

English

HP LaserJet 5Si/5Si MX/5Si NX
Printer User's Guide

HP LaserJet 5Si/5Si MX/5Si NX Printer

User's Guide

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Conventions

This manual uses the following conventions:

Italics are used for emphasis or to refer to another document.

COMPUTER FONT indicates text visible on a computer screen.

DISPLAY FONT indicates text visible on the printer control panel display.

The cursive letter *l* is used in examples to distinguish the letter **l** from the numeral **1** (one). The character **Ø** is used in examples to distinguish the numeral **0** from the letter **O**.

Key Face indicates keys (such as **On Line**) on the printer control panel.

Key Face indicates keys (such as **Insert**) on your computer keyboard.

Note

Notes contain important information about a topic in 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.

Supplementary Documents

The technical reference guides listed below are designed for programmers. The *Paper Specification Guide* is useful for purchasing agents and paper buyers. These documents are available in English only.

You can order these documents through HP Direct Distribution or by contacting your authorized HP dealer. (See Appendix E for a list of HP sales and service offices.) There is a charge for some documents.

Documentation Available for the HP LaserJet 5Si/5Si MX/5Si NX Printers

Title	Part Number
<p>The <i>PCL/PJL Technical Reference Package</i> contains the following documents:</p> <ul style="list-style-type: none">• <i>PCL 5 Printer Language Technical Reference Manual</i> Explains the PCL 5 printer language for experienced users and programmers.• <i>Printer Job Language Technical Reference Manual</i> Explains HP's Printer Job Language (PJL) for experienced users and programmers.• <i>PCL/PJL Technical Quick Reference Guide</i>• <i>PCL Comparison Guide</i> Describes the different implementation of commands and extensions across the printer family supporting PJL and PCL 5.	5010-3997
<i>HP LaserJet Printer Family Paper Specification Guide</i>	5010-6394
<i>HP JetDirect Print Server Software Installation Guide</i>	5963-6599

The following related documents provide further information about the PostScript printer language:

- *The PostScript Language Reference Manual* (Adobe)
- *PostScript Language Supplements* (Adobe)

Also check the README files that come with the software.

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About Your Printer

Introduction

This chapter introduces the features of the HP LaserJet 5Si/5Si MX and 5Si NX printers.

Table 1-1 lists the printer's standard features.

Table 1-1

Standard Printer Features

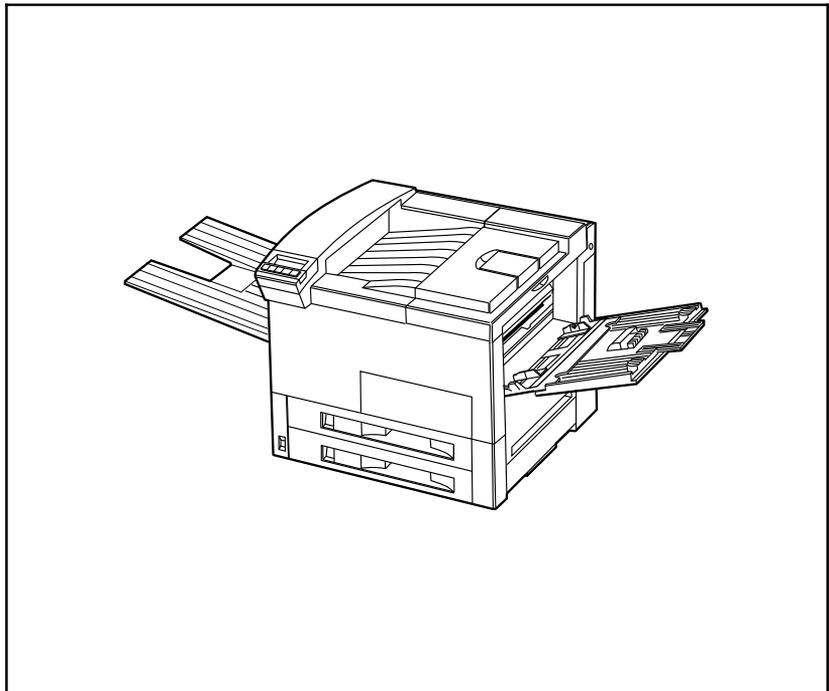
Feature	Description
Speed/Performance	<ul style="list-style-type: none"> • 24 pages per minute • 40 Megahertz AMD processor
Print Resolution	<ul style="list-style-type: none"> • 600 x 600 dots per inch with Resolution Enhancement technology (REt) • More than 120 levels of gray • Microfine toner
Memory	<ul style="list-style-type: none"> • 4 (5Si/5Si NX) or 12 (5Si MX) MBytes of RAM , expandable using industry standard SIMMs • Memory Enhancement Technology (MEt) automatically compresses data to use RAM more efficiently
Languages/Fonts	<ul style="list-style-type: none"> • HP PCL 5e • Printer Job Language (PJM) • Printer Management Language (PML) • 45 scaleable PCL fonts (plus 65 additional fonts with HP FontSmart)

Feature	Description
Languages/Fonts available only with PostScript SIMM (Optional on 5Si/5Si NX, Standard on 5Si MX)	<ul style="list-style-type: none"> • 39 scaleable PostScript fonts • Auto language switching • Adobe PostScript Level 2
Paper Handling (Input)	<ul style="list-style-type: none"> • Tray 1: A multipurpose tray for paper, transparencies, and envelopes. Capacity is up to 100 sheets with standard paper • Trays 2 and 3 accept up to 500 sheets each, and automatically sense paper size. These trays should be used for paper only
Paper Handling (Output)	<ul style="list-style-type: none"> • Top output bin holds up to 500 sheets of standard paper only, and automatically senses when full • Left output bin holds up to 100 sheets of paper, usable for envelopes, transparencies, or standard paper
Software	<ul style="list-style-type: none"> • Full-function printer drivers (PCL and PostScript) for all major operating systems • HP JetAdmin network printer software for all major operating systems • Improved document production and monitoring capability • Transparent access to printer capabilities and information in Windows 95 and Windows 3.1
Connectivity	<ul style="list-style-type: none"> • HP JetDirect Print Server (Standard on 5Si MX, optional on 5Si/5Si NX) • Bi-directional parallel port with ECP and MLC support • One available MIO slot for optional I/O. (2 available on 5Si)

Feature	Description
Environmental features	<ul style="list-style-type: none"> • EconoMode reduces toner consumption • Power Save setting (meets Energy Star guidelines) • High content of recyclable components and materials • 15,000-page toner cartridge capacity (average)
Duty Cycle	<ul style="list-style-type: none"> • 100,000 pages per month

The HP LaserJet 5Si Printer is shown in Figure 1-1.

Figure 1-1



HP LaserJet 5Si Printer

Standard Features of the HP LaserJet 5Si/5Si MX/5Si NX Printer

The HP LaserJet 5Si/5Si MX/5Si NX printer provides 24-ppm (pages-per-minute) printing of Letter or ISO A4 paper at true 600-dpi (dots-per-inch) resolution. Your printer handles a wide variety of paper weights and sizes, including wide format paper 11 x 17 in (279 x 432 mm).

Paper Handling

HP JetAssist, Hewlett Packard's trademark for an accessible paper-handling architecture, is available in the HP LaserJet 5Si/5Si MX/5Si NX printers. It enables intelligent, friendly communication with paper-handling devices, making them easy to use.

Table 1-2 identifies each tray and bin with the specific capacity and the media each supports. Tray 1, the multi-purpose tray, accommodates all media types and sizes. Trays 2 and 3 are equipped with sensors that automatically detect the size of paper you have loaded and the amount of paper in the tray.

Optional paper handling accessories are available through your HP dealer. They are described later in this chapter.

Table 1-2 Paper Handling

Tray or Bin		Capacity	Media
Input Trays	Tray 1 (multi-purpose)	up to 100 sheets	Paper: Letter, ISO A4, Executive, Legal, 11 x 17 in (279 x 432 mm), ISO A3, JIS B5, JIS B4 Maximum size: 11.7 x 17.7 in (297 x 450 mm) Minimum size: 3.9 x 7.5 in (99 x 191 mm) Other media: transparencies and sheets of labels Envelopes: Commercial #10, C5, DL, Monarch, ISOB5
	Tray 2	up to 500 sheets	Paper: Letter, ISO A4, Legal, JIS B4
	Tray 3	up to 500 sheets	Paper: Letter, ISO A4, Legal, JIS B4, ISO A3, 11 x 17 in (279 x 432 mm)
	Tray 4 (optional)	up to 2000 sheets	Paper: Letter, ISO A4, Legal, JIS B4, ISO A3, 11 x 17 in (279 x 432 mm)

Tray or Bin		Capacity	Media
Output Bins	Top Output Bin (face-down)	up to 500 sheets	Paper: Letter, ISO A4, Executive, Legal, 11 x 17 in (279 x 432 mm), ISO A3, JIS B5, JIS B4
	Left Output Bin (face-up)	up to 100 sheets	Paper: Letter, ISO A4, Executive, Legal, 11 x 17 in (279 x 432 mm), ISO A3, JIS B5, JIS B4
	Addressable Mailbins (optional)	up to 250 sheets per bin	Paper: Letter, ISO A4, Legal, JIS B4, ISO A3, 11 x 17 in (279 x 432 mm), ISO A3, JIS B5, JIS B4 No envelopes, transparencies, or labels
	Stapler Bin (optional)	up to 350 sheets	Paper: Letter, ISOA4 ONLY

Memory Management

The 5Si is equipped with 4 MByte RAM and can be expanded to 132 MBytes maximum. To allow for expansion, the printer has 4 slots for Single Inline Memory Modules, which accept 2, 4, 8, 16, or 32 megabytes of RAM each. The 5Si MX ships with an 8 MByte SIMM installed for a total of 12 MBytes.

Memory Enhancement Technology (MEt) automatically compresses page data to provide the most efficient use of the printer's RAM.

For more information on memory management, see Chapter 2, "Memory and Memory Management".

Printing System

Included with your HP LaserJet 5Si/5Si MX/5Si NX Printer is a CD containing the HP LaserJet 5Si/5Si MX/5Si NX/5Si Mopier Printing System (hereafter called the Printing System.). On the Printing System CD are software components and drivers that benefit end users and network administrators by providing full-feature support and management capabilities for your printer.

The Printing System includes software designed for end users operating in the following environments:

- Microsoft Windows 3.1x
- Microsoft Windows 95
- Microsoft Windows NT 3.51 and 4.0
- IBM OS/2 version 2.0 or greater
- Apple Macintosh System 7 or greater

It also includes software for network administrators using the following network operating systems:

- Novell NetWare 3.x or 4.x
- Microsoft Windows NT 3.51 and 4.0
- IBM LAN Server 3.0 or greater
- Apple AppleTalk

For more information about software and drivers, see Chapter 3, “Printer Software.”

Input/Output



A built in Bi-Tronics parallel interface allows high-speed two-way communication between the printer and your computer. Two MIO slots allow for extended connectivity. If serial connection is required, contact an authorized HP dealer for information about an optional serial MIO card or a serial-to-parallel converter.

The HP JetDirect Print Server (standard on the 5Si MX/5Si NX and available as an option on the 5Si) allows the printer to function through most networks without a separate print server.

Energy Efficiency

The printer's Power Save feature conserves electricity by substantially reducing power consumption when idle for a user-specified length of time. As an EPA Energy Star partner, Hewlett-Packard has determined that this product meets the Energy Star guidelines for energy efficiency.

You may change the `POWER SAVE DELAY` from the default of 1 hour. This item is located in the `CONFIGURATION MENU` on the printer control panel.

EconoMode

EconoMode reduces the amount of toner applied to the printed page and is ideal for printing document drafts. When EconoMode is on, the print on the page appears significantly lighter but is still readable. (EconoMode has no effect on the speed of the printer or the amount of energy used—it only conserves toner.)

PCL Fonts

The printer comes with 35 scaleable fonts, as well as 10 True Type fonts. You can scale True Type fonts within the printer. You also receive matching True Type screen fonts for true WYSIWYG, short for “what you see is what you get.” These internal fonts are part of the PCL language. PCL font samples appear in Figure 1-2.

Figure 1-2

Intellifont	
Albertus	<i>Marigold</i>
Albertus Extrabold	CG Omega
Antique Olive	<i>CG Omega Italic</i>
<i>Antique Olive Italic</i>	CG Omega Bold
Antique Olive Bold	<i>CG Omega Bold Italic</i>
Clarendon Condensed	CG Times
<i>Coronet</i>	<i>CG Times Italic</i>
Courier	CG Times Bold
<i>Courier Italic</i>	<i>CG Times Bold Italic</i>
Courier Bold	Univers Medium
<i>Courier Bold Italic</i>	<i>Univers Medium Italic</i>
Garamond Antiqua	Univers Bold
<i>Garamond Kursiv</i>	<i>Univers Bold Italic</i>
Garamond Halbfett	Univers Medium Condensed
<i>Garamond Kursiv Halbfett</i>	<i>Univers Medium Condensed Italic</i>
Letter Gothic	Univers Bold Condensed
<i>Letter Gothic Italic</i>	<i>Univers Bold Condensed Italic</i>
Letter Gothic Bold	Line Printer (16.67 pitch, 8.5 point only)
	TrueType
Arial	Times New Roman
<i>Arial Italic</i>	<i>Times New Roman Italic</i>
Arial Bold	Times New Roman Bold
<i>Arial Bold Italic</i>	<i>Times New Roman Bold Italic</i>
Symbol αβχΔΕΦΓ	Wingdings 

PCL Fonts

Special Features of the HP LaserJet 5Si MX Printer

The HP LaserJet 5Si MX printer is configured with additional memory, Hewlett-Packard's PCL 5 language, Adobe's PostScript Level 2 language, and an HP JetDirect print server that allows you to connect your printer to Ethernet or Local Talk networks.

Additional Memory

The HP LaserJet 5Si MX contains 12 MBytes of installed memory. By adding optional SIMMs with 2,4,8,16, or 32 MBytes, you can increase memory to a total of 76 MBytes.

Networking Capabilities

The HP LaserJet 5Si MX printer's factory-installed HP JetDirect print server allows you to connect your printer directly to your Local Area Network (LAN). The HP JetDirect automatically switches among networked protocols, so a single printer can serve many networks at once or be moved to a new network with no additional hardware investment.

The HP JetDirect print server supports the following network operating systems:

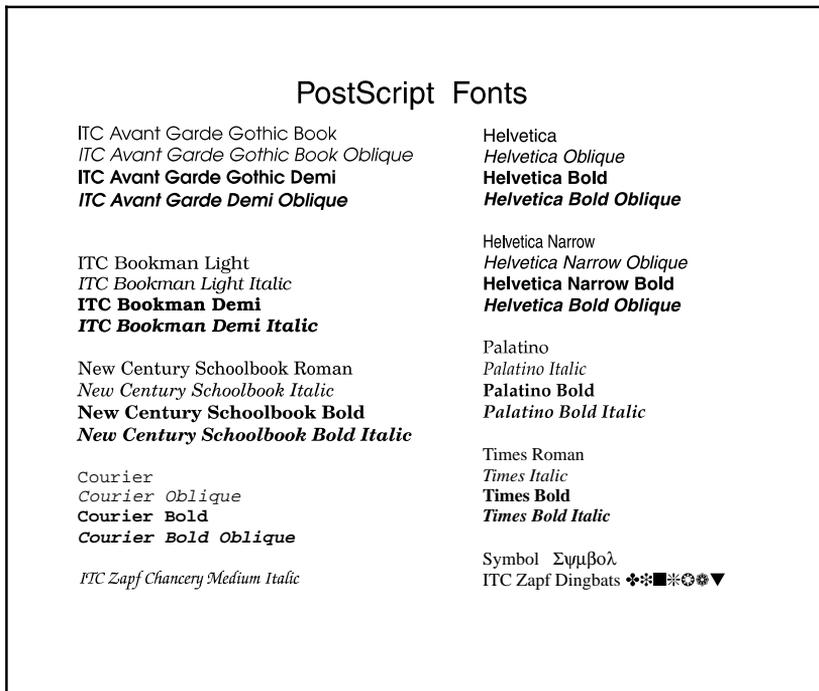
- Novell NetWare 286 v. 2.15c and beyond; 386 v. 3.11,3.12, 4.0, 4.01, and 4.1
- Microsoft LAN Manager for OS/2, v. 2.1
- IBM LAN Server for OS/2, v. 3.0
- Microsoft Windows and Windows for Workgroups, v. 3.1, 3.11
- Apple Ether Talk
- Apple Local Talk
- Microsoft Windows NT, v. 1.0, 3.51, and 4.0
- Microsoft Windows 95
- HP-UX v. 8.0, 9.0, 10
- SunOS v. 4.1.1, 4.1.2, 4.1.3
- SCO UNIX V/386 v. 3.2.2, 3.2.4
- Solaris v. 2.1, 2.2, 2.3, 2.4
- IBM AIX v. 3.2.5

Clients may be DOS, Windows, Windows NT, OS/2, Macintosh, or UNIX. Refer to the JetDirect documentation for further details.

PostScript Fonts

The HP LaserJet 5Si MX is configured with Adobe's PostScript Level 2 language and includes 35 scaleable PostScript fonts. The 5Si/5Si NX requires the optional Adobe PostScript SIMM be installed before this option is available. Adobe's PostScript Level 2 is compatible with earlier versions of the language. PostScript font samples are shown in Figure 1-3.

Figure 1-3



PostScript Fonts

Special Features of the HP LaserJet 5Si NX Printer

The HP LaserJet 5Si NX printer is configured with Hewlett-Packard's PCL 5 language, and an HP JetDirect print server that allows you to connect your printer to Ethernet networks.

Memory Management

The HP LaserJet 5Si NX printer contains 4 MBytes of installed memory, and can be expanded to as much as 132 MBytes by adding optional SIMMs with 2, 4, 8, 16, or 32 MBytes each.

Networking Capabilities

The HP LaserJet 5Si NX printer's factory-installed HP JetDirect print server allows you to connect your printer directly to your Local Area Network (LAN). The HP JetDirect automatically switches among networked protocols, so a single printer can serve many networks at once or be moved to a new network with no additional hardware investment.

The HP JetDirect print server supports the following network operating systems:

- Novell NetWare 286 v. 2.15c and beyond; 386 v. 3.11,3.12, 4.0, 4.01, and 4.1
- Microsoft LAN Manager for OS/2, v. 2.1
- IBM LAN Server for OS/2, v. 3.0
- Microsoft Windows and Windows for Workgroups, v. 3.1, 3.11
- Microsoft Windows NT, v. 1.0, 3.51, and 4.0
- Microsoft Windows 95
- HP-UX v. 8.0, 9.0, 10
- SunOS v. 4.1.1, 4.1.2, 4.1.3
- SCO UNIX V/386 v. 3.2.2, 3.2.4
- Solaris v. 2.1, 2.2, 2.3, 2.4
- IBM AIX v. 3.2.5

Clients may be DOS, Windows, Windows NT, OS/2, Macintosh, or UNIX. Refer to the JetDirect documentation for further details.

Printer Parts

Figures 1-4 and 1-5 show the locations and names of key printer parts.

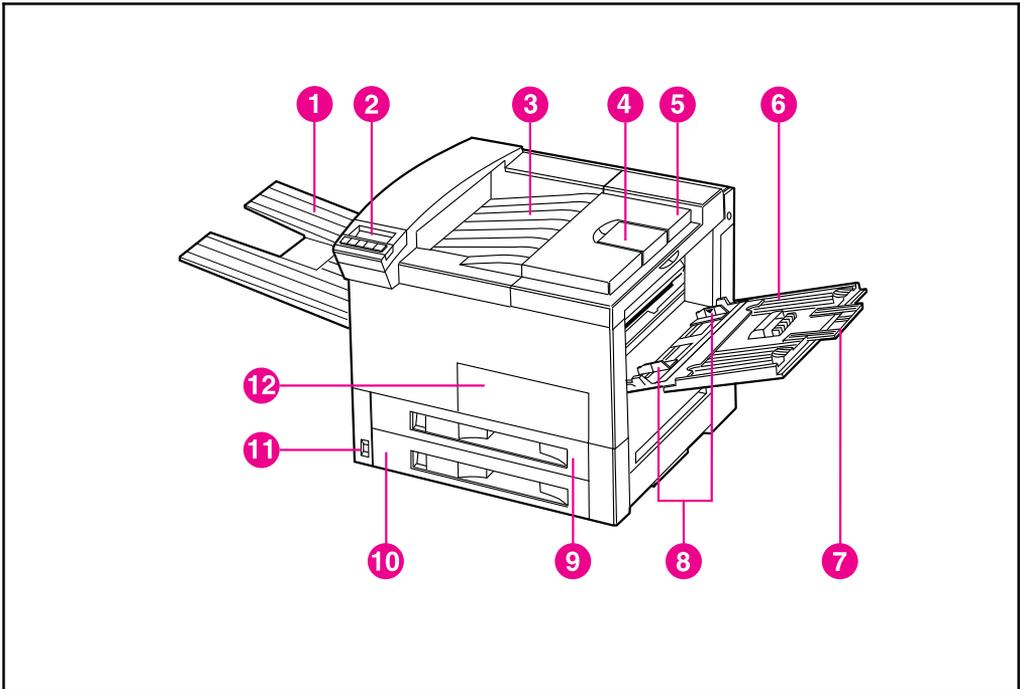
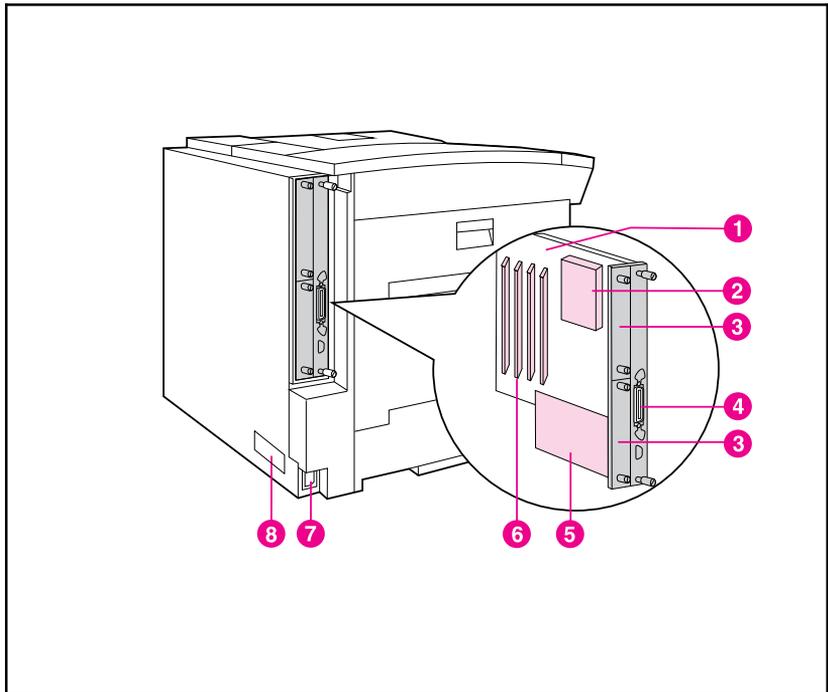


Figure 1-4 Key Printer Parts: Front View

- | | |
|---------------------------|------------------------------|
| 1. Left Output Bin | 7. Tray 1 extensions |
| 2. Control Panel | 8. Tray 1 Paper Width Guides |
| 3. Top Output Bin | 9. Tray 2 |
| 4. Adjustable paper stop | 10. Tray 3 |
| 5. Top cover | 11. Power Switch |
| 6. Tray 1 (multi-purpose) | 12. Front door |

Figure 1-5



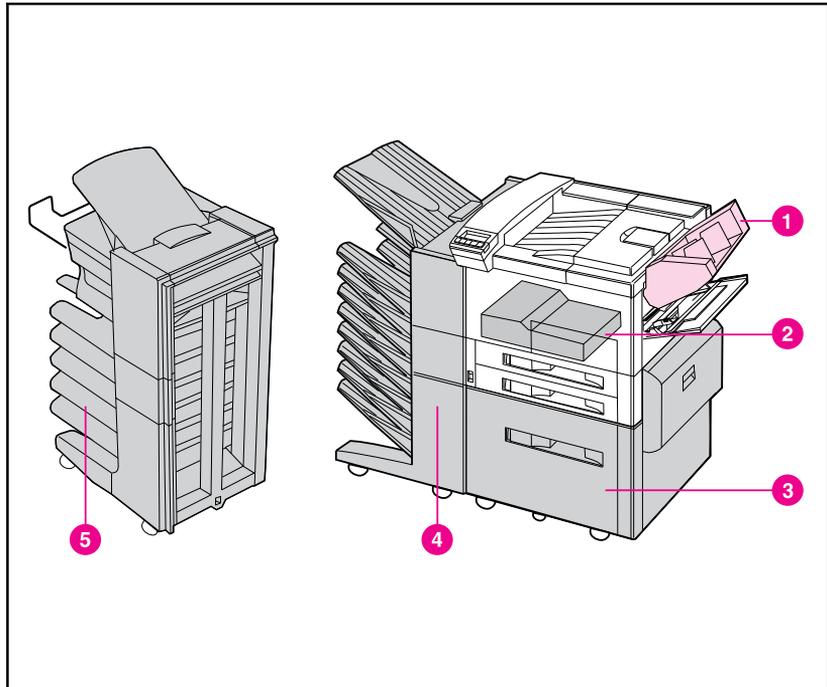
Key Printer Parts: Rear View

1. Printer Circuit Assembly (formatter board)
2. Printer's Hard Disk (optional)
3. HP MIO slots (on the 5Si MX/5Si NX slot 1 contains the HP JetDirect Server)
4. Bi-Tronics parallel port
5. External Paper Handling Controller Board
6. SIMM slots
7. Power connector
8. Print engine serial number

Accessories and Options

As printing and network needs grow, you can increase the printer's capabilities by adding accessories and options. Figure 1-6 shows the paper handling options available. These options are described in Table 1-3, along with other available options. Ordering information can be found in Appendix E, "HP Sales and Customer Service". Look for information about using the accessories in Chapter 5, "Print Tasks."

Figure 1-6



Paper Handling Accessories and Options

1. Envelope Feeder
2. Duplex Unit
3. 2000-Sheet Input Tray
4. Multi-Bin Mailbox (provides mailbox, job separation, and job stacking)
5. Mailbox with Stapler (provides mailbox, job separation, job stacking, and stapling)

The Optional Printer Hard Disk

The Printer Hard Disk accessory can be used to permanently store downloaded fonts and forms in the printer. Unlike standard printer memory, items on the Printer Hard Disk remain in the printer even when the printer is powered off.

Fonts downloaded to the Printer Hard Disk are available to all users of the printer.

Macintosh Users can use the HP LaserJet Utility, and Windows users can use the HP printer driver to download fonts. The Printer Hard Disk can also be write-protected through software for additional security. Refer to the online help associated with your HP Software for more information. For the Macintosh environment, refer to the HP LaserJet Utility Guide online help included with your HP LaserJet Utility software. For the Windows environment, refer to your HP Windows driver online help.

If you are a PostScript language programmer, refer to Adobe's *PostScript Language Reference Manual* for information about downloading forms and patterns to the disk.

Table 1-3

Accessories and Options

Option	Part Number	Description
Toner Cartridge	C3909A	Replacement toner cartridge
Stapler Cartridges	C3772A	3-pack of staple cartridges. Each cartridge contains 2000 staples.
Memory upgrades	2 MByte—C3131A 4 MByte—C3132A 8 MByte—C3133A 16 MByte—C3146A	Additional printer memory 32 MB SIMMs are also available from third party suppliers
Adobe PostScript Level 2 SIMM	C3169A	Adds Adobe's PostScript Level 2 language to the 5Si/5Si NX printers
Duplex Unit	C3762A	Provides duplexed (double-sided) printing capability
Envelope Feeder	C3765A	Attaches to printer above Tray 1; holds up to 100 envelopes. Supports Commercial #10, C5, DL, Monarch, ISO B5.
2000-Sheet Input Tray	C3765A	Adjustable for Letter, Legal, 11x17, ISO A4, ISO A3, JIS B4
Multi-Bin Mailbox	C3764A	Features eight bins holding up to 250 sheets each
Mailbox with Stapler	C3774A	Features five bins holding up to 250 sheets each and a stapler
HP parallel printer cable (2 meter)	C2950A	HP-recommended IEEE-1284 Cable, with A and B connectors
HP parallel printer cable (3 meter)	C2951A	HP-recommended IEEE-1284 Cable, with A and B connectors
Modular I/O and Network Cards	J2550A	HP JetDirect Multi-protocol Network Card with Ethernet/IEEE802.3 10Base-T
	J2555A	HP JetDirect Multi-protocol Network Card with Token Ring (DB9 and RJ45)
Printer Hard Disk	C2965A	420 MByte Hard Disk Drive for PCL and PostScript
110V Maintenance Kit	C3971A	Maintenance kit that contains replacement rollers and fuser for 110V printers and mopiers. May be purchased through an HP-authorized dealer
220V Maintenance Kit	C3972A	Maintenance kit that contains replacement rollers and fuser for 220V printers and mopiers. May be purchased through an HP-authorized dealer

Memory and Memory Management

Introduction

The HP LaserJet 5Si/5Si NX printer comes with 4 MBytes of internal memory and 4 SIMM slots to allow for memory expansion. The 5Si MX features a pre-installed 8-MByte single inline memory module (SIMM) for a total of 12 MBytes. Memory is added in increments of 2, 4, 8, 16, or 32 MBytes. (Note that 32-MByte SIMMs are *not* available from HP; contact third-party providers.)

The SIMM slots can also hold optional languages, fonts, and other SIMM-based products. The 5SI MX comes with a SIMM for the PostScript language installed in one of the slots.

Memory Enhancement technology (MEt), a standard HP LaserJet printer feature, allows most documents to print using the standard amount of memory. MEt automatically compresses data to print complex pages.

Storing Print Data

The print engine memory receives, holds, and processes data from incoming print jobs. It manages downloaded resources, including PCL language, soft fonts, symbol sets, macros, and patterns. The print engine also stores PostScript fonts, forms, patterns, and dictionaries.

In heavy use installations, the optional 420-MByte hard disk is recommended to optimize the functionality of your print engine.

Saving Resources

When two or more personalities (such as PCL and PostScript) are installed, the print engine reserves a portion of memory for each personality's resources. This feature is called Resource Saving. It enables the print engine to keep downloaded resources (such as fonts, forms, and macros) in memory under most conditions.

Resource Saving is automatically available on the print engine. By default, the print engine allocates resources to each print engine personality, based on the amount of memory each personality needs. Most users do not need to customize the Resource Saving configuration, but you can change the amount of memory allocated to each print engine personality.

See Chapter 4, "Printer Control Panel," to learn how to configure memory for your printer.

Determining Memory Requirements

The amount of memory you need depends on the types of documents you print. Your print engine can print most text and graphics at 300 or 600 dpi without additional memory.

Add memory to your print engine if you:

- Commonly print complex graphics.
- Use many temporarily downloaded fonts.
- Print complex documents.
- Print duplexed PostScript documents.
- Use advanced functions (such as I/O Buffering and Resource Saving).

Table 2-1 presents the amount of memory required for the most common print jobs using 600-dpi printing.

Table 2-1 Minimum Memory Requirements

Print Job	Paper Size	PCL Minimum Memory Requirements	PostScript Minimum Memory Requirements
single-sided printing	Letter, A4, Legal	4 MBytes	9 MBytes
	11 x 17 in, A3	4 MBytes	12 MBytes
two-sided printing	Letter, A4	4 MBytes	12 MBytes
	Legal	4 MBytes	14 MBytes
	11 x 17 in, A3	10 MBytes	22 MBytes

Improving Performance with I/O Buffering

When you select a print command from your software application, the software sends your request to the print engine. To help you get back to work more quickly, the print engine reserves a portion of its memory to hold the file or page to be printed in an I/O buffer until it is the next to be printed.

For each MByte of memory you add to your printer, 10 KBytes is automatically reserved to hold print jobs in progress. The more memory that is reserved, the greater the number of files or pages the printer can store.

In most cases, it is to your advantage to let the printer automatically reserve memory for I/O buffering. However, you may change the amount of the I/O buffer by increments of 100 KBytes up to a maximum of 10,000 KBytes.

See Chapter 4, “Printer Control Panel,” to learn how to use the printer’s Input/Output (I/O) Menu to change the I/O buffer.

Note

When you change the I/O buffer setting, all downloaded resources are deleted, unless they are stored on the optional hard disk.

Printer Software

Printing System

Included with your HP LaserJet 5Si/5Si MX/5Si NX printer is a CD containing the HP LaserJet 5Si /5Si MX /5Si Mopier Printing System. On the Printing System CD are software components and drivers that benefit end users and network administrators. The CD has two partitions, one for Intel-based systems and one for Apple Macintosh systems. When you insert the CD, the partition that corresponds to your operating system is automatically made available to you. The other partition will be hidden.

The Printing System includes software designed for end users operating in the following environments:

- Windows 3.1x
- Windows 95
- Windows NT 3.51 and 4.0
- IBM OS/2 version 2.0 or greater
- Apple Macintosh System 7 or greater

Additional drivers for Apple Macintosh GX System 7.5 or greater and DOS WordPerfect 5.x and 6.x are available through your Hewlett-Packard distributor or through electronic BBS channels.

The Printing System also includes software for network administrators using the following network operating systems:

- Novell NetWare 3.x or 4.x
- Windows NT 3.51 and 4.0
- IBM LAN Server 3.0 or greater
- Apple AppleTalk

Network administration software for UNIX and Microsoft LAN Manager is available through your Hewlett-Packard distributor or through electronic BBS channels.

The drivers and software components for end users and administrators using the environments listed above are described in the following sections.

Drivers

What is a Driver?

A driver is a software program that enables your software applications to access your printer's features. For example, when you print a document, the application sets up your print job with formatting commands such as page breaks, font selections, paper tray selections, and number of copies. The driver takes these commands, translates them into a printer language (such as Hewlett-Packard's Printer Control Language (PCL) or Adobe's PostScript), and then sends the job to the printer or printer. The driver's interface allows you to select various printer features that other software applications don't support directly, like automatic stapling.

Typically, a driver must be installed on your computer for each printer or printer you are using.

Note

The information in this chapter applies to users of Windows (3.1x, NT, or '95), OS/2, or the Macintosh OS. DOS applications must support advanced printers directly. Users of WordPerfect v 5.x-6.x for DOS can obtain a special driver from HP. Users of other DOS programs may be able to print using a program driver designed for an earlier model of HP LaserJet (or a PostScript driver), but may not be able to use some of the advanced features of the printer. UNIX systems also work differently - consult the documentation which accompanies the Printing System for UNIX.

Most applications allow you to access the printer driver through the Properties, Print, Print Setup, or Page Setup commands. Print job settings selected through your application typically override equivalent settings made through the printer driver. Printer settings made in the application or printer driver typically override the corresponding setting made on the printer control panel.

In some environments, the printer can send status information back to the operating system. This capability is called *bi-directional communication*, since information is sent to and from the printer. In a bi-directional environment, the optional printer accessories are detected and enabled in the driver automatically. In *non-bi-directional* environments, accessories that are installed in your printer need to be set manually in your driver.

HP LaserJet 5Si/5Si MX/5Si NX Printer Drivers

Overview

The drivers for the HP LaserJet 5Si/5Si MX/5Si NX printers allow the selection of printer features that may not be supported directly in your software applications. These features allow you to:

- Staple documents.
- Print watermarks.
- Print multiple page images on a single page (*n-Up*).
- Print the first page of a document on one type of media and the remaining pages on another type of media.
- Select the paper on which to print (by source or type).
- Select which output bin to send output to.
- Download fonts to the printer's hard disk (if installed)

Access the drivers directly from your application. The steps needed to access the drivers may vary from application to application. Typically, they are accessed from the application's File menu by selecting Print, then Printer Options.

Note

To ensure the best performance when using collation, turn off the collation feature in your application and turn it on in the driver. If an installed accessory is not available in the driver, click the Accessories tab and ensure that the accessory appears in the installed accessories list. (If bi-directional communication is functioning, the Accessories tab will not appear. The driver will automatically detect installed accessories.)

The following sections list the drivers available on the Printing System CD. For more information on drivers, see the on-line help provided within your selected driver.

PCL drivers

The Printing System includes PCL drivers for the following systems:

- Microsoft Windows 3.1x and Windows 95 (One driver that supports both systems.)
- Microsoft Windows NT 3.51
- Microsoft Windows NT 4.0
- IBM OS/2 Version 2.0 or greater

PostScript Drivers

The Printing System includes PostScript drivers for the following systems:

- Microsoft Windows 3.1x
- Microsoft Windows 95
- Microsoft Windows NT 3.51
- Microsoft Windows NT 4.0
- IBM OS/2 version 2.0 or greater
- Apple Macintosh System 7 or greater

The PostScript drivers access Adobe's PostScript Level 2 language. They cannot be used on the 5Si/5Si NX without installing the optional Adobe PostScript SIMM (a standard feature of the 5Si MX.)

Additional Drivers

The following drivers are available from your Hewlett-Packard distributor or from electronic BBS channels:

- Apple Macintosh GX System 7.5 or greater
- DOS WordPerfect 5.x and 6.x

Note

If a driver is not available, use an older HP LaserJet printer driver (such as the HP LaserJet 4 printer driver) until a newer driver becomes available. However, some of the advanced features of the new printer may not be usable with an older driver. If the necessary software is not listed in this chapter, contact your software manufacturer or distributor and request software for the HP LaserJet 5Si family of printers.

Software Components

In addition to drivers, the Printing System includes the software components listed below.

For End-Users:

- HP Font Smart
- HP Toolbox
- DocWise
- HP JetPrint

For Network Administrators:

- HP JetAdmin
- HP Print Server NLM
- Macintosh Utilities
 - HP LaserJet Utility
 - Bitmapped Screen Fonts
- HP Symbol Set utility for DOS

Install the software by following the procedures listed on the disk labels or on the insert in the CD ROM package. Software application notes are available by calling HP First. See the “Calling for Help” section of Chapter 7 for the HP First phone number.

The software components listed above are described in the following sections.

End-User Software

HP Font Smart

The HP Font Smart utility is a font management tool. It allows you to display on your computer screen the 45 fonts included in your printer. This approximation of screen display to printed result is known as WYSIWYG, an acronym for “what you see is what you get.” The printer’s fonts are automatically loaded and configured when you install the Printing System. Samples of all the fonts available to you are located in Chapter 1. (HP Font Smart is not needed on Macintosh systems.)

HP JetPrint

HP JetPrint is printer management software available only to Windows 3.1x clients running under Novell NetWare. It allows users to view, select, and print to all HP printers and printers on the network from one screen. Users can view control panel messages and check the status and progress of print jobs. Access HP JetPrint from the “Utilities” tab of HP Toolbox.

HP Toolbox

HP Toolbox is a one-step access tool to document status, printer status, and “Show-Me-How” information available to Windows 95 clients on Novell NetWare that is installed as part of the Printing System. From the Toolbox, which is accessed from the printer icon on the taskbar in Windows 95, users can also configure printer alerts and launch other utilities like HP Font Smart. (A subset of this functionality is available for Windows 3.1 clients as well.)

DocWise

DocWise is document monitoring software available to Windows 3.1 and 95 clients on Novell NetWare that is installed as part of the Printing System. It provides status information on the document being printed or on the status of the printer at the time the document was submitted. It also includes helpful hints on using the printer.

Network Administrator Software

HP JetAdmin

HP JetAdmin is a printer management tool for network administrators. With HP JetAdmin, a network administrator can remotely install, configure, troubleshoot, manage, and set passwords for JetDirect connected printers (as well as printers connected to file servers on Novell NetWare.) Also, a network administrator can configure printer accessories for network printers remotely.

HP JetAdmin is included on the Printing System CD for the following operating environments:

- Novell NetWare 3.x, 4.x (from a Windows 3.1x or Windows 95 client)
- Windows NT 3.51, 4.0 (from a Windows 3.51 or 4.0 client)
- IBM LAN Server 3.0 or greater with clients running OS/2 version 3 or greater

Printer management software is available for the following systems through your Hewlett-Packard distributor or through electronic BBS channels:

- UNIX (HP-UX 9.x/10.x, Sun OS 4.1.3/4.1.4, or Solaris 2.2/2.3/2.4/2.5)
- Microsoft LAN Manager

To learn more about HP JetAdmin for the HP LaserJet 5Si family of printers, see the *HP JetDirect Print Server Software Installation Guide*.

HP Print Server NLM

The Printing System includes Hewlett-Packard's print server network loadable module (NLM), which runs on NetWare 3.x and 4.x file servers. It allows a network administrator to manage and control a peripheral attached to a parallel port on a NetWare file server. HP's Print Server NLM (JETPS.NLM) can be used as a replacement for Novell's PSERVER.NLM. It services print queues on one or more file servers and provides the same NetWare printing functionality as HP's JetDirect products. To run the Print Server NLM, HP JetAdmin must also be installed.

Note

If the HP JetDirect Print Server (a hardware solution) is available, use that in preference to the HP Print Server NLM (a software solution.) This provides the same services and frees the server to concentrate on other tasks.

Macintosh Utilities

The Macintosh software partition on the Printing System CD is only accessible from Macintosh systems.

- **HP LaserJet Utility**

The HP LaserJet Utility allows the network administrator to configure many printer features from the computer. This is especially helpful in a network environment when the printer is not near your desktop. With this utility you can:

- Name the printer, assign it to a zone on your network, download files and fonts, and change many of the default settings
- Permanently download fonts to the printer's hard disk (if installed)
- Monitor the status of networked printers
- Lock the printer control panel and set a password without leaving your computer

- **Bitmapped Screen Fonts**

The bitmapped screen fonts match your printer's 35 internal PostScript fonts, allowing you to see on screen how your printed page will look.

DOS Symbol Sets Utility

An additional utility is included with the Printing System. Use this utility to print the symbol sets for each of the printer's typefaces. Symbol sets are collections of unique characters for international languages, mathematical equations, legal citations, line drawings, and other special applications.

Printing the Symbol Sets

- 1 Insert the Printing System CD.
- 2 At the DOS command prompt, switch to the drive where you inserted the Printing System CD.
- 3 Type `SYMSETS` and press **Return** to start the utility.
- 4 At the DOS command prompt, type `SYMSETS id number LPTx`, where *id number* is the PCL Symbol Set identification number and *x* is the number of the printer port.

Table 3–1 lists the symbol set names and identification numbers. This table also shows which symbol sets are available for each typeface.

Table 3-1

DOS Symbol Sets

PCL Symbol Set ID	Symbol Set	Typeface													
		Albertus	Antique Olive	Clarend. Cond.	Coronet	Courier	Garmond Antiqua	Letter Gothic	Line Printer	Marigold	CG Omega	CG Times	Univers	Univers Cond	
8U	Roman-8	•	•	•	•	•	•	•	•	•	•	•	•	•	
0N	ISO 8859-1 Latin 1 (previously called ECMA 94 Latin 1)	•	•	•	•	•	•	•	•	•	•	•	•	•	
2N	ISO 8859-2 Latin 2					•		•				•	•		
5N	ISO 8859-9 Latin 5					•		•				•	•		
10U	PC-8 (Default)	•	•	•	•	•	•	•	•	•	•	•	•	•	
11U	PC-8 D/N	•	•	•	•	•	•	•	•	•	•	•	•	•	
12U	PC-850	•	•	•	•	•	•	•	•	•	•	•	•	•	
17U	PC-852					•		•				•	•		
9T	PC-Turk					•		•				•	•		
19U	Windows 3.1 Latin 1 (Microsoft calls it ANSI)	•	•	•	•	•	•	•	•	•	•	•	•	•	
9E	Windows 3.1 Latin 2	•	•	•	•	•	•	•	•	•	•	•	•	•	
5T	Windows 3.1 Latin 5	•	•	•	•	•	•	•	•	•	•	•	•	•	
7J	DeskTop	•	•	•	•	•	•	•	•	•	•	•	•	•	
10J	PS Text	•	•	•	•	•	•	•	•	•	•	•	•	•	
13J	Ventura International	•	•	•	•	•	•	•	•	•	•	•	•	•	
14J	Ventura US	•	•	•	•	•	•	•	•	•	•	•	•	•	
6J	Microsoft Publishing	•	•	•	•	•	•	•	•	•	•	•	•	•	
8M	Math-8					•		•				•	•		
5M	PS Math					•		•				•	•		
6M	Ventura Math					•		•				•	•		
15U	Pi Font					•		•				•	•		
1U	Legal	•	•	•	•	•	•	•	•	•	•	•	•	•	
1E	ISO United Kingdom*	•	•	•	•	•	•	•	•	•	•	•	•	•	
0U	ASCII*	•	•	•	•	•	•	•	•	•	•	•	•	•	
0S	ISO Swedish: names*	•	•	•	•	•	•	•	•	•	•	•	•	•	
0I	ISO Italian*	•	•	•	•	•	•	•	•	•	•	•	•	•	
2S	ISO Spanish*	•	•	•	•	•	•	•	•	•	•	•	•	•	
1G	ISO German*	•	•	•	•	•	•	•	•	•	•	•	•	•	
0D	ISO Norwegian*	•	•	•	•	•	•	•	•	•	•	•	•	•	
1F	ISO French*	•	•	•	•	•	•	•	•	•	•	•	•	•	
9U	Windows 3.0 Latin 1 (previously called Windows)	•	•	•	•	•	•	•	•	•	•	•	•	•	
12J	MC Text	•	•	•	•	•	•	•	•	•	•	•	•	•	
19M	Symbol														
579L	Wingdings														

* These symbol sets are variations of the Roman-8 symbol set.

Printer Control Panel

Introduction

This chapter describes the following topics:

- An introduction to the control panel and an explanation of how to use each of its options.
- How to print text pages that show the current printer settings, including the configurations for PCL and PostScript.
- Illustration of common messages displayed on the control panel.

The most convenient way to control the printer is through software applications or the software that comes with the printer. In fact, commands in the software override control panel settings. Refer to the on-line help files associated with the software for more information.

Note

In this chapter, *control panel* refers to the control panel on the printer, not to the Windows Control Panel. *Menus* refers to the menus on the control panel display, not to menus on the computer screen. Reach the printer menus by pressing the **Menus** key.

Use the printer control panel for overall configuration requirements or to obtain printer status information. You also can use the control panel to access printer features not supported by your software applications.

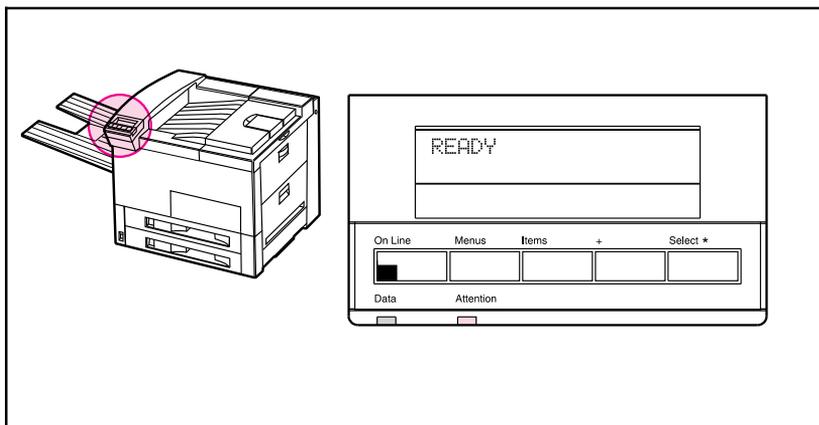
Note

Refer to the *HP JetDirect Print Server Software Installation Guide* for information about controlling the printer in a network environment. Also refer to the online help files provided with HP JetAdmin and the HP LaserJet Utility.

Control Panel Layout

The control panel includes three indicator lights, five keys, and a 2-line display (20 characters per line).

Figure 4-1



Printer Control Panel

Indicator Lights

The control panel indicator lights are described in the following table.

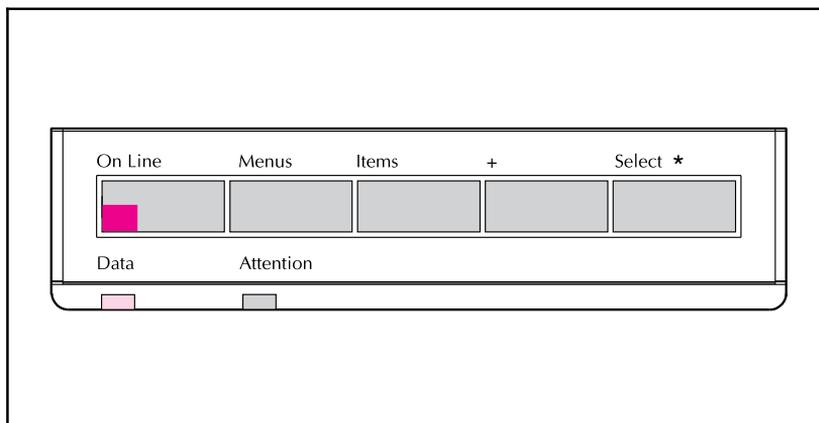
Table 4-1 Indicator Lights

Indicator Light	Appearance	Meaning	Action Required
On Line	On	Ready to print	No action required
	Flashing	Going off-line	No action required
	Off	Printer off-line	Read and respond to control panel message.
Data	On	Data being received or processed; more data coming	No action required
	Flashing	Data being received or processed	No action required
	Off	No data being received or processed	No action required
Attention	On	Printer requires service	Note control panel message and call for service.
	Flashing	Printer needs attention	Read and respond to control panel message.
	Off	No messages or error conditions requiring attention	No action required

Control Panel Keys

The function of each of the five keys on the control panel is labeled above each key.

Figure 4-2



Control Panel Keys

The control panel arranges various printer options in a simple menu structure similar to the levels of an outline. Each menu contains several items. These items are operations the printer performs when you select them.

Table 4-2 summarizes the function of each control panel key (examples are provided later in this chapter).

Table 4-2

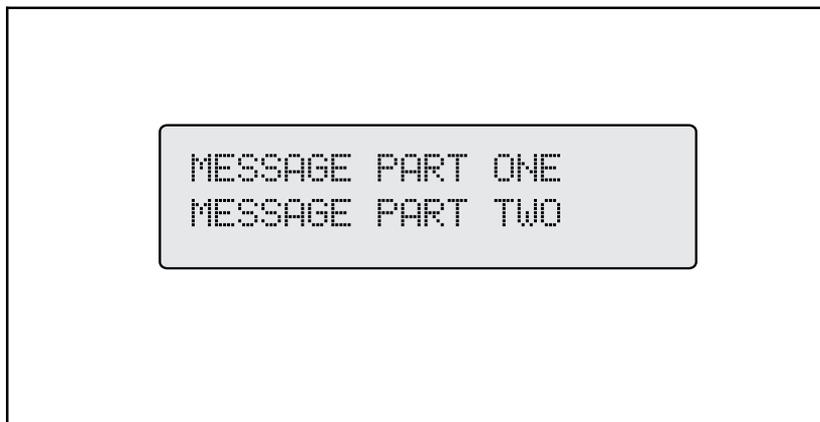
Control Panel Keys

Key	Function
On Line	Switches the state of communication between computer and printer to ON (online) or OFF (offline). Stops printing as soon as possible.
Menus	Provides a menu system for obtaining status information or changing the printer configuration.
Items	Cycles through the items on the selected menu. Menu items vary depending on the options installed and configuration of other menu choices.
+	Steps through the item choices.
Select *	Selects a desired menu item choice.

Control Panel Display

The control panel presents messages about the printer in one or two lines of the character display.

Figure 4-3



Control Panel Character Display

The control panel displays the following types of messages:

- *Ready status* messages mean the printer is ready to accept data.
- *Printer status* messages tell you what the printer is doing at a given time. For example:
PROCESSING JOB
FROM TRAY 2
- *Printer attendance* messages tell you to perform some action, such as adding paper or clearing a paper jam.
- *Error* messages communicate data and print errors. The printer stops printing for ten seconds, displays a message, and then automatically attempts to return to the online state.
- *Service* messages communicate a printer failure. Some errors can be cleared by pressing the **Select*** key or by cycling power to the printer (turn power off and then back on). Others stop all operations and require service.

Settings and Defaults

The printer makes most printing decisions based on either temporary settings or permanent defaults.

Note

Settings you send from software applications override equivalent printer defaults.

Table 4-3 Settings and Defaults

Setting or Default	Explanation
Temporary setting	A value set for the current print job by your software application. For example, if your printer default is portrait, you can request your software to print pages with a landscape orientation. This temporary setting remains in effect until the current print job is finished.
Control panel default	A value set at the control panel by selecting a menu item and pressing Select *. An asterisk (*) next to the item name indicates that it is now the default. The printer retains this new value even when power is switched OFF.
Factory default	The value set for each menu item at the factory. Factory defaults (permanent default settings) are listed in Table 4-4.

Restoring Factory Settings

- 1 With power off, press and hold **On Line**.
- 2 Continue to hold **On Line** and turn the printer on (push power ON).
- 3 Hold **On Line** until this message appears:

COLD RESET

This message is followed by the power-on self test message. Then the following message appears:

RESTORING FACTORY

SETTINGS

until the printer system completes power-on initialization.

Factory defaults are listed in Table 4-4.

Note

By printing a PCL configuration page, you can see the current settings and all the choices available. Refer to Figures 4-4 and 4-5 later in this chapter.

Table 4-4 **Factory Default Settings**

Menu Item	Default Setting
DISPLAY LANGUAGE=	ENGLISH
PAPER DESTINATION=	TOP OUTPUT BIN
PAPER SIZE=	LETTER or A4 (if 220 U)
PAPER TYPE=	PLAIN
ENVELOPE FEEDER SIZE=	COM10
ORIENTATION=	PORTRAIT
PERSONALITY=	AUTO
RESOLUTION ENHANCEMENT=	ON
PRINT DENSITY=	3
ECONOMODE=	OFF
2-SIDED=	OFF
BINDING=	LONG EDGE
PRINT POSTSCRIPT ERRORS=	OFF
JAM RECOVERY=	OFF
PAGE PROTECT=	AUTO
RESOLUTION=	600 DOTS PER INCH
I/O TIMEOUT=	15 SECONDS
AUTO CONTINUE=	ON
TONER LOW=	STOP
POWER SAVE DELAY=	1 HOUR
RESOURCE SAVING=	AUTO
PARALLEL I/O SPEED SETTING=	HIGH
I/O BUFFER=	AUTO
I/O SIZE=	10K
COLD RESET PAPER=	LETTER or A4 (if 220 U)
SERVICE MESSAGE=	OFF
DIAGNOSTICS=	OFF

Control Panel Menus

Pressing **Menu** gives you access to control panel menu options. Menus appear in the following order:

- Tray Menu
- Job Control Menu
- Test Menu
- PCL Menu
- Configuration Menu
- Print Quality Menu
- Input/Output (IO) Menu
- PostScript Menu (on 5Si MX or 5Si/5Si NX with optional PostScript SIMM)
- HP MIO 1 Menu (on 5Si MX/5Si NX or 5Si with optional MIO board installed)
- HP MIO 2 Menu (if a second MIO card is installed)

Each of these menus is described in a separate table later in this chapter.

Selecting a Menu Item

- 1 Press **Menu** repeatedly until the menu you want appears.
- 2 Press **Items** repeatedly until the item you want appears.
- 3 Press **+** repeatedly until the setting you want appears.
- 4 Press **Select *** to select and save your setting. An asterisk (*) appears next to your choice, indicating that it is now the default.
- 5 Press **Menu** or **On Line** to exit.

Note

In a menu mode, if no keys are pressed for approximately 30 seconds, the system automatically returns to the top level and displays **READY** (or an existing error or service message).

Tray Menu

This menu shows the paper status (type or size) of all available paper trays.

Press **Items** repeatedly to see each tray size and type in turn.

Table 4-5 presents the messages that appear when you select each of the menu items.

Table 4-5

Tray Menu

Menu	Item	Explanation
TRAY MENU	ENVELOPE FEEDER TYPE=PLAIN	Note: Available only if you have the optional Envelope Feeder. Type of envelopes available in the optional Envelope Feeder. Provides selection of other types.
	ENVELOPE FEEDER SIZE=COM10	Note: Available only if you have the optional Envelope Feeder. Size of envelopes available in the optional Envelope Feeder. Provides selection of other sizes.
	TRAY 1 TYPE=LETTERHEAD	Type of media loaded in Tray 1 (multi-purpose). Provides selection of other types.
	TRAY 1 SIZE=LETTER	Size of media available in Tray 1. Provides selection of other sizes.
	TRAY 2 TYPE=PLAIN	Type of media available in Tray 2. Provides selection of other types.
	TRAY 3 TYPE=PLAIN	Type of media available in Tray 3. Provides selection of other types.
	TRAY 4 TYPE=PLAIN	Type of media available in optional 2000-Sheet Input Tray (Tray 4). Provides selection of other types.

Note

Tray 1 and the optional Envelope Feeder do not have a sensor for identifying paper size. If either is being used, you will also have a menu item for media size. You must set the size of the paper loaded before continuing. Paper sizes for Trays 2, 3, and 4 are automatically sensed.

Changing Paper Type from the Control Panel

- 1 Press **Menu** repeatedly until TRAY MENU appears.
- 2 Press **Items** repeatedly to scroll through the trays and their types.
- 3 Press **+** repeatedly to scroll through the paper type or size options.
- 4 Press **Select *** to save your choice.

Selecting media by type rather than source is similar to locking out the tray(s), which is a feature of previous HP LaserJet printers. If letterhead is loaded in Tray 1, and print on plain paper is selected in the driver, the printer will not pull the letterhead paper from Tray 1. However, the printer will pull from either of the other trays if plain paper is loaded, and has been set on the printer control panel.

Job Control Menu

The Job Control Menu is used to cancel a current job or to eject data that has been sent to the printer. The CANCEL JOB option will cancel the job from the control panel. The FORMFEED option is useful when the data light is on, but nothing is printing out. This situation occurs when the application has not told the printer that it has finished sending data. This commonly occurs when printing from DOS. Table 4-6 presents the messages that appear after selecting each menu item.

Table 4-6 Job Control Menu

Menu	Item	Explanation
JOB CONTROL MENU	CANCEL JOB	Press Select * . STOPPING CHECK LAST PAGE appears until the last page currently being printed is placed in the output bin. PRESS SELECT TO CANCEL JOB is displayed. If you press Select * again, CANCELING JOB appears until the entire print job is removed or deleted. To ignore job cancellation, press On Line .
	PRESS SELECT TO FORMFEED	FORMFEEDING is displayed. The online indicator flashes until the page is delivered to the output bin.

Test Menu

Use selections from this menu to print configuration and font demonstration pages. Samples of the printouts are presented on the following pages with keys for interpreting the information. Table 4-7 presents the messages that appear after selecting each of the menu items.

Table 4-7 Test Menu

Menu	Item	Explanation
TEST MENU	PCL CONFIGURATION PAGE	<p>PRINTING CONFIGURATION PAGE appears on the control panel display. Two pages are printed. The first page presents variables and default information relating attributes such as paper, memory, and I/O channels. See Figure 4-4a and the key to Figure 4-4a for a sample and further explanation of the page. This page is similar to the Self Test Page from other HP LaserJet printers.</p> <p>The second page (Figure 4-4b) is a simple layout of the menu structure with items and current default settings for those items.</p>
	POSTSCRIPT CONFIGURATION PAGE	<p>PRINTING CONFIGURATION PAGE appears on the display. See Figure 4-5 and the key to Figure 4-5 for a sample and further explanation of the page. (This option will not appear on the 5Si unless the optional Adobe PostScript SIMM has been installed.)</p>
	PCL FONT LIST	<p>PRINTING FONT LIST appears on the display. The page presents a list of fonts used by PCL. See Figure 4-6 for a sample list.</p>
	POSTSCRIPT FONT LIST	<p>PRINTING FONT LIST appears on the display. The PostScript Font List has samples of the 35 built-in PostScript language fonts plus fonts downloaded to the printer's memory and optional printer hard disk (if installed.) See Figure 4-7 for a sample list.</p>

Continued on the next page.

Table 4-7

Test Menu, *continued*

Menu	Item	Explanation
TEST MENU	DISK DIRECTORY PAGE	PRINTING DISK DIRECTORY appears on the display. The directory shows all the resources stored on the hard disk (such as fonts and forms) and their directories (this option only appears if the optional printer Hard Disk is installed.) See Figure 4-8 for a sample list.
	DEMO PAGES	PRINTING DEMO PAGES appears on the display.
	PRINT ERROR LOG	PRINTING ERROR LOG appears on the display. This log tracks the last 50 printer errors listed by the number of their occurrences. See Figure 4-9 for a sample list.
	SHOW ERROR LOG	A list of errors will appear on the display. Use  to scroll through the list.
	PAPER PATH TEST	A user-configurable print test that checks the paper path of the printer. Input tray and number of copies can be selected.



1 Printer Information

Serial Number: AAXXY9999
Formatter Number: A99999
Firmware Datecode: 19960510 v6_1
Processor Revision: 29040 D40d
Page Count: 0
Pages Since Last Power Cycle: 0
Pages Since Last Maintenance: 0

2 Installed Personalities and Options

PCL (19960510)
POSTSCRIPT (19960513) *
* Adobe, PostScript, and the PostScript Logo are trademarks of Adobe Systems Incorporated which may be registered in certain jurisdictions.
SIMM Slot 1: 4 MByte ROM SIMM
SIMM Slot 2: Empty
SIMM Slot 3: Empty
SIMM Slot 4: 4 MByte ROM SIMM

3 Error Log

Number of Entries in Use: 1
Maximum Number of Entries: 50
Last Three Entries:
Number Error Page Count
1 68 0020 0

4 Memory

Total Memory: 4 MBytes
Available Memory: 2.19 MBytes
I/O Buffering:
0 KBytes Allocated of 100 KBytes Available
Resource Saving:
Not Enabled - Need: 20 MBytes More Memory

5 Security

Control Panel Lock: DISABLED
Control Panel Password: DISABLED

6 Paper Handling Options

Duplex Unit
PH Controller [01.62]
Device 1:
HEWLETT-PACKARD 2000 SHEET INPUT TRAY
Input Trays:
1: TRAY 4, 2000 Sheets
Device 2:
HEWLETT-PACKARD MULTIBIN MAILBOX [BNP3618.B0]
Output Bins:
1: OPTIONAL OUTBIN 1, 125 Sheets, Face Up
2: OPTIONAL OUTBIN 2, 250 Sheets, Face Down
3: OPTIONAL OUTBIN 3, 250 Sheets, Face Down
4: OPTIONAL OUTBIN 4, 250 Sheets, Face Down
5: OPTIONAL OUTBIN 5, 250 Sheets, Face Down
6: OPTIONAL OUTBIN 6, 250 Sheets, Face Down
Device 3:
HEWLETT-PACKARD STAPLER MODULE [3.11.16.20]
Output Bins:
1: OPTIONAL OUTBIN 7, 400 Sheets, Face Down

7

HP MIO 1		HP MIO 2	
HP JETDIRECT	J2952A	NOVELL STATUS:	16 TCP/IP STATUS: READY
FIRMWARE REVISION:	vmj12P1	NOT CONFIGURED	
LAN HW ADDRESS:	0800091CA491	MODE:	QUEUE SERVER
PORT SELECT:	10BASE-T	NODE NAME:	
MFG ID:	9999000700000300	NP11CA491	
-----		SERVER NAME:	HOST NAME: hp015554
I/O CARD READY		CONFIG BY:	RARP/BOOTP/P1P
		0 IP ADDRESS:	15.8.25.100
		NETWORK FRAME TYPE	RQD SUBNET MASK: NOT SPECIFIED
		0008024A EN_802.2	61 DEF. GATEWAY: 0.0.0.0
		0008024A EN_11	22 SYSLOG SERVER: NOT SPECIFIED
NETWORK STATISTICS		0008024A EN_802.3	37 TDL TIMEOUT (SECONDS): 90
UNICAST PACKETS RCVD:	5	-----	SNMP GET CNTY NAME: SPECIFIED
TOTAL PACKETS RCVD:	231	APPLETALK STATUS: INITIALIZING	SNMP SET CNTY NAME: SPECIFIED
BAD PACKETS RCVD:	0	ETALK NET: 65281 NODE: 138	P2 BOOTP SERVER: 15.8.28.128
FRAMING ERRORS RCVD:	0	ETALK NET: 0 NODE: 227	CONFIG FILE: hmp/hp015554.ct
PACKETS TRANSMITTED:	29	APPLETALK NAME:	9
UNSENDABLE PACKETS:	0	-----	
XMIT COLLISIONS:	0	ETALK ZONE: *	DLC/LLC STATUS: READY
XMIT LATE COLLISIONS:	0		
			Not Installed

Figure 4-4a Sample PCL Configuration Page

Key to Figure 4-4a

1. **Printer Information** lists printer specific statistics.
 - Serial Number** shows the serial number of the print engine.
 - Formatter Number** shows the serial number of the formatter board.
 - Firmware Datecode** is an eight-digit date (YYYYMMDD) of the internal code.
 - Processor Revision** shows the revision number of the firmware processor.
 - Page Count** shows the number of pages printed.
 - Pages Since Last Power Cycle** shows the number of pages printed since the last time the printer was turned off.
 - Pages Since Last Maintenance** shows the number of pages printed since the time a maintenance kit was installed.
2. **Installed Personalities and Options** lists printer languages and all accessories that are installed.
3. **Error Log** shows the number of errors currently in the error log and the last three errors that occurred.
4. **Memory** shows the total amount of installed memory and indicates the amount of available memory for PCL applications (such as font downloading software). Information about the current I/O Buffering and Resource Saving configuration appears here. If the printer does not have enough memory installed to enable these two features, the amount of additional memory needed appears.
5. **Security** lists whether the control panel is locked, whether the control panel has a security password, and if the optional hard disk has been write-protected (if present.)
6. **Paper Handling Options** lists the installed paper handling accessories. These accessories may include the Duplex Unit, optional Envelope Feeder, 2000-Sheet Input Tray, Multi-Bin Mailbox or Multi-Bin Mailbox with Stapler.
7. **HP MIO** information is reserved for the HP MIO and network statistics. For some installed MIO options, this block of information can be as long as 20 lines and three columns.

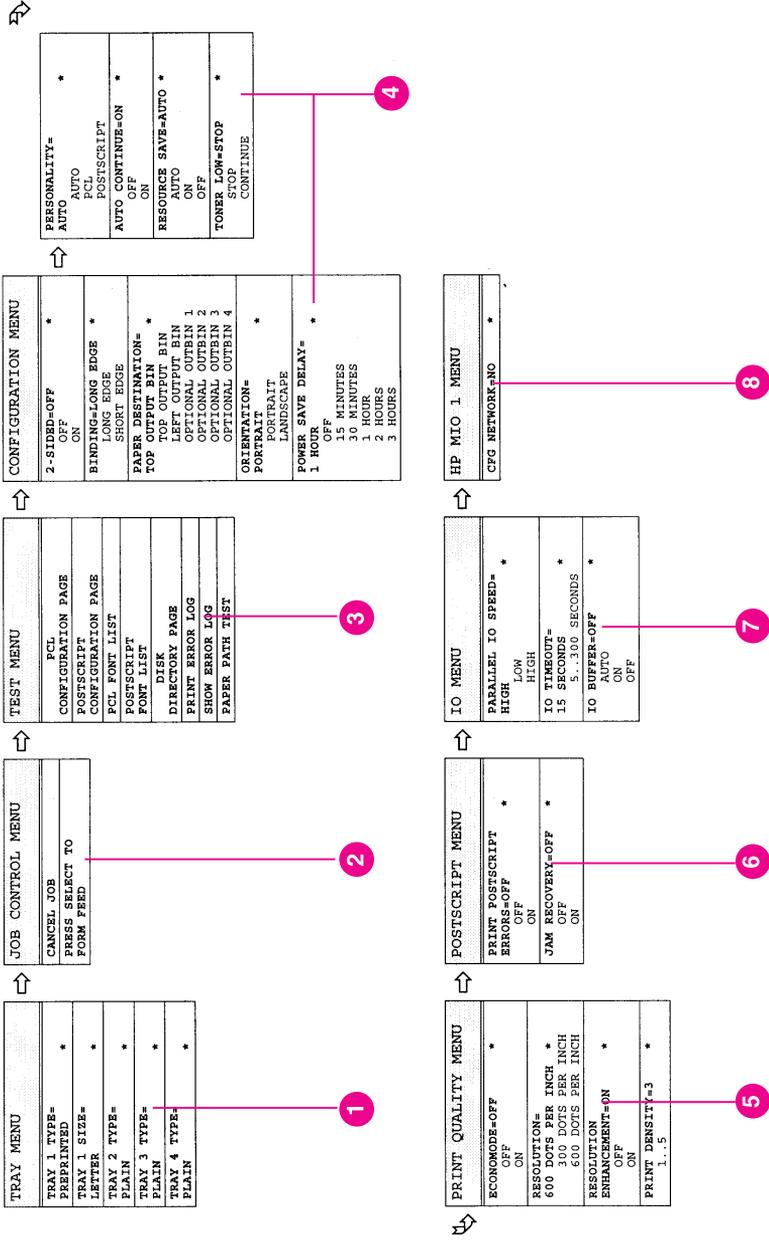


Figure 4-4b PCL Menu Map Page

1. **Tray Menu** lists the current media types settings for each tray, and the media size for Tray 1.
2. **Job Control Menu** shows the `Cancel Job` and `Form Feed` items.
3. **Test Menu** lists the different available printer tests.
4. **PCL Menu** lists the PCL font settings used by your printer.
5. **Configuration Menu** lists the current settings for the configuration items.
6. **Print Quality Menu** lists the current settings for the different print quality items.
7. **PostScript Menu** lists the current settings for the two PostScript menu items.
8. **IO Menu** lists the current settings for the Parallel IO Speed and the IO Timeout.
9. **HP MIO Menu(s)** list the current settings for the HP MIO(s).



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LaserJet™

5Si
MX

PostScript™ Configuration Page

1

Settings

Printer Name: Jupiter
 Product Name: HP LaserJet 5Si MX
 PostScript Version: 2014.103
 Copies: 1
 Resolution: 600 dpi
 Resolution Enhancement: On
 Halftone Type: 9 - Enhanced Halftone
 Economode: Off
 Wait Time-out: 40 seconds
 Print Errors: ?
 Jam Recovery: On
 Manual Feed: ?

Tray 1: Letter
 Tray 2: Letter
 Tray 3: Letter
 Envelope Feeder: Com10

2

Memory

Total Memory Installed: 12288.0 Kbytes

Printable Area

	Width (inches) / (cm)		Height (inches) / (cm)	
Letter	8.17	20.8	10.67	27.1
Legal	8.21	20.8	13.67	34.7
Ledger	10.67	27.1	16.67	42.3
A3	11.41	29.0	16.20	41.1
A4	7.93	20.1	11.41	29.0
Exec	6.92	17.6	10.24	26.0
JIS B5	6.83	17.3	9.81	17.3
JIS B4	9.81	24.9	14.00	35.6
Custom	11.41	29.0	17.37	44.1
Com10	3.84	9.8	9.17	23.3
Monarch	3.63	9.2	7.17	18.2
CS	6.08	15.4	8.68	22.0
DL	4.05	10.3	8.33	21.2
B5 Env	6.61	16.8	9.51	24.2
JPostD	5.55	14.1	7.54	19.2
Maximum	11.41	29.0	17.37	44.1

3

4

Disk Accessory

Disk Installed: Yes
 Disk Capacity: 41820.0 Kbytes
 Bytes Available: 41724.0 Kbytes
 Writeable: Yes



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5



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Page Count

Figure 4-5 PostScript Configuration Page

1. **Settings** (current printer control panel default settings and product-specific information):
 - Printer Name** is the name set by the user (a network name, for instance).
 - Product Name** is the HP LaserJet printer model.
 - PostScript Version** refers to the version of PostScript installed (if any.)
 - Copies** indicates the default number of originals to be printed.
 - Resolution** is either 600 or 300 dpi.
 - Resolution Enhancement** indicates if Resolution Enhancement is set to ON, OFF, or AUTO (see Chapter 6, “Print Quality”).
 - Halftone Type** indicates the current halftone type.
 - EconoMode** indicates whether EconoMode is ON or OFF (see Chapter 6, “Print Quality”).
 - Wait Timeout** shows how long PostScript waits for additional data.
 - Print Errors** indicates if a PostScript error page is automatically printed when a PostScript error occurs.
 - Jam Recovery** indicates whether Jam Recovery is ON or OFF.
 - Manual Feed** indicates whether Manual Feed is ON or OFF.
 - Duplex** indicates whether the duplexing feature is ON or OFF.
 - Trays 1-4** indicate the media specified for each tray.
2. **Memory** shows how much memory is installed in the printer. This value may be useful for more experienced users, since PostScript Level 2 allows users to configure memory parameters. (See Adobe's *PostScript Language Reference Manual* for specific information about these values.)
3. **Printable Area** gives the dimensions within the margins of the image area. The current default is shown in the hollow box.
4. **Disk Accessory** show whether the optional printer hard disk is present, and if so the total capacity of the printer's hard disk, how many bytes are available for use, and whether or not the hard disk is write-protected.
5. **Page Count** shows how many pages have been printed by the printer in all printer languages. Use the page count to track printer use.



Internal Scalable and Bitmapped Fonts

Font	Pitch/Point	Escape Sequence	Font #	Font ID
Courier	Scale	<esc>([] <esc>(s0p [] h0s0b4099T	I 000	
CG Times	Scale	<esc>([] <esc>(s1p [] v0s0b4101T	I 001	
CG Times Bold	Scale	<esc>([] <esc>(s1p [] v0s3b4101T	I 002	
<i>CG Times Italic</i>	Scale	<esc>([] <esc>(s1p [] v1s0b4101T	I 003	
<i>CG Times Bold Italic</i>	Scale	<esc>([] <esc>(s1p [] v1s3b4101T	I 004	
Univers Medium	Scale	<esc>([] <esc>(s1p [] v0s0b4148T	I 005	
Univers Bold	Scale	<esc>([] <esc>(s1p [] v0s3b4148T	I 006	
<i>Univers Medium Italic</i>	Scale	<esc>([] <esc>(s1p [] v1s0b4148T	I 007	
<i>Univers Bold Italic</i>	Scale	<esc>([] <esc>(s1p [] v1s3b4148T	I 008	
Courier Bold	Scale	<esc>([] <esc>(s0p [] h0s3b4099T	I 009	
<i>Courier Italic</i>	Scale	<esc>([] <esc>(s0p [] h1s0b4099T	I 010	
<i>Courier Bold Italic</i>	Scale	<esc>([] <esc>(s0p [] h1s3b4099T	I 011	
Letter Gothic	Scale	<esc>([] <esc>(s0p [] h0s0b4102T	I 012	
Letter Gothic Bold	Scale	<esc>([] <esc>(s0p [] h0s3b4102T	I 013	
<i>Letter Gothic Italic</i>	Scale	<esc>([] <esc>(s0p [] h1s0b4102T	I 014	
ABCDEFghijA`'s,ſt^A#s@aT`~()~12 Line Printer	16.67/8.5	<esc>(2N<esc>(s0p16.67h8.5v0s0b0T	I 015	
ABCDEFghijjje'`q,'>#A#s@a`~()~12 Line Printer	16.67/8.5	<esc>(5N<esc>(s0p16.67h8.5v0s0b0T	I 016	
ABCDEFghijAA^CÑizEsE#s@a`~()~12 Line Printer	16.67/8.5	<esc>(8U<esc>(s0p16.67h8.5v0s0b0T	I 017	
ABCDEFghijje'`q,'>#A#s@a`~()~12 Line Printer	16.67/8.5	<esc>(0N<esc>(s0p16.67h8.5v0s0b0T	I 018	
ABCDEFghijj6 { + y + s@a%`~()~12 Line Printer	16.67/8.5	<esc>(10U<esc>(s0p16.67h8.5v0s0b0T	I 019	
ABCDEFghijj6 { + y + s@a%`~()~12 Line Printer	16.67/8.5	<esc>(11U<esc>(s0p16.67h8.5v0s0b0T	I 020	
ABCDEFghijj6 { + y + s@a%`~()~12 Line Printer	16.67/8.5	<esc>(12U<esc>(s0p16.67h8.5v0s0b0T	I 021	
ABCDEFghij #s@a °°§†~12 Line Printer	16.67/8.5	<esc>(1U<esc>(s0p16.67h8.5v0s0b0T	I 022	

Pitch: .10 - 576
 Symbol set
 Point size: .25 - 999.75
 See your HP LaserJet 5Si Printer User's Guide for more information.

Figure 4-6 PCL Font List

1. **Font** is the name of the font.
2. **Pitch/Point** indicates the specified pitch or point size of the font. "Scale" indicates a scaleable font.
3. **Escape Sequence** (a PCL programming command) is used to select the designated font.
4. **Font #** is the number used to select internal or downloaded soft fonts from the control panel. (Do not confuse the font number with the soft font ID, described next.) The letter preceding the font number shows the source of the font (I means Internal, and S means permanent soft font, and M means SIMM - slot number follows).
5. **Font ID** is the number *the user assigns* to soft fonts when downloading them through software.



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5 Si
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PostScript™ ROM Resident Fonts

ITC Avant Garde Gothic® Book	ABCDEabcde0123450*%#!?''
ITC Avant Garde Gothic Book Oblique	ABCDEabcde0123450*%#!?''
ITC Avant Garde Gothic Demi	ABCDEabcde0123450*%#!?''
ITC Avant Garde Gothic Demi Oblique	ABCDEabcde0123450*%#!?''
ITC Bookman® Demi	ABCDEabcde012345[]*%#!?''
ITC Bookman Demi Italic	ABCDEabcde012345[]*%#!?''
ITC Bookman Light	ABCDEabcde012345[]*%#!?''
ITC Bookman Light Italic	ABCDEabcde012345[]*%#!?''
Courier	ABCDEabcde012345 [] *%#!?''
Courier Bold	ABCDEabcde012345 [] *%#!?''
Courier Bold Oblique	ABCDEabcde012345 [] *%#!?''
Courier Oblique	ABCDEabcde012345 [] *%#!?''
Helvetica	ABCDEabcde012345[]*%#!?''
Helvetica Bold	ABCDEabcde012345[]*%#!?''
Helvetica Bold Oblique	ABCDEabcde012345[]*%#!?''
Helvetica Oblique	ABCDEabcde012345[]*%#!?''
Helvetica Narrow	ABCDEabcde012345[]*%#!?''
Helvetica Narrow Bold	ABCDEabcde012345[]*%#!?''
Helvetica Narrow Bold Oblique	ABCDEabcde012345[]*%#!?''
Helvetica Narrow Oblique	ABCDEabcde012345[]*%#!?''
New Century Schoolbook Bold	ABCDEabcde012345[]*%#!?''
New Century Schoolbook Bold Italic	ABCDEabcde012345[]*%#!?''
New Century Schoolbook Italic	ABCDEabcde012345[]*%#!?''
New Century Schoolbook Roman	ABCDEabcde012345[]*%#!?''
Palatino	ABCDEabcde012345[]*%#!?''
Palatino Bold	ABCDEabcde012345[]*%#!?''
Palatino Bold Italic	ABCDEabcde012345[]*%#!?''
Palatino Italic	ABCDEabcde012345[]*%#!?''
Times Bold	ABCDEabcde012345[]*%#!?''
Times Bold Italic	ABCDEabcde012345[]*%#!?''
Times Italic	ABCDEabcde012345[]*%#!?''
Times Roman	ABCDEabcde012345[]*%#!?''
Symbol	ABXΔEαβγδε012345[]*%#!?'' ▽
ITC Zapf Chancery® Medium Italic	ABCDEabcde012345[]*%#!?''
ITC Zapf Dingbats®	⊕ ⊖ ⊗ ⊘ ⊙ ⊚ ⊛ ⊜ ⊝ ⊞ ⊟ ⊠ ⊡ ⊢ ⊣ ⊤ ⊥ ⊦ ⊧ ⊨ ⊩ ⊪ ⊫ ⊬ ⊭ ⊮ ⊯ ⊰ ⊱ ⊲ ⊳ ⊴ ⊵ ⊶ ⊷ ⊸ ⊹ ⊺ ⊻ ⊼ ⊽ ⊾ ⊿ ⊿

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Figure 4-7 PostScript Font List



Disk Model: ST9420AG
Disk Serial Number: 00SV032510
Disk Capacity: 420872192 bytes
Disk Free Space: 420226560 bytes
Disk Writes: ALLOWED

File Size	Directory/File Name
Directory	0:\
0	file1
30	PCLMacro1
Directory	0:\empty_dir\
Directory	0:\PostScript\
Directory	0:\PJL\
Directory	0:\files\
10	file01
10	file02
10	file03
10	file04
10	file05
10	file06
10	file07
10	file08
10	file09
10	file10
10	file11
10	file12
10	file13
10	file14
10	file15
10	file16
10	file17
10	file18
10	file19

Figure 4-8 Disk Directory Page

Key to Figure 4-8

1. **Disk Information** indicates the disk model number, serial number, capacity, available free space, and write protection status.
2. **File Size** lists the size of each file under the Directory/File Name column. If a directory is listed on the line, then Directory appears in this column and its path is listed in the Directory/File Name column.
3. **Directory/File Name** lists the name of the file. Files in a sub-directory are listed right after the directory line. The files are not necessarily listed in alphabetic order.



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LaserJet 5Si

Error Log
Page

Error Log Printout Page Count: 8 1 Serial Number: BE3A3F7432 2

Number	Error	Page Count	Personality or Jam Cause
4	68 0011	102	PS
3	68 0000	61	PS
2	68 0000	47	PCL
1	68 0200	13	PCL

3

4

5

6

Figure 4-9 Error Log Page

Key to Figure 4-9

1. **Page Count** lists the number of pages printed.
2. **Serial Number** shows the serial number of the printer.
3. **Number** indicates the order in which the errors occurred. The last error to occur has the highest number.
4. **Error** lists the internal error codes for the 50 most recent errors.
5. **Page Count** indicates the number of pages printed when the error occurred.
6. **Personality or Jam Cause** indicates whether the error occurred due to a problem within a printer personality or a paper jam.

PCL Menu

This menu is used to change the default PCL font settings used by your printer. Table 4-8 presents the messages that appear when each of the menu items is selected.

Table 4-8 PCL Menu

Menu	Item	Explanation
PCL MENU	SOURCE= [INTERNAL*,SLOT 4,SLOT 3,SLOT 2, SLOT 1,SOFT]	Indicates source of font information. Internal fonts are those stored in the printer; slot numbers correlate to font SIMMs that may be installed; and soft fonts are those that have been manually downloaded to the printer.
	NUMBER= [0,..22]	Each font is listed by a number. The default font number can be manually changed here.
	PITCH= [0.44..99.99]	This entry displays the pitch of the default font.
	SYM SET= [ROMAN-8*,ISO L1, ISO L2,ISO L5,PC-8,PC-8DN, PC-850,PC-852, PC-8 TK, WIN L1,WIN L2, WINL5,DESKTOP,PS TEXT,UN INTL,UN US,MS PUBL, MATH-8,PS MATH, UN MATH, PI FONT, LEGAL, ISO 4,ISO 6,ISO 11,ISO 15,ISO 17,ISO 21,ISO 60,ISO 69,WIN3.0]	This is the default symbol set, which is normally Roman 8. The symbol set may be different depending on the application.
	FORM= [60 LINES*, 5..128]	The FORM setting is the number of lines that will be printed per page. The default is 60 lines.

* Factory Default

Configuration Menu

The items on the Configuration Menu set default parameters for two-sided printing, binding, selected output bin, printing personality, auto continue, power saving, resource saving, page protection and the display of maintenance messages when the toner supply is low or service is needed. Table 4-9 presents the messages that appear when you select each of these menu items.

Table 4-9 Configuration Menu

Menu	Item	Explanation
CONFIGURATION MENU	SERVICE MESSAGE= [ON, OFF]	Appears at approximately 350,000-image intervals, when the PERFORM USER MAINTENANCE message appears.
	2-SIDED= [OFF*, ON]	Allows selection of duplex (two-sided) printing as the default printing mode (only appears if the optional Duplex Unit is installed.)
	BINDING= [LONG EDGE*, SHORT EDGE]	Allows control of the binding edges of duplexed documents (only appears if the optional Duplex Unit is installed.) More information about binding options is located in Chapter 5, "Print Tasks."
	PAPER DESTINATION= [TOP OUTPUT BIN*, LEFT OUTPUT BIN, OPTIONAL OUTBIN]	Allows the selection of the default output bin. More information about the output bins is located in Chapter 5. When an output bin is full of paper, printing is stopped and one of the following messages is displayed: REMOVE PAPER FROM TOP OUTPUT BIN or REMOVE PAPER FROM OPTIONAL OUTBIN n. Empty the bin to resume printing. (Note that the Left Output Bin will not cause the bin full message to be displayed.) By selecting the Stapler (if installed) as the output bin, you can have your documents stapled.
	ORIENTATION= [PORTRAIT*, LANDSCAPE]	Sets the default orientation of the printed page. The orientation setting in your software application overrides the control panel setting.
	POWER SAVE DELAY= [1 HR* 2 HRS 3 HRS OFF 15 MINUTES 30 MINUTES]	Allows you to change the setting for the time interval the printer remains inactive prior to entering Power Save mode. Warm up time for the printer after the power save delay is approximately 60 seconds.

* Factory default.

Continued on the next page

Table 4-9

Configuration Menu, *continued*

Menu	Item	Explanation
CONFIGURATION MENU	PERSONALITY= [AUTO*,PCL, POSTSCRIPT]	Controls selection of the printer personality. The choices available depend on which personalities are installed. AUTO is the default, and allows the printer to automatically determine the personality needed for a given job.
	AUTO CONTINUE= [ON*,OFF]	Allows the printer to resume printing after noncritical errors occur. If ON is selected, the printer goes offline and the error message is displayed for ten seconds. After ten seconds, the printer automatically returns to online. If turned off, the printer will remain offline until attended.
	RESOURCE SAVE= [AUTO*,OFF,ON]	Sets resource saving to ON, OFF, or AUTO (which automatically determines how much memory to use for each installed personality). When set to ON, you can select a specific amount of memory for resource saving.
	PCL MEM=nnnnnK or POSTSCRIPT MEM= nnnnnK	This item becomes visible only if Resource Save is set to ON. The value nnnnnK indicates the number of KBytes of memory reserved for that personality. The choices for this item range from 0 to the total amount of available memory in the printer in 100-KByte increments. Press + repeatedly to increase reserved memory.
	TONER LOW= [STOP*,CONTINUE]	This item controls the printer action taken when low toner levels are detected. By default, the printer will stop. (As toner runs low, the quality of the printed page will deteriorate.)
	PAGE PROTECT= [ON,AUTO*]	PAGE PROTECT appears after a 21 PRINT OVERRUN error has occurred. Try to simplify the format of the job. If you must print the job "as is," set PAGE PROTECT to ON, then later return it to AUTO. Do not leave PAGE PROTECT set to ON as it will degrade performance.

* Factory default.

Print Quality Menu

The Print Quality Menu allows you to change the physical characteristics of the printed page. All choices are saved until the current print job has ended, except for Print Density, which changes after a few pages. See Chapter 6, “Print Quality,” for more information.

Table 4-10 presents the messages that appear when you select each of the menu items.

Table 4-10 Print Quality Menu

Menu	Item	Explanation
PRINT QUALITY MENU	ECONOMODE= [OFF*, ON]	Reduces the amount of toner on the printed page; the result is similar to draft mode on some dot matrix printers. (See Chapter 6.)
	RESOLUTION= <600*,300> DOTS PER INCH	Prints at 300 or 600 dpi. If the printer is unable to print a job at 600 dpi, it reverts to 300 dpi for the remainder of the job.
	RESOLUTION ENHANCEMENT= [OFF, ON*]	Prints fine quality characters and graphics by smoothing the gradations along the angles and curves of the printed image.
	PRINT DENSITY= [1, 2, 3*, 4, 5]	Varies the amount of toner applied to the paper while printing. The higher the setting (5 is highest) the darker the page; the lower the setting (1 is lowest) the lighter the page. Changes to this setting are effected during a print job by stopping the receipt of new data, clearing the printer of pages, changing the density, and then resuming the print job.

* Factory default

PostScript Menu

This menu is only available if the Adobe PostScript SIMM is installed in your printer. The HP LaserJet 5Si MX comes with PostScript pre-installed. The HP LaserJet 5Si/5Si NX do not, but will accept the SIMM as an upgrade.

Use this menu to print PostScript errors and to recover from paper jams. Table 4-11 presents the messages that appear when you select each of the menu items.

Table 4-11

PostScript Menu

Menu	Item	Explanation
POSTSCRIPT MENU	PRINT POSTSCRIPT ERRORS= [OFF*, ON]	Determines whether PostScript error messages print.
	JAM RECOVERY= [OFF*, ON]	Determines whether PostScript attempts to recover automatically from paper jams. Jam recovery uses more memory and thus may affect performance.

* Factory default.

Input/Output (IO) Menu

This menu contains the items related to I/O buffering. See Chapter 2, “Memory and Memory Management,” for additional information about the I/O functionality of your printer.

Table 4-12 presents the messages that will appear when you select each of the menu items.

Table 4-12

IO Menu

Menus	Item	Explanation
IO MENU	PARALLEL IO SPEED=[HIGH,LOW]	The rate at which data is transferred to print a page.
	IO TIMEOUT= [5 SEC, 10 SEC, 15 SEC*, 20 SEC, 30 SEC, 60 SEC, 120 SEC, 180 SEC, 240 SEC, 300 SEC]	The time, measured in seconds, that the printer waits before ending an incomplete print job. Once the item is selected, press + repeatedly to choose the desired setting for best performance.
	IO BUFFER= [AUTO*, OFF, ON]	The portion of the printer memory set aside to hold incoming data. When this item is set to AUTO, the memory set aside for I/O buffering is automatically determined by the printer based on available memory. When it is set to ON, the size can be manually adjusted. When it is set to OFF, no memory is set aside. This menu item will NOT appear in the menu unless sufficient memory is available to allow I/O buffering. For PCL, the standard 4 Mbytes of memory is sufficient. For PostScript it will take more than 12 Mbytes of memory. See Chapter 2 to learn how I/O buffering improves performance. Note: When the I/O buffer settings change, all downloaded resources are deleted, unless they are stored on the optional printer hard disk.
	IO SIZE= nnnK	Becomes visible only if IO BUFFER is set to ON. It is used to set the size of the buffer. Once the item is selected, press + repeatedly to reach the increment value desired. If you hold down the + key, the values speed the increments.

* Factory default.

Print Tasks

Introduction

This chapter explains how to:

- Print media from the best source.
- Load media into the input trays.
- Print a variety of media from Tray 1, including labels and transparencies, custom-size paper, letterhead documents, preprinted forms, and special papers.
- Print paper from the optional 2000-Sheet Input Tray (Tray 4).
- Verify the correct size and type of media in the paper trays.
- Print envelopes from Tray 1, from the optional Envelope Feeder, or using a software application.
- Select print media and the output bins.
- Adjust the paper stop.
- Print to the optional Multi-Bin Mailbox or Mailbox with Stapler.
- Staple Documents with the optional Mailbox with Stapler
- Print the first page of a document on a different size or type of paper.
- Select two-sided printing with the Duplex Unit.
- Stop a print request.
- Print multiple copies of a document.

Print Source and Media Options

Your printer can print on the media identified in the following table using the adjustable Trays 1, 2, 3, and (if installed) 4. The Duplex Unit provides two-sided printing.

- Tray 1 (multi-purpose) holds up to 100 sheets of paper or up to 10 envelopes.
- Trays 2 and 3 hold up to 500 sheets of paper.
- An optional Tray 4 holds up to 2000 sheets of paper.
- An optional Envelope Feeder provides automatic feeding of up to 100 envelopes.

Note

Paper or envelope holding capacities may vary depending on paper weight. Stated capacities refer to standard 20-lb bond paper.

CAUTION

Print *heavy-weight* papers, labels, maximum-size papers, and transparencies *only* from Tray 1. The destination for heavy-weight papers should be either the left or top output bins. Do not send heavy-weight papers to the stapler or mailbox bins. Heavier papers should be printed using Manual Feed. Load only one size of paper at a time in Tray 1.

Table 5-1 lists specifications and guidelines for each media type supported by the printer.

Media Selection Guidelines

Table 5-1 displays guidelines for selecting the appropriate media to print from Trays 1, 2, 3, and 4, and to the optional Mailbox with Stapler.

Table 5-1 Media Selection Guidelines

Tray 1	Dimensions	Weight	Capacity
Maximum paper size	11.7 x 17.7 in (297 x 450 mm)	Single-sided: 16-lb Bond to 110-lb Index (60 to 199 g/m ²)	100 sheets of 20-lb Bond (75 g/m ²) paper (Do not load to more than a maximum height of 10 mm—the paperfill mark.)
Minimum paper size	3.9 x 7.5 in (100 x 191 mm)	Two-sided: 16- to 28-lb Bond (60 to 105 g/m ²)	
Paper, Letter	8.5 x 11 in (216 x 279 mm)	Paper weighing above 28-lb (105 g/m ²) should be manually fed from Tray 1.	
Paper, ISO A4	8.3 x 11.7 in (210 x 297 mm)	Two-sided printing is NOT available for Maximum sized paper or on media smaller than Executive size.	
Paper, Executive	7.25 x 10.5 in (184 x 267 mm)		
Paper, Legal	8.5 x 14 in (216 x 356 mm)		
Paper, 11 x 17 in	11 x 17 in (279 x 432 mm)		
Paper, ISO A3	11.7 x 16.5 in (297 x 420 mm)		
Paper, JIS B5	7.16 x 10.12 in (182 x 257 mm)		
Paper, JIS B4	10.12 x 14.33 in (257 x 364 mm)		
Transparency	See minimum and maximum paper sizes listed above.	0.0039 – 0.0045 in. thick (0.099 to 0.114 mm)	Limit to paperfill mark on paper width guides
Label		0.005 – 0.007 in. thick (0.127 to 0.178 mm)	
Envelope, Commercial #10 (Com 10)	4.1 x 9.5 in (105 x 241 mm)	Should not exceed 24-lb Bond (75 g/m ²)	Up to 10 at one time
Envelope, C5	6.4 x 9.0 in (163 x 231 mm)		
Envelope, DL	4.3 x 8.7 in (109 x 220 mm)		
Envelope, Monarch and B5	3.9 x 7.5 in (99 x 191 mm)	Should not exceed 24-lb Bond (75 g/m ²)	Up to 10 at one time

Tray 2	Dimensions	Weight	Capacity
Paper, Letter	8.5 x 11 in (216 x 279 mm)	Single-sided: 16- to 28-lb (60 to 105 g/m ²)	500 sheets of 20-lb Bond (75 g/m ²) paper
Paper, ISO A4	8.3 x 11.7 in (210 x 297 mm)		
Paper, Legal	8.5 x 14 in (216 x 356 mm)		
Paper, JIS B4	10.12 x 14.33 in (257 x 364 mm)		
Tray 3 and (optional) Tray 4	Dimensions	Weight	Capacity
Paper, Letter	8.5 x 11 in (216 x 279 mm)	Single-sided: 16- to 28-lb (60 to 105 g/m ²)	For Tray 3, 500 sheets of 20-lb Bond (75 g/m ²) paper
Paper, ISO A4	8.3 x 11.7 in (210 x 297 mm)		
Paper, Legal	8.5 x 14 in (216 x 356 mm)		For (optional) Tray 4, 2000 sheets of 20-lb Bond (75 g/m ²) paper
Paper, JIS B4	10.12 x 14.33 in (257 x 364 mm)		
Paper, ISO A3	11.7 x 16.5 in (297 x 420 mm)		
Paper, 11 x 17 in	11 x 17 in (279 x 432 mm)		
(Optional) Stapler Unit	Dimensions	Weight	Capacity
Paper, Letter	8.5 x 11 in (216 x 279 mm)	Single-sided: 16- to 28-lb (60 to 105 g/m ²) No transparencies or labels	20 sheets of 20-lb Bond (75 g/m ²) paper per stapled document, up to 400 sheets
Paper, ISO A4	8.3 x 11.7 in (210 x 297 mm)		
(Optional) Mailbox Bins	Dimensions	Weight	Capacity
Face-Up Bin (Left Output Tray) All media types	Up to 8.5 x 11 in (216 x 279 mm)	Single-sided: 16- to 28-lb (60 to 105 g/m ²)	500 sheets of 20-lb Bond (75 g/m ²) paper
Face-Down Bins (Mailboxes) Paper, Letter	Up to 8.5 x 11 in (216 x 279 mm)		

Media Use Guidelines

The previous table presents guidelines for using media in the printer. Media that does not meet these guidelines may increase the incidence of paper jams, cause premature wear to the printer, and contribute to repair costs.

Before purchasing any media or specialized forms in quantity, make sure your paper supplier obtains and understands the paper and print media requirements specified in the *HP LaserJet Printer Family Paper Specification Guide*, which is available through HP Direct Distribution. Refer to Chapter 7, “Calling for Help,” for ordering information.

Note

Hewlett-Packard neither warrants nor recommends the use of a particular brand of print media. Media properties are subject to change by the manufacturer, and HP has no control over these changes. It is possible that paper could meet all of the guidelines and still not print satisfactorily. This might be due to improper handling, unacceptable temperature and humidity levels in the room, or other variables over which HP has no control.

HP recommends testing any paper before buying it in large quantities.

CAUTION

Using media outside the specifications listed on the previous pages or in the *HP LaserJet Printer Family Paper Specification Guide* may cause problems requiring service. This service is not covered by the Hewlett-Packard warranty or service agreements.

Table 5-2

Media Use Guidelines

Media Type	Guidelines
Paper and Preprinted Forms	<ul style="list-style-type: none"> • For best results, use conventional 20-lb (75 g/m²) xerographic paper. Make sure the paper is of good quality and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, and curled or bent edges. • Do not use paper with cutouts or perforations (including standard pre-punched paper) <i>with holes 8 mm in diameter or larger</i>. • Do not use letterhead papers that are printed with low-temperature inks, such as those used in some types of thermography. • Use only colored papers or preprinted forms that use inks compatible with your printer's fusing temperature (392°F/200°C for 0.1 second). • Keep paper stored in moisture-proof wrapping to prevent changes in moisture content that may cause poor print quality, jamming, or curling. • Avoid paper with ragged or cut edges to prevent feeding problems. • Do not use paper heavier than 28-lb (105 g/m²) from trays other than Tray 1. Tray 1 can feed 16-lb Bond to 110-lb Index (60 - 199 g/m²) paper. Heavier paper may cause misfeeds, stacking problems, paper jams, poor toner fusing, poor print quality, and excessive mechanical wear. • Do not use paper that is very rough, very smooth, or embossed. Such paper may cause feeding or print quality problems, and rough papers may have poor toner adhesion.
Adhesive Labels	<ul style="list-style-type: none"> • Use only labels recommended for use in laser printers. • Use only the Left Output Bin for printing labels. • The adhesive material should be stable at the 392° F/200° C temperatures encountered in the fusing process. None of the adhesive between the labels should be exposed. • Use labels with no exposed areas between labels. Using label stock with spaces between labels often causes labels to peel off during the printing cycle, causing serious jamming problems. Use a sheet of labels only once. • Labels must lie flat with no more than 0.5 in (13 mm) of curl in any direction. • Do not use labels that have separated from the backing sheet or with wrinkles, bubbles, or other indications of delamination.
Overhead Transparencies	<ul style="list-style-type: none"> • Overhead transparencies used in HP LaserJet printers must be able to withstand the 392°F/200°C temperature encountered in the fusing process. • Use only transparencies recommended for use in laser printers. Because transparency films tend to stick to each other, remove each transparency from the output bin before printing the next one. • Use only the Left or Top Output Bins for printing transparencies.

Media Type	Guidelines
Envelopes	<ul style="list-style-type: none">• The weight of the envelope paper should not exceed a 24-lb (90 g/m²) Bond rating, or jamming may result. Use only the Left or Top Output Bins for printing envelopes.• Envelopes should lie flat with less than 0.25 in (6 mm) curl.• Do not use envelopes with windows or clasps.• Make sure envelopes are not wrinkled, nicked, or otherwise damaged.• Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the heat and pressure of the fusing rollers in the printer. The extra flaps and strips may result in wrinkling or creasing, and may cause jamming.

Paper Trays 1, 2, 3, and (optional) Tray 4

You can load a single sheet of paper into Tray 1 or a stack of up to 100 sheets. Tray 1 (multi-purpose) is used for standard and custom paper sizes, envelopes, labels, and transparencies.

Paper Trays 2 and 3 each hold up to 500 sheets of 20-lb Bond paper. Tray 4 holds up to 2000 sheets of 20-lb bond paper.

Paper Tray 2 holds:

- Letter
- Legal
- ISO A4
- JIS B4

Paper Tray 3 and (optional) Tray 4 hold:

- Letter
- Legal
- ISO A4
- ISO A3
- 11 x 17 in
- JIS B4

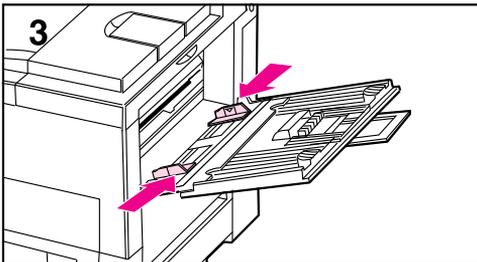
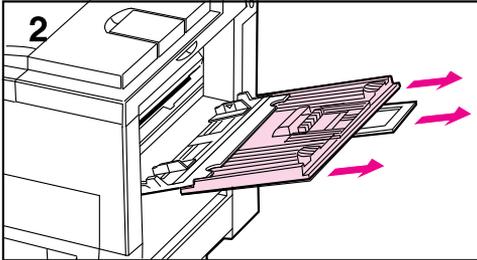
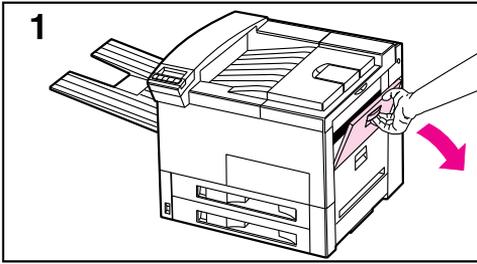
Adjustable paper size guides for each of the media listed are located inside the paper trays. See Tables 5-1 and 5-2 earlier in this chapter for media selection and use guidelines.

When all trays have the same type and size media loaded, by default the printer prints from paper sources in the following order:

1. Tray 1
2. Tray 4 (if installed)
3. Tray 2
4. Tray 3

For example, assume all paper sources contain the same size of paper. If you specify Tray 1 or Automatic, send a print request to the printer, and Tray 1 is empty, the printer prints from Tray 4. If Tray 4 is also empty (or not installed), the printer prints from Tray 2, and then from Tray 3.

Loading Media Into Tray 1 (Multi-purpose)



CAUTION

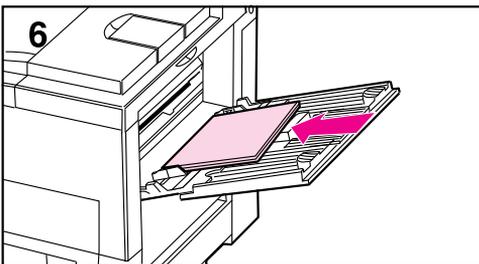
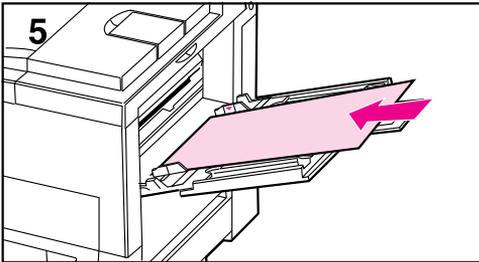
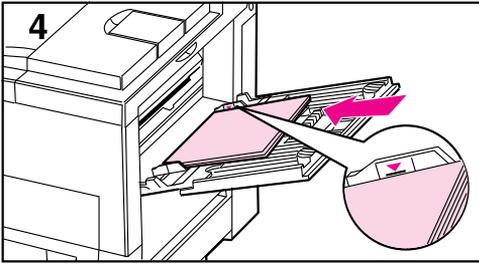
To avoid a paper jam, never add or remove media from Tray 1 while the printer is printing. To avoid damaging the printer, print labels and transparencies only from Tray 1. Send them to the Left Output Bin, and do not print them two-sided.

When printing multiple transparencies, promptly remove each print as soon as it emerges from the printer (so the sheets do not stick together).

- 1 Open Tray 1.
- 2 Pull out the tray extension, if needed for the paper size you are printing.
- 3 Slide the paper width guides to the appropriate size marked on the tray.

Continued on the next page.

- 4 Place paper into the tray without stacking it above the paperfill mark. Less than 100 sheets of paper may not lay flat.



Note

For single-sided printing place paper into the tray with side-to-be-printed *up*. Load 3-hole paper with the holes toward the front of the printer. For two-sided printing place paper with the front side *down*, and load 3-hole paper with the holes toward the back of the printer.

- 5 Paper loading differs by size:
 - a. Load Letter and ISO A4 with the longer edge of the page leading into the printer.
 - b. Load envelopes, postcards, Executive, Legal, 11 x 17 in, ISO A3, JIS B5, or JIS B4 with the short edge of the page leading into the printer.

Note

You may use two-sided printing for sizes equal to or larger than executive size paper.

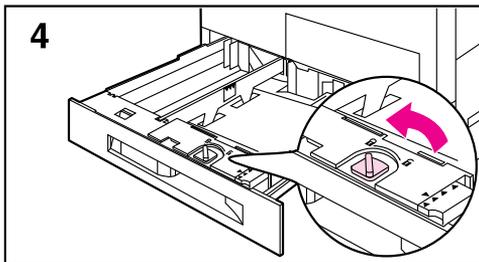
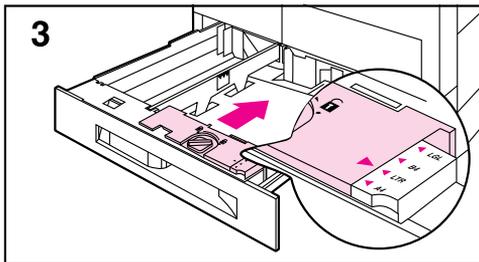
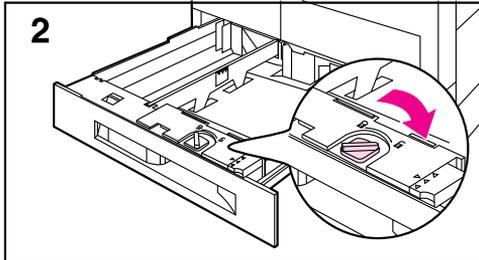
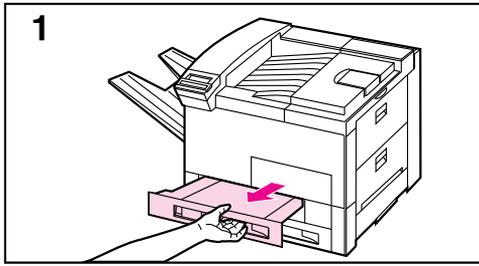
- 6 Slide the paper into the printer, until paper fits squarely and firmly between the paper width guides, without bending the paper.
- 7 Set the correct paper type and size for Tray 1 in the TRAY MENU on the printer control panel.

Note

Paper heavier than 28-lb (105 g/m²) should be printed from Tray 1 using Manual Feed.

If you are using the Top Output Bin, adjust the paper stop guide for the paper size to be printed (see Figure 5-4).

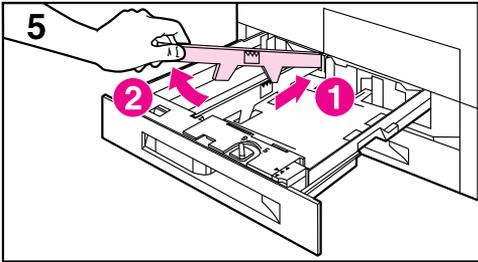
Loading Paper into Tray 2 or Tray 3



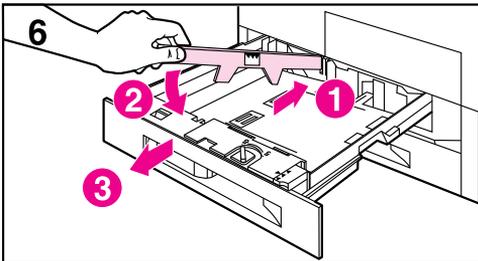
- 1 Open the tray until it stops.
- 2 Turn the paper guide lock to the unlocked position.
- 3 Slide the paper guide to the mark indicating the size of paper you are loading.
- 4 Turn the paper guide lock to re-lock the position of the tray.

Continued on the next page.

- Adjust the left paper guide by pushing in (1), then lifting up and out (2).



- Position the guide over the appropriate lines marked in the tray. Press the guide into the rear slot (1) and then lower down (2) into the front slot (3). Be sure the guide is not skewed.

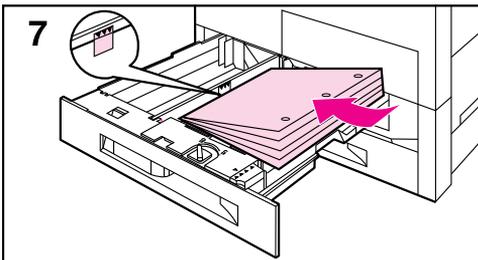


- Place paper into the tray without stacking it above the paperfill mark. Fewer than 100 sheets of paper may not lay flat (from rear to front).

Note

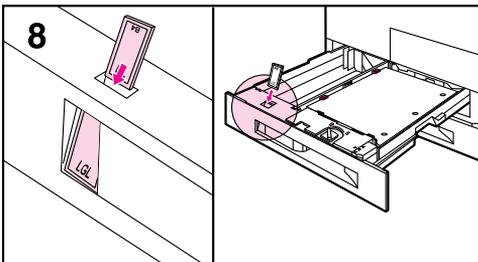
For single-sided printing place paper into the tray with side-to-be-printed *down*. Letterhead should orient to the rear of the tray. Load 3-hole paper with holes on your right.

For two-sided printing place paper with the front side (odd-numbered) *up*. Letterhead should be oriented to the rear of the tray. Load 3-hole paper with holes on your left.



- Ensure that the paper size tab is set correctly. Then slide the tray back into the printer.

- If you wish to select your paper by type rather than tray (source) in your software, set the correct paper type for Trays 2 and 3 in the TRAY MENU on the printer control panel.



Adjust the paper stop guide on the Top Output Bin for the paper sizes larger than Letter or A4 (see Figure 5-4).

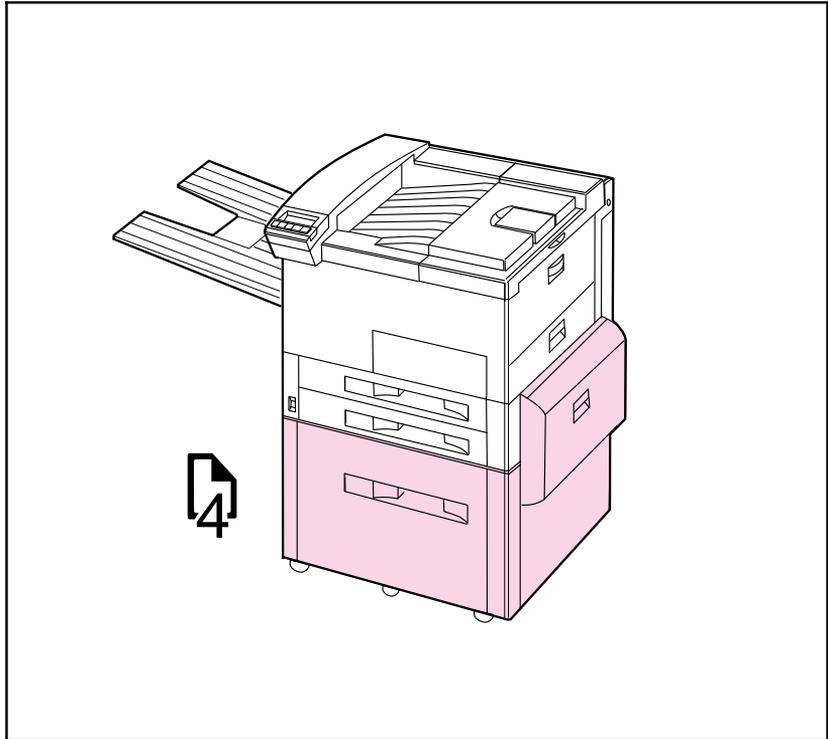
Note

If paper curls or skews excessively during printing, open the tray and turn the stack of paper over. To avoid a paper jam, never open the tray while it is in use.

Optional 2000 Sheet Input Tray

An optional 2000 Sheet Input Tray is available as an option for the HP LaserJet 5Si/5Si MX/5Si NX printers (see Figure 5-1.) The tray fits under the printer, acting as a base.

Figure 5-1

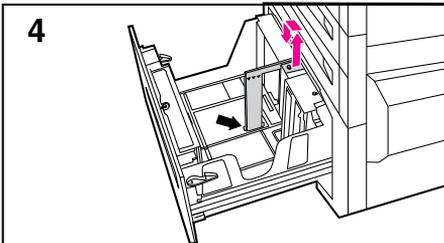
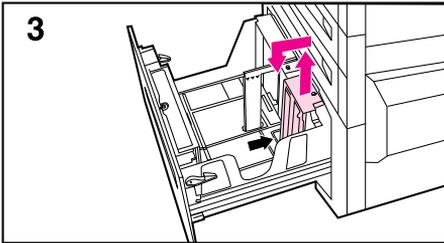
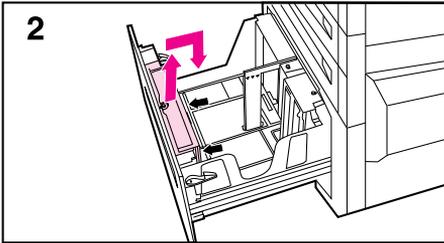
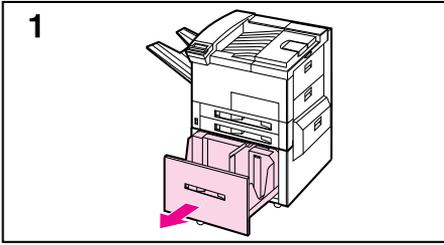


2000 Sheet Input Tray (Tray 4)

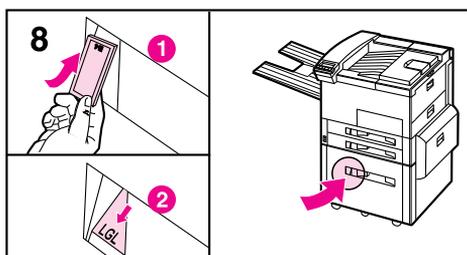
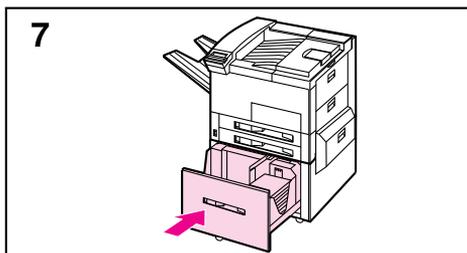
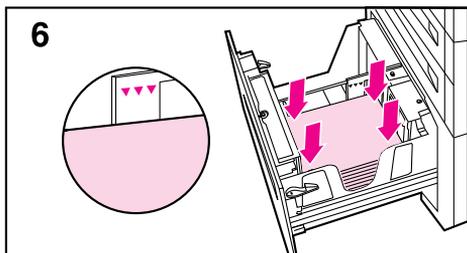
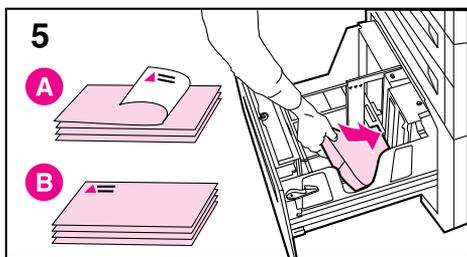
Tray 4 adjusts for Letter, Legal, ISO A4, ISO A3, 11 in. x 17 in., and JIS B4 paper. The tray holds approximately 2000 sheets of 20-lb Bond paper.

Loading Paper into Tray 4

- 1 Slide Tray 4 open until it stops.
- 2 Adjust the front guide by pulling up on the pin, placing the guide into the corresponding top and bottom slots, and then pushing in the pin.
- 3 Adjust the back guide by pulling up on the pin, placing the guide into the corresponding top and bottom slots, and then pushing in the pin.
- 4 Adjust the left guide by pulling up on the pin and placing the guide into the corresponding top and bottom slots. Store the left guide when using 11 x 17 in paper.



- 5 Load up to 2000 sheets of paper into the tray; do not allow paper to extend above the paperfill mark on the sides.



Note

For single-sided printing on Letter or A4 paper, place paper into Tray 4 with the side-to-be-printed *down*. Letterhead should be oriented to the rear of the tray. Load 3-hole paper with holes on your right. For two-sided printing, place paper with the front side (odd-numbered) *up*. The back side (even-numbered) is printed first, and the front side is printed second. Letterhead should be oriented to the rear of the tray. Load 3-hole paper with holes on your left.

For single-sided printing on 11 x 17 in, Legal, A3, or JIS B4, place paper into the tray with the side-to-be-printed *down*. For two-sided printing, place paper with the front side (odd-numbered) *up*. The back side (even-numbered) is printed first, and the front side is printed second.

- 6 Press down on all four corners of the paper stack to ensure the paper rests flat in the tray, without bending the paper.
- 7 Close Tray 4.
- 8 Ensure that the paper size tab is set correctly.

Note

See “Changing Paper Type and Size from the Control Panel” later in this chapter to set the type of paper you loaded in the tray.

If using the Top Output Bin, remember to adjust the paper stop guide on the output bin (see Figure 5-4).

Envelopes in Tray 1

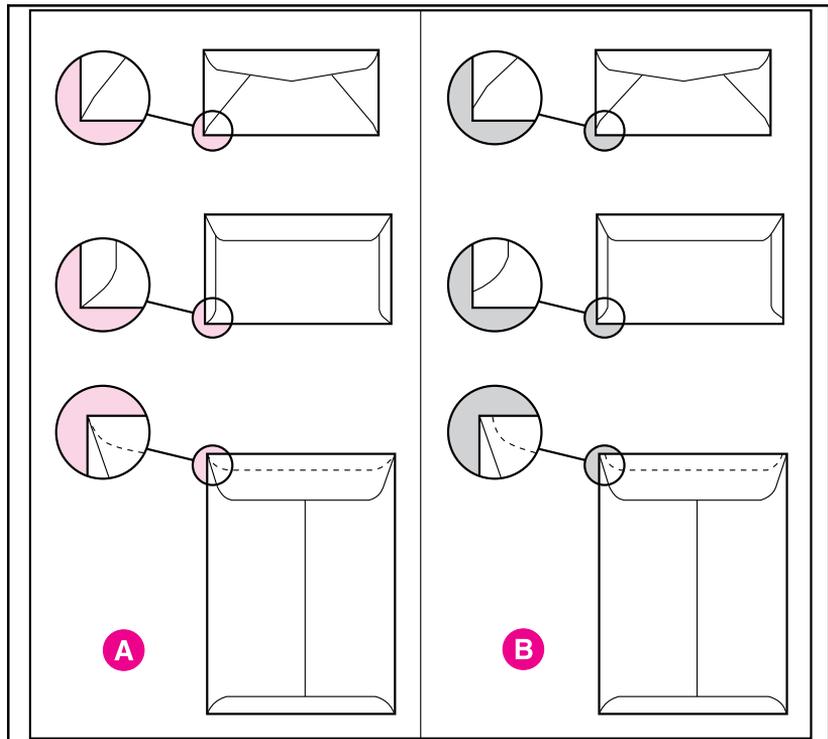
You can print up to ten envelopes from Tray 1. This section explains how to print an envelope using your software application. Table 5-1 lists the kinds of envelopes you can print. Check the media use guidelines in Table 5-2 before loading envelopes. (See “Media Use Guidelines” earlier in this chapter.)

CAUTION

Never use envelopes with clasps, snaps, windows, coated linings, self-stick adhesives (peel and seal), or other synthetic materials. These items can severely damage your printer. Never try to print on both sides of an envelope. Jamming and printer damage can result. Do not staple envelopes or send them to mailbox bins.

Before you load an envelope in Tray 1, check to make sure it is rectangular in shape and undamaged. It is a good idea to run a pen or pencil down the leading edge (side being fed into the printer) to flatten it before you insert it in Tray 1.

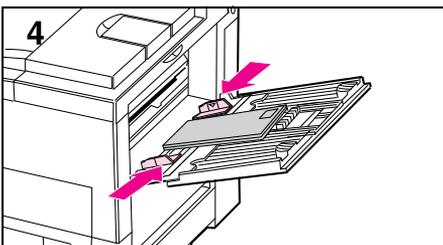
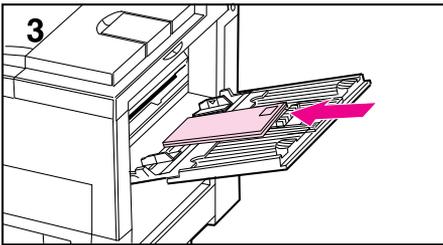
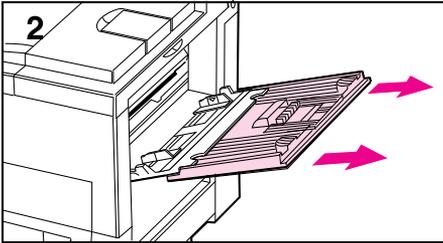
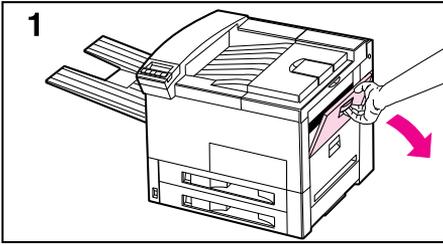
Figure 5-2



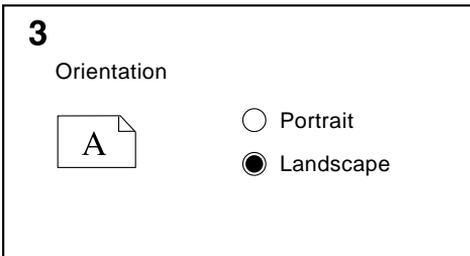
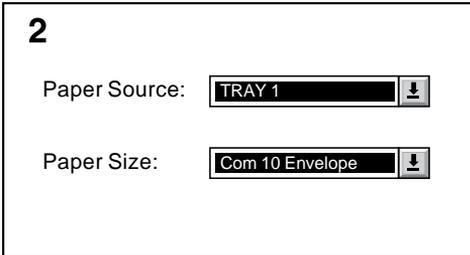
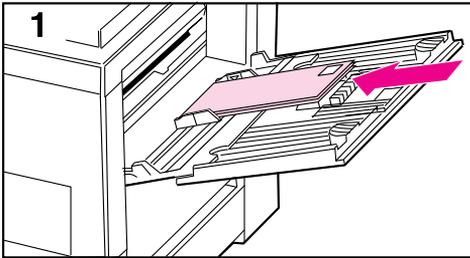
A) Good Construction for Envelopes B) Poor Construction for Envelopes

Loading Envelopes into Tray 1

- 1 Open the door of Tray 1.
- 2 If necessary, pull out the tray extension for the envelope size you are printing.
- 3 Gently place up to ten envelopes between the paper width guides, face up, with the back flap lying against the rear paper guide.
- 4 Slide the paper width guides until they lightly touch both sides of the envelope stack without bending it.
- 5 Set the envelope size and type in the TRAY MENU on the control panel for Tray 1.



Printing Envelopes from Your Software Application



1 Load up to ten envelopes into Tray 1.

2 Specify Tray 1, Automatic, or select the media source by type in your software application, and set the envelope size and type to the appropriate envelope size, such as COM 10 or DL.

3 If your software does not automatically format an envelope, specify Landscape for page orientation in your application.

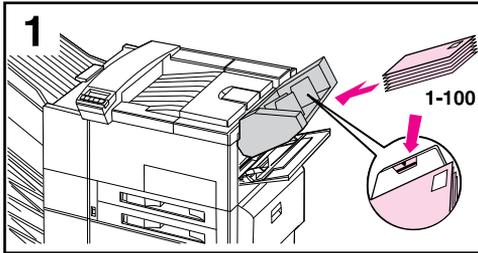
CAUTION

To avoid a printer jam, once you begin printing, *do not* remove an envelope and reinsert it.

For best print quality, use the following table to set margins for a return and mailing address. It gives you typical address margins for a Commercial #10 or DL envelope. For envelopes of other sizes, adjust the margin settings until they please you. *Avoid* printing over the area where an envelope's three back flaps meet.

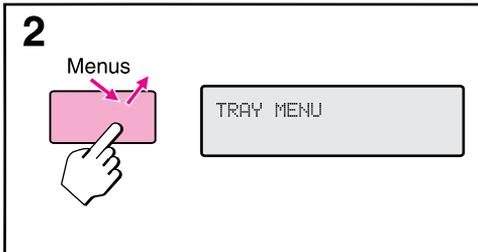
Type of Address	Left Margin	Top Margin
Return	0.5 in (15 mm)	0.5 in (15 mm)
Mail destination	4.0 in (85 mm)	2.0 in (51 mm)

Optional Envelope Feeder



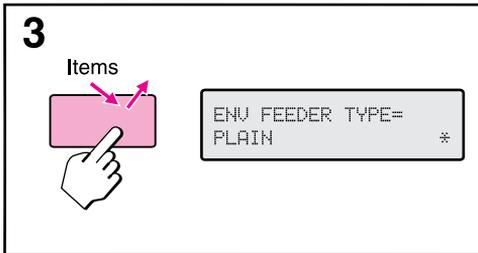
The optional Envelope Feeder can hold 2X postcards and B5, Com 10, C5, DL, and Monarch envelopes. You can load up to 100 envelopes in the optional Envelope Feeder. Select the appropriate envelope size and type through the printer control panel before printing.

Printing from the Optional Envelope Feeder



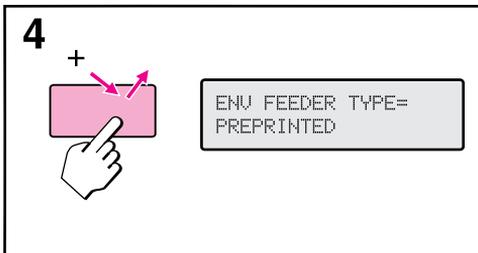
1 Load up to 100 envelopes in the feeder (do not exceed the paperfill mark).

2 From the control panel, press **Menu** repeatedly until TRAY MENU appears.



3 Press **Items** repeatedly until ENV FEEDER TYPE= PLAIN * appears.

4 Press **+** to view options.



Note

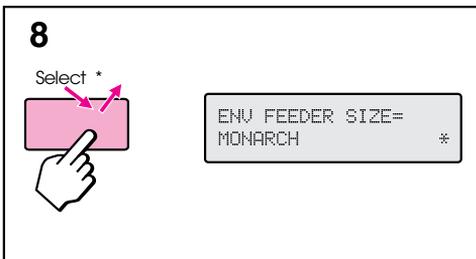
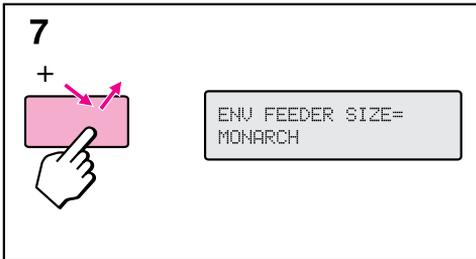
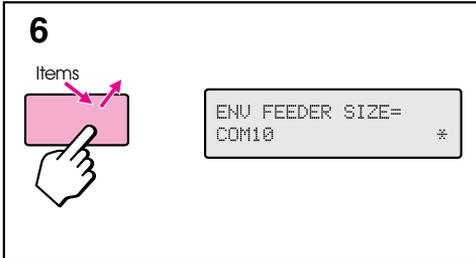
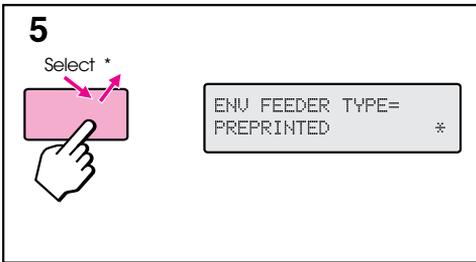
If printer displays a load envelope message, load envelopes and press **Select**.

5 Press **Select *** to select the appropriate choice.

6 Press **Items** again to see ENV FEEDER SIZE= COM10 *

7 Press **+** to view options.

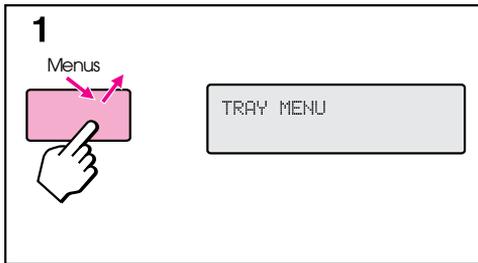
8 Press **Select *** to select the appropriate choice.



When printing you may select the optional Envelope Feeder as your media source, or you may select your media by type. To select by media type, you choose the type in the printer driver that matches the envelope type you set on the printer control panel.

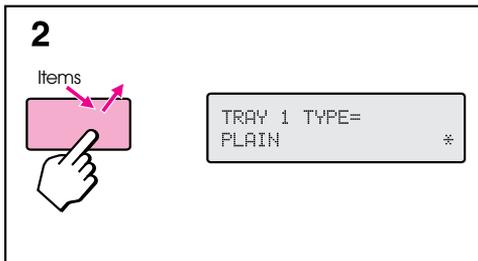
If you cannot access the optional Envelope Feeder when printing, you may need to ensure that the optional Envelope Feeder has been installed in your printer driver. See Chapter 3, "Printer Software" for information on accessing the printer driver.

Changing Media Type and Size from the Control Panel



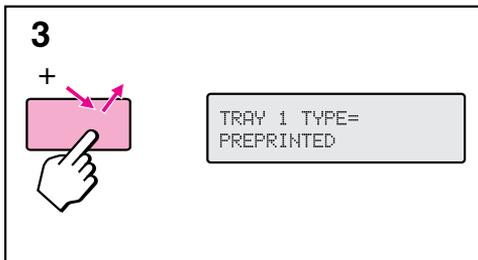
1 Press **Menu** repeatedly until TRAY MENU appears.

2 Press **Items** repeatedly to scroll through the trays and their media types.



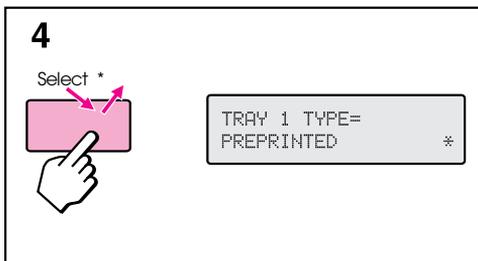
Note

You must select the size of the media before using Tray 1 or the optional Envelope Feeder since they do not have a sensor for identifying paper size. If either is being used, you will also have a menu item for media size.



3 Press **+** repeatedly to scroll through the media type options.

4 Press **Select *** to choose the type of media you loaded in the tray.



If you want to select the media for your job by type, and not by the paper tray (source), you will have to set the type value for each tray on the printer control panel, and in the printer driver. See Chapter 3 for information on accessing the printer driver.

Selecting media by type rather than source is similar to locking out the tray(s). If you have letterhead loaded in Tray 1, and you select to print on plain paper in your driver, the printer will not pull the letterhead paper from Tray 1. However, it will pull from one of the other trays if plain paper is loaded, and has been set on the printer control panel.

Output Bins

The Top Output Bin, located at the top of the printer (see 1 in Figure 5-3), holds up to 500 sheets of paper in the correct order as they exit the printer. A sensor causes the printer to stop when the paper bin is full. Printing continues when you empty or reduce the amount of paper in the bin. The Top Output Bin is the factory default bin.

The Left Output Bin, located on the upper left side of the printer (see 2 in Figure 5-3), holds up to 125 sheets of paper face up as they exit the printer. This bin is mainly used for special media types, such as labels or transparencies, that cannot tolerate the curved paper path of the Top Output Bin. This output bin does not sense when the bin is full.

The optional Multi-Bin Mailbox or Mailbox with Stapler (see 4 in Figure 5-3) attaches to the left side of the printer. The Multi-Bin Mailbox contains eight bins which hold up to 250 sheets each. The Mailbox with Stapler contains five bins which hold 250 sheets each, plus a stapler. The mailbox accessories work in one of the following three modes:

- Mailbox - Each bin can be addressed individually as the output destination, and can have a name assigned to it by the network administrator.
- Job Separation - Automatically separates incoming jobs assigning a bin to each job, which may include multiple copies. It uses all five mailbox bins for this purpose, but is seen in the printer software as one logical bin. If a mailbox bin is full, the printer round robins to the other bins, and puts any overflow in the top output bin.
- Stacking - This mode stacks the printed output from the lowest bin to the top, regardless of job boundaries. This mode of operation takes advantage of the total capacity of the five mailbox bins. The device is seen by the printer software as one logical bin.

In a bidirectional environment, the printer automatically selects the mode established by the network administrator. In nonbidirectional environments, you can change the mode in the driver. The method for changing the mode varies by driver and by operating system. Refer to your driver's on-line help.

The printer control panel will display different messages depending on which mode you are using.

In Mailbox Mode, if the Control Panel says:	Then the physical location is:
OPTIONAL OUTPUT BIN 1	Left Output Bin
OPTIONAL OUTPUT BIN 2 through 6	Mailbox 1-5
OPTIONAL OUTPUT BIN X	Stapler Bin

(X represents any number other than 1 through 6.)

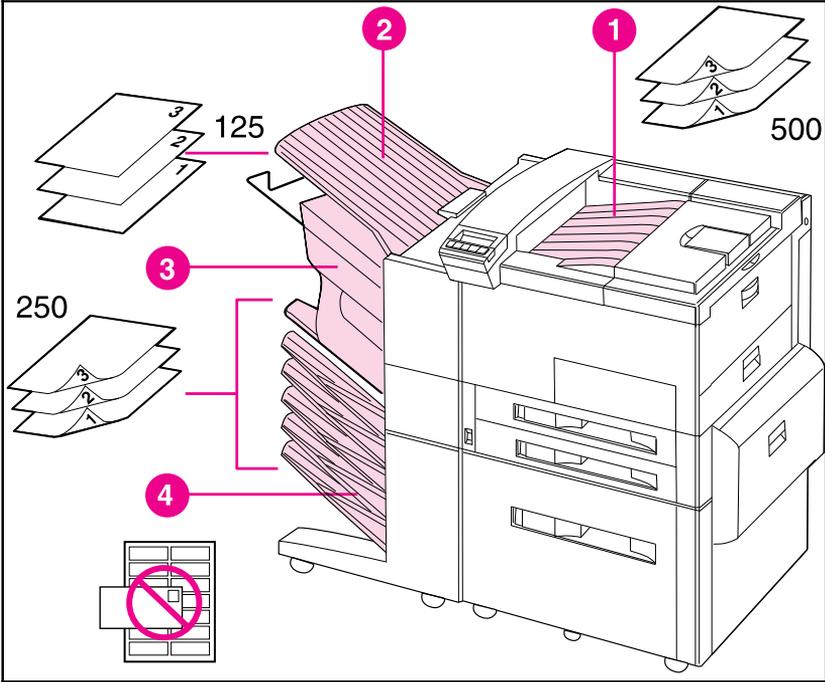
In Job Separator or Stacking Modes, if the Control Panel says:	Then the physical location is:
OPTIONAL OUTPUT BIN 1	Top Output Bin
OPTIONAL OUTPUT BIN 2	Mailbox bins
OPTIONAL OUTPUT BIN X	Stapler Bin

(X represents any number other than 1 through 6.)

Note

The mailbox handles all of the printer's supported paper sizes. Envelopes, labels, and transparencies are sent only to the Left Output Bin (face-up).

Figure 5-3



Output Bins

- 1. Top Output Bin
- 2. Left Output Bin
- 3. Stapler Bin
- 4. Optional Mailbox Bins

Selecting the Left Output Bin

The Left Output Bin should be used for envelopes, transparencies, and labels. Using this bin helps reduce paper curl.

Selecting the Left Output Bin through the Software

You can select an output bin through your software application or printer driver, or from the printer control panel. Normally, we recommend designating the paper destination in your software or printer driver, since options set there override printer control panel settings. Follow the instructions below for setting the Left Output Bin as the printer's default output bin through the printer control panel.

Note

Where and how you make selections depends on your software application or associated printer driver. In some environments, the selection process may be available *only* from within the printer driver (if the control panel has been locked by the network administrator, for example.) See Chapter 3 or your application manual for more information.

Selecting the Left Output Bin from the Control Panel

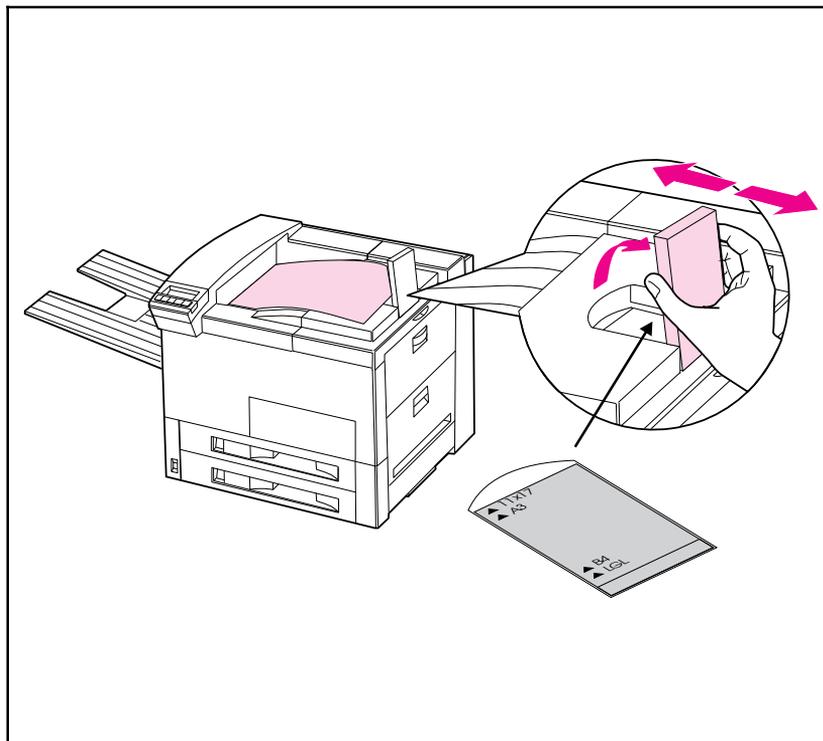
- 1 Press **Menus** repeatedly until CONFIGURATION MENU appears.
- 2 Press **Items** repeatedly until PAPER DESTINATION=TOP OUTPUT BIN * appears.
- 3 Press **+** repeatedly until OPTIONAL OUTPUT BIN 1 or bin name assigned to it by the Network Administrator appears.
- 4 Press **Select *** to save your choice. An asterisk (*) appears next to your selection.

Adjusting the Paper Stop

The paper stop (shown in Figure 5-4) is located near the Top Output Bin. It can be adjusted to help paper lay flat as it exits the printer. The paper stop does not have to be raised for Letter or A4 size media. Note that the printer jams if the paper stop is set to a smaller size of media than is being printed.

- 1 Pull the left side of the paper stop up until the stop is in an upright position.
- 2 Slide the paper stop to the mark indicating the largest paper size to be printed.

Figure 5-4



Adjustable Paper Stop

Printing to the Multibin Mailbox or Mailbox with Stapler

The optional Multi-Bin Mailbox or Mailbox with Stapler can work in one of three modes: mailbox mode, job separation mode, or stacking mode. The network or printer administrator determines which mode of operation is chosen through an HP network configuration utility, such as HP JetAdmin or HP LaserJet Utility. You need to set up your printer driver to reflect the mode chosen by the administrator. Bidirectional environments automatically reflect the administrator's choices in your printer driver.

The printer control panel displays different names for the mailboxes and stapler, depending on which mode the driver is using.

In Mailbox Mode, if the Control Panel says:	Then the physical location is:
OPTIONAL OUTPUT BIN 1	Left Output Bin
OPTIONAL OUTPUT BIN 2 through 6	Mailbox 1-5
OPTIONAL OUTPUT BIN X	Stapler Bin

(X represents any number other than 1 through 6.)

In Job Separation or Stacking Modes, if the Control Panel says:	Then the physical location is:
OPTIONAL OUTPUT BIN 1	Top Output Bin
OPTIONAL OUTPUT BIN 2	Mailbox bins
OPTIONAL OUTPUT BIN X	Stapler Bin

(X represents any number other than 1 through 6.)

Selecting the Multi-Bin Mailbox or Mailbox with Stapler through the Software

You can select these output bins through your software application, printer driver, or from the printer control panel. It is better to designate the paper destination in your software or printer driver since you will control to which output bin your job is sent. Otherwise, follow the instructions below for setting the overall default output bin selection.

Note

Where and how you make selections depends on your software application or associated printer driver. The selection process may be available *only* from within the printer driver. See Chapter 3 or your application manual for more information.

Selecting the Multi-Bin Mailbox or Mailbox with Stapler as default destination from the Control Panel

- 1 Press **Menu** repeatedly until CONFIGURATION MENU appears.
- 2 Press **Items** repeatedly until PAPER DESTINATION= TOP OUTPUT BIN * appears.
- 3 Press **+** repeatedly until PAPER DESTINATION= OUTBIN x appears. The *x* represents a number from 1–7 (for the output bins). Your network administrator may have changed these names.
- 4 Press **Select *** to save your choice. An asterisk (*) appears next to your selection.

Stapling Documents

The stapler can staple documents of 2 to 20 pages on 16 lb. to 20 lb. bond paper, Letter and A4 size only. The stapler should not be set as the default output bin. If your job is only one page, or if it is greater than 20 pages, the printer will print your job to the bin, but it will not be stapled. The stapler bin can hold up to 350 stapled sheets. To have your job stapled, send it to OPTIONAL OUTBIN 7.

Selecting the Stapler through the Software

You can select the stapler through your software application or printer driver. This is the recommended method for stapling. If you are unable to designate the paper destination in your software or printer driver, follow the instructions below for setting the overall default printer output bin selection.

Note

Where and how you make selections depends on your software application or associated printer driver. The selection process may be available *only* from within the printer driver. See Chapter 3, “Printer Software,” or your application manual for more information.

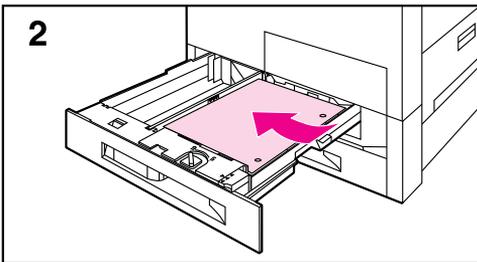
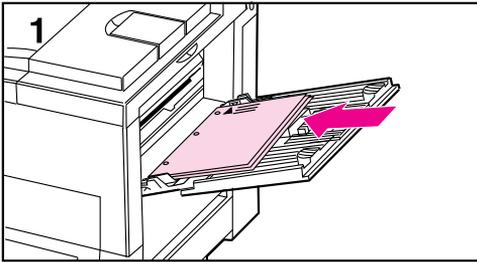
Selecting the Stapler as default destination from the Control Panel

If your software does not support stapling, set it using the directions below.

- 1 Press **Menu** repeatedly until CONFIGURATION MENU appears.
- 2 Press **Items** repeatedly until PAPER DESTINATION= TOP OUTPUT BIN * appears.

- 3 Press **+** repeatedly until PAPER DESTINATION= OUTBIN 7 appears. Your network administrator may have changed the name of this bin. For example, it may be called STAPLER.
- 4 Press **Select *** to save your choice. An asterisk (*) appears next to your selection.

Different First Page



Use the following procedure to print the first page of a document on preprinted or special paper, such as a letter with just the first page on letterhead paper.

- 1 Select a different paper for the first page in your application or printer driver.

Note

Where and how you make selections depends on your software application or associated printer driver. The selection process may be available *only* from within the printer driver. See Chapter 3 or your application manual for more information.

- 2 Choose the designated tray (or Manual Feed) for the first page and the other tray for the remaining pages.

- 3 Place the paper for the first page in the tray.

For manual feed, place a page in Tray 1 after the job is sent to the printer, and the printer requests the paper to be loaded. Place the page with the side to be printed up, with the top of the page placed towards the rear of the printer and the long edge leading into the printer.

- 4 Load the paper for the remaining pages of the document in another tray.

You may select the first and remaining pages by type of media. You must set the types of media loaded in the trays through the control panel (see “Changing Paper Type and Size from the Control Panel” earlier in this chapter). Then select the paper source in the printer driver not by tray, but by type.

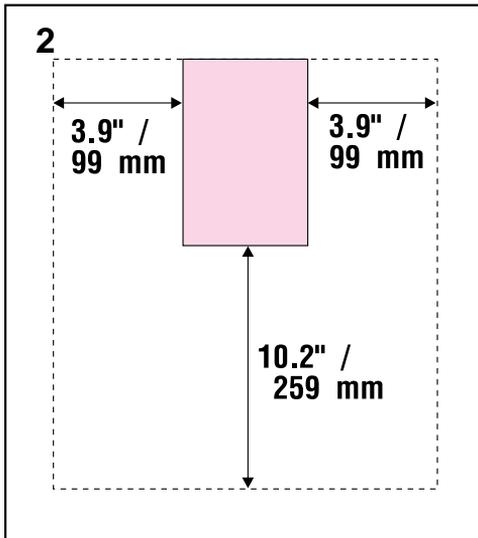
Custom Size Paper in Tray 1

1

Paper Source: 

Paper Size: 

You can print on custom-size paper from Tray 1. The largest size of paper supported is 11.7 x 17.7 in (297 x 450 mm). The smallest size is 3.9 x 7.5 in (99 x 191 mm). *When you select maximum size of paper, the printer assumes the maximum page size is 11.7 x 17.7 in (297 x 450 mm).*



Printing on the Smallest-Sized Paper

Some applications require you to calculate margins in order to print on custom-size paper. The following example is provided as a guideline. Adapt this example to your paper size and unit of measurement.

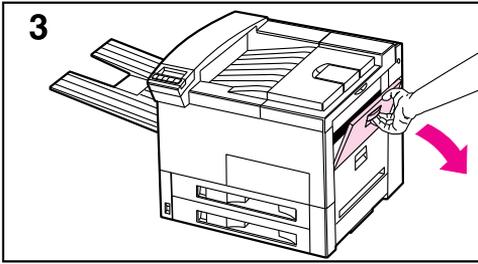
- 1** In your software application, select Tray 1 for the paper source and Maximum (Windows PCL) or Oversize (Macintosh and Windows PostScript) for the paper size.
- 2** Calculate margins to identify the area to be printed. Illustration 2 and steps 2a and 2b show how to calculate a margin for 3.9 x 7.5-in (99 x 191 mm) paper.
 - a.** Take the maximum paper width size 11.7 in (297 mm) and subtract 3.9 in (99 mm) for the width of the paper. Take the answer, 7.8 in (198 mm), and divide it by 2, which equals 3.9 in (99 mm).

In your software application, select a left margin of 3.9 in (99 mm) and a right margin of 3.9 in (99 mm).

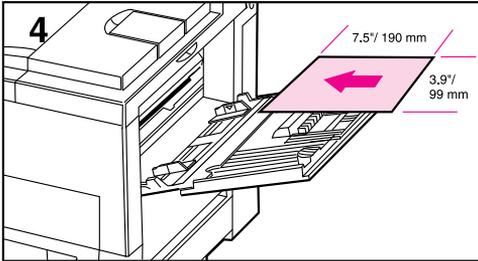
- b.** If your software allows, also set the bottom margin. Take the maximum paper length size, 17.7 in (450 mm), and subtract 7.5 in (191 mm), the length of the paper. The bottom margin equals 10.2 in (259 mm).

Continued on the next page.

- 3 Print custom-size paper from Tray 1. See “Loading Media into Tray 1” earlier in this chapter for the procedure.



- 4 The edge of the paper feeding into the printer must be at least 3.9 in (99 mm) wide to allow rollers inside the printer to grab the paper. Measuring from the leading edge to the trailing edge of the paper going into the printer, the length dimension must be at least 7.5 in (190 mm).



Note

You may use two-sided printing on paper sizes equal to or larger than Executive.

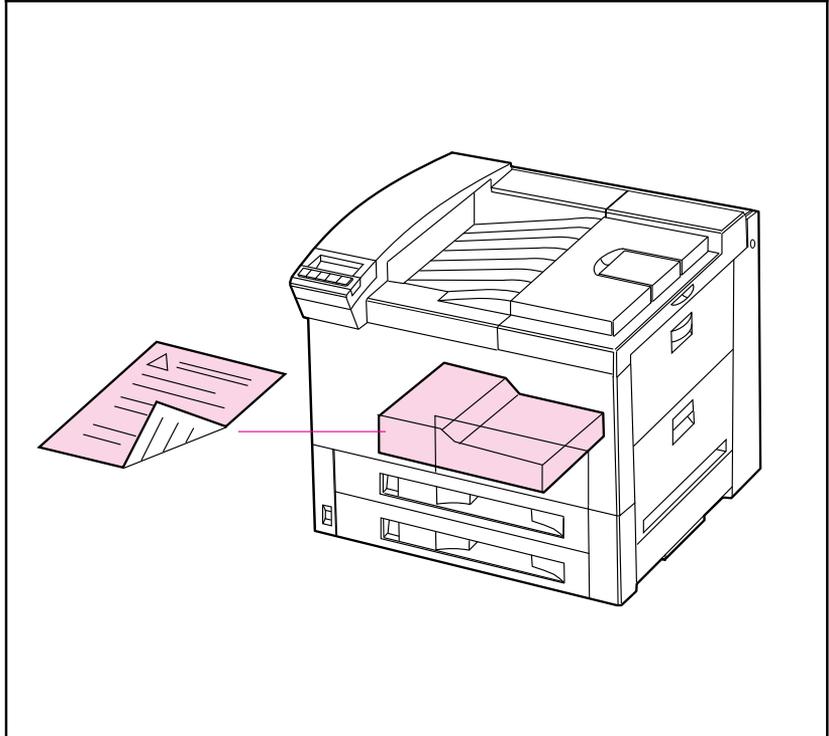
Printing Bleeds

Since the printer has the ability to print on specially cut paper up to 11.7 x 17.7 in (297 x 450 mm), you can print up to 11 x 17 in (279 x 432 mm) bleed images with crop marks. Refer to your software application or online help.

Two-Sided Printing with the Duplex Unit

The Duplex Unit (shown in Figure 5-5) allows printing on both sides of the paper (two-sided) with either portrait or landscape orientation. You can select two-sided printing through your application, the printer driver, or the printer control panel.

Figure 5-5



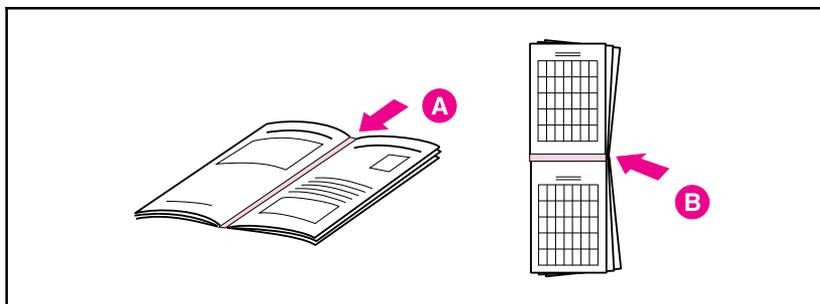
Duplex Unit

Binding Options

Before printing in two-sided mode, decide how you want your finished document bound: stapled (stitches), in three-hole binders, glued, or by some other means. The binding setup options are:

- *Book (long-edge) binding*, which is the conventional layout used in book binding (see A in Figure 5-6 below).
- *Tablet (short-edge) binding*, which is the type often used with calendars (see B in Figure 5-6 below).

Figure 5-6



Binding Options

You may select two-sided printing in your application or printer driver. See Chapter 3 for information on accessing the printer driver. The printer settings usually come first from the application, second from the printer driver, and last from the control panel.

Selecting Two-Sided Printing from the Control Panel

- 1 Press **Menus** repeatedly until CONFIGURATION MENU appears.
- 2 Press **Items** repeatedly until 2-SIDED= OFF * appears.
- 3 Press **+** repeatedly until 2-SIDED= ON appears.
- 4 Press **Select *** to choose two-sided printing. An asterisk (*) appears next to your selection.
- 5 Press **Items** repeatedly until BINDING=LONG EDGE * or BINDING=SHORT EDGE * appears.
- 6 Press **Select *** to save your choice. An asterisk (*) appears next to your selection.

Stopping a Print Request

You can stop a print request from your software application or from the printer control panel. To stop a print job from a computer on a network, refer to the *HP JetDirect Print Server Software Installation Guide*.

Note that it may take some time for all printing to clear after canceling a print job.

Stopping the Current Print Job from Your Software Application

If many requests have been sent to the printer through your software, they may be waiting in a print queue (in Windows Print Manager, for example). See the instructions that come with your software for specific instructions about canceling a print request in the computer.

Note

In order to cancel a print job, at least one (and sometimes two) printed page(s) must be delivered to the destination output bin. This ensures that you identify the *correct* print job.

Stopping the Current Print Job from the Control Panel

- 1 Press **Menus** repeatedly until `JOB CONTROL MENU` appears.
- 2 Press **Items** repeatedly until `CANCEL JOB` appears.
- 3 Press **Select *** to cause the printer to stop printing, and display the message `STOPPING CHECK LAST PAGE` until the last page currently being printed is placed in the output bin.
- 4 `PRESS SELECT TO CANCEL JOB` appears on the display. To cancel the job, press **Select ***.
- 5 The message `CANCELING JOB` appears. This message remains until the job is cleared from the system.

Note

To skip canceling the job, press the **On Line**, **Menus** or **Items** key.

Print Quality

Introduction

The HP LaserJet 5Si/5Si MX/5Si NX prints at true 600 dots-per-inch (dpi) with Resolution Enhancement technology (REt) and MicroFine toner. REt adjusts the size and placement of each dot to smooth angles and curves. Combined with MicroFine toner, this sharpens the appearance of text and graphics. The printer also offers 300-dpi printing with REt to give you a wider range of printing alternatives.

This chapter tells you how to:

- Choose print resolution.
- Fine-tune print quality by adjusting the print density.
- Improve print quality.
- Use EconoMode to print drafts and save toner.

Note

To find the current printer settings, use the printer control panel to print a configuration page. This procedure is described in “Test Menu” in Chapter 4, “Printer Control Panel.”

Print Resolution

You can select 300- or 600-dpi resolution for your printed page; however, 600 dpi (the default setting) provides better print quality. If available, you can select resolution through your software application; otherwise you can use the control panel.

Changing the Print Resolution Setting from the Control Panel

- 1 Press **Menu** repeatedly until the PRINT QUALITY MENU appears.
- 2 Press **Items** repeatedly until RESOLUTION= 600 DOTS PER INCH appears.
- 3 Use the **+** to switch between 600 and 300 dpi.
- 4 Press **Select *** to save the 600- or 300-dpi setting.

Print Density

Print density is a measure of the darkness of the print on the page. The degree of darkness depends on how much toner is applied to the paper while printing.

Print density adjustments are made through the control panel. Settings range from Print Density = 1 to Print Density = 5, with 5 being the darkest setting. See the procedure below to change the print density setting from the control panel. Changes to this setting are effective during a printed job within one or two pages.

Note

The higher the print density setting, the more toner the printer uses. To extend the life of your toner cartridge, choose lighter print density settings.

If available, you can change this setting through your software application; otherwise, use the control panel.

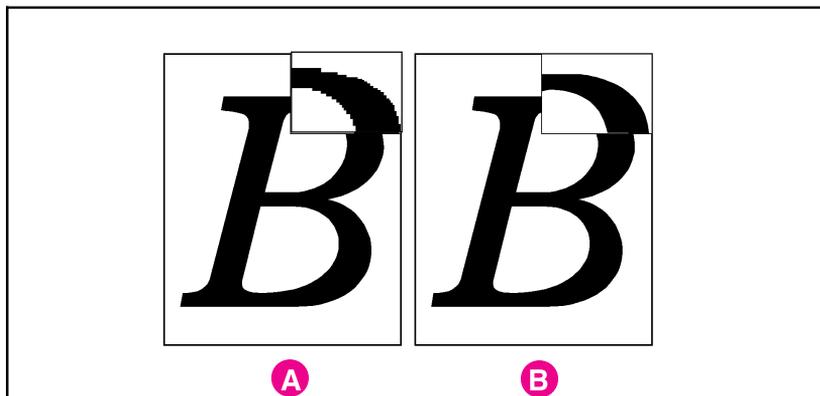
Adjusting Print Density from the Control Panel

- 5 Press **Menus** repeatedly until PRINT QUALITY MENU appears.
- 6 Press **Items** repeatedly until PRINT DENSITY=3* appears.
- 7 Press **+** repeatedly until the desired setting appears. Your choices are 1-5; 1 = the lightest; 5 = darkest.
- 8 Press **Select *** to save the setting.

Resolution Enhancement

Resolution Enhancement technology (REt) refines the print quality of characters and graphics by smoothing the fine gradations along the angles and curves of the printed image. Figure 6-1 shows two magnified images: the left one (A) shows REt set to OFF; the right one (B) shows it set to ON.

Figure 6-1



Resolution Enhancement

If available, you can change this setting through your printer setup screen in the printer drivers; otherwise, use the control panel.

Activating REt from the Control Panel

- 1 Press **Menus** repeatedly until PRINT QUALITY MENU appears.
- 2 Press **Items** repeatedly until RESOLUTION ENHANCEMENT= ON appears.
- 3 Press **+** to switch between OFF and ON.
- 4 Press **Select *** to save your selection. An asterisk (*) appears next to that setting.

Solving Print Quality Problems

Solutions to general causes of print quality problems are given in the checklist below, followed by specific samples of common print quality problems. If the listed solutions do not work, see Chapter 7, “Maintenance and Troubleshooting,” for other possible solutions.

Below are the actions you can take if you have problems with print quality:

- Check the EconoMode setting; be sure it is OFF. (See “EconoMode” later in this chapter.)
- Redistribute the toner in the toner cartridge. (See Chapter 7.)
- Clean the inside of the printer. (See Chapter 7.)
- Adjust the print density. (See “Print Density” earlier in this chapter.)
- Check the paper type and quality. (See Tables 5-1 and 5-2 in Chapter 5, “Print Tasks,” for media selection and use guidelines.)
- Make sure you are printing at 600-dpi resolution.
- Adjust the REt setting to ON or OFF.
- Replace the toner cartridge.

Note

Toner cartridges should be allowed to stabilize at room temperature prior to use; otherwise, print quality may be affected.

Note

All sample pages depict Letter size and portrait orientation. Similar problems may show up on different paper edges, depending on the paper feed.

Fading



If a white streak or faded area appears on the page (in the direction the paper passes through the printer):

- The toner cartridge supply is low. Remove the toner cartridge from the printer and rotate it back and forth. If shaking the cartridge does not improve the print quality, replace the toner cartridge.
- The print density adjustment is too light. Adjust print density.

Dropouts

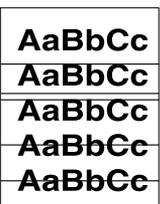
If faded areas, generally rounded, occur randomly on the page:



- The moisture content of the paper is uneven or the paper has moist spots on its surface. Try paper from a different source.
- The paper lot is bad. The manufacturing processes can cause some areas to reject toner.

Try paper from a different source. If using paper within the specification required by the printer does not correct your problem, your printer may need service (refer to Table 5-1 in Chapter 5 for media selection guidelines). Contact your authorized HP dealer or your HP service representative.

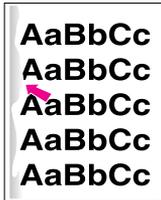
Lines



If sharp black streaks appear on the page (in the direction the paper passes through the printer), the light-sensitive drum inside the toner cartridge has probably been scratched. Replace the toner cartridge.

If smeared black streaks appear (in the direction the paper passes through the printer), the fuser may be bad. Contact your HP service representative.

Toner Smear



If toner smears appear on the leading edge (as it passes through the printer) of the paper, the paper guides are dirty. Clean the printer as described in Chapter 7.

If toner on the paper is loose or can be wiped off easily, your fuser may be damaged. Contact your authorized HP dealer or your HP service representative.

Background Gray Toner Shading

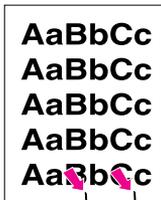


If the amount of background toner shading becomes unacceptable:

- Lower the density setting. (See “Print Density” earlier in this chapter.) This decreases the amount of background shading.
- Replace the toner cartridge.
- Change the paper to a lighter basis weight.
- Check the printer’s environment; very dry (low humidity) conditions can increase the amount of background shading.

If these procedures do not fix the problem, the transfer roller may need to be replaced. Contact your authorized HP dealer or your HP service representative.

Repetitive Defects



If any of the following marks appear repeatedly on the printed side of the page, replace the toner cartridge:

- If a repetitive mark occurs every 3 3/4 inches (94 mm) in the direction the paper passes through the printer, the toner cartridge drum is damaged.
- If a repetitive mark occurs every 2 inches (51 mm) in the direction the paper passes through the printer, the developer roller is damaged.
- If black lines occur every 1 1/2 inches (38 mm) on the back of the page, the charger roller is damaged.

If defects occur every 2 3/8 inches (61 mm) on the back of the page, the transfer roller has toner on it. This problem will likely correct itself after a few pages.

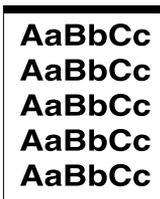
Improperly Formed Characters



If characters are improperly formed, producing hollow characters, your paper stock may be too slick. Make sure that the EconoMode setting is set to OFF. Try a different paper.

If characters are improperly formed, producing a wavy effect, the laser scanner needs service. Call your authorized HP dealer or HP service representative.

Line at Edge of Paper

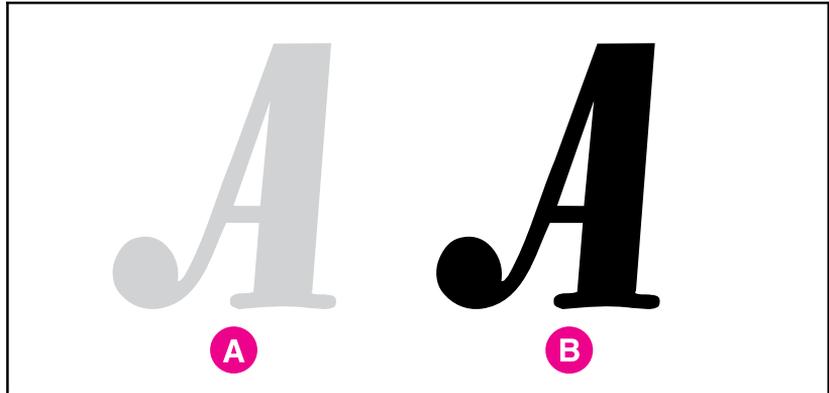


If a line appears on the top of the paper toward the end of the toner cartridge life (usually on the right side and running the direction that the paper travels through the printer), the drum in your toner cartridge is wearing out. The line will grow wider, with cross-hatching. Replace the toner cartridge. Shaking the cartridge does not relieve the problem.

EconoMode

EconoMode lowers printing costs by reducing the amount of toner on the printed page. When set to ON, the printed image is lighter but still readable, as shown in Figure 6-2, side (A). Full time use may result in a loss of print quality due to normal toner cartridge mechanical wear. Normal printing with the EconoMode set to off is shown in Figure 6-2, side (B).

Figure 6-2



A. EconoMode B. Normal

Turning on EconoMode

You may be able to turn on EconoMode through your software application or driver. If your software permits, you will probably prefer to use this method. Otherwise, see “Turning on EconoMode from the Control Panel” in the following section.

Note

Where and how you make selections depends on your software application or associated printer driver. The selection process may be available only from within the driver. See Chapter 3 or your application documentation for more information.

Turning on EconoMode from the Control Panel

- 1 Press **Menus** repeatedly until PRINT QUALITY MENU appears.
- 2 Press **Items** repeatedly until ECONOMODE=OFF * appears.
- 3 Press **+** to choose ON.
- 4 Press **Select *** to save your choice.

Note

The printer settings usually come first from the application, then from the printer driver, and finally from the control panel.

Maintenance and Troubleshooting

Introduction

This chapter describes normal routine maintenance, which includes:

- Cleaning the printer
- Working with the toner cartridge
- Extending toner cartridge life
- Clearing the TONER LOW message
- Replacing staples
- Clearing staple jams

The following sections help you troubleshoot the most common printer problems, clear paper jams, and understand printer messages.

Cleaning Tasks

To maintain print quality, thoroughly clean the printer:

- Every time you change the toner cartridge
- After printing approximately 15,000 images
- Whenever print quality problems occur

Clean the *outside* of the printer with a lightly water-dampened cloth. Clean the *inside* with only a dry, lint-free cloth. Observe the warnings and cautions that follow the cleaning tasks on the following page.

CAUTION

To avoid permanent damage to the toner cartridge, do not use ammonia-based cleaners on or around your printer.

Cleaning the Printer

- 1 Before you begin these steps, turn the printer OFF and unplug all cords.
- 2 Open the top cover of the printer and remove the toner cartridge.

WARNING

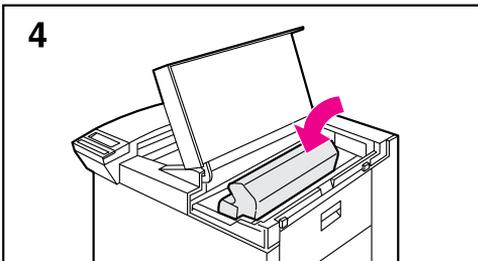
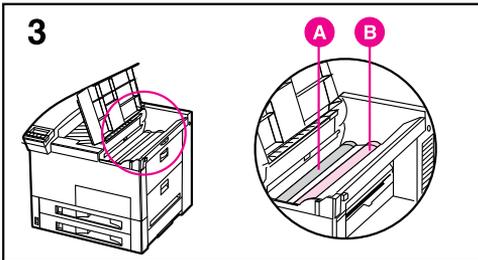
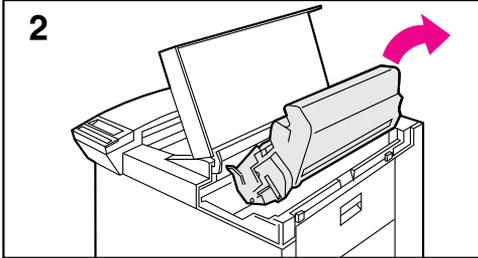
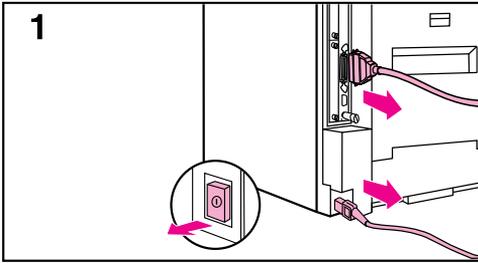
Avoid touching the adjacent fusing area in the left door. It may be HOT.

- 3 With a *dry* lint-free cloth, wipe any residue from the paper path area, the registration roller (B), and the toner cartridge cavity.

CAUTION

Do not touch the transfer roller (A). Skin oils on the roller can reduce print quality. If toner gets on your clothes, wipe it off with a dry cloth and wash your clothes in *cold* water. Hot water sets toner into fabric.

- 4 Replace the toner cartridge, close the printer, reconnect all cables, and switch the printer ON.



Toner Cartridge

Extending Toner Cartridge Life

The life of your toner cartridge depends on the amount of toner your print jobs require. When you print word-processed text, average toner cartridge yield is 15,000 pages printed at 5% coverage. (A typical full-page business letter is about 5% coverage.) This assumes that the print density setting is in the middle range. Using *EconoMode* can further extend average toner cartridge yield. (See Chapter 6, “Print Quality.”)

EconoMode extends toner usage beyond the specified 15,000 images. However, extended use of the toner cartridge assembly may result in wear of moving parts within the cartridge; this may produce unusual noises. Because of this HP cautions you not to use *EconoMode* full time.

Storing and Installing the Toner Cartridge

Do not remove the toner cartridge from its packaging until you are ready to use it. The shelf life of an unopened cartridge package is approximately 2 1/2 years; the shelf life of an opened cartridge package is approximately six months. Use the cartridge before the expiration date (the expiration date is stamped on your toner cartridge box).

To install a new toner cartridge, follow the instructions in the *Installation Instruction Guide* included in your toner cartridge box. A separate *Recycling Instruction Guide* is also included.

WARNING

Avoid touching the adjacent fusing area. It may be HOT.

HP Policy on Use of Non-HP Toner Cartridges

Hewlett-Packard does not recommend use of non-HP toner cartridges, either new or remanufactured. HP cannot influence or control the quality of these cartridges because they are not HP products.

Redistributing Toner in the Cartridge

When the **TONER LOW** message appears, you can extend the life of your toner cartridge and *temporarily* re-establish print quality by redistributing the toner.

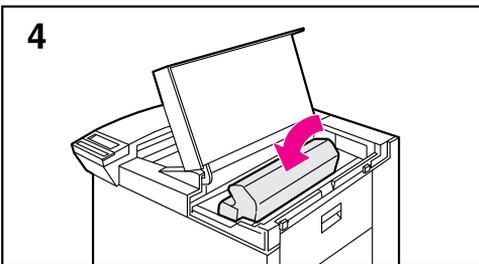
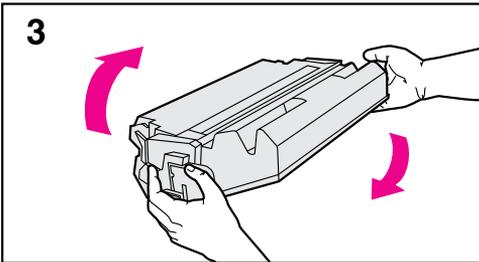
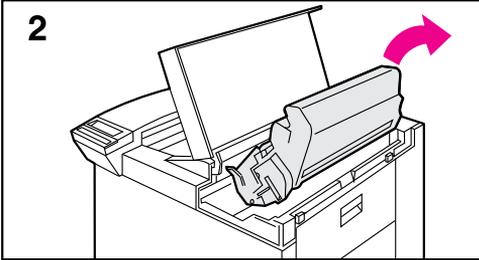
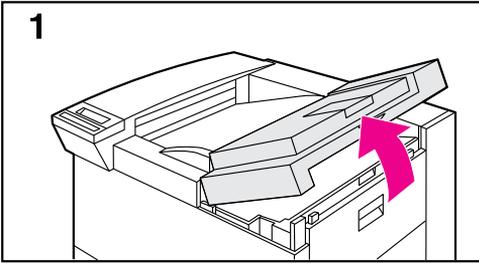
- 1 Open the printer's top cover.
- 2 Remove the toner cartridge.

WARNING

Avoid touching the adjacent fusing area in the print engine. It may be **HOT**.

- 3 Rotate the toner cartridge back and forth five or six times to redistribute toner.
- 4 Reinsert the toner cartridge and close the top cover.

The **TONER LOW** message may continue to appear, but the print quality should improve. If the print remains light, replace the toner cartridge using the instructions in the *Installation Instruction Guide* inside the toner cartridge box.



Clearing the TONER LOW Message

When the toner level in the toner cartridge gets low, a TONER LOW message appears in the control panel display. You can either rotate the cartridge back and forth to redistribute the toner (shown in the previous section) or replace the cartridge. If you continue to use the cartridge, your print will become lighter and white streaks may appear.

From the Configuration Menu, you can set TONER LOW=STOP or TONER LOW=CONTINUE.

- When set to TONER LOW=CONTINUE, the printer continues to print after detecting that toner is low. The TONER LOW message is displayed on the control panel instead of READY. Use TONER LOW=CONTINUE when printing long or unattended print jobs.
- When set to TONER LOW=STOP, the printer stops printing and goes offline when low toner is detected. To resume printing, press **Select** *. The printer continues to display the TONER LOW message until you change the cartridge. The default setting is TONER LOW=STOP.

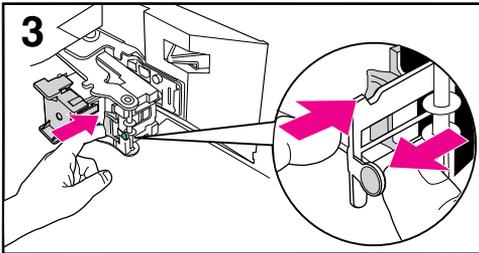
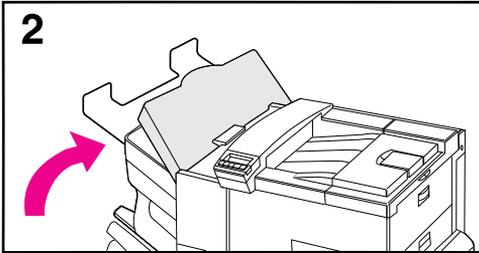
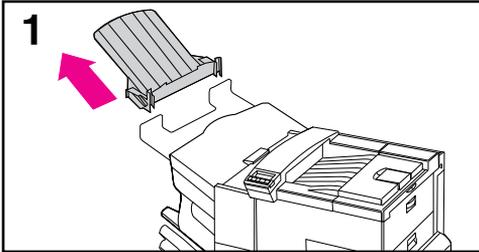
For more information about the Configuration Menu, see Chapter 4, “Printer Control Panel.”

Optional Stapler

The only maintenance required for the Stapler is to load new staple cartridges, and to clear staple jams if they occur. Both procedures are explained below.

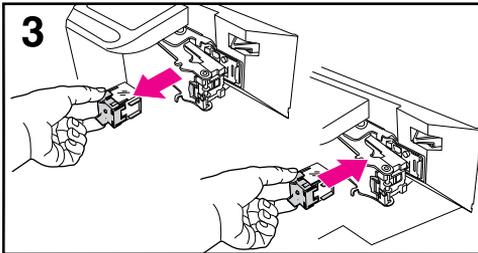
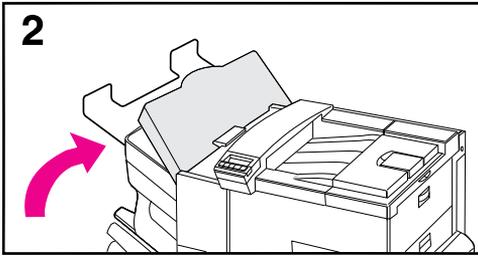
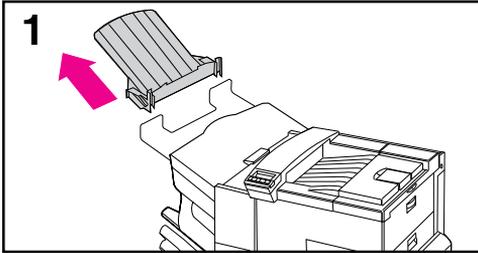
Loading Staples

- 1 Turn off the printer and remove the Left Output Bin.
- 2 Open the stapler unit cover.
- 3 Squeeze the stapler cartridge tabs together and pull empty staple cartridge out.
- 4 Remove the orange plastic shipping clip from the new staple cartridge.
- 5 Insert the new staple cartridge until it snaps into place.
- 6 Close the stapler unit cover and replace the Left Output Bin.



Clearing Staple Jams

- 1 Turn off the printer and remove the Left Output Bin.
- 2 Open the stapler unit cover.
- 3 Press the colored tab with your thumb and pull the colored circular tab with your forefinger to open the stapler.
- 4 Remove loose or damaged staples from the stapler head.
- 5 Push the circular tab to snap it back into place.
- 6 Close the stapler unit cover and replace the Left Output Bin.
- 7 Clear all paper paths that may have jammed as a result of the jammed staples.



Note

After clearing a stapler jam, up to 12 documents may not be stapled when printing resumes because the stapler must reload. Once the unit begins stapling again, either manually staple the unstapled documents or resend the job.

Troubleshooting Checklist

Use the following information to help solve printer problems. For networked printers, check with your network administrator if you suspect a network-related problem.

Printer Response Problems

Printer Does Not Turn On

Check to see if ...	Solution
Printer is not plugged in.	Plug the AC power cord firmly into the grounded power receptacle and into the printer. (Be sure the power source is energized.)
Printer voltage is not correct.	Make sure line voltage is in the correct range. (See the product label next to the power receptacle on the back of your printer for voltage requirements.)

Blank or Garbled Control Panel Display

Check to see if ...	Solution
Printer is not switched ON.	Put the printer's power switch in the ON position.
Printer is switched ON but internal fans are not running.	Make sure the line voltage is correct for the printer's power configuration. (See the plate next to the power receptacle on the back of your printer for voltage requirements.) If you are using a power strip and its voltage is not within specification, plug the printer directly into the power receptacle.
Display is blank and internal fans are not running.	Press all the keys to see if one is stuck; contact your HP service representative if this does not work.
Printer display is in the wrong language or displays unfamiliar characters.	Reconfigure the control panel display language. Refer to the <i>Getting Started Guide</i> .

Printer Cannot Print Configuration Page

Check to see if ...	Solution
Correct size of paper is not loaded	Check paper trays to be sure correct size media is loaded (Letter or A4). Also, check that guides are set correctly.
Toner cartridge sealing tape is not removed.	Remove sealing tape from toner cartridge. See the <i>Getting Started Guide</i> or the installation guide that came with your toner cartridge.
Paper tray is out of paper.	Add paper and close tray, if appropriate.
Printer cover(s) is open.	Firmly close the printer top cover and all doors (left, front, and right).
Paper is jammed in the printer.	Check for paper jams. (See “Paper Jams” later in this chapter.)
Messages appear in the display.	Review the messages for help. (See “Printer Messages” later in this chapter.) If no error messages appear but the configuration page still does not print, call for assistance.

Display Messages Cannot be Cleared

Message	Solution
TONER LOW	See “Clearing the TONER LOW Message” earlier in this chapter.
LOAD TRAY 2 PLAIN LEGAL (or similar messages requesting that you load media)	Load the requested media into the indicated tray. Press Select * to override and to print on an already loaded paper size.
HP MIO 1 INITIALIZING HP MIO 2 INITIALIZING	<p>Wait for the message to disappear (approximately 5 minutes). If the printer MIO card is operating correctly and communicating with the network, this message disappears after approximately one minute and no action is required.</p> <p>If the MIO card is unable to communicate with the network, this message remains for five minutes and then disappears. In this case the printer is not communicating with the network (even though the message is no longer present). The problem may be a bad MIO card, a bad cable or connection on the network, or a network problem. Contact your network administrator.</p>

Software, Computer, and Printer Interface Problems

Print Job Does Not Print

Check to see if ...	Solution
Printer is OFF or not connected to an active power source.	Make sure the printer is ON and that all power cables are firmly plugged into both the printer components and an active power source.
Printer is offline.	Press On Line to put the printer online. Printer should display READY and On Line should be lit.
Printer is online but not receiving data (the Data light does not blink).	Check your I/O cable: <ol style="list-style-type: none">1. Check for loose I/O cable connections at printer and computer or network port.2. Try your I/O cable on a system that you know works.3. Check that the correct interface cable was selected and securely connected to both the printer and the computer. If the cable is not correctly configured, see the <i>Getting Started Guide</i> for configuration information.
Printer displays a message.	See Table 7-2, "Printer Messages," later in this chapter for printer messages and recommended actions.
Data from a previous print job is still in the printer's buffer.	Select FORMFEED item from the Job Control Menu to print the pages stored in the buffer.
Last page did not print and the Data light is on.	Select FORMFEED item from the Job Control Menu to print the page stored in the printer buffer. (Some older software programs do not automatically send an "end of job" command.)
Data light is flashing but nothing prints.	<p>If at least one page has printed, go to the Job Control Menu. When CANCEL JOB shows in the display, press Select* and then press Select* again when the message changes to PRESS SELECT TO CANCEL JOB. The display shows CANCELING JOB until the job terminates. (If the job continues indefinitely, the application is stuck in a loop. Cycle printer power OFF and ON and then attempt to determine the source of the problem.)</p> <p>In the POSTSCRIPT MENU, set PRINT POSTSCRIPT ERRORS=ON* to print out a PostScript error page when an error occurs.</p> <p>Check your software application setup to ensure that it is correct. Also check your cabling to ensure that it is secure.</p>

Computer, Network, or I/O Port Problems

Situation	Solution
Printer interface problems	Print out a configuration page to verify that the interface configurations shown on the printout match those on your host computer. (See Chapter 4 to print a configuration page.)
Computer software problem	Check that your computer is working correctly by printing from a software application you know works or by printing a plain MS-DOS file to see if the problem is with your software application or printer driver. (For example, <code>C:\dir>LPTn</code> where <i>n</i> is the number of the computer port the printer is connected to, for example LPT1.) To output the page, you may have to send a formfeed command from your computer or from the Job Control Menu.
Software is selecting the wrong port.	Check your software application to be sure the print job is being sent to the correct port (for example, LPT1).
Printer port problem	Check that your computer's port is configured and working properly. One way to check this is to connect another printer to that port on your computer and print an application you know works.
Network or shared printer problems	Check for network or shared printer problems by connecting your computer directly to the printer and printing from an application you know works. If you suspect network problems, check with your network administrator or consult the network documentation that came with your printer network card(s).
Computer displays DOS messages such as: Write Fault Error Writing Device LPTn: Abort, Retry, Ignore?	<ol style="list-style-type: none"> 1. Add a Mode command to your computer's AUTOEXEC.BAT file for the parallel port. It should be inserted immediately following the PATH statement: For DOS versions below 4.0, add: <code>MODE LPT1: , , P</code> For DOS versions 4.0 and above, add: <code>MODE LPT1: , , B</code> 2. Your I/O cable might be faulty; see "Printing Incomplete or Incorrect" later in this section.

Print Speed Too Slow

Situation	Solution
First page takes much longer to print than following pages.	Set the Power Save feature for a longer time period or turn it off. (See “Configuration Menu” in Chapter 4.) A page may take longer to print due to complex formatting commands, so changing the Power Save period may not result in the first page being printed faster.
Printer is usually slow to respond.	<ol style="list-style-type: none"><li data-bbox="374 307 1128 430">1. Printer speed is highly dependent on how your software application is set up, which printer driver you are using, and how much traffic is on the network. See the <i>Getting Started Guide</i> for configuration information.<li data-bbox="374 439 1128 560">2. You may need to add more memory. See Chapter 1, “About Your Printer,” for HP memory part numbers. Also see the “Determining Memory Requirements” section in Chapter 2, “Memory and Memory Management.”

Printing Incomplete or Incorrect

Situation	Solution
Blank pages print.	<ol style="list-style-type: none"><li data-bbox="374 718 832 743">1. Turn the printer OFF and then back ON.<li data-bbox="374 760 902 784">2. Make sure toner cartridge is installed properly.<li data-bbox="374 802 1128 892">3. Make sure the toner cartridge sealing tape has been removed. (See the <i>Getting Started Guide</i> or the installation guide that came with your toner cartridge.)
Garbled pages print, there are overprints, or only a portion of a page prints.	<ol style="list-style-type: none"><li data-bbox="374 909 1128 968">1. Ensure that your software application is configured for the correct printer.<li data-bbox="374 986 1128 1045">2. Replace the printer interface (I/O) cable with a cable you know works to see if the cable is defective.<li data-bbox="374 1062 1128 1121">3. Your parallel printer cable quality may be defective. Use a high-quality cable; see Chapter 1 for an HP cable part number.<li data-bbox="374 1138 1128 1229">4. Set the PERSONALITY item in the Configuration Menu to AUTO (see Chapter 4). The printer may have been set to PCL and a PostScript job was sent to the printer, or vice versa.<li data-bbox="374 1246 1128 1303">5. Data file sent to the printer may be corrupt. Try sending another file to see if it prints.
The job wasn't duplexed.	You may need to add more printer memory. See Chapter 1, “About Your Printer,” for HP memory part numbers. Also see the “Determining Memory Requirements” section in Chapter 2, “Memory and Memory Management.”

Data is missing, but there are no printer messages.	<ol style="list-style-type: none">1. Check your software application to be sure the print file contains no errors.2. Check your cable to ensure that it is securely connected to both the printer connector and the computer connector.3. Your parallel printer cable may be defective. Use a high-quality cable; see Chapter 1 for an HP printer cable part number.
Printing stops in the middle of the job.	<ol style="list-style-type: none">1. Check the control panel for an error message.2. If you are on a network, make sure your computer is correctly configured and there is not a network problem (see your network administrator).3. Check your line voltage to ensure that it is steady and within printer specifications. (See Appendix A, "Specifications.") Turn the printer OFF and then back ON.4. Check the time-out setting in your network application. It may need to be increased.5. If you are trying to copy a file to the printer from the DOS prompt, use the copy command <code>COPY filename LPTn /B</code> (where <i>n</i> is the number of printer port, such as LPT1). <p>Note: To output the page, you may have to send a formfeed command from your computer or from the Job Control Menu.</p>

Printer Ignores Font, Format, or Tray/Bin Selection

Situation	Solution
Printer prints some wrong fonts or formats.	<ol style="list-style-type: none"> <li data-bbox="375 175 1126 319">1. The font is not present in the printer and must be downloaded by your software application or the proper font SIMM must be installed. Check your software program to ensure the correct printer driver has been installed and configured. To verify that the font or format you want is available, print a font list (see Chapter 4). <li data-bbox="375 336 1126 430">2. Your software selected a substitute font for one that is not available in the printer. (See your software application manual for more information on font selection.)
Printer draws media from the wrong paper source.	<ol style="list-style-type: none"> <li data-bbox="375 442 1126 499">1. Be sure your software application is selecting the correct size of media. <li data-bbox="375 517 1126 609">2. Ensure that the driver for your software application is correctly installed, configured, and capable of requesting desired size and type of media. <li data-bbox="375 626 1126 822">3. The size of paper you are requesting is not in the tray you have selected. The printer draws paper from the next default tray with the correct size. Put the correct size paper in the tray and make sure it is adjusted correctly. Check Tray Menu for correct type and size (for Tray 1). For Trays 2–4 look at the size loaded and correct as needed. Ensure that the tray is loaded with enough paper to complete the print job. <li data-bbox="375 840 1126 996">4. If you selected the 2000-Sheet Input Tray (Tray 4) and did not turn the printer off when installing it, the printer does not recognize it and draws paper from the next default paper size source. (Switch the printer OFF, then back ON, and the printer will recognize Tray 4.)
Printer prints in wrong personality (for example, a text listing of PostScript commands prints instead of your document).	<ol style="list-style-type: none"> <li data-bbox="375 1008 1126 1065">1. Ensure that the printer personality (such as PostScript) is installed in the printer (see Chapter 4). <li data-bbox="375 1083 1126 1199">2. If your software application allows you to set personality, ensure that it is set for the correct one. If your software application does not allow you to select personality, set the PERSONALITY item in the CONFIGURATION MENU to the correct personality (see Chapter 4). <li data-bbox="375 1216 1126 1338">3. Check PERSONALITY= setting to see if it is set to POSTSCRIPT or PCL. If it is set to PCL, change it to AUTO. If it is set to AUTO, set it to POSTSCRIPT for this print job only. When the job has printed, return the setting to AUTO.
Control panel settings, such as resolution or orientation, do not work or are ignored.	Software commands override control panel settings. (See Chapter 4 for information about how your software works with control panel settings.)

Situation	Solution
Job went to a different bin than was expected.	The wrong size or type of media was used for the job. The Mailbox with Stapler, the optional Envelope Feeder, and each tray supports specific media. See the “Media Selection Guidelines” section of Chapter 5 for selecting the most appropriate media for your print job.
Job prints on the wrong side of the paper.	<p>Make sure you have loaded the media correctly.</p> <p>If you are printing one-sided copies, load media into Tray 1 with the side to be printed facing up. Load media into Trays 2, 3, and 4 with the side to be printed facing down.</p> <p>If you are printing two-sided copies, load media into Tray 1 with the first side to be printed (odd-numbered) facing down. Load media into Trays 2, 3, and 4 with the first side to be printed (odd-numbered) facing up.</p>

Problems with Accessories

Tray 1

Situation	Solution
Cannot clear manual feed messages	A previous print job may still be in the printer's buffer. Go to the Job Control Menu and select FORMFEED.
Cannot print from Tray 1	Check to be sure you have selected Manual Feed or Tray 1 through your software application for the size and type for which the tray is configured. For Manual Feed, wait for the printer to request the manual feed before loading the media.
Paper is loaded into Tray 1, and the control panel displays a load or manual feed message	Load the correct media in the tray. See Chapter 5 for information on loading Tray 1. If the correct media is already loaded, press On Line so the printer will use that media.

Tray 2 and Tray 3

Situation	Solution
General operation problems	For general paper operation information, see Chapter 5, "Print Tasks."
Paper jams and paper feeding problems	<ol style="list-style-type: none"> 1. See "Paper Jams" later in this chapter. 2. Ensure that paper weight is within recommended range. See Chapter 5 for media specifications (Table 5-1) and media use guidelines (Table 5-2).
Cannot access Tray 2 or Tray 3	<ol style="list-style-type: none"> 1. The printer selects paper from trays in a certain priority; see Chapter 5. 2. Software application paper size and type must be selected for the same media size and type as loaded in Tray 2 or 3. 3. Ensure that the tray is adjusted correctly for the paper size you are using. See Chapters 4 and 5 for more information. 4. Check the Tray Menu for correct type of paper available.
LOAD TRAY × SIZE Type media size message	<ol style="list-style-type: none"> 1. Load the requested media size. The printer has a job in the buffer and is waiting to print on the correct media size. 2. Set the media type. (See Chapter 4.)

Optional 2000-Sheet Input Tray (Tray 4)

Situation	Solution
Media size adjustment and installation	See Chapter 5.
Paper jams and paper feeding problems	<ol style="list-style-type: none"> 1. See "Paper Jams" later in this chapter. 2. Ensure that the paper weight is within recommended range. See Chapter 5 for media specifications (Table 5-1) and media use guidelines (Table 5-2). 3. Don't pull a paper tray out while printing. 4. Check cables and connectors between units. 5. Make sure media is fully and correctly loaded. 6. Make sure the paper guides are adjusted properly, and not skewed. See Chapter 5 for more information on adjusting the guides.
Cannot access Tray 4.	<ol style="list-style-type: none"> 1. Ensure that the paper tray guides are adjusted correctly for the paper size you are using. (See Chapter 5.) 2. Check Tray Menu for correct type of paper in Tray 4.
Printer does not recognize Tray 4.	<ol style="list-style-type: none"> 1. Ensure the 2000-Sheet Input Tray has been installed in your printer driver. Refer to Chapter 3 for more information on accessing the printer driver. 2. Switch the printer OFF then ON again. 3. Ensure that the cable from the Tray 4 base is plugged into the printer. If not, turn the power OFF and plug the cable into the printer, then switch the printer ON again. 4. If the printer still does not recognize Tray 4, contact your dealer or authorized HP service provider.
Refer also to "Tray 2 and Tray 3" earlier in this section. The problems listed may occur in Tray 4, also.	

Optional Multi Bin Mailbox or Mailbox with Stapler

Situation	Solution
The job wasn't stapled.	<p>Jobs sent to the stapler may not be stapled for one or more of the following reasons:</p> <ol style="list-style-type: none"> 1. The wrong size or type of media was used for the job. 2. More than 20 pages were sent to the stapler, exceeding its capacity. 3. The stapler may have an obstruction (bent or broken staples) in the stapling bed. 4. If a staple jam was recently cleared, up to 12 following jobs may not be stapled. 5. The job may have been sent to a bin other than the stapler bin. The wrong size or type of media was used for the job. 6. One-page jobs will not be stapled. 7. Check the interface cable between the multi-bin mailbox and the stapler unit.
General repeated staple jam problems.	<ol style="list-style-type: none"> 1. Check to see that the job to be stapled is less than 2 mm thick. 2. Stapler may have some trapped staple wires that are obstructing the magazine. Remove loose staples and paper dust from the inside of the stapler.
Printer does not recognize Mailbox with Stapler	<ol style="list-style-type: none"> 1. Ensure that the Mailbox with Stapler has been installed in your printer driver. Refer to Chapter 3, "Printer Software," for more information on accessing the printer driver. 2. Ensure that the cable from the Mailbox with Stapler is plugged into Tray 4. If not, turn the power off and plug the cable into Tray 4, then turn the power back on. 3. Ensure that all bins are properly installed. 4. If the printer still does not recognize the Mailbox with Stapler, contact your dealer or authorized HP service provider.
Printer does not recognize stapler.	Check the cable between the printer and the stapler. Make sure it is properly connected at both ends.
Paper jams and paper feeding problems	<ol style="list-style-type: none"> 1. Ensure that you are using 20-lb bond paper. 2. Do not pull paper out of the bins while printing. 3. Check cables and connectors between units.

Optional Envelope Feeder

Situation	Solution
Envelope jams and envelope feeding problems	<ol style="list-style-type: none"> 1. Make sure the envelopes are within the specifications listed in Chapter 5 and the <i>HP LaserJet Printer Family Paper Specification Guide</i>. 2. Make sure the envelopes are properly loaded. 3. Make sure the envelope lever is down. 4. Make sure the optional Envelope Feeder extension is fully pulled out.
Multifeeds	<ol style="list-style-type: none"> 1. The envelopes must meet Envelope Feeder specifications. 2. Make sure to feed the envelope all the way down. The first envelope to be fed must be closer to the Pick Up Roller than the others. 3. The slide which stops the envelopes must be on the outside. 4. Adjust the tray to the right width of the envelope.
No Picks	<ol style="list-style-type: none"> 1. The envelopes must meet Envelope Feeder specifications. 2. Make sure you are not overloading the Envelope Feeder. 3. When loading the envelopes it is necessary to push them all the way down to touch the rollers.
Printer does not recognize optional Envelope Feeder.	<ol style="list-style-type: none"> 1. Turn the printer OFF, remove and re-install the optional Envelope Feeder, then turn the printer back ON. 2. Ensure the optional Envelope Feeder has been installed in your printer driver. Refer to Chapter 3 for more information on accessing the printer driver.

Optional Printer Hard Disk

Situation	Solution
Printer does not recognize disk.	Turn power off and verify that the ribbon cable that connects the disk to the printer is securely fastened.
Disk is not initialized. (Control panel displays 30.1.0 DISK NOT INITIALIZED.)	Use the Windows-based HP JetAdmin utility or the Macintosh-based HP LaserJet Utility to initialize the disk.
Disk failure. (Control panel displays 31.1.0 DISK FAILURE.)	Turn power off and verify that the ribbon cable that connects the disk to the printer is securely fastened. If the control panel message continues to be displayed, the disk drive needs to be replaced.

Disk is write protected.	Fonts and forms cannot be stored on the disk when the disk is write-protected. Use the Windows-based HP JetAdmin utility or the Macintosh-based HP LaserJet Utility remove write-protection.
Attempted to use a disk-resident font, but the printout substituted a different font.	If you are using PCL, print the PCL Font Page, and verify that the font is on the disk. If you are using PostScript, print the PostScript Font Page and verify that the font is on the disk. If the font is not on the disk, use the Windows-based HP JetAdmin utility or the Macintosh-based HP LaserJet Utility to download the font to the disk.

Optional SIMM Boards

Situation	Solution
61.x SERVICE where x = 0, 1, 2, 3, or 4.	This error indicates a SIMM parity error. The x indicates which SIMM slot generated the error. If x = 0, the slot with the defective SIMM could not be determined. Check the HP part number to make sure you have the right SIMM board; if you do, see the checking procedure for 61.x SERVICE and 62.x ERROR below.
62.x ERROR where x = 0, 1, 2, 3, or 4.	This error indicates that your printer has identified a problem while checking memory. If x = 0, the problem is in internal Read-Only Memory (ROM); see your HP service representative. If x = 1, 2, 3, or 4, the problem is in SIMM slot 1, 2, 3, or 4.
63 NEEDS SERVICE ✓ 63 SERVICE	This indicates that the printer has found a problem in its internal RAM memory. Switch your printer OFF, and then ON, to clear the error. If the message reappears, call your authorized HP dealer or service representative.

To check memory for the 61.x SERVICE and 62.x ERROR messages:

- 1 Switch the printer OFF, then back ON (*data will be lost*).
- 2 If the error message appears again, switch your printer OFF and verify that the SIMM board is installed correctly; then switch your printer ON.
- 3 If the error message appears again, switch your printer OFF and remove the SIMM board(s); then switch your printer back ON.
- 4 If the error message appears again, the problem is in on-board memory. If the error message does not appear, the problem is in SIMM memory. Call your HP service representative.

SIMM Validation Error Messages

Validation error messages appear when a SIMM fails to be initialized when the printer is turned on. This error is in the format 53.XY.ZZ ERROR. Table 7-1 lists these errors.

Table 7-1 Validation Error Messages

X (Hardware Type)	Y (Hardware Device)	ZZ (Error Number)
0: ROM 1: RAM	0: Internal Memory 1: SIMM Slot 1 2: SIMM Slot 2 3: SIMM Slot 3 4: SIMM Slot 4	0: Unsupported memory 1: Unrecognized memory 2: Unsupported memory size 3: Failed RAM test 4: Exceeded maximum RAM size 5: Exceeded maximum ROM size 6: Invalid SIMM speed 7: SIMM reporting information incorrectly 8: SIMM RAM parity error 9: (n/a) 10: SIMM address conflict 11: ROM out of bounds 12: Could not make temporary mapping

Although these errors can be ignored, the SIMM that caused the error will not be configured. If the SIMM causing the error is a RAM SIMM, the printer will continue to function with less RAM. If the SIMM is a ROM containing a printer personality (such as PostScript) the printer will continue but without that personality.

PostScript Troubleshooting

Situation	Solution
A text listing of PostScript commands prints instead of your PostScript printing job.	The control panel <code>PERSONALITY=AUTO</code> setting may have been confused by a nonstandard PostScript code. Check <code>PERSONALITY=</code> to see if it is set to <code>POSTSCRIPT</code> or <code>PCL</code> . If it is set to <code>PCL</code> , set it to <code>PERSONALITY=AUTO</code> . If it is set to <code>AUTO</code> , set it to <code>POSTSCRIPT</code> for this print job only. When the job has printed, return the setting to <code>AUTO</code> .
The job prints in Courier (the printer's default font) instead of the font you requested.	<p>The requested typeface is not available in the printer or is not present on the disk. Use a font download utility to download the desired font.</p> <p>Fonts downloaded to memory are lost when the printer is switched OFF. They are also lost if Resource Saving is not used and a personality switch is performed to print a PCL job. Disk fonts are not affected by PCL jobs or by switching the printer to OFF.</p> <p>Print a PostScript Font Page to verify that the font is available. If a disk font appears to be missing, it may be because a software utility was used to delete the font, because the disk was re-initialized, or because the disk drive is not installed correctly. Print a configuration page to verify that the disk drive is installed and functioning correctly.</p> <p>Print a Disk Directory to aid you in identifying available fonts.</p>
A page prints with clipped margins.	If the page margins are clipped, you may have to print the page at 300-dpi resolution or install more memory. Also try turning Resource Saving and I/O Buffering OFF.
A page fails to print.	Set <code>PRINT POSTSCRIPT ERRORS=ON</code> , and then send the job again to print a PostScript error page. If an error page prints, refer to the next table entry "A PostScript error page prints." If this does not correct the problem try turning Resource Saving and I/O Buffering OFF, or installing more memory. (See Chapters 2 or 4 for more information about PostScript printing.)
A PostScript error page prints.	<p>Make sure the print job is a PostScript job. Check to see whether your software expected you to send a setup or PostScript header file to the printer. Check the printer setup in your software application to ensure that the printer is selected. Check cable connections to ensure that they are secure.</p> <p>Reduce the complexity of the graphic. Add available memory by turning on Resource Saving.</p>

Paper Jams

If one of these messages appears in the display panel, look for jammed paper in the locations indicated in Figure 7-1:

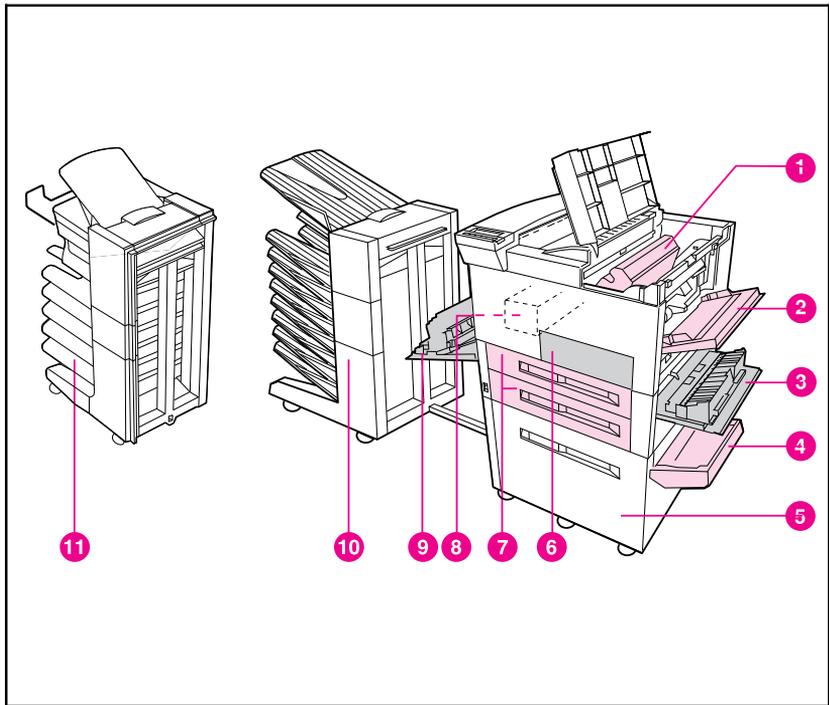
- 13.x PAPER JAM CLEAR n PAGES
- 13.0 PAPER JAM CLEAR PRINTER
- STAPLER MALFUNCTION
- STAPLER ALIGN ERROR

x = the number for a specific jam

n = the number of pages jammed in the printer

Figure 7-1 shows the possible locations for most paper jams.

Figure 7-1



Paper Path Jam Locations

- | | |
|--|-----------------------------------|
| 1. Toner cartridge area | 7. Tray 2 and Tray 3 |
| 2. Tray 1 pick-up roller and feed area | 8. Fusing Assembly Area |
| 3. Right door | 9. Left Door |
| 4. Vertical transfer door | 10. Optional Multi-Bin Mailbox |
| 5. Optional 2000-Sheet Input Tray (Tray 4) | 11. Optional Mailbox with Stapler |
| 6. Front door | |

Note

Open and close all printer covers to clear the paper jam message. After removing a sheet of paper you may need to check other areas to ensure that all paper has been removed.

Whenever a sheet of jammed paper becomes badly shredded it is a good idea to carefully piece all parts together to be sure you haven't overlooked some small part. All portions of a jammed piece of paper must be removed or you may run into repeated jams.

If after you clear a paper jam (by following the procedures on the next few pages) the printer still jams, there are a few things you can do:

- Use the `JAM RECOVERY=ON` menu item under the PostScript Menu. The printer will attempt to automatically recover from paper jams.
- Execute a formfeed from the computer or the printer control panel (a menu item under the Job Control Menu). A formfeed may flush any paper or envelopes left in the printer.
- Check to make sure you have located and removed all scraps of paper from inside the printer.
- Use the Error Log Page and Error Codes to aid you in isolating where the errors are occurring. (See Chapter 4 “Error Log Page,” and the “Printer Messages” table at the end of this chapter.)
- Ensure the area under the registration is not jammed. Remove the toner cartridge and lift the two green tabs located below the toner cartridge area.

Also refer to “Repeated Paper Jams” later in this chapter.

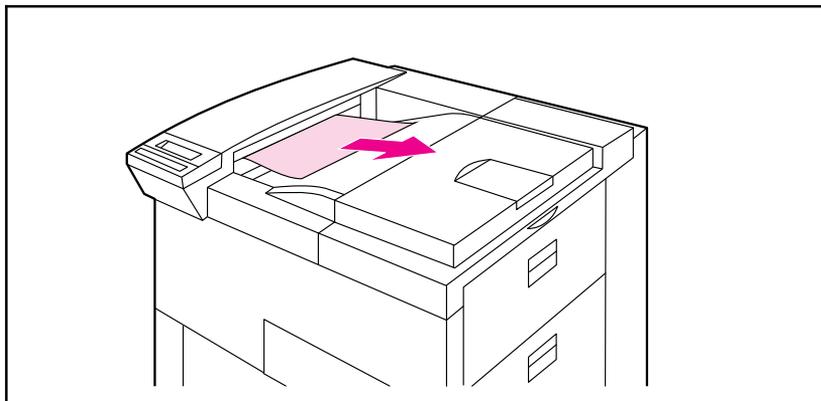
Paper jams occur most often when:

- Paper trays are not correctly loaded (see Chapter 5, “Print Tasks”).
- Your print media does not meet the specifications listed in Chapter 5.
- The media is in poor condition.
- The printer needs cleaning.

Clearing the Top Output Bin

If the paper jam extends into the output area, as shown in Figure 7-2, slowly and *carefully* pull the paper straight out of the printer so it doesn't tear.

Figure 7-2

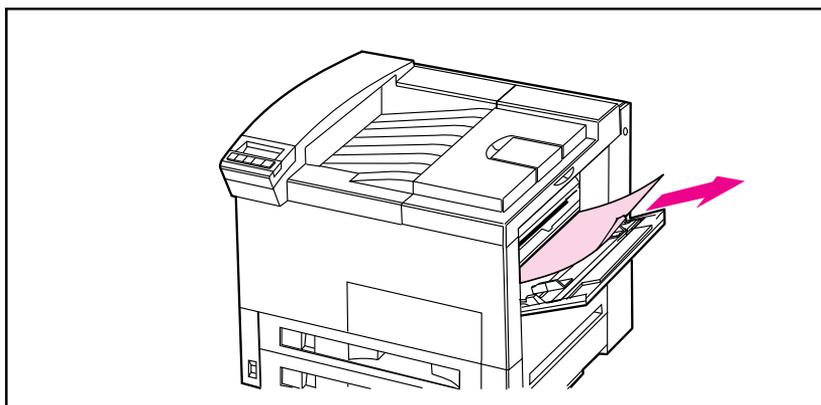


Top Output Bin

Clearing Tray 1

- 1 Open the door of Tray 1.
- 2 Check for paper in the pick-up roller of Tray 1.
- 3 Remove any paper from this area by pulling it in the direction shown by the arrow in Figure 7-3.
- 4 Remove any and all pieces of torn paper. Carefully check to be sure you have removed all scraps.

Figure 7-3

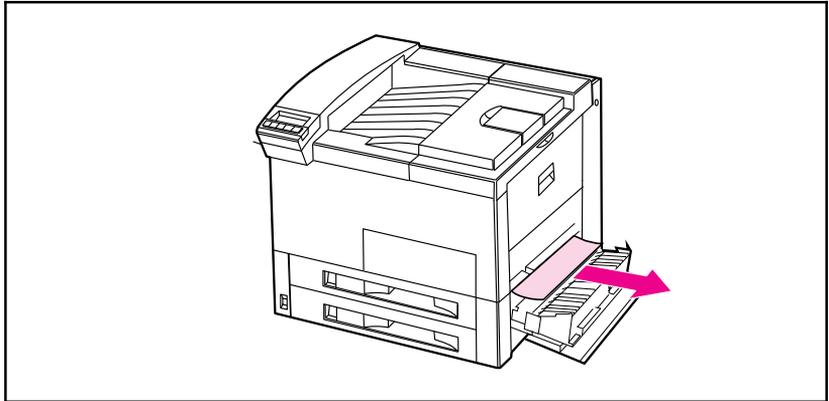


Paper Tray 1

Clearing the Right Door

- 1 Open the right door located below Tray 1.
- 2 Check for paper jammed in the pick-up roller of Tray 2 or 3.
- 3 Open the jam access cover.
- 4 Remove any paper from this area by pulling it in the direction shown by the arrow in Figure 7-4.
- 5 Remove any and all pieces of torn paper. Carefully check to be sure you have removed all scraps.

Figure 7-4



Right Door

Clearing the Top Cover

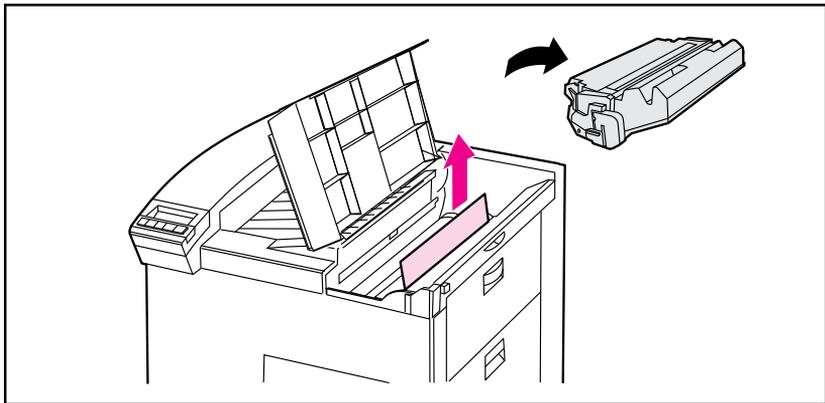
- 1 Open the top cover.
- 2 Remove the toner cartridge.

WARNING

Avoid touching the adjacent fusing area. It may be HOT.

- 3 Lift the handle that has a "2" printed on it and the plate below it that has a "3" printed on it to clear any jams that may be hidden.
- 4 Remove any paper in this area by pulling it in the direction shown in Figure 7-5.
- 5 Remove all pieces of torn paper. Carefully check to be sure you have removed all scraps.
- 6 Replace the toner cartridge and close the top cover.

Figure 7-5



Top Cover

Clearing the Front Door (Duplex Area)

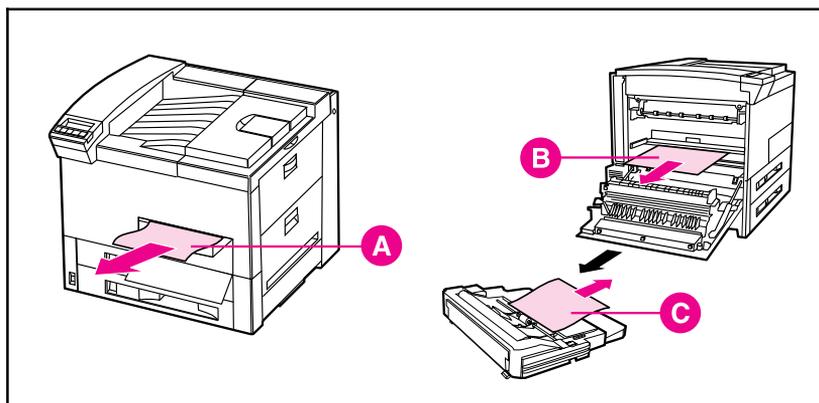
- 1 Open the front door.
- 2 Check for paper jammed in this area.
- 3 Remove any paper by pulling it in the direction shown by the arrow (A) in Figure 7-6. Be careful not to tear the page.
- 4 If you cannot remove all the paper from the front door, open the left door and carefully pull out any jammed paper (B). If a mailbox accessory is installed, push it away from the printer to access the left door.

WARNING

Avoid touching the adjacent fusing area. It may be HOT.

- 5 If a Duplex Unit is installed, remove the Duplex Unit (C) by pressing the colored tab on the lower right side of the unit and pulling the entire unit out of its slot.
- 6 Remove any paper remaining in the Duplex Unit (C).
- 7 Reinstall the Duplex Unit by sliding it back into the slot until it clicks into place and close all open doors.
- 8 Push the mailbox accessory back into place, if one is installed.

Figure 7-6



Front Door (Duplex Area)

- A. Front door jam
- B. Left door jam
- C. Duplex Unit removed

Note

After removing a sheet of paper, you may need to check other areas to ensure that all paper has been removed. Whenever a sheet of jammed paper becomes badly shredded, it is a good idea to carefully piece all parts together to be sure you haven't overlooked some small part. All portions of a jammed piece of paper must be removed, or you may run into repeated jams.

Clearing the Left Door (Fuser Area)

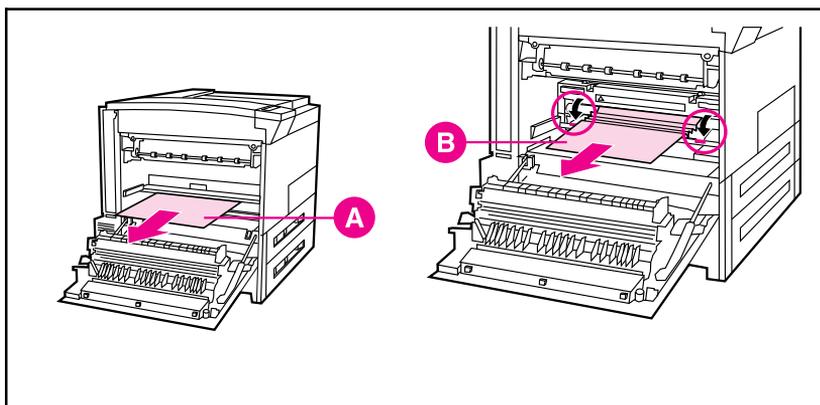
- 1 Open the left door. If a mailbox accessory is installed, push it away from the printer first to access the left door.

WARNING

Avoid touching the adjacent fusing area. It may be HOT.

- 2 Remove any jammed or damaged paper from this area by pulling it in the direction shown by the arrow (A) in Figure 7-5.
- 3 Lower the two green tabs and carefully check for additional pieces of paper. Remove all scraps.
- 4 Close the door.
- 5 Push the mailbox back into place, if one is installed.

Figure 7-7



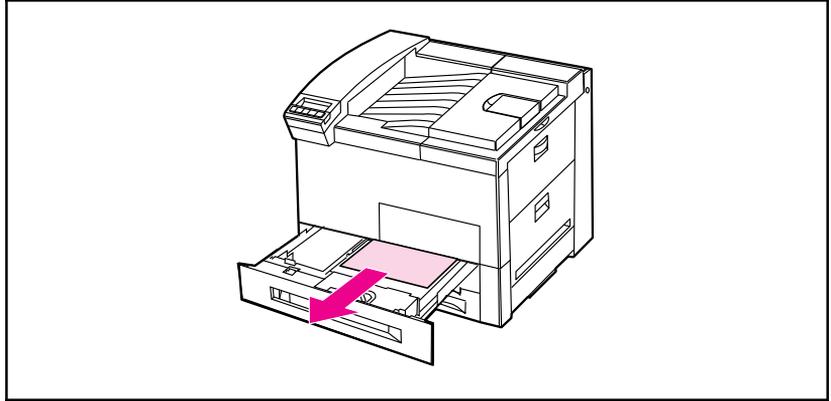
Left Door

- A. Left door jam
- B. Fuser area jam

Clearing Tray 2 (or Tray 3)

- 1 Open the tray.
- 2 Remove jammed or damaged paper from this area by pulling it in the direction shown by the arrow in Figure 7-8.
- 3 Be sure to clear any torn pieces of paper.
- 4 Close the tray.

Figure 7-8



Tray 2 (Tray 3 is below Tray 2)

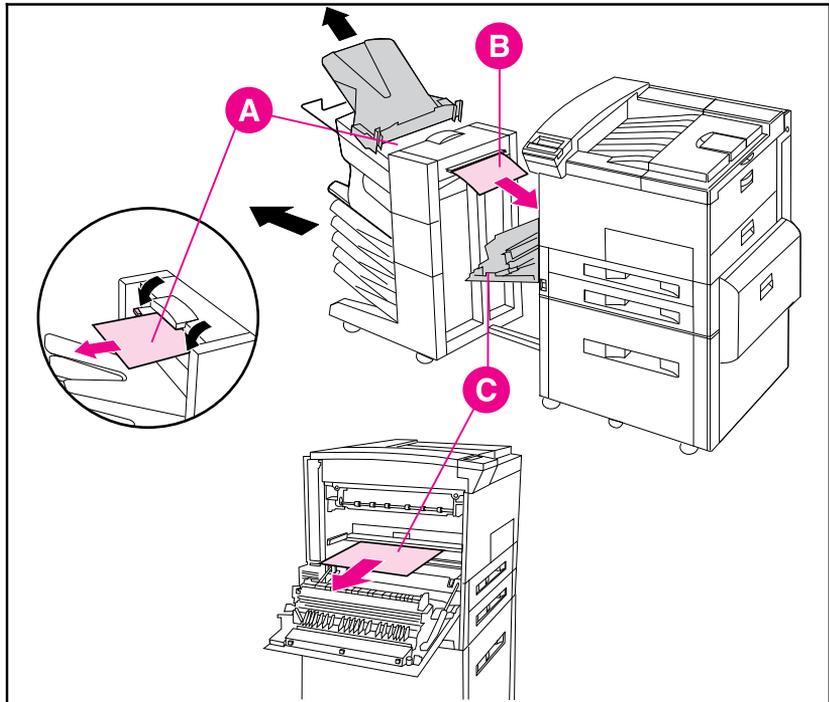
Clearing the optional Multi-Bin Mailbox or Mailbox with Stapler

- 1 Turn off the printer and remove the Left Output Bin.
- 2 Refer to (A) in Figure 7-9 and clear paper from the jammed area by carefully pulling it out, away from the printer.
- 3 Pull the mailbox away from the printer and check the area illustrated in (B). Carefully remove all scraps.
- 4 Also check the fuser area, illustrated in (C).

Note

After removing a sheet of paper you may need to check other areas to ensure that all paper has been removed. Whenever a sheet of jammed paper becomes badly shredded, it is a good idea to carefully piece all parts together to be sure you have not overlooked some small part. All portions of a jammed piece of paper must be removed or you may run into repeated jams.

Figure 7-9



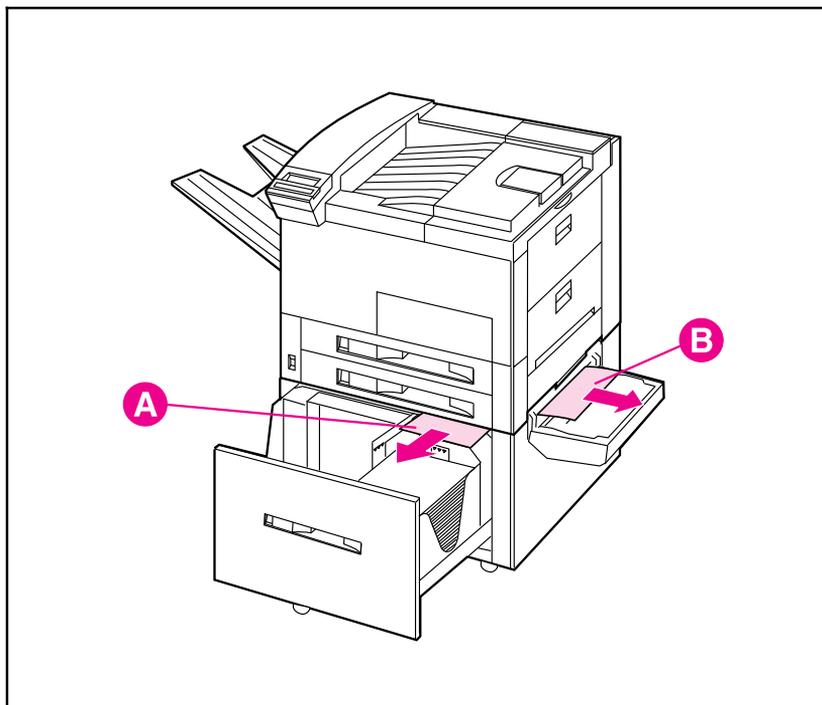
Mailbox with Stapler

- A. Mailbox output area
- B. Mailbox input area
- C. Fuser area jam

Clearing the optional 2000-Sheet Input Tray (Tray 4)

- 1 Slide open Tray 4.
- 2 Remove damaged or jammed paper from area (A) by pulling it in the direction shown by the arrow in Figure 7-10.
- 3 Be sure to clear any torn pieces of paper.
- 4 Check the vertical transfer door and other areas for additional damaged or jammed paper; refer to area (B) in Figure 7-10.
- 5 Close the tray and vertical transfer door.

Figure 7-10



2000-Sheet Input Tray (Tray 4)

- A. Tray 4 jammed paper
- B. Vertical transfer door paper jam

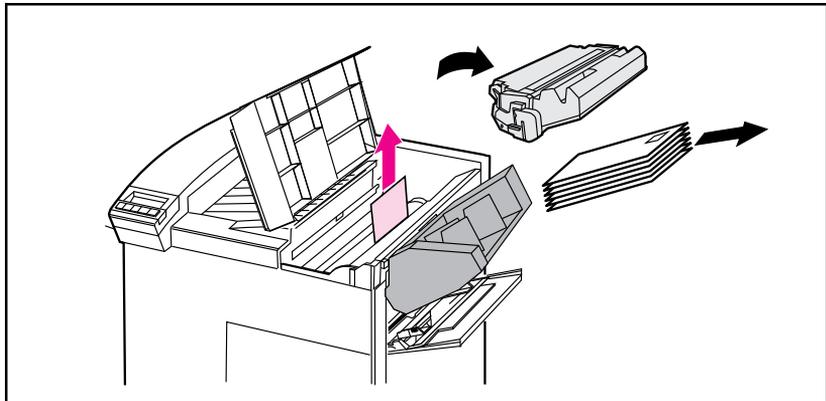
Clearing the Optional Envelope Feeder

- 1 Open the top cover.
- 2 Remove toner cartridge.

WARNING Avoid touching the adjacent fusing area. It may be HOT.

- 3 Remove envelopes in this area by pulling them in the direction shown by the arrow in Figure 7-11.
- 4 Remove any and all pieces of torn paper. Carefully check to be sure you have removed all scraps. Lift both green user tabs to clear any jams that may be hidden.
- 5 You may need to remove the optional Envelope Feeder to release any jammed envelopes or scraps of paper.
- 6 After removing all pieces of the envelope or paper, replace the optional Envelope Feeder and toner cartridge.

Figure 7-11



Optional Envelope Feeder

Repeated Paper Jams

Situation	Solution
General repeated paper jam problems	<ol style="list-style-type: none"><li data-bbox="388 196 1110 279">1. Check to see that media is correctly loaded in the trays, and that all width guides are correctly set (not skewed). See Chapter 5, "Print Tasks."<li data-bbox="388 302 1072 357">2. Try turning over the stack of paper in the tray. If you are using letterhead paper, try printing from Tray 1.<li data-bbox="388 380 1118 463">3. Do not use previously printed paper or torn, worn, or irregular paper. For the recommended paper and other media for your printer, see Chapter 5.<li data-bbox="388 486 1097 541">4. Check the media specifications (if outside of the recommended specifications, problems may occur).<li data-bbox="388 564 1078 619">5. Printer may be dirty. Clean the printer as described in the first section of this chapter.<li data-bbox="388 642 1131 748">6. Check that paper is NOT longer than 17.7 in (450 mm), wider than 11.7 in (297 mm), shorter than 3.9 in (100 mm), or slimmer than 7.5 in (191 mm). (These are the maximum and minimum dimensions that the printer can feed, otherwise the printer will jam.)<li data-bbox="388 770 1128 826">7. Ensure that the paper tray is set for the size of paper installed and that the tray is not overloaded with paper.

If jams continue, contact your authorized HP service provider.

Printer Messages

Table 7-2 lists and describes printer messages and suggests recommended actions.

Printer Messages

Message	Description	Recommended Action
READY	The default ready message. The printer is ready to use.	No action required.
OFFLINE	The printer is offline and cannot print data.	Press On Line .
WARMING UP	The printer is warming up and is not ready to accept data.	Wait until the printer signals READY .
POWER SAVE ON	The printer is in Power Save mode. In Power Save mode all control panel keys operate normally. (See "Configuration Menu" in Chapter 4.)	No action required. The job prints when the fuser has warmed (about 45 seconds).
PERFORM USER MAINTENANCE	This message indicates that the printer requires routine maintenance. It will replace the READY message until it is cleared.	Purchase a maintenance kit and install the new parts. Then remove the message by turning SERVICE MESSAGE=OFF in the CONFIGURATION MENU .
PRINTING CONFIGURATION PAGE	The printer is printing a configuration page.	No action required.
PRINTING FONT LIST	The printer is printing a font list. (Note that PCL/PostScript formats are the same.)	No action required.
PRINTING DEMO PAGE	The printer is printing a Demonstration Page.	No action required.
COPY XX OF YY from Tray n	This message indicates the progress of the current job.	No action required.
INTERNAL TEST	The printer is conducting a test of its components.	No action required.
PROCESSING JOB FROM TRAY n	The printer is working on a job from the indicated tray.	No action required.
TRAY n LIFTING	The printer is lifting the paper tray to its working position after paper was loaded.	No action required.

Continued on the next page.

Message	Description	Recommended Action
TRAY n EMPTY	The indicated tray is empty.	The printer will still function. Load paper, if desired.
TRAY n OPEN	The indicated tray is open.	The printer will still function. Close the tray, if desired.
RESTORING FACTORY SETTINGS	The printer returns almost all settings to their factory default configurations.	Reconfigure your printer and MIO. When you install an MIO card(s), to reinitialize the printer control panel you may need to perform a cold reset. (Note: In a shared environment, this task should only be performed by the system administrator.) To perform a cold reset, hold down On Line while switching the printer ON until RESTORING FACTORY SETTINGS appears in the display.
CLOSE PRINTER COVERS	One of the printer's covers or doors is not firmly closed, or your toner cartridge is not installed correctly.	Make sure your toner cartridge is fully seated and the printer top cover or doors (left, front, and right) are firmly closed.
ACCESS DENIED	Your network administrator has locked out access to the control panel menu system, except for the Test Menu and Tray 1 size.	See your network administrator.
INSTALL TONER CARTRIDGE	The toner cartridge is not installed correctly or is not installed.	Insert a toner cartridge or make sure the cartridge is fully seated and the covers are fully closed.
LOAD TRAY X <media type> <paper size> or LOAD ENV FEEDER <media type> <paper size>	The printer received a request for a media type, or paper/envelope size not available in the printer.	Load the indicated tray with the correct media, or see Chapter 4 or 5 to change the media size and type through the control panel.

Continued on the next page.

Message	Description	Recommended Action
MANUAL FEED TRAY 1 <media type> <paper size>	The printer received a request for a media of a certain type and size to be manually fed in Tray 1.	Load the correct media in the tray. See Chapter 5 for information on loading Tray 1. If the correct media is already loaded, press On Line so the printer will use that media.
PAPER DESTINATION = ALL BINS	Paper will be output to all available bins.	No action required.
INPUT TRAY = ALL TRAYS	Paper will be pulled from all available trays.	No action required.
TONER LOW	The toner cartridge is running out of toner.	Shake the toner cartridge or replace it. Press Select * to override the stopped condition and continue printing.
HP MIO 1 INITIALIZING or HP MIO 2 INITIALIZING	The MIO card(s) are initializing. This is a status message; during initialization the MIO is not active, but since the printer supports I/O switching, the printer remains online.	No action required. Display clears automatically (this may take up to five minutes, depending on the card). However, if the message remains after five minutes a problem does exist. Contact you network administrator or consult the network documentation that came with your MIO card.

Continued on the next page.

Message	Description	Recommended Action
CLEARING PAPER FROM PRINTER	The printer is attempting to remove unusable paper (such as after a paper jam)	No action required.
REMOVE PAPER FROM TOP OUTPUT BIN or REMOVE PAPER FROM OPTIONAL OUTBIN n	The destination output bin is full and no more pages can be sent to that bin.	Remove the paper from the indicated output bin.
INPUT DEVICE FEED PATH OPEN	The 2000-sheet input tray (Tray 4) is open.	Push Tray 4 into the printer until completely closed.
OUTPUT DEVICE DELIVERY PATH OPEN	The output device is not properly seated against the printer or the stapler lid is open.	Ensure the output device is pushed flush against the side of the printer and close the stapler lid.
STAPLE LIMIT REACHED	The stapler's 20-sheet limit has been reached. Job is not stapled.	Send only print jobs of 20 pages or less to the stapler.
STAPLER SUPPLY OUT	The stapler is out of staples. Job is not stapled.	Load a new stapler cartridge.
STAPLER MALFUNCTION	The stapler has not finished correctly.	Clear the stapler jam and resend job.
STAPLER ALIGN ERROR	The paper is misaligned and cannot be stapled.	Remove the paper from the stapler and resend the job.

Continued on the next page.

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
13.x PAPER JAM CLEAR n PAGES or 13.x PAPER JAM CLEAR THE PRINTER	Paper is jammed in the printer or in an input/output accessory.	Remove jammed paper from under the toner cartridge, the right door, the front door, the left door, and in any installed input/output accessories.
20 MEMORY OVERFLOW DATA LOST	The printer received more data from the computer than can fit in its available user memory.	Press Select * to print the transferred data (data loss may result). Then make more memory available in the printer by removing some fonts, macros, or any other data from memory; simplify the page sent to the printer; or install additional memory. (Note: if AUTO CONTINUE=ON the printer will automatically continue printing when this error occurs.)
21 PRINT OVERRUN DATA LOST	The data (dense text, rules, raster or vector graphics) sent to the printer was too complex.	Press Select * to resume printing. (Note: if AUTO CONTINUE=ON the printer will automatically continue printing when this error occurs). You may lose some data. Try to simplify your print job.

If the following errors persist, call your HP-authorized service provider.

Message	Description	Recommended Action
22 PARALLEL IO ERROR CHECK SETUP	For Bi-Tronics parallel (PAR) configuration, the computer and printer are not communicating because of improper signal protocols. Check both computer and printer I/O settings.	Press Select * to clear the error message (data will be lost). If the error continues, call your authorized HP dealer or service representative.
22 HP MIO 1 IO ERROR CHECK SETUP (or HP MIO 2)	For the MIO error, this is an I/O buffer overrun error.	For the parallel configuration, check for loose cable; use a high-quality cable (see Chapter 1 for HP cable part numbers and information). (Note: some non-HP parallel cables may be missing pin connections.) If you are using an I/O other than the Bi-Tronics parallel I/O, see the manual for that device or contact your dealer. If you are on a network, contact your network administrator. If problem persists, power-cycle the printer. These error messages are saved in the Error Log.
30.x.y DISK NOT INITIALIZED	The printer hard disk is not initialized.	Press Select * to continue. Use the Windows based HP JetAdmin utility or the Macintosh based HP LaserJet Utility to initialize the disk.
30.x.y DISK FAILURE	The printer hard disk has failed self test.	Press Select * to continue. Turn power off and verify that the ribbon cable that connects the disk to the printer is securely fastened. If the control panel message continues to be displayed, the disk drive needs to be replaced.

Continued on the next page.

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
31. X.Y DISK FAILURE	The printer detected a disk failure.	Printer operation may continue, if access to the disk is not required. Press Select * to continue printing when this error occurs. Call service to repair or replace the disk.
40.1 HP MIO ERROR 40.2 HP MIO ERROR	An abnormal connection break occurred while transferring data from the computer. Error 40.1 is for port 1 (upper slot), and error 40.2 is for port 2 (lower slot).	(If you are using an I/O other than the Bi-Tronics parallel I/O, refer to the user's manual for that product.) Press Select * to clear the error message. I/O connections on that MIO card will not be used.
41.1 GENERAL MISPRINT ERROR 41.2 BEAM DETECT MALFUNCTION 41.4 NO VIDEO SYNC 41.5 NOISY VIDEO SYNC REQ SIGNAL	A nonfatal error has occurred in the printed page.	Press Select * and attempt to continue. If problem persists, turn printer OFF and then back ON.
41.3 IMPROPER PAPER SIZE	The printer detected that the actual paper size is not the same as the paper tray setting.	Verify that the paper tray size is properly set. Trays 2, 3, and 4 are set by positioning the adjustment bars. Tray 1 is set via the tray menu on the printer control panel.
50.x FUSER ERROR CYCLE POWER	The printer identified an internal service error (hardware problem with fuser). 50.1 Fuser low-temperature failure 50.2 Fuser warm-up failure (timed out) 50.3 Fuser over-temperature failure 50.4 Fuser with wrong voltage	Switch the printer OFF and then back ON.

Continued on the next page.

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
51.x ERROR CYCLE POWER	The printer detected a laser sub-system problem. 51.1 Beam detection malfunction 51.2 Laser malfunction	Turn the printer OFF then ON again.
52.x ERROR CYCLE POWER	The printer detected a scanning sub-system problem. 52.1 Scanner startup failure 52.1 Scanner rotation failure	Turn the printer OFF then ON again.
53.XY.ZZ MEMORY ERR CYCLE POWER	An error occurred during configuration and validation of SIMM memory: X (Hardware Type): 0: ROM 1: RAM Y (Hardware Device): 0: Internal Memory 1: SIMM Slot 1 2: SIMM Slot 2 3: SIMM Slot 3 4: SIMM Slot 4 ZZ (Error Number): 0: Unsupported memory 1: Unrecognized memory 2: Unsupported memory size 3: Failed RAM test 4: Exceeded maximum RAM size 5: Exceeded maximum ROM size 6: Invalid SIMM speed 7: SIMM reporting information incorrectly 8: SIMM RAM parity error 9: Not used 10: SIMM address conflict 11: ROM out of bounds 12: Could not make temporary mapping	Make sure your SIMM board is installed correctly (see Appendix C, “Memory and Personality SIMM Installation”). Replace the SIMM that caused the error. Select * will allow you to continue but the SIMM that caused the error will not be configured. If the SIMM device has more than one bank of memory, the good banks will be configured.
54 2-SIDED ERROR CHECK DUPLEXER	There is a Duplex Unit guide malfunction.	Remove and re-install the Duplexer Unit. Remove any jammed paper from the Duplexer Unit.

Continued on the next page.

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
55.x ERROR PRESS SELECT KEY	Printer command error; commands cannot be exchanged between the print engine and its formatter board.	Press Select * to resume operation. If necessary turn the printer OFF and then ON.
56.x ERROR PRESS SELECT KEY	An invalid input source/destination output bin has been requested. 56.1 Invalid input source 56.2 Invalid output destination (for example, improper media size being sent to duplexer)	Press Select * to resume operation. Correct invalid request(s). If necessary turn the printer OFF and then ON.
57.x FAN FAILURE CALL SERVICE	One of the cooling fans has failed.	Turn printer off and call service immediately. Do not operate with this condition.
58.x PRINTER ERROR CYCLE POWER	One of the input paper tray lifters has failed.	Press Select * to resume operation. Note: the tray indicated by this error will be ignored until the next time the printer is turned off then on again.
59.x PRINTER ERROR CYCLE POWER	There is a problem with the main motor.	Turn the printer OFF then ON again.

Continued on the next page.

If the following errors persist, call your HP-authorized service provider.

Message	Description	Recommended Action
61.x PRINTER ERROR CYCLE POWER	The printer encountered a parity error when accessing internal RAM or some SIMM memory in slot x. 0: Internal memory 1: SIMM slot 1 2: SIMM slot 2 3: SIMM slot 3 4: SIMM slot 4	Switch the printer OFF and then ON (data stored in printer will be lost). If the error is still present, first verify that the SIMM board is correctly installed. Switch the printer ON. If the error is still present, switch the printer OFF and remove the SIMM board. Switch the printer back ON. If the error message does not appear, the problem is on the SIMM. See Appendix C, "Memory and Personality SIMM Installation," for more information.
62.x PRINTER ERROR CYCLE POWER	The printer identified a CRC error while checking its memory. x refers to the memory the printer was checking when it encountered the error. 0: Internal memory 1: SIMM slot 1 2: SIMM slot 2 3: SIMM slot 3 4: SIMM slot 4	Switch the printer OFF and then ON (data stored in printer will be lost). If the error is still present, first verify that the SIMM board is correctly installed. Switch the printer ON. If the error is still present, switch the printer OFF and remove the SIMM board. Switch the printer back ON. If the error message does not appear, the problem is on the SIMM. See Appendix C, "Memory and Personality SIMM Installation," for more information.
64 PRINTER ERROR CYCLE POWER	The printer identified a scan buffer error.	Turn the printer OFF then ON again.
65 PRINTER ERROR CYCLE POWER	The printer identified a dynamic RAM controller error.	Turn the printer OFF then ON again.

If the following errors persist, call your HP-authorized service provider.		
Message	Description	Recommended Action
66.x.yy DEVICE ERROR CYCLE POWER	The printer identified a paper handling controller error. <i>x</i> identifies the device (1–5) and <i>yy</i> is the error code (0–99) 0: Paper Handling Controller (PHC) 1: First device attached to the PHC 2: Second device attached to the PHC 3: Third device attached to the PHC 4: Fourth device attached to the PHC 5: Fifth device attached to the PHC	Turn the printer OFF then ON again.
67 PRINTER ERROR	The printer identified a miscellaneous interface hardware error.	Turn the printer OFF then ON again.
68 ERROR CHECK CONFIGURATION	There is a checksum error in the printer's nonvolatile memory (NVRAM). Some or all of the menu items have been reset to the factory default values.	Check all menu settings; reset if necessary. Press Select * to continue. If you switch the printer OFF and then ON, you may lose settings (to check settings, print a configuration page).
68 NVRAM FULL CHECK CONFIGURATION	The printer's nonvolatile memory (NVRAM) is full.	Press Select * to continue. The system will automatically perform a cold reset and display RESTORING FACTORY SETTINGS. The system will complete initialization and return to the online condition.

Continued on the next page.

If the following errors persist, call your HP-authorized service provider.

Message	Description	Recommended Action
70 ERROR or 71 ERROR CHECK CONFIGURATION	A firmware SIMM problem was identified (incompatibility between SIMM/hardware/BIOS).	Switch the printer OFF and then back ON.
79 SERVICE (xxxx) CALL SERVICE	An internal controller error occurred. xxxx indicates the error type.	Switch the printer OFF and then back ON. If the error appears again, turn power OFF and remove any non-HP SIMM memory boards from the printer. Then switch the printer back ON. If the error appears again, record the numbers following the error message and call your authorized HP dealer or service representative.
80 SERVICE (xxxx) CALL SERVICE	The printer detected a problem in the MIO card. xxxx indicates the error type.	Switch the printer OFF and then back ON. If the error appears again, record the numbers following the error message and call your card supplier, or authorized HP dealer or service representative.

Continued on the next page.

Calling for Help

If you try all the suggestions given in this manual and still need assistance, call the authorized Hewlett-Packard dealer where you purchased your printer. See appendix E for a listing of HP Sales and Service offices.

Customer Support Options US and Canada	
Customer Support Assistance	(208) 323-2551 Mon-Fri 6 a.m. to 6 p.m. (Mountain Time) <i>Free of charge during the Warranty Period. Please have your serial number ready when calling.</i> Post-warranty telephone assistance is available to answer your product questions. (900) 555-1500 (\$2.50** per minute, US only) or call (800) 999-1148 (\$25** per call, Visa or Master Card, US and Canada) Mon-Fri 7 a.m. to 6 p.m. and Saturday from 9 a.m. to 3 p.m. (Mountain Time) <i>Charges begin only when you connect with a support technician.</i>
Obtaining Printer Drivers	Phone: (970) 339-7009
	Fax: (970) 330-7655
	Mail: Hewlett Packard P.O. Box 1754 Greeley, CO 80632
	Internet: Anonymous FTP to ftp.hp.com
	World-Wide Web: www.hp.com
	HPBulletin Board Service: (208) 344-1691 and set your communication software to N,8,1
	America On-Line: Type HP to start your tour, or call (800) 827-6364 and ask for representative 1118 to subscribe.
	CompuServe: HP forum (GO HP), or call (800) 524-3388 and ask for representative #51.
Accessories and Supplies	(800) 538-8787
HP Support Assistant CD-ROM	This support tool offers a comprehensive online information system designed to provide technical and product information on HP products. To subscribe to this quarterly service in the US or Canada, call (800) 457-1762.
HP Authorized Dealers and Service	(800) 243-9816 (US) (800) 387-3867 (Canada)
Parts and Manuals	(800) 227-8164 (US) (800) 387-3154 (Canada)
HP Repair Contracts	(800) 743-8308 (US) (800) 268-1221 (Canada)
Software Application Notes and Audio Tips	
HP FIRST*	(800) 333-1917 (208) 344-4809

* HP FIRST (Fax Information Retrieval Support Technology) is a no-charge, 24 hours self-help service that provides answers to the most common questions about your printer. Through HP FIRST, you can receive ordering information, software application notes and printer driver update request forms. Simply dial the HP FIRST number from a touch tone phone connected with a Group 3 Facsimile machine and follow the voice prompts that guide you to select an index of available support and product documents.

** Prices subject to change without notice.

Continued on the next page.

Customer Support Options Europe		
Customer Support Assistance	See the flyer included with printer.	
Obtaining Printer Drivers	Call HP First.	World-Wide Web: www.hp.com
Accessories and Supplies	See Appendix E.	
HP Authorized Service	See Appendix E.	
HP Dealer	See Appendix E.	
Software Application Notes		
HP FIRST*	United Kingdom	0-800-96-02-71
	Belgium	078-11-19-06
	Belgium (French)	078-11-70-43
	China	010-505-5280
	Germany	0130-8100-61
	France	05-90-5900
	Switzerland (German)	155-1527
	Switzerland (French)	155-1526
	Austria	0660-8128
	Finland	9800-13134
	Netherlands	06-02-22-420
	Norway	800-11319
	Denmark	800-10453
	Sweden	020-795743
	Taiwan	02-791-5589
English outside of U.K.	(31) 20-681-5792	

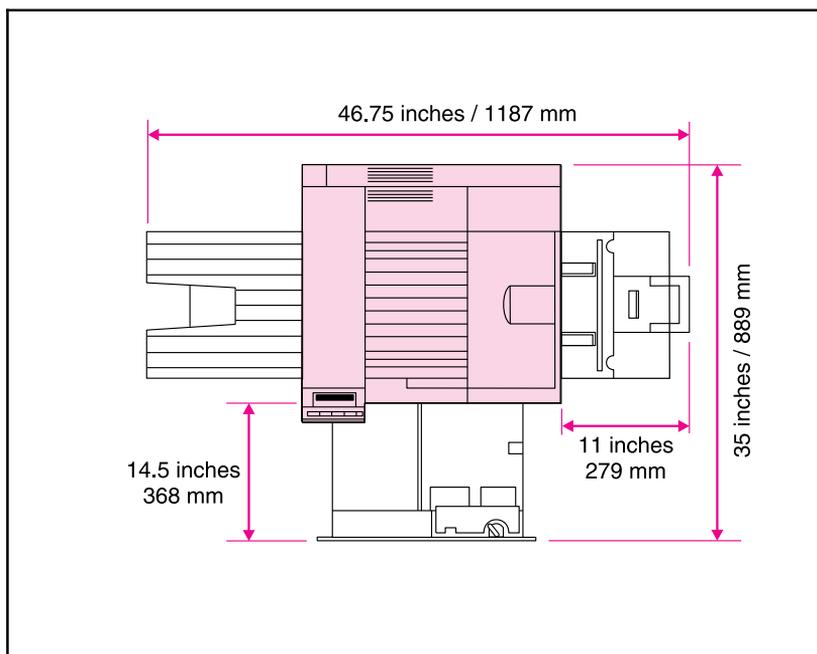
* HP FIRST (Fax Information Retrieval Support Technology) is a no-charge, 24 hours self-help service that provides answers to the most common questions about your printer. Through HP FIRST, you can receive ordering information, software application notes and printer driver update request forms. Simply dial the HP FIRST number from a touch tone phone connected with a Group 3 Facsimile machine and follow the voice prompts that guide you to select an index of available support and product documents.

Specifications

Location Requirements

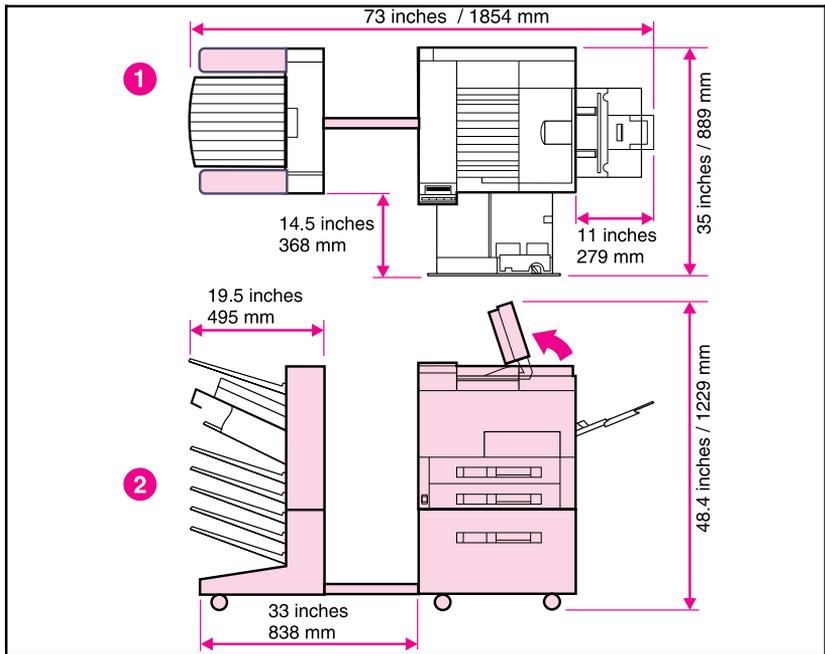
Place your printer on a sturdy, level surface in a well ventilated room. The environment should be stable, with no abrupt changes in temperature or humidity and no exposure to direct sunlight or chemicals. Figure A-1 shows the suggested amount of space to leave around the printer. Figure A-2 shows the suggested amount of space if you have installed an optional mailbox accessory. Leave adequate space to remove paper trays and to allow air circulation around vents to prevent overheating.

Figure A-1



Printer Clearance Dimensions

Figure A-2



Printer Clearance Dimensions

1. Printer Top View
2. Printer Side View

Printer Specifications

The following tables contain specifications for the HP LaserJet 5Si/5Si MX Printers.

Physical Dimensions

Height	21.3 in (540 mm)
Height of optional 2000-Sheet Input Tray	18.9 in (480 mm)
Width of the Printer	22.3 in (566 mm)
Width of the optional Multi-Bin Mailbox	19.5 in (495 mm)
Width of the optional Mailbox with Stapler	19.5 in (495 mm)
Depth (body)	20.5 in (520 mm)
Weight (without toner cartridge and with paper cassette)	99 lb (45 kg)

Electrical Specifications

Power Requirements	100/120V (+/- 10%) 50/60Hz (+/- 2Hz) 127V, 60Hz (+/- 2Hz)	220/240V (+/- 10%) 50Hz (+/- 2Hz) 220V (+/- 10%) 60Hz (+/- 2Hz)
Typical Power Consumption	During printing, 550 W (average) During standby, 160 W (average) During Power Save, 43 W (average)	During printing, 550 W (average) During standby, 160 W (average) During Power Save, 47 W (average)
Min. recommended circuit capacity, typical installation	14.0 Amps at 120 V	7.0 Amps at 220 V

Environmental Specifications

Item	Operating Printing	Storage/ Standby
Temperature (printer and toner cartridge)	50° to 91° F (10° to 32.5° C)	32° to 105° F (0° to 40° C)
Relative humidity	15% to 80%	15% to 90%

Acoustic Emissions

Operating Position	(Per ISO 9296)	Bystander 1m Position	(Per ISO 9296)	Sound Power Level	(Per ISO 9296)
Printing	LPA 62 dB(A)	Printing	LPA 58 dB(A)	Printing	LWAD=7.6 bels(A)
Standby	LPA 42 dB(A)	Standby	LPA 38 dB(A)	Standby	LWAD=5.3 bels(A)

Regulatory Statements

FCC Regulations

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.

There is, however, 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 receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult your dealer or an experienced radio/TV technician.

Note

Any changes or modifications not expressly approved by HP could void the user's authority to operate this equipment. Use of a shielded interface cable is required to comply within the Class B limits of Part 15 of FCC rules.

Canadian DOC Regulations

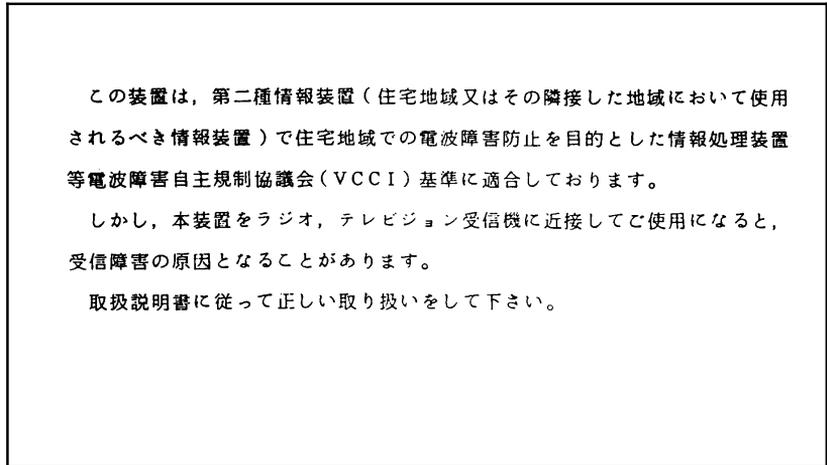
Complies with Canadian EMC Class B requirements.

<<Conforme à la classe B des normes canadiennes de compatibilité électromagnétiques. << CEM >> . >>

VCCI Statement (Japan)

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

Figure A-3



VCCI Statement (Japan)

Safety Information

Laser Safety

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

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

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

Ozone Emission

The HP LaserJet 5Si/5Si MX/5Si NX printers do not use high voltage corona wires in the electrophotographic process, and therefore generates no measurable ozone gas (O₃). Instead, these printers use charging rollers in the toner cartridge and in the print engine.

Material Safety Data Sheet (MSDS)

Toner Material Safety Data Sheet (MSDS) can be obtained by calling HP First at (800) 333-1917 or (208) 344-4809. HP First is a 24-hour Fax information service. International customers should refer to Appendix E for appropriate numbers and information.

Laser Statement for Finland

LASERTURVALLISUUS

LUOKAN 1 LASERLAITE KLASS 1 LASERAPPARAT

HP LaserJet 5Si printer laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisissa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle. Laitteen turvallisuusluokka on määritetty standardin EN 60825-1 (1994) 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 5Si printer-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, utsätts användaren för osynlig laserstrålning. Betrakta ej strålen.

Tiedot laitteessa käytettävän laseriodin säteilyominaisuuksista:

Aallonpituus 775-795 nm
Teho 5 mW
Luokan 3B laser

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Hewlett-Packard Company
Manufacturer's Address: 11311 Chinden Boulevard
Boise, Idaho 83714-1021, USA

declares that the product

Product Name: HP LaserJet 5Si/5Si MX*/5Si NX Printer*
Model Number: C3166A/C3167A*/C3950A*
Product Options: All

conforms to the following Product Specifications:

Safety: EN60950:1992, Amd. 1:93, Amd. 2:93
IEC 950: 1991, Amd. 1:92, Amd. 2:93
EN60825:1991
IEC 825:84, Amd. 1:90 CLASS 1

EMC: CISPR-22:1993 / EN 55022:1994 class B¹
CISPR-22:1993 / EN 55022:1994 class A*
EN 50082-1:1992
IEC 801-2:1991/prEN55024-2:1992-3 kV CD, 8 kV AD
IEC 801-3:1984/prEN55024-3:1991-3 V/m
IEC 801-4:1988/prEN55024-4:1992-0.5kV Signal Lines, 1kV Power Lines

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC, and carries the CE marking accordingly.

¹ The product was tested in a typical configuration with Hewlett-Packard Personal Computer and Test Systems.

* This printer contains Local Area Network (LAN) options. When the interface cable is attached to either of the IEEE 802.3 connectors, the printer meets the requirements of EN55022 Class A.

Office of Quality Manager
Boise, Idaho USA
August 1, 1995

European Contact: Your local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department ZQ / Standards Europe, Herrenberger Strae 130, D-7030 Böblingen (FAX: + 49-7031-14-3143)

PCL Printer Commands (Escape Sequences)

Most software applications do not require you to enter printer commands. See your computer and software documentation to find the method to use for entering printer commands.

PCL printer commands tell the printer which tasks to perform or which fonts to use. This appendix is not intended to provide complete information about PCL commands, but only to provide a quick reference for users who are already familiar with PCL command structure.

Note

Table B-3 contains frequently used PCL commands. For a complete listing and explanation of how to form PCL, HP-GL/2, and PJJ commands, see the *PCL/PJJ Technical Reference Package*, which is described in “Supplementary Documents” at the front of this manual. (See Chapter 7, “Calling for Help,” for ordering information.)

PCL Printer Command Syntax

Before using printer commands, note these characters:

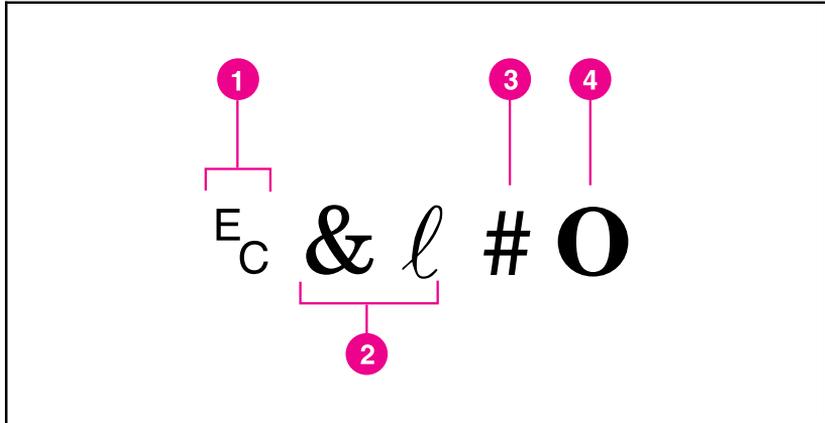
Lowercase l: *ℓ* Uppercase O: *Ō*

Number one: *1* Number 0: *Ø*

Many printer commands use the lowercase letter l (*ℓ*) and the number one (1), or the uppercase letter O (*Ō*) and the number zero (*Ø*). These characters may not appear on your screen as shown here. *You must use the exact character and case specified for PCL printer commands.*

Figure B-1 shows the elements of a typical printer command (in this instance a command for page orientation).

Figure B-1



Printer Command Syntax

1. Escape character (begins escape sequence)
2. Command category
3. Value field (contains both alpha and numeric characters)
4. Uppercase letter (terminates escape sequence)

Escape Character

Printer commands always begin with the escape character (E_C). Table B-1 shows the escape character for various software applications. (The keyboard **Esc** key does not produce the escape character.) Check your software manual for additional information.

Table B-1 Software Escape Character Commands

DOS Software Package	What You Enter	What Appears on Screen
Lotus 1-2-3 and Symphony	Type \027	Ø27
Microsoft Word for DOS	Hold down Alt key and type 027 on the numeric keypad	
WordPerfect for DOS	Type <27>	<27>
MS-DOS Editor	Hold down CTRL P then press Esc	
MS-DOS Edlin	Hold down CTRL V then type [^[
dBase	Type ?? CHR(27)+command	?? CHR(27)+command

Setup Strings

Some software applications, like older versions of Lotus 1-2-3 for DOS, require setup strings with PCL printer commands. In the following example, the Lotus escape character (\027) is shown. This setup string is used to change the orientation to landscape and to select the small Line Printer font.

```
\027&l 10\027(s0p16.67h8.5v0s0b0T
```

PCL Font Selection

PCL printer commands for selecting fonts appear in the PCL Typeface List (see Chapter 3, “Printer Software”). An example from this list is shown below. Notice the two variable boxes for symbol set “E_c” and point size.

Univers Medium	Scale	<code><esc><[<esc>(s1p v0s0b4148T</code>	I 01
----------------	-------	--	------

If these variables are not filled in, the printer uses defaults. For example, if you want a symbol set that contains line-draw characters, select the 10U (PC-8) or 12U (PC-850) symbol set. Other common symbol set codes are listed in Table B-2. Order the *PCL/PJL Technical Reference Package* if you require symbol set charts or want more information.

Table B-2 Common Symbol Set Values

Code	Symbol Set	Code	Symbol Set
8U	HP Roman-8	19U	Windows 3.1 Latin 1
10U	IBM Layout (PC-8) (code page 437) Default Symbol Set	9E	Windows 3.1 Latin 2 (commonly used in Eastern Europe)
12U	IBM Layout for Europe (PC-850) (code page 850)	5T	Windows 3.1 Latin 5 (commonly used in Turkey)
8M	Math-8	579L	Wingdings Font

Point size (or pitch) is another variable. In the following example, “12U” has been filled in for the PC-850 symbol set and “12” for the point size. This printer command selects a 12-point Univers Medium font:

```
Ec(12UEc(s1p12v0s0b4148T
```

Frequently used PCL printer commands are shown in Table B-3.

Table B-3

Frequently Used PCL Printer Commands

Printer Command	Function	# Refers To
Esc	Escape character	(See Table B-1 or your software manual.)
L _F	Line feed	n/a
F _F	Formfeed	n/a
C _R	Carriage return	n/a
EscE	Resets the Printer	n/a
Esc&lØH	Ejects page	n/a
Esc&l#X	Indicates number of copies	1 to 32,767
Esc&l#G	Selects paper destination	0 = Automatic selection 1 = Top Output Bin (face-down) 2 = Left Output Bin (face-up) 3 = Multi-Bin Mailbox #1 4 = Multi-Bin Mailbox #2 5 = Multi-Bin Mailbox #3 6 = Multi-Bin Mailbox #4 7 = Multi-Bin Mailbox #5 8 = Stapler Bin
Esc&l#H	Selects paper source	0 = prints/ejects current page 1 = Tray 2 2 = Manual Feed - paper 3 = Manual Feed - envelope 4 = Tray 3 5 = 2000-Sheet Input Tray (Tray 4) 6 = Envelope Feeder 7 = Auto Select 8 = Tray 1
Esc&l#A	Sets paper size or envelope size	1 = Executive 2 = Letter 3 = Legal 6 = 11 in x17 in 26 = A4 27 = A3 45 = JIS B5 46 = JIS B4 72 = JPOSTD 80 = Monarch 81 = Commercial 10 90 = DL 91 = International C5 100 = Commercial B5 101 = Maximum
Esc&l#O	Selects orientation	0 = portrait 1 = landscape 2 = reverse portrait 3 = reverse landscape
Esc&a#L	Sets left margin	Column number
Esc&a#M	Sets right margin	Column number
Esc&l#E	Sets top margin	Number of lines
Esc&l#F	Sets text length (bottom margin)	Number of lines from top margin
Esc&l#D	Sets line spacing	Lines per inch (1, 2, 3, 4, 6, 8, 12, 16, 24, or 48)
Esc&d#D	Begins underline	0 = fixed 3 = floating
Esc&d@	Ends underline	n/a
Esc&k#H	Sets horizontal motion index	1/120 in (.21 mm) increments (compresses print horizontally)

Continued on the next page.

Table B-3
Frequently Used PCL Printer Commands, *continued*

Printer Command	Function	# Refers To
$\text{E}_c\&l\#C$	Sets vertical motion index	1/48 in (.53 mm) increments (compresses print vertically)
$\text{E}_c\&a\#R$	Sets # of vertical position, rows	Sets current vertical print position to specified row number (#)
$\text{E}_c^*p\#Y$	Sets # of vertical position, dots	Sets current vertical print position to specified dot number (#)
$\text{E}_c\&a\#V$	Sets # of vertical position, decipoints	Sets current vertical print position to specified decipoint number (#)
$\text{E}_c\&a\#C$	Sets # of horizontal position, rows	Sets current horizontal print position to specified row number (#)
$\text{E}_c^*p\#X$	Sets # of horizontal position, dots	Sets current horizontal print position to specified dot number (#)
$\text{E}_c\&a\#H$	Sets # of horizontal position, decipoints	Sets current horizontal print position to specified decipoint number (#)

Memory and Personality SIMM Installation

Your HP LaserJet 5Si/5Si MX/5Si NX has four single inline memory module (SIMM) slots for memory expansion. For the 5Si/5Si NX, all four are available for expansion. For the 5Si MX, one slot is occupied by a 8 MByte memory SIMM and another slot is occupied by a SIMM holding Adobe's PostScript Level 2 language. Therefore, there are two available slots that you can use to install additional printer memory and printer personalities.

The printer contains 4 MBytes of on board memory. By adding optional SIMMs with 2, 4, 8, 16, or 32 MBytes, you can increase memory to a total of 76 MBytes (for the 5Si MX).

Note

Memory SIMMs for the HP LaserJet 4 Plus and 4M Plus printers *can* be used in the HP LaserJet 5Si series. PostScript language SIMMs for any other printer *cannot* be used in the HP LaserJet 5Si series.

When you get a new memory board, compare the part number on the outside of the package to the part number in Table C-1 below. If you have not received the correct SIMM, notify your authorized Hewlett-Packard dealer.

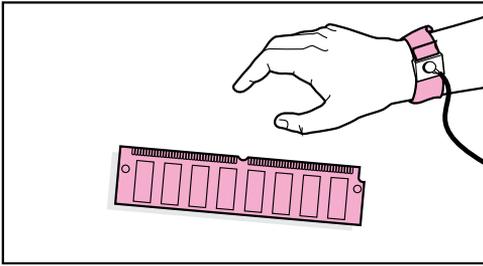
Table C-1 Memory SIMM Part Numbers

Size	Part Number
2 MBytes	C3131A
4 MBytes	C3132A
8 MBytes	C3133A
16 MBytes	C3146A

Note

32-MByte SIMMs are *not* available from HP. The 32-MByte SIMMs *are* supported, but must be obtained through third-party providers.

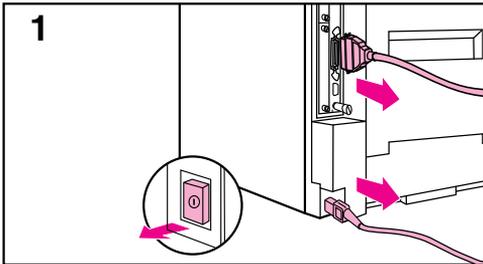
Installing a SIMM Board



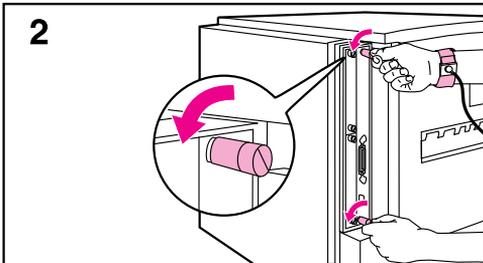
CAUTION

SIMM boards and your printer formatter board can be damaged by small amounts of static electricity. When handling a SIMM or other board, wear an antistatic wrist strap connected to the metal frame of the printer (or to your antistatic system). **During installation, to prevent generation of static electricity, avoid moving about the work area.**

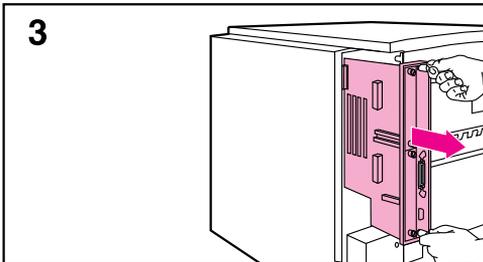
To avoid damaging the parts, follow these steps:



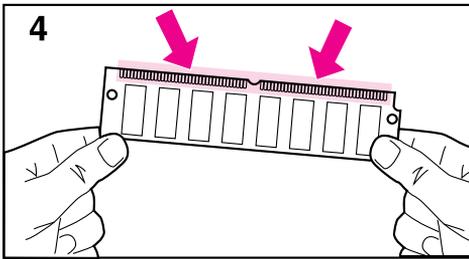
- 1 In this order, switch the printer power OFF, unplug the power cord, and disconnect any attached cables.



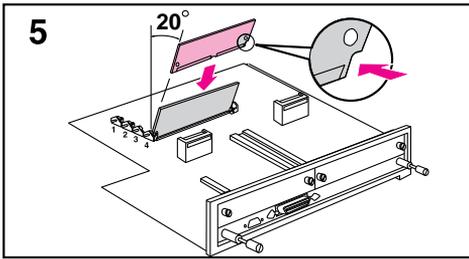
- 2 Loosen (but do not remove) the two captive screws. *If you are not wearing an antistatic wrist strap, touch the printer's bare metal plate.*



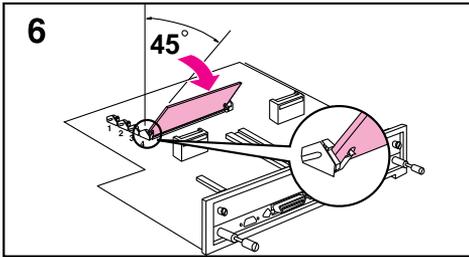
- 3 Grasp the screws and pull the printer controller board out of the printer. *Do not touch any component on the board.* Place the board on a flat, nonconductive surface. (For ease of replacement, note how the board fits into slots in the printer.)



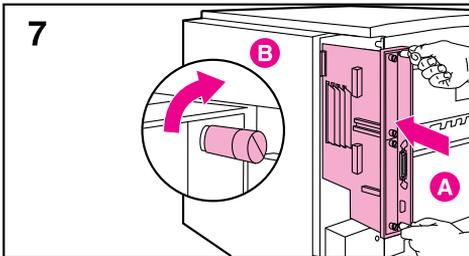
4 Remove the SIMM board from the antistatic package. *Do not touch any component on the SIMM board.* Hold the board with your forefingers on the side edges and your thumbs against the back edge, so the notch on one end is on the *right* and the metal teeth face toward the SIMM slot.



5 Insert the board *firmly* into the SIMM slot (5) at about a 20-degree angle. Use the closest open slot, starting with 4 as illustrated.



6 Rotate the SIMM toward the back of the printer to about a 45-degree angle until it clicks into the metal locking tabs. If it is properly seated, it will not lift away from the slot. (To remove a SIMM, you must first release the metal locking tabs.)



7 Align the printer formatter board with the top slot, slide the board back into the printer (A), and tighten the two screws (B).

8 Re-attach any cables and the power cord; *then* switch the printer power ON and test the SIMM (see the following section).

Testing a SIMM Board

Use the procedures below to print a self test to verify SIMM board installation. Procedures are given for both memory and PostScript or other personality SIMMs.

Verifying a Memory SIMM

- 1 Plug in the power cord and switch the printer ON.
- 2 After a few seconds, the On Line indicator should light and `READY` should appear in the control panel display. If a printer message appears, see the “Optional SIMM Board Troubleshooting” section in Chapter 7, “Maintenance and Troubleshooting.”
- 3 Press **Menus** until `TEST MENU` appears.
- 4 Press **Items** until `PCL CONFIGURATION PAGE` appears.
- 5 Press **Select*** to print a self test.

Locate “Total Memory” on the configuration page printout. This is the amount of memory now installed in your printer. (See Chapter 4, “Printer Control Panel,” for more information.)

If the amount of memory has not increased since installing the SIMM, it may not be installed correctly (repeat installation procedure) or it may be defective. (See “Optional SIMM Board” in Chapter 7.)

Verifying a PostScript SIMM

- 1 Plug in the power cord and turn the printer ON.
- 2 After a few seconds, the On Line light should go on and READY should appear in the control panel display. If a printer message appears instead, see the “Optional SIMM Board” section in Chapter 7.
- 3 Press **Menu** until POSTSCRIPT MENU appears. This indicates that your printer recognizes that the PostScript language is installed. If POSTSCRIPT MENU does not appear, check the SIMM installation.

Note

Only a PostScript language SIMM designed for the HP LaserJet 5Si series can be used.

Warranty and Software License

HP Maintenance Agreements

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

On-Site Service Agreements

To provide you with 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. Designated 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 entitles you to standard warranty services for your printer and is available from HP worldwide. However, there may be local variations in the level of warranty service. You should contact the local HP Service Center to check for the applicable local warranty in your country or province.

One-Year On-Site Limited Warranty

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

Should HP be unable to repair or replace the product within a reasonable amount of time, you will be entitled to a refund of the purchase price if you return the product.

To have your printer serviced by HP you should contact the closest HP Service Center.

Exclusions

The warranty on your HP LaserJet 5Si/5Si MX/5Si NX shall not apply to defects 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 (see note on page D-3).
- Operating the printer from a mechanical switch box without a designated surge protector.
- Improper site preparation and maintenance.
- Failure to perform key operator maintenance every 350,000 pages.
- Use of non-HP toner cartridges (see the note following), memory boards or interface boards.

Note

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 attributable directly 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.

Caution

Operation of the printer beyond the limit of its duty cycle (printing greater than the equivalent of 100,000 single-sided pages per month) shall be deemed printer abuse and all repairs thereafter will be billed on a time and materials basis.

Caution

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

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.

Service During the Warranty Period

If your hardware should fail during the warranty period, contact an authorized HP dealer or an HP Customer Service Center.

Service After the Warranty Period

If your hardware fails after the warranty period, contact an authorized HP dealer or your local Customer Service Center. If you have an HP Maintenance Agreement, request service under your agreement.

Repacking Guidelines

To repack the print engine:

- Remove and retain the toner cartridge.
- Remove and retain all of the following optional accessories (if installed): Envelope feeder, 2000 sheet input tray, Mailbox with Stapler, or Multi-Bin Mailbox.
- Use the original shipping container and packing materials, if possible.
- Include print samples and 50-100 sheets of the paper or forms you are having trouble printing, if possible.

Note

If you have already disposed of your printer's packaging material, packaging material can be ordered from HP (see Appendix E or "Calling for Help" in Chapter 7). Order part number C3986-90005.

If it is necessary to return the Multi-Bin Mailbox, Mailbox with Stapler, the 2000-Sheet Input Tray, or any accessories, repack in the original shipping container(s), if available.

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HP Customer Services and Sales

HP Support, Sales, and Service Information

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Customer Support

Customer Support Options – US and Canada	
Customer Support Assistance	(208) 323-2551 Monday-Friday 6:00 a.m. to 6:00 p.m. (Mountain Time)* <i>Free of charge during the Warranty Period. Please have your serial number ready when calling.</i>
Obtaining Software Utilities and Electronic Information	Phone: (970) 339-7009
	Fax: (970) 330-7655
	Mail: Hewlett-Packard P.O. Box 1754 Greeley, CO 80632
	World Wide Web: www.hp.com/go/cposupport
	HP Bulletin Board Service: (208) 344-1691 and set your communication software to N,8,1
	America On-line: Type HP to start your tour, or call (800) 827-6364 and ask for representative 1118 to subscribe.
	CompuServe: HP User's forums (GO HP), or call (800) 524-3388 and ask for representative #51.
Accessories and Supplies	(800) 538-8787
HP Support Assistant CD-ROM	This support tool offers a comprehensive online information system designed to provide technical and product information on HP products. To subscribe to this quarterly service in the US or Canada, call (800) 457-1762.

Customer Support Options – US and Canada	
To Locate HP Authorized Dealers	(800) 243-9816 (US) (800) 387-3867 (Canada)
HP Authorized Dealer Support	(800) 544-9976 (dealers only)
Parts and Manuals	(800) 227-8164 (US) (800) 387-3154 (Canada)
HP Repair Contracts	(800) 743-8308 (US) (800) 267-1221 (Canada)
HP FIRST*	(800) 333-1917 or (208) 344-4809

* The time listed for the US Customer Support Center varies by printer line; the center is currently open for the personal printer and scanner customers until 10:00 p.m. Monday through Friday, and Saturday from 9:00 a.m. to 4:00 p.m.

Customer Support Options – Worldwide	
Customer Support Assistance (language options available)	Dutch +31.20.681.64.73 Danish +31.20.681.61.71 English +31.20.682.82.91 or 0891 391 000 Spanish +31.20.581.33.19 or 906 39 10 00 French +31.20.681.82.60 or 3670 39 49 German +31.20.681.71.74 Italian +31.20.581.33.18 Norwegian +31.20.682.00.94 Finnish +31.20.681.12.14 Swedish +31.20.681.80.25 Japanese 81 3 3335-8333 Mexican (+52 5) 326-45-00 or 91-800-50-198
Obtaining Software	Call HP FIRST World-Wide Web: URL http://www.hp.com/go/cposupport
Accessories and Supplies	Call HP FIRST
HP Authorized Service	Call HP FIRST
HP Dealer	Call HP FIRST

Customer Support Options – Worldwide

HP First	United Kingdom	0-800-96-02-71
	Netherlands	06-02-22-420
	Belgium (Dutch)	0800-1-1906
	Belgium (French)	0800-1-7043
	Germany	0130-8100-61
	France	05-90-5900
	Spain	900-993123
	Italy	1678-59020
	Switzerland (German)	155-1527
	Switzerland (French)	155-1526
	Austria	0660-8128
	Finland	9800-13134
	Norway	800-11319
	Denmark	800-10453
	Sweden	020-795743
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English outside of U.K.	+31 20 681 5729	

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<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 Customer Support Center: French +31 20 681 8260 Dutch +31 20 681 6473 HP First Fax: French 0800 17043 Dutch 0800 1 1906</p>	<p>Brazil:</p> <p>Edisa Hewlett Packard Alameda Rio Negro 750 Alphaville 06400 Barueri Sao Paulo Brazil Telephone: 55 11 709-1444</p>
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Continued on the next page.

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Denmark: Hewlett-Packard A/S Kongevejen 25 DK-3460 Birkerød Denmark Telephone: 45 45 99 10 00 Customer Support Center: +31 20 681 6171 HP First Fax: 800-10453	European Headquarters: Hewlett-Packard S.A. Route du Nant-d'Avril 150 CH-1227 Meyrin 2 (Geneva) Switzerland Telephone: 41 22/780 81 11
Far East Area: Hewlett-Packard Asia Pacific Ltd. 17-21/. Shell Tower, Times Square 1 Matheson Street, Causeway Bay Hong Kong Telephone: 852 599-7777 HP First Fax: 852 506 2422	Finland: Hewlett-Packard Oy Piispankalliontie 17 P.O. Box 68 FIN- 02207 Espoo Finland Telephone: 358 0/887 21 Customer Support Center: +31 20 681 1214 HP First Fax: 9800 13134
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Greece: Hewlett-Packard Hellas 62, Kifissias Avenue GR Maroussi-Athens 15125 Greece Telephone: 30 1 689 64 11	Hungary: Hewlett-Packard & Magyarors g Kft. Erzsebet kiralyne utja 1/c H-1146 Budapest Hungary Telephone: 36 (1) 2524505

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Tercera Transversal Los Ruices
Norte
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Caracas 1071
Telephone: 58 2 239 5664

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