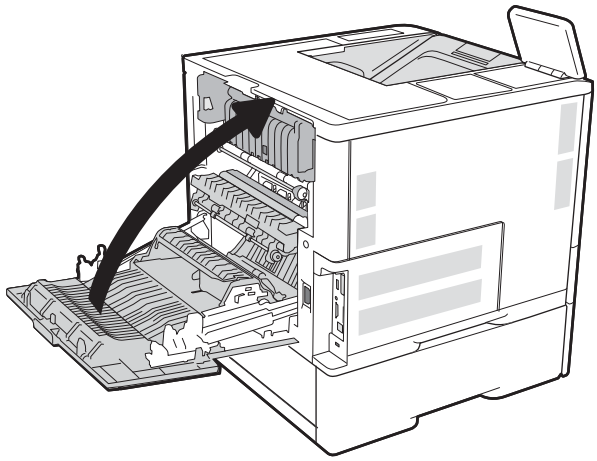
4. Remove any jammed paper from the fuser opening.



5. Reinstall the fuser.



6. Close the rear door

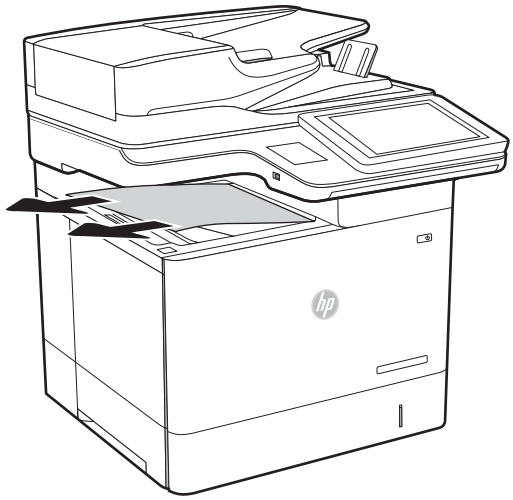


Clear paper jams in the output bin (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

The following information describes how to clear a paper jam in the output bin. When a jam occurs, the control panel displays the following message and an animation that assists in clearing the jam.

- 13.E1.XX Jam at Standard Output Bin

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

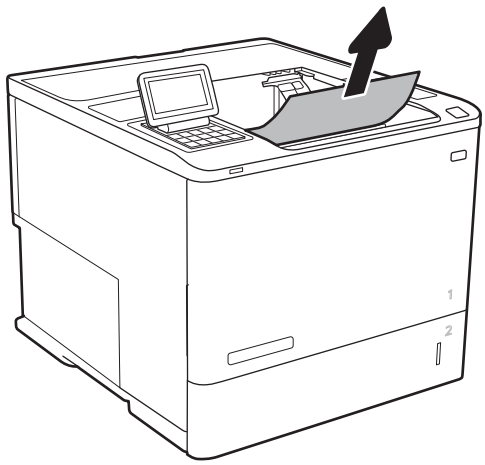


Clear paper jams in the output bin (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

The following information describes how to clear a paper jam in the output bin. When a jam occurs, the control panel displays the following message and an animation that assists in clearing the jam.

- 13.E1.XX Jam at Standard Output Bin

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

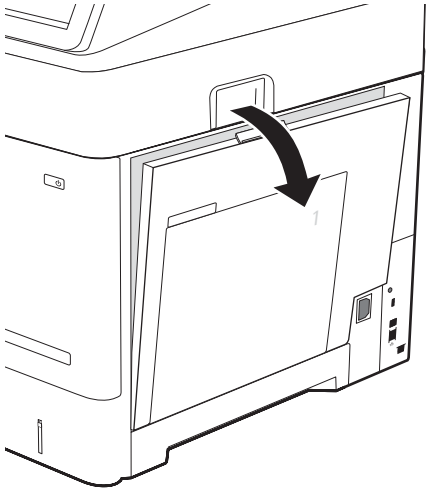


Clear paper jams in the duplexer (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

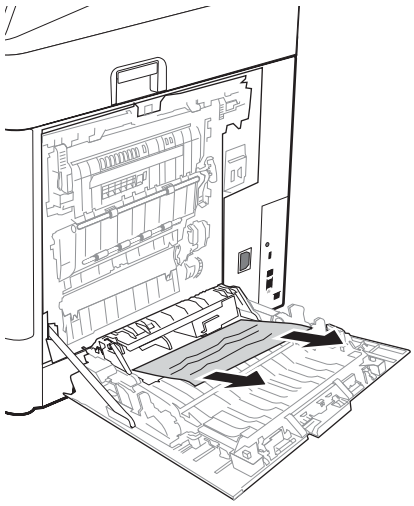
Use the following procedure to check for paper in all possible jam locations in the automatic duplexer. When a jam occurs, the control panel displays one of the following error messages and an animation that assists in clearing the jam.

- 13.B2.XX Jam in <cover or door>
- 13.CX.XX Jam in Duplexer
- 13.DX.XX Jam in Duplexer

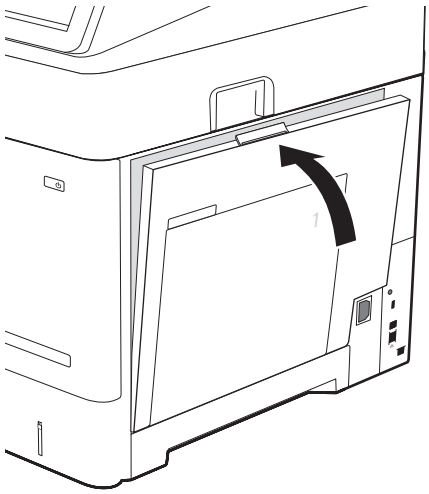
1. Open the right door.



2. Remove any jammed paper.



3. Close the right door

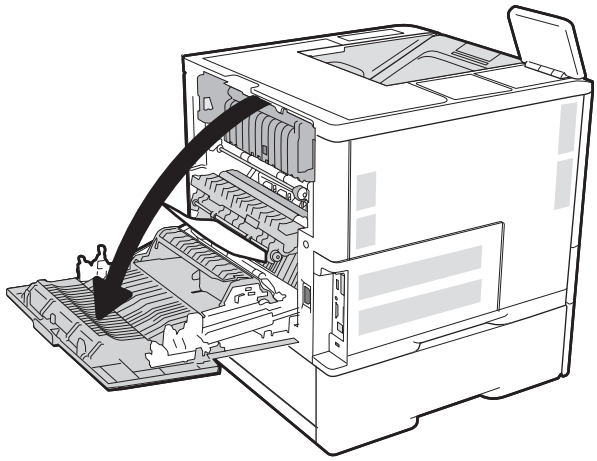


Clear paper jams in the duplexer (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

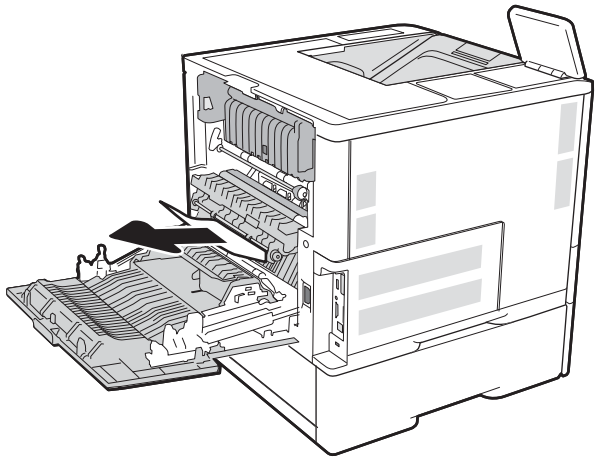
Use the following procedure to check for paper in all possible jam locations in the automatic duplexer. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

- 13.CX.XX Jam in Duplexer
- 13.DX.XX Jam in Duplexer
- 13.B2.XX Jam in <cover or door>

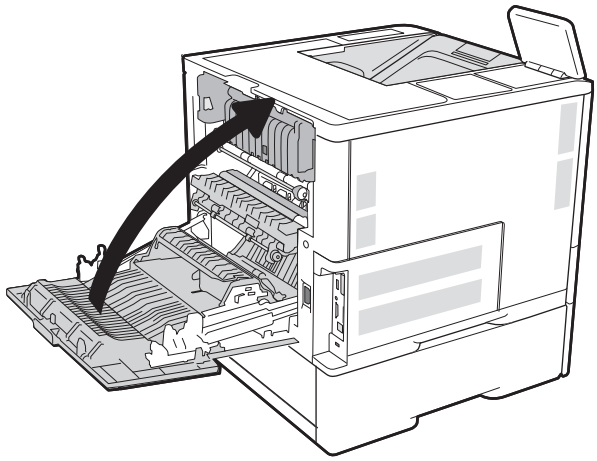
1. Open the rear door.



2. Remove any jammed paper.



3. Close the rear door

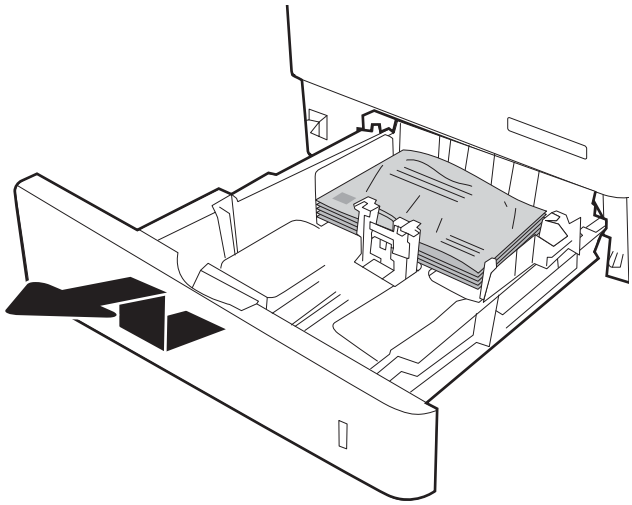


Clear paper jams in the envelope feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

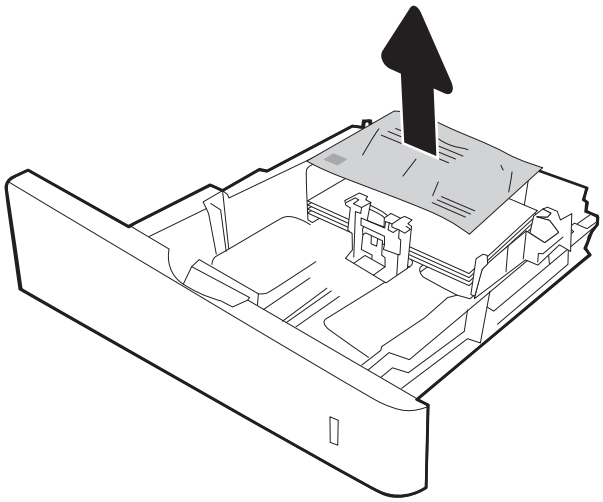
Use the following procedure to clear jams in the envelope feeder. When a jam occurs, the control panel displays one of the following messages and an animation that assists in clearing the jam.

- 13.A3.XX Jam in Tray 3
- 13.A4.XX Jam in Tray 4

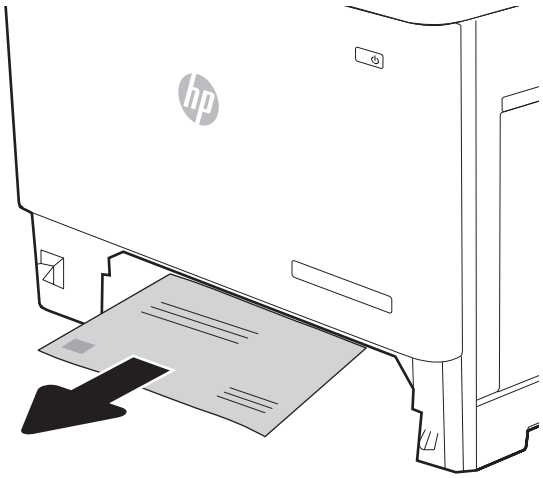
1. Pull the tray completely out of the printer by pulling and lifting it up slightly.



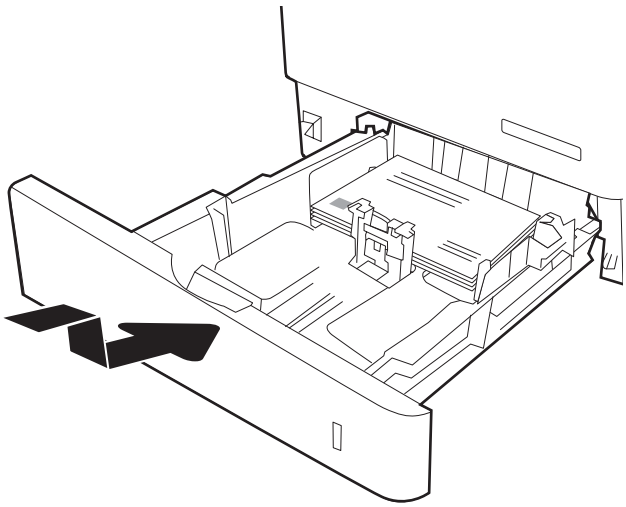
2. Remove any jammed or damaged envelopes from the tray.



3. Remove any envelopes from the feed rollers inside the printer.



4. Reinsert and close the tray.

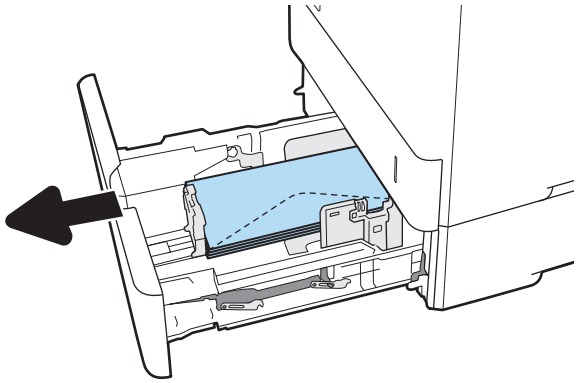


Clear paper jams in the envelope feeder (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

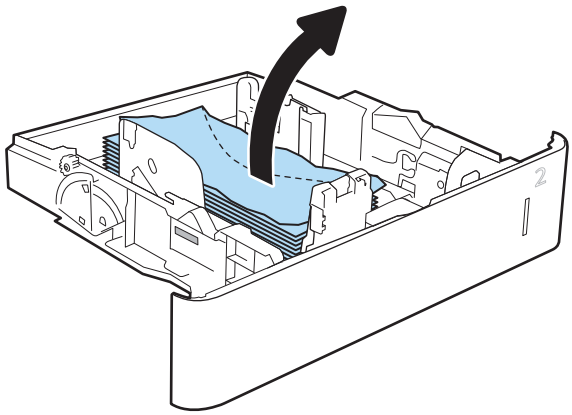
Use the following procedure to clear jams in the envelope feeder. When a jam occurs, the control panel displays one of the following messages and an animation that assists in clearing the jam.

- 13.A3.XX Jam in Tray 3
- 13.A4.XX Jam in Tray 4

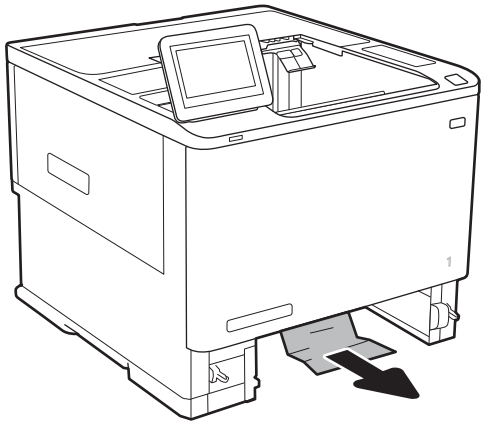
1. Pull the tray completely out of the printer by pulling and lifting it up slightly.



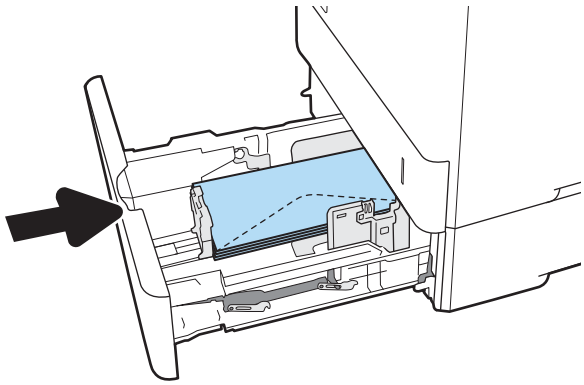
2. Remove any jammed or damaged envelopes from the tray.



3. Remove any envelopes from the feed rollers inside the printer.



4. Reinsert and close the tray.

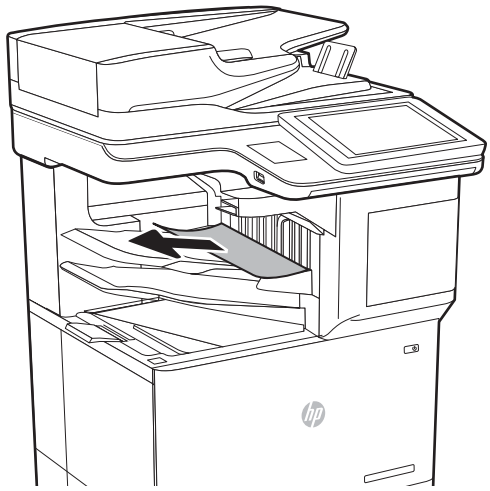


Clear paper jams in the HP Stapling Mailbox (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

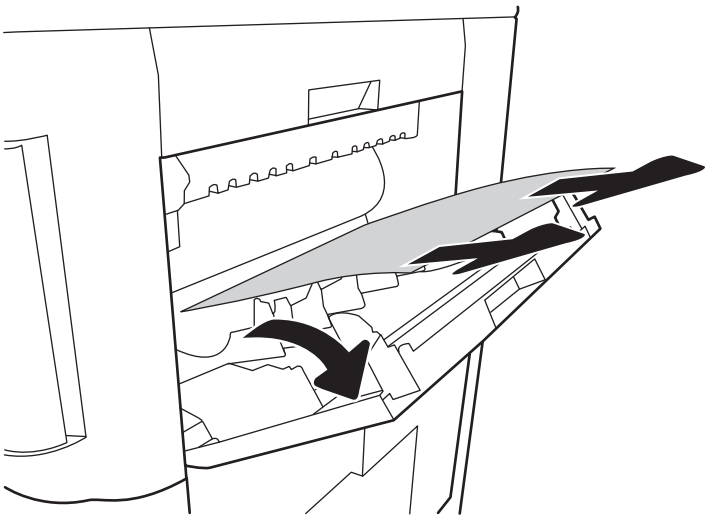
The following information describes how to clear a paper jam in the HP Stapling Mailbox. When a jam occurs, the control panel displays one of the following error messages and an animation that assists in clearing the jam.

- 13.E1.XX Jam at Standard Output Bin
- 13.70.XX MBM Jam
- 13.8X Stapler/Stacker Jam

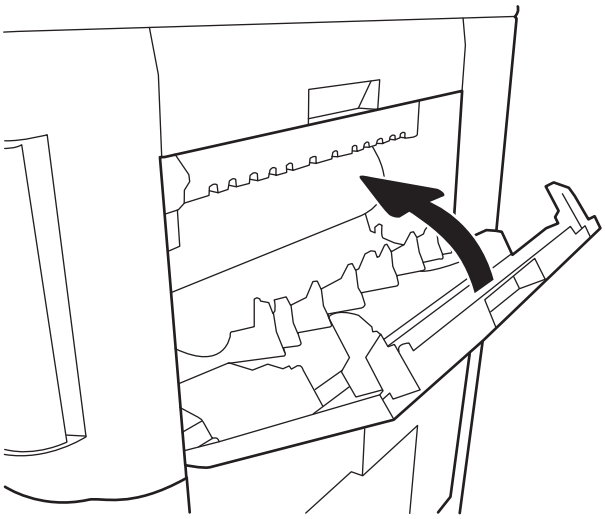
1. Remove any jammed paper from the HP Stapling Mailbox bins.



2. Open the jam-access door on the back side of the HP Stapling Mailbox. If jammed paper is visible inside the jam-access door, pull it straight out to remove it.



3. Close the HP Stapling Mailbox jam access door.



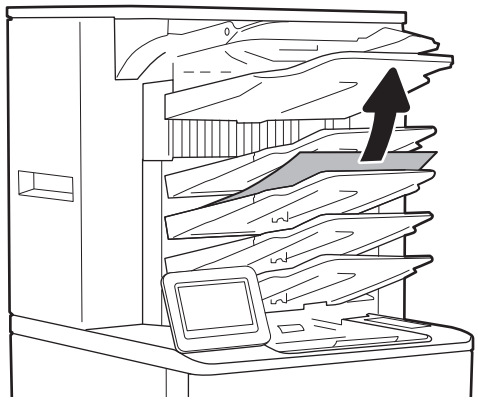
Clear paper jams in the HP Stapling Mailbox accessory (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

The following information describes how to clear a paper jam in the HP Stapling Mailbox. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

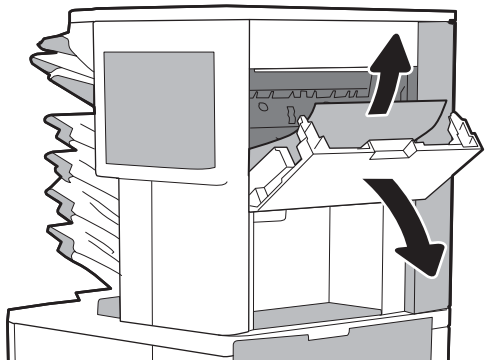
- 13.E1.XX Jam at Standard Output Bin

  13.70.XX MBM Jam

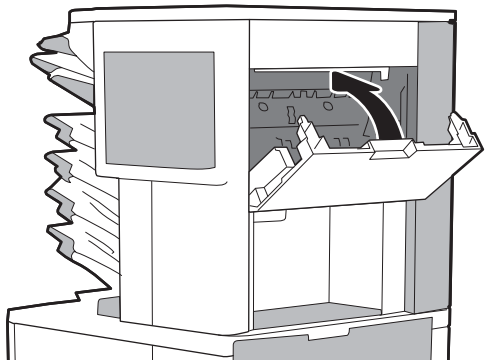
1. Remove any jammed paper from the HP Stapling Mailbox output bins.



2. Open the jam-access door on the back side of the stapler/stacker. If jammed paper is visible inside the jam-access door, pull it straight up to remove it.



3. Close the HP Stapling Mailbox jam access door.

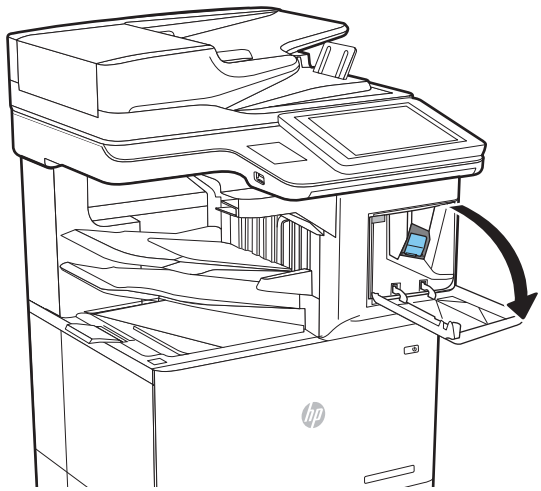


Clear staple jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

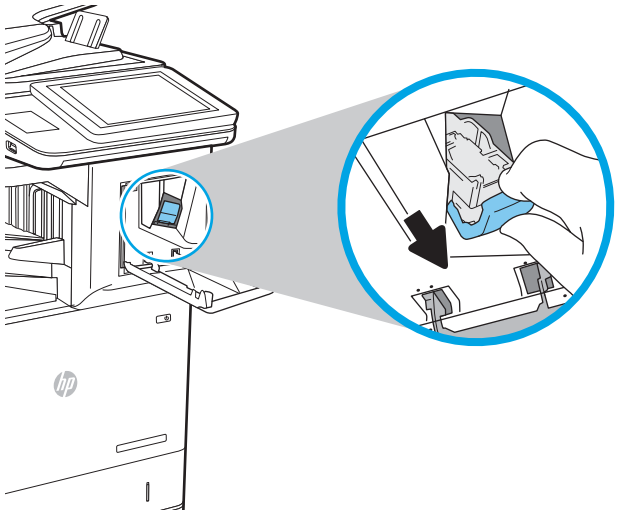
The following information describes how to clear a staple jam in the HP Stapling Mailbox. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

- 13.8X.XX – Stapler/Stacker Jam

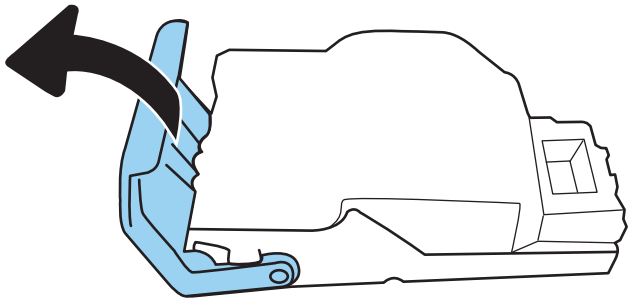
1. Open the stapler door.



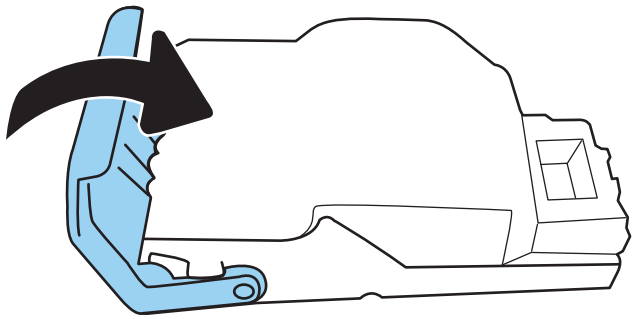
2. Pull the colored handle on the staple cartridge, and then pull the staple cartridge straight out.



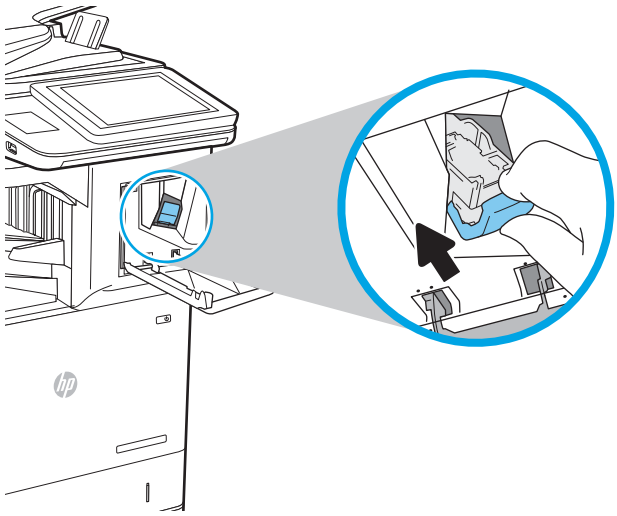
3. Lift up on the small lever at the back of the staple cartridge.



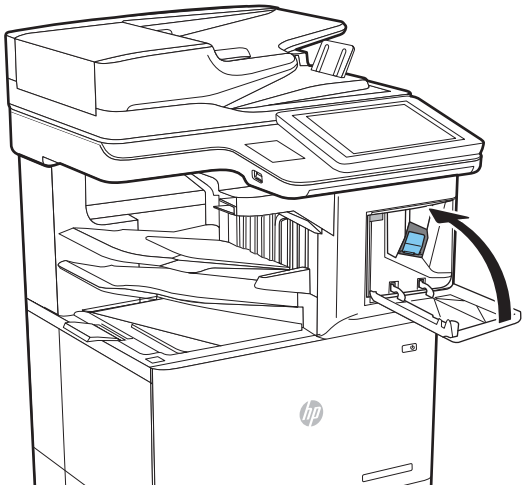
4. Remove the jammed staples.
5. Close the lever at the back of the staple cartridge. Be sure that it snaps into place.



6. Insert the staple cartridge into the stapler and push on the colored handle until it snaps into place.



7. Close the stapler door.

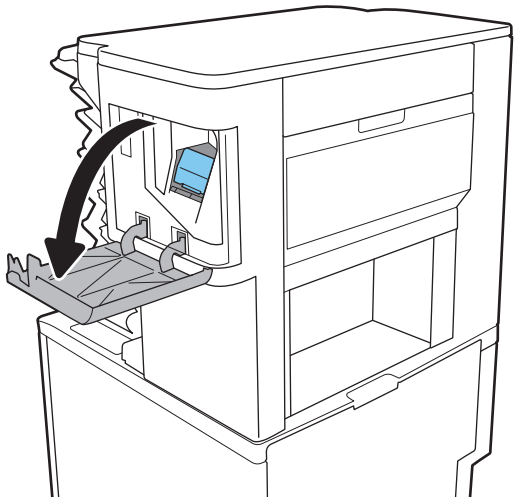


Clear staple jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

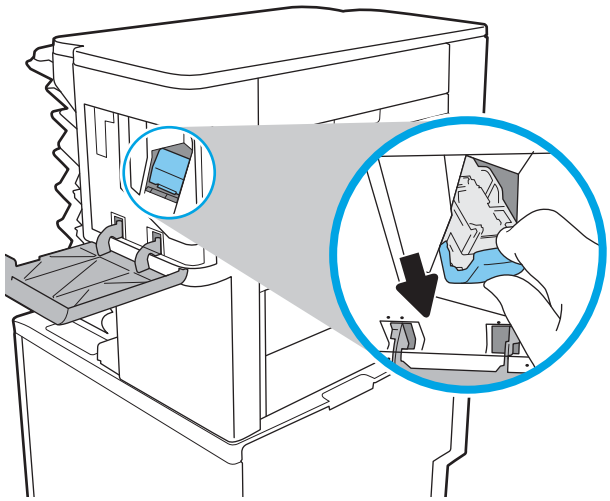
The following information describes how to clear a staple jam in the HP Stapling Mailbox. When a jam occurs, the control panel displays an animation that assists in clearing the jam.

- 13.8X.XX – Stapler/Stacker Jam

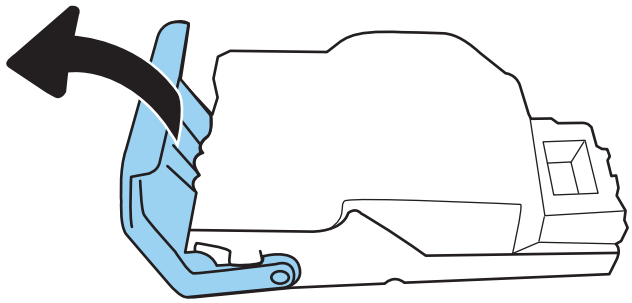
1. Open the stapler door.



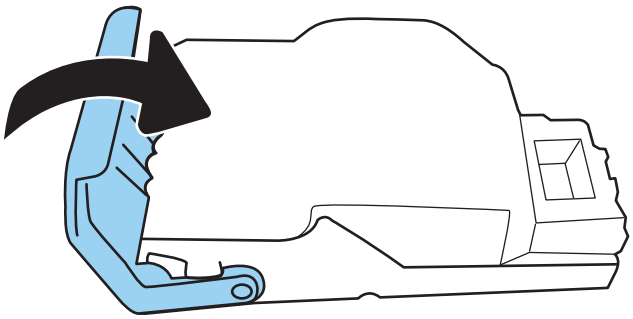
2. Pull the colored handle on the staple cartridge, and then pull the staple cartridge straight out.



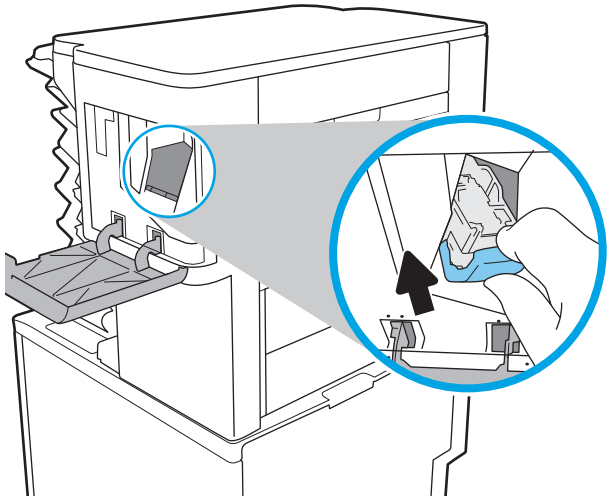
3. Lift up on the small lever at the back of the staple cartridge.



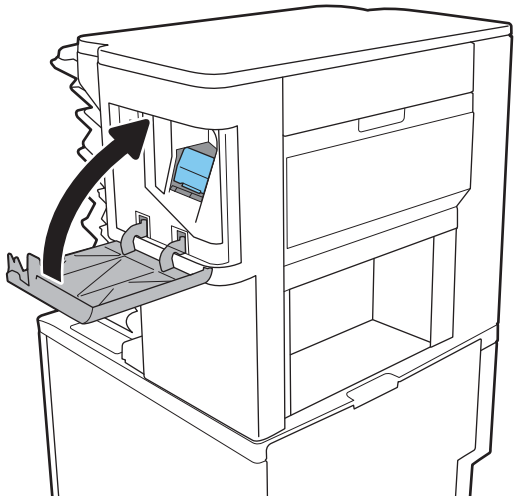
4. Remove the jammed staples.
5. Close the lever at the back of the staple cartridge. Be sure that it snaps into place.



6. Insert the staple cartridge into the stapler and push the colored handle until it snaps into place.



7. Close the stapler door.



Change jam recovery

This printer provides a jam recovery feature that reprints jammed pages.

Change jam recovery from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and then touch the Settings button.
2. Open the following menus:
   - General
   - Jam Recovery
3. Select one of the following options:
   - Automatic — The printer attempts to reprint jammed pages when sufficient memory is available. This is the default setting.
   - Off — The printer does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.

     NOTE: Some pages can be lost if the printer runs out of paper while printing a duplex job with Jam Recovery set to Off.
   - On — The printer always reprints jammed pages. Additional memory is allocated to store the last few pages printed.

Change jam recovery from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Settings menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the General menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Jam Recovery menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to an option, and then press the OK button to select it.
   - Automatic — The printer attempts to reprint jammed pages when sufficient memory is available. This is the default setting.
   - Off — The printer does not attempt to reprint jammed pages. Because no memory is used to store the most recent pages, performance is optimal.

     NOTE: Some pages can be lost if the printer runs out of paper while printing a duplex job with Jam Recovery set to Off.
   - On — The printer always reprints jammed pages. Additional memory is allocated to store the last few pages printed.

Solve performance problems

NOTE: Tray 1 and Tray 2 are optimal for paper pickup when using special paper or media other than 20lb plain paper. For Tray 1 and Tray 2 the printer increases the number of attempts to pickup a page, which increases the reliability of successfully picking the page from the tray and decreases the possibility of a mis-pick jam.

HP recommends using Tray 1 or Tray 2 if the printer is experiencing excessive or reoccurring jams from trays other than Tray 1 and Tray 2, or for print jobs that require media other than 20lb plain paper.

- Factors affecting print performance
- Print speeds
- The printer does not print or it prints slowly
- The printer prints slowly

Factors affecting print performance

Table 2-86 Solve performance problems

Problem	Cause	Solution
Pages print but are totally blank.	The document might contain blank pages.	Check the original document to see if content is present on all of the pages.
	The printer might be malfunctioning.	To check the printer, print a Configuration page.
	Make sure that the printer is not feeding multiple pages (especially if very thin paper is used).	Make sure that the paper meets HP specifications for this printer. For a complete list of specific HP-brand paper that this printer supports, go to www.hp.com/support/ljM607, www.hp.com/support/ljM608, www.hp.com/support/ljM609, www.hp.com/support/ljM610, www.hp.com/support/ljM611, www.hp.com/support/ljM612, www.hp.com/support/ljE60055, www.hp.com/support/ljE60065, www.hp.com/support/ljE60075, www.hp.com/support/ljE60155, www.hp.com/support/ljE60165, www.hp.com/support/ljE60175, www.hp.com/support/ljM631MFP, www.hp.com/support/ljM632MFP, www.hp.com/support/ljM633MFP, www.hp.com/support/ljM634MFP, www.hp.com/support/ljM635MFP, www.hp.com/support/ljM636MFP, www.hp.com/support/ljE62555MFP, www.hp.com/support/ljE62565MFP, www.hp.com/support/ljE62575MFP, www.hp.com/support/ljE62655MFP, www.hp.com/support/ljE62665MFP, www.hp.com/support/ljE62675MFP.
Pages print very slowly. NOTE: Some software programs process print jobs slowly.	Heavier paper types can slow the print job.	Print on a different type of paper.
	Complex pages can print slowly.	Proper fusing might require a slower print speed to ensure the best print quality.

Table 2-86 Solve performance problems (continued)

Problem	Cause	Solution
	Large batches, narrow paper, and special paper such as gloss, transparency, cardstock, and HP Tough Paper can slow the print job.	Print in smaller batches, on a different type of paper, or on a different size of paper.
Pages did not print.	The printer might not be pulling paper correctly.	Make sure paper is loaded in the tray correctly.
	The paper is jamming in the printer.	Clear the jam.
	The USB cable might be defective or incorrectly connected.	• Disconnect the USB cable at both ends and reconnect it. • Try printing a job that has printed in the past. • Try using a different USB cable.
	Other devices are running on the host computer.	The printer might not share a USB port. If an external hard drive or network switchbox is connected to the same port as the printer, the other device might be interfering with the printer. To connect and use the printer, disconnect the other device or use two USB ports on the host computer.
	The print job might not have arrived at the printer.	Check the printer status queue. Also, the Printing message should appear on the control panel display.

Print speeds

Print speed is the number of pages that print in one minute. Print speed depends on different engine-process speeds or operational pauses between printed pages during normal printer operation. Factors that determine the print speed of the printer include the following:

- Page formatting time

  The printer must pause for each page to be formatted before it prints. Complex pages take more time to format, resulting in reduced print speed. However, most jobs print at full engine speed.

- Media size

  Legal-size media reduces print speed because it is longer than the standard Letter- or A4–size media. A reduce print speed is used when printing on narrow media to prevent the edges of the fuser from overheating.

- Media mode

  Some media types require a reduced print speed to achieve maximum print quality on that media. For example, glossy, heavy, and specialty media (for example, envelopes or photos) require a reduced print speed. To maximize the print speed for special media types, make sure that the correct media type in the print driver is selected.

- Printer temperature

  To prevent printer damage, print speed is reduced if the printer reaches a specific internal temperature (thermal slow down). The starting temperature of the printer, ambient environment temperature, and the

print job size effect the number of pages that can be printed before the printer reduces the print speed. Thermal slow down reduces print speed by printing four pages and then pausing for an amount of time before printing continues.

- Other print speed reduction factors

  Other factors (especially during large print jobs) that can cause reduced print speeds include:

  – Density control sequence; occurs every 150 pages and takes about 120 seconds

The printer does not print or it prints slowly

The printer does not print

If the printer does not print at all, try the following solutions.

1. Make sure the printer is turned on and that the control panel indicates it is ready.
   - If the control panel does not indicate the printer is ready, turn the printer off and then on again.
   - If the control panel indicates the printer is ready, try sending the job again.
2. If the control panel indicates the printer has an error, resolve the error and then try sending the job again.
3. Make sure the cables are all connected correctly. If the printer is connected to a network, check the following items:
   - Check the bottom LED next to the network connection on the printer. If the network is active, the light is green.
   - Make sure that a network cable and not a phone cord is used to connect to the network.
   - Make sure the network router, hub, or switch is turned on and that it is working correctly.
4. Install the HP software for the printer. Using generic printer drivers can cause delays clearing jobs from the print queue.
5. From the list of printers on your computer, right-click the name of this product, click **Properties**, and open the **Ports** tab.
   - If a network cable is used to connect to the network, make sure the printer name listed on the **Ports** tab matches the one on the printer configuration page.
   - If a USB cable is used, and the printer is connected to a wireless network, make sure the box is checked next to **Virtual printer port for USB**.
6. If a personal firewall system on the computer is used, it might be blocking communication with the printer. Try temporarily disabling the firewall to see if it is the source of the problem.
7. If the host computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.

The printer prints slowly

The printer prints slowly

If the printer prints, but it seems slow, try the following solutions.

1. Make sure the computer meets the minimum specifications for this printer. For a list of specifications, go to this Web site: www.hp.com/support/ljM607, www.hp.com/support/ljM608, www.hp.com/support/ljM609, www.hp.com/support/ljM610, www.hp.com/support/ljM611, www.hp.com/support/ljM612, www.hp.com/support/ljE60055, www.hp.com/support/ljE60065, www.hp.com/support/ljE60075, www.hp.com/support/ljE60155, www.hp.com/support/ljE60165, www.hp.com/support/ljE60175, www.hp.com/support/ljM631MFP, www.hp.com/support/ljM632MFP, www.hp.com/support/ljM633MFP, www.hp.com/support/ljM634MFP, www.hp.com/support/ljM635MFP, www.hp.com/support/ljM636MFP, www.hp.com/support/ljE62555MFP, www.hp.com/support/ljE62565MFP, www.hp.com/support/ljE62575MFP, www.hp.com/support/ljE62655MFP, www.hp.com/support/ljE62665MFP, www.hp.com/support/ljE62675MFP.
2. When the printer is configured to print on some paper types, such as heavy paper, the printer prints more slowly so it can correctly fuse the toner to the paper. If the paper type setting is not correct for the type of paper you are using, change the setting to the correct paper type.
3. If the host computer or the printer is connected to a wireless network, low signal quality or interference might be delaying print jobs.

Solve connectivity problems

- Solve wired network problems
- Solve wireless network problems

Solve wired network problems

Introduction

Certain types of problems can indicate there is a network communication problem. These problems include the following issues:

- The periodic loss of ability to communicate with the printer
- The printer cannot be found during driver installation
- A periodic failure to print

NOTE: If you have been experiencing intermittent loss of network productivity, first update the printer firmware. For instructions on how to update the printer firmware, go to http://support.hp.com, search for your printer, and then search on "update the firmware."

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

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

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

Poor physical connection

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

The computer is unable to communicate with the printer

1. Test network communication by pinging the network.

   a. Open a command-line prompt on your computer.

- For Windows, click **Start**, click **Run**, type `cmd`, and then press Enter.
- For OS X, go to **Applications**, then **Utilities**, and open **Terminal**.

b. Type `ping` followed by the IP address for your printer.

c. If the window displays round-trip times, the network is working.

2. If the ping command failed, verify that the network hubs are on, and then verify that the network settings, the printer, and the computer are all configured for the same network (also known as subnet).
3. Open the printer properties and click the **Ports** tab. Verify that the current IP address for the printer is selected. The printer IP address is listed on the printer configuration page.
4. If you installed the printer using the HP standard TCP/IP port, select the box labeled **Always print to this printer, even if its IP address changes**.
5. If you installed the printer using a Microsoft standard TCP/IP port, use the printer's hostname instead of the IP address.
6. If the IP address is correct, delete the printer and then add it again.

The printer is using incorrect link and duplex settings for the network

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

New software programs might be causing compatibility problems

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

The computer or workstation might be set up incorrectly

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

The printer is disabled, or other network settings are incorrect

1. Review the printer's configuration/networking pages to check the status of the network settings and protocols.
2. Reconfigure the network settings if necessary.

Solve wireless network problems

- Introduction
- Wireless connectivity checklist
- The printer does not print after the wireless configuration completes
- The printer does not print, and the computer has a third-party firewall installed
- The wireless connection does not work after moving the wireless router or printer
- Cannot connect more computers to the wireless printer
- The wireless printer loses communication when connected to a VPN

- The network does not appear in the wireless networks list
- The wireless network is not functioning
- Reduce interference on a wireless network

Introduction

Use the troubleshooting information to help resolve issues.

NOTE: To determine whether HP NFC and Wi-Fi Direct printing are enabled on your printer, print a configuration page from the printer control panel.

NOTE: If you have been experiencing intermittent loss of network connectivity, first update the printer firmware. For instructions on how to update the printer firmware, go to http://support.hp.com, search for your printer, and then search on "update the firmware."

Wireless connectivity checklist

- For printers that do not support simultaneous wired and wireless connections, verify that the network cable is not connected.
- Verify that the printer and the wireless router are turned on and have power. Also make sure that the wireless radio in the printer is turned on. (The wireless network indicator is solid when the printer is connected to a wireless network, and blinking when it is searching for a wireless network.)
- Verify that the service set identifier (SSID) is correct:
  - For a wireless connection to your network, confirm that your mobile device is connecting to the correct router/access point.
  - For a Wi-Fi Direct connection, print a configuration page to determine the printer's SSID.

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

- Verify that the computer and printer connect to the same wireless network.
- If your environment has multiple wireless signals and you need the printer to support dual band networks on both 2.4 GHz and 5 GHz, install the HP Jetdirect 2900nw print server accessory.
- For OS X, verify that the wireless router supports Bonjour.

The printer does not print after the wireless configuration completes

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

The printer does not print, and the computer has a third-party firewall installed

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

The wireless connection does not work after moving the wireless router or printer

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

Cannot connect more computers to the wireless printer

1. Make sure that the other computers are within the wireless range and that no obstacles block the signal. For most networks, the wireless range is within 30 m (100 ft) of the wireless access point.
2. Make sure that the printer is turned on and in the ready state.
3. Make sure there are not more than 5 concurrent Wireless Print Direct users.
4. Turn off any third-party firewalls on your computer.
5. Make sure that the wireless network is working correctly.
6. Make sure that your computer is working correctly. If necessary, restart the computer.

The wireless printer loses communication when connected to a VPN

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

The network does not appear in the wireless networks list

- Make sure the wireless router is turned on and has power.
- The network might be hidden. However, you can still connect to a hidden network. Make sure the router/access point is advertising the SSID by checking for its SSID in the available networks seen by your mobile device.

The wireless network is not functioning

1. For printers that do not support simultaneous wired and wireless connections, make sure that the network cable is disconnected.
2. To verify if the network has lost communication, try connecting other devices to the network.
3. Test network communication by pinging the network.
   a. Open a command-line prompt on your computer.
      - For Windows, click **Start**, click **Run**, type `cmd`, and then press Enter.
      - For OS X, go to **Applications**, then **Utilities**, and open **Terminal**.
   b. Type `ping` followed by the router IP address.
   c. If the window displays round-trip times, the network is working.
4. Make sure that the router or printer connects to the same network that the computer connects to.
   a. Print a configuration page.
   b. Compare the service set identifier (SSID) on the configuration report to the SSID in the printer configuration for the computer.
   c. If the numbers are not the same, the devices are not connecting to the same network. Reconfigure the wireless setup for the printer.

Reduce interference on a wireless network

The following tips can reduce interference in a wireless network:

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

Service mode functions

- Service menu
- Printer resets
- Format Disk and Partial Clean functions

Service menu

The Service menu is PIN-protected for added security. Only authorized service people have access to the Service menu. When selecting Service from the list of menus, the printer prompts the user to enter an eight-digit personal identification number (PIN).

NOTE: The printer automatically exits the Service menu after about one minute if no items are selected or changed.

Open the service menu from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and the touch the Support Tools item.
2. Touch the Service menu item.
3. Enter the service personal identification number (PIN) for this printer:

   NOTE: Make sure that Service Access Code displays in the access type area.

   TIP: For a small touchscreen printer, touch the Access Code dialog box to display a virtual 10-key keypad.

   - 05060717 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
   - 05063117 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)
4. Touch the Sign In button.

Open the service menu from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the Service menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to Service, and then press the OK button.
5. Use the 10-key keypad to enter the following service access code for the printer:

   NOTE: After entering the PIN, press the OK button.

   - 05060717 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

The following menu items appear in the Service menu:

NOTE: For touchscreen printers, touch an item to navigate to sub menus. For LCD printers, use the arrow buttons and the OK button to navigate to sub menus.

Table 2-87 Service menu

First level	Second level	Third-level	Value	Description
Event Log	Print			Print or view the event log.
	Clear			Use this item to clear the printer event log.
Cycle Counts NOTE: The cycle count range is 0 to 9999999.	Total Engine Cycles			Set the page count that was stored in NVRAM prior to installing a new formatter.
	Mono Cycle Count			Use this item to record the number of mono print jobs.
	Refurbish Cycle Count			Use this item to record the page count when the printer was refurbished.
	Document Feeder Kit Count (MFP only)			Total number of pages since the document feeder kit was replaced.
	Document Feeder Kit Interval (MFP only)			Use this item to set the interval that causes the printer to prompt the customer to replace document feeder maintenance kit.
	Clean Rollers Count (MFP only)			Total number of pages since the document feeder rollers were cleaned.
	Clean Rollers Interval (MFP only)			Use this item to set the interval that causes the printer to prompt the customer to clean the document feeder rollers and separation pad.
	ADF Count (MFP only)			Set the total pages fed through the document feeder.
	Flatbed Count (MFP only)			Set the total pages scanned from the flatbed.
	ADF Simplex Count (MFP only)			Set the total single-sided pages fed through the document feeder.
	ADF Duplex Count (MFP only)			Set the total two-sided pages fed through the document feeder.
	Copy Scan Count (MFP only)			Set the total copy pages that have been scanned.
	Send Scan Count (MFP only)			Set the number of scanned pages sent to email.
	Fax Scan Count (fax models only)			Set the number of scanned pages that have been faxed.

Table 2-87 Service menu (continued)

First level	Second level	Third-level	Value	Description
	Copy Pages Count (MFP only)			Set the number of scanned pages that have been printed.
Scanner Settings (MFP only)	Edge to Adjust	Glass: Rear Edge Glass: Left Edge ADF: Leading front edge ADF: Leading Back back ADF: Trailing Front edge ADF:Left Side Front ADF:Left Side Back	Adjustment	Set the calibration values. **NOTE:** Adjustments are in millimeters (-20 to 20).
		Clear All		Clear all adjustment values (set to zero).
		Done		Done exits the menu.
Serial Number		Done		Set the serial number. Done exits the menu.
Service ID		Done		Use this item to show the date that the printer was first used on the control panel. This eliminates the need for users to keep paper receipts for proof of warranty. Done exits the menu.
Locked tray sizes (Managed printers only)	Lock Tray 2 size check box			Select the Lock Tray 2 size check box to enable the lock feature. Select a paper size from the drop-down menu, and then select Save.
Cold Reset Paper		Letter A4		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.
MPS Settings	Low Alerts On	On Off		Use this to configure managed services specific settings.

Table 2-87 Service menu (continued)

First level	Second level	Third-level	Value	Description
	Reset Supplies level	• Reset to level 1 • Reset to level 2 • Reset to level 3 • Reset to non-HP managed mode	Cancel	
	Consumables Access Control	Enable consumables access control		Select the Enable consumables access control check box to enable the lock feature. Under Replacement Threshold, select one of the following options. • Normal • Delayed Use this feature to lock the printer front door to help prevent premature toner cartridge replacement.
PTT Test Mode (fax models only)	Hook Operations	Go Off Hook Go On Hook		Test the internal modem for the analog fax accessory.
	Generate Random Data		Done Start	Select a value from the list.
	Generate Dialing Tones/ Pulses	Pulse Burst Tone Burst Continuous Tone	Stop Done	Enter a value.
	Generate Pulse Dial Number Generate/Dial Phone Number	Pulse Tone	Phone Number	Enter dial number.
	Generate Single Modem Tone	1100 Hz 2100 Hz 1300 Hz 1800 Hz	Done Start	Select a value, and then select Start.
	Fax Transmit Signal Loss		Enter a value (0 to 30).	

Table 2-87 Service menu (continued)

First level	Second level	Third-level	Value	Description
	Ring Settings	Ring Interval	ms (0 to 600	
		Ring Frequency High Limit	Hz (0 to 100)	
		PBX Ring Detect	On or Off	
Test Support	Continuous Scan (MFP only)	2-sided	Done	
		Save to Disk	Start	
	Continuous Copy (MFP only)	2-sided	Done	
		Save to Disk	Start	
	Raw Scan (MFP only)	2-sided	Done	
		Mechanical Calibration	Start	
	Continuous Print from USB		Done	NOTE: Insert a USB flash drive into the USB port on the printer.
			Start	
	Runtime Configuration			Choose from a list of available configurations. NOTE: The list is product specific.
Fax V.29 Speed (fax models only)	V.29 9600			Set the fax module rate (for example, the V.29 9600 setting means that the fax module is capable of transferring a maximum of 9600 bits per second).
	V.29 7200			
Reset Supplies				Use this item after replacing a supply item (for example, the tray rollers) to reset the firmware counter (resets to zero) for that supply item. NOTE: The list of supply items is printer specific and also depends on the printer configuration.

Printer resets

- Restore factory-set defaults
- Printer cold reset

Restore factory-set defaults

Restore factory-set defaults from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and the touch the Support Tools item.
2. Open the following menus:
   - Settings
   - General
   - Restore Factory Settings
3. Touch Reset to reset current user specified default settings to the factory default settings, or touch Cancel to return to the General menu.

Restore factory-set defaults from from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to and select the Settings menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the General menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Reset Factory Settings item, and then press the OK button.
5. Use the left arrow ◀ or right arrow ▶ buttons to select the Reset item, and then press the OK button.

NOTE: Touch the Cancel button to return to the General menu.

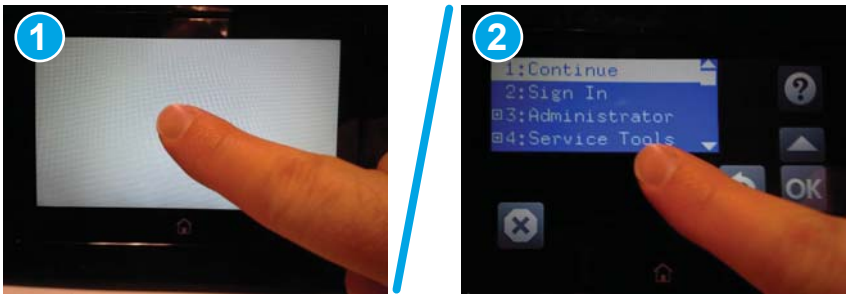
Printer cold reset

Cold reset using the Pre-boot menu from a touchscreen control panel

CAUTION: This procedure resets all product configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-150 Open the Pre-boot menu



2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the down arrow ▼ button to highlight the +8:Startup Options item, and then touch the OK button.
4. Use the down arrow ▼ button to highlight the 2 Cold Reset item, and then touch the OK button.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1 Continue item, and then touch the OK button.

NOTE: The printer initializes.

Cold reset using the Pre-boot menu from a LCD control panel

1. Press the Cancel button when you see the 1/8 under the logo
2. Use the down arrow ▼ button to scroll to and select the +3:Administrator menu, and then press the OK button.
3. Use the down arrow ▼ button to scroll to and select the +8:Startup Options item, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the 2 Cold Reset item, and then press the OK button.
5. Touch the Home button to return to the main Pre-boot menu and highlight the 1:Continue item, and then touch the OK button.

NOTE: The printer initializes.

Format Disk and Partial Clean functions

NOTE: Only for printers with al hard-disk drive (HDD) installed).

Active and repository firmware locations

The firmware bundle consists of multiple parts. The main components are the Windows CE Operating System and the printer/peripheral firmware files.

There are two locations/partitions on the hard drive where the firmware components are stored:

- The Active, where the operating system and firmware currently are executing.
- The Repository, the recovery location.

If the Active location is damaged, or a Partial Clean was performed, the printer automatically copies over the OS and firmware files from the Repository location and the printer recovers.

If both the Active and Repository locations are damaged, or a Format Disk was performed, then both locations are gone and the error message **99.09.67** displays on the control-panel display. The user must upload the firmware to the printer in order for it to function again.

CAUTION: The Format Disk option performs a disk initialization for the entire disk. The operating system, firmware files, and third party files (among other files) will be completely lost. HP does not recommend this action.

Partial Clean

The Partial Clean option erases all partitions and data on the disk drive, except for the firmware repository where a backup copy of the firmware file is stored. This allows the disk drive to be reformatted without having to download a firmware upgrade file to return the printer to a bootable state.

Characteristics of a Partial Clean

- Customer-defined settings, third-party solutions, firmware files, and the operating system are deleted.
- Rebooting the printer restores the firmware files from the Repository location, but does not restore any customer-defined settings.
- For previous HP printers, a Hard Disk Initialization is similar to executing the Partial Clean function for this printer.

CAUTION: HP recommends backing-up printer configuration data before executing a Partial Clean to retain customer-defined settings (if needed). See the Backup/Restore item in the Device Maintenance menu.

Reasons for performing a Partial Clean

- The printer continually boots up in an error state.

  NOTE: Try clearing the error prior to executing a Partial Clean.

- The printer will not respond to commands from the control panel.
- Executing the Partial Clean function is helpful for troubleshooting hard disk problems.

- To reset the printer by deleting all solutions and customer-defined settings.
- The printer default settings are not properly working.

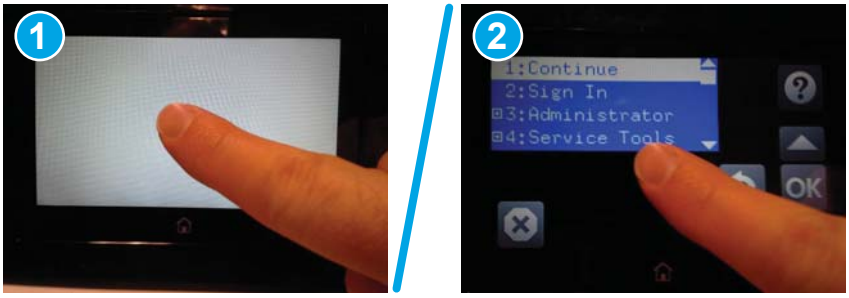
Execute a Partial Clean

Execute a Partial Clean from a touchscreen control panel

⚠ CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

   Figure 2-151 Open the Pre-boot menu

2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the down arrow ▼ button to highlight Partial Clean and then touch the OK button.
4. Touch the OK button again.
5. Touch the Home button to highlight Continue, and then touch the OK button.

NOTE: The printer initializes.

Execute a Partial Clean from a LCD control panel

⚠ CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Press the Cancel button when you see the 1/8 under the logo.
2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then press the OK button.
3. Use the down arrow▼ button to highlight Partial Clean and then press the OK button.
4. Press the OK button again.
5. Press the Home button to highlight Continue, and then press the OK button.

NOTE: The printer initializes.

Format Disk

The Format Disk option erases the entire disk drive.

⚠ CAUTION: After executing a Format Disk option, the printer is *not* bootable.

Characteristics of a Format Disk

- Customer-defined settings, third-party solutions, firmware files, and the operating system are deleted.

NOTE: Rebooting the printer *does not* restore the firmware files.

- Rebooting the printer restores the firmware files from the Repository location, but does not restore any customer-defined settings.
- After executing the Format Disk function, the message **99.09.67** displays on the control panel.
- After executing the Format Disk function, the printer firmware must be reloaded.

CAUTION: HP recommends not using the Format Disk option unless an error occurs and the solution in the printer service manual recommends this solution. After executing the Format Disk function, the printer is unusable.

HP recommends backing-up printer configuration data before executing a Format Disk to retain customer-defined settings (if needed). See the Backup/Restore item in the Device Maintenance menu.

Reasons for performing a Format Disk

- The printer continually boots up in an error state.

NOTE: Try clearing the error prior to executing a Format Disk.

- The printer will not respond to commands from the control panel.
- Executing the Format Disk function is helpful for troubleshooting hard disk problems.
- To reset the printer by deleting all solutions and customer-defined settings.

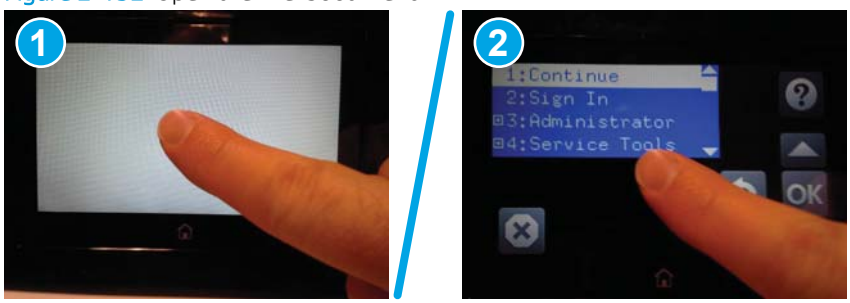
Execute a Format Disk

Execute a Format Disk from a touchscreen control panel

CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-152 Open the Pre-boot menu



2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then touch the OK button.
3. Use the down arrow ▼ button to highlight Format Disk, and then touch the OK button.
4. Touch the OK button again.

NOTE: When the Format Disk operation is complete, reload the printer firmware.

Execute a Format Disk from a LCD control panel

CAUTION: This procedure resets all printer configurations and settings to factory defaults (customer configurations and settings are lost).

1. Press the Cancel button when you see the 1/8 under the logo.
2. Use the down arrow ▼ button to highlight the +3:Administrator item, and then press the OK button.
3. Use the down arrow ▼ button to highlight Format Disk, and then press the OK button.
4. Press the OK button again.

NOTE: When the Format Disk operation is complete, reload the printer firmware.

Firmware upgrades

To download the most recent firmware upgrade for the printer, go to:

- In the US, go to www.hp.com/support/ljM607, www.hp.com/support/ljM608, www.hp.com/support/ljM609, www.hp.com/support/ljM610, www.hp.com/support/ljM611, www.hp.com/support/ljM612, www.hp.com/support/ljE60055, www.hp.com/support/ljE60065, www.hp.com/support/ljE60075, www.hp.com/support/ljE60155, www.hp.com/support/ljE60165, www.hp.com/support/ljE60175, www.hp.com/support/ljM631MFP, www.hp.com/support/ljM632MFP, www.hp.com/support/ljM633MFP, www.hp.com/support/ljM634MFP, www.hp.com/support/ljM635MFP, www.hp.com/support/ljM636MFP, www.hp.com/support/ljE62555MFP, www.hp.com/support/ljE62565MFP, www.hp.com/support/ljE62575MFP, www.hp.com/support/ljE62655MFP, www.hp.com/support/ljE62665MFP, www.hp.com/support/ljE62675MFP.

  a. Select **Get drivers, Software, and Firmware**, and then select the appropriate product by name.

  NOTE: More than one printer model might be listed. Make sure to select the correct model so that the upgraded firmware supports all of the printer functions.

  b. Select the driver language and operating system.

  c. Locate the firmware download, and then select **Download**.

- Outside the U.S., go to www.hp.com/support.

  a. Select your country/region.

  b. Select **Drivers & Downloads**.

  c. Enter the product name in the **Find my product** dialogue box, and then select **Go**.

  TIP: Click on the **How do I find my product name/number?** link to see a short video on identifying the printer name and number.

  d. Select the appropriate product by name.

  NOTE: More than one printer model might be listed. Make sure to select the correct model so that the upgraded firmware supports all of the printer functions.

  e. Select the driver language and operating system.

  f. Locate the firmware download, and then select **Download**.

- Determine the installed revision of firmware
- Perform a firmware upgrade

Determine the installed revision of firmware

NOTE: Print a configuration page to determine the installed revision of firmware.

Print the configuration page from a touchscreen control panel

1. From the Home screen on the printer control panel, swipe (right), and the touch the Reports button.
2. Touch the Configuration/Status Pages item
3. Touch Configuration Page to select it.

   TIP: Multiple report pages can be selected, and then printed together.

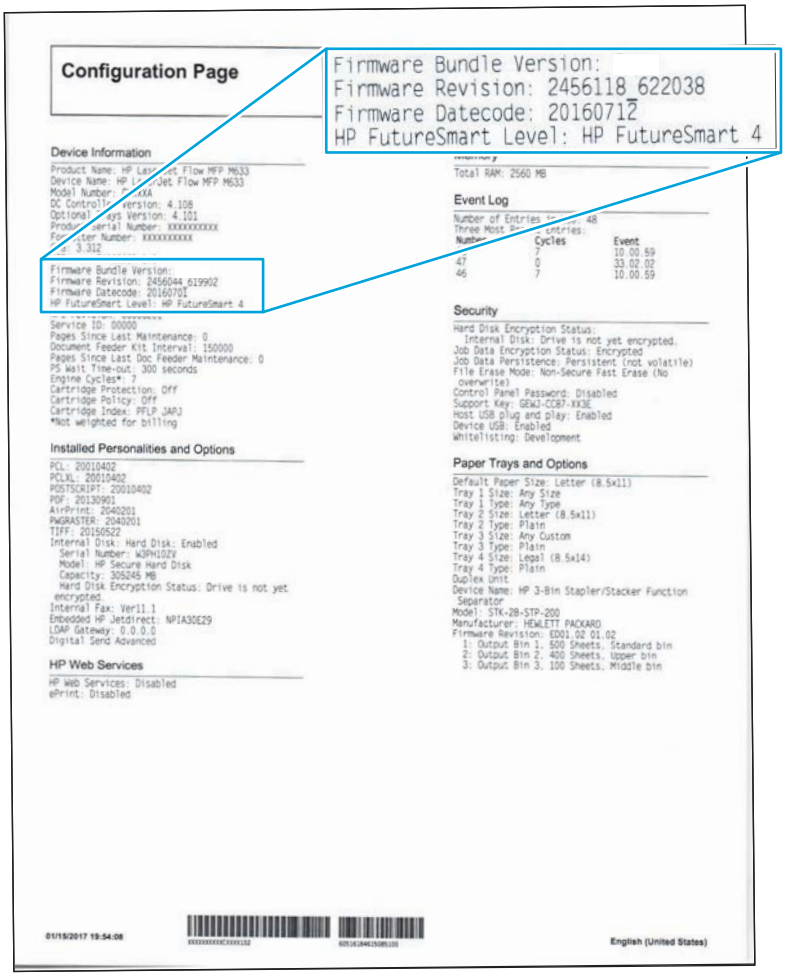
4. Touch the Print button to print the pages.

Print the configuration page from a LCD control panel

1. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
2. Use the right arrow ▶ button to scroll to Reports, and then press the OK button.
3. Use the down arrow ▼ button to scroll to Configuration/Status Pages, and then press the OK button.
4. Use the down arrow ▼ or ▲ buttons to scroll to Configuration Page, and then press the OK button to select it.
5. Use the down arrow ▼ and right arrow ▶ buttons to scroll to Print, and then press the OK button to print the pages.

   TIP: Multiple report pages can be selected, and then printed together.

Figure 2-153 Configuration report



Perform a firmware upgrade

The firmware bundle is a .bdl file. This file requires an interactive upgrade method. The traditional FTP, LPR or Port 9100 methods of upgrading are not available. Use one of the following methods to upgrade the firmware for this printer.

HP Embedded Web Server

NOTE: The firmware update might take 10 minutes or longer based on the input/output (I/O) transfer rates and the time it takes for the printer to reinitialize.

1. Open an Internet browser window.
2. Enter the printer IP address in the URL line.
3. Select the **Firmware Upgrade** link from the **General** tab or from the **Troubleshooting** tab.
4. Browse to the location that the firmware upgrade file was downloaded to, and then select the firmware file —the file has a .bdl file extension. Select the Install button to perform the upgrade.

   NOTE: Do not close the browser window OR interrupt communication until the HP Embedded Web Server (EWS) displays the confirmation page.

5. After the printer reinitializes, print a configuration page and verify that the latest firmware version has been installed.

USB flash drive (control-panel menu)

NOTE: USB flash drives that are not using a FAT32 format, or do not have a CD formatted partition, might not be recognized by the printer. If the printer does not recognize a USB flash drive, try using a different USB flash drive.

TIP: The USB port on the printer must be enabled. If it is disabled, use the Enable Retrieve from USB item in the General Settings menu to enable it.

USB flash drive firmware (control-panel menu) update from a touchscreen control panel

1. Copy the .bdl file to a portable USB flash drive.
2. Turn the printer on, and then wait until it initializes.
3. From the Home screen on the printer control panel, swipe (right), and the touch the Support Tools item.
4. Open the following menus:
   - Maintenance
   - USB Firmware Upgrade
5. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.
6. Touch the .bdl file, and then touch the Install button.

   NOTE: If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.
7. When the upgrade is complete, the printer restarts.

   TIP: Print a configuration page and verify that the upgrade firmware version was installed.

USB flash drive firmware (control-panel menu) update from a LCD control panel

1. Copy the .bdl file to a portable USB flash drive.
2. From the Home screen on the printer control panel, use the down arrow ▼ button to select the Print menu.
3. Use the right arrow ▶ button to scroll to and select the Support Tools menu, and then press the OK button.
4. Use the down arrow ▼ button to scroll to and select the Maintenance menu, and then press the OK button.
5. Use the down arrow ▼ button to scroll to and select the USB Firmware Upgrade menu, and then press the OK button.
6. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.
7. Use the down arrow ▼ button to scroll to the appropriate .bdl file, and then press the OK button to select.

   NOTE: If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.
8. Use the down arrow ▼ and right arrow ▶ buttons to scroll to Install, and then press the OK button to start the firmware upgrade.

   TIP: Print a configuration page and verify that the upgrade firmware version was installed.

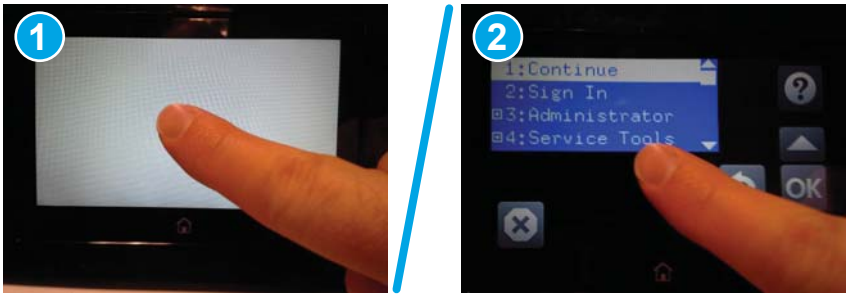
USB flash drive (Pre-boot menu)

IMPORTANT: Only use this method of performing a firmware upgrade if the printer cannot initialize to the **Ready** state.

USB flash drive firmware (Pre-boot menu) update from a touchscreen control panel

1. Copy the .bdl file to a portable USB flash drive.
2. Touch the middle of the control-panel display when you see the 1/8 under the logo.

Figure 2-154 Open the Pre-boot menu



3. Touch the down arrow ▼ button to highlight +3 Administrator, and then touch the OK button.
4. If necessary, touch the down arrow ▼ button to highlight +1 Download, and then touch the OK button.
5. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.

NOTE: If the error message No USB Thumbdrive Files Found displays on the control-panel display, try using a different portable storage device.

6. Touch the down arrow ▼ button to highlight USB Thumbdrive, and then touch the OK button.
7. Touch the down arrow ▼ button to highlight the .bdl file, and then touch the OK button.

NOTE: The upgrade process can take 10 minutes or longer to complete.

TIP: If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.

8. When the message Complete displays on the control-panel display, turn the printer power off, and then on again.
9. Touch the OK button to begin the upgrade. When the upgrade is complete, the printer will initialize to the **Ready** state.
10. When the upgrade process is complete, print a configuration page and verify that the upgrade firmware version was installed.

USB flash drive firmware (Pre-boot menu) update from a LCD control panel

1. Copy the .bdl file to a portable USB flash drive.
2. Press the Cancel button when you see the 1/8 under the logo.
3. Press the down arrow ▼ button to highlight +3 Administrator, and then press the OK button.

4. If necessary, press the down arrow ▼ button to highlight +1 Download, and then press the OK button.
5. Insert the USB flash drive with the .bdl file on it into the USB port on the printer.

NOTE: If the error message No USB Thumbdrive Files Found displays on the control-panel display, try using a different portable storage device.

6. Press the down arrow ▼ button to highlight USB Thumbdrive, and then press the OK button.
7. Press the down arrow ▼ button to highlight the .bdl file, and then press the OK button.

NOTE: The upgrade process can take 10 minutes or longer to complete.

TIP: If there is more than one .bdl file on the storage device, make sure to select the correct file for this printer.

8. When the message Complete displays on the control-panel display, turn the printer power off, and then on again.
9. When the upgrade process is complete, print a configuration page and verify that the upgrade firmware version was installed.

Solve fax problems or email

Fax or email troubleshooting information is not provided in this service manual. The most current information is available in WISE or HP Channel Services Network (CSN). Search using model number then use "fax troubleshooting" as the search term.

HP service personnel, go to one of the following WISE sites:

Americas (AMS)

- https://support.hp.com/wise/home/ams-enWISE - English
- https://support.hp.com/wise/home/ams-esWISE - Spanish
- https://support.hp.com/wise/home/ams-ptWISE - Portuguese
- https://support.hp.com/wise/home/ams-frWISE - French

Europe / Middle East / Africa (EMEA)

- https://support.hp.com/wise/home/apj-enWISE - English
- https://support.hp.com/wise/home/apj-jaWISE - Japanese
- https://support.hp.com/wise/home/apj-koWISE - Korean
- https://support.hp.com/wise/home/apj-zh-HansWISE - Chinese (simplified)
- https://support.hp.com/wise/home/apj-zh-HantWISE - Chinese (traditional)
- https://support.hp.com/wise/home/apj-thWISE - Thai

EMEA

- https://support.hp.com/wise/home/emea-enWISE - English

Channel partners, go to partner.hp.com.

A Printer specifications

- Printer dimensions
- Printer space requirements
- Power consumption, electrical specifications, and acoustic emissions
- Operating environment range
- Certificate of Volatility

Printer dimensions

- Printer dimensions (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)
- Printer dimensions (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

Printer dimensions (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175)

Table A-1 Dimensions for M607n, M607dn, M608n, M608dn, M609dn models

	Printer fully closed	Printer fully opened
Height	380 mm (17.8 in)	453 mm (17.8 in)
Depth	466 mm (18.3 in)	1,040 mm (40.9 in)
Width	431 mm (17 in)	431 mm (17 in)
Weight (with toner cartridge)	20.6 kg (45.4 lb)	

Table A-2 Dimensions for M6608x, M609x

	Printer fully closed	Printer fully opened
Height	505 mm (19.9 in)	581 mm (22.9 in)
Depth	466 mm (18.3 in)	1,100 mm (43.3 in)
Width	431 mm (17 in)	431 mm (17 in)
Weight (with toner cartridge)	26.3 kg (58 lb)	

Table A-3 Dimensions for the 1x550-sheet paper feeder

	Accessory fully closed	Accessory fully opened
Height	148 mm (5.8 in)	148 mm (5.8 in)
Depth	466 mm (18.3 in)	790 mm (31.1 in)
Width	426 mm (16.7 in)	426 mm (16.7 in)
Weight	5.7 kg (12.6 lb)	

Table A-4 Dimensions for the printer with a 1x550-sheet paper feeder

	Printer fully closed	Printer fully opened
Height	505 mm (19.9 in)	581 mm (22.9 in)
Depth	466 mm (18.3 in)	1,100 mm (43.3 in)
Width	431 mm (17 in)	431 mm (17 in)
Weight (with toner cartridge)	26.3 kg (58 lb)	

Table A-5 Dimensions for the 2,100-sheet HCI with stand

	Accessory fully closed	Accessory fully opened
Height	341 mm (13.4 in)	341 mm (13.4 in)
Depth	466 mm (18.3 in)	864 mm (34 in)
Width	426 mm (16.7 in)	426 mm (16.7 in)
Weight	9.98 kg (22 lb)	

Table A-6 Dimensions for the printer with a 2,100-sheet HCI with stand

	Printer fully closed	Printer fully opened
Height	698 mm (27.5 in)	773 mm (30.4 in)
Depth	466 mm (18.3 in)	1,180 mm (46.5 in)
Width	431 mm (17 in)	431 mm (17 in)
Weight (with toner cartridge)	30.6 kg (67.4 lb)	

Table A-7 Dimensions for the envelope feeder

	Accessory fully closed	Accessory fully opened
Height	148 mm (5.8 in)	148 mm (5.8 in)
Depth	466 mm (18.3 in)	790 mm (31.1 in)
Width	426 mm (16.7 in)	426 mm (16.7 in)
Weight	5.8 kg (12.8 lb)	

Table A-8 Dimensions for the printer with an envelope feeder

	Printer fully closed	Printer fully opened
Height	505 mm (19.9 in)	581 mm (22.9 in)
Depth	466 mm (18.3 in)	1,100 mm (43.3 in)
Width	431 mm (17 in)	431 mm (17 in)
Weight (with toner cartridge)	26.4 kg (58.2 lb)	

Table A-9 Dimensions for the HP Stapling Mailbox

	Accessory fully closed	Accessory fully opened
Height	429 mm (16.9 in)	429 mm (16.9 in)
Depth	504 mm (19.8 in)	614 mm (24 in)

Table A-9 Dimensions for the HP Stapling Mailbox (continued)

	Accessory fully closed	Accessory fully opened
Width	475 mm (18.7 in)	511 mm (20.1 in)
Weight	11.3 kg (25 lb)	

Table A-10 Dimensions for the printer with an HP Stapling Mailbox

	Printer fully closed	Printer fully opened
Height	775 mm (30.5 in)	775 mm (30.5 in)
Depth	466 mm (18.3 in)	1,100 mm (43.3 in)
Width	472 mm (18.6 in)	608 mm (23.9 in)
Weight (with toner cartridge)	31.9 kg (70.4 lb)	

[1] These values are subject to change. For current information, go to www.hp.com/support/ljM607, www.hp.com/support/ljM608, www.hp.com/support/ljM609, www.hp.com/support/ljM610, www.hp.com/support/ljM611, www.hp.com/support/ljM612, www.hp.com/support/ljE60055, www.hp.com/support/ljE60065, www.hp.com/support/ljE60075, www.hp.com/support/ljE60155, www.hp.com/support/ljE60165, www.hp.com/support/ljE60175, www.hp.com/support/ljM631MFP, www.hp.com/support/ljM632MFP, www.hp.com/support/ljM633MFP, www.hp.com/support/ljM634MFP, www.hp.com/support/ljM635MFP, www.hp.com/support/ljM636MFP, www.hp.com/support/ljE62555MFP, www.hp.com/support/ljE62565MFP, www.hp.com/support/ljE62575MFP, www.hp.com/support/ljE62655MFP, www.hp.com/support/ljE62665MFP, www.hp.com/support/ljE62675MFP.

Printer dimensions (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675)

Table A-11 Dimensions for base models (M631dn, M631h Flow, M632h, M633fh)

	Printer fully closed	Printer fully opened
Height	640 mm (25.2 in)	865 mm (34.1 in)
Depth	558 mm (22 in)	805 mm (31.7 in)
Width	512 mm (20.15 in)	1,030 mm (40.5 in)
Weight (with toner cartridge)	33.2 kg (73.2 lb)	

Table A-12 Dimensions for M631z

	Printer fully closed	Printer fully opened
Height	1,234 mm (48.6 in)	1,500 mm (59.1 in)
Depth	658 mm (25.9 in)	890 mm (35 in)
Width	661 mm (26 in)	1,030 mm (40.5 in)
Weight (with toner cartridge)	62.5 kg (137.8 lb)	

Table A-13 Dimensions for M632fht

	Printer fully closed	Printer fully opened
Height	1,094 mm (43.2 in)	1,365 mm (53.7 in)
Depth	600 mm (26 in)	890 mm (35 in)
Width	665 mm (26.15 in)	1,030 mm (40.5 in)
Weight (with toner cartridge)	52.5 kg (115.8 lb)	

Table A-14 Dimensions for M632z Flow, M633z Flow

	Printer fully closed	Printer fully opened
Height	1,234 mm (48.5 in)	1,500 mm (59.1 in)
Depth	658 mm (25.9 in)	890 mm (35 in)
Width	661 mm (26 in)	1,030 mm (40.5 in)
Weight (with toner cartridge)	64.3 kg (141.8 lb)	

Table A-15 Dimensions for the 1x550-sheet paper feeder

	Accessory fully closed	Accessory fully opened
Height	148 mm (5.8 in)	148 mm (5.8 in)
Depth	558 mm (22 in)	869 mm (34.2 in)
Width	512 mm (20.15 in)	617 mm (24.3 in)
Weight	6.8 kg (15 lb)	

Table A-16 Dimensions for the printer with a 1x550-sheet paper feeder

	Printer fully closed	Printer fully opened
Height	766 mm (30.15 in)	1,010 mm (39.8 in)
Depth	558 mm (22 in)	890 mm (35 in)
Width	512 mm (20.15 in)	1,030 mm (40.5 in)
Weight (with toner cartridge)	40 kg (88.2 lb)	

Table A-17 Dimensions for the 1x550-sheet feeder with printer stand

	Accessory fully closed	Accessory fully opened
Height	478 mm (18.8 in)	478 mm (18.8 in)
Depth	658 mm (25.9 in)	1,050 mm (41.3 in)
Width	660 mm (26 in)	980 mm (38.6 in)
Weight	19.28 kg (42.5 lb)	

Table A-18 Dimensions for the printer with a 1x550-sheet feeder with printer stand

	Printer fully closed	Printer fully opened
Height	1,094 mm (43.2 in)	1,365 mm (53.7 in)
Depth	600 mm (26 in)	890 mm (35 in)
Width	665 mm (26.15 in)	1,030 mm (40.5 in)
Weight (with toner cartridge)	52.5 kg (115.8 lb)	

Table A-19 Dimensions for the 1x550-sheet feeder and 2,100-sheet HCI with stand

	Accessory fully closed	Accessory fully opened
Height	478 mm (18.8 in)	478 mm (18.8 in)
Depth	658 mm (25.9 in)	975 mm (38.4 in)

Table A-19 Dimensions for the 1x550-sheet feeder and 2,100-sheet HCI with stand (continued)

	Accessory fully closed	Accessory fully opened
Width	660 mm (26 in)	980 mm (38.6 in)
Weight	24.5 kg (54 lb)	

Table A-20 Dimensions for the printer with a 1x550-sheet feeder and 2,100-sheet HCI with stand

	Printer fully closed	Printer fully opened
Height	1,090 mm (42.9 in)	1,360 mm (53.5 in)
Depth	658 mm (25.9 in)	890 mm (35 in)
Width	660 mm (26 in)	1,030 mm (40.5 in)
Weight (with toner cartridge)	57.7 kg (127.2 lb)	

Table A-21 Dimensions for the envelope feeder cassette

	Accessory fully closed	Accessory fully opened
Height	148 mm (5.8 in)	148 mm (5.8 in)
Depth	558 mm (22 in)	869 mm (34.2 in)
Width	512 mm (20.15 in)	617 mm (24.3 in)
Weight	6.9 kg (15.3 lb)	

Table A-22 Dimensions for the printer with an envelope feeder

	Printer fully closed	Printer fully opened
Height	766 mm (30.15 in)	1,010 mm (39.8 in)
Depth	558 mm (22 in)	890 mm (35 in)
Width	512 mm (20.15 in)	1,030 mm (40.5 in)
Weight (with toner cartridge)	39.6 kg (87.3 lb)	

Table A-23 Dimensions for the printer with an HP Stapling Mailbox

	Printer fully closed	Printer fully opened
Height	779 mm (30.7 in)	890 mm (35 in)
Depth	558 mm (22 in)	890 mm (35 in)
Width	512 mm (20.15 in)	1,030 mm (40.5 in)

Table A-23 Dimensions for the printer with an HP Stapling Mailbox (continued)

	Printer fully closed	Printer fully opened
Weight (with toner cartridge)	39.8 kg (87.7 lb)	

[1] These values are subject to change. For current information, go to www.hp.com/support/ljM607, www.hp.com/support/ljM608, www.hp.com/support/ljM609, www.hp.com/support/ljM610, www.hp.com/support/ljM611, www.hp.com/support/ljM612, www.hp.com/support/ljE60055, www.hp.com/support/ljE60065, www.hp.com/support/ljE60075, www.hp.com/support/ljE60155, www.hp.com/support/ljE60165, www.hp.com/support/ljE60175, www.hp.com/support/ljM631MFP, www.hp.com/support/ljM632MFP, www.hp.com/support/ljM633MFP, www.hp.com/support/ljM634MFP, www.hp.com/support/ljM635MFP, www.hp.com/support/ljM636MFP, www.hp.com/support/ljE62555MFP, www.hp.com/support/ljE62565MFP, www.hp.com/support/ljE62575MFP, www.hp.com/support/ljE62655MFP, www.hp.com/support/ljE62665MFP, www.hp.com/support/ljE62675MFP.

Printer space requirements

HP recommends that the following distances be added to the printer dimensions provided in this chapter to make sure there is sufficient space to open doors and covers, and to provide proper ventilation. See Printer dimensions on page 400or Printer dimensions (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) on page 403.

- From the left-side or right-side of the printer to an obstruction, add:
  - 430 mm (17 in)
- From the front-side of the printer to an obstruction, add:
  - 610 mm (24 in)
- From the back-side of the printer to an obstruction, add:
  - 460 mm (18 in)

Power consumption, electrical specifications, and acoustic emissions

See www.hp.com/support/ljM607, www.hp.com/support/ljM608, www.hp.com/support/ljM609, www.hp.com/support/ljE60055, www.hp.com/support/ljE60065, www.hp.com/support/ljE60075, www.hp.com/support/ljE60155, www.hp.com/support/ljE60165, www.hp.com/support/ljE60175, www.hp.com/support/ljM631MFP, www.hp.com/support/ljM632MFP, www.hp.com/support/ljM633MFP, www.hp.com/support/ljE62555MFP, www.hp.com/support/ljE62565MFP, www.hp.com/support/ljE62575MFP, www.hp.com/support/ljE62655MFP, www.hp.com/support/ljE62665MFP, www.hp.com/support/ljE62675MFP for current information.

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

Operating environment range

Table A-24 Operating environment range

Environment	Recommended	Allowed
Temperature	17° to 25°C (62.6° to 77°F)	15° to 32.5°C (59° to 90.5°F)
Relative humidity	30% to 70% relative humidity (RH)	10% to 80% RH

Certificate of Volatility

Figure A-1 Certificate of Volatility (1 of 2; M607/M608/M609)

Hewlett-Packard Certificate of Volatility		
Model: M607, M608, M609	Part Number: K0Q14A, 15A,17A,18A,19A	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3-DRAM	512	☐ Yes ☒ No	Used for temporary storage during the processing of jobs and for applications running on the OS.	When the printer is powered OFF , the memory is erased.
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☒ No	Function:	Steps to clear memory:
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Store customer setting data for backup/restore	There are no steps to clear this data.
Type (Flash, EEPROM, etc):	Size:	User Modifiable:	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data.
SPI Flash	4MB	☒ Yes ☐ No		
Type (Flash, EEPROM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC	4GB All Skews	☒ Yes ☐ No	OS and User Data	firmware update
HDD	320 GB Accessory Only	☒ Yes ☐ No	OS and User Data	firmware update

USB

Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)?
☒ Yes ☐ No If Yes please describe below

Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.

Can any data other than scan upload be sent to the USB device)?
☒ Yes ☐ No If Yes please describe below

Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

Figure A-2 Certificate of Volatility (2 of 2; M607/M608/M609)

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose: Wireless Information string	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: WiFi Direct Print	
Frequency: 2.4GHz, 5GHz	Bandwidth: 2401 - 2495 MHz; depending on selected channel in 2.4GHz band. 5180 - 5825 MHz; depending on selected channel in 5GHz band.
Modulation:	Effective Radiate Power (ERP):
Specifications: 802.11 b/g/n	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: Device Beaconing Secure Print Apps	
Frequency: 2.4GHz	Bandwidth: 2400-2483.5 MHz; depending on selected channel.
Modulation:	Effective Radiate Power (ERP):
Specifications: BTLE4.0 compliant	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose: Device Beaconing Secure Print Apps
Specifications

Figure A-3 Certificate of Volatility (1 of 2; M631/M632/M633)

Hewlett-Packard Certificate of Volatility		
Model: M631, M632, M633	Part Number: J8J63A, 64A,65A,J8J70A,71A,72A	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3-DRAM	2GB -- Enterprise (1.5GB Fmtr + .5GB SCB) 2.5GB -- WorkFlow	☐ Yes ☒ No	Used for temporary storage during the processing of jobs and for applications running on the OS.	When the printer is powered OFF , the memory is erased.
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☒ No	Function:	
Type (SRAM, DRAM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Store customer setting data for backup/restore	There are no steps to clear this data.
Type (Flash, EEPROM, etc): SPI Flash	Size: 4MB	User Modifiable: ☒ Yes ☐ No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc):	Size:	User Modifiable: ☐ Yes ☐ No	Function:	Steps to clear memory:

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC	16GB dn Model Only	☒ Yes ☐ No	OS and User Data	firmware update

Type (HDD, Tape, etc):	Size:	User Modifiable:	Function:	Steps to clear memory:
HDD	320 GB all other models 500GB Gov skew only	☒ Yes ☐ No	OS and User Data	firmware update

Figure A-4 Certificate of Volatility (2 of 2; M631/M632/M633)

USB
Does the item accept USB input and if so, for what purpose (i.e Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.
Can any data other than scan upload be sent to the USB device)? ☒ Yes ☐ No If Yes please describe below
Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics. (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose: Wireless Information string	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: WiFi Direct Print	
Frequency: 2.4GHz, 5GHz	Bandwidth: 2401 - 2495 MHz; depending on selected channel in 2.4GHz band. 5180 - 5825 MHz; depending on selected channel in 5GHz band.
Modulation:	Effective Radiate Power (ERP):
Specifications: 802.11 b/g/n	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: Device Beaconing Secure Print Apps	
Frequency: 2.4GHz	Bandwidth: 2400-2483.5 MHz; depending on selected channel.
Modulation:	Effective Radiate Power (ERP):
Specifications: BTLE4.0 compliant	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose: Device Beaconing Secure Print Apps
Specifications

Figure A-5 Certificate of Volatility (1 of 2; E60155/E60165/E60175)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Managed E60155dn HP LaserJet Managed E60165dn HP LaserJet Managed E60165x HP LaserJet Managed E60175dn HP LaserJet Managed E60175x	Part Number: 3GY09A = E60155dn 3GY09A = E60165dn 3GY09A = E60165x 3GY09A = E60175dn 3GY09A = E60175x	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3 - DRAM	512MB	☐ Yes ☒ No	Store customer setting data for backup/restore.	When the printer is powered off the memory is erased.

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Backup device for critical system counters and product configuration information.	There are no steps to clear this data.
Type (Flash, EEPROM, etc.): SPI Flash	Size: 4MB	User Modifiable: ☐ Yes ☒ No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data
Type (Flash, EEPROM, etc.): EEPROM (LAN)	Size: 1KB	User Modifiable: ☐ Yes ☒ No	Function: Stores some LAN data/settings	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc.): TPM	Size: 16Kb (8x 2048 bit keys)	User Modifiable: ☐ Yes ☒ No	Function: Industry standard secure crypto-processor used for secure access and securing sensitive data.	Steps to clear memory: To clear the customer storage root key, CSRK, disable the TPM in the pre-boot menu.

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC	8GB	☒ Yes ☐ No	Stores customer data, OS, applications digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Figure A-6 Certificate of Volatility (2 of 2; E60155/E60165/E60175)

USB
Does the item accept USB input and if so, for what purpose (i.e. Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.
Can any data other than scan upload be sent to the USB device? ☒ Yes ☐ No If Yes please describe below
Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics? (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)? ☐ Yes ☒ No If Yes please describe below:	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications:

Author Information			
Name:	Title: Hardware Technical Marketing Engineer	Email:	Business Unit: IPG
Signature:			Date Prepared: 03/22/2019

Figure A-7 Certificate of Volatility (1 of 2; E62655/E62665/E62675)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Managed MFP E62655dn HP LaserJet Managed MFP E62665hs HP LaserJet Managed Flow MFP E62665h HP LaserJet Managed Flow MFP E62665z HP LaserJet Managed Flow MFP E62675z	Part Number: 3GY14A = E62655dn 3GY15A = E62665hs 3GY16A = E62665h 3GY17A = E62665z 3GY18A = E62675z	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
DRAM	2GB-Non-Flow 2.5GB - Flow	☐ Yes ☒ No	Used for temporary storage during the process of jobs, and for applications that are running on the OS. (Note: Total memory on formatter consists of 1.25GB.)	When the printer is powered off the memory is erased.

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Backup device for critical system counters and product configuration information.	There are no steps to clear this data.
Type (Flash, EEPROM, etc.): SPI Flash	Size: 4MB	User Modifiable: ☐ Yes ☒No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data
Type (Flash, EEPROM, etc.): EEPROM (LAN)	Size: 1KB	User Modifiable: ☐ Yes ☒ No	Function: Stores some LAN data/settings Stores some LAN data/settings	Steps to clear memory: There are no steps to clear this data. There are no steps to clear this.
Type (Flash, EEPROM, etc.): TPM	Size: 16Kb (8x 2048 bit keys)	User Modifiable: ☐ Yes ☐ No	Function: Stores some LAN data/settings Industry standard secure crypto-processor used for secure access and securing sensitive data.	Steps to clear memory: To clear the customer storage root key, CSRK, disable the TPM in the pre-boot menu.

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
HDD	500GB (All bundles except E62655 dn)	☒ Yes ☐ No	Stores customer data, OS, applications, digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Figure A-8 Certificate of Volatility (2 of 2; E62655/E62665/E62675)

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
eMMC	16GB (E62655 dn Only)	☒ Yes ☐ No	Stores customer data, OS, applications, digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

USB
Does the item accept USB input and if so, for what purpose (i.e. Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.
Can any data other than scan upload be sent to the USB device? ☒ Yes ☐ No If Yes please describe below
Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics? (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard wired TCP/IP, direct USB, or parallel connections)? ☐ Yes ☒ No If Yes please describe below:	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose: Fax
Specifications:

Author Information			
Name:	Title: Hardware Technical Marketing Engineer	Email:	Business Unit: IPG
Signature:			Date Prepared: 03/22/2018

Figure A-9 Certificate of Volatility (1 of 2; E65150/E65160)

Hewlett-Packard Certificate of Volatility		
Model: HP Color LaserJet Managed E65150dn HP Color LaserJet Managed E65160dn	Part Number: 3GY03A = E65150dn 3GY04A = E65160dn	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3 - DRAM	1GB	☐ Yes ☒ No	Store customer setting data for backup/restore.	When the printer is powered off the memory is erased.

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Backup device for critical system counters and product configuration information.	There are no steps to clear this data.
Type (Flash, EEPROM, etc.): SPI Flash	Size: 4MB	User Modifiable: ☐ Yes ☒ No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data
Type (Flash, EEPROM, etc.): EEPROM (LAN)	Size: 1KB	User Modifiable: ☐ Yes ☒ No	Function: Stores some LAN data/settings	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc.): TPM	Size: 16Kb (8x 2048 bit keys)	User Modifiable: ☐ Yes ☒ No	Function: Industry standard secure crypto-processor used for secure access and securing sensitive data.	Steps to clear memory: To clear the customer storage root key, CSRK, disable the TPM in the pre-boot menu.

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC	8GB	☒ Yes ☐ No	Stores customer data, OS, applications digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Figure A-10 Certificate of Volatility (2 of 2; E65150/E65160)

USB
Does the item accept USB input and if so, for what purpose (i.e. Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.
Can any data other than scan upload be sent to the USB device? ☒ Yes ☐ No If Yes please describe below
Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics? (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)? ☐ Yes ☒ No If Yes please describe below:	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications:

Author Information			
Name:	Title: Hardware Technical Marketing Engineer	Email:	Business Unit: IPG
Signature:			Date Prepared: 03/22/2019

Figure A-11 Certificate of Volatility (1 of 2; M634/M635/M636)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Enterprise M634dn HP LaserJet Enterprise M634h-flow HP LaserJet Enterprise M635h HP LaserJet Enterprise M635fht HP LaserJet Enterprise M635z HP LaserJet Enterprise M636fh	Part Number: 7PS94A = M634dn 7PS95A = M634h-flow 7PS97A = M635h 7PS98A = M635fht 7PS99A = M635z 7PT00A = M636fh	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3 - DRAM	2GB-Non-Flow 2.5GB - Flow	☐ Yes ☒ No	Store customer setting data for backup/restore.	When the printer is powered off the memory is erased.

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Backup device for critical system counters and product configuration information.	There are no steps to clear this data.
Type (Flash, EEPROM, etc.): SPI Flash	Size: 4MB	User Modifiable: ☐ Yes ☒ No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data
Type (Flash, EEPROM, etc.): EEPROM (LAN)	Size: 1KB	User Modifiable: ☐ Yes ☒ No	Function: Stores some LAN data/settings	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc.): TPM	Size: 16Kb (8x 2048 bit keys)	User Modifiable: ☐ Yes ☒ No	Function: Industry standard secure crypto-processor used for secure access and securing sensitive data.	Steps to clear memory: To clear the customer storage root key, CSRK, disable the TPM in the pre-boot menu.

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC HP LaserJet Enterprise M634dn ONLY	16GB	☒ Yes ☐ No	Stores customer data, OS, applications digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Figure A-12 Certificate of Volatility (2 of 2; M634/M635/M636)

Mass Storage				
Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)? ☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below				
Type (HDD, Tape, etc.): EMMC	Size: 500GB	User Modifiable: ☒ Yes ☐ No	Function: Stores customer data, OS, applications digitally signed firmware images, persistent data, and temporary data used for processing and system functions	Steps to clear memory: There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

USB
Does the item accept USB input and if so, for what purpose (i.e. Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.
Can any data other than scan upload be sent to the USB device? ☒ Yes ☐ No If Yes please describe below
Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics? (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)? ☐ Yes ☒ No If Yes please describe below:	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications:

Author Information			
Name:	Title: Hardware Technical Marketing Engineer	Email:	Business Unit: IPG
Signature:			Date Prepared: 2/24/2020

Figure A-13 Certificate of Volatility (1 of 2; M634z/M636z)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Enterprise M634z HP LaserJet Enterprise M636z	Part Number: 7PS96A = M634z 7PT01A = M636z	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3 - DRAM	2GB-Non-Flow 2.5GB - Flow	☐ Yes ☒ No	Store customer setting data for backup/restore.	When the printer is powered off the memory is erased.

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Backup device for critical system counters and product configuration information.	There are no steps to clear this data.
Type (Flash, EEPROM, etc.): SPI Flash	Size: 4MB	User Modifiable: ☐ Yes ☒ No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data
Type (Flash, EEPROM, etc.): EEPROM (LAN)	Size: 1KB	User Modifiable: ☐ Yes ☒ No	Function: Stores some LAN data/settings	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc.): TPM	Size: 16Kb (8x 2048 bit keys)	User Modifiable: ☐ Yes ☒ No	Function: Industry standard secure crypto-processor used for secure access and securing sensitive data.	Steps to clear memory: To clear the customer storage root key, CSRK, disable the TPM in the pre-boot menu.

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC HP LaserJet Enterprise M634z ONLY	16GB	☒ Yes ☐ No	Stores customer data, OS, applications digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC	500GB	☒ Yes ☐ No	Stores customer data, OS, applications digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Figure A-14 Certificate of Volatility (2 of 2; M634z/M636z)

USB
Does the item accept USB input and if so, for what purpose (i.e. Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.
Can any data other than scan upload be sent to the USB device? ☒ Yes ☐ No If Yes please describe below
Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics? (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: WiFi Direct Print	
Frequency: 2.4GHz, 5GHz	Bandwidth: 2401 - 2495 MHz; depending on selected channel in 2.4GHz band. 5180 - 5825 MHz; depending on selected channel in 5GHz band.
Modulation:	Effective Radiate Power (ERP):
Specifications: 802.11 b/g/n	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: Device Beaconing Secure Print Apps	
Frequency: 2.4GHz	Bandwidth: 2400-2483.5 MHz; depending on selected channel.
Modulation:	Effective Radiate Power (ERP):
Specifications: BTLE4.0 compliant	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications:

Author Information			
Name:	Title: Hardware Technical Marketing Engineer	Email:	Business Unit: IPG
Signature:			Date Prepared: 2/24/2020

Figure A-15 Certificate of Volatility (1 of 2; M610/M611/M612)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Enterprise M610dn HP LaserJet Enterprise M611dn HP LaserJet Enterprise M612dn	Part Number: 7PS82A = M610dn 7PS84A = M611dn 7PS86A = M612dn	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3 - DRAM	512MB	☐ Yes ☒ No	Store customer setting data for backup/restore.	When the printer is powered off the memory is erased.

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Backup device for critical system counters and product configuration information.	There are no steps to clear this data.
Type (Flash, EEPROM, etc.): SPI Flash	Size: 4MB	User Modifiable: ☐ Yes ☒ No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data
Type (Flash, EEPROM, etc.): EEPROM (LAN)	Size: 1KB	User Modifiable: ☐ Yes ☒ No	Function: Stores some LAN data/settings	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc.): TPM	Size: 16Kb (8x 2048 bit keys)	User Modifiable: ☐ Yes ☒ No	Function: Industry standard secure crypto-processor used for secure access and securing sensitive data.	Steps to clear memory: To clear the customer storage root key, CSRK, disable the TPM in the pre-boot menu.

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC	8GB	☒ Yes ☐ No	Stores customer data, OS, applications digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Figure A-16 Certificate of Volatility (2 of 2; M610/M611/M612)

USB
Does the item accept USB input and if so, for what purpose (i.e. Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.
Can any data other than scan upload be sent to the USB device? ☒ Yes ☐ No If Yes please describe below
Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics? (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)? ☐ Yes ☒ No If Yes please describe below:	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications:

Author Information			
Name:	Title: Hardware Technical Marketing Engineer	Email:	Business Unit: IPG
Signature:			Date Prepared: 2/24/2020

Figure A-17 Certificate of Volatility (1 of 2; M611x/M612x)

Hewlett-Packard Certificate of Volatility		
Model: HP LaserJet Enterprise M611x HP LaserJet Enterprise M612x	Part Number: 7PS85A = M611x 7PS87A = M612x	Address: Hewlett Packard Company 11311 Chinden Blvd Boise, ID 83714

Volatile Memory

Does the device contain volatile memory (Memory whose contents are lost when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (SRAM, DRAM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
DDR3 - DRAM	512MB	☐ Yes ☒ No	Store customer setting data for backup/restore.	When the printer is powered off the memory is erased.

Non-Volatile Memory

Does the device contain non-volatile memory (Memory whose contents are retained when power is removed)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (Flash, EEPROM, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
IOD EEPROM	32KB	☐ Yes ☒ No	Backup device for critical system counters and product configuration information.	There are no steps to clear this data.
Type (Flash, EEPROM, etc.): SPI Flash	Size: 4MB	User Modifiable: ☐ Yes ☒ No	Function: Contains the boot code and factory product configuration data required for the device to function. User modifications are limited to downloading digitally signed HP firmware images.	Steps to clear memory: There are no steps to clear this data
Type (Flash, EEPROM, etc.): EEPROM (LAN)	Size: 1KB	User Modifiable: ☐ Yes ☒ No	Function: Stores some LAN data/settings	Steps to clear memory: There are no steps to clear this data.
Type (Flash, EEPROM, etc.): TPM	Size: 16Kb (8x 2048 bit keys)	User Modifiable: ☐ Yes ☒ No	Function: Industry standard secure crypto-processor used for secure access and securing sensitive data.	Steps to clear memory: To clear the customer storage root key, CSRK, disable the TPM in the pre-boot menu.

Mass Storage

Does the device contain mass storage memory (Hard Disk Drive, Tape Backup)?
☒ Yes ☐ No If Yes please describe the type, size, function, and steps to clear the memory below

Type (HDD, Tape, etc.):	Size:	User Modifiable:	Function:	Steps to clear memory:
EMMC	8GB	☒ Yes ☐ No	Stores customer data, OS, applications digitally signed firmware images, persistent data, and temporary data used for processing and system functions	There are several ways to erase this: 1. Secure Storage Erase - Erases temporary files and job data by overwriting information one or three times 2. Secure Disk Erase - Industry standard ATA Secure Erase. Overwrites all data on the hard drive. 3. Secure File Erase - Erases files when jobs finish processing by overwriting them one or three times.

Figure A-18 Certificate of Volatility (2 of 2; M611x/M612x)

USB
Does the item accept USB input and if so, for what purpose (i.e. Print Jobs, device firmware updates, scan upload)? ☒ Yes ☐ No If Yes please describe below
Print jobs, HP digitally signed firmware upgrades, 3rd party application loading. USB ports can be disabled.
Can any data other than scan upload be sent to the USB device? ☒ Yes ☐ No If Yes please describe below
Diagnostic service logs can be uploaded. Print files can be printed via a USB thumb drive.

RF/RFID	
Does the item use RF or RFID for receive or transmit of any data including remote diagnostics? (e.g. Cellular phone, Bluetooth) ☐ Yes ☒ No If Yes please describe below	
Purpose:	
Frequency:	Bandwidth:
Modulation:	Effective Radiate Power (ERP):
Specifications:	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: WiFi Direct Print	
Frequency: 2.4GHz, 5GHz	Bandwidth: 2401 - 2495 MHz; depending on selected channel in 2.4GHz band. 5180 - 5825 MHz; depending on selected channel in 5GHz band.
Modulation:	Effective Radiate Power (ERP):
Specifications: 802.11 b/g/n	

Other Transmission Capabilities	
Does the device employ any other methods of non-wired access to transmit or receive any data whatsoever (e.g. anything other than standard hard-wired TCP/IP, direct USB, or parallel connections)? ☒ Yes ☐ No If Yes please describe below:	
Purpose: Device Beaconing Secure Print Apps	
Frequency: 2.4GHz	Bandwidth: 2400-2483.5 MHz; depending on selected channel.
Modulation:	Effective Radiate Power (ERP):
Specifications: BTLE4.0 compliant	

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications:

Other Capabilities
Does the device employ any other method of communications such as a Modem to transmit or receive any data whatsoever? ☐ Yes ☒ No If Yes please describe below:
Purpose:
Specifications:

Author Information			
Name:	Title: Hardware Technical Marketing Engineer	Email:	Business Unit: IPG
Signature:			Date Prepared: 2/24/2020

B Revision history

- Revision history

Revision history

Table B-1 Revision history

Revision number	Revision date	Revision notes
3.0	March 2020	Edits for ULT SP20.
2.0	April 2019	Added managed models. Updated Engine-control system on page 6. Updated DC controller connections on page 176. Updated Diagrams: General circuit diagrams on page 202. Added Manually unlock the left door (E62655/E62665/E62675 models) on page 83. Added Manually unlock the front door (E60155/E60165/E60175 models) on page 82. Added “Revision history” section.
1.0	May 2017	Troubleshooting manual initial release

Index

Symbols/Numerics

1x550-sheet paper deck
  main assemblies locations 190
1x550-sheet paper feeder
  main assemblies locations 187
2,100-sheet paper deck
  main assemblies locations; ; M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 196
2,550-sheet paper deck
  main assemblies locations; M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175 198
3x550-sheet paper deck
  main assemblies locations 193

A

AC to DC conversion 12
accessories installed, information 221
acoustic specifications 407
automatic document feeder
  scanning and image capture (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 only) 73

B

basic printer operation 4
bias generation
  high-voltage power supply 15
blank pages
  troubleshooting 371
block diagram
  electrical components 165
  external plug and port locations 179

C

cables
  USB, troubleshooting 372
cartridge
  dynamic security 31
  life detection 31
  memory chip 31
  presence detection 31
  toner level detection 31
cautions iii
certificate of volatility 408
Channel partners support
  HP Channel Services Network (CSN) v, 2, 80
checklist
  problems 84
  wireless connectivity 377
checklists
  pre-troubleshooting 112
circuit diagrams 202
  high-voltage power supply 14
  low-voltage power supply 12
clean the paper path
  cleaning page printing 292
cleaning
  glass (MFP) 293
  paper path 255, 292
  printer 292
  rollers document feeder (MFP) 295
  tray 1 rollers and separation pad 297
  tray 2-X rollers 300
clutches
  DC controller 9
cold reset 382
  pre-boot menu 385
component test
  special mode tests 161
components
  DC controller 7
  diagnostic tests 161
  engine-control system 6
  fuser 16
  toner cartridge 30
configuration pages
  information 220
  printing 214
Contacts menu (fax models only), control panel 232
control functions
  fuser 17
control panel
  Contacts menu (fax models only) 232
  Copy menu (MFP models only) 225
  HP JetAdvantage menu (MFP models only) 230
  messages, types of 252
  Print menu 229
  Quick Sets menu (MFP models only) 231
  Reports menu 238
  Scan menu (MFP models only) 228
  Settings menu 240
  Supplies menu 233
  Support Tools menu 245
  Trays menu 235
control panel diagnostic flowcharts (touchscreen models) 140
control-panel menus 223
conventions, document iii
cooling
  areas and fans 9
Copy menu (MFP models only), control panel 225

counts 380
copy scan 381, 382
document feeder 381
document feeder duplex 381
document feeder roller clean 381
document feeder roller interval 381
document feeder simplex 381
engine cycles 381
fax scan 381
flatbed cycle 381
mono cycles 381
page, reset 380
refurbish cycle 381
reset after replacing formatter 380
send scan 381
See also pages counts
current settings pages 90

D
date
codes for firmware 220
product first used 382
DC controller
clutches 9
components 7
fans 9
motors 8
sensors 11
solenoids 9
switches 10
DC motors 8
DC voltages converted from AC 12
defeating
interlocks 151
determine problem source 112
determine the installed revision of firmware 392
development process 27
diagnostics
component 161
engine 150
LED 147
diagrams
block 165
circuit 202
major assemblies 181
timing 201
dimensions, printer (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 400
dimensions, printer (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 403
document conventions iii
document feeder
automatic document feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 only) 73
jams 324
paper-feeding problems (MFP) 310
document feeder count
document feeder pages 381
document feeder kit interval 381
document feeder rollers (MFP)
cleaning 295
drum cleaning 29
duplexer
clearing jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 355
clearing jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 353
duplexing unit
motors 8
dynamic security 31

E
electrical components
block diagram 165
electrical specifications 407
embedded web server 394
engine
diagnostics 150
test page 150
engine-control system
components 6
envelope feeder
clearing jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 359
clearing jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 357
error messages
types of 252
event log
clear using LCD control panel 92
clear using touchscreen control panel 91
information 221
view, print, and clear 381
view, print, or clear 91
exhaust fans 9
external plug and port locations
block diagram 179

F
factory defaults
reset 385
failure detection
laser/scanner 21
motors 8
fans
DC controller 9
exhaust 9
intake 9
fax accessory
configuration page 219
fax problems
get help from WISE 398
firmware
date codes 220
firmware, downloading new 391
flatbed
scanning and image capture (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 only) 72
flowcharts
troubleshooting 113
formatter
resets after replacing 380
formatter lights 147
fuser 15
clearing jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 348
clearing jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 345
components 16
control functions 17

control-circuit function 15
temperature protection 19
See also fusing and delivery unit
fuser test page
print 222, 223
fusing process 29

G
glass (MFP), cleaning 293
guide, print-quality troubleshooting 258

H
hardware integration pocket (HIP) is not functioning 145
heartbeat LED 147
heaters
fuser 16
high-voltage power supply (HVPS)
bias generation 15
circuits 15
operations 14
home button is unresponsive 144
HP Channel Services Network (CSN)
Channel partners support v, 2, 80
HP embedded Jetdirect page 218
HP JetAdvantage menu (MFP models only), control panel 230
HP Jetdirect print server
configuration page 218
lights 147
HP Stapling Mailbox
clear jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 363
clear jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 361
clear staple jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 364
HVPS (high-voltage power supply)
bias generation 15
circuits 15
operations 14

I
image capture system
scanning (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 only) 72
image defects
printer specific 275
image defects, product specific 262
image quality
check paper and the printing environment 261
check toner-cartridge status 254, 260
inspect the toner cartridge 260
tray 1 rollers and separation pad, clean 297
tray 2-X rollers, clean 300
image quality issues
examples and solutions 262
image-formation process
development process 27
drum cleaning 29
fusing process 29
laser-beam exposure 27
primary charging 26
primary transfer process 28
separation process 28
image-information process 25
imaging drums
diagnostic test 154
individual component diagnostics 147
information pages
paper path 154
initial rotation period 5
installation
date calculation 382
verify for optional accessories 214
intake fans 9
interlocks
defeating 151
interpret control-panel messages and event log entries 252
IP address
information 221
IPv4 information 216, 217, 218
IPv6 information 216, 217, 218

J
jams 49, 56
2,100-sheet high-capacity input tray (Tray 6) (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 342
2,550-sheet high-capacity input tray (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 339
auto-navigation 322
causes of 322
detection in trays 3-5 45
document feeder 324
duplexer (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 355
duplexer (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 353
envelope feeder (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 359
envelope feeder (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 357
fuser (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 348
fuser (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 345
HP Stapling Mailbox (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 363
HP Stapling Mailbox (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 361
output bin (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 352
output bin (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 351
rear door (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 348
recovery 370
right door (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 345
sensor locations 314
staples in the HP Stapling Mailbox (M631/M632/M633/E62555/

E62565/E62575/E62655/
E62665/E62675) 364
staples in the stapling mailbox accessory (M607/M608/M609/
E60055/E60065/E60075/
E60155/E60165/E60175) 367
Tray 1 (M607/M608/M609/
E60055/E60065/E60075/
E60155/E60165/E60175) 328
Tray 1 (M631/M632/M633/
E62555/E62565/E62575/
E62655/E62665/E62675) 326
Tray 2, 3, and 4 (M607/M608/
M609/E60055/E60065/E60075/
E60155/E60165/E60175) 335
Trays 2, 3, 4, and 5 (M631/M632/
M633/E62555/E62565/E62575/
E62655/E62665/E62675) 331
jams, paper
locations (M607/M608/M609/
E60055/E60065/E60075/
E60155/E60165/E60175) 322
locations (M631/M632/M633/
E62555/E62565/E62575/
E62655/E62665/E62675) 321
Jetdirect print server
information 218
lights 147

L

laser-beam exposure 27
laser/scanner
failure detection 21
operations 20
safety 21
last rotation period 5
latent image formation 25
LEDs. *See* lights
lights
formatter 147
troubleshooting with 147
low-voltage power supply (LVPS)
converted DC voltages 13
operations 12
protection for components 13
stops and interruptions 13
LVPS (low-voltage power supply)
converted DC voltages 13
operations 12
protection for components 13
stops and interruptions 13

M

main assemblies locations
1x550-sheet paper deck 190
1x550-sheet paper feeder 187
2,100-sheet paper deck; ; M607/
M608/M609/E60055/E60065/
E60075/E60155/E60165/
E60175 196
2,550-sheet paper deck; M607/
M608/M609/E60055/E60065/
E60075/E60155/E60165/
E60175 198
3x550-sheet paper deck 193
printer base 181
major assemblies
diagrams 181
memory
toner cartridge 31
menu map 90
menus, control panel
Contacts menu (fax models only) 232
Copy menu (MFP models only) 225
HP JetAdvantage menu (MFP models only) 230
Print menu 229
Quick Sets menu (MFP models only) 231
Reports menu 238
Scan menu (MFP models only) 228
SettingsSettings menu 240
Supplies menu 233
Support Tools menu 245
Trays menu 235
messages
types of 252
motor control 46
motors
DC controller 8
failure detection 8
paper feeder 43
stepping 8

N

networks
fax accessory page 219
HP embedded Jetdirect configuration page 218
wireless page 216
no control panel sound 143
notes iii

O

operation sequence 5
operations
laser/scanner 20
toner cartridge memory 31
output bin
clear jams (M607/M608/M609/
E60055/E60065/E60075/
E60155/E60165/E60175) 352
clear jams (M631/M632/M633/
E62555/E62565/E62575/
E62655/E62665/E62675) 351
over-current protection 13
over-voltage protection 13

P

pages
blank 371
not printing 372
printing slowly 371
pages count 380
reset 380
See also counts
paper
default size reset 382
jam detection 45, 49, 56
jams 322
selecting 256
stop in path for testing 159
paper feeder
electrical components 0 , 43
paper handling
solve problems 307
paper jams
document feeder 324
HP Stapling Mailbox (M607/M608/
M609/E60055/E60065/E60075/
E60155/E60165/E60175) 363
HP Stapling Mailbox (M631/M632/
M633/E62555/E62565/E62575/
E62655/E62665/E62675) 361

locations (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 322
locations (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 321
output bin (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 352
output bin (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 351
Tray 1 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 328
Tray 1 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 326
Tray 2, 3, 4, and 5 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 331
Tray 2, 3, and 4 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 335
Tray 5 (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 342
Tray 6 (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 339
paper path
stop movement for testing 159
paper path page
view and print 154
paper-path
test, sensors 155
password
Service menu PIN 380
periods of the operation sequence 5
power
consumption 407
power subsystem 114
power supply 12
troubleshooting 114
See also low-voltage power supply; high-voltage power supply
power-on troubleshooting overview 114
pre-boot menu options 93
pre-troubleshooting checklist 112
primary charging process 26
Print menu, control panel 229
print quality
check the paper-type setting for the print job 261
test pages 214
print-quality troubleshooting 146
104 mm trailing edge blur 283
111 mm trailing edge blur 284
120 mm trailing edge blue duplex side 285
18 mm leading edge blur 277
25 mm leading edge blur 280
44 mm (44.1 mm) wide pitch banding 276
46 mm leading edge blur 279
50 mm trailing edge blur 281
75 mm trailing edge blur 282
hot offset 286
mottle/grainines 288, 290
printer specific image defects 275
printer base
main assemblies locations 181
printer dimensions
accessories 400
printer pre-checks, print-quality troubleshooting 259
printer resets
factory defaults 385
printer space requirements 407
printer specific image defects 275
printing
period in operation sequence 5
stop for testing 159
troubleshooting 371, 372
problem-solving
messages, types of 252

Q

Quick Sets menu (MFP models only), control panel 231

R

rear door
clearing jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 348
Reports menu, control panel 238
right door
clearing jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 345

S

safety
laser/scanner 21
Scan menu (MFP models only), control panel 228
scanner (MFP)
glass cleaning 293
tests 163, 164
scanner settings 382
scanning
image capture (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675 only) 72
security settings information 216, 217, 218
sensors
DC controller 11
diagnostic tests 155
paper feeder 43
tests, diagnostic sensor and paper path 154
tests, manual sensor 157
separation process 28
serial number 382
service and support information
WISE and CSN v, 2, 80
Service ID
convert to date 382
restore 382
service ID
reset 385
Service menu options 380
service mode functions 380
Settings menu, control panel 240
solenoids
DC controller 9
solve connectivity problems 375
solve performance problems 371
factors affecting print performance 371
print speeds 372
printer does not print or it prints slowly 373
printer prints slowly 374

solve problems 79
output is curled or wrinkled 308
paper does not feed automatically 310
paper does not feed from Tray 2-X 308
paper handling 307
printer does not pick up paper 309
printer does not pick up paper or misfeeds 309
printer feeds incorrect page size 307
printer picks up multiple sheets of paper 310
printer pulls from incorrect tray 307
printer will not duplex or duplexes incorrectly 308
space requirements, printer 407
specifications
electrical and acoustic 407
space requirements 407
standby period 5
staple jams
HP Stapling Mailbox (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 364
stapling mailbox accessory (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 367
stapling mailbox accessory
clear staple jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 367
status
messages, types of 252
stepping motors 8
stop printing for test 159
sub-voltage
low-voltage power supply circuit 13
Supplies menu, control panel 233
Support Tools menu, control panel 245
switches
DC controller 10
paper feeder 43

T
TCP/IP information 216, 217, 218
temperature
fuser heater protection 19
test pages
fuser 222, 223
tests
disable cartridge check 154
engine 150
manual sensor tests 157
paper path and sensor diagnostic 154
paper-path sensors 155
scanner (MFP) 163, 164
tests (MFP)
scanner tests 163, 164
thermistors
fuser 16
thermoswitches
fuser 17
timing chart 201
tips iii
toner
image formation, use during 25
toner cartridge
dynamic security 31
life detection 31
memory chip 31
presence detection 31
toner level detection 31
toner cartridges 30
components 30
diagnostic test 154
error conditions 30
operations 30
touchscreen blank, white, or dim (no image) 141
touchscreen has an unresponsive zone 142
transfer processes 28
Tray 1
jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 328
jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 326
tray 1 rollers and separation pad
cleaning 297
Tray 2
jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 335
jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 331
tray 2-X rollers
cleaning 300
Tray 3
jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 335
jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 331
Tray 4
jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 335
jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 331
Tray 5
jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 331
Tray 6
paper jams (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 342
paper jams (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 339
trays 3-5
motor control 46
trays 3-6
jam detection 45
Trays menu, control panel 235
troubleshooting 79
blank pages 371
check paper and the printing environment 261
check the paper-type setting for the print job 261
check toner-cartridge status 254, 260
checklist 84, 112
clean the paper path 292
configuration pages for 214

flowchart 113
inspect the toner cartridge 260
jams 314, 322
lights, using 147
network problems 375
pages not printing 372
pages printing slowly 371
power 114
process 112
USB cables 372
wired network 375
wireless network 376
troubleshooting (touchscreen models)
control panel checks 120
troubleshooting, print quality
printer specific image defects 275

U

understand lights on the formatter
formatter lights 147
understand the lights on the formatter
heartbeat LED 147
HP Jetdirect LEDs 149
upgrade firmware 394
upgrades, downloading product firmware 391
USB flash drive
firmware upgrade, control panel 395
firmware upgrade, pre-boot menu 396
USB port
troubleshooting 372

W

waiting period 5
warnings iii
warranty date information 382
Web-based Interactive Search Engine
WISE v, 2, 80
weight, printer (M607/M608/M609/E60055/E60065/E60075/E60155/E60165/E60175) 400
weight, printer (M631/M632/M633/E62555/E62565/E62575/E62655/E62665/E62675) 403
wireless
configuration page 216
wireless network
troubleshooting 376
wireless network interference 379
wireless page 216, 219
WISE
solve fax problems 398
Web-based Interactive Search Engine v, 2, 80