

Letterprinter 100 Operator Guide

digital

Letterprinter 100 Operator Guide

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INTRODUCTION

Product Introduction

The Letterprinter 100 terminals are microprocessor controlled, versatile, receive only printing terminals. The Letterprinter 100 uses a dot matrix printing technique and is capable of the following four main printing applications.

- Correspondence quality (high density, low speed)*
- Medium quality (medium density, medium speed)*
- Draft quality (low density, high speed)
- Graphics mode (computer defines dots printed)

* High or medium density is dependent upon the character ROM selected.

The terminals can contain several character sets or font styles. The Letterprinter 100 connects to the computer directly or over a communication line through a modem or acoustic coupler.

Book Introduction

A complete list of the Letterprinter 100 models is described in Appendix A. The Letterprinter 100 User Documentation Package covers all Letterprinter 100 terminal models and is written for the following audiences.

- The hardware installer requiring specific installation and checkout information.
- The operator requiring general operating information.
- The applications programmer requiring interface and control function descriptions.

The documentation for the Letterprinter 100 is divided into three books.

- Installation Guide
- Operator Guide
- Programmer's Reference Manual

This book describes the information required to operate the Letterprinter 180 terminals. The operator should use this manual as a reference when operating the terminal. However, the operation of the terminal with the computer is determined by the application software. Therefore, the application software document should be used in addition to this documentation package.

The Operator Guide is divided into the following chapters.

Chapter 1 Controls and Indicators -- provides a general introduction to the Letterprinter 180 operation and shows all the controls and indicators of the terminal.

Chapter 2 Ribbon and Paper Installation -- describes the procedures required to change ribbon cartridges, reload paper or preprinted forms, adjust the printhead and set the top of form.

Chapter 3 Operator Selectable Features -- describes the terminal features that the operator can change and the procedure used to change each feature.

Chapter 4 Maintenance and Troubleshooting -- describes the general cleaning and care recommendations. The chapter also provides a list of checks the operator should make before requesting service.

Chapter 5 Accessories and Supplies -- describes the accessories and supplies offered for the Letterprinter 180. Included in this chapter is a short description of each accessory and supply, part number and ordering information.

Appendix A -- lists and describes all of the Letterprinter 180 models available from DIGITAL.

WARNINGS, CAUTIONS, AND NOTES

In this book, warnings, cautions, and notes are used for specific purposes. Warnings are used to highlight information used to prevent personal injury. Cautions highlight information used to prevent damage to the terminal. Notes are used to highlight general information.



1

2



3

4



CHAPTER 1 CONTROLS AND INDICATORS

GENERAL

This chapter describes each Letterprinter 100 control and indicator. Detailed operating information may depend on the computer software. The Letterprinter 100 has many different controls and indicators which are used by the operator to control and monitor terminal operation. This chapter describes the following controls and indicators.

- Printer controls
- Operator control panel
- Communication switches
- Visual indicators
- Audible indicators

Printer Controls

The following paragraphs describe the function of the printer controls.

Voltage Selector Switch -- changes the terminal to match the available ac input voltage range (Figure 1-1). Refer to the installation guide to change the voltage range.

CAUTION: Failure to set the voltage selector switch to the correct voltage range may damage the power supply.

Always use a small blade screwdriver or ball point pen to change the voltage selection. Never use a lead pencil. Broken lead can cause a short circuit on the printed circuit board.

Power ON/OFF Switch -- turns power to the terminal on or off (Figure 1-2). The ON position is labeled ON 1 and the OFF position is labeled OFF 0. One of the operator control panel indicators comes on when power is on. For more information, refer to the Indicator for section of this chapter.

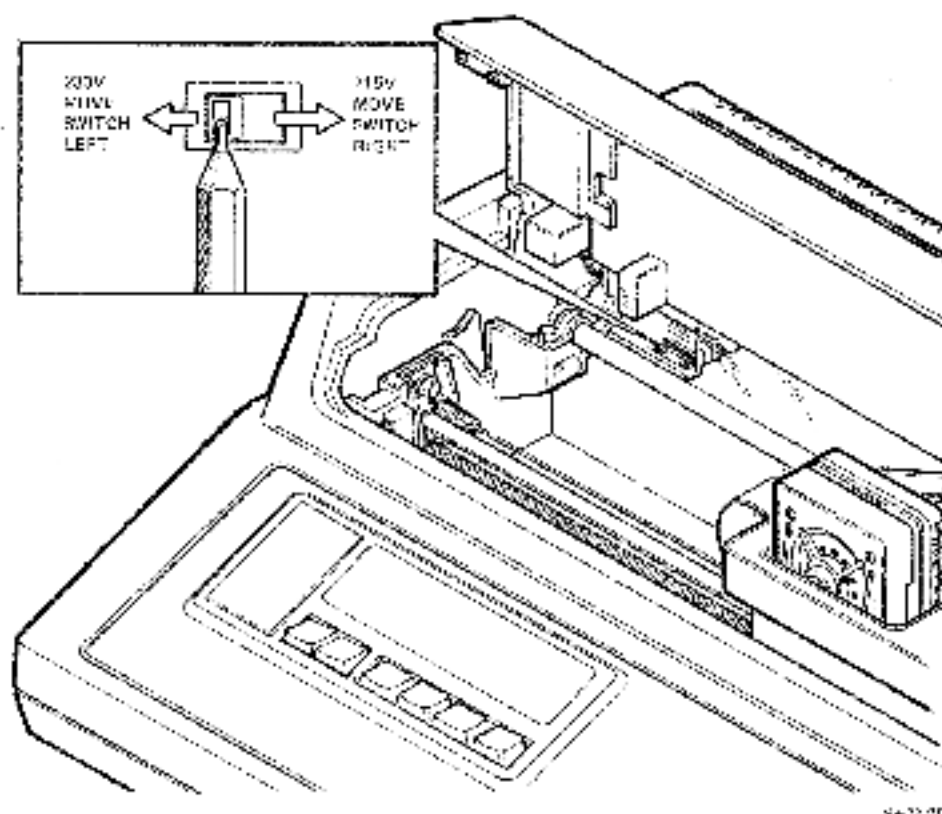


Figure 1-1 Voltage Selector Switch

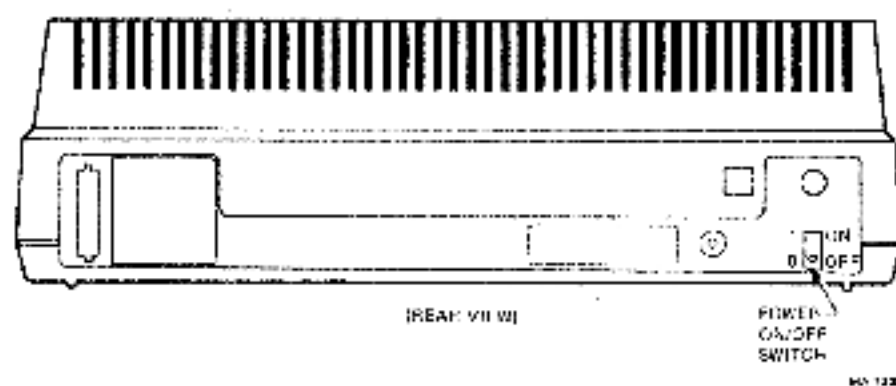


Figure 1-2 Power ON/OFF Switch

Paper Adjust Knob -- advances paper 1/12 of an inch at a time (Figure 1-3). Press the right paper adjust knob in, and turn it to roll the paper in either direction. This allows precise vertical paper positioning.

NOTE: Moving the paper adjust knob changes the top of form reference.

Paper Release Lever -- repositions or releases paper from the terminal (Figure 1-4).

Printhead Adjustment Lever -- controls the space between the printhead and the platen (Figure 1-5). Use the printhead adjustment lever to adjust the printhead for clear printing on single or multipart forms. Refer to Chapter 2 for the printhead adjustment.

Printhead Release Lever -- removes or installs the printhead (Figure 1-6). When moved towards the back of the terminal, the printhead can be removed. When moved toward the front of the terminal, the printhead is locked in place.

Ribbon Adjust Knob -- tightens the ribbon when installing a new ribbon cartridge (Figure 1-7). Refer to Chapter 2 for the ribbon cartridge installation procedure.

Tractor Release Levers (Part of the LAX34-AL Tractor Option) -- installs or removes the LAX34-AL Tractor Option (Figure 1-8). Refer to the installation guide for the tractor option installation procedure.

Tractor Adjust Levers (Part of the LAX34-AL Tractor Option) -- move horizontally to hold different size paper. The tractor release levers (Figure 1-9) clamp the tractors in place. Pull the tractor release lever toward the front of the terminal to move the tractor. Push the tractor release lever toward the back of the terminal to lock the tractor in place. Refer to Chapter 2 for the correct tractor adjustment procedure.

Paper Out Override Switch -- disables paper out detection. This is useful when using single-sheet paper or forms (Figure 1-10).

Font Selection Switch (Part of LA12X-FL Multiple Font Option) -- forces a font or allows the computer to select the fonts (Figure 1-11). Each time the switch is pressed, the terminal goes to the next state, skipping fonts that are not installed. If the currently forced font is not removed, the terminal goes to the next valid state. Each time the switch is pressed, the terminal goes through the following states.

- Computer select (power up state)
- Font 1 forced
- Font 2 forced (upper cartridge)

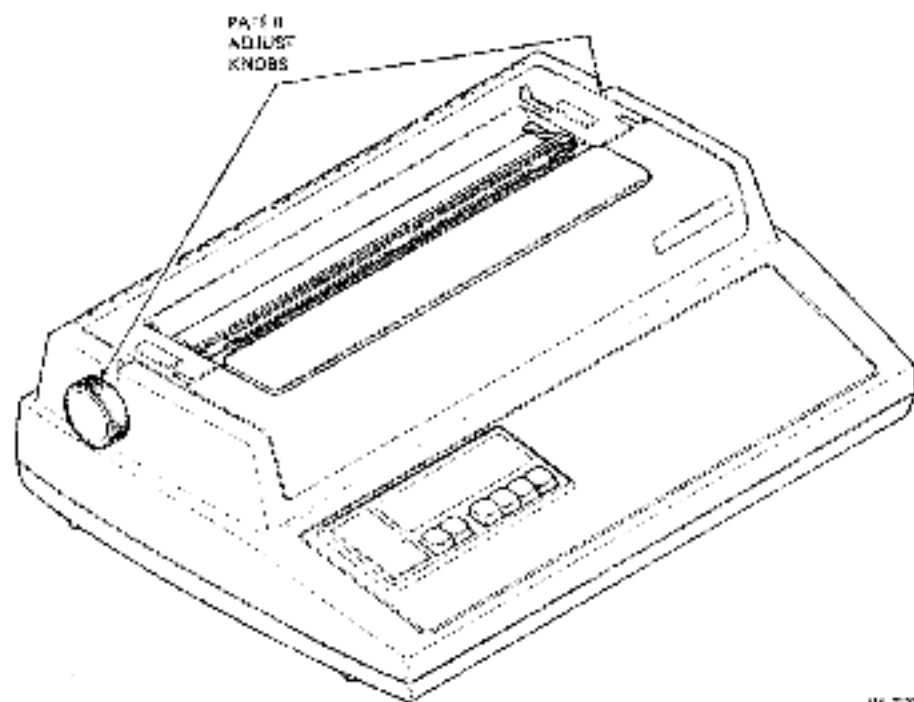


Figure 1-3 Paper Adjust Knobs

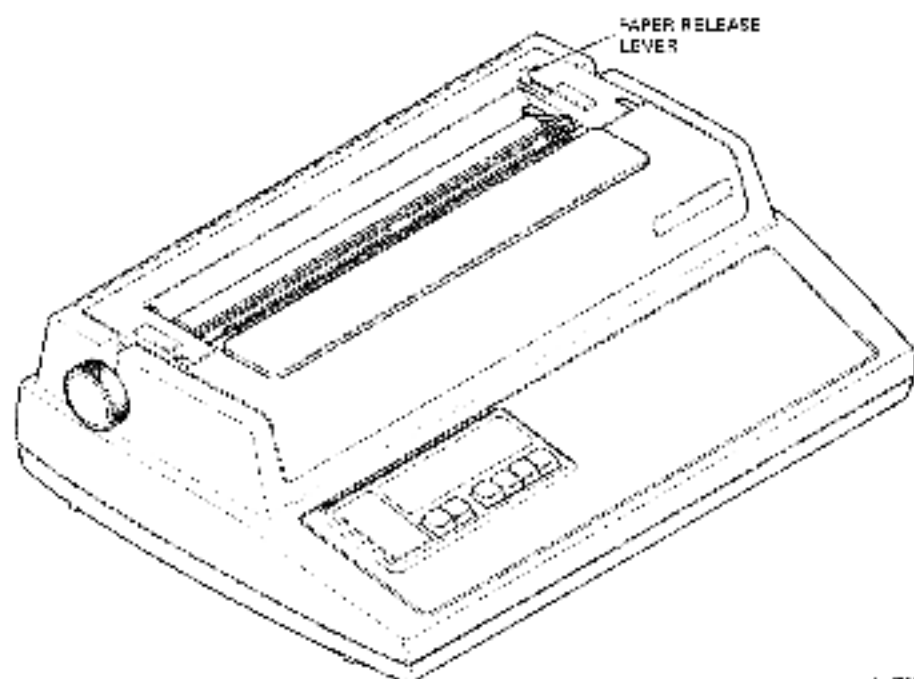


Figure 1-4 Paper Release Lever

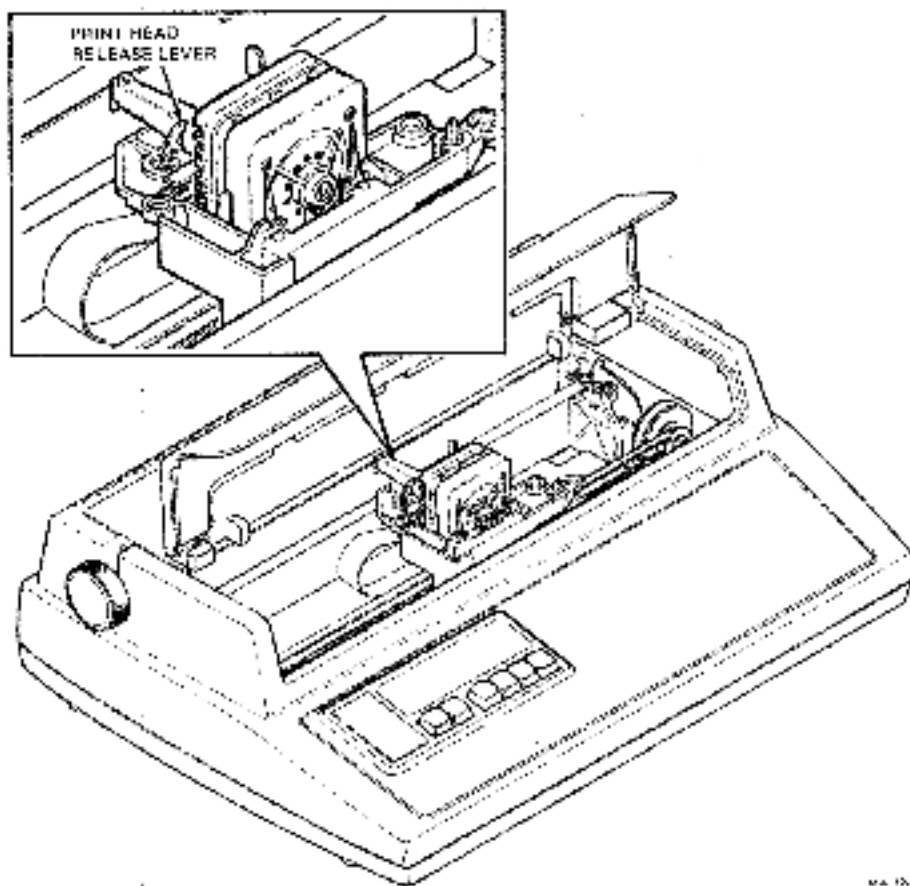
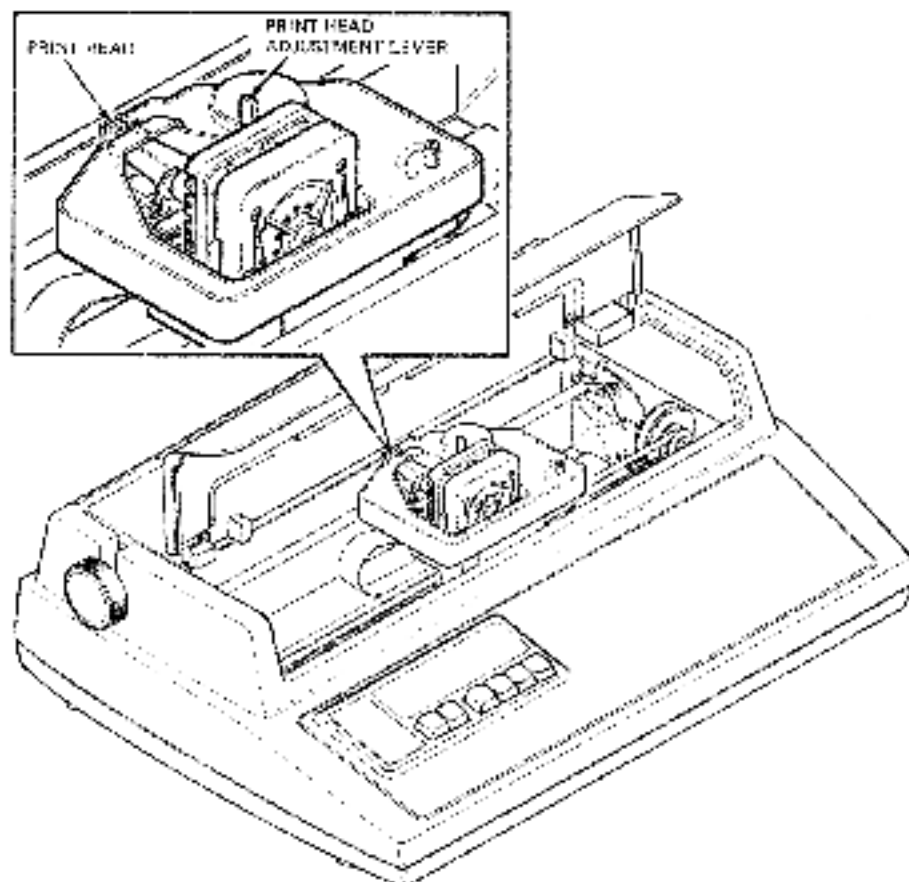
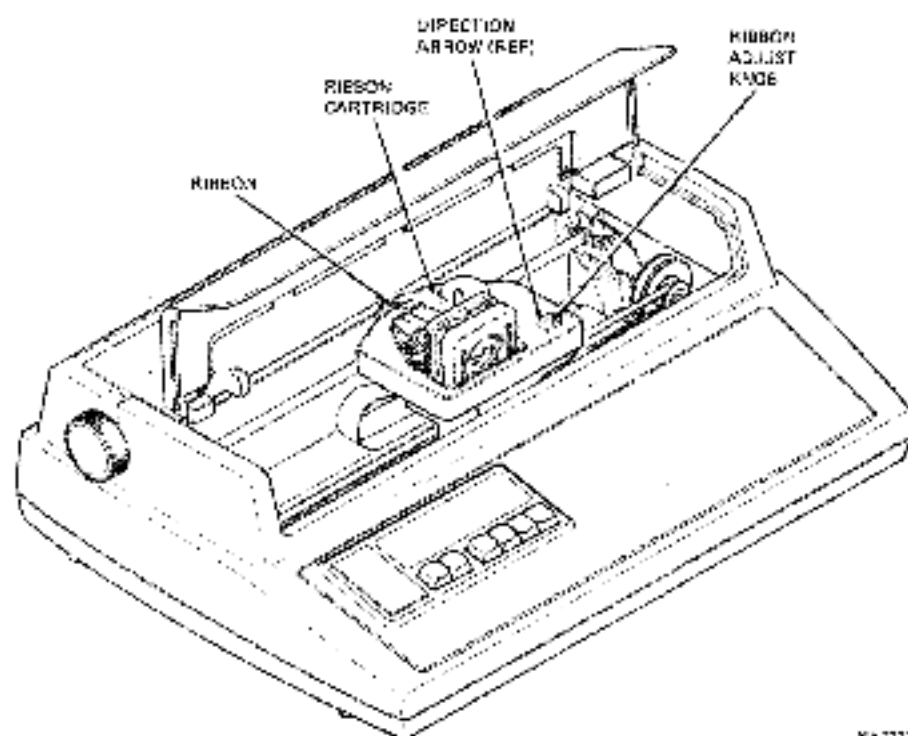


Figure 1-5 Printhead Release Lever



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Figure 1-6 Printhead Adjustment Lever



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Figure 1-7 Ribbon Adjust Knob

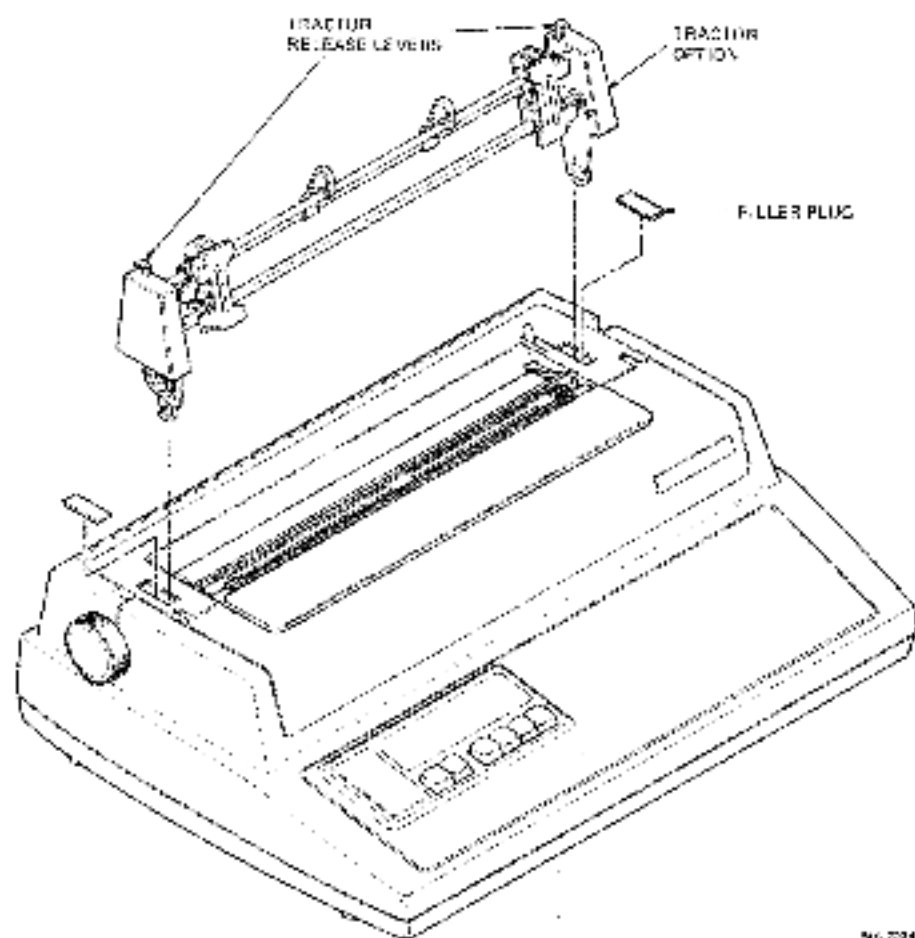
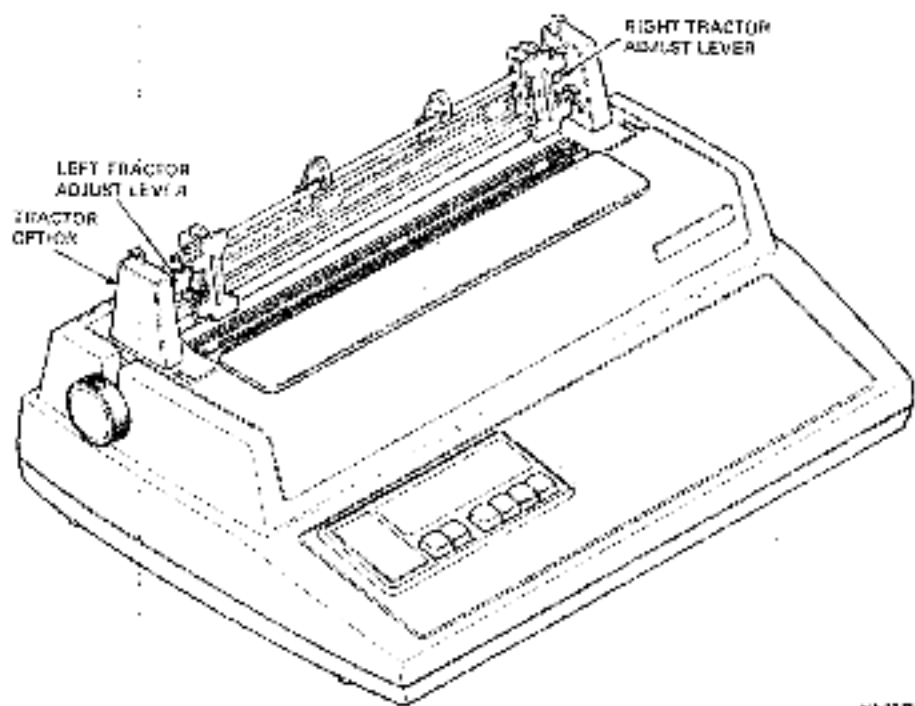


Figure 1-8 Tractor Release Levers



W-12255

Figure 1-9 Tractor Adjust Levers

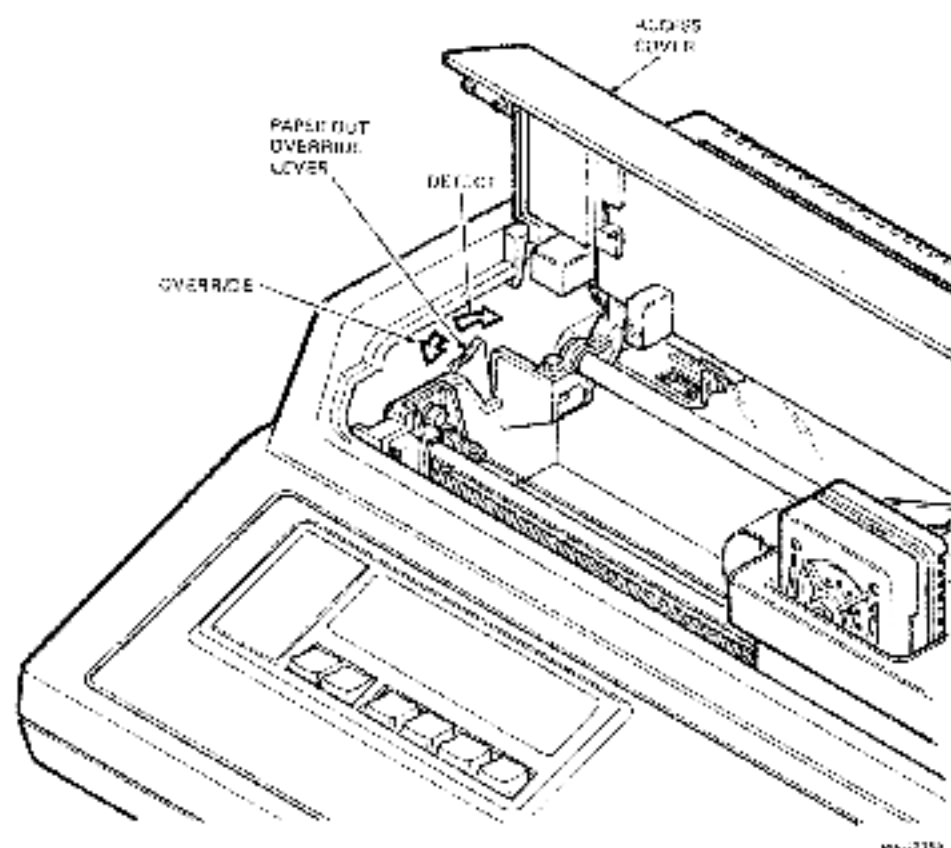


Figure 1-10 Paper Out Override Lever

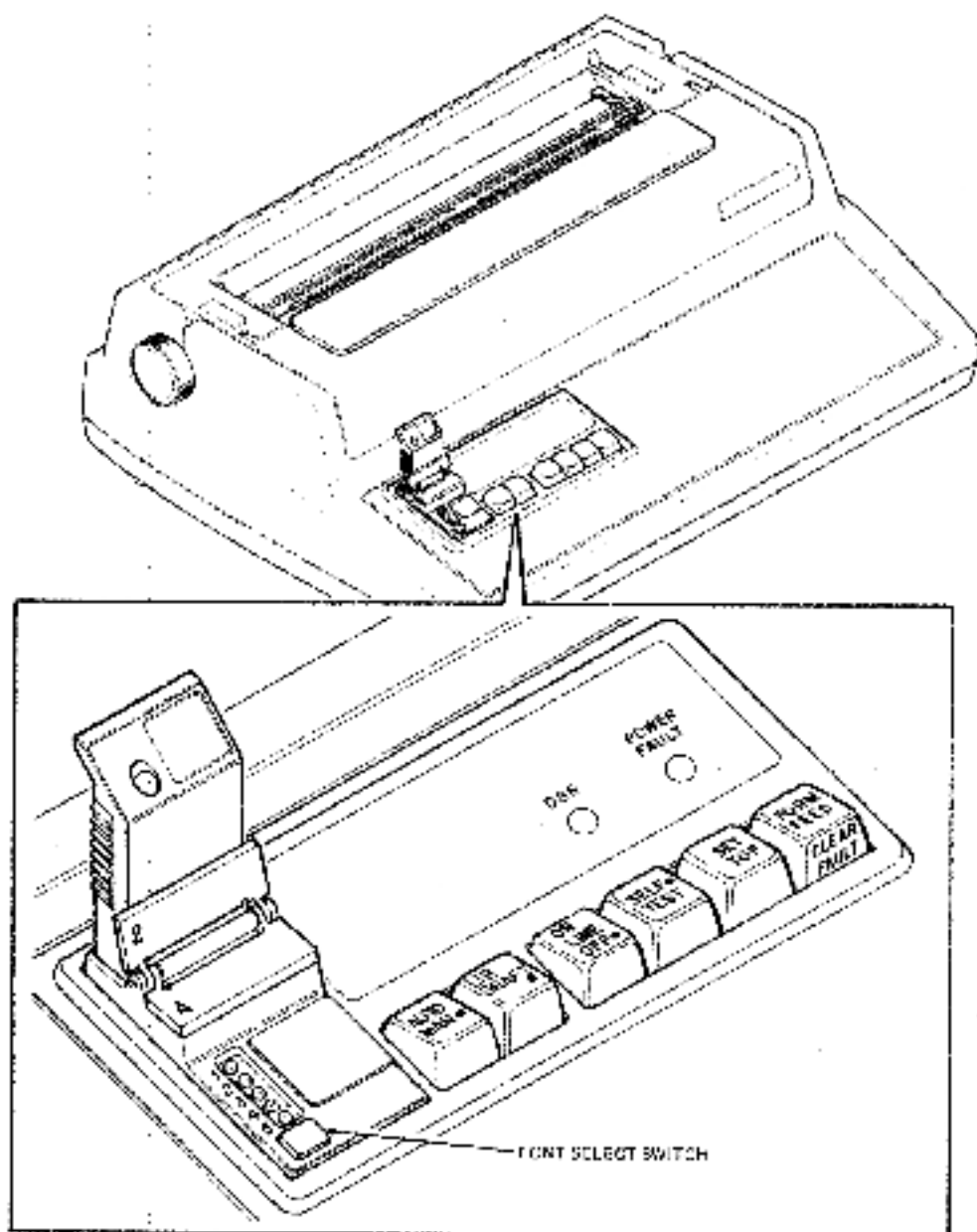


Figure 1-11 Font Select Switch

Font 3 forced
Font 4 forced (lower cartridge)*
Font 5 forced*

*If not used for overlays

NOTE: To force a font means that everything is printed using that font despite all computer commands. The computer commands are processed but ignored until the terminal is back in computer select mode.

Press and hold the switch until the lights change. If the terminal is printing self-test, the change may take longer; two lines must print before the change is acknowledged.

Operator Control Panel

The operator control panel (Figure 1-12) provides easy access to the keys that control daily terminal operation. The following paragraphs describe each key's function.



AUTO
MAN •

AUTO (Up Position) -- In this position, print quality (draft/letter mode) is controlled by the computer. The LETTER/DRAFT key is inactive.

MANUAL • (Down Position) -- In this position, the print quality (draft/letter mode) is controlled by the LETTER/DRAFT key. Quality (draft/letter mode) control escape sequences from the computer are processed but only take action when AUTO mode is selected.



LETTER
DRAFT •

LETTER (Up Position) -- In this position, the terminal prints letter mode (medium or high density depending on character ROM) characters. See Figure 1-13 for examples.

DRAFT • (Down Position) -- In this position, the terminal prints draft mode (low density) characters. See Figure 1-13 for an example.

NOTE: The LETTER/DRAFT key is only active when the AUTO/MANUAL key is in the MANUAL (down) position.

These keys control the printed character density. Density can be computer selected, high density -- low speed, medium density -- medium speed, or low density -- high speed. Refer to Figure 1-13 for printed examples.

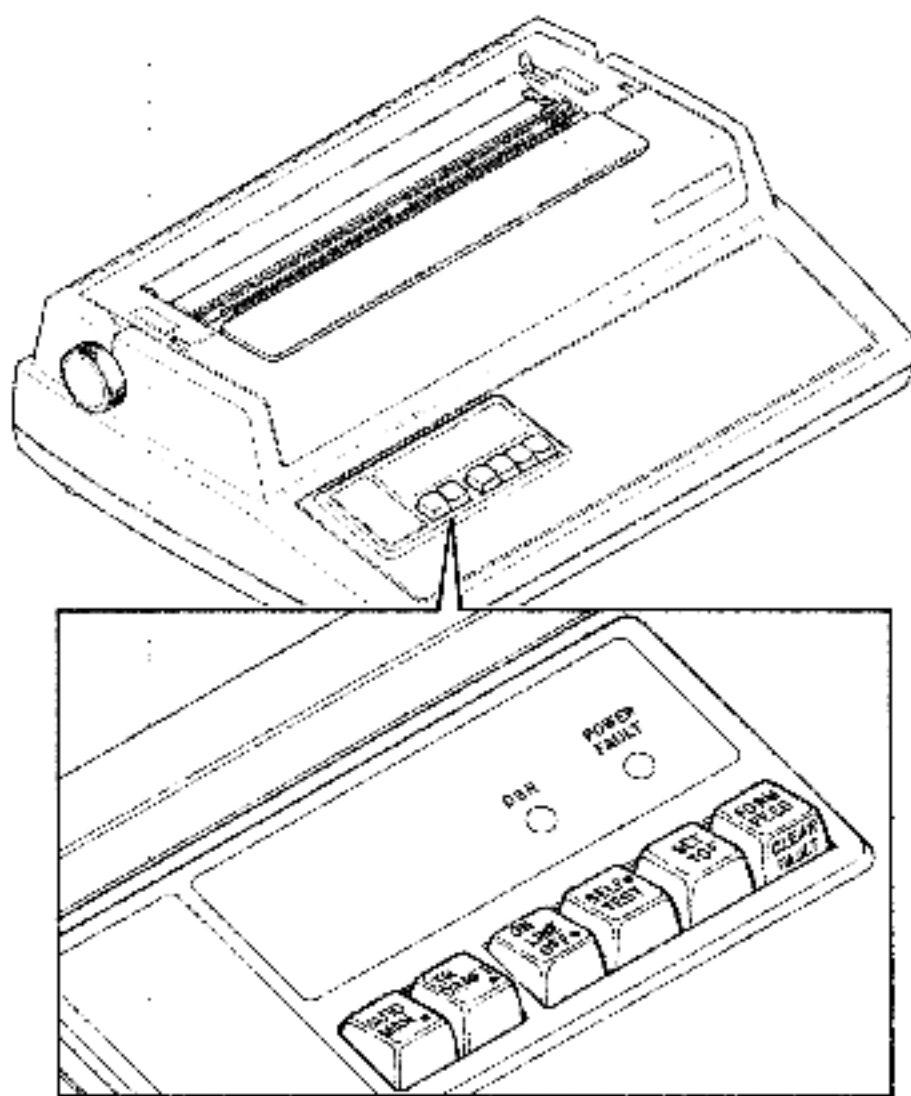


Figure 1-12 Operator Control Panel



ON-LINE/OFF

ON-LINE (UP POSITION)

In this position, the terminal is capable of receiving and processing data. The FORM FEED, SET TOP, and SELF TEST keys are not active.

NOTE: The CLEAR FAULT key can be used regardless of the on-line off-line setting.

OFF • (DOWN POSITION)

In this position, the terminal sends the computer a request (if enabled) to temporarily stop sending data. The FORM FEED, SET TOP, and SELF TEST keys are active and may be used.

NOTE: If the terminal is switched off-line data can be lost unless, the XON/XOFF or restraint feature is selected and the computer responds to the request to stop sending characters. Refer to Chapter 3 and the Programmer's Reference Manual for more detail on XON/XOFF and restraint.



SELF TEST•

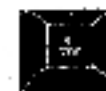
SELF TEST

When the terminal is off-line, this key prints the status message and selects self-test. Pressing the SELF TEST key causes the terminal to:

- Disconnect from the communication line,
- Exit graphics mode,
- Clear the input buffer,
- Print a status message.

Refer to Chapters 3 and 4 for more information.

NOTE: After the : SELF-TEST key is pressed, any data sent to the terminal is lost and communication with the computer must be restored.



SET TOP (SET TOP OF FORM)

When the terminal is off-line this key defines the current line as line one (top of form). This procedure is described in Chapter 2.

During self-test, this key starts the loopback test. The loopback test is described in Chapter 4.



FORM FEED/CLEAR FAULT

FORM FEED

When the terminal is off-line this key advances the paper to top margin on the next page. If form length is set to 1 the key auto repeats. During self-test, this key selects one of the terminal self-tests. (Refer to Chapter 4 for more detail.)

NOTE: Do not confuse the top of form with top margin. Top of form is the physical top edge of the paper. Top margin is the line where you want printing to start.

CLEAR FAULT

After correcting any fault condition (paperout, printhead jam, or access cover open) press this key to resume printing.

Communication Switches

There are two sets of communication switches inside the Letterprinter 100 that allow the terminal to operate with different computers or remote devices (Figure 1-14). Usually the switches are changed only when operating with a different computer. Consequently, they should not be changed unless compatibility with that computer is verified. Read the Communication Switch section in Chapter 3 before using these switches.

Visual Indicators

The following paragraphs describe the Letterprinter 100 visual indicators.

POWER/FAULT -- comes on when power is turned on (Figure 1-15). When power is first turned on, the POWER/FAULT and DSR indicators show any errors during the power-up self-test. Refer to Chapter 4 for more information on the power-up self-test. If the terminal is not ready to print for any of the following reasons, the POWER/FAULT indicator flashes.

- Paper is out or low
- Access cover is open
- Printhead is jammed (also indicated by multiple bell tones)

To correct any of these conditions refer to Chapter 4.

DSR (Data Set Ready) -- comes on when the terminal detects the Data Set Ready (DSR) signal (Figure 1-15). It is also used with the POWER/FAULT indicator to show any errors during the power-up self-test. For more detail on the power-up self-test refer to chapter 4.

Font (Part of LA10X-FL Multiple Font Option) -- show the currently selected font (Figure 1-16). One light on indicates that the font shown is forced. One light off indicates that no font is forced. The indicator that is off also shows the currently selected font.

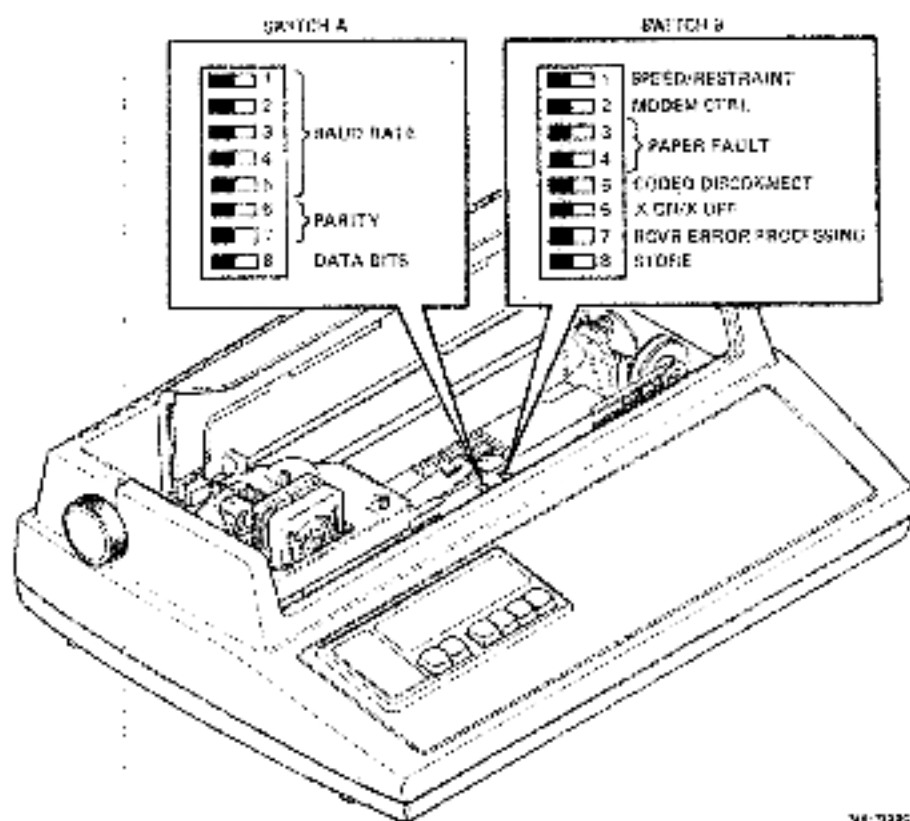


Figure 1-14 Communication Switches

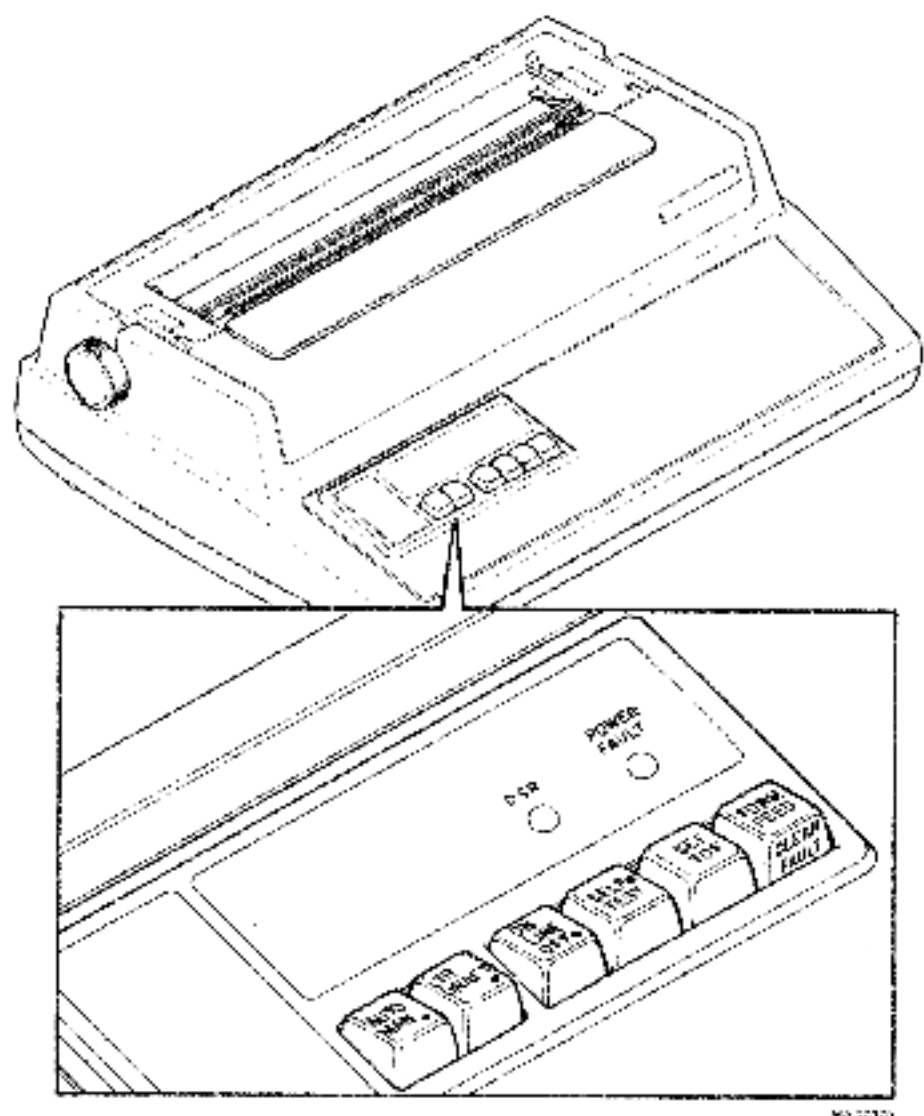


Figure 1-15 Operator Control Panel Indicators

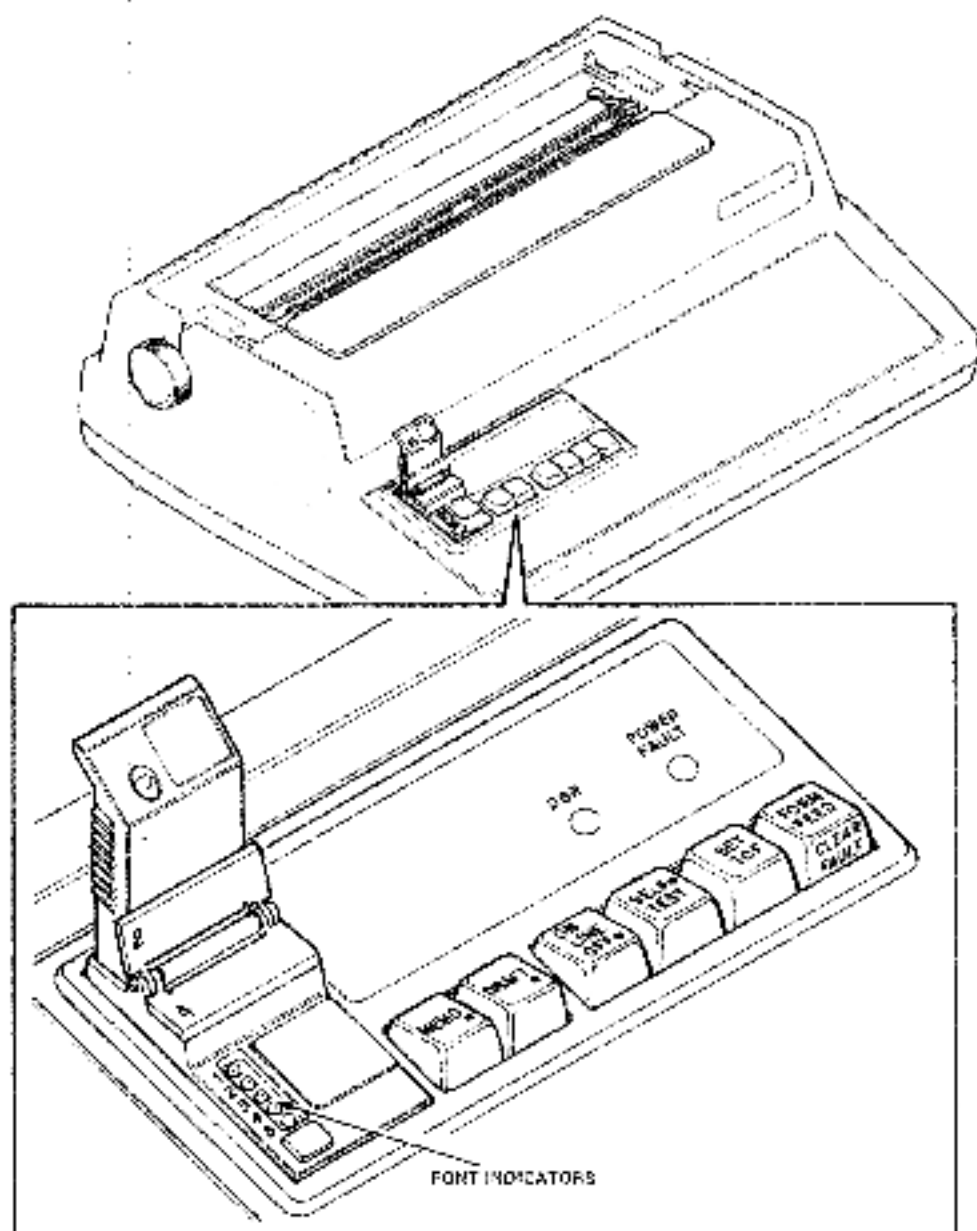


Figure 1-16 Font Indicators

ROM Cartridge (Part of ROM Cartridge Options) -- comes on when the ROM cartridge is seated correctly in the ROM cartridge socket (Figure 1-17).

Column -- shows the current position (column) of the printhead (Figure 1-18). Scales are provided for four of the horizontal pitch (characters per inch) selections.

Audible Indicators

Refer to Table 1-1 for the conditions that cause a bell tone.

Table 1-1 Audible Indicators

Cause	Action/Comments
Input buffer overflow	If the terminal is not capable of processing characters from the input buffer before the buffer fills, an input buffer overflow can occur. During an overflow condition, the bell tone sounds and the character is discarded.
Bell code	Each bell code received by the terminal causes the bell tone to sound.
Printhead jam	Indicated by multiple bell tones and a flashing POWER/FAULT indicator. To correct the condition refer to the Chapter 4.

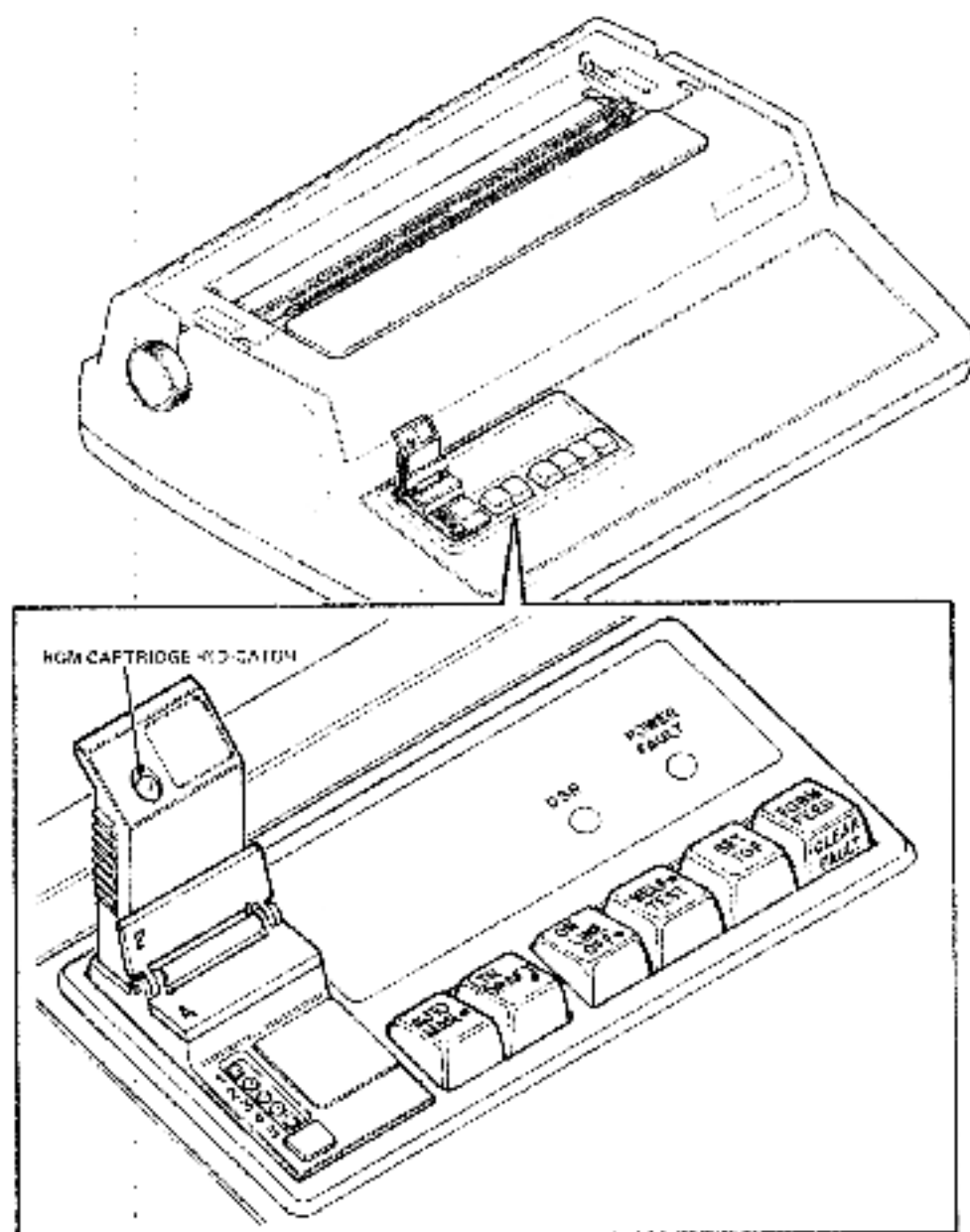


Figure 1-17 ROM Cartridge Indicator

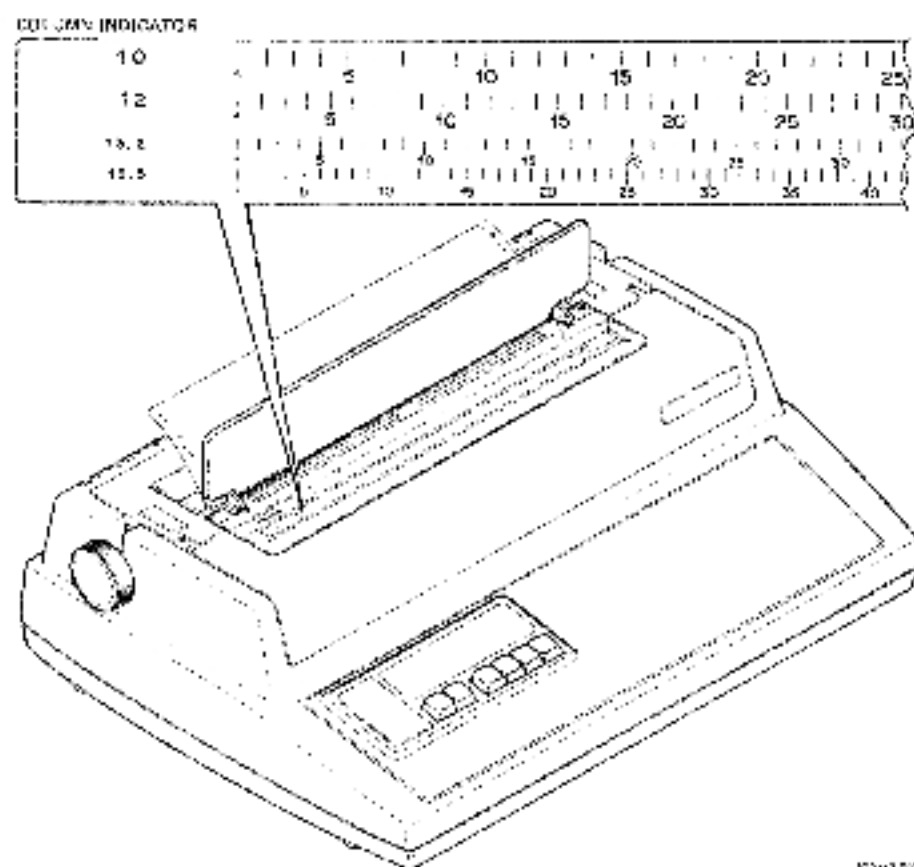


Figure 1-18 Column Indicator

CHAPTER 2

RIBBON AND PAPER INSTALLATION

GENERAL

This chapter describes how to change ribbon cartridges, reload paper or preprinted forms, adjust the printhead, and set the top of form.

RIBBON CARTRIDGE INSTALLATION

The ribbon cartridge used in the Letterprinter 100 terminals usually provides at least forty hours of continuous printing. Actual cartridge life depends on the type of printing done by the terminal. When the print density is too light, check the printhead adjustment (described later in this chapter). If the printhead is adjusted correctly and the print density is still too light, replace the ribbon cartridge.

CAUTION: Only ribbon cartridges recommended by DIGITAL (DEC P/N LA10R) or the equivalent should be used with Letterprinter 100 terminals. Using other ribbon cartridges may damage the printhead and void the warranty. Refer to the Accessories and Supplies chapter for ordering information.

NOTE: The DECwriter IV ribbon cartridge (DEC P/N LA34R) or equivalent can also be used with the Letterprinter 100.

Perform the following procedure to install a ribbon cartridge. It is not necessary to turn the power off when installing a ribbon cartridge.

1. Open the access cover (Figure 2-1).
2. Remove (lift) and discard the old ribbon cartridge (Figure 2-2).
3. Move the printhead adjustment lever all the way to the right (Figure 2-1).
4. Turn the ribbon adjust knob on the new ribbon cartridge clockwise to tighten the ribbon (Figure 2-2).
5. Line up the snap buttons on the new ribbon cartridge with the mounting holes in the carriage assembly (Figure 2-2).

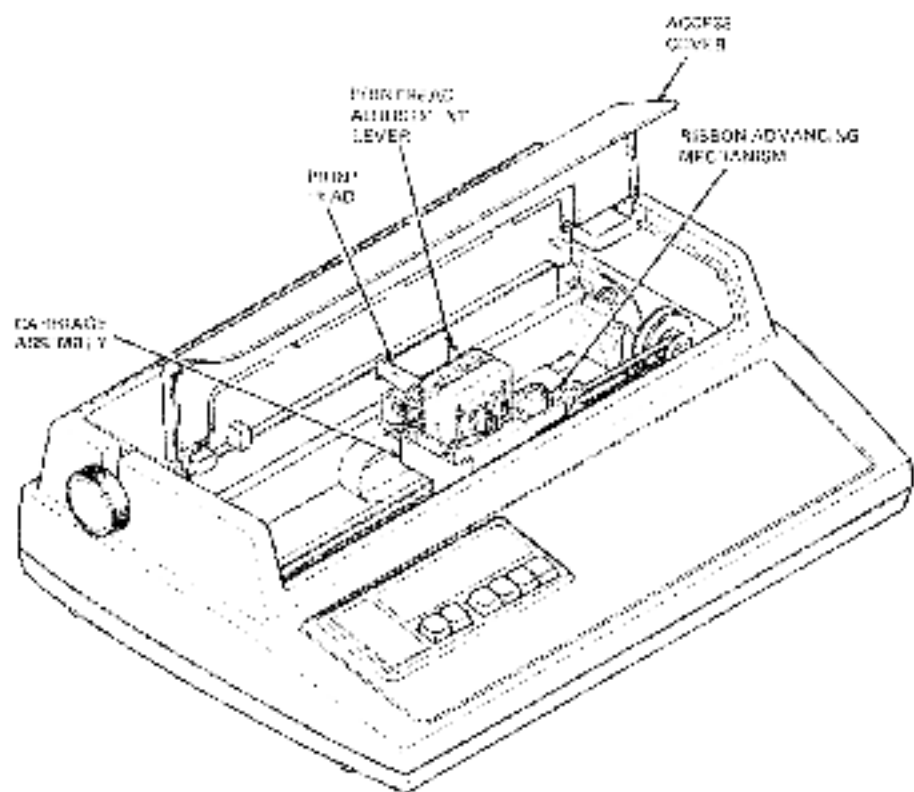


Figure 2-1 Carriage Assembly

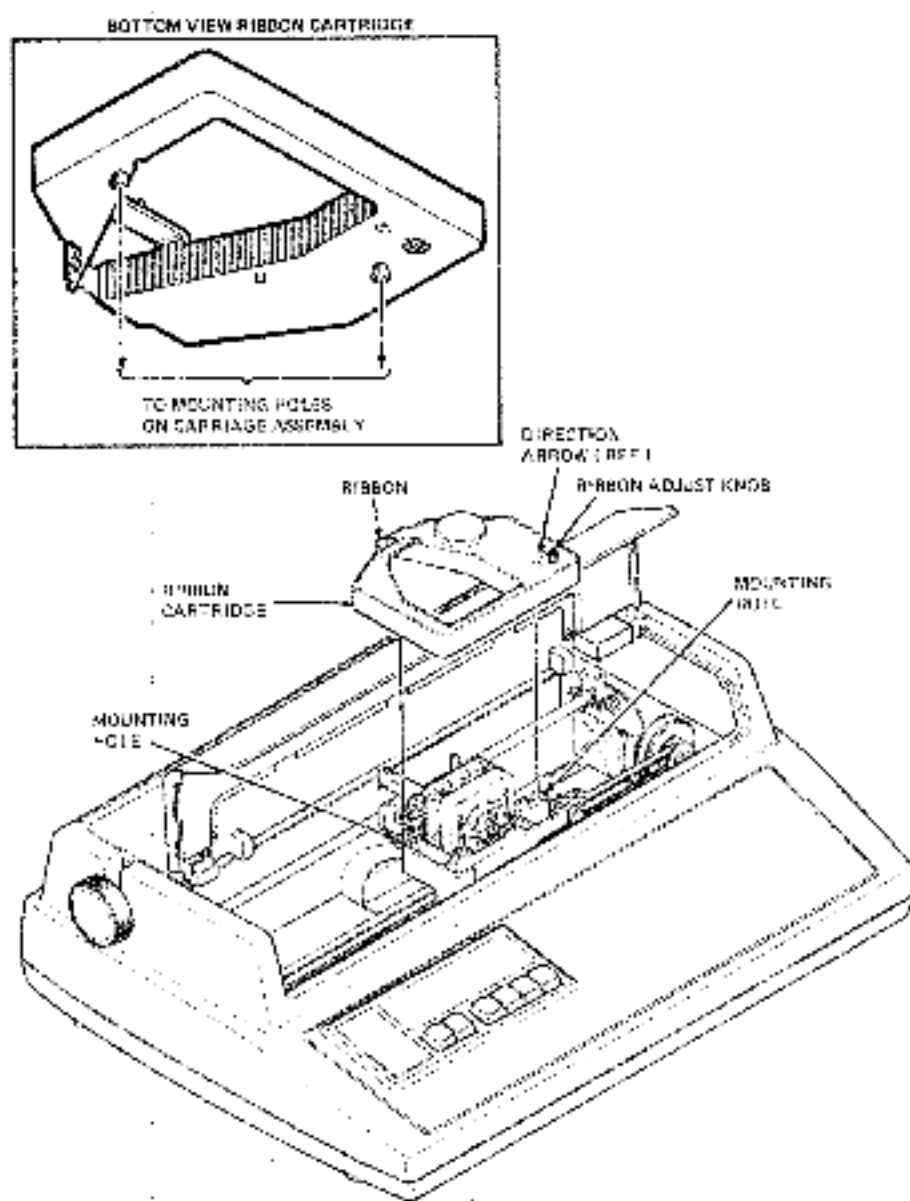


Figure 2-2 Ribbon Cartridge

6. Slowly press the new ribbon cartridge onto the carriage assembly while turning the ribbon adjust knob. Verify that the slot in the ribbon cartridge (Figure 2-2) engages the tab on the ribbon advancing mechanism (Figure 2-1).
7. While watching the ribbon adjust knob, manually move the printhead to the right and left two or three times. The ribbon adjust knob should turn in a clockwise direction when the printhead moves. This means the ribbon is advancing correctly.
8. Close the access cover and press the RESET key.
9. Adjust the printhead as described later in this chapter.

RELOADING PAPER AND PREPRINTED FORMS

The Letterprinter 100 accepts friction feed or tractor feed paper ranging in width from 3 to 14-7/8 inches. Friction feed roll paper should be used to operate the printer as a graphics output printer. Refer to Appendix A for complete specifications. The following rules apply to paper used in the Letterprinter 100.

- **Friction Feed Paper**

Single sheet or roll paper can be used.
Preprinted roll paper forms are not recommended.
Multipart forms are not recommended.
Impact paper is not recommended.
Card stock is not recommended.

- **Tractor Feed Paper**

Multipart forms can have only four parts or three parts and one card part; the card must be the last part.

Dot or line glue margins are acceptable (one margin only).

First-surface impact paper is not recommended.

Split forms (different number of sheets on each side of the form) are not recommended.

Stapled forms are not recommended.

Reloading Friction Feed Paper

The following paragraphs describe how to reload friction feed paper, including single sheet and roll paper. It is not necessary to turn the power off to reload friction paper.

Single Sheet -- To use single sheets of paper in the Letterprinter 100, the operator must disable the paper out or paper low

detection options (LAX34-PL or LAX34-LL) if either is installed. Refer to the installation guide for option disabling information. To reload single sheets of paper, refer to Figures 2-3 and 2-4, and perform the following procedure.

1. Feed the sheet of paper under the platen from the back. Lift the bail bar and advance the paper, using the paper advance knob, until the top edge of the paper is even with the bottom edge of the paper.
2. Pull the paper release lever toward the front of the printer and position the paper to the left of the printer (as seen from the front).
3. Smooth the paper over the surface of the platen and align the top and bottom edges.
4. Push the paper release lever toward the back of the printer and lower the bail bar to its original position.
5. If needed, adjust the printhead as described later in this chapter.

Roll Paper -- The LAX34-RL roll paper holder option must be installed to use friction feed roll paper (refer to Options chapter). Perform the following procedure to reload friction feed roll paper or preprinted forms into the Letterprinter 100.

1. Remove the mandrel from the roll paper holder and slide one paper roll retainer from the mandrel (Figure 2-5).
2. Remove the old roll from the mandrel. Slide the new roll of paper onto the mandrel. Replace the paper roll retainer previously removed.
3. Reinstall the mandrel on the roll paper holder assembly so the paper feeds from the bottom of the roll (Figure 2-6).
4. Position the paper roll to the left of the holder (as seen from the front). Make sure the paper roll retainers are touching the paper roll to prevent it from moving from side to side. Do not let the paper roll retainers touch the side of the roll paper holder. That creates unnecessary friction.
5. Feed the paper over the roll holder apron and under the platen from the back. Lift the bail bar and advance the paper, using the paper advance knob, until the top edge extends back over the apron (Figure 2-6). Make sure the paper does not pass under the paper low sensor (Figure 2-6).

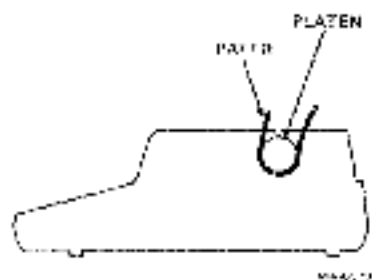


Figure 2-3 Single Sheet Paper Path

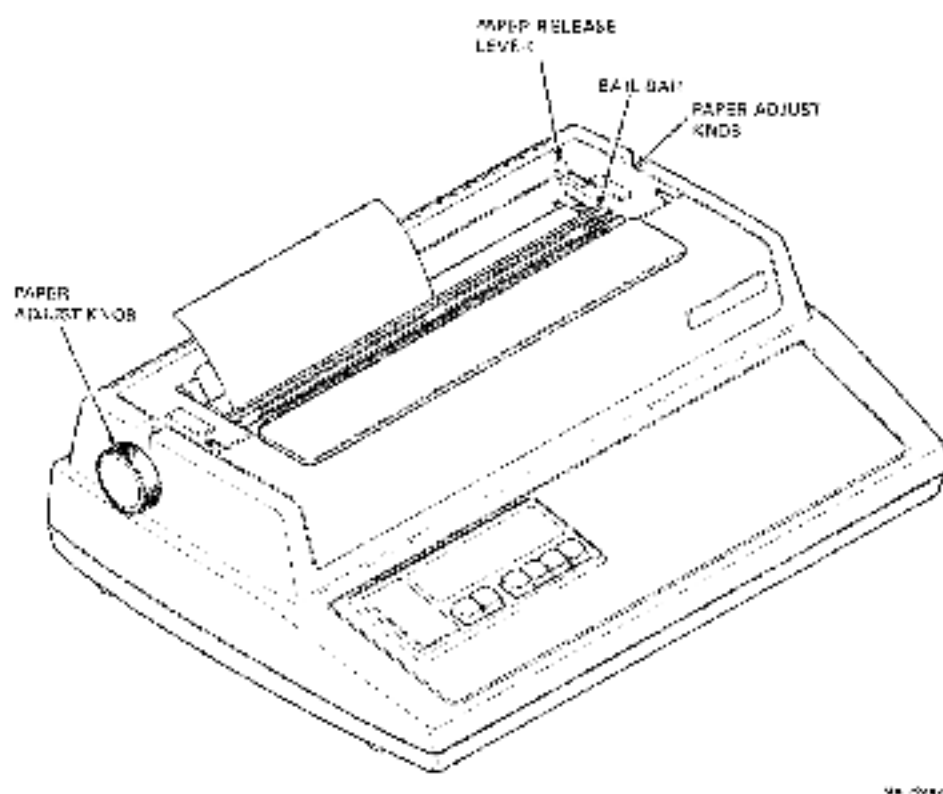
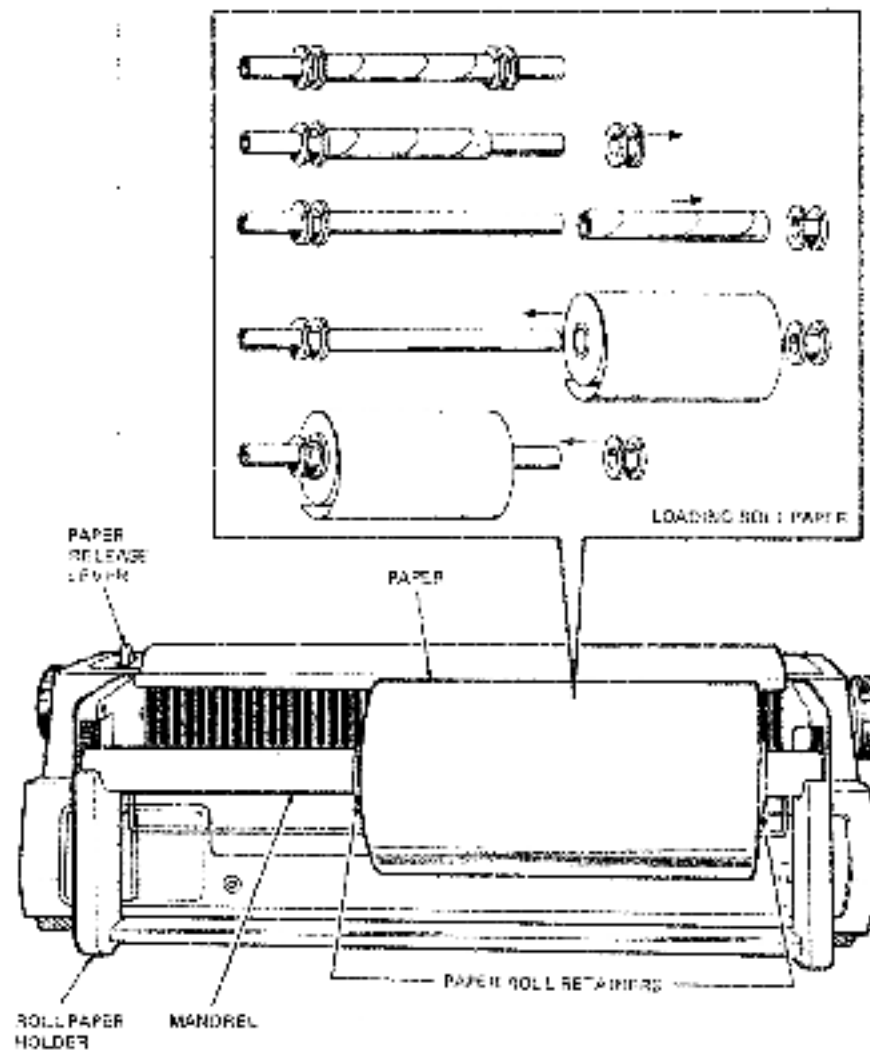
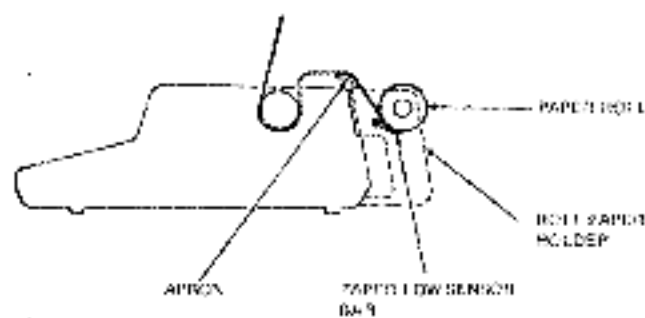


Figure 2-4 Loading Single Sheet Paper



MR-1141

Figure 2-5 Loading Roll Paper



MR-1142

Figure 2-6 Roll Paper Path

6. Pull the paper release lever toward the front of the printer (Figure 2-5). Smooth the paper over the surface of the platen and line up the sides of the paper with the supply roll edges.
7. Push the paper release lever toward the back of the printer and lower the bail bar to its original position.
8. Adjust the printhead as described later in this chapter.

Reloading Tractor Feed Paper/Forms

The following paragraphs describe how to reload tractor feed paper or preprinted forms into the Letterprinter 100. The LAX34-AL tractor option must be installed to use tractor feed paper. DIGITAL also recommends using the printer stand option (LAX34-SL) for the most effective paper feeding operation. It is not necessary to turn power off when installing tractor feed paper. Perform the following procedure to reload tractor feed paper.

NOTE: If paper is loaded from the back of the printer, the paper out detection option does not operate.

Refer to the installation guide for information on initial paper loading.

1. Make sure that the bail bar is behind the tractors. If not, remove the tractors and reinstall according to the LAX34-AL tractor option instructions in the installation guide.
2. If you use a different size paper, pull the right tractor adjust levers toward the front of the printer to loosen the right tractor (Figure 2-7).
3. Move the right tractor to the right side plate. Do not tighten the right tractor adjust lever at this time.

NOTE: This provides margins for 13.2 inch wide paper (the maximum size paper you can use). If you use smaller paper, move the right tractor to the place that corresponds to the size of your form. Do not move the left tractor when using smaller forms.

4. Open both tractor covers (Figure 2-7).
5. If you do not use the printer stand option, position the printer as shown in Figure 2-8. Place the back edge of the printer parallel to, and slightly over, the edge of the table.

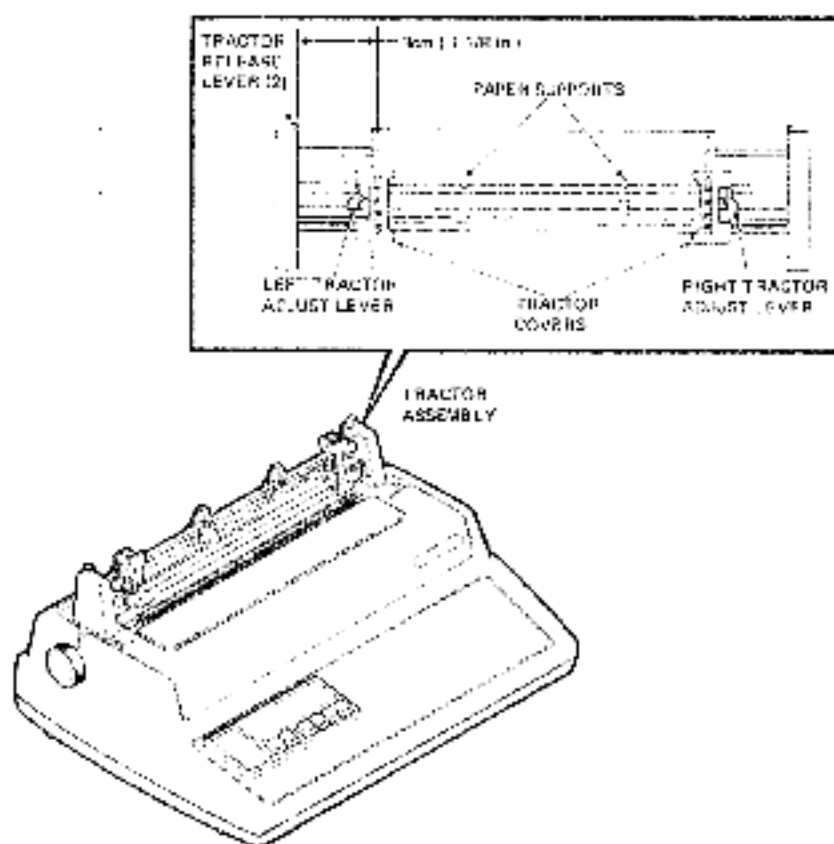


Figure 2-7 Loading Tractor Feed Paper

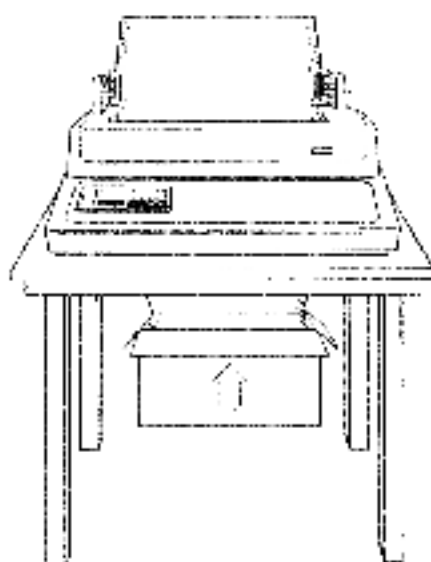
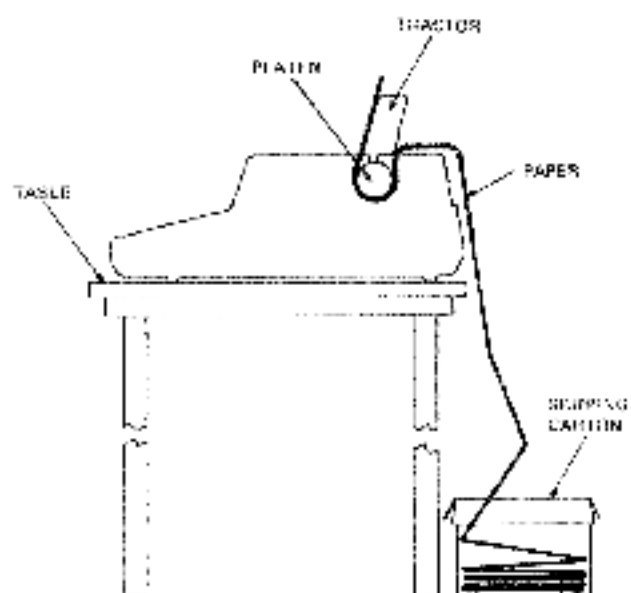


PLATE 2714

Figure 2-8 Tractor Feed Paper Path
(Without Printer Stand)

6. Position the paper to feed correctly into the printer.
 - a. If you use the printer stand, place the paper/forms on the crossmember between the legs of the printer stand (Figure 2-9).
 - b. If you do not use the printer stand, place the paper/forms on the floor behind the table (Figure 2-8). If the container top is removed, leave the paper in the shipping container.

NOTE: If it is not possible to place the paper supply on the floor, place it on the table behind the printer. Be sure to use the LAX34-SW paper tray accessory to prevent interference between the printout and supply paper. This avoids watching the printer continuously.

7. Feed the paper through the paper slot.
 - a. If you are using the printer stand, align the paper parallel to the bottom paper slot and route the paper through the paper slot (Figure 2-9).

NOTE: Multipart forms may separate if loaded into the printer from the back.

- b. If you are not using the printer stand, feed the paper through the paper slot behind the platen. Rotate the paper advance knob clockwise until the top edge of the paper extends above the tractors (Figure 2-8).

NOTE: Feeding supply paper under the Letterprinter 100 and through the bottom paper slot is not recommended unless the printer stand is used. When paper is loaded from the bottom without the printer stand, the paper perforations may catch on the table. This can cause the terminal to print uneven lines across the paper.

8. Place the left margin holes over the tractor feed pins. Close the left tractor cover.
9. Position the right tractor to place the right margin holes over the tractor feed pins. Close the right tractor cover.
10. Tighten the right tractor adjust lever to clamp the right tractor in place.

CAUTION: Do not stretch the paper too tight. If the paper pulls against the tractor pins or is loose in the center, readjust the right tractor.

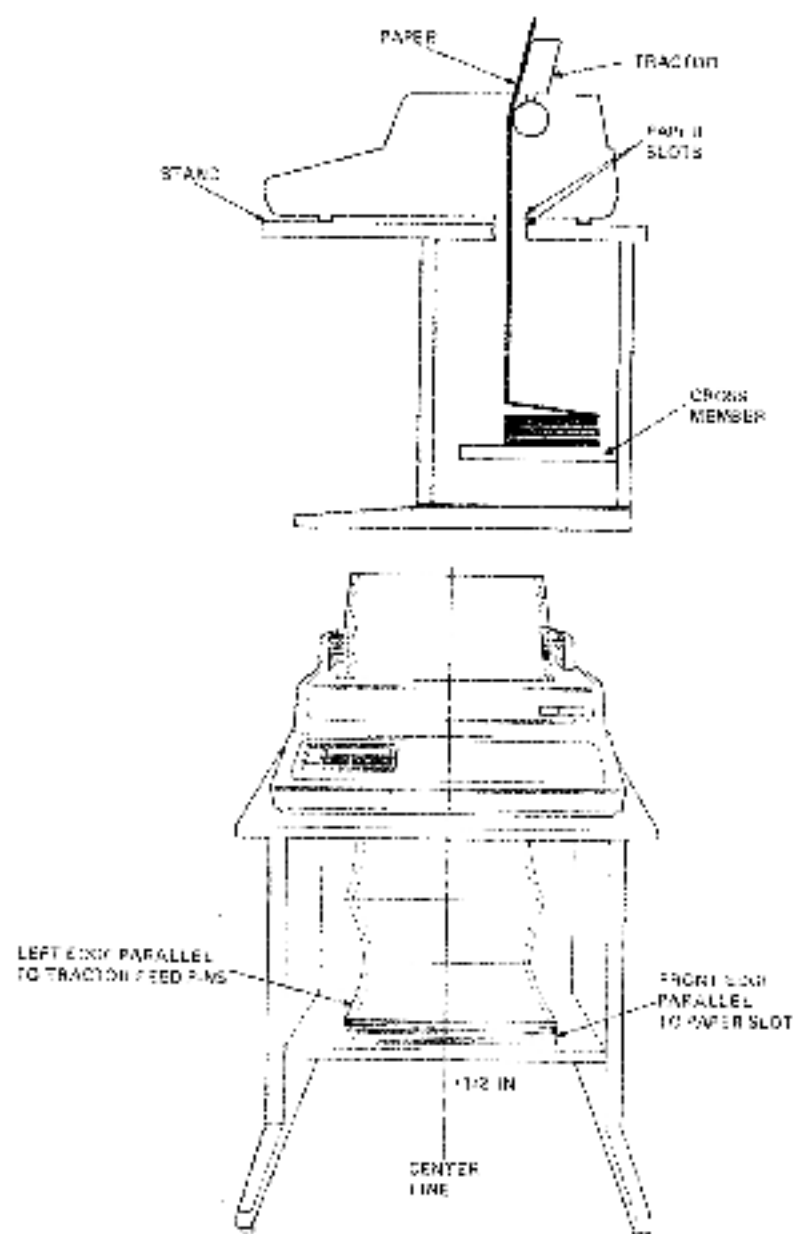


Figure 2-9 Tractor Feed Paper Path
(With Printer Stand)

11. Position the paper supports one quarter of the distance from each tractor (Figure 2-7).
12. Make sure that the paper stack is centered directly under the tractors.
13. Pull the paper release lever toward the front of the printer (Figure 2-5).
14. Turn the paper adjust knob until the perforation on the paper is even with the top of the printhead (Figure 2-10). Press and release the SET TOP key.

NOTE: Do not confuse the top of form with the top margin. The top of form is the physical top edge of the paper. The top margin is the line where you want printing to start.

15. If needed, adjust the printhead as described later in this chapter.
16. Press the CLEAR FAULT key. The paper moves to the active line and the terminal continues printing.

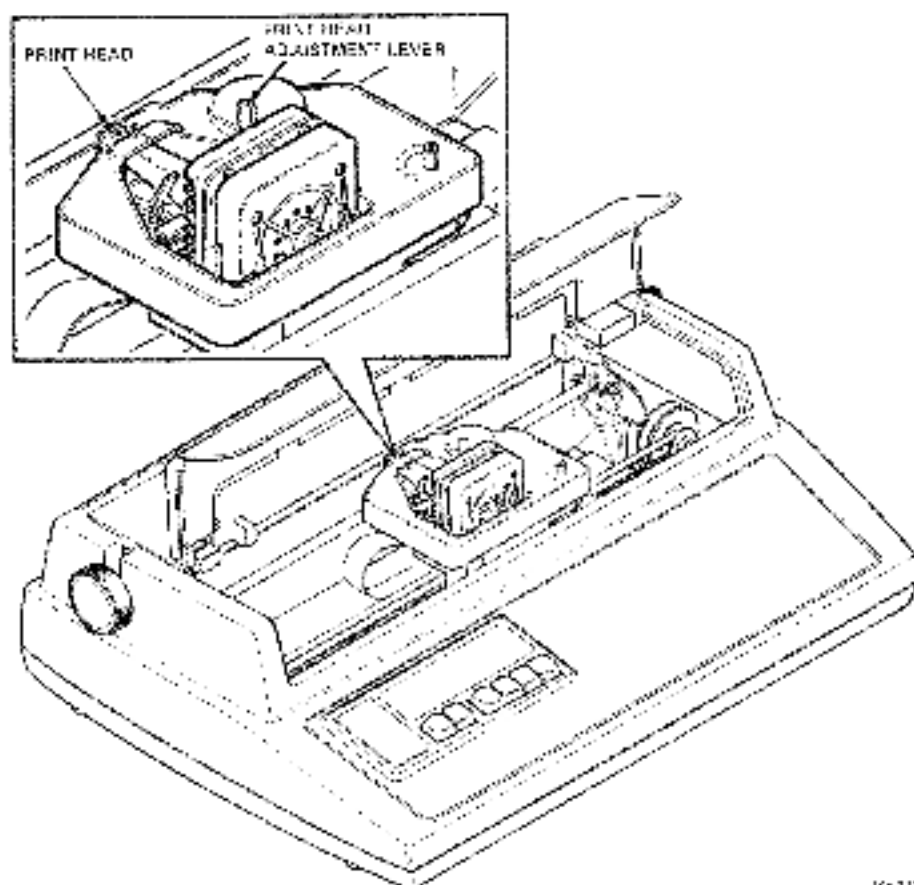
PRINTHEAD ADJUSTMENT

To adjust the printhead perform the following procedure.

1. Make sure that the power ON/OFF switch is on.
2. Open the access cover and move the printhead adjustment lever all the way to the right (Figure 2-10).
3. Carefully move the printhead adjustment lever one position to the left.
4. Manually move the printhead to the right and left to check for smudging. If the ribbon smudges, first make sure that the paper is installed correctly. If the paper is installed correctly, move the printhead adjustment lever to the right until the smudging stops.
5. Close the access cover and press the CLEAR FAULT key.
6. Print a line of characters and check the printed characters for print quality.

NOTE: If the form ripples or is pulled by the printhead, the printhead is not adjusted correctly. Repeat steps 2 through 6.

- a. If data was not printed during step 1, press and lock the SELF TEST key in the down position to print the status message. Release the SELF TEST key after the status message is printed.



Ver 1.00/0

Figure 2-18 Printhead Adjustment

- b. If data was printed during step 1, release the ON LINE/ OFF key to allow the terminal to print a line of characters.
7. If necessary repeat steps 3 through 6 until the printed characters are clear and sharp.

CHAPTER 3

OPERATOR SELECTABLE FEATURES

GENERAL

The Letterprinter 100 has many operator selectable features. Some features such as the operator control panel, and the printer controls are described in other chapters. This chapter describes the switch selectable features and the auto answerback features.

SWITCH SELECTABLE FEATURES

The Letterprinter 100 has two sets of internal switches that allow the terminal to operate with different computers. After the terminal is powered up, the current communication switch feature selections are entered into operating memory. Usually the switches are changed only when operating with a different computer. Do not change the switches without verifying compatibility with the computer.

To locate the switches, open the access cover and move the printhead to the right side plate. Figure 3-1 shows the location of the communication switches and the labeled function of each switch. There are three different switches used in the terminals; two types of rocker switches and one slide switch (Figure 3-2). It is important to identify which type switch your terminal has before trying to change any of the communication features.

To select a feature using a rocker switch, press the side of the switch that corresponds to the desired selection. To select a feature using a slide switch, push the switch tab to the side that corresponds to the desired selection.

CAUTION: Always use a small blade screwdriver, ball point pen, or equivalent to change a communication feature. Never use a lead pencil.

After you select the communication features, close the access cover, press the CLEAR FAULT key, place the ON LINE/OFF key in the off (down) position, and then press the SELF TEST key to print the status message. Verify that the desired features are selected. To exit self-test and return on line after the status message is printed, press the SELF TEST key again and then press the ON LINE/OFF key. The following paragraphs describe each communication feature in detail.

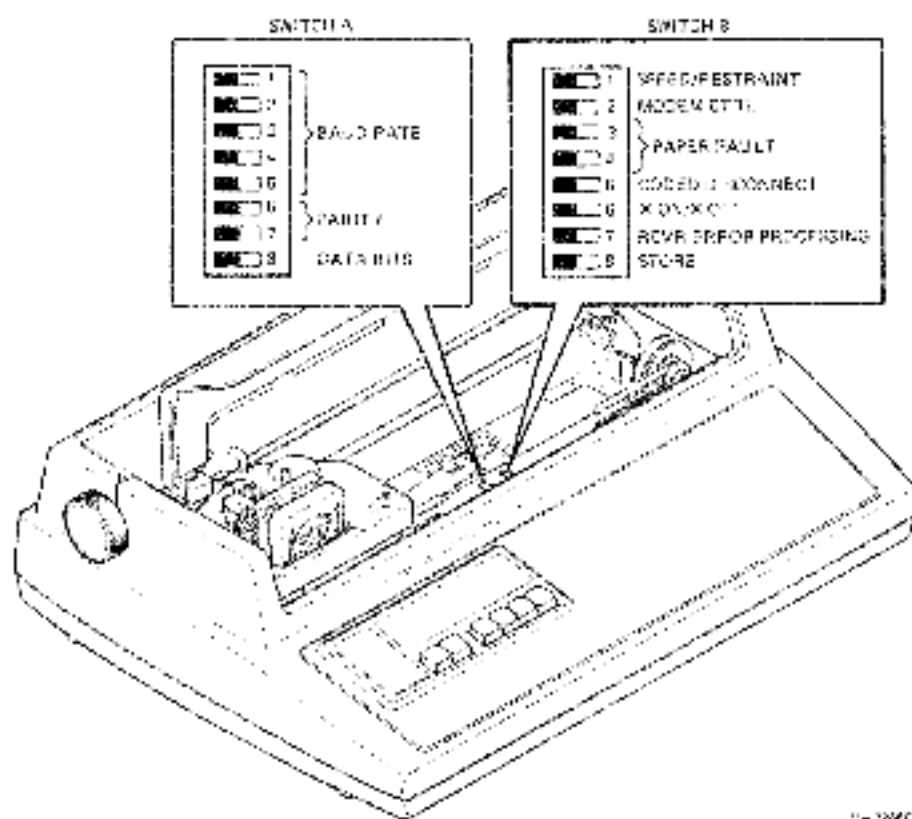


Figure 3-1 Communication Switches

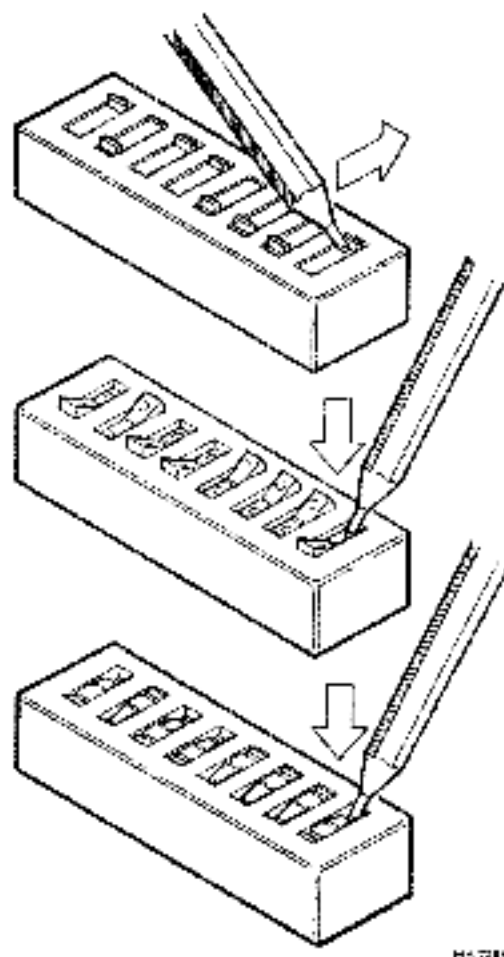


Figure 3-2 Communication Switch Types

Switch A

Baud Rate (Speed) Switches 1-5 -- select the speed at which the terminal transmits and receives characters. In some systems, transmit and receive speeds may be different. This is known as split baud rate. Table 3-1 lists the speeds at which the terminal is capable of transmitting and receiving data, and the switch settings (right or left) for each selection.

Parity Switches 6 and 7 -- selects the type parity the terminal uses. The parity feature checks the data transmitted between the computer and terminal. Parity can be set to mark, space, even, or odd parity. Also refer to the Receiver Error Processing feature. Table 3-2 lists the parity selections available, and the switch settings (right or left) for each selection.

Table 3-1 Baud Rate Selections

Baud Rate	Switch A Settings				
	1	2	3	4	5
50	R	R	R	R	R
75	L	R	R	R	R
110	R	L	R	R	R
134.5	L	L	R	R	R
150	R	R	L	R	R
200	L	R	L	R	R
300	R	L	L	R	R
600	L	L	L	R	R
1200	R	R	R	L	R
1800	L	R	R	L	R
2400	R	L	R	L	R
4800	L	L	R	L	R
7200	R	R	L	L	R
9600	L	R	L	L	R
75/600*	R	R	R	R	L
75/1200*	L	R	R	R	L
150/600*	R	L	R	R	L
150/1200*	L	L	R	R	L
300/2400*	R	R	L	R	L
300/4800*	L	R	L	R	L
600/2400*	R	L	L	R	L
600/4800*	L	L	L	R	L

R = Right

L = Left

*Transmit speed is listed first/receive speed second

Switch 5 is always set to the right when split speeds are not used.

Table 3-2 Parity Selections

Parity	Switch A Settings	
	6	7
Space	R	R
Mark	L	R
Even	R	L
Odd	L	L

R = Right

L = Left

NOTE: When eight data bits per character is selected (switch 7 set to left), parity must be set to even or odd only.

Data Bits Switch 8 -- selects seven or eight data bits per character. Set switch 8 to the right to select seven data bits per character and to the left to select eight data bits per character.

Switch B

Speed Control/Restraint Switch 1 -- selects speed control or restraint mode. The restraint feature prevents the loss of received characters. When restraint is on, the terminal controls the BUSY EIA control line to indicate when the input buffer is almost full or empty. The BUSY line turns off indicating a full buffer and requests the computer to stop sending characters. The BUSY line turns on indicating the buffer is nearly empty and requests the computer to continue sending characters.

The speed control feature exchanges speed control information between the terminal and the modem. The SPDI and SPDS EIA control lines are used. Set switch 1 to the right to select restraint and to the left to select speed control.

Modem Control Switch 2 -- controls the EIA control lines used to communicate with the computer. The actual lines each feature uses are described in the Programmer's Reference Manual. Set switch 2 to the right to select no modem control and to the left to select modem control.

Paper Fault Switches 3 and 4 -- select the response to a paper fault. A paper fault is detected only when the paper out (LAX34-PL) or paper low (LAX34-LL) detection option is installed (Refer to the installation guide).

Four responses are available: no action, send break, disconnect, and do not answer.

No action is usually selected for hardwire installations or when no disconnect is desired. When no action is selected the terminal

stops printing. If the XON/XOFF feature is on or restraint is selected and the buffer fills, the terminal sends an XOFF to the computer or turns the BUSY line off.

Send break causes the terminal to transmit a 275ms $\pm$ 25 ms BREAK signal when a paper fault occurs.

Disconnect causes the terminal to immediately turn Data Terminal Ready off.

The do not answer feature is used with the roll paper holder. This feature allows the terminal to complete any call in progress. When the call is completed, the terminal disconnects (turns Data Terminal Ready off) and does not answer any new call.

Table 3-3 lists the paper fault selections available, and the switch settings (right or left) for each selection.

Coded Disconnect Switch 5 -- turns the coded disconnect feature on or off. When this feature is selected and the Letterprinter 100 receives the End of Transmission (EOT) control character, the terminal automatically disconnects from the communication line. When this feature is off, the terminal ignores the EOT control character. Set switch 5 to the left to turn the coded disconnect feature on and to the right to turn it off.

XON/XOFF Switch 6 -- turns the auto XON/XOFF feature on or off. The auto XON/XOFF feature prevents the loss of received characters. When the auto XON/XOFF feature is on, the terminal transmits the XOFF and XON control characters indicating when the input buffer is almost empty or full. If XOFF is transmitted, the computer stops sending characters. If XON is transmitted, the

Table 3-3 Paper Fault Response Selections

Feature	Response	Switch B Settings	
		3	4
No action	stop printing	R	R
Paper low	drop DTR (after CD is dropped)	L	R
Paper out A	drop DTR	R	L
Paper out B	send 275 ms (break signal)	L	L
R = Right			
L = Left			

computer continues sending characters. Set switch 6 to the left to turn the auto XON/XOFF feature on and to the right to turn the auto XON/XOFF feature off.

NOTE: The XON/XOFF feature should only be changed when your system is not sending data.

Receiver Error Processing Switch 7 -- turns the receiver error processing feature on or off. When this feature is on and an error occurs (i.e. parity error, UART overrun, framing error), the terminal prints the substitute "␣" control character. When the receiver error processing feature is set to off, the terminal attempts to print characters as received. Set switch 7 to the left to turn the receive parity override feature on and to the right to turn the receive parity override feature off.

Store Features Switch 8 -- stores the computer selectable features in user permanent memory. To recall these features, turn the power to the terminal off and then on. The computer can not change the features stored in user permanent memory. To store or change these features, make the desired switch selections and move switch 8 from right to left. No function is performed by moving switch 8 from left to right.

NOTE: No power or batteries are needed to retain information in the user permanent memory.

AUTO ANSWERBACK JUMPER

The Letterprinter 100 also has a jumper to select the auto answerback feature. When the auto answerback is removed the auto answerback feature is selected. This feature causes the terminal to automatically transmit the answerback message when a communication connection is established.

NOTE: This feature does not affect the terminal response to the control character Enquiry (ENQ).

Refer to the programmer's reference guide to select the answerback message.

CHAPTER 4 MAINTENANCE AND TROUBLESHOOTING

GENERAL

This chapter includes the Letterprinter 100 maintenance procedures, a troubleshooting checklist, and a description of the terminal self-tests. The maintenance section describes procedures to keep the terminal in good operating condition. The troubleshooting checklist describes a series of checks to make before requesting service. The self-test section describes the power-up and the printer self-tests, including the status message.

MAINTENANCE

The Letterprinter 100 requires no preventive maintenance by the user. Its surfaces and platen can only be cleaned with a damp cloth. Do not use cleaners with solvents or excessive amounts of water. To clean the keycaps, rub them with a dry or barely moist cloth.

CAUTION: Do not remove the keycaps to clean them. You can damage the switch contacts if the keycaps are replaced incorrectly.

To remove the platen for cleaning, open the access cover, press the access cover retainer clips, and remove the access cover (Figure 4-1). Then lift the bail bar, press the platen release levers and lift the platen straight up (Figure 4-2). Clean the platen with a damp cloth, then replace it in its original position. The platen clicks into place when properly seated. Make sure that the platen rolls freely. Then lower the bail bar to its original position and reinstall the access cover.

Do not place drinks and metal objects on any part of the terminal. There are several openings in the covers that liquids or small objects can fall through. Such objects disturb the electronic operation of the printer if they come into contact with the circuitry.

Do not block the ventilation slots on the top and bottom of the printer. Blocking these slots overheats the printer.

TROUBLESHOOTING CHECKLIST

If you are unable to turn power to the terminal on, or if the terminal appears to be faulty, refer to Table 4-1. This table describes checks the user should make before requesting service.

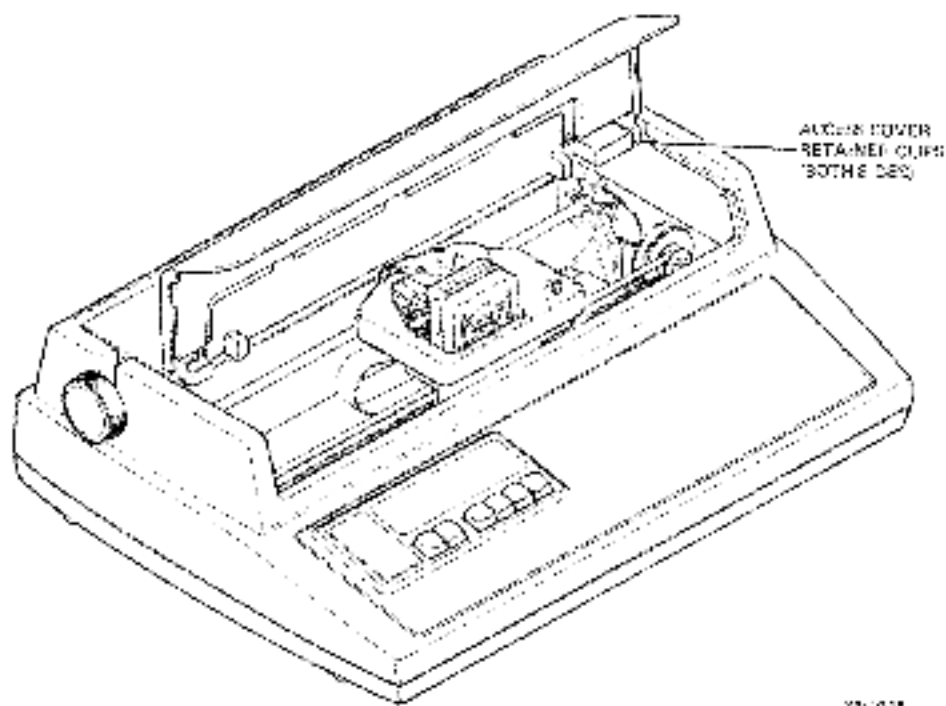


Figure 4-1 Access Cover Removal

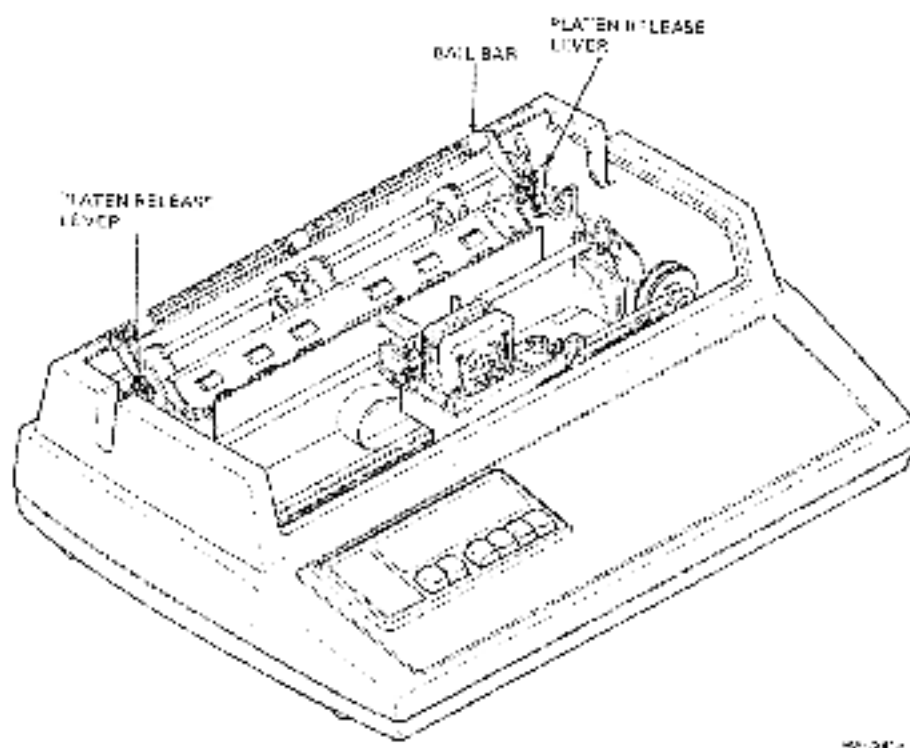


Figure 4-2 Platen Removal

Table 4-1 Troubleshooting Checklist

Indication	Possible Cause	Action
Terminal does not turn on when the power ON/OFF switch is set to on	AC power cord not plugged into the wall receptacle or printer	Plug in cord
	No power coming from the wall receptacle	Check the receptacle with a known working electrical device (such as a lamp). If no power, call your electrician
	AC line fuse blown	Turn printer off and replace the fuse. Refer to Figure 4-3 for fuse location
Characters do not print, POWER/FAULT indicator flashes	Terminal out of paper	Load paper and reset, press the CLEAR FAULT key. Refer to Chapter 2 for paper loading information
	Access cover open	Close the access cover and press the CLEAR FAULT key
Characters do not print, carriage moves	Printhead too far from paper	Readjust printhead. Refer to Chapter 2 for procedure
Characters do not print or are garbled	Data set (modem) unplugged	Plug in data set
	Incorrect communication set up	Verify that data communication features are set to match the computer. Refer to Chapter 3
Light print	Printhead too far from paper	Readjust print head. Refer to to Chapter 2 for procedure
	Ribbon out of ink	Replace ribbon cartridge. Refer to Chapter 2 for procedure

Table 4-1 Troubleshooting Checklist (Cont)

Indication	Possible Cause	Action
Ink smudges during printing	Paper not firmly wrapped around platen	Lift bail bar and smooth the paper over the surface of the platen. Lower the bail bar to its original position
	Printhead too close to paper	Readjust printhead. Refer to Chapter 2 for procedure
Paper does not advance	Paper not loaded properly	Reload paper. Refer to Chapter 2 for procedure
	Paper release lever incorrectly set (roll paper only)	Press paper release lever toward back of the printer
	Feed holes torn	Reload paper. Refer to Chapter 2 for procedure
Multipart paper tears	Printhead too close to paper	Readjust printhead. Refer to Chapter 2 for procedure
	Paper not straight in printer	Realign paper stack within 1 cm (1/2 in) of tractors
	Tractors incorrectly adjusted	Readjust right tractor
	Paper or printhead jam	Open access cover and clear jam. Close access cover and press CLEAR FAULT key
Garbled or double characters	Incorrect communication set up	Verify that data communication features are set to match the computer. Refer to Chapter 3



Figure 4-3 AC Line Fuse Location

SELF-TESTS

The Letterprinter 100 is capable of performing the following self-tests.

- Power-up self-test
- Printer self-tests
 - Character pattern
 - Horizontal registration
 - Nonprinting
 - Loopback

The following paragraphs describe the Letterprinter 100 self-tests.

Power-Up Self-Test

The Letterprinter 100 performs a power-up self-test whenever power to the terminal is turned on. Any errors during self-test are displayed by the operator control panel indicators. Refer to Table 4-2 for the power-up self-test indications.

Table 4-2 Power-Up Self-Test Indications

POWER/FAULT Indicator	DSR Indicator	Probable Cause	Action
Off No carriage motion	Off	Power supply	Refer to Table 4-1
Off Carriage motion	Off	Defective Indicators	Request service
1 Flash	1 Flash	Defective Font ROM 1	Replace ROM
2 Flashes	2 Flashes	Defective Font ROM 2 (may be cartridge or plug in ROM)	Replace ROM

Table 4-2 Power Up Self Test Indications (Cont)

POWER/FAULT Indicator	DSR Indicator	Probable Cause	Action
3 Flashes	3 Flashes	Defective Font ROM 3	Replace ROM
4 Flashes	4 Flashes	Defective Font ROM 4 (may be cartridge or plug in ROM)	Replace ROM
5 Flashes	5 Flashes	Defective Font ROM 5	Replace ROM
6 Flashes	6 Flashes	Defective first microcode ROM	Request service
7 Flashes	7 Flashes	Defective second microcode ROM	Request service
8 Flashes	8 Flashes	Defective RAM	Request service
9 Flashes	9 Flashes	Defective Optional RAM	Request service
Flashing No bell	On or Off	Cover open, or paper fault	Close cover, press CLEAR FAULT key
Flashing Bell tones	On or Off	Head jam	Clear jam, press CLEAR FAULT key
On	On	On line/ready to receive data	
On	Off	Terminal is in modem mode with no DSR signal, or SELF TEST key was pressed before power up	Release SELF TEST key

Printer Self-Tests

The printer self-tests provide a visual indication that the terminal is working properly. The operator can perform any of the following printer self-tests to determine if a problem exists.

- Character pattern
- Horizontal registration
- Nonprinting
- Loopback

Figure 4-4 shows examples of the character pattern and horizontal registration self-test patterns. During the character pattern self-test 94 characters are continuously printed within the selected margins. The horizontal registration self test prints an asterisk in several passes. The nonprinting self-test causes the carriage to move from the left margin to the right margin, back to the left margin, and then advance one line. This test repeats until the operator stops the test.

A loopback test can also be performed. During the loopback test, the transmit and receive lines of the terminal are connected to each other. The terminal transmits a set of characters on its transmit lines and receives the characters on its receive lines. All control signals are checked, as are the baud rate and parity. The terminal compares the output and input and then prints the status message. The status message includes one of the following messages.

- CONTROL LINE OK
- CONTROL LINE FAILED (20 mA ?, JUMPERS ?)
- DATA PATH OK
- DATA PATH FAILED
- DATA PATH STOPPED

NOTE: When using the 20 mA interface, the terminal prints the DATA OK -- CTRL ERR message when the data loopback test is successfully completed. The 20mA interface does not use CTRL lines.

If the terminal fails to pass the control test (except 20 mA) or the data test, request service.

Testing is done with the aid of a loopback connector. EIA and 20 mA connectors are available from the Accessories and Supplies Group, or can be manufactured locally (refer to Figure 4-5). Refer to the Chapter 5 for ordering information.

The status message is also described here because it is printed using the SELF TEST key. A sample status message is shown in Figure 4-6. The status message includes the following information.

Current microcode version
Communication switch features selected
G0 and G1 character set designated
Horizontal pitch selected
Vertical pitch selected

NOTE: The character set, horizontal pitch, and vertical pitch features cannot be changed by the operator. These features are selected by the computer.

After the communication features are selected, print and store a copy of the status message. If your terminal needs repair, the status message provides a useful tool for a service technician.

Use the following procedures to perform the self-tests.

PROCEDURE

COMMENTS/INDICATIONS

Press and lock the ON LINE/
OFF o key in the OFF o
(down) position.

NOTE: When the SELF TEST key is pressed, the terminal enters a local condition and immediately disconnects from the communication line. Any data sent to the printer after the SELF TEST key is pressed is lost, and communication with the computer must be re-established.

Press and lock the SELF
TEST key in the down
position.

The status message prints.

NOTE: If the SELF TEST key is in the down position, release the SELF TEST key and then relock it in the down position.

Press the FORM FEED key.

Each time the FORM FEED key is
pressed, the self-tests are
performed in the following order.

Character pattern
Horizontal registration
Nonprinting
Status message

NOTE: After performing the horizontal registration self test, the top of form reference is lost.

Release the SELF TEST key to
stop any of the self-tests.

```

LANS version X5.4 14-October-EL 80
C.9K Buffer:
DEFS: 000...000000..

-Primary Settings :

Pitch Mode:Post Pitch
G0 Character set:United States
G1 Character set:United States
G2 Character set:United States
G3 Character set:United States
Form length:284
Metric pitch (sp_):10
End of line control:wrap mode
Verb pitch (sp_):8
Newline request char.:none

-Communication Settings :

Auto-answerback:Disabled
Dismount as EOT:Enabled
Paper fault processing:Do not connect
Reply: / /
Receiver error:Print character
Speed(Mps):75T/60HF
Auto XON/XOFF:Enabled
Modem Control:Modem Control-Speed Mode

```

Figure 4-6 Status Message Example

Loopback Test

PROCEDURE

COMMENTS/INDICATIONS

If the 20 mA interface option is used, set the TRANS/REC switches; one to NORMAL and one to ACTIVE (refer to the installation guide to gain access to the switches).

Remove the interface connector from the terminal interface.

Connect the loopback connector to the terminal interface.

Press and lock the ON LINE/OFF key in the OFF position (down).

Press and lock the SELF TEST key in the down position.

The status message prints.

NOTE: If the SELF TEST key is in the down position, release the SELF TEST key and then relock it in the down position.

Press the SET TCF key.

The loopback test starts and the terminal prints the status message, including the results of the loopback test.

Remove the loopback connector from the terminal interface.

Reconnect the interface cable to the terminal interface.

If the 20 mA interface option is used, return the TRANS/REC switches to their original positions (refer to the installation guide to gain access to the switches).

CHAPTER 5
ACCESSORIES AND SUPPLIES

GENERAL

The Letterprinter 100 offers improved printing quality and forms handling. A wide variety of accessories and supplies are available to enhance printer versatility and make operation easier. The following paragraphs describe the Letterprinter 100 accessories and supplies and the correct ordering information.

SUPPLIES

Item Number	Part Number	Description
Ribbon		
1	LA10R-03	LA100 ribbon cartridge, one box of three ribbon cartridges
1	LA10R-12	LA100 ribbon cartridge, one box of 12 ribbon cartridges
1	LA10R-A4	LA100 ribbon cartridge, 12 dozen
1	LA10R-H2	LA100 ribbon cartridge, 60 dozen
Paper		
2	H9850-PA	14 7/8 X 11 inches, 1/2 inch green and white bar, 18 lb, 1 part
2	H9850-PB	14 7/8 X 11 inches, 1/2 inch green and white bar, 15 lb, 2 part, carbon
2	H9850-PC	14 7/8 X 11 inches, 1/2 inch green and white bar, 15 lb, 4 part, carbon
2	H9850-PD	14 7/8 X 11 inches, 1/2 inch green and white bar, 2 part, no carbon

Item Number	Part Number	Description (Cont)
Paper		
2	H9850-PE	14 7/8 X 11 inches, 1/2 inch green and white bar, 15 lb, 4 part, no carbon
2	H9850-PF	9 7/8 X 11 inches, 3 gray rules per inch, 15 lb, 1 part
2	H9850-PG	9 1/2 X 11 inches, blank, 20 lb, 1 part, 1/2 inch perforated edges
2	H9850-PJ	9 1/2 X 11 inches, blank, 2 part, no carbon, 1/2 inch perforated edges
2	H9850-PK	9 1/2 X 11 inches, blank, 4 part, no carbon, 1/2 inch perforated edges
2	H9850-PL	8 1/2 X 11 inches, 1/2 inch green and white bar, 15 lb, 1 part
2	H9850-PM	12 X 8 1/2 inches, blank, 1 part
2	H9850-PN	9 7/8 X 11 inches, 3 gray rules per inch, 2 part, carbon
2	H9850-PP	9 7/8 X 11 inches, 3 gray rules per inch, 4 part, carbon
2	H9850-PR	9 1/2 X 11 inches, blank, 2 part, carbon, 1/2 inch perforated edges
2	H9850-PS	9 1/2 X 11 inches, blank, 4 part, carbon, 1/2 inch perforated edges
2	H9850-PT	8 1/2 X 11 inches, 1/2 inch green and white bar, 2 part, carbon
2	H9850-PV	8 1/2 X 11 inches, 1/2 inch green and white bar, 4 part, carbon
2	36-05365-01	Roll Paper, 21.6 cm X 11.4 cm (8-1/2 X 4-1/2 inches), 12 per box
2	36-16611-01	Roll paper, 36.8 X 7.6 cm (14-1/2 X 3 inches), approx. 175 ft. per roll, 10 per box

ACCESSORIES

Item Number	Part Number	Description
3	LAX34-ZA	Portable terminal carrying case (also room for cables, fanfold paper, and either an acoustic coupler/modem or LAX34-AL paper tractors), 9 1/4 inches high X 24 inches wide X 19 inches deep.
4	LAX34-AL	Fanfold paper tractors
5	LAX34-RL	Roll paper holder
6	LAX34-LL	Paper low detection option
7	LAX34-SL	Terminal stand
8	LAX34-SM	Terminal stand casters (set of two)
9	LAX34-SP	Wireform paper catch for LAX34-SL
10	LAX34-SQ	Wireform paper shelf for LAX34-SL
11	LAX34-SR	Table extension for LAX34-SL
12	LAX34-SU	Accessories kit for LAX34-SL
13	H981-A	Copy stand for LAX34-SL
14	LAX34-SW	Wireform paper tray
15	LA18X-FL	Multiple Font Option
16	LA18X-AA	Courier-10 ROM Cartridge
16	LA18X-AB	Courier-12 ROM Cartridge
16	LA18X-AC	Gothic-12 ROM Cartridge
16	LA18X-AD	Orator-10 ROM Cartridge
16	LA18X-AE	Symbols ROM Cartridge
16	LA18X-BA	Courier-10 Foreign Character Set ROM Cartridge
16	LA18X-BB	Courier-12 Foreign Character Set ROM Cartridge
16	LA18X-BC	Gothic-12 Foreign Character Set ROM Cartridge

Item Number	Part Number	Description (Cont)
16	LA10X-BD	Orator-10 Foreign Character Set ROM Cartridge
17	LA10X-CA	Courier-10 Plug-In ROM
17	LA10X-CB	Courier-12 Plug-In ROM
17	LA10X-CC	Gothic-12 Plug-In ROM
17	LA10X-CD	Orator-10 Plug-In ROM
17	LA10X-CE	Symbols Plug-In ROM
17	LA10X-DA	Courier-10 Foreign Character Set Plug-In ROM
17	LA10X-DB	Courier-12 Foreign Character Set Plug-In ROM
17	LA10X-DC	Gothic-12 Foreign Character Set Plug-In ROM
17	LA10X-DD	Orator-10 Foreign Character Set Plug-In ROM
18	M9850-FA	Paper caddy with four 2-inch swivel casters for transporting printer paper, 15 3/4 inches wide X 11 3/4 inches deep.
19	H9850-DA	Anti-static floor mat, DECmat, 1.22 X 1.83 m (4 X 6 feet), Driftwood color (brownish gray)
19	H9850-DB	Anti-static floor mat, DECmat, 1.22 X 1.83 m (4 X 6 feet), summer earth color (brown/gold)
19	H9850-DC	Anti-static floor mat, DECmat, .91 X 3.05 m (3 X 10 feet), silver birch color (silvergray/brown)
19	H9850-DD	Anti-static floor mat, DECmat, .91 X 3.05 m (3 X 10 feet), autumn bronze color (orange/brown)
19	H9850-DE	Anti-static floor mat, DECmat, .91 X 3.05 m (3 X 10 feet), driftwood
19	H9850-DF	Anti-static floor mat, DECmat, 1.22 X 1.83 m (4 X 6 feet), silver birch color (silvergray/brown)

Item Number	Part Number	Description (Cont)
19	H9850-DH	Anti-static floor mat, DECmat, 1.22 X 1.83 m (4 X 6 feet), autumn bronze color (orange/brown)
20	H9850-HA	Heavy gauge vinyl dust cover (roll paper holder option)
20	H9850-HB	Heavy gauge vinyl dust cover (tractor option)
21	DF01-A	Acoustic telephone coupler, 300 baud
22	LAX34-CL	20 mA interface option and cable
23	BC22A-10	EIA RS232 female-female shielded null modem cable, 3.0 m (10 feet)
23	BC22A-25	EIA RS232 female-female null modem cable, 7.6 m (25 feet)
23	BC23A-10	Kit of five BC22A-10
23	BC23A-25	Kit of five BC22A-25

NOTE: EIA RS-232-C specifies a maximum cable length of no more than fifty feet.

23	BC03M-A0	Female-female null modem cable, 30.5 m (100 feet)
23	BC03M-B5	Female-female null modem cable, 76.2 m (250 feet)
23	BC03M-E0	Female-female null modem cable, 152.4 m (500 feet)
23	BC03M-L0	Female-female null modem cable, 304.8 m (1000 feet)
23	BC22B-10	EIA RS232 male-female shielded extension cable, 3.0 m (10 feet)
23	BC22B-25	EIA RS232 male-female shielded extension cable, 7.6 m (25 feet)
23	BC23B-10	Kit of five BC22B-10
23	BC23B-25	Kit of five BC22B-25
23	BC05X-15	20 mA current loop extension cable, 4.6 m (15 feet)

Item Number	Part Number	Description (Cont)
23	BC05X-25	20 mA current loop extension cable, 7.6 m (25 feet)
23	BC05X-50	20 mA current loop extension cable 15.2 m (50 feet)
23	30-10958-02	D801-A acoustic telephone coupler interface cable
24	H9850-AP	Media mate shelf or file storage cart with casters and lockable drawer, 64.1 X 38.1 X 47.0 cm (25-1/4 inches high X 15 inches deep X 18-1/2 inches wide)
25	H970-3B	Terminal table, 68.6 X 91.4 X 76.2 cm (27 inches high X 36 inches wide X 30 inches deep) with levelers
26	H9532-AA	Work-station desk with blue front panel and gray side panels, levelers, 122 X 76.2 X 76.2 cm (48 inches wide X 30 inches high X 30 inches deep)
26	H9532-AB	Work-station desk with brown front panel and brown side panels, levelers, 122 X 76.2 X 76.2 cm (48 inches wide X 30 inches high X 30 inches deep)

LOOPBACK CONNECTORS

Item Number	Part Number	Description
27	12-15336-01	EIA
27	70-18353	20 mA

DOCUMENTATION

Item Number	Part Number	Description
28	EK-LP100-UG	Letterprinter 100 User Documentation Package Installation Guide Operator Guide Programmer's Reference Manual Operator/Programmer Reference Card

Item Number	Part Number	Description (Cont)
28	EK-LP100-IN	Letterprinter 100 Installation Guide
28	EK-LP100-OG	Letterprinter 100 Operator Guide
28	EK-LA100-RG	LA100 Series Programmer's Reference Guide
28	EK-LP100-RC	Letterprinter 100 Operator/Programmer Reference Card
28	EK-LA100-PS	LA100 Series Pocket Service Guide
28	EK-LA100-TM	LA100 Series Technical Manual
28	EK-LA100-IP	LA100 Series Illustrated Parts Breakdown
29	UA-LA100-00	LA100 Series Engineering Drawings

SPARES KITS

Item Number	Part Number	Description
--	4A-LA100-RA	LA100 Series Spares Kit (advance sale)

ORDERING INFORMATION

Continental USA

Call 800-258-1710, or mail order to:

Digital Equipment Corporation
P.O. Box CS2000
Nashua, NH 03061

New Hampshire

Call 603-884-6660, or mail order to:

Digital Equipment Corporation
P.O. Box CS2000
Nashua, NH 03061

Alaska or Hawaii

Call 408-734-4915, or mail order to:

Digital Equipment Corporation
632 Caribbean Drive
Sunnyvale, CA 94086

Canada

Call 800-267-6146, or mail order to:

Digital Equipment of Canada LTD.
P.O. Box 13080
Kanata, Ontario, Canada K2K 2A6

Att: A & SG Business Manager
Telex: 610-562-8732

APPENDIX A
LETTERPRINTER 180 MODEL VARIATIONS

Table A-1 lists and describes the Letterprinter 180 model variations and the options that are included with each terminal.

Table A-1 Letterprinter 180 Model Variations

Option Number	Description
LA18X-RA	English-Language model with COURIER-18 and ORATOR-18 fonts
LA18X-YA	English-Language model with COURIER-18 and ORATOR-18 fonts, tractors, BC22A-18 cable, ribbon cartridge, and paper
LA18X-ZA	English-Language model with COURIER-18 and ORATOR-18 fonts, multiple font option, tractors, BC22A-18 cable, ribbon cartridge, and paper
LA18X-RB	International model with COURIER-18 English and International Character Sets
LA18X-YB	International model with COURIER-18 English, International Character Sets, tractors, BC22A-18 cable, ribbon cartridge, and paper
LA18X-ZB	International model with COURIER-18, English and International Character Sets, multiple font option, tractors, BC22A-18 cable, ribbon cartridge, and paper

