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# User's Guide

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## HP Color LaserJet 5/5M Printer

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1995

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#### **Electrical Shock Hazard**

Do not remove system covers. To avoid electrical shock, use only supplied power cords and connect only to properly grounded (3-hole) wall outlets.

# Customer Support Options

United States and Canada		
HP FIRST Fax and AUDIO TIPS*	(800) 333-1917	
Obtaining Printer Drivers	<b>Phone:</b> (970) 339-7009	<b>Internet:</b> Anonymous FTP to 192.6.71.2 or ftp.boi.external.hp.com
	<b>Fax:</b> (970) 330-7655	
	<b>Mail:</b> Hewlett Packard P.O. Box 1754 Greeley, CO 80632 USA	<b>Download:</b> Using your Modem, (208) 344-1691
Accessories and Supplies	(800) 538-8787 (US) or (800) 387-3154 (Canada)	
HP Authorized Dealers and Service	(800) 243-9816 (US) or (800) 387-3867 (Canada)	
HP Repair Service and Warranty Information	(800) 633-3600 (US) or (800) 268-1221 (Canada)	
Telephone Assistance Hours: <i>Monday-Friday 7 a.m. to 6 p.m.</i> <i>Wednesday 7 a.m. to 4 p.m.</i> <i>(Mountain Standard Time)</i>	Free technical support is offered during the warranty period, dial (208) 323-2551  Please have the printer serial number available.	After warranty period, call (800) 999-1148 (US and Canada) at \$25 per call (VISA or MasterCard); or call (900) 555-1500 (US) at \$2.50 per minute. Prices are subject to change without notice (US funds).

Customer Support Options Europe	
Customer Support Assistance	See Appendix F.
Obtaining Printer Drivers	Call HP FIRST (see below for phone numbers).
Accessories and Options	See Appendix A.
HP Authorized Service	See Appendix F.
HP Dealer	See Appendix F.

Software Application Notes		
HP FIRST*	United Kingdom	0-800-96-02-71
	Netherlands	06-02-22-420
	Belgium	078-11-19-06
	Belgium (French)	078-11-70-43
	Germany	0130-8100-61
	France	05-90-5900
	Switzerland (German)	155-1527
	Switzerland (French)	155-1526
	Austria	0660-8128
English outside of UK.	(31) 20-681-5792	

All other countries, contact your authorized HP dealer, see Appendix F.

\* HP FIRST is a 24-hour fax retrieval service that allows you to call and request support information. HP AUDIO TIPS is a 24-hour automated service that provides help messages for common questions and print problems.

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## Book Conventions

This manual uses the following conventions:

*Italic* refers to a related document, is used for emphasis, or is used for supporting text.

DISPLAY type indicates text visible on the printer display or commands seen on the computer display.

**Keyface** indicates one of several keys on the printer control panel or on your computer keyboard.

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### Caution

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

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### WARNING!

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

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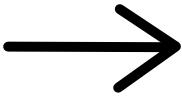
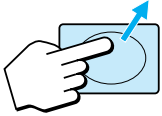
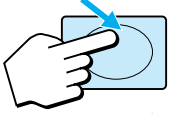
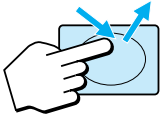
### Note

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Notes contain important information.

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## Illustration Conventions



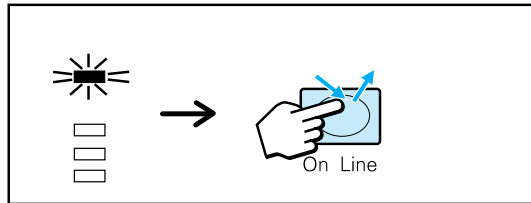
The following conventions for illustrations are used throughout this manual.

- The upward and downward arrows on the illustration to the left indicate that you should press and release (click) a printer control panel key.
- The single downward arrow in the illustration to the left indicates that you should press and hold a printer control panel key.
- The single upward arrow in the illustration to the left indicates that you should release the printer control panel key that you are currently pressing.
- A left-to-right arrow between parts of an illustration indicates a sequence to be performed.

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### Example

The following illustration indicates that if the printer is online (On Line indicator is lit), click **On Line** to take the printer off line.



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## Related Documents

The *Getting Started Guide* leads you through the successful set up and configuration of your HP Color LaserJet 5/5M printer. Read it first.

The *Part Number Quick Reference Card* lists the current part numbers for toner and maintenance units for your HP Color LaserJet 5/5M printer. This card is located at the back of this manual.

The *HP LaserJet Family Paper Specification Guide* (HP part number 5010-3990) lists the media specifications for this printer.

The *PCL Technical Reference Document Package* (HP part number 5010-3997) contains five programming manuals:

- *PCL 5 Printer Language Technical Reference Manual*
- *PCL Color Technical Reference Guide\**
- *Printer Job Language Technical Reference Manual*
- *PCL Comparison Guide\**
- *PCL/PJL Technical Quick Reference Guide*

\*Also available separately. Part number and description listed below.

The *PCL Color Technical Reference Guide* (HP part number 5961-0635) explains the PCL 5 printer language for experienced users and programmers.

The *PCL Comparison Guide* (HP part number 5010-3995) contains supplemental information for programming PCL 5 LaserJet printers.

The *HP Color LaserJet Printer Rear Feed Unit Installation Instructions* (HP part number C3119-90900) lead you through the steps to install the optional rear feed unit on your printer.

The *HP JetDirect Printer Server Software Installation Guide* provides complete network configuration instructions (packaged with the HP Color LaserJet 5M printers only).

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<b>C</b>	<b>Environmental Specifications</b>
<b>D</b>	<b>SIMM Installation</b>
<b>E</b>	<b>Printer Interfaces</b>
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<b>G</b>	<b>Color Balance Adjustment</b>
	<b>Glossary</b>
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# Your Color LaserJet 5/5M Printer

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## Introduction

This user's guide contains information on using most of the common features of your new HP Color LaserJet 5/5M printer.

The following topics are discussed in this chapter:

- Key Features
- Locating printer features
- Controlling your printer
- Color support and printer speeds

---

## Key Features

This printer provides the quality and reliability of Hewlett-Packard printers as well as these specific features:

### Performance

- 10 ppm monochrome printing
- 2 ppm color printing
- 1 ppm transparency printing
- Resolution Enhancement (REt) for black printing
- High quality black and color printing

### Paper Handling

- 250-sheet letter/A4 tray
- Optional 250-sheet rear feed unit with manual feed slot
- 250-sheet face-down, correct-order output bin
- Software-selected face-up output bin
- Letter, legal, 11 x 17, A4, A3, and executive size media supported

### Font and Memory

- 35 internal scalable Intellifont typefaces
- 10 internal scalable TrueType typefaces
- 20 MB standard memory HP Color LaserJet 5; 36 MB in HP Color LaserJet 5M
- Optional memory up to 96 MB total with HP Color LaserJet 5; 92 MB with HP Color LaserJet 5M
- HP FontSmart provides 65 additional TrueType fonts for Windows 3.1 and later

### Printer Personality Support

- PCL 5 color extension support in HP Color LaserJet 5/5M
- Automatic printer personality switching (when more than one printer language is installed)
- PostScript™ Level 2 support (optional HP Color LaserJet 5, standard HP Color LaserJet 5M)

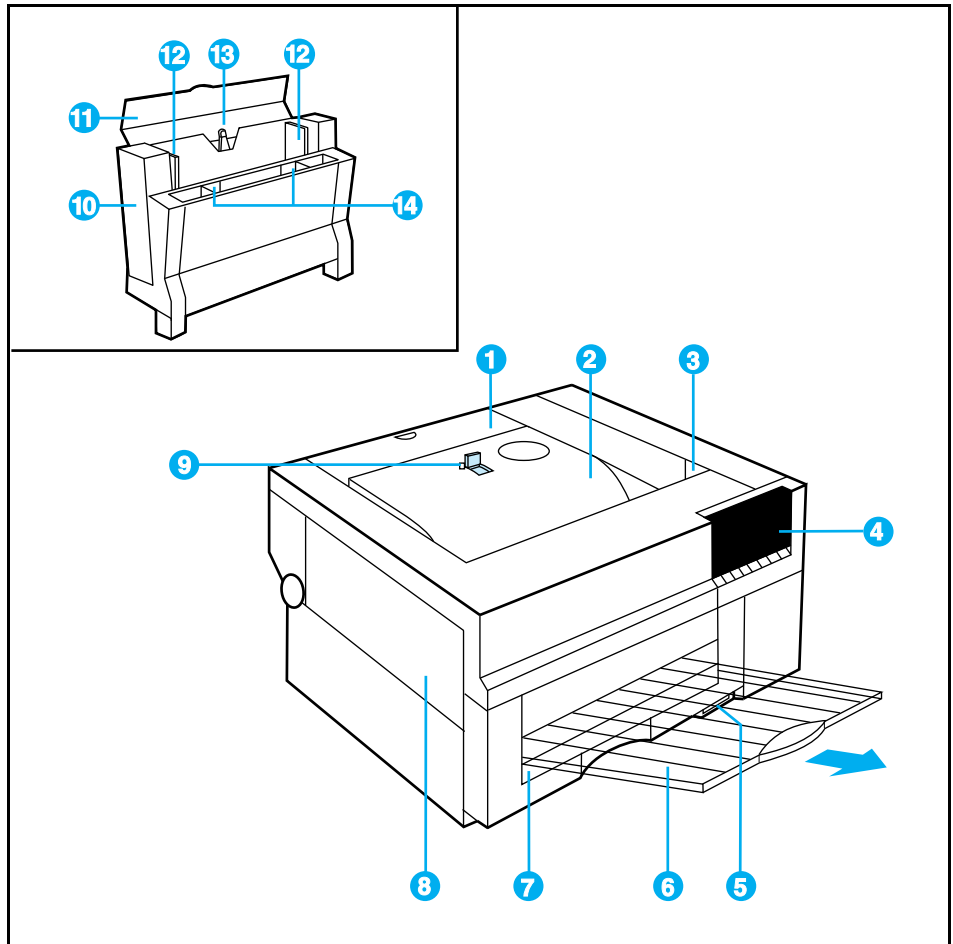
### User Interface and MIO

- Standard Bi-Tronics parallel interface
- 1 Modular I/O (MIO) slot
- Automatic I/O switching
- 1 HP JetDirect card for EtherNet and LocalTalk (with HP Color LaserJet 5M)
- HP JetAdmin software for NetWare and LanServer (with HP Color LaserJet 5M)

## Locating printer features

The following figure shows the locations of printer features.

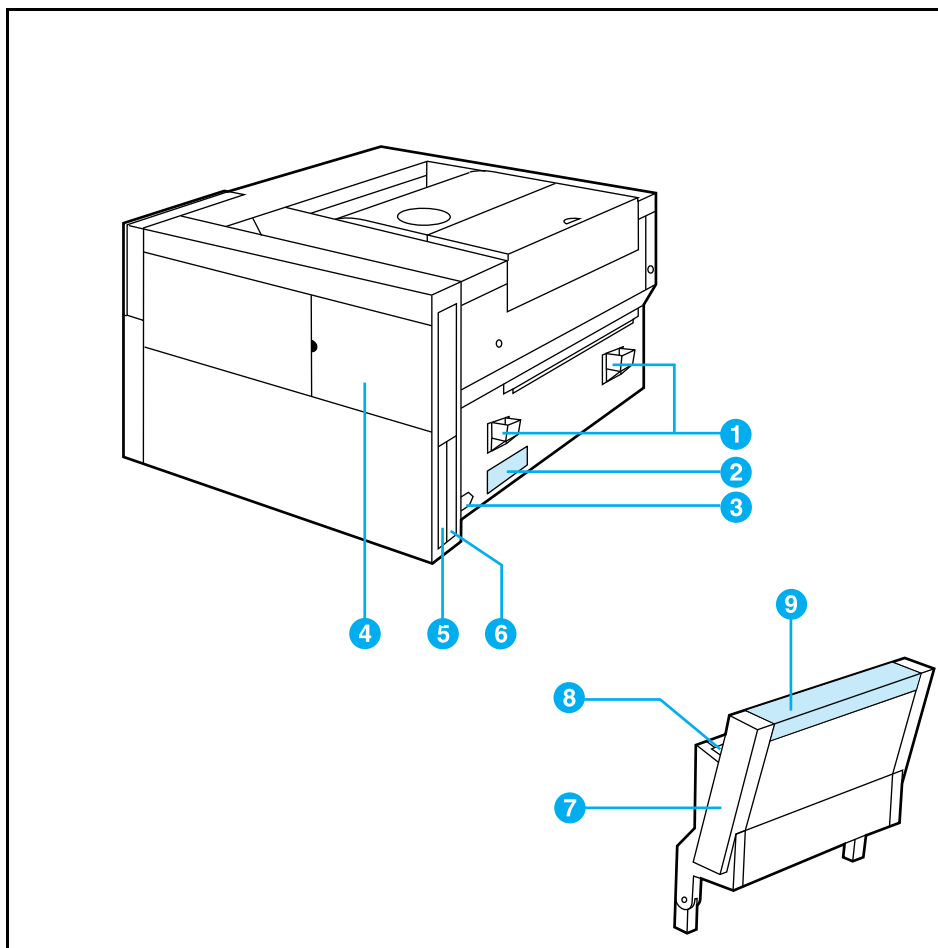
Figure 1-1



- |                              |   |
|------------------------------|---|
| 1 Toner Reservoir Input Door | 9 Flip Up Paper Stop<br>(for A4 and Letter Media) |
| 2 Face Down Output Bin       | 10 Optional Rear Feed Unit                        |
| 3 Top Cover Release Button   | 11 Rear Tray Paper Access Door                    |
| 4 Control Panel              | 12 Rear Tray Paper Guides                         |
| 5 Power On/Off Switch        | 13 Rear Tray Size Selection Lever                 |
| 6 Face Up Output Bin         | 14 Manual Feed Paper Guides                       |
| 7 Front Input Tray           |   |
| 8 Maintenance Access Door    |   |



Figure 1-2



- 1 Mounting Slots for Optional Rear Feed Unit
- 2 Serial Number Label
- 3 Power Plug Connector
- 4 SIMMs Access Door
- 5 MIO Slot

- 6 Bi-Tronics Parallel Connector
- 7 Optional Rear Feed Unit
- 8 Manual Feed Input
- 9 Rear Tray Paper Access Door

**Note**

For information about the locations of maintenance units, see Chapter 6.

---

## Controlling Your Printer

- **Select printer settings through your software application or printer driver.**

The best and easiest way to control your printer is through your software application. Changing these settings will affect only your print job. Most software applications allow you to choose printing selections from menus within the software application. These selections override the selections on the printer control panel.

- **Select printer settings with the control panel.**

You can also control your printer through the keys and menus of the printer control panel. Changing these settings will affect all print jobs. If you are sharing the printer, other users may want to check, and possibly change, the settings on the control panel before each printing task. See Chapter 5 “Using the Control Panel,” for information on using the control panel. *Remember, software settings always override control panel settings.*

- **Enter printer commands directly into files.**

Some software applications allow you to enter printer commands (escape sequences) directly into your files. However, this method of controlling your printer requires you to learn printer commands. For information on printer commands, see the *PCL Technical Reference* for this printer.

---

## Color Support and Printer Speeds

The approximate printer speeds and color support offered by this printer are listed below. See Appendix B for media specifications. Printer speeds may vary because:

- Complex graphics or large graphics may require additional time to download to the printer.
- Downloading time is dependent on your I/O configuration, the type of computer you are using, the amount of printer memory installed, the network operating system you are using, and how your network is configured.
- If memory problems result from printing complex graphics, you can free up printer memory by removing downloaded fonts, style sheets, macros, and forms from printer memory. Adding additional memory should resolve memory problems, but will not increase printer speed.

Your printer comes with 20 MB standard memory in the HP Color LaserJet 5, and 32 MB in the HP Color LaserJet 5M, which should be sufficient for most print jobs. If required, memory can be expanded up to 96 MB for the HP Color LaserJet 5 and 92 MB for the HP Color LaserJet 5M.

### Approximate Print Speeds

- **Letter, A4, Executive (Paper)**
  - 10 ppm black or monochrome
  - 2 ppm color
- **Legal (Paper)**
  - 7 ppm black (color not available)
- **11 x 17 (Paper)**
  - 6 ppm (color not available)
- **Transparencies and Glossy Paper**
  - 1 ppm (black, monochrome, and color)

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#### Caution

Do not feed envelopes in this printer.

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#### Note

Color printing is available for Letter, A4, and Executive paper sizes.



# Common Printing Tasks

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## Introduction

This chapter contains specific procedures to accomplish the following tasks:

- Selecting paper and other print media
- Loading media in the input trays
- Changing media type and size
- Printing from an input tray
- Printing using manual feed
- Printing transparencies
- Printing on letterhead
- Changing print direction on a page

---

## Selecting Paper and Other Print Media

- Use only print media that meet the guidelines outlined in this chapter or in Appendix B.
- Before purchasing large quantities of print media or specialized forms, test a small quantity with your printer. Make sure your supplier obtains and understands the paper and print media requirements specified in the paper specification guide for this product. Do not attempt to print non-supported sizes or weights of paper or other media.

---

### Caution

Using print media sizes and weights that are not supported by this printer may increase the incidence of paper jams, cause premature wear, cause print quality problems, contribute to repair and maintenance costs, and cause problems requiring service. This service may not be covered by the Hewlett-Packard warranty or service agreements.

- Use only supported transparencies and glossy paper (see Appendix B for specifications).
- Always handle transparencies by their edges to avoid finger prints in the image area.
- Do not attempt to print envelopes with this printer.
- Do not refeed paper that has already passed through the printer or through a copy machine.

---

### Caution

To prevent printer damage, do not feed envelopes from the input trays or manual feed slot. Envelopes are not supported in this printer.

- Recycled paper may be used with this printer. Recycled paper must meet HP specifications as noted in this chapter and Appendix B.

## Supported Media

- The following table lists the size and type of media supported by each input tray.
- The media size for each front input tray is labeled on the front right corner of the tray.
- The printer can detect the size of media in the installed input trays.
- The printer automatically detects and prints transparencies at a slower rate (1 ppm).
- For complete media specifications, see Appendix B.

Tray Location	Media Type	Media Size	Maximum Capacity	Media Weight
Front	Paper	Letter/A4 Executive Legal 11x17/A3	250 sheets *	20 to 24 lb./ 75.2 to 90.2 g/m <sup>2</sup>
Front	Transparencies	Letter/A4	50 sheets	0.005 in. thick **
Rear (optional)	Paper	Letter/A4 Executive	250 sheets*	20 to 24 lb./ 75.2 to 90.2 g/m <sup>2</sup>
Rear (optional)	Transparencies	Letter/A4	50 Sheets	0.005 in. thick **
Manual Feed (optional)	Paper	Letter/A4 Executive Legal 11x17/A3	Single sheet	20 to 24 lb./ 75.2 to 90.2 g/m <sup>2</sup>
Manual Feed (optional)	Transparencies	Letter/A4	Single sheet	0.005 in. thick *

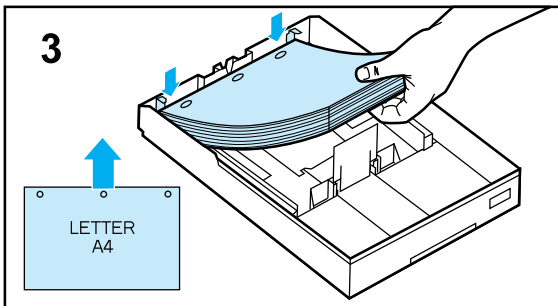
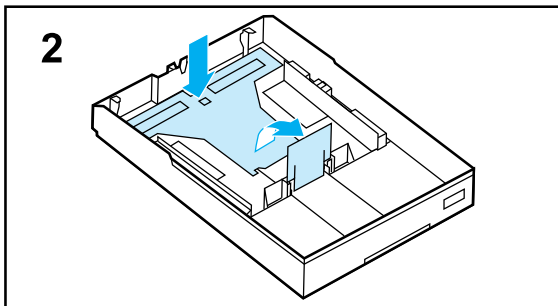
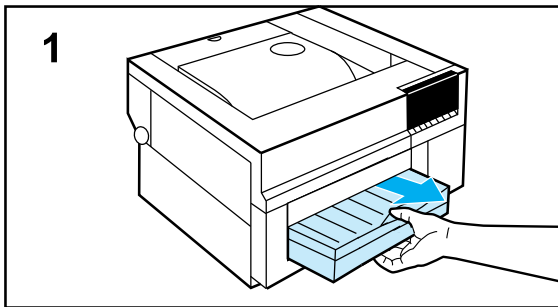
\* Up to 250 sheets or 1 inch, depending on paper weight and type.

\*\* Use only HP Color LaserJet 5/5M printer supported transparencies.

### Caution

Do not feed envelopes in this printer.

# Loading Media in the Front Input Tray



- 1** Firmly grip the center of the input tray and pull it out of the printer.

Make sure the face up output bin is closed before removing the input tray.

- 2** Remove the cover from the input tray, lift the warning flap, then press down on the media lift plate until it locks in place.

- 3** If you are loading letter, A4, or executive size media, slide the media under the metal tabs from the front of the tray with the long edge of the media toward the back of the tray.

Media size is labeled on the front right corner of the input tray. Each tray holds up to 250 sheets of paper or 50 transparencies.

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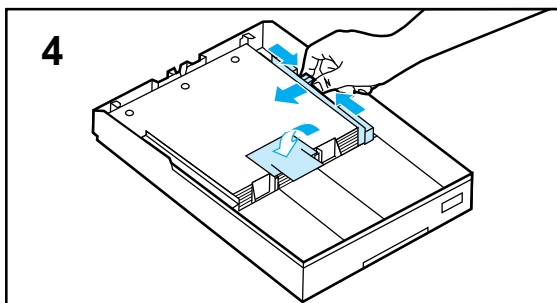
## Caution

Do not overfill input trays. Excessive media in input trays can cause media jams in the printer.

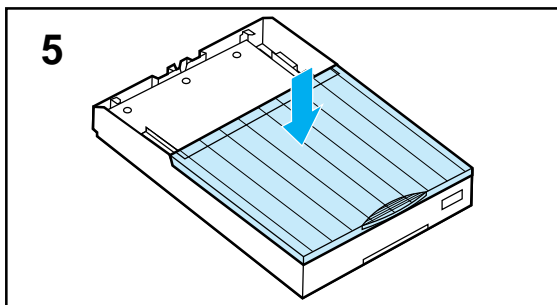
Do not feed envelopes in this printer.

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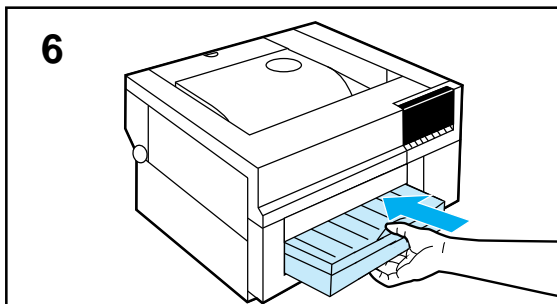




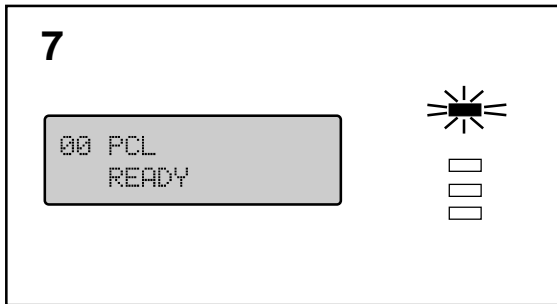
4 Adjust the width lever firmly against the side of the paper (without binding the paper), then push the warning flap down.



5 Put the cover back on the input tray.



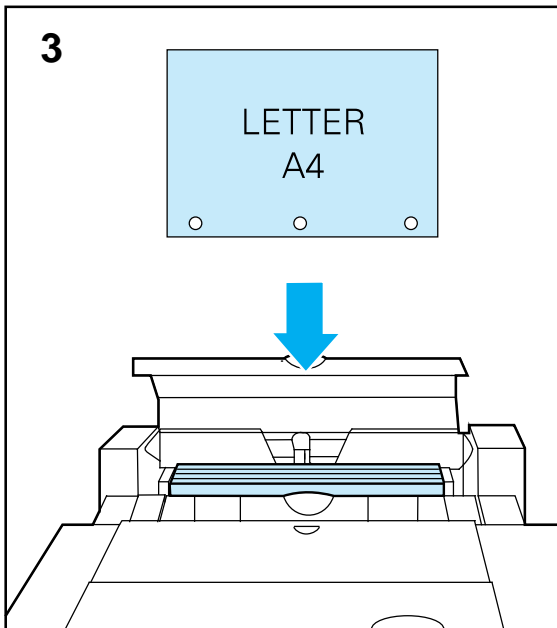
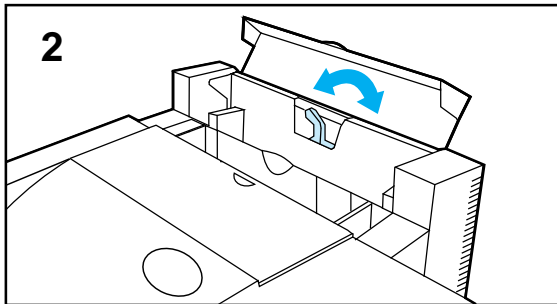
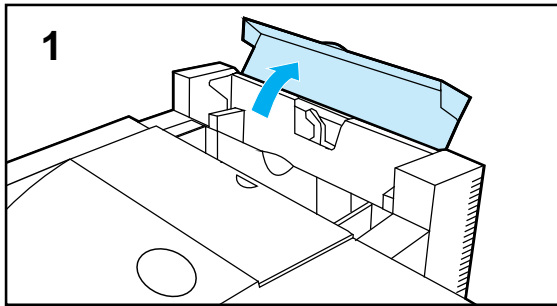
6 Slide the input tray into the printer until it locks in place.



7 Make sure 00 PCL (or POSTSCRIPT) READY is displayed on the control panel and the On Line indicator is lit.

If a 11.4 FRONT TRAY EMPTY message is displayed, remove the input tray and re-install it.

## Loading Media in the Optional Rear Tray



- 1 Fully open the top cover on the input tray.
- 2 Remove any media and adjust the paper feed guides for the size of media you are loading.

### Caution

Do not overfill input trays. Excessive media in input trays can cause media jams in the printer.

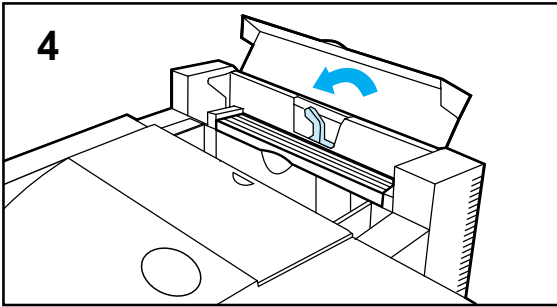
Do not feed envelopes in this printer.

- 3 Slide the media into the input tray with the long edge of the media down.

Make sure the stack is even across the top. If not, reload the media. If you are adding paper to the rear input tray, remove the old paper, combine the new paper with the old, then reload the media.

The rear input tray holds up to 250 sheets (or 1 inch) of paper or 50 transparencies. This tray supports letter, A4, and executive media sizes.

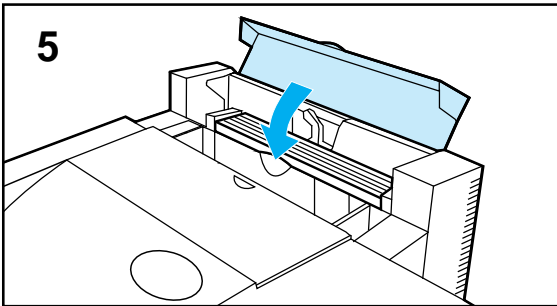




- 4 Adjust the paper feed guides with the paper size selection lever for the current media size.

The printer automatically senses the size of media in the rear input tray by the setting of the paper feed guides.

Legal, A3, and 11 x 17 inch media sizes are not supported from the rear input tray, but are supported from the manual feed input of the rear feed unit.



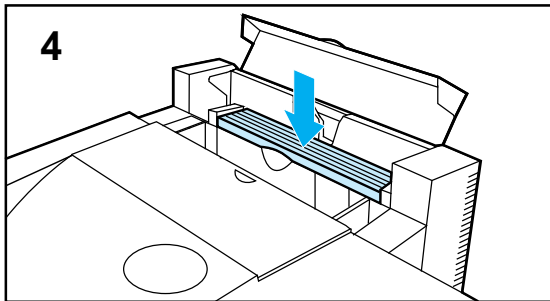
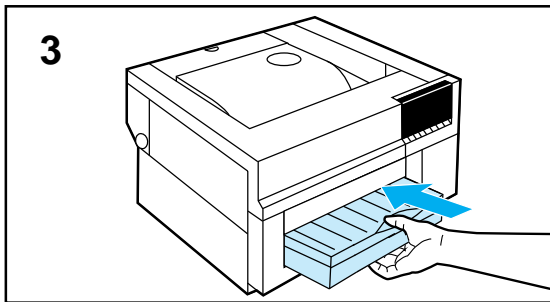
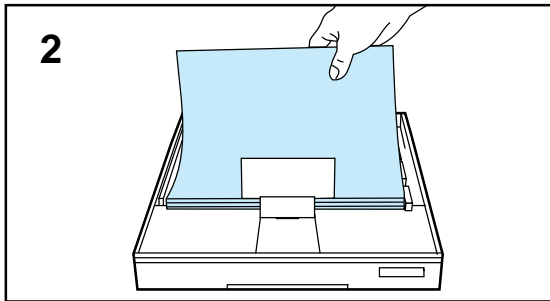
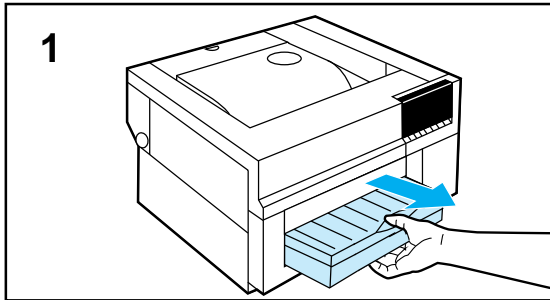
- 5 Close the top cover on the rear input tray.

- 6 Make sure 00 PCL (or POSTSCRIPT) READY is displayed on the control panel and the On Line indicator is lit.

If a 11.5 REAR TRAY EMPTY message is displayed, make sure the top cover of the rear input tray is closed.



# Changing Media Type and Size



## Caution

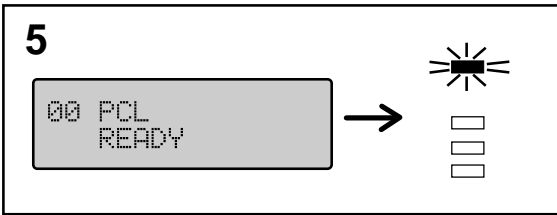
Do not overfill input trays. Excessive media in input trays can cause media jams in the printer.

Do not feed envelopes in this printer.

- 1** If you are using the front input tray, select the correct size input tray (letter or A4).
- 2** If the input tray is empty, load the correct size media before installing the tray.
- 3** Install the input tray in the printer.
- 4** If you are using the rear input tray, remove any existing media, then load the the correct size media and adjust the paper feed guides.









- 5** Make sure 00 PCL (or POSTSCRIPT) READY is displayed on the control panel and the On Line indicator is lit.

## Printing from an Input Tray


**1**

Media Type:  


**2**

Paper Size:  

**3**

Paper Source:  

**4**



**1** If available, select the media type from your software application or printer driver.

**2** Select the media size from your software application or printer driver.

To perform this selection or other selections using the control panel, see Chapter 5, “Using the Control Panel.”

**3** Select the input tray from your software application or printer driver that contains the correct media type and size.

**4** Print the file from your software application. Retrieve your media from the printer and verify print.

Selecting **BOTH**, with the optional rear feed unit installed, allows the printer to automatically select the correct input tray for the specified media size (not media type). If both trays contain the same size media, the printer pulls media from the front input tray unless otherwise specified in your software application.

# Printing Using the Manual Feed Slot

**1**

Media Type:

**2**

Paper Size:

**3**

Paper Source:

**4**

## Note

Manual feed is available only when the optional Rear Feed Unit is installed on the printer.

1 If available, select the media type from your software application or printer driver.

2 Select the media size from your software application or printer driver.

To perform this selection or other selections using the control panel, see Chapter 5, “Using the Control Panel.”

3 Select manual feed from your software application or printer driver.

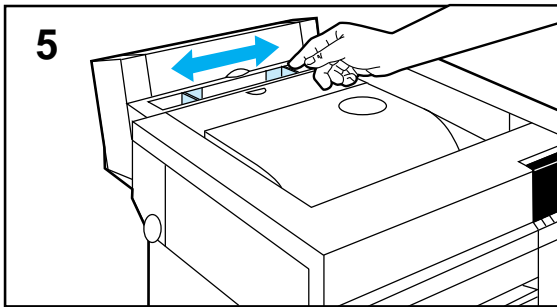
4 Print the file from your software application.

## Note

The manual feed slot supports only one sheet of media at a time.

The printer will not automatically feed from the manual feed slot when media is inserted. Manual feed must be selected through the printer driver or the control panel.





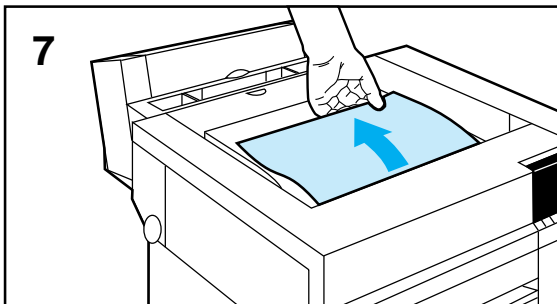
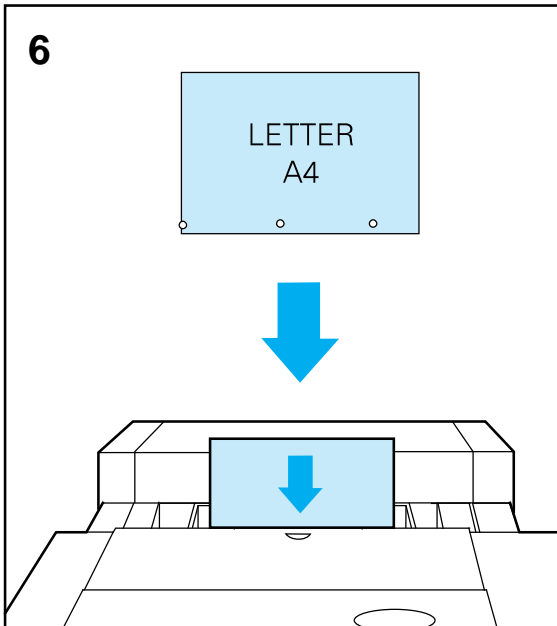
5 Adjust the manual feed guides at the rear of the printer for the correct media size.

6 When the control panel display prompts you, load the appropriate media.

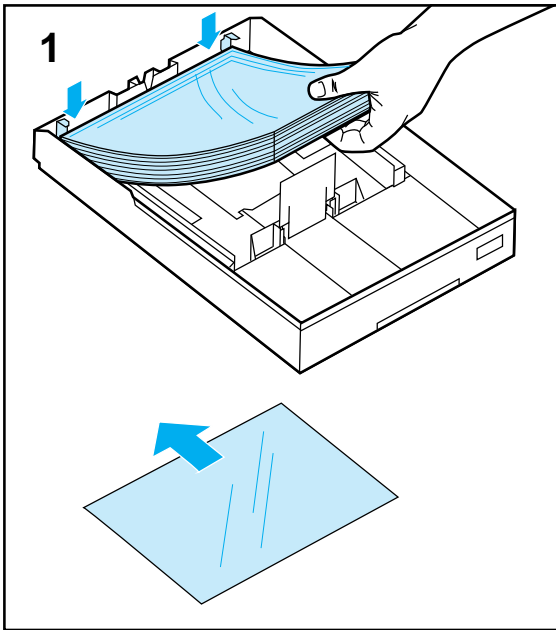
If you are loading letter, A4, or executive size media, slide a sheet of media between the manual feed guides with the **long edge** of the media down.

If you are loading legal, A3, or 11 x 17 inch size media, slide a sheet of media between the manual feed guides with the **short edge** of the media down.

7 After the printer pulls in the media and performs the print operation, retrieve the media and verify print.



# Printing Transparencies from an Input Tray



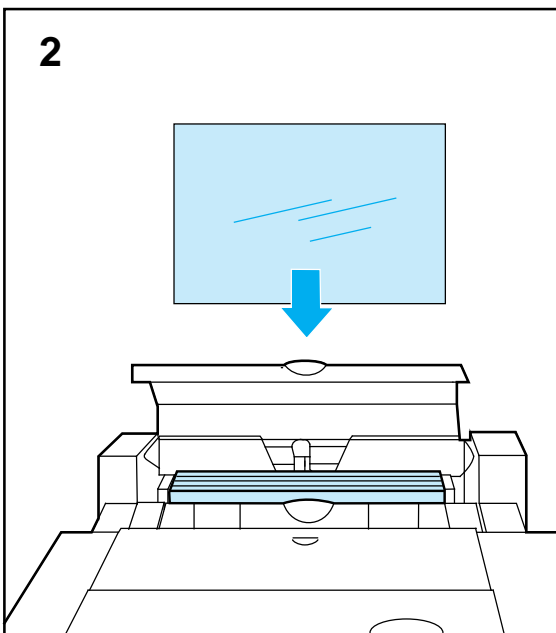
- 1 If you are using the front input tray, make sure the correct tray size is installed (Letter or A4). Load up to 50 of the correct size and type of transparencies in the input tray with the long edge toward the back of the tray.

## Caution

Handle transparencies by the edges to avoid leaving finger prints in image areas.

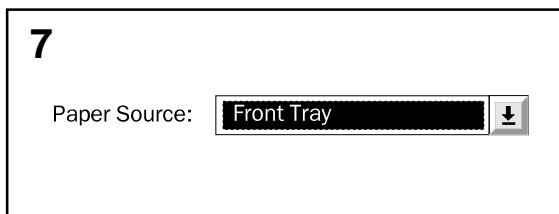
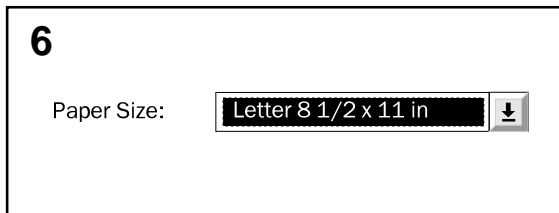
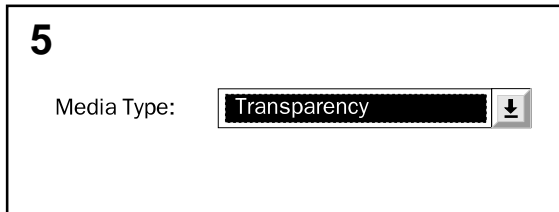
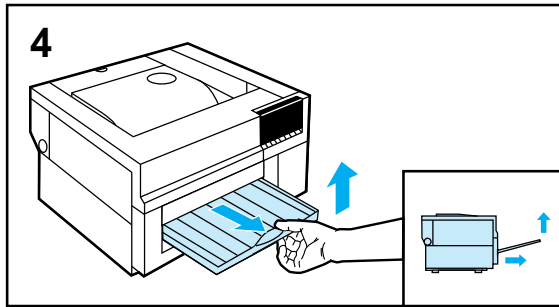
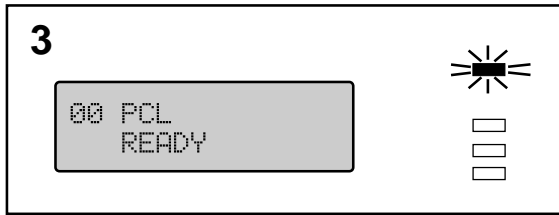
Also, use only transparencies that meet the specifications for this printer. Using the incorrect type of transparencies may damage the printer.

- 2 If you are using the rear input tray, load up to 50 of the correct size and type of transparencies in the rear input tray with the long edge down.



For complete transparency specifications see Appendix B.





**3** Make sure PCL (or POSTSCRIPT) READY is displayed on the control panel and the On Line indicator is lit.

If an input tray message is displayed, remove the input tray and re-install it.

**4** If you are printing transparencies, make sure the face up output bin is open to catch the media.

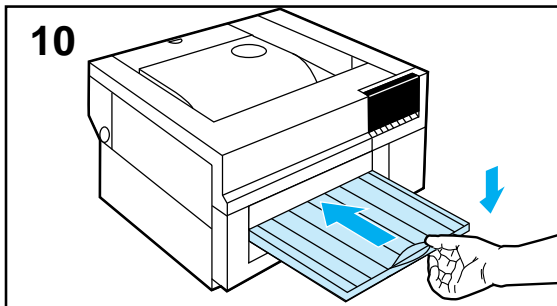
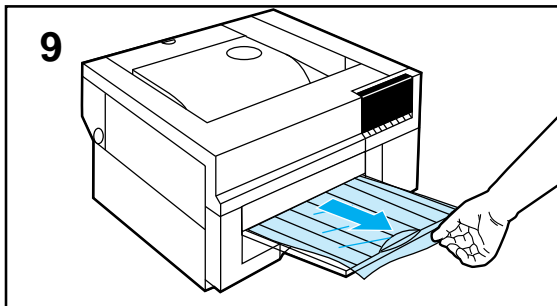
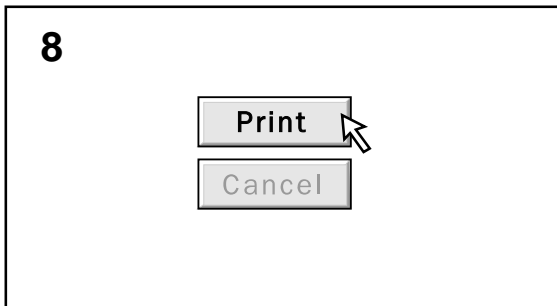
**5** If available, select transparency as the media type from your software application or printer driver.

**6** Select the media size from your software application or printer driver.

To perform this selection or other selections using the control panel, see Chapter 5, "Using the Control Panel."

**7** Select the correct input tray from your software application or printer driver.






**8** Send your file to print.

**9** Retrieve your media from the printer and verify the print.


**10** When you are finished printing color transparencies, close the face up output bin.

# Printing Transparencies Manually


**1**

Media Type:  


**2**

Paper Size:  

**3**

Paper Source:  

**4**



Manual feed is available only when the optional Rear Feed Unit is installed on the printer.

**1** If available, select transparency as the media type from your software application or printer driver.

**2** Select the media size from your software application or printer driver (Letter or A4).

To perform this selection or other selections using the control panel, see Chapter 5, “Using the Control Panel.”

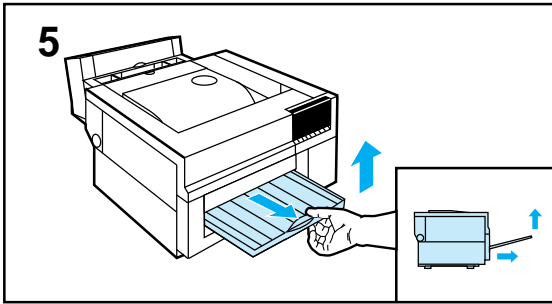
**3** Select manual feed from your software application or printer driver.

**4** Send your file to print.

For transparency specifications see Appendix B.



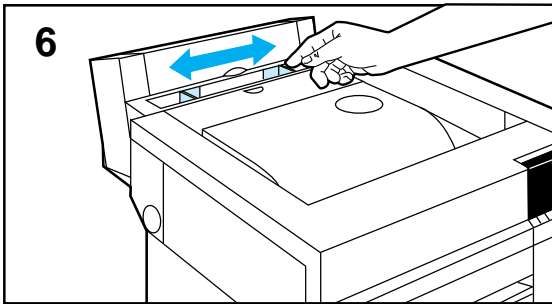




5 If you are printing transparencies, make sure the face up output bin is open to catch the media.

6 Adjust the manual feed guides for the correct media size.

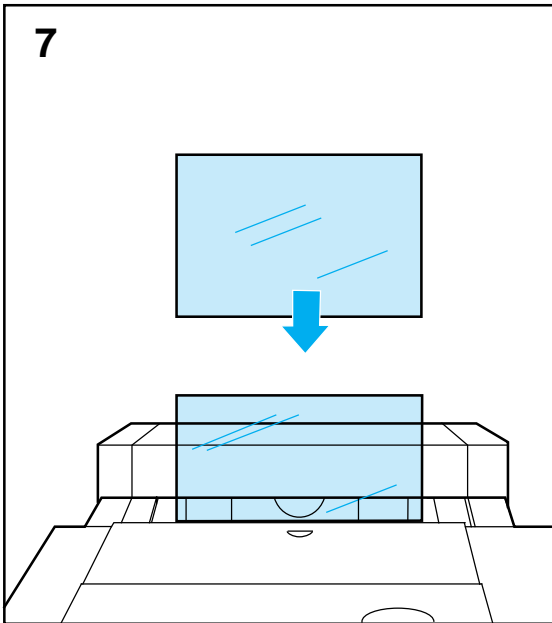
7 When the display prompts you, slide a single transparency with the long edge down between the manual feed guides until it stops.

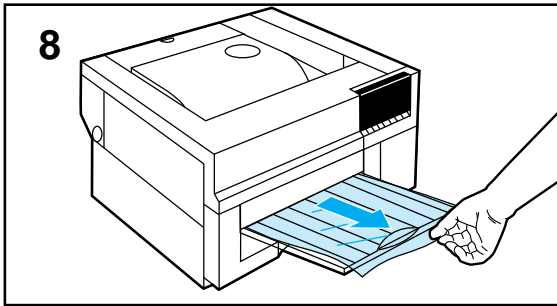


**Caution**

Use only transparencies that meet the specifications for this printer. Using the incorrect type of transparencies may damage the printer.

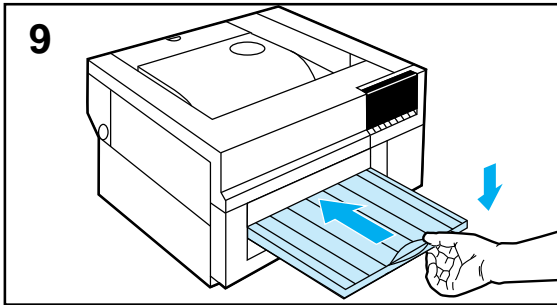
Also, avoid excessive handling of the transparencies. When you are manually feeding transparencies, hold them by the edges to avoid leaving fingerprints in areas of solid fill.



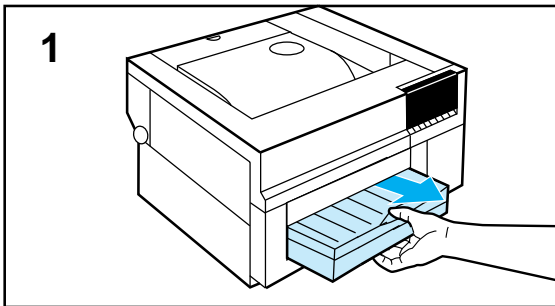


**8** After the printer pulls in the media and performs the print operation, retrieve the media from the printer and verify the print.

**9** When you are finished printing color transparencies, close the face up output bin.



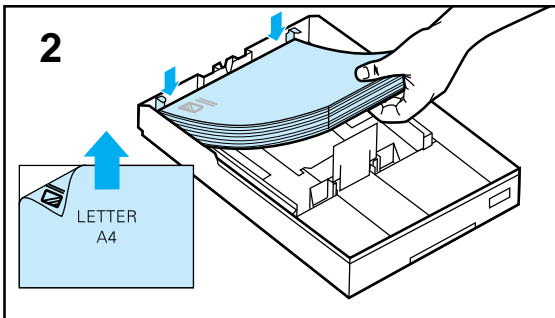
# Printing on Letterhead from the Front Tray



1 Firmly grip the center of the input tray and pull it outward from the printer.

2 Select the correct input tray for your media size, then load the correct size of letterhead face down in the input tray.

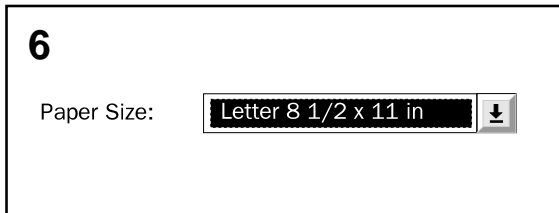
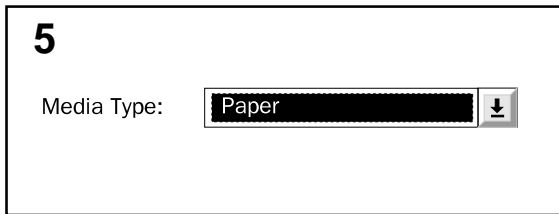
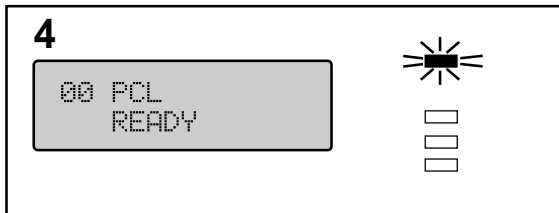
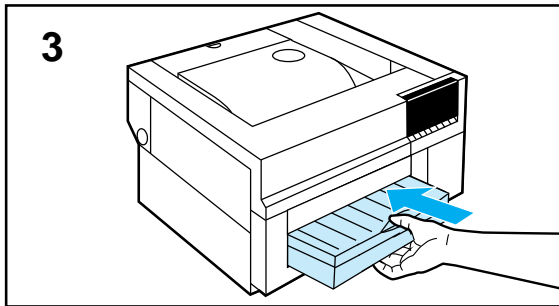
If you are loading letter or A4 size media, slide the media under the metal tabs from the front of the tray with the long edge of the media toward the back of the tray and the letterhead facing down and to the left.



## Caution

Use only letterhead that meets the media specifications for this printer (see Appendix B).





**3** Slide the input tray into the printer and firmly push it in place.

**4** Make sure `00 PCL READY` (or `00 POSTSCRIPT READY`) is displayed on the control panel and the On Line indicator is lit.

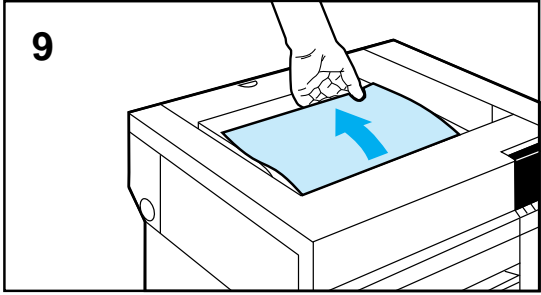
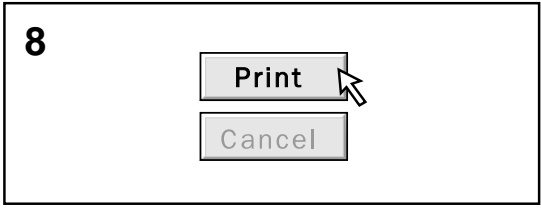
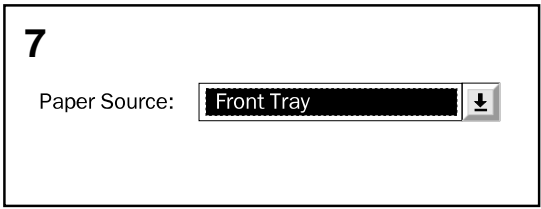
If an input tray message is displayed, remove the input tray and re-install it.

**5** If available, select the media type from your software application or printer driver.

**6** Select the media size from your software application or printer driver.

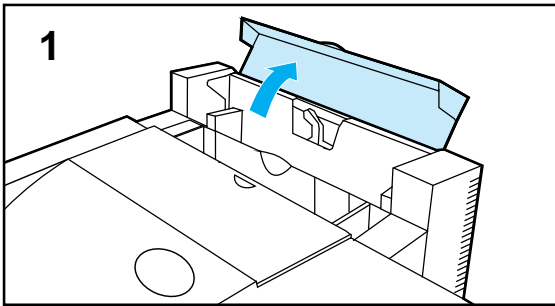
To perform this selection or other selections using the control panel, see Chapter 5, “Using the Control Panel.”





- 7** Select the front input tray using your software application or printer driver.
- 8** Send your file to print.
- 9** Retrieve your media from the printer and verify the print.

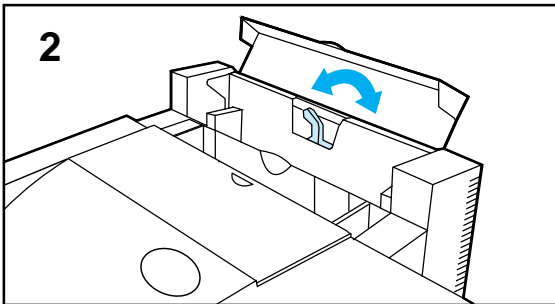
## Printing on Letterhead from the Optional Rear Tray



- 1 Fully open the top cover on the rear input tray.
- 2 Remove any media and adjust the paper feed guides for the size of media you are loading.

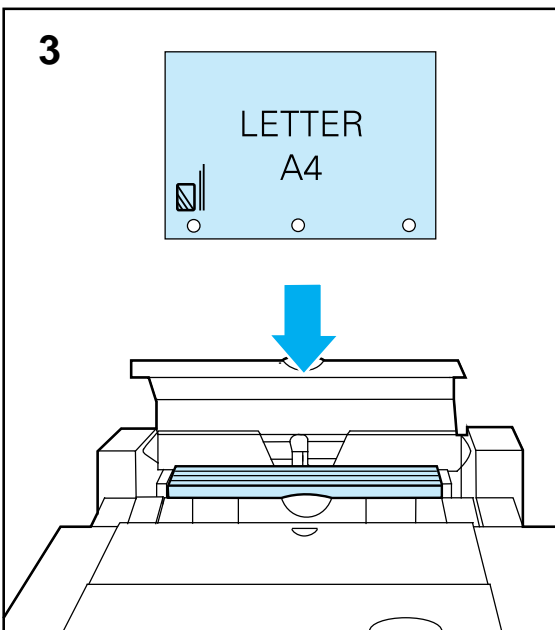
### Caution

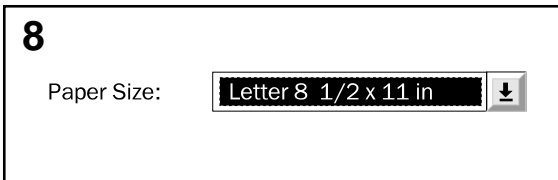
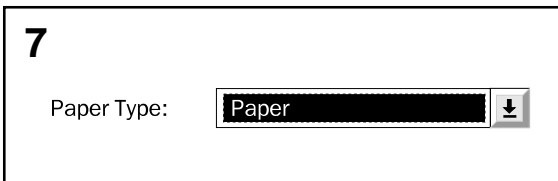
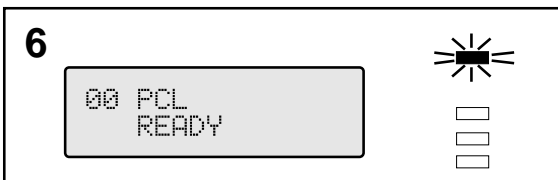
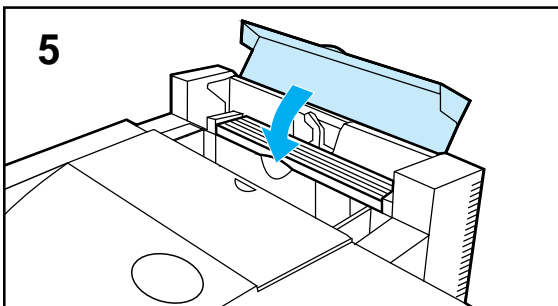
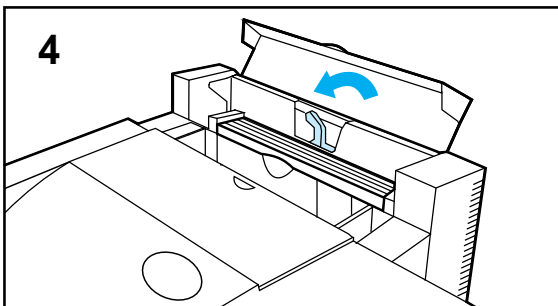
Use only letterhead that meets the media specifications for this printer (see Appendix B).



- 3 Load the correct size of letterhead with the long edge of the media down and the top of the letterhead to the left and facing the printer.

Make sure the stack is even across the top. If not, reload the media. If you are adding paper to the rear input tray, remove the old paper, combine the new paper with the old, then reload the media.





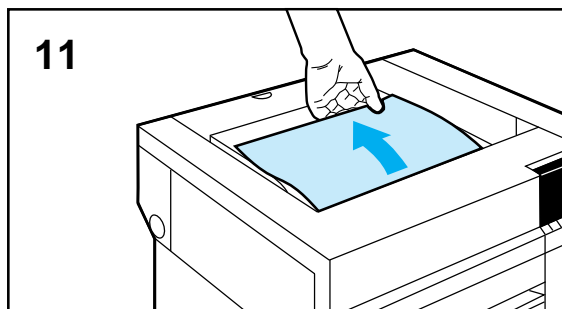
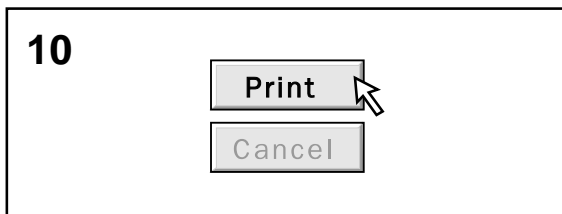
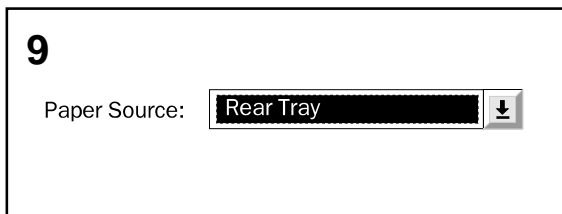
- 4 Adjust the paper feed guides with the paper selection lever for the current media size.
- 5 Close the top cover on the input tray.
- 6 Make sure **PCL READY** (or **POSTSCRIPT READY**) is displayed on the control panel and the On Line indicator is lit.

If an input tray message is displayed, make sure the cover of the tray is closed correctly.

- 7 If available, select the media type from your software application or printer driver.
- 8 Select the media size from your software application or printer driver.

To perform this selection or other selections using the control panel, see Chapter 5, "Using the Control Panel."





**9** Select the rear input tray using your software application or printer driver.

**10** Send your file to print.

**11** Retrieve your media from the printer and verify the print.



# Printing on Letterhead Using Manual Feed


1

Media Type:  

2

Paper Size:  

3

Paper Source:  

4



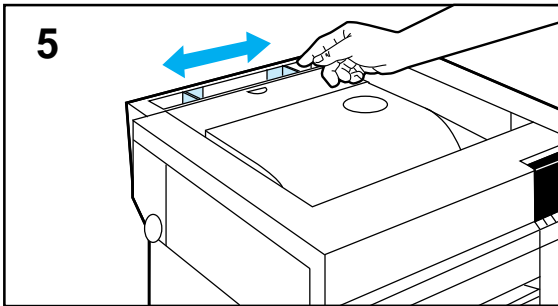
Manual feed is available only when the optional Rear Feed Unit is installed on the printer.

- 1 If available, select the media type from your software application or printer driver.
- 2 Select the media size from your software application or printer driver.  
  
To perform this selection or other selections using the control panel, see Chapter 5, "Using the Control Panel."
- 3 Select manual feed from your software application or printer driver.
- 4 Send your file to print.

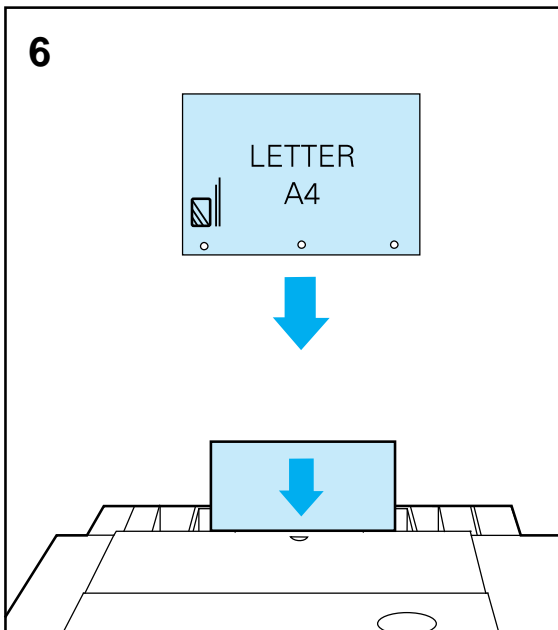
## Note

Make sure to feed only one sheet at a time when using manual feed.





5 Adjust the manual feed guides at the rear of the printer for the correct media size.



6 When the display prompts you, slide a single sheet of media between the manual feed guides until the media stops.

7 If you are using letter, A4, or executive size media, slide the media between the manual feed guides with the **long edge** of the media down and the letterhead facing the front of the printer and to the left.

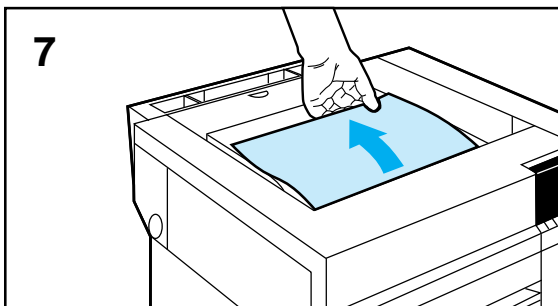
If you are using legal, A3, or 11 x 17 size media, slide the media between the manual feed guides with the **short edge** of the media down and the letterhead down and facing the printer.

---

### Caution

Use only letterhead that meets the media specifications for this printer (see Appendix B).

---



8 After the print operation is complete, retrieve the media from the printer and verify the print.

# Changing print direction on a page

**1**

Orientation



Portrait

Landscape

**2**

Orientation



Portrait

Landscape

- 1** To print across the width of your paper, select portrait page orientation from your software application or printer driver.

To perform this selection or other selections using the control panel, see Chapter 5, “Using the Control Panel.”

- 2** To print across the length of your paper, select landscape page orientation from your software application or printer driver.

Some software applications require you to change the page length and width to change print direction. For specific information, see the documentation for your software application.



# Using Color

---

## Introduction

This chapter contains information about the following:

- Colors available with your printer
- Adjusting print color and quality settings
- Controlling printer output
- Matching colors

---

## Colors Available with Your Printer

Your HP Color LaserJet 5/5M printer can produce almost any color you want through the use of halftones. By varying the amount and pattern of the four toner colors applied to a page in combination with halftoning, your printer can produce 16 million colors.

---

## Adjusting Print Color and Quality Settings

For most color printing needs, HP ColorSmart default settings will handle your color adjustments. For some print jobs, you may want to turn off ColorSmart defaults and set color controls manually.

---

## Controlling Color Output

### Printer Drivers

Use the printer driver (the software installed with your printer) to control color output for text, graphics, and photos. The printer driver enables your computer applications to communicate with your printer and use all of its features.

How you access your printer driver depends on the computer system you have. For example, in a system with Windows, you would use your application's Print Setup command to access your driver. For specific instructions on accessing your printer driver, see the readme and/or online help files.

---

#### Note

Your software application overrides some printer settings, such as paper size, copies, or paper source. When possible, use application settings for adjustments other than color.

The following color control features are available only through your printer driver.

## ColorSmart

HP ColorSmart technology optimizes the color and halftoning for each element in a document. ColorSmart provides two options.

### Automatic

For most color printing needs, the default HP ColorSmart automatic mode will handle all of your color adjustments.

### Manual

For custom color printing jobs, you can turn off ColorSmart defaults and set color controls manually.

The manual color option allows you to adjust the color settings for text, graphics and photos separately by manipulating the following settings:

- Halftone
- Color Adjustment
- Color Control

The printer driver online help and/or readme file describe in more detail the printer color settings, options, and their effect on your output.

## Smooth and Detail Options

The Smooth option works well for filling in solid areas and gradients by smoothing out fine color graduations. The Detail option works well for printing multiple-colored text and detail-oriented graphics and photos.

The printer driver online help and/or readme file describe in more detail the printer quality settings, options, and their effect on your output.

## Grayscale

Selecting the Print in Grayscale option in your printer driver allows your color documents to be printed as monochrome with shades of gray. This setting allows you to view preliminary copies of slides and hard copy output quickly and still interpret your color information. For example, printing in Grayscale works well for color information that you wish to photocopy or fax. Additional printer options such as halftoning are available in this mode to enhance your output.

---

## Matching Colors

The different ways your computer system and printer create color make color matching a complex process. For example, your display uses the RGB (red, green, and blue) color processing system, your software application may use a different system, and your printer uses the CMYK color processing system. Other factors, such as print media and lighting (fluorescent or incandescent), also influence and limit your ability to match colors from the screen to your output. In addition to the printer driver color controls described in this chapter and the media you choose for printing, the following tools can help you match your screen display and color output.

### Color Swatch

The Color Swatch program will print eight pages of example colors and their accompanying RGB or CMY values to the printer. This is useful for selecting or matching colors in applications that allow you to specify RGB and CMY color values. From the DOS prompt you can specify color type (RGB or CMY) and the pages you want to print. To print the color swatches, enter the directory where the SWATCH.EXE program is located, and type SWATCH followed by the port location of your printer.

---

#### Usage

**swatch** *output* [*ColorType*] [*StartPage*] [*EndPage*]

---

#### Parameters

<i>output</i>	printer port (LPT1, LPT2, etc.)
<i>ColorType</i>	use RGB or CMY values (0=RGB*, 1=CMY)
<i>StartPage</i>	select starting page (1* through 8)
<i>EndPage</i>	select last page to print ( <i>StartPage</i> through 8*)

\* Indicates the default parameter

---

#### Example

The following will print pages 1 through 3 of CMY values to LPT1:

```
swatch LPT1 1 1 3
```

---

#### Note

The Color Swatch program must be run from a DOS prompt.

### PANTONE<sup>®\*</sup> Colors

PANTONE<sup>®\*</sup> colors are certified RGB (red/green/blue) color values in the PANTONE<sup>®\*</sup> color matching system. This option will affect your output only if your application supports PANTONE<sup>®\*</sup> colors. Refer to your software application's instructions for using these colors. The color and halftone settings and the media you use will affect the appearance of printed PANTONE<sup>®\*</sup> colors.



# Using Type

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## Introduction

Your HP Color LaserJet 5/5M printer supports many fonts. The fonts you have will depend on which printer you have, your software, and other variables, such as network connections or if you use custom fonts.

This chapter contains information on using type with your HP Color LaserJet 5/5M printer including:

- Installing fonts with HP FontSmart
- Using internal fonts
- Selecting fonts from software applications
- Selecting fonts and typefaces using the control panel
- Printing a list of available fonts
- Interpreting typeface printouts
- Using fonts on a network
- Using custom fonts

---

## Installing Fonts with HP FontSmart

The HP FontSmart font utility provides you with an easy way to manage the fonts you use with your printer. You can use it to add fonts to or delete fonts from your Windows system.

HP FontSmart allows you to display the 45 typefaces included with your printer on your computer screen. This approximation of screen display to printed result is known as WYSIWYG, short for “what you see is what you get.” HP FontSmart also includes an additional 65 scaleable TrueType fonts on disk for Windows 3.1 and later. HP FontSmart tools allow you to install, uninstall, and delete fonts; print samples of fonts; search for fonts; and sort fonts by various attributes.

HP FontSmart manages True Type, *Adobe* Type 1, and bitmap fonts from a single window using the convenient “drag and drop” method. The left-hand side of the window displays fonts that can be installed, and the right-hand side displays all fonts that are currently installed in Windows. To use a particular font, you will need to install that font in Windows. See the HP FontSmart on-line help for more details.

---

### Note

It is a good idea to install only those fonts that you will actually be using to save disk space and system resources. Even though most Windows systems can handle many fonts with no trouble, you will be less likely to encounter system problems if you uninstall or delete the fonts that you don't need.

To access HP FontSmart from within a Windows application:

- Click on the Font button displayed on your printer setup

To access HP FontSmart from within the program manager:

- Open the group where the HP FontSmart icon was installed when you installed your printer software.
- Double-click on the HP FontSmart icon.
- For help information, click on Help.

---

## Using Internal Intellifont Typefaces

Intellifont is a font scaling technology developed by AGFA Division of Miles, Inc., and used by Hewlett-Packard in its printers and font products.

The printer's Intellifont typefaces are supported by most software packages, including WordPerfect and Microsoft Windows applications.

---

## Using Internal TrueType Typefaces

TrueType is a font scaling technology developed by Microsoft Corp. and Apple Computers, Inc. Hewlett-Packard has added 10 TrueType typefaces to the printer to match Windows TrueType Fonts.

Because these TrueType fonts reside in the printer, your Windows applications do not have to download bitmapped printer fonts, which improves printing performance.

See the *Microsoft Windows User's Guide* for specific instructions on using TrueType typefaces with Windows.

---

# Understanding Printer Defaults

## Setting the default font

The default font for this printer is 12 point Courier in the Roman-8 symbol set. This is the font the printer uses unless you:

- Send a font selection command through your software application to request a font in place of the default.
- Send a font selection command using a printer command to request a font in place of the default.

For more information on printer commands, see the *PCL Technical Reference Manual* for this printer.

- Select a different default font using the control panel.

## Font Selection Priority

This is the order in which your printer selects its fonts:

- 1 First, the printer looks for a downloaded disk-based font or “soft font.”
- 2 The printer checks for fonts on a SIMM.

When choosing a font, the font must be available from one of the above sources. If the font you request is not available, the printer selects the closest match based on individual font characteristics.

If both a scalable typeface and a bitmapped font are available from the same source, you will obtain best results by choosing your font in the following preference order:

- Bitmapped font
- Scalable typeface

---

## Selecting Fonts

There are two ways to select fonts:

- Through a software application.
- Through the control panel.

### Selecting fonts through application software

For information about selecting fonts in your software, look in your software manual for topics such as “font selection,” “base font,” “printer setup,” “print options,” “font appearance,” “change font,” or “select type.”

### Selecting Symbol Sets

If you want to print a symbol such as  $\Omega$ , you must first select the symbol set that contains that character. Refer to the *PCL Color Technical Reference Guide* or the *PCL Comparison Guide* for a complete listing of available symbol sets and printer commands.

### Symbol Set Availability

There are two things you should know about symbol set availability:

- Your software may support all of the printer’s symbol sets, or just a few of them.
- Typefaces are designed to work with specific symbol sets. Refer to Appendix B to see which symbol sets work with the typefaces you are using in your text.

Usually, you can specify a symbol set when you run your software’s printer setup program.

### Entering Symbols into Text

Your software manual will contain instructions for entering special symbols into your text. Look in the software manual’s index for phrases such as “compose feature,” “composite characters,” “symbol sets,” “character sets,” “code pages,” or “extended characters.”

## Printing sample symbol sets using the Symset utility

The Symset utility allows you to print samples of the symbol sets available on your printer. The Symset utility is on the DOS disk of your printer software. Some codes for common symbol sets are included in the following table.

### Usage

**symsets** [*symbol set code*] *output*:

### Parameters

*symbol set code*    enter symbol set code from table below  
*output*                printer port followed by : (LPT1:, LPT2:, etc.)

### Example

The following example will print the symbol set for HP Roman-8 default symbol set to LPT1:

```
symsets 8U LPT1:
```

### Note

The Symset utility must be run from a DOS prompt.

Code	Symbol Set	Code	Symbol Set
8U	HP Roman-8 Default Symbol Set	19U	Windows 3.1 Latin 1
10U	IBM Layout (PC-8) (code page 437)	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
7J	Desktop	0N	ISO 8859/1 Latin 1
10J	PS Text	12J	MC Text
13J	Ventura International	11U	PC-8 Danish/Norwegian
14J	Ventura US	1U	Legal
6J	Microsoft Publisher	9U	Windows 3.0 Latin 1
6M	Ventura Math	17U	PC-852 Latin 2
15U	PiFont	9T	PC-Turkish
5M	PS Math	2N	ISO 8859/2 Latin 2
19M	Symbol Font (AS)	5N	ISO 8859/9 Latin 5

## Selecting fonts through the control panel

If your software does not allow you to select fonts through its menus, you can select fonts through the printer's control panel. When you select a font through the control panel, you must specify several items:

- The font source
- The font number
- The point size or pitch
- A symbol set

---

### Note

A software font request will override a font selected through the control panel.



---

## Printing a List of Available Printer Fonts

If you have Windows, use FontSmart to print a list of available fonts.

- 1 Click **On Line** until the On Line indicator is no longer lit.
- 2 Click **Menu** until PCL (or PS) TEST MENU appears on the first line of the printer display.

The prefix PCL or PS depends on whether PCL or PostScript (PS) is selected.

- 3 Click **Item** until PCL (or PS) TYPEFACE LIST appears on the second line of the printer display.
- 4 Click **Enter** to print the font pages.
- 5 After the pages are printed, click **On Line** to return the printer on line.

The On Line indicator lights.

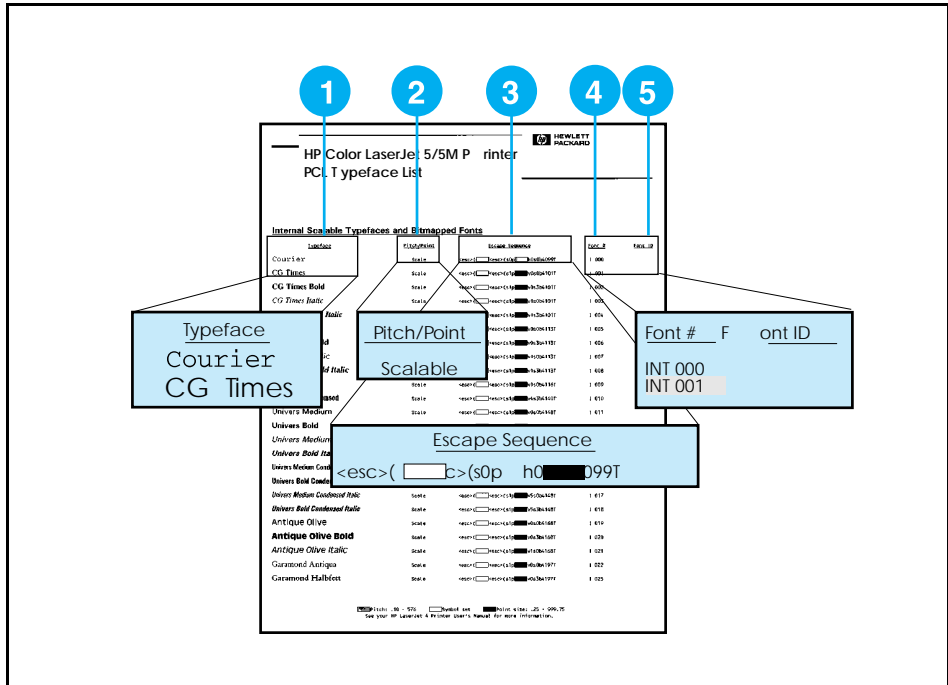
Generating a font printout deletes all temporary soft fonts (the fonts your software has downloaded for a specific document). Because of this, temporary soft fonts do not appear on the printout. Permanent soft fonts are not affected.

The PCL typeface printout lists all available typefaces for installed cartridges, SIMMs, permanently downloaded soft fonts, and internal fonts.

# Interpreting the PCL typeface list

Item	Description
1	Typeface is the name of the typeface.
2	Pitch/Point indicates the specified pitch or point size of the font. ftch (cpi) is the number of characters per inch of the fixed pitch font. Point Size is the font height.
3	Escape Sequence (a PCL command) is used to select the designated font. Fill in Pitch or Point and Symbol Set in the boxes as required.  The escape sequence contains a shaded box followed by v or h. This indicates you must enter the point size (for example, 14.25v) or pitch (for example, 12.00h).
4	Font # is the number you use to select internal, cartridge, or downloaded soft fonts from the control panel. The letters preceding the font number show you the source of the font:  SFT - Permanent soft font residing in printer memory INT - Internal printer fonts M1 to M4 - SIMM based fonts  Do not confuse the font number with the soft font ID.
5	Font ID is the identification number you assign to soft fonts when you download them through your software.

Figure 4-1



## Interpreting the PostScript typeface list

The PostScript typeface list displays only the 35 PostScript language typefaces, with print samples for each typeface. The PS font printout lists all fonts available on the PostScript SIMM. The list does not display the printer's internal or downloaded PCL typefaces or any PostScript language downloaded typefaces.

The characters shown on the PostScript typeface list are printed in only one size. You can scale PostScript typefaces to any size.

### Using PostScript Typefaces

The PostScript language contains 35 scalable typefaces drawn from 11 typeface families, all licensed from Adobe Systems, Inc. Over 650 additional typefaces compatible with your printer are available from the Adobe Type Library. These typefaces can be purchased and used in your printer if the PostScript option has been installed.


Since PostScript typefaces require software support, check your software documentation for information about using PostScript typefaces. If you are writing your own PostScript applications, refer to the following books:

- *PostScript Language Reference Manual*. Second Edition. Adobe Systems Incorporated. Menlo Park: Addison-Wesley Publishing Company, Inc., December 1991.
- *PostScript Language Supplement for Version 2011*. Adobe Systems Incorporated. Menlo Park: Addison-Wesley Publishing Company, Inc., 1991.
- *PostScript Language Program Design*. Adobe Systems Incorporated. Menlo Park: Addison-Wesley Publishing Company, Inc., 1988.
- *PostScript Language Tutorial and Cookbook*. Adobe Systems Incorporated. Menlo Park: Addison-Wesley Publishing Company, Inc., 1985.

These books are available at book stores or through publishing houses.

You *cannot* use your PostScript typefaces in combination with the PCL typefaces resident in your printer, or with other typefaces supported by PCL. Language switching enables you to use either the PostScript or PCL-supported type, but not both simultaneously.

## PostScript™ Typeface List

ITC Avant Garde Gothic Book	<i>ABCDEabcde012.345[]*%#!?'"</i>
ITC Avant Garde Gothic Book Oblique	<i>ABCDEabcde012.345[]*%#!?'"</i>
ITC Avant Garde Gothic Demi	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
ITC Avant Garde Gothic Demi Oblique	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
ITC Bookman Demi	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
ITC Bookman Demi Italic	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
ITC Bookman Light	<i>ABCDEabcde012.345[]*%#!?'"</i>
ITC Bookman Light Italic	<i>ABCDEabcde012.345[]*%#!?'"</i>
Courier	<i>ABCDEabcde012.345[]*%#!?'"</i>
Courier Bold	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Courier Bold Oblique	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Courier Oblique	<i>ABCDEabcde012.345[]*%#!?'"</i>
Helvetica*	<i>ABCDEabcde012.345[]*%#!?'"</i>
Helvetica Bold	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Helvetica Bold Oblique	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Helvetica Oblique	<i>ABCDEabcde012.345[]*%#!?'"</i>
Helvetica Narrow	<i>ABCDEabcde012.345[]*%#!?'"</i>
Helvetica Narrow Bold	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Helvetica Narrow Bold Oblique	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Helvetica Narrow Oblique	<i>ABCDEabcde012.345[]*%#!?'"</i>
New Century Schoolbook Bold	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
New Century Schoolbook Bold Italic	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
New Century Schoolbook Italic	<i>ABCDEabcde012.345[]*%#!?'"</i>
New Century Schoolbook Roman	<i>ABCDEabcde012.345[]*%#!?'"</i>
Palatino*	<i>ABCDEabcde012.345[]*%#!?'"</i>
Palatino Bold	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Palatino Bold Italic	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Palatino Italic	<i>ABCDEabcde012.345[]*%#!?'"</i>
Symbol	<i>ABXΔEαβχδε012.345[]*%#!? √ ∅</i>
Times* Bold	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Times Bold Italic	<b><i>ABCDEabcde012.345[]*%#!?'"</i></b>
Times Italic	<i>ABCDEabcde012.345[]*%#!?'"</i>
Times Roman	<i>ABCDEabcde012.345[]*%#!?'"</i>
ITC Zapf Chancery Medium Italic	<i>ABCDEabcde012.345[]*%#!?'"</i>
ITC Zapf Dingbats	

PostScript is a trademark of Adobe Systems Incorporated which may be registered in certain jurisdictions. Helvetica, Palatino, and Times are registered trademarks of Linotype-Hell AG and/or its subsidiaries. ITC Avant Garde Gothic, ITC Bookman, ITC Zapf Chancery, and ITC Zapf Dingbats are registered trademarks of International Typeface Corporation.

Figure 4-2

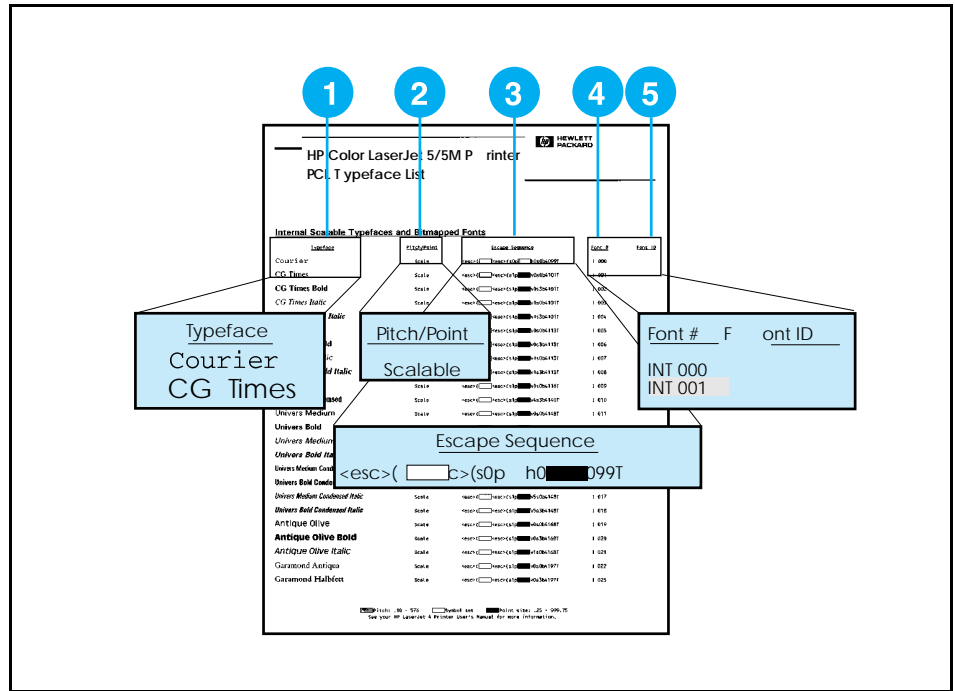
# Selecting PCL Fonts and Typefaces Using the Control Panel

- 1 Click **On Line** until the On Line indicator is no longer lit.
- 2 Print a list of available PCL printer fonts.

For more information, see the section “Printing a list of available printer fonts” earlier in this chapter.

- 3 Find the font source and number on the printout that corresponds to the font you want.

Figure 4-3



Font Source and Number

- 4 Click **Menu** until PCL PRINT MENU appears on the first line of the printer display.



- 5 Click **Item** until FONT SOURCE appears on the second line of the printer display.
- 6 Click **+** until the font source you want appears to the right of FONT SOURCE on the printer display.

INT - internal font  
SFT - soft fonts  
M1 to M4 - SIMM based fonts

- 7 Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

- 8 Click **Item** until FONT NUMBER appears on the second line of the printer display.

- 9 Click **+** until the font number you selected in step 3 appears on the printer display.

- 10 Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

- 11 Click **Item** until PT. SIZE appears for proportional scalable fonts, or PITCH appears for proportional fixed space fonts.

This selection is not available for bitmapped fonts.

- 12 Click **+** to select your point size or pitch.

- 13 Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

- 14 Click **On Line** to return the printer on line.

The On Line indicator lights.

This procedure sets the default font for the printer. Fonts and typefaces selected through software applications will override this setting.

---

## Using Fonts on a Network

If your printer is connected to a network, be sure to check with your network printer administrator or consult with your fellow network users before:

- Changing the default font through the control panel.
- Downloading or removing soft fonts and typefaces.

Following these guidelines will conserve memory and help you avoid unexpected printer output. Your network operating system may automatically protect each user's print job from the effects of other print jobs in the system. Check with your network printer administrator.

To optimize performance of your printing environment when using different fonts and typefaces, consider the following options:

- Encourage the use of the HP Color LaserJet 5/5M printer's extensive internal scalable typeface selections; PCL and TrueType fonts are available in PCL mode, and PostScript fonts are available in PostScript mode.
- To conserve printer memory, download only those soft fonts and scalable typefaces needed.
- If you require several downloaded fonts, consider purchasing additional memory from your dealer.
- Some software applications automatically download fonts at the beginning of each print job. It may be possible to configure those applications to download only soft fonts that are not already resident in the printer. Refer to your software application documentation for more information.

---

## Adding Support for Accessory Fonts to a Printer Driver

When you are using typefaces on disk, your printer driver needs to contain information about the size, shape, and style of the type characters so that it can format your text correctly.

### Check your current driver

Many current software packages already contain drivers for most of Hewlett-Packard's scalable typefaces.

If your fonts are listed in the software's menus, your software contains driver support for that font product. You can then follow the instructions that came with your fonts to install the typeface files onto your hard disk.

You can request a printer driver for your new fonts from your software vendor. Some printer drivers for HP font products are also available from Hewlett-Packard's Distribution Center (US only) or your local authorized HP dealer (see Appendix F).

---

#### Note

Just because your software lists your new typefaces in its menu does not necessarily mean the typefaces themselves are installed. You must still follow the instructions that came with your typefaces to install the actual typeface files onto your hard disk.

---

---

## Using Special Effects with Type

The printer can do special type effects, such as patterns, reverse printing, mirrored text, and advanced font rotation. Check your software manual to see if it supports these features. Programmers can find complete instructions for using special type effects in the *PCL 5 Technical Reference Manual*.



---

## Hewlett-Packard Custom Font Services

Hewlett-Packard custom soft fonts are now available. You can design your own custom soft font package to fit your particular needs. Some examples include:

- Any font or typeface from any HP standard font product or typeface collection.
- Arabic, Hebrew, and Cyrillic typefaces.
- Bar codes, including 3 of 9, Codeabar, UPC, and others.
- Custom symbol set mappings.
- Signatures and logos.
- Macros for automatically printing standard forms with your data.

For information on these services, contact Hewlett-Packard Corvallis Service Center, Attention: Custom Products Group, 1030 N.E. Circle Drive, Corvallis Oregon 97330 USA, (503) 750-5757. Outside the U.S., contact your local HP dealer.



# Using the Control Panel

---

## Introduction

This chapter contains information on using the control panel, including:

- When to use the control panel
- Using the control panel in shared environments
- Locating control panel features
- Interpreting control panel indicator lights
- Resetting the printer to user or factory defaults
- Changing selections on the control panel
- Available menu selections
- Selecting an input tray, manual feed, or an output bin
- Switching printer personalities
- Setting the I/O timeout
- Setting the power save mode
- Running printer self tests
- Interpreting test pages
- Optimizing print quality using Resolution Enhancement (REt)

---

## When to Use the Control Panel

Most software applications, including word processors and spreadsheet packages, provide procedures or commands for selecting printing options. These procedures or commands allow you to control print jobs through software, instead of changing control panel settings repeatedly at the printer. For all Print menu and most Configuration menu items, software commands always override control panel settings. For example, a software command to print a particular size of media overrides the current control panel setting.

Although many software applications control printer output, the degree of support varies among manufacturers. Hewlett-Packard has designed the control panel to enable you to make selections manually when your software application does not allow you to control printer functions or you cannot make the change in the driver.

The printer control panel menus allow you to select items such as the number of copies, settings for resolution enhancement, and test pages. Use the control panel:

- To make printer I/O configuration changes.
- To make a selection that your software does not allow you to make.
- To identify the fonts available in the printer memory.
- To print test pages.
- To switch between on-line and off-line status.

---

### Note

Always use your application software and/or printer drivers before attempting to control your output using the control panel.

---

## Using the Control Panel in Shared Environments

The printer control panel functions the same in a network or other shared printer environment as it does when it is connected to a stand alone computer. If there are problems, see your system administrator. Remember that your printer is shared with other users. Therefore, follow these guidelines before you change printer control panel settings:

- See your system administrator before making printer control panel changes.

Any control panel changes you make could affect other print jobs until the control panel is changed again.

- Coordinate setting the default printer font and downloading soft fonts with other users.

Coordinating these operations conserves memory and avoids unexpected printer output.

- Be aware of how switching the printer language affects other printer users.

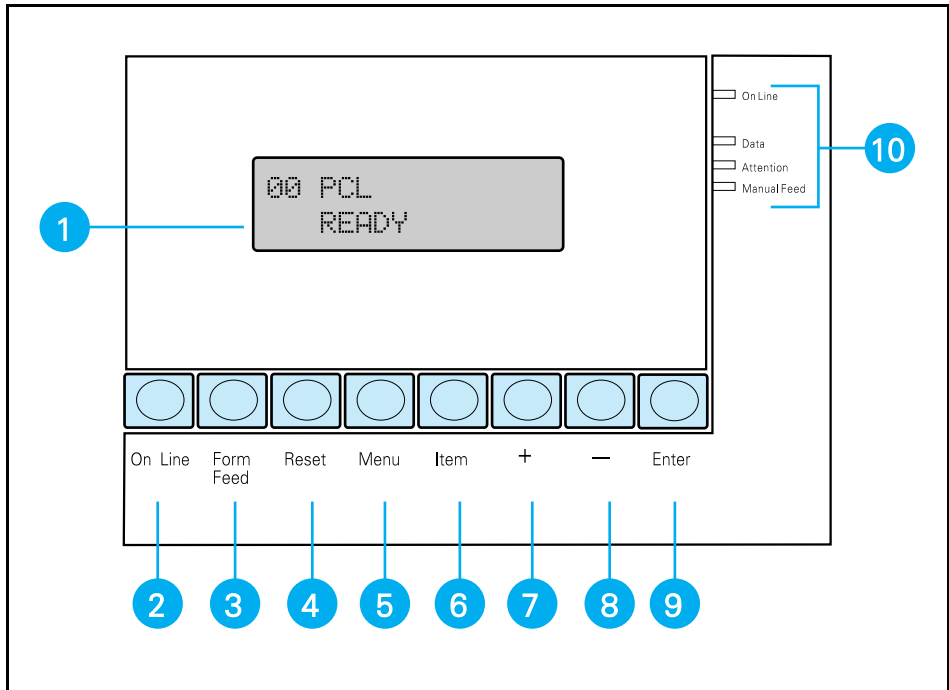
Switching between PCL and the PostScript language erases all downloaded fonts and macros.

Your network operating systems may automatically protect each user's print job from the effects of other print jobs in the system. Check with your system administrator for more information.

# Locating Control Panel Features

The following figure lists the locations of control panel features.

Figure 5-1



- |   |               |    |                            |
|---|---------------|----|----------------------------|
| 1 | Display       | 6  | Item key                   |
| 2 | On Line key   | 7  | “+” Next Selection key     |
| 3 | Form Feed key | 8  | “-” Previous Selection key |
| 4 | Reset key     | 9  | Enter key                  |
| 5 | Menu key      | 10 | Indicator Lights           |

---

# Interpreting Control Panel Indicator Lights

See the following table to interpret the indicator lights on the control panel.

Indicator	On	Off	Flashing
On Line (green)	Printer is on line	Printer is off line	Printing in process or going off line
Data (amber)	Data is in the printer buffer or the printer is processing data	Printer buffer empty	Printer is receiving data
Attention (amber)	Printer requires attention	Printer does not require attention	
Manual Feed * (amber)	Manual Feed selected through the data stream or control panel	Manual Feed not selected	

\* Manual feed is available only when the optional Rear Feed Unit is installed on the printer.

---

## Resetting the Printer to User Defaults

**1** Click **On Line** until the On Line indicator is no longer lit.

**2** Click **Reset**.

07 RESET appears on the printer display. The printer automatically returns on line after the printer is reset.

A 07 RESET clears the page buffer, removes all non-permanent fonts and macros, and returns all print menu settings to user selected defaults.



---

# Resetting the Printer to Factory Defaults

- 1 Click **On Line** until the On Line indicator is no longer lit.
- 2 Press and hold **Reset**.
- 3 When 09 MENU RESET is displayed, release **Reset**.

09 MENU RESET appears on the printer display after approximately five seconds. The printer automatically returns on line after the printer is reset.

A 09 MENU RESET clears the page buffer, removes all non-permanent fonts and macros, and returns all printing menu defaults to their factory defaults, except for CONFIG menu settings.

## PCL Factory Defaults

The following table lists the PCL factory defaults for printer settings.

Menu	Item	Factory Default
PCL PRINT MENU	COPIES	1
	FONT SOURCE	INT (Internal)
	FONT NUMBER	0 (Upright, medium, Courier)
	PITCH	10.00
	PT. (Point) SIZE	12.00
	TRAY	FRONT
	OUT BIN	UPPER (Face Down)
	PAPER	LETTER (8.5 by 11) *
	ORIENTATION	P (Portrait)
	FORM	60 (6 lines/inch)
	MANUAL FEED	OFF
	SYM SET	ROMAN-8
PCL CONFIG MENU	SYS	AUTO **
	AUTO CONT	ON
	I/O TIMEOUT	15
	REt (Resolution Enhancement)	MEDIUM
	PWRSAVE	60MIN
PARALLEL	HIGH SPEED	YES
	ADV FNCTNS	YES

\* This setting may default to A4 in some countries.

\*\* SYS=PCL if only one personality is available on the printer.

---

# Changing Selections on the Control Panel

- 1 Click **On Line** until the On Line indicator is no longer lit.
- 2 Click **Menu** until the menu you desire appears on the printer display.

```
PCL or PS PRINT MENU  
PCL or PS CONFIG MENU  
PARALLEL MENU  
MIO CONFIG MENU  
PCL or PS TEST MENU
```

The prefix PCL or PS depends on whether PCL or PostScript (PS) is currently selected. The MIO MENU is only available if an MIO card is installed in the printer.

- 3 Click **Item** until the item you want to change appears on the printer display.

See “Print Menu Selections” and “Config Menu Selections” in this chapter for a list of available item selections.

- 4 Click **+** until the selection you desire appears on the printer display.

Click **-** to view the previous selection. Press and hold **+** or **-** to scroll through the item selections.

- 5 Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.



- 6 Repeat steps 2 through 5 until all of your changes are complete.
- 7 Click On Line to return the printer on line.
- 8 If 10 PRESS RESET TO ACTIVATE appears on the printer display and you want your changes activated immediately, click **Reset**.

Resetting the printer at this point activates your selections and **clears the page buffer**. The printer automatically returns on line after the printer is reset.

- 9 If you did not reset the printer, click **On Line** to return the printer on line.

The On Line indicator lights. Changes to the control panel will not take effect until all data in the page buffer prints.

## Print menu selections

PCL Print Menu		PostScript (PS) Print Menu	
Menu Item	Selections	Menu Item	Selections
COPIES	1 to 999	COPIES	1 to 999
FONT SOURCE	INT (internal) SFT (soft fonts) M1 - M4 (SIMM slots)		
FONT NUMBER	0 to 999		
PITCH *	0.44 to 99.97		
POINT SIZE *	4.00 to 999.75		
TRAY (Input)	FRONT REAR ** BOTH **	TRAY	FRONT REAR ** BOTH **
PAPER	LETTER A4 LEGAL A3 EXEC TABLOID***	PAPER	LETTER A4 LEGAL A3 EXEC TABLOID***
		FT MEDIA (Front Tray)	PAPER TRN (Transparency)
		RT MEDIA (Rear Tray) **	PAPER TRN (Transparency)
		MF MEDIA (Manual Feed)	PAPER TRN (Transparency)
OUT BIN	UPPER (Face Down) LOWER (Face Up)	OUT BIN	UPPER (Face Down) LOWER (Face Up)
ORIENTATION	P (portrait) L (landscape)		
FORM (vertical form length)	5 to 128		
MANUAL FEED **	ON OFF	MANUAL FEED	ON OFF
SYM SET	(See the <i>PCL Color Technical Reference Guide</i> for symbol set lists)		

\* This item is optional depending on the font type selected with FONT SOURCE and FONT NUMBER.

\*\* This item is only available if the optional rear input tray is installed.

\*\*\*Tabloid refers to 11" x 17" paper size.

## Config menu selections

PCL Config Menu		PostScript (PS) Config Menu	
Menu Item	Selections	Menu Item	Selections
SYS	AUTO PCL POSTSCRIPT	SYS	AUTO PCL PostScript
AUTO CONT	OFF ON	AUTO CONT	OFF ON
I/O TIMEOUT	5 to 300	I/O TIMEOUT	5 to 300
RET *	LIGHT MEDIUM DARK OFF	RET *	LIGHT MEDIUM DARK OFF
PWRSAVE **	15MIN (minutes), 30MIN, 60MIN, 2HRS (hours), 3HRS, or OFF	PWRSAVE **	15MIN (minutes), 30MIN, 60MIN, 2HRS (hours), 3HRS, or OFF
		JAM RECOVER	OFF ON
		START PAGE	OFF ON
		PRT PS ERRS	OFF ON

\* Only affects black.

\*\* PWRSAVE reduces power consumption when the printer is not in use.

## Parallel Menu Selections

Parallel Menu	
Menu Item	Selections
HIGH SPEED	YES NO
ADV FNCTNS (Advance Functions)	YES NO

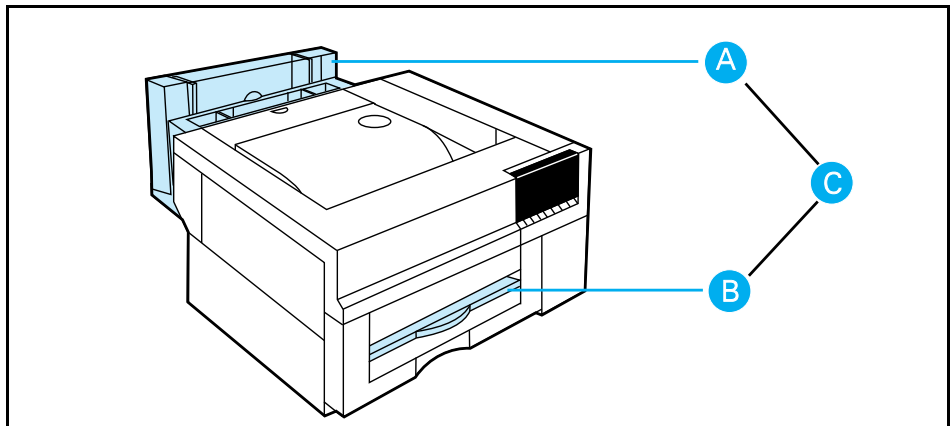
## Selecting an Input Tray

- 1 Click **On Line** until the On Line indicator is no longer lit.
- 2 Click **Menu**.  
PCL (or PS) PRINT MENU appears on the first line of the printer display.
- 3 Click **Item** until TRAY appears on the second line of the printer display.
- 4 Click **+** to select your input tray.  
(A) REAR - selects the optional rear tray.  
(B) FRONT - selects the front tray.  
(C) BOTH - automatically selects the tray with the correct media size.

In step 4, the REAR and BOTH selections are only available when the optional rear input tray is installed. If BOTH is selected and both trays have the correct size media, the printer will pull from the front tray. If the front tray runs out of media, then the printer will automatically pull from the rear tray.

If PCL is selected as the printer language, selecting REAR or FRONT locks out the unselected input tray.

Figure 5-2



Input Tray Locations



**5** Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

**6** Click **On Line** to return the printer on line.

**7** If `10 PRESS RESET TO ACTIVATE` appears on the printer display and you want your changes activated immediately, click **Reset**.

Resetting the printer at this point activates your selection and clears the page buffer. The printer automatically returns on line after the printer is reset.

**8** If you did not reset the printer, click **On Line** to return the printer on line.

The On Line indicator lights. Changes to the control panel will not take effect until all data in the page buffer prints.



---

## Selecting Manual Feed

Manual feed is available only when the optional Rear Feed Unit is installed on the printer.

**1** Click **On Line** until the On Line indicator is no longer lit.

**2** Click **Menu**.

PCL (or PS) PRINT MENU appears on the first line of the printer display.

**3** Click **Item** until MANUAL FEED appears on the second line of the printer display.

**4** Click **+** to select MANUAL FEED=ON.

**5** Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

**6** Click **On Line** to return the printer on line.

**7** If 10 PRESS RESET TO ACTIVATE appears on the printer display and you want your changes activated immediately, click **Reset**.

Resetting the printer at this point activates your selection and clears the page buffer. The printer automatically returns on line after the printer is reset.

**8** If you did not reset the printer, click **On Line** to return the printer on line.

The On Line indicator lights. Changes to the control panel will not take effect until all data in the page buffer prints.

---

## Selecting an Output Bin

1 Click **On Line** until the On Line indicator is no longer lit.

2 Click **Menu**.

PCL (or PS) PRINT MENU appears on the first line of the printer display.

3 Click **Item** until OUT BIN appears on the second line of the display.

4 Click **+** to select your output bin.

UPPER - refers to the face down, correct order output bin.

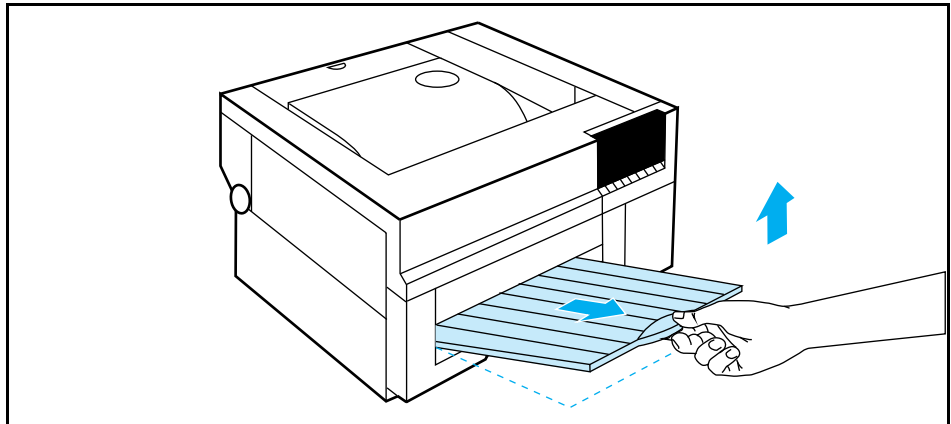
LOWER - refers to the face up, reverse order output bin.

5 Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

6 If you selected the face up output bin, make sure it is open to catch the media.

Figure 5-3



Pulling Out the Top of the Input Tray



- 7 Click **On Line** to return the printer on line.
- 8 If 10 PRESS RESET TO ACTIVATE appears on the printer display and you want your changes activated immediately, click **Reset**.

Resetting the printer at this point activates your selection and clears the page buffer. The printer automatically returns on line after the printer is reset.

- 9 If you did not reset the printer, click **On Line** to return the printer on line.

The On Line indicator lights. Changes to the control panel will not take effect until all data in the page buffer prints.

---

## Switching Printer Personalities

The SYS selection is only available when a second personality, such as the PostScript language, is installed on the printer.

**1** Click **On Line** until the On Line indicator is no longer lit.

**2** Click **Menu** twice.

PCL or PS CONFIG MENU appears on the first line of the printer display.

**3** Click **Item** until SYS appears on the second line of the display.

**4** Click **+** to make your selection.

AUTO - enables switching by file type or PJL description.

PCL - selects PCL as the printer personality.

POSTSCRIPT - selects the PostScript language as the printer personality.

POSTSCRIPT is only available if the PostScript option is installed on the printer.

**5** Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

**6** Click **Reset**.

Resetting the printer activates your selection as the new default. SWITCHING TO POSTSCRIPT (or PCL) appears on the printer display. Then the printer automatically returns on line with 00 POSTSCRIPT READY (or 00 PCL READY) on the printer display. Any downloaded fonts or macros will be deleted when the printer switches between personalities.

---

## Setting the I/O Timeout

1 Click **On Line** until the On Line indicator is no longer lit.

2 Click **Menu** twice.

PCL or PS CONFIG MENU appears on the first line of the printer display.

3 Click **Item** until I/O TIMEOUT is displayed on the second line of the display.

4 Click **+** to set the timeout between 5 and 300 seconds.

Click **-** to view the previous value. Press and hold **+** or **-** to scroll through the possible values for timeout. The default is 15 seconds.

5 Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

6 Click **On Line** to return the printer on line.

The On Line indicator lights.

I/O Timeout sets the number of seconds that the printer waits to receive additional characters from your computer before determining a job boundary. Setting I/O timeout too high may cause a single I/O port to remain active and not allow data from other ports to be printed. Setting I/O timeout too low may result in missing characters, out of order print jobs, or other print problems.

---

## Setting the Power Save Mode

**1** Click **On Line** until the On Line indicator is no longer lit.

**2** Click **Menu** twice.

PCL or PS CONFIG MENU appears on the first line of the printer display.

**3** Click **Item** until PWRSAVE is displayed on the second line of the display.

**4** Click **+** to set the time between 15 minutes (15MIN) and 3 hours (3HRS), or OFF.

Click **-** to view the previous value. Press and hold **+** or **-** to scroll through the possible values for power save mode. The default is 60 minutes (60MIN).

**5** Click **Enter** to save your selection.

An asterisk (\*) appears to the right of your selection.

**6** Click **On Line** to return the printer on line.

The On Line indicator lights.

The adjustable power save qualifies the HP Color LaserJet 5/5M printer for the U.S. Environmental Protection agency Energy Star program for printers. PWRSAVE reduces power consumption when the printer is not in use. The printer display will dim when the printer enters the power save mode.

---

## Running Printer Self Tests

- 1 Click **On Line** until the On Line indicator is no longer lit.
- 2 Click **Menu** until PCL or PS TEST MENU appears on the first line of the printer display.

The prefix PCL or PS depends on whether PCL or PostScript (PS) is selected.

- 3 Click **Item** until the self test you want appears on the second line of the display.

```
PCL or PS SELF TEST  
CONT SELF TEST (PCL only)  
PCL or PS TYPEFACE LIST  
PCL or PS DEMO PAGE  
DEVELOPER TEST
```

The prefix PCL or PS (PostScript) depends on the current control panel setting (00 PCL READY or 00 POSTSCRIPT READY).

- 4 Click **Enter** to run the self test.

The self test is performed and the test page is printed.

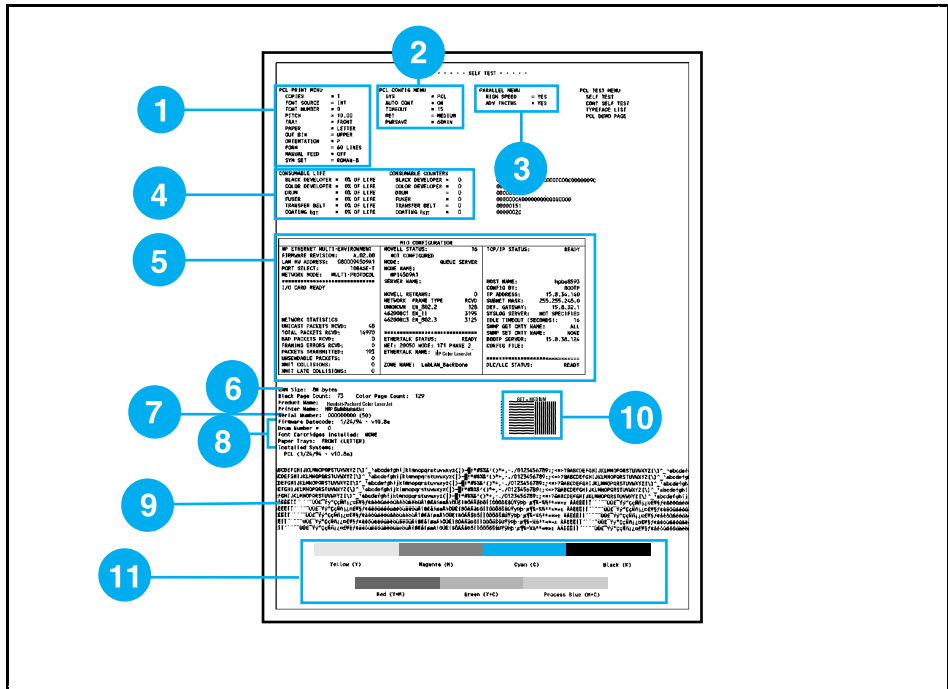
- 5 If you selected CONT SELF TEST, click **On Line** to exit the test and return the printer on line or click **Reset** to stop testing and remain off line. This command will print Self Tests continuously until you click **On Line** or **Reset**.
- 6 If you selected a self test other than CONT SELF TEST, click **On Line** to return the printer on line after the test is complete.

The On Line indicator lights.

# Interpreting the PCL test page

Item	Description
1	PCL Print Menu. Shows the current Print Menu selections in the order they appear on the printer display.
2	PCL Config Menu. Shows the current Configuration Menu selections in the order they appear on the printer display, except for I/O settings.
3	Parallel Menu. Shows the current Bi-Tronics parallel settings in the order they appear on the printer display.
4	Maintenance Counters. Shows the percentage of maximum rated life already used for each maintenance unit in the printer.
5	MIO Configuration. Shows the current MIO description and configuration when an MIO card is installed in the printer. There may also be additional diagnostic information printed here.
6	RAM size. Shows the total amount of installed printer memory, including added optional memory. Black and Color Page Count. Shows approximately how many black and color pages have been printed. Page count can be used to track printer usage.
7	Serial Number. Shows the printer serial number.
8	Options. Verifies the installation of font cartridges, paper trays, and installed options.
9	"Ripple Print" Pattern. Checks print density and quality.
10	REt Pattern.
11	Primary and Secondary Colors.

Figure 5-4

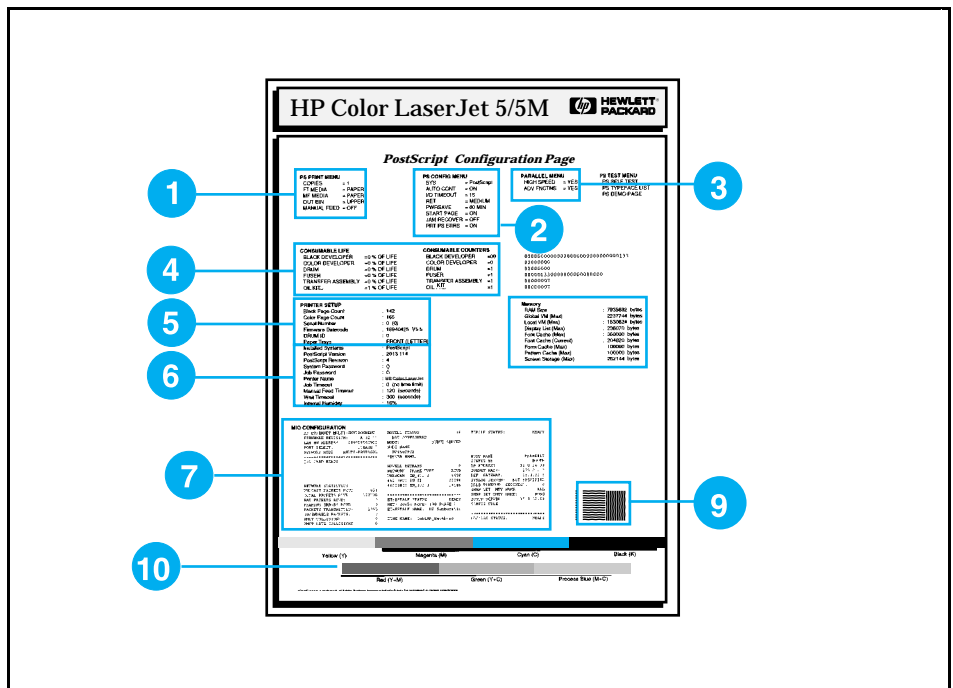




# Interpreting the PostScript test page

Item	Description
1	PS Print Menu. Shows the current PostScript Print Menu selections in the order they appear on the printer display.
2	PS Config Menu. Shows the current PostScript Configuration Menu selections in the order they appear on the printer display, except for I/O settings.
3	Parallel Menu. Shows the current Bi-Tronics parallel settings in the order they appear on the printer display.
4	Maintenance Counters. Shows the percentage of maximum rated life already used for each maintenance unit in the printer. See Appendix F for specific warranty information.
5	Printer Setup. Shows which options are currently installed and provides additional important printer information including: <ul style="list-style-type: none"> <li>• Color and Black Page Count. Approximately how many pages have been printed.</li> <li>• Serial Number. The printer serial number.</li> <li>• Firmware Datecode. The date code of the PostScript firmware.</li> <li>• Paper Trays. The media size for the currently installed front input tray or optional rear input tray.</li> </ul>
6	Installed Systems. Shows the PostScript persistent parameter settings.
7	MIO Configuration. Shows the current MIO description and configuration when an MIO card is installed in the printer. There may also be additional diagnostic information printed here.
8	Memory. The total memory installed in the printer and the PostScript settings which affect how memory is used.
9	REt Pattern.
10	Primary and Secondary Colors.

Figure 5-5





# Maintaining Your Printer

---

## Introduction

This chapter explains how to optimize your printer performance by cleaning your printer and replacing maintenance units.

The following topics are discussed in this chapter:

- Making room for maintenance
- Cleaning the printer
- Identifying and replacing maintenance units

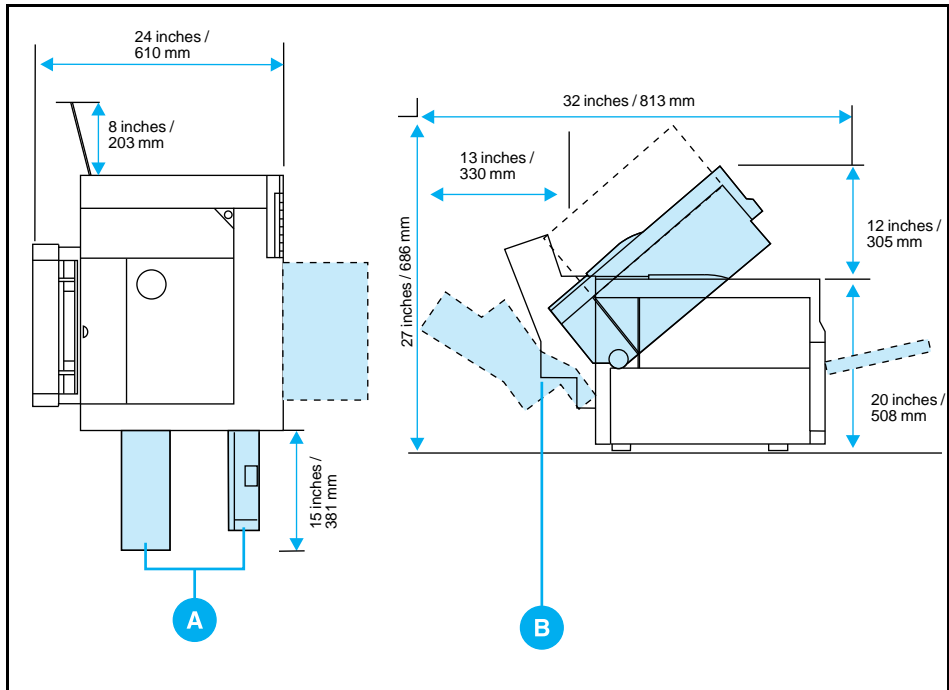
For proper printer operation, perform the cleaning procedures at specified intervals using only Hewlett-Packard maintenance units. Part numbers for these units are listed on the *Part Number Quick Reference Card* at the back of this manual.

Do not attempt to solve printer problems by switching maintenance units between printers or randomly installing new maintenance units. These units may be calibrated for specific printers or may be installed only once. For information on solving printer problems, see Chapter 7.

# Making Room for Printer Maintenance

The following figure lists the space required around the printer for maintenance.

Figure 6-1

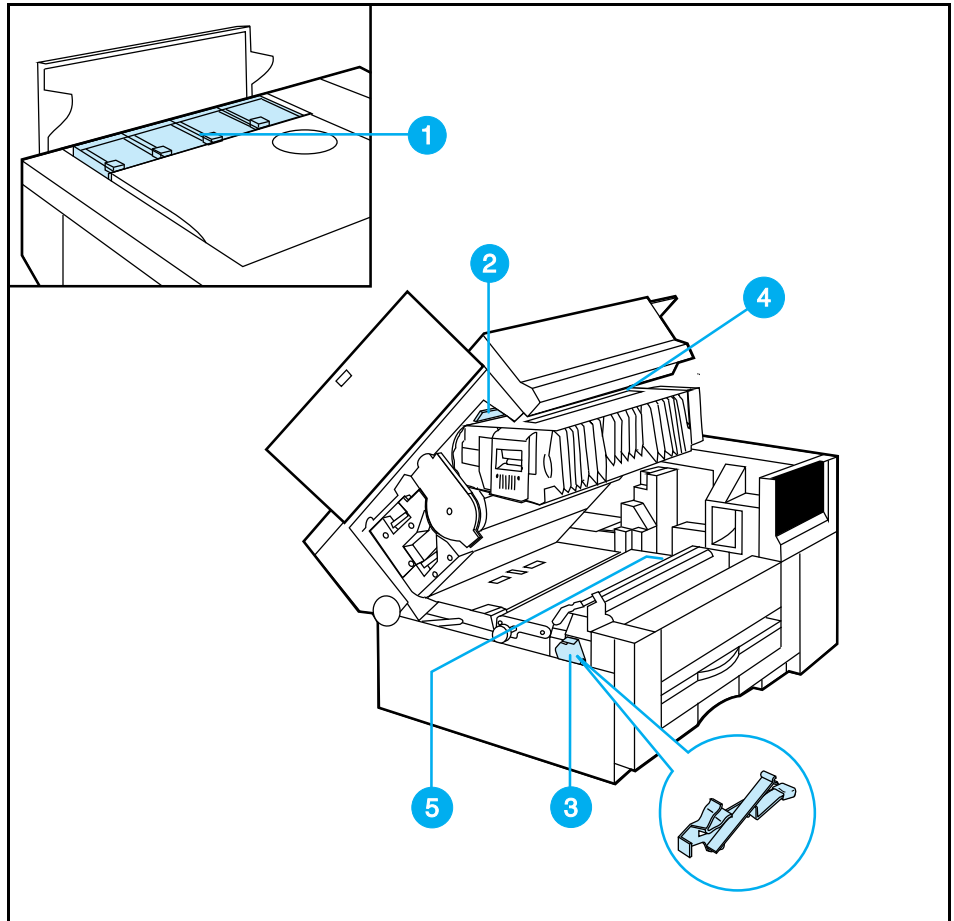


- Sufficient space is required on the sides of the printer for removing maintenance units (A).
- Sufficient space is required behind the printer to fully open the toner reservoir cover, top cover, and to clear paper jams when the rear feed unit is installed (B).
- The work area for the printer must adequately support the weight of the printer (102 pounds/46.6 kg) and its accessories.

## Cleaning Locations

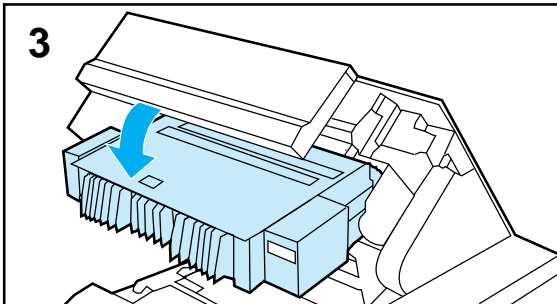
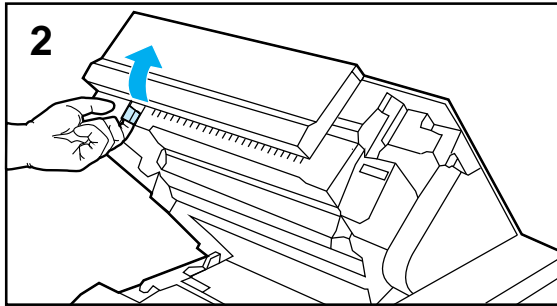
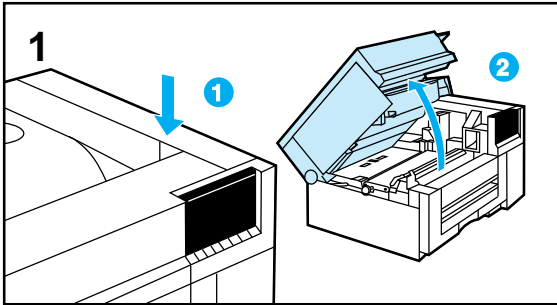
The following figure shows the areas that require periodic cleaning.

Figure 6-2



- |   |                            |   |                 |
|---|----------------------------|---|-----------------|
| 1 | Toner Reservoir Area       | 4 | Drum Corona     |
| 2 | Laser Optics Glass         | 5 | Transfer Corona |
| 3 | Laser Optics Cleaning Tool |   |                 |

## Regular Maintenance Procedures



Overall print quality will depend largely on keeping certain critical components of your printer clean. Your Color LaserJet 5/5M printer components are sensitive to build-up of dust or toner particles. Some of the more sensitive printer components need to be cleaned regularly to ensure the highest possible print quality (approximately every 2,000 pages). The following procedure will clean these three components.

- Optics Glass
- Drum Corona
- Transfer Corona

---

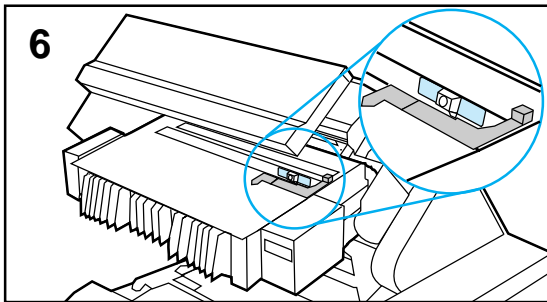
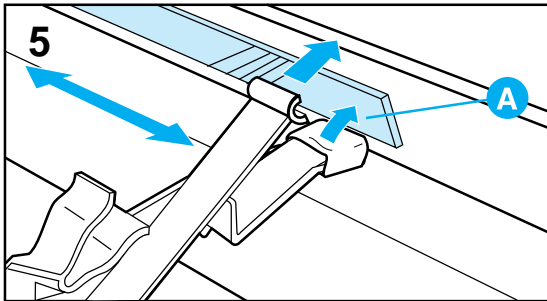
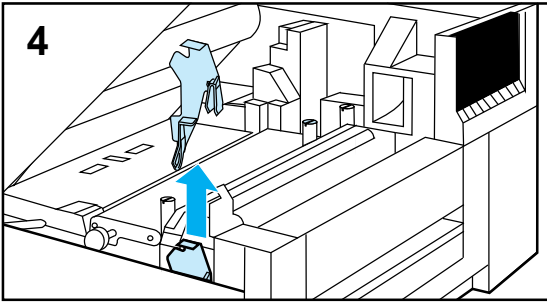
### Caution

Remove all jewelry and watches before continuing. The drum can be easily scratched, causing damage.

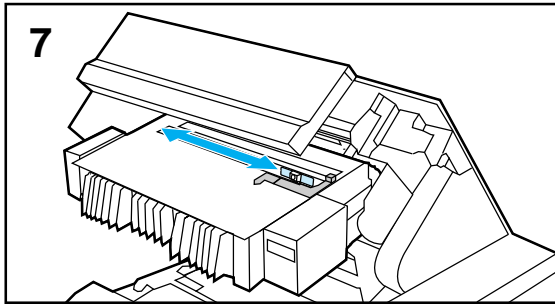
Do not expose the print drum to direct light for extended periods of time. Exposure to light can permanently damage the drum.

---

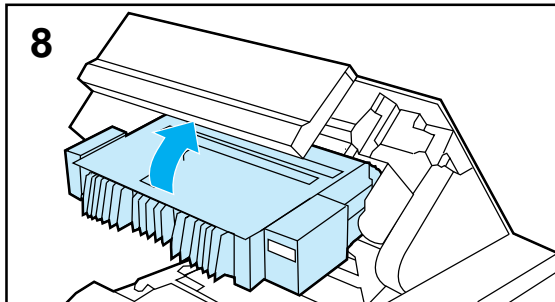
- 1 Press the top cover release button and open the top cover.
- 2 Pull the drum lock lever at the left edge of the drum toward you.
- 3 Lower the drum until it is horizontal.



- 4** Find the laser optics cleaning tool.
- 5** Insert the cleaning tool above the drum with the padded portion towards the glass (A). Press the pad on the cleaning tool firmly against the right end of the optics glass; slide it to the left end of the optics glass and back to the right. Return the cleaning tool to its storage place.
- 6** Locate the drum cleaning handle towards the back right corner of the main drum.



- 7 Slide the cleaning handle to the left end of the drum and back to the right. Repeat twice.
- 8 Raise the drum until it locks into place.
- 9 Locate the corona cleaning knob located between the transfer belt and the fuser on the right side of the printer.



---

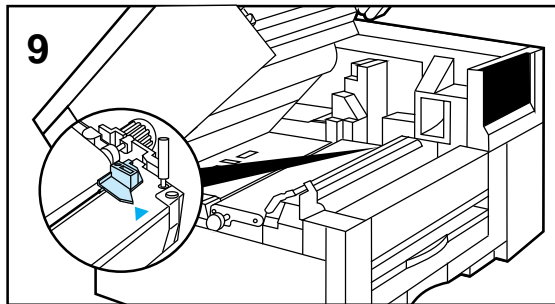
**Caution**

Do not touch the transfer belt surface. Oil from your hands and debris can reduce the life span of the belt and affect print quality.

---

- 10 Slide the cleaning knob to the left end of the printer and back. Repeat twice.

Close the top cover.

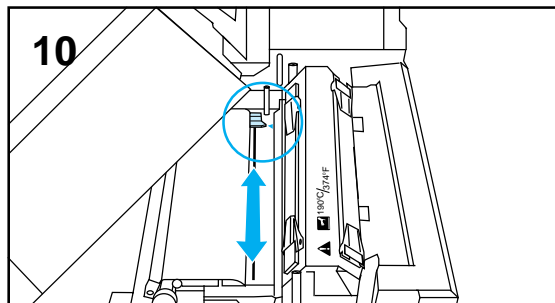


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**Caution**

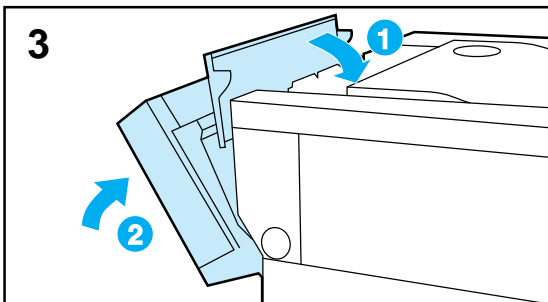
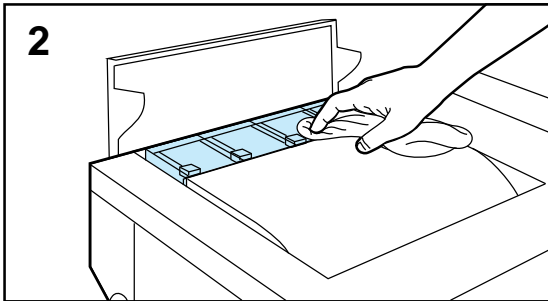
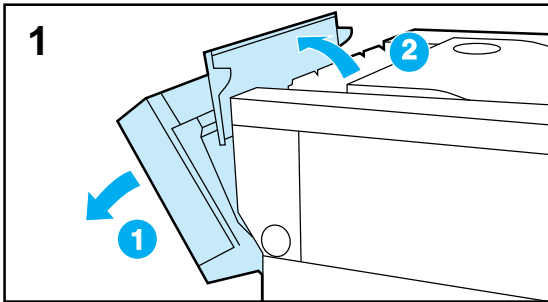
Before closing the printer, be sure the drum corona cleaning handle and transfer corona cleaning knob are seated in the full right position.

---





## Cleaning the Toner Reservoir Area



Clean the toner reservoir area when you add toner. Add toner only when the control panel requests.

- 1 Push the optional rear feed unit away from the printer. Then open the toner reservoir cover and use the cover to hold the rear feed unit back away from the printer.
- 2 With the cleaning cloth from the toner collection kit, wipe off any dust or toner on the area between the individual toner doors.

### Caution

Do not drop excess toner into the manual feed area. Toner in the manual feed area can result in manual feed problems.

- 3 Close the toner reservoir cover.

Return the optional rear feed unit to its upright position against the back of the printer.

### Note

A cleaning cloth is included with each toner collection kit. The part number for the toner collection kit is listed in Appendix A.

## Performing Printer Maintenance

This section lists the schedule for replacing maintenance units on this printer. The printer prompts you when it is time to replace each unit. The following table lists the approximate time intervals for replacing maintenance units and the printer messages that prompt you to replace them.

The time period listed assumes you are printing 2000 pages per month. If your print quantities differ, adjust the time period accordingly. Part numbers for each unit are listed on the *Part Number Quick Reference Card* at the back of this manual. For proper printer operation, use only Hewlett-Packard maintenance units.

### Approximate Replacement Intervals for Maintenance Units

Unit	Printer Message	Page Count	Time Period
Toner	TONER OUT [CMYK] ADD [color]	2200 pages*	1 to 2 months
Toner Collection Box Filter	14.5 REPLACE COLLECTION KIT	Varies with toner usage	2 to 5 months
Coating Kit ***	14.6 REPLACE COATING KIT	Varies with transparency usage	7 to 10 months
Black Developer	19.1 BLACK DEVEL USER MAINTENANCE	40,000 pages	20 months
Color Developer	19.2 COLOR DEVEL USER MAINTENANCE	40,000 pages	20 months
Print Drum	19.3 DRUM USER MAINTENANCE	60,000 black pages ** or 30,000 color pages	15 to 30 months
Fuser	19.4 FUSER USER MAINTENANCE	80,000 pages	40 months
Transfer Belt	19.5 TRANS BELT USER MAINTENANCE	60,000 pages	30 months

\* Approximate average letter-size page count based on 5% coverage of individual toner colors.

\*\* Print drum life is reduced for legal, 11" x 17", and A3 printing.

\*\*\* Contains Coating Roller and Cleaning Roller.

---

## Environmental Collection Program

HP encourages responsible disposal of LaserJet printer maintenance units through its Environmental Collection Program. For details on this program, see the brochure enclosed with each maintenance unit.

The following maintenance units can be disposed of through the Environmental Collection Program:

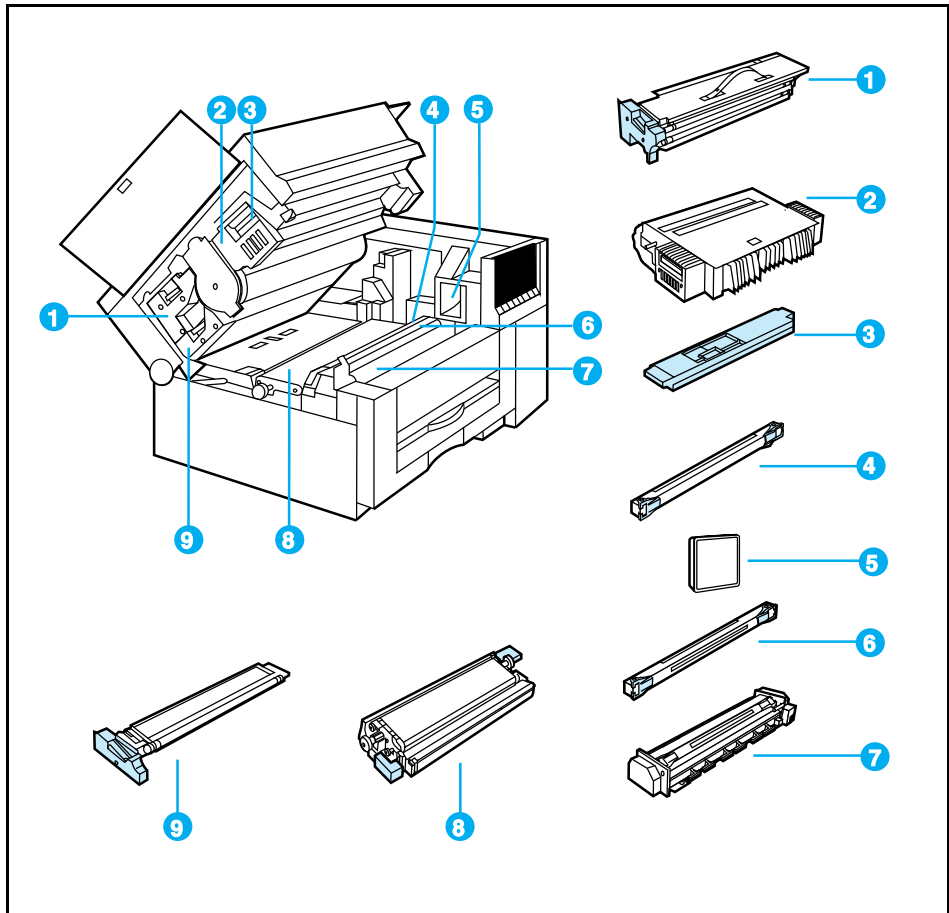
- Color Developer
- Black Developer
- Toner Collection Kit
- Coating Kit
- Transfer Belt
- Print Drum
- Fuser

To order maintenance units, call your HP authorized dealer or the North American Distribution Organization (NADO).

# Locating Maintenance Units

The following figure shows the location of each maintenance unit.

Figure 6-3

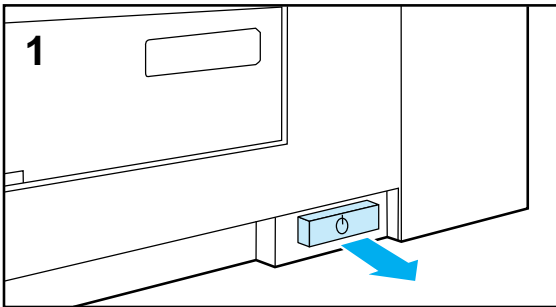


- |                          |                      |                   |
|--------------------------|----------------------|-------------------|
| 1 Color Developer        | 4 Cleaning Roller ** | 7 Fuser           |
| 2 Drum                   | 5 Ozone Filter *     | 8 Transfer Belt   |
| 3 Toner Collection Box * | 6 Coating Roller **  | 9 Black Developer |

\* The Toner Collection Box and Filter are included in the Toner Collection Kit.

\*\* The Cleaning Roller and Coating Roller are included in the Coating Kit.

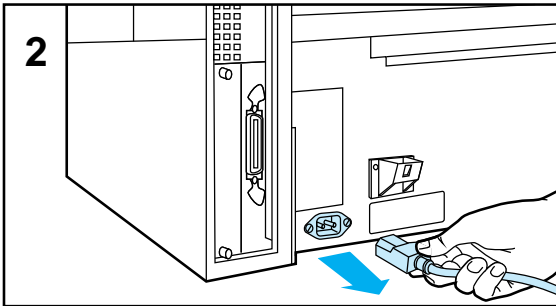
## Replacing the Toner Collection Kit



When the message 14.5 REPLACE COLLECTION KIT appears on the printer display, change the toner collection box and filter.

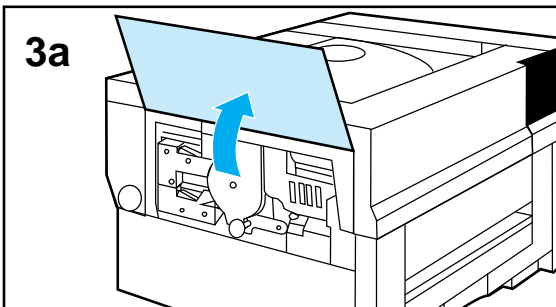
### Note

Use only maintenance units designed and labeled for the HP Color LaserJet 5/5M printer. Other maintenance units may damage your printer or result in inferior print quality.



### Note

If the 14.5 REPLACE COLLECTION KIT message appears, your printer will not work until you perform the following procedure. Keep an extra toner collection kit on hand to avoid printer down time.

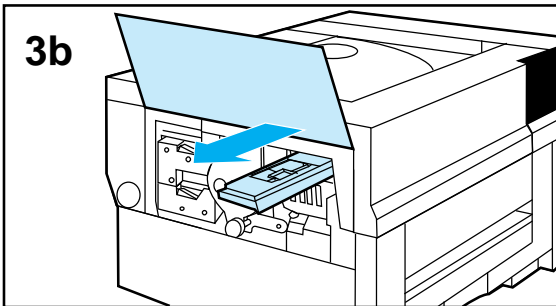


1 Turn the printer off (button out).

2 When the fan turns off (5 minutes), unplug the printer.

3 Replace the toner collection box:

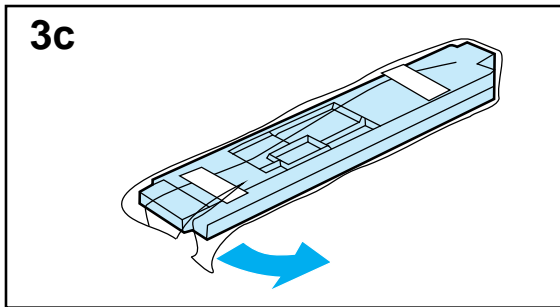
- a Open the left side cover of the printer by grasping its bottom edge and lifting it up.
- b Pull out the toner collection box horizontally and set it aside for disposal.



For proper printer operation, do not re-use the toner collection box. To prevent toner spills, keep the toner box horizontal when handling it.

Handle the toner collection box carefully to prevent damaging it. Do not incinerate the used collection box.

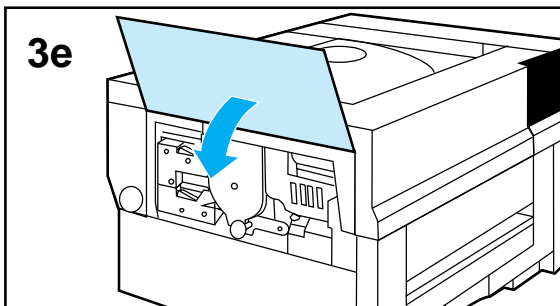
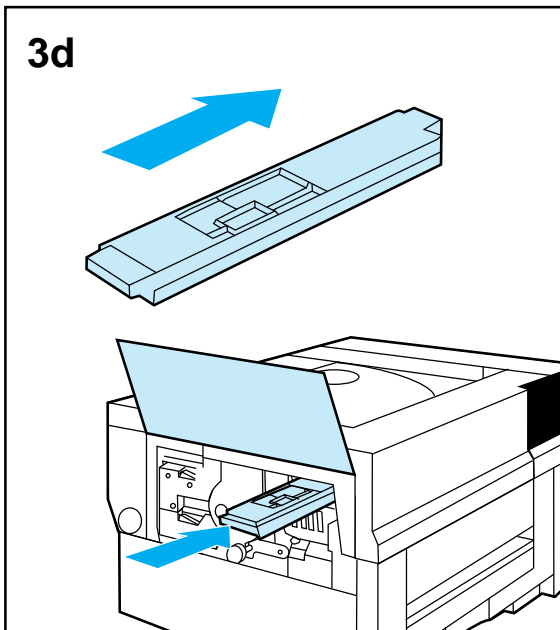


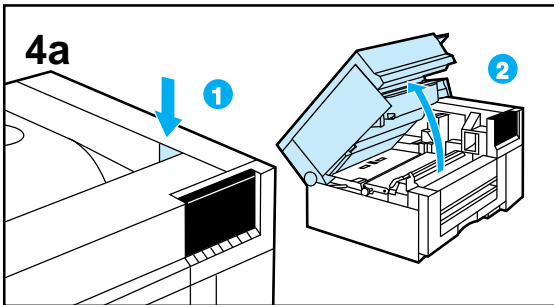


**c** Remove the new toner collection box from its packaging.

**d** Slide the new toner collection box into the printer until it is flush with the side of the print drum.

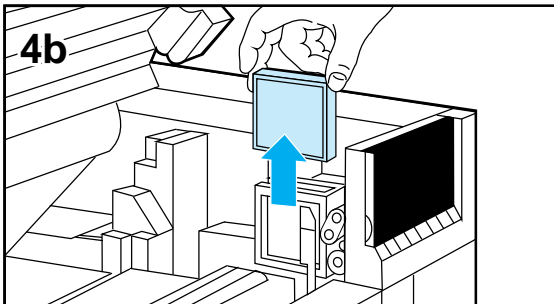
**e** Close the printer side cover.





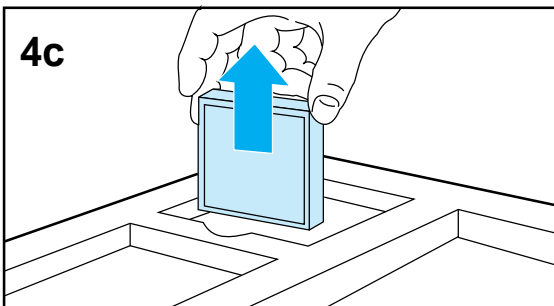
**4** Replace the ozone filter

- a** Press the top release button, then open the top cover.
- b** Grasp the filter by its two top corners, then slide it up and out of the printer. Set the filter aside for disposal.



**Caution**

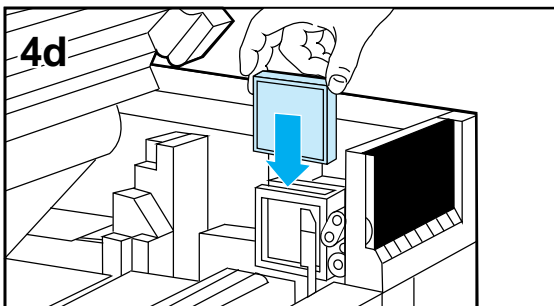
Do not drop the new filter. The filter may be permanently damaged if dropped against a hard surface.

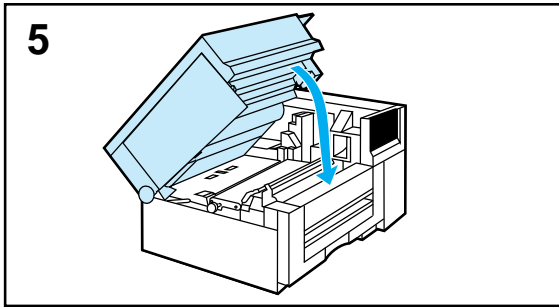


- c** Remove the new filter from its packaging.

- d** Grasping the two top corners of the new filter, slide it down into the printer.

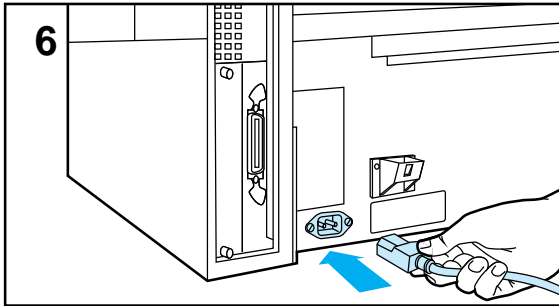
The filter can be installed in any direction with either face out.





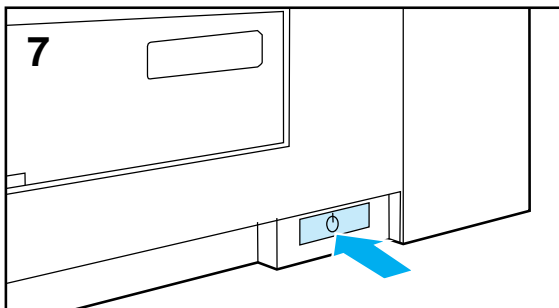
**5** Close the top cover.

**6** Plug in the printer.



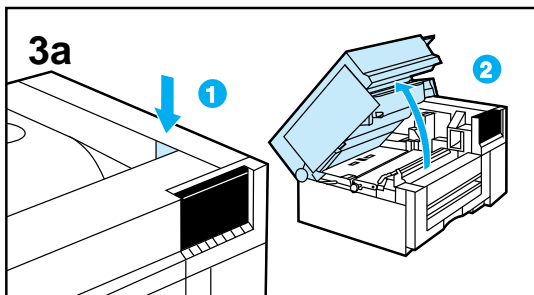
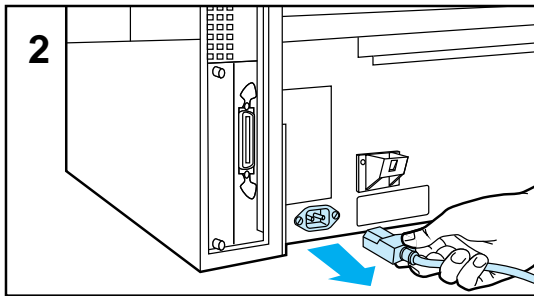
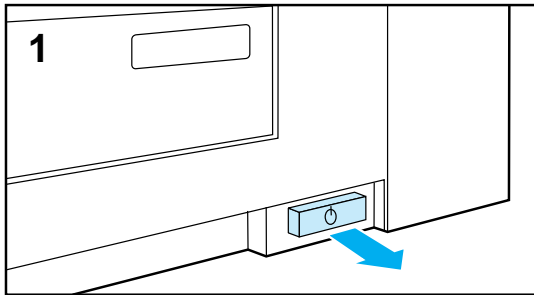
**7** Turn the printer ON (button in).

The printer goes through a brief self test sequence, then returns on line with **00 PCL (or POSTSCRIPT) READY** on the printer display.





## Replacing the Coating Kit



When the message 14.6 REPLACE COATING KIT appears on the printer display, change the coating roller and cleaning roller. Print quality will degrade until the kit is replaced.

### Note

Use only maintenance units designed and labeled for the HP Color LaserJet 5/5M printer. Other maintenance units may damage your printer or result in inferior print quality.

- 1 Turn the printer off (button out).

### WARNING!

Wait thirty minutes for the fuser to cool down before removing the coating roller. Continuing before the fuser has cooled down may result in severe burns.

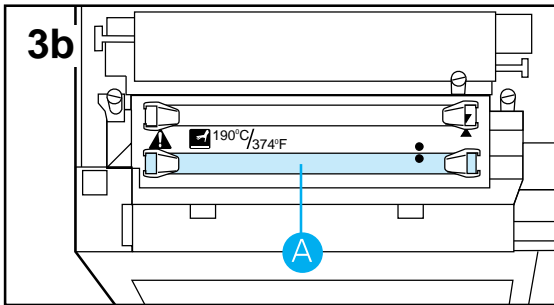
- 2 Unplug the printer.
- 3 Replace the coating roller.

### Caution

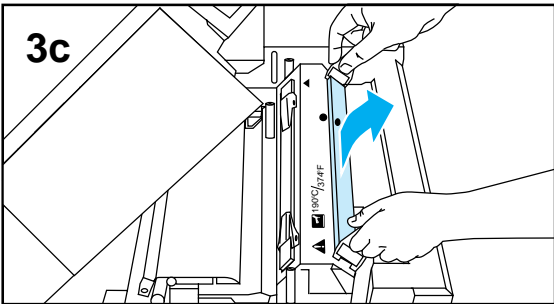
Do not expose the print drum to direct light for extended periods of time. Exposure to light can permanently damage the drum.

- a Press the top cover release button, then open the top cover.



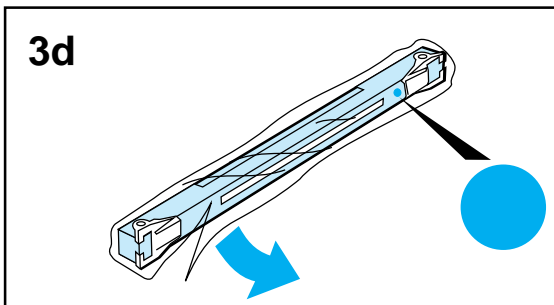


- b** Locate the coating roller on the fuser (A).
- c** Raise the handles on the cleaning roller and remove it from the printer. Set the coating roller aside and remember to dispose of it responsibly.

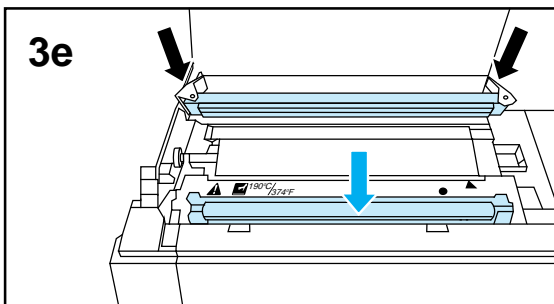


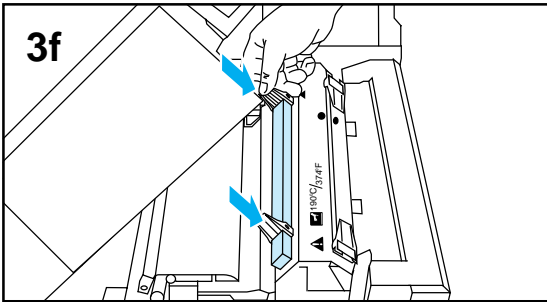
**WARNING!**

Make sure the fuser has cooled down before using the fuser cleaning tool. Continuing before the fuser has cooled down may result in severe burns.



- d** Remove the cleaning roller from its packaging.
- e** With the handles on top and the dot to the right, install the new cleaning roller.

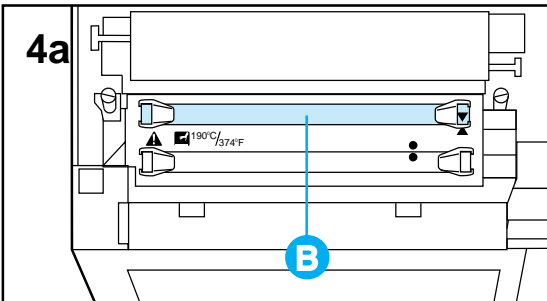


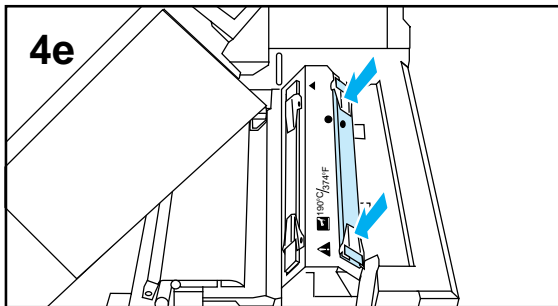
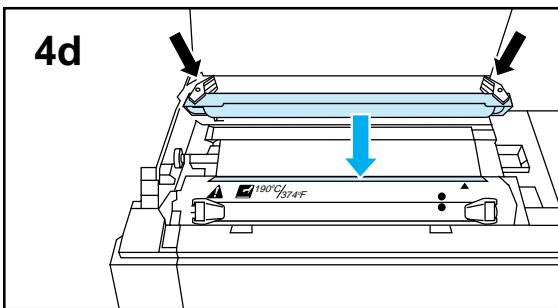
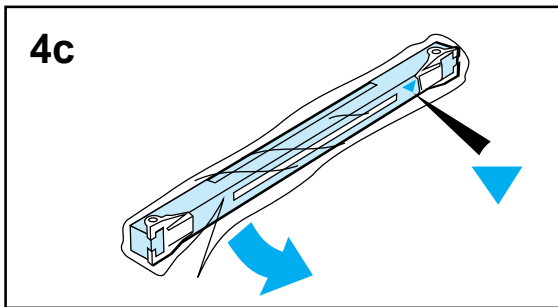
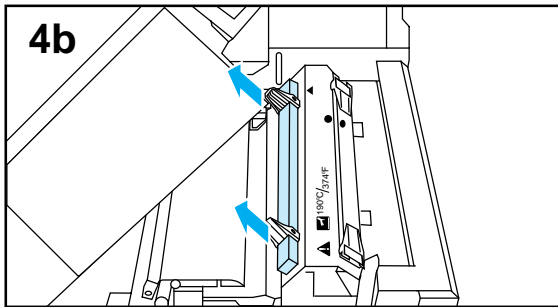


**f** Push the cleaning roller down until it clicks into place horizontally, then fold down the handles.

**4** Replace the cleaning roller.

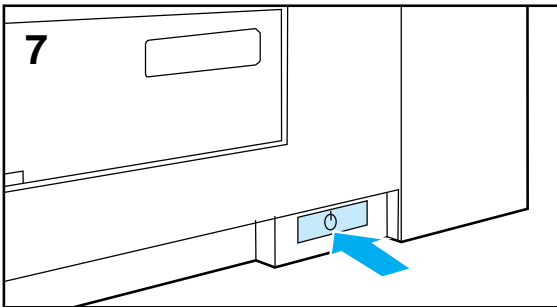
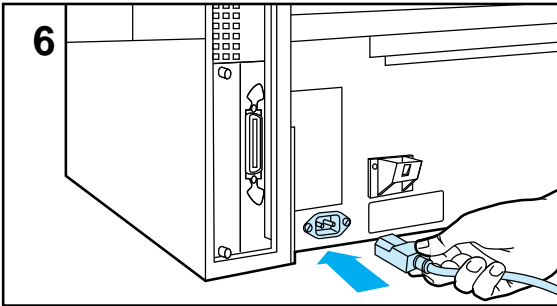
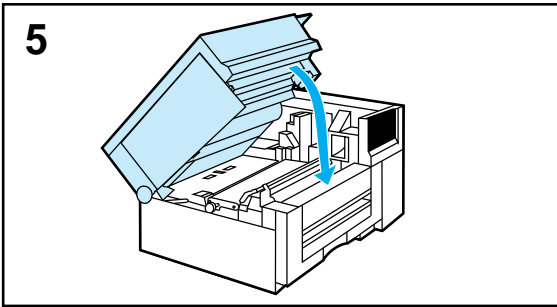
**a** Locate the coating roller on the fuser (B).





- b** Raise the handles on the coating roller and remove it from the printer. Set the cleaning roller aside and remember to dispose of it responsibly.
- c** Remove the new cleaning roller from its packaging.
- d** With the handles on top and the triangle alignment mark to the right, install the new coating roller.
- e** Push the coating roller down until it clicks into place horizontally, then fold down the handles.





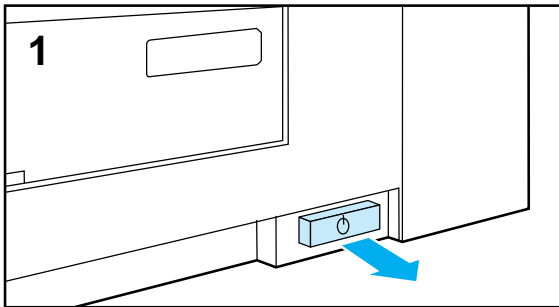
**5** Close the top cover.

**6** Plug in the printer.

**7** Turn the printer ON (button in).

The printer goes through a brief self test sequence, then returns on line with **00 PCL (or POSTSCRIPT) READY** on the printer display.

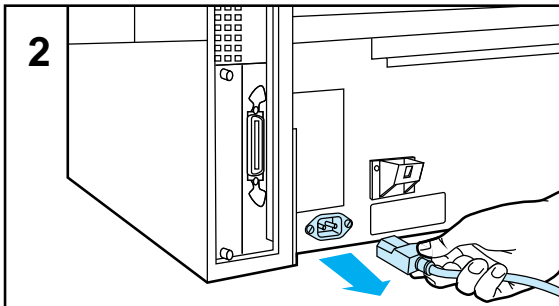
# Replacing the Black Developer



Replace the black developer when the message 19.1 BLACK DEVEL USER MAINTENANCE appears on the printer display. Print quality will degrade until the unit is replaced. To verify the life remaining on other maintenance units, print a self test page.

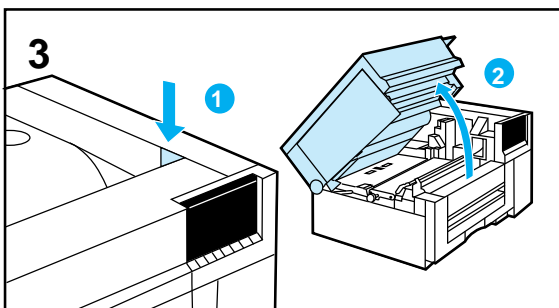
## Note

Use only maintenance units designed and labeled for the HP Color LaserJet 5/5M printer. Other maintenance units may damage your printer or result in inferior print quality.



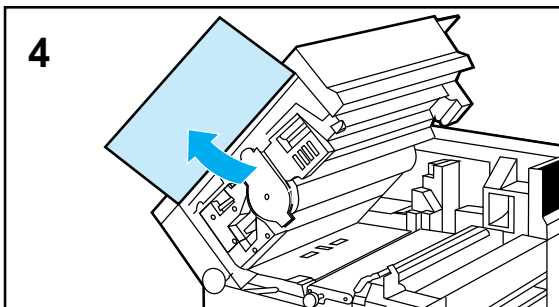
1 Turn the printer off (button out).

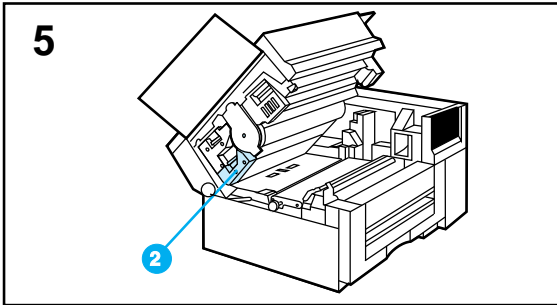
2 When the fan turns off (5 minutes), unplug the printer.



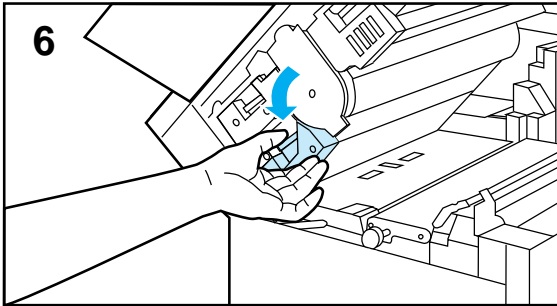
3 Press the top cover release button, then open the top cover.

4 Open the left side cover of the printer by grasping its lower edge and lifting it up.

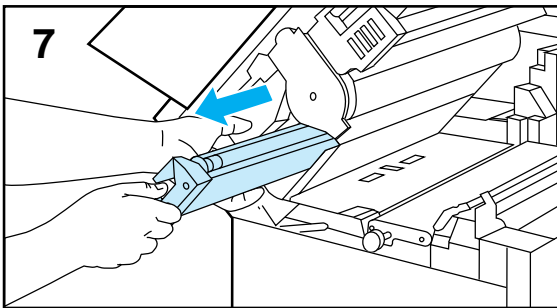




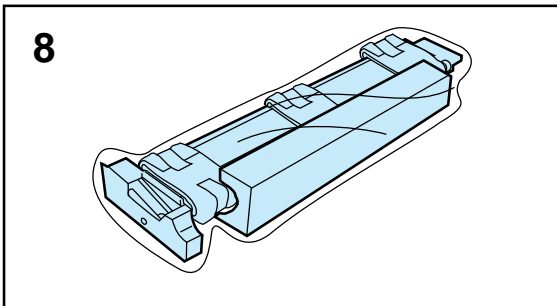
**5** Locate the black developer in the printer (2).



**6** Press the release lever on the developer and pull it one-third of the way out.

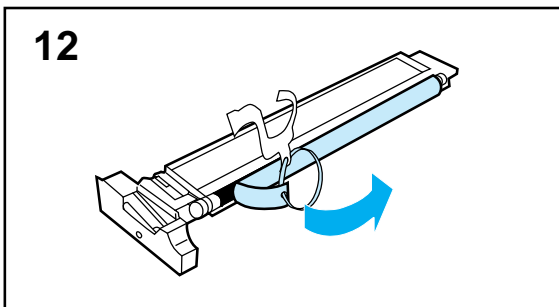
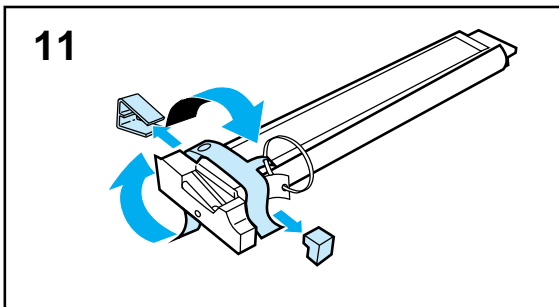
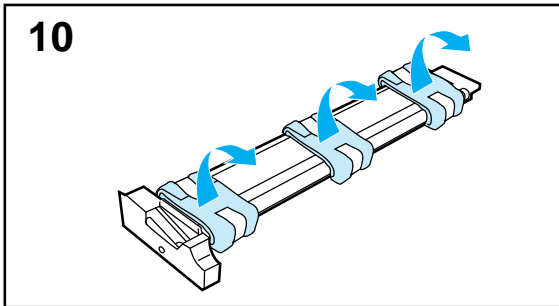
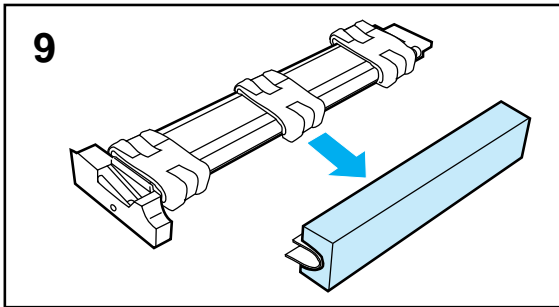


**7** Supporting the developer from the bottom, pull the developer out of the printer horizontally and set it aside. Remember to dispose of it responsibly.



**8** Remove the new developer from its packaging.





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**Caution**

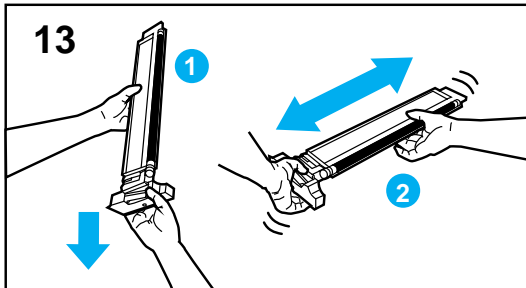
Do not remove the clear plastic strip from the developer. The clear plastic strip must remain on the developer for proper operation.

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- 9** Remove the foam packaging from the new developer.
- 10** Remove the packaging tape and foam from the center and both ends of the new developer.
- 11** Pull the plastic strip to remove the clip and foam spacer.
- 12** Holding the plastic end of the developer, pull the plastic loop to remove the remaining packaging.



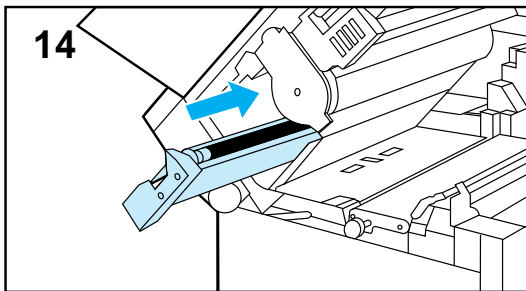




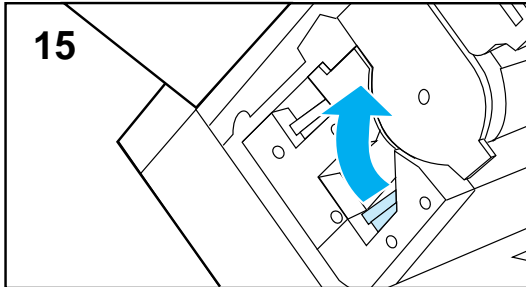
**13** Shake the developer from top to bottom with the handle end down, then from side to side several times to distribute toner.

**Caution**

For proper operation, keep the new developer horizontal during installation.



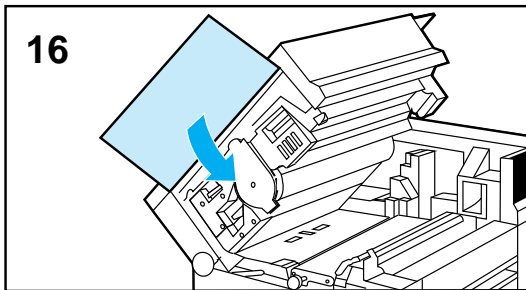
**14** Supporting the new developer from the bottom, align it with the printer, then slide the developer two-thirds of the way in.

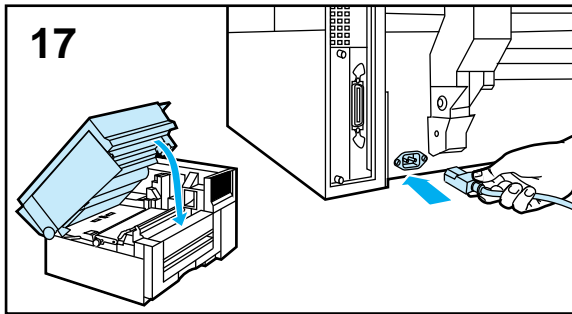


**15** Slide the developer the rest of the way into the printer until the release lever clicks into place.

**16** Close the side cover.

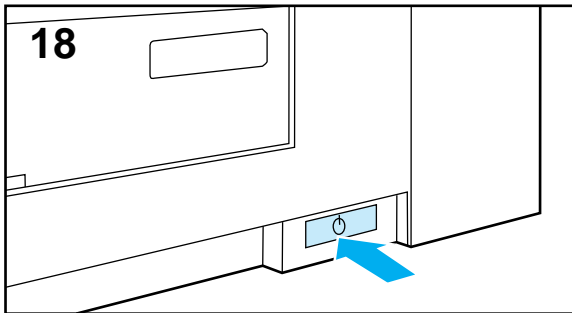
If the side cover does not close properly, make sure the developer is correctly installed.



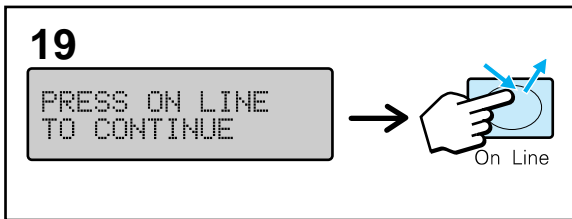


**17** Close the top cover, then plug in the printer.

**18** Turn the printer ON (button in).



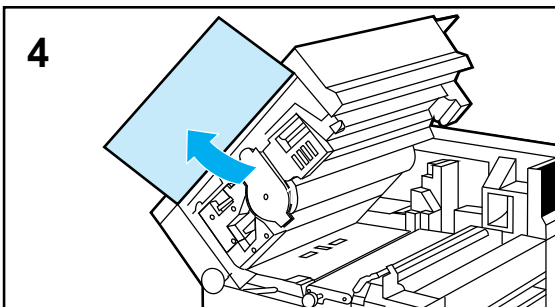
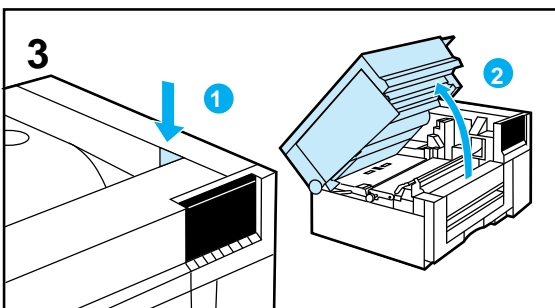
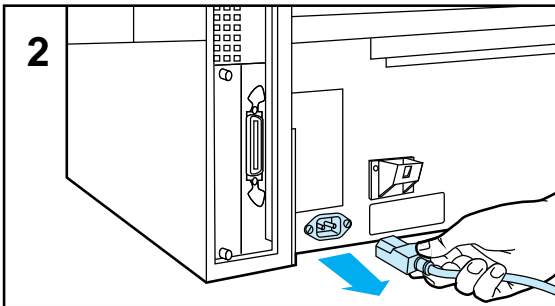
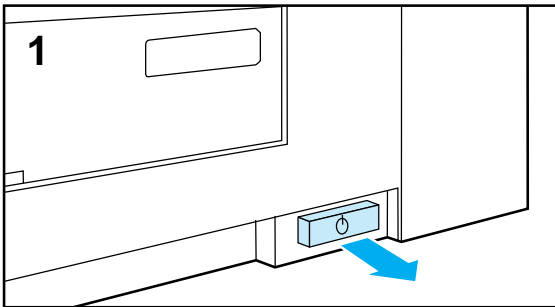
**19** When the printer displays PRESS ON LINE TO CONTINUE, click **On Line**.



**20** The printer goes through a brief developer setup sequence (3 minutes), then returns on line.



## Replacing the Color Developer



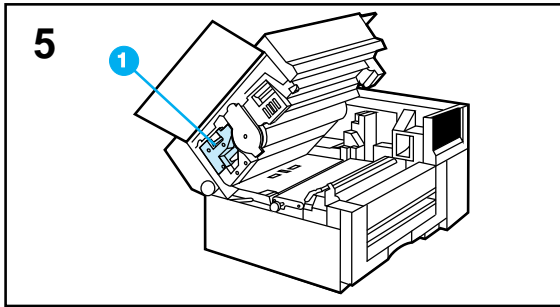
Replace the color developer when the message **19.2 COLOR DEVEL USER MAINTENANCE** appears on the printer display. Print quality will degrade until the unit is replaced. To verify the life remaining on other maintenance units, print a self test page.

### Note

Use only maintenance units designed and labeled for the HP Color LaserJet 5/5M printer. Other maintenance units may damage your printer or result in inferior print quality.

- 1 Turn the printer off (button out).
- 2 When the fan turns off (5 minutes), unplug the printer.
- 3 Press the top cover release button, then open the top cover.
- 4 Open the left side cover of the printer by grasping its bottom edge and lifting it up.

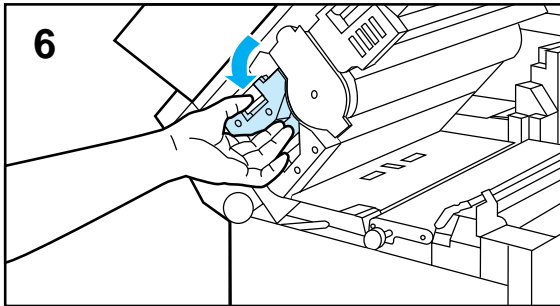




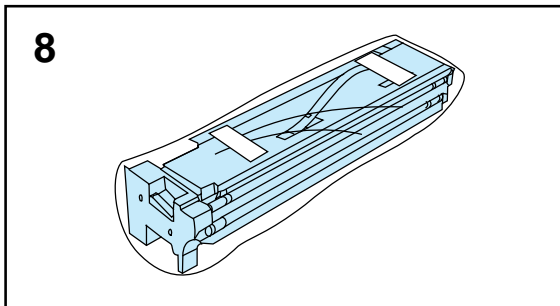
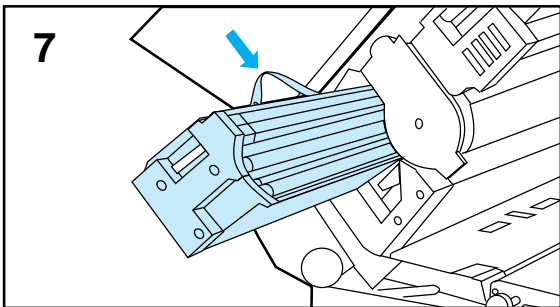
**5** Locate the color developer in the printer (1).

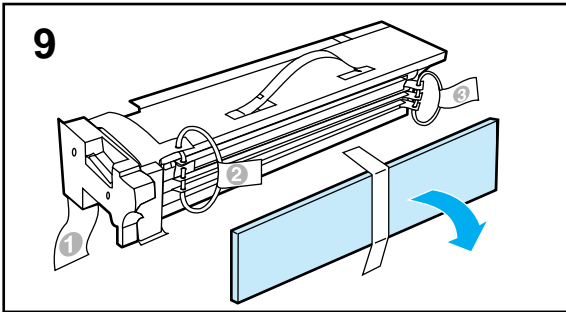
**6** Press the release lever on the color developer, then lift and pull it one-third of the way out of the printer.

**7** Grasping the handle at the top of the developer, pull the developer out of the printer horizontally. Set aside for disposal.



**8** Remove the new color developer from its packaging.



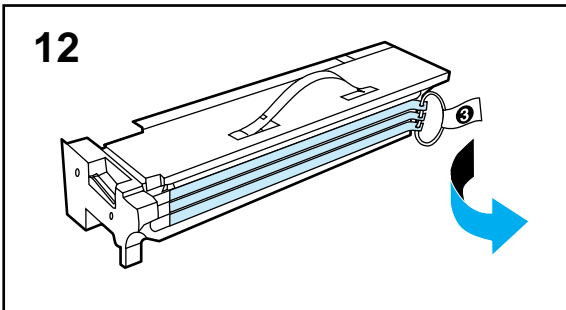
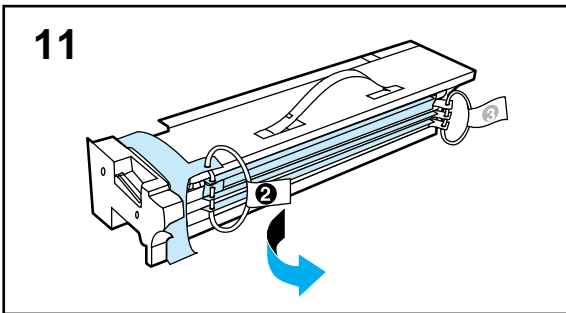
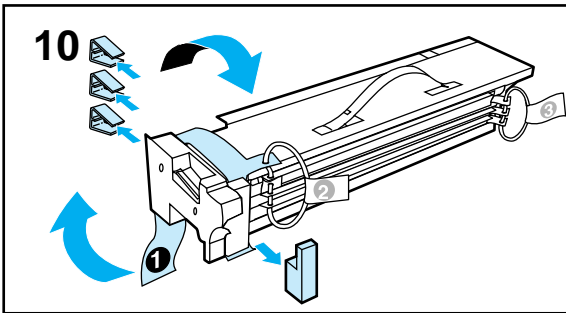


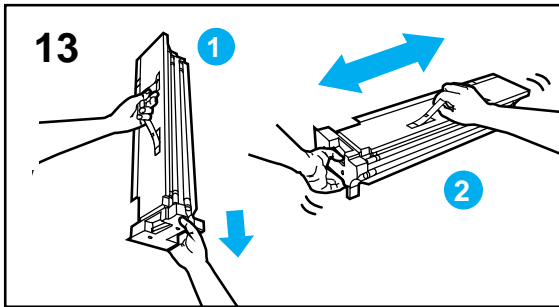
**9** Remove the large foam pad covering the side of the developer.

**10** Pull the plastic strip (1) to remove the three clips and foam spacer.

**11** Pull the plastic loop (2) to remove the 4 plastic strips.

**12** Holding the plastic end of the developer, pull the plastic loop (3) to remove the 3 plastic strips.





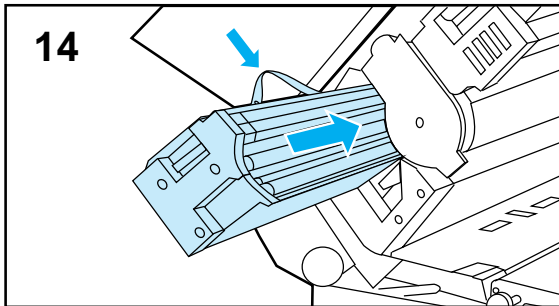
- 13** Shake the developer from top to bottom with the handle end down, then from side to side several times to distribute toner.

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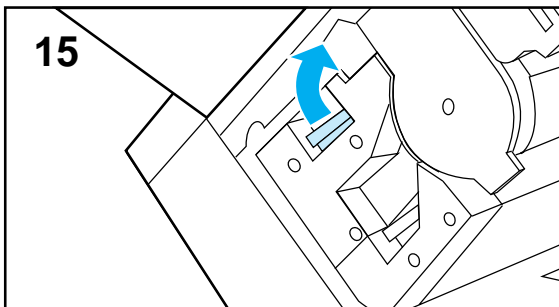
**Caution**

For proper operation, keep the new developer horizontal during installation.

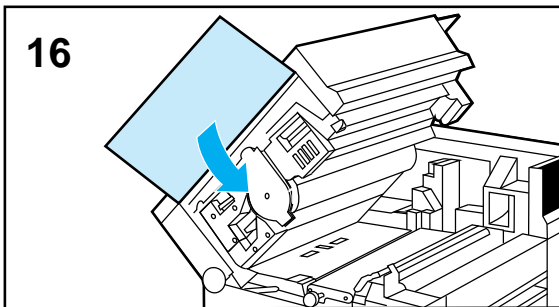
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- 14** Holding the new developer by the handle, align it with the printer, then slide the developer two-thirds of the way into the printer.



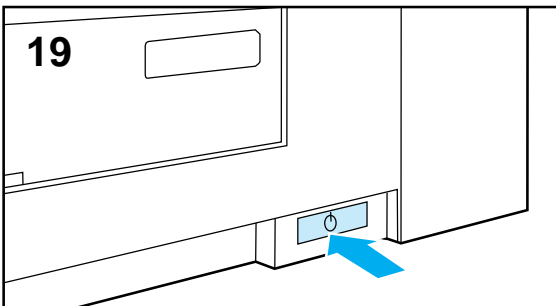
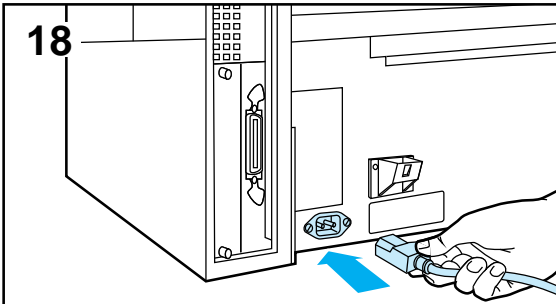
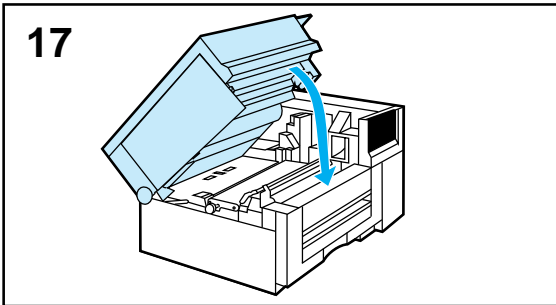
- 15** Slide the developer the rest of the way in until the release lever clicks into place.



- 16** Close the side cover.

If the door does not close properly, make sure the developer is correctly installed.



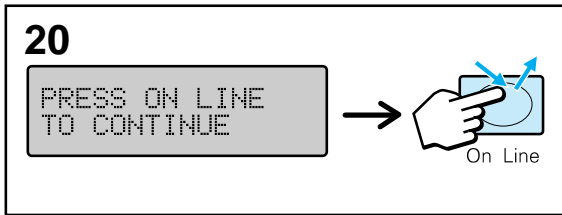


**17** Close the top cover.

**18** Plug in the printer.

**19** Turn the printer ON (button in).





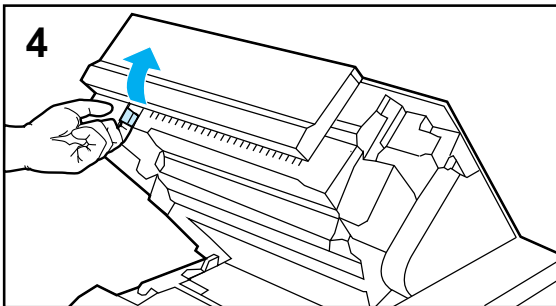
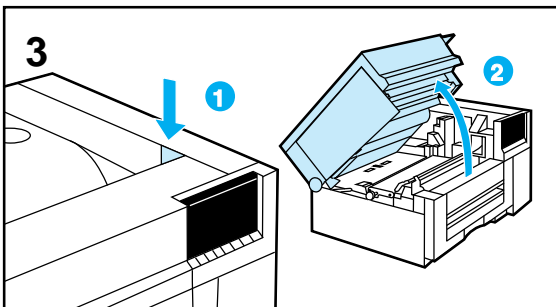
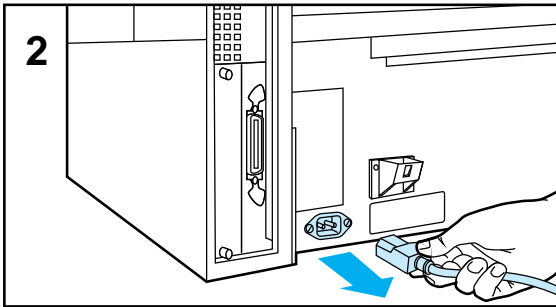
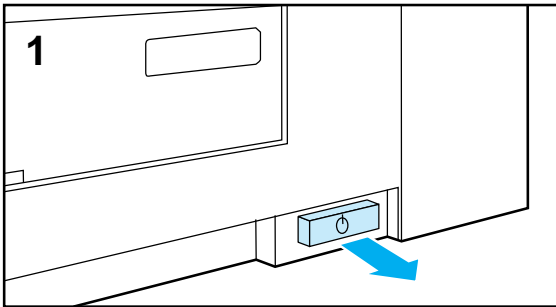
**20** When the printer displays PRESS ON LINE TO CONTINUE, click **On Line**.

**21** The printer goes through a developer setup sequence (9 minutes), then returns on line.





## Replacing the Drum



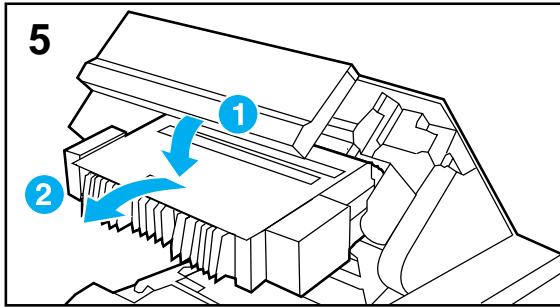
Replace the drum when the message **19.3 DRUM USER MAINTENANCE** appears on the printer display. Print quality will degrade until the unit is replaced. To verify the life remaining on other maintenance units, print a self test page.

### Note

Use only maintenance units designed and labeled for the HP Color LaserJet 5/5M printer. Other maintenance units may damage your printer or result in inferior print quality.

- 1 Turn the printer off (button out).
- 2 When the fan turns off (5 minutes), unplug the printer.
- 3 Press the top cover release button, then open the top cover.
- 4 Locate the drum lock lever at the left edge of the drum, then pull it toward you.





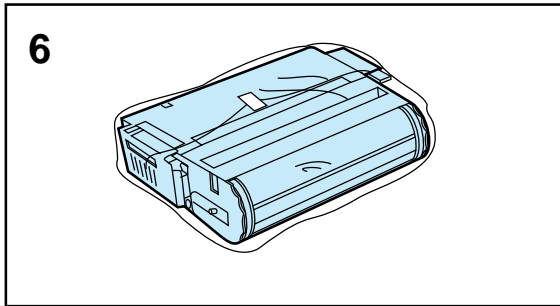
- 5 Lower the drum until it is horizontal (1), then remove the drum from the printer (2).

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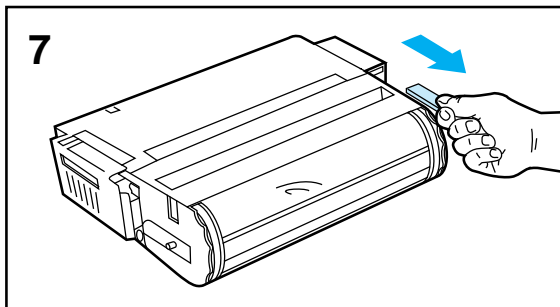
**Caution**

To prevent drum damage, do not remove the black drum cover from the new drum until the drum is installed in the printer.

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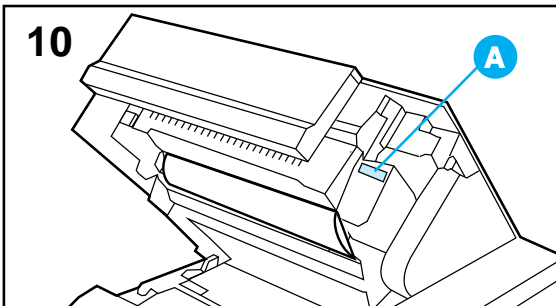
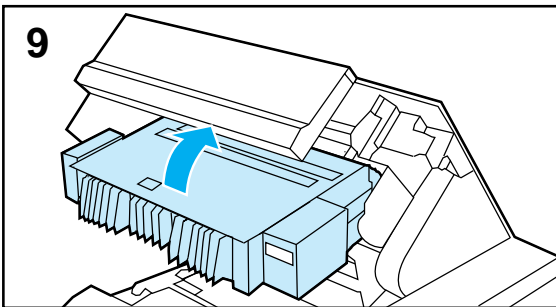
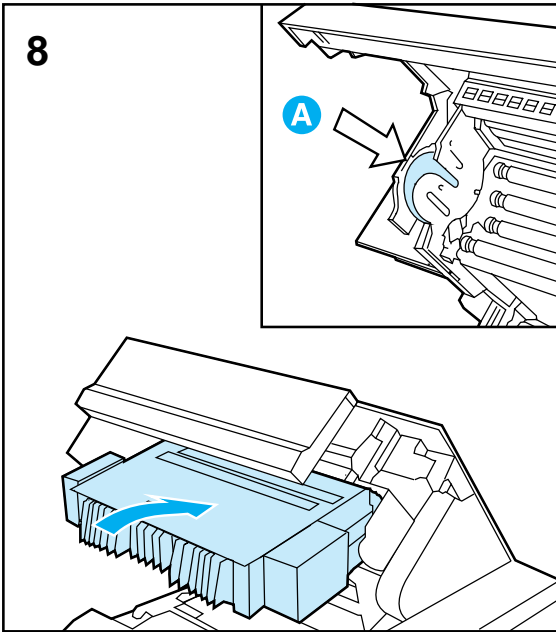


- 6 Remove the new drum from its packaging.



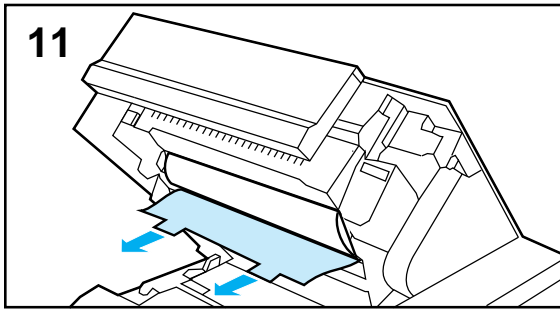
- 7 Remove the packing spacer.





- 8** Align the new drum with the printer (A), then install the drum in the printer.
- 9** Raise the drum until it locks in place.
- 10** Write down the number on the upper right corner of the drum for later reference (A).





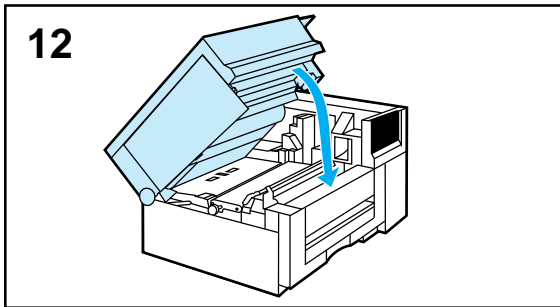
- 11 Remove the tape from the drum cover, then grasp the two tabs and pull the cover out toward you. Set the cover aside and remember to dispose of it responsibly.

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### Caution

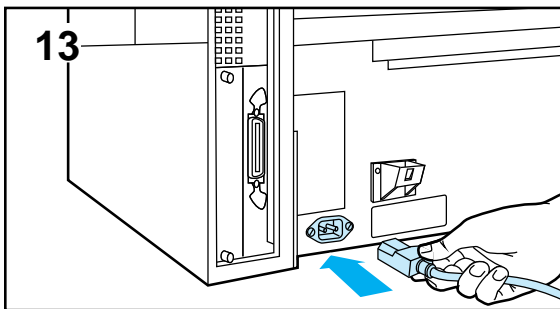
Do not expose the print drum to direct light for extended periods of time. Exposure to light can permanently damage the drum.

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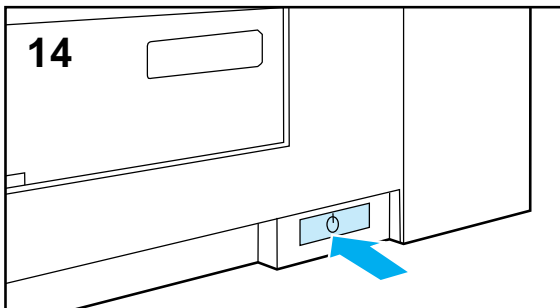


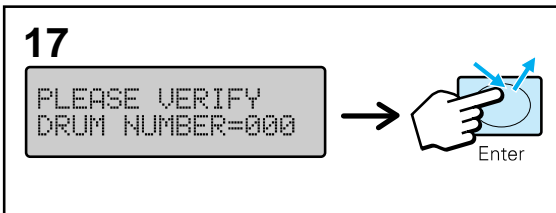
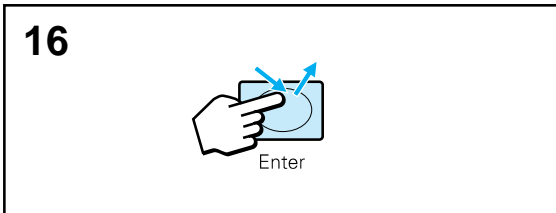
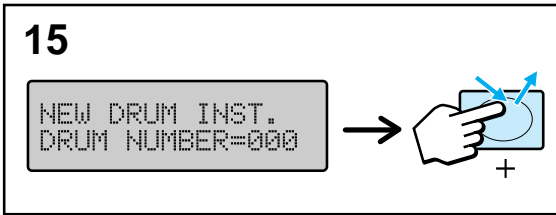
- 12 Close the top cover.

- 13 Plug in the printer.



- 14 Turn the printer ON (button in).





**15** When the printer displays `NEW DRUM INST. DRUM NUMBER=000`, click **+** to enter the number recorded in step 10.

Click **-** to view the previous value. Press and hold **+** or **-** to scroll through the possible drum numbers.

**Caution**

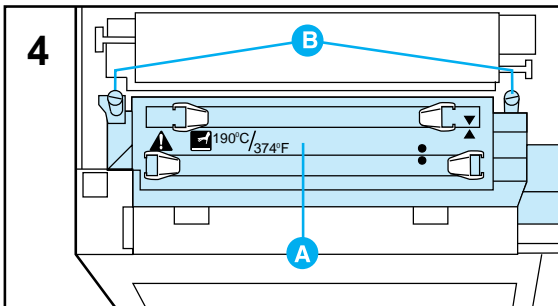
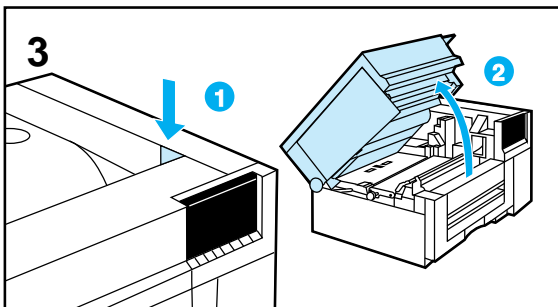
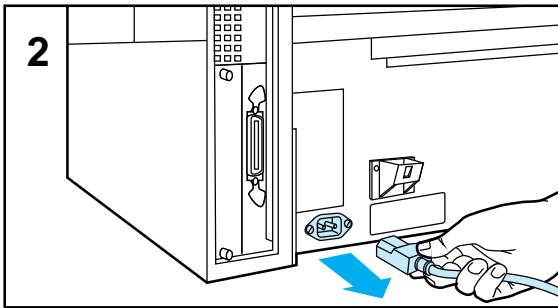
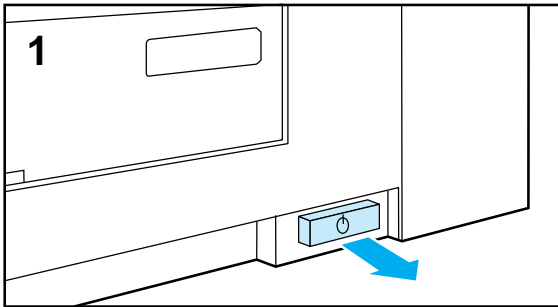
For maximum print quality, make sure you enter the correct number for the print drum.

**16** Click **Enter** to save the number.

**17** When the printer displays `PLEASE VERIFY DRUM NUMBER=000`, re-enter the drum number, then click **Enter**.

If the numbers entered in steps 15 and 17 are not the same, the printer will repeat step 17. Otherwise, the printer will go through a brief self test sequence, then return on line with `00 PCL READY` (or `00 POSTSCRIPT READY`) on the printer display.

# Replacing the Fuser



Replace the fuser when the message 19.4 FUSER USER MAINTENANCE appears on the printer display. To verify the life remaining on other maintenance units, print a self test page.

## Note

Use only maintenance units designed and labeled for the HP Color LaserJet 5/5M printer. Other maintenance units may damage your printer or result in inferior print quality.

## Caution

Decreased printer reliability and damage to the printer may occur if the fuser is not replaced when the message 19.4 FUSER USER MAINTENANCE appears on the printer display.

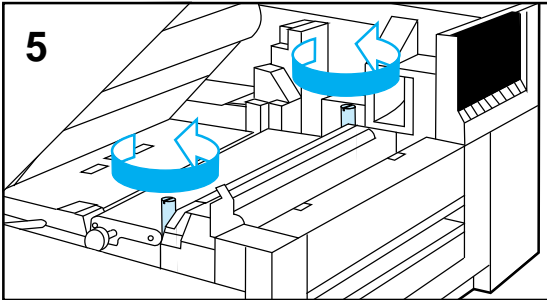
- 1 Turn the printer off (button out).

## WARNING!

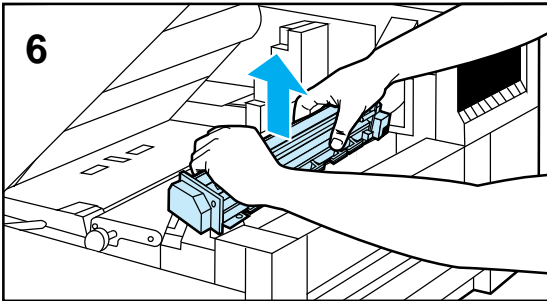
With the top cover closed, wait 30 minutes to let the fuser cool down before replacing the fuser. Continuing before the fuser has cooled down may result in severe burns.

- 2 Unplug the printer.
- 3 Press the top cover release button, then open the top cover.
- 4 Locate the fuser (A) and the two captive screws (B) holding it in place.

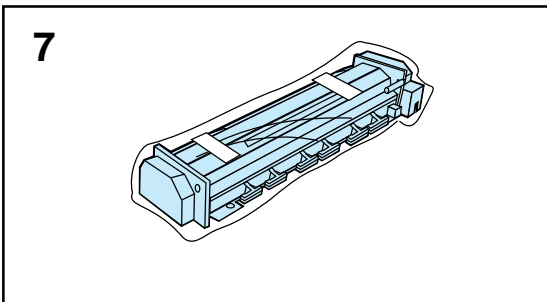




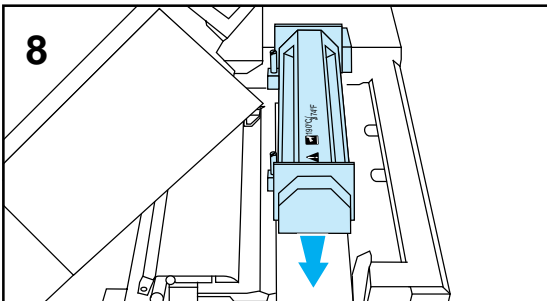
**5** Loosen the two captive screws.



**6** Grasp the fuser with both hands and lift it up and out of the printer. Then set it aside for responsible disposal.

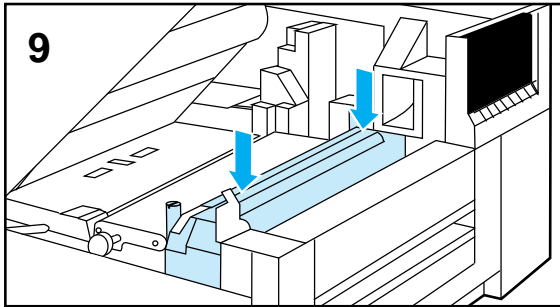


**7** Remove the new fuser from its packaging.

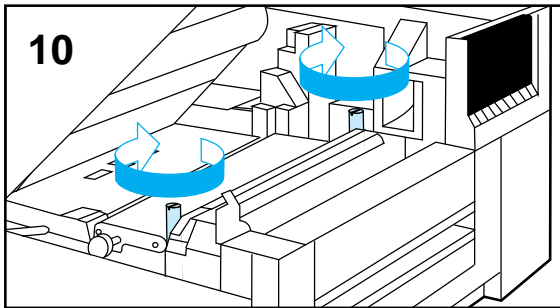


**8** Keeping the new fuser horizontal install it in the printer.

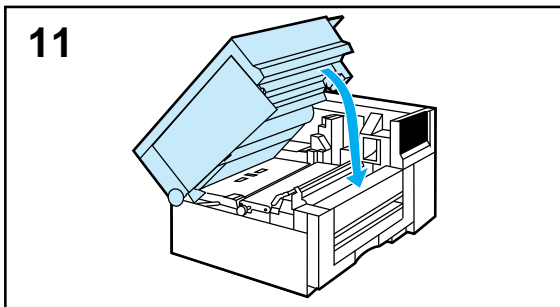




**9** Press down on both sides of the fuser to install it firmly in place.



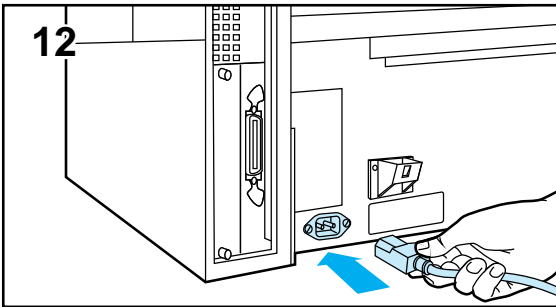
**10** Tighten the two captive screws on the fuser.



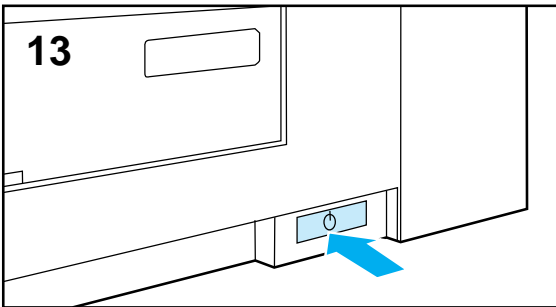
**11** Close the top cover of the printer.







**12** Plug in the printer.



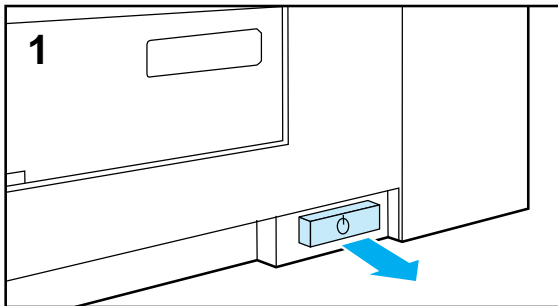
**13** Turn the printer ON (button in).

The printer goes through a brief self test sequence, then returns on line with **00 PCL (or POSTSCRIPT) READY** on the printer display.

**Note**

Use only maintenance units designed and labeled for the HP Color LaserJet 5/5M printer. Other maintenance units may damage your printer or result in inferior print quality.

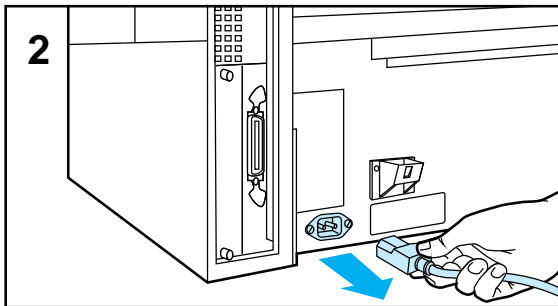
# Replacing the Transfer Belt



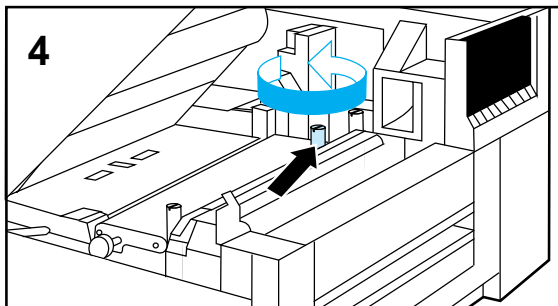
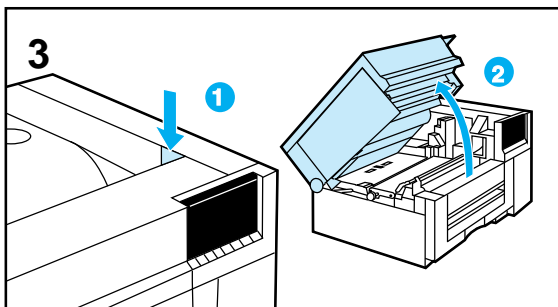
Replace the transfer belt when the message `19.5 TRANS BELT USER MAINTENANCE` appears on the printer display. Print quality will degrade until the unit is replaced. To verify the life remaining on other maintenance units, print a self test page.

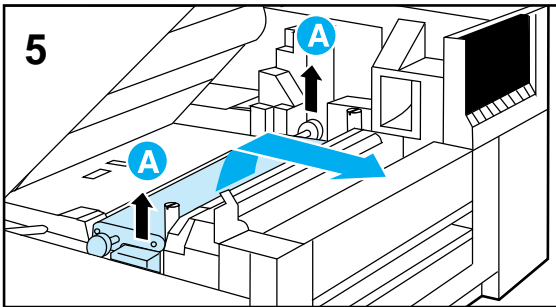
## Note

Use only maintenance units designed and labeled for the HP Color LaserJet 5/5M printer. Other maintenance units may damage your printer or result in inferior print quality.



- 1 Turn the printer off (button out).
- 2 When the fan turns off (5 minutes), unplug the printer.
- 3 Press the top cover release button, then open the top cover.
- 4 Loosen the captive screw on the right side of the transfer belt.

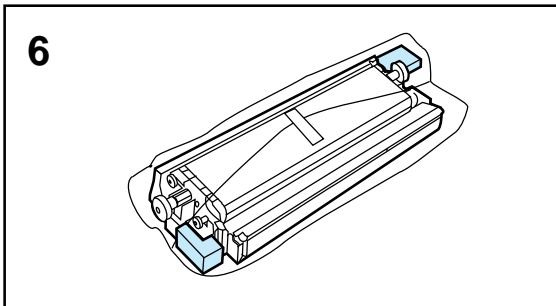




- 5 Grasp the handle on each side of the transfer belt (A), then lift it up and out of the printer.

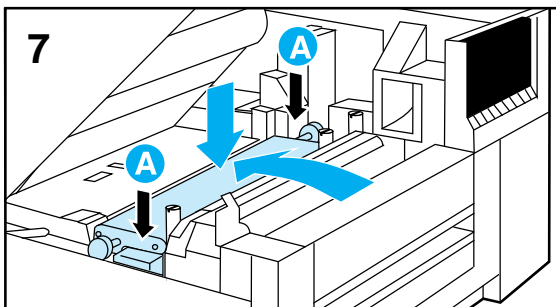
**Caution**

Do not touch the new transfer belt surface. Oil from your hands and other contaminants can damage the transfer belt, reducing print quality and the life of the transfer belt.

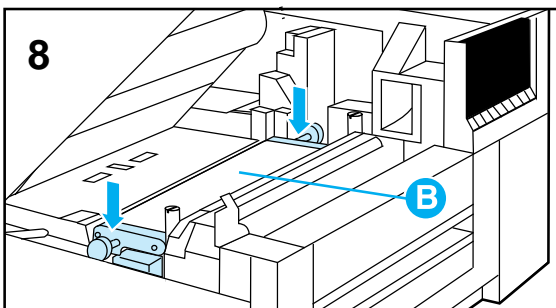


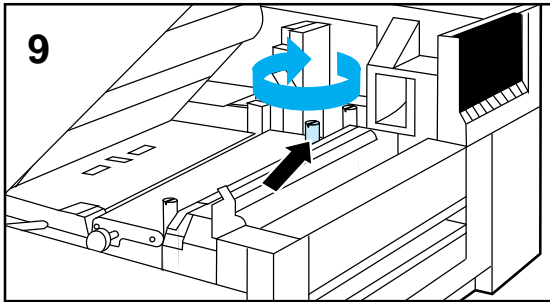
- 6 Remove the new transfer belt from its packaging.

- 7 Grasp the handle on each side of the transfer belt (A), then install the transfer belt in the printer.



- 8 Being careful not to touch the surface of the transfer belt (B), press down on both sides of the transfer belt to install it firmly in place.



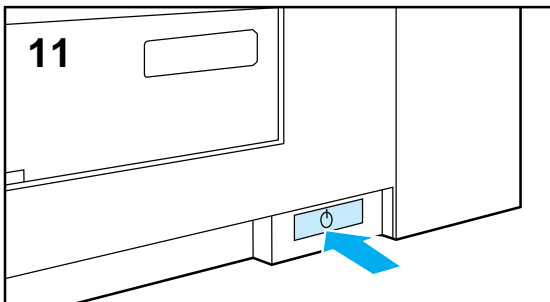
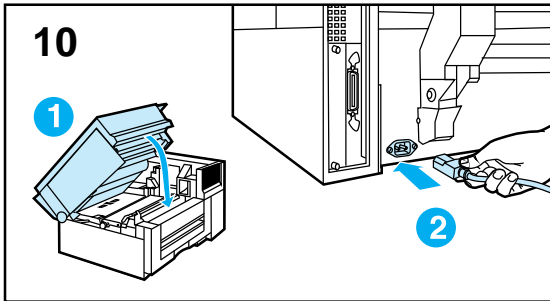


**9** Tighten the captive screw on the transfer belt.

**10** Close the top cover, then plug in the printer.

**11** Turn the printer ON (button in).

The printer goes through a brief self test sequence, then returns on line with 00 PCL (or POSTSCRIPT) READY on the printer display.



# Solving Printer Problems

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## Introduction

This chapter contains specific information on solving the following printer problems:

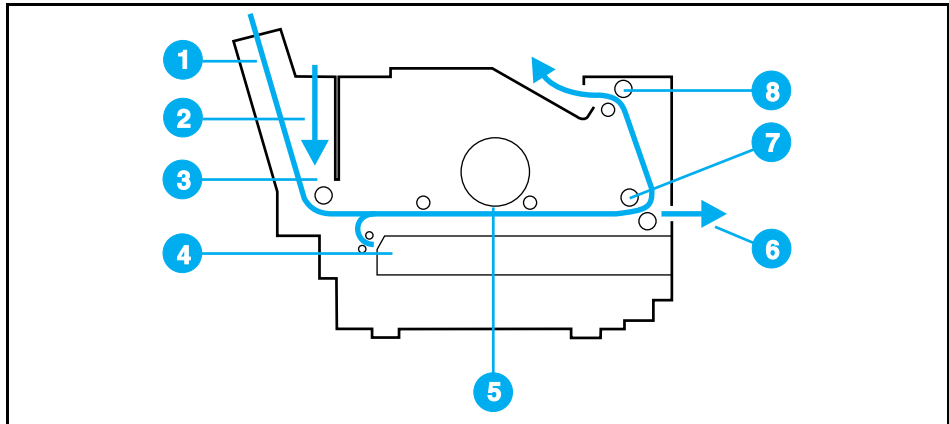
- Clearing paper jams
- Solving media handling problems
- Solving printer response problems
- Solving control panel problems
- Solving printer self test problems
- Solving print quality problems
- Solving color printing problems
- Solving printer output problems
- Solving software application problems
- Interpreting printer messages

Do not attempt to solve printer problems by switching maintenance units between printers or randomly installing new maintenance units. These units may be calibrated for specific printers or may be installed only once.

# Paper Jam Locations

The following figure shows the locations of paper jams in the printer paper path with the optional rear feed unit installed.

Figure 7-1

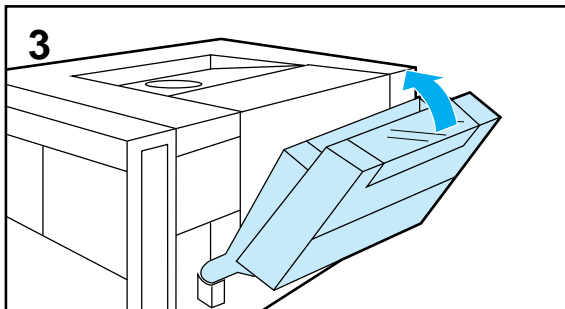
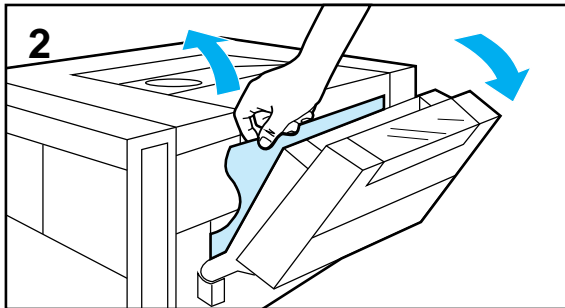
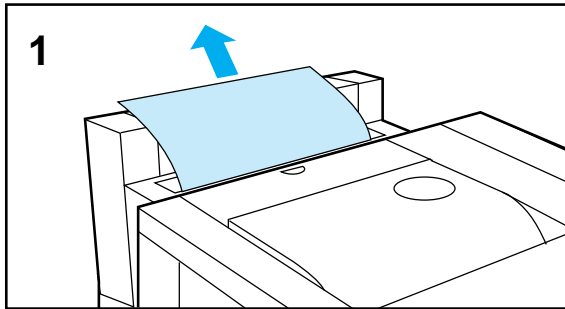


- |   |  |   |                      |
|---|--|---|----------------------|
| 1 | Optional Rear Feed Unit Area               | 5 | Image Transfer Area  |
| 2 | Optional Manual Feed Slot Area             | 6 | Face Up Output Bin   |
| 3 | Rear Input Tray or Manual Feed Pickup Area | 7 | Fusing Area          |
| 4 | Front Input Tray Pickup Area               | 8 | Face Down Output Bin |

## Paper Jam Messages

Message	Description	Recommended Action
13.1 CLEAR DRUM WINDING JAM	Media is jammed in the image transfer area.	Remove media from the paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.2 CLEAR OUTPUT JAM	Media is jammed in the output paper path.	Remove media from the output paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.3 CLEAR MANUAL JAM	Media is jammed in the manual feed paper path.	Remove media from the manual feed paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.4 CLEAR FRONT TRAY INPUT JAM	Media is jammed in the input paper path.	Remove media from the input paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.5 PAPER JAM [scrolling message]	Media is jammed in the printer between the print drum and the output.	Remove media from the paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.6 CLEAR REAR TRAY INPUT JAM	Media is jammed in the rear input paper path.	Remove media from rear input paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.7 CLEAR REAR TRAY PAPER JAM	Media is jammed in the rear paper path.	Remove media from the rear paper path. Then close the top cover and click <a href="#">On Line</a> to resume printing.
13.8 CLEAR PAPER JAM	Media is jammed in the printer paper path.	Remove media from the paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.

# Clearing Manual Feed Input Jams

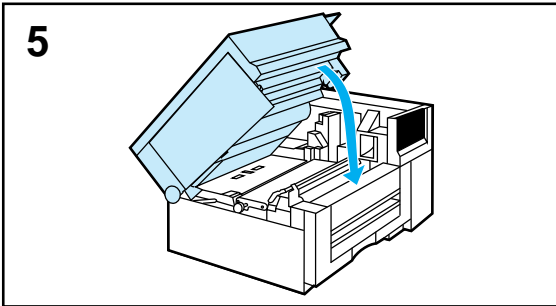
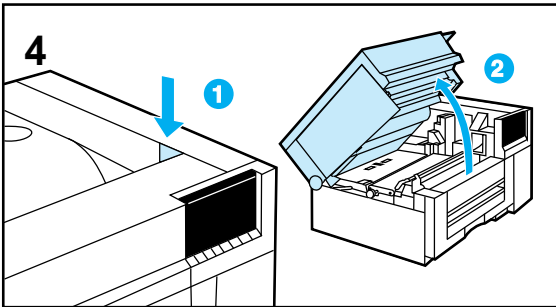


The printer message 13.3 CLEAR MANUAL JAM indicates media is jammed in the manual feed input paper path.

- 1 Remove any media from the manual feed input.
- 2 Push the rear feed unit back away from the printer and remove any paper or other media from the printer.
- 3 Push the rear feed unit up until it is flush with the back of the printer.



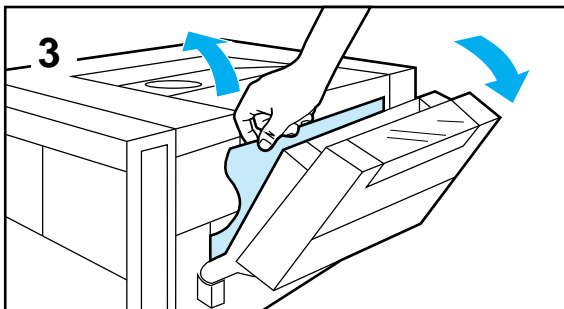
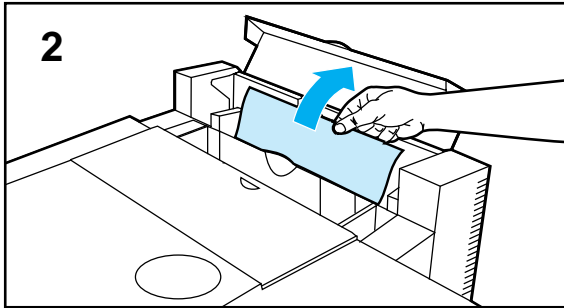
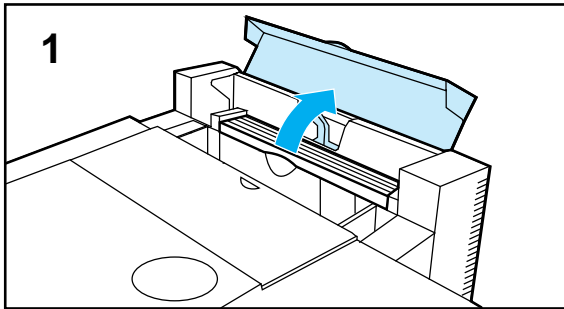




- 4 Press the top release button, then open the top cover of the printer and check for any media inside the printer.
- 5 Close the cover to clear the media jam message.

If a paper jam message still appears on the printer display, check other areas for jammed media.

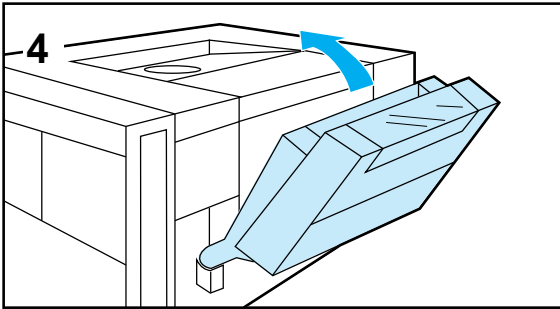
## Clearing Rear Tray Input Jams



The printer message 13.6 CLEAR REAR TRAY INPUT JAM or 13.7 CLEAR REAR TRAY PAPER JAM indicates media is jammed in the rear input tray pickup area.

- 1 Open the top cover on the rear input tray.
- 2 Remove any media from the rear input tray.
- 3 Rotate the top of the rear feed unit away from the printer and remove any paper or other media from the printer.

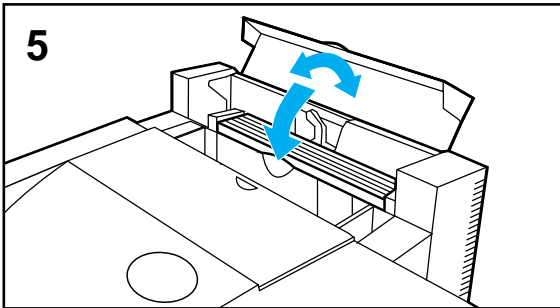




4 Return the rear feed unit to its upright position.

5 Reload the paper in the rear tray.

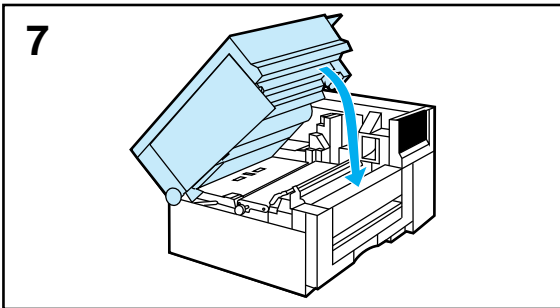
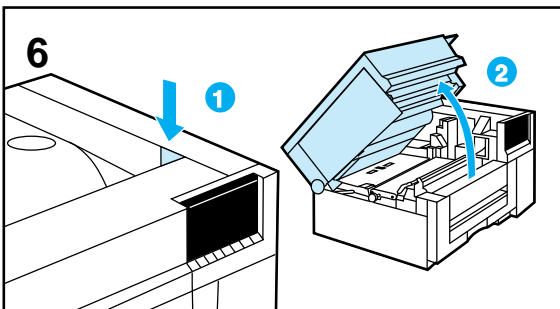
See Chapter 2 for more information on loading paper.



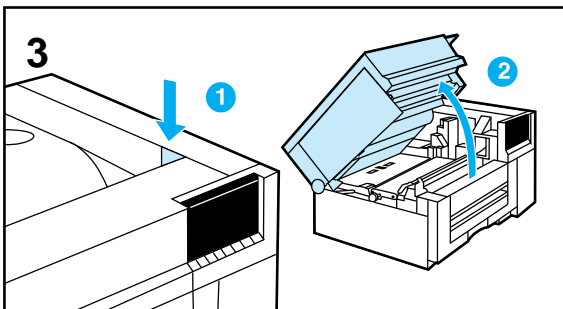
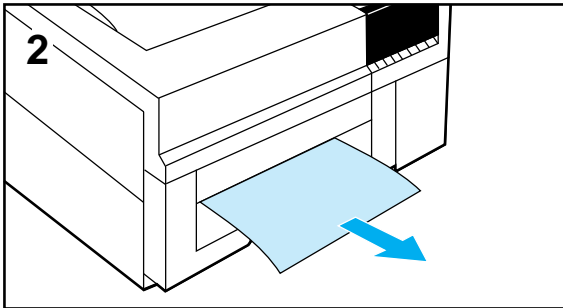
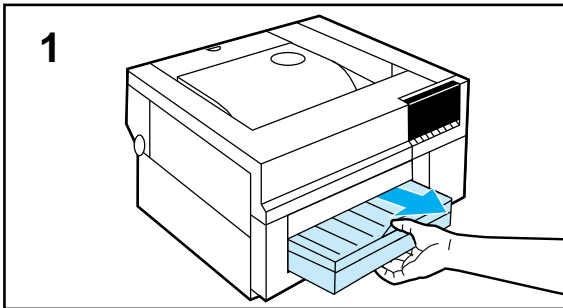
6 Press the top release button, and open the top cover of the printer. Remove any media jammed inside the printer.

7 Close the cover to clear the media jam message.

If a paper jam message still appears on the printer display, check other areas for jammed media.



# Clearing Paper Pickup Area Jams



The printer message 13.4 CLEAR FRONT TRAY INPUT JAM indicates media is jammed in the front input tray pickup area.

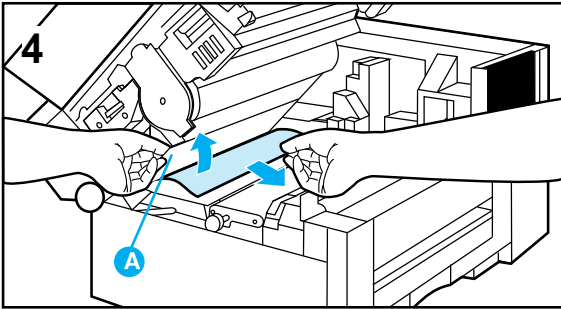
- 1 Firmly grip the center of the paper tray and pull it outward from the printer.
- 2 Remove any jammed sheets from the area where the input tray was inserted.
- 3 If the jam cannot be removed, press the top release button, then open the top cover.

## Caution

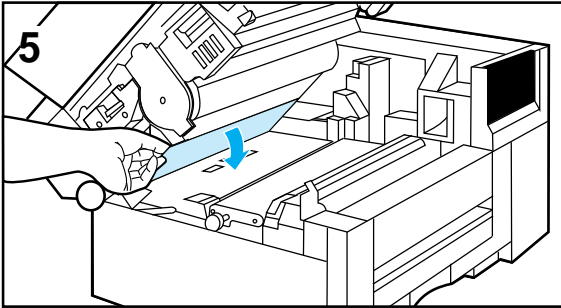
Remove all jewelry and watches before continuing. Touching the print drum with these items can scratch the print drum, causing permanent damage to the print drum.

Do not expose the print drum to direct light for extended periods of time. Exposure to light can permanently damage the print drum.





**4** Open the paper guide plate by lifting the green handle (A). Remove any jammed paper.

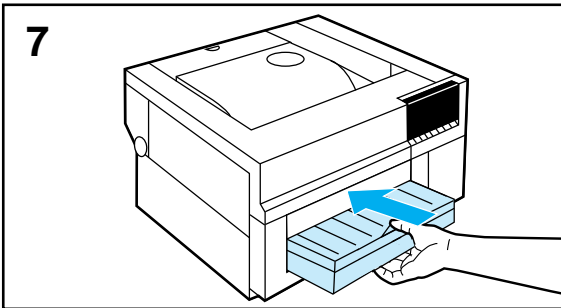
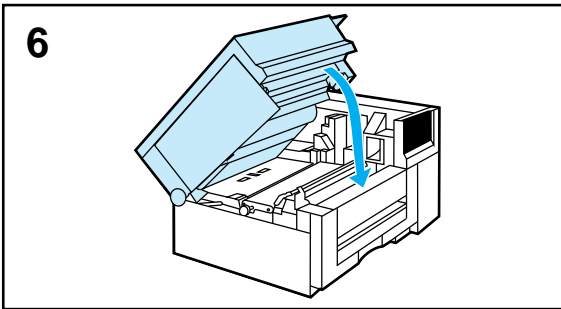


**5** Close the paper guide plate.

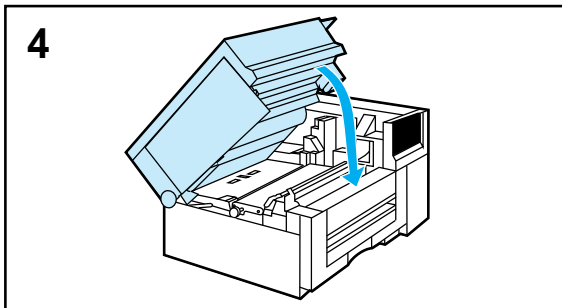
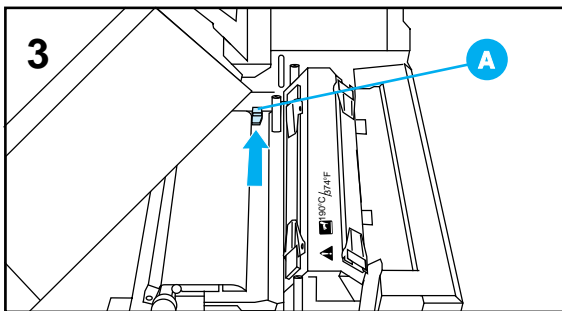
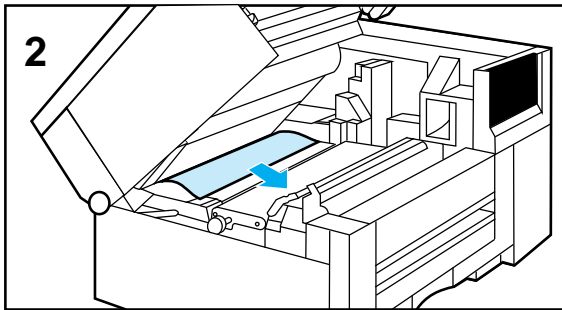
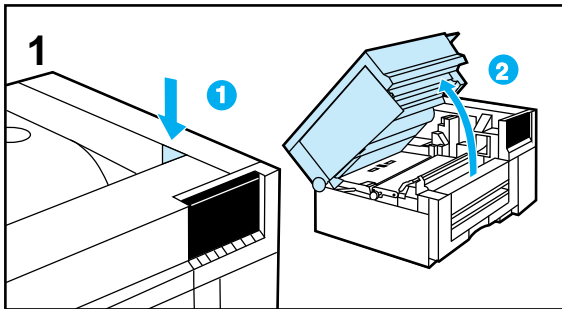
**6** Close the top cover.

**7** Slide the input tray back into the printer and firmly push it in place.

If a paper jam message still appears on the printer display, check other areas for jammed media.



# Clearing Image Transfer Area Jams



The printer message 13.1 CLEAR DRUM WINDING JAM indicates media is jammed in the image transfer area of the internal paper path.

## Caution

Do not expose the print drum to direct light for extended periods of time. Exposure to light can permanently damage the print drum.

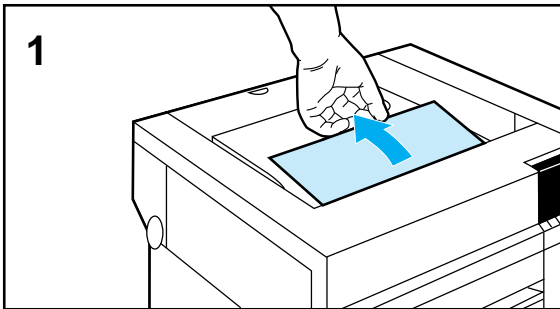
Do not touch the transfer belt surface. Oil from your hands and other contaminants can damage the transfer belt, reducing print quality and the life of the transfer belt.

- 1 Press the top release button, then open the top cover.
- 2 Remove any jammed paper from the image transfer area.
- 3 Make sure the cleaning knob for the transfer corona wire is in its far right position.
- 4 Close the top cover.

If a paper jam message still appears on the printer display, check other areas for jammed media.

After the jam is cleared, print 5 to 10 pages to clean the printer.

# Clearing Fusing and Paper Output Area Jams



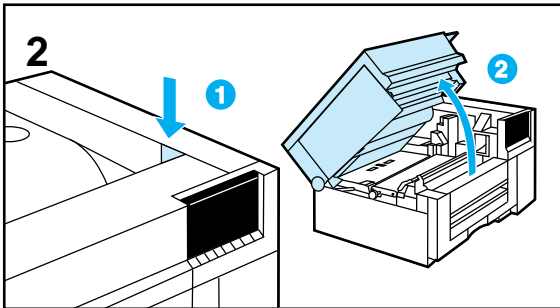
The printer message 13.2 CLEAR OUTPUT JAM or 13.5 CLEAR PAPER JAM indicates media is jammed in the output paper path.

- 1 If the jammed paper has passed partially into the output bin, gently pull the paper out.

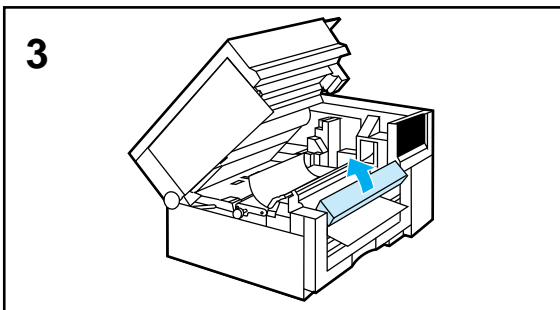
## Caution

Remove all jewelry and watches before continuing. Touching the print drum with these items can scratch the print drum, causing permanent damage to the print drum.

Do not expose the print drum to direct light for extended periods of time. Exposure to light can permanently damage the print drum.

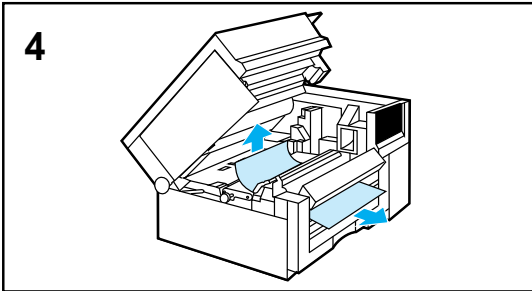


- 2 **With the power on**, press the top release button, then open the top cover.



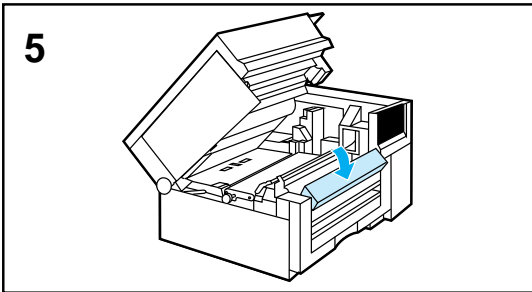
- 3 Rotate the front portion of the diverter assembly upward.



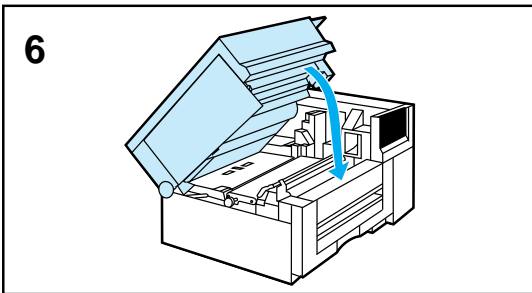


**4 Remove any jammed media.**

Look closely for any jammed media. Media may be tucked in around the fuser with nothing showing in front. Remove the fuser if necessary as shown in Chapter 6.



**5 Return the diverter assembly to its original position.**



**6 Close the top cover.**

If a paper jam message still appears on the printer display, check other areas for jammed media.



---

## Common Causes of Media Jams

### Description

Your paper or other print media does not meet the proper specifications.

You are re-feeding paper that has already passed through the printer.

The input tray is loaded incorrectly.

Input tray guides are not adjusted correctly.

Print media is binding or sticking together.

The wrong paper size is selected.

The paper or other print media is in poor condition.

The printer needs cleaning.

The printer maintenance units are wearing out.

The paper guides on the optional rear tray are adjusted incorrectly.

The manual feed guides are not adjusted correctly.

### Solution

For complete specifications, see Appendix B.

Do not re-feed media.

Remove any excess media from the input tray. Press the media down in the input tray until the media is below the tabs. See Chapter 2 for specific information on loading media in input trays.

Adjust the paper tray guides so that they are firmly against the media, but not binding the media.

Remove any remaining paper, rotate it 180 degrees or flip it over, then set it back in the paper tray.

Select the correct paper size through your software application, printer driver, or the printer control panel.

Replace the print media.

See Chapter 6 for information on cleaning the printer.

Check the printer display for messages prompting you to replace maintenance assemblies or print a self test page to verify the current status of the maintenance units. See Chapter 6 for a maintenance units replacement schedule.

Remove the media from the rear tray, reset the paper guides, and re-install the media. Then adjust the paper guides so that they are snug against the media, but not binding or pinching the media.

Adjust the manual feed guides for the correct size media.

### Description

More than one sheet has been fed in manual feed.

The media was not stored correctly.

The transfer corona cleaning knob is not in the full right indent position.

If you are printing transparencies, the coating roller may be beyond its life.

### Solution

Use single sheet in manual tray.

Replace the print media. Media should be stored in its original packaging in a dry area.

Open the printer, slide the transfer corona cleaning knob to its full right position, then close the printer.

If the control panel is prompting you to replace the coating roller, replace the coating roller.

---

## Media Handling Problems

### Printer feeds multiple sheets

#### Description

The input tray is overfilled.

The paper is not under the tabs in the paper tray.

Your media is sticking together.

Your media does not meet the specifications for this printer.

#### Solution

Remove the excess media from the input tray. The input tray holds a maximum of 1 inch of paper (approximately 250 sheets) or a maximum of 50 transparencies.

Remove the paper tray, press the paper down under the tabs of the paper tray, then reinstall the tray.

Remove any remaining paper, rotate it 180 degrees or flip it over, then set it back in the printer.

For media specifications, see the Chapter 2 or Appendix B.

### Printer feeds incorrect page size

#### Description

The correct media size is not loaded in the input tray.

The correct media size is not selected in your software application.

The correct paper tray size is not installed in the printer.

#### Solution

Load the correct size media in the input tray.

Select the correct media size in your software application.

Install the correct size paper tray in the front of the printer, or set the paper guides for the correct size media in the rear input tray.

## Paper does not feed automatically

### Description

Manual feed is selected.

The correct size of media is not loaded.

The input tray is empty.

There still is paper in the paper path after removing the previous paper jam.

### Solution

Select the correct media source.

Load the correct size of media.

Load media in the input tray.

Open the printer and remove any media in the paper path. Check the fuser area carefully for any jams. For information on removing paper jams, see the first section of this chapter.

## Paper does not feed manually

### Description

Manual feed is not selected.

The media is not being inserted far enough into the manual feed slot.

You are inserting the media before the printer prompts you.

There still is paper in the paper path after removing the previous paper jam.

The rear feed unit is not installed correctly.

The rear feed unit does not show as an option on the self test page.

More than one sheet has been loaded in the manual feed.

### Solution

Select manual feed in your software application.

Insert the media into the manual feed slot until the media is tight against the manual feed input.

Remove the paper and wait for the printer to prompt you before inserting paper in the manual feed slot.

Open the printer and remove any media in the paper path. For information on removing paper jams, see the first section of this chapter.

Make sure the rear feed unit is firmly seated into the mounting pockets at the back of the printer. For more information, see the installation instructions for the rear feed unit.

Make sure the rear feed unit is installed correctly.

Use single sheet only in manual tray.

## Paper does not feed from the rear input tray

### Description

- Manual feed is selected.
- The correct size of media is not loaded.
- The input tray is empty.
- There still is paper in the paper path after removing the previous paper jam.
- The rear feed unit is not installed correctly.
- The rear feed unit does not show as an option on the self test page.

### Solution

- Select the correct media source.
- Load the correct size of media.
- Load media in the input tray.
- Open the printer and remove any media in the paper path. Check the fuser area carefully for any jams. For information on removing paper jams, see the first section of this chapter.
- Make sure the rear feed unit is firmly seated into the mounting slots at the back of the printer. For more information, see the installation instructions for the rear feed unit.
- Make sure the rear feed unit is installed correctly.

## Transparencies or glossy paper will not feed

### Description

- The input tray is overfilled.
- Transparencies are not loaded in the correct input tray.
- The media in the other input tray is the same size as the transparencies and the printer is defaulting to the other tray.
- Only one transparency is loaded in the input tray.

### Solution

- Remove excess transparencies from the input tray. Only load up to 50 transparencies at a time.
- Make sure the correct input tray is selected and that your transparencies are loaded correctly.
- Make sure the input tray containing the transparencies is selected in your software application. If BOTH is selected, the printer will default to the front input tray.
- Load more than one transparency in the tray or put a stack of paper under the last transparency in the input tray.

## Envelopes jam or will not feed in the printer

### Description

You are attempting to load envelopes in this printer.

### Solution

Do not load envelopes. Envelopes are not supported in this printer.

## Curled or wrinkled output

### Description

The media does not meet the specifications for this printer.

The current media is damaged or in poor condition.

You are operating the printer in excessively humid conditions.

You are printing heavy, solid fill areas.

You are using media that was not stored correctly and may have absorbed water.

Your media has a poorly cut edge.

### Solution

For media specifications, see Appendix B.

Remove media from input tray and load media from a different source.

Make sure printer is operating within humidity specifications.

Heavy, solid fill areas may cause excessive curl. Try different halftone patterns.  
Print to the other output bin.

Remove and replace with media from a fresh, unopened package.

Remove any remaining paper, rotate the paper 180° or turn it over, then set it back in the paper.

---

# Printer Response Problems

## No display message

### Description

The display on the printer appears blank or is not lit even when the fan is running.

The printer's power switch is in the standby position (button out).

The AC power cord is not firmly plugged into both the printer and the power receptacle.

The line voltage is incorrect for the printer power configuration.

The AC power cord is damaged or excessively worn.

The power source receptacle is not working correctly.

### Solution

Turn the printer ON (button in). The fans may be running even with the power switch in the standby position (button out).

Turn the printer ON (button in). The fan may be running even with the power switch in the standby position (button out).

Remove and reconnect the power cord.

Connect the printer to the correct line voltage as specified on the Power Rating label on the back of the printer.

Replace the AC power cord.

Connect the printer to a different power receptacle.

## Printer on, but not receiving data

### Description

### Solution

The printer's On Line indicator is not lit. Click **On Line** to return the printer on line.

The top cover of the printer is not closed correctly.

Close the top cover firmly, making sure that it is properly latched. If the print drum was replaced and now the top cover will not latch, make sure the protective drum cover has been removed (see Chapter 6).

A printer message other than `00 PCL READY` (or `00 POSTSCRIPT READY`) appears on the printer display.

See "Printer Messages" at the end of this chapter for help.

The interface cable is not correct for this application.

Select the correct interface cable for your application. For more information, see the getting started guide.

Your interface cable is not securely connected to both the printer and the computer.

Remove and reconnect the interface cable.

The printer is not configured correctly.

See the getting started guide for configuration information.

The interface configurations on your self test printout do not match the configurations on the host computer.

Configure the printer to match your computer configuration.

Your computer is not working correctly.

Run an application that you know works to check your computer or, in the DOS environment, type `Dir > Prn` at the DOS prompt.

The computer port is not configured or working correctly.

Run another peripheral connected to this port to check the port operation.

The printer has not been correctly named for your network or Macintosh computer.

Name the printer in the Chooser menu of your computer or use the appropriate utility to name the printer on the network.



## Printer on, but nothing prints

### Description

The printer's On Line indicator is not lit.

The top cover of the printer is not closed correctly.

The Data indicator is flashing.

A toner out message appears on the printer display.

A printer message other than `00 PCL` (or `POSTSCRIPT`) `READY` appears on the printer display.

Toner Collection Box is full.

Your parallel port may have a DOS timeout error.

### Solution

Click **On Line** to return the printer on line.

Close the top cover firmly, making sure that it is properly latched. If the print drum was replaced and now the top cover will not latch, make sure the protective print drum cover has been removed (see Chapter 6, "Replacing the drum").

Wait for the Data indicator to stop flashing. The printer is probably still receiving data.

Load only toner color listed on the printer display.

See "Printer Messages" at the end of this chapter for help.

Replace the Toner Collection Kit (see Chapter 6).

Add a `MODE` command to your `AUTOEXEC.BAT` file. For example, in DOS 4.0 or later, use `MODE LPT1: B`. For earlier versions of DOS, use `MODE LPT1: P`. Both examples are for a printer connected to LPT1. See your DOS manual for more information.

## Printer on, cannot print a PostScript file

### Description

The PostScript option is not installed on the printer.

00 PCL READY appears on the printer display.

A message other than 00 POSTSCRIPT READY appears on the printer display.

You are using the DOS COPY command with the /B option (COPY /B <filename>PRN: or COPY <filename>PRN: /B).

The PostScript driver is not selected in your software application.

### Solution

Install the PostScript option.

Select PostScript or Auto as the printer system language.

See “Printer Messages” at the end of this chapter for help.

Use the DOS copy command without the /B option.

Select the PostScript driver for this printer in your software application.

## Cannot select the printer from the computer

### Description

If you are using a switch box, the printer may not be selected for your computer.

The printer’s On Line indicator is not lit.

The paper tray is empty.

A printer message other than 00 PCL (or POSTSCRIPT) READY appears on the printer display.

The correct printer driver is not loaded in your computer.

The correct printer and port are not selected on your computer.

If you are on a network or using a Macintosh computer, the printer is not selected correctly.

Your network is not configured correctly for this printer.

### Solution

Select the correct printer through your switch box.

Click **On Line** to return the printer on line.

Load the correct size media.

See “Printer Messages” at the end of this chapter for help.

Load the correct printer driver.

Select the correct printer and port.

Select the printer in the Chooser menu of your computer or use the appropriate utility to name the printer on your network.

Check your configuration through your network software or see your system administrator.

---

# Control Panel Problems

## Control panel settings work incorrectly

### Description

The display on the printer appears blank or is not lit even when the fan is running.

Your printer settings in the software application are different from the printer control panel settings.

The printer was on line when you attempted to change printer settings.

The settings were not correctly saved after changing them.

The data indicator was lit and the settings were not activated after changing them.

The Data indicator is lit.

If you are on a network, another user may have changed the printer control panel settings.

### Solution

Turn on the printer (button in). The fan may be running even with the power switch in the standby position (button out).

The settings in your software application override the settings on the control panel of the printer.

The printer must be off line to access control panel menus. Change the control panel settings again as described in Chapter 5, "Using the Control Panel."

Re-select your setting, then click **Enter**. An asterisk (\*) should appear to the right of the setting.

Re-select your control panel settings. Then, if the data indicator is lit, click **Reset** to activate your settings and clear the printer buffer.

Buffered data exists in the printer. Clicking **Reset** activates the control panel settings, but erases the buffered data. Clicking **On Line** prints the buffered data at the current control panel settings, then activates the new control panel settings.

See your system administrator to coordinate changes to control panel settings.

## Cannot select the optional rear input tray

### Description

REAR does not appear as a selection for INPUT TRAY.

The optional rear feed unit is not correctly installed on the printer.

The rear feed unit does not show up as an option on the self test page.

### Solution

Install the optional rear feed unit.

Check all of the connections for the optional rear feed unit. For more information, see the documentation for the optional rear feed unit.

Make sure the optional rear feed unit is connected correctly.

# Printer Self Test Problems

## Cannot select the self test menu

### Description

The On Line indicator is lit.

The Data indicator is lit.

A printer message other than 00 PCL READY or 00 POSTSCRIPT READY appears on the printer display.

### Solution

Click **On Line** to take the printer off line.

Click **Form Feed** or reset the printer.

See “Printer Messages” at the end of this chapter for help.

## Cannot print a self test page

### Description

The On Line indicator is lit.

You did not click **Enter** after selecting your self test.

You clicked **On Line** before clicking **Enter** or before the test was completed.

The selected input tray is empty.

The top cover of the printer is not closed correctly.

Paper is jammed in the printer.

A printer message other than 00 PCL READY or 00 POSTSCRIPT READY appears on the printer display.

### Solution

Click **On Line** to go off line and try running the self test again.

Re-select your self test, then click **Enter** to run the self test and print the results.

Re-select your self test, then click **Enter** once to run the self test and print the results. Clicking **On Line** after the test is started, or before clicking **Enter**, aborts the test and returns the printer on line.

Load the correct media size in the input tray.

Close the top cover firmly, making sure that it is properly latched. If the print drum was replaced and now the top cover will not latch, make sure the protective print drum cover has been removed (see Chapter 6).

Remove the paper jam. For more information, see the section on paper jams at the beginning of this chapter.

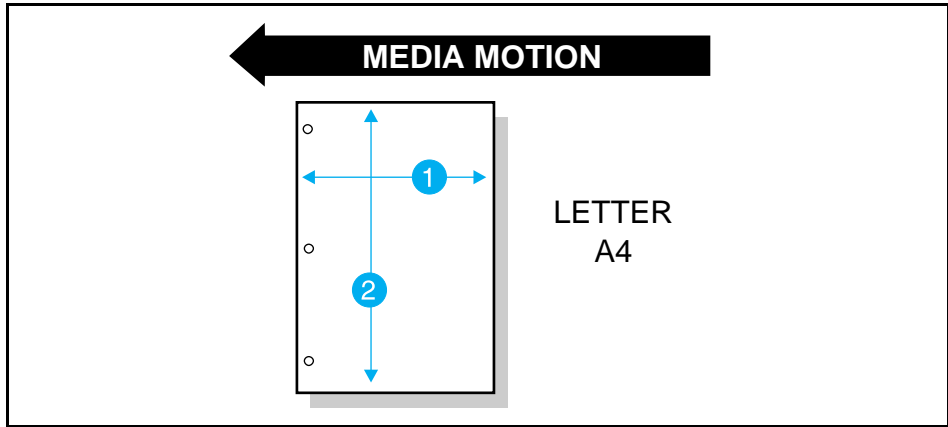
See “Printer Messages” at the end of this chapter for help.

# Print Quality Problems

In this section, all references to horizontal (1) or vertical (2) directions of print quality problems either in text or graphics refer to problems found on letter, and A4 media.

If you are using legal, A3, or 11" x 17" size media, the media is fed into the printer in a different direction, so references to the horizontal direction (1) will appear in the vertical direction. Also, references to vertical (2) will appear in the horizontal direction on these media sizes.

Figure 7-2



## Toner smear

### Description

Toner smears appear on the back of the page.

You just changed from legal or executive-size media to letter or A4-size media.

You recently had a media jam or the printer fed multiple sheets of media.

### Solution

The transfer belt is dirty. This problem should correct itself within 10 or 15 printed pages. If the message 19.5 TRANS BELT USER MAINTENANCE appears on the printer display, replace the transfer belt as described in Chapter 6.

Print 5 to 10 pages to clear any smearing.

Print 5 to 10 pages to clear any smearing.

## Horizontal lines or streaks

### Description

The printer needs cleaning.

Horizontal streaks appear in multiple colors.

Dark and light bands appear in large areas of halftone areas.

White lines or streaks only appear in the black areas of print.

White lines or streaks only appear in the color areas of print.

### Solution

Clean the printer as described in Chapter 6.

Clean the printer as described in Chapter 6.

If the problem persists, replace the print drum.

Print the self test page for several pages. The white line should clear with continued printing. Then reprint your print job. If the problem persists, replace the black developer.

Print the self test page for several pages. The white line should clear with continued printing. Then reprint your print job. If the problem persists, replace the color developer.

## Vertical Bands or Very Dark Backgrounds

### Description

Vertical colored bands or dark black or brown backgrounds appear on the page.

### Solution

If the problem persists after 10 pages, replace the print drum.

# Faded print, Random Faded Areas, or Speckles

## Description

## Solution

The printer needs cleaning.

Clean the printer as described in Chapter 6 of this manual.

The message `19.5 TRANS BELT USER MAINTENANCE` appears on the printer display.

Replace the transfer belt as described in Chapter 6.

The transfer corona wire is dirty.

See Chapter 6 for information on cleaning the corona wire. Make sure the corona cleaning knob is at the full right position.

The moisture content of your paper is uneven or too high.

Try paper from a different source or from an unopened ream of paper.

Some areas of the paper reject toner.

Try paper from a different source or from an unopened ream of paper.

Your paper is excessively rough.

Change to a smooth, xerographic paper. For paper specifications, see Appendix B.

The letterhead you are using is printed on rough paper.

Try a smooth xerographic paper. If this solves your problem, make sure the printer of the letterhead is using paper that meets the specifications for this printer. For paper specifications, see Appendix B.

Your media does not meet the specifications for this printer.

Make sure your media meets the specifications for this printer. For exact specifications, see Appendix B.

You are operating the printer in excessively humid or dry conditions.

Make sure printer is operating within humidity specifications listed Appendix .C.

The black print is very faded.

If there is a `TONER LOW` or `TONER OUT` message on the printer display, add the toner color indicated on the display. Otherwise, replace the black developer.

The color print is very faded.

If a `TONER LOW` or `TONER OUT` message appears on the printer display, add the toner color indicated on the display. Otherwise, replace the color developer.



## Ring marks

### Description

The printing process produces small circles, donuts, or semicircles in random areas on your printout.

### Solution

Reprint job. If marks persist, there may be a contaminant in the developer. This may be cleared by printing additional pages. If the problem persists, contact your local HP service representative.

## Irregular, raised spots or stray toner

### Description

Toner is smudged on the back of the page.

### Solution

Toner collected on the transfer belt will cause smudging on the back of a page. If you have just changed from legal or executive to letter, A4 or 11" x 17", it is not unusual to have smudges on the top and/or bottom areas of a portrait letter page. The belt is self-cleaning and the smudging will normally clear within a few pages. Run 5 to 10 test pages to clear the smudge.

You recently had a media jam or the printer fed multiple sheets of media.

Print 5 to 10 pages to clear any smearing.

Toner is smeared on the left edge of the media.

Toner on the left edge of the media is usually caused by toner collecting on paper guides. Clean the printer as described in Chapter 6. In addition, wipe the paper guides just behind the transfer assembly and the sheet metal bracket at the back of the Transfer Belt assembly.

The cleaning roller is not seated correctly.

Remove and reinstall the cleaning roller. See Chapter 6 for more information.

You are refeeding paper that has already passed through the printer or through a copier.

Do not refeed paper. Refeeding paper contaminates the fuser causing stray toner defects.

The fuser roller is contaminated.

Print 5 to 10 pages to clean the fuser roller.

## Banding

### Description

The transfer corona wire may be dirty.

Maintenance units may be past their rated life.

Certain halftone patterns exaggerate banding.

### Solution

Clean the transfer corona wire as shown in Chapter 6.

Run a self test page and see if any maintenance units are past their rated life. Replace any maintenance units that are past their rated life.

Try a different halftone pattern.

## Wavy characters

### Description

The characters appear wavy for several pages.

### Solution

The laser scanner needs service. Contact your authorized HP dealer or HP service representative.

## Dull or dark colors on transparencies

### Description

You are using a reflective overhead projector (usually a portable overhead projector).

You are using a transparency that is outside the specifications for this printer.

The printer needs cleaning.

The message 14.6 REPLACE COATING KIT appears on the printer display.

The selected colors give an undesirable appearance when printed.

Spots and smudges appear in the background areas of transparencies when they are projected on screen.

Black toner is contaminating color developers.

### Solution

Use a standard overhead projector. Reflective overhead projectors reflect light through the transparency twice, causing excessive light scattering and producing colors that appear dark or dull on the screen.

Use only transparencies that meet the specifications for this printer.

Clean the printer as described in Chapter 6.

Replace the coating kit as described in Chapter 6.

Select different colors in your software application.

Reprint your transparencies, being careful not to touch the surface of transparencies. Oil from your hands can contaminate transparencies, leaving oil spots or smudges on the transparencies.

Replace black developers. Ensure that the printer is operating in an environment consistent with the specifications.

## Rippled or Wavy Transparencies

### Description

You are using a transparency that is outside the specifications for this printer.

There is a wave or ripple in the background when printing a solid color.

### Solution

Use only transparencies that meet the specifications for this printer.

Choose a background pattern that uses less toner.

## Horizontal streaks on transparencies

### Description

Your coating kit is past its life.

You are using a transparency that is outside the specifications for this printer.

You are using a reflective overhead projector.

The printer needs cleaning.

### Solution

Replace the coating kit as shown in Chapter 6.

Use only transparencies that meet the specifications for this printer.

Use a standard overhead projector. Reflective overhead projectors reflect light through the transparency twice, causing excessive light scattering and producing colors that appear dark or dull on the screen.

Clean the printer as shown in Chapter 6.

## Smudges

### Description

The printer recently jammed.

You recently changed to a different media size.

The printer needs cleaning.

### Solution

Run 5 to 10 pages or clean the printer.

Run 5 to 10 pages or clean the printer.

Clean the printer as shown in Chapter 6.

## Diagonal marks in solid fill areas

### Description

The coating kit is past its life.

### Solution

If the control panel is prompting you to replace the coating roller, replace the coating kit.

## Uneven dark areas or lines in solid fill areas on transparencies

### Description

You are using a transparency that is outside the specifications for this printer.

### Solution

Use only transparencies that meet the specifications for this printer.

The coating kit is not properly seated.

Reseat the cleaning roller in the fuser assembly.

The coating roller is coated with accumulated toner.

Clean off the toner from the coating roller.

The coating kit is past its life.

If the control panel is prompting you to replace the coating roller, replace the coating kit.

## Repetitive defects

### Description

The printer needs cleaning.

### Solution

Clean the printer as described in Chapter 6 of this manual.

Unwanted marks of the same size and shape appear on almost every page and in the same vertical area (such as spots, sharp lines, or irregular shapes).

The print drum is dirty or damaged. If the defect is not acceptable, you can try cleaning the print drum as described at the end of this section. If cleaning the print drum does not correct the problem, replace the print drum.

Unwanted marks of the same size and shape appear more than once in the same vertical area on transparencies only.

The fuser roller is damaged. Replace the fuser.

## Cleaning the Print Drum

---

### Caution

Only perform this procedure when it has been determined that a repetitive defect is unacceptable and the only other solution is replacing the print drum. Many, but not all, repetitive defects can be removed using the following procedure. Defects that appear as light spots in dark areas of print are more likely to be corrected by this procedure than dark spots in unprinted areas. However, if the procedure is done incorrectly or without proper care, the print drum can be permanently damaged.

This procedure requires the following items:

- A print sample showing the repetitive defect
- A clean, flat surface to work on
- The cleaning cloth that is supplied with the coating kit
- Isopropyl alcohol

- 1 Press the power switch to the standby position (button out).
- 2 When the fan turns off (5 minutes), **unplug the printer**.

---

### WARNING!

To avoid potential electrical shock, make sure the printer is unplugged before continuing this procedure.

---

### Caution

Do not expose the print drum to direct light. Exposure to light can permanently damage the print drum.

- 3 Press the top cover release button, then open the top cover.
- 4 Locate the print drum lock lever at the left edge of the print drum, then pull it toward you.

---

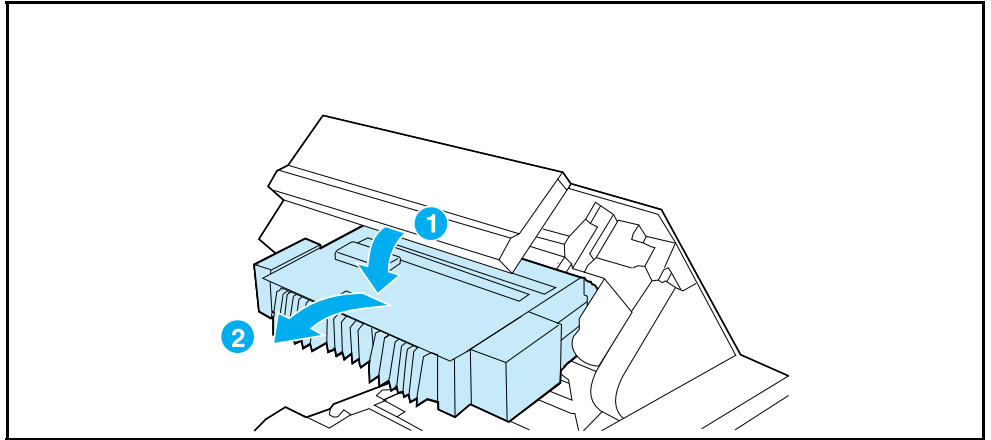
### Caution

Make sure you have a clean work area free of sharp or rough objects that may damage the print drum. To avoid damaging the print drum, remove all jewelry and watches before continuing. Touching the print drum with these items or laying the print drum on sharp or rough objects can scratch the print drum, causing permanent damage.

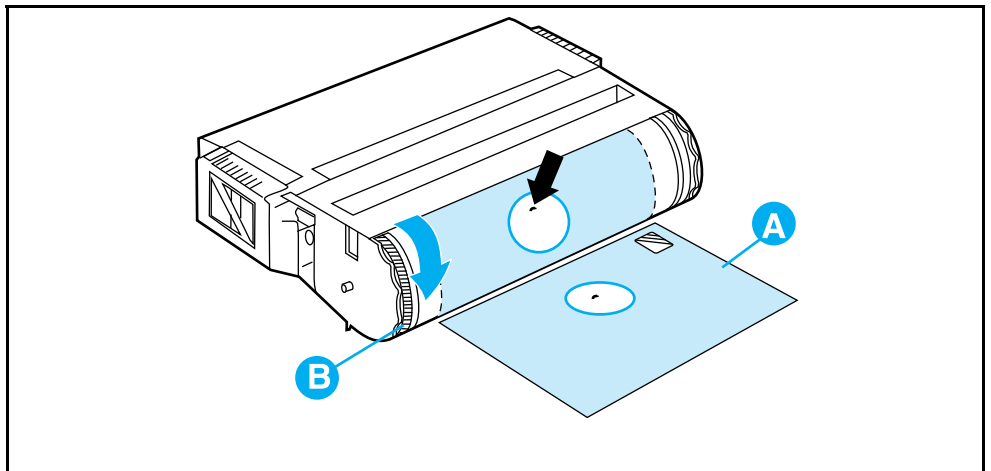
## Caution

Do not touch the green photo conductor surface of the print drum. Oil from your hands may permanently damage the print drum.

- 5 Lower the print drum until it is horizontal (1). Then remove the print drum from the printer (2) and place it on a clean, smooth surface that is free of sharp or rough objects with the photo conductor surface facing you.



- 6 Center your print sample beside the print drum with the top of the page (A) facing away from the gear (B) on the print drum.
- 7 Using your print sample as a reference, inspect the print drum for a small spot or speck that may be causing the repetitive defects. If necessary, rotate the print drum by turning the gear on the right side of the print drum surface (shown on the left in the illustration) with your fingers to locate the defect.



---

**WARNING!**

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A flammable liquid (isopropyl alcohol) is involved in the following step. To reduce the potential of fire, remove all sources of ignition within 5 feet (1.5 meters) of your work area.

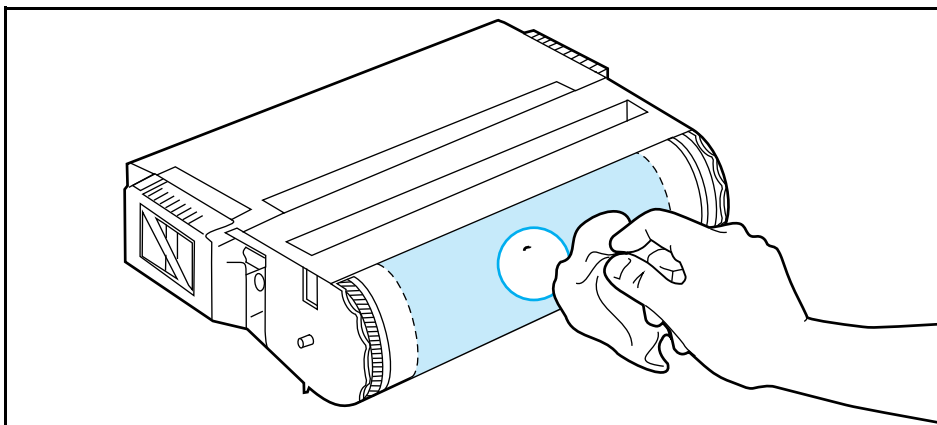
---

**Caution**

---

Use extreme care when removing a defect from the print drum. Using a sharp object to remove the defect or allowing fingernails or jewelry to touch the print drum can scratch the print drum, causing permanent damage. Cleaning the print drum using force or excessive alcohol may also permanently damage the print drum.

- 8** Dampen the cleaning cloth with isopropyl alcohol, then remove the defect on the print drum by gently brushing the cloth on the defect area.



- 9** Align the print drum with the printer, then install the print drum in the printer.
- 10** Raise the print drum until it locks in place.
- 11** Close the top cover and wait 5 minutes.
- 12** Plug in the printer.
- 13** Turn the printer ON (button in).
- 14** When the printer returns on line with `00 PCL READY` (or `00 POSTSCRIPT READY`) on the printer display, reprint your print job.
- 15** If the repetitive defect still appears and is unacceptable, replace the print drum as described in Chapter 6.



---

# Color Printing Problems

## Black instead of color

### Description

The color mode is not selected in your software application.

The correct printer driver is not selected in your software application.

You are printing on paper larger than Letter or A4.

The printer is not working correctly.

No color appears on the self test page.

### Solution

Select the color mode instead of the Grayscale or black and white mode in your software application.

Select the correct printer driver.

Color printing is not supported on paper larger than Letter or A4.

Verify the printer operation by printing a self test page.

Call for service.

## Missing colors or hues/incorrect colors

### Description

Your media does not meet the specifications for this printer.

You are operating the printer in excessively humid conditions.

A new developer was just installed without removing all of the developer packaging.

The optics glass, drum corona, or transfer corona are dirty.

The color density and balance are not set properly.

### Solution

For more information on media specifications, see Appendix B.

Make sure the printer is operating within humidity specifications.

Remove the color developer, remove all packaging, then reinstall the developer.

Clean the optics glass, drum and transfer coronas. Refer to Chapter 6 for more information.

See Appendix G, "Color Balance Adjustment."

## Inconsistent colors after loading toner

### Description

You are not using the correct toner.

You have loaded the wrong toner color into one of the toner reservoirs.

### Solution

Load only toner that meets the proper specifications for this product. See the part number card at the end of this manual for part number information.

Vacuum the toner out of the toner reservoir using a toner vacuum with a microfine filter.

## Printed colors do not match screen colors

### Description

Extremely light screen colors are not being printed.

Extremely dark screen colors are being printed in black.

The screen colors differ from the printer output.

The color density and balance are not set properly

### Solution

Avoid extremely light colors. Your software application may interpret extremely light colors as white.

Avoid extremely dark colors. Your software application may interpret extremely dark colors as black.

Select Screen Match in your printer driver color control. Use the Color Swatch utility to help match colors (see Chapter 3).

See Appendix G, "Color Balance Adjustment."

---

## Incorrect Printer Output

### Incorrect fonts on the printout

#### Description

The font has not been correctly selected in your software application.

The font is not available to the printer.

The correct printer driver is not selected.

#### Solution

Re-select the font in your software application.

Use a different font or download the font you desire.

Select the correct printer driver.

### Cannot print all characters in a symbol set

#### Description

The correct font is not selected.

The correct symbol set is not selected.

The selected character is not supported by your software application.

The selected symbol is not supported by the printer.

#### Solution

Select the correct font.

Select the correct symbol set.

See the documentation for your software application for more information.

Use a font that supports the desired symbol.

## Erratic or interrupted printout

### Description

The interface cable is loose.

The interface cable is damaged or bad.

The power cable is loose.

You are attempting to print a PCL job with the printer configured for PostScript.

You are attempting to print a PostScript job with the printer configured for PCL.

### Solution

Remove and reconnect the interface cable.

Try a different interface cable.

Remove, then firmly plug the AC cord into both the printer and the power receptacle.

Select the correct printer language on the printer, then re-send the print job.

Select the correct printer language on the printer, then re-send the print job.

## Partial printout

### Description

Form Feed was selected while the data indicator was flashing.

A memory error message appears on the printer display.

The printer files contain errors.

A printer message other than `00 PCL READY` or `00 POSTSCRIPT READY` appears on the printer display.

### Solution

Reprint the file from your software application. Do not click **Form Feed** until the Data indicator stops flashing. A flashing Data indicator means that the computer is still sending data to the printer or the printer is still processing data.

Free up printer memory by deleting unwanted downloaded fonts, style sheets, macros, and forms from printer memory.

OR

Add more memory to the printer.

Check your software application to make sure the print files are error free by 1) trying to print another file that you know is error free from within the same application; or 2) printing the file in question from another application.

See "Printer Messages" at the end of this chapter for help.

## Drifting text between consecutive printouts

### Description

Your software application is not resetting the printer to the top of the page.

### Solution

See the *Software Application Notes* or the *PCL Technical Reference* for specific information.

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# Software Application Problems

## Cannot change system selections through software

### Description

System software changes are locked out by the Control Panel.

Your software application does not support system changes.

The correct printer driver is not loaded.

The correct application driver is not loaded.

### Solution

Set `SYS` to `AUTO` through the printer control panel.

See the documentation for your software application for help.

Load the correct printer driver.

Load the correct application driver.

## Cannot select a font in the software application

### Description

The correct printer driver is not selected.

The font is not available in your software application.

### Solution

Select the correct printer driver.

See the documentation for your software application for help.

## Cannot select colors in the software application

### Description

Your software application does not support color.

The color mode is not selected in your software application.

The correct printer driver is not loaded.

### Solution

See the documentation for your software application for help.

Select the color mode instead of the black output mode.

Load the correct printer driver.

## Printer Messages

The following table lists the printer messages for this printer. If a printer message has a numeric prefix, it is listed in order of the two digit number beside the printer message. Printer messages without numeric prefixes are listed in alphabetical order at the beginning of the table.

### Printer Messages

Message	Description	Recommended Action
CONFIG LANGUAGE	Display language configuration has been selected.	Wait for the Display Language menu to appear on the printer display. Then select the local display language.
DEMO MODE	The printer is currently in the demonstration mode.	A demonstration SIMM must be installed to enter this mode.
ERROR LOG	The Error log section of the menus is currently displayed.	No action required.
EXTENDED DIAGNOSTICS MODE	The printer is currently in the extended diagnostics mode.	No action required.
INITIALIZING NVRAM	The printer is initializing NV RAM with factory default values.	No action required.
INSTALLING NEW DEVELOPER	The printer is going through a new developer installation sequence. This sequence lasts approximately 3 minutes for a new black developer and 9 minutes for a new color developer.	No action required.
INSTALLING NEW DRUM	The printer is calibrating your new print drum. This message is displayed for approximately 30 seconds after a new print drum is installed and the print drum number is entered.	No action required.
LJCL DEMO MODE PRESS ANY KEY	A demonstration SIMM is installed in the printer and the printer is currently in the demonstration mode.	Click any key on the printer control panel to print a demonstration page or turn the printer OFF, then back ON to exit the demonstration mode.
MIO CONFIG MENU	The MIO configuration menu is currently displayed.	No action required.
NEW DRUM INST. DRUM NUMBER = 000	The printer is prompting the user to enter the number for the new print drum.	Enter the print drum number located on the upper right corner of the print drum using the <b>+</b> and <b>-</b> keys, then click <b>Enter</b> .

Message	Description	Recommended Action
PARALLEL MENU	The Parallel menu is currently displayed.	No action required.
PCL CONFIG MENU	The PCL Configuration menu is currently displayed.	No action required.
PCL PRINT MENU	The PCL Print menu is currently displayed.	No action required.
PCL TEST MENU	The PCL Test menu is currently displayed.	No action required.
PLEASE VERIFY DRUM NUMBER = 000	The printer is prompting the user to verify that the print drum number previously entered is correct.	Re-enter the correct number using the <b>+</b> and <b>-</b> keys, then click <b>Enter</b> .
POWERSAVE MODE	The printer is currently in a reduced energy consumption mode.	The printer will return to the ready state automatically when a print job is sent.
PRESS ON LINE TO CONTINUE	The printer is ready to start a new developer installation sequence.	Click <b>On Line</b> to start the installation sequence.
PS CONFIG MENU	The PostScript Configuration menu is currently displayed.	No action required.
PS PRINT MENU	The PostScript Print menu is currently displayed.	No action required.
PS TEST MENU	The PostScript Test menu is currently displayed.	No action required.
SERVICE MODE	The printer is currently in the service mode.	Turn the printer off, then back on to return to the ready state.
SM CONFIG MENU	The Service Mode Configuration menu is currently displayed.	Turn the printer off, then back on to return to the ready state.
SM TEST MENU	The Service Mode Testing Menu is currently displayed.	Turn the printer off, then back on to return to the ready state.
SWITCHING TO [personality]	The printer is in the process of switching between printer languages. [personality] is replaced with PCL or PostScript, depending on the personality selected.	No action required.
TONER LOW [KCMY] ADD [color]	The printer is running low on a specific toner color.	Click <b>On Line</b> , add ONLY the toner color indicated on the display, then click <b>On Line</b> to return the printer on line.
TONER LOW OFF LINE TO FILL	The printer detected a low toner condition for one or more colors of toner.	Click <b>On Line</b> to take the printer off line.



Message	Description	Recommended Action
TONER LOW OPENING INTRLOCK	The printer is opening the interlock mechanism for the toner color that is low.	No action required.
TONER OUT [KCMY] ADD [color]	The printer is out of a toner color. The printer will remain off line until the toner [color] is loaded.	Load ONLY the toner color indicated on the display.
00 PCL READY	Printer is ready for use in the PCL mode.	No action required.
00 POSTSCRIPT READY	Printer is ready for use in the PostScript mode.	No action required.
02 PCL WARMING UP	Printer engine is warming up.	Wait until the printer displays 00 PCL READY.
02 POSTSCRIPT WARMING UP	Printer engine is warming up.	Wait until the printer displays 00 POSTSCRIPT READY.
04 CONTINUOUS SELF TEST	Printer is in the continuous self test mode.	Click <b>On Line</b> to stop the test.
05 INTERNAL SELF TEST	Printer is performing the non-printing portion of the self test.	No action required.
06 PRINTING PCL DEMO PAGE	Printer is printing a PCL demonstration page. After the page is printed, the printer returns to the ready state, but remains off line.	Click <b>On Line</b> to return the printer on line.
06 PRINTING PCL SELF TEST	Printer is printing a self test page. After the test is completed, the printer returns to the ready state, but remains off line.	Click <b>On Line</b> to return the printer on line.
06 PRINTING PCL TYPEFACES	Printer is printing a PCL typeface list. After the typeface list is printed, the printer returns to the ready state, but remains off line.	Click <b>On Line</b> to return the printer on line.
06 PRINTING PS DEMO PAGE	Printer is printing a PostScript demonstration page. After the page is printed, the printer returns to the ready on line state.	No action required.
06 PRINTING PS SELF TEST	Printer is printing a self test page. After the test is completed, the printer returns to the ready on line state.	No action required.
06 PRINTING PS TYPEFACES	Printer is printing a PostScript typeface list. After the typeface list is printed, the printer returns to the ready on line state.	No action required.

Message	Description	Recommended Action
07 RESET	Printer is resetting all Print Menu items to user selected settings and clearing the page buffer, temporary soft fonts, and temporary macros. After the reset operation is complete, the printer returns to the ready state and automatically goes on line.	No action required.
08 COLD RESET	Printer is resetting all printing environment parameters, Print Menu defaults, and Config Menu defaults to their factory defaults. After the reset is completed, the printer returns to the ready state, but remains off line.	Click <b>On Line</b> to return the printer on line.
09 MENU RESET	Printer is resetting all Print Menu items to the factory default settings. After the reset operation is complete, the printer returns to the ready state and automatically goes on line.	No action required.
10 PRESS RESET TO ACTIVATE	Changes to the Print Menu were made while data, temporary fonts, or temporary macros were present in printer memory, or changes to the SYS personality items were made.	Click <b>Reset</b> to activate the settings and delete any buffered data, temporary macros, and temporary fonts. Click <b>On Line</b> to ignore any changes to the Print Menu and the SYS setting for the current job.
11.1 FRONT TRAY LOAD [paper] [TRN]	Printer received a request for a media size that is not currently loaded in the front input tray, or the front input tray is empty. Transparency (TRN) is only displayed when the PostScript personality is selected.	Load the correct media size in the front input tray or install a tray with the correct media size.
11.2 REAR TRAY LOAD [paper] [TRN]	Printer received a request for a media size that is not currently loaded in the rear input tray, or the rear input tray is empty. Transparency (TRN) is only displayed when the PostScript personality is selected.	Load the correct media size in the rear input tray.
11.3 MANUAL FEED [paper] [TRN]	Printer received a request to manually feed media. Transparency (TRN) is only displayed when the PostScript personality is selected.	Load a single sheet of the correct size media in the manual feed input located at the rear of the printer.

Message	Description	Recommended Action
11.4 FRONT TRAY EMPTY [TRN]	Front input tray is empty or not installed. Transparency (TRN) is only displayed when the PostScript personality is selected.	Load the correct size media in the front input tray or install the correct size input tray.
	There may be some obstruction covering the paper tray sensors in the printer.	Remove the paper cassette. Open the printer. Lift the Registration Plate (the black plate just behind the brown transfer roller) using the bright green tab on the front left-hand side of the plate. Under the Registration plate, look in the center of the printer towards the back. You should see 3 round, metal sensor ports that the white sensor nubs on the back side of the paper tray fit into. If there is paper or anything else covering these, remove the obstruction. If there is no obstruction in front of the sensors, and you still get the message, contact service.
11.5 REAR TRAY EMPTY [TRN]	Rear input tray is empty, not installed, or its top cover is open. Transparency (TRN) is only displayed when the PostScript personality is selected.	Load the correct size media in the rear input tray, then close its top cover.
12 CLOSE TOP OR SIDE DOOR	The printer top cover or side door is not closed properly.	Close the top cover or side door firmly, making sure that it is properly latched. If the top cover will not latch, make sure the black protective cover on the print drum has been removed. If the side door will not close, make sure the developers and toner collection box are correctly installed.
13.1 CLEAR DRUM WINDING JAM	Media is jammed in the printer paper path.	Remove media from the paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.2 CLEAR OUTPUT JAM	Media is jammed in the output paper path.	Remove media from the output paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.

Message	Description	Recommended Action
13.3 CLEAR MANUAL JAM	Media is jammed in the manual feed paper path.	Remove media from the manual feed paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.4 CLEAR FRONT TRAY INPUT JAM	Media is jammed in the input paper path.	Remove media from the input paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.5 CLEAR PAPER JAM	Media is jammed in the printer paper path.	Remove media from the paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.6 CLEAR REAR TRAY INPUT JAM	Media is jammed in the rear input paper path.	Remove media from rear input paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
13.7 CLEAR REAR TRAY PAPER JAM	Media is jammed in the rear paper path.	Remove media from the rear paper path. Then close the top cover and click <a href="#">On Line</a> to resume printing.
13.8 CLEAR PAPER JAM	Media is jammed in the printer paper path.	Remove media from the paper path. Open and close the top cover to reset the printer, then click <a href="#">On Line</a> to resume printing.
14.5 REPLACE COLLECTION KIT	The toner collection box is full. The printer will remain off line until the collection box is replaced.	Replace the Toner Collection Kit as described in Chapter 6.
14.6 REPLACE COATING KIT	The coating roller and cleaning roller need to be replaced.	Replace the coating kit as described in Chapter 6. If the error message does not clear, try removing and reseating the coating roller. If the message persists, remove the coating roller. Insure the two copper colored leaf springs in the cut out area of the coating roller slot are straight. Reinstall the roller. If the message remains, contact service.
15 PRINTING ENGINE TEST	Engine self test and printout are being performed. After the engine test is completed, the printer returns to the ready state, but remains off line.	Click <a href="#">On Line</a> to return the printer on line.
16.5 REPLACE COLLECTION KIT	Toner collection box is almost full.	Replace the toner collection box and filter soon as described in Chapter 6.

Message	Description	Recommended Action
17.1 INSTALL BLACK DEVELOPER	The black developer is either not installed or not correctly installed in the printer.	Install a black developer or make sure the installed black developer is properly seated.
17.2 INSTALL COLOR DEVELOPER	The color developer is either not installed or not correctly installed in the printer.	Install a color developer or make sure the installed color developer is properly seated.
17.3 REINSTALL FUSER	The fuser is not installed correctly (refers to the upper roller).	Remove and reinstall the fuser.
17.4 INSTALL FUSER	The fuser is either not installed or not correctly installed in the printer.	Install a fuser or make sure the installed fuser is properly seated and both screws are tight.
17.6 INSTALL COLLECTION BOX	The toner collection box or print drum is not installed or not correctly installed in the printer.	Install a print drum or toner collection box, or make sure the installed toner collection box is properly seated.
17.7 REMOVE DRUM COVER	The protective cover shipped with the new print drum is still on the print drum.	Remove the black protective print drum cover from the print drum as described in Chapter 6.
17.8 REINSTALL DRUM	The print drum is not installed correctly or the print drum winding sensor is damaged.	Remove and re-install the print drum. If the error persists, service is required.
17.9 REINSTALL FUSER	The fuser has not warmed up properly.	Remove and reinstall the fuser.
18.1 CLEAN TRANS CORONA WIRE	The transfer corona wire needs to be cleaned.	Open the printer and clean the transfer corona wire as shown in Chapter 6.
18.2 REINSTALL DRUM	The print drum is not installed correctly or the print drum winding sensor is damaged.	Remove and re-install the print drum. If the error persists, service is required.
18.3 REINSERT DEVELOPERS	The printer received an error in the developer area.	Open the top and side covers, remove and reinsert both developers, then close the covers.
18.4 CLEAN TRANS CORONA WIRE	The transfer corona wire needs to be cleaned.	Open the printer and clean the transfer corona wire as shown in Chapter 6.

Message	Description	Recommended Action
18.5 or 18.6 REINSERT DEVELOPERS	The printer received an error in the developer area.	Remove the developer unit and vigorously shake the unit from side to side. Hold the unit flat so the developer mixture will not settle to one end of the unit. Re-install the developer unit. Push the unit in firmly to make sure the connections seat properly. If this does not fix the issue, the printer will need to be serviced.
19.1 BLACK DEVEL USER MAINTENANCE	Black developer needs to be replaced.	Replace the black developer or click <a href="#">On Line</a> to continue printing.
19.2 COLOR DEVEL USER MAINTENANCE	Color developer needs to be replaced.	Replace the color developer or click <a href="#">On Line</a> to continue printing.
19.3 DRUM USER MAINTENANCE	Print drum needs to be replaced.	Replace the print drum or click <a href="#">On Line</a> to continue printing.
19.4 FUSER USER MAINTENANCE	Fuser needs to be replaced.	Replace the fuser or click <a href="#">On Line</a> to continue printing.
19.5 TRANS BELT USER MAINTENANCE	Transfer belt needs to be replaced.	Replace the transfer belt or click <a href="#">On Line</a> to continue printing.
20 MEMORY OVERFLOW	The printer received more data from the computer than can fit in the printer internal memory.	To continue printing, click <a href="#">On Line</a> . Only the amount of data that fits in the printer internal memory is printed.
21 MEMORY OUT	The printer ran out of memory.	Click <a href="#">On Line</a> to clear memory and abort the current print job. If this error occurs frequently, add additional memory to the printer.
21 MIO INITIALIZING	The MIO card is in the process of initializing and cannot accept data.	No action required.
22 I/O CONFIG ERROR	The computer is not obeying the pacing mechanism of the MIO link, causing the printer receiving buffer to overflow during a busy state.	Click <a href="#">On Line</a> to resume printing. This results in a loss of data.
23 MIO NOT READY	The MIO card cannot accept data.	For more information, run a self test page.
24 BUSY MOVING TONER	The printer is moving toner from the reservoirs to the developers.	No action required.
30 POSTSCRIPT ERROR XX	The printer encountered a PostScript error indicated by XX.	Click <a href="#">On Line</a> to continue. The current job will be canceled.

Message	Description	Recommended Action
30 POSTSCRIPT ERROR 00	An attempt was made to add an item to a dictionary that is already full.	This is frequently a driver incompatibility problem. Select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 01	An attempt was made to place too many dictionaries on the dictionary stack.	
30 POSTSCRIPT ERROR 02	An attempt was made to remove more dictionaries from the dictionary stack than were on the stack.	
30 POSTSCRIPT ERROR 03	The execution stack is too large. Procedure invocation is nested deeper than PostScript allows.	
30 POSTSCRIPT ERROR 04	An attempt was made to access an array, dictionary, file, or string object incorrectly.	
30 POSTSCRIPT ERROR 05	An incorrect exit was executed.	
30 POSTSCRIPT ERROR 06	An incorrect access string specification to the file operator occurred.	This may be caused by data stream corruption. Check for problems with the connection between the printer and your computer such as cabling, spoolers, sharing devices, or network. If no problems exist, select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 07	The operand to makefont or setfont is not a well formed font dictionary.	
30 POSTSCRIPT ERROR 08	An incorrect restore was attempted.	This is frequently a driver incompatibility problem. Select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 09	An error occurred during the execution of one or more of the file operators.	
30 POSTSCRIPT ERROR 10	A PostScript implementation limit was exceeded.	
30 POSTSCRIPT ERROR 11	An operator requiring a current point was exceeded while the current path was empty.	This is frequently the result of a graphics job that is too complex. The driver should divide this job up to reduce the complexity. Select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 12	A numeric operand's value is outside of the range of acceptable operand values.	Check your printer setup or select a different PostScript driver and re-send the print job.

Message	Description	Recommended Action
30 POSTSCRIPT ERROR 13	An attempt was made to push too many objects on the operand stack.	This is frequently a driver incompatibility problem. Select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 14	An attempt was made to pop an item from an empty operand stack.	
30 POSTSCRIPT ERROR 15	The PostScript scanner encountered text that does not conform to the PostScript syntax rules.	Disable any functions that add extra characters to the data stream.
		Check for connection problems between the printer and your computer such as cabling, spoolers, sharing devices, or network.
		Select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 16	The PostScript interpreter timed out waiting for the user to manually feed paper, waiting for data from the computer, or because a job took too long to complete.	Disable any functions that add extra characters to the data stream.
		Disable the PostScript time-out feature or select a different PostScript time-out limit.
30 POSTSCRIPT ERROR 17	An operand was encountered that is not the correct type, such as a number being found when a string is required.	This is frequently a driver incompatibility problem. Select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 18	A name was encountered that cannot be found since it was not previously defined.	Disable any functions that add extra characters to the data stream.
		Check for connection problems between the printer and your computer such as cabling, spoolers, sharing devices, or network.
		Select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 19	A file identified by a name string operand of the file or run operators cannot be found or opened.	This is frequently a driver incompatibility problem. Select a different PostScript driver and re-send the print job.
30 POSTSCRIPT ERROR 20	Overflow, underflow, or a meaningless result of a numeric calculation such as division by zero occurred.	
30 POSTSCRIPT ERROR 21	A cleartomark or counttomark operator could not find the required mark on the stack.	



Message	Description	Recommended Action
30 POSTSCRIPT ERROR 22	An operator object was executed for which the interpreter has no built-in action. This represents an internal malfunction in the PostScript interpreter.	Service is required.
30 POSTSCRIPT ERROR 23	An error occurred in virtual memory.	The printer does not have enough memory to print this job. Reduce the number of fonts being downloaded to the printer or add memory to the printer.  If you are using the scatter halftone option in your PostScript driver, changing to the cluster halftone option may solve this problem.
30 POSTSCRIPT ERROR 24	The systemdict quit operator was executed causing the PostScript interpreter to re-initialize virtual memory. All non-persistent information was lost.	This is a warning message to let the user know that non-persistent information was lost including soft fonts and header files.
30 POSTSCRIPT ERROR 25	A PostScript firmware failure occurred.	Service is required.
30 POSTSCRIPT ERROR 26	A setpagedevice request cannot be satisfied.	Make sure the paper size or type you selected is installed in the printer or select a different paper size or type and re-send the print job.
30 POSTSCRIPT ERROR 27	An external interrupt request was received by the PostScript interpreter.	If this error continues to happen, select a different PostScript printer driver.
30 POSTSCRIPT ERROR 28	A named resource sought by the findresource operator does not exist.	This is frequently a driver incompatibility problem. Select a different PostScript driver and re-send the print job.
40 I/O DATA ERROR	The printer encountered an error while receiving data from the computer.	Click <b>On Line</b> to continue.
48 INVALID JOB ABORTING JOB	The printer received invalid language switching information.	Send the printer valid language switching information.
50.X ERROR CLEAR CYCLE POWER	The printer engine is clearing a fatal fuser error.	Turn the printer OFF, then back ON. If the error persists, service is required.

Message	Description	Recommended Action
50.X FUSER SERVICE ERROR	A fuser error occurred.	Leave the printer on for 20 minutes then turn the printer off, and then back on. Make sure that the printer is not opened while it is warming up. If the message persists, service is required.
52.X ENG NVRAM SERVICE ERROR	The printer engine reported a NV RAM failure.	Turn the printer OFF, then back ON. If the error persists, service is required.
	A blown internal fuse in either the Color or Black developer units.	Try installing each developer unit individually to see when the error occurs. Once found, place the defective unit in a plastic bag and return to your dealer for a replacement. If a new developer unit does not solve the problem, service is required.
53 LASER ERROR	The printer engine reported a non laser/scanner error.	Click <a href="#">On Line</a> to continue printing. If the printer remains in the error condition, turn the printer OFF, then back ON. If the error persists, service is required.
53 LASER SERVICE ERROR	The printer engine reported a laser/scanner error.	Turn the printer OFF, then back ON. If the error persists, service is required.
54.X ENGINE ERROR	The printer engine reported an error or failure.	Click <a href="#">On Line</a> to continue printing. If the printer remains in the error condition, turn the printer OFF, then back ON. If the error persists, service is required.
54.X ENGINE SERVICE ERROR	The printer engine reported an error or failure.	If the printer was moved, or is not properly supported, make sure it is level and standing on all four feet. Click <a href="#">On Line</a> to continue printing. If the error persists, turn the printer OFF, then back ON. If this does not correct the error, service is required.
55.X ENGINE CMD SERVICE ERROR	A bad command was received from the printer engine.	Turn the printer OFF, then back ON. If the error persists, service is required.
56 LASER INDEX SERVICE ERROR	Toner has accumulated on the scanner lens, resulting in the shut down of the main drive motor.	Service is required to clean the scanner lens.

Message	Description	Recommended Action
57 FAN MOTOR SERVICE ERROR	A cooling fan is either unplugged or not operating.	Turn the printer OFF, then back ON. If the error persists, service is required.
59 MANUAL FEED SERVICE ERROR	The rear paper source options were changed while the printer was turned on.	
60.X SIMM ERROR	The firmware has detected a bad Cyclic Redundancy Check (CRC) in the stated SIMM.	Click <a href="#">On Line</a> to continue printing with reduced printer memory, or replace the faulty SIMM.
60.X SIMM SERVICE ERROR	The firmware has detected a bad Cyclic Redundancy Check (CRC) in the stated SIMM.	Turn the printer OFF, then back ON.
61.X SIMM COMPAT ERROR	Faulty size or incompatible speed (timing) in the expansion RAM.	Click <a href="#">On Line</a> to continue printing. If the printer remains in the error condition, obtain the correct size or compatible speed expansion RAM.
61.X SIMM COMPAT SERVICE ERROR	Faulty size or incompatible timing in the expansion RAM.	Obtain the correct size or compatible speed expansion RAM.
62.X INTERNL ROM SERVICE ERROR	A checksum error occurred in the internal ROM fonts.	Turn the printer OFF, then back ON. If the error persists, service is required.
63.0 DRAM SERVICE ERROR	Faulty onboard DRAM.	
63.X SIMM ERROR	Faulty SIMM expansion card. If this error occurs at powerup, the printer uses the base memory plus all of the memory other than the faulty location.	Click <a href="#">On Line</a> to continue printing. If this error occurs after powerup, the faulty SIMM expansion card should be removed or replaced.
63.X SIMM SERVICE ERROR	Faulty SIMM expansion card. If this error occurs at powerup, the printer uses the base memory plus all of the memory other than the faulty location.	
64.X DMA TIMEOUT SERVICE ERROR	The printer engine has detected a video direct memory access error.	Turn the printer OFF, then back ON. If the error persists, service is required.
66.X JAM SENSOR SERVICE ERROR	The print drum winding sensor has malfunctioned or the print drum is not calibrated correctly.	Turn the printer OFF, remove and re-install the developers, then turn the printer ON. If the error persists, service is required.
68 NVRAM ERROR	A recoverable error was detected in NV RAM.	Click <a href="#">On Line</a> to continue. Then verify the control panel settings. One or more fields may have been reset to their factory defaults during error recovery.

Message	Description	Recommended Action
68 NVRAM SERVICE	All printer control panel values have been reset to their factory defaults.	Turn the printer OFF, then back ON. If the error persists, service is required.
68 NVRAM SERVICE ERROR	An NV RAM failure occurred.	
79 SERVICE (XXXX)	The printer firmware detected an unrecoverable error.	Turn the printer OFF, then back ON. If the error persists, record the numbers following the error message and call your dealer or HP Service Representative.
80 SERVICE (00XX)	An unrecoverable Modular I/O (MIO) protocol error occurred.	
80 SERVICE (01XX)	An indeterminate Modular I/O (MIO) error occurred.	
80 SERVICE (02XX)	The Modular I/O (MIO) self test failed.	
80 SERVICE (03XX)	A fatal Modular I/O (MIO) error by an "Inquire I/O Status Response" occurred.	
80 SERVICE (04XX)	A fatal Modular I/O (MIO) error by an "Asynchronous Status Request" occurred.	
89 SERVICE (XXXX)	The PostScript firmware encountered an unrecoverable error.	

# Printer Supplies and Accessories

## Supplies and Accessories

You can increase the capabilities of the HP Color LaserJet 5/5M printer by adding options and accessories. To order options or accessory products for your printer, call Hewlett-Packard's Direct Marketing Division (see the front of this guide for ordering information).

<b>Memory</b>	C3130A	1 Mbyte	You may install up to four SIMM boards, including the PostScript option.  *Available from third party vendors only.	
	C3131A	2 Mbyte		
	C3132A	4 Mbyte		
	C3133A	8 Mbyte		
	C3146A	16 Mbyte		
		32 Mbyte*		
<b>PostScript Language SIMM</b>	C3963A		Allows the printer to support the Adobe PostScript Level 2 printer language.	
<b>Paper Handling Accessories</b>	C3113A	Letter	(250 sheet)	Optional paper trays that support the listed paper sizes.
	C3114A	Legal	(250 sheet)	
	C3115A	A4	(250 sheet)	
	C3116A	Executive	(250 sheet)	
	C3117A	A3	(250 sheet)	
	C3118A	11" x 17"	(250 sheet)	
	C3119A	Rear Feed Unit	(250 sheet)	
	C2937A	Printer cabinet		
<b>Toner Supplies</b>	C3102A	Cyan	Toner comes in black (K), cyan (C), yellow (Y), and magenta (M).	
	C3103A	Yellow		
	C3104A	Magenta		
	C3105A	Black		
	C3120A	Toner Collection Kit		
	C3964A	Coating kit		
<b>Maintenance Units</b>	C3965A	Black Developer	option #110 (110 v) option #220 (220 v)	
	C3966A	Color Developer		
	C3967A	Print Drum		
	C3968A	Transfer Belt		
	C3969A	Fuser		

---

**Transparencies and Glossy Paper**

C2934A Transparency film (letter)  
C2936A Transparency film (A4)

Glossy paper

Contact your HP dealer for glossy paper supported by this printer.

---

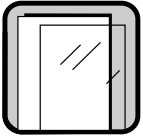
**Connectivity Options**

J2550A HP JetDirect card for Ethernet (10Base-T)  
J2552A HP JetDirect card for Ethernet (10Base-T and 10Base-2 [Thin Coax]) and LocalTalk(DIN-8)  
J2555A HP JetDirect card for Token Ring (DB9, RJ45)  
J2374B HP JetDirect interface software for HP-UX systems  
J2375B HP JetDirect interface software for SunOS and Solaris UNIX systems  
J2341B LocalTalk  
Serial interface (third party suppliers)

---

# Selecting Paper and Other Print Media

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## Introduction

Several types of paper and other print media can be used with the HP Color LaserJet 5/5M printer, following certain guidelines. Using paper that does not meet the guidelines outlined in this appendix may increase the incidence of paper jams, affect print quality, cause premature wear to the printer, and contribute to repair costs.

Before purchasing any quantity of media or specialized forms, test a small quantity. Make sure your paper supplier obtains and understands the paper and print media requirements specified in *HP LaserJet Printer Family Paper Specification Guide*.

---

### Note

It is possible that paper could meet all of the guidelines in this appendix and still not print satisfactorily. This may be due to abnormal characteristics of the printing environment or other variables over which Hewlett-Packard has no control. Extremes in temperature and humidity are examples.

**Hewlett-Packard recommends testing any paper before buying large quantities.**

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### Caution

Using media outside these specifications may cause problems requiring service. This service is not covered by the Hewlett-Packard warranty or service agreements.

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## Paper

For best results, use conventional white xerographic paper for your print jobs. The paper should be good quality and be free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, perforations, and curled or bent edges.

Table B-1 lists the basic paper specifications for this printer. For a complete list of paper specifications, see the *HP LaserJet Printer Family Paper Specification Guide*.

## Colored Paper With Heat Resistant Pigments

Colored paper should be of the same high quality as white xerographic paper. Pigments used must withstand the printer's fusing temperatures of 392° F/200° C for 0.2 seconds without deterioration. Do not use paper with a colored coating that was added after the paper was produced.

The printer creates colors by printing a pattern of dots, overlaying and varying their spacing to produce various colors. Since the printer does not have any way to detect the color of paper you are using, varying the shade or color of your paper will vary the shades of your printed colors.

## Heavy Paper Stock

Use 20 to 24 pound/75.2 to 90.2 g/m<sup>2</sup> paper in the front input tray, optional rear feed unit, or manual feed. *Do not* use extremely heavy paper stock; misfeeds, mis-stacking problems, paper jams, poor toner fusing, poor print quality and excessive mechanical wear can result.

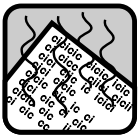


Table B-1

## Paper Specifications

Description	Specifications
Basis Weight	20 to 24 pounds / 75.2 to 90.2 g/m <sup>2</sup>
Furnish (Fiber Composition)	100% chemical wood pulp. Recycled paper with up to 5% groundwood may be used.
Finish	100 to 190 (Sheffield) *
Fusing Compatibility	Must not scorch, melt, offset, or release hazardous emissions when heated to 392°F (200°C) for 0.2 seconds.
Grain	Long grain.
Moisture Content	4.7% ± 1% by weight.
Caliper	3.0 to 7.0 mils (0.094 to 0.18 mm).
pH Value	5.5 pH minimum.
Curl	In-ream: flat within 0.2 in. (5 mm).

\* Sheffield is a unit of measurement for paper finish. The lower the number, the smoother the paper.



## Pre-printed Forms and Letterhead

Observe the following guidelines to avoid problems with pre-printed forms and letterhead.

- Forms and letterhead must be printed with heat-resistant inks that will not melt, vaporize, or release hazardous emissions when subject to the printer's approximately 392°F/200°C fusing temperature for 0.2 seconds.
- The inks must be non-flammable and should not adversely affect any printer rollers.
- Forms and letterhead should be sealed in a moisture-proof wrapping to prevent moisture changes during storage.
- Inks must be completely dry on forms and letterhead before using them in this printer. Ink that is not completely dry may come off the page during the fusing process.

---

## Recycled Paper

Recycled paper is a combination of waste paper, pre-consumer waste, and post-consumer waste. Choose recycled paper that meets the same specifications, except brightness, as standard paper (see Table B-1), and that has an appearance suitable for your needs. HP recommends that recycled paper contain no more than 5 percent groundwood.

---

## Media to Avoid

Follow these guidelines to avoid poor print quality or damage to your printer:

- Do not use paper that is too rough.
- Do not use paper that contains embossed letterheads or is coated.
- Do not use paper with cutouts or perforations.
- Do not use multi-part forms or carbonless paper.
- Do not use paper with irregularities such as tabs or staples.
- Do not use letterhead paper with low temperature dyes or thermography. Pre-printed forms or letterhead should use inks compatible with 392°F/200°C temperatures.
- Do not use any media that produces hazardous emissions, melts, offsets, or discolors when heated to 392°F/200°C for 0.2 seconds.
- Do not use paper that has already been printed on or fed through a photocopier or printer.
- Do not use paper with a watermark if solid fills are to be printed.



## Overhead Transparencies

Use only overhead transparencies recommended for use in this printer.

When printing color overhead transparencies, the printer will automatically direct the overhead transparency to the face-up lower output bin. You must pull the bin out before sending the job.

Table B-2

Overhead Transparency Specifications

Description	Specifications
Electrical Surface Resistivity	2.0 to $15 \times 10^{10}$ ohms per square inch.
Fusing Compatibility	Overhead transparency materials must be compatible with the heat and pressure of the fusing process. Materials must not discolor, melt, offset, or release hazardous emissions when heated to 392°F/200°C for 1.2 seconds.
Caliper (Thickness)	.0048 to .0052 in/0.12 to 0.132 mm

### Note

Try to handle transparencies using the edges. Oils from your fingers can be deposited on the transparency, possibly causing print quality problems.

## Glossy Paper

Use only HP glossy paper in this printer. Contact your HP dealer to purchase glossy paper.



# Environmental Specifications

## Electrical Specifications

### Electrical Specifications

<b>Power Requirements</b>	100/127V (+/- 10%) 60 Hz (+/-2 Hz)	220/240V +/- 10%) 50 Hz (+/-2 Hz)
<b>Power Consumption (typical)</b> <b>During Printing:</b> <b>During Standby:</b> <b>Power save mode:</b>	470 W (average) 80 W (average) <45 W	480 W (average) 90 W (average) <45 W
<b>Minimum recommended circuit capacity for typical product</b>	16.0 Amps at 120v	7.1 Amps at 220v

## Operating Environmental Specifications

### Operating Specifications

<b>Temperature</b>	<b>Humidity</b>	<b>Altitude</b>
50 to 83°F/10 to 28°C	20 to 70% RH	0 to 10,000 feet/0 to 3100 m

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# Acoustic Emissions

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## Acoustic Emissions

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Operation position	Per ISO 9296, DIN 45635, T.19
Printing	L <sub>PA</sub> 56 dB(A)
Standby	L <sub>PA</sub> 42 dB(A)
Bystander 1m	Per ISO 7779, DIN 45635, T.19
Printing	L <sub>PA</sub> 51 dB(A)
Standby	L <sub>PA</sub> 36 dB(A)
Sound Power	Per ISO 9296
Printing	L <sub>WAD</sub> =6.7 bels(A)
Standby	L <sub>WAD</sub> =5.2 bels(A)

---

# FCC Regulations

## FCC Statement (Class B)

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

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

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

---

### Note

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

# Safety Information

## Laser Safety


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

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

### WARNING

Never operate or service the printer with the protective cover removed from the Laser/Scanner Assembly. The reflected beam, although invisible, can damage your eyes. The label in Figure C-1 is located on the Laser/Scanner Assembly.

Figure C-1

<b>DANGER</b> INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.	<b>DANGER</b> RAYON LASER INVISIBLE LORS DE L'OUVERTURE. EVITER L'EXPOSITION DIRECTE	 Rated Output Power 8mW 760-810nm.
<b>VORSICHT</b> UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEÖFFNET UND SICHER- HEITSPERRUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.	<b>PELIGRO</b> RADIACION LASER INVISIBLE AL ABRIR, EVITAR LA EXPOSICION DIRECTA AL HAZ	
<b>VARO!</b> AVATTAESSA JA SUOJALUKITUKSET OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.	<b>VARNING</b> OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN	

## Ozone Emission

The corona assemblies found in laser printers and photocopiers generate ozone gas (O<sub>3</sub>) as a by-product of the electrophotographic process. Ozone is only generated while the printer is printing (while the coronas are energized).



## Standards for Ozone

Standards for exposure to ozone have been established by the Department of Labor - Occupational Health & Safety Administration (DOL-OSHA) and the American Conference of Governmental Industrial Hygienists (ACGIH). These standards are 0.1 ppm as a ceiling limit. All LaserJet family printers meet these standards when shipped from the factory.

## Recommendations for Minimizing Ozone Exposure

Some people are extremely sensitive to ozone. In such cases, it is advisable to position the printer away from the sensitive user, or more frequent filter replacement may be necessary.

Almost all ozone concerns arise from abnormal site or operating conditions. The following conditions may generate an ozone complaint:

- Installation of multiple laser printers in a confined area
- Extremely low relative humidity
- Poor room ventilation
- The exhaust port of the printer is directed toward the faces of personnel
- The existing ozone filter is in poor condition
- Long, continuous printing combined with any of the above

Inspect your work environment for the operating conditions listed above if you believe ozone emissions are a problem in your area. (The employer is responsible for providing a work environment that meets these requirements.)

The ozone filter is user-replaceable and is part of the Toner Collection Kit. It should be changed at the same time as the collection kit. Replacement is indicated on the printer control panel display after the equivalent of 20,000 black and white pages (approximately) have been printed. See Chapter 6 or information on changing the ozone filter.

---

### Note

To maximize the effectiveness of the ozone filter, set the printer's "power save" mode to be initiated after 15 minutes (refer to Chapter 5 of the printer's user's guide). Since the fan is turned off during the power save mode, less dust is deposited onto the ozone filter. The accumulation of dust on the filter will eventually reduce its effectiveness.

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# Laser

## LASERTURVALLISUUS

### LUOKAN 1 LASERLAITE

#### KLASS 1 LASER APPARAT

HP Color LaserJet laserkirjoitin on käyttäjän kannalta turvallinen luokan 1 laserlaite. Normaalisessa käytössä kirjoittimen suojakotelointi estää lasersäteen pääsyn laitteen ulkopuolelle.

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

#### VAROITUS !

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

#### WARNING !

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

#### HUOLTO

HP Color LaserJet -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 erikoistuneita kaluja.

#### VARO !

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

#### WARNING !

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

Tiedot laitteessa käytettävän laserdiodin säteilyominaisuuksista:

Aallonpituus 760-810 nm  
Teho 8 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:** Color LaserJet 5/5M  
**Model Number:** C3961A, C3962A  
**Product Options:** All

**conforms to the following Product Specifications:**

**Safety:** IEC 950:1991 + A1+A2 / EN 60950:1992+A1+A2  
IEC 825:1984 + A1 / EN 60825:1991 Class 1

**EMC:** CISPR-22:1993 / EN 55022:1994 Class B <sup>1</sup>  
CISPR-22:1993 / EN 55022:1994 Class A \*  
EN 50082-1:1992  
IEC 801-2:1991 / prEN55024-2:1992 -3kV CD, 8 kV AD  
IEC 801-3:1984 / prEN55024-3:1991 - 3V/m  
IEC 801-4:1988 / prEN55024-4:1992 - 0.5kV Signal Lines,  
1 kV Power lines

\*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 EN 55022 Class A.

### Supplementary Information:

These products comply with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC (inclusive 93/68/EEC).

The HP Color LaserJet 5/5M printers were tested in a typical configuration with Hewlett-Packard Personal Computer and Test Systems.

Office of Quality Manager  
Boise, Idaho USA  
November 17, 1993

European Contact: Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE / Standards Europe, Herrenberger Straße 130, D-7030 B"blingen (FAX: + 49-7031-14-3143)



# SIMM Installation

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## To Install a SIMM

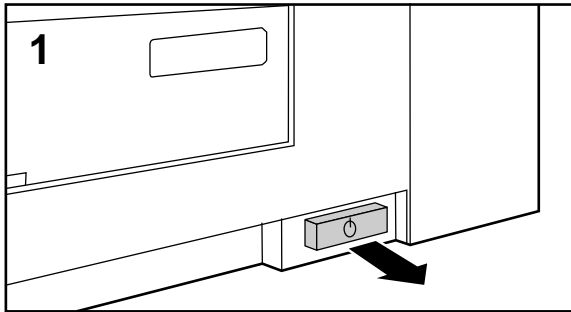
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### CAUTION

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Wear an antistatic wrist strap or touch the surface of the antistatic package before removing the board from its package. When handling the board, wear an antistatic wrist strap or frequently touch bare metal on the printer.

Follow the instructions in this appendix to install your Adobe™ PostScript™ SIMM board.

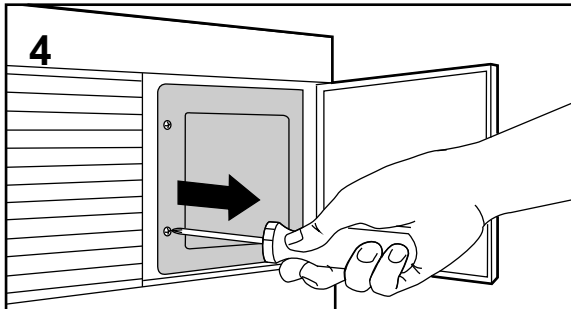
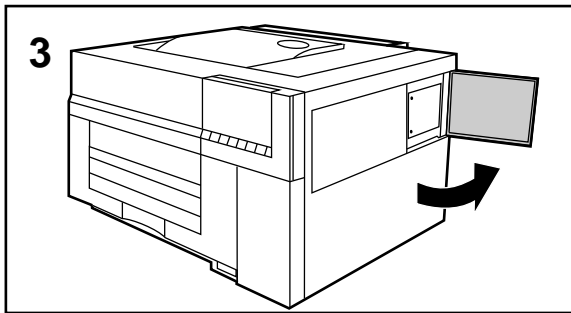
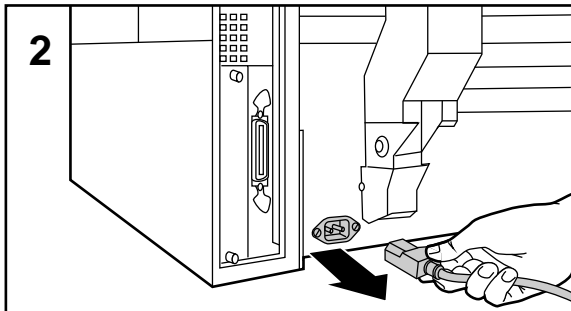


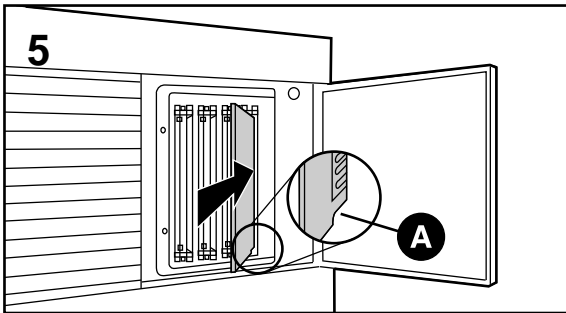
**1** Turn the printer off (button out).

**2** Disconnect the power cord.

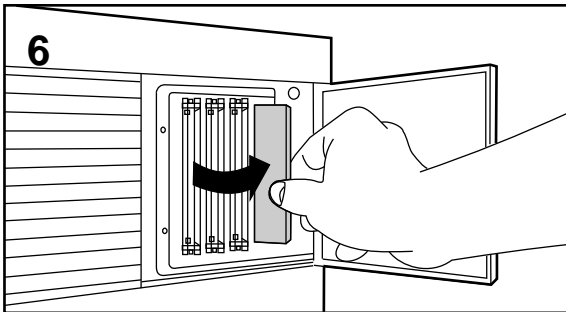
**3** Open the SIMM access door.

**4** Remove the access panel using a Phillips screwdriver.

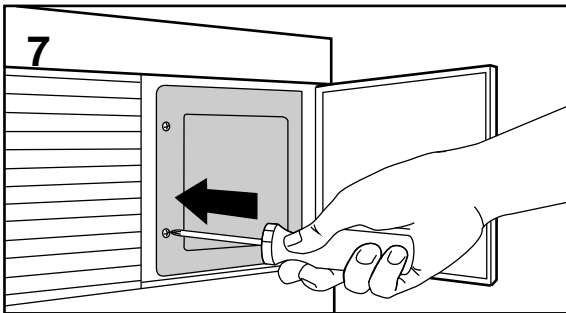




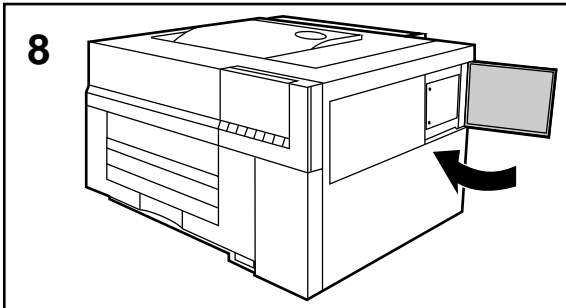
**5** With the notch (A) pointing downward, firmly insert the board at a 30° angle into the farthest open slot to the right.



**6** Move the board to the right until it snaps into a position perpendicular to the printer.



**7** Replace the access panel.



**8** Close the access door, reconnect the power cord, and turn the printer ON.

After installing the PostScript SIMM, see "Switching printer personalities" in Chapter 5 .

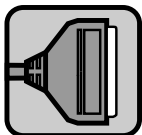
- **Verification:** To verify successful SIMM installation, refer to Chapter 5 and print out a self test page. If the SIMM has been installed properly, the self test will show the presence of the SIMM.

If the printer display shows an error message, refer to Chapter 7 for further information.



# Printer Interfaces

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## Introduction

This appendix contains the following information:

- Switchbox Operation
- Parallel Configuration
- Modular I/O Configuration
- LocalTalk Configuration
- Enhancing Network Performance

---

## Switchbox Operation

If you are using a mechanical switchbox:

- Do not switch when the printer is printing or receiving data (that is, when the Data light is blinking).
- Do not switch to a host computer that is off, then switch that computer on. The computer can appear to be sending data. If a `22 I/O CONFIG ERROR` appears on the printer's display, reset the printer by using the **RESET** key.



## Parallel Configuration

If your printer does not have a network interface card, use the standard Bi-Tronics parallel interface. The parallel interface will transmit data to the printer quickly; however, it is not as fast as a network interface card, and is limited to being no more than 10 feet from the host system (for example, a PC or workstation) because of the length constraint of the cable.

### Note

The *Bi-Tronics parallel* interface (IEEE 1284 compliant) is compatible with Centronics parallel interfaces. To use its enhanced capabilities such as bi-directional communication between the computer and printer, faster transfer of data, and automatic configuration of printer drivers, you need software that supports these features. Check with your software vendor to see if your software supports Bi-Tronics parallel features.

Automatic I/O switching can be adjusted for maximum performance by using the timeout feature. If, when using multiple ports, data from other ports appears in the middle of your print job, increase the I/O timeout value. See “Setting the I/O Timeout” in Chapter 5.

For specific information about setting up your computer and printer to print through the parallel interface, see the instructions in the printer’s *Getting Started Guide*.

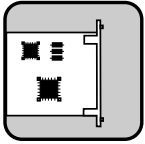
## Parallel Cable Pin Configuration

To take advantage of the enhanced capabilities of the Bi-Tronics parallel interface, use an IEEE 1284-compliant parallel cable with the correct pin configuration, as shown below.

Figure E-1

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

Parallel Cable Pin Configuration



## Modular I/O Configuration

Your HP Color LaserJet 5 printer comes equipped with a modular I/O slot. A modular I/O interface card can be plugged into that slot to increase the number of interfaces available to you.

A modular I/O card can also provide increased printer performance when printing from a network. In addition, a modular I/O card provides the ability to place the printer anywhere on the network. This eliminates the need to attach the printer directly to a server or a workstation, and enables you to place your HP Color LaserJet 5 printer closer to your network users.

## Available Modular I/O Interfaces

A number of modular I/O cards, called HP JetDirect interface cards, are available from Hewlett-Packard Company. HP offers JetDirect interface cards for EtherTalk, HP-UX, LAN Manager, LAN Server, LocalTalk, NetWare, Solaris, SunOS, Windows for Workgroups, and Windows NT networks in various network operating systems. Additionally, HP offers an HP-IB JetDirect interface card. For more information on types of interfaces and network operating systems that are supported by JetDirect interface cards, contact your authorized Hewlett-Packard dealer.

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## LocalTalk Configuration

The LocalTalk interface enables you to print directly from a Macintosh computer or from a Macintosh computer on a LocalTalk network. For specific information on setting up your computer and printer to print through the LocalTalk interface, refer to the instructions in the printer's *Getting Started Guide* and *HP JetDirect Printer Server Software Installation Guide*.

### Macintosh Din-8 Cable

If you are using a Macintosh computer to print directly to your HP Color LaserJet 5M printer without a network, use a standard Macintosh printer cable; this cable cannot be used in a network configuration.

---

#### Note

You must plug the cable into the printer port of your Macintosh computer. LocalTalk will work only if you plug your printer cable into that port.

---

### LocalTalk Network Configuration

To connect your HP Color LaserJet 5M printer to a Macintosh computer on a LocalTalk network, use the HP LocalTalk Cable Kit. You will need one kit for each printer and an additional kit for each Macintosh computer on your network.

---

# Enhancing Network Performance

## HP JetDirect Network Interfaces

The use of an optional HP JetDirect card allows higher performance configurations.

## NetWare 386-Based Products

The NetWare 386 and HP JetDirect interface in Queue Server Mode provide optimum printing performance.

## NetWare 286

If you are using NetWare 286, follow these recommendations to ensure optimum performance:

- The addition of an HP JetDirect interface in Queue Server Mode allows the highest performance configuration. HP JetDirect interfaces must be used with dedicated file servers only.
- The print server VAP (value added process) must be installed on dedicated file servers only. Non-dedicated file servers run competing DOS and NetWare processes, which adversely impact printer performance.
- A PC operating as a dedicated print server provides better performance than a print server running as a VAP. If you use full-page raster graphics or frequently download soft fonts, a dedicated print server provides better performance. (Refer to your network operating system documentation for more information.)

## IBM LAN Server and Microsoft LAN Manager

Although OS/2 supports virtual memory, better performance may be obtained by increasing server RAM, especially if the SWAPPER.DAT file is large. This is dependent on the number of network printers and the type of printer device driver. Optimum performance for the maximum printer configuration (six printers on a server for OS/2 1.3, and twelve printers on a server for OS/2 2.0) may require 16 Mbytes of RAM.





# Service and Support

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See page iii for a listing of customer support options and phone numbers.

## Assistance from Your Organization

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

## Assistance from Your Local Dealer

If you purchased your printer from an HP dealer or large system vendor, your dealer may be the best source of assistance. The salesperson is familiar with your needs, equipment, configuration and software, and should be able to provide you with necessary formation. Your dealer can also access special HP support resources and programs. Contact your dealer for details on available support options.

## Hardware Repairs

Mechanical parts wear out, and electronic devices occasionally need service. HP provides high-quality, professional hardware support through Service Authorized HP Dealers and the world-wide network of HP Sales and Service Offices. These offices are listed in this manual following the index. For assistance in locating the service center nearest you, call:

U.S.A. 800-835-4747

Canada 800-387-6733

Europe Contact your nearest HP Authorized dealer.

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### NOTE

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

## Help from the Customer Support Center

If your organization's support personnel and your dealer are unable to answer your questions, Hewlett-Packard has a Customer Support Center available to help you. It is available from 7 a.m. until 6 p.m. (Mountain Time) on Monday, Tuesday, Thursday, and Friday; and 7 a.m. until 4 p.m. on Wednesday. **Be sure to obtain the model number and serial number of your printer before you call.**

Before contacting the Customer Support Center, try the following:

- Read and try the troubleshooting suggestions in Chapter 7.
- Use the control panel to print a self-test page, if possible.
- Check with your software vendor or refer to your software documentation if you suspect a software problem.
- Call HP FIRST and Audio Tips.

### In Warranty Support

If you are still having difficulties and your printer is within the warranty period, call HP Customer Support at (208) 323-2551 (U.S.). Outside the U.S., contact your local HP Sales and Service office or HP reseller.

### Out of Warranty Support

If you are still having difficulty, and your printer is past the warranty period, you have two choices for support:

- 1 You can call (900) 555-1500 (U.S.) at \$2.50\* per minute.
- 2 You can call (800) 999-1148 (U.S. and Canada) at \$25.00\* per call (VISA or Master Card).

Outside the U.S., contact your local HP Sales and Service office or HP reseller.

\* *Prices subject to change without notice.*

## Help from HP FIRST

If you have a fax machine, you can fax a request to HP FIRST for 24-hour access to updated software application notes and ordering information for printer drivers. The HP FIRST information number is: (800) 333-1917.

# Sales and Service Offices

## Calling for Help

To find a service authorized HP Dealer in the USA, call (800) 752-0900. To find a service authorized HP Dealer outside of the USA, contact one of the following offices:

To find a service-authorized HP dealer in the U.S., call (800) 752-0900. To find a service-authorized HP dealer outside of the U.S. contact one of the following offices:

Worldwide Hewlett-Packard Sales and Service Offices	
<b>Australia/New Zealand:</b> Hewlett-Packard Australia Ltd. 31-41 Joseph Street Blackburn, Victoria 3130 Australia Telephone: 61 3 272-2895	<b>Austria:</b> Hewlett-Packard Ges.m.b.H. Lieblgasse 1 P.O. Box 72 A-1222 Vienna Austria Telephone: 43 222 2500-0
<b>Belgium:</b> Hewlett-Packard Belgium SA/NV Boulevard de la Woluwe, 100, Woluwedal B-1200 Brussels Belgium Telephone: 32 2 761 31 11	<b>Brazil:</b> Hewlett Packard Alameda Rio Negro 750 06454 - 000 Alphaville - Barueri - S.P. Brazil Telephone: 55 11 726-8000
<b>Canada:</b> Hewlett-Packard (Canada) Ltd. 17500 Trans-Canada Highway Kirkland, Quebec H9J 2X8 Canada Telephone: 1 514 697-4232  Hewlett-Packard (Canada) Ltd. 6877 Goreway Drive Mississauga, Ontario L4XX 1M8 Canada Telephone: 1 416 678-9430	Canadian Customer Information Center: 1 800 387-3867  HP Direct Marketing: 1 416 671-8383  Hardware Service: 1 800 268-1221  Customer Support Center (English service only): 1 208 323-2551

**Worldwide Hewlett-Packard Sales and Service Offices, *continued***

<p><b>China:</b> China Hewlett-Packard Company 5-6/F, West Wing Office China World Trade Center No. 1, Jian Guo Men Wai Avenue Beijing, 100004, China Telephone: 86 1 505-3888</p>	<p><b>Czechoslovakia:</b> Hewlett-Packard Ceskoslovensko s.p.o. Novodvorska 82 14200 Praha 4 Czechoslovakia Telephone: 42 (2) 471 76 76</p>
<p><b>Denmark:</b> Hewlett-Packard A/S Kongevejen 25 DK-3460 Birkerød Denmark Telephone: 45 45 99 10 00</p>	<p><b>European Headquarters:</b> Hewlett-Packard S.A. Route du Nant-d'Avril 150 CH-1227 Meyrin 2 (Geneva) Switzerland Telephone: 41 22/780 81 11</p>
<p><b>Far East Area:</b> Hewlett-Packard Asia Pacific Ltd. 17-21/. Shell Tower, Times Square 1 Matheson Street, Causeway Bay Hong Kong Telephone: 852 599-7777</p>	<p><b>Finland:</b> Hewlett-Packard Oy Piispankalliontie 17 P.O. Box 68 SF-02200 Espoo Finland Telephone: 358 0/887 21</p>
<p><b>France:</b> Hewlett-Packard France 28, rue Jacques Ibert BP 5820 75858 Paris CÉDEX 17 France Telephone: 33 (1) 40 89 77 00</p>	<p><b>Germany:</b> Hewlett-Packard GmbH Herrenberger Strasse 130 W-7030 Böblingen Germany Telephone: 49 7031/14-0</p>
<p><b>Greece:</b> Hewlett-Packard Hellas 62, Kifissias Avenue GR Maroussi-Athens 15125 Greece Telephone: 30 1 689 64 11</p>	<p><b>Hungary:</b> Hewlett-Packard &amp; Control Kft. Erzsebet kiralyne utja 1/c 1118 Budapest Hungary Telephone: 36 (1) 142 09 86</p>
<p><b>Italy:</b> Hewlett-Packard Italiana S.p.A. Via Giuseppe di Vittorio, 9 I-20063 Cernusco sul Naviglio Milano Italy Telephone: 39 2/92 121</p>	<p><b>Japan:</b> Yokogawa-Hewlett-Packard Ltd. 3-29-21, Takaido-Higashi Suginami-Ku, Tokyo 168 Japan Telephone: 81 3 3331-6111</p>

**Worldwide Hewlett-Packard Sales and Service Offices, *continued***

<p><b>Korea:</b>                  Samsung Hewlett-Packard Ltd.                  11-20th Floors, SHP House                  25-12, Yeoeuido-dong, Youngdeungpo-ku                  Seoul 150, Korea                  Telephone: 82 2 769-0114</p>	<p><b>Latin American Sales Region Headquarters:</b>                  Hewlett-Packard Latin America                  Monte Pelvoux No. 111                  Fracc. Lomas de Virreyes                  11000 Mexico D.F.                  Mexico                  Telephone: 52 5 326-4000</p>
<p><b>Mexico Guadalajara:</b>                  Hewlett-Packard de México, S.A.                  Montemorelos No. 299                  Fracc. Loma Bonita 45060                  Telephone: 669-95-00</p> <p><b>Mexico, D.F.:</b>                  Hewlett-Packard de México, S.A.                  Prolongacion Reforma 700                  Colonia Lomas de Santa Fe                  C.P. 01210 Mexico, D.F.                  Mexico                  Telephone: (525) 396-4044</p>	<p><b>Mexico Monterrey:</b>                  Hewlett-Packard de México, S.A.                  Monterrey, Nvo. León                  Calz. Del Valle O. No. 409                  4° Piso, Col. Del Valle                  Garza García, 76030                  Telephone: 378-42-40</p>
<p><b>Middle East/Africa:</b>                  Middle East, Central Africa                  Sales Headquarters                  Hewlett-Packard S.A.                  7, rue du Bois-du-Lan                  P.O. Box 364                  CH-1217 Meyrin 1 (Geneva)                  Switzerland                  Telephone: 41 22/780 71 11</p>	<p><b>Netherlands:</b>                  Hewlett-Packard Nederland B.V.                  Startbaan 16                  NL-1187 XR Amstelveen                  P.O. Box 667                  The Netherlands                  Telephone: 31 20/547 69 11</p>
<p><b>Norway:</b>                  Hewlett-Packard Norge A/S                  P.O. Box 34                  Østerdalen 16-18                  N-1345 Østerås                  Norway                  Telephone: 47 2 87 97 00</p>	<p><b>Poland:</b>                  Hewlett-Packard Polska Sp. z o.o.                  Ul. Nowelska Nr. 6                  PL-01447 Warszawa                  Poland                  Telephone: 48 22 37 50 65</p>
<p><b>Portugal:</b>                  Hewlett-Packard Portugal, S.A.                  Rua Gregório Lopes, Lote 1732A                  1400 Lisboa                  Portugal                  Telephone: 351 1-3017330</p>	<p><b>Singapore:</b>                  Hewlett-Packard Singapore (Pte.) Ltd.                  150 Beach Rd #29-00 Gateway West                  Singapore 0718                  Telephone: 65 291-8554</p>

**Worldwide Hewlett-Packard Sales and Service Offices, *continued***

<p><b>Spain:</b> Hewlett-Packard Española, S.A. Madrid E28230 Las Rozas Crta. de la Coruña, km 16,500 Spain Telephone: 34 1 626 16 00</p>	<p><b>Sweden:</b> Hewlett-Packard Sverige AB Skalholtsgatan 9 Box 19 S-164 93 Kista Sweden Telephone: 46 8/750 20 00</p>
<p><b>Switzerland:</b> Hewlett-Packard (Schweiz) AG In der Luberzen CH-8902 Urdorf Switzerland Telephone: 01- 735 72 74 Fax: 01- 735 77 06</p>	<p><b>Taiwan:</b> Hewlett-Packard Taiwan Ltd. 8F, 337 Fu-Hsing North Road Taipei, Taiwan R. O.C. Telephone: 886 2 712 0404</p>
<p><b>Thailand:</b> Hewlett-Packard Thailand Ltd. 11th Floor, Pacific Place 140 Sukhumvit Road Bangkok, 10110 Thailand Telephone: 66 2 254-6720</p>	<p><b>Turkey:</b> Hewlett-Packard Bilgisayar ve Ölçüm Sistemleri A.S. 19 Mayıs cad.Nova/Baran Plaza K.12 (Headquarters) 80220 Sisli-Istanbul Turkey Telephone: 90 1 224 59 25</p>
<p><b>United Kingdom:</b> Hewlett-Packard Limited Cain Road Bracknell GB-Berkshire RG12 1HN United Kingdom Telephone: 44 344/360000</p>	

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## Maintenance Agreements (Service Contracts)

HP has several types of maintenance agreements that meet a wide range of support needs. The following paragraphs describe these services. To obtain one of these services, call:

- U.S.A. 800-835-4747
- Canada 800-387-6733
- Europe Contact your nearest HP Authorized dealer.

## On-Site Service Agreements

The HP Color LaserJet 5/5M printer warranty provides one-year of customer support at no additional charge including:

- 1 year of Toll-Call Technical Phone Support.
- 1 year of Next-Day On-site Hardware Support.

HP also offers these additional customer support warranties to best suite your personal system usage and support budget:

### **HP Support Pack Provides:**

- 3 years of Toll-Free Technical Phone Support.
- 3 years of Next-Day On-Site Hardware Support.

### **Same-Day On-Site Warranty Upgrade Provides:**

- Mission Critical/Sensitive Customer Upgrade support during warranty
- Offers 1 year of Same-Day On-Site hardware support
- Gives the customer four-hour On-Site service response for calls made during normal HP business hours.

### **Same-Day On-Site Contractual Provides:**

- Offers 1 year of Same-Day On-Site hardware support
- Gives the customer four-hour On-Site service response for calls made during normal HP business hours.

### **Next Day On-Site Contractual Provides:**

- Offers 1 year of Next-Day On-Site hardware support.
- Provides On-Site support by the working day following your request. Extended coverage hours and extended travel beyond HP designated service zones are available for additional charges on most on-site service agreements.

### **HP Performed User Maintenance**

- Offers 1 year of Scheduled Maintenance for replacement of high-end consumables (or imaging units).

## **Per-Incident Repair Services**

In addition to contractual services, HP offers per-incident services. A fixed, Standard Repair Price (STREP) is available at HP Customer Service centers. Your product is repaired at a fixed price, regardless of the time and parts required to accomplish the task. Repairs are typically completed within five working days of receipt at the HP Customer Service Centers. Time-and-materials service is also available and generally applies to per-incident repairs provided on-site.

## **Dealer Sponsored Service Agreements**

Your local, service-authorized Hewlett-Packard dealer may offer service options in addition to those offered by Hewlett-Packard. Please contact your dealer for more information.

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# Repackaging Guidelines for Returning Your Printer

If you need to repackage your printer for shipment, and have saved the original box and packaging materials, make sure you have all the shipping materials for the printer. This includes:

- the pallet
- developer box,
- accessory box
- four pieces of foam (two upper, two lower)
- a large plastic bag
- the original box

The four pieces of foam have a two letter identifier as to where they are placed. These identifiers are RB (Right Bottom), LB (Left Bottom), RT (Right Top), and LT (Left Top)

If you have not saved the original box and packaging materials, a repackaging kit is available in the USA (P/N C3100-67905) from:

Republic Packaging  
12050 W. Franklin  
Boise, ID 83709  
(208) 323-8888

Before you repackage the printer, there are a few precautions you must take:

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## Caution

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Do not ship your printer with toner or developers installed. If toner or developers are left in the printer they will spill during shipping and damage your printer.

- 1** Remove the developers from the printer. Place the black developer in a plastic bag.
- 2** The color developer must be prepared for transport by taping with masking tape (3M #2095 or equivalent so that no sticky residue will be left behind when it is removed). The tape will prevent cross contamination between the three developers while in transport.
  - a** Cut three pieces of tape which fit between the foam seals on each side of the developer sleeves. (Placing tape on the seals will damage them and cause print quality problems.)
  - b** Place each piece of tape over the developer sleeve pressing the tape against the black plastic between the developer sleeves.
  - c** Place the color developers in the plastic bags it and install the foam packaging material. Place the color developer in the developer box followed by the black developer.
- 3** Next, remove the toner from the reservoirs. This can be done with a toner vacuum. (Using a normal vacuum will create a mess since it cannot filter the small toner particles.)

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# Limited Warranty

## HP PRODUCT

## DURATION OF LIMITED WARRANTY

HP Color LaserJet 5/5M Printer	1 Year
Black Developer	90 Days *
Color Developer	90 Days *
Transfer Belt	90 Days *
Fuser	90 Days *
Print Drum	90 Days *
Coating Kit	90 Days
Collection Kit	90 Days
Software	90 Days

\* These products have a one year limited warranty when shipped in the HP Color LaserJet 5/5M printer box. Subsequent purchase of these items will be subject to a 90 (ninety) day limited warranty for defects only.

- 1** HP warrants to you, the end-user customer, that HP hardware, accessories and supplies will be free from defects in materials and workmanship after the date of purchase of your printer, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective.
- 2** HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified above, due to defects in material and workmanship when properly installed and used on the hardware product designated by HP. If HP receives notice of such defects during the warranty period, HP will replace software media which does not execute its programming instructions due to such defects.
- 3** HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product to HP.
- 4** Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance. Product which has reached the end of maximum usable life as specified on the self test page is not considered defective.

- 5 ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY SET FORTH ABOVE. Some states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from state to state, or province to province.
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**Note**

The use of a non-HP or refilled toner or supplies alone does not affect either your warranty or any maintenance contract you may have purchased. However, if an HP LaserJet printer failure or damage is found to be directly attributable to the use of non-HP toner, 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. Operation of the printer beyond the limit of its duty cycle shall be deemed printer abuse and all repairs thereafter will be billed on a time and materials basis.

## Service During the Warranty Period

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

## Service After the Warranty Period

If your hardware fails after the warranty period, and you have an HP Maintenance agreement, request service as specified in that agreement. If you do not have an HP Maintenance Agreement, contact an authorized HP Dealer or an HP Customer Service Center or service-authorized HP dealer, and include a copy of your proof of purchase. We recommend insuring the equipment for shipment. To locate the authorized service center in your area, please call:

U.S.A. (800) 835-4747  
Canada (800) 387-6733  
Europe Contact your nearest HP Authorized dealer.



# Color Balance Adjustment

This procedure will allow you to adjust the balance of your printer by changing the densities of the four toners (black, cyan, magenta, and yellow). Because this procedure adjusts the parameters within your printer hardware, it will affect all print jobs.

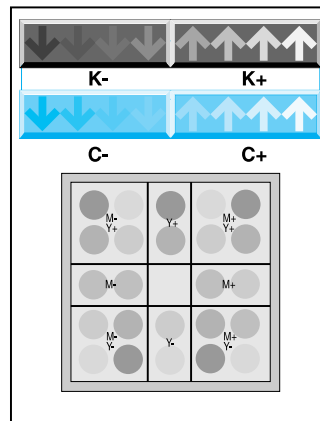
## Caution

This procedure changes the color balance of your printer by altering developer bias and laser power. It will affect all print jobs. Do not perform this procedure before exhausting recommended troubleshooting options.

Do not perform the color balance adjustment procedure until all of the following troubleshooting methods have been completed:

- 1 Experiment with driver and software application settings to adjust the color output.
- 2 Complete the cleaning procedure on optics, transfer corona, and drum corona. See “Regular Printer Maintenance” in Chapter 6.
- 3 Complete the troubleshooting solutions in Chapter 7 for the color printing problem you are experiencing.

Figure G-1



Color Balance Test Page

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## Adjusting Color Balance

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### Caution

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Adjusting the color balance will change your printer hardware. Perform all of the troubleshooting methods listed above before attempting the following procedure.

**1 Print a self test page.**

See Chapter 5 for instructions on printing a self test page. The self test page will display the last set of saved color settings and provides a record of your initial settings before any adjustments. The factory setting for each color is 0 (other possible settings include -2, -1, 1, and 2).

**2 Turn the printer off.**

**3 Print a color balance test page:**

While holding down the **Menu** and **Enter** keys on the front panel, turn the printer back on. The printer display will read, "Color Balance Test Page." (If this is not shown in the display, press the **Item** key until it is.) Press the **Enter** key to print the Color Balance Test Page. The test page will consist of two color bars (black and cyan) and a box of color balance circles (see Figure G-1).

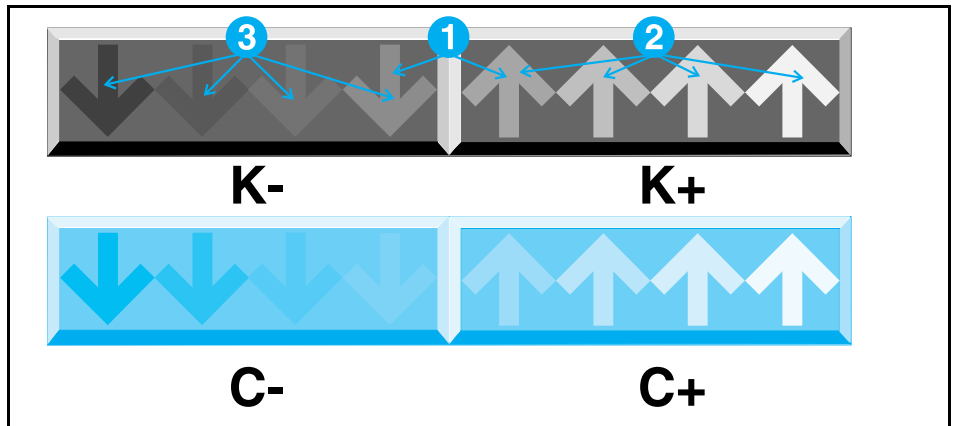
**4 Adjust the black (K+/K-) density setting.**

Examine the black bar from a distance of 6 feet (2 m). If the two center arrows (Figure G-2, callout 1) blend into the background of the black bar the black density does not need to be adjusted (continue with the cyan setting). If one set of arrows (left of center or right of center) is more visible on the black bar, do the following:

- Press the **Item** key to get the K density display.
- If the four arrows on the right (Figure G-2, callout 2) are more visible, the density needs to be increased. Press the **+** key once.
- If the four arrows on the left (Figure G-2, callout 3) are more visible, the density needs to be decreased. Press the **-** key once.
- Press the **Enter** key when finished.



Figure G-2



### Adjusting Black and Cyan Density Settings

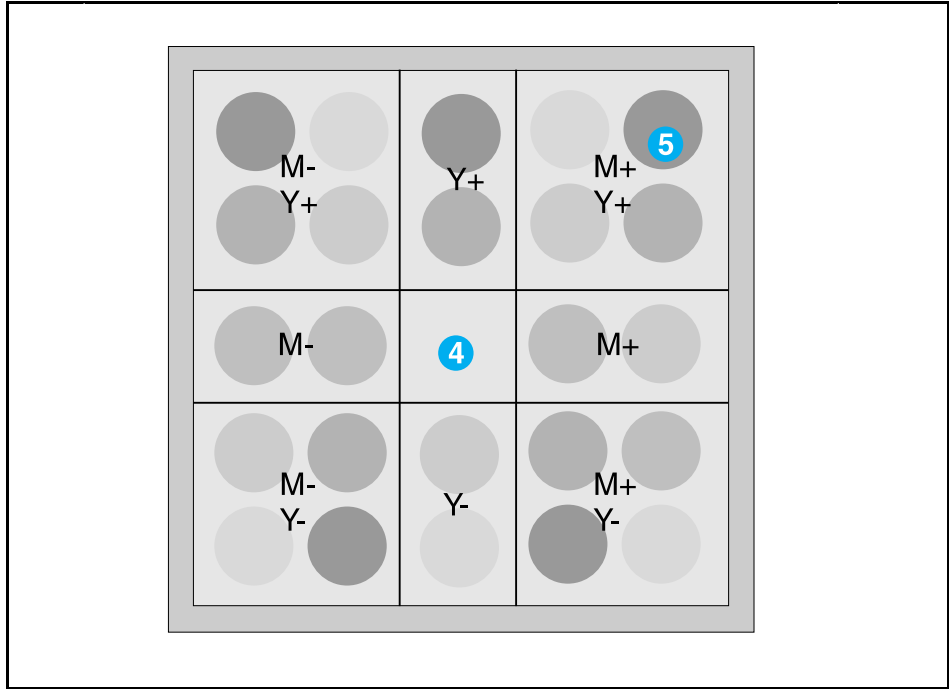
#### 5 Adjust the cyan (C+/C-) density setting.

- Press the **Item** key to get the C density display.
- Repeat the last three steps in 4, this time using the cyan bar.

#### 6 Reprint the color balance test page.

Press the **Item** key until “Color Balance Test Page” is displayed on the front panel. Press the **Enter** key. A new test page will print. Examine the black and cyan bars. If the two center arrows blend into their respective backgrounds, go to step 10, otherwise repeat steps 4 and 5 (the maximum color density setting is +2 and the minimum is -2).

Figure G-3



Adjusting Magenta and Yellow Density Settings

**7 Adjust the magenta and yellow density settings.**

Examine the color balance circles from a distance of 6 feet (2 m). If the center circle (Figure G-3, callout 4) blends into the background, the magenta and yellow densities do not need to be adjusted (go to step 9). Determine which circle blends in best with the background. Make note of the magenta (M) and yellow (Y) density adjustments (for example, M+, Y+ for Figure G-3, callout 5) for that circle.

- Press the **Item** key to select **M Density**. Press the **+** key once or the **-** key once to increase or decrease the M density value. Press **Enter** when complete.
- Press the **Item** key to select **Y Density**. Press the **+** key once or the **-** key once to increase or decrease the Y density value. Press **Enter** when complete.

**8 Reprint the color balance test page.**

Press the **Item** key until “Color Balance Test Page” is displayed on the front panel. Press the **Enter** key. A new test page will print. Examine the color balance circles. If the neutral gray circle is in the center go to step 9, otherwise repeat step 7.

**9 Press **On Line** to continue.**

The maximum density setting is +2 and the minimum is -2.

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## Glossary

**AppleTalk** Refers to the Apple Macintosh standard communication protocol.

**Application** A software program or group of programs for solving common business tasks, for example, Lotus 1-2-3, Windows, or WordPerfect.

**Bitmap Font** A particular collection of symbols with fixed character size and shape. Bitmap fonts are made of dot-by-dot patterns in pre-defined point sizes.

**Bi-Tronics** A parallel interface that allows two way communication between the printer and your computer.

**Centronics** An industry standard parallel input/output (I/O) interface.

**Character Set** See Symbol Set.

**Cleaning Roller** A roller that cleans the stray toner from the fuser. It is part of the coating kit.

**Click** Refers to pressing and releasing a key on the control panel of the printer.

**Coating Roller** The roller on the fuser that provides lubrication for overhead transparencies. It is part of the coating kit.

**Collection Box** See Toner Collection Box.

**Color Adjustment** A ColorSmart setting that provides two options to adjust printed output: lighter/darker and saturation.

**Color Control** A ColorSmart setting that provides various options to adjust printed output, including: vivid color, 8 solid colors, no adjustment, screen match, process blue, and black and white.

**ColorSmart** An HP technology that tags elements in a document as text, graphics, or photos. Tagging elements separately allows users to optimize color and halftone output.

**Configuration** The process of changing certain printer settings to allow your computer to communicate properly with the printer.

**Configuration Menu** The control panel menu that allows you to set defaults for system language switching, auto continue, I/O configuration, Resolution Enhancement (REt), and page protection.

**Corona** The corona device produces the charges used to make the electrostatic image on the drum and to transfer the image to your media.

**Cyan** A bluish color used in color printing as one of the primary colors.

**Defaults** A printer setting used in the absence of a printer command selection by the user. You can reset your printer default values in your printer driver and/or the control panel.

**Developer** Printer hardware that supplies toner to the print drum.

**Dither** See halftone.

**Downloading** Transferring data or soft fonts from your computer to the printer.

**Drivers** Files used by some software applications to access printer characteristics. Printer drivers convert software commands into printer language.

**Drum** See print drum.

**Embedded Printer Commands** Printer commands written by the user directly into a software file.

**Enter Key** Saves the current menu item selection. An asterisk (\*) appears in the display to indicate the selection has been saved.

**Error Message** Communicates data and print errors to the user. See Chapter 5 for a complete list.

**Escape Sequences** PCL 5 software commands sent to the printer. The printer distinguishes these commands from regular text by the presence of an escape character (a special control code). Also known as PCL 5 printer commands.

**Factory Default** The settings that are programmed into the printer at the factory. These settings are in use until you override them from the control panel or by sending printer commands.

**Fixed Spacing** Refers to uniform spacing of all characters and symbols in a font. Measured in characters per inch (pitch). Typewriter-like. Also called fixed pitch.

**Font** A collection of characters and symbols of the same typeface design. A font is described by symbol set, spacing, pitch, point size, style, stroke weight and typeface family. Fonts can refer to the printer internal fonts, or fonts stored in optional font cartridges and soft font disks. Fonts can either be bitmap or scalable.

**Font Characteristics** The symbol set, spacing, pitch, point size, style, stroke weight, and typeface family selections that determine what a printed font looks like.

**Font Rotation Feature** Whether or not the original font is in the orientation or print direction you want, the printer can automatically rotate type in 90 degree increments.

**FontSmart** An HP utility that manages (installs, uninstalls, and deletes) your Windows fonts, including TrueType, Adobe, and bitmap fonts, for all applications. FontSmart is accessed through your printer driver.

**Font Width** The measurement of the horizontal spacing of each character in a font. Software applications use this information to determine how many characters can fit on a given line. Also known as font metric.

**Form Feed Key** Used to print the contents of the page buffer while the printer is off line and in a ready state.

**Fuser** The mechanism inside the printer where toner is melted and then fixed onto the print media, forming a permanent image.

**Glossy Paper** A coated paper with a shiny finish. Use only HP glossy paper or you may damage your printer.

**Grayscale** Printer driver option that allows your color documents to be printed as monochrome with shades of gray.

**Halftone** A method by which dots of toner colors are combined on a page to produce various colors. Also called “dithering.”

**I/O** Input/Output; the communication between the printer and a host computer.

**I/O Interface** A hardware device that enables communication between the printer and a host computer. A Bi-Tronics parallel I/O interface is standard with the printer. Optional I/O interfaces for connection to Local Area Networks are also available.

**Internal Fonts** The fonts resident in the printer when shipped from the factory.

**Item Key** Provides access to the various menu items available within each menu category.

**Job** A specific piece of work to be batch-processed by a computer or a peripheral device such as a printer.

**LAN** See Local Area Network.

**LAN Administrator** See Network Administrator.

**Landscape Orientation** See Orientation.

**Language Switching** Resetting the printer firmware in order to change the way the printer interprets and processes print data. The printer supports language switching between PCL 5 and PostScript.

**Local Area Network (LAN)** One or more PC workstations and one or more servers or hosts connected together so they can share files, printers, and plotters.

**Magenta** A deep purplish red color used in color printing as one of the primary colors.

**Media** Refers to the various types and sizes of paper and transparencies on which the printer may print.

**Menu** A list of items presented for selection from the printer control panel. The printer has two menus: The Printing Menu and the Configuration Menu.

**Menu Key** Provides access to the various menu categories available to the user.

**- (Minus) Key** Displays the previous value available for the current menu item.

**Monochrome** Refers to using a single primary color such as cyan, magenta, yellow, or black.

**Network** One or more PC workstations and one or more servers or hosts connected so they can share files, printers, and plotters. See Local Area Network (LAN)

**Network Administrator** An individual responsible for the LAN. This person typically sets up the network, assigns passwords and privileges, and helps users with problems and network protocol issues they may have while using the LAN.

**Off line** A status during which the printer will not accept data from the computer. Some errors automatically take the printer off line. Clicking the **On Line** key switches the printer between online and off line. The printer is off line any time the On Line indicator is not lit.

**Online** The state in which the printer will accept data from your computer. The printer is online when the On Line indicator is lit.

**On Line Key** Causes the state of communication between a computer and the printer to toggle on and off.

**Orientation** The default direction of print across a page. The printer supports four orientations: portrait, landscape, reverse portrait, and reverse landscape. Only one orientation is allowed per page, but see Font Rotation.

**Parallel** See Centronics or Bi-Tronics.

**PCL 5 Language** HP's page description language for printers. Used for defining a page, selecting fonts, etc. PCL 5 also includes the HP-GL/2 graphics language.

**Permanent Font** A font that resides in the printer memory until the printer is powered off, memory is cleared, or the font is replaced via software command. (Resetting the printer does not clear a permanent font from memory.)

**Persistent Parameters** In the PostScript language, values which control the printer's behavior. These values remain in effect from job to job and even when the printer is turned off. PostScript operators may be used to access and change most of these values.

**Pitch** The number of characters printed per horizontal inch. Pitch applies only to fonts with fixed spacing.

+ **(Plus) Key** Displays the next value available for the current menu item.

**Point Size** The height of a font. Point size is measured from slightly above the top of uppercase letters to slightly below the bottom of lower-case descenders, such as the tail of the letter “y”. There are approximately 72 points per inch.

**PostScript Language** A page description language created by Adobe Systems, Inc., specifically for describing the appearance of text and graphics on a page. See PCL 5 Language.

**Print Buffer** Printer memory that stores or “buffers” data as it is sent from your computer. Clearing the print buffer will erase the unprinted data.

**Print Direction** The direction of print across a page. The printer supports four print directions on a page in 90 degree increments, but see Font Rotation.

**Print Drum** The mechanism inside the printer that develops the image that appears on your print media.

**Printer Commands** Commands used for the PCL 5 language and HP-GL/2 languages. See Escape Sequences.

**Print Menu** The control panel menu that allows you to set several print job defaults such as the number of copies, page orientation, page length, and default font and symbol set.

**Proportional Spacing** Describes fonts for which character spacing varies. For example, a “w” can be three times wider than an “i”.

**Protocol** A set of rules and procedures that govern communication between a server and a PC workstation on a LAN.

**Raster Graphics** Images composed of a pattern of dots. Graphics created in the PCL 5 language mode.

**RAM** Random Access Memory. The type of memory used by your printer to store downloaded fonts, macros, and print data.

**Reset Key** Resets the printer to either the user defaults or the factory defaults, clears the page buffer, and removes all non-permanent soft fonts and macros. Clicking the **Reset** key once resets the printer to user defaults. Pressing and holding the **Reset** key until 09 RESET appears on the display resets the printer to the factory defaults.

**Resolution Enhancement technology (REt)** An HP technology that improves print sharpness for black images by smoothing curves and angled lines.

**REt** Resolution Enhancement technology (REt). See Resolution Enhancement

**Scalable Font** A font scaled within the printer to any size from 0.25 to 999.75 points. Scalable fonts require a symbol set designation.

**Scalable Typeface** Typeface designs that are digitized for reproduction and distribution for printers. The source of both bitmap and scalable fonts.

**Semi-Persistent Parameter** In the PostScript language, semi-persistent parameters are values that control the printer’s behavior. These values remain in effect from job to job but not when the printer is turned off. PostScript operators may be used to access and change these values.

**Set-Up Strings** PCL 5 printer commands usually entered in a designated “field” of a software program; Lotus 1-2-3, for example. Set-up strings are sent to the printer prior to printable data.

**SIMM** Single In-Line Memory Module. The type of expansion memory used with the printer.

**Soft Font** Bitmap or scalable fonts that can be transferred from disks on your computer to the printer memory. Also known as downloadable fonts.

**Software Application** Any word processing, programming or special application package that can be installed in your computer system. Microsoft Word and Lotus 1-2-3 are examples of software packages.

**Spacing** The horizontal distance of individual printed characters. All fonts have either fixed or proportional spacing.

**Stroke Weight** The thickness of print of a font, for example, light, medium, bold, semi bold, extra bold and black.

**Style** The slant of a font, for example, upright (normal text), italic, condensed, expanded, outline or shadowed.

**Symbol Set** A unique grouping of all the available characters in a font. Each symbol set is defined with a specific set of applications in mind. For example, the LEGAL symbol set includes special characters used in the law profession. Sometimes referred to as a character set.

**System Language Switching** See Language Switching.

**Temporary Font** A font that resides in printer memory until you print a Font List (Printout) or Self Test, reset the printer, power the printer off, or clear or replace it using a software command.

**Toner** A powdered substance composed of plastic, carbon black, and iron oxide. The materials in the toner are mixed, melted, resolidified, and ground into an extremely fine powder.

**Toner Collection Box** A collection box that holds any toner leftover from the printing process.

**Transfer Belt** The mechanism inside the printer that transfers the toner image on the drum to your media.

**Treatment** The emphasis placed on a font, such as italic or bold. Treatment describes both style and stroke weights.

**Type** All letters of the alphabet and other characters, signs and symbols used to make words or sentences.

**Typeface** The name of a design of characters and symbols. A variation in a typeface family. Univers Medium is one typeface and Univers Bold is another.

**Typeface Family** A group of typefaces with strong design similarities, often differing only by their treatment (for example, Univers Medium and Univers Condensed are in the same typeface family).

**Vector Graphics** Lines or curves drawn point-to-point by the printer. Graphics executed with HP-GL/2 commands.

**Width** See Font Width.

**Yellow** A color used in color printing as one of the primary colors.





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