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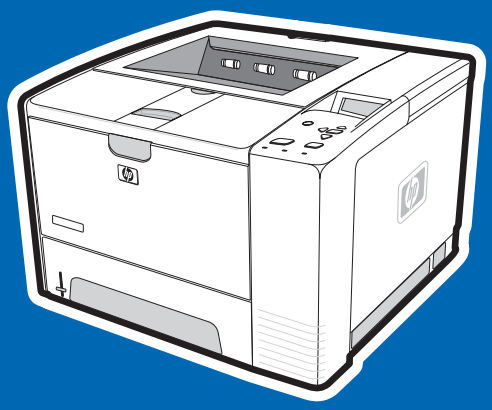

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HP LaserJet 2400 Series printer

Service Manual

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Part number Q5956-90932

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Safety information

WARNING!

Potential Shock Hazard

Always follow basic safety precautions when using this product to reduce risk of injury from fire or electric shock.

Read and understand all instructions in the user guide.

Observe all warnings and instructions marked on the product.

Use only a grounded electrical outlet when connecting the printer to a power source. If you do not know whether the outlet is grounded, check with a qualified electrician.

Do not touch the contacts on the end of any of the sockets on the printer. Replace damaged cords immediately.

Unplug this product from wall outlets before cleaning.

Do not install or use this product near water or when you are wet.

Install the product securely on a stable surface.

Install the product in a protected location where no one can step on or trip over the power cord and where the power cord will not be damaged.

If the product does not operate normally, see the online user guide.

Refer all servicing questions to qualified personnel.

Information regarding FCC Class B, Parts 15 and 68 requirements can be found in the user guide.

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Table of contents

1 Product Information

Chapter contents....1
Printer configurations....2
HP LaserJet 2400 Series printer base models....2
Features....4
Specifications....8
Physical specifications....8
Electrical specifications....9
Acoustic emissions....10
Operating environment....10
Media specifications....11
Supported types and sizes of print media....11
Paper and print media....12
Printing and paper storage environment....13
Envelopes....14
Envelopes with double side seams....14
Envelopes with adhesive strips or flaps....14
Envelope margins....15
Envelope storage....15
Labels....15
Transparencies....15
Hewlett-Packard limited warranty statement....16
Print Cartridge Limited Warranty Statement....17
HP LaserJet printing supplies....18
Declaration of conformity....19
Country-/region-specific safety statements....20
Laser safety statement....20
Canadian DOC statement....20
Japanese VCCI statement....20
Korean EMI statement....20
Finnish laser statement....21

2 Installation

Chapter contents....23
Operating environment....24
Interface ports....24
Software....25
Operating systems and printer components....25
Printer drivers....26
Software for Macintosh computers....27

3 Operation

Chapter contents....29
Control panel....31

Control-panel layout....31
Control-panel buttons....32
Control-panel lights....33
Control-panel language....34
Printing control-panel menus....34
Selecting which tray is used for printing....35
Understanding tray order....35
Customizing tray 1 operation....36
Printing by type and size of media (locking trays)....37
Feeding media from tray 1 manually....38
Selecting the correct fuser mode....39
Using the embedded Web server....40
Opening the embedded Web server....40
Information tab....41
Settings tab....41
Networking tab....42
Other links....42
Using HP Web Jetadmin software....43
Using the HP Toolbox....44
Supported operating systems....44
Supported browsers....44
To view the HP Toolbox....45
Status tab....45
Troubleshooting tab....46
Alerts tab....46
Documentation tab....47
Device Settings window....47
Toolbox links....47
Other links....47
Uninstalling the HP Toolbox....48
To uninstall the HP Toolbox by using the Windows desktop shortcut....48
Checking the printer configuration....48
Menu map....48
Configuration page....49
Supplies status page....51
PS or PCL font list....52
Managing the print cartridge....53
HP print cartridges....53
Non-HP print cartridges....53
Print-cartridge authentication....53
Print-cartridge storage....53
Print-cartridge life expectancy....54
Checking the supply level....54
Cartridge-low and cartridge-out conditions....55

4 Maintenance

Chapter contents....57
Cleaning the printer....58
Cleaning the outside....58
Cleaning the paper path and print-cartridge areas....58
Cleaning the fuser....60

5 Theory of operation

Chapter contents....61
Introduction....62

Internal components....63
Timing....64
Engine control system....66
Laser/scanner system....68
Pickup/feed/delivery system....69
Image-formation system....71
Step 1: Primary charging....72
Step 2: Laser beam exposure....72
Step 3: Developing....73
Step 4: Transfer....73
Step 5: Separation....74
Step 6: Fusing....74
Step 7: Drum cleaning....75
Print cartridge memory system....76

6 Removal and replacement

Chapter contents....77
Introduction....78
Removal and replacement strategy....78
Electrostatic discharge....78
User-replaceable parts....78
Required tools....78
Before performing service....79
Pre-service procedures....79
Parts removal order....80
Covers....81
Right-side cover....81
Back cover....82
I/O cover....85
Left-side cover....86
Top, right cover....88
Top cover....89
Front, right cover....90
Control panel....92
Formatter....94
Fuser....98
Laser/scanner....103
Right-side handle....106
ECU....108
Access plate....114
Power supply....115
Gear assembly....120
Tray 1 solenoid....124
Tray 2 solenoid....125
E-label reader (memory tag)....126
Face-down-roller shaft....128
Cartridge door....130
Transfer roller....133
Registration assembly....134
Tray 1 pickup roller....137
Tray 2 pickup roller....138
Separation pad....140

7 Troubleshooting

Chapter contents....141

Troubleshooting tree....143
Troubleshooting flowchart....144
1. Does the control-panel display show READY?....144
2. Can you print a configuration page?....145
3. Can you print from a program?....146
4. Does the job print as expected?....147
5. Does the printer select the correct trays?....148
Troubleshooting tools....149
Information pages....149
Embedded Web server....154
Gaining access to the embedded Web server....154
Printer Status and Alerts software....156
Control-panel menus....158
Using control-panel menus....158
Resets submenu....159
Diagnostics menu....159
Service menu (service PIN codes)....161
Printer resets and power-on modes....163
Cold reset....163
NVRAM initialization....164
Hard-disk initialization....164
Power-on bypass....165
Save + Restore....165
Test pages....166
Engine-test page....166
Formatter test page....166
Interface troubleshooting....167
Communications checks....167
EIO troubleshooting....167
Solving general printing problems....169
Clearing jams....173
Avoiding jams....173
Typical jam locations....174
Media handling problems....181
Multiple pages feed....181
Pages are wrinkled or folded....182
Pages are skewed....182
Understanding printer messages....183
Using the printer online Help system....183
Resolving persistent messages....183
Correcting print-quality problems....201
Print-quality checklist....201
Image-defect examples....201
Light print (partial page)....203
Light print (entire page)....203
Specks....204
Dropouts....204
Lines....205
Gray background....205
Toner smear....206
Loose toner....206
Repeating defects....207
Repeating image....207
Misformed characters....208
Page skew....208
Curl or wave....209

Wrinkles or creases 209
Vertical white lines 210
Tire tracks 210
White spots on black 211
Scattered lines 211
Blurred print 212
Random image repetition 212
Troubleshooting common Windows problems 213
Troubleshooting common Macintosh problems 214
Troubleshooting common PostScript problems 220
General problems 220
Specific errors....220
Printer component locations....222
Main assemblies....222
Main parts....223
Sensors and switches....224
Motors, fans, and solenoids....225
PCAs....226
500-Sheet paper feeder....227
Wiring diagrams....228
General timing diagrams....231

8 Parts and diagrams

Chapter contents....233
Ordering parts and supplies 234
Parts 234
Related documentation and software 234
Supplies 234
Accessories....235
Covers....238
Internal components....240
Tray 2 pickup assembly....254
Alphabetical parts list....256
Numerical parts list....262

Index

List of tables

Table 1-1. Feature designations for HP LaserJet 2400 Series printers....2
Table 1-2. Speed....4
Table 1-3. Resolution....4
Table 1-4. Paper handling....4
Table 1-5. Memory and processor....5
Table 1-6. Interface connections and networking....5
Table 1-7. Language and fonts....5
Table 1-8. Print cartridge....6
Table 1-9. Energy savings....6
Table 1-10. Economical printing....6
Table 1-11. Accessibility....7
Table 1-12. Product dimensions....8
Table 1-13. Product dimensions, with all doors and trays fully opened....8
Table 1-14. Power requirements....9
Table 1-15. Power consumption (average, in watts)[1]....9
Table 1-16. Sound power and pressure level[1] (HP LaserJet 2400 series)....10
Table 5-1. Operation sequences....64
Table 5-2. Power-on sequence....64
Table 7-1. Resets submenu....159
Table 7-2. Diagnostics menu....160
Table 7-3. Common causes of jams....173
Table 7-4. Causes for multiple pages feeding....181
Table 7-5. Causes for wrinkled or folded paper at the paper-path entrance....182
Table 7-6. Causes for wrinkled or folded paper at the paper-path exit....182
Table 7-7. Causes for skewed pages....182
Table 7-8. Interpreting control-panel messages....183
Table 7-9. Problems with Mac OS 9.**x**....214
Table 7-10. Problems with Mac OS X....216
Table 8-1. Technical support Web sites....234
Table 8-2. Covers....239
Table 8-3. Internal components (1 of 4)....241
Table 8-4. Internal components (2 of 4)....245
Table 8-5. Internal components (3 of 4)....249
Table 8-6. Internal components (4 of 4)....251
Table 8-7. Tray 2 pickup assembly....255
Table 8-8. Alphabetical parts list....256
Table 8-9. Numerical parts list....262

List of figures

Figure 1-1. HP LaserJet 2400 Series printer base model, front/right-side view....2
Figure 1-2. HP LaserJet 2400 Series printer base model, right-side/rear view....3
Figure 3-1. Location of the control panel....31
Figure 3-2. Control-panel layout....31
Figure 5-1. Block diagram....62
Figure 5-2. Cross-section of printer....63
Figure 5-3. Engine control system....66
Figure 5-4. Engine control system circuit diagram....67
Figure 5-5. Laser/scanner system....68
Figure 5-6. Pickup/feed/delivery system....70
Figure 5-7. Print cartridge diagram....71
Figure 5-8. Image-formation system....71
Figure 5-9. Primary charging....72
Figure 5-10. Developing....73
Figure 5-11. Transfer....73
Figure 5-12. Separation....74
Figure 5-13. Fusing....74
Figure 5-14. Drum cleaning....75
Figure 5-15. Print cartridge memory tag....76
Figure 6-1. Parts removal diagram....80
Figure 6-2. Removing the right-side cover....81
Figure 6-3. Removing the back cover (1 of 3)....82
Figure 6-4. Removing the back cover (2 of 3)....83
Figure 6-5. Removing the back cover (3 of 3)....84
Figure 6-6. Removing the I/O cover....85
Figure 6-7. Removing the left-side cover (1 of 2)....86
Figure 6-8. Removing the left-side cover (2 of 2)....87
Figure 6-9. Removing the top, right cover....88
Figure 6-10. Removing the top cover....89
Figure 6-11. Removing the front, right cover (1 of 2)....90
Figure 6-12. Removing the front, right cover (2 of 2)....91
Figure 6-13. Removing the control panel....92
Figure 6-14. Reinstalling the control panel....93
Figure 6-15. Removing the formatter (1 of 4)....94
Figure 6-16. Removing the formatter (2 of 4)....95
Figure 6-17. Removing the formatter (3 of 4)....96
Figure 6-18. Removing the formatter (4 of 4)....97
Figure 6-19. Removing the fuser (1 of 5)....98
Figure 6-20. Removing the fuser (2 of 5)....99
Figure 6-21. Removing the fuser (3 of 5)....100
Figure 6-22. Removing the fuser (4 of 5)....101
Figure 6-23. Removing the fuser (5 of 5)....102
Figure 6-24. Removing the laser/scanner (1 of 3)....103
Figure 6-25. Removing the laser/scanner (2 of 3)....104
Figure 6-26. Removing the laser/scanner (3 of 3)....105
Figure 6-27. Removing the right-side handle (1 of 2)....106

Figure 6-28. Removing the right-side handle (2 of 2).....107
Figure 6-29. Removing the ECU (1 of 6).....108
Figure 6-30. Removing the ECU (2 of 6).....109
Figure 6-31. Removing the ECU (3 of 6).....110
Figure 6-32. Removing the ECU (4 of 6).....111
Figure 6-33. Removing the ECU (5 of 6).....112
Figure 6-34. Removing the ECU (6 of 6).....113
Figure 6-35. Removing the access plate.....114
Figure 6-36. Removing the power supply (1 of 5).....115
Figure 6-37. Removing the power supply (2 of 5).....116
Figure 6-38. Removing the power supply (3 of 5).....117
Figure 6-39. Removing the power supply (4 of 5).....118
Figure 6-40. Removing the power supply (5 of 5).....119
Figure 6-41. Removing the gear assembly (1 of 6).....120
Figure 6-42. Removing the gear assembly (2 of 6).....121
Figure 6-43. Removing the gear assembly (3 of 6).....122
Figure 6-44. Reinstalling the gear assembly.....123
Figure 6-45. Removing the tray 1 solenoid.....124
Figure 6-46. Removing the tray 2 solenoid.....125
Figure 6-47. Removing the e-label reader (1 of 2).....126
Figure 6-48. Removing the e-label reader (2 of 2).....127
Figure 6-49. Removing the face-down-roller shaft (1 of 2).....128
Figure 6-50. Removing the face-down-roller shaft (2 of 2).....129
Figure 6-51. Removing the cartridge door (1 of 3).....130
Figure 6-52. Removing the cartridge door (2 of 3).....131
Figure 6-53. Removing the cartridge door (3 of 3).....132
Figure 6-54. Removing the transfer roller.....133
Figure 6-55. Removing the registration assembly (1 of 3).....134
Figure 6-56. Removing the registration assembly (2 of 3).....135
Figure 6-57. Removing the registration assembly (3 of 3).....136
Figure 6-58. Removing the tray 1 pickup roller.....137
Figure 6-59. Removing the tray 2 pickup roller (1 of 2).....138
Figure 6-60. Removing the tray 2 pickup roller (2 of 2).....139
Figure 6-61. Removing the separation pad.....140
Figure 7-1. Basic troubleshooting.....143
Figure 7-2. Sample menu map page.....151
Figure 7-3. Sample configuration page.....152
Figure 7-4. Supplies status page.....153
Figure 7-5. Jetdirect page.....168
Figure 7-6. Main assemblies, HP LaserJet 2400 series.....222
Figure 7-7. Main parts, HP LaserJet 2400 series.....223
Figure 7-8. Sensors and switches, HP LaserJet 2400 series.....224
Figure 7-9. Motors, fans, and solenoids, HP LaserJet 2400 series.....225
Figure 7-10. PCAs, HP LaserJet 2400 series.....226
Figure 7-11. 500-Sheet paper feeder, HP LaserJet 2400 series.....227
Figure 7-12. Circuit diagram (1 of 2).....228
Figure 7-13. Circuit diagram (2 of 2).....229
Figure 7-14. ECU wiring.....230
Figure 7-15. Timing diagram, HP LaserJet 2400 series.....231
Figure 8-1. Covers.....238
Figure 8-2. Internal components (1 of 4).....240
Figure 8-3. Internal components (2 of 4).....244
Figure 8-4. Internal components (3 of 4).....248
Figure 8-5. Internal components (4 of 4).....250
Figure 8-6. Tray 2 pickup assembly.....254

1 Product Information

Chapter contents

Chapter contents....1
Printer configurations....2
HP LaserJet 2400 Series printer base models....2
Features....4
Specifications....8
Physical specifications....8
Electrical specifications....9
Acoustic emissions....10
Operating environment....10
Media specifications....11
Supported types and sizes of print media....11
Paper and print media....12
Printing and paper storage environment....13
Envelopes....14
Envelopes with double side seams....14
Envelopes with adhesive strips or flaps....14
Envelope margins....15
Envelope storage....15
Labels....15
Transparencies....15
Hewlett-Packard limited warranty statement....16
Print Cartridge Limited Warranty Statement....17
HP LaserJet printing supplies....18
Declaration of conformity....19
Country-/region-specific safety statements....20
Laser safety statement....20
Canadian DOC statement....20
Japanese VCCI statement....20
Korean EMI statement....20
Finnish laser statement....21

Printer configurations

The HP LaserJet 2400 Series printer is available in several configurations. The letters that follow the printer name indicate the differences between the configurations. Each letter refers to a specific feature. Use the information in this section to determine which features your model has.

NOTE Not all models are available in all configurations.

Table 1-1. Feature designations for HP LaserJet 2400 Series printers

Letter	Description
no letter	This is the base model.
d	A duplexer is included for automatic two-sided printing.
n	An embedded HP Jetdirect print server is included for connecting to a 10/100Base-T network.
t	An additional input tray is included.

HP LaserJet 2400 Series printer base models

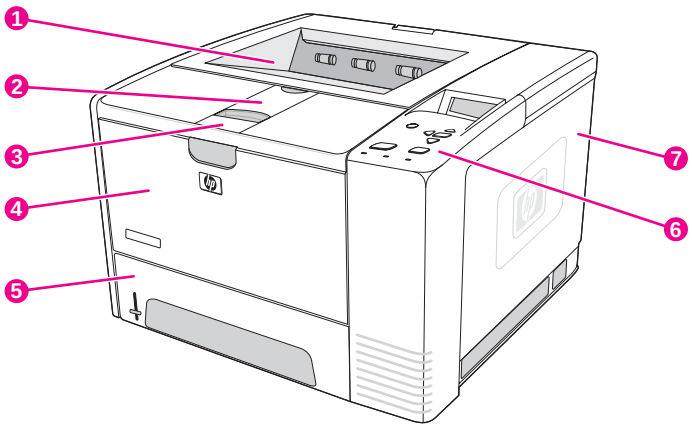


Figure 1-1. **HP LaserJet 2400 Series printer base model, front/right-side view**

1 Top output bin
2 Long-media extension
3 Cartridge-door latch
4 Tray 1
5 Tray 2
6 Control panel
7 Right-side cover

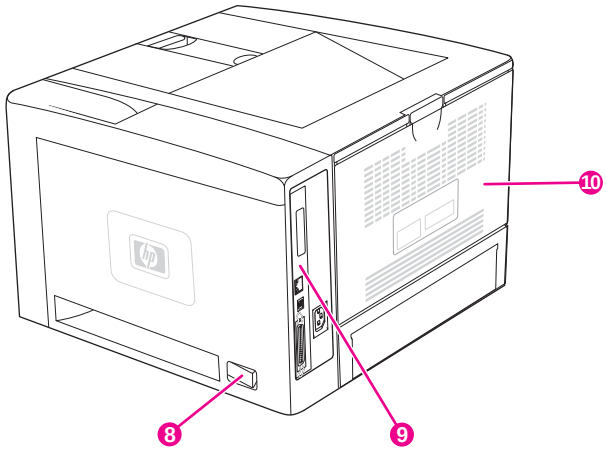


Figure 1-2. **HP LaserJet 2400 Series printer base model, right-side/rear view**

8 On/off switch
9 Interface ports
10 Rear output bin

Features

The following tables describe the features of HP LaserJet 2400 Series printers.

Table 1-2. Speed

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
Prints on letter-size paper at 25 pages per minute (ppm). Prints on A4-size paper at 24 ppm.	Prints on letter-size paper at 30 pages per minute (ppm). Prints on A4-size paper at 28 ppm.	Prints on letter-size paper at 35 pages per minute (ppm). Prints on A4-size paper at 33 ppm.

Table 1-3. Resolution

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
FastRes 1200 produces 1200-dpi print quality for fast, high-quality printing of business text and graphics. ProRes 1200 produces 1200-dpi printing for the best quality in line art and graphic images. HP LaserJet print cartridges produce crisp, sharp output.	FastRes 1200 produces 1200-dpi print quality for fast, high-quality printing of business text and graphics. ProRes 1200 produces 1200-dpi printing for the best quality in line art and graphic images. HP LaserJet print cartridges produce crisp, sharp output.	FastRes 1200 produces 1200-dpi print quality for fast, high-quality printing of business text and graphics. ProRes 1200 produces 1200-dpi printing for the best quality in line art and graphic images. HP LaserJet print cartridges produce crisp, sharp output.

Table 1-4. Paper handling

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
Includes a 100-sheet manual-feed input tray and a 250-sheet input tray. Compatible with an optional 500-sheet paper feeder. Manual duplexing is available.	Includes a 100-sheet manual-feed input tray and a 250-sheet input tray. Compatible with an optional 500-sheet paper feeder. The HP LaserJet 2420d and 2420dn printers include a duplex-printing accessory (duplexer) for automatic two-sided printing.	Includes a 100-sheet manual-feed input tray, a 250-sheet input tray, and a 500-sheet input tray. The HP LaserJet 2430dtn printers include a duplex-printing accessory (duplexer) for automatic two-sided printing.

Table 1-5. Memory and processor

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
Includes 32 MB of RAM. Expandable up to 288 MB maximum memory. 400-MHz processor speed.	The HP LaserJet 2420 printer includes 32 MB of RAM, expandable to 288 MB maximum memory. The HP LaserJet 2420d printer includes 48 MB RAM, expandable to 304 MB maximum memory. The HP LaserJet 2420n and 2420dn printers include 64 MB RAM, expandable to 320 MB maximum memory. 400-MHz processor speed.	The HP LaserJet 2430t printer includes 48 MB of RAM, expandable to 304 MB maximum memory. The HP LaserJet 2430tn and 2430dtn printers include 64 MB RAM, expandable to 320 MB maximum memory. 400-MHz processor speed.

Table 1-6. Interface connections and networking

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
Includes a bidirectional, extended capabilities (ECP) type-B (IEEE 1284-compliant) parallel connection. Includes a USB 2.0 connection (full and high speed). Includes one PCI-based enhanced input/output (EIO) expansion slot.	Includes a bidirectional, ECP type-B (IEEE 1284-compliant) parallel connection. Includes a USB 2.0 connection (full and high speed). Includes one PCI-based enhanced input/output (EIO) expansion slot. The HP LaserJet 2420n and 2420dn printers include an embedded HP Jetdirect print server for connecting to a 10/100Base-TX network.	Includes a bidirectional, ECP type-B (IEEE 1284-compliant) parallel connection. Includes a USB 2.0 connection (full and high speed). Includes one PCI-based enhanced input/output (EIO) expansion slot. The HP LaserJet 2430tn and 2430dtn printers include an embedded HP Jetdirect print server for connecting to a 10/100Base-TX network.

NOTE 48 MB RAM is required for network connectivity for the HP LaserJet 2410 and HP LaserJet 2420 printer base models.

Table 1-7. Language and fonts

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
HP PCL6, PCL 5e, and HP PostScript® (PS) 3 emulation 80 fonts for Microsoft® Windows® Additional fonts can be added by installing a CompactFlash font card.	HP PCL6, PCL 5e, and HP PostScript® (PS) 3 emulation 80 fonts for Microsoft® Windows® Additional fonts can be added by installing a CompactFlash font card.	HP PCL6, PCL 5e, and HP PostScript® (PS) 3 emulation 80 fonts for Microsoft® Windows® Additional fonts can be added by installing a CompactFlash font card.

Table 1-8. Print cartridge

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
The standard print cartridge prints up to 6,000 pages. "Extended life" print cartridges print up to 12,000 pages. The HP smart-printing-supplies program automatically alerts when toner is low.	The standard print cartridge prints up to 6,000 pages. "Extended life" print cartridges print up to 12,000 pages. The HP smart-printing-supplies program automatically alerts when toner is low.	The standard print cartridge prints up to 6,000 pages. "Extended life" print cartridges print up to 12,000 pages. The HP smart-printing-supplies-program automatically alerts when toner is low.

Table 1-9. Energy savings

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
The printer automatically conserves electricity by reducing power consumption when it is not printing. As an ENERGY STAR® partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR® guidelines for energy efficiency.	The printer automatically conserves electricity by reducing power consumption when it is not printing. As an ENERGY STAR® partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR® guidelines for energy efficiency.	The printer automatically conserves electricity by reducing power consumption when it is not printing. As an ENERGY STAR® partner, Hewlett-Packard Company has determined that this product meets ENERGY STAR® guidelines for energy efficiency.

Table 1-10. Economical printing

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
N-up printing (multiple pages on one sheet) saves paper. Duplex printing (manual duplexing only) saves paper. Printing in EconoMode saves toner.	N-up printing (multiple pages on one sheet) saves paper. Duplex printing (manual duplexing, or automatic duplexing for models that include a duplexer) saves paper. Printing in EconoMode saves toner.	N-up printing (multiple pages on one sheet) saves paper. Duplex printing (manual duplexing, or automatic duplexing for models that include a duplexer) saves paper. Printing in EconoMode saves toner.

Table 1-11. Accessibility

HP LaserJet 2410 printer	HP LaserJet 2420 Series printer	HP LaserJet 2430 Series printer
The online user guide is compatible with text screen-readers. The print cartridge can be inserted and removed by using one hand. All doors and covers can be opened by using one hand. The 250-sheet input tray is easy to open and close. All media-width guides can be adjusted by using one hand.	The online user guide is compatible with text screen-readers. The print cartridge can be inserted and removed by using one hand. All doors and covers can be opened by using one hand. The 250-sheet input tray is easy to open and close. All media-width guides can be adjusted by using one hand.	The online user guide is compatible with text screen-readers. The print cartridge can be inserted and removed by using one hand. All doors and covers can be opened by using one hand. The 250-sheet and 500-sheet input trays are easy to open and close. All media-width guides can be adjusted by using one hand.

Specifications

Physical specifications

Table 1-12. Product dimensions

Product	Height	Depth	Width	Weight[1]
HP LaserJet 2410, 2420, 2420d, 2420n, and 2420dn	260 mm (10.2 inches)	400 mm (15.7 inches)	425 mm (16.7 inches)	15.2 kg (33.5 lb)
HP LaserJet 2430t, 2430tn, and 2430dtn	400 mm (15.7 inches)	400 mm (15.7 inches)	425 mm (16.7 inches)	20.9 kg (46 lb)
optional 500-sheet feeder	140 mm (5.5 inches)	400 mm (15.7 inches)	425 mm (15.7 inches)	5.7 kg (12.5 lb)

[1]Without print cartridge

Table 1-13. Product dimensions, with all doors and trays fully opened

Printer model	Height	Depth	Width
HP LaserJet 2410, 2420, 2420d, 2420n, and 2420dn	260 mm (10.2 inches)	730 mm (28.7 inches)	675 mm (26.6 inches)
HP LaserJet 2430t, 2430tn, and 2430dtn	400 mm (15.7 inches)	730 mm (28.7 inches)	675 mm (26.6 inches)

Electrical specifications

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

Table 1-14. Power requirements

Specification	110-volt models	230-volt models
Power requirements	110 to 127 volts (± 10%) 50/60 Hz (± 2 Hz)	220 to 240 volts (± 10%) 50/60 Hz (± 2 Hz)
Rated short-term current	10.0 Amps	5.0 Amps

Table 1-15. Power consumption (average, in watts)[1]

Product model	Printing[2]	Ready	Sleep	Off
HP LaserJet 2410	625 W[3]	11 W	8.5 W	0.4 W
HP LaserJet 2420	625 W[3]	11 W	8.5 W	0.4 W
HP LaserJet 2420d	625 W[3]	11 W	8.5 W	0.4 W
HP LaserJet 2420n	625 W[3]	11 W	8.5 W	0.4 W
HP LaserJet 2420dn	625 W[3]	11 W	8.5 W	0.4 W
HP LaserJet 2430t	625 W[3]	11 W	8.5 W	0.4 W
HP LaserJet 2430tn	625 W[3]	11 W	8.5 W	0.4 W
HP LaserJet 2430dtn	625 W[3]	11 W	8.5 W	0.4 W

[1]Values subject to change. See www.hp.com/support/lj2410, www.hp.com/support/lj2420, or www.hp.com/support/lj2430 for current information.
[2]Power numbers are the highest values measured using all standard voltages.
[3]HP LaserJet 2410 speed is 25 ppm on letter size and 24 ppm on A4 size. HP LaserJet 2420 speed is 30 ppm on letter size and 28 ppm on A4 size. HP LaserJet 2430 speed is 35 ppm on letter size and 33 ppm on A4 size.

Default time from Ready mode to Sleep = 30 minutes. The recovery time from Sleep to start of printing = less than 8.5 seconds.

Heat dissipation in Ready mode = 37.5 BTU/hour (HP LaserJet 2410), 37.5 BTU/hour (HP LaserJet 2420), and 37.5 BTU/hour (HP LaserJet 2430).

Acoustic emissions

Table 1-16. Sound power and pressure level[1] (HP LaserJet 2400 series)

Sound power level	**Declared per ISO 9296**
Printing[2] (HP LaserJet 2410)	L_{WAd}= 6.6 Bels (A) [66 dB(A)]
Printing[2] (HP LaserJet 2420)	L_{WAd}= 6.7 Bels (A) [67 dB(A)]
Printing[2] (HP LaserJet 2430)	L_{WAd}= 6.8 Bels (A) [68 dB(A)]
Ready (HP LaserJet 2410)	Essentially Inaudible
Ready (HP LaserJet 2420)	Essentially Inaudible
Ready (HP LaserJet 2430)	Essentially Inaudible
Sound pressure level	**Declared per ISO 9296**
Printing[2] (HP LaserJet 2410)	L_{pAm}=52 dB (A)
Printing[2] (HP LaserJet 2420)	L_{pAm}=53 dB (A)
Printing[2] (HP LaserJet 2430)	L_{pAm}=53 dB (A)
Ready (HP LaserJet 2410)	Essentially Inaudible
Ready (HP LaserJet 2420)	Essentially Inaudible
Ready (HP LaserJet 2430)	Essentially Inaudible

[1]Values subject to change. See www.hp.com/support/lj2410, www.hp.com/support/lj2420, or www.hp.com/support/lj2430 for current information.
[2]HP LaserJet 2410 speed is 25 ppm on A4 size. HP LaserJet 2420 speed is 29 ppm on A4 size. HP LaserJet 2430 speed is 34 ppm on A4 size.
[3]Configuration tested (HP LaserJet 2410): Base printer, simplex printing with A4 paper size.
[4]Configuration tested (HP LaserJet 2420): Base printer, simplex printing with A4 paper size.
[5]Configuration tested (HP LaserJet 2430): Base printer, simplex printing with A4 paper size.

Operating environment

Environmental condition	**Printing**	**Storage/standby**
Temperature (printer and print cartridge)	15° to 32.5°C (59° to 89°F)	-20° to 40°C (-4° to 104°F)
Relative humidity	10% to 80%	10% to 90%

Media specifications

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

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

NOTE Some media might meet all of media specifications and still not produce satisfactory results. Improper handling, unacceptable temperature and humidity levels, and other variables over which Hewlett-Packard has no control can affect print quality. Before purchasing large quantities of media, make sure that it meets the requirements that are specified in the user guide and in the*HP LaserJet Printer Family Print Media Guide*, which is available for download at http://www.hp.com/support/ljpaperguide. Always test paper before buying large quantities.

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

Supported types and sizes of print media

Column Tray 1 heading	Dimensions[1]	Weight	Capacity[2]
Minimum size (custom)	76 x 127 mm (3 x 5 inches)	60 to 199 g/m^2 (16 to 53 lb)	100 sheets of 75 g/m^2 (20 lb) paper
Maximum size (custom)	216 x 356 mm (8.5 x 14 inches)		
Transparency	(Same as preceding minimum and maximum paper sizes.)	Thickness: 0.10 to 0.14 mm (0.0039 to 0.0055 inch)	75 typical
Labels[3]		Thickness: 0.10 to 0.14 mm (0.0039 to 0.005 inch)	50 typical
Envelopes		Up to 90 g/m^2 (16 to 24 lb)	Up to 10

[1]The printer supports a wide range of sizes. See the printer software for supported sizes. To print on custom-size paper, see the user guide.
[2]Capacity can vary depending on media weight and thickness, as well as on environmental conditions.
[3]Smoothness: 100 to 250 (Sheffield)

NOTE You might experience some jams when using any media that is less than 178 mm (7 inches) long. These jams might be caused by media that has been affected by environmental conditions. For optimum performance, make sure that you are storing and handling the media correctly (see Printing and paper storage environment).

Tray 2 (250-sheet tray) and tray 3 (500-sheet tray)	Dimensions[1]	Weight	Capacity[2]
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 120 g/m^2 (16 to 32 lb)	250 sheets of 75 g/m^2 (20 lb) media
A4	210 x 297 mm (8.3 x 11.7 inches)		
Executive	191 x 267 mm (7.3 x 10.5 inches)		
Legal	216 x 356 mm (8.5 x 14 inches)		
B5 (JIS)	182 x 257 mm (7.2 x 10 inches)		
A5	148 x 210 mm (5.8 x 8.3 inches)		
8.5 x 13 inches	216 x 330 mm (8.5 x 13 inches)		

[1]The printer supports a wide range of sizes. See the printer software for supported sizes. To print on custom-size paper, see the user guide.
[2]Capacity can vary depending on media weight and thickness, as well as on environmental conditions.

Built-in duplexer[1]	**Dimensions[2]**	**Weight**
Letter	216 x 279 mm (8.5 x 11 inches)	60 to 105 g/m^2 (16 to 28 lb Bond)
A4	210 x 297 mm (8.3 x 11.7 inches)	
Legal	216 x 356 mm (8.5 x 14 inches)	
8.5 x 13 inches	216 x 330 mm (8.5 x 13 inches)	

[1]The built-in duplexer is included only with the HP LaserJet 2420d, 2420dn, and 2430dtn printers.
[2]The printer supports a wide range of sizes. See the printer software for supported sizes. To print on custom-size paper, see the user guide.

NOTE Prepunched media is not supported for automatic duplexing.

For more information about using print media, see the user guide.

Paper and print media

For complete media specifications for all HP LaserJet printers, see the *HP LaserJet Printer Family Print Media Guide* (available at http://www.hp.com/support/ljpaperguide).

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

Printing and paper storage environment

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

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

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

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

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

The paper storage environment should be properly maintained to ensure optimum printer performance. The required condition is 20° to 24°C (68° to 75°F), with a relative humidity of 45% to 55%. The following guidelines should be helpful when evaluating the paper's storage environment:

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

Envelopes

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

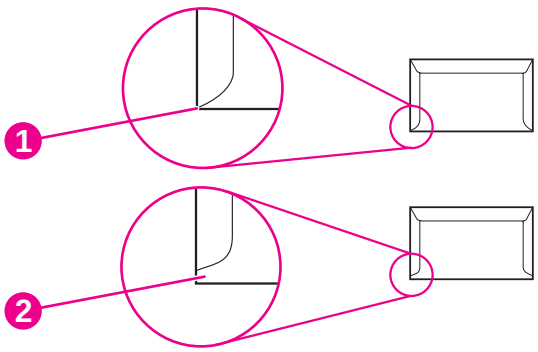
- **Weight:** The weight of the envelope paper should not exceed 105 g/m^2 (28 lb) or jamming might occur.
- **Construction:** Prior to printing, envelopes should lie flat with less than 6 mm (0.25 inch) curl, and should not contain air.
- **Condition:**Envelopes should not be wrinkled, nicked, or otherwise damaged.
- **Temperature:** You should use envelopes that are compatible with the heat and pressure of the printer.
- **Size:** You should use only envelopes within the following size ranges.
  - **Minimum**: 76 x 127 mm (3 x 5 inches)
  - **Maximum**: 216 x 356 mm (8.5 x 14 inches)

NOTE

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

Envelopes with double side seams

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



1 Acceptable envelope construction
2 Unacceptable envelope construction

Envelopes with adhesive strips or flaps

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

Envelope margins

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

Type of address	Top margin	Left margin
Return address	15 mm (0.6 inch)	15 mm (0.6 inch)
Delivery address	51 mm (2 inches)	89 mm (3.5 inches)

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

Envelope storage

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

Labels

CAUTION To avoid damaging the printer, use only labels recommended for laser printers. To prevent serious jams, always use tray 1 to print labels and always use the rear output bin. Never print on the same sheet of labels more than once or print on a partial sheet of labels.

When selecting labels, consider the quality of each component:

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

Transparencies

Transparencies used in the printer must be able to withstand 200°C (392°F), the printer's fusing temperature.

CAUTION To avoid damaging the printer, use only transparencies recommended for use in HP LaserJet printers, such as HP-brand transparencies. (For ordering information, see Ordering parts and supplies.)

Product: 2004 HP LaserJet 2400 Series Printer Service Repair Workshop Manual
Full download: https://www.arepairmanual.com/downloads/2004-hp-laserjet-2400-series-printer-service-repair-workshop-manual/

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP LaserJet 2410, 2420, and 2430 series	1 year, Return to Authorized Service Center

HP warrants to you, the end-user customer, that HP hardware and accessories will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or equivalent in performance to new.

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