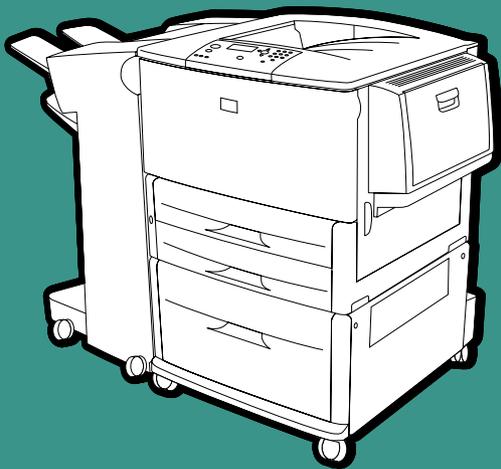


Product: 2001 HP LaserJet 9000 Series Printer Service Repair Workshop Manual

Full Download: <https://www.arepairmanual.com/downloads/2001-hp-laserjet-9000-series-printer-service-repair-workshop-manual/>

0-series-printer-service-repair-workshop-manual/



**hp** LaserJet 9000  
9000n • 9000dn • 9000hns



i n v e n t

**service**

Sample of manual. Download All 362 pages at:

<https://www.arepairmanual.com/downloads/2001-hp-laserjet-9000-series-printer-service-repair-workshop-manual/>



Product: 2001 HP LaserJet 9000 Series Printer Service Repair Workshop Manual  
Full Download: <https://www.arepairmanual.com/downloads/2001-hp-laserjet-9000-series-printer-service-repair-workshop-manual/>

Sample of manual. Download All 362 pages at:  
<https://www.arepairmanual.com/downloads/2001-hp-laserjet-9000-series-printer-service-repair-workshop-manual/>

# HP LaserJet 9000 Series printer

**Service** \_\_\_\_\_

© Copyright Hewlett-Packard Company, 2001

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

Part number: C8519-90912

First Edition, May 2001

## Warranty

The information contained in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with respect to this information. HEWLETT-PACKARD SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Hewlett-Packard shall not be liable for any direct, indirect, incidental, consequential, or other damage alleged in connection with the furnishing or use of this information.

## Trademark Credits

Adobe® and PostScript® are trademarks of Adobe Systems Incorporated which may be registered in certain jurisdictions.

ENERGY STAR® is a U.S. registered service mark of the United States Environmental Protection Agency.



# Table of contents

## List of tables

## List of figures

## 1 Product information

Product features . . . . .	16
Product specifications . . . . .	18
Product overview . . . . .	20
External assembly locations . . . . .	20
Interface connections . . . . .	21
Optional accessories . . . . .	22
Regulatory information . . . . .	23
Regulatory requirements . . . . .	23
FCC regulations . . . . .	23
Declaration of conformity . . . . .	23
Environmental product stewardship program . . . . .	23
Service approach . . . . .	24
Parts and supplies . . . . .	24
Warranty . . . . .	24
Limited warranty for print cartridge life . . . . .	24
Service and support . . . . .	25
Worldwide service and support offices . . . . .	25

## 2 Product requirements

Site requirements . . . . .	28
Operating environment . . . . .	28
Space requirements . . . . .	29
Media specifications . . . . .	31
Guidelines for selecting paper . . . . .	31
Special media specifications . . . . .	31
Storing print media . . . . .	34
Testing media specifications . . . . .	35
Tools and suppliers . . . . .	39
Media input/output options . . . . .	40
Trays, bins, and paper handling . . . . .	40
Media sizes . . . . .	41

## 3 Product configuration

Using the control panel . . . . .	46
Control panel keys . . . . .	46
Numeric keypad commands . . . . .	47
Settings and defaults . . . . .	48
Setting the display language . . . . .	48
Setting tray registration . . . . .	48
Printer driver information . . . . .	51
Factory default settings . . . . .	51

Control panel menus . . . . .	54
Using a menu map . . . . .	54
Menu map . . . . .	55
Retrieve job menu . . . . .	60
Information menu . . . . .	60
Paper handling menu . . . . .	60
Configure device menu . . . . .	61
Network and mass storage . . . . .	63
Remote firmware upgrade (RFU) . . . . .	64
Downloading the new firmware to the printer . . . . .	64
Using HP Web JetAdmin . . . . .	64

## 4 Product maintenance

Preventative maintenance . . . . .	68
Preventive maintenance kit contents . . . . .	68
Cleaning the printer and accessories . . . . .	69
General cleaning . . . . .	69
Internal cleaning . . . . .	70
Fuser cleaning . . . . .	73
Print cartridge information . . . . .	75
Storage . . . . .	75
Handling instructions . . . . .	75
Refilled print cartridges . . . . .	76
Print cartridge weights . . . . .	76
Print cartridge life expectancy . . . . .	76
Saving toner with EconoMode . . . . .	76

## 5 Theory of operation

Basic operation . . . . .	79
Sequence of operation . . . . .	80
Power-on sequence . . . . .	82
Timing chart . . . . .	83
Engine control system . . . . .	84
DC controller PCB . . . . .	85
DC controller operations . . . . .	86
High-voltage power supply circuit . . . . .	87
Low-voltage power supply unit . . . . .	89
Formatter system . . . . .	90
Formatter hardware . . . . .	90
Formatter subsystem . . . . .	91
Laser/scanner system . . . . .	92
Image formation system . . . . .	93
The eight processes of image formation . . . . .	93
Print cartridge . . . . .	94
Pickup and feed system . . . . .	96
Media-size detection . . . . .	96
Media-level detection . . . . .	96
Multifeed prevention . . . . .	96
Overhead transparency detection . . . . .	96
Fuser wrapping jam detection . . . . .	96
Jam detection . . . . .	97
Optional tray 1 . . . . .	102
Tray 1 driver PCB . . . . .	102
Power supply . . . . .	102
Sequence of operation . . . . .	102
Pickup and feed . . . . .	103
Jam detection . . . . .	103

Optional tray 4 . . . . .	104
Tray 4 driver PCB . . . . .	104
Power supply . . . . .	104
Sequence of operation . . . . .	104
Pickup and feed . . . . .	105
Media level and size detection . . . . .	105
Jam detection . . . . .	105
Optional 3000-sheet stapler/stacker . . . . .	106
Controller PCB . . . . .	106
Power supply . . . . .	106
Power-on sequence . . . . .	106
Main modules . . . . .	107
Paper path and jam detection . . . . .	108
Stapler bin full condition . . . . .	109
Optional 3000-sheet stacker . . . . .	110
Controller PCB . . . . .	110
Power supply . . . . .	110
Power-on sequence . . . . .	110
Main modules . . . . .	111
Paper path and jam detection . . . . .	112
Stacker bin full condition . . . . .	113

## 6 Removal and replacement

Introduction . . . . .	117
Removal and replacement strategy . . . . .	117
Repair notices . . . . .	117
Electrostatic discharge (ESD) . . . . .	117
Required tools . . . . .	117
Orientation of the printer (with tray 4) . . . . .	118
Covers . . . . .	119
Right top cover . . . . .	119
Left top cover . . . . .	120
Front cover . . . . .	121
Right door . . . . .	122
Right lower cover . . . . .	123
Left door and diverter . . . . .	124
Left back cover . . . . .	125
Back cover . . . . .	126
Rail covers . . . . .	127
Top assemblies . . . . .	128
Control panel . . . . .	128
Laser/scanner assembly . . . . .	129
Delivery assembly . . . . .	130
Delivery fan assembly . . . . .	131
Delivery assembly fans and face-down bin fan (fans #3, #6, and #4) . . . . .	132
Delivery motor . . . . .	133
Cartridge release lever . . . . .	134
Front assemblies . . . . .	135
Print cartridge . . . . .	135
Transfer roller assembly . . . . .	136
Tray 2 or tray 3 (interchangeable) . . . . .	136
Rollers (pickup, feed, or separation) . . . . .	137
Fuser jam removal knob . . . . .	138
Registration jam removal knob . . . . .	139
Right assemblies . . . . .	140
Tray 1 . . . . .	140
Paper input unit (PIU) . . . . .	141
Registration assembly . . . . .	144

Transfer guide assembly . . . . .	145
Left assemblies . . . . .	146
Duplexer . . . . .	146
Fuser assembly . . . . .	147
Back assemblies . . . . .	148
Formatter . . . . .	148
Low-voltage power supply (LVPS) . . . . .	149
High-voltage power supply (HVPS) . . . . .	150
DC controller . . . . .	151
Toner-sensor contact assembly . . . . .	152
Cartridge memory PCA . . . . .	153
Drum motor . . . . .	154
Feed-drive assembly . . . . .	155
Power supply fan (fan #1) . . . . .	156
Cartridge fan (fan #5) . . . . .	157
Controller fan (fan #2) . . . . .	158
2000-sheet feeder (tray 4) . . . . .	159
Orientation . . . . .	159
Left side cover . . . . .	159
Right side cover . . . . .	160
Back covers . . . . .	161
Tray 4 . . . . .	162
Rollers (pickup, feed, and separation) . . . . .	163
Registration assembly . . . . .	164
Drive motor . . . . .	165
Drive assembly . . . . .	165
Controller board . . . . .	166
Paper-size detection switch PCB . . . . .	167
Power supply . . . . .	168
Pickup assembly . . . . .	169
Paper connecting unit . . . . .	170
3000-sheet stapler/stacker and 3000-sheet stacker . . . . .	171
Output accessory removal . . . . .	171
Parts removal . . . . .	171
Orientation of the stapler/stacker . . . . .	172
Face-up bin . . . . .	173
Stapler/stacker bin (stapler/stacker only) or stacker bin (stacker only) . . . . .	173
Back inner cover and front inner cover . . . . .	174
Front cover . . . . .	175
Back cover . . . . .	176
Foot cover . . . . .	177
Door assembly . . . . .	177
Controller PCA cover . . . . .	178
Flipper assembly . . . . .	179
Paper path assembly . . . . .	180
Accumulator wings (stapler/stacker only) . . . . .	181
Paper stopper clips . . . . .	182
Accumulator assembly (stapler/stacker only) . . . . .	183
Carriage assembly (stapler/stacker only) . . . . .	185
Offset module (stacker only) . . . . .	186
Stapler (stapler/stacker only) . . . . .	187
Controller PCA . . . . .	188
Power supply . . . . .	189
LED PCA . . . . .	190
Interlock switch . . . . .	191
Safety switch assembly (stapler/stacker only) . . . . .	192
Optical sensors . . . . .	193
Cable assembly . . . . .	194
Casters . . . . .	195

## 7 Troubleshooting

Troubleshooting process	199
Basic troubleshooting process flow	200
Preliminary operating checks	202
General troubleshooting information	203
Miscellaneous problems and solutions	203
Power-on	206
Troubleshooting with control panel messages	207
Control panel display	207
Event log page	207
Control panel messages	210
Control panel and event log message format	211
Printer message tables	211
Alphabetic error messages	211
Numeric error messages	221
User/service level diagnostics	238
Paper path test	238
Service test	238
Engine test	240
Setting the display language	241
Re-initializing a hard disk	241
Service level diagnostics	242
Service menu	242
Service mode	242
Accessories diagnostics	246
2000-sheet feeder diagnostics	246
3000-sheet stapler/stacker and stacker diagnostics	249
Jam troubleshooting	254
Jams	255
Customer print job	255
Clearing jams	255
Evaluate the information pages	256
Configuration page	256
Jetdirect page	259
Supplies status page	260
Usage page	261
File directory page	262
Image-formation troubleshooting	263
Check the print cartridge	264
Image defect tables	265
Repeating defect ruler	273
Media troubleshooting	274
Determine the problem source: print media or printer	274
Isolate a paper path	274
Isolate a media brand	275
Isolate a media type	275
Communication troubleshooting	276
Communications check	276
Jetdirect configuration	276
Verify network and server operation	276
Wiring diagram	277

## 8 Parts and diagrams

Introduction . . . . .	280
Ordering parts . . . . .	280
Consumables, supplies, accessories, FRUs, and documentation . . . . .	281
Common hardware . . . . .	283
Illustrations and parts lists . . . . .	284
External covers and panels . . . . .	284
Left door and diverter . . . . .	286
Right cover assembly . . . . .	288
Internal . . . . .	290
Internal components . . . . .	290
Drum feed drive assembly . . . . .	298
Fuser delivery drive assembly . . . . .	299
Cartridge lifter assembly . . . . .	300
500-sheet trays (tray 2 and 3) . . . . .	301
Paper input unit (PIU) . . . . .	302
Registration assembly . . . . .	303
Transfer roller assembly . . . . .	304
Delivery assembly . . . . .	306
PCB assembly location . . . . .	308
2000-sheet feeder (optional tray 4) . . . . .	310
2000-sheet feeder (optional tray 4) main body . . . . .	310
2000-sheet feeder (optional tray 4) drive assembly . . . . .	314
2000-sheet feeder (optional tray 4) PCB location . . . . .	315
Optional tray 1 . . . . .	316
Optional tray 1 assembly . . . . .	316
Paper handling output device . . . . .	318
3000-sheet stapler/stacker . . . . .	318
3000-sheet stacker . . . . .	322
Alphabetical parts list . . . . .	326
Numerical parts list . . . . .	334

## Index

# List of tables

Table 1. Features of the HP LaserJet 9000 Series printers	16
Table 2. Configuration comparison	18
Table 3. Physical specifications	19
Table 4. Electrical specifications	19
Table 5. Environmental specifications	19
Table 6. Noise-level specifications	19
Table 7. Determining basis weight of paper	35
Table 8. Paper weight equivalence	36
Table 9. Tools and suppliers	39
Table 10. Optional tray 1 media sizes	41
Table 11. Tray 2 and tray 3 media sizes	41
Table 12. Optional tray 4 paper sizes	42
Table 13. Duplexer paper sizes	43
Table 14. 3000-sheet stapler/stacker and 3000-sheet stacker media sizes	44
Table 15. Control panel key functions	46
Table 16. Printer state and numeric key effect	47
Table 17. Factory default settings	51
Table 18. Retrieve job menu	60
Table 19. Information menu	60
Table 20. Paper handling menu	60
Table 21. Configure device menu	61
Table 22. Storing print cartridges	75
Table 23. Normal sequence of operation	80
Table 24. Failure sequence of operation	82
Table 25. Pickup and feed system sensors and switches	99
Table 26. Pickup and feed system motors and solenoids	101
Table 27. Primary steps for troubleshooting	199
Table 28. Power-on defects or blank display	206
Table 29. Alphabetic error messages	211
Table 30. Numeric error messages	221
Table 31. Service test abnormality codes	238
Table 32. Service menu	242
Table 33. DIP switch settings	247
Table 34. 2000-sheet feeder light pattern interpretation	248
Table 35. Stapler/stacker and stacker user light pattern interpretation	252
Table 36. General jam troubleshooting questions	254
Table 37. Printer devices troubleshooting	258
Table 38. Image quality checks	263
Table 39. Image defects	266
Table 40. Consumables, supplies, accessories, FRUs, and documentation	281
Table 41. Hardware table	283
Table 42. Common torque values	283
Table 43. Printer external covers and panels	285
Table 44. Left door and diverter	287
Table 45. Right cover assembly	289
Table 46. Internal components (1 of 4)	291
Table 47. Internal components (2 of 4)	293
Table 48. Internal components (3 of 4)	295
Table 49. Internal components (4 of 4)	297

Table 50. Drum feed drive assembly . . . . .	298
Table 51. Fuser delivery drive assembly . . . . .	299
Table 52. Cartridge lifter assembly . . . . .	300
Table 53. 500-sheet trays (tray 2 and 3) . . . . .	301
Table 54. PIU . . . . .	302
Table 55. Registration assembly . . . . .	303
Table 56. Transfer roller assembly . . . . .	305
Table 57. Delivery assembly . . . . .	307
Table 58. PCB assembly location . . . . .	309
Table 59. 2000-sheet feeder (optional tray 4) main body (1 of 2) . . . . .	311
Table 60. 2000-sheet feeder (optional tray 4) main body (2 of 2) . . . . .	313
Table 61. 2000-sheet feeder (optional tray 4) drive assembly . . . . .	314
Table 62. 2000-sheet feeder (optional tray 4) PCB location . . . . .	315
Table 63. Optional tray 1 assembly . . . . .	317
Table 64. 3000-sheet stapler/stacker (1 of 2) . . . . .	319
Table 65. 3000-sheet stapler/stacker (2 of 2) . . . . .	321
Table 66. 3000-sheet stacker (1 of 2) . . . . .	323
Table 67. 3000-sheet stacker (2 of 2) . . . . .	325
Table 68. Alphabetical parts list . . . . .	326
Table 69. Numerical parts list . . . . .	334

# List of figures

Figure 1. Sample identification label	18
Figure 2. Front assembly locations	20
Figure 3. Back assembly locations	20
Figure 4. Interface connections	21
Figure 5. Optional accessories	22
Figure 6. Requirements for base model	29
Figure 7. Requirements with 3000-sheet stapler/stacker and 2000-sheet feeder installed	30
Figure 8. Sample seams	32
Figure 9. Adhesive labels	33
Figure 10. Long, short, and diagonal grain curl	37
Figure 11. Measuring curl	38
Figure 12. Media trays, bins, and paper handling	40
Figure 13. Control panel layout	46
Figure 14. Registration page (1 of 2)	49
Figure 15. Registration page (2 of 2)	50
Figure 16. Menu map page 1 (common functions)	55
Figure 17. Menu map page 2 (common functions)	56
Figure 18. Menu map page 3 (administrative functions)	57
Figure 19. Menu map page 4 (administrative functions)	57
Figure 20. Menu map page 5 (administrative functions)	58
Figure 21. Menu map page 6, Control panel instructions	59
Figure 22. EIO slots	63
Figure 23. Remove power cord	70
Figure 24. Remove print cartridge	70
Figure 25. Wipe residue	71
Figure 26. Replace print cartridge	71
Figure 27. Lock print cartridge	72
Figure 28. Close front cover	72
Figure 29. Sample cleaning page	73
Figure 30. Printer systems	79
Figure 31. Sequence of operation block diagram	80
Figure 32. Timing diagram	83
Figure 33. Engine control system block diagram	84
Figure 34. DC controller circuit block diagram	85
Figure 35. High-voltage power supply block diagram	87
Figure 36. Power supply block diagram	89
Figure 37. Laser/scanner system	92
Figure 38. Image formation	93
Figure 39. Cutaway view of print cartridge	94
Figure 40. Pickup and feed system sensors and switches	98
Figure 41. Pickup and feed system motors and solenoids	100
Figure 42. Optional tray 1 block diagram	102
Figure 43. Optional tray 4 block diagram	104
Figure 44. Stapler/stacker main modules	107
Figure 45. Stapler/stacker jam detection	108
Figure 46. Full bin condition	109
Figure 47. Stacker main modules	111
Figure 48. Stacker jam detection	112

Figure 49. Full bin condition . . . . .	113
Figure 50. View of front and right side . . . . .	118
Figure 51. View of back and left side . . . . .	118
Figure 52. Removing the right top cover . . . . .	119
Figure 53. Removing the left top cover . . . . .	120
Figure 54. Removing the front cover . . . . .	121
Figure 55. Removing the right door (1 of 2) . . . . .	122
Figure 56. Removing the right door (2 of 2) . . . . .	122
Figure 57. Removing the right lower cover . . . . .	123
Figure 58. Removing the left door . . . . .	124
Figure 59. Removing the left back cover . . . . .	125
Figure 60. Removing the back cover . . . . .	126
Figure 61. Removing the rail covers . . . . .	127
Figure 62. Removing the control panel . . . . .	128
Figure 63. Removing the laser/scanner assembly . . . . .	129
Figure 64. Removing the delivery assembly . . . . .	130
Figure 65. Removing the delivery fan assembly . . . . .	131
Figure 66. Removing the delivery assembly fans and face-down bin fan (1 of 2) . . . . .	132
Figure 67. Removing the delivery assembly fans and face-down bin fan (2 of 2) . . . . .	132
Figure 68. Removing the delivery motor . . . . .	133
Figure 69. Removing the cartridge release lever (1 of 2) . . . . .	134
Figure 70. Removing the cartridge release lever (2 of 2) . . . . .	134
Figure 71. Removing the print cartridge . . . . .	135
Figure 72. Removing the transfer roller assembly . . . . .	136
Figure 73. Removing tray 2 or tray 3 . . . . .	136
Figure 74. Removing the rollers . . . . .	137
Figure 75. Removing the fuser jam removal knob . . . . .	138
Figure 76. Removing the registration jam removal knob . . . . .	139
Figure 77. Removing tray 1 . . . . .	140
Figure 78. Removing the PIU (1 of 5) . . . . .	141
Figure 79. Removing the PIU (2 of 5) . . . . .	141
Figure 80. Removing the PIU (3 of 5) . . . . .	142
Figure 81. Removing the PIU (4 of 5) . . . . .	142
Figure 82. Removing the PIU (5 of 5) . . . . .	143
Figure 83. Removing the registration assembly (1 of 2) . . . . .	144
Figure 84. Removing the registration assembly (2 of 2) . . . . .	144
Figure 85. Removing the transfer guide assembly . . . . .	145
Figure 86. Reinstalling the transfer guide assembly . . . . .	145
Figure 87. Removing the duplexer (1 of 2) . . . . .	146
Figure 88. Removing the duplexer (2 of 2) . . . . .	146
Figure 89. Removing the fuser assembly (1 of 2) . . . . .	147
Figure 90. Removing the fuser assembly (2 of 2) . . . . .	147
Figure 91. Removing the formatter . . . . .	148
Figure 92. Removing the LVPS (1 of 2) . . . . .	149
Figure 93. Removing the LVPS (2 of 2) . . . . .	149
Figure 94. Removing the HVPS (1 of 2) . . . . .	150
Figure 95. Removing the HVPS (2 of 2) . . . . .	150
Figure 96. Removing the DC controller (1 of 2) . . . . .	151
Figure 97. Removing the DC controller (2 of 2) . . . . .	151
Figure 98. Removing the toner-sensor contact assembly . . . . .	152
Figure 99. Removing the cartridge memory PCA . . . . .	153
Figure 100. Removing the drum motor . . . . .	154
Figure 101. Removing the feed-drive assembly . . . . .	155
Figure 102. Removing the power supply fan . . . . .	156
Figure 103. Removing the cartridge fan (1 of 2) . . . . .	157
Figure 104. Removing the cartridge fan (2 of 2) . . . . .	157
Figure 105. Removing the controller fan . . . . .	158

Figure 106. Removing the left side cover . . . . .	159
Figure 107. Removing the right side cover . . . . .	160
Figure 108. Removing the back covers . . . . .	161
Figure 109. Removing tray 4 . . . . .	162
Figure 110. Removing the rollers . . . . .	163
Figure 111. Removing the registration assembly (1 of 2) . . . . .	164
Figure 112. Removing the registration assembly (2 of 2) . . . . .	164
Figure 113. Removing the drive motor . . . . .	165
Figure 114. Removing the drive assembly . . . . .	165
Figure 115. Removing the controller board (1 of 2) . . . . .	166
Figure 116. Removing the controller board (2 of 2) . . . . .	166
Figure 117. Removing the paper-size switch PCB (1 of 2) . . . . .	167
Figure 118. Removing the paper-size switch PCB (2 of 2) . . . . .	167
Figure 119. Removing the power supply . . . . .	168
Figure 120. Removing the pickup assembly (1 of 2) . . . . .	169
Figure 121. Removing the pickup assembly (2 of 2) . . . . .	169
Figure 122. Removing the paper connecting unit . . . . .	170
Figure 123. View of front and left side . . . . .	172
Figure 124. View of back and right side . . . . .	172
Figure 125. Removing the face-up bin and the stapler/stacker bin . . . . .	173
Figure 126. Removing the back inner cover and front inner cover (1 of 2) . . . . .	174
Figure 127. Removing the back inner cover and front inner cover (2 of 2) . . . . .	174
Figure 128. Removing the front cover . . . . .	175
Figure 129. Removing the back cover (1 of 2) . . . . .	176
Figure 130. Removing the back cover (2 of 2) . . . . .	176
Figure 131. Removing the foot cover . . . . .	177
Figure 132. Removing the stapler/stacker and stacker door assembly . . . . .	177
Figure 133. Removing the controller PCA cover . . . . .	178
Figure 134. Removing the flipper assembly . . . . .	179
Figure 135. Removing the paper path assembly . . . . .	180
Figure 136. Removing the accumulator wings . . . . .	181
Figure 137. Removing the paper stopper clips . . . . .	182
Figure 138. Removing the accumulator assembly (1 of 3) . . . . .	183
Figure 139. Removing the accumulator assembly (2 of 3) . . . . .	183
Figure 140. Removing the accumulator assembly (3 of 3) . . . . .	184
Figure 141. Removing the carriage assembly (1 of 2) . . . . .	185
Figure 142. Removing the carriage assembly (2 of 2) . . . . .	185
Figure 143. Removing the offset module (1 of 2) . . . . .	186
Figure 144. Removing the offset module (2 of 2) . . . . .	186
Figure 145. Removing the stapler (1 of 2) . . . . .	187
Figure 146. Removing the stapler (2 of 2) . . . . .	187
Figure 147. Removing the stapler/stacker controller PCA . . . . .	188
Figure 148. Removing the stacker controller PCA . . . . .	188
Figure 149. Removing the stapler/stacker power supply . . . . .	189
Figure 150. Removing the stacker power supply . . . . .	189
Figure 151. Removing the LED PCA . . . . .	190
Figure 152. Removing the interlock switch . . . . .	191
Figure 153. Removing the safety switch assembly . . . . .	192
Figure 154. Removing the optical sensors (1 of 3) . . . . .	193
Figure 155. Removing the optical sensors (2 of 3) . . . . .	193
Figure 156. Removing the optical sensors (3 of 3) . . . . .	194
Figure 157. Removing the cable assembly . . . . .	194
Figure 158. Removing the stationary caster . . . . .	195
Figure 159. Removing the adjustable caster . . . . .	195
Figure 160. Basic troubleshooting process flow (1 of 2) . . . . .	200
Figure 161. Basic troubleshooting process flow (2 of 2) . . . . .	201
Figure 162. Event log page . . . . .	208
Figure 163. Example of events . . . . .	209
Figure 164. Test print switch location . . . . .	240

Figure 165. Sample test print page . . . . .	240
Figure 166. Test print switch location . . . . .	245
Figure 167. Sample test print page . . . . .	245
Figure 168. 2000-sheet feeder label . . . . .	246
Figure 169. Stapler/stacker label . . . . .	250
Figure 170. Stacker label . . . . .	250
Figure 171. Sample configuration page . . . . .	257
Figure 172. Sample Jetdirect configuration page . . . . .	259
Figure 173. Sample supplies status page . . . . .	260
Figure 174. Sample usage page . . . . .	261
Figure 175. Sample file directory page . . . . .	262
Figure 176. Image defect examples . . . . .	265
Figure 177. Repeating defect ruler . . . . .	273
Figure 178. Wiring diagram . . . . .	277
Figure 179. Printer external covers and panels . . . . .	284
Figure 180. Left door and diverter . . . . .	286
Figure 181. Right cover assembly . . . . .	288
Figure 182. Internal components (1 of 4) . . . . .	290
Figure 183. Internal components (2 of 4) . . . . .	292
Figure 184. Internal components (3 of 4) . . . . .	294
Figure 185. Internal components (4 of 4) . . . . .	296
Figure 186. Drum feed drive assembly . . . . .	298
Figure 187. Fuser delivery drive assembly . . . . .	299
Figure 188. Cartridge lifter assembly . . . . .	300
Figure 189. 500-sheet trays (tray 2 and 3) . . . . .	301
Figure 190. PIU . . . . .	302
Figure 191. Registration assembly . . . . .	303
Figure 192. Transfer roller assembly . . . . .	304
Figure 193. Delivery assembly . . . . .	306
Figure 194. PCB assembly location . . . . .	308
Figure 195. 2000-sheet feeder (optional tray 4) main body (1 of 2) . . . . .	310
Figure 196. 2000-sheet feeder (optional tray 4) main body (2 of 2) . . . . .	312
Figure 197. 2000-sheet feeder (optional tray 4) drive assembly . . . . .	314
Figure 198. 2000-sheet feeder (optional tray 4) PCB location . . . . .	315
Figure 199. Optional tray 1 assembly . . . . .	316
Figure 200. 3000-sheet stapler/stacker (1 of 2) . . . . .	318
Figure 201. 3000-sheet stapler/stacker (2 of 2) . . . . .	320
Figure 202. 3000-sheet stacker (1 of 2) . . . . .	322
Figure 203. 3000-sheet stacker (2 of 2) . . . . .	324

# 1

# Product information

## Chapter contents

Product features . . . . .	16
Product specifications . . . . .	18
Product overview . . . . .	20
External assembly locations . . . . .	20
Interface connections . . . . .	21
Optional accessories . . . . .	22
Regulatory information . . . . .	23
Regulatory requirements . . . . .	23
FCC regulations . . . . .	23
Declaration of conformity . . . . .	23
Environmental product stewardship program . . . . .	23
Service approach . . . . .	24
Parts and supplies . . . . .	24
Warranty . . . . .	24
Limited warranty for print cartridge life . . . . .	24
Service and support . . . . .	25
Worldwide service and support offices . . . . .	25

## Product features



### HP LaserJet 9000 printer (C8519A)

The HP LaserJet 9000 printer comes standard with 64 MB RAM, wide-format printing, and two 500-sheet trays (tray 2 and tray 3).



### HP LaserJet 9000n printer (C8520A)

The HP LaserJet 9000n printer comes standard with 64 MB RAM, wide-format printing, two 500-sheet trays (tray 2 and tray 3), a 100-sheet multipurpose tray (optional tray 1), and an optional HP Jetdirect print server.



### HP LaserJet 9000dn printer (C8521A)

The HP LaserJet 9000dn printer comes standard with 64 MB RAM, wide-format printing, two 500-sheet trays (tray 2 and tray 3), a 100-sheet multipurpose tray (optional tray 1), an optional HP Jetdirect print server, and an optional duplex printing accessory (for printing on both sides of paper).



### HP LaserJet 9000hns printer (C8522A)

The HP LaserJet 9000hns printer contains the HP LaserJet 9000dn, a 2000-sheet feeder (optional tray 4), and an optional 3000-sheet stapler/stacker.

**Table 1. Features of the HP LaserJet 9000 Series printers**

<b>Speed</b>	<ul style="list-style-type: none"> <li>• 50 pages per minute (ppm) for letter-size print media and A4-size media.</li> <li>• First page out in less than 8 seconds.</li> <li>• Transmit Once, Raster Image Processing (RIP) Once technology.</li> </ul>
<b>Resolution</b>	<ul style="list-style-type: none"> <li>• 600 dots per inch (dpi) with Resolution Enhancement technology (REt).</li> <li>• HP FastRes 1200 (1200-dpi-like quality at up to 50 ppm letter and A4).</li> <li>• Up to 256 levels of gray.</li> </ul>
<b>Toner</b>	<ul style="list-style-type: none"> <li>• HP UltraPrecise print cartridge. Capacity rated at average 30,000 pages with 5 percent coverage.</li> <li>• EconoMode capability.</li> </ul>
<b>PCL printer language and fonts</b>	<ul style="list-style-type: none"> <li>• Fast printing performance, built-in Intellifont and TrueType™ scaling technologies, built-in HP-GL/2 vector graphics, and advanced imaging capabilities are benefits of the printer control language (PCL) 6 printer language. PCL 6 also includes 80 scalable TrueType fonts and one bitmapped Line Printer Font.</li> </ul>
<b>PS language and fonts</b>	<ul style="list-style-type: none"> <li>• PostScript® (PS) Level 3 emulation with 35 built-in PS language fonts included.</li> </ul>
<b>Automatic language switching</b>	<ul style="list-style-type: none"> <li>• The printer automatically determines and switches to the appropriate language for the print job.</li> </ul>
<b>Enhanced memory and memory expansion</b>	<ul style="list-style-type: none"> <li>• The HP LaserJet 9000 Series printers come with 64 MB of memory and can be expanded to 384 MB.</li> </ul>

**Table 1. Features of the HP LaserJet 9000 Series printers (continued)**

<b>Expandability</b>	<p>All models accept:</p> <ul style="list-style-type: none"><li>● Optional tray 1, a 100-sheet or 10-envelope multipurpose tray for automatic and manual feeding of envelopes, labels, transparencies, custom-sized media, 98 by 191 mm (3.8 by 7.5 in) to 312 by 470 mm (12.3 by 18.5 in), and heavy paper.</li><li>● Optional tray 4, a 2000-sheet tray that supports letter, legal, B4, A4, 11 by 17 in, A3, executive, B5, and custom 182 by 210 mm (7.2 by 8.3 in) to 297 by 431.8 mm (11.7 by 17 in) print media.</li><li>● Optional duplexer.</li><li>● Optional 3000-sheet stapler/stacker or 3000-sheet stacker.</li><li>● Enhanced input/output (EIO) cards.</li><li>● Dual inline memory module (DIMM) slots for adding memory and fonts.</li><li>● Hard disk for RIP Once capability, job retention features, and font storage.</li></ul>
<b>Wireless printing</b>	<ul style="list-style-type: none"><li>● The printer supports wireless printing with the installation of a Fast InfraRed Connect pod.</li></ul>
<b>Interface connection</b>	<ul style="list-style-type: none"><li>● Bidirectional ECP type-C parallel port (IEEE-1284 compliant).</li><li>● Three EIO slots for hard disk accessory or print server installation.</li><li>● Wireless Fast InfraRed port (IrDA compliant).</li><li>● Foreign interface connector.</li><li>● HP Jet-Link connector.</li></ul>
<b>Networking</b>	<ul style="list-style-type: none"><li>● Three EIO slots for hard disk accessory or print server installation.</li><li>● An HP 610N Jetdirect print server is included with HP LaserJet 9000n, 9000dn, and 9000hns.</li></ul>
<b>Duty cycle</b>	<ul style="list-style-type: none"><li>● 300,000 images per month.</li></ul>

# Product specifications

## Identification

The model number and printer serial number are listed on an identification label located on the rear cover. The model number is alphanumeric, such as C8519A.

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

The top label also contains power rating and regulatory information. See figure 1.

### Note

The power rating and regulatory information vary by region.

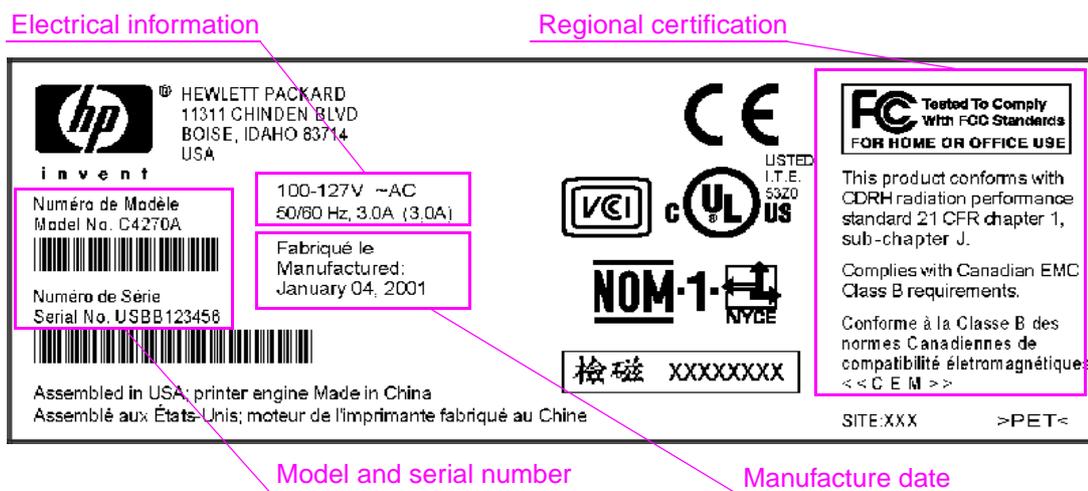


Figure 1.

Sample identification label

Table 2. Configuration comparison

	HP LaserJet 9000	HP LaserJet 9000n	HP LaserJet 9000dn	HP LaserJet 9000hns
Standard memory	64 MB	64 MB	64 MB	64 MB
Maximum memory	384 MB	384 MB	384 MB	384 MB
PS Level 3 emulation	Standard	Standard	Standard	Standard
Jetdirect print server	Optional	Standard	Standard	Standard
Optional duplexer	Optional	Optional	Standard	Standard
Optional tray 1, 100-sheet multipurpose tray	Optional	Standard	Standard	Standard
Optional tray 4, 2000-sheet feeder	Optional	Optional	Optional	Standard
Optional 3000-sheet stacker	Optional	Optional	Optional	Optional
Optional 3000-sheet stapler/stacker	Optional	Optional	Optional	Standard
Optional hard disk	Optional	Optional	Optional	Optional

**Table 3. Physical specifications**

	HP LaserJet 9000	HP LaserJet 9000n/ 9000dn	HP LaserJet 9000hns
Height	600 mm (23.6 in)	600 mm (23.6 in)	1036.4 mm (40.8 in)
Width	990.8 mm (39.0 in)	1115.8 mm (44.4 in)	1788.2 mm (70.4 in)
Depth	1001 mm (42.7 in)	1001 mm (42.7 in)	1001 mm (42.7 in)
Weight (without print cartridge)	63.5 kg (140 lb)	9000n, 69.4 kg (153 lb) 9000dn, 76.2 kg (158 lb)	76.2 kg (158 lb)

**Table 4. Electrical specifications**

Volts	Frequency	Amperes (A)	Watts (W) (typical)	Thermal units per hour (BTu/hr)
100-127 Vac ± 10 percent	50/60 Hz ± 2 Hz	Minimum recommended current capacity = 15 amp dedicated circuit	printing = 1040 W standby = 265 W PowerSave 1 = 40 W PowerSave 2 = 25 W off = 0 W	printing = 3550.36 BTu/hr standby = 904.71 BTu/hr PowerSave 1 = 136.56 BTu/hr PowerSave 2 = 85.35 BTu/hr off = 0 BTu/hr
220-240 Vac ± 10 percent	50/60 Hz ± 2 Hz	Minimum recommended current capacity = 6.5 amps	printing = 995 W standby = 265 W PowerSave 1 = 40 W PowerSave 2 = 25 W off = 0.2 W	printing = 3396.93 BTu/hr standby = 904.71 BTu/hr PowerSave 1 = 136.56 BTu/hr PowerSave 2 = 85.35 BTu/hr off = 0.69 BTu/hr

**WARNING!**

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

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

- Place the printer on a sturdy, level surface.
- Allow adequate space around the printer for unimpeded operation.
- Install the printer in a well-ventilated room.
- Prevent exposure to direct sunlight or chemicals, including ammonia-based cleaning solutions.
- Ensure that an adequate power supply is used.
- Install the printer in environment where no abrupt temperature or humidity changes occur.

**Table 5. Environmental specifications**

	Operating/printing	Storage/standby
Temperature (printer and print cartridge)	10 degrees to 32.5 degrees C (50 degrees to 90.5 degrees F)	-20 degrees to 40 degrees C (-4 degrees to 104 degrees F)
Relative humidity	20 percent to 80 percent	15 percent to 90 percent

**Table 6. Noise-level specifications**

	Operator position	Bystander (1m)	Sound power
Printing at 50 ppm	L <sub>Pam</sub> 59 db(A)	L <sub>Pam</sub> 55 db(A)	L <sub>WAd</sub> 7.1 db(A)
Idle	L <sub>Pam</sub> 43 db(A)	L <sub>Pam</sub> 41 db(A)	L <sub>WAd</sub> 6.0 db(A)
PowerSave	L <sub>Pam</sub> inaudible	L <sub>Pam</sub> inaudible	L <sub>WAd</sub> inaudible

**Note**

Testing per International Standards Organization (ISO) 9296.

# Product overview

## External assembly locations

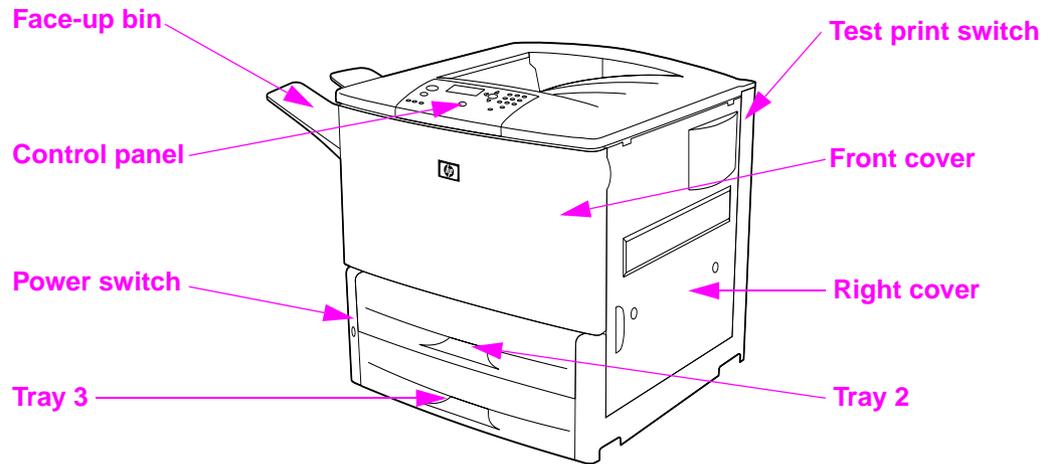


Figure 2. Front assembly locations

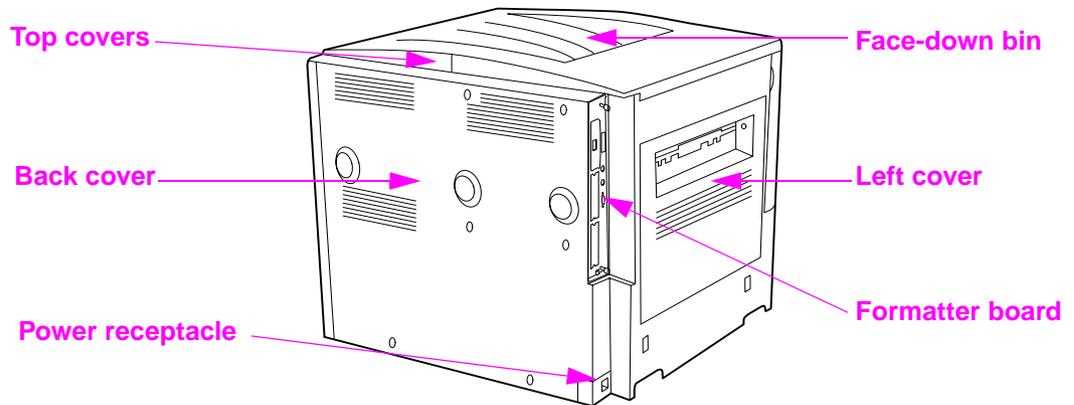


Figure 3. Back assembly locations

# Interface connections

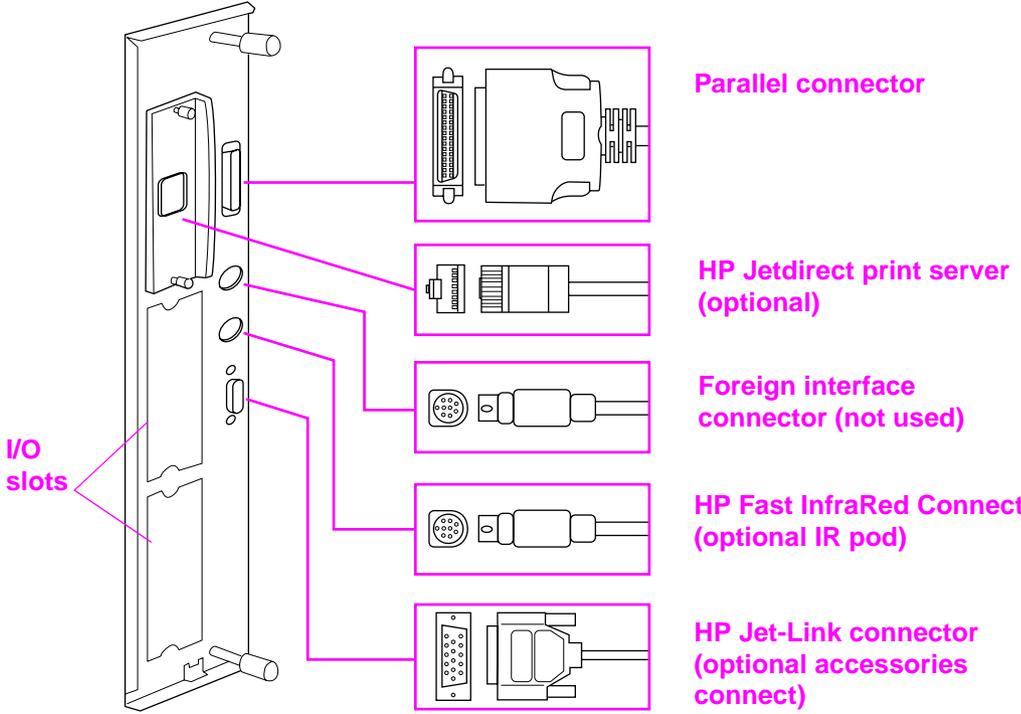
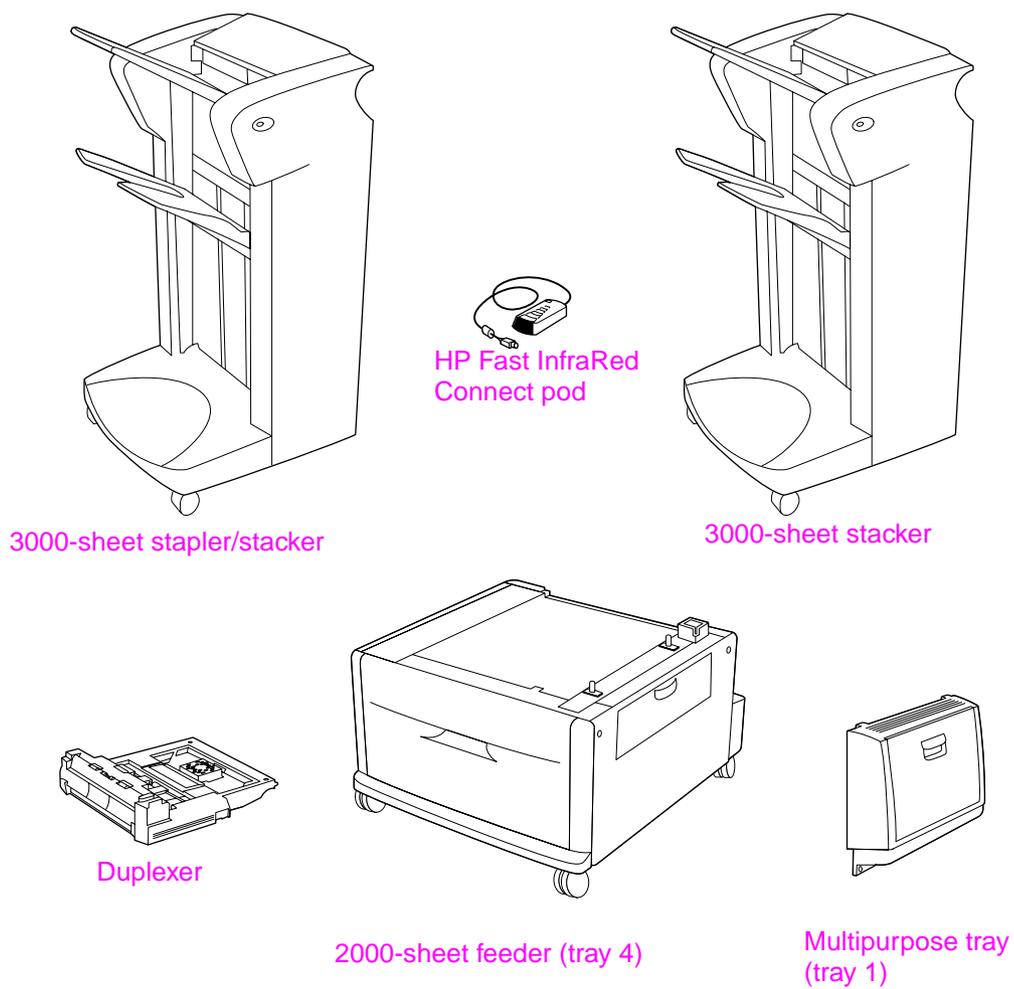


Figure 4. Interface connections

## Optional accessories



**Figure 5.** Optional accessories

# Regulatory information

## **Regulatory requirements**

For regulatory information and requirements, please see the Start guide.

## **FCC regulations**

For FCC regulations, please see the Start guide.

## **Declaration of conformity**

For declaration of conformity information, please see the Start guide.

## **Environmental product stewardship program**

For environmental product stewardship program information, please see the Use guide.

## Service approach

Repair of the printer normally begins with a three-step process:

- Isolate the problem to the major system (the host computer, the network and/or server, or the printer system).
- Determine whether the problem is located in one of the paper-handling devices or in the printer engine.
- Troubleshoot the problem using the procedures in chapter 7.

Once a faulty part is located, repair is usually accomplished by assembly level replacement of field replaceable units (FRUs). Some mechanical assemblies may be repaired at the subassembly level. Replacement of components on the printed circuit assemblies is not supported by Hewlett-Packard.

## Parts and supplies

### Ordering information

"Ordering parts" in chapter 8 of this manual contains FRU and replacement part numbers. Replacement parts can be ordered from the HP Customer Services and Support Organization (CSSO).

"Consumables, supplies, accessories, FRUs, and documentation" in chapter 8 of this manual contains accessories specifically designed for this printer. Order accessories from CSSO.

---

**Note**

---

See "Worldwide service and support offices" on page 25 for a local HP office in the appropriate region.

### Phone listing

- CSSO (for U.S.)  
(1) (800) 752-0900
- CSSO (for Canada)  
(1) (800) 387-3867
- CSSO (for Europe)  
(49 7031) 142253

### Exchange program

HP offers remanufactured assemblies for some parts. These are identified in "Illustrations and parts lists" in chapter 8, and can be ordered through CSSO.

### Consumables

The printer has two consumable, the print cartridge, the preventive maintenance kit, and the stapler/stacker has one consumable, the staple cartridge. These are identified in "Illustrations and parts lists" in chapter 8, and can be ordered through CSSO.

### Warranty

For warranty information and requirements, see the Start guide.

### Limited warranty for print cartridge life

For print cartridge warranty information, see the Start guide.

## Service and support

### World Wide Web

Printer drivers, updated HP printer software, and product and support information can be obtained from the following URLs:

- U.S., <http://www.hp.com/support/lj9000>
- Europe, <http://www.hp.com/support/lj9000>
- China, <ftp://www.hp.com.cn/support/lj9000>
- Japan, <ftp://www.jpn.hp.com/support/lj9000>
- Korea, <http://www.hp.co.kr/support/lj9000>
- Taiwan, <http://www.hp.com.tw/support/lj9000>, or the local driver website, <http://www.dds.com.tw>

### HP support assistant CD-ROM

This support tool offers a comprehensive online information system designed to provide technical and product information about Hewlett-Packard products. To subscribe to this quarterly service in the U.S. or Canada, call (1) (800) 457-1762. In Hong Kong, Indonesia, Malaysia, or Singapore, call Mentor Media at (65) 740-4477.

### HP-authorized resellers and support

To locate HP-authorized resellers and support, call (1) (800) 243-9816 in the U.S. or (1) (800) 387-3867 in Canada.

### HP service agreements

Call (1) (800) 743-8305 in the U.S. or (1) (800) 268-1221 in Canada.

### Other areas

Outside of North America, contact your local HP sales office for assistance in obtaining technical support for resellers and service technicians. See "Worldwide service and support offices" below.

## Worldwide service and support offices

### Customer support and product repair assistance for the U.S. and Canada

- For the U.S., call (1) (208) 323-2551 Monday through Friday from 6 A.M. to 6 P.M., Mountain time.
- For Canada, call (1) (905) 206-4663 or (1) (800) 387-3867 Monday through Friday from 8 A.M. to 8 P.M., Mountain time.

Support is free of charge during the warranty period. However, your standard long-distance phone charges still apply. Before calling, have your system nearby and your serial number ready.

If you know your printer needs repair, call (1) (800) 243-9816 to locate your nearest HP-authorized service provider.

## Customer support and product repair assistance for other customers

HP provides a free telephone support service during the warranty period. By calling the appropriate telephone number for your country or region, you will be connected to a responsive team waiting to help you. If you require support after your warranty has expired, you can receive support for a fee through the same telephone number. The fee is charged on a per-incident basis. When calling HP, have the following information ready: product name and serial number, date of purchase, and description of the problem.

### Europe

- Austria: 43 (0)810 00 6080
  - Belgium  
Dutch: 32 (0)2 626-8806  
French: 32 (0)2 626-8806
  - Czech Republic: 42 (0)2 6130 7310
  - Denmark: +45 39 29 4099
  - International English: +44 (0)207 512 52 02
  - Finland: 358 (0)203 47 288
  - France: 33 (0)1 43 62 34 34
  - Germany: 49 (0)180 52 58 143
  - Greece: +30 (0)1 619 64 11
  - Hungary: +36 (0)1 382-1111
  - Ireland: +353 (0)1 662 5525
  - Italy: 39 02 264 10350
  - Netherlands: 31 (0)20 606 8751
  - Norway: 47 22 11 6299
  - Poland: +48 22 865 98 00
  - Portugal: 351 21 3176333
  - Romania: +40 1 315 44 42 (or 01 3154442)
  - Russian Federation  
Moscow: +7 095 797 3520  
St. Petersburg: +7 812 346 7997
  - Spain: +34 902 321 123
  - Sweden: +46 (0)8 619 2170
  - Switzerland: +41 (0)848 80 11 11
  - Turkey: +90 212 221 69 69
  - Ukraine: +7 (380-44) 490-3520
  - U.K.: +44 (0)207 512 52 02
- 

### Africa and Middle East

- Egypt: +202 7956222
  - International English: +44 (0)207 512 52 02
  - Israel: +972 (0)9 9524848
  - South Africa  
Inside RSA: 086 000 1030  
Outside RSA: +27-11 258 9301
  - United Arab Emirates, Bahrain, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Yemen: 971 4 883 8454
- 

### Asia-Pacific

- Australia: (03) 8877 8000
  - China: +86 (0)10 6564 5959
  - Hong Kong: +85 (2) 2802 4098
  - India: +91 11 682 6035
  - Indonesia: +62 (21) 350-3408
  - Japan: +81 3 3335-8333
  - Republic of Korea  
Seoul: +82 (2) 3270-0700  
Outside Seoul: 080 999-0700
  - Malaysia: +60 (3) 295 2566
  - New Zealand: +64 (9) 356 6640
  - Philippines: +63 (2) 867 3551
  - Singapore: +65 272 5300
  - Taiwan: +886 (2) 2717 0055
  - Thailand: +66 (2) 661 4000
  - Vietnam: +84 (0) 8 823 4530
- 

### Latin America

- Argentina: 0810-555-5520
  - Brazil  
Greater Sao Paulo: (11) 3747-7799  
Outside Greater Sao Paulo: 0800-157751
  - Chile: 800-22-5547
  - Guatemala: 800-999-5305
  - Mexico  
Mexico City: 52-58-9922  
Outside Mexico City: 01-800-472-6684
  - Peru: 0-800-10111
  - Puerto Rico: 1-877-2320-589
  - Venezuela  
Caracas: 207 8488  
Outside Caracas: 800 47 777
-

# 2

## Product requirements

### Chapter contents

Site requirements . . . . .	28
Operating environment . . . . .	28
Space requirements . . . . .	29
Media specifications . . . . .	31
Guidelines for selecting paper . . . . .	31
Special media specifications . . . . .	31
Storing print media . . . . .	34
Testing media specifications . . . . .	35
Tools and suppliers . . . . .	39
Media input/output options . . . . .	40
Trays, bins, and paper handling . . . . .	40
Media sizes . . . . .	41

## Operating environment

The electrical and environmental specifications must be maintained to ensure the proper operation of this printer. See "Product specifications" in chapter 1. Consider the following points before installing the printer:

- Install in a well-ventilated, dust-free area.
- Install on a level, flat surface that can support the printer size and weight. Make sure all four printer feet are level. Do not install on carpet or on other soft surfaces.
- Ensure adequate power supply circuitry. See "Product specifications" in chapter 1.
- Install where there is stable temperature and humidity, with no abrupt changes (away from water sources, humidifiers, air conditioners, refrigerators, or other major appliances). See "Product specifications" in chapter 1.
- Install away from direct sunlight, areas that experience vibration, open flames, ultrasonic heaters, ammonia fumes, or magnets and devices that emit a magnetic field. If the printer is placed near a window, make sure the window has a curtain or blind to block direct sunlight.
- Maintain enough space around the printer for proper access and ventilation. See "Space requirements" on page 29.