

LaserJet 4ML

HP LaserJet 4ML Printer
User's Manual

Customer Support

Fill in the following form so that you will have this information handy if you ever have to call for service or support:

What is the serial number of your printer?	
What model printer do you have?	HP LaserJet 4ML printer
What is the brand and model of your computer?	
What is the version of software you are using, and what driver have you selected?	

Service Support

To find an authorized **Hewlett-Packard Service Dealer**, call **(800) 752-0900**. To purchase a **Hewlett-Packard Service Agreement**, call **(800) 835-4747**. (See Chapter 9 of this manual for detailed service and warranty information.)

Application Support

If you need help, call your software vendor or the **HP Customer Support Center** at **(208) 323-2551**. Hours are 7 am - 6 pm (MT) Monday, Tuesday, Thursday, Friday; and 7 am - 4 pm Wednesday.

Pre-recorded help messages for common print problems are available through **HP's Automated Support Access Program Line** 24 hours a day, 7 days a week. Call **(800) 333-1917**.

Software Printer Drivers

Here is how to order printer drivers and *Software Application Notes*:

- HP LaserJet 4ML printer drivers for several popular software packages are available through **HP's Distribution Center** at **(303) 353-7650**. Hours are 7 am to 6 pm (MT), Monday through Friday.
- You can call **HP FIRST** for 24-hour access to ordering information for updated *Software Application Notes*, printer drivers, data sheets, and lists of supported software and hardware. Call **(800) 333-1917**.
- *Software Application Notes* and printer drivers are also available through **CompuServe's HP Forum**, **(800) 848-8199**.

Supplies

To order toner, cables, adhesive labels, and transparency film, contact your local HP dealer. To find a dealer near you (or if your dealer is temporarily out of stock), call the **HP Customer Information Center (800) 752-0900**.

Technical Documentation

The *PCL 5 Printer Language Technical Reference Manual* (HP part number 5961-0997) is available through your local HP dealer.

The *HP LaserJet Printer Family Paper Specification Guide* (HP part number 5002-1801) is available through **HP's Distribution Center, (303) 353-7650**.

HEWLETT-PACKARD WANTS TO KNOW WHAT YOU THINK!

HP LaserJet 4L/4ML Printer Registration

Please Print

Date Purchased or Received MONTH, YEAR
Printer Serial Number
User's Name Mr./Ms. FIRST INITIAL LAST
Company Name (if Applicable)
Street Address
City State/Province Zip
Country Telephone Number () Ext.

You are the key! The information you provide will help us understand your needs. Thank you for taking the time to respond.

To enter the HP calculator drawing, simply fill out the questionnaire and return this postage paid reply card. Each month we will give away (10) HP calculators. Each winner will be contacted by mail.

- I would like to receive information on new product updates.

1. Which LaserJet did you purchase?

- HP LaserJet 4L
HP LaserJet 4ML

2. Where is this LaserJet printer located and how will it be used? (Check all that apply)

- At the office - Work at the office
At home - For work I bring home from the office
At home - For a full-time business I operate out of my home
At home - For a part-time business I operate out of my home
At home - For a company who employees me to work during normal business hours at home
At home - For educational use (kindergarten - 12th grade)
At home - For educational use (college student)
At home - For personal use (household management, personal finances, taxes, entertainment)

Please answer the following questions based on where and how this LaserJet printer will be primarily used (based on your response in Question #2)

3. Which funds were used to purchase this LaserJet printer?

- Personal funds
Business/Company Funds

4. What is your current position?

- Administrative Asst./ Secretarial
Manager
Technical/Professional Staff
Other
Owner/Principal
Please specify

5. Which of the following describes your role in the purchase of this printer? (Please check all that apply)

- I use the printer but did not get involved in the purchase decision
I evaluated various brands and models of printers to be purchased (read computer articles and specification information)
I recommended that this printer should be purchased
I made the final decision as to the brand and model to be purchased
I approved the expenditure of funds
None of the above
Other
Please specify

6. Which operating system is frequently used with this LaserJet printer? (Check all that apply)

- MS-DOS without Windows
Don't Know
MS-DOS with Windows
Other
Macintosh
Please specify

TAPE HERE



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 141 BOISE, IDAHO



POSTAGE WILL BE PAID BY ADDRESSEE

Hewlett-Packard Company
Attn: Marketing Research M.S. 510
P.O. Box 15
Boise Idaho 83707-9934



19. In what industry and department do you work? (Check only one from each category)

Industry

- 51. Agriculture, Forestry, Fishing
- 52. Banking, Finance, Investment
- 53. Business/Consulting Service
- 54. Construction, Architecture
- 55. Communication, Transportation, Utilities
- 56. Computer Service (Hardware/Software)
- 57. Education Services
- 58. Government
- 59. Health/Hospital/Medical Services
- 61. Insurance
- 62. Legal Services
- 63. Manufacturing Industrial Goods
- 64. Manufacturing Consumer Goods
- 65. Natural Resources/Energy
- 66. Research/Non-Profit Organizations
- 67. Public Administration
- 68. Publishing/Media/ Advertising
- 69. Real Estate
- 71. Retail/Distribution Trade
- 72. Technical Consulting
- 73. Wholesale Trade
- 99. Other _____

Please specify

Department

- 81. Entire office
- 82. Accounting/Finance
- 83. Administration
- 84. Communications/Public Relations
- 85. Engineering
- 86. Info Systems/Technology
- 87. Legal
- 88. Marketing
- 89. Manufacturing/Production
- 91. Personnel
- 92. Purchasing
- 93. Quality Assurance/Control
- 94. Research & Development
- 95. Sales
- 96. Service and Support
- 97. Training/Education
- 99. Other _____

Please specify

Additional comments: _____



Printed on
Recycled Paper

HP's support

Take this unique opportunity to arrange for a convenient, cost effective agreement.

Accept this special invitation to arrange for a money-saving HP service agreement.



It's easy. All you have to do is call.

As the owner of a new Hewlett-Packard product, you can look forward to superior performance and reliability. And that should come as no surprise. We're proud of the fact that quality and dependability are built into every single HP product.

We demonstrate this commitment to quality through the excellent warranty coverage provided for your product. However, when your warranty *does* expire, you'll want to avoid the cost of unexpected repairs and the inconvenience of unnecessary downtime. That's why it makes sense to choose one of our service agreement plans.



Four important reasons you need a HP service agreement.

Reason 1:

Maximum availability. Your HP product will receive prompt attention from a highly-skilled HP customer service representative. That means you'll have it up and running again, quickly.

Reason 2:

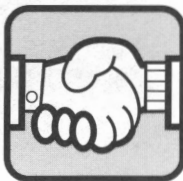
Lower cost. You can avoid unexpected and potentially expensive bills. An HP service agreement with a fixed annual cost keeps your HP product running all year long.

Reason 3:

Reduced paperwork. When you need service, there are no purchase orders to worry about, no unexpected checks to cut, and no billings to handle.

Reason 4:

High-quality service. Our factory-trained customer service representatives have extensive experience servicing Hewlett-Packard products and use sophisticated support tools. And, you *automatically* receive factory-specified engineering improvements at the time of repair!



There's an HP service agreement that's perfect for you!

It's easy to choose an HP service agreement with the exact level of support you need, at a price that fits your budget! We offer three levels of on-site support through HP SuccessLine service.

Priority support. This plan provides HP's fastest response time: on-site service within 4 working hours of your call (for covered locations). It's ideal if you are running critical applications.

Next Day support. Under this plan, an HP customer service representative arrives at your site within 1 working day of your call. It's perfect if you need on-site convenience at a lower cost.

Scheduled support. If you have several HP products, this plan offers the lowest cost support with the convenience of on-site service. An HP customer service representative makes scheduled weekly visits to a central site on your location.

As an economical alternative, we offer a return to HP service.

HP Customer Return service. You can save money by returning your product to an HP Customer Service Center for maintenance. If you have alternate units or noncritical application, this plan is an excellent way to reduce maintenance costs.

The next step is easy. Here's how to order or find out more...

All you have to do is call us. We'll be happy to:

- Help you decide which level of support best meets your needs
- Quote the cost of service agreements
- Take your order for an HP service agreement

Please note: If you call, there is no obligation to order. In some locations, service may also be available through authorized HP service dealers.



Call one of the HP telephone numbers below now!

Find out how a cost-effective HP service agreement can go to work for you.

Around the world, call:

Argentina	1-781-4061
Australia	008 339863
Canada, Eastern	800-361-9791
Canada, Ontario	800-387-3857
Canada, Western	800-661-5626
Hong Kong	852-8487649
Korea	02-784-4666
Malaysia	03-298-6555
Mexico	905-676-4600
New Zealand	4-820-400
Singapore	2737388
Taiwan	02-712-0404
Thailand	2-2546720
United Kingdom	344-369369
United States	1-800-835-4747
Venezuela	582 239-4133

To contact HP in other countries, please consult your local directory assistance.

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User's Manual

The HP LaserJet 4ML Printer

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About This Manual

This manual is designed to support PostScript printing with Macintosh and Microsoft Windows-compatible computers. It is a combination set up guide, task-oriented operator's manual, and reference manual that covers the following topics:

- Becoming familiar with the printer's features, and ordering supplies and related documentation (Chapter 1).
- Setting up the printer's hardware (Chapter 2).
- Installing the printer's software (Chapter 3 for Macintosh computers; Chapter 4 for IBM-compatible computers).
- Using the printer's front panel button and understanding the printer's status lights (Chapter 5).
- Using the paper cassette and the manual feed slot for printing on letterhead, A4, legal, and executive papers, as well as envelopes, transparencies, and adhesive labels (Chapter 6).
- Performing routine printer maintenance (Chapter 7).
- Troubleshooting common printing problems (Chapter 8).
- Locating customer support phone numbers and hardware service resources (Chapter 9).

The appendices contain reference information about the printer's interfaces, paper specifications, product specifications, and environmental protection issues.

Manual Conventions

Italic refers to a document title or is used for emphasis.

Bold refers to new terms or is used for emphasis.

COMPUTER type indicates text visible on a computer screen and software menu selections.

Keyface indicates keys (such as **Enter**) on your computer's keyboard.

Note

Notes contain important information set off from the text.

CAUTION

Caution messages appear before procedures which, if not observed, could result in loss of data or in damage to equipment.

WARNING

Warning messages alert you to a specific procedure or practice which, if not followed correctly, could cause serious personal injury.

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Introduction



Overview of Printer Features

The HP LaserJet 4ML printer sets a new standard for high quality, low cost PostScript printing in the Macintosh and Microsoft Windows environments. It provides complete HP LaserJet functionality and compatibility in an affordable, simple-to-use printer, and embodies the same high standards of print quality, reliability, and performance that customers expect from all HP LaserJet printers.

Features for Macintosh Computer Users

- **LocalTalk interface** for direct connection with Macintosh computers.
- **HP LaserJet Utility** to provide access to printer features that are not available through the printer driver.
- **HP Namer program** to enable you to assign unique names to printers on your AppleTalk network.

Features for both Macintosh *and* Windows/DOS Computer Users

- **300 dpi (dots-per-inch) printing** with **Resolution Enhancement technology (REt)**. REt adjusts the size and placement of each dot to smooth angles and curves. This sharpens the appearance of text and graphics.
- **4 ppm (pages-per-minute) print speed**. (The actual print speed depends on the complexity of your data and how efficiently your software handles that data.)
- **Small footprint** for saving space in the office or work area.
- **4 MB printer memory**.
- **EconoMode printing** to reduce your toner costs by 50% .
- **Adobe PostScript Level 2 printer language** standard in the printer.
- **Printing Software for Macintosh** and **Printing Software for Windows** packages, that include the software required to support all the features of your HP LaserJet 4ML printer. These software packages also contain installation instructions and information about using the printing software.
- **Automatic printer language (personality) switching** between PostScript and PCL.
- **Status read back** on both ports, to enable you to check printer status from your computer's screen.

- **Universal 100-sheet paper cassette** that adjusts to hold letter, legal, A4, and executive paper sizes.
- **A manual feed slot** for printing a wide variety of paper sizes and media types.
- **A top output tray** with a 50 sheet capacity.
- **A straight paper path** through the rear output slot for printing transparencies, labels, heavy media, and wrinkle-free envelopes.
- **Automatic I/O switching** so that you can connect a Macintosh and a Windows/DOS compatible computer to the printer simultaneously.
- **35 internal PostScript typefaces** to provide a versatile type library for Macintosh and Windows/DOS PostScript applications.
- **Intelligent On/Off sensing**, that replaces the power switch and combines with the new power-saving design to use one eighth the energy of previous laser printers.
- **“Reduce, Reuse, Recycle” product design** for protecting the environment of the office and the communities where the printer is manufactured, shipped and used. (See Appendix E.)

Features for Windows/DOS Users

- **Enhanced PCL 5 printer language**, for software compatibility with all previous HP LaserJet printers. This language includes fully integrated HP-GL/2 vector graphics and advanced imaging capabilities.
- **Bi-Tronics parallel** interface for high speed two-way communications between the printer and the host computer.
- **45 internal PCL typefaces** for DOS and Windows PCL applications. Of these, 10 are in the TrueType format to match the Windows 3.1 type offering.
- **An 8.5 point, bitmapped Line Printer font** for compatibility with many PCL software packages.
- **Extensive internal symbol set support** to provide characters used in a wide variety of languages and occupations.
- **Memory Enhancement technology (MEt)**, an HP innovation that enables you to print very complex PCL pages using the printer’s standard memory.



Internal Type Offering

PostScript Typefaces

The HP LaserJet 4ML printer contains 35 PostScript typefaces drawn from 11 typeface families, all licensed from Adobe Systems, Inc. These typefaces are available to Macintosh and Windows/DOS PostScript applications.

ITC Avant Garde Gothic® Book
ITC Avant Garde Gothic Book Oblique
ITC Avant Garde Gothic Demi
ITC Avant Garde Gothic Demi Oblique

ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]%#!?`"*
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"

ITC Bookman® Demi
ITC Bookman Demi Italic
ITC Bookman Light
ITC Bookman Light Italic

ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]%#!?`"*

Courier
Courier Bold
Courier Bold Oblique
Courier Oblique

ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]%#!?`"*

Helvetica*
Helvetica Bold
Helvetica Bold Oblique
Helvetica Oblique

ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]%#!?`"*

Helvetica Narrow
Helvetica Narrow Bold
Helvetica Narrow Bold Oblique
Helvetica Narrow Oblique

ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]%#!?`"*

New Century Schoolbook Bold
New Century Schoolbook Bold Italic
New Century Schoolbook Italic
New Century Schoolbook Roman

ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]%#!?`"*
ABCDEabcde012345[]*%#!?`"

Palatino*
Palatino Bold
Palatino Bold Italic
Palatino Italic

ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]%#!?`"*

Symbol

ABXΔEαβχδε012345[]*%#!?`" ∇

Times* Bold
Times Bold Italic
Times Italic
Times Roman

ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]*%#!?`"
ABCDEabcde012345[]%#!?`"*
ABCDEabcde012345[]*%#!?`"

ITC Zapf Chancery® Medium Italic

ABCDEabcde012345[]%#!?`"*

ITC Zapf Dingbats®

☆†‡•✦✧✨✩✪✫✬✭✮✯✰✱✲✳✴✵✶✷✸✹✺✻✼✽✾✿

PCL Typefaces

To allow complete compatibility with other HP LaserJet printers, this printer contains 35 Intellifont PCL typefaces. There are also 10 typefaces in the TrueType format to support Windows 3.1, and an 8.5 point Line Printer font. All of these typefaces are available to Windows/DOS PCL applications.

Note

While the printer switches easily between the PostScript and PCL printer languages, you cannot use both those languages and their typefaces in the same document.

Intellifont

Albertus
Albertus Extrabold
Antique Olive
Antique Olive Italic
Antique Olive Bold
Clarendon Condensed
Coronet
Courier
Courier Italic
Courier Bold
Courier Bold Italic
Garamond Antiqua
Garamond Kursiv
Garamond Halbfett
Garamond Kursiv Halbfett
Letter Gothic
Letter Gothic Italic
Letter Gothic Bold

Marigold
CG Omega
CG Omega Italic
CG Omega Bold
CG Omega Bold Italic
CG Times
CG Times Italic
CG Times Bold
CG Times Bold Italic
Univers Medium
Univers Medium Italic
Univers Bold
Univers Bold Italic
Univers Medium Condensed
Univers Medium Condensed Italic
Univers Bold Condensed
Univers Bold Condensed Italic

Line Printer (16.67 pitch, 8.5 point only)

TrueType

Arial
Arial Italic
Arial Bold
Arial Bold Italic

Symbol αβχΔΕΦΓ

Times New Roman
Times New Roman Italic
Times New Roman Bold
Times New Roman Bold Italic

Wingdings 



Operating and Maintenance Features

Print speed	Up to 4 pages per minute. (Actual print speed depends on the complexity of your data and how efficiently your software handles that data.)
Paper input	100 sheet universal cassette for printing Letter, Legal, Executive, and A4, copier-grade papers.
	Manual feed slot for printing envelopes, labels, transparencies and custom sized papers.
Paper output	50 sheet top output tray.
	Rear output slot (straight paper path) for printing envelopes, labels, transparencies, and custom paper sizes .
Toner	The toner cartridge prints an average of 3,000 pages with up to 5% toner coverage on the page (with EconoMode off).
RAM memory	4 MB
I/O	LocalTalk interface and Bi-Tronics parallel interface (compatible with Centronics parallel), with automatic I/O switching.
Intelligent On/Off	The printer automatically turns off after 15 minutes of inactivity. It powers on instantly when you send a job to the printer, touch the front panel button, open the printer's top door, or insert paper into the printer.



Ordering Drivers, Software Notes, and Other Support Information

The items in the following table are available free of charge from Hewlett-Packard.

<i>Software Application Notes</i>	A Macintosh driver and a Windows driver are included with this printer.
Software printer drivers	Software notes and printer drivers for many additional popular software applications (including DOS and Windows PCL) are available free of charge from Hewlett-Packard. See the ordering information below.
<i>HP LaserJet Printer Family Paper Specification Guide</i>	HP part number 5002-1801 . This manual contains detailed print media specifications and part numbers for ordering adhesive labels and transparencies suitable for laser printers.

HP Distribution Center

To order the above items, call **HP's Distribution Center** at **(303) 353-7650**. Hours are 7 am to 6 pm (MT), Monday through Friday.

HP FIRST

For 24-hour access to information about how to order updated software notes, printer drivers, data sheets, and lists of supported software and hardware, call **HP FIRST** at **(800) 333-1917**.

CompuServe

As soon as printer drivers and software notes are available, they are uploaded to the **HP Forum** on **CompuServe** for instant access by CompuServe members.

To take advantage of CompuServe's Free Introductory Membership offer, call **(800) 848-8199** and ask for Representative #51.

Accessories and Supplies for Macintosh Users

The following items are available through your local authorized HP dealer. To find a dealer near you (or if your dealer is temporarily out of stock), call the **HP Customer Information Center (800) 752-0900**.

Replacement toner	HP Part Number 92274A .
HP LocalTalk network cable kit	HP Part Number 92215N .
HP 8-pin LocalTalk/serial cable	HP Part Number 92215S .

Accessories and Supplies for Windows/DOS Users

The following items are available through your local authorized HP dealer or HP sales office. To find a dealer near you (or if your dealer is temporarily out of stock), call the **HP Customer Information Center (800) 752-0900**.

Replacement toner	HP Part Number 92274A .
Parallel cable	HP Part Number C2912B .
<i>PCL 5 Printer Technical Reference Manual</i>	HP Part Number 5961-0997 . This manual is primarily for software developers and service personnel who use PCL. It also includes information on P/L and HP-GL/2 commands, and PCL symbol sets. For specific information on using PCL commands with your DOS software, read Hewlett-Packard's <i>Software Application Notes</i> or refer to your software user's manual.

Additional Adobe PostScript Information

If you wish to learn more about the PostScript language, you can purchase the following books through your local book store:

PostScript Language Reference Manual. ("The Red Book") Second Edition. Adobe Systems Incorporated. Menlo Park: Addison-Wesley Publishing Company, Inc. December 1991.

PostScript Language Supplement for Version 2011. Adobe Systems Incorporated. Menlo Park: Addison-Wesley Publishing Company, Inc., 1991.

PostScript Language Program Design. Adobe Systems Incorporated. Menlo Park: Addison-Wesley Publishing Company, Inc., 1988.

PostScript Language Tutorial and Cookbook. Adobe Systems Incorporated. Menlo Park: Addison-Wesley Publishing Company, Inc., 1985.

Notes

2

- **Preparing the Location 2 - 2**
- **Unpacking the Printer 2 - 3**
- **Identifying the Printer Parts 2 - 4**
- **Installing the Toner Cartridge 2 - 6**
- **Attaching the Power Cord 2 - 7**
- **Loading the Paper Cassette 2 - 8**
- **Attaching the Help Labels 2 - 9**

Setting Up the Printer

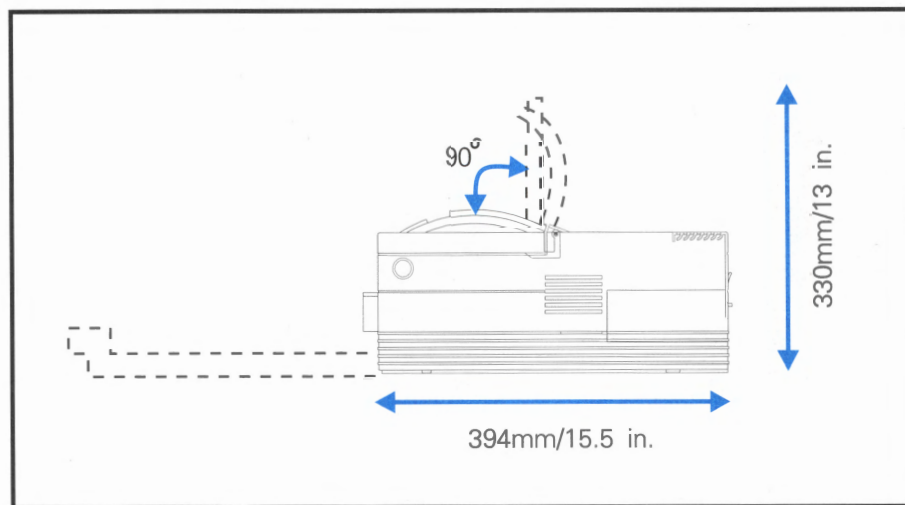


Step A Preparing the Location

Physical Location

The surface where you put the printer should be smooth, level, and sturdy. Make sure there is enough clearance around the printer to:

- open the top door.
- open the rear door and remove paper if a jam occurs.
- retrieve paper when you use the rear output path.
- allow air circulation around vents to prevent the printer from overheating.



Environment

Put the printer in a well-ventilated room.

- Room temperature 50° to 91° F (10° to 32.5° C).
- Relative humidity 20% to 80% with no condensation.
- A stable environment - no abrupt temperature or humidity changes.
- No exposure to direct sunlight, chemicals, or vibration.

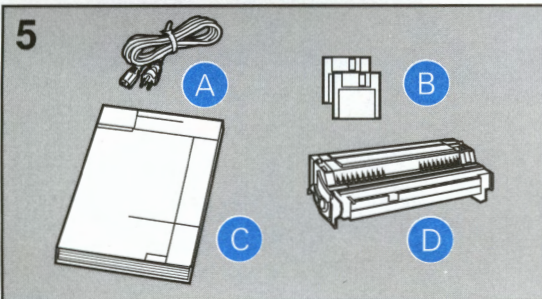
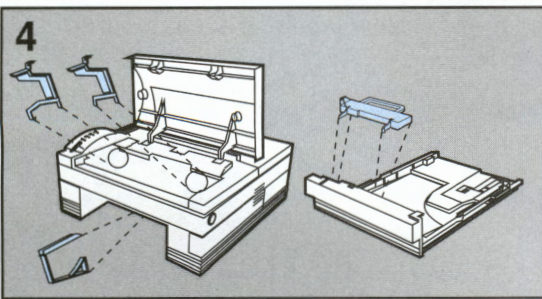
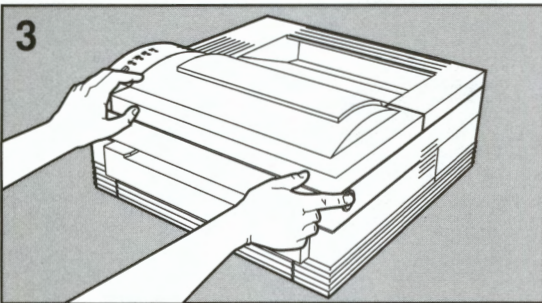
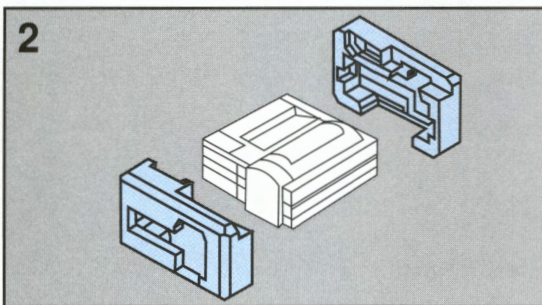
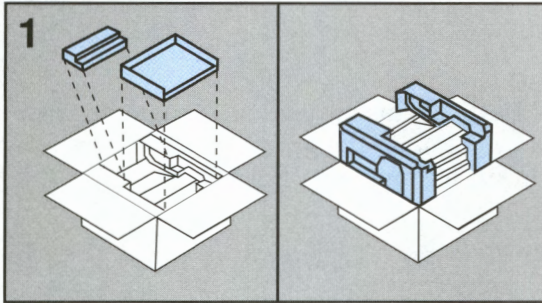
Safety Precautions

- Do not use this product near water or in places where water might get on or into the product.
- Do not touch any electrical contacts or gears that are exposed, or push objects of any kind into the product through the cabinet vents.

Go to Step B ➡



Step B Unpacking the Printer



- 1 Set the box on a sturdy, level surface. Open the top of the box. Remove the power cord, the documentation, and the toner package.

Remove the printer from its box. (Because the printer is lightweight, you may need another person to hold the box down while you remove the printer.)

- 2 Remove the outer packing material from the printer.
- 3 Open the top of the printer by pressing the top door release button. Pull out the paper cassette.
- 4 Remove the packing spacers:

- 2 from the inside of the printer.
- 2 from the paper cassette area.

- 5 Check the package contents.

If any of the following package contents are missing or damaged, contact your HP dealer *immediately*.

- A Power cord.
- B *Printing Software for Macintosh* and *Printing Software for Windows* (software required to use all the features of your printer).
- C *HP LaserJet 4ML Printer User's Manual*.
- D Toner cartridge.

The interface cables are sold separately.

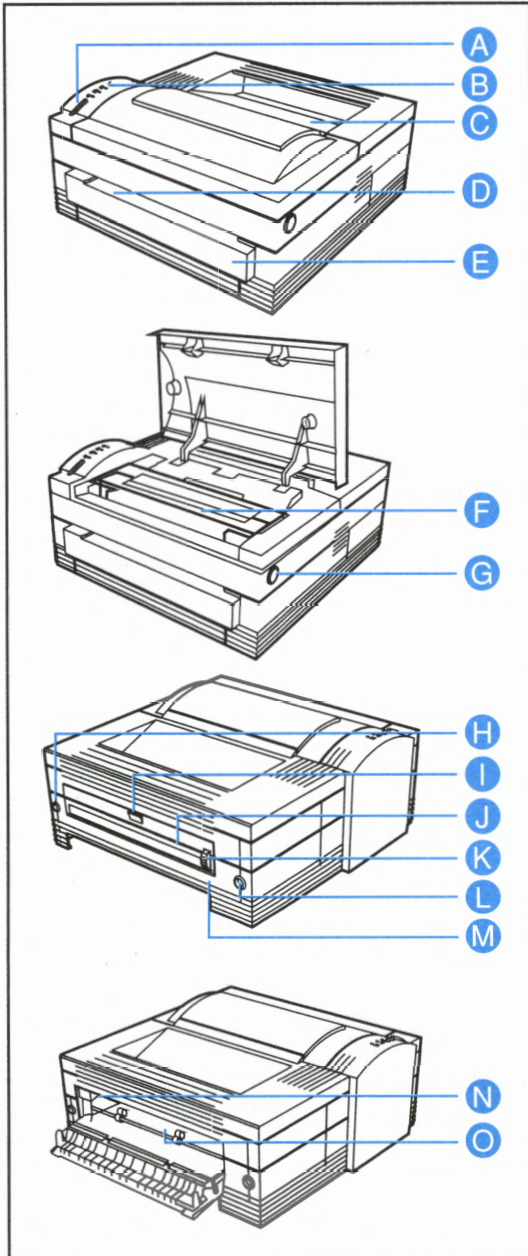
Macintosh computer users: The printer uses a standard LocalTalk cable, available from your local dealer.

Windows/DOS users: The printer's Bi-Tronics parallel connection is compatible with your computer's Centronics parallel interface and most parallel cables. See Appendix B for complete cable specifications.

Go to Step C ➔



Step C Identifying the Printer Parts



Front of Printer

A Front Panel Button (This button has many functions, depending on what state the printer is in, or how long you hold the button down. See Chapter 5.)

B Status Lights

C Top Paper Output Tray

D Manual Feed Slot

E Paper Cassette

F Toner Cartridge

G Top Door Release Button

Back of Printer

H Power Cord Door

I Rear Access Door

J Rear Output Slot

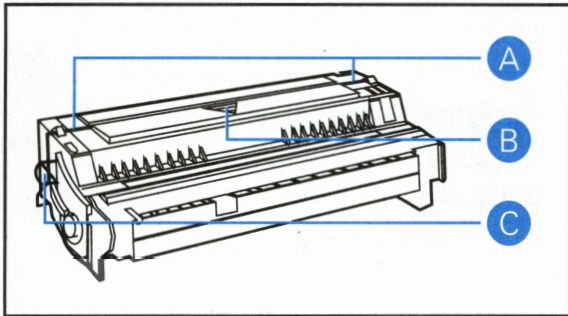
K Paper Path Knob (Use this to select the rear output path for envelopes, labels, transparencies, and heavy media.)

L I/O Cable Door
LocalTalk and Parallel

M Serial Number

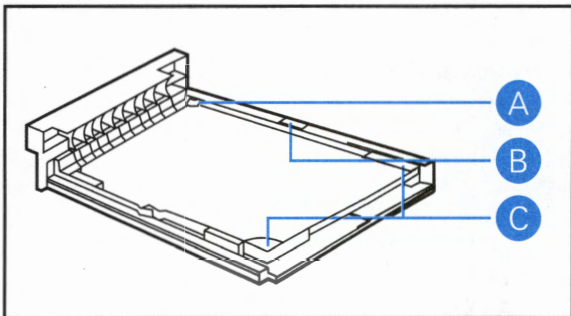
N Paper Release Lever (Press this lever up to release jammed paper.)

O Fuser Area



Toner Cartridge Parts

- A Shutter Wires (These wires hook onto the sides of the printer when you insert the toner cartridge into the cartridge slot. *Do not hold the cartridge by the shutter wires.*)
- B Arrow Guide (This molded arrow on the top of the cartridge indicates the direction to install the cartridge.)
- C Toner Seal Tape (Pull this tape to remove the sealing tape before installing the toner cartridge.)



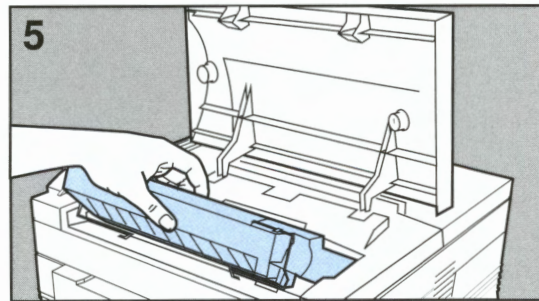
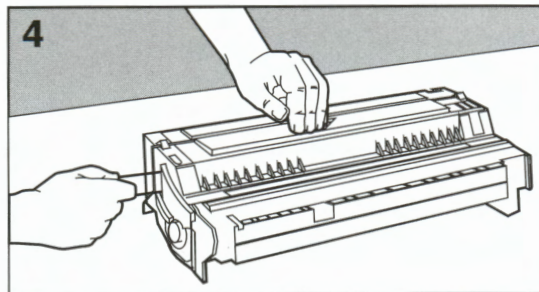
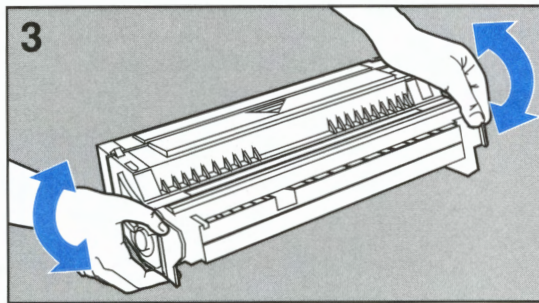
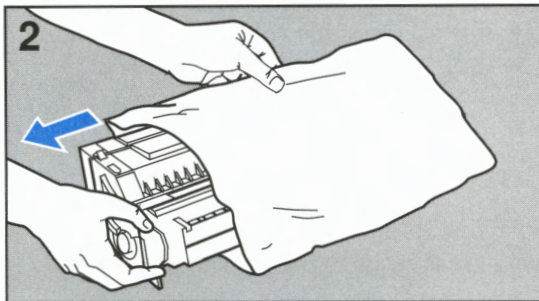
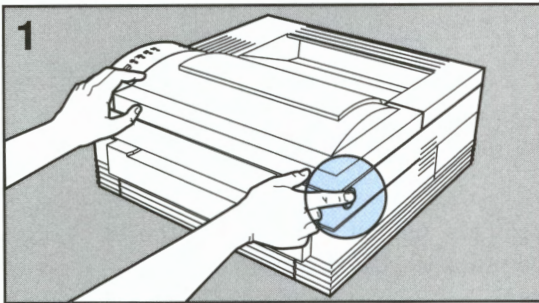
Paper Cassette Parts

- A Metal Corner Clip (To prevent paper jams, be sure you always insert the corner of the paper stack under this clip.)
- B Corner Clip Lever (Press on this lever to raise the metal clip so that you can insert the corner of the paper stack under it.)
- C Backstop (This secures the back edge of the paper stack.)

Go to Step D 



Step D Installing the Toner Cartridge



- 1 Press the top door release button to open the printer's top door.
- 2 Remove the cartridge from its bag. Save the bag for possible cartridge storage.
- 3 Shake the cartridge vigorously to distribute the toner evenly inside the cartridge.

CAUTION

Because light damages the cartridge's photo-sensitive drum, do not expose the cartridge to light for more than a few minutes.

- 4 Grasp the tab on the side of the cartridge and pull firmly to remove the entire 12-15 inch (30-35 cm) strip of clear sealing tape. **Don't touch the silver part of the tape. It has toner on it.**

Discard the tape. Clean your fingers if you get any excess toner on them.

- 5 With one hand, hold the cartridge in the middle (do not grasp the cartridge by the shutter wires), and slide it into the printer. As you insert the cartridge, the two side shutter wires stay up and rest on the sides of the printer cabinet.

Close the top door. If the door closes easily, the cartridge is installed correctly.

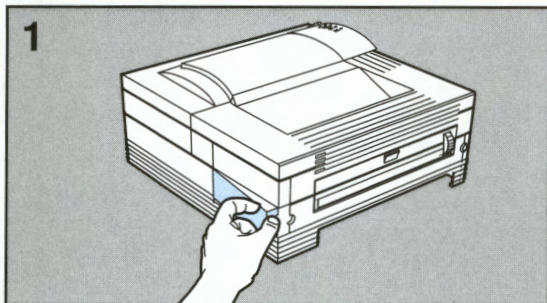
Cleaning Spilled Toner

If toner gets on your clothes, wipe it off with a dry cloth and wash the clothes in cold water. **Hot water sets toner into fabric.**

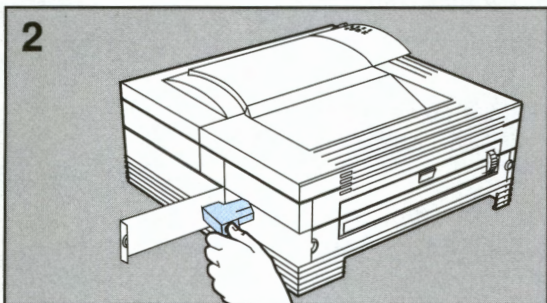
Go to Step E ➔



Step E Attaching the Power Cord

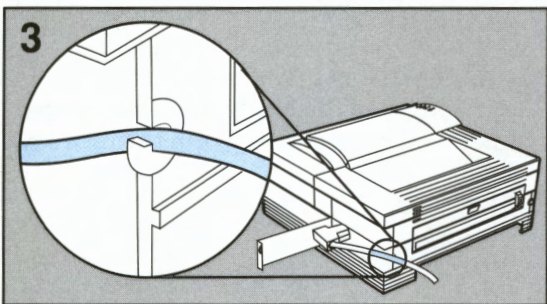


1 Open the power door by pressing on the back edge of the power door and popping it out.

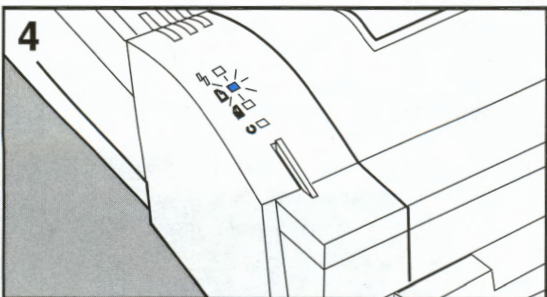


2 Connect the power cord securely. Plug the other end into a **3-wire grounded power strip** or wall outlet.

When the printer is powered on, it performs a self test approximately 25 seconds long. For the first 20 seconds all the lights remain on, then the lights blink in sequence for about 5 seconds.



3 Place the power cord in the hole at the rear of the printer and close the power door.



4 If the amber Paper light stays on, the paper cassette is empty. (Follow the steps on the next page to add paper to the cassette.)

Turning the Printer On and Off

Instead of a power switch, the HP LaserJet 4ML printer has Intelligent On/Off sensing. It turns on instantly when you touch the printer's front panel button, send a print job through your software, open the printer's top door, or insert paper into the printer.

The printer goes into Intelligent Off mode after 15 minutes if there is no activity. It remains on indefinitely if there is an error condition in the printer or if there is data remaining in the printer's buffer.

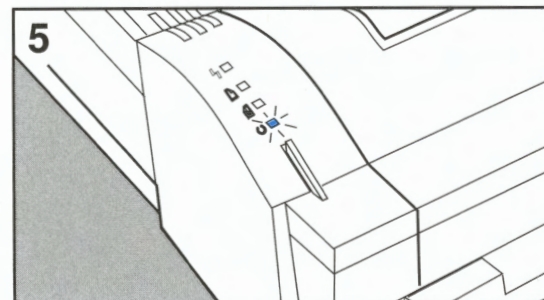
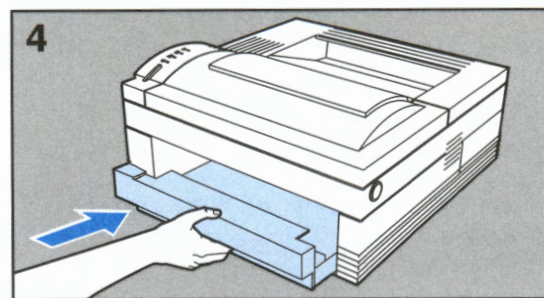
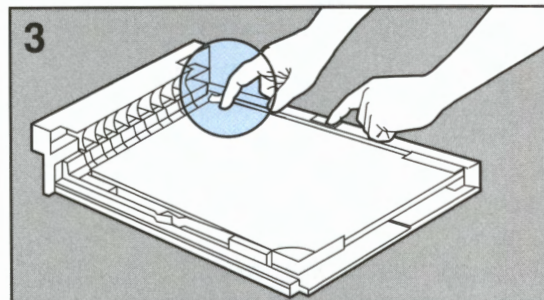
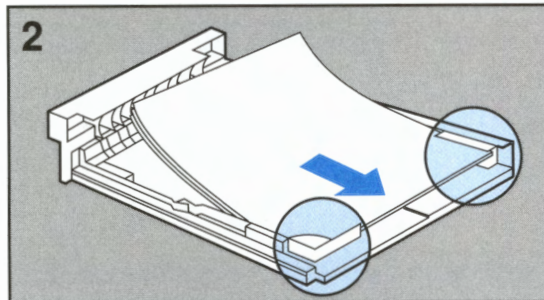
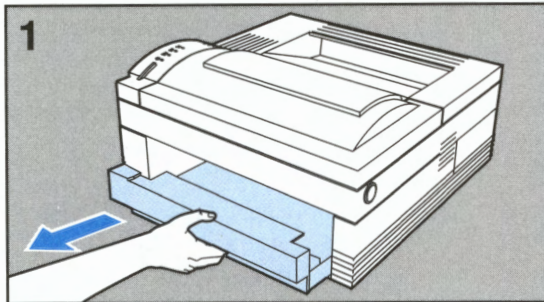
To turn off the power to the printer completely, you must disconnect the printer from its power source.

The printer retains all downloaded fonts, macros, and printer settings when it goes into Intelligent Off mode.

Go to Step F ➔



Step F Loading the Paper Cassette



To achieve the best possible print quality and avoid jams or misfeeds, use only good-quality, photocopier grade paper. Avoid paper that is torn, damp, wrinkled, curled, or that has perforations. (See Appendix C for more detailed paper specifications.)

- 1 Pull out the paper cassette. If you have not removed the two packing spacers, do so now.
- 2 Load about 100 sheets of paper. The rear of the stack should fit loosely under the backstop.

Note

Load letterhead face down, with the top of the page toward the front of the printer.

- 3 **Important!** Insert the front corner of the paper stack under the metal clip at the front of the cassette. (Press on the clip lever on the side of the cassette to raise the clip.) **Failure to insert the paper under the metal clip causes paper jams.**

Tip the cassette and shake it gently so that the paper settles firmly and evenly into the corner under the clip. This helps the paper feed more reliably into the printer.

- 4 Rest the cassette on the table top and slide it into the printer.
- 5 If the green Ready light is the only light on, there are no errors present and the printer is ready to print. (If any other lights are on, see Chapter 5 for more information.)

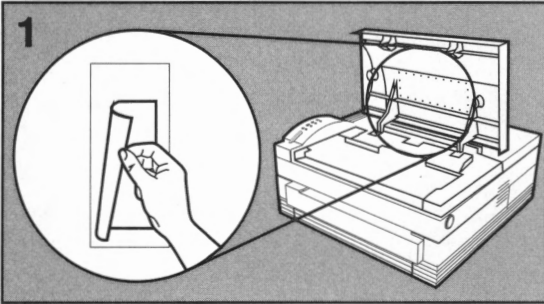
Adjusting the Cassette for Other Paper Sizes

For instructions about adjusting the paper cassette for other paper sizes, see "Using the Paper Cassette" in Chapter 6.

Go to Step G ➔

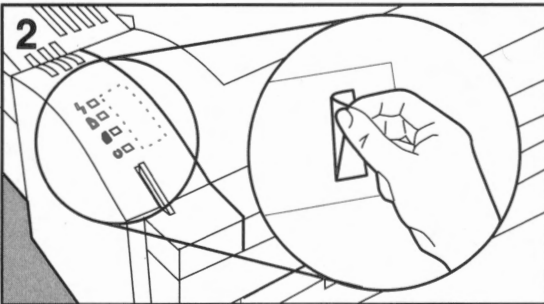


Step G Attaching the Help Labels



Included with this manual is a sheet of help labels. These labels explain the meanings of the control panel lights.

- 1 Remove the large help label from the backing sheet and attach it to the inside of the printer's top door.
- 2 Remove the small help label and attach it next to the control panel lights.



You Are Not Done:

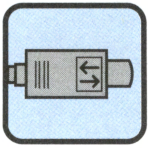
Macintosh computer users:
Go to Chapter 3.

Windows PostScript users:
Go to Chapter 4.

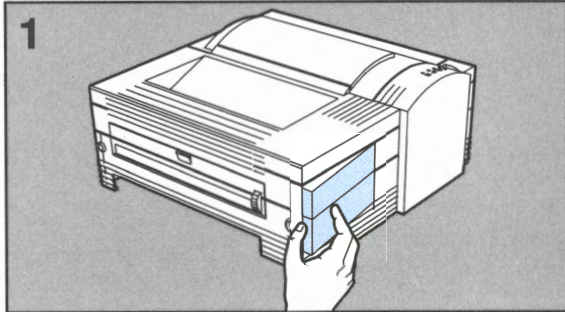
3

- **Attaching the Printer Cable 3 - 2**
- **Installing the Printing Software for Macintosh 3 - 3**
- **Using the HP LaserJet 4ML Guide 3 - 4**
- **Using the HP LaserJet Utility 3 - 5**
- **Using the HP Namer 3 - 6**

Connecting to a Macintosh Computer



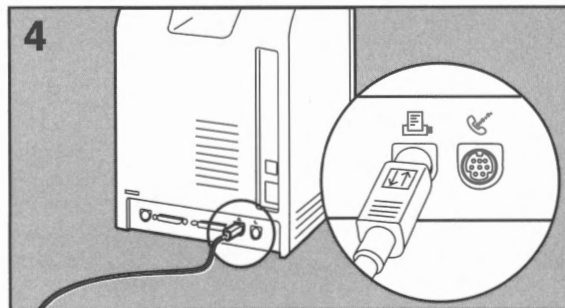
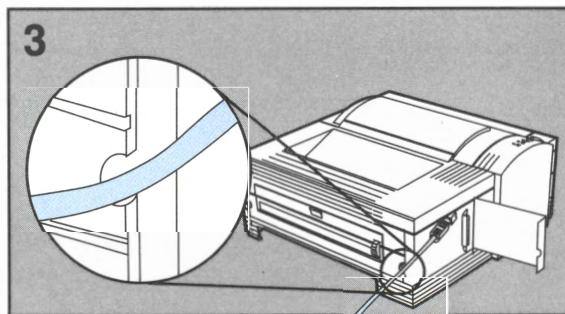
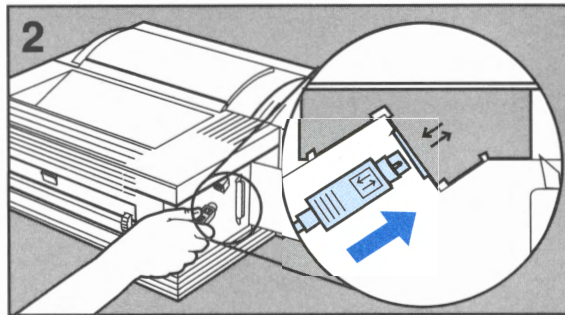
Attaching the Printer Cable



This page describes how to connect your HP LaserJet 4ML printer to a single Macintosh computer. If you are connecting to a LocalTalk network, refer to Appendix A.

For the steps below, you can use any standard LocalTalk cable:

- 1 Open the side interface cable door by pressing on the back end of the door and popping it out.
- 2 Insert one end of the LocalTalk cable into the LocalTalk connector of the printer. (Notice the angle of the connector in Figure 2.)
- 3 Place the cable in the hole and close the cable door.
- 4 Insert the other end of the LocalTalk cable into your Macintosh computer.





Installing the Printing Software for Macintosh

All the software your Macintosh needs to work with your HP LaserJet 4ML printer is included in the printer's box. Look for the *Printing Software for Macintosh* package.

Installing the Software

To install this software, do the following steps:

- 1 Insert the *Printing Software for Macintosh* disk 1.
- 2 Double-click the Install LaserJet 4ML icon.
- 3 Follow the instructions on the screen.
- 4 **Important! After the installer program terminates, you must select and set up the HP LaserJet 4ML printer in the "Chooser."** Open the HP LaserJet folder (installed on your hard disk by the Installer) and double-click the HP LaserJet 4ML Guide icon to view the additional instructions for **completing the driver installation.**

Note

To ensure that the printer driver is set up correctly, follow **all** the driver installation steps in the HP LaserJet 4ML Guide's instructions .

Overview of the Printing Software

The Installer program installs the PostScript printer driver, and places the following items in the HP LaserJet folder on the startup disk:

- **HP LaserJet 4ML Guide.** This on-line document provides the latest information about your HP LaserJet 4ML printer and its printing software.
- **HP LaserJet Utility.** This software program provides additional functionality for your HP LaserJet 4ML printer. It enables you to download fonts, print test pages, and set up your printer to suit your individual printing requirements.
- **HP Namer.** This utility enables you to personalize your printer with any name you like, to identify it on an AppleTalk network.



Using the HP LaserJet 4ML Guide

To ensure that you have the latest information about your printer and the printing software, an on-line manual is automatically installed and copied into the HP LaserJet folder on the startup disk. If you do not find the HP LaserJet 4ML Guide, re-install the software. (Follow the instructions provided on the *Printing Software for Macintosh* package.)

The HP LaserJet 4ML Guide contains complete instructions for:

- Finishing the printer driver installation.
- Using the HP LaserJet Utility.
- Using the HP Namer.

Viewing the HP LaserJet 4ML Guide on the Screen

- 1 Open the HP LaserJet folder.
- 2 Double-click on the HP LaserJet 4ML Guide icon.
- 3 Select the desired chapter from the Contents menu.

Printing the HP LaserJet 4ML Guide

- 1 Open the HP LaserJet folder.
- 2 Double-click on the HP LaserJet 4ML Guide icon.
- 3 Select Print from the File menu.
- 4 If this is the first time you are using this printer since selecting it in the Chooser, the Page Setup dialog appears. Click OK.
- 5 Select the desired chapters and click OK.
- 6 Click on Print.



Using the HP LaserJet Utility

The Installer program places the HP LaserJet Utility into the HP LaserJet folder on your startup disk. This utility can be used with both System 6.x and System 7.x.

The latest instructions for using this utility are in the HP LaserJet 4ML Guide. To read this guide, open the HP LaserJet folder and double-click on the HP LaserJet 4ML Guide icon.

To start the HP LaserJet Utility:

- 1 Open the HP LaserJet folder and double-click the HP LaserJet Utility icon.

Note

The HP LaserJet Utility displays a “splash screen” dialog when the program starts running. The “splash screen” disappears when you click the mouse button.

- 2 The File menu options include:

- Download Fonts...
- Download File...
- Print Font List
- Print Font Samples
- Print Configuration Page
- Quit

The Settings menu options include:

- Display Language...
- Legal Frame Size...
- EconoMode...
- Print Density...
- REt...
- Language Switching...
- Reset Printer...



Using the HP Namer

If there is more than one HP LaserJet 4ML printer on your AppleTalk network, you can use the HP Namer to give yours a unique name so that you can always find it when you select your printer in the Chooser. The HP Namer enables you to rename any of the printers on your AppleTalk network, even across zones.

Note

The latest instructions for using this program are in the HP LaserJet 4ML Guide. To read this guide, open the HP LaserJet folder and double-click on the HP LaserJet 4ML Guide icon.

To rename a printer:

- 1 Open the HP LaserJet folder and double-click on the HP Namer icon.
- 2 Select the printer type from the popup menu.
- 3 Select the desired zone, if any.
- 4 Select the printer to be renamed from the list.
- 5 Type the new name.
- 6 Click the Rename button.

After a few seconds, the new name appears on the device list. If there is a lot of network traffic, the new name may not appear right away.

Once you have selected *and set up* the HP LaserJet 4ML printer in the Chooser, your printer installation is complete.

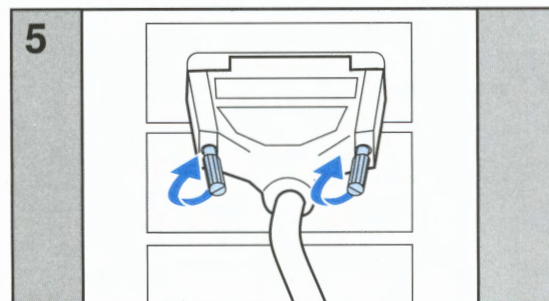
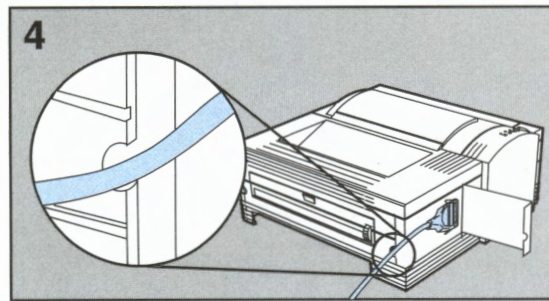
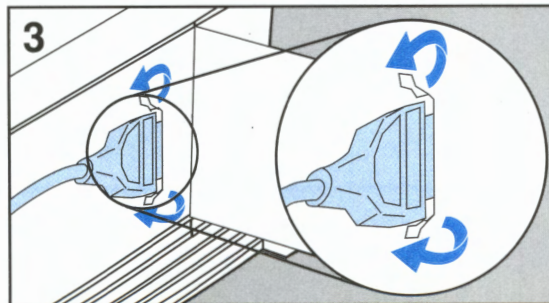
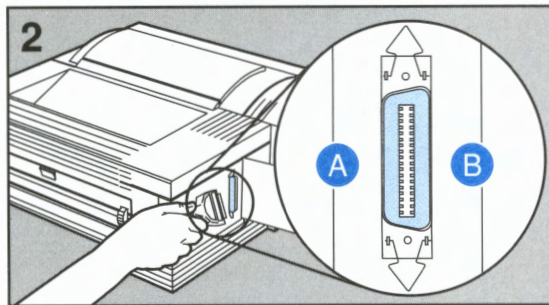
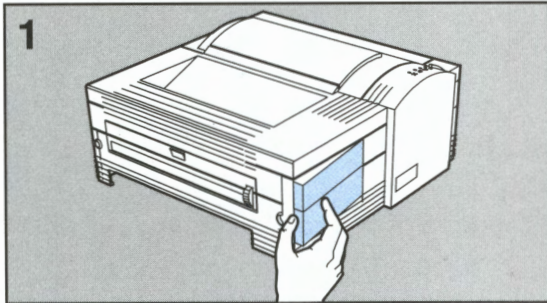
4

- **Attaching the Parallel Cable 4 - 2**
- **Installing the Printing Software for Windows 4 - 3**
- **Changing Printer Settings 4 - 4**
- **Testing the Connection Between the Computer and the Printer 4 - 5**

Connecting to an IBM-Compatible Computer



Attaching the Parallel Cable



You can use any good-quality Centronics parallel cable. See Appendix B for complete cable specifications.

- 1 Open the side interface cable door by pressing on the back end of the door and popping it out.
- 2 Make sure the longest edge (B in figure 2) of the cable's connector is aligned with the longest edge of the printer's parallel connector.

Attach the cable to the printer's parallel connector. It should slip on easily. If it does not, check to make sure you are not installing the cable upside down.

- 3 Secure the cable firmly by snapping on the wire clips. **This helps prevent communication problems with the computer.**

CAUTION

If you need to use a tool to move the wire clips toward the cable connector, use only one that is made of wood or plastic. **Do not use a metal tool.**

- 4 Place the cable in the hole at the rear of the printer and close the interface cable door.
- 5 Attach the other end of the cable to your computer's Centronics parallel port.

Note

If you are connecting your printer to the PC through a network or a switch box, those sharing devices may not support all the Bi-Tronics interface features. See Appendix B.



Installing the Printing Software for Windows

The Windows PostScript Printer Driver

The *Printing Software for Windows* package contains a Windows PostScript printer driver. This printer driver allows your Windows 3.1 applications to support all the features of your HP LaserJet 4ML printer. It uses the Adobe PostScript printer language to give you powerful control over the text and graphics in your documents.

Loading the Driver

Follow these simple steps:

- 1 Start your Windows 3.1 software.
- 2 Insert the *Printing Software for Windows* disk into your floppy disk drive.
- 3 Select the Control Panel icon located in the Main window.
- 4 Select the Printers icon.
- 5 Select the Add>> button (if available).
- 6 In the List of Printers box, highlight the Install Unlisted or Updated Printer option.
- 7 Select the Install... button.
- 8 When the Install Driver window appears, enter the drive letter and path containing your software disk (generally a:\ or b:\). Select the OK button.
- 9 Highlight the HP LaserJet 4ML printer within the Add Unlisted or Updated Printer window. Select the OK button.
- 10 It takes a few moments for the driver to install. The default connection port for the printer is LPT1. This is correct in most situations.
- 11 As a final step, HP recommends that you highlight the HP LaserJet 4ML printer and select the Set As Default Printer button. Select the Close button.
- 12 Remove the floppy disk from your computer and store it in a safe place with the rest of the *Printing Software for Windows* package.



Changing Printer Settings

Note

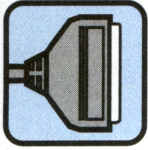
To ensure that you have the latest instructions for using the Windows PostScript printer driver to change printer settings, an on-line README file is included on the *Printing Software for Windows* disk.

To change the HP LaserJet 4ML printer settings, do the following:

- 1 Open the Control Panel window.
- 2 Select on the Printers icon.
- 3 Choose Setup to access the dialogs to change printer settings such as:
 - **Print Density.** This lets you control the amount of toner applied to the page so that you can make your print image lighter or darker.
 - **Resolution Enhancement technology (REt).** REt smooths sloping lines by adjusting the size and placement of individual dots. The available REt settings are Off, Light, Medium and Dark. The factory default setting is Medium.
 - **EconoMode (or “draft”) printing.** EconoMode printing reduces the number of dots on the page to conserve toner. The print image is lighter, but is still very readable. EconoMode printing does not affect the speed of the printer. The printer’s factory default setting is Off.
 - **Legal Frame Size.** This helps you manage the printer’s memory. Full Legal is the factory default setting. It is the best setting for the majority of your print jobs. The Reduced Legal setting increases the amount of memory available to the printer for downloading fonts. However, the Reduced Legal setting decreases the printable area. This can cause image clipping (enlarged margins) on your legal-sized print jobs.

NOTE

Each time the Legal Frame Size setting is changed, the printer’s memory is reconfigured, and all downloaded fonts and macros are erased.



Testing the Connection Between the Computer and the Printer

Sending a Test Job to the Printer

- 1 Make sure the Ready light is the only light on. (If necessary, briefly press the front panel button to bring the printer out of Intelligent Off mode.)
- 2 Select the HP LaserJet 4ML printer in Windows Printer Setup dialog.
- 3 Send a simple job to the printer.

If the printer does not respond at all when you send the job (the lights do not change and the motor makes no sound), do the following:

- Make sure you selected an HP LaserJet printer in the Windows Printer Setup dialog.
- Briefly press the front panel button (about 1 second). If the Demonstration Page prints, the printer itself is working correctly, and your problem is probably in the connection to the computer.
- Verify that the parallel cable is attached securely to both the printer and the computer.
- Try your parallel cable on someone else's computer to make sure that the cable is not defective.
- If your computer has more than one parallel printer port, make sure your cable is connected to the correct one.

Configuring the Printer Port

To prevent communication timeout problems, HP recommends that you use your DOS editor to add a MODE statement such as the following to your computer's AUTOEXEC.BAT file.

For MS-DOS versions 4.0 and later, add this command:

```
MODE LPT1:,,B
```

For earlier versions of MS-DOS, add this command:

```
MODE LPT1:,,P
```

Note

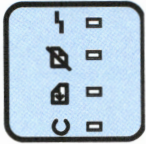
The above examples assume that you are using printer port LPT1. If you are using LPT2, LPT3, or LPT4, replace LPT1 in the examples above with the appropriate printer port name.

Printer installation is complete.

5

- **Using the Front Control Panel 5 - 2**
- **Resetting the Printer 5 - 5**
- **Printing a Demo Page 5 - 6**
- **Printing the Config/Type Pages 5 - 7**

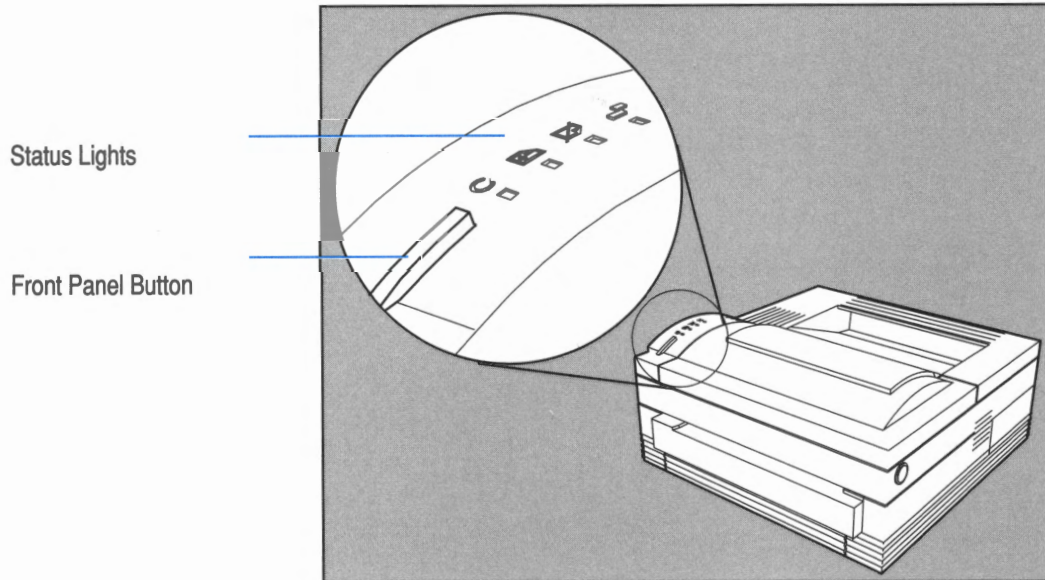
Using the Front Control Panel



Using the Front Control Panel

The Control Panel

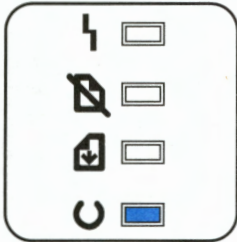
The HP LaserJet 4ML printer's control panel consists of a single front panel button and four status lights.



The Front Panel Button

The front panel button has many uses. Depending on what state your printer is in, briefly pressing the front panel button lets you control your printing tasks by either starting or resuming a printer function.

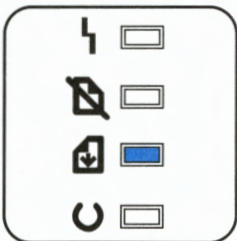
The function of the button also changes according to how long you press the button. For example, holding the button down for at least 5 seconds resets the printer. Holding the button down for at least 10 seconds prints all the PostScript and PCL config/type pages.



Ready (Green)

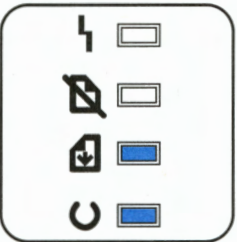
STEADY: The printer is ready to print a job from the paper cassette.

The Ready light also blinks for a few seconds after the printer door is closed or the button is pushed to clear a paper jam.



Data (Green)

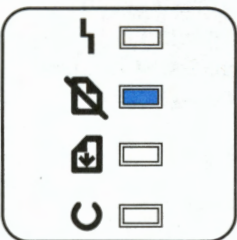
BLINKING: The printer is in Manual Feed mode. Either insert a sheet of paper into the manual feed slot, or press the front panel button briefly to print from the paper cassette instead.



Both Data and Ready Lights Are On

DATA LIGHT STEADY, READY LIGHT BLINKING: If the Data light is on steadily and the Ready light is blinking, the printer is receiving or processing data.

BOTH LIGHTS STEADY: If the Data light and the Ready light are both on steadily, there is unprinted data still in the printer. This usually happens when you perform a “print screen” function in DOS or use software that does not send an “end-of-job” or “form feed” command when it finishes printing a file. Briefly press the front panel button to print the remaining data.



Paper (Amber)

STEADY: The paper cassette is empty or missing. Add more paper.

BLINKING: There is a paper jam. Jammed paper can be in the paper tray, under the toner cartridge, or inside the printer’s rear access door. See Chapter 8, “Troubleshooting,” for complete instructions about clearing paper jams.



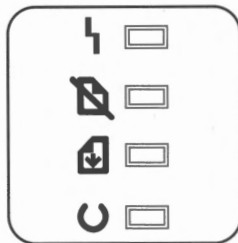
Error (Amber)

STEADY: The printer's top door is open or the toner cartridge is either missing or not installed correctly. To correct the problem, remove the toner cartridge and reinstall it correctly. Then close the top cover until it snaps shut.

BLINKING: Memory or I/O error.

If your page is very complex, you may have a memory error. Press the front panel button to continue printing. If there is a memory error, there may be some data loss on the page. To avoid this error, you must simplify the page(s) that created the problem (reduce the number of fonts or the complexity of the graphics).

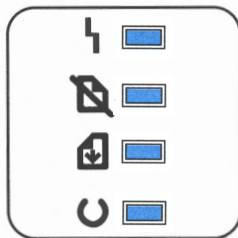
If you have an I/O error, check your printer cables and make sure they are securely connected to the printer and the computer.



All Lights Are Off

Either the printer is in Intelligent Off mode, or the power source has been disabled. In Intelligent Off mode, the printer automatically turns off after 15 minutes of no activity. However, it remains ready to receive data instantly. (The printer retains all printer settings and downloaded typefaces and macros when it is in Intelligent Off mode.)

A status light comes on the moment you touch the front panel button, insert paper into the printer, send data to the printer, or open the top printer door.



All Lights Are On

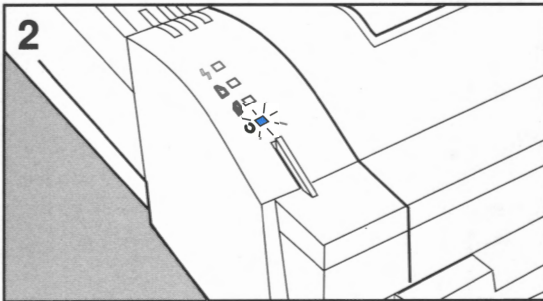
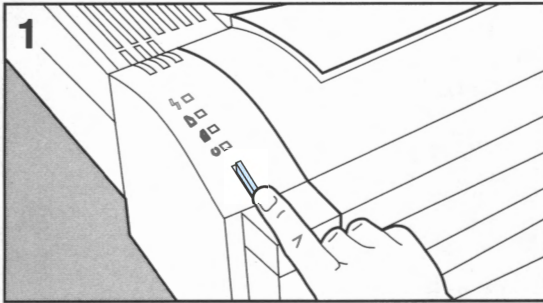
If all the lights flash in sequence, a reset is taking place. This happens when you connect the printer to power, or when you hold the front panel button down from 5 to 10 seconds to initiate a reset.

If all the lights are on steadily **for longer than 20 seconds** after connecting the printer to power, there is a hardware error. Disconnect the power for 10 seconds, then reconnect the printer to the power source. If all four lights again remain on for longer than 20 seconds, try disconnecting the power for 15 minutes. If the error still does not clear when you reconnect the power, your printer needs service.

See Chapter 9, "Service and Support," for instructions about locating your nearest authorized HP service dealer.



Resetting the Printer



To Reset the Printer

- 1 Hold down the front panel button for at least 5 seconds. Release the button when all the lights start blinking in succession. **Do not hold down the Front Panel Button for more than 10 seconds or the Config/Type pages will print.**
- 2 After the printer finishes the reset, the green Ready light should be the only light on.

Macintosh users also can reset the printer using the Settings menu in the HP LaserJet Utility.

What Does a Reset Do?

You can reset the printer at any time, except when it has a hardware error (all lights lit steadily for longer than 20 seconds), or while printing the Demo or Config/Type pages.

Resetting the printer:

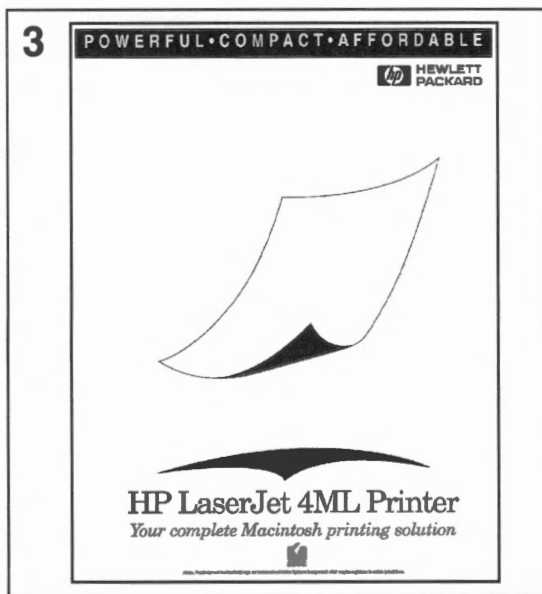
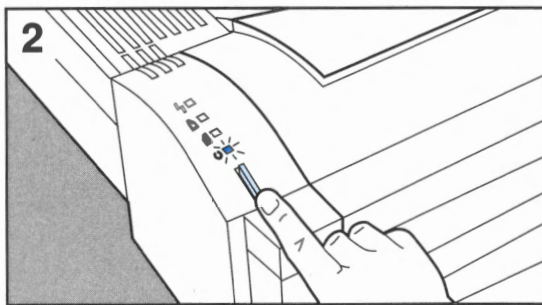
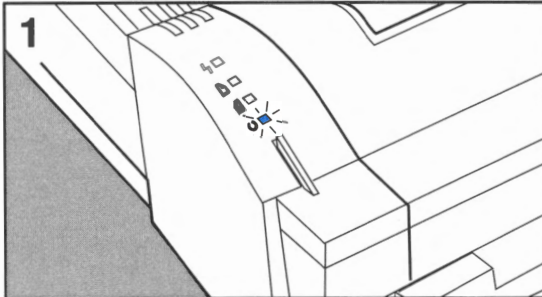
- clears all data from the printer's memory, including unprinted data and *temporary* downloaded fonts (fonts that a software application sends to the printer only as needed).
- clears some error conditions.
- resets the printer's I/O ports if there is a communication problem.
- sets all settings to the current default value.

The "simple reset" described above *does not* clear "permanent" downloaded fonts or default settings made by software applications or drivers.

- To remove all "permanent" downloaded fonts and macros without changing the printer default settings, unplug the printer and wait about 10 seconds. Then, plug the printer back in.
- To clear "permanent" downloaded fonts, and to restore factory default settings, disconnect the printer's power, *then hold down the front panel key while reconnecting the power.* (Release the key after about 3 seconds.) The printer performs a "cold reset."



Printing a Demo Page



To Print a Demo Page

- 1 Make sure the green Ready light is on, and all other lights are off. (If necessary, reset the printer.)
- 2 Briefly press the front panel button.
- 3 After about 2 seconds, the Data light comes on and the Ready light blinks. Then the Demo Page prints.

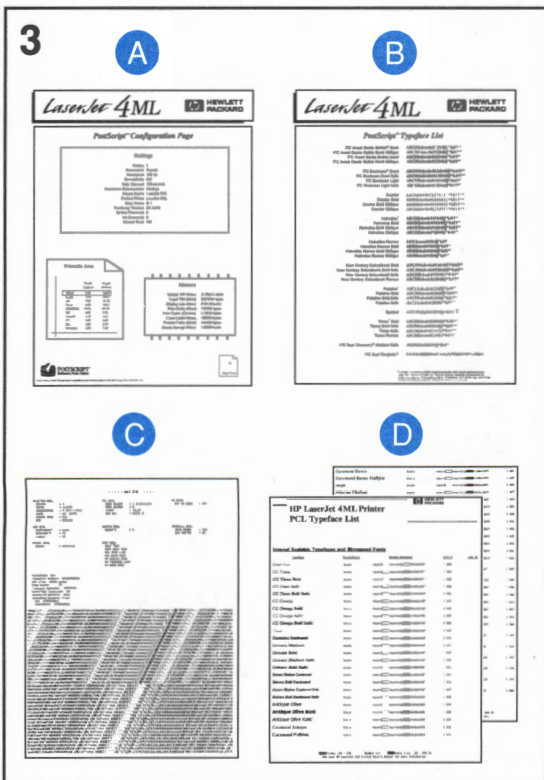
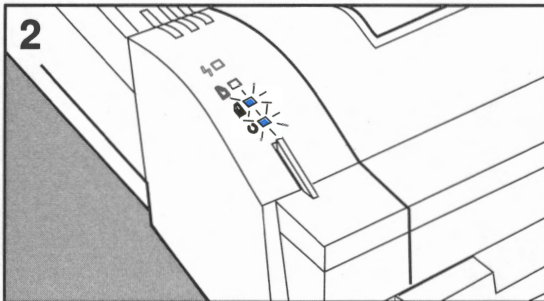
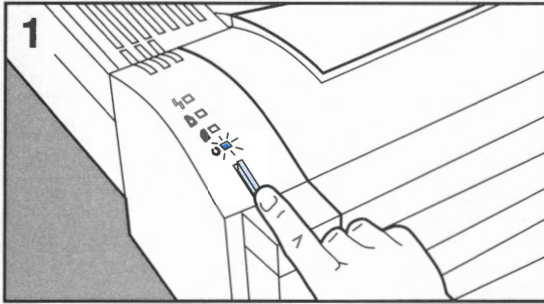
Why Print a Demo Page?

It is useful to print a Demo Page to:

- demonstrate the capabilities of the printer.
- troubleshoot print quality problems.
- determine whether a printing problem is software- or hardware-related. (If this page prints, the printer itself is working properly.)



Printing the Config/Type Pages



Printing the Config/Type Pages

Note

Printing the Config/Type pages through the printer's front panel deletes all downloaded typefaces and macros.

Macintosh users who want to retain their downloaded typefaces can print a typeface list through the HP LaserJet Utility.

- 1 Hold the front panel button down for at least 10 seconds.

After 5 seconds, all the lights flash in sequence for a period of 5 seconds. Then the Ready Light turns on and the Data Light blinks.

- 2 Once the Data light is on and the Ready light is blinking, release the front panel button.

- 3 The printer prints a total of 5 pages. First the PostScript configuration page (A) and the PostScript typeface list (B) prints. Then it prints the PCL configuration page (C) and the two-page PCL typeface list (D). These pages take several minutes to print.

You can also print a PostScript Configuration page or PostScript Typeface List by using the HP LaserJet Utility. (See Chapter 3.)

Note

You cannot use both PostScript and PCL typefaces in the same document.

What Do the Config/Type Pages Contain?

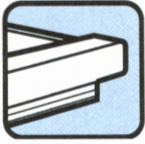
The Config/Type pages contain:

- a listing of the printer's current PostScript and PCL settings.
- typeface lists showing all of the printer's internal PostScript, TrueType, and PCL typefaces. (These lists do not contain any downloaded typefaces or macros.)

6

- **Using The Paper Cassette 6 - 2**
- **Using Manual Feed 6 - 4**
- **Single-Page Manual Feed
(Priority Feed) 6 - 5**
- **Multiple-Page Manual Feed
(for Macintosh) 6 - 6**
- **Multiple-Page Manual Feed
(for Windows) 6 - 7**
- **Printing Envelopes 6 - 8**
- **Printing Adhesive Labels 6 - 10**
- **Printing Transparencies 6 - 11**
- **Printing on Custom-Sized Media 6 - 12**

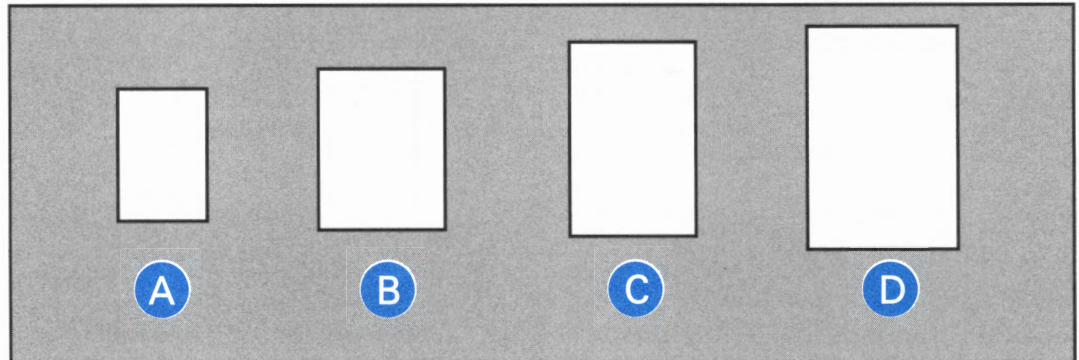
Printing Tasks



Using the Paper Cassette

Paper Sizes Supported

The paper cassette is adjustable. It holds 100 sheets of (A) Executive, (B) Letter, (C) A4, or (D) Legal-sized paper.



To achieve the best possible print quality and avoid jams or damage to your printer, use only good quality, copier-grade paper. See Appendix C for more detailed paper specifications.

Note

Hewlett-Packard does not recommend printing envelopes, transparencies, or adhesive labels from the paper cassette.

Use the manual feed slot and the printer's rear output path when printing on envelopes and heat-sensitive print media. See "Printing Envelopes," "Printing Transparencies," and "Printing Labels" later in this chapter.

Adjusting the Paper Cassette for Different Paper Sizes

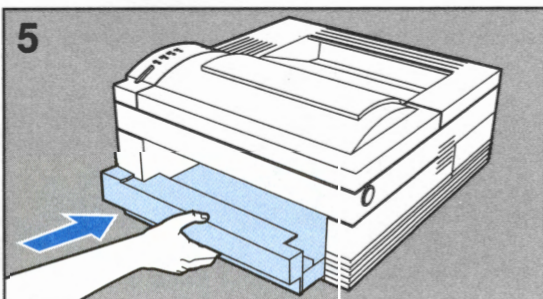
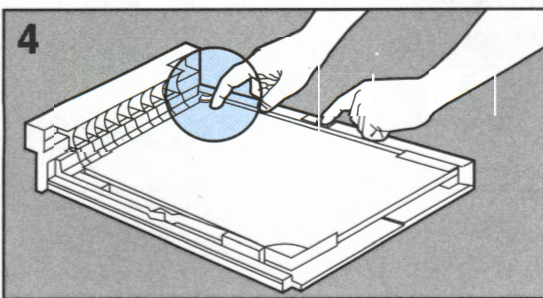
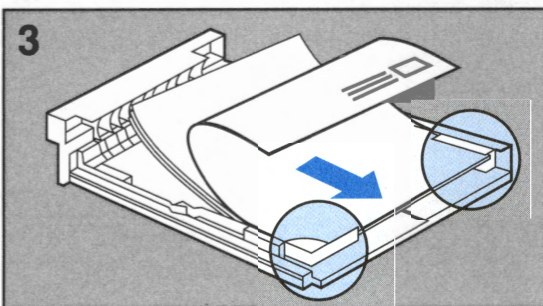
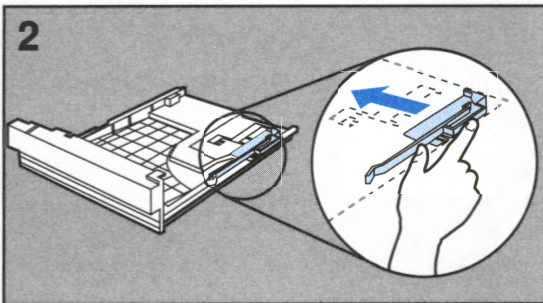
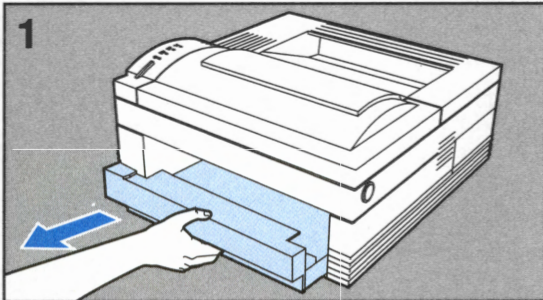
Follow these steps to adjust the paper cassette for the paper size you want to use, and to fill it with paper:

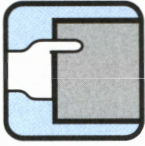
- 1 Pull out the paper cassette and remove the paper.
- 2 Push the paper size guide toward the center of the tray to free it from its notch. Slide the guide to the notch for the desired paper size.

Note

If you are using legal paper, make sure you also select the legal paper size in your software. Printing a letter-sized job on legal paper can cause a paper jam.

- 3 Load letterhead print side down, with the top edge toward the front of the paper cassette.
- 4 Secure the corner of the stack under the metal clip at the front of the cassette. (Press on the clip lever in the side of the cassette to raise the metal clip.) **Failure to secure the corner of the paper under the clip causes paper jams.**
Tip the cassette and shake it gently so that the paper settles firmly and evenly into the corner under the clip. This helps the paper feed more reliably into the printer.
- 5 Rest the tray on the table or desk and slide it back into the printer. The green Ready light illuminates if there are no printer errors present.





Using Manual Feed

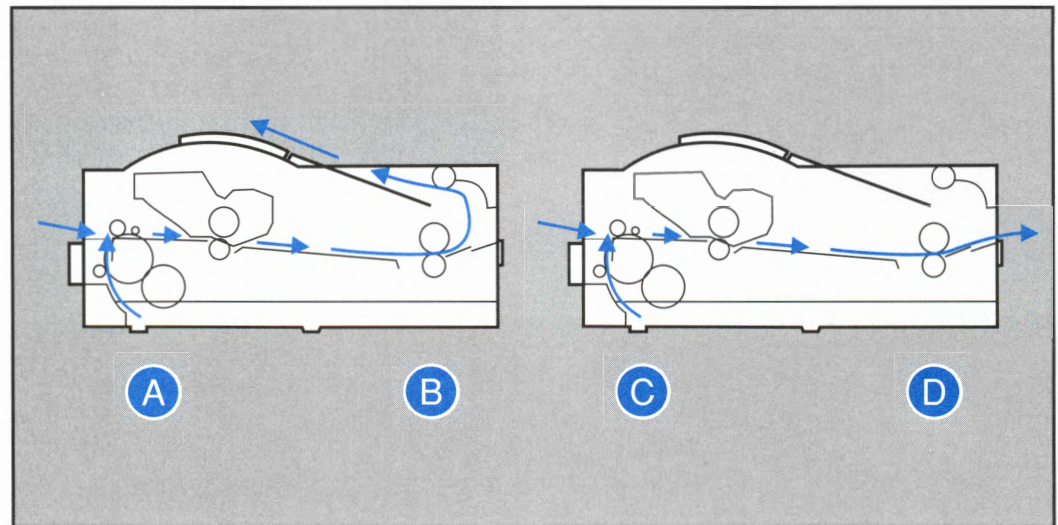
When To Use Manual Feed

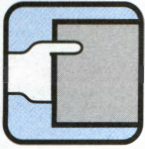
Use the printer's manual feed option with the straight paper path when printing items that must go through a straight paper path to avoid curling the media or damaging the printer. The following are examples of media that require manual feed with the straight paper path:

- Envelopes.
- Adhesive Labels.
- Heavy or special papers, such as single sheets of letterhead.
- Custom sized papers.

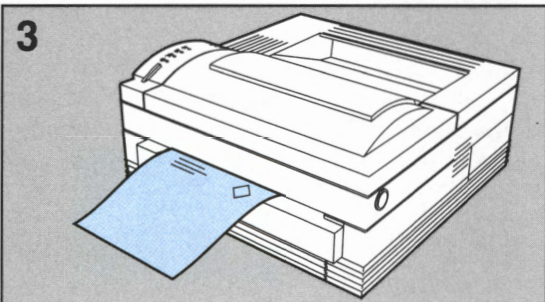
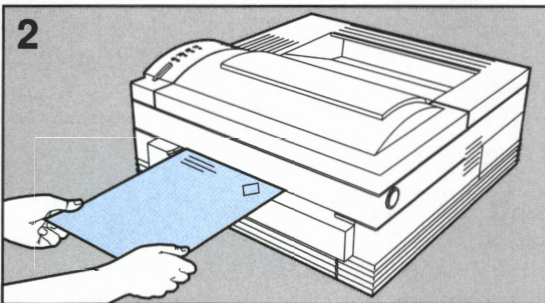
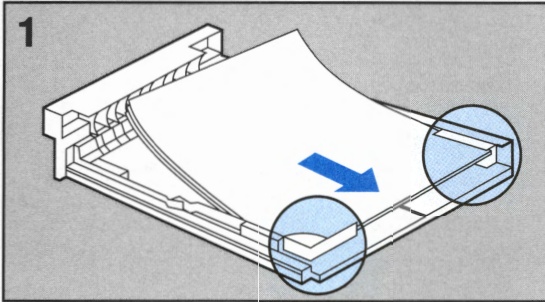
Selecting the Correct Paper Path

Use the top output path (A - B) for normal paper. Use the rear output path (C - D) for envelopes, transparencies, labels, and heavier papers. Use the paper path knob on the back of the printer to select the paper path.





Single-Page Manual Feed (Priority Feed)



How Does Priority Feed Work?

The printer's Priority Feed feature provides a quick and easy way to manually feed paper. If there is a sheet of paper in the manual feed slot, the printer always prints on that sheet first, then it pulls any remaining pages from the paper cassette. No special software commands are required.

This feature is especially helpful when the first page of your job is different from the rest.

Example: Printing Multiple-Page Letters

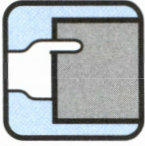
- 1 Fill the paper tray with plain or second-sheet paper.
- 2 Hold a sheet of letterhead as if you were reading it. Gently insert the top edge of the letterhead into the manual feed slot until you feel slight resistance on the left corner. (If you hear multiple clicks, you have pushed the paper in too far.)

Hold the page there until the printer grabs the top edge of the paper (about 1 second)

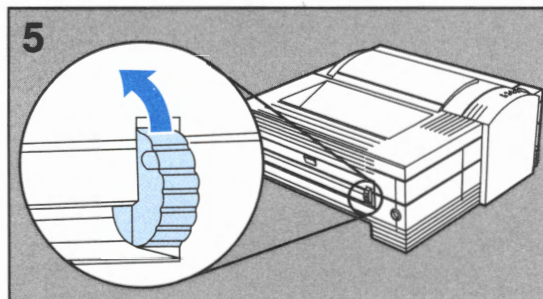
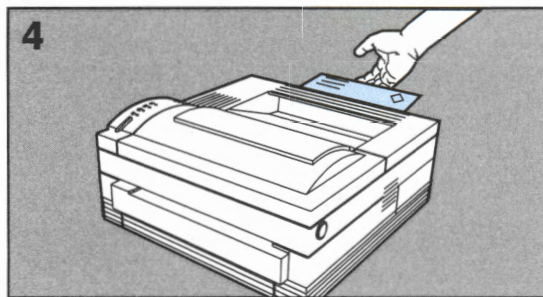
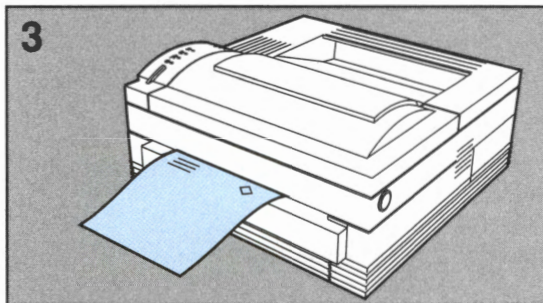
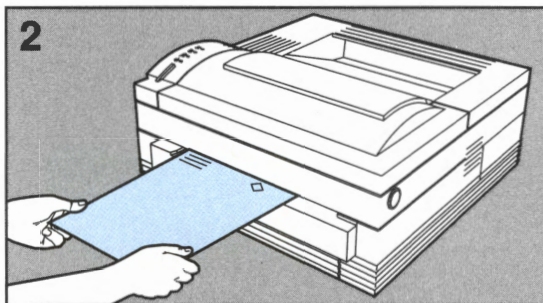
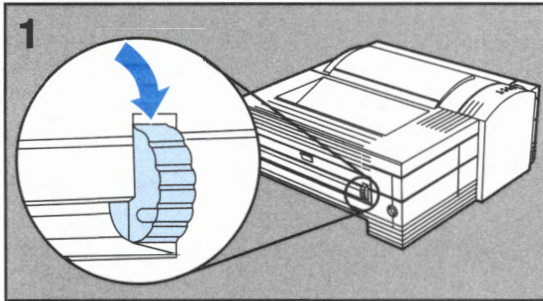
- 3 Rest the other end of the paper on the table.

Send your job to the printer as if you were printing from the cassette. (Do not select "manual feed.")

The printer automatically selects the first page from the manual feed slot, and the remaining pages from the paper cassette.



Multiple-Page Manual Feed (For Macintosh)



Setting Up the Software

- Select the Paper Size and Orientation in the Page Setup dialog.
- Select Manual Feed as the Paper Source in the Print dialog.
- Send your job to the printer.

Note

If you do not want the Print Monitor to display an alert whenever a manual feed job starts, select “Give no notification” in the Print Monitor’s Preferences dialog.

Setting Up the Printer

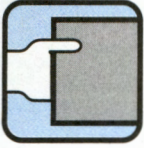
- 1 If you want to use the straight paper path, set the paper path knob to the down position. This causes the paper to exit from the rear of the printer.
- 2 Hold a sheet of paper as if you were reading it. Gently insert the top edge of the paper into the manual feed slot until you feel slight resistance on the left corner. (If you hear multiple clicks, you have pushed the paper in too far.)

Hold the page there until the printer grabs the top edge of the paper (about 1 second).

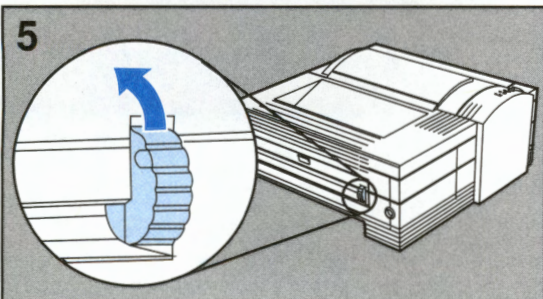
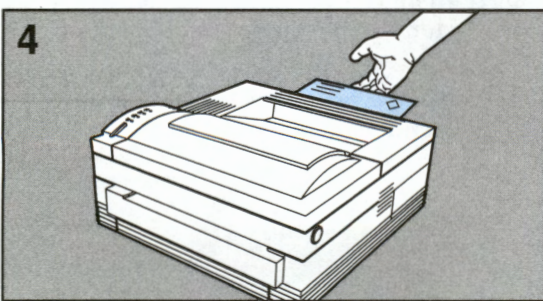
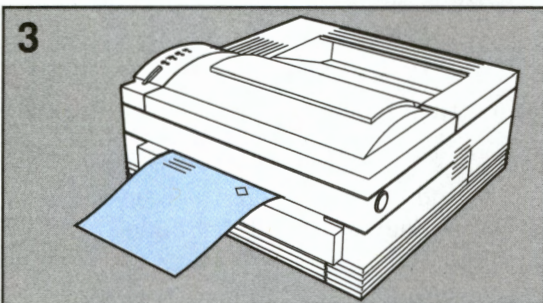
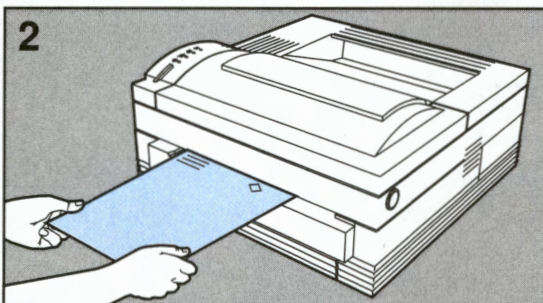
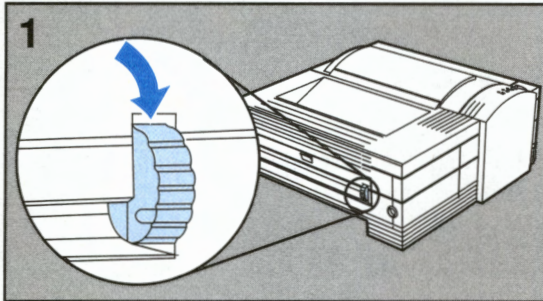
Note

DO NOT pull the paper out of the manual feed slot and reinsert it once you hear the printer motor run, or a paper jam can result.

- 3 Rest the other end of the paper on the table. The first page prints. Then the Data light blinks to tell you that the printer is ready to receive the next page through the manual feed slot.
- 4 If you selected the straight paper path, the paper exits from the rear of the printer.
- 5 If necessary, reset the paper path knob to the up position to use the top paper path for your next print job.



Multiple-Page Manual Feed (For Windows)



Setting Up the Software

- Select Manual Feed, Paper Size, and Orientation in the Printer Setup dialog.
- Send your job to the printer.

Setting Up the Printer

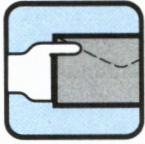
- 1 If you want to use the straight paper path, set the paper path knob to the down position. This causes the paper to exit from the rear of the printer.
- 2 Hold a sheet of paper as if you were reading it. Gently insert the top edge of the paper into the manual feed slot until you feel slight resistance on the left corner. (If you hear multiple clicks, you have pushed the paper in too far.)

Hold the page there until the printer grabs the top edge of the paper (about 1 second).

Note

DO NOT pull the paper out of the manual feed slot and reinsert it once you hear the printer motor run, or a paper jam can result.

- 3 Rest the other end of the paper on the table. The first page prints. Then the Data light blinks to tell you that the printer is ready to receive the next page through the manual feed slot.
- 4 If you selected the straight paper path, the paper exits from the rear of the printer.
- 5 If necessary, reset the paper path knob to the up position to use the top paper path for your next print job.



Printing Envelopes

Envelope Specifications

To achieve the best print quality and avoid damaging your printer, follow these guidelines for selecting envelopes:

- Use only well-constructed envelopes with sharp, well-creased folds and no more than two thicknesses of paper at the edge.
- DO NOT use envelopes with clasps or snaps.
- DO NOT use envelopes with windows, coated linings, self-stick adhesives, or other synthetic materials.
- DO NOT use damaged or poorly made envelopes.



See Appendix C for more detailed envelope specifications.

Setting Up the Software

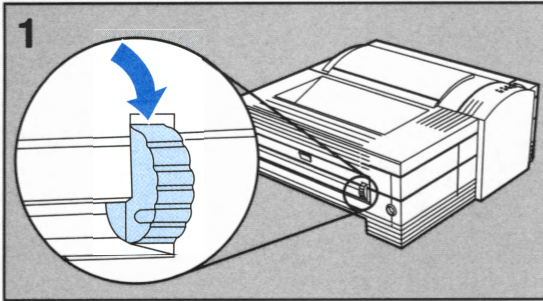
Make the following selections in your software, then follow *all* the steps on the next page:

- **Macintosh users:** Select the Envelope Size and Orientation in the Page Setup dialog. Select Manual Feed as the Paper Source in the Print dialog. Then send your job to the printer.

Note

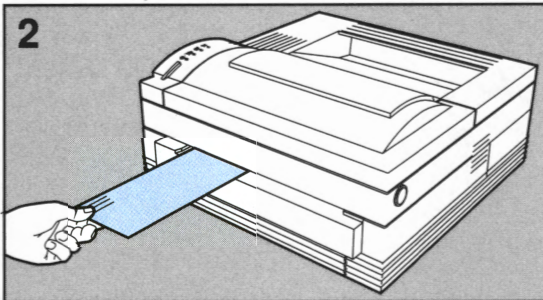
If you do not want the Print Monitor to display an alert whenever a manual feed job starts, select “Give no notification” in the Print Monitor’s Preferences dialog.

- **Windows users:** Select Manual Feed, the Envelope Size, and the Landscape Orientation in the Printer Setup dialog. Then send your job to the printer.



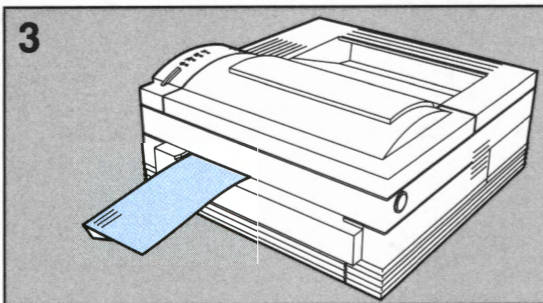
Setting Up the Printer for Printing Envelopes

- 1 Set the paper path knob to the down position. This allows the envelopes to feed straight out the rear of the printer.
- 2 Hold the envelope so that the return address is on the lower left, print side up.



Align the envelope against the **left side** of the manual feed slot, and gently insert the envelope until you feel slight resistance. (If you hear multiple clicks, you have pushed the envelope in too far.)

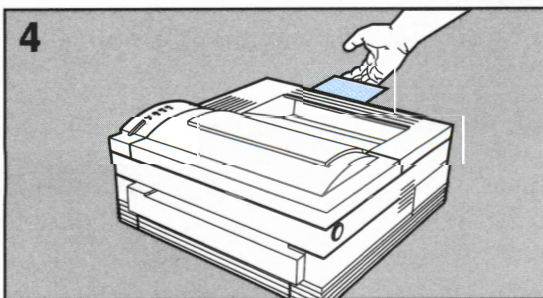
After about 1 second, the printer grabs the end of the envelope and holds it.



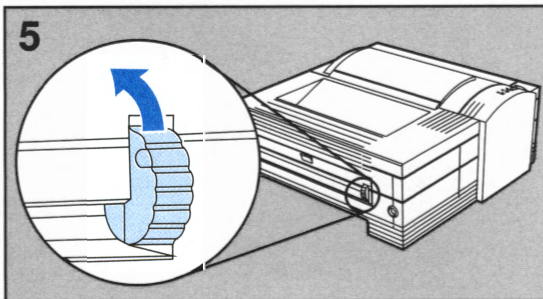
- 3 Let the other end of the envelope hang down from the manual feed slot and rest on the table. The first envelope prints. Then the Data light blinks to tell you that the printer is ready to receive the next envelope through the manual feed slot.

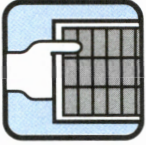
Note

DO NOT pull the envelope out of the manual feed slot and reinsert it once you hear the printer motor run, or a paper jam can result.

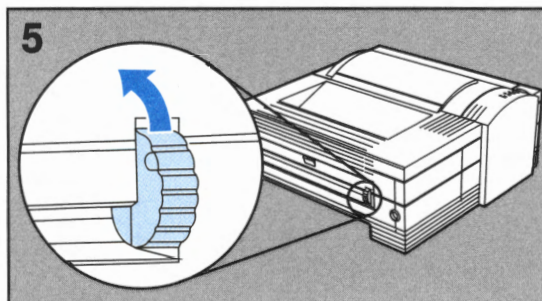
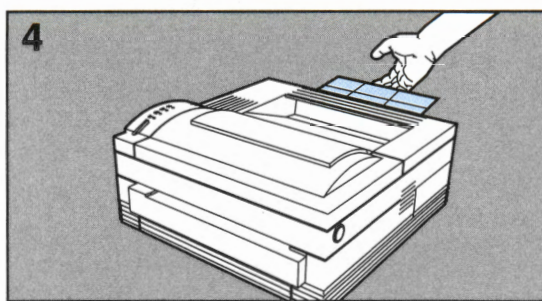
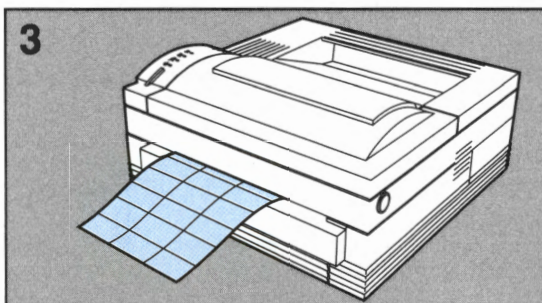
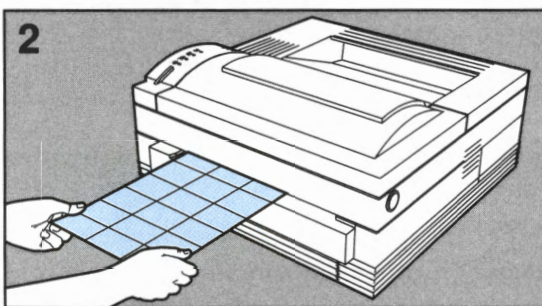
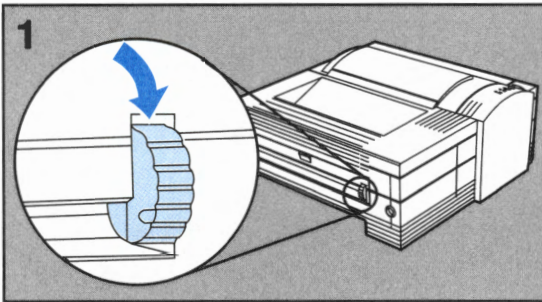


- 4 Retrieve the envelope from the rear of the printer.
- 5 After printing your envelopes, reset the paper path knob to the up position so that you can use the top output tray for your next job.





Printing Adhesive Labels



Selecting the Correct Media

CAUTION

Inappropriate labels can jam the printer or contaminate it with adhesives. See Appendix C for detailed label specifications.

Setting Up the Printer

The steps below explain how to print a single sheet of labels. If you are printing more than one sheet of labels, you must first select Manual Feed as the Paper Source. (See “Multi-Page Manual Feed” earlier in this chapter.)

- 1 Rotate the paper path knob to the down position. This allows the labels to feed straight out the rear of the printer, eliminating label curl.
- 2 Gently insert the sheet of labels, face up, into the manual feed slot until you feel slight resistance on the upper left corner. (If you hear multiple clicks, you have pushed the page in too far.)

After about 1 second, the printer grabs the end of the sheet and holds it.

- 3 Let the other end of the sheet of labels hang down from the manual feed slot and rest on the table.

Send your job to the printer.

- 4 The printer prints the page. Retrieve the labels from the rear of the printer.
- 5 After you finish printing labels, reset the paper path knob to the up position to use the top output tray for your next print job.



Printing Transparencies

Selecting the Correct Media

CAUTION

To avoid damaging your printer, use only transparencies designed for use with laser printers. See Appendix C for detailed specifications.

Setting Up the Printer

The steps below explain how to print a single transparency. If you are printing more than one transparency, you must select Manual Feed as the Paper Source. (See “Multi-Page Manual Feed” earlier in this chapter.)

- 1 Set the paper path knob on the back of the printer to the down position. This allows the transparencies to feed straight out the rear of the printer, reducing film curl.

- 2 Gently insert the transparency film into the manual feed slot until you feel slight resistance on the upper left corner. (If you hear multiple clicks, you have pushed the page in too far.)

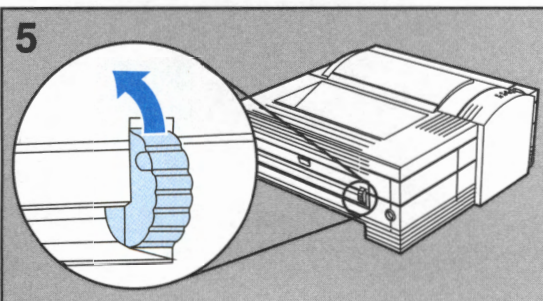
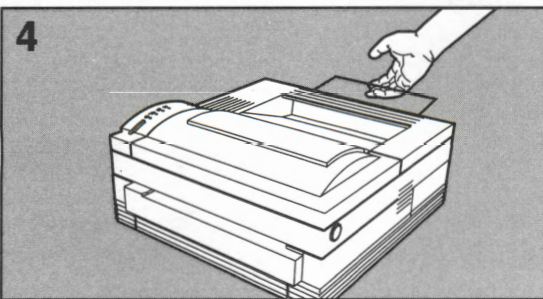
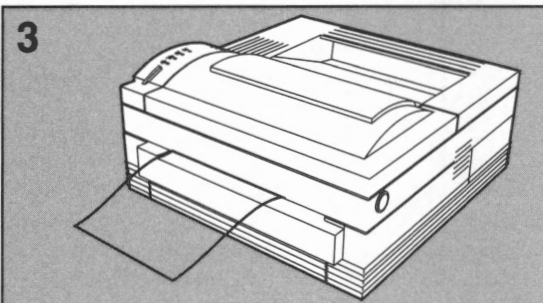
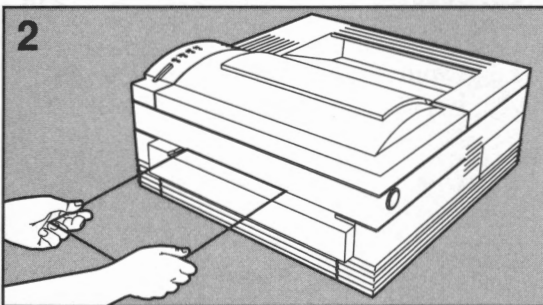
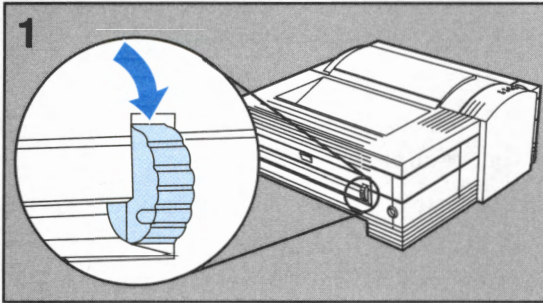
After 1 second, the printer grabs the end of the transparency and holds it.

- 3 Let the other end of the transparency hang down from the manual feed slot and rest on the table. Send your job to the printer.

- 4 The printer prints the page.

To prevent transparency curl, gently hold the transparency straight as it exits the rear of the printer. (It cools into shape immediately.)

- 5 After printing the transparencies, reset the paper path knob to the up position.



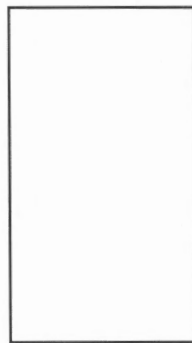


Printing on Custom-Sized Media

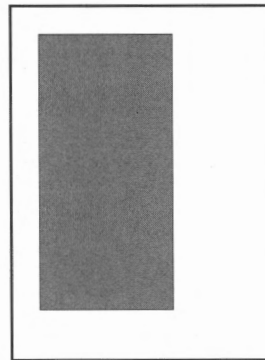
This printer has the ability to print on custom-sized paper. The smallest paper size supported is 3.75 x 6.75 inches (95 x 170 mm). The maximum paper size is 8.5 x 14 inches (216 x 356 mm).

To print on custom-sized media, follow these steps.

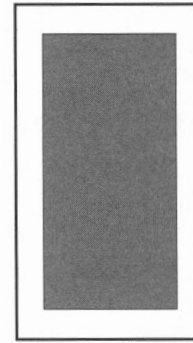
- 1 Measure the paper you will be using (A in the example below).
- 2 In your software, choose the paper size that is closest to that of the custom-sized media you are using.
- 3 On your screen, change the sizes of all your margins so that the print image is the correct size, and so that it is positioned on the upper-left side of the page. (See B in the example below.)
- 4 Print the page using manual feed. Always align your paper on the left side of the manual feed slot when inserting it into the printer. The image prints correctly on the narrow paper, as seen in example C.



A



B



C

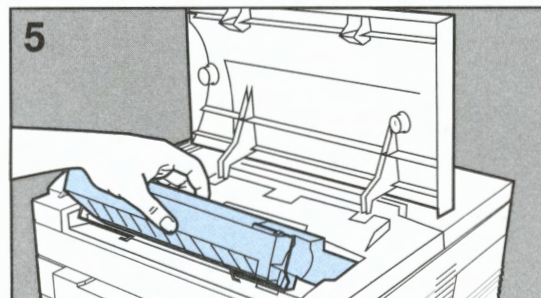
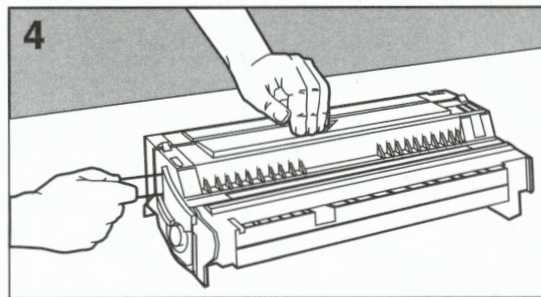
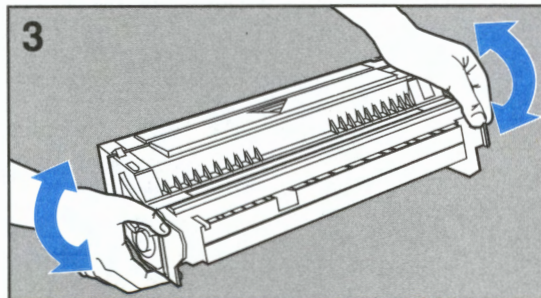
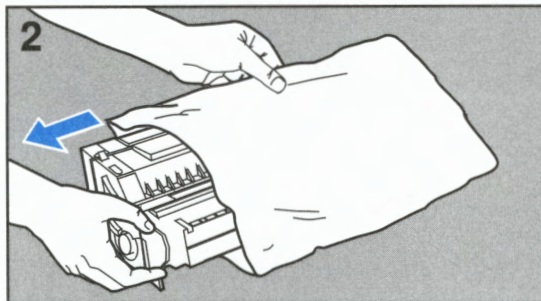
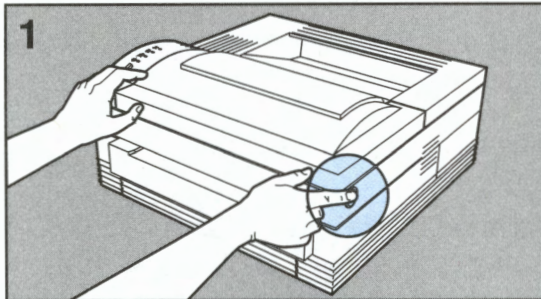
7

- **Replacing the Toner Cartridge 7 - 2**
- **Recycling Used Toner Cartridge 7 - 2**
- **Expected Toner Life 7 - 3**
- **Using EconoMode Printing To Conserve Toner 7 - 3**
- **Toner Cartridge Warranty 7 - 3**
- **Cleaning the Printer 7 - 4**

Printer Maintenance



Replacing the Toner Cartridge



To Replace a Toner Cartridge

- 1 Press the door release button to open the top door. Remove the old toner cartridge.
- 2 Remove the new toner cartridge from its bag.
- 3 Shake the cartridge vigorously to distribute the toner evenly inside the cartridge.

CAUTION

Because light damages the cartridge's photo-sensitive drum, do not expose the cartridge to light for more than a few minutes.

- 4 Grasp the clear tab on the side of the cartridge and pull firmly to remove the entire 12-15 inch (30 - 35 cm) strip of clear sealing tape. **Do not touch the silver part of the tape. It has toner on it.** Discard the tape.

If toner gets on your clothes, wipe it off with a dry cloth and wash the clothes in cold water. **Hot water sets toner into fabric.**

- 5 With one hand, hold the cartridge in the middle (do not grasp the cartridge by the shutter wires), and slide it into the printer. As you insert the cartridge, the two side shutter wires stay up and rest on the sides of the printer cabinet.

Close the top door. If the door closes easily, the cartridge is installed correctly.



Recycling Used Toner Cartridges

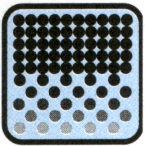
You can return used toner cartridges to Hewlett-Packard for recycling. HP will pay the shipping costs. Follow the instructions included inside each HP toner box.

Expected Toner Life

Each HP LaserJet printer toner cartridge contains the printing mechanism and a supply of toner. The life of the toner cartridge varies with the density of the print in your documents. If you print typical business letters with 5% coverage (EconoMode off), the toner cartridge should last approximately 3,000 pages. For best results, use the cartridge before the expiration date that is stamped on the toner cartridge box.

Note

If parts of your page start to fade, you can extend the life of your toner cartridge by slowly rocking the cartridge from end to end five times to redistribute the toner.



Using EconoMode Printing To Conserve Toner

EconoMode lowers the cost of printing by at least 50% by decreasing the amount of toner used on each page. While this reduces the print quality, the print is still very readable for proofs and rough drafts. *EconoMode does not affect the speed of the printer.*

Macintosh users: Select EconoMode through the HP LaserJet Utility.

Windows users: Select EconoMode or “Draft Printing” through the Windows Printer Setup dialogs.

Toner Cartridge Warranty

The HP 92274A toner cartridge is warranted against defects in materials and workmanship for 90 days from the purchase date. During the warranty period, HP will replace any cartridge which proves to be defective.

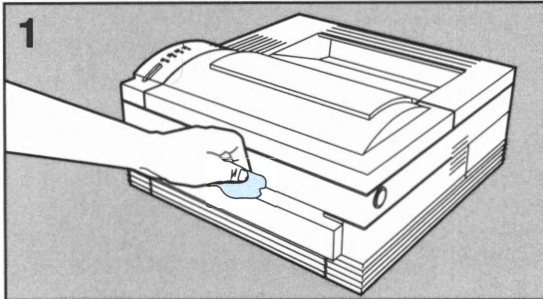
Place the defective cartridge in the bag that held your new toner cartridge. Seal the bag and place it in the new cartridge’s box, using the internal packaging to hold the cartridge in place. Include in the box:

- Your name and address.
- The supplier’s name and address.
- A print sample from the defective cartridge.
- A brief explanation as to why you are returning the cartridge.

Return the cartridge to the place of purchase for credit.



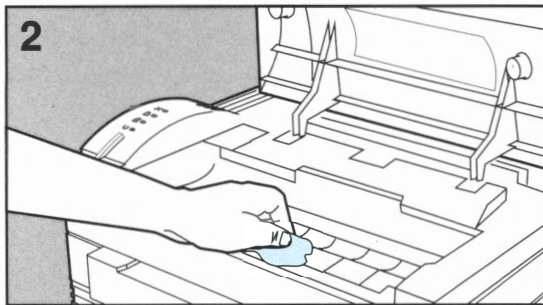
Cleaning the Printer



To prevent excessive wear and to preserve the print quality, keep the printer free of dust and debris.

WARNING

Before cleaning the printer, disconnect the printer from its power source.



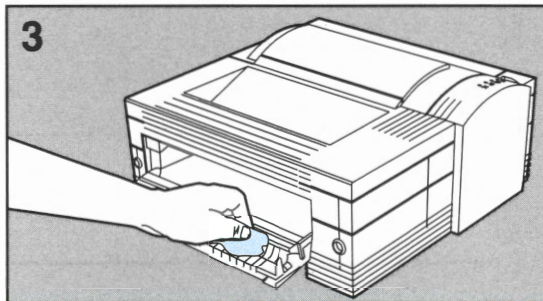
- 1 Clean the outside of the printer with a slightly damp cloth. (Use water only.)

Do not use ammonia-based cleaners on or around your printer.

- 2 Clean the inside of the printer with a dry, lint-free cloth. Remove all dust, spilled toner, and particles of paper.

Note

If toner gets on your clothes, wipe it off with a dry cloth and wash the clothes in cold water. **Hot water sets toner into fabric.**

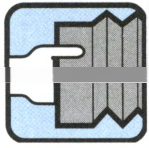


- 3 Clean the ridges in the rear printer door with a dry, lint-free cloth.

8

- **Clearing Paper Jams 8 - 2**
- **Adjusting Print Quality 8 - 6**
- **Adjusting Print Density 8 - 6**
- **Adjusting Resolution Enhancement 8 - 7**
- **Solving Print Quality Problems 8 - 8**
- **Solving Font Problems 8 - 13**
- **Solving Printer Operation Problems 8 - 14**

Troubleshooting



Clearing Paper Jams

What Causes Paper Jams?

The following are some conditions that can cause paper jams:

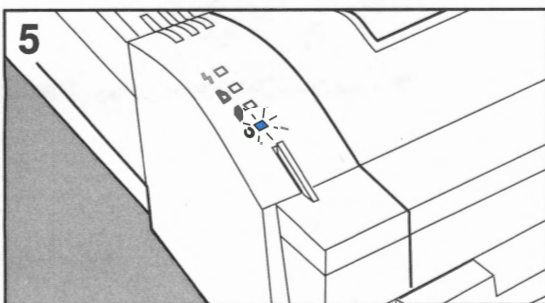
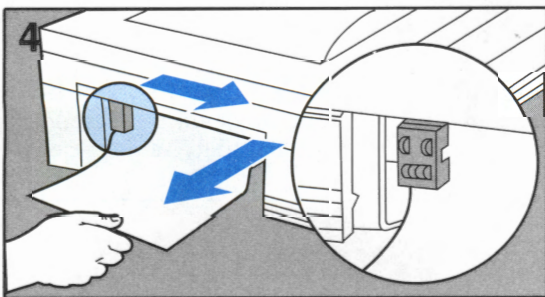
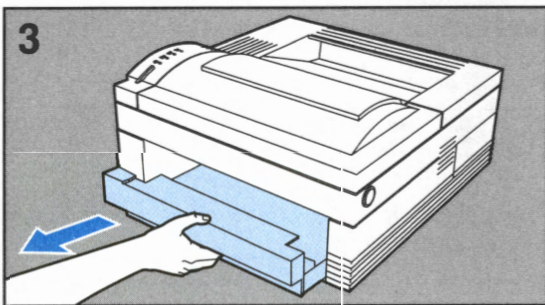
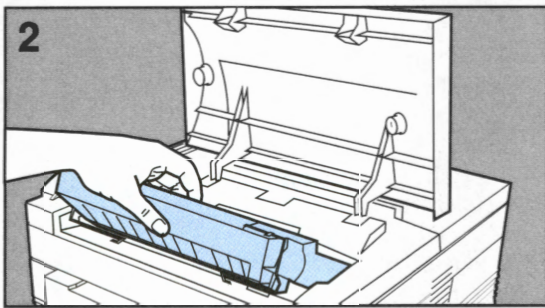
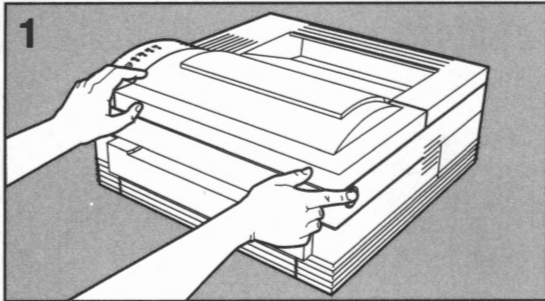
- Printing a letter-sized job on legal paper. (The printer will continue to jam unless you load the correct size paper or reset the printer.)
- Leaving the rear access door open. (This causes a false paper jam message.)
- Removing the paper cassette while a job is printing.
- Filling the paper cassette too full.
- Not putting the corner of the paper stack under the metal clip in the paper cassette.
- Using paper that is too coarse or too shiny in the paper cassette.
- Using damaged paper.
- Storing paper incorrectly, so that it curls or has moisture.

Cleaning Spilled Toner

After a jam has occurred, there may be some toner remaining on the rollers and guides inside the printer. The pages that print immediately after the jam may pick up this toner.

Note

If you get toner on your clothing or desk, wipe it off with a dry cloth, or use **cold** water to remove it. Hot water sets toner stains.



First: Check the paper feed area.

- 1 Open the top door by pressing the door release button on the right side of the printer.
- 2 Take out the toner cartridge. (Do not pull it out by the side shutter wires.)

Note

Do not expose the toner cartridge to light for more than a few minutes. Cover it while you work on the printer.

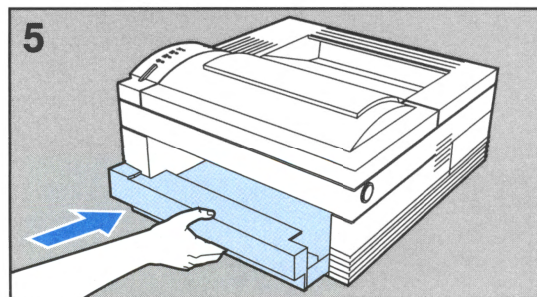
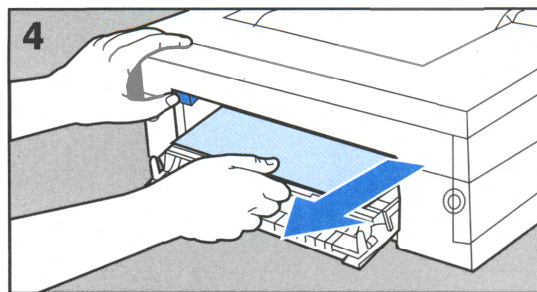
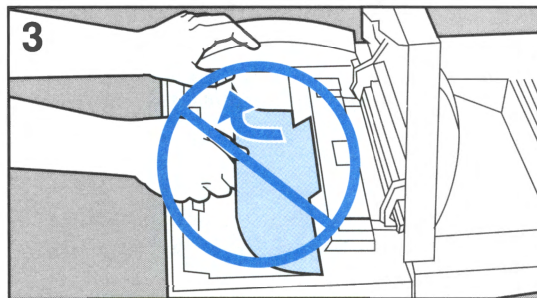
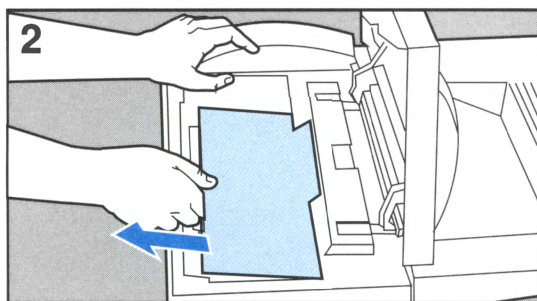
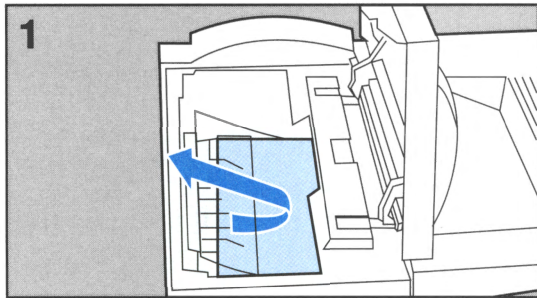
- 3 Pull out the paper cassette.
- 4 If paper is in the paper feed area, pull the paper to the right to release it from the feed roller. Then pull the paper straight out.

(If the paper has gone completely into the printer, see the next page.)

- 5 If Step 4 clears the jam, replace the paper cassette and the toner cartridge, then close the top door. Make sure the rear door is closed as well.

The printer should return to the Ready state. If it does not, there is jammed paper still in the printer. Check the top and rear areas of the printer (see the next page).

If you jammed the printer by trying to print a letter job on legal paper, you must reset the printer (hold the front panel button down for at least 5 seconds.)



Second: Check for paper that has gone completely into the printer.

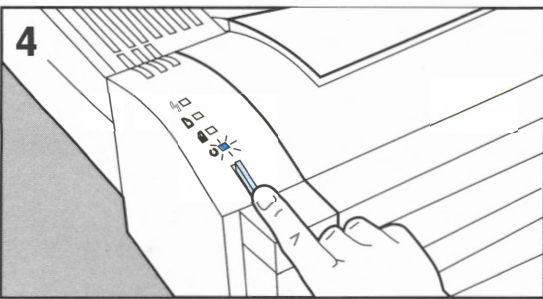
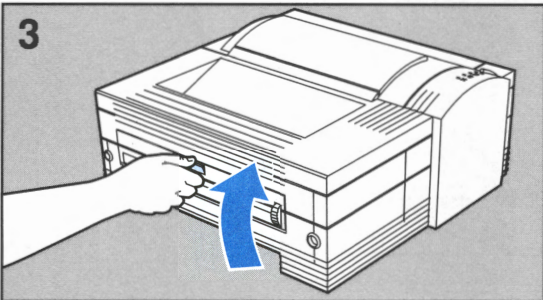
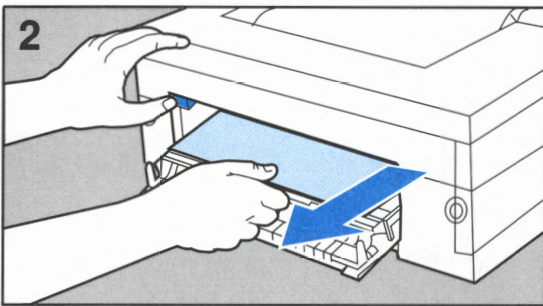
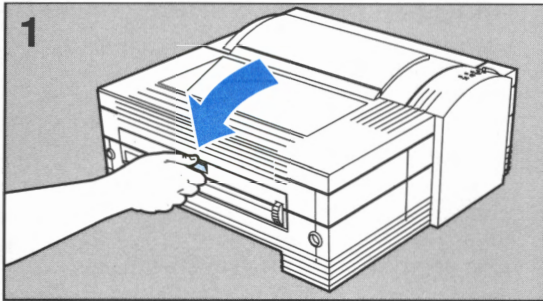
- 1 If the trailing edge of the paper is under the transparent cover, pull the paper toward you to remove it.
- 2 While holding the printer steady, carefully pull the jammed paper toward you to remove it.
- 3 Important! Do not pull the paper straight up when removing it. The toner on the paper can stain the printer and affect the print quality. If this happens, take the printer to an HP authorized service representative.
- 4 If the paper is difficult to remove, open the printer's rear access door. While pushing the paper release lever up, pull the paper straight toward you.
- 5 Replace the paper cassette and the toner cartridge, then close the top and rear doors.

The printer should return to the Ready state. If it does not, try one of the following remedies:

- Check to see if there is more jammed paper in the printer (see the next page).
- Open and close the printer's top door, or press the front panel button briefly.

NOTE

If a small piece of paper has ripped off and is located in the paper sensor area, it may be difficult to remove. **With the printer closed**, press the Front Panel button. The jammed piece of paper should move slightly. Repeat this procedure several times until the piece of paper can be removed by hand.



Third: Check to see if the paper is jammed in the rear of the printer.

- 1 Open the rear access door.
- 2 While pushing the paper release lever up, pull out the paper.
- 3 Remember to close the rear access door again. Leaving the rear access door open can cause the Paper Jam light to stay on.
- 4 If the Paper light continues to blink, open and close the top door again, or press the front panel button. This should clear the paper jam message.



Adjusting Print Quality

Available Print Quality Adjustments

There are two user-selectable adjustments that affect print quality:

- Print Density.
- Resolution Enhancement technology (REt).

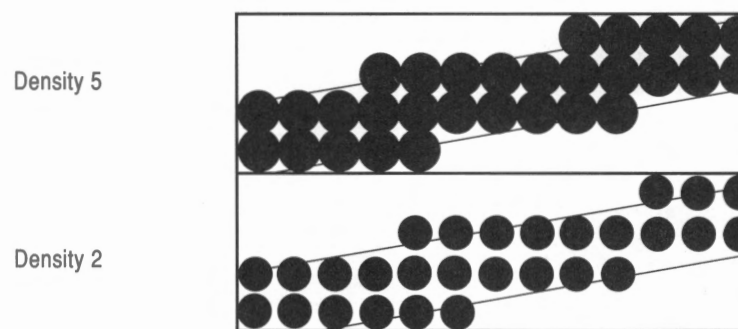
Adjust both of these to fine tune the appearance of your text or graphics.

Note

If your print image is faint, you should check to see if the job was printed using draft mode or EconoMode.

Adjusting Print Density

Adjusting the Print Density affects the amount of toner applied to *all* the dots on the page.



The available settings are 1 through 5. When you set the density at a low number, you use less toner and create thinner lines. When you set the density at a high number, you use more toner and create thicker lines and bolder characters.

The Print Density settings interact with REt. First adjust the Print Density for the correct thickness of toner on the lines, then adjust the REt level.

Changing Print Density on the Macintosh

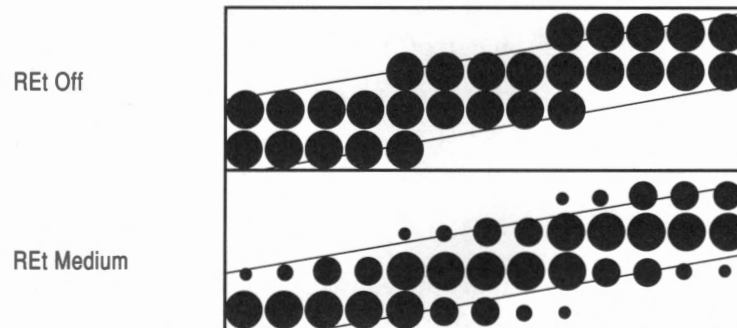
The Print Density setting is available through the Settings menu in the HP LaserJet Utility. See the on-line HP LaserJet 4ML Guide for more information.

Changing Print Density in Windows

From the Main window of the Program Manager, select Control Panel and Printers. Select the HP LaserJet 4ML printer, then select the appropriate Print Density from the Setup menus.

Adjusting Resolution Enhancement (REt)

REt refines the print quality of characters and sloping lines. It adjusts the size and placement of individual dots to fill in corners and smooth jagged edges.



The available REt settings are Off, Light, Medium, and Dark. If the REt setting is too dark, a sloping line appears to bulge at transition points. If the REt setting is too light, the sloping line or round character appears to have jagged edges. (REt has no effect on vertical or horizontal lines.)

Adjust both the REt setting and the Print Density setting to get the best possible print quality.

Changing the REt Setting on the Macintosh

The REt setting is available through the Settings menu in the HP LaserJet Utility. See the on-line HP LaserJet 4ML Guide for more information.

Changing the REt Setting in Windows

From the Main window of the Program Manager, select Control Panel and Printers. Select the HP LaserJet 4ML printer, then select the appropriate REt setting from the Setup dialogs.



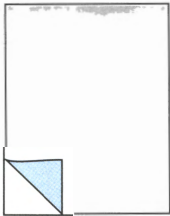
Solving Print Quality Problems



Faded Print

Faded print can be a faded area or a block of vertically aligned white streaks.

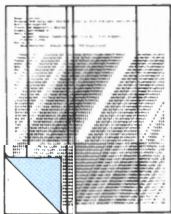
- The level of toner in the toner cartridge may be getting low. Shake the cartridge gently to redistribute the toner, or replace the cartridge.
- The paper may not meet HP's paper specifications (for example, too moist). See Appendix C for detailed information.
- EconoMode may be on. Turn it off through your software or through the HP LaserJet Utility.



Staining

Stains usually appear as small, round, black dots that occur in the front or the back of a page. Sometimes wide, inconsistent stains appear.

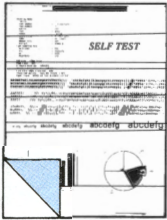
- The paper may not meet HP's paper specifications (for example, too moist). See Appendix C for detailed information.
- You may be printing on the wrong side of the paper. Try removing the paper from the cassette and turning it over. (The label on each ream of paper indicates the print side of the paper.)
- The printer may need cleaning. See Chapter 7, "Printer Maintenance."
- The toner cartridge may be damaged. Replace it if maintenance procedures do not improve print quality.
- You may have tried to print on both sides of the paper. Clean the printer (see Chapter 7).



Vertical Lines

Sometimes vertically aligned black streaks or smears can appear on successive pages.

- The toner cartridge may be damaged. You may need to replace it.
- The printer may need cleaning. See Chapter 7.



Horizontal Stripes

Sometimes horizontally aligned black streaks or smears can appear.

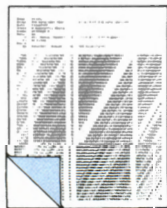
- The toner cartridge may not be seated properly. Remove the cartridge and reinsert it.
- The toner cartridge may be defective. Consider replacing it.
- If you still have problems, the printer may require repair.



Repetitive Defects

Sometimes light character shadows or repetitive marks appear on the page.

- The printer may need cleaning. See Chapter 7.
- Use a different type of overhead transparency. See “Printing Transparencies” in Chapter 6.
- Your paper texture may be too coarse. Try changing to a lighter weight paper with a smoother finish.
- The toner cartridge may be damaged, causing a repetitive black flaw on every printout. Replace the toner cartridge.
- The photosensitive drum of the toner cartridge may have been over-exposed to bright light, causing repetitive defects. Replace the toner cartridge.



Vertical White Stripes

- Clean the printer (see Chapter 7).
- The toner cartridge may be defective. Try a replacement to see if it fixes the problem.
- The printer’s internal mirror may be contaminated. It must be cleaned or replaced by an authorized HP service representative. See Chapter 9.



Character Voids

Character voids are white areas within the parts of characters that should be solid black.

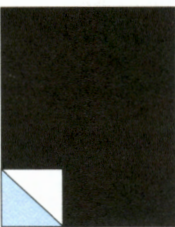
- If you are using transparencies when you experience this problem, try another type of transparency. Hewlett-Packard transparencies are designed to minimize character voids. *Because of the composition of transparency media, some character voids will always occur.*
- You may be printing on the wrong side of the paper. Remove the paper from the cassette and turn it over.
- Your paper may not meet the guidelines required for the printer. See Appendix C for paper specifications.



Background Scatter

Background scatter results from bits of toner distributed on the front or back of a printed page. Background scatter often is isolated to a specific area of the page.

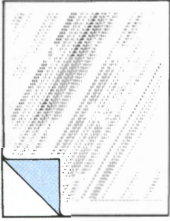
- Change the paper type, weight, or surface finish.
- If background scatter occurs on an envelope, try moving the text to an area with no seams. Printing on seams can cause this problem.
- If background scatter covers the entire surface of an envelope, try adjusting the print density through the HP LaserJet Utility (Macintosh), or through the printer setup dialogs (Windows).
- If this problem occurs on the back of a printed page, it may be caused by spilled toner inside the printer. See “Cleaning the Printer” in Chapter 7.



Black Page

A black page is completely black.

- The toner cartridge may not be seated properly. Remove the cartridge and reinsert it.
- The toner cartridge may be defective and need replacing.
- If you still have problems, the printer may require repair. See Chapter 9.



Dropouts

Dropouts are characters that are partially printed or not printed at all.

- A single sheet of paper may be defective. Try reprinting the job.
- Try adjusting the print density through the HP LaserJet Utility (Macintosh), or through the printer setup dialogs (Windows).
- The moisture content of the paper may be inconsistent, or the paper may have moist or wet spots on the surface. Try paper from a different paper manufacturer.
- The paper may have been damaged by inconsistent manufacturing processes. Try paper from a different source.

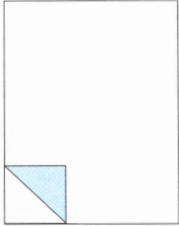


Part of the Page Is Blank (PCL Jobs Only)

(This section does not apply to PostScript jobs.)

The bottom of the page is blank, or part of a graphics image is cut off.

- Your page may be so complex, the printer cannot create the image fast enough to keep pace with the print mechanism. Set Page Protect to any setting other than Off through the HP LaserJet Utility.
- You may have exceeded the capacity of the printer's memory. Change your job to download fewer fonts. Reset the printer to eliminate unneeded permanent soft fonts. (See Chapter 5.)



Blank Page

If you get *occasional* blank pages:

- With the Ready light on, briefly press the front panel button to print a Demo page. If the Demo page prints, the printer is functioning correctly. Check the connection between the printer and the computer.
- Make sure your page length is set correctly for the paper size you use.
- Some sharing devices on networks may generate a blank page as a separator. Contact your Network Administrator about this.
- Your printer may be feeding two or more pages at once because the paper is difficult to separate. Remove the paper from the paper cassette and fan the edges of the paper to separate the pages. When you reinsert the paper, make sure the paper is pushed firmly and evenly into the corner that has the metal retaining clip.
- Your software application may send an extra page eject command. Check your software's printing configuration information. If you are using a word processing program, check for a natural page break and a forced page break close together.
- If the blank pages are accompanied by data loss, your printer may need service. See Chapter 9.

If *all* of your pages are blank:

- Make sure you removed the entire length of the sealing tape from the toner cartridge before you installed the cartridge.
- The toner cartridge may be out of toner. Replace the cartridge.
- The printer may need service. See Chapter 9.



Solving Font Problems

Use the following steps to help solve problems you experience when selecting fonts. If you need more help, refer to the service and support information in Chapter 9. That chapter will guide you in getting help from your dealer or, if necessary, contacting Hewlett-Packard for help.

Symptom	Possible Cause	Solution
<p><i>The fonts on the page do not match the fonts on your computer screen.</i></p>	<p>Macintosh Users: Screen fonts are not yet installed on the computer's hard disk.</p>	<p>Bitmapped screen fonts are provided with your Printing Software for Macintosh package. Follow the installation instructions provided on the package. The screen fonts installed on your Macintosh computer should provide good WYSIWYG ("what you see is what you get") support. Additionally, higher quality screen font solutions can be purchased from your software dealer. The Apple Font Pack for Macintosh or Adobe Type Manager packages both provide compatible WYSIWYG.</p>
	<p>DOS Users: Your software does not support screen fonts. (With screen fonts, all the metrics and characteristics of the fonts on the screen are identical to the printer's fonts.)</p>	<p>Some DOS software packages use the term "screen fonts" for the fonts they use to preview your printed page on the screen. This type of screen font may closely match some of the fonts you use in your document, but they are not identical in terms of the font metrics.</p>
	<p>Windows PostScript Users: Some of the screen fonts are not yet installed on the computer's hard disk.</p>	<p>Basic screen fonts are provided within Windows 3.1 with the use of TrueType. Higher quality screen font solutions can be purchased from your software dealer. The Microsoft Font Pack for Windows or Adobe Type Manager packages both provide compatible WYSIWYG ("What you see is what you get") solutions.</p>
<p><i>The wrong fonts or characters are printing on the page.</i></p>	<p>DOS Users: A driver for your fonts has not been installed in your software.</p>	<p>Order the correct software driver from your software vendor or from Hewlett-Packard (see Chapter 1 for ordering information.)</p> <p>Run your software's SETUP or INSTALL program to install a printer driver that supports your fonts. See your software manual for more information.</p>



Solving Printer Operation Problems

Use the following steps to help solve problems you experience with your printer. If you need more help, refer to the service and support information in Chapter 9. That chapter will guide you in getting help from your dealer or, if necessary, contacting Hewlett-Packard for help.

Symptom	Possible Cause	Solution
<i>The printer does not respond when you send a print job from software.</i>	Macintosh Users: The LocalTalk network cable is loose.	Check the connections on the printer and on the computer.
	Windows/DOS Users: The printer's parallel is loose.	Secure the parallel cable to the computer with screws, and to the printer with the wire clips.
	Windows/DOS Users: The parallel cable is defective.	Try your cable on another system with a print job that you know works.
	All Users: The printer is malfunctioning.	If the printer is in Intelligent Off mode, press the front panel button to turn on the Ready light. Then press it again to print a Demo page. If the Demo page prints, the printer is working correctly. If all the lights are on, there is a hardware error. Disconnect the printer from its power source and wait 15 minutes. Then reconnect it. If all four lights remain on, contact your HP authorized service representative (see Chapter 9).
	All Users: You did not select the correct printer through your software.	Check your software's printer selection to see if you selected the HP LaserJet 4ML printer.
	Windows/DOS Users: Your software or your printer is not yet configured for the correct printer port.	Check your software's configuration menu to make sure it is accessing the correct printer port. If your computer has more than one parallel port, make sure you are connected to the correct one.
	All Users: The printer is not connected to power, or the power source is not active.	Check your power cord, switches, power strips, and fuses.
	All Users: You did not reset the printer after clearing a paper jam.	Press the front panel button, or open and close the top printer door to resume printing after the jam.
	All Users: The printer's top door or rear door is open.	Make sure both doors are closed securely.
	Windows/DOS Users: The printer is connected to a switch box, and the switch box is not set up to receive data from your printer.	Check the switch box setting.
<i>The Error light is on steadily.</i>	All Users: The printer's top door is open, or the toner cartridge is not installed completely.	Open the door, reinstall the toner cartridge, then close the door firmly.

Symptom	Possible Cause	Solution
<i>The Error light is blinking.</i>	All Users: There was a memory or I/O error in your print job.	Press the front panel button to resume printing. (There may be some data loss.) Change your page to make it less complex, and check the I/O connection to your port.
<i>The Paper light is on steadily.</i>	All Users: The paper cassette is empty.	Load more paper into the paper cassette.
<i>The Paper light is blinking.</i>	All Users: There is a paper jam.	See instructions earlier in this chapter about how to clear paper jams.
<i>Both the Data light and the Ready light are on steadily.</i>	All Users: There is unprinted data in the printer. (Your software did not send an "end of job" command.)	Briefly press the front panel button to print the rest of the data.
<i>The Data light is blinking.</i>	All Users: The printer is in Manual Feed mode and the manual feed slot is waiting for paper.	Insert a piece of paper into the manual feed slot. If you want to print from the cassette instead, press the front panel button.
<i>All the printer's lights are off.</i>	All Users: The printer is in Intelligent Off mode.	Briefly press the front panel button to activate the Ready light. If the Ready light does not come on, check the power cord and your power source. If the printer still does not respond, contact your local HP authorized service representative. (See Chapter 9.)
<i>All the printer's lights are on after the initial 20 second power on.</i>	All Users: The printer has a hardware error.	Disconnect the printer from its power source and wait 15 minutes. Then reconnect it. If all four lights remain on, contact your HP authorized service representative (see Chapter 9).
<i>The printer is feeding multiple sheets or jams frequently.</i>	All Users: The paper does not meet HP's specifications for print media (embossed, damaged, too slick or too rough, too much moisture, wrong weight).	Try another kind of paper. See the paper specifications in Appendix C.
	All Users: The paper is sticking together.	Take the paper out of the cassette and fan it to separate the sheets. Make sure the paper is pushed firmly and evenly into the front corner of the cassette (under the metal clip).
	All Users: The paper cassette is too full.	Remove some of the paper.
	All Users: You may be using the wrong size paper. A jam will occur if you print a Letter size job on Legal size paper.	Make sure that you are using the correct size paper and your software is requesting that size.
	All Users: The printer may need service.	Contact your HP authorized service representative (see Chapter 9).
<i>The printer jams when you attempt a manual feed.</i>	All Users: You removed and reinserted your paper while trying to perform a manual feed.	Once the printer senses that the paper is in the manual feed slot (you feel it grab the corner), do not remove it and reinsert it. This causes the printer to pull the paper through the paper path too late, and results in a paper jam. Let the printer automatically realign the paper to straighten it in the paper path.

Symptom	Possible Cause	Solution
<i>The printer jams - The Paper light is out, but, no paper is in the printer</i>	All Users: You may not have removed a small piece of paper in the paper sensor area of the printer, or the printer's back door may be open (this cases a false paper jam message).	With the printer closed, Press the Front Panel Button. The jammed piece of paper should move slightly. Repeat this procedure several times until the piece of paper can be removed by hand. Make sure the back door is closed.
<i>Unexpected Printer Output or Print page does not appear as you expect.</i>	Windows/DOS Users: Some software may leave the printer's settings in an unexpected state (such as EconoMode On, wrong fonts, or copies set incorrectly.) The printer's permanent settings may have been changed incorrectly by software, resulting in unexpected errors. If performing a simple reset does not solve the problem., you need to perform a cold reset.	To Perform a "Cold Reset": 1. Wait until the last page has printed (10 seconds). 2. Open the side power door and disconnect the power cable from the printer. 3. Press and hold the Front Panel Button while reconnecting the printer's power cable. All the printers lights turn on for 1 second, then turn off. 4. After the lights turn off, release the Front Panel Button. (Note: If you hold down the Front Panel button for more than 15 seconds, all the lights again turn on. If you release the button after the lights come on the second time, a Continuous Self Test starts to print. To stop this printout, press the Front Panel Button (the printer stops after about 7 pages have printed.) 5. All the lights come on again for about 15 seconds, then they blink one at a time. 6. When the Ready light comes back on, the printer has been reset and is ready to receive another job.
	Macintosh users: The printer's settings have been changed (such as EconoMode, Density, or REt).	Use the HP LaserJet Utility to restore the correct settings.

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Service and Support



Where To Find Help

Hewlett-Packard's Commitment

Hewlett-Packard and its authorized dealers stand behind the HP product you purchased. Depending on how you purchase and use your equipment, the best source of support is either your HP dealer, your own organization, or the Hewlett-Packard Company. Your warranty statement is included in this chapter. Please read it carefully and retain it for your records.

Help From Your Organization

If your organization has many HP LaserJet printers, the best source of assistance may be within your own company. Many companies designate central support personnel to help when you have any problems with your printer, or when you need consumable items such as toner cartridges or paper. These support personnel can call special resources within HP when necessary.

Help From Your Local Dealer

If you purchased your printer from an authorized HP dealer, your dealer is the best source of assistance. Your salesperson is familiar with your needs, equipment, configuration, and software, and can provide the information you need. Your dealer also can access special support resources and programs within HP. Contact your dealer for details on available support options.

24-Hour Help from the HP ASAP Line

HP's Automated Support Access Program (ASAP) line is an automated telephone support system with pre-recorded solutions for common problems. You also can request a faxed copy of the information for future reference.

Call (800) 333-1917 24 hours a day, 7 days a week.

Help From the HP Customer Support Center

If your organization's support personnel or your dealer are unable to answer your question, Hewlett-Packard has a Customer Support Center available to help you. It is available from 7 a.m. until 6 p.m.; (Mountain Time) on Monday, Tuesday, Thursday, and Friday; and 7 a.m. until 4 p.m. on Wednesday. Call **(208) 323-2551**.

Before you call, try the following:

- Read and try the troubleshooting suggestions in Chapter 9.
- Print the Config / Type pages, if possible (see Chapter 5, "Using the Front Control Panel").
- Check with your software vendor for help if you suspect a software problem.

HP Hardware Service Support

Because mechanical parts wear out and electronic devices occasionally need service, high-quality, professional hardware support is provided through HP Personal Computer Dealer Centers and the world-wide network of HP Sales and Service offices.

To find the nearest HP authorized service center near you, call **(800) 752-0900**.

To purchase an HP service agreement, call **(800) 835-4747**.

Note

To have your printer serviced by Hewlett-Packard, you must make arrangements to have it serviced in the country of purchase.

Worldwide HP Sales and Service Offices

The following is a list of Hewlett-Packard sales, service and support offices throughout the world:

Worldwide Hewlett-Packard Sales and Service Offices	
<p>Australia/New Zealand:</p> <p>Hewlett-Packard Australia Ltd. 31-41 Joseph Street Blackburn, Victoria 3130 Australia Telephone: 61 3 272-2895</p>	<p>European Headquarters:</p> <p>Hewlett-Packard S.A. Route du Nant-d'Avril 150 CH-1217 Meyrin 2 (Geneva) Switzerland Telephone: 41 22/780 81 11</p>
<p>Far East Area:</p> <p>Hewlett-Packard Hong Kong Ltd. 22nd Floor, EIE Tower, Bond Centre 89 Queensway, Central Hong Kong Telephone: 852 848-7777</p>	<p>Japan:</p> <p>Yokogawa-Hewlett-Packard Ltd. 3-29-21, Takaido-Higashi Suginami-Ku, Tokyo 168 Japan Telephone: 81 3 3331-6111</p>
<p>China:</p> <p>China Hewlett-Packard Company 38 Bei San Huan XI Road Shuang Yu Shu, Hai Dian District Beijing China Telephone: 86 1 256-6888</p>	<p>Taiwan:</p> <p>Hewlett-Packard Taiwan Ltd. 8th Floor, HP Building 337 Fu Hsing North Road Taipei, Taiwan Republic of China Telephone: 886 2 712 0404</p>
<p>Thailand:</p> <p>Hewlett-Packard Thailand Ltd. 10th Floor, Pacific Place 140 Sukhumvip Road Bangkok 10110 Thailand Telephone: 66 2 254-6720</p>	<p>Singapore:</p> <p>Hewlett-Packard Singapore (Pte.) Ltd. 150 Beach Rd #29-00 Gateway West Singapore 0718 Telephone: 65 290-6360</p>
<p>Austria:</p> <p>Hewlett-Packard Ges.m.b.H. Lieblgasse 1 P.O. Box 72 A-1222 Vienna Austria Telephone: 43 222 2500-0</p>	<p>Belgium:</p> <p>Hewlett-Packard Belgium SA/NV Boulevard de la Woluwe, 100, Woluwedal B-1200 Brussels Belgium Telephone: 32 2 761 31 11</p>
<p>France:</p> <p>Hewlett-Packard France 28, rue Jacques Ibert BP 5820 75858 Paris CÉDEX 17 France Telephone: 33 (1) 40 89 77 00 HP Direct Marketing: 1 69 86 17 25</p>	<p>Denmark:</p> <p>Hewlett-Packard A/S Kongevej 25 DK-3460 Birkerød Denmark Telephone: 45 45 99 10 00</p>

Worldwide Hewlett-Packard Sales and Service Offices

<p>Finland:</p> <p>Hewlett-Packard Oy Piispankalliontie 17 P.O. Box 68 SF-02200 Espoo Finland Telephone: 358 0/887 21</p>	<p>Hungary:</p> <p>Hewlett-Packard & Controll Kft. Erzsebet kiralyne utja 1/c 1118 Budapest Hungary Telephone: 36 (1) 142 09 86</p>
<p>Germany:</p> <p>Hewlett-Packard GmbH Herrenberger Strasse 130 W-7030 Böblingen Germany Telephone: 49 7031/14-0 HP Direct Marketing: 49 7031/14-0</p>	<p>Norway:</p> <p>Hewlett-Packard Norge A/S P.O. Box 34 Østerdalen 16-18 N-1345 Østerås Norway Telephone: 47 2 87 97 00</p>
<p>Greece:</p> <p>Hewlett-Packard Hellas 62, Kifissias Avenue GR Maroussi-Athens 15125 Greece Telephone: 30 1 689 64 11</p>	<p>Spain:</p> <p>Hewlett-Packard Española, S.A. Madrid E28230 Las Rozas Crta. de la Coruña, km 16,500 Spain Telephone: 34 1 626 16 00 HP Direct Marketing: 91 626 16 16</p>
<p>Italy:</p> <p>Hewlett-Packard Italiana S.p.A. Via Giuseppe di Vittorio, 9 I-20063 Cernusco sul Naviglio Milano Italy Telephone: 39 2/92 19 91 HP Direct Marketing: 02 95.301.532</p>	<p>Sweden:</p> <p>Hewlett-Packard Sverige AB Skalholtsgatan 9 Box 19 S-164 93 Kista Sweden Telephone: 46 8/750 20 00</p>
<p>Middle East/Africa:</p> <p>Middle East, Central Africa Sales Headquarters Hewlett-Packard S.A. 7, rue du Bois-du-Lan P.O. Box 364 CH-1217 Meyrin 1 (Geneva) Switzerland Telephone: 41 22/780 71 11</p>	<p>Switzerland:</p> <p>Hewlett-Packard (Schweiz) AG Allmend 2 CH-8967 Widn Switzerland Telephone: 41 1 57/31 21 11</p>
<p>Netherlands:</p> <p>Hewlett-Packard Nederland B.V. Startbaan 16 NL-1187 XR Amstelveen P.O. Box 667 The Netherlands Telephone: 31 20/547 69 11</p>	<p>Turkey:</p> <p>Hewlett-Packard Bilgisayar ve Ölçüm Sistemleri AS., 19 Mayıs cad.Nova/Baran Plaza K.12 (Headquarters) 80220 S is li-Istanbul Turkey Telephone: 90 1 224 59 25</p>

Worldwide Hewlett-Packard Sales and Service Offices

<p>United Kingdom:</p> <p>Hewlett-Packard Limited Cain Road Bracknell GB-Berkshire RG12 1HN United Kingdom Telephone: 44 344/360000 HP Direct Marketing: 0734 441212</p>	<p>Latin American Sales Region Headquarters:</p> <p>H-P Latin America Monte Pelvoux No. 111 Fracc. Lomas de Virreyes 11000 Mexico D.F. Mexico Telephone: 52 5 326-4000</p>
<p>Poland:</p> <p>Hewlett-Packard Polska Sp. z o.o. Ul. Nowelska Nr. 6 PL-01447 Warszawa Poland Telephone: 48 22 37 50 65</p>	<p>Brazil:</p> <p>Alameda Rio Negro 750 06454 - Alphaville - Barueri - S.P. Brazil Telephone: 55 11 709-1444</p>
<p>Portugal:</p> <p>Hewlett-Packard Portugal, S.A. Rua Gregório Lopes, Lote 1732A 1400 Lisboa Portugal Telephone: 351 1-3017330</p>	<p>Czechoslovakia:</p> <p>Hewlett-Packard Ceskoslovensko s.p.o. Novodvorska 82 14200 Praha 4 Czechoslovakia Telephone: 42 (2) 471 76 76</p>
<p>Mexico Guadalajara:</p> <p>Hewlett-Packard de México, S.A. de C.V. Montemorelos No. 299 Fracc. Loma Bonita Zapopan C.P. 45060 Telephone: 31-46-00</p> <p>Mexico, D.F.:</p> <p>Hewlett-Packard de México, S.A. de C.V. Av. Periférico Sur No. 6501 Tepepan, Xochimilco C.P. 16020 Telephone: 676-46-00</p>	<p>Mexico Monterrey:</p> <p>Hewlett-Packard de México, S.A. de C.V. Calzada del Valle Oriente No. 409 4o. Piso Colonia del Valle C.P. 76030 Telephone: 78-42-40</p>
<p>Canada:</p> <p>Hewlett-Packard (Canada) Ltd. 17500 Trans-Canada Highway Kirkland, Quebec H9J 2X8 Canada Telephone: 1 514 697-4232</p> <p>Hewlett-Packard (Canada) Ltd. 6877 Goreway Drive Mississauga, Ontario L4V 1M8 Canada Telephone: 1 416 678-9430</p>	<p>Canadian Customer Information Center: 1 800 387-3867</p> <p>HP Direct Marketing: 1 416 671-8383</p> <p>Hardware Service: 1 800 268-1221</p> <p>Customer Support Center (English service only): 1 208 323-2551</p>



HP Maintenance Agreements

HP has several types of maintenance agreements that meet a wide range of support needs.

Service Agreements

To provide the support level best suited to your system usage and support budget, HP has on-site service agreements with three response times:

- **Priority On-site Service** is designed for production-critical applications, giving you four-hour service response to your site for calls made during normal HP business hours.
- **Next Day On-site Service** provides on-site support by the next working day following your service request. Extended coverage hours and extended travel beyond HP designated service zones are available for additional charges on most on-site service agreements.
- **Weekly (Volume) On-site Service Agreement**, for organizations with many HP LaserJet printers, provides economical, scheduled on-site coverage. Designed for customer sites using 25 or more workstation products, this service provides scheduled weekly repair visits to your central location. HP can write an agreement for any combination of 25 or more workstation products including printers, plotters, computers, and disk drives.

Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state or province to province.

One-Year Limited Warranty

Hewlett-Packard warrants its computer hardware products against defects in materials and workmanship for a period of one year from receipt by the end user. During the warranty period, HP will, at its option, either repair or replace products which prove to be defective.

Should HP be unable to repair or replace the product within a reasonable amount of time, a refund of the purchase price may be given upon return of the product.

To have your printer serviced by Hewlett-Packard, you must make arrangements to service it in the country of purchase.

Exclusions

The warranty on your HP LaserJet printer shall not apply to defects or damage resulting from:

- Improper or inadequate maintenance by customer.
- Customer supplied software or interfacing.
- Unauthorized modification or misuse.
- Operation outside of the environmental specifications for the product.
- Operation of non-supported printing media.
- Duty cycle abuse. Operation of the printer beyond the limit of its duty cycle (printing greater than the equivalent of 8,000 single-sided pages per month) shall be deemed printer abuse and all repairs thereafter will be billed on a time and materials basis.
- Improper site preparation and maintenance.
- Use of non-HP toner cartridges. The use of a non-HP or refilled toner cartridge alone does not affect either your warranty or any maintenance contract you may have purchased. However, if an HP LaserJet printer failure or damage is found to be directly attributable to the use of a non-HP toner cartridge, HP will not repair the printer free-of-charge. In this case, standard time and materials charges will be applied to service your printer for that particular failure or damage.
- Operating the printer from a mechanical switchbox without a designated surge protector.

CAUTION

If you are using a mechanical switchbox, ensure that it is equipped with a surge protector. Damage to your printer could occur from the use of unprotected mechanical switchboxes.

The warranty period begins either on the date of delivery or, where the purchase price includes installation by Hewlett-Packard, on the date of installation.

Warranty Limitations

The warranty set forth above is exclusive and no other warranty, whether written or oral, is expressed or implied. Hewlett-Packard specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

Some states or provinces do not allow limitations on how long an implied warranty lasts, so the above limitation or exclusion may not apply to you. However, any implied warranty of merchantability or fitness is limited to the one-year duration of this written warranty.

Service During the Warranty Period

If your hardware should fail during the warranty period, bring your printer to an authorized HP Dealer, Repair Center, or an HP Customer Service Center. To locate the nearest authorized Service Center in your area, call **(800) 752-0900**.

When sending equipment to an HP Customer Service Center or service-authorized HP dealer, follow the repacking guidelines listed below. Also, complete and enclose a copy of the *Service Information Form* at the end of this chapter and include a copy of your proof of purchase. Insuring the equipment for shipment is recommended.

CAUTION

Shipping damage as a result of inadequate packaging is the customer's responsibility. Use the original packing materials whenever possible.

Service After the Warranty Period

If your hardware fails after the warranty period, and you have an HP Maintenance agreement, request service as specified in that agreement. If you do not have an HP Maintenance Agreement, contact an authorized HP Dealer or an HP Customer Service Center to obtain service.

When sending equipment to an HP Customer Service Center or service-authorized HP dealer, follow the repacking guidelines listed below. Also, complete and enclose a copy of the Service Information Form at the end of this chapter. Insuring the equipment for shipment is recommended.

Repacking Guidelines for Returning Your Printer

- Remove and retain the toner cartridge.
- If possible, print the Config/Type pages before you power off the printer and send them with the printer.
- Include the completed copy of the *Service Information Form*. Note on the form which items were returned.
- Use the original shipping container and packing materials if possible.
- Include print samples which illustrate the problems you are having, if applicable.
- Include 50-100 sheets of the paper or forms you are having trouble printing, if possible.

If you have already disposed of your printer's packaging material and are unable to locate another package, the packaging material can be ordered from HP's Support Materials Organization at the following phone numbers:

(800) 227-8164 (U.S.)

(416) 678-9430 (Canada)

The correct packaging material (box and inserts) will be sent to you for a charge.

Service Information Form

Please photocopy and complete the *Service Information Form* on the next page when requesting service from an HP Customer Service Center or a service-authorized HP Dealer. **This form must be shipped with your equipment. Service cannot begin until we have this information.** Please call **(800) 752-0900** to locate the authorized service center in your area.

Be sure that you follow the procedures for troubleshooting in the user's manual before returning equipment.

Service Information Form

Who is returning the equipment?

Person to contact:

Date:

Phone: ()

Alternate contact:

Phone: ()

Return shipping Address:

Special shipping instructions:

What is being sent?:

Model number:

Serial number:

Please attach any relevant printouts when returning equipment.

Do not ship accessories which are not required to complete the repair (manuals, cleaning supplies, etc.).

What needs do be done?

1. Describe the conditions of the failure. (What was the failure? What were you doing when the failure occurred? What software were you running? Is the failure repeatable?)

2. If the failure is intermittent, how much time elapses between failures?

3. Is the unit connected to any of the following? (Give manufacturer and model number.)

Personal computer:

Modem:

Network:

Other:

4. Additional comments:

How will you pay for the repair?

Under warranty:

Purchase/received date : _____

If the product is under warranty, enclose proof of purchase or receiving document with original received date.

Maintenance contract number:

Purchase order number: _____

Except for contract and warranty service, a purchase order number and/or authorized signature must accompany any request for service. If standard repair prices do not apply, a minimum purchase order is required. Standard repair prices may be obtained by contacting an authorized Repair Center.

Authorized signature: _____ Phone: _____

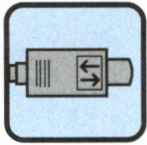
Billing address:

Special billing instructions:

A

- **Connecting to the end of a LocalTalk Network A - 2**
- **Connecting to the middle of a LocalTalk Network A - 3**

Connecting to a LocalTalk Network



Connecting to a LocalTalk Network

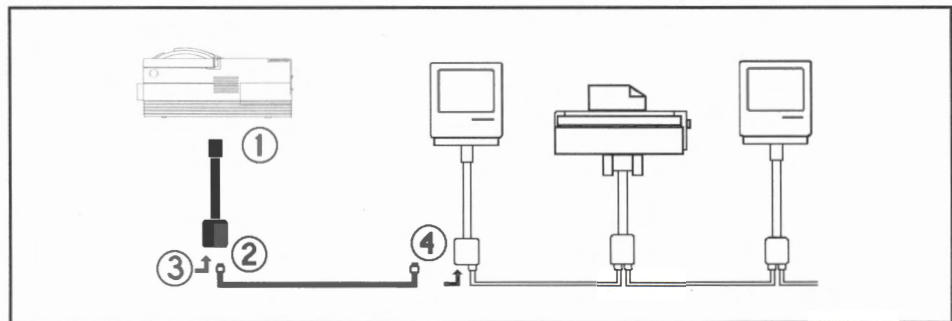
Introduction

Your HP LaserJet 4ML printer does not come with an LocalTalk network cable. You must obtain your cables separately. Use a standard LocalTalk network cable and connector kit.

You can use the HP LocalTalk Network Cable Kit. The HP part number for this kit is HP 92215N. You will need one connector kit for each printer on your network, and another for each Macintosh computer on your network. To order HP LocalTalk Network Cable Kits, contact your authorized HP dealer.

Connecting your Printer to the END of a LocalTalk Network

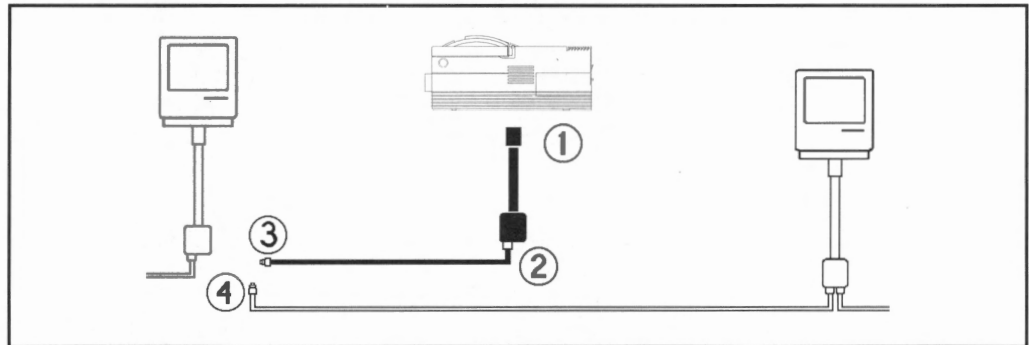
The following instructions describe how to connect your printer to the end of a LocalTalk network. (Instructions for connecting your printer to the middle of an LocalTalk network are on the next page.)



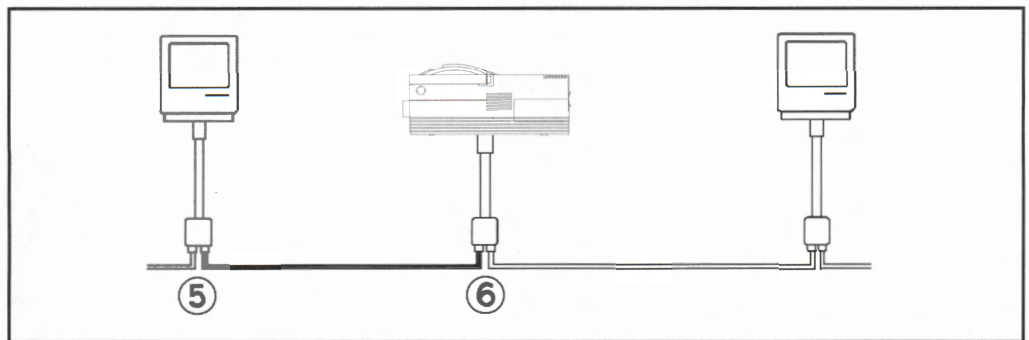
- 1 Disconnect the printer from its power source. Insert the connector box cable into the LocalTalk port of your printer. (See Chapter 3.)
- 2 Insert one end of the cable into the new connector box.
- 3 If your connector box is not self-terminating, insert a terminating resistor into the connector box.
- 4 Insert the other end of the cable into the last connector box on the network. (Remove the terminating resistor if necessary.)
- 5 Reconnect the printer to its power source.

Connecting your Printer to the MIDDLE of a LocalTalk Network

The following instructions describe how to connect your printer to the middle of a LocalTalk network.



- 1 Disconnect the printer from its power source. Insert the new connector box cable into the LocalTalk port of your printer. (See Chapter 3.)
- 2 Insert one end of the new cable into the connector box.
- 3 Set the other end of the new cable next to a connector box on the network.
- 4 Unplug one cable from the connector box on the network.

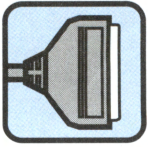


- 5 Insert the new cable into the connector box on the network.
- 6 Insert the cable you removed from the network into the new connector box. Then, reconnect the printer to its power source.

B

- **Centronics Compatibility B - 2**
- **Parallel Cable Pin Configuration B - 2**
- **DOS Commands B - 3**
- **Networks and Switch Boxes B - 3**
- **Testing the Connection B - 4**

The Bi-Tronics Parallel Interface



The Bi-Tronics Parallel Interface

Centronics Compatibility

The Bi-Tronics parallel interface is compatible with Centronics parallel interfaces. To take advantage of its enhanced capabilities — such as bi-directional communication between the computer and printer, faster transmission of data, and autoconfiguration of printer drivers — you must have:

- support in your software applications for these features. (Contact your software vendor to see if your software supports Bi-Tronics parallel communication.)
- a high quality parallel cable with the correct pin configuration (see below).

Parallel Cable Pin Configuration

For best results, use the C2912B cable, or equivalent. Most existing parallel cables support Bi-Tronics communication, but some may have incompatible pin assignments.

CAUTION

Proper Grounding: Ensure that all power and interface cables on your printer and host computer are properly grounded and in compliance with local electrical codes.

Signal Name	Printer Pin #	IBM Port Pin #
nSTROBE	1 _____	1
DATA 1	2 _____	2
DATA 2	3 _____	3
DATA 3	4 _____	4
DATA 4	5 _____	5
DATA 5	6 _____	6
DATA 6	7 _____	7
DATA 7	8 _____	8
DATA 8	9 _____	9
nACKNLG	10 _____	10
BUSY	11 _____	11
CALL (PE)	12 _____	12
SELECT	13 _____	13
nAutoFd	14 _____	14
O VDC (GND)	19 THRU 30 _____	18 THRU 25
nFAULT	32 _____	15
nSelIn	36 _____	17

DOS Commands

HP recommends that you add a MODE statement to your computer's AUTOEXEC.BAT file to allow infinite retry if your interface is busy. Usually a MODE statement is entered when a new printer is installed. If you are replacing a printer, your MODE statement may already be entered correctly and you do not need to change it.

To change the MODE statement, you can use the DOS 5.0 editor, or any word processing program that edits ASCII text. Use a MODE statement such as the following for MS-DOS version 4.0 and later:

```
MODE LPT1: , , B
```

For earlier versions of MS-DOS, enter:

```
MODE LPT1: , , P
```

Note

These examples assume that you are using parallel printer port LPT1. If you are using LPT2, LPT3, or LPT4, replace LPT1 in the examples above with the printer port that you are actually using.

Networks and Switch Boxes

The Bi-Tronics parallel interface requires a direct connection between the printer and the computer.

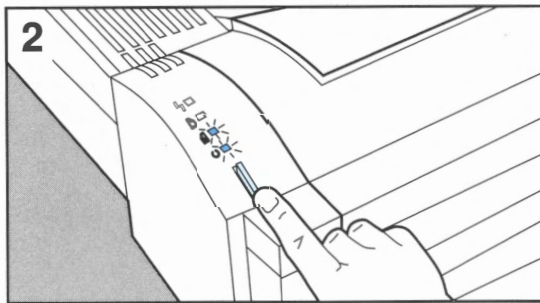
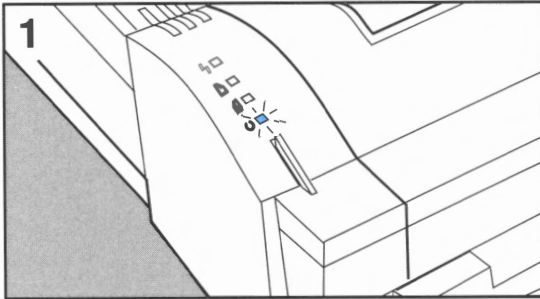
Most devices connected between the printer and the host computer prevent the printer from sending data back to the computer. Therefore, software which tries to read data back from the printer may not work with networks, most hardware print spoolers, some software print spoolers, and some switch boxes.

If you use a mechanical switchbox, follow these guidelines:

- Do not switch while the printer is printing or receiving data (when the Data light is on and the Ready light is blinking).
- Use a surge protector.



Testing the Connection



- 1 Make sure the Ready light is on. (If necessary, briefly press the front panel button to bring the printer out of Intelligent Off mode.)

Then type the following command from your DOS prompt:

```
DIR>PRN
```

The computer sends a list of files to your printer.

- 2 If both the Data light and Ready light are on steadily, but nothing prints, briefly press the front panel button. This prompts the printer to finish printing the page.

If the printer does not respond at all when you send the DIR>PRN command (the lights do not change):

- Verify that the parallel cable is attached securely to both the printer and the computer.
- Try your parallel cable on someone else's computer to make sure that the cable is not defective.
- If your computer has more than one parallel printer port, make sure your cable is connected to the correct one.

C

- **Why Specify the Quality of Print Media? C - 2**
- **Paper and Envelope Sizes Supported C - 2**
- **Paper Specifications C - 3**
- **Envelope Specifications C - 5**
- **Adhesive Label Specifications C - 6**
- **Transparency Specifications C - 7**

Print Media Specifications



Print Media Specifications

Why Specify the Quality of Print Media?

HP LaserJet printers produce documents of excellent print quality. You can print on a variety of print media, including paper, envelopes, labels, and overhead transparencies. Because all media that passes through the printer is electrostatically charged and heated, properties such as caliper, smoothness, and stiffness are important factors in the printer performance and the output quality.

Note

It is possible that print media can meet all of the general specifications listed in this appendix and still not print satisfactorily because of the printing environment or other variables over which Hewlett-Packard has no control.

Paper and Envelope Sizes Supported

The following paper and envelope sizes are supported by this HP LaserJet printer's paper cassette and manual feed slot.

Medium	Name	Dimensions
Paper	Letter	8.5 x 11 inch, 216 x 279 mm
Paper	Legal	8.5 x 14 inch, 216 x 356 mm
Paper	Executive	7.25 x 10.5 inch, 184 x 267 mm
Paper	A4	210 x 297 mm
Envelope	Com-10	4.1 x 9.5 inch, 105 x 241 mm
Envelope	Monarch	3.87 x 7.5 inch, 98 x 191 mm
Envelope	DL	110 x 220 mm
Envelope	C5	162 x 229 mm
Envelope	B5	176 x 250 mm
Paper/Envelope	Custom size media	Minimum - 3.75 inch x 6.7 inch, 95 x 170 mm Maximum - 8.5 inch to 14 inch, 216 x 356 mm



Paper Specifications

Provide these specifications to your paper vendor.

Acid Content	5.5 pH minimum
Ash Content	Not to exceed 10%
Basis Weight	Paper cassette: 16 to 28 pound (60 to 105 g/m ²), Manual feed slot: 16 to 36 pound (60 to 135 g/m ²)
Brightness	83% minimum
Caliper	3.0 to 7.0 mils (0.094 to 0.18 mm)
Curl	In-ream: flat within 0.2 in. (5 mm)
Cut Edge Conditions	Cut with sharp blades, no visible fray
Finishing	Cut sheet to within ± 0.3 inch (± 0.8 mm) of nominal, $\pm 0.20^\circ$ square
Furnish (Composition)	100% chemical wood pulp and/or cotton fiber
Fusing Compatibility	Must not scorch, melt, offset, or release hazardous emissions when heated to 392° F (200° C) for 0.1 second
Grain	Long grain
Moisture Content	4% to 6% by weight
Opacity	85% minimum
Packaging	Poly laminated moisture proof ream wrap
Smoothness	100 to 250 (Sheffield)
Stiffness	1.6 minimum machine direction, 0.6 minimum cross direction (Taber)
Wax Pick	12 minimum (Dennison)

Selecting and Storing Paper

To achieve the best possible print quality and avoid paper jams, follow these guidelines for selecting and storing paper:

- Use only high quality, copier grade paper. Avoid paper with embossed lettering, perforations, or texture that is too smooth or too rough.
- Colored paper should be of the same high quality as white photocopy paper. The pigments must withstand the printer's fusing temperature of 392° F (200° C) for 0.1 second without deterioration. Do not use paper with a colored coating that was added after the paper was produced.
- Pre-printed forms must be printed with non-flammable, heat-resistant inks that do not melt, vaporize, or release hazardous emissions when subject to the printer's approximately 392° F (200° C) fusing temperature for 0.1 second.

- Store paper in its ream wrapper until ready to use. Place cartons on pallets or shelves, not on the floor. Do not place heavy objects on top of the paper, whether it is packaged or unpackaged. Keep it away from moisture, or other conditions that can cause it to wrinkle or curl. Share a copy of the table on the previous page with your paper vendor to ensure that the paper you purchase meets the specifications for this printer. More detailed specifications are in the *HP LaserJet Printer Family Paper Specification Guide*, HP Part No. 5002-1801. (See Chapter 1 for ordering information.)

Always test a small sample of the paper you selected before purchasing large quantities.



Envelope Specifications

Choose envelopes that are well-constructed. They should lay flat and be sharply creased. They should not be wrinkled, nicked, or otherwise damaged.

Envelopes with a peel-off adhesive strip, or more than one fold-over flap to seal, must use adhesives compatible with the heat and pressure of the printer's fusing process. For more detailed envelope specifications, refer to the *HP LaserJet Printer Family Paper Specification Guide*, HP Part No. 5002-1801. See Chapter 1 of this manual for ordering information.

CAUTION

To prevent severe printer damage, do not use envelopes that have windows, clasps, snaps, or synthetic materials.

Paper	Paper used for envelope construction must meet the requirements in the table under "Paper Specifications."
Basis Weight	20 to 24 pound (75 to 90 g/m ²), single thickness
Caliper	3.3 to 5.5 mils (0.084 to 0.14 mm), single thickness
Curl (Pre-printed)	Envelopes must lay flat with no more than 0.2 in. (5 mm) across the entire surface.
Finishing	Envelopes must not have any adhesive exposed to the printer. They must be folded accurately (± 0.04 ") so that there are no more than two thicknesses of paper anywhere along the leading edge. All folds must be well scored and sharply creased, and construction must be tight (not baggy). Envelopes must not be stuck together with excess seam gum.
Furnish (Composition)	100% chemical wood pulp and/or cotton fiber
Fusing Compatibility	Must not scorch, melt, offset, or release hazardous emissions when heated to 392° F (200° C) for 0.1 second.
Grain	Long grain
Moisture Content	4% to 6% by weight
Smoothness	100 to 250 (Sheffield)



Adhesive Label Specifications

Use the following guidelines when selecting labels:

- The top sheet (printing surface) must be of copier quality and provide good toner adhesion.
- The carrier sheet must be compatible with the temperatures and pressure of the fusing process, and must be coated for easy release of the top sheet.
- The adhesive must be stable at the 392° F (200° C) temperatures encountered for 0.1 second in the printer's fusing process, and must not produce emissions that exceed exposure levels or threshold limits established by OSHA and other safety agencies. Adhesives must not come into direct contact with any part of the printer.
- Labels should be arranged on the carrier sheet so that any exposed spaces run lengthwise down the sheet. Using label stock with spaces between the horizontal rows of labels can often result in labels peeling off during printing, causing serious jamming and possible printer damage.

A wide selection of suitable labels is available through Hewlett-Packard. A list of available sizes is in the *HP LaserJet Printer Family Paper Specification Guide*, HP Part No. 5002-1801. See Chapter 1 for ordering information, or contact your local authorized HP dealer.

CAUTION

Hewlett-Packard does not recommend removing any labels from the carrier sheet and then printing on the remaining labels.

Adhesive	Must not be on any external surfaces of the label before, during, or after printing. Label construction and die-cutting must not allow labels to peel off during transport, printing, or fusing.
Caliper	Must not exceed 0.007 in. (0.19 mm)
Curl	In ream: flat within 0.2 in. (5 mm)
Finishing Precision	Cut sheet within 0.031 in. (0.79 mm) of nominal and $\pm 0.20^\circ$ square
Fusing Compatibility	All adhesives, carrier sheets, top sheets, and other materials used in label construction must be compatible with the heat and pressure of the fusing process. Materials must not discolor, melt, offset, or release hazardous emissions when heated to 392° F (200° C) for 0.1 second.
Packaging	Moisture-proof wrap to preserve properties
Shelf Life	One year, minimum, stored at 72° F (22° C) and 50% R.H.



Transparency Specifications

Overhead transparencies used in HP LaserJet printers must be able to withstand the high temperatures encountered in the printer's fusing process.

Suitable transparency film is available through Hewlett-Packard. A complete list of available sizes is in the *HP LaserJet Printer Family Paper Specification Guide*, HP Part No. 5002-1801. See Chapter 1 of this manual for ordering information.

Caliper	3.9 to 4.3 mils (0.100 to 0.11 mm)
Cutting Angle	$90^{\circ} \pm 0.2^{\circ}$
Finishing	± 0.03 in. (± 0.8 mm)
Fusing Compatibility	All materials of the overhead transparency must be compatible with the heat and pressure of the fusing process. Materials must not discolor, melt, offset material, or release hazardous emissions when heated to 392° F (200° C) for 0.1 second.

D

- **Printer Specifications D - 2**
- **Acoustic Emissions D-3**
- **External Dimensions D - 4**
- **FCC Regulations D - 5**
- **Safety Information D - 6**
- **CDRH Regulations D - 6**
- **Laser Safety Information D - 6**
- **Ozone Emission D - 6**
- **VCCI Statement (Japan) D - 7**
- **Laser Statement for Finland D - 8**
- **Declaration of Conformity D - 9**

Printer Specifications



Printer Specifications

Printer Specifications		
Model	HP LaserJet 4 ML (C2015A)	
Printing System	Laser beam scanning.	
Printing Speed	Up to 4 pages per minute.	
Dot Density	300 dots per inch.	
RAM Memory	4 megabytes.	
Paper Feed System		
Universal Cassette	Cutsheet paper (A4, Letter, Legal, Executive). Maximum capacity 100 sheets with 20 lb (80 g/m ²) paper.	
Manual Loading	Cutsheet paper, custom-size media, special paper (envelopes, transparency films, adhesive labels, colored paper). Maximum capacity 1 sheet.	
Face-up Paper Delivery (Rear Output Path)	Maximum capacity 1 sheet.	
Face-down Paper Delivery (Top Output Tray)	Maximum capacity 50 sheets (with 20 lb, 80 g/m ² paper).	
First Print	Approximately 34 seconds	
Electrical Specifications		
	120 V	220 V
Power Requirements	100/120 V (±10%) 50/60 Hz (± 2 Hz)	220/240 V (± 10%) 50 Hz (± 2 Hz)
Power Consumption	During printing 180 W (average) During standby 5 W	During printing 180 W (average) During standby 5 W
Maximum Input Current	3.6 Amps	1.8 Amps
Environmental Specifications		
Operating Environment	(Printer plugged into AC outlet) Temperature: 10° C to 32.5° C (50° F to 90.5° F) Humidity: 20-80% (no condensation)	
Storage Environment	(Printer unplugged from the AC outlet) Temperature: 0° C to 35° C (32° F to 95° F) Humidity: 10-80% (no condensation)	
Physical Specifications		
Dimensions (W x D x H)	14.5 x 14 x 6.5 inches (362 x 353 x 164 mm).	
Weight	Approximately 15.5 pounds (7 Kg), not including the toner cartridge.	

Acoustic Emissions

Operation Position

L_{PA} 51 dB(A)
Printing

L_{PA} 22 dB(A)
Standby

Per ISO 9692, DIN 45635,T.19

Bystander 1m

L_{PA} 47 dB(A)
Printing

L_{PA} 22 dB(A)
Standby

Per ISO 7779, DIN 45635,T.19

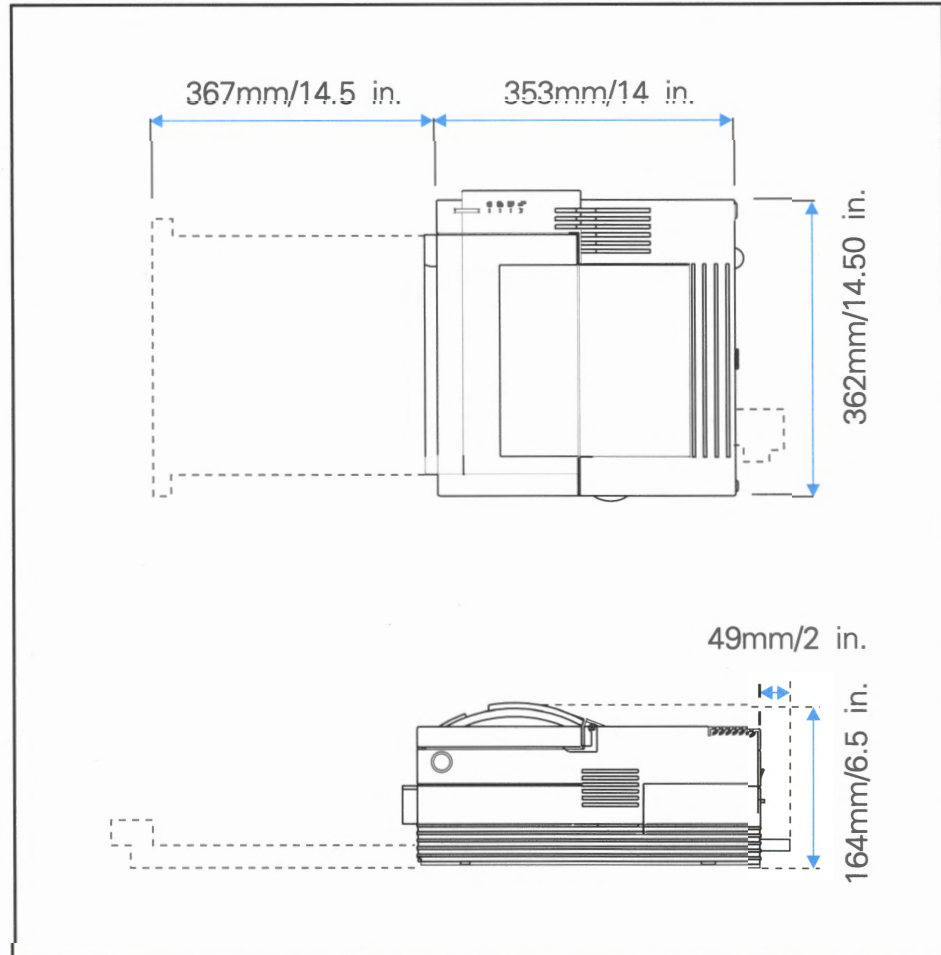
Sound Power

L_{WAD}=6.1 bels(A)
Printing

L_{WAD}=3.6
Standby

Per ISO 9296

External Dimensions



FCC Statement (Class B)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by Hewlett-Packard could void the user's authority to operate this equipment.

Note

Use of a shielded interface cable is required to comply within the Class B limits in subpart J of Part 15 of FCC rules.

Safety Information

CDRH Regulations

The Center of Devices and Radiological Health (CDRH) of the U. S. Food and Drug Administration implemented regulations for laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States.

WARNING

Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

Laser Safety

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States.

This printer is certified as a "Class 1" laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the *Radiation Control for Health and Safety Act of 1968*. Since radiation emitted inside this printer is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

WARNING!

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

Ozone Emission

The HP LaserJet 4ML printer does not use high voltage corona wires in the electro-photographic process, and therefore generates no measurable ozone gas (O₃). The printer instead uses charging rollers in the toner cartridge and in the printer engine.

VCCI Statement (Japan)

The following VCCI statement is required in Japan. It is similar to the FCC regulations:

この装置は、第二種情報装置（住宅地域又はその隣接した地域において使用されるべき情報装置）で住宅地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。

しかし、本装置をラジオ、テレビジョン受信機に近接してご使用になると、受信障害の原因となることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

Laser Statement for Finland

LASERTURVALLISUUS

LUOKAN 1 LASERLAITE

KLASS 1 LASER APPARAT

HP LaserJet 4ML laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle.

Kirjoittimen on hyväksynyt Suomessa laserturvallisuuden osalta Sähkötarkastuskeskus. Laitteen turvallisuusluokka on määritetty valtioneuvoston päätöksen N:o 472/1985 ja standardin EN 60825 (1991) mukaisesti.

VAROITUS !

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

WARNING !

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

HUOLTO

HP LaserJet 4ML -kirjoittimen sisällä ei ole käyttäjän huollettavissa olevia kohteita. Laitteen saa avata ja huoltaa ainoastaan sen huoltamiseen koulutettu henkilö. Tällaiseksi huoltotoimenpiteeksi ei katsota väriainekasetin vaihtamista, paperiradan puhdistusta tai muita käyttäjän käsikirjassa lueteltuja, käyttäjän tehtäväksi tarkoitettuja ylläpitotoimia, jotka voidaan suorittaa ilman erikoistyökaluja.

VARO !

Mikäli kirjoittimen suojakotelo avataan, olet alttiina näkymättömälle lasersäteilylle laitteen ollessa toiminnassa. Älä katso säteeseen.

WARNING !

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

Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista:

Aallonpituus 777-795 nm

Teho 5 mW

Luokan 3B laser

Declaration of Conformity

<p style="text-align: center;">DECLARATION OF CONFORMITY according to ISO / IEC Guide 22 and EN 45014</p>
--

Manufacturer's Name: Hewlett-Packard Company

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

declares, that the product

Product Name: LaserJet 4ML

Model Number(s): C2015A

conforms to the following Product Specifications:

Safety: IEC 950 / EN 60950
IEC 825 laser class 1

EMC: EN 55022 class B / CISPR-22 class B
prEN 550101-2 / IEC 801-2 3kV CD, 8 kV AD
prEN 55101-3 / IEC 801-3 3 V/m

Supplementary Information: None

Boise, Idaho USA
October 15, 1992

Office of Quality Manager

E

- **Protecting the Environment E - 2**
- **EPA Energy Star Computers Award E - 3**

**Reduce, Reuse,
Recycle**



Reduce, Reuse, Recycle

Protecting the Environment

This HP LaserJet printer is part of a new generation of HP LaserJet printers designed to have a minimal negative impact on the environment of the office; the communities where it is manufactured, shipped, and used; and the disposal site it goes to at the end of its life.

Using the “reduce, reuse, recycle” model, the printer was designed to fundamentally reduce the amount of wastes, toxic materials, noise, energy consumption, packaging and product bulk. What could not be reduced was designed to be reused, and the component contents are marked for recycling.

The printer design eliminates:

- **Separate toner cartridge packaging:** The toner cartridge is now shipped in the printer’s box.
- **Ozone:** Due to a fundamental engine design change, this printer does not generate ozone.
- **CFC usage on the formatter board:** No CFCs are used.
- **Bleached boxes:** The new brown kraft box is made without bleach, eliminating the production of Dioxins.

The printer design reduces:

- **Energy consumption:** At less than 5W in standby mode, this printer uses one eighth the power of previous HP LaserJet printers.
- **Toner consumption:** EconoMode printing uses about 50% less toner.
- **Manual size:** A new documentation format maintains the depth of product information while reducing the bulk of the user’s manual by 66%.

Hewlett-Packard reuses:

- **Packaging:** The printer is shipped to HP’s worldwide distribution centers in reusable cartons.
- **Service parts:** When a product is returned to Hewlett-Packard at the end of its useful life, 90% of it is still functional. All functional parts are recovered, tested and reused as service parts during the service life of the product.

Hewlett-Packard recycles:

- **Plastic parts:** Any plastic part that weighs more than 100 grams is marked with the plastic content to facilitate product recycling. The printer itself contains recycled plastic in covers and toner cartridges.
- **Toner cartridges:** Each HP toner box contains instructions and a shipping label for returning the cartridge to Hewlett-Packard for recycling. HP pays the postage.
- **Printers:** HP accepts used and obsolete printers for component recycling.
- **Paper:** The printer has been tested and approved for using recycled paper that meets the same specifications as non-recycled bond paper.
- **Manuals:** The manuals are printed on recycled paper with non-toxic inks.

EPA Energy Star Computers Award

This printer is designed to conserve electricity by dropping from 180 W to less than 5 W when it goes into Intelligent Off or standby mode. With this new, power-saving design, this printer qualifies for the U. S. Environmental Protection Agency's Energy Star Computers award.

The EPA estimates that if all desktop PCs and peripherals enter a low-power mode when not in use, the overall savings in electricity could amount to over \$1 billion each year. It also could prevent the emission of 20 million tons of carbon dioxide (the equivalent output of 5 million cars).

Possible House Light Flicker

Depending on the electrical configuration in your home, the energy-saving instant-on fuser may cause some house lights to flicker when the printer prints. This phenomenon is seen in many instant-on products, such as some copiers. If you experience this phenomenon, be advised that it will NOT affect the quality of your print job, nor will it harm your electrical system or other equipment. This does NOT create an electrical safety hazard.

The following are ways to reduce this effect: add natural light to your work area, plug the printer into another outlet that may be on a different circuit, or try different kinds of fluorescent bulbs in household lamps. (Surge protectors do not prevent flickering lights.)

The EPA, as a matter of policy, does not endorse any particular company or its products.



EPA Pollution Preventer

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