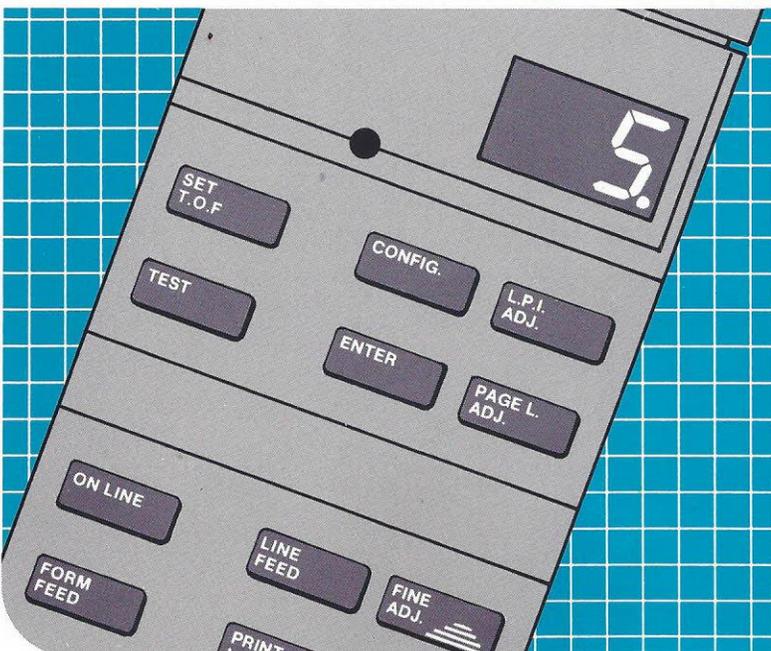
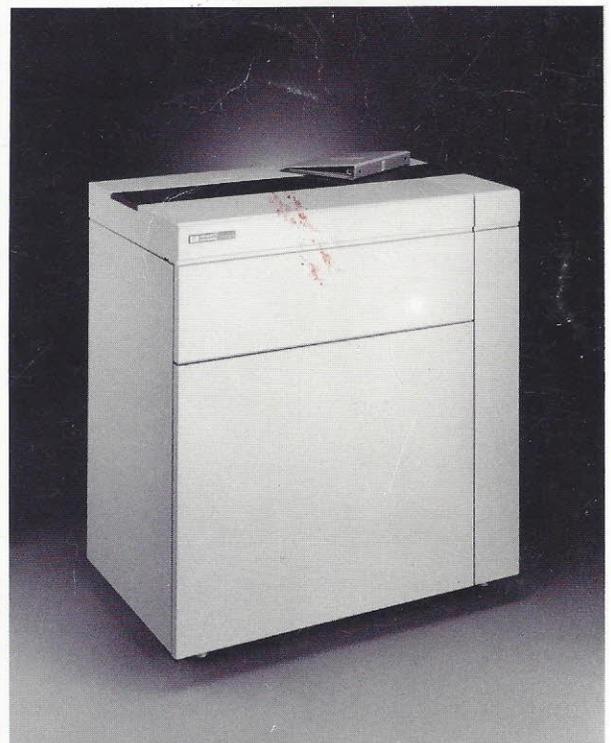
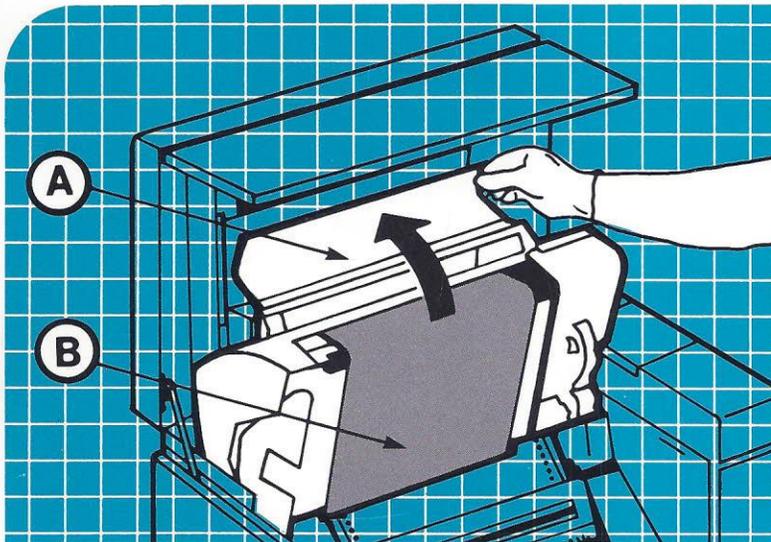


# HP 2566/67B



## Operator's Manual



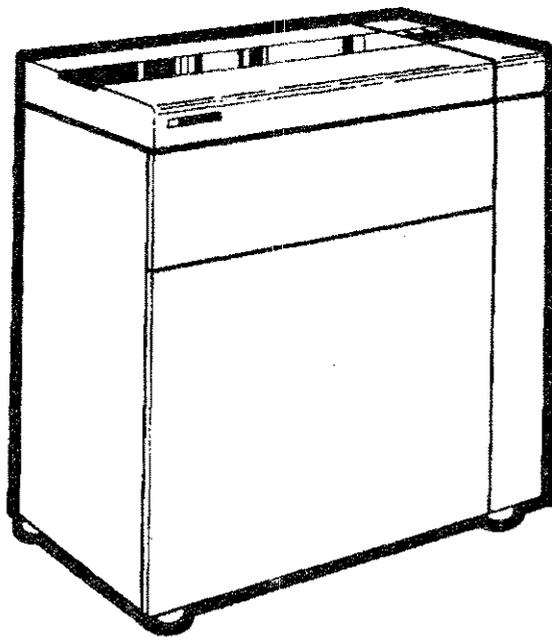
\*\*\* BARCODES INSTALLED \*\*\*  
CODE 3 OF 9 (DEFAULT) 01234567



---

# HP 2566B/2567B OPERATOR'S MANUAL

Manual Part No. 02566-90914



 **HEWLETT  
PACKARD**

---

# Publication History

Changes in text to document updates subsequent to the initial release are supplied in new editions of the manual. The printing history of the manual is given below. The last edition date itemized reflects the machine configuration documented in the manual.

First Edition.....April 1986  
Second Edition.....June 1986

## FOR U.S.A. ONLY

The Federal Communications Commission (in 47 CFR 15.818) has specified that the following notice be brought to the attention of the user of the product.

### FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

### NOTICE

HEWLETT-PACKARD MAKES NO WARRANTY OF ANY KIND WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material.

Hewlett-Packard assumes no responsibility for the use or reliability of its software on equipment that is not furnished by Hewlett-Packard.

This document contains proprietary information which is protected by copyright. All rights are reserved. No part of this document may be photocopied or reproduced without prior written consent of Hewlett-Packard Company.

# - Table Of Contents -

## Chapter 1. GENERAL INFORMATION

1.1	Introduction	1-1
	What is in this Manual?	1-2
	Related Manuals	1-3
1.2	Product Description	1-3
	Options	1-3
	Supplies and Accessories	1-5
	Service	1-5
	Operator Safety	1-5

## Chapter 2. GETTING STARTED

2.1	Printer Location	2-1
2.2	Power	2-1
2.3	Printer Installation	2-2
2.4	Ribbon Removal and Replacement	2-2
	Removing Ribbon	2-2
	Replacing Ribbon	2-6
2.5	Paper Loading and Adjustment	2-9
	Loading Paper	2-9
	Setting Top of Form	2-15
	Adjusting Forms Thickness	2-16
	Adjusting Forms Width	2-17
	Adjusting Page Length	2-18
2.6	Printer Configuration	2-19
	Character Set Selection	2-20
	Display Modem Disconnect Mode	2-21
	Difficult Forms Mode	2-21
	Perforation Skip Mode	2-22
	Display Functions Mode	2-22
	Vertical Line Spacing	2-22
2.7	Interface Configuration	2-23
2.8	HP-IB Address Selection	2-24
2.9	Test	2-25
	Standard Self-Test	2-25
	Continuous Test	2-26
	Specific Subtest Selection	2-26
	Test Failure	2-27
2.10	Moving the Printer	2-28
	At New Location	2-29

## Chapter 3. USING THE PRINTER

3.1	Printer Modes	3-1
3.2	Printer Status Mode	3-2
3.3	Operator Controls and Indicators	3-3
3.4	Power-On Parameters and Power-Fail Recovery	3-11
	Values Retained in Printer Memory	3-11
	Values Returning to Default State	3-11
	Reset	3-11
	On-Line/Off-Line	3-12
3.5	Graphics Printing	3-12
3.6	Vertical Forms Control (VFC)	3-12

3.7	Preventive Maintenance . . . . .	3-13
3.8	Fault Conditions . . . . .	3-14
3.9	Optimizing Print Quality . . . . .	3-15

## Chapter 4. IN CASE OF DIFFICULTY

4.1	General Problems (no error number displayed) . . . . .	4-2
4.2	Printer Errors . . . . .	4-3
	Operator Correctable Errors . . . . .	4-3
	Run Time Errors . . . . .	4-3
	Self-test Failure . . . . .	4-4
4.3	Calling for Help . . . . .	4-4
	Finding the Fail Point . . . . .	4-4

## Appendix A: PRINTER SPECIFICATIONS

	Certification . . . . .	A-1
	Physical Specifications . . . . .	A-1
	Electrical Characteristics . . . . .	A-1
	Performance . . . . .	A-2
	Environmental Specifications . . . . .	A-3

## Appendix B: PAPER SPECIFICATIONS

	Printer Overview . . . . .	B-1
	General Paper Requirements . . . . .	B-1
	Dot-Matrix vs. Full-Font Printers . . . . .	B-2
	Paper Specifications . . . . .	B-3
	Standard Forms Specifications . . . . .	B-3
	Specialty Forms Specifications . . . . .	B-4
	Perforation Projection . . . . .	B-6
	Other Special Forms . . . . .	B-6
	Lables . . . . .	B-6
	Conclusion . . . . .	B-6
	Paper Storage and Handling . . . . .	B-7
	Packaging . . . . .	B-7
	Storage . . . . .	B-7
	Environmental Considerations . . . . .	B-7
	Preconditioning Forms . . . . .	B-7
	Shipping . . . . .	B-7

## INDEX

## USER COMMENT SHEET

## SELF-TEST PRINTOUT

## HP SALES AND SERVICE OFFICES

## - List of Tables -

Table 1-1.	Printer Options . . . . .	1-4
Table 2-1.	Configuration Function Numbers . . . . .	2-20
Table 2-2.	Subtest Numbers . . . . .	2-27
Table 3-1.	Printer Operational Codes . . . . .	3-2
Table 3-2.	VFC Channel Definitions . . . . .	3-13
Table 4-1.	Run-Time Errors . . . . .	4-3
Table 4-2.	Self-Test Error Numbers . . . . .	4-4
Table A-1.	Print Speed and Matrix Sizes . . . . .	A-2

## - List of Figures -

Figure 1-1.	The HP 2566B/67B Printer . . . . .	1-1
Figure 2-1.	Opening the Ribbon Cover . . . . .	2-2
Figure 2-2.	Removing Upper Ribbon Spool . . . . .	2-3
Figure 2-3.	Opening the Swing-gate . . . . .	2-3
Figure 2-4.	Accessing Lower Ribbon Spool . . . . .	2-4
Figure 2-5.	Removing Lower Ribbon Spool . . . . .	2-4
Figure 2-6.	Removing the Ribbon . . . . .	2-5
Figure 2-7.	Replacing the Ribbon . . . . .	2-6
Figure 2-8.	Correct Ribbon Winding Direction . . . . .	2-6
Figure 2-9.	Installing Lower Ribbon Spool . . . . .	2-7
Figure 2-10.	Closing Lower Ribbon Cover and Paper Shield . . . . .	2-7
Figure 2-11.	Installing Upper Ribbon Spool . . . . .	2-8
Figure 2-12.	Closing the Printer . . . . .	2-8
Figure 2-13.	Open the Printer . . . . .	2-9
Figure 2-14.	Opening the Swing-gate . . . . .	2-10
Figure 2-15.	Opening the Tractors . . . . .	2-10
Figure 2-16.	Positioning the Paper . . . . .	2-11
Figure 2-17.	Insert Paper in Left Tractors . . . . .	2-12
Figure 2-18.	Adjusting Vertical Paper Tension . . . . .	2-13
Figure 2-19.	Tractor Strip Distortion . . . . .	2-14
Figure 2-20.	Setting Top of Form . . . . .	2-15
Figure 2-21.	Adjusting Forms Width . . . . .	2-17
Figure 2-22.	Character Set Parameter Numbers . . . . .	2-21
Figure 2-23.	Shipping Lock Locations . . . . .	2-28
Figure 3-1.	Display Modes . . . . .	3-1
Figure 3-2.	External Control Locations . . . . .	3-3
Figure 3-3.	Operator Control Panel . . . . .	3-4
Figure 3-4.	Forms Loading Controls . . . . .	3-9
Figure 3-5.	Forms Adjustment Controls . . . . .	3-10
Figure 3-6.	Dot Slalom . . . . .	3-16
Figure B-1.	Dot-Matrix and Full-Font Print Gap Comparison . . . . .	B-2
Figure B-2.	Maximum Height of Form Defects . . . . .	B-4
Figure B-3.	Maximum Thickness Variation for All Areas of a Special Form . . . . .	B-5
Figure B-4.	Maximum Thickness Variation for the Thin Areas of a Special Form . . . . .	B-5
Figure B-5.	Maximum Allowable Form Perforation Projection . . . . .	B-6



---

---

# CHAPTER 1

## GENERAL INFORMATION

---

---

---

### 1.1 Introduction

This manual contains information necessary to operate and perform preventive maintenance on the HP 2566B/67B Line Printer. Read this manual before using your printer so that you will be familiar with all its capabilities and features.

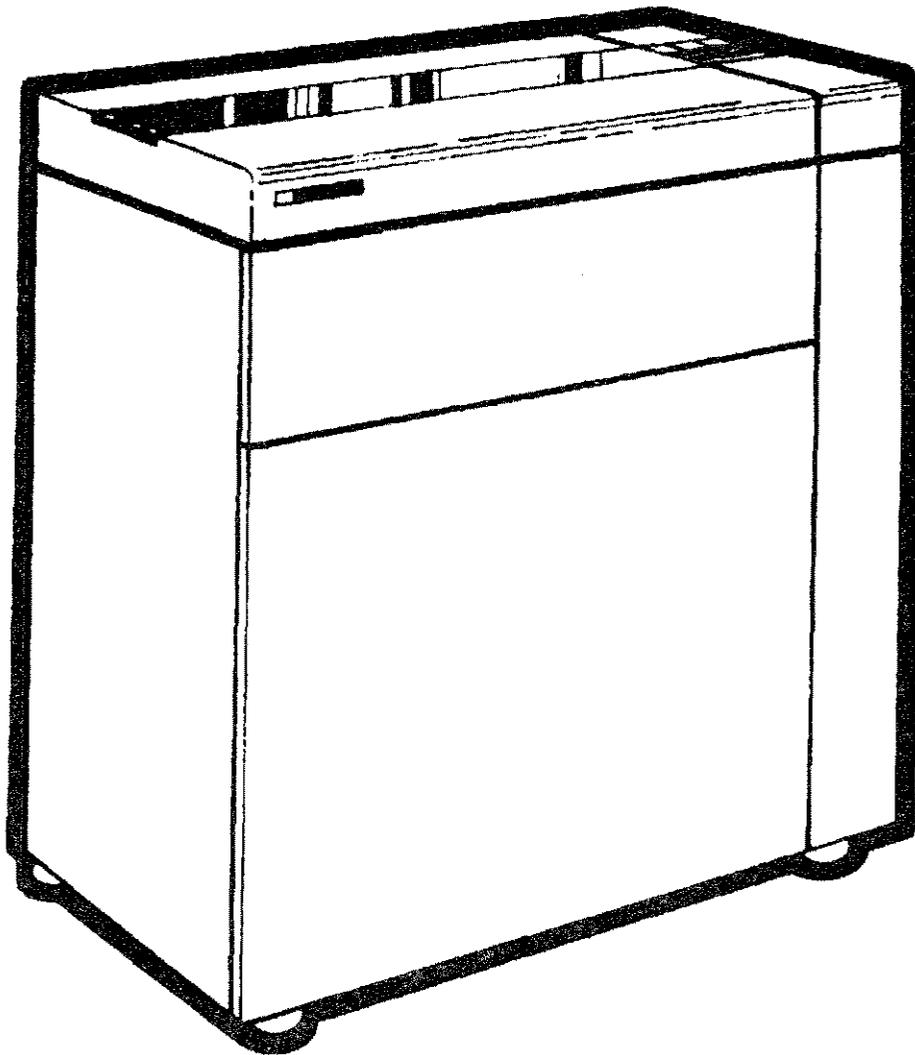


Figure 1-1. The HP 2566B/67B Printer

## What is in this Manual?

The information in this manual is divided into the following chapters:

- **Chapter 1:  
General Information**

The next part of this chapter provides a list of related documentation that might be of interest to you. This is followed by a functional description of the printer, and a listing of options and supplies. Next is a word about service and safety.
- **Chapter 2:  
Getting Started**

Chapter 2 will assist you in choosing a location and setting-up your printer. We will show you how to load the ribbon and paper, how to adjust for different paper sizes and set Top of Form. Next is information on configuring the printer and running the self-tests. The last section of this chapter tells you how to prepare your printer for moving to a new site.
- **Chapter 3:  
Using the Printer**

This chapter discusses use of the Operator Control Panel. Each control key is explained in detail. This is followed by information on power fail recovery and reset. Next, we explain the Vertical Forms Control (VFC) capabilities of the printer.
- **Chapter 4:  
In Case Of Difficulty**

This chapter tells you what to do in case of difficulties or printer fault conditions. All printer error numbers are explained, and a section (4.1) which discusses possible problems which may not generate error numbers is also included.
- **Appendix A:  
Specifications**

The appendix lists detailed printer specifications, including physical characteristics, environmental requirements, electrical information, performance data and paper specifications.
- **Index**

Use the index to locate primary sources of information.
- **Reader Comment Sheet**

This postage-paid form makes it easy for you to give us feedback regarding this manual. Please use it to relay any comments or suggestions.
- **Operator Control Panel  
User's Aid**

This fold-out page is provided as a quick reference for using the Control Panel. All operator functions are shown in simple table form. You might want to post a copy near your printer.
- **Self-Test Printout**

This is a copy of an actual self-test run on an HP 2566B/67B. You might find it useful for comparison purposes.
- **Sales and Service Offices**

This listing provides a reference to all of HP's Sales and Service offices throughout the world. If you have any questions or needs, just give your nearest office a call.

## Related Manuals

- *HP 2566B/67B Condensed Operator's Manual* (02566-90916)
- *HP 2566B/67B Service Manual* (02566-90915)
- *HP 256X Printer Family Technical Reference Manual* (02564-90905)
- *HP 2566B/67B Parts and Diagrams Manual* (02566-90917)
- *HP-1B Interface Manual* (26067-90901)
- • *RS-232C Serial Interface Manual* (26067-90903) ←
- *RS-422 Serial Interface Manual* (26067-90904)
- *Centronics Parallel Interface Manual* (26067-90906)
- *Dataproducts Parallel Interface Manual* (26067-90907)

---

## 1.2 Product Description

The HP 2566B/67B are highly reliable, heavy duty line printers designed for use in many printing applications. The HP 2566B model prints 900 lines per minute; the HP 2567B model prints 1200 to 1600 lines per minute. These printers have several attractive features, including:

- Multiple character sets requiring no mechanical font change
- Bar code printing capability
- 16-channel vertical format control (VFC)
- Several print pitches (10, 12, 13.3, 15 and 16.7 cpi)
- Raster graphics capability
- Paper jam detection
- Easy forms alignment
- Interfacing flexibility
- Restart/recovery ability following printer interrupts and power failure

## Options

The HP 2566B/67B Line Printer is available in several configurations to match your individual applications and needs. These configurations are stated as options--three-digit suffixes to the model number such as HP 2567B #001. The option numbers are marked on an identification tag which is located near the Main Power ON/OFF (1/0) switch on the back of the printer.

The standard model printer includes a 16-channel VFC, normal and compressed printing features, raster graphics capabilities, paper jam detection, a Roman8 character set (Standard USASCII plus Roman Extension), compressed and double-size characters.

The standard printer is configured for 120 Vac, 50/60 Hz. operation, and comes equipped with a power cord and one ribbon.

The following table shows the available options for the HP 2566B/67B.

---

*Table 1-1. PRINTER OPTIONS*

**CHARACTER SETS**

001	Line Draw, Math, and Block character sets
002	Katakana8 character set (replaces standard)
003	High Density OCR character sets
004	High Density Roman8 character set
005	High Density Italics Roman8 character set
006	High Density Katakana8 character set
008	Bar Code Printing Capability
009	Adds 12, 13.3 cpi with Roman8 character set
011	High speed draft quality character sets (HP 2567B only - Roman8, Line Draw, Math and Block character sets)
012	Adds 12, 15 cpi with Roman8 character set
013	Adds 13.3, 15 cpi with Roman8 character set

**POWER SUPPLIES**

015	220 VAC, 50/60 Hz Operation
016	100 VAC, 50/60 Hz Operation
017	240 VAC, 50/60 Hz Operation

**INTERFACE SUBSYSTEMS**

049	RS-232C interface subsystem
050	RS-422-A interface subsystem
052	Dataproducts Short-Line interface subsystem
053	Centronics interface subsystem
054	Dataproducts Long-Line interface subsystem
200	Series 200 BASIC/Pascal interface subsystem (HP 2566B only)
210	HP 1000 M/E/F HP-IB interface subsystem (HP 2566B only)
214	HP 1000 A-Series interface subsystem (HP 2566B only)
290	HP 9000 Series 300/500 interface subsystem (HP 2566B only)
337	HP 3000 37 HP-IB interface subsystem
340	HP 3000 39/40/42 HP-IB interface subsystem
344	HP 3000 Series 44/48/58 HP-IB interface subsystem
364	HP 3000 Series 64/68 HP-IB interface subsystem
850	HP Shared Resource Manager HP-IB interface subsystem (HP 2566B only)

**CONVENIENCE OPTIONS**

022	128 Kb Version Vector Graphics board
023	512 Kb Version Vector Graphics board
065	HP 3000 Printer Graphics Support Software
115	Passive Paper Stacker
500	Extended Capabilities Package (includes options 004,005, and 115)
715	Service Documentation

---

## Supplies and Accessories

Supplies and accessories recommended for use with your printer and available from Hewlett-Packard's Direct Marketing Division (DMK) are listed below. Direct phone service is available to HP customers within the continental U.S. Orders may be taken from 9 a.m. to 5 p.m. in all U.S. time zones. Outside the U.S., orders may be placed with the local HP Sales and Service Office (listed in the back of this manual). To place an order, call

800-538-8787 TOLL FREE  
IN CALIFORNIA - (408) 738-4133 DIRECT OR COLLECT

### Ribbon

One replacement ribbon (towel-type), part number 9282-0545.

### Paper

<u>Part No.</u>	<u>Description</u>	<u>Quantity</u>
92157A	One-part, white, 18 lb.	2400 sheets/box
92157B	One-part, white, 15 lb., 3-hole punched	3200 sheets/box
9280-0218	One-part, green bar 15 lb., 80-column	3200 sheets/box
9280-0705	One-part, white 15 lb., 72-column	3200 sheets/box
9320-1515	One-part, blue bar 18 lb., 132-column	2400 sheets/box

See Appendix B for more information on paper used in the printer.

## Service

Hewlett-Packard offers maintenance agreements, "time and material" service, and other service agreements for the HP 2566B/67B Printer. If you have a need for service or have questions regarding servicing of your printer, contact the HP Sales and Service Office nearest you. A list of these offices is provided at the back of this manual.

## Operator Safety

For operator safety, the access cover should be closed when the printer is powered on and during operation. Keep hands, long hair, necklaces, and articles of clothing such as long sleeves out of the printer when operating conditions exist. DO NOT attempt to perform troubleshooting or maintenance procedures beyond those described in Chapter 4.



---

---

# CHAPTER 2 GETTING STARTED

---

---

---

## 2.1 Printer Location

Your printer should be located in a clean, traffic-free environment, preferably an area not subjected to excessive shocks, vibrations or wide ranges of temperature. Air conditioning is not required to ensure reliable operation of the printer; however, under no circumstances should the environmental specifications (shown in Appendix A) be exceeded.

The location of your printer must provide adequate operator access to both the front and rear of the printer. The area around the printer should be kept clean and dust free at all times so that the air used to cool the printer will not contain excessive dust particles.

If the printer must be operated in either high or low humidity, read Appendix B for ways to optimize paper handling.

---

## 2.2 Power

The HP 2566B has a maximum power requirement of 550W, the HP 2567B requires 650W. One of the following power sources must be available for operating the printer: 100, 120, 220, or 240 volts AC. Your printer has been shipped to match the power source specified in your order. If it becomes necessary to change to a different power source, contact your HP Service Representative.

See Appendix A for more power requirement information.

---

## 2.3 Printer Installation

---

Hewlett-Packard provides for the original installation and testing of the HP 2566B/67B printer. If you are moving the printer to a new site, follow the procedure outlined in "Moving the Printer," Section 2.10.

---

## 2.4 Ribbon Removal and Replacement

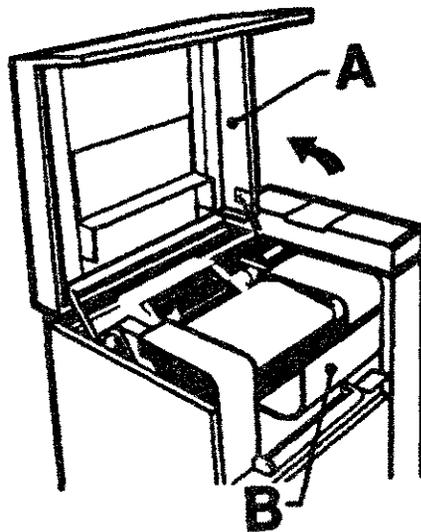
Tools are not required to remove or replace the ribbon. The printer uses a towel-type ribbon (part no. 9282-0545) which is easily installed. Try to touch the ribbon as little as possible to avoid getting ink on your hands or clothing. A pair of plastic gloves and a package containing a moist towelette is provided with the ribbon to protect your hands.

### Removing Ribbon

Perform the following steps to remove the printer ribbon:

- a. Open the upper ribbon access cover.

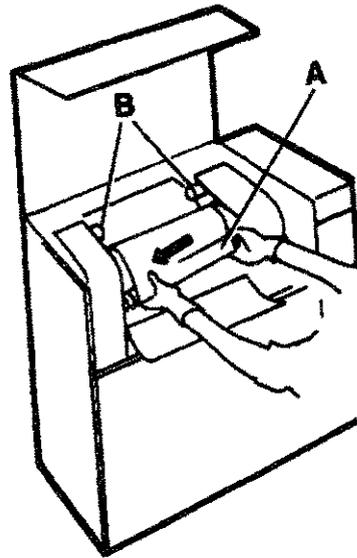
With the printer's top cover raised (Fig. 2-1, A), open the upper ribbon access cover by gently pulling it toward you (Fig. 2-1, B).



A = TOP COVER RAISED  
B = UPPER RIBBON COVER OPENED

Figure 2-1. Opening the Ribbon Cover

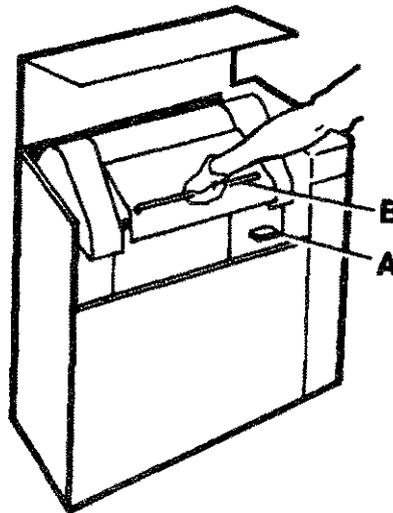
- b. **Remove upper ribbon spool.** Using the plastic gloves, remove the old ribbon spool by sliding it to the left to disengage it from the drive hubs (Fig. 2-2, A). Roll up the slack and place the spool in the retainer cups at the rear of the swing-gate (Fig. 2-2, B).



A = DISENGAGE RIBBON SPOOL  
B = PLACE IN RETAINER CUPS

Figure 2-2. Removing Upper Ribbon Spool

- c. **Open the swing-gate.** Close the upper ribbon access cover and open the swing-gate by pushing down on the swing-gate release lever (Fig. 2-3, A) and lifting the swing-gate handle (Fig. 2-3, B).

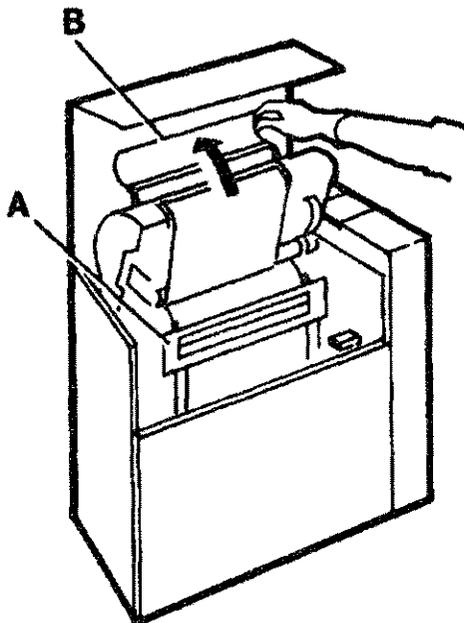


A = SWING-GATE LEVER (PUSH DOWN)  
B = SWING-GATE HANDLE (LIFT)

Figure 2-3. Opening the Swing-gate

d. Lower the paper shield.

Pull downward on the paper shield to lower it out of the way (Fig. 2-4, A). Open the lower ribbon access cover (Fig. 2-4, B).



A = PAPER SHIELD (LOWERED)  
B = LOWER RIBBON COVER (RAISED)

Figure 2-4. Accessing Lower Ribbon Spool

e. Remove the lower ribbon spool.

Remove the lower ribbon spool from the its drive hubs by sliding it to the left to disengage it (Fig. 2-5).

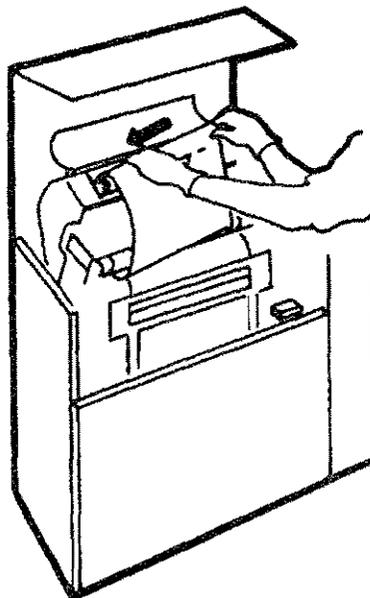
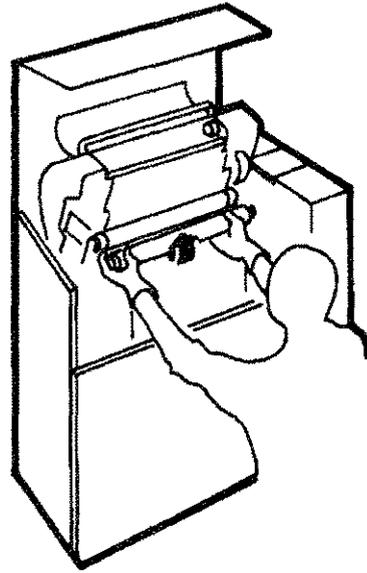


Figure 2-5. Removing Lower Ribbon Spool

**f. Discard the old ribbon.**

Remove the upper ribbon spool from the retainer cups and dispose of the used ribbon (Fig. 2-6).



**Figure 2-6. Removing the Ribbon**

## Replacing Ribbon

When replacing the ribbon, you must ensure that the ribbon spools are mounted correctly, so that they wind in the right direction (shown in Fig. 2-8). Also, ensure that both spools solidly engage the drive hubs (rotate the spool until it snaps onto the drive hubs). Failure to do so will cause the ribbon spool to be broken by the drive hub.

### To replace the ribbon:

- a. Place spool on retainer cups.

With the swing-gate and lower ribbon access covers opened, and using the plastic gloves supplied, place one of the ribbon spools on the retainer cups as shown in Fig. 2-7.

---

#### NOTE

The ribbon must be installed so that it will wind in the correct direction as shown in Fig. 2-8. If the ribbon is on backwards it will not function properly.

---

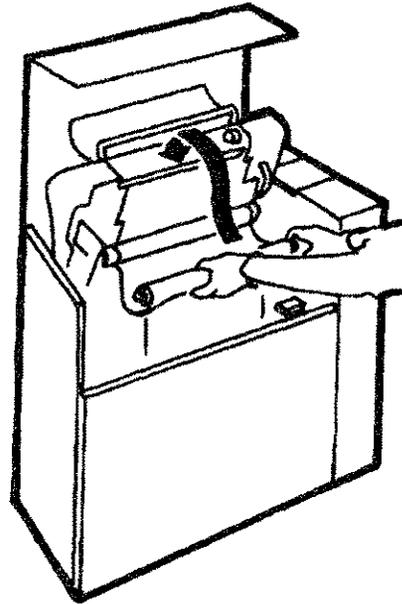


Figure 2-7. Replacing the Ribbon

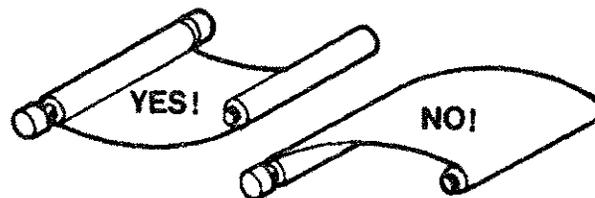
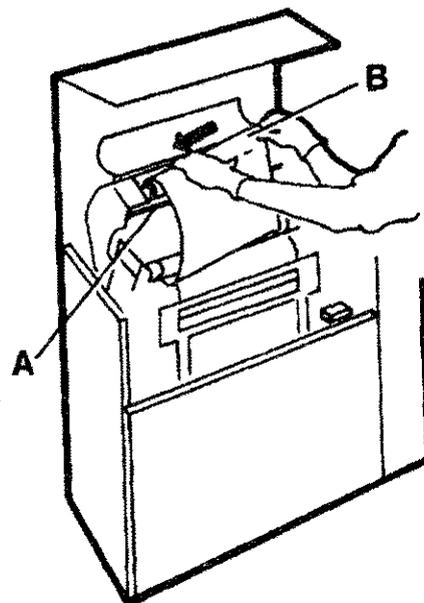


Figure 2-8. Correct Ribbon Winding Direction

**b. Install lower ribbon spool.**

Route the ribbon up and over the ribbon sensing bar (Fig. 2-9, A) and install on lower ribbon drive hubs by sliding toward the left (Fig. 2-9, B).

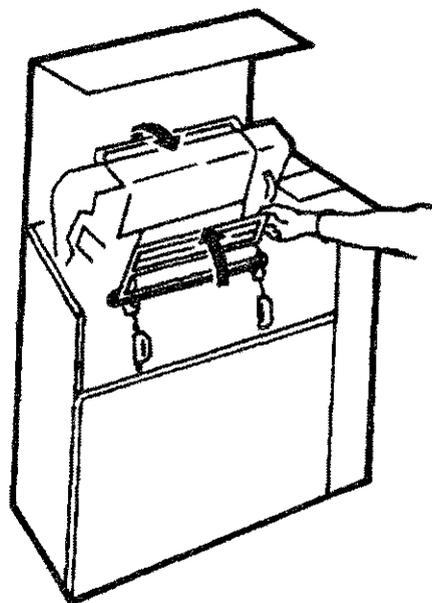
A = ROUTE OVER SENSING BAR  
B = INSTALL ON LOWER HUB



**Figure 2-9. Installing Lower Ribbon Spool**

**c. Close lower access cover and ribbon shield.**

Pull the lower ribbon access cover toward you to close. Lift the paper shield up to close (Fig. 2-10).



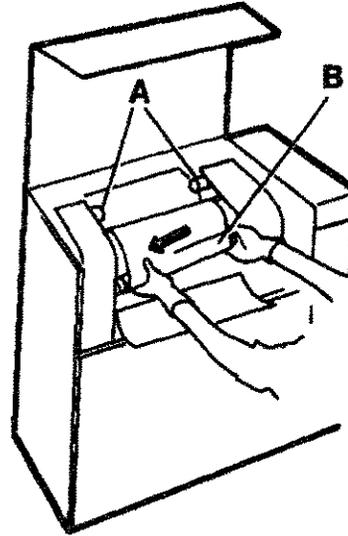
**Figure 2-10. Closing Lower Ribbon Cover and Paper Shield**

d. Close swing-gate and open upper access cover.

Push the swing-gate handle down to close. Lift the upper ribbon access cover up to open.

e. Install upper ribbon spool.

Lift ribbon spool from the retainer cups (Fig. 2-11, A). Install on upper ribbon drive hubs by sliding toward the left (Fig. 2-11, B).



A = LIFT FROM RETAINER CUPS  
B = INSTALL ON UPPER HUBS

Figure 2-11. Installing Upper Ribbon Spool

f. Close printer.

Raise the upper ribbon access cover up into the closed position and close the printer's top cover (Fig. 2-12).

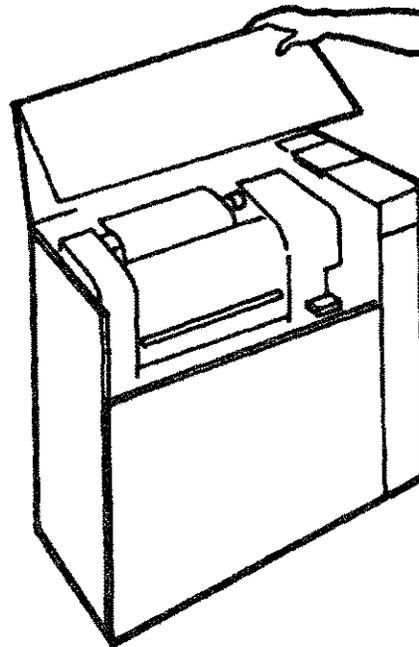


Figure 2-12. Closing the Printer

---

## 2.5 Paper Loading and Adjustment

This section discusses how to load the paper, how to set the Top of Form position and how to adjust the forms width and length.

---

**NOTE**

When the printer runs out of paper, it completes printing the last page and goes off-line. At this point, the paper is at the Top of Form position.

---

### Loading Paper

- a. Open the printer.

Follow these steps to load paper into the HP 2566B/67B printer.

Raise the printer's top access cover and open the cabinet's front door.

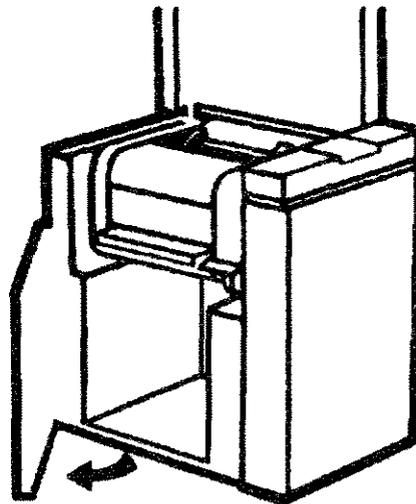
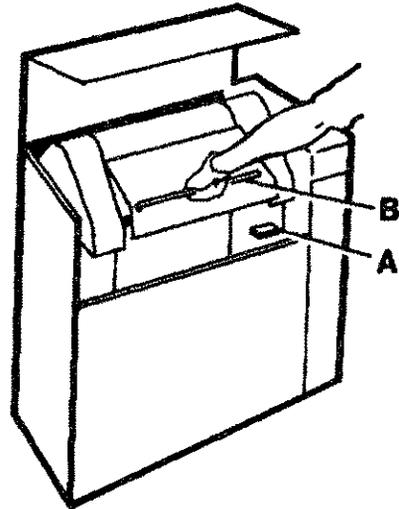


Figure 2-13. Open the Printer

**b. Open the swing-gate.**

Open the swing-gate by pushing down on the swing-gate release lever (Fig. 2-14, A) and lifting the swing-gate handle (Fig. 2-14, B).

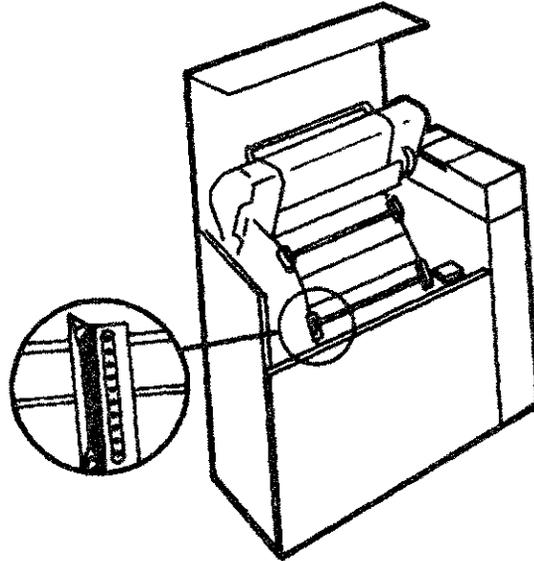


A = SWING-GATE LEVER (PUSH DOWN)  
B = SWING-GATE HANDLE (LIFT)

**Figure 2-14. Opening the Swing-gate**

**c. Open the tractors.**

Open the four tractors as shown in Figure 2-15.



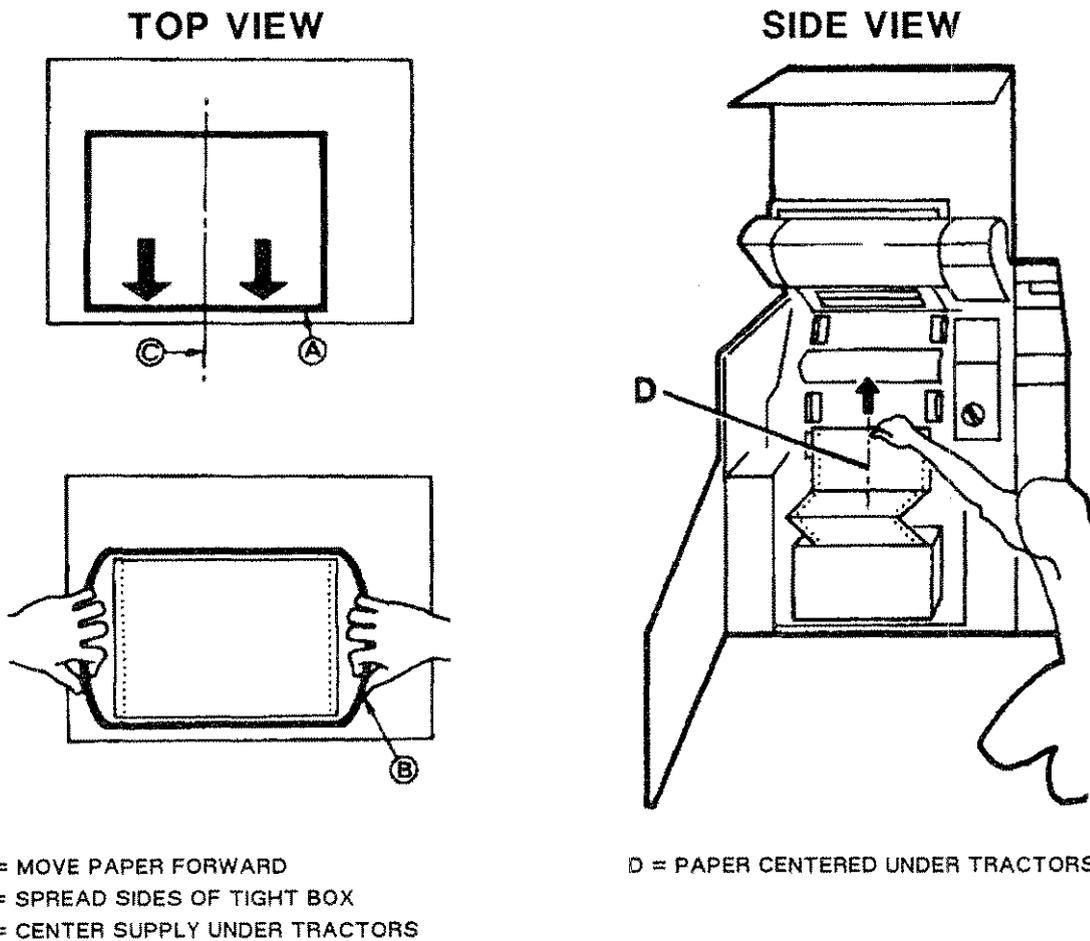
**Figure 2-15. Opening the Tractors**

**d. Position the paper.**

With the front access door open, position the paper supply on the floor of the cabinet so that it is all the way forward (Fig. 2-16, A) and aligned under the positioning of the tractors (Fig. 2-16, C and D).

**NOTE**

Some boxes of paper can cause jams because their sides are too tightly in contact with the paper stack. If your box seems to be tight, you should spread the sides of the box before using the paper (Fig. 2-16, B).

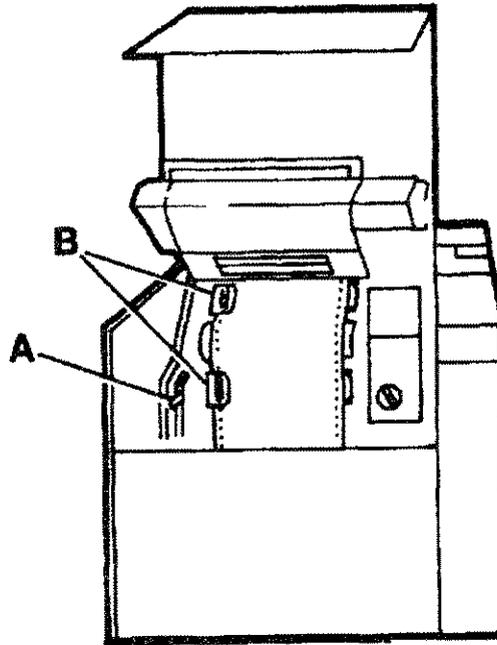


**Figure 2-16. Positioning the Paper**

**e. Insert paper in left tractors.**

Place the paper on the two left tractors. If the tractors do not line up vertically with the holes in the paper, align them by moving the vertical paper tension lever up or down (Fig. 2-17, A). When the paper is engaged, close the tractors (Fig. 2-17, B).

A = VERTICAL TENSION LEVER  
B = LEFT TRACTORS (CLOSED)



**Figure 2-17. Insert Paper in Left Tractors**

**f. Close the right tractors.**

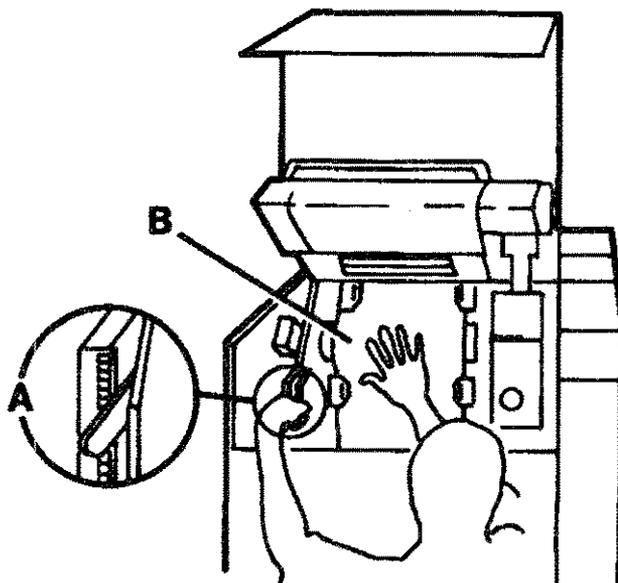
Align the paper holes with the two right tractors and close the tractors. If the two right tractors do not line up with the right tractor holes, refer to the section "Adjusting Forms Width" before proceeding.

**g. Check paper tension.**

A slight paper tension aids print quality and is important for proper operation. Excessive tension will cause paper jams. Vertical paper tension should be adjusted for each new box of paper.

A slight vertical tension is obtained by adjusting the vertical paper tension lever (Fig 2-18, A). Adjust the lever downward until the paper is slightly taut against the platen. (The platen is located in the curved black surface lying between the upper and lower tractors.) Place your hand on the paper in the region of the platen and gently push the paper up and down (Fig. 2-18, B). If the paper has significant freedom to move, the vertical tension is too loose. When the tension is correct, you will notice no vertical looseness.

If the horizontal tension is not correct, this can also cause poor print quality and possible paper jams. To adjust horizontal paper tension, refer to the paragraph, "Adjusting Forms Width," later in this section.



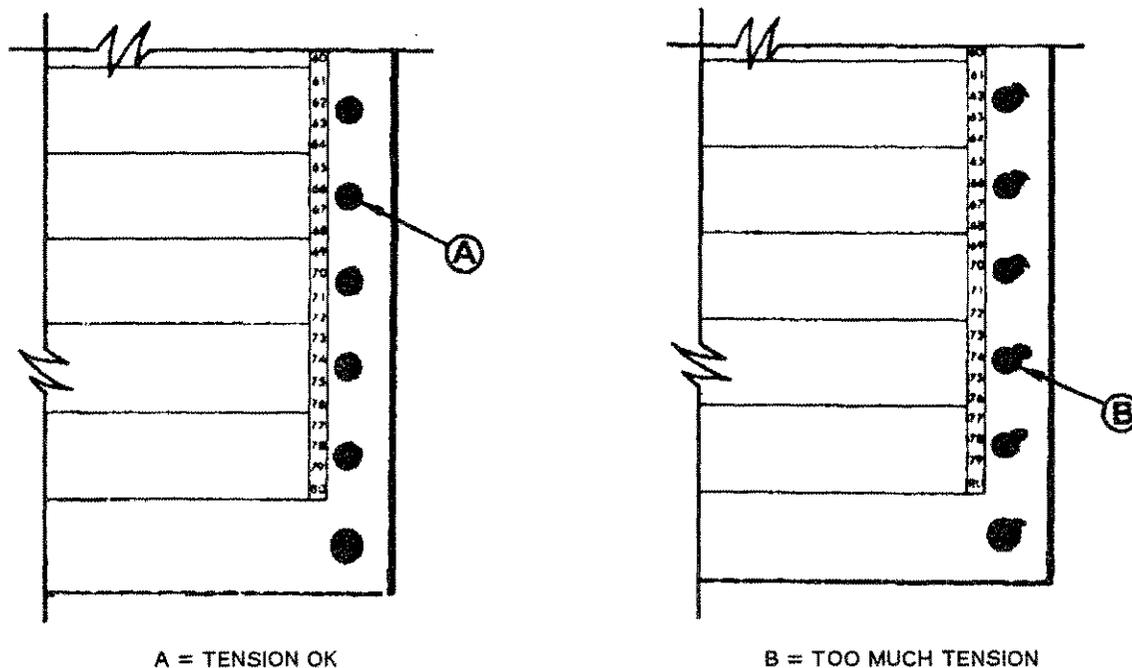
A = ADJUST VERTICAL TENSION

B = CHECK FOR MOVEMENT

**Figure 2-18. Adjusting Vertical Paper Tension**

**h. Test paper motion.**

Close the swing-gate. Press and hold the LINE FEED key for several seconds to route paper out of the rear of the printer cabinet. Close the printer's top cover and press the FORM FEED key two or three times to ensure that the paper moves freely over the platen. Inspect the holes in the paper's tractor strips that have just passed through the tractors. The tractor holes should have a slight teardrop shape (Fig. 2-19, A). If the holes show an extreme distortion (Fig. 2-19, B) or the paper jams, raise the vertical paper tension lever one click and try the form feed again.



**Figure 2-19. Tractor Strip Distortion**

**NOTE**

If the length of the currently loaded paper differs from that which was previously used, the page length must be set to match the new paper length (see "Adjusting Page Length," later in this section).

## Setting Top of Form

The Top of Form (TOF) position is an arbitrary indicator of the first line of printing. Once the Top of Form is set, any succeeding FORM FEED advances paper one page length until the same relative position on the next page is reached. This enables you to move swiftly to the first print line on the succeeding page.

To set the Top of Form position:

**a. Lower the paper shield.**

Raise the swing-gate into the full open position and lower the paper shield so that it touches the paper (Fig. 2-20).

**NOTE**

The swing-gate must be fully opened to ensure accurate top-of-form position. The number 10 will be flashing on the display indicating that the swing-gate is open. Disregard this message at this time.

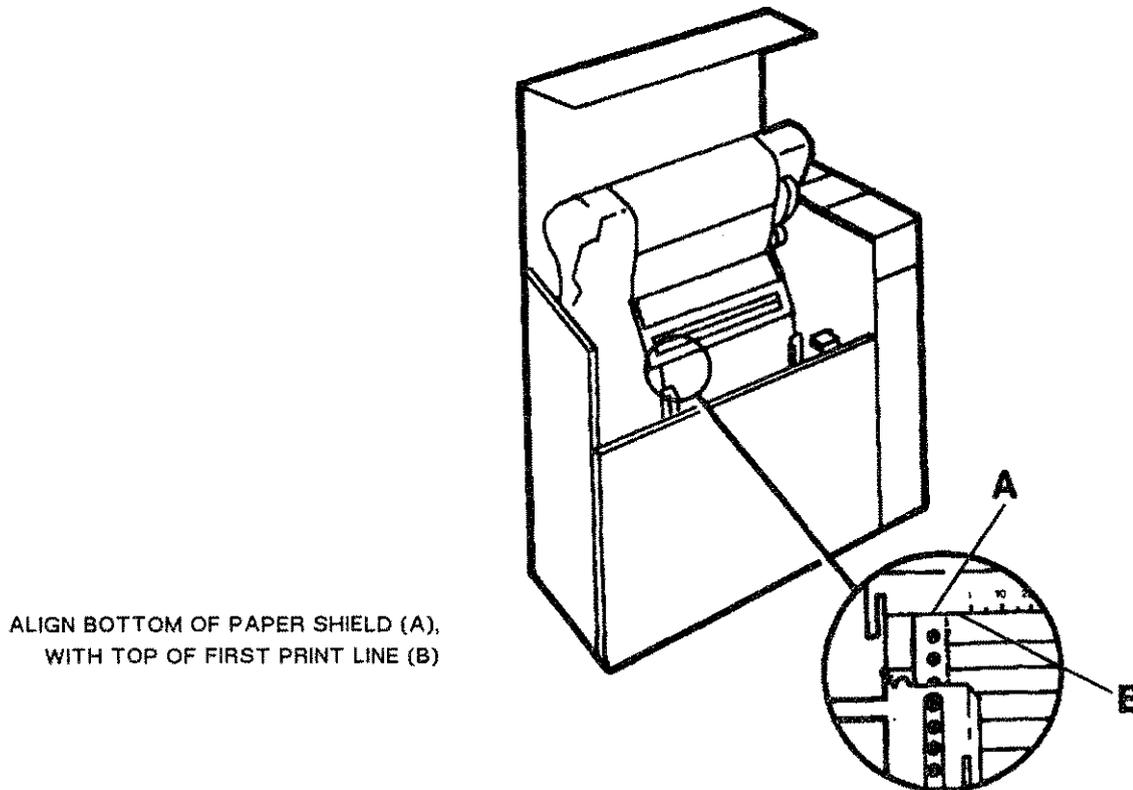
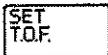


Figure 2-20. Setting Top of Form

**b. Press**



This enters the **SET T.O.F.** mode. All three decimal points on the display will illuminate to indicate this mode.

**c. Adjust the paper.**

Use the **LINE FEED** and/or **FINE ADJ.** to adjust the paper so that the bottom of the paper shield corresponds to the top of the first desired print line on the page.

d. Press ENTER

Pressing ENTER establishes the new Top of Form position and returns the printer to the PRINTER READY status.

---

**NOTE**

If a paper-out error was in effect before the SET T.O.F. key was pressed, setting the Top of Form clears the error.

---

e. Test the setting.

Close the swing-gate and then press TEST and PRINT 1 LINE keys. Then press FORM FEED to verify that printing begins at the correct top of form position. If not, return to step "a."

## Adjusting Forms Thickness

The forms thickness adjustment is provided to allow the printer to accommodate various thicknesses of paper, such as when changing from single to multi-part forms, or when using different weights of paper. This adjustment is also used to help obtain the best possible print quality, as outlined in steps a through c below.

When changing the number of forms being used, start by moving the paper thickness adjustment lever (shown in Fig. 3-5) to the number corresponding to the number of parts in the form. For example, if changing from a single to a six-part form, begin by moving the lever to "6", then use the following procedure to fine-adjust.

a. Run self-test 15.

Ensure that the tractors are closed. Close the swing-gate and use the TEST key as described in Section 2.9 to run subtest 15 (a pattern of horizontal and vertical lines).

b. Check the print.

Use the FORM FEED key to eject the page. Examine the vertical lines. If they are somewhat jagged, with the individual dots offset to the right and left, this is called "dot slalom" (see Figure 3-6 for an example). Dot slalom signifies that the print gap is too large (the higher the number, the wider the print gap). Decrease the Forms Thickness setting (one click at a time).

If the ink is smudging on the paper, the print gap is too small. Increase the setting by turning the knob one click toward the larger numbers.

c. Return to step "a."

Continue running subtest 15 and adjusting the setting until the best print quality is obtained. If you are having any print quality problems, see "Optimizing Print Quality" (Section 3.9) for further help.

## Adjusting Forms Width

The forms width should be adjusted whenever you are changing the width of forms being used in the printer, and when the horizontal tension on the paper is either too loose or too tight. Too little or too much horizontal tension can cause paper jams.

To adjust forms width:

a. Adjust paper path.

With the swing-gate open, set the tractor control knob to FORMS ALIGNMENT. Press either of the tractor control keys (left or right) until the left tractor is in the desired position for printing the left page margin.

**NOTE**

Press the TEST and PRINT 1 LINE keys to see correct text alignment. (Use LINE FEED to advance the paper.)

b. Mount paper in left tractors.

Insert the paper in the two left tractors and close the tractor lids.

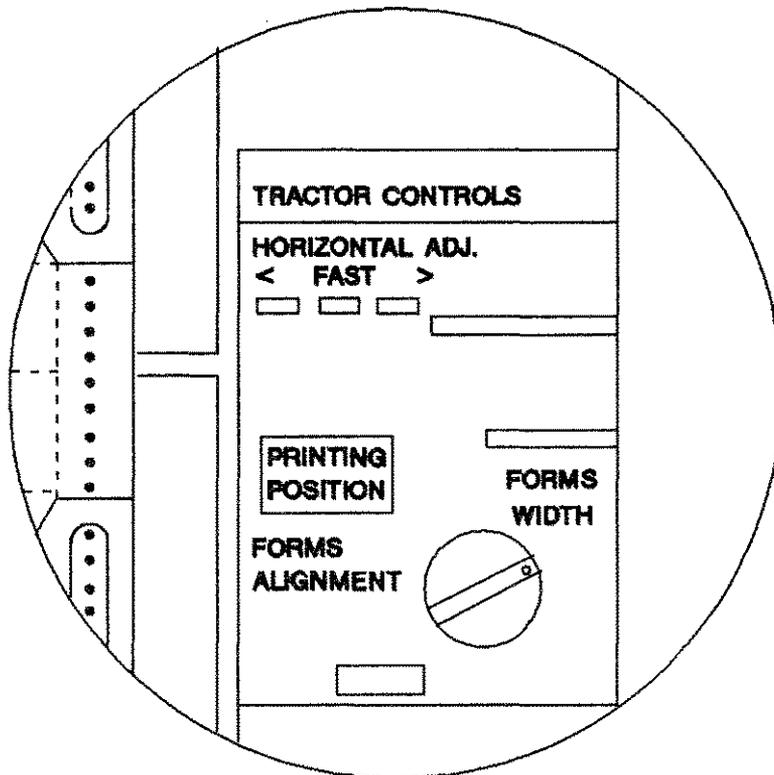


Figure 2-21. Adjusting Forms Width

c. Adjust right tractor.

Set the tractor control knob to the **FORMS WIDTH** position (Figure 2-21) and press either the right tractor control key to increase the forms width, or the left tractor control key to decrease the forms width. When the right tractor is in position, insert the paper and close the right tractor lid.

d. Adjust the tension.

With the tractor control knob still in the **FORMS WIDTH** position, fine adjust the tractor positioning by touching the left or right tractor control key until there is a slight horizontal tension on the paper. When finished, reset the tractor control knob to the **FORMS ALIGNMENT** position and perform a few form feeds to verify that the paper moves smoothly along the paper path.

## Adjusting Page Length

If the length of the currently loaded paper differs from that which was previously used, the default page length must be set to match the new paper size. The page length can be set in 1/2 inch increments from 2 to 16.0 inches. Whatever value is entered as the current page length will be used by the printer to carry out any **FORM FEED** commands. Setting the correct page length also ensures proper paper-out detection by the printer.

Proceed as follows to set the default page length:

a. Press 

Pressing **PAGE L. ADJ.** causes the printer to enter the **PAGE LENGTH ADJUST** mode. The page length that was previously set will be displayed in inches.

---

**NOTE**

To "exit" this mode without changing the page length, press the **PAGE L. ADJ.** key again or the **ON LINE** key.

---

b. Press  or 

Increment or decrement the displayed page length using the **FINE ADJ.** keys until the desired page length is displayed.

c. Press 

The **ENTER** key sets the page length displayed on the operator control panel. The printer returns to the **STATUS** mode after the **ENTER** key is pressed, indicating that the desired page length was entered.

---

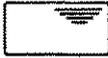
## 2.6 Printer Configuration

The printer is configurable from the Operator Control Panel. Configuration involves first selecting a function and then a parameter associated with that function. Table 2-1 lists the configurable printer functions and their associated numbers. Each function has two or more possible parameters which can be altered as desired. Some of the functions can be set remotely via escape sequences. See the *HP 256X Printer Family Technical Reference Manual* (02564-90905) for information concerning remote configuration.

### To configure a function from the Operator Control Panel:

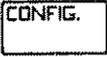
- a. Enter **CONFIGURATION** mode.

While off-line, press and hold the **CONFIG.** key and either of

the **FINE ADJ.** keys ( or ). Two decimal points will illuminate, indicating the **CONFIGURATION** mode.

- b. Display function number.

While continuing to press the **CONFIG.** key, increment or decrement the function number using either **FINE ADJ.** key until the desired function number is displayed.

- c. Release .

When the **CONFIG.** key is released, the display now shows the current value for the function number displayed in step "b".

- d. Set the parameter.

Using the **FINE ADJUST** keys, increment or decrement the parameter number until the desired number is displayed.

---

### NOTE

Some configuration parameters can only be modified by a Hewlett-Packard Service Representative. In those cases, the **FINE ADJ.** keys have no effect.

- e. Press .

The new parameter will be entered and the printer will return to the **STATUS** mode.

---

### NOTE

To avoid entering the new parameter value, press the **CONFIG.** or **ON LINE** key before pressing the **ENTER** key. This retains the original configuration for that function. This is helpful when you want to keep the original parameter for a particular function after viewing it.

---

---

Table 2-1. CONFIGURATION FUNCTION NUMBERS

FUNCTION NUMBER AND MEANING	PARAMETER RANGE	COMMENT
1 Select primary character set	0-95	see below
2 Select secondary character set	0-95	see below
20-29 Configure interface*	00-FF	see Section 2.7
50 Display Modem Disc	0,1	see below
51 Difficult forms mode	0,1	see below
60 Perforation skip mode	0,1	see below
61 Display functions mode	0,1	see below

\* Functions 20-29 are dependant on which interface is installed (see I/O manual).

---

## Character Set Selection

To be compatible with both 7-bit and 8-bit terminals, your printer has 7-bit and 8-bit character sets. The standard 7-bit sets are USASCII and Roman Extension. Roman8 is the standard 8-bit set, combining USASCII plus Roman Extension characters. The printer may contain up to a maximum of 16 character sets, as specified when ordering.

Two character sets (primary and secondary) may be selected at any one time and are selected either through the **CONFIGURATION** mode from the Operator Control Panel or remotely via escape sequences.

### Selecting the Primary Character Set

Set the primary character set by accessing function 1 of the **CONFIGURATION** mode and selecting the parameter number associated with the desired primary character set. The character sets and their associated parameter numbers are listed on the self-test printout as shown in Figure 2-22. To make a copy of your printer's self-test printout, press the **TEST** key and then press the **ENTER** key.

### Selecting the Secondary Character Set

Set the secondary character set by accessing function 2 of the **CONFIGURATION** mode and entering the parameter number associated with the desired secondary character set. The character sets and their associated parameter numbers are listed on the self-test printout from your printer (Fig. 2-22).



## **Perforation**

### **Skip Mode**

Under normal operation, an automatic page eject occurs when the perforation skip region is entered. This is to prevent printing too close to the page perforations. This automatic page eject may be disabled by setting Perforation Skip Mode (configuration function 60) to a value of "1" (ON). Default value is "0" (OFF).

## **Display**

### **Functions Mode**

Display Functions Mode is activated by setting configuration function 61 to a value of "1" (ON). In the display functions mode, the printer prints representative character symbols for the control code characters instead of actually executing the control commands. For example, if the printer encounters the SHIFT OUT command (to access the secondary font), the command will not be executed. The characters **S**<sub>O</sub> will be printed instead. The only exception to this is the carriage return command, the carriage return control character will cause a **C**<sub>R</sub> symbol to be printed and an actual carriage return and line feed to be performed. The default value for Display Functions Mode is 0 (OFF).

## **Vertical Line Spacing**

Vertical line spacing (6 or 8 lines per inch) is selected via the LPI ADJUST key on the Operator Control Panel or by program control (escape sequences). Programmatically setting the line spacing overrides the Operator Control Panel setting except under power-on or reset conditions.

---

## 2.7 Interface Configuration

All of the interface options are configured from the Operator Control Panel. Each interface has its own set of configuration parameters which are set by accessing functions 20 through 29 of the **CONFIGURATION** mode and using the **ENTER** key to select the proper code numbers. (Refer to the Interface Manual shipped with your HP 2566B/67B.) Once your printer has been configured properly, **record the configuration parameter numbers** and keep the numbers with your printer documentation. Thereafter, if you must configure the interface again, the parameters will be easily accessible and you can avoid a service call.

---

### NOTE

If your printer is equipped with an HP-IB interface, see Section 2.8 for HP-IB Address Selection. If it is equipped with another interface, see the Interface manual shipped with your printer.

---

#### To configure your interface:

- a. Enter **CONFIGURATION** mode.

While off-line, press and hold the **CONFIG.** key and either of the **FINE ADJ.** keys ( or ). Two decimal points will illuminate, indicating that the printer is in the **CONFIGURATION** mode.

- b. Display function number.

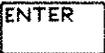
While holding down the **CONFIG.** key, increment or decrement the function number using either **FINE ADJ.** key until the desired number (20 through 29) appears on the display.

- c. Look up parameter.

Release the **CONFIG.** key and look up the configuration parameter for the function (20-29) indicated in your interface manual.

- d. Select the parameter.

Select the desired configuration parameter using either **FINE ADJ.** key until the desired number is displayed.

- e. Press 

Pressing **ENTER** saves the configuration parameter.

- f. Set next parameter.

Repeat steps a. through e. until all the configuration parameters for functions 20 through 29 have been entered.

---

## 2.8 HP-IB Address Selection

When selecting an HP-IB address, the same basic procedure is followed as that for configuring other printer features such as print density and character set selection. To select an HP-IB address, perform the following steps:

- a. Enter CONFIGURATION mode.

While off-line, press and hold the CONFIG. key and either of the FINE ADJ. keys ( or ). Two decimal points will illuminate, indicating that the printer is in the CONFIGURATION mode.

- b. Display function 20.

Press either FINE ADJ. key until the number 20 appears on the display.

- c. Check current value.

Release the FINE ADJ. and CONFIG. keys. Releasing these keys displays the current HP-IB address (parameter) number in the display.

- d. Set desired address.

Select the desired address number (0 - 7) by pressing the FINE ADJ. key (up or down) until the desired number is displayed.

- e. Press 

This step finalizes the configuration and returns the printer to normal operation. (If the ENTER key is not pressed, the new address selection is not saved.)

---

### NOTE

The HP-IB cable loading is set at the factory to match a single cable length appropriate for the interface option selected. To match the HP-IB loading to a different length cable, call your HP Service Representative.

---

---

## 2.9 Test

The printer self-test is used to verify the printer's operational status. The self-test function can be run from the Operator Control Panel and can also be run remotely using escape sequences. (See the *HP 256X Printer Family Technical Reference Manual* (02564-90905) for details.) The standard self-test can be run or specific subtests can be performed and run continuously if desired (individual subtests can be executed from the Operator Control Panel only).

The printer must be off-line (on-line indicator not illuminated) to execute a self-test from the Operator Control Panel. If a paper out or swing-gate open fault condition exists (error numbers 11 and 12), or if any other errors exist, self-test will not execute.

### Standard Self-Test

To perform the standard self-test function (excluding interface tests), depress the TEST key once to enter the test mode and then press the ENTER key to begin test execution. To run a continuous standard self-test, depress the TEST key for more than two seconds (until a number 4 appears on the display) and then press the ENTER key. Self-test can be exited any time by pressing either the TEST or ON LINE keys momentarily.

---

**NOTE**

After you have pressed the TEST key to initiate a self-test, there is a delay of a few seconds before the printer starts to print a test printout. **While self-test is active, the right-most decimal point blinks.**

---

During the standard self-test, a two-page printout is completed as shown in the Test Printout Illustration located in the back of this manual (directly preceding the HP Sales and Service Offices). The printout lists power-on time and print time in hours, HP-IB address selection (if applicable), the date code of some of the printed circuit assemblies, all of the installed character sets and bar codes, and prints graphics and various characters for checking print quality.

When the test has been completed and there are no errors, the printer returns to the STATUS mode. If an error occurs during test execution, an error number flashes on the display. Refer to the paragraph, "Test Failure" later in this section for more information.

## Continuous Test

To run a continuous self-test, press the TEST key and hold it down for more than two seconds until the display changes from a 5 to a 4. This sets the printer up so that when the ENTER key is pressed the displayed test runs continuously. Exit the continuous test by pressing the TEST or ON LINE key momentarily.

## Specific Subtest Selection

When executing the printer test from the Operator Control Panel, individual subtests can be selected by pressing the TEST key once. This action causes a subtest number to be displayed and the right decimal to illuminate indicating the printer is in the TEST mode. The subtest number can be incremented or decremented using the FINE ADJUST keys until the desired number is displayed (refer to Table 2.2 for a listing of the operator-accessible sub-tests). Once the number is displayed, press the ENTER key to execute the displayed subtest.

To execute a **continuous subtest**, follow the instructions under "Continuous Test," incrementing the display to the desired subtest number before pressing ENTER.

### EXAMPLE: CONTINUOUS SUBTEST

To perform the "Standard Ripple Print" subtest continuously, you would do the following:

- a. Enter CONTINUOUS TEST mode.

With the printer off-line, press the TEST key and hold it down for more than two seconds; the displayed number 5 will change to a 4. Release the TEST key.

- b. Select Ripple Print test.

Press one of the FINE ADJ. keys until the number 1 is displayed.

- c. Press

Pressing ENTER begins the self-test.

Unless an error occurs, the subtest will run continuously. Press the TEST key to stop the subtest.

---

### NOTE

Pressing the ON LINE key also aborts the self-test and puts the printer on-line.

---

---

Table 2-2. SUBTEST NUMBERS

SUBTEST	SUBTEST NUMBERS
Standard Self-Test	0
Standard Ripple Print	1
Double Size Ripple Print	2
Compressed Ripple Print (16.7 cpi)	3
High Density Ripple Print (optional)	4
Raster Graphics (herringbone pattern)	5
High Density Raster Graphics (herringbone)	6
Printer Configuration print-out	8
900/1200 LPM Ripple Print (upper-case)	9
1600 LPM Ripple Print "Draft Mode" (optional)	10 (2567B only)
Flight time/Platen adjust patterns	15
I/O Tests	30-38
Graphics tests (if installed)	40-48

---

## Test Failure

If a detectable problem exists within the printer, an error number will flash on the display. These numbers indicate a general failure area within the printer. If your printer fails the self-test, refer to Section 4.2 of this manual for help.

## 2.10 Moving the Printer

Hewlett-Packard provides for the original installation and testing of the printer. If it becomes necessary to move the printer to a new location, follow these procedures:

a. **Power OFF.**

With the printer off line, switch the Main Power ON/OFF (1/0) switch located on the back of the printer to the OFF (0) position. Unplug the power cable from the supply. (Section 3.4 explains which printer configuration parameters are saved in memory when power is turned off.)

b. **Disconnect I/O.**

Unplug the printer's interface cable from the rear of the printer.

c. **Raise levelers.**

Turn the printer's leveling feet counter-clockwise to raise them into the full UP position.

---

**CAUTION**

BEFORE MOVING THE PRINTER, BE CERTAIN THAT THE LEVELING FEET ARE FULLY RAISED. ROLL THE PRINTER FROM THE SIDE TO MINIMIZE POSSIBILITY OF TIPPING.

---

d. **Install shipping brackets.**  
(if major move)

The printer is shipped with 4 shipping lock brackets. The bracket locations are shown in Figure 2-23. The brackets are removed during unpacking and should have been saved. You should re-install the brackets for any major relocation of the printer.\* The shipping brackets provide protection from vibration damage when the printer is transported.

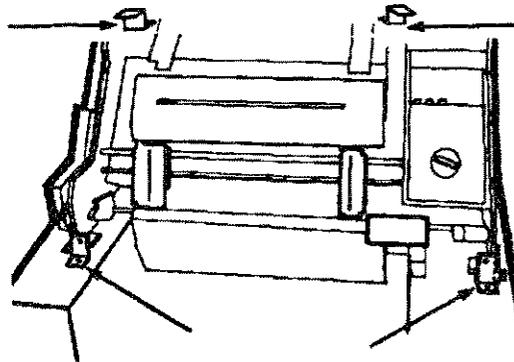


Figure 2-23. Shipping Lock Locations

---

\*New shipping brackets may be ordered through your HP Service Representative. Specify 2 ea of part numbers 02566-00231 and 02566-00236 (front and rear brackets) and 4 ea of P/N's 3020-0004 and 3020-0025 (bolts and washers).

## At New Location:

- a. **Remove the shipping brackets (if installed).** If the locking brackets were installed, be sure to remove all four of them **BEFORE** powering up the printer. See Figure 2-23 for locations.
- b. **Lower the leveler feet.**
- c. **Connect the I/O cable.** Connect the interface cable from the computer system to the interface connector on the back of the printer. If you have an HP-IB interface, use the supplied shielded cable. Failure to use the appropriate cable could cause ESD (electrostatic discharge) problems.
- d. **Connect the power.** Connect the AC power cord to the AC power input jack on the back of the printer and plug the other end into the AC outlet.
- e. **Switch ON.** Switch the Main Power ON/OFF (1/0) switch located on the back of the printer to the ON position.
- f. **Load ribbon and paper.** Load the ribbon and paper as described in the ribbon and paper loading instructions, Sections 2-3 and 2-4.
- g. **Run a self-test.** With the printer off-line, press TEST then ENTER. Compare the printout with the self-test printout at the back of this manual. (Note that the self-test printout varies depending on which character set options are installed.) If no error numbers are flashing on the display and the characters on the self-test printout are clear and well-formed, then the printer is now ready for operation. If any errors occur during the test, or if the printout does not appear correct, see Chapter 4 for assistance.



---

---

# CHAPTER 3

## USING THE PRINTER

---

---

This chapter discusses the printer status (or modes) and the controls, indicators, and other features of your printer. Using your printer efficiently requires that you understand these easy-to-use features.

The printer is controlled through the Operator Control Panel and/or control codes (such as escape sequences). The Operator Control Panel operation is detailed in this chapter and the control codes are explained in the *HP 256X Printer Family Technical Reference Manual* (02564-90905).

---

### 3.1 Printer Modes

The decimal points on the Operator Control Panel display indicate which mode the HP 2566B/67B is in. When no decimal points are illuminated, the printer is in the **STATUS** mode. When the rightmost decimal point is illuminated, the printer is in the **TEST** mode. When the middle and rightmost decimals are illuminated, the printer is in the **CONFIGURATION** mode and when all three decimals are illuminated, the printer is in the **SET T.O.F.** mode. The numbers displayed in each of these conditions are listed in "Printer Configuration" (Section 2.6), "Test" (Section 2.9), "Printer Status" (Section 3.2), and "Printer Errors" (Section 4.2).

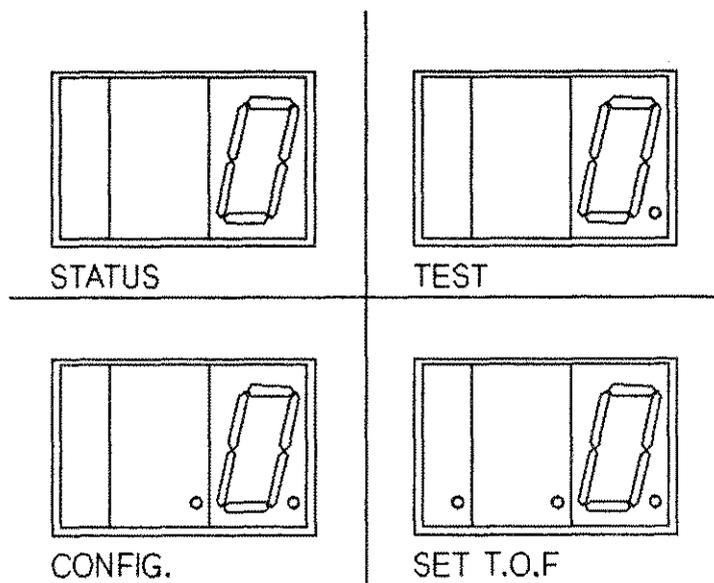


Figure 3-1. Display Modes

---

## 3.2 Printer Status Mode

Under most conditions, the printer is in the **STATUS** mode and displays its current status via the Operator Control Panel display. When in the **STATUS** mode, none of the decimal points on the display are illuminated and a status number is displayed. This number corresponds to a specific status as shown in Table 3-1.

---

<b>NOTE</b>
-------------

When the printer is in the **SET T.O.F.** mode, printer status is still displayed, but all three decimal points are illuminated.

---

---

*Table 3-1. PRINTER OPERATIONAL CODES*

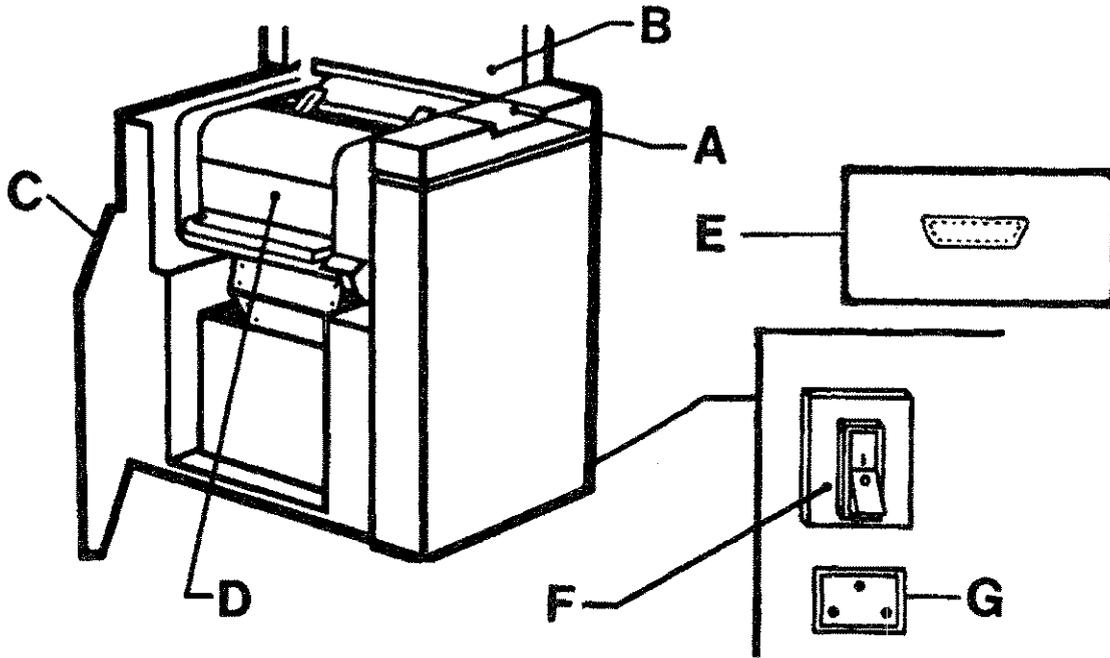
Status Code	Description
0	Printer ready (also modem disconnected for serial interfaces)
1	Printer ready, modem connected (serial I/O)
2	Silent run--data recovery for HP-IB interfaces on HP 3000
4	Performing a subtest in continuous mode
5	Standard self-test/subtest active
6	Print One Line (file data) activated
7	Print One Line (test pattern) activated
Operator Correctable Problems	
10	Swing-gate open
11	Printer out of paper
12	Swing-gate open
13	Paper jam

Error numbers 14 through 91 indicate Run Time or Self-test errors and are explained in Chapter 4 of this manual.

---

### 3.3 Operator Controls and Indicators

This section explains the location and function of the printer controls and indicators.



- A = OPERATOR CONTROL PANEL
- B = TOP ACCESS COVER
- C = FRONT ACCESS DOOR
- D = SWING-GATE
- E = I/O PORT
- F = POWER (ON/OFF) SWITCH
- G = POWER SUPPLY INPUT

Figure 3-2. External Control Locations

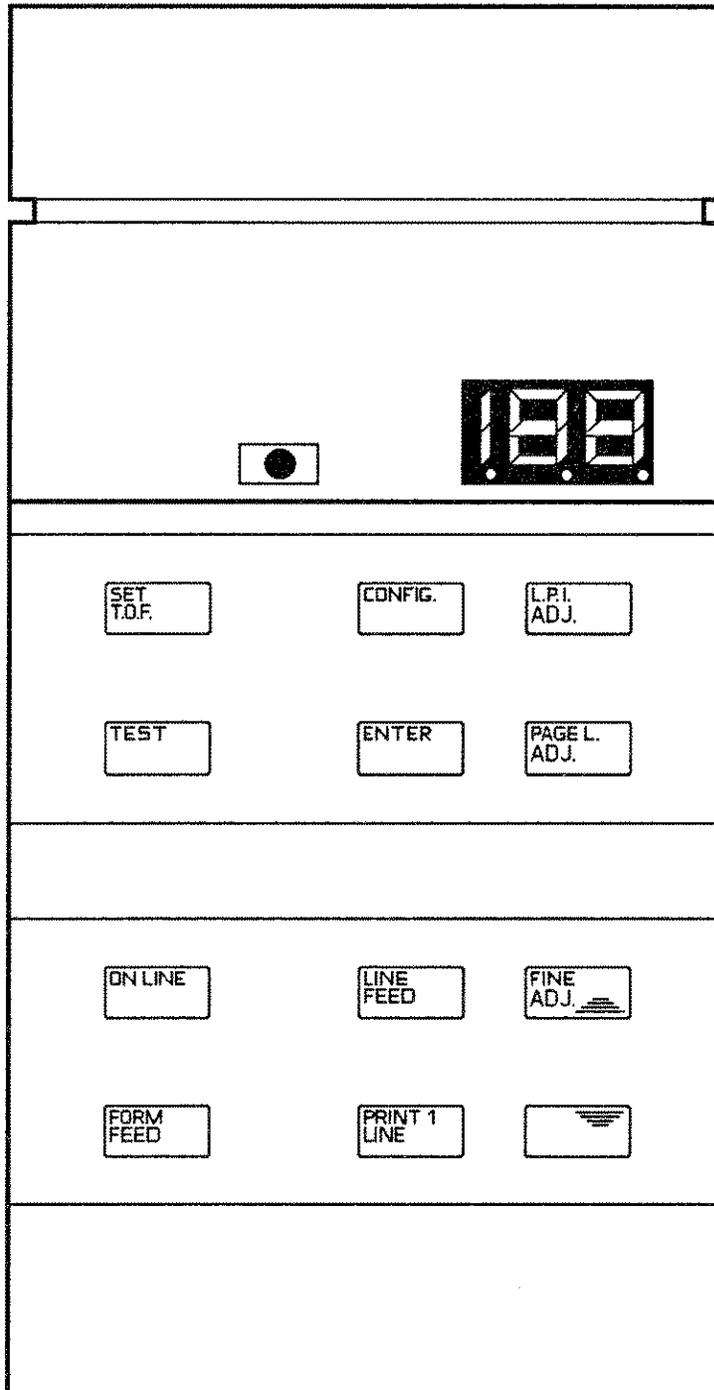


Figure 3-3. Operator Control Panel

**ON LINE INDICATOR**



This yellow LED (Light-Emitting Diode) illuminates when the printer is on-line. When on-line, printing is enabled, all Operator Control Panel keys are disabled (except ON LINE key), and the printer is controlled by the controlling device (computer system).

## DISPLAY INDICATOR



The display consists of three seven-segment LEDs and is located on the top portion of the Operator Control Panel. The displayed numbers are used to convey information in four different modes: a) **STATUS**, b) **TEST**, c) **CONFIGURATION**, and d) **SET TOP OF FORM**. The decimal points indicate which mode the printer is in: no decimals illuminate when in the **STATUS** mode, the right-most decimal illuminates when in the **TEST** mode, the middle and right decimals illuminate when in the **CONFIGURATION** mode, and all three decimals illuminate when in the **SET T.O.F.** mode.

Usually the printer is in the **STATUS** mode and displays a number indicating the present status of the printer. This number corresponds to a specific status listed in Section 3.2, "Printer Status Mode."

When in the **TEST** mode, the display indicates a number corresponding to the particular subtest that is to be performed. When a test is executing, the right decimal point blinks. See Section 2.9 "Test" for more information on the **TEST** mode.

When in the **CONFIGURATION** mode, the function number to be configured is displayed while the **CONFIG.** key is held down and its corresponding parameter is displayed when the **CONFIG.** key is released.

In the **TEST** and **CONFIGURATION** modes, the displayed numbers can be incremented or decremented by using the **FINE ADJ.** keys.

## SET T.O.F. KEY



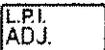
This key, in conjunction with the **ENTER** key, is used to set the Top of Form (TOF). When this key is pressed, all three decimal points on the display are illuminated to indicate that the **SET T.O.F.** mode has been entered. Once the mode has been entered, pressing the **ENTER** key identifies the new Top of Form and advances paper to the new TOF position. This mode can be exited by pressing the **SET T.O.F.** or **ON LINE** key. If error conditions such as paper-out have occurred, pressing this key will clear the error and display a zero; however, the error will be displayed again if the condition is not corrected when the mode is exited. A new Top of Form must be set to clear a paper jam. See "Setting Top of Form" in Section 2.5 for more information.

## CONFIGURATION KEY



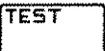
This key, in conjunction with the FINE ADJ. keys, is used to enter the **CONFIGURATION** mode. Pressing the CONFIG. key alone has no result. When the CONFIG. key and one of the FINE ADJ. keys are pressed simultaneously, the printer enters the **CONFIGURATION** mode. The middle and right decimal points are illuminated to indicate that the printer has entered the **CONFIGURATION** mode. When the CONFIG. key is held down, a function number is displayed. This function number can be changed by using the FINE ADJ. keys until the desired function number is displayed. When the CONFIG. key is released, the parameter associated with the function just displayed appears on the display. Pressing the FINE ADJ. keys changes the displayed parameter so that a new value can be selected. The displayed parameter is stored and the **CONFIGURATION** mode exited by pressing the ENTER key. This mode can be aborted and the original parameters saved by pressing the CONFIG. key (assuming the ENTER key has not been pressed). Pressing the ON LINE key also exits the **CONFIGURATION** mode and additionally puts the printer on-line. For more information on printer configuration, see "Printer Configuration" Section 2.6 of this manual.

## LPI ADJUST KEY



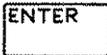
Pressing this key causes the current LPI (vertical lines per inch) setting (6 or 8) to be displayed. Both decimal points are illuminated to indicate the **CONFIGURATION** mode has been entered. At this point, the FINE ADJUST keys can be used to change the LPI setting. When the desired setting is displayed, pressing the ENTER key selects the displayed setting as the current LPI value and returns the printer to the **STATUS** mode. The LPI adjust mode can be aborted without making any changes by pressing the LPI ADJ. or ON LINE key (assuming the ENTER key has not been pressed).

## TEST KEY



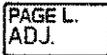
This key is used to test the printer to determine if it is in proper operating condition. A complete test or specific subtests can be executed using this key. Test failure is indicated by a flashing error number on the Operator Control Panel display. A detailed description of the test function is presented in Section 2.9 of this manual.

#### **ENTER KEY**



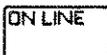
When in the **CONFIGURATION** mode, pressing the **ENTER** key causes the selected parameter to be set. When in the **TEST** mode, pressing the **ENTER** key causes the printer to start execution of the selected test. When in the **SET T.O.F.** mode, pressing the **ENTER** key sets the new Top of Form. The printer is returned to **STATUS** mode after the **ENTER** key is pressed.

#### **PAGE LENGTH ADJUST KEY**



Pressing this key causes the physical page length to be displayed. Although the printer is in the **CONFIGURATION** mode, only one decimal point is lit (for example, 11.5 for 11 1/2 inches). The displayed page length can be adjusted using the **FINE ADJUST** keys. After the desired page length is displayed, pressing the **ENTER** key sets the page length to the displayed value and the printer returns to **STATUS** mode.

#### **ON LINE KEY**



This key is used to give control of the printer to the operator (off-line) or to the computer system (on-line). The **ON LINE** indicator illuminates when the printer is on-line. The printer must be off-line to respond to any of the other keys on the Operator Control Panel. This key can also be used to abort from the **CONFIGURATION**, **TEST**, and **SET T.O.F.** modes; this action places the printer on-line, saves the previously active configuration and Top of Form, and aborts self-test if self-test is active. The printer will not go on-line if there is an error condition present.

#### **LINE FEED KEY**



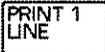
This key is used to advance paper to the next print line using the line spacing increment which has been set by either the **LPI ADJ.** key or via program control. If the **LINE FEED** key is pressed and held down, the printer will pause momentarily and then advance paper at an increased rate. This action will continue as long as the key remains depressed. The **LINE FEED** key functions only when the printer is off-line and not in the test mode.

## FORM FEED KEY



This key is used to advance the paper to the next Top of Form position. If pressed momentarily, the printer performs one form feed. If the key is held down, the printer performs successive form feeds until pressure is released from the key. This key functions only when the printer is off-line and not in the test mode.

## PRINT 1 LINE KEY



This key is used to print one line of data on the installed form at the current line position. If the key remains in the down position, successive lines of data will be printed until pressure is released from the key.

---

### NOTE

If a single line is printed, use the line feed key to advance the paper so that the line is visible above the ribbon shield. This is not necessary when printing multiple lines.

---

Two kinds of data may be printed using this key, the type printed depending on which mode the printer is currently in.

If the printer is in the **TEST** mode (accessed by pressing the **TEST** key), a test pattern is printed to aid forms alignment. If the printer is not in the **TEST** mode, the printer goes on-line, prints one line of data, and then returns off-line. If no data is available within 1.5 seconds, the printer returns off-line without printing.

## FINE ADJUST (UP/DN) KEYS



The two **FINE ADJUST** keys are used to move the paper up or down in small increments; this action is repeated if either key is held down. The **FINE ADJUST** keys are also used to increment (**UP**) and decrement (**DOWN**) the display when in the **TEST** or **CONFIGURATION** modes.

A = VERTICAL PAPER TENSION LEVER  
B = TRACTOR CONTROL KNOB  
C = TRACTOR CONTROL KEYS

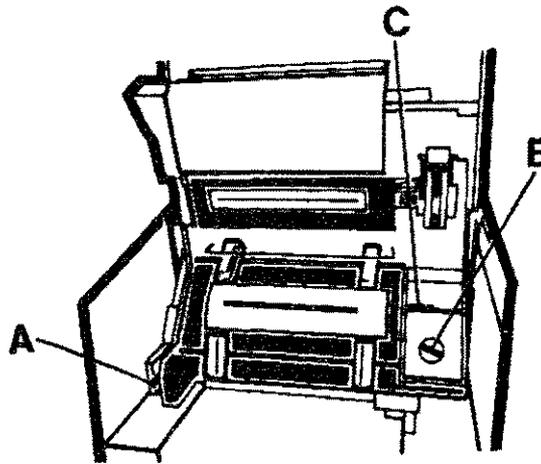


Figure 3-4. Forms Loading Controls

### VERTICAL PAPER TENSION LEVER

This lever is used to make minor adjustments in vertical paper tension by slightly changing the distance between the upper and lower tractors. Moving the lever upward decreases paper tension and moving the lever downward increases paper tension. This control allows you to adjust the paper so that it rides more smoothly through the tractors. For more information, see Section 3.9, "Optimizing Print Quality."

### TRACTOR CONTROL KNOB

This knob, located to the right of the tractors, controls which tractors move when the tractor control keys are pressed. When the knob is in the FORMS ALIGNMENT (left) position, all four tractors are enabled. When the knob is set in the FORMS WIDTH (right) position, only the two right tractors are enabled.

Set the knob in the FORMS ALIGNMENT position when printing and when aligning the position of column 1 and set the knob in the FORMS WIDTH position when changing the width of the loaded forms.

### TRACTOR CONTROL KEYS

There are two sets of tractor control keys. The main set of tractor control keys is located to the right of the tractors and is only accessible when the swing-gate is opened (Fig. 3-4). The auxiliary tractor control keys are located on the right of the swing-gate, and accessible when the swing-gate is closed (Fig 3-5, A).

Both sets of keys are used in combination with the tractor control knob to determine how the tractors move. The auxiliary set of keys are identical in function to the main set but do not contain a middle (FAST) key.

Pressing the left or right key causes the tractors to move left or right, respectively. The middle key, when pressed with the left or right key, causes the tractors to move at a faster rate. The tractor control knob setting determines whether all four tractors or just the two right tractors move when the tractor control keys are pressed.

A = AUXILIARY TRACTOR KEYS  
B = PAPER THICKNESS ADJUST LEVER

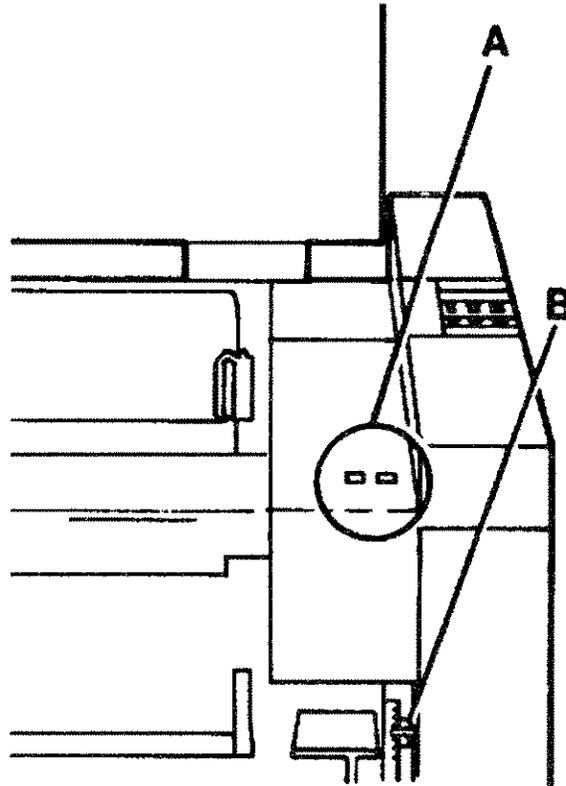


Figure 3-5. Forms Adjustment Controls

### PAPER THICKNESS ADJUSTMENT LEVER

This lever, located under the access cover on the right front of the printer (Fig. 3-5, B), is used to adjust the printer for maximum print quality with various thicknesses of paper and forms. Next to the lever are printed numbers from 0 (minimum form thickness) to 12 (maximum form thickness). These numbers serve as a guide and do not correspond directly with the number of parts in a multi-part form.

To adjust the lever for optimum print quality, see Section 3.9, "Optimizing Print Quality."

---

## 3.4 Power-On Parameters and Power-Fail Recovery

### Values Retained In Printer Memory

When the Main Power ON/OFF switch (back of printer) is toggled OFF and ON or a loss of power to the printer occurs, some of the printer's configuration settings are retained in (non-volatile) memory, and some are returned to defaults, as follows:

When power is restored to the printer, the following configuration settings are returned to the same state as prior to the power-off condition:

- On/off-line in the same state as prior to removing power
- Primary and secondary character sets selected as configured from the Operator Control Panel
- Vertical line spacing (6/8 LPI) as selected from the Operator Control Panel
- Form length remains at the same value as before power loss

### Values Returning to Default State

Following a power-off state, these printer functions revert to the following conditions:

- Paper moves to the next Top of Form position
- Print buffer cleared
- Standard VFC channel assignments selected
- Left margin offset at zero

The recoverability of the HP 2566B/67B following a system power failure is dependent upon which system the printer is connected to. When using an HP-IB interface on some systems, the printer will display the number "2" (Silent Run) and may take several minutes to recover your job until it reaches the point where the power-fail occurred. Do not disturb the job. Recovery time varies with the size of the job and the system load. Refer to your system documentation for more information on this subject. If only the printer loses power, the power-on parameters will be set as indicated above. The HP 2566B/67B has no power fail indicator.

### Reset

The reset operation causes the printer to default to the power-on parameters as explained above. Therefore, a reset is intended to be used only in the case of a self-test error or by a Hewlett-Packard Service Representative.

Reset is performed by pressing the FORM FEED and LPI ADJUST keys simultaneously. When reset, the printer moves paper to the Top of Form, reverts to the power-on parameters, and stays off-line. A programmable reset can also be performed. The programmable reset affects the printer similarly except that the printer remains on-line.

## On-Line/Off-Line

When the printer is on-line, data and commands can be transmitted to it from a controlling device (computer system). When it is off-line, data and commands from the system are ignored by the printer. The printer must be off-line in order to use any of the keys on the Operator Control Panel.

The printer is placed on/off-line by using the ON LINE key on the Operator Control Panel. Fault conditions such as paper out, swing-gate open, etc. cause the printer to be set off-line. When this happens, the printer will not return on-line until the error has been corrected and the ON LINE key is pressed.

---

## 3.5 Graphics Printing

The HP 2566B/67B graphics printing capability is escape sequence driven. Consult the *HP 256X Printer Family Technical Reference Manual* (02564-90905) for graphics printing information.

---

## 3.6 Vertical Forms Control

The HP 2566B/67B printer is equipped with a standard and a programmable Vertical Forms Control (VFC). The standard VFC is defaulted to whenever the printer is powered-up or reset.

Vertical Forms Control allows the user to skip to a predefined line on a page of print with typically one or two commands instead of using a number of line feeds; this capability can greatly increase the speed of a print job.

The standard VFC contained in the HP 2566B/67B is a "computed VFC" meaning that the VFC automatically adjusts its skip lengths when the form length is changed.

The standard VFC channel definitions are listed in the following table. The terms Top of Form and Bottom of Form refer to the top and bottom of text on the page. More information about the programmable VFC is contained in the *HP 256X Printer Family Technical Reference Manual* (02564-90905).

---

Table 3-2. VFC CHANNEL DEFINITIONS

VFC CHANNEL	CHANNEL DEFINITION
0	Conditional Top of Physical Page
1	Top of Form (line 1)
2	Bottom of Form (BOF) last line of text
3	Single space (lines 1,2,3,4,...)
4	Double space (lines 1,3,5,7,...)
5	Triple space (lines 1,4,7,10,...)
6	Half Form
7	Quarter Form
8	Tenth space (lines 1,11,21,31,...)
9	Bottom of Form
10	BOF - one line (BOF - 1)
11	TOF - one line (TOF - 1)
12	Top of Form
13	Seven space (lines 1,8,15,...)
14	Six space (lines 1,7,13,...)
15	Five space (lines 1,6,11,...)
16	Four space (lines 1,5,9,...)

---

---

## 3.7 Preventive Maintenance

Maintain the printer in a state of general cleanliness. Accumulated dust, bits of paper, and lint can lead to serious problems.

Watch for indications of physical damage and report problems or potential problems to your HP Service Representative.

---

## 3.8 Fault Conditions

All fault conditions are signified by flashing of the display on the Operator Control Panel. The following error conditions cause the corresponding error number to be displayed. These error indications are provided to help you locate and possibly correct problems which prevent normal operation of the printer. When any fault condition exists, the printer automatically goes off-line and cannot be put on-line again until the fault is corrected.

### **Error No. 11: Out of Paper**

This error number indicates that the printer is out of paper. When paper-out is detected, the printer finishes printing the current page, advances to Top of Form, and goes off-line until paper is reloaded. This error is cleared when either the ON LINE or SET TOP OF FORM key is depressed following paper reloading. No data is lost when paper-out occurs. Refer to Section 2.5 for paper loading instructions.

### **Error No. 12: Swing-Gate Open**

This error number indicates that the printer's swing-gate is not fully closed. Push the swing-gate handle down firmly to close.

### **Error No. 13: Paper Jam**

This error number indicates that paper is not passing normally through the tractors. After the paper jam is corrected, press the SET T.O.F. key, align the new Top of Form with the ribbon shield, and press the ENTER key. This procedure clears the error from the display and gets the printer ready so that it can be placed on-line and normal operation resumed. If you are using an HP-IB interface on an HP 3000, the display may indicate number "2" and may take several minutes to recover after a paper jam. This is because the printer must recycle through the job until it reaches the point where the paper jam occurred. The time required for this process varies with the size of the job and the computer system work load.

### **Errors No. 14 - FF: Non-Operator Correctable**

These error numbers indicate problems which should be referred to your HP Service Representative.

While in the TEST mode, any test error will cause a flashing test error number to be displayed. Errors 14 through 19 and 80 through FF can occur during normal print operations. Error numbers between 20 and 69 occur when the printer has failed its TEST routine. Consult Chapter 4 of this manual for more information concerning printer errors and what to do about them.

---

## 3.9 Optimizing Print Quality

There are two printer controls that are used to achieve the best print quality from your printer--the vertical paper tension lever and the paper thickness adjustment lever (Fig. 3-5).

### To adjust the printer for optimum print quality:

a. Adjust vertical tension.

With the swing-gate open and paper loaded, move the vertical paper tension lever downward until the paper is slightly taut against the platen. (The platen is the curved black surface lying between the upper and lower tractors.) Place your hand on the paper in the region of the platen and gently push the paper up and down. If the paper has significant freedom to move, the vertical tension is still too loose. When the tension is correct, you will notice no vertical looseness.

b. Try a form feed.

With the printer off-line, press the FORM FEED key two or three times to ensure that the paper moves freely over the platen. Excessive paper tension will cause the tractor holes in the paper to stretch and extreme tension will cause a paper jam. If either of these conditions occurs, lift the vertical paper tension lever one click at a time, using the FORM FEED key each time as a test.

---

**NOTE**

If the vertical paper tension lever is not adjusted correctly, some characters such as O's, and E's may appear squashed or flattened at the top, especially when using heavy paper or 6-part forms. Proper adjustment of the lever will solve this problem.

---

c. Run subtest #15.

Close the swing-gate and initiate subtest number 15, which is a set of vertical and horizontal lines (see Section 2.9 for self-test procedure).

d. Adjust forms thickness.

Use the FORM FEED key to eject the page. Examine the print. The vertical lines will especially be affected by too large a print gap. If they are somewhat jagged, with the individual dots offset to the right and left (dot slalom - see Figure 3-6). Dot slalom signifies that the print gap is too large (the higher the number, the wider the print gap). Decrease the Forms Thickness setting and run subtest 15 again. When the printer is adjusted correctly, the print should be dark and clean and the vertical lines relatively smooth.

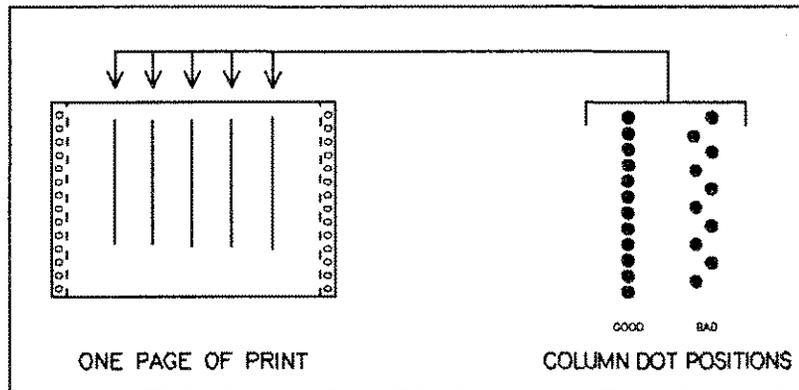


Figure 3-6. Dot Slalom

If the gap between the paper and the platen is too small, there may be some smudging of ink on the paper. If this occurs, move the lever one click higher (toward number 12) and try subtest 15 again until no smudging occurs. The best adjustment will usually be as tight as possible without ink smudging.

---

---

# CHAPTER 4

## IN CASE OF DIFFICULTY

---

---

You should not attempt to perform any maintenance of this printer except routine operator maintenance and limited maintenance of the print mechanism. However, if the printer fails to function properly, there are some steps you can take before scheduling a service call:

- **Is an error number displayed?** The HP 2566B/67B signals an error condition by flashing an error code number on the display. If a number is displayed, refer to the following:
  - Error numbers 11 through 13: These are operator correctable errors. Refer to "Fault Conditions" in Section 3.8.
  - Error numbers 14 through 20 and 69 through FF: These are non-operator correctable errors. Refer to Section 4.2 before calling the HP Service Representative.
- **No error number displayed?** If you are having difficulty with the printer and no error number is displayed, then refer to the next section, "General Problems."

---

## 4.1 General Problems

(no error number displayed)

Following are some printer difficulties that may not necessarily cause an error number to be displayed on the Operator Control Panel. Each problem description is followed by some suggestions for possible causes/solutions:

### **PRINTER WILL NOT POWER ON**

Power cord is not plugged in. Power outlet current is off or dead. Printer's internal fuse is blown. Printer's MAIN POWER ON/OFF switch is not in the ON (1) position (refer to Section 2.2 of this manual).

### **PAPER DOES NOT ADVANCE**

Paper is not properly loaded. Check tractors, paper alignment, and forms thickness adjustment. Holes in paper are damaged. Paper is caught in the paper box. Paper folds do not match horizontal perforations. Check the paper and remove the damaged sheets. Reload paper (see Section 2.5).

### **PAPER TEARING OR SEPARATING OF MULTI-PART FORMS**

Tension on paper is not correct. Check forms width (Section 2.5) and vertical paper tension (Section 3.9). Ensure that the tractor control knob is in FORMS ALIGNMENT position when printing. Check paper for binding or dragging. Check for damaged or malformed tractor holes in paper. Reload paper if necessary (Section 2.5).

### **PRINT QUALITY BECOMES ERRATIC, VERY LIGHT, OR SMUDGED**

Check the Forms Thickness adjustment (see Section 3.9). Replace the ribbon (see Section 2.4).

### **WILL NOT PRINT**

Check interface configuration. Ensure that the printer is on-line. If using the HP-IB interface, check to see that the proper address is selected.

### **STATUS CODE 2 IS DISPLAYED AFTER PAPER JAM HAS BEEN CLEARED**

The printer is recovering your print job and readying itself to print at the point where the paper jammed. This process may take several minutes, depending on the size of the job and the current capacity of the computer. (This condition is only true when using an HP-IB interface on some systems.)

### **FALSE PAPER OUT INDICATION**

Check to ensure that the paper is securely positioned in the lower, left-hand tractor.

---

## 4.2 Printer Errors

Error numbers displayed on the HP 2566B/67B range from 11 through FF. There are several categories of errors, as follows:

- Operator correctable errors - error numbers 11, 12 and 13.
- Run time errors - error numbers 14 - 19 and 80 - 91.
- Self-test errors - error numbers 20 - 69
- System protocol and formatter errors - errors C0 - FF\*

\*These alphanumeric (hexadecimal) error codes may be caused by system problems and should be referred to an HP Service Representative.

### Operator Correctable Errors

These are error numbers 11, 12, and 13. They are somewhat "routine" situations (such as paper-out or swing-gate open) and are easily fixed. See "Fault Conditions," Section 3.8, for a description of the probable causes and suggested operator response to these errors.

### Run Time Errors

Run time errors can occur at any time when the printer is in normal operation (errors 11, 12 or 13 are not displayed). Run time errors are as follows:

---

*Table 4-1. RUN TIME ERRORS*

14	Print mechanism problem
15	Graphics run-time fail
16	I/O run-time fail
17	Printer time out
19	Remove CE strap
80	Character set initialization problem
81-82	Slave self-test error
83	Internal firmware problem
86	Modem connect malfunction
90	I/O slave time-out
91	Graphics slave time-out

---

Run time errors should be referred to your HP Service Representative for assistance. Before calling for service, you should record the error number and its associated "fail point" (see Section 4.3 for more information).

## Self-test Failure

If a self-test routine fails, perform a reset (FORM FEED and LPI ADJUST keys pressed simultaneously -see Section 3-4) and try the test again. If the test fails the second time, report the test error number and its associated "fail point" (see Section 4.3) to your HP Service Representative.

Table 4-2. SELF-TEST ERROR NUMBERS

---

NUMBER	FAILURE
*23	Ribbon test fail
*24	Velocity transducer adjust test fail
29	Configuration print out
30	Standard ripple print timeout
31	Double size ripple print timeout
32	Compressed ripple print timeout
33	High density ripple print timeout
34	Raster graphics timeout
36	Blackout print timeout
37	Print quality print timeout
38	Draft density ripple print timeout
39	900/1200 LPM upper-case ripple print timeout
40	Character set ROM CRC test fail
41	RAM test fail
42	ROM firmware test fail
43	Timer test fail
44	Dot Generation Logic test fail
*45	Too Many Dots test fail
*46	Corebar hammer test fail (hammers 1-99)
*47	Corebar hammer test fail (hammers 100-132)
*48	Enable linear motor test fail
50-59	I/O errors
60-69	Graphics errors
70	Platen adjust pattern print timeout

\* = CE MODE TESTS

---

## 4.3 Calling for Help

### Finding the Fail Point

As previously mentioned, any printer error numbers 14 or greater should be reported to your HP Service Representative. However, before calling, (and before powering-off the printer), you should record the error number and its associated fail point. Give these numbers to the HP Service Representative when you call.

The "fail point" number is a subset of the error number, and helps the HP Service Representative further pinpoint the source of difficulty. If the printer fails the self-test two times in a row, or if a run-time error number is displayed, you should find the fail point number and record it before powering the printer off or calling your HP Service Representative. This will enable them to partially diagnose the problem on the phone. To find the fail point number, simply press ENTER when the error number (14 or greater) is flashing on the display. The fail point number will then be displayed.

---

---

# APPENDIX A PRINTER SPECIFICATIONS

---

---

## Certification

The HP 2566B/67B Line Printer is listed by Underwriters Laboratories, Inc. in the following categories with respective guide designations: Electronic Data Processing Equipment (EMRT) and Office Appliances and Business Equipment (QAOT).

The HP 2566B/67B is certified to Canadian Standards Association (CSA) guidelines for data processing equipment.

This product was designed and tested to comply with IEC 380 and IEC 435. Additionally, this printer was designed to meet European Safety and RFI/EMC standards for Electronic Data Processing Equipment. This includes Germany's VDE 0871 Level B. Any questions concerning regulatory compliance should be directed to your local Hewlett-Packard Sales Office.

Hiermit wird bescheinigt, daß das Gerät HP 2566/67B in Übereinstimmung mit den Bestimmungen der Postverfügung 1046/84 funkenstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Wird das Gerät innerhalb einer Anlage zusammen mit anderen Geräten betrieben, so muß bei Inanspruchnahme der "Allgemeinen (Betriebs-) Genehmigung" nach der DBP-Verfügung 1046/48 die gesamte Anlage der Grenzwertklasse B nach DIN/VDE 0871/6.78 und den Auflagen nach ¶ 2 der DBP-Verfügung 1046/1984 entsprechen.

## Physical Specifications

Height: 43.3 in (110 cm)  
Width: 38.7 in (98.3 cm)

Depth: 25.0 in (63.5 cm)  
Weight: 465 lb (211 kg)

## Electrical Characteristics

INPUT (VAC)  
100 (+5%, -10%)  
120 (+5%, -10%)  
220 (+5%, -10%)  
240 (+5%, -10%)

FREQUENCY (Hz)  
50/60 (+10%, -5%)  
50/60 (+10%, -5%)  
50/60 (+10%, -5%)  
50/60 (+10%, -5%)

- Power Consumption:

HP 2566B  
150 W non-printing  
400 W printing (typical)  
550 W printing (maximum)

HP 2567B  
150 W non-printing  
450 W printing (typical)  
650 W printing (maximum)

- **Power Dissipation:**

<u>HP 2566B</u>	<u>HP 2567B</u>
512 BTU non-printing	512 BTU non-printing
1365 BTU printing (typical)	1536 BTU printing (typical)
1877 BTU printing (peak)	2219 BTU printing (peak)
- **Power Cable Length:** Two metres (approximately 6.5 feet)

## Performance

Table A-1. PRINT SPEED AND MATRIX SIZES

TYPE OF PRINTING	PRINT SPEED		PITCH (cpi)	MATRIX SIZE
	2566B	2567B		
Normal (upper-case)	900 lpm	1200lpm	10	5/13 x 7
Normal (lower-case)	720 lpm	960 lpm	10	5/13 x 9
Draft quality (upper-case)	-	1600lpm	10	4 x 5
High Density (upper-case)	248 lpm	320 lpm	10	7/19 x 14
High Density (lower-case)	195 lpm	252 lpm	10	7/19 x 18
Compressed (upper-case)	480 lpm	600 lpm	12	5/13 x 7
"	480 lpm	600 lpm	13.3	5/13 x 7
"	480 lpm	600 lpm	15	4/10 x 7
"	480 lpm	600 lpm	16.7	4/10 x 7
Compressed (lower-case)	379 lpm	480 lpm	12	5/13 x 9
	379 lpm	480 lpm	13.3	5/13 x 9
"	379 lpm	480 lpm	15	4/10 x 9
"	379 lpm	480 lpm	16.7	4/10 x 9
Double size (upper-case)	240 lpm	320 lpm	5	14/38 x 14
Double size (lower-case)	189 lpm	252 lpm	5	14/38 x 18
Bar Codes	50 ipm	66.7ipm	-	-
Raster Graphics	50 ipm	66.7ipm	-	70 x 72 dpi
" (high density)	16.7ipm	22.2ipm	-	140 x 144 dpi

NOTE: Print speed may vary with application and configuration. The printer regulates speed to keep internal temperatures at safe levels. This may affect throughput in warmer operating environments.

- **Dot Density:**  
(horizontal) Normal and High Density (210 dots/inch)  
Compressed (200 dots/inch)  
Graphics (70 or 140 dots/inch)  
Bar Codes (100 dots/inch)
- **Paper Slew Rate:** 25 inches/second
- **Vertical Format Control:** 16 programmable channels

## Environmental Specifications

- **Temperature:** Operating (printer and ribbon): 10° to 50° C (50° to 122° F)  
Storage (printer): -40° to 75° C (-40° to 167° F)  
Survival (power-on): -20° to 60° C (-4° to 140° F)  
Storage (ribbon): 10° to 50° C (50° to 122° F)
- **Relative Humidity (printer):** Non-operating -- 5% to 95% non-condensing  
Operating -- 30% to 80% (recommended)
- **Audible Noise:** Non operating - less than 55 dBA  
Operating - 65 dBA

(All sound measurements calculated using ISO/DIS 7779 measurement standard for average sound pressure at one metre from source.)



---

---

# APPENDIX B

## PAPER SPECIFICATIONS

---

---

This appendix provides specifications for selecting continuous form paper appropriate for use in the HP 2566/67B printer. These specifications are intended to ensure the highest quality and reliability of the printer and are not intended to recommend a specific brand of paper.

### Printer Overview

The HP 2566/67B printer uses dot-matrix technology which allows a high degree of printing flexibility. The basis of the printing mechanism in this family of printers is a print bar containing 132 print hammers, or one print hammer for each character (at 10 characters per inch). The print bar oscillates horizontally to allow dot placement in any of the allowable dot positions across the page. Dot-matrix technology provides the flexibility to adjust character formation, allowing multiple languages, line draw characters, special characters and graphics images to be printed.

### General Paper Requirements

The printer uses continuous fan-fold edge-perforated paper varying in width from 3.0 to 18 inches. Although the printer accepts paper as wide as 18 inches, the farthest right it can print is 15.2 inches. It will handle paper weights in the range of 15 to 100 pounds. In many cases the printer will print successfully on paper lighter than 15 pounds but the paper should be tested (prior to purchase) for satisfactory feeding and stacking ability. Multi-part forms up to six parts may be used, with a maximum pack thickness of 0.024 inches.

If paper is to be used in humidity extremes (greater than 80% or less than 20%) it should first be tested. Paper to be used at high humidity should be tested for satisfactory feeding and handling. Paper to be used at low humidity should be tested to determine if static buildup must be eliminated for proper stacking.

In general, any special application paper, such as multi-part forms, labels, etc. should be tested in the printer prior to purchase.

## Dot-Matrix vs. Full-Font Printers

A major difference between dot-matrix printers and full-font printers is the print gap, or the distance between the print hammer in its retracted position and the platen. While the hammers of full-font printers fire only once to form an entire character, the hammer of a dot-matrix printer fires an average of 13 times and as many as 26 times to form a standard-density character. The high-repetition rates that dot-matrix hammers operate at in order to print at speeds comparable to full-font printers requires operation at a significantly smaller print gap. Figure B-1 gives a comparison of typical dot-matrix and full-font print gaps.

For most standard paper and multi-part forms, the smaller print gap of dot-matrix printers does not present any problems. However, some specialty forms may cause unacceptable paper jam rates and/or print smearing even though they perform satisfactorily in full font printers. This paper specification explains the restrictions that apply to forms for the HP 2566/67B.

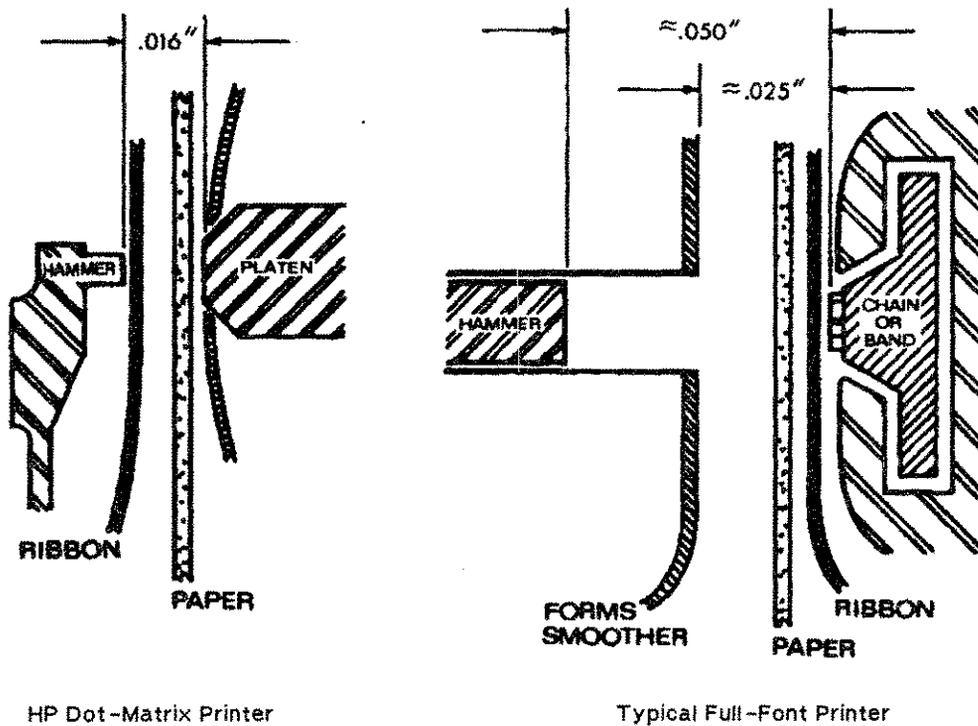


Figure B-1. Dot-Matrix and Full-Font Print Gap Comparison  
(Typical Print Gap for Single-Part Form)

# Paper Specifications

This section describes the paper specifications which must be met to ensure optimum performance of the printer.

Hewlett-Packard conforms to ANSI standard X3.96-1983, "American National Forms Information Systems for Continuous Business Forms," and ISO Recommendation No. 2784, which cover common form widths and depths, standards for sprocket feed holes and margins, as well as other basic tolerances.

All measurements should be made at 22.8 +/- 2.8 degrees C (73 degrees +/- 5 degrees F) and 50% +/- 5% relative humidity.

## Standard Forms Specifications

The Hewlett-Packard 2565/67B printer was found to perform adequately with forms that meet the following specifications:

- **Paper Sizes:**

Maximum form width	18.0 in. (45.72 cm) edge-to-edge
Minimum form width	3.0 in. (7.62 cm) edge-to-edge
Maximum left margin	2.0 in. (5.08 cm)
Maximum right margin	2.8 in. (7.11 cm)
Maximum printing width	13.2 in. (33.53 cm)
Maximum form length	16.0 in. (40.64 cm)
Minimum form length	2.0 in. (5.08 cm)

- **Paper Weights:**

Single Part	15# to 100#
Multipart*	6 total copies maximum
	12# bond maximum per part at 6 parts
	8# carbon maximum
	Maximum pack thickness 0.024 in. (.61mm)

\* Since there are no industry standards for Multipart forms, please refer to the paragraph entitled "Speciality Forms Specifications" to ensure proper forms selection for use in the printer.

Standard line printer paper purchased from Hewlett-Packard meets the above specifications and will perform well in the printer. Many other papers purchased from other sources will also provide satisfactory results. For forms other than single-part or simple carbon-type multipart forms, refer to the next paragraph, "Speciality Forms Specifications."

## Specialty Forms Specifications

Due to the variations in manufacturing processes, quality, and composition of forms, Hewlett-Packard cannot guarantee satisfactory performance with all paper and forms. This section of this paper specification is intended to familiarize and alert the user to some of the characteristics of specialty forms which may cause unsatisfactory performance of the printer. **This paper specification is NOT intended as a substitute for actual testing.**

### NOTE

All specialty forms, including special single-part paper, multipart forms, forms with glue strips, carbonless forms, card stock, and labels should be tested for satisfactory feeding, registration, and print quality prior to purchase.

### Form Thickness Uniformity

Because of the small print gap in dot-matrix printers, they are less tolerant of form thickness variations than are full-font printers. Sometimes these thickness variations can be caused by defects such as bubbles or wrinkles. Other times they are due to varying paper composition or the number of parts within the form.

Nominal differences in thickness and compressibility make it impossible to specify allowable thickness variations exactly. The following cases are intended to serve as a guide, but all forms with thickness variations must be tested for satisfactory performance.

#### Case 1: Form Defect.

In order to avoid hammer dragging, the overall thickness of a form plus any defects should be no more than as shown in Figure B-2 ( $.015 + T/2$  inch).

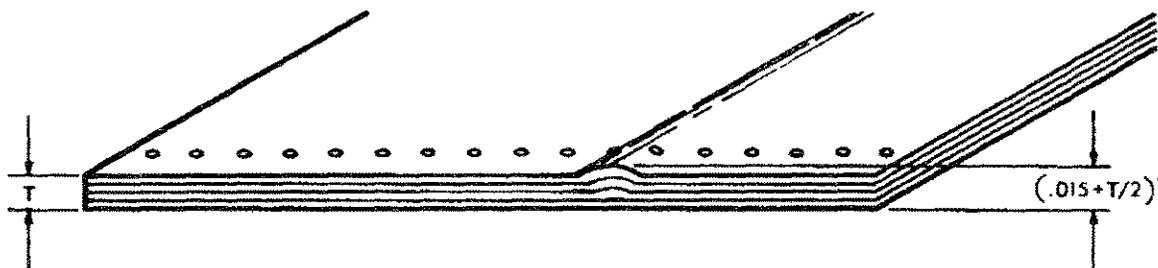


Figure B-2. Maximum Height of Form Defects

**Case 2: Varying Thickness Forms: Printing on All Areas.**

In order to ensure satisfactory print quality on all areas of the form, the difference in thickness between the thickest and thinnest section of the form should be no more than .008 inch (as shown in Figure B-3). The print gap should be adjusted to optimize print quality on all thicknesses of the form. Since dot-matrix printing is optimized when printing at one gap size, print quality can in some cases be compromised when printing on forms of varying thickness. This is especially true on the copy sheets of multi-part forms. When printing on forms of varying thickness, the maximum depth of depression defects on the thick part of the form is also .008 inch.

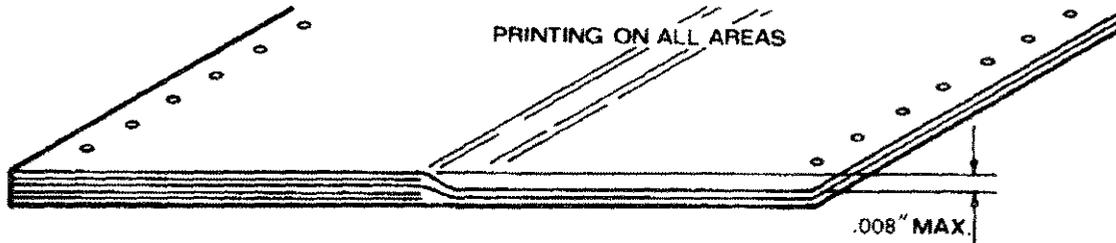


Figure B-3. Maximum Thickness Variation for All Areas of a Special Form

**Case 3: Varying Thickness Forms: Printing on Thin Area.**

In order to avoid smearing on the thickest area of the form when printing on the thin area only, the difference in thickness between the thinnest area and the thickest should be no more than as shown in Figure B-4 ( $.015 - T/2$  inch). For forms with larger variations in thickness, the print gap may be opened beyond the optimum gap to reduce smearing, but print quality on the thinner areas will degrade accordingly.

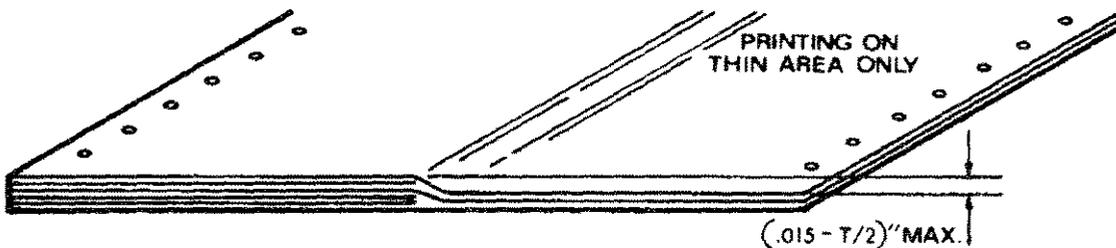


Figure B-4. Maximum Thickness Variation for the Thin Areas of a Special Form

**Case 4: Varying Thickness Forms: Printing on Thickest Areas.**

In this case, as long as the thickest area of a form does not exceed the specifications listed (see "Paper Weights"), there is no lower limit to the thickness of the thinnest area as long as it is sufficient to support the form as it is fed through the printer.

## Perforation Projection

The perforation projection (perforation tent) is measured by laying the form on a flat surface as shown in Figure B-5. Perforation projections exceeding the value shown  $(.015 + T/2)$  can result in excessive smearing at the perforations and/or an unacceptable jam rate. This is because the perforations may snag on the hammers as they are slewed through the print area. Opening the print gap will reduce smearing or jamming, but it may also degrade print quality.

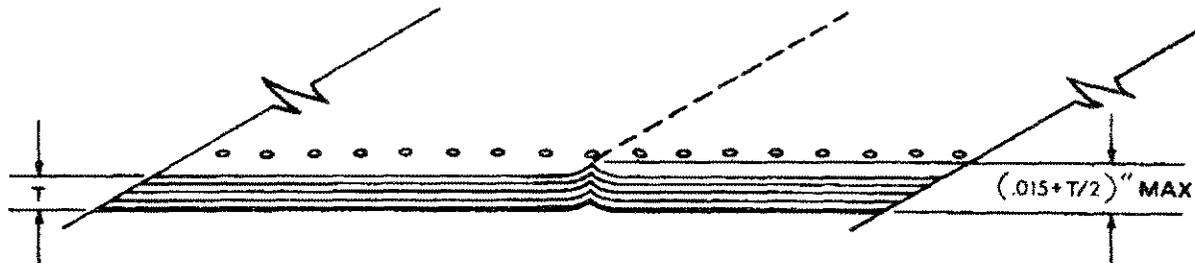


Figure B-5. Maximum Allowable Form Perforation Projection

## Other Special Forms

Forms with windows, cutouts, flaps, or attached cards, and other specialized forms may jam excessively in the printer. The only way to ensure satisfactory performance of these forms is to test them thoroughly before purchase.

## Labels

Most standard labels work well in the printer as long as they meet the specifications outlined in the section "Standard Forms Specifications." Due to variations in the label products offered, however, all labels should be tested for satisfactory performance before purchase.

## Conclusion

Since it is impossible to test all possible form types available for use in the printer, Hewlett-Packard recommends that paper conform to the specifications outlined in this document for optimum printer performance.

Once again, this paper specification is NOT intended as a substitute for actual testing. ALL SPECIALTY FORMS, INCLUDING SPECIAL SINGLE-PART PAPER, MULTIPART FORMS, FORMS WITH GLUE STRIPS, CARBONLESS FORMS, CARD STOCK, AND LABELS SHOULD BE TESTED FOR SATISFACTORY FEEDING, REGISTRATION, AND PRINT QUALITY PRIOR TO PURCHASE. For the best results in selecting standard or specialty forms, consult a forms vendor who can ensure conformance to these specifications and can recommend cost-effective purchases.

# Paper Storage and Handling

Since the performance of the printer is dependent on the condition of the paper used, the following recommendation for packaging, handling and storing are included in this document.

## Packaging

To avoid damage during handling, top and bottom fillers should be used in continuous paper cartons to hold the stack firmly in place. Because the physical condition of the paper affects printer reliability, proper packaging ensures that the paper remains flat and is not damaged along the edges.

## Storage

Do not store cartons directly on the floor, and do not stack more than six high. Each carton should be set upright squarely on the one underneath. Placing additional weight on top of the stack of cartons can damage the paper.

## Environmental Considerations

Since performance is affected by environmental conditions, paper should be protected from temperature and humidity extremes (as listed in the next section).

## Preconditioning Forms

Paper should be stored in an environment similar to the printer's controlled environment for 48 hours prior to use. This conditioning allows moisture content in the paper to stabilize. The HP 2565/66/67 Printers are intended for operation in a controlled environment. This environment consists of temperatures 50 to 104 degrees F (10 to 40 degrees C) with a relative humidity of 30% to 80% non-condensing. For best results, however, the cartons should be stored and used at 70 degrees +/- 5 degrees F (21.1 degrees +/- 2.8 degrees C), with a relative humidity of 45% +/- 5%.

In the event the printer is in an environment subject to extremes of relative humidity or temperature, it may be necessary to store the forms in a controlled environment and withdraw them on an as-needed basis.

## Shipping

When paper is shipped through different environments, the entire stack of cartons on the pallet should be plastic wrapped. When shipping across bodies of water, individual cartons should be wrapped as well.



---

---

# INDEX

---

---

## A

ACCESS COVER, LOWER RIBBON . . . . . 2-4  
ACCESS COVER, PRINTER . . . . . 2-2,3-3  
ACCESS COVER, UPPER RIBBON . . . . . 2-2  
ADDRESS SELECTION (HP-IB) . . . . . 2-23  
ADJUSTING FORMS THICKNESS . . . . . 2-16,3-15  
ADJUSTING FORMS WIDTH . . . . . 2-17  
ADJUSTING PAGE LENGTH . . . . . 2-18  
ADJUSTING PAPER TENSION . . . . . 2-13,3-9,3-15  
ADJUSTING PRINT QUALITY . . . . . 3-15  
ADJUSTING TOP OF FORM . . . . . 2-15  
ADJUSTING TRACTORS . . . . . 2-17,3-9

## C

CALLING FOR HELP . . . . . 4-4  
CHARACTER DOT DENSITY . . . . . A-3  
CHARACTER SET SELECTION . . . . . 2-20  
CHARACTER SET, PRIMARY . . . . . 2-20  
CHARACTER SET, SECONDARY . . . . . 2-20  
CONFIG. KEY . . . . . 3-6  
CONFIGURATION FUNCTION NUMBERS . . . . . 2-20  
CONFIGURATION MODE . . . . . 2-23,3-6  
CONFIGURATION, INTERFACE . . . . . 2-22  
CONFIGURATION, PRINTER . . . . . 2-19  
CONFIGURING CHARACTER SETS . . . . . 2-20  
CONSUMABLES . . . . . 1-5  
CONTINUOUS SELF-TEST . . . . . 2-25  
CONTROLS AND INDICATORS . . . . . 3-3

## D

DESCRIPTION, PRINTER . . . . . 1-3  
DIFFICULT FORMS MODE . . . . . 2-21  
DIFFICULTY, IN CASE OF . . . . . 4-1  
Display Functions Mode . . . . . 2-22  
Display Modem Disconnect Mode . . . . . 2-21  
DISPLAY MODES . . . . . 3-1  
DISPLAY, CONTROL PANEL . . . . . 3-5  
DISPLAYING FAIL POINTS . . . . . 4-4  
DOT DENSITY . . . . . A-3  
DOT MATRIX VS FULL-FONT PRINTERS . . . . . B-2  
DRIVE HUBS, RIBBON . . . . . 2-3

## E

ELECTRICAL SPECIFICATIONS . . . . . A-1  
ENTER KEY . . . . . 3-7  
ENVIRONMENTAL SPECIFICATIONS . . . . . A-3  
ERROR #2 DOES NOT CLEAR . . . . . 4-2  
ERROR CODES . . . . . 4-3  
ERROR CONDITIONS . . . . . 3-14  
ERROR NUMBERS, SELF-TEST . . . . . 4-4  
ERRORS 14 THROUGH FF . . . . . 3-14,4-3,4-4  
ERRORS, NON-OPERATOR CORRECTABLE . . . . . 3-14

## F

FAIL POINT NUMBER, DISPLAYING . . . . . 4-4  
FALSE PAPER OUT CONDITION . . . . . 4-2  
FAULT CONDITIONS . . . . . 3-14  
FINE ADJUST KEYS . . . . . 3-8  
FORM FEED KEY . . . . . 3-8  
FORMS ALIGNMENT . . . . . 2-17  
FORMS LENGTH SETTING . . . . . 2-18  
FORMS SPECIFICATIONS . . . . . B-3,B-4  
FORMS THICKNESS ADJUSTMENT . . . . . 2-16  
FORMS THICKNESS SPECIFICATIONS . . . . . B-4  
FORMS WIDTH SETTING . . . . . 2-17  
FULL-FONT PRINTERS VS DOT MATRIX . . . . . B-2

## G

GENERAL INFORMATION . . . . . 1-1  
GENERAL PROBLEMS . . . . . 4-2  
GRAPHICS . . . . . 3-12

## H

HP-IB ADDRESS SELECTION . . . . . 2-23

## I

I/O CONFIGURATION . . . . . 2-23  
IN CASE OF DIFFICULTY . . . . . 4-1  
INSTALLATION, PRINTER . . . . . 2-2  
INTERFACE CONFIGURATION . . . . . 2-23

## K

KEY, CONFIG. . . . .	3-6
KEY, ENTER . . . . .	3-7
KEY, FINE ADJ. . . . .	3-8
KEY, FORM FEED . . . . .	3-8
KEY, LINE FEED . . . . .	3-7
KEY, LPI ADJ. . . . .	3-6
KEY, ON LINE . . . . .	3-7
KEY, PAGE L. ADJ. . . . .	3-7
KEY, PRINT 1 LINE . . . . .	3-8
KEY, SET T.O.F. . . . .	3-5
KEY, TEST . . . . .	3-6

## L

LINE FEED KEY . . . . .	3-7
LOADING PAPER . . . . .	2-9
LOCATING THE PRINTER . . . . .	2-1
LOWER RIBBON ACCESS COVER . . . . .	2-4
LPI ADJ. KEY . . . . .	3-6

## M

MAIN POWER ON/OFF SWITCH . . . . .	3-3
MAINTENANCE AGREEMENTS . . . . .	1-5
MAINTENANCE, PREVENTIVE . . . . .	3-13
MANUALS . . . . .	1-3
MODES, PRINTER . . . . .	3-1
MOVING THE PRINTER . . . . .	2-28

## N

NO ERROR NUMBER DISPLAYED . . . . .	4-2
NUMBERS, ERROR . . . . .	4-3

## O

ON LINE KEY . . . . .	3-7
ON-LINE INDICATOR . . . . .	3-4
ON-LINE/OFF-LINE . . . . .	3-12
ON/OFF SWITCH . . . . .	3-3
OPENING ACCESS COVER . . . . .	2-2
OPENING SWING-GATE . . . . .	2-3
OPERATIONAL CODE TABLE . . . . .	3-2
OPERATOR CONTROL PANEL . . . . .	3-4
OPERATOR CONTROL PANEL, CONFIGURING . . . . .	2-19
OPERATOR CONTROLS AND INDICATORS . . . . .	3-3
OPTIONS . . . . .	1-3,1-4
OUT OF PAPER (ERROR 11) . . . . .	3-14

## P

PAGE L. ADJ. KEY . . . . .	3-7
PAPER FEED PROBLEMS . . . . .	4-2
PAPER JAM (ERROR 13) . . . . .	3-14
PAPER JAM RECOVERY . . . . .	3-14,4-2
PAPER LENGTH, SPECIFYING . . . . .	2-18
PAPER LOADING . . . . .	2-9

PAPER OUT (ERROR 11) . . . . .	3-14
PAPER OUT INDICATION, FALSE . . . . .	4-2
PAPER SHIELD . . . . .	2-15
PAPER SIZE . . . . .	2-18,B-3
PAPER SPECIFICATIONS . . . . .	B-1
PAPER STORAGE AND HANDLING . . . . .	B-7
PAPER SUPPLY, POSITIONING . . . . .	2-11
PAPER TENSION, ADJUSTING . . . . .	2-13,3-9,3-15
PAPER THICKNESS ADJUSTMENT LEVER . . . . .	3-10
PAPER TRACTORS . . . . .	2-10
PAPER, ORDERING . . . . .	1-5
Perforation Skip Mode . . . . .	2-22
PHYSICAL SPECIFICATIONS . . . . .	A-1
POWER CABLE LENGTH . . . . .	A-1
POWER FAIL RECOVERY . . . . .	3-11
POWER REQUIREMENTS . . . . .	2-1,A-1
POWER SWITCH . . . . .	3-3
POWER-ON PARAMETERS . . . . .	3-11
POWER-ON PROBLEMS . . . . .	4-2
PREPARING THE PRINTER FOR USE . . . . .	2-1
PREVENTIVE MAINTENANCE . . . . .	3-13
PRIMARY CHARACTER SET SELECTION . . . . .	2-20
PRINT 1 LINE KEY . . . . .	3-8
PRINT QUALITY PROBLEMS . . . . .	4-2
PRINT QUALITY, OPTIMIZING . . . . .	3-15
PRINT SPEED SPECIFICATIONS . . . . .	A-2
PRINTER ACCESS COVER . . . . .	2-2
PRINTER CONFIGURATION . . . . .	2-19
PRINTER ERRORS . . . . .	4-3
PRINTER INSTALLATION . . . . .	2-2
PRINTER LOCATION . . . . .	2-1
PRINTER MODES . . . . .	3-1
PRINTER SPECIFICATIONS . . . . .	A-1
PRINTER STATUS MODE . . . . .	3-2
PRINTER SUPPLIES . . . . .	1-5
PROBLEMS, GENERAL . . . . .	4-2
PRODUCT DESCRIPTION . . . . .	1-3
PRODUCT OPTIONS . . . . .	1-3,1-4

## Q

QUALITY, PRINT . . . . .	3-15
--------------------------	------

## R

RECOVERY, PAPER JAM . . . . .	3-14,4-2
RECOVERY, POWER FAIL . . . . .	3-11
RELATED MANUALS . . . . .	1-3
REMOTE CHARACTER SET SELECTION . . . . .	2-21
REPLACING RIBBON . . . . .	2-2
RESET . . . . .	3-11
RIBBON REMOVAL AND REPLACEMENT . . . . .	2-2
RIBBON SPOOL REMOVAL . . . . .	2-3,2-5
RIBBON, REPLACEMENT . . . . .	2-6
RIBBONS, ORDERING . . . . .	1-5

## S

SAFETY . . . . .	1-5
SECONDARY CHARACTER SET SELECTION . . . . .	2-20
SELECTING CHARACTER SETS . . . . .	2-20
SELECTING SUBTESTS . . . . .	2-26
SELF-TEST ERROR NUMBERS . . . . .	4-4
SELF-TEST . . . . .	2-25
SERVICE CALLS . . . . .	4-4
SERVICE . . . . .	1-5
SET T.O.F. KEY . . . . .	3-5
SETTING HP-IB ADDRESS . . . . .	2-24
SETTING TOP OF FORM . . . . .	2-15
SETTING VERTICAL LINE SPACING . . . . .	2-22
SHIPPING THE PRINTER . . . . .	2-28
SPECIFICATIONS, ENVIRONMENTAL . . . . .	A-3
SPECIFICATIONS, PAPER . . . . .	B-1
SPECIFICATIONS, PRINTER . . . . .	A-1
STANDARD SELF-TEST . . . . .	2-25
STANDARD VFC . . . . .	3-12
STATUS CODE 2 . . . . .	3-14
STATUS DISPLAY . . . . .	3-5
STATUS MODE, PRINTER . . . . .	3-2
SUBTEST NUMBERS . . . . .	2-27
SUBTEST SELECTION . . . . .	2-26
SUPPLIES AND ACCESSORIES . . . . .	1-5
SWING-GATE OPEN (ERROR 12) . . . . .	3-14
SWING-GATE, OPENING . . . . .	2-3

## T

TEST FAILURE NUMBERS . . . . .	4-4
TEST FAILURE . . . . .	2-27
TEST KEY . . . . .	3-6
TEST . . . . .	2-25
TOP OF FORM, SETTING . . . . .	2-15
TRACTOR CONTROL KEYS . . . . .	3-9
TRACTOR CONTROL KNOB . . . . .	3-9
TRACTOR STRIP DISTORTION . . . . .	2-14
TRACTORS, ADJUSTING . . . . .	2-17,3-9
TRACTORS, PAPER . . . . .	2-10

## U

UPPER RIBBON ACCESS COVER . . . . .	2-2
-------------------------------------	-----

## V

VERTICAL FORMS CONTROL (VFC) . . . . .	3-12
VERTICAL LINE SPACING, SETTING . . . . .	2-22
VERTICAL PAPER TENSION LEVER . . . . .	3-9
VFC CHANNEL DEFINITIONS . . . . .	3-13
VOLTAGE REQUIREMENTS . . . . .	A-1



10.0 CPI--STANDARD DENSITY

```

0  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
   ISOS: FRENCH=48, GERMAN=49, SWEDISH/FINNISH=50, DANISH/NORWEGIAN=51, SPANISH=52, BRITISH=53.
16  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
17  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
20  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
21  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
22  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

```

10.0 CPI--HIGH DENSITY

```

4  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
   ISOS: FRENCH=72, GERMAN=73, SWEDISH/FINNISH=74, DANISH/NORWEGIAN=75, SPANISH=76, BRITISH=77.
5  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
   ISOS: FRENCH=78, GERMAN=79, SWEDISH/FINNISH=80, DANISH/NORWEGIAN=81, SPANISH=82, BRITISH=83.
24  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
25  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
26  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
27  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
28  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
29  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

```

16.7 CPI

```

1  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
   ISOS: FRENCH=54, GERMAN=55, SWEDISH/FINNISH=56, DANISH/NORWEGIAN=57, SPANISH=58, BRITISH=59.
18  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
19  !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNopqrstuvwxyz[\]^_`abcdefghijklmnopqrstuvwxyz{|}~*
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

```

\*\*\* BARCODES INSTALLED \*\*\*

CODE 3 OF 9 (DEFAULT) 0123456789



INDUSTRIAL 2 OF 5 0123456789



INTERLEAVED 2 OF 5 0123456789



UPCA 01234567890



UPCE 0123450009



EAN8 0123456



EAN13 012345678901





